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November 1, 2021  
File No. 20.0156045.00

Mr. Christopher Dietrich, Water Resources Management Spec.-Adv.  
Wisconsin Department of Natural Resources  
1027 West St. Paul Avenue  
Milwaukee, Wisconsin 53212-53233

Re: Project Update, Interim Remediation Design and Specifications,  
and Temporary Exemption Request for Groundwater Remedial Action  
Leather-Rich, Inc.  
1250 Corporate Center Drive  
Oconomowoc, Wisconsin  
BRRTS #02-68-581237 and #06-68-58959

Dear Mr. Dietrich:

GZA GeoEnvironmental, Inc. (GZA), on behalf of Leather-Rich, Inc. (Leather-Rich/"Client"), is submitting to the Wisconsin Department of Natural Resources (WDNR) this project update and notification of Leather-Rich's intent to begin interim remedial action pursuant to Wisconsin Administrative Code (Wis. Admin. Code) § NR 708.11 for 1250 Corporate Center Drive in Oconomowoc, Wisconsin ("Site"), as shown on Figure 1. Leather-Rich intends to conduct enhanced reductive dechlorination (ERD) groundwater remediation. The design and specification of the interim remedial action are described herein. The proposed ERD groundwater remediation involves injection of materials into the waters of the State (i.e., groundwater), therefore, this process requires a temporary exemption under Wis. Admin Code § NR 140.28(5) and a variance from Wis. Admin Code § NR 812.05. Limitations to this document are provided in Attachment 1.

A request was previously submitted to the WDNR on February 17, 2020,<sup>1</sup> but it was not approved. The reason for denying approval for the previously proposed remediation was unclear, but may have been based on the WDNR's desire for Leather-Rich to complete an investigation of non-chlorinated hydrocarbons that are neither addressed nor affected by the proposed injections. As presented herein, the proposed interim remedial action will be completed in conjunction with the ongoing Site investigation. The injections are meant to promote the anaerobic degradation of tetrachloroethene (PCE) in groundwater, as well as the degradation products of PCE, including trichloroethene (TCE). WDNR has recently expressed heightened concern regarding these compounds, which supports Leather-Rich's proposed interim remedial measures. This letter update presents the current Site conditions, as well as the additional clarification for the Wis Admin Code. § NR 140.28(5) exemption and Wis. Admin. Code §NR 812.05 variance required for the ERD groundwater remediation.

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<sup>1</sup> *Groundwater Remediation Scope of Work and Temporary Exemption Request for Groundwater Remedial Action, Leather-Rich, Inc., 1250 Corporate Center Drive, Oconomowoc, Wisconsin, BRRTS #02-68-581237 and #06-68-58959, dated February 17, 2020, GZA File No. 20.0156045.00*



## INTRODUCTION AND BACKGROUND

The Site is an approximately 4-acre parcel within a commercial business park in the City of Oconomowoc, Wisconsin. The Leather-Rich building covers an area of approximately 40,000 square feet, is situated along the southern Site boundary, and was constructed in 1993. A parking lot is located west of the building along Executive Drive; a parking lot and grass area are located on the east side of the building along Corporate Center Drive; and a grass area is located north of the building. The surrounding properties are occupied by commercial businesses. A Site Location Map is provided as Figure 1 and a Site Plan that shows the Site layout and features described herein is provided as Figure 2.

The dry cleaning operations are performed in an area that is approximately 100 feet long by 50 feet wide along the north wall of the Site building. This area is referred to as the “containment area.” The dry cleaning process and storage area was constructed with a 60-mil polyethylene terra-guardian membrane installed beneath the dry cleaning area to contain potential spills or releases. The membrane is described as one piece of material with no seams that was installed at a depth of 2 to 3 feet below the floor elevation. The edges of the membrane were secured to the north building foundation wall, based on Site construction photos and discussion with the previous Leather-Rich operations manager, who was present during installation.

The area above the membrane was backfilled with a sand and gravel base course and the concrete floor was placed above the gravel. The concrete floor in the containment area is recessed approximately 0.25-foot below the surrounding building floor level to the west and south to provide secondary containment in the event of potential release. The containment area was described and graphically depicted in the *Site Investigation Work Plan - NR 716* prepared by GZA in March 2019.<sup>2</sup> No releases of dry cleaning solvents are known to have occurred within the containment area.

The dry cleaning equipment and machines in this area of the facility are installed on 4-inch raised concrete slabs. The dry cleaning machines represent a closed loop system and the PCE used in the dry cleaning operation is recovered and treated for reuse. PCE is delivered to the Site via the overhead doors located west of the process area and is wheeled to a PCE storage tank in the process area, which is located in the containment area along the north wall, behind the machine and process area.

The initial Site investigation activities were conducted by Giles Engineering Associates, Inc. (Giles) from March to July 2018, to initially evaluate the extent and degree of PCE-affected soil and groundwater. Giles installed nine monitoring wells and one piezometer along with sub-slab and soil gas vapor points. The Site Investigation Report (“SI Report”) prepared by Giles was submitted to the WDNR in November 2018. Following review of the SI Report, the WDNR identified data gaps and required additional Site information and investigation.

From April 2019 through October 2021, GZA conducted supplemental investigation activities to gather additional data to close the data gaps, acquire additional information related to substances identified by the WDNR, and to gauge the monitoring well network. A total of 10 soil borings, 12 monitoring wells, and two piezometers (which were NR 141-compliant, 2-inch monitoring wells) were installed, as well as a soil vapor extraction (SVE) well. GZA also installed two soil borings to 50 feet below ground surface (bgs) for vertical aquifer profiling (VAP). The locations of the soil borings and monitoring wells are provided on Figure 2.

In April 2019, GZA supervised Site investigation activities, including the installation of six NR 141-compliant monitoring wells, the advancement of 10 soil borings, the collection of soil profile samples, and the collection of groundwater samples from the monitoring well network. On July 15 and 16, 2019, GZA oversaw additional Site investigation activities consisting

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<sup>2</sup> *Site Investigation Work Plan - NR 716, Leather-Rich LLC, 1205 Corporate Center Drive, Oconomowoc, Wisconsin, BRRTS Nos. 02-68-581237 and 06-68-58959, dated March 26, 2019, GZA File No. 20.0156045.00.*



of the installation of two NR 141-compliant monitoring wells and one NR 141-compliant piezometer. The soil borings were installed utilizing a direct-push rig operated by On-Site Environmental (OSE) of Sun Prairie, Wisconsin. The soil borings were advanced to depths of 5 to 16 feet bgs to collect select soil intervals for laboratory analyses. On December 5, 2020, GZA oversaw additional Site investigation activities, consisting of the installation of two NR 141-compliant monitoring wells, MW-18 and MW-19, on the northwest adjacent property. The soil borings were installed utilizing a direct-push rig operated by OSE, and the soil borings were advanced to depths of 25 feet bgs. On May 1, 2021, GZA oversaw additional Site investigation activities, consisting of the installation of two NR 141-compliant monitoring wells, MW-20 and MW-21, on the northwest adjacent property, following execution of an access agreement. The soil borings were installed utilizing a direct-push rig operated by OSE, and the soil borings were advanced to depths of 20 and 25 feet bgs, respectively.

The GZA-installed monitoring wells were installed using 4.25-inch hollow-stem augers operated by OSE. The monitoring wells were constructed with 10 feet of 2-inch poly vinyl chloride (PVC), 0.010-inch screen and riser. The piezometer was constructed with 5 feet of 2-inch PVC, 0.010-inch screen and riser. A sand filter pack was placed around the well screen to approximately 2 feet above the screen and the annular space from the top of the sand filter pack to approximately 1 foot bgs was filled with bentonite chips. The surface of each well was finished by placing a flush-mount well box with a concrete apron over the wells.

Additional groundwater gauging and sampling activities were conducted between April 2019 and July 2021. Groundwater samples were collected for the analysis of volatile organic compounds (VOCs) from the VAPs and off-Site monitoring wells MW-18 and MW-19 in December 2020, and the most recently installed off-Site monitoring wells, MW-20 and MW-21, were sampled in May 2021 and again in July 2021 for the analysis of VOCs. Groundwater sampling activities were conducted utilizing low-flow sampling protocols. Each well was purged using a peristaltic pump connected to a flow-through cell equipped with a YSI multi-meter to measure geochemical parameters, including temperature, dissolved oxygen (DO), oxidation-reduction potential (ORP), conductivity, and pH. Upon stabilization of the geochemical parameters, groundwater samples were collected directly into laboratory-supplied containers for the analyses of VOCs by Pace Analytical® Services, Inc. (Pace) of Green Bay, Wisconsin utilizing United States Environmental Protection Agency (USEPA) Method 8260. Based on verbal direction from the WDNR at a meeting held at WDNR's Waukesha office on June 13, 2019, some samples were tested for per- and polyfluoroalkyl substances (PFAS) by Pace of Minneapolis, Minnesota using Method 537 Modified.

### Soil

Chlorinated hydrocarbons were detected in the soil samples collected along the south side of the containment area and north of the building just outside of the containment area. Soil samples were not collected from beneath the containment area as to not compromise the membrane, and soil samples were not collected west of the containment area because this area had limited access due to overhead equipment. The other borings advanced west of the containment area indicated that the soil concentrations were likely delineated in this direction.

The highest concentrations of PCE in soils confirmed within the building along the south side of the containment were adjacent to the containment area and began in the upper 4 feet beneath the concrete floor, extending to approximately 16 feet, the depth to groundwater. The concentrations exceeded the WDNR's soil to groundwater Residual Contaminant Levels (RCLs), but were less than the WDNR's direct contact RCLs. The concentrations of PCE decreased with depth, indicating that the PCE was released near the surface.



The highest PCE concentrations outside of the building were detected in soil borings advanced north of the building, beginning in the 4- to 8-foot depth interval, and extended to groundwater. As described and depicted in GZA's *Site Investigation Status and Interim Remedial Implementation Update*, dated July 2019 ("Status Update Report"),<sup>3</sup> the distribution of PCE was indicative of a release emanating from beneath the building, with the building foundation acting as a barrier in the upper 4 feet, and not likely from a surficial release outside of the building from a spill or dumpster. The highest concentrations were located along the north wall of the building, decreasing with distance north of the building.

At WDNR's request, one soil boring, SB-18, was advanced in the loading dock area to evaluate for surficial spills of chlorinated hydrocarbons. The sample results from this boring did not indicate the presence of chlorinated hydrocarbons, therefore, this area was not considered to be a potential source area.

Table 1 presents the soil analytical results; Figure 3a presents the PCE isocontour for soils in the 0- to 4-foot bgs interval; Figure 3b presents PCE in soil within the 4- to 8-foot bgs interval; Figure 3c presents PCE in soil within the 8- to 12-foot bgs interval; and Figure 3d presents PCE in soil within the 12- to 16-foot bgs interval. Laboratory analytical results were previously submitted in the Status Update Report.

Soil samples collected from the borings from the installation of the four off-Site wells installed in December 2020 (MW-18 and MW-19) and July 2021 (MW-20 and MW-21) were field-screened using a photoionization detector (PID) equipped with a 10.6 volt lamp to determine the depth interval for sample collection. Samples were collected from 18 to 20 feet bgs for MW-18 and 16 to 18 feet bgs for MW-19. The PID readings did not indicate any vapors within the soils at the selected depths in MW-20 and MW-21, therefore, no soil samples were collected for analytical testing from these borings.

The soil samples collected from the soil borings during the construction of the monitoring wells on the off-Site property in December 2020 showed levels exceeding the WDNR's soil to groundwater RCL. Table 1 presents the soil VOC results.

#### Vapor

Sub-slab vapor sampling was completed at nine sub-slab vapor sampling locations by Giles. The results were compared to the WDNR's Vapor Risk Screening Levels (VRSLs) for Residential, Small Commercial, and Large Commercial/Industrial land uses. Table 2 presents the vapor results. Each of the nine sub-slab vapor samples collected by Giles reported concentrations of PCE and TCE above the WDNR's VRSLs. No indoor ambient air samples were collected, as the facility is an active dry cleaner. Figure 2 presents the layout of the building, which shows that no offices are near the locations of the vapor probes that were installed in 2018. The actual office areas are located upgradient of the containment area and it is unlikely that preferential pathways exist for vapors to migrate into the spaces, as no sub-slab utilities traverse the building from the containment area to the office space.

#### Groundwater

The results of the groundwater gauging from the monitoring wells installed on and off of the Site confirm that the horizontal direction of groundwater flow is northwest, which is consistent with the documented regional groundwater flow to the Oconomowoc River.

A localized groundwater mound was also identified beneath the Site building in the general vicinity of the building's northeast corner. Leather-Rich has undertaken significant efforts to identify the source of the groundwater mound and has confirmed that it is likely emanating from a water supply line, based on recent discovery and historical research. With

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<sup>3</sup> *Site Investigation Status and Interim Remedial Implementation Update, Leather-Rich, Inc., 1250 Corporate Center Drive, Oconomowoc, Wisconsin, BRRS Nos. 02-68-581237 and 06-68-58959, dated July 19, 2019, GZA File No. 20.0156045.00.*



the support of GZA, Leather-Rich has made arrangements with a licensed plumber to further investigate and repair the potential water supply leak.

Table 3 presents the groundwater analytical results, Table 4 presents the groundwater elevation data and Figure 4 presents the groundwater flow direction measured and recorded in September 2021, the most recent gauging event.

The level of PCE detected in one off-Site well, MW-20, was higher than the levels measured at the Site boundary, and Leather-Rich is continuing to investigate the factors that could be impacting the MW-20 and MW-21 sampling results.

TCE, a degradation product of PCE, has been detected in groundwater samples collected from the Site and in the off-Site monitoring wells above the NR 140 ES in MW-17, at the property line, and above the NR 140 Preventative Action Limit (PAL) for an off-Site monitoring well near the Site building. An evaluation of other degradation products indicated that some reductive dichlorination of PCE has occurred in the area of the highest concentrations. The soils at the Site are comprised predominantly of coarse-grained deposits consisting of sand and gravel and contain little organic carbon to facilitate the reductive dichlorination. The results of the Fraction Organic Carbon analyses performed on select soil samples confirmed 1% or less of total carbon weight per sample weight. In addition, the geochemical parameters collected during low-flow sampling indicated that the aquifer was likely aerobic, which can limit the reductive dichlorination of PCE, without an amendment.

There are, however, indications in the measured ORP levels that reductive dichlorination of the chlorinated hydrocarbons dissolved in groundwater could represent a viable remedial alternative, if the aquifer was amended to provide the proper conditions. A discussion of the proposed aquifer amendment is presented below. Table 5 presents the groundwater geochemical parameters.

Groundwater was not analyzed to determine the presence of microbial populations such as dehalococcoides spp. The results of the groundwater samples indicate that daughter products from the degradation of PCE are present at concentrations exceeding the ES in some portions of the Site, therefore, it was assumed that in those areas there is a microbial population present that can be stimulated with the addition of a carbon source to enhance the reductive dechlorination of the PCE.

Other important factors for the evaluation of the performance of in-situ aquifer amendments include pH, alkalinity, and temperature. The pH was measured during the low-flow purging and measured to be near neutral (6.15 - 8.02). This is important to monitor because the microbial population is active in neutral conditions. The groundwater temperature was measured during low-flow purging at approximately 9 to 20 degrees Celsius (°C). This temperature is sufficient to maintain microbial populations. Finally, the groundwater gradient for the Site is 0.0014 feet per foot (ft/ft) to the northwest along the groundwater flow vector. Based on regional data and soil lithology, a preliminary estimate of the hydraulic conductivity is 135 feet per day (ft/day). The horizontal hydraulic conductivity, together with the hydraulic gradient and the porosity of the saturated soils, was used to calculate the groundwater velocity to confirm that there is sufficient groundwater flow to facilitate the dilution and migration of the injected electron donor aquifer amendment through the subsurface.

## **SITE CONDITIONS SUMMARY**

A summary of the results of the investigation and evaluation of remedial alternatives is presented below.

1. In general, the relevant subsurface conditions consist of fine to coarse sand with little fine silt and clay. The soils coarsen with depth. Bedrock was not encountered during drilling at the Site and is estimated to be at a depth of 100 to 150 feet bgs.



2. Groundwater was measured at a depth ranging from 12 to 16 feet bgs. The horizontal direction of groundwater flow at and downgradient of the Site is to the northwest toward the Oconomowoc River at an average hydraulic gradient of 0.0014 ft/ft. The groundwater flow direction measured on September 14, 2021 is shown on Figure 4.
3. PCE is the primary chlorinated hydrocarbon detected in groundwater on and off of the Site and, most recently, has been detected at concentrations ranging from approximately 30 to 900 micrograms per liter ( $\mu\text{g/l}$ ) in the groundwater monitoring wells near or downgradient of the containment area. Concentrations of the degradation products TCE, cis-1,2-dichloroethene (DCE) and trans-1,2-DCE, were also detected at or downgradient of the containment area. PCE has been detected in the groundwater samples collected off-Site at the locations of monitoring well MW-18 through MW-21 at concentrations exceeding the NR 140 ES.
4. Investigation of property uses of the adjacent property with off-Site wells is ongoing to understand if there were or are any other potential off-Site sources of PCE or other constituents. Additional Site investigation activities are under consideration.

Based on the Site soil and groundwater conditions, applicable remedial technologies, and the Chapter NR 726 remediation requirements, an ERD interim remedial action was selected for implementation at the Site. Potential conditions detrimental to an ERD remedial option, including very low natural pH conditions, poor soil and groundwater buffering capacity, aquifer aerobic conditions, and low groundwater temperature, do not and are not expected to exist at the Site.

#### **PROPOSED GROUNDWATER REMEDIATION SCOPE OF WORK**

An ERD groundwater remedial action is proposed consisting of the injection of an electron donor through injection wells located north of the containment area. The existing injection points were installed upgradient or within the area of the highest groundwater PCE concentrations. A total of seven injection wells were installed on July 11, 2019, and were constructed as 2-inch wells with 10 feet of 0.010-foot screen, which were installed at the depth interval of 10 to 20 feet bgs to intersect the groundwater interface. Each injection well was completed with 10 feet of riser to the surface and was finished in compliance with Wis. Adm. Code NR 141 requirements for monitoring wells. Each injection well location has a flush-mount surface finish.

Four additional injection wells, located along the northwest Site boundary, are proposed to be installed for ERD groundwater interim remedial action to address the off-Site conditions. Figure 5 presents the locations of the four proposed injection wells.

The electron donor proposed for use at the Site is an emulsified soybean oil and lactate supplied by JRW Bioremediation under the project name of Lactoil® and Accelerite®, which is a mixture of B-vitamins and micronutrients. The Lactoil® and Accelerite® product information sheets are provided in Attachment 2. The emulsified soybean oil product proposed will allow the establishment of longer-term suitable groundwater geochemical conditions that will facilitate ERD due to the ability of the emulsified oil to absorb to the aquifer matrix and release electron donor over an extended time period as compared to other soluble products such as sodium lactate.

The proposed design elements include the following:

- The seven injection wells are spaced approximately 10 to 12 feet apart and were installed in two rows north of the containment area. Four additional wells are proposed along the northwest property line, spaced approximately 10 to 12 feet apart, to enhance conditions for the off-Site reductive dichlorination of PCE. The locations are presented on Figure 5.



- The injections are proposed to occur over an approximately 10-foot vertical interval from above the water table at a depth of 10 to 20 feet.
- The proposed 10-foot interval for electron donor injections is based on the groundwater concentrations of PCE detected across the Site and the depth to groundwater at 16 feet bgs.
- The injections will occur at pressures up to 30 pounds per square inch (psi) and the injection rates are anticipated to be up to 5 gallons per minute (gpm) at a single injection location.
- Approximately 158 pounds per injection point (approximately 1,738 pounds or 217.8 gallons total) of Lactoil® will be diluted with approximately 1,500 gallons of treated, non-potable water and approximately 5 gallons of Accelerite® for a total of approximately 224 gallons of electron donor solution injected at each of the 11 injection well locations.
- The injection volume in total is an estimated 1.0% of the groundwater volume within the estimated area of impact and, as a result, the injections are not expected to result in measurable movement of impacted groundwater.

#### **PROPOSED GROUNDWATER MONITORING PLAN**

As presented in Table 6, groundwater samples will be collected from the existing monitoring well network for geochemical parameters, chlorinated VOCs (cVOCs) and aquifer conditions in advance of the injection activities to establish a pre-monitoring baseline for the performance and progress of the interim groundwater remediation. GZA will monitor the effectiveness of the ERD by conducting groundwater sampling, as provided in Table 6, which includes sampling at select monitoring wells (near and downgradient of the injection wells) at one month, two months, and three months following the initial injection. The wells to be sampled for performance monitoring include MW-9 (source area), MW-8 (adjacent to injection points), MW-13 (downgradient), MW-17 (downgradient near the property boundary), PZ-3 (downgradient piezometer), and the off-Site wells MW-20 and MW-21. Additional off-Site wells will also be selectively sampled following the installation. The samples will be collected using low-flow sampling protocols and will be placed into laboratory-supplied jars. The samples will then be sent under chain-of-custody protocol to a Wisconsin-accredited laboratory for analysis of VOCs, dissolved gases (methane, ethane, and ethene), dissolved iron, sulfate, and total dissolved organic carbon.

During low-flow purging, field instruments will be used to measure other field parameters for monitoring remedial progress, including temperature, specific conductance, pH, DO, and ORP. The field parameters, including DO and ORP, will be used to evaluate whether suitable geochemical conditions are being created in the aquifer by the remedial materials to support the anaerobic biological degradation of PCE.

In addition to groundwater sample collection, occasional water levels will be measured in the groundwater monitoring well network to assess the horizontal gradient, vertical gradient, and direction of groundwater flow. Based on the results of the groundwater sampling, the effectiveness of the carbon source amendment type and volume will be assessed. The results of the injection will be submitted to the WDNR for review following completion.

#### **DISCHARGE MANAGEMENT PLAN**

A discharge management plan, as required under the Notice of Intent (NOI) provided in Attachment 3 that includes the information specified in Section 3 of the July 1, 2018 Wisconsin Pollutant Discharge Elimination System (WPDES) Permit No. WI-0046566-07-0 for Contaminated Groundwater From Remedial Action Operations, is provided below. A summary of the WDNR-requested information is provided below in *italics* and GZA's response follows.

1. *A detailed site map.* A Site layout is provided as Figure 2. The Site is within a municipal water service area and there are no records of potable wells still in use that are located within ¼-mile of the Site property boundary. Based on the



well records for abandoned wells in the area that were previously installed for residences, sand and gravel with some clay were encountered to 150 feet bgs. The City of Oconomowoc has a municipal water supply system and in accordance with Ordinance 13.31, private wells must be properly abandoned if located on any premises that are served by the public water system of the City.

2. *A general description of the suspected sources of groundwater pollution at the site.* The suspected source of PCE contamination on the Site is dry cleaning operations within and/or near the Containment Area.
3. *Final plans and specifications for the proposed treatment system (if necessary).* A treatment system is not part of the groundwater remediation plan.
4. *General description of planned operation and maintenance.* The injections will be performed in small-diameter borings that may have been installed in accordance with the NR 141 monitoring well requirements. Minimal maintenance of the injection wells may be needed over the life of the project. The proposed sampling locations and routine monitoring and analysis are provided in the Proposed Groundwater Monitoring Plan presented above.
5. *A listing of all required local, state and federal permits, licenses and approvals to construct and implement the remedial or interim action. Please include the s. NR 140.28(5), Wis. Adm Code, temporary exemption request and approval for the injection or infiltration of a substance or remedial material (if necessary).* Coverage under the WPDES general permit is required for the injections and the NOI is provided in Attachment 3. The NR 140.28(5) temporary exemption is also required for performing subsurface injections and this request is provided in the following section.
6. *Description of erosion and sediment control practices.* The discharge will occur below the ground surface through small-diameter borings without the installation of equipment or disturbance of the surface. The Site is currently covered by a building, asphalt parking, grass, and trees.
7. *A summary of analytical results detected at the site for the substances listed in Table 2 of Section 5.3. The summary shall include results from any volatile organic compounds and polycyclic aromatic hydrocarbons compounds scans.* Summary tables for VOCs are provided in Table 1 for soil and Table 3 for groundwater. Polycyclic aromatic hydrocarbons (PAHs) were not analyzed due to the nature of the suspected dry cleaning source material.
8. *A summary of the substance or remedial material to be used for the purpose of restoring contaminated soil or groundwater (if necessary). Please include the material safety sheets for each substance or material and the sampling location of the discharge.* The product information sheets of the proposed remedial materials to be injected are provided in Attachment 2.
9. *Monitoring exemption request for sampling for certain contaminants regulated by this permit. The applicant must demonstrate that the contaminants will not be present in the effluent discharge. The initial sample analysis results must not exceed 20% of any permit discharge limitations and certify that there is no abrupt chance that a permit limit will be exceeded through the treatment system.* The injection plan consists of mixing potable water with the remedial materials and injecting the mixture into the groundwater for in-situ treatment of contaminated groundwater. There is no effluent discharge associated with the in-situ injection.
10. *Alternative sampling location request for monitoring groundwater discharges at a new or existing groundwater monitoring system downgradient of infiltration system to demonstrate compliance with this permit. Applicants must demonstrate that the groundwater monitoring system is downgradient of infiltration and that a representative sample of the discharge will be collected.* The Proposed Groundwater Monitoring Plan presented above includes sampling of downgradient monitoring wells.





11. *Applicants must demonstrate that there is no reasonable potential to exceed water quality standards listed in to chs. NR 102, NR 104, NR 105, NR 106, NR 207, and NR 217 Wis. Adm. Code, for pollutants not directly limited by this permit, or that there is no reasonable potential to exceed groundwater quality standards listed in Ch. NR 140, Wis. Adm. Code, for pollutants not directly limited by this permit. Exceedance of groundwater quality standards are inherent in the ERD remedial method. The exceedances are generally considered acceptable temporary side effects of the method in order to remediate recalcitrant cVOCs. Therefore, an injection exemption request is provided below.*

## **WPDES PERMIT APPLICATION**

WDNR must approve coverage under the WPDES general permit before the injection can proceed. Therefore, a NOI for the WPDES general permit application is provided in Attachment 3. Additional details for the proposed electron donor injection and monitoring are provided in the WPDES permit NOI.

## **EXEMPTION REQUEST**

Wis. Adm. Code Chapter NR 140.28(5) identifies prerequisites and criteria for granting a temporary exemption when infiltration or injection is utilized for a remedial action. The following sections provide information required by Paragraphs NR 140.28(5)(c) and (d).

### **NR 140.28(5)(c) – Exemption Prerequisites**

This section addresses the exemption prerequisites listed in Paragraphs 1 through 6 of NR 140.28(5)(c):

1. Reasonable Period of Time: This prerequisite requires the remedial action to achieve the applicable response objectives required by NR 140.24(2) or NR 140.26(2) within a reasonable period of time. The remedial strategy being implemented at the Site should produce a significant reduction in cVOC mass, as will be determined by periodically monitoring dissolved constituent concentrations following the injection program and observing the contaminant mass and concentration trends.
2. Minimization of Injected Remedial Material: The electron donor consisting of emulsified soybean oil and lactate along with micronutrients is designed to spread through groundwater flow to locations downgradient of each specific injection location and adsorb to the aquifer matrix. Following injection of the remedial material, the material begins to be used by the ERD process and at some distance downgradient of the injection points, the remedial material is completely adsorbed. The adsorbed organic carbon establishes suitable geochemical conditions over the extent of the organic carbon distribution in the aquifer. The volume of injected remedial material is calculated based on the Site-specific conditions identified during the Site investigation conducted on and off of the Site to date and the properties of the remedial materials. These calculations are intended to minimize the volume of remedial material necessary to complete the remedial process.
3. No Significantly Increased Threat to Public Health or Welfare: The remedial material, prepared with potable water from the City of Oconomowoc and food-grade organic carbon, does not represent a threat to public health or welfare. The reductive dechlorination of PCE may form detectable cVOC daughter products; however, further degradation will occur as the daughter products in turn degrades to ethene, carbon dioxide, and water. A Site-specific health and safety plan will be prepared to address exposure during the implementation process.
4. No Presence of Floating Non-Aqueous Phase Liquid: Light non-aqueous phase liquid (LNAPL) was not observed during the investigation in the area of the injections. Therefore, this prerequisite is not applicable.
5. No Expansion of Groundwater Contamination: Because the anticipated volume of injection solution is a small percentage of the volume of groundwater underlying the injection area (approximately 0.7%), measurable



expansion of the impacted groundwater will not occur. The affected groundwater volume in the injection area is estimated to be approximately 401,500 gallons of groundwater and the total volume of remedial material mixture that is estimated for injection is 4,000 gallons. Monitoring well water levels will be measured during the injections and groundwater monitoring events to evaluate Site groundwater flow patterns and confirm substantial changes do not occur during injection events.

6. Other Permits and Licenses: A variance from the WDNR under Section NR 812.05 is required and is addressed below. The application for a WPDES permit is provided as Attachment 3.

#### **NR 140.28(5)(d) - Remedial Action Design, Operation and Monitoring Criteria**

This section addresses the design, operation, and monitoring criteria listed in Paragraphs 1 through 5 of NR 140.28(5)(d):

1. Design, Operation, and Monitoring Procedures: The injection procedures described above were established to comply with NR 140.28(5)(c) and (d).

A groundwater monitoring program, as described above, will be implemented to evaluate the progress of remediation and groundwater system parameters. cVOC results will provide an indication of the rate of biodegradation, changes in the dissolved plume, and constituent concentration relative to Chapter NR 140 ESs. Water level data will be used to evaluate the remedial process' effect, if any, on groundwater flow. Field indicator parameters, as described above, will be used to confirm that geochemical conditions within the aquifer are suitable for anaerobic biological degradation of PCE.

Reporting of the monitoring well results will be conducted in accordance with Chapter NR 724 of the Wis. Adm. Code. A completed WDNR Form 4400-194 (R 11/14) will be submitted to the WDNR on a semi-annual basis as long as groundwater remediation continues.

2. Pre-Treatment of Contaminated Groundwater: Pre-treatment of groundwater will not be conducted.
3. Remedial Material Proposed for Injection: A solution of potable water and electron donor with micronutrients will be used as the remedial material at the Site. The product information sheets for the electron donor and micronutrients are provided in Attachment 2.
4. Volume and Rate of Injection: Approximately 4,000 gallons of the proposed dilute remedial material will be equally distributed among seven direct-push borings through direct injection at rates up to 5 gpm and pressures up to 30 psi.
5. Locations of Injection: Figure 5 illustrates the location of the seven injection wells.

#### **VARIANCE REQUEST**

##### **NR 812.05 – Disposal of Pollutants; Injection Prohibition**

Based on NR 812.05, "...the use of any well, drillhole or water system for the placement of any waste, surface or subsurface water or any substance, as defined in s. 160.01 (8), Stats., underground is prohibited unless...the placement is a department-approved activity necessary for...the remediation of contaminated soil, groundwater or an aquifer."

Because the injection of electron donor solution at the Site is a WDNR-approved activity necessary for the remediation of contaminated groundwater, a variance under NR 812.05 is requested for this process.



**CERTIFICATION**

"I, James F. Drought, P.H., hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

James Drought Principal/Hydrogeologist  
Signature and Title

November 1, 2021  
Date

**CLOSING**

We trust this information will meet your needs. We appreciate your timely review of this information to allow for this project to proceed as scheduled. If you have any questions or comments, please feel free to contact the undersigned at (262) 754-2594.

Very truly yours,

**GZA GeoEnvironmental, Inc.**

Heidi A. Woelfel  
Heidi A. Woelfel  
Project Manager

James Drought  
James F. Drought, P.H.  
Principal/Hydrogeologist

J:\156000to156999\156045 Leather Rich\Work\WPDES\10-2021 Update and Amended Exemption Request\  
FINAL 20.0156045.00 Update\_Amended GW Remed SOW\_Temp Exemption Request 11-1-21.docx

- Attachments: Tables 1 through 6  
Figures 1 through 5  
Limitations  
Product Information Sheets  
NOI and WPDES Permit Application

- c: Mr. Timothy Alessi, NR Region Program Manager, WDNR  
Ms. Cheryl Chew, Leather-Rich, Inc.  
Ms. Delanie Breuer, Reinhart Boerner Van Deuren s.c.



## TABLES





**TABLE 1**  
**SOIL ANALYTICAL RESULTS**  
 Leather-Rich, Inc.  
 1250 Corporate Center Drive  
 Oconomowoc, Wisconsin

Parameter	RCL Non-Industrial DC (mg/kg)	Groundwater Pathway	MW-13		MW-14		MW-15		MW-18	MW-19	MW-2	MW-3	MW-4	MW-5	MW-6		MW-7		MW-8		VP-1	VP-2	
			4/11/2019		4/11/2019		4/11/2019		12/5/20	12/5/20	3/14/18	3/14/18	3/14/18	3/14/18	3/14/18	3/14/18		3/15/18	3/14/18	3/15/18	3/15/18	4/23/18	4/23/18
			2-4'	16-18'	0-2'	18-20'	2-4'	16-18'	18-20'	16-18'	16-18'	16-18'	16-18'	16-18'	16-18'	0-4'	16-18'	0-4'	16-18'	0-4'	16-18'	0-2'	0-2'
Collected by:			GZA		GZA		GZA		GZA	GZA	Giles	Giles	Giles	Giles	Giles	Giles	Giles	Giles	Giles	Giles	Giles	Giles	
Saturated Yes/No			No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	No	
Fractional Organic Carbon (% w/w)	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1,1,2-Tetrachloroethane	2.78	0.0534	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0128	< 0.0133	-	-	-	-	-	-	-	-	-	-	-	-	
1,1,1-Trichloroethane	640	0.1402	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0137	< 0.0141	-	-	-	-	-	-	-	-	-	-	-	-	
1,1,2,2-Tetrachloroethane	0.81	0.0002	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0194	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	
1,1,2-Trichloroethane	1.59	0.0032	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0195	< 0.0201	-	-	-	-	-	-	-	-	-	-	-	-	
1,1-Dichloroethane	5.06	0.4834	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0137	< 0.0141	-	-	-	-	-	-	-	-	-	-	-	-	
1,1-Dichloroethene	320	0.005	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0178	< 0.0183	-	-	-	-	-	-	-	-	-	-	-	-	
1,1-Dichloropropene	NA	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0173	< 0.0179	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,3-Trichlorobenzene	62.60	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0596	< 0.0615	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,3-Trichloropropane	0.005	0.0519	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0	< 0.0268	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,4-Trichlorobenzene	24	0.408	< 0.0476	< 0.0476	< 0.0476	< 0.0476	< 0.0476	< 0.0476	< 0.0441	< 0.0455	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,4-Trimethylbenzene	219	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0159	< 0.0165	-	-	-	-	-	-	-	-	-	-	-	-	
1,3,5-Trimethylbenzene	182	1.3787	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0172	< 0.0178	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dibromo-3-chloropropane	0.0075	0.0002	< 0.0912	< 0.0912	< 0.0912	< 0.0912	< 0.0912	< 0.0912	< 0.0415	< 0.0429	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dibromoethane (EDB)	0.05	0.0000282	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0147	< 0.0151	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dichlorobenzene	376	1.168	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0166	< 0.0171	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dichloroethane	0.652	0.4834	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0123	< 0.0127	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dichloropropane	3.4	0.0033	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0127	< 0.0124	-	-	-	-	-	-	-	-	-	-	-	-	
1,3-Dichlorobenzene	297	1.168	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0147	< 0.0151	-	-	-	-	-	-	-	-	-	-	-	-	
1,3-Dichloropropane	1490	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0117	< 0.012	-	-	-	-	-	-	-	-	-	-	-	-	
1,4-Dichlorobenzene	3.74	0.144	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0147	< 0.0151	-	-	-	-	-	-	-	-	-	-	-	-	
2,2-Dichloropropane	191	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0144	< 0.0149	-	-	-	-	-	-	-	-	-	-	-	-	
2-Chlorotoluene	907	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0173	< 0.0179	-	-	-	-	-	-	-	-	-	-	-	-	
4-Chlorotoluene	253	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0203	< 0.021	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene	1.6	0.0051	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0127	< 0.0131	-	-	-	-	-	-	-	-	-	-	-	-	
Bromobenzene	342	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0209	< 0.0215	-	-	-	-	-	-	-	-	-	-	-	-	
Bromochloromethane	216	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0147	< 0.0151	-	-	-	-	-	-	-	-	-	-	-	-	
Bromodichloromethane	0.418	0.0003	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0127	< 0.0131	-	-	-	-	-	-	-	-	-	-	-	-	
Bromoform	25.4	0.0023	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.235	< 0.243	-	-	-	-	-	-	-	-	-	-	-	-	
Bromomethane	9.6	0.0051	< 0.0699	< 0.0699	< 0.0699	< 0.0699	< 0.0699	< 0.0699	< 0.075	< 0.0774	-	-	-	-	-	-	-	-	-	-	-	-	
Carbon tetrachloride	0.916	0.0039	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0118	< 0.0122	-	-	-	-	-	-	-	-	-	-	-	-	
Chlorobenzene	370	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0064	< 0.0066	-	-	-	-	-	-	-	-	-	-	-	-	
Chloroethane	NA	0.2266	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.067	< 0.0226	< 0.0233	-	-	-	-	-	-	-	-	-	-	-	-	
Chloroform	0.454	0.0033	< 0.0464	< 0.0464	< 0.0464	< 0.0464	< 0.0464	< 0.0464	< 0.0383	< 0.0395	-	-	-	-	-	-	-	-	-	-	-	-	
Chloromethane	159	0.0155	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0203	< 0.021	0.12	0.053 J	< 0.017	< 0.018	< 0.021	< 0.021	< 0.024	< 0.016	< 0.02	< 0.017	< 0.017	< 0.017	
Dibromochloromethane	8.28	0.032	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.182	< 0.189	-	-	-	-	-	-	-	-	-	-	-	-	
Dibromomethane	34	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0158	< 0.0163	-	-	-	-	-	-	-	-	-	-	-	-	
Dichlorodifluoromethane	126	3.0863	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.023	< 0.0237	-	-	-	-	-	-	-	-	-	-	-	-	
Diisopropyl ether	2260	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0133	< 0.0137	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	8.02	1.57	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0127	< 0.0131	-	-	-	-	-	-	-	-	-	-	-	-	
Hexachloro-1,3-butadiene	NA	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.106	< 0.11	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene (Cumene)	268	NA	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0144	< 0.0149	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl-tert-butyl ether	63.80	0.027	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0157	< 0.0162	-	-	-	-	-	-	-	-	-	-	-	-	
Methylene Chloride	61.8	0.0026	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0149	< 0.0154	-	-	-	-	-	-	-	-	-	-	-	-	
Naphthalene	5.52	0.6582	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.0167	< 0.0172	-	-	-	-	-	-	-	-	-	-	-	-	
Styrene	867	0.22	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0137	< 0.0141	-	-	-	-	-	-	-	-	-	-	-	-	
Tetrachloroethene	33	0.0045	0.0378	0.0817	< 0.025	< 0.025	0.167	0.208	0.0539	0.0244 J	0.035 J	< 0.021	< 0.02	< 0.021	< 0.024	1.7	< 0.028	3.7	< 0.023	0.6	5.7	1	
Toluene	818	1.1072	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0135	< 0.0139	0.015	< 0.0085	< 0.0078	< 0.0084	< 0.0097	< 0.0078	< 0.011	< 0.0074	< 0.0092	< 0.0078	< 0.0078	< 0.0078	
Trichloroethene	1.30	0.0036	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.02	< 0.0207	< 0.0098	< 0.0094	< 0.0087	< 0.0094	< 0.011	0.047	< 0.012	0					

TABLE 1  
SOIL ANALYTICAL RESULTS  
Leather-Rich, Inc.  
1250 Corporate Center Drive  
Oconomowoc, Wisconsin

Parameter	RCL Non-Industrial DC (mg/kg)	Groundwater Pathway	B-1	B-2	B-3	SB-1		SB-2		SB-3		SB-4		SB-5		PZ-1		PZ-2		
			4/23/18	4/23/18	4/23/18	7/2/18		7/2/18		7/23/18		7/23/18		7/23/18		6/7/18		7/2/18		
			0-2'	0-2'	0-2'	0-2'	14-16'	2-4'	14-16'	2-4'	4-4.5'	0-2'	4-6'	0-2'	6-8'	2-4'	8-10'	12-14'	0-2'	12-14'
Collected by:			Giles	Giles	Giles	Giles		Giles		Giles		Giles		Giles		Giles		Giles		
Saturated Yes/No			No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Fractional Organic Carbon (% w/w)	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1,1,2-Tetrachloroethane	2.78	0.0534	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1,1-Trichloroethane	640	0.1402	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1,2,2-Tetrachloroethane	0.81	0.0002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1,2-Trichloroethane	1.59	0.0032	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1-Dichloroethane	5.06	0.4834	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1-Dichloroethene	320	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1-Dichloropropene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,3-Trichlorobenzene	62.60	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,3-Trichloropropane	0.005	0.0519	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,4-Trichlorobenzene	24	0.408	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,4-Trimethylbenzene	219	1.3787	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,3,5-Trimethylbenzene	182	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dibromo-3-chloropropane	0.0075	0.0002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dibromoethane (EDB)	0.05	0.000282	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dichlorobenzene	376	1.168	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dichloroethane	0.652	0.4834	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dichloropropane	3.4	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,3-Dichlorobenzene	297	1.168	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,3-Dichloropropane	1490	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,4-Dichlorobenzene	3.74	0.144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,2-Dichloropropane	191	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Chlorotoluene	907	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4-Chlorotoluene	253	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene	1.6	0.0051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bromobenzene	342	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bromochloromethane	216	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bromodichloromethane	0.418	0.0003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bromoform	25.4	0.0023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bromomethane	9.6	0.0051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Carbon tetrachloride	0.916	0.0039	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chlorobenzene	370	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chloroethane	NA	0.2266	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chloroform	0.454	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chloromethane	159	0.0155	< 0.017	< 0.017	< 0.017	< 0.02	< 0.017	< 20	< 0.0016	< 0.02	< 0.016	< 0.019	< 0.017	< 0.021	< 0.015	< 0.02	< 0.017	< 0.018	< 0.022	< 0.018
Dibromochloromethane	8.28	0.032	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dibromomethane	34	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dichlorodifluoromethane	126	3.0863	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Diisopropyl ether	2260	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	8.02	1.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Hexachloro-1,3-butadiene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene (Cumene)	268	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl-tert-butyl ether	63.80	0.027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methylene Chloride	61.8	0.0026	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Naphthalene	5.52	0.6582	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Styrene	867	0.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tetrachloroethene	33	0.0045	< 0.02	< 0.02	< 0.02	<b>0.45</b>	<b>0.096</b>	<b>0.14</b>	<b>0.06</b>	<b>0.082</b>	< 0.019	< 0.022	<b>0.0275 J</b>	<b>0.046 J</b>	< 0.017	< 0.023	<b>3.5</b>	<b>0.7</b>	<b>0.19</b>	<b>0.069</b>
Toluene	818	1.1072	< 0.0078	< 0.0078	< 0.0078	0.014 J	< 0.0085	< 0.01	< 0.0085	< 0.01	< 0.0084	< 0.0099	< 0.0088	< 0.011	< 0.0076	< 0.01	< 0.087	< 0.0093	< 0.011	< 0.009
Trichloroethene	1.30	0.0036	< 0.0087	< 0.0087	< 0.0087	< 0.026	< 0.021	< 0.026	< 0.021	< 0.026	< 0.021	< 0.025	< 0.022	< 0.026	< 0.019	<b>0.25</b>	< 0.022	< 0.023	< 0.028	< 0.022
Trichlorofluoromethane	1230	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl chloride	0.067	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
cis-1,2-Dichloroethene	156	0.0412	<b>0.16</b>	< 0.022	< 0.022	< 0.0094	< 0.0076	< 0.0094	< 0.0076	< 0.0094	< 0.0075	< 0.0089	< 0.0079	<b>0.055 B</b>	< 0.068	< 0.0093	< 0.0078	< 0.0084	< 0.0099	< 0.0081
cis-1,3-Dichloropropene	1210	0.0003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
m&p-Xylene	778	3.96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
o-Xylene	434	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
n-Butylbenzene	108	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
n-Propylbenzene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
p-Isopropyltoluene	162	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
sec-Butylbenzene	145	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
tert-Butylbenzene	183	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
trans-1,2-Dichloroethene	1560	0.0626	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
trans-1,3-Dichloropropene	1510	0.0003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Notes:  
1. Samples were collected by GZA GeoEnvironmental, Inc. (GZA) and analyzed by PACE Analytical Lab, Inc. (PACE) of Green Bay, Wisconsin using USEPA Method 8260 for Volatile Organic Compounds (VOCs) and ASTM D2974-87 for Fractional Organic Carbon (FOC).  
2. Residual Contaminant Levels (RCLs) were obtained from the RCL spreadsheet (updated December 2018) available on the following Wisconsin Department of Natural Resources (WDNR) website: <http://dnr.wi.gov/topic/brownfields/professionals.html>. The spreadsheet was prepared by WDNR staff using the U.S. EPA's Regional Screening Level (RSL) Web-Calculator.  
3. **Underlined Bold Red** concentrations indicate an exceedance of the Non-Industrial Direct Contact RCL. **Bold/Italicized** concentrations indicate an exceedance of the Groundwater Pathway RCL.  
4. "-" = The sample was not analyzed for the specified parameter.  
5. Only results for compounds detected during laboratory analyses are presented.  
6. J = Estimated value. The analyte was detected at a concentration between the limit of detection (LOD) and limit of quantification (LOQ).



**TABLE 2**  
**VAPOR ANALYTICAL RESULTS**  
 Leather-Rich, Inc.  
 1250 Corporate Center Drive  
 Oconomowoc, Wisconsin

Analyte	WDNR Sub-Slab VRSL <sup>1</sup> (µg/m <sup>3</sup> )			Sample Location			Sample Location			Sample Location			Sample Location		
	Land Use			VP-1	VP-2		VP-3	VP-4	VP-5	VP-6	VP-7	VP-8	VP-9	SS-1*	SS-2*
Sample Depth	Residential	Small Commercial	Large Commercial / Industrial	3.5-5	3-4.5		3.5-5	3.5-5	3.5-5	3.5-5	3.5-4.5	3-4.5	3-4.5	0-0.5	0-0.5
Sample Date				4/24/2018	4/23/2018	5/2/2018*	4/23/2018	4/23/2018	4/23/2018	4/23/2018	4/23/2018	4/23/2018	4/23/2018	4/23/2018	4/23/2018
Tetrachloroethene (PCE)	1,400	6,000	18,000	[420,000]	[1,500,000]	[1,600,000]	[410,000]	[210,000]	[190,000]	[130,000]	[93,000]	[83,000]	[69,000]	[110,000]	72
Trichloroethene (TCE)	70	293	880	[40,000]	[180,000]	[200,000]	[50,000]	[25,000]	[9,500]	[3,400]	[4,600]	[1,500]	(870)	[9,300]	11
cis-1,2-Dichloroethene	NS	NS	NS	30,000	110,000	89,000	39,000	34,000	15,000	3,600	2,800	2,300	770	12,000	50
trans-1,2-Dichloroethene	NS	NS	NS	3,800 J	8,400 J	8,400 J	3,400	2,200	<420	<300	<170	<160	<140	220 J	2.7
Vinyl chloride	57	933	2,800	<1,000	<2,300	<4,000	<560	<360	<390	<280	<150	<150	<130	<120	0.22 J
Chloromethane	3,100	13,000	39,000	--	--	<3,600	--	--	--	--	--	--	--	--	0.86 J
Dichlorodifluoromethane	3,300	15,000	44,000	--	--	<1,500	--	--	--	--	--	--	--	--	1.1 J
Hexane	24,000	100,000	310,000	--	--	<710	--	--	--	--	--	--	--	--	3.0
Isopropyl alcohol	7,000	29,000	88,000	--	--	11,000 J	--	--	--	--	--	--	--	--	0.67 J
Methylene chloride	21,000	87,000	260,000	--	--	30,000 J	--	--	--	--	--	--	--	--	2.4
Toluene	170,000	730,000	2,200,000	--	--	<2,700	--	--	--	--	--	--	--	--	4.9
Trichlorofluoromethane	NS	NS	NS	--	--	<530	--	--	--	--	--	--	--	--	0.15 J

**Notes:**

1. **VRSL:** Wisconsin Department of Natural Resources (WDNR) Vapor Risk Screening Level
2. <sup>1</sup>Sub-slab VRSLs are calculated from the WDNR Vapor Action Screening Level (VAL). An attenuation factor of 0.03 is applied to the Residential and Small Commercial VALs to calculate the sub-slab VRSL, and an attenuation factor of 0.01 is applied to the Large Commercial/Industrial VAL to attain the sub-slab VRSL
3. \*Samples were collected using summa cannisters. Remaining samples were collected using 3-liter Tedlar bags.
4. **VOCs:** Volatile Organic Compounds
5. **µg/m<sup>3</sup>:** Micrograms per cubic meter
6. **J:** Concentration reported between the laboratory method detection limit and the reporting limit.
7. **NS:** No Established Standard
8. **-- :** Not Analyzed
9. **##.##:** Result exceeds the deep soil gas VRSL for Residential land use
10. **(##.##):** Result exceeds the deep soil gas VRSL for Residential and Small Commercial land use
11. **[##.##]:** Result exceeds the deep soil gas VRSL for Residential, Small Commercial, and Large Commercial/Industrial land uses.
12. VRSLs were obtained from the WDNR Vapor Quick Lookup Table (updated November 2017) or calculated from the United States Environmental Protection Agency Indoor Air Regional Screening Levels (updated May 2018)

**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
**Leather-Rich, Inc.**  
**1250 Corporate Center Drive**  
**Oconomowoc, Wisconsin**

Parameter	ES (µg/L)	PAL (µg/L)	MW-1						
			9/24/1993	10/24/2017	3/15/2018	7/17/2018	4/19/2019	7/15/2019	1/9/2020
Collected by:			Giles	Giles	Giles	Giles	GZA	GZA	GZA
Tetrachloroethene	5	0.5	< 0.7	<b>36.2</b>	<b>190</b>	<b>16</b>	<b>135</b>	<b>45.3</b>	<b>35.9</b>
Trichloroethene	5	0.5	< 0.7	<b>2.2</b>	<b>26</b>	<b>2.1</b>	<b>21.7</b>	<b>6.9</b>	<b>2.9</b>
Vinyl chloride	0.2	0.02	< 0.3	< 0.3	< 0.3	< 0.3	< 0.17	< 0.17	< 0.17
cis-1,2-Dichloroethene	70	7	< 0.7	<b>8.3</b>	<b>54</b>	5.7	<b>51.6</b>	<b>16.1</b>	6.9
trans-1,2-Dichloroethene	100	20	< 0.7	< 0.26	1.5	< 0.35	1.3	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	<b>8000</b>	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	22800	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	< 35.4	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	< 1.1	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	600 J	NA

**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
**Leather-Rich, Inc.**  
**1250 Corporate Center Drive**  
**Oconomowoc, Wisconsin**

Parameter	ES (µg/L)	PAL (µg/L)	MW-2					MW-3			
			3/15/2018	7/17/2018	4/19/2019	7/15/2019	1/9/2020	3/15/2018	7/17/2018	4/17/2019	1/10/2020
Collected by:			Giles	Giles	GZA	GZA	GZA	Giles	Giles	GZA	GZA
Tetrachloroethene	5	0.5	<b>45</b>	<b>35</b>	<b>40.0</b>	<b>28</b>	<b>23.2</b>	< 0.37	< 0.37	<b>0.81</b>	<b>0.67 J</b>
Trichloroethene	5	0.5	< 0.16	0.026 J	< 0.26	< 0.26	0.33 J	< 0.16	< 0.16	< 0.26	< 0.26
Vinyl chloride	0.2	0.02	< 0.3	< 0.3	< 0.17	< 0.17	< 0.17	< 0.3	< 0.3	< 0.17	< 0.17
cis-1,2-Dichloroethene	70	7	< 0.41	< 0.41	< 0.27	< 0.27	< 0.27	< 0.41	< 0.41	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	< 0.35	< 0.35	< 1.1	< 1.1	< 1.1	< 0.35	< 0.35	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
**Leather-Rich, Inc.**  
**1250 Corporate Center Drive**  
**Oconomowoc, Wisconsin**

Parameter	ES (µg/L)	PAL (µg/L)	MW-4				MW-5			MW-5 DUP	MW-5
			3/15/2018	7/17/2018	4/24/2019	1/10/2020	3/15/2018	7/17/2018	4/18/2019	4/18/2019	1/9/2020
<b>Collected by:</b>			Giles	Giles	GZA	GZA	Giles	Giles	GZA	GZA	GZA
Tetrachloroethene	5	0.5	<b>0.61 J</b>	< 0.37	<b>2.2</b>	<b>2.2</b>	<b>1.6</b>	<b>1.6</b>	<b>0.99</b>	<b>1.0</b>	<b>2</b>
Trichloroethene	5	0.5	< 0.16	< 0.16	< 0.26	< 0.26	< 0.16	< 0.16	< 0.26	< 0.26	< 0.26
Vinyl chloride	0.2	0.02	< 0.3	< 0.3	< 0.17	< 0.17	< 0.3	< 0.3	< 0.17	< 0.17	< 0.17
cis-1,2-Dichloroethene	70	7	< 0.41	< 0.41	< 0.27	< 0.27	< 0.41	< 0.41	< 0.27	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	< 0.35	< 0.35	< 1.1	< 1.1	< 0.35	< 0.35	< 1.1	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
**Leather-Rich, Inc.**  
**1250 Corporate Center Drive**  
**Oconomowoc, Wisconsin**

Parameter	ES (µg/L)	PAL (µg/L)	MW-6					MW-7			
			3/15/2018	7/17/2018	4/16/2019	7/15/2019	1/9/2020	3/15/2018	7/17/2018	4/16/2019	1/9/2020
<b>Collected by:</b>			Giles	Giles	GZA	GZA	GZA	Giles	Giles	GZA	GZA
Tetrachloroethene	5	0.5	<u>760</u>	<u>620</u>	<u>939</u>	<u>636</u>	<u>360</u>	<u>180</u>	<u>170</u>	<u>204</u>	<u>131</u>
Trichloroethene	5	0.5	<u>170</u>	<u>190</u>	<u>194</u>	<u>76.8</u>	<u>23</u>	<u>18</u>	<u>34</u>	<u>29.8</u>	<u>23</u>
Vinyl chloride	0.2	0.02	< 0.3	< 0.3	< 0.17	< 0.87	< 0.87	< 0.3	< 0.3	< 0.17	< 0.17
cis-1,2-Dichloroethene	70	7	<u>320</u>	<u>360</u>	<u>366</u>	<u>242</u>	<u>30.3</u>	<u>36</u>	<u>100</u>	<u>84.9</u>	<u>30.8</u>
trans-1,2-Dichloroethene	100	20	8.7	< 0.35	14.9	5.7 J	< 5.5	1.2	2.3	2.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	<b>6300</b>	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	20400	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	206	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	20.6	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	770 J	NA	NA	NA	NA	NA

**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
**Leather-Rich, Inc.**  
**1250 Corporate Center Drive**  
**Oconomowoc, Wisconsin**

Parameter	ES (µg/L)	PAL (µg/L)	MW-8				MW-9			MW-10		MW-10 DUP
			3/15/2018	7/17/2018	4/16/2019	1/9/2020	7/17/2018	4/17/2019	1/9/2020	4/17/2019	1/9/2020	
Collected by:			Giles	Giles	GZA	GZA	Giles	GZA	GZA	GZA	GZA	
Tetrachloroethene	5	0.5	<u>120</u>	<u>63</u>	<u>61.9</u>	<u>8.2</u>	<u>400</u>	<u>363</u>	<u>184</u>	<u>177</u>	<u>19.1</u>	<u>16.9</u>
Trichloroethene	5	0.5	<u>4.9</u>	<u>1.8</u>	<u>1.1</u>	< 0.26	<u>110</u>	<u>78.3</u>	<u>19.8</u>	<u>24.5</u>	<u>1.1</u>	<u>0.83 J</u>
Vinyl chloride	0.2	0.02	< 0.3	< 0.3	< 0.17	< 0.17	< 0.3	< 0.17	< 0.17	< 0.35	< 0.17	< 0.17
cis-1,2-Dichloroethene	70	7	5.6	2.7	2.1	< 0.27	<u>190</u>	<u>163</u>	<u>24.3</u>	<u>41.5</u>	0.30 J	0.29 J
trans-1,2-Dichloroethene	100	20	< 0.35	< 0.35	< 1.1	< 1.1	10	7.9	0.30 J	3.5	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
**Leather-Rich, Inc.**  
**1250 Corporate Center Drive**  
**Oconomowoc, Wisconsin**

Parameter	ES (µg/L)	PAL (µg/L)	MW-11		MW-12			MW-13			MW-14	
			4/17/2019	1/9/2020	4/17/2019	7/15/2019	1/9/2020	4/17/2019	7/15/2019	1/9/2020	4/17/2019	1/9/2020
Collected by:			GZA	GZA	GZA	GZA	GZA	GZA	GZA	GZA	GZA	GZA
Tetrachloroethene	5	0.5	<u>266</u>	<u>37.7</u>	<u>97.3</u>	<u>49.5</u>	<u>54.9</u>	<u>167</u>	<u>98.8</u>	<u>71.5</u>	<u>10.7</u>	<u>7.4</u>
Trichloroethene	5	0.5	<u>34.1</u>	<u>2.3</u>	<u>13.1</u>	<u>5.1</u>	<u>6</u>	<u>22.5</u>	<u>8.4</u>	<u>4.1</u>	< 0.26	< 0.26
Vinyl chloride	0.2	0.02	< 0.17	< 0.17	< 0.35	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
cis-1,2-Dichloroethene	70	7	<b>44.9</b>	3.1	<b>25.2</b>	<b>7.3</b>	<b>8.6</b>	<b>45.4</b>	<b>17.9</b>	5.3	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	2.0	< 1.1	< 2.2	< 1.1	< 1.1	1.3	< 1.1	< 1.1	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	<b>8900</b>	NA	NA	<b>8200</b>	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	23600	NA	NA	24000	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	59.4 J	NA	NA	35.4	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	7.1	NA	NA	2 J	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	560 J	NA	NA	780 J	NA	NA	NA

**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
**Leather-Rich, Inc.**  
**1250 Corporate Center Drive**  
**Oconomowoc, Wisconsin**

Parameter	ES (µg/L)	PAL (µg/L)	MW-15		MW-15 DUP	MW-16		MW-17		MW-18	MW-19	MW-20
			4/17/2019	1/9/2020		7/15/2019	1/10/2020	7/15/2019	1/10/2020	12/11/2020	12/11/2020	5/4/2021
Collected by:			GZA	GZA		GZA	GZA	GZA	GZA	GZA	GZA	GZA
Tetrachloroethene	5	0.5	<b>0.71</b>	<b>0.55 J</b>	<b>0.53 J</b>	<b>6.6</b>	<b>3.4</b>	<b>187</b>	<b>128</b>	<b>106</b>	<b>15.6</b>	<b>231</b>
Trichloroethene	5	0.5	< 0.26	< 0.26	< 0.26	<b>0.62 J</b>	< 0.26	<b>17.7</b>	<b>7.2</b>	<b>2.6</b>	<b>0.51 J</b>	<b>4.9</b>
Vinyl chloride	0.2	0.02	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
cis-1,2-Dichloroethene	70	7	< 0.27	< 0.27	< 0.27	1.4	< 0.27	<b>38.2</b>	<b>11.1</b>	1.8	<0.27	2.0
trans-1,2-Dichloroethene	100	20	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	<0.53
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA



**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
**Leather-Rich, Inc.**  
**1250 Corporate Center Drive**  
**Oconomowoc, Wisconsin**

Parameter	ES (µg/L)	PAL (µg/L)	MW-20 DUP	MW-20 DUP	MW-20	MW-21		PZ-1		PZ-1 DUP	PZ-1
			5/4/2021	7/16/2021	7/16/2021	5/4/2021	7/16/2021	7/17/2018	4/16/2019	4/16/2019	1/9/2020
Collected by:			GZA	GZA	GZA	GZA	GZA	Giles	GZA	GZA	GZA
Tetrachloroethene	5	0.5	<b>232</b>	<b>185</b>	<b>191</b>	<b>88.2</b>	<b>72.5</b>	< 0.37	<b>0.84</b>	<b>0.90</b>	0.36 J
Trichloroethene	5	0.5	<b>4.9</b>	<b>3.2</b>	<b>3.1</b>	0.39 J	0.38 J	<b>0.63 J</b>	< 0.26	< 0.26	< 0.26
Vinyl chloride	0.2	0.02	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.3	< 0.17	< 0.17	< 0.17
cis-1,2-Dichloroethene	70	7	2.1	0.93 J	1.0	< 0.47	< 0.47	< 0.41	< 0.27	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	<0.53	<0.53	< 0.53	< 0.53	< 0.53	< 0.35	< 1.1	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
**Leather-Rich, Inc.**  
**1250 Corporate Center Drive**  
**Oconomowoc, Wisconsin**

Parameter	ES (µg/L)	PAL (µg/L)	PZ-2			PZ-3		Containment Area	VAP-1 10-20'	VAP-1 20-30'	VAP-1 30-40'
			7/17/2018	4/17/2019	1/9/2020	7/15/2019	1/9/2020	4/17/2019	12/4/2020	12/4/2020	12/4/2020
<b>Collected by:</b>			Giles	GZA	GZA	GZA	GZA	GZA	GZA	GZA	GZA
Tetrachloroethene	5	0.5	< 0.37	<b>3.0</b>	<b>7.5</b>	<b>106</b>	<b>106</b>	<b>82.3</b>	<b>201</b>	0.34J	<b>1.4</b>
Trichloroethene	5	0.5	< 0.16	0.37	0.30 J	<b>2.4</b>	<b>1.4</b>	<b>730</b>	<b>8.2</b>	<0.26	<0.26
Vinyl chloride	0.2	0.02	< 0.3	< 0.17	< 0.17	< 0.17	< 0.17	< 1.7	<0.17	<0.17	<0.17
cis-1,2-Dichloroethene	70	7	< 0.41	< 0.27	< 0.27	4.2	2	<b>1640</b>	<b>18.8</b>	<0.27	<0.27
trans-1,2-Dichloroethene	100	20	< 0.35	< 1.1	< 1.1	< 1.1	< 1.1	<b>23.2</b>	<0.46	<0.46	<0.46
							<				
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA

**TABLE 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
**Leather-Rich, Inc.**  
**1250 Corporate Center Drive**  
**Oconomowoc, Wisconsin**

Parameter	ES (µg/L)	PAL (µg/L)	VAP-1 40-50'	VAP-2 20-30'	VAP-2 30-40'	VAP-2 40-50'
			12/4/2020	12/4/2020	12/4/2020	12/5/2020
<b>Collected by:</b>			GZA	GZA	GZA	GZA
Tetrachloroethene	5	0.5	<b><u>1.6</u></b>	<b><u>88.2</u></b>	<b><u>77.9</u></b>	<b><u>108</u></b>
Trichloroethene	5	0.5	<0.26	<b><u>1</u></b>	<b><u>1.5</u></b>	<0.51
Vinyl chloride	0.2	0.02	<0.17	<0.17	<0.17	<0.35
cis-1,2-Dichloroethene	70	7	<0.27	1.3	<0.27	<0.54
trans-1,2-Dichloroethene	100	20	<0.46	<0.46	<0.46	<0.93
Nitrate as N	10000	2000	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA

**Notes:**

1. Samples were collected by GZA GeoEnvironmental, Inc. (GZA) and analyzed by PACE Analytical Lab, Inc. (PACE) of Green Bay, Wisconsin using WI GRO for GROs and USEPA Method 8260 for Volatile Organic Compounds
2. Results are presented in micrograms per liter (µg/l).
3. Results are compared to Wisconsin Administrative Code (WAC) Chapter NR 140 Enforcement Standards (ESs) and Preventive Action Limits (PALs). **Underlined Bold Red font** indicates the parameter was detected above the ES and ***Bold italicized font*** indicates the parameter was detected above the PAL.
4. "-" = The sample was not analyzed for the specified parameter.
5. Only results for compounds detected during laboratory analyses are presented.
6. J = Estimated value. The analyte was detected at a concentration between the limit of detection (LOD) and limit of quantification (LOQ).
7. "NA" = Not Analyzed
8. "NS" = No Standard available under WAC NR 140.

**TABLE 4**  
**GROUNDWATER LEVEL ELEVATION SUMMARY**  
 Leather-Rich, Inc.  
 1250 Corporate Center Drive  
 Oconomowoc, Wisconsin

Well ID	Well Elevations		Well Construction		Groundwater					Date Groundwater Measured
	TOC	Ground Surface	Well Depth (bgs)	Screen Length	Depth (bgs)	Depth (TOC)	Calculated Elevation	Feet of Water in Well	Change in Elevation	
MW-1	103.02	103.23	23.5	10	17.16	17.23		6.27	--	9/24/1993
						17.42	85.60	6.08	-0.19	10/24/2017
						18.07	84.95	5.43	-0.65	3/15/2018
						16.86	86.16	6.64	1.21	6/7/2018
						16.71	86.31	6.79	0.15	7/18/2018
	885.14	885.39	22.75			16.91	868.23	5.84	--	4/16/2019
						16.90	868.24	5.85	0.01	7/15/2019
						16.84	868.30	5.91	0.06	1/9/2020
						18.42	866.72	4.33	-1.58	12/9/2020
						18.94	866.20	3.81	-0.52	1/15/2021
						18.35	866.79	4.40	0.59	5/6/2021
MW-2	101.96	102.23	21	5	16.11	16.99	84.97	4.01	--	3/15/2018
						15.89	86.07	5.11	1.10	6/7/2018
						15.74	86.22	5.26	0.15	7/18/2018
	883.48	883.69	20.8			15.90	867.58	4.90	--	4/17/2019
						15.87	867.61	4.93	0.03	7/15/2019
						15.84	867.64	4.96	0.03	1/9/2020
						17.41	866.07	3.39	-1.57	12/9/2020
						17.93	865.55	2.87	-0.52	1/15/2021
						17.33	866.15	3.47	0.60	5/6/2021
MW-3	102.81	103.14	21	5	17.94	17.74	85.07	3.26	--	3/15/2018
						16.61	86.20	4.39	1.13	6/7/2018
						15.44	87.37	5.56	1.17	7/18/2018
	884.30	885.59	20.72			16.65	867.65	4.07	--	4/7/2019
						16.80	867.50	3.92	-0.15	1/10/2020
						18.20	866.10	2.52	-1.40	12/9/2020
						18.69	865.61	2.03	-0.49	1/15/2021
						18.11	866.19	2.61	0.58	5/6/2021
MW-4	98.82	99.17	18	5	12.86	18.48	865.82	2.24	-0.37	6/6/2021
						13.76	85.06	4.24	--	3/15/2018
						12.64	86.18	5.36	1.12	6/7/2018
	880.34	880.60	17.86			12.50	86.32	5.50	0.14	7/18/2018
						12.60	867.74	5.26	--	4/24/2018
						12.67	867.67	5.19	-0.07	1/9/2020
						14.20	866.14	3.66	-1.53	12/9/2020
						14.70	865.64	3.16	-0.50	1/15/2021
						14.18	866.16	3.68	0.52	5/6/2021
14.51	865.83	3.35	-0.33	6/6/2021						

**TABLE 4**  
**GROUNDWATER LEVEL ELEVATION SUMMARY**  
 Leather-Rich, Inc.  
 1250 Corporate Center Drive  
 Oconomowoc, Wisconsin

Well ID	Well Elevations		Well Construction		Groundwater					Date Groundwater Measured
	TOC	Ground Surface	Well Depth (bgs)	Screen Length	Depth (bgs)	Depth (TOC)	Calculated Elevation	Feet of Water in Well	Change in Elevation	
MW-5	101.98	102.31	20	5	16.33	17.10	84.88	2.90	--	3/15/2018
						16.03	85.95	3.97	1.07	6/7/2018
	15.89	86.09	4.11			0.14	7/18/2018			
	883.54	883.82	20.82			16.05	867.49	4.77	--	4/18/2019
						16.20	867.34	4.62	-0.15	1/9/2020
						17.55	865.99	3.27	-1.35	12/9/2020
						18.00	865.54	2.82	-0.45	1/15/2021
						17.43	866.11	3.39	0.57	5/6/2021
17.85	865.69	2.97	-0.42	6/6/2021						
MW-6	102.89	103.25	21	5	17.11	17.90	84.99	3.10	--	3/15/2018
						16.78	86.11	4.22	1.12	6/7/2018
	16.66	86.23	4.34			0.12	7/18/2018			
	885.10	885.41	20.95			16.80	868.30	4.15	--	4/16/2018
						16.79	868.31	4.16	0.01	7/15/2019
						16.97	868.13	3.98	-0.18	1/9/2020
						18.79	866.31	2.16	-1.82	1/15/2021
						18.24	866.86	2.71	0.55	5/6/2021
18.62	866.48	2.33	-0.38	6/6/2021						
MW-7	102.97	103.27	21	5	17.10	17.95	85.02	3.05	--	3/15/2018
						16.83	86.14	4.17	1.12	6/7/2018
	16.73	86.24	4.27			0.10	7/18/2018			
	885.19	885.44	20.9			16.85	868.34	4.05	--	4/16/2018
						17.00	868.19	3.90	-0.15	1/9/2020
						18.40	866.79	2.50	-1.40	12/9/2020
						18.86	866.33	2.04	-0.46	1/15/2021
						18.28	866.91	2.62	0.58	5/6/2021
18.69	866.50	2.21	-0.41	6/6/2021						
MW-8	103.04	103.24	21	5	16.99	18.01	85.03	2.99	--	3/15/2018
						16.90	86.14	4.10	1.11	6/7/2018
	16.79	86.25	4.21			0.11	7/18/2018			
	885.26	885.40	21			16.85	868.41	4.15	--	4/16/2019
						17.10	868.16	3.90	-0.25	1/9/2020
						18.43	866.83	2.57	-1.33	12/9/2020
						18.95	866.31	2.05	-0.52	1/15/2021
						18.75	866.51	2.25	0.20	6/6/2021

**TABLE 4**  
**GROUNDWATER LEVEL ELEVATION SUMMARY**  
 Leather-Rich, Inc.  
 1250 Corporate Center Drive  
 Oconomowoc, Wisconsin

Well ID	Well Elevations		Well Construction		Groundwater					Date Groundwater Measured
	TOC	Ground Surface	Well Depth (bgs)	Screen Length	Depth (bgs)	Depth (TOC)	Calculated Elevation	Feet of Water in Well	Change in Elevation	
MW-9	103.15	103.47	21	5	17.29	16.57	86.58	4.43	--	7/2/2018
						16.91	86.24	4.09	-0.34	7/18/2018
	885.37	885.66	20.05	10		17.00	868.37	3.05	--	4/17/2019
						17.16	868.21	2.89	-0.16	1/9/2020
						18.51	866.86	1.54	-1.35	12/9/2020
						19.00	866.37	1.05	-0.49	1/15/2021
						18.48	866.89	1.57	0.52	5/6/2021
						18.87	866.50	1.18	-0.39	6/6/2021
MW-10	885.21	885.70	21.92	10	17.61	17.12	868.09	4.80	--	4/17/2019
						17.22	867.99	4.70	-0.10	1/9/2020
						18.60	866.61	3.32	-1.38	12/9/2020
						19.12	866.09	2.80	-0.52	1/15/2021
						18.59	866.62	3.33	0.53	5/6/2021
						18.95	866.26	2.97	-0.36	6/6/2021
MW-11	885.27	885.64	23.04	10	17.37	17.00	868.27	6.04	--	4/17/2019
						17.10	868.17	5.94	-0.10	1/9/2020
						18.49	866.78	4.55	-1.39	12/9/2020
						18.98	866.29	4.06	-0.49	1/15/2021
						18.45	866.82	4.59	0.53	5/6/2021
						18.81	866.46	4.23	-0.36	6/6/2021
MW-12	884.02	884.36	22.04	10	16.95	16.61	867.41	5.43	--	4/17/2019
						16.41	867.61	5.63	0.20	7/15/2019
						16.65	867.37	5.39	-0.24	1/9/2020
						18.00	866.02	4.04	-1.35	12/9/2020
						18.50	865.52	3.54	-0.50	1/15/2021
						17.91	866.11	4.13	0.59	5/6/2021
						18.32	865.70	3.72	-0.41	6/6/2021
MW-13	883.98	884.35	22.10	10	16.87	16.50	867.48	5.60	--	4/17/2019
						16.44	867.54	5.66	0.06	7/15/2019
						16.45	867.53	5.65	-0.01	1/9/2020
						17.99	865.99	4.11	-1.54	12/9/2020
						18.49	865.49	3.61	-0.50	1/15/2021
						17.88	866.10	4.22	0.61	5/6/2021
						18.34	865.64	3.76	-0.46	6/6/2021
MW-14	882.90	883.33	22.20	10	15.81	15.38	867.52	6.82	--	4/17/2019
						15.50	867.40	6.70	-0.12	1/9/2020
						16.89	866.01	5.31	-1.39	12/9/2020
						17.37	865.53	4.83	-0.48	1/15/2021
						16.79	866.11	5.41	0.58	5/6/2021
						17.19	865.71	5.01	-0.40	6/6/2021

**TABLE 4**  
**GROUNDWATER LEVEL ELEVATION SUMMARY**  
 Leather-Rich, Inc.  
 1250 Corporate Center Drive  
 Oconomowoc, Wisconsin

Well ID	Well Elevations		Well Construction		Groundwater					Date Groundwater Measured
	TOC	Ground Surface	Well Depth (bgs)	Screen Length	Depth (bgs)	Depth (TOC)	Calculated Elevation	Feet of Water in Well	Change in Elevation	
MW-15	883.41	883.80	22.10	10	16.29	15.90	867.51	6.20	--	4/17/2019
						15.97	867.44	6.13	-0.07	1/9/2020
						17.35	866.06	4.75	-1.38	12/9/2020
						17.85	865.56	4.25	-0.50	1/15/2021
						17.26	866.15	4.84	0.59	5/6/2021
						17.65	865.76	4.45	-0.39	6/6/2021
MW-16	882.90	883.51	19.60	10	16.08	15.47	867.43	4.13	--	7/15/2019
						15.61	867.29	3.99	-0.14	1/9/2020
						16.93	865.97	2.67	-1.32	12/9/2020
						17.39	865.51	2.21	-0.46	1/15/2021
						16.82	866.08	2.78	0.57	5/6/2021
						17.32	865.58	2.28	-0.50	6/6/2021
MW-17	883.68	884.24	21.22	10	16.78	16.22	867.46	5.00	--	7/15/2019
						16.38	867.30	4.84	-0.16	1/9/2020
						17.71	865.97	3.51	-1.33	12/9/2020
						18.20	865.48	3.02	-0.49	1/15/2021
						17.57	866.11	3.65	0.63	5/6/2021
						18.08	865.60	3.14	-0.51	6/6/2021
MW-18	883.22	883.52	24.95	10		17.34	865.88	7.61		12/9/2020
						17.82	865.40	7.13	-0.48	1/15/2021
						17.19	866.03	7.76	0.63	5/6/2021
						17.68	865.54	7.27	-0.49	6/6/2021
MW-19	882.65	882.99	23.99	10		17.80	864.85	6.19		12/9/2020
						17.23	865.42	6.76	0.57	1/15/2021
						16.61	866.04	7.38	0.62	5/6/2021
						17.15	865.50	6.84	-0.54	6/6/2021
MW-20	882.70	883.22	24.59	10	17.22	16.70	866.00	7.89		5/4/2021
						16.70	866.00	7.89	0.00	5/6/2021
						17.30	865.40	7.29	-0.60	6/6/2021
MW-21	881.07	881.63	24.75	10	15.29	14.73	866.34	10.02		5/4/2021
						14.95	866.12	9.80	-0.22	5/6/2021
						15.65	865.42	9.10	-0.70	6/6/2021
PZ-1	102.90	103.23	38	5	16.99	16.77	86.13	21.23	--	6/7/2018
	885.08	885.30	36.75			16.59	86.31	21.41	0.18	7/18/2018
						16.77	868.31	19.98	--	4/16/2019
						16.85	868.23	19.90	-0.08	1/9/2020
						18.33	866.75	18.42	-1.48	12/9/2020
						18.82	866.26	17.93	-0.49	1/15/2021
						18.24	866.84	18.51	0.58	5/6/2021
						18.68	866.40	18.07	-0.44	6/6/2021

**TABLE 4**  
**GROUNDWATER LEVEL ELEVATION SUMMARY**  
 Leather-Rich, Inc.  
 1250 Corporate Center Drive  
 Oconomowoc, Wisconsin

Well ID	Well Elevations		Well Construction		Groundwater					Date Groundwater Measured
	TOC	Ground Surface	Well Depth (bgs)	Screen Length	Depth (bgs)	Depth (TOC)	Calculated Elevation	Feet of Water in Well	Change in Elevation	
PZ-2	102.99	103.47	36	5	17.33	16.56	86.43	19.44	--	7/2/2018
	885.21	885.65	35.70			16.73	86.26	19.27	-0.17	7/18/2018
						16.89	868.32	18.81	--	4/17/2019
						16.79	868.42	18.91	0.10	1/9/2020
						18.38	866.83	17.32	-1.59	12/9/2020
						18.85	866.36	16.85	-0.47	1/15/2021
						18.33	866.88	17.37	0.52	5/6/2021
						18.71	866.50	16.99	-0.38	6/6/2021
PZ-3	883.86	884.42	36.31	5	16.93	16.37	867.49	19.94	--	7/15/2019
						16.33	867.53	19.98	0.04	1/9/2020
						17.89	865.97	18.42	-1.56	12/9/2020
						18.35	865.51	17.96	-0.46	1/15/2021
						17.76	866.10	18.55	0.59	5/6/2021
						18.22	865.64	18.09	-0.46	6/6/2021

**Notes:**

**TOC:** Top of casing

**bgs:** Below ground surface

All measurements are recorded in feet.

Survey measurements were referenced to a temporary benchmark, the north rim of the manhole located in the northeast corner of the Leather-Rich parking lot, which was assigned an elevation of 100 feet.



**TABLE 5**  
**GROUNDWATER PARAMETERS AND WATER DEPTH**  
**Leather-Rich, Inc.**  
**1250 Corporate Drive**  
**Oconomowoc, Wisconsin**

Well ID	MW-1			MW-2			MW-3		MW-4		MW-5		MW-6			MW-7	
Date	4/16/2019	7/15/2019	1/9/2020	4/17/2019	7/15/2019	1/9/2020	4/17/2019	1/10/2020	4/24/2019	1/9/2020	4/18/2019	1/9/2020	4/16/2019	7/15/2019	1/10/2020	4/16/2019	1/9/2020
Depth to Water (ft btoc)	16.91	16.9	16.84	15.9	15.87	15.84	16.65	16.8	12.6	12.67	16.05	16.2	16.8	16.79	16.97	16.85	17
DO (mg/L)	4.86	9.86	8.75	7.65	9.8	9.43	6.49	8.02	9.38	7.21	6.54	9.4	6.44	9.02	8.78	5.99	9.65
ORP (mV)	159	46.9	169	136	18.9	150	196	174	-10.6	114	155	180	141	43.9	171	164	174
Conductivity (mS/cm)	0.994	1.402	1.16	1.15	1.284	0.999	1.13	0.872	0.646	0.6	1.23	0.991	0.857	1.128	0.977	0.812	0.836
Temperature (°C)	19.84	13	7.12	10.3	14	9.62	12.6	12.13	9.2	12.3	16.02	10.94	17.17	16	10.67	18.63	7.81
pH (s.u.)	7.49	7.12	6.53	7.65	7.83	6.74	7.1	7.11	7.8	6.76	7.25	7.14	6.82	7.35	7.34	6.15	6.76

**TABLE 5**  
**GROUNDWATER PARAMETERS AND WATER DEPTH**  
**Leather-Rich, Inc.**  
**1250 Corporate Drive**  
**Oconomowoc, Wisconsin**

Well ID	MW-8		MW-9		MW-10		MW-11		MW-12			MW-13			MW-14		MW-15	
Date	4/16/2019	1/9/2020	4/17/2019	1/9/2020	4/17/2019	1/9/2020	4/17/2019	1/9/2020	4/17/2019	7/15/2019	1/9/2020	4/17/2019	7/15/2019	1/9/2020	4/17/2019	9/1/2019	4/17/2019	1/10/2020
Depth to Water (ft btoc)	16.91	17.1	17	17.16	17.12	17.22	17	17.1	16.61	16.41	16.65	16.5	16.44	16.45	15.38	15.5	15.9	15.97
DO (mg/L)	6.52	9.67	7.71	9.29	7.59	8.23	8.17	9.21	5.42	8.47	7.66	5.9	7.03	7.69	7.11	8.72	7.4	7.82
ORP (mV)	167	175	156	126	162	164	165	179	170	69	171	183	61.2	140	137	183	189	171
Conductivity (mS/cm)	0.709	0.897	0.92	1.06	1.11	0.751	1.12	0.866	0.95	1.3	0.922	1.12	1.318	0.899	1.11	0.851	0.989	0.943
Temperature (°C)	17.75	7.95	17.27	11.75	15.75	14.7	17.61	11.85	17.24	14	12.44	15.5	13	7.12	11.9	10.49	9.3	10.22
pH (s.u.)	6.99	6.61	7.48	7.46	7.57	7.4	7.77	7.05	8.02	7.12	7.35	7.52	6.75	7.72	7.56	6.26	7.8	7.28

**TABLE 5**  
**GROUNDWATER PARAMETERS AND WATER DEPTH**  
**Leather-Rich, Inc.**  
**1250 Corporate Drive**  
**Oconomowoc, Wisconsin**

Well ID	MW-16		MW-17		MW-18	MW-19	MW-20		MW-21		PZ-1		PZ-2		PZ-3		VAP-1 (10-20)
Date	7/15/2019	1/10/2020	7/15/2019	1/10/2020	12/9/2020	12/9/2020	5/4/2021	7/16/2021	5/4/2021	7/16/2021	4/16/2019	9/1/2019	4/17/2019	9/1/2019	7/15/2019	9/1/2019	12/4/2020
Depth to Water (ft btoc)	15.47	15.61	16.22	16.38	17.34	17.8	16.7	17.05	14.73	15.27	16.77	16.85	16.89	16.79	16.37	16.33	N/A
DO (mg/L)	8.16	10.31	9.53	13.48	4.38	4.14	4.08	3.73	1.83	2.36	4.51	7.26	6.29	6.3	6.48	8.6	6.2
ORP (mV)	42.4	168	56.5	190	162	160	170.7	155	183.2	138	151	139	142	110	68.9	150	124
Conductivity (mS/cm)	1.043	0.68	0.997	0.862	1.31	1.46	1.475	1.18	1.08	1.06	1.08	0.832	1.37	1.01	1.231	0.983	1.06
Temperature (°C)	14	11	11	10.74	11.99	12.18	13.3	20.58	11.6	20.23	20.87	7.78	15.8	14.03	15	6.93	12.9
pH (s.u.)	7.34	7.22	7.2	6.7	7.35	7.58	7.05	7.28	7.06	7.02	7.51	7.39	7.34	7.62	7.22	7.31	6.7

**TABLE 5**  
**GROUNDWATER PARAMETERS AND WATER DEPTH**  
**Leather-Rich, Inc.**  
**1250 Corporate Drive**  
**Oconomowoc, Wisconsin**

Well ID	VAP-1 (20-30)	VAP-1 (30-40)	VAP-1 (40-50)	VAP-2 (20-30)	VAP-2 (30-40)	VAP-2 (40-50)
Date	12/4/2020	12/4/2020	12/4/2020	12/4/2020	12/4/2020	12/4/2020
Depth to Water (ft btoc)	N/A	N/A	N/A	N/A	N/A	N/A
DO (mg/L)	5.11	9.37	5.89	7.56	8.48	Grab Sample
ORP (mV)	-9	-68	-115	-14	64	Grab Sample
Conductivity (mS/cm)	1.6	1.8	1.34	1.25	0.002	Grab Sample
Temperature (°C)	11.07	9.83	8.74	14.43	10.75	Grab Sample
pH (s.u.)	6.83	6.94	7.1	7.25	7.71	Grab Sample

**TABLE 6**  
**PROPOSED GROUNDWATER REMEDIATION MONITORING**  
**Leather-Rich, Inc.**  
**1205 Corporate Center Drive**  
**Oconomowoc, Wisconsin**

Monitoring Locations	Matrix	Frequency	Type of Analytical or Field Measurement	Comments
MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, PZ-1, PZ-2, PZ-3	Water	Once Prior to Injections	cVOCs	To monitor the dissolved cVOC plume in groundwater at the Site
MW-1, MW-2, MW-6, MW-7, MW-8, MW-12, MW-13, MW-14, MW-15, MW-17, MW-18, MW-20, PZ-1, PZ-3	Water	Once Prior to Injections	Dissolved gasses (methane, ethane and ethene), sulfate, dissolved iron, and total organic carbon <sup>2</sup>	To monitor baseline groundwater conditions for comparison to post-injection groundwater conditions
MW-1, MW-2, MW-6, MW-7, MW-8, MW-9, MW-11, MW-14, MW-15, MW-18, MW-20, PZ-1, PZ-2	Water	Three-times Daily During Injections <sup>3</sup>	Groundwater Level	To monitor changes in groundwater levels during injections
MW-8, MW-9, MW-13, MW-17, MW-20, PZ-3	Water	Monthly for three months	cVOCs, dissolved gasses (methane, ethane and ethene), sulfate, dissolved iron, total organic carbon <sup>2</sup>	To monitor changes in cVOC concentrations, electron acceptors and biodegradation product concentrations
MW-1, MW-2, MW-6, MW-7, MW-8, MW-12, MW-13, MW-14, MW-15, MW-17, MW-18, MW-21, PZ-1, PZ-3	Water	Quarterly for two rounds	cVOCs	To monitor changes in cVOC concentrations
MW-3, MW-4, MW-5, MW-9, MW-10, MW-11, MW-16, MW-18, MW-20, PZ-1, PZ-3	Water	Quarterly for two rounds	cVOCs, dissolved gasses (methane, ethane and ethene), sulfate, dissolved iron, total organic carbon <sup>2</sup>	To monitor changes in cVOC concentrations, electron acceptors and biodegradation product concentrations

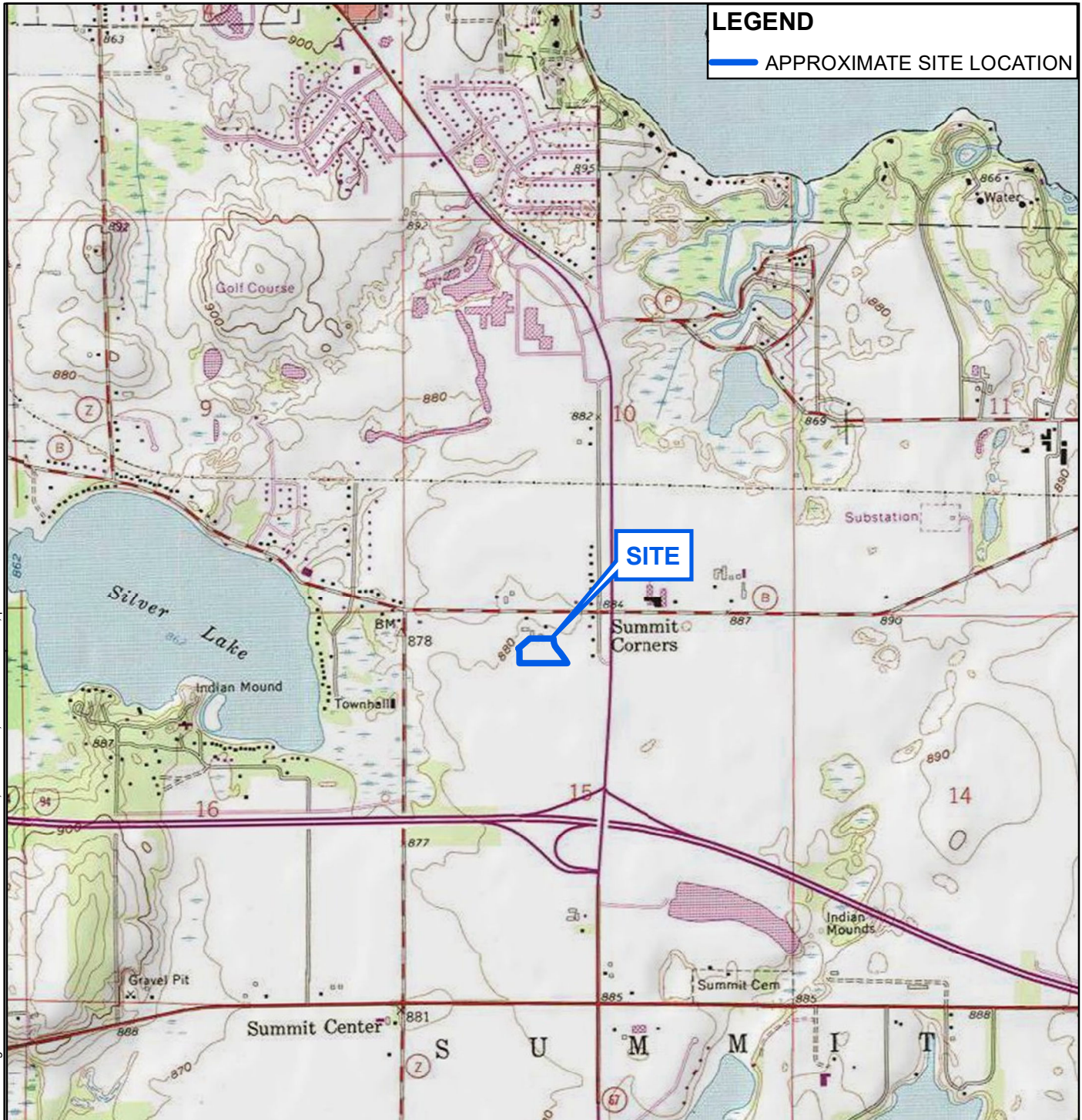
Notes

1. Field measurements of temperature, specific conductance, pH, dissolved oxygen, and oxidation-reduction potential will be made during purging.
2. Analyses for each of the parameters will be conducted by a state-certified laboratory in accordance with standard USEPA methodology.
3. The three-times daily measurements will be conducted prior to beginning injections each day, middle of the day, and at the end of the injection period each day.
4. Modifications to the schedule may be proposed prior to completion of the three quarterly groundwater sampling rounds as warranted by the ERD results.



## FIGURES

© 2021 - GZA GeoEnvironmental, Inc. J:\156000\156999\156045 Leather Rich\Figures\20.0156045.00 Site Location - FIG 1.mxd, October 20, 2021 - 8:50:29 PM, pamelia.rehbein



**LEGEND**  
 — APPROXIMATE SITE LOCATION

**SOURCE:**  
**BASE MAP FROM THE FOLLOWING**  
**USGS QUADRANGLE MAP:**  
**OCONOMOWOC, WI**



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CONTOUR ELEVATIONS REFERENCE NAVD 88,  
 CONTOURS ARE SHOWN IN FEET AT 10' INTERVALS

**LEATHER-RICH**  
 1250 CORPORATE CENTER DRIVE  
 OCONOMOWOC, WI

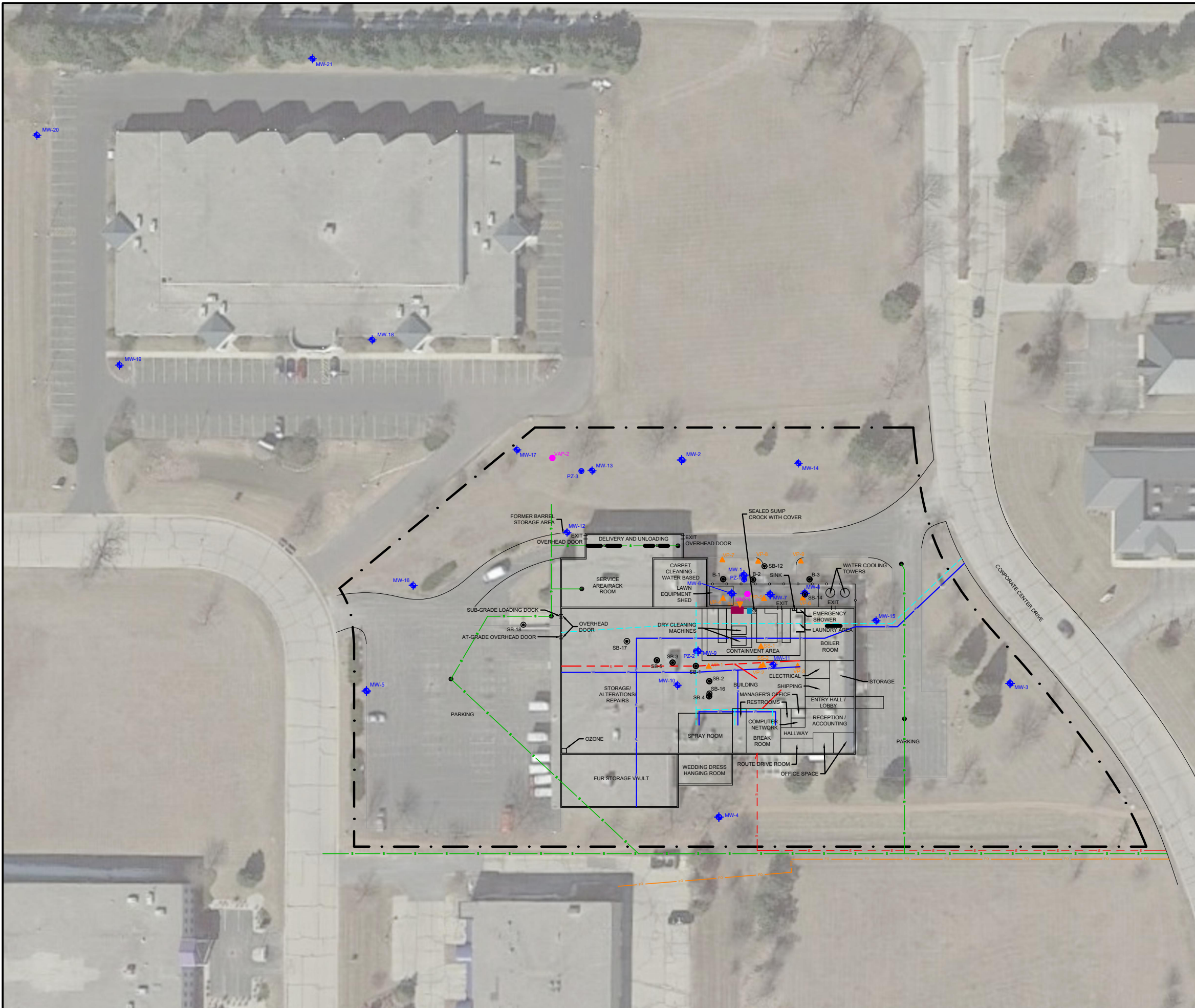
PREPARED BY:  
**GZA GeoEnvironmental, Inc.**  
 Engineers and Scientists  
 www.gza.com

PREPARED FOR:  
**LEATHER-RICH, INC.**  
 1205 CORPORATE CENTER DRIVE  
 OCONOMOWOC, WI

**SITE LOCATION MAP**

PROJ MGR:	HAW	REVIEWED BY:	HAW
DESIGNED BY:	HAW	DRAWN BY:	PLR
DATE:	10/20/2021	PROJECT NO.:	20.0156045.00

CHECKED BY:	HAW	FIG
SCALE:	1 in = 2,000 ft	<b>1</b>
REVISION NO.:		SHEET NO: OF

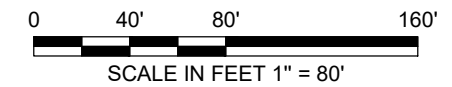
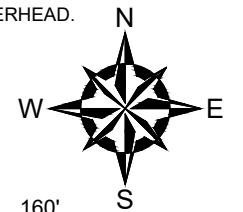


**LEGEND**

- APPROXIMATE PROPERTY BOUNDARY
- MW-1 GROUNDWATER MONITORING WELL
- PZ-1 PIEZOMETER
- VAP-1 VERTICAL AQUIFER PROFILE
- B-1 SB-1 SOIL BORINGS
- DRAIN
- VP-1 SOIL VAPOR POINT
- SS-1 SUB-SLAB VAPOR POINT
- TRENCH DRAIN
- WATER UTILITY
- SANITARY SEWER
- ELECTRIC
- STORM SEWER
- FIBER OPTIC / INTERNET
- PCE FILTRATION UNIT
- PCE ABOVE GROUND STORAGE TANK REMOVED IN 2019

**NOTES**

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5. WATER LINES IN BUILDING ARE OVERHEAD.



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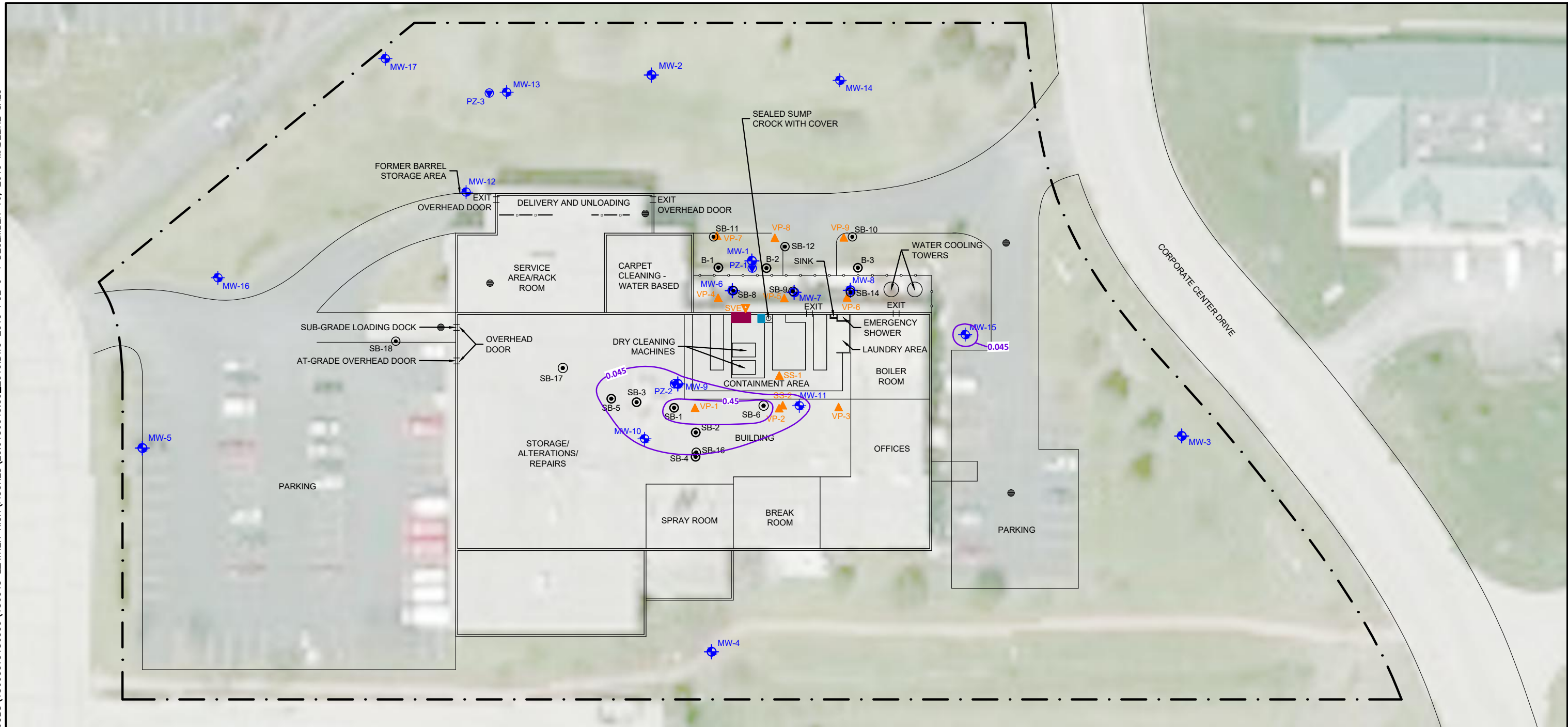
**LEATHER - RICH, INC.**  
1250 CORPORATE CENTER DRIVE  
OCONOMOWOC, WI 53066

**SITE PLAN MAP**

PREPARED BY: <b>GZA GeoEnvironmental, Inc.</b> Engineers and Scientists www.gza.com		PREPARED FOR: LEATHER - RICH, INC. 1250 CORPORATE CENTER DRIVE OCONOMOWOC, WI 53066	
PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JLP	FIG
DESIGNED BY: HAW	DRAWN BY: PLR	SCALE: see above	<b>2</b>
DATE: 6/16/2021	PROJECT NO. 20.0156045.00	REVISION NO.	
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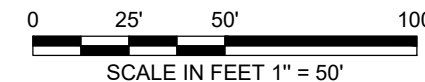
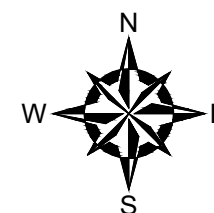


**NOTES**

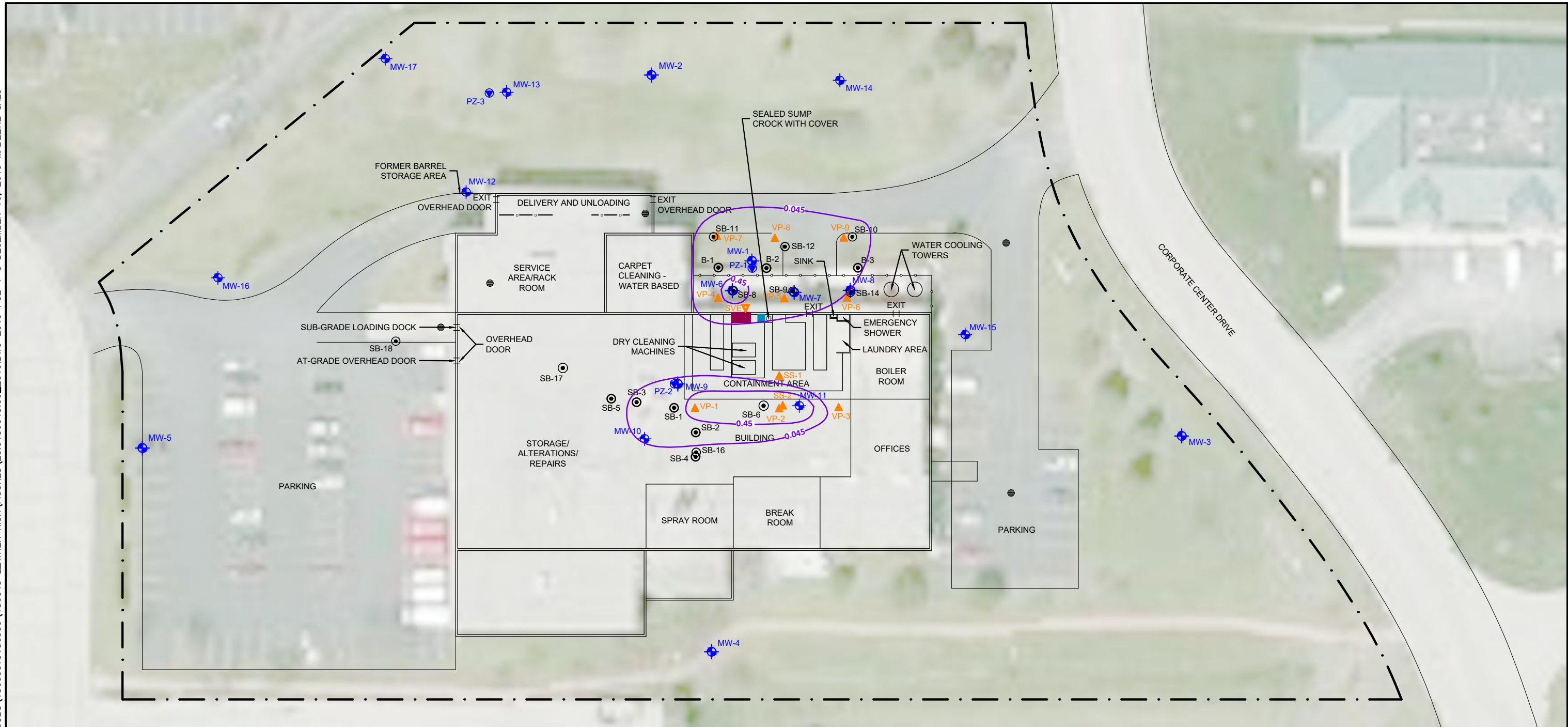
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5. CONCENTRATIONS PROVIDED IN UNITS OF MILLIGRAMS PER KILOGRAM (mg/kg).

**LEGEND**

- APPROXIMATE PROPERTY BOUNDARY
- TRENCH DRAIN
- DRAIN
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- PIEZOMETER LOCATION
- VAPOR POINT LOCATION
- PCE FILTRATION UNIT
- PCE ABOVE GROUND STORAGE TANK
- PCE ISOCONCENTRATION CONTOUR FOR SOIL BETWEEN 0-4 FEET BELOW GROUND SURFACE



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<b>TETRACHLOROETHENE (PCE)</b> <b>SOIL ISOCONCENTRATION MAP</b> <b>0-4 FEET BGS (APRIL 2019)</b>			
PREPARED BY: <b>GZA GeoEnvironmental, Inc.</b> Engineers and Scientists www.gza.com		PREPARED FOR: LEATHER - RICH, INC. 1250 CORPORATE CENTER DRIVE OCONOMOWOC, WI 53066	
PROJ MGR: HAW DESIGNED BY: HAW DATE: 12/16/2019	REVIEWED BY: JFD DRAWN BY: LES PROJECT NO. 20.0156045.00	CHECKED BY: JLP SCALE: see above REVISION NO.	FIG <div style="font-size: 2em; font-weight: bold;">3a</div> SHEET NO. OF

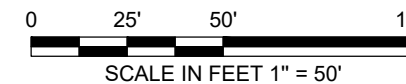
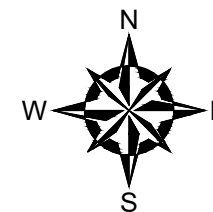


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5. CONCENTRATIONS PROVIDED IN UNITS OF MILLIGRAMS PER KILOGRAM (mg/kg).

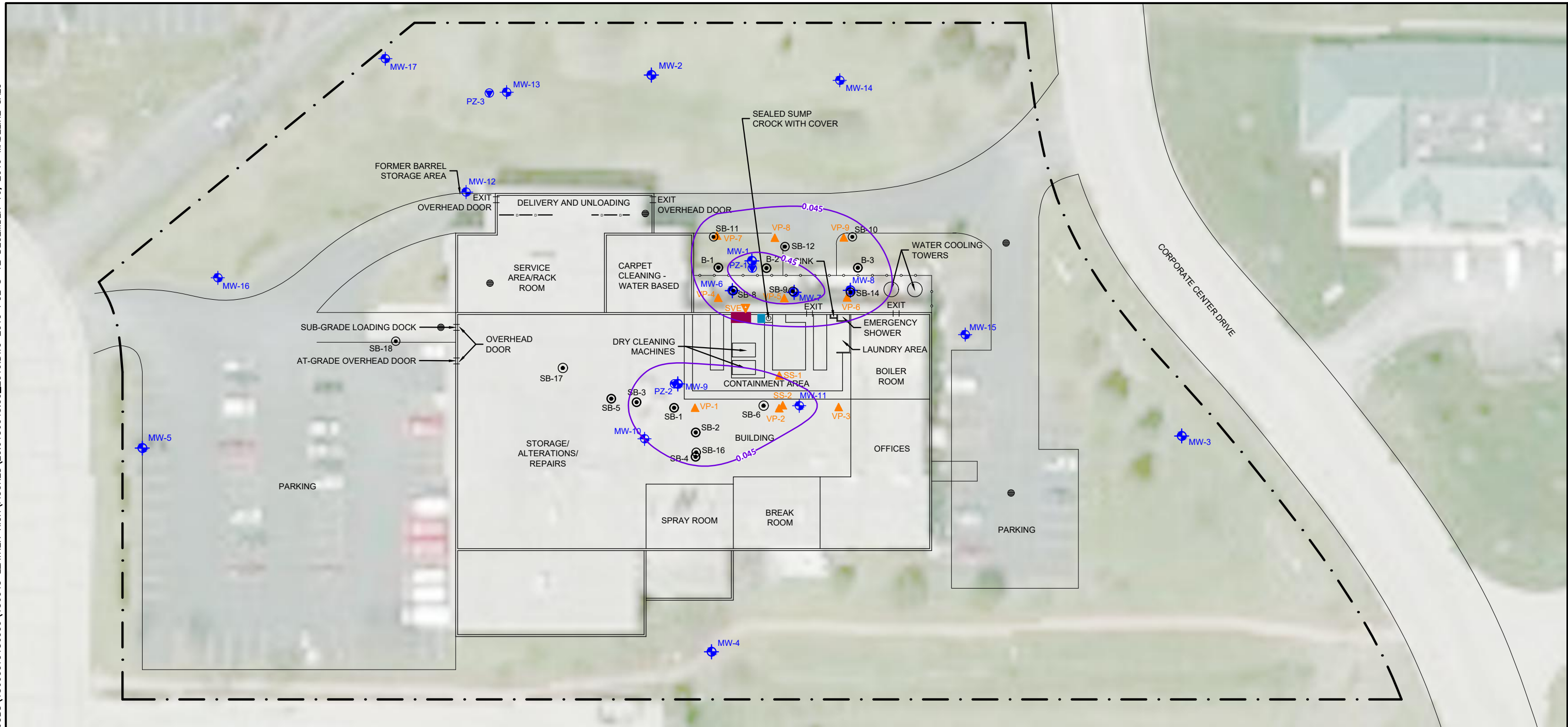
**LEGEND**

- APPROXIMATE PROPERTY BOUNDARY
- - - TRENCH DRAIN
- DRAIN
- B-1  
SB-1 ● SOIL BORING LOCATION
- MW-1 ● MONITORING WELL LOCATION
- PZ-1 ● PIEZOMETER LOCATION
- VP-1 ▲ VAPOR POINT LOCATION
- PCE FILTRATION UNIT
- PCE ABOVE GROUND STORAGE TANK
- PCE ISOCONCENTRATION CONTOUR FOR SOIL BETWEEN 4-8 FEET BELOW GROUND SURFACE



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<b>TETRACHLOROETHENE (PCE)</b> <b>SOIL ISOCONCENTRATION MAP</b> <b>4-8 FEET BGS (APRIL 2019)</b>			
PREPARED BY: <b>GZA</b> GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: LEATHER - RICH, INC. 1250 CORPORATE CENTER DRIVE OCONOMOWOC, WI 53066	
PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JLP	FIG
DESIGNED BY: HAW	DRAWN BY: LES	SCALE: see above	<b>3b</b> SHEET NO. OF
DATE: 12/16/2019	PROJECT NO.: 20.0156045.00	REVISION NO.:	

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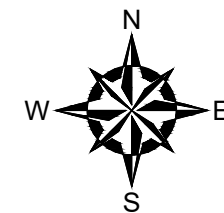


**NOTES**

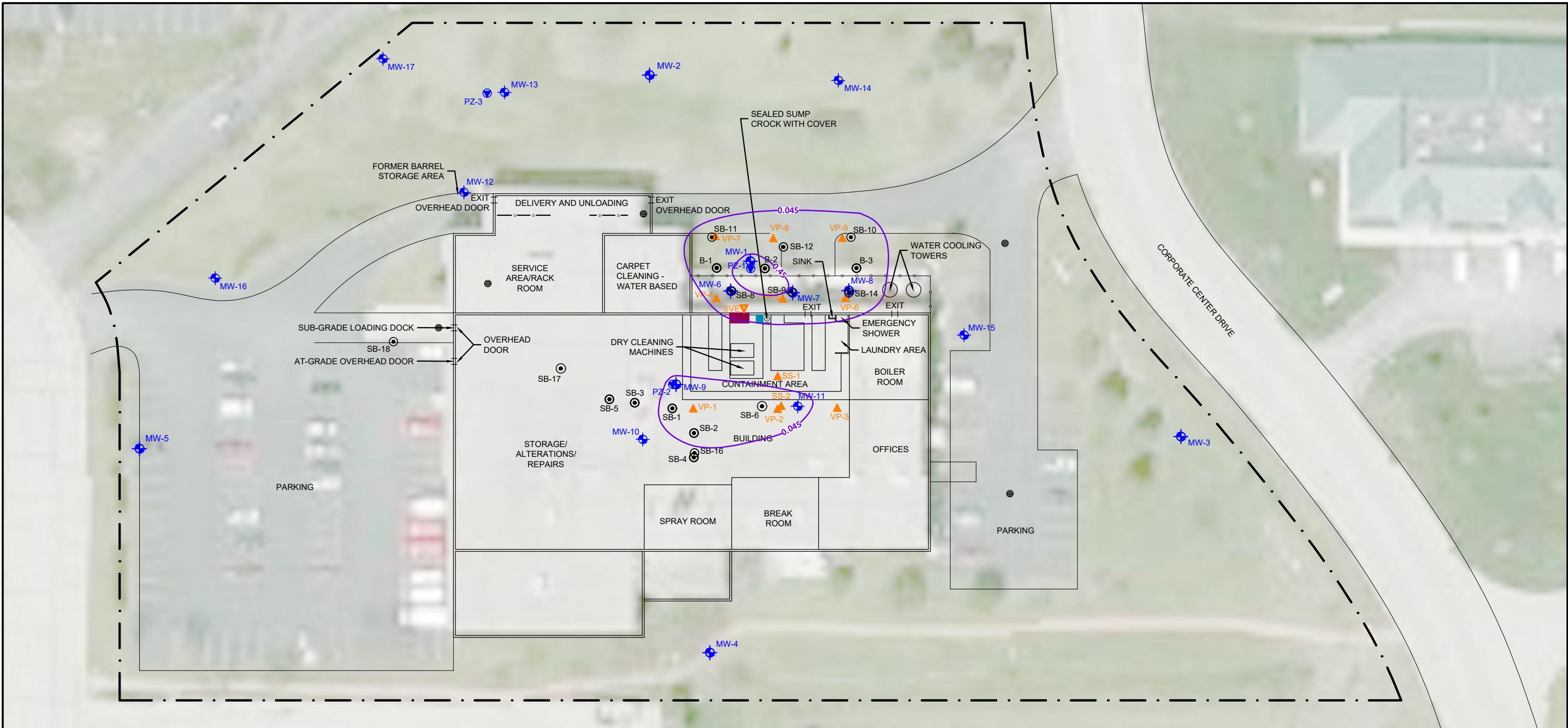
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5. CONCENTRATIONS PROVIDED IN UNITS OF MILLIGRAMS PER KILOGRAM (mg/kg).

**LEGEND**

- APPROXIMATE PROPERTY BOUNDARY
- - - TRENCH DRAIN
- DRAIN
- B-1  
SB-1 SOIL BORING LOCATION
- MW-1 MONITORING WELL LOCATION
- PZ-1 PIEZOMETER LOCATION
- ▲ VP-1 VAPOR POINT LOCATION
- PCE FILTRATION UNIT
- PCE ABOVE GROUND STORAGE TANK
- PCE ISOCONCENTRATION CONTOUR FOR SOIL BETWEEN 8-12 FEET BELOW GROUND SURFACE



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<b>LEATHER - RICH, INC.</b> 1250 CORPORATE CENTER DRIVE OCONOMOWOC, WISCONSIN			
<b>TETRACHLOROETHENE (PCE)</b> <b>SOIL ISOCONCENTRATION MAP</b> <b>8-12 FEET BGS (APRIL 2019)</b>			
PREPARED BY: <b>GZA GeoEnvironmental, Inc.</b> Engineers and Scientists www.gza.com		PREPARED FOR: LEATHER - RICH, INC. 1250 CORPORATE CENTER DRIVE OCONOMOWOC, WI 53066	
PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JLP	FIG
DESIGNED BY: HAW	DRAWN BY: LES	SCALE: see above	<b>3c</b> SHEET NO. OF
DATE: 12/16/2019	PROJECT NO. 20.0156045.00	REVISION NO.	

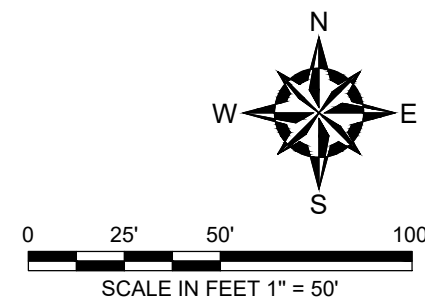


**NOTES**

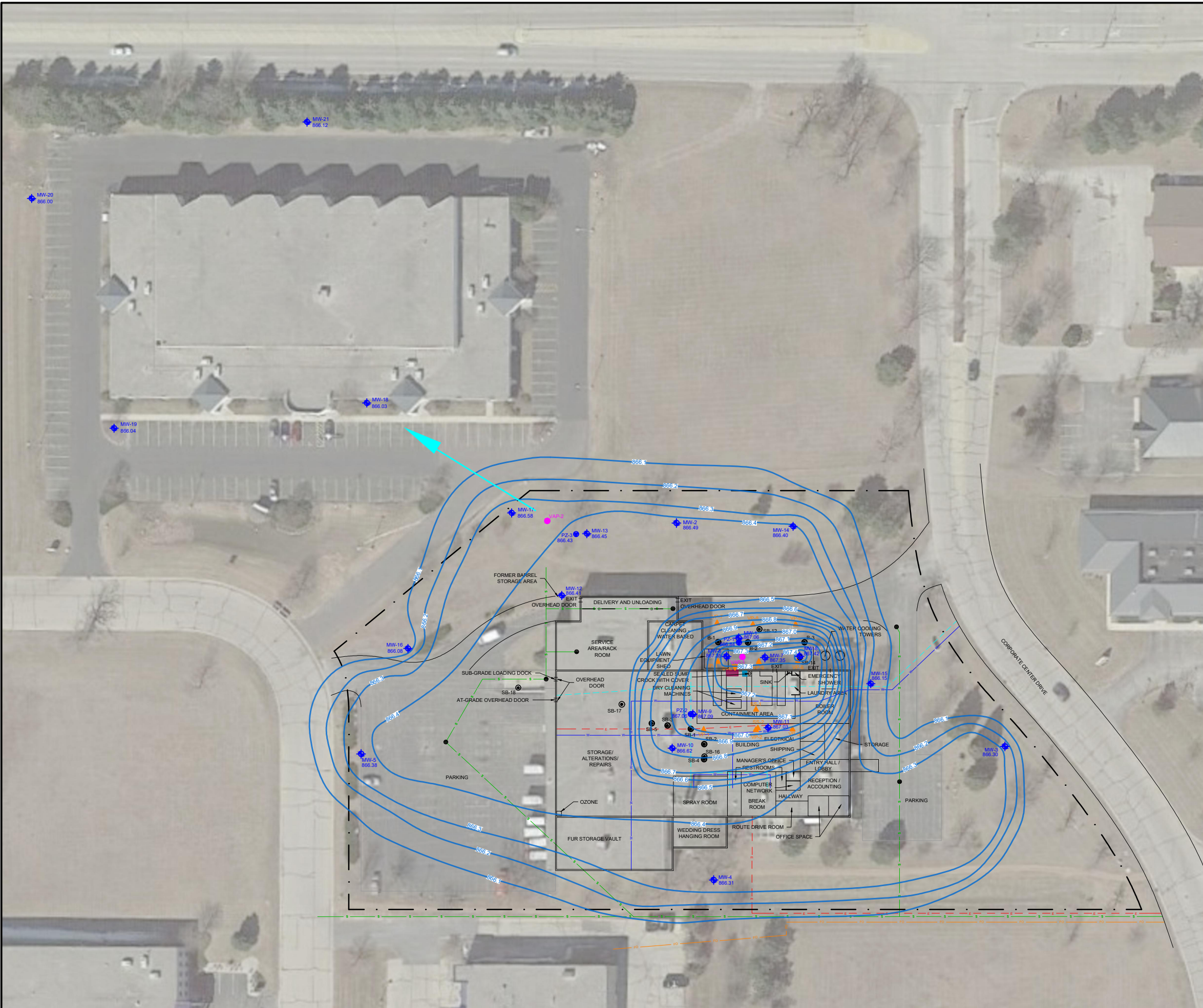
1. BASE MAP DEVELOPED FROM A GOOGLE PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS PUBLISHED BY THE U.S.G.S.
2. THE USE OF AERIAL PHOTOGRAPHY CAN OFTEN MAKE BUILDINGS AND OTHER SITE FEATURES APPEAR TO BE OVERLAPPING AND DISTORTED WHEN OVERLAID WITH ACTUAL SITE FEATURES.
3. THE LOCATION OF THE EXPLORATIONS WERE APPROXIMATELY DETERMINED BY LINE OF SIGHT AND/OR TAPE MEASUREMENTS FROM EXISTING TOPOGRAPHIC FEATURES. THESE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
4. THE APPROXIMATE LOCATION OF THE SITE BOUNDARY, BUILDING FOOTPRINT, AND EXPLORATIONS WERE OBTAINED FROM PROFESSIONAL CONSULTANTS, INC. "FIRST FLOOR PLAN", DATED 6-25-93, AND "SITE PLAN PROPOSED", DATED 10-28-96.
5. CONCENTRATIONS PROVIDED IN UNITS OF MILLIGRAMS PER KILOGRAM (mg/kg).

**LEGEND**

- APPROXIMATE PROPERTY BOUNDARY
- - - TRENCH DRAIN
- DRAIN
- B-1  
● SB-1 SOIL BORING LOCATION
- MW-1 MONITORING WELL LOCATION
- PZ-1 PIEZOMETER LOCATION
- ▲ VP-1 VAPOR POINT LOCATION
- PCE FILTRATION UNIT
- PCE ABOVE GROUND STORAGE TANK
- PCE ISOCONCENTRATION CONTOUR FOR SOIL BETWEEN 12-16 FEET BELOW GROUND SURFACE



NO.	ISSUE/DESCRIPTION	BY	DATE
<p>UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.</p>			
<p>LEATHER - RICH, INC. 1250 CORPORATE CENTER DRIVE OCONOMOWOC, WISCONSIN</p>			
<p><b>TETRACHLOROETHENE (PCE) SOIL ISOCONCENTRATION MAP 12-16 FEET BGS (APRIL 2019)</b></p>			
<p>PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com</p>		<p>PREPARED FOR: LEATHER - RICH, INC. 1250 CORPORATE CENTER DRIVE OCONOMOWOC, WI 53066</p>	
PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JLP	FIG
DESIGNED BY: HAW	DRAWN BY: LES	SCALE: see above	<p><b>3d</b> SHEET NO. OF</p>
DATE: 12/16/2019	PROJECT NO. 20.0156045.00	REVISION NO.	

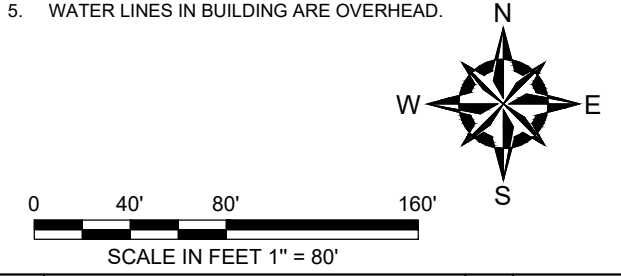


**LEGEND**

- 866.20 — GROUNDWATER FLOW CONTOUR
- APPROXIMATE PROPERTY BOUNDARY
- ◆ MW-1 GROUNDWATER MONITORING WELL
- ◆ PZ-1 PROPOSED OFF-SITE MONITORING WELL
- ◆ PZ-1 PIEZOMETER
- B-1 SOIL BORINGS
- DRAIN
- ▲ VP-1 SOIL VAPOR POINT
- ▲ SS-1 SUB-SLAB VAPOR POINT
- TRENCH DRAIN
- WATER UTILITY
- - - SANITARY SEWER
- - - ELECTRIC
- - - STORM SEWER
- - - FIBER OPTIC / INTERNET
- PCE FILTRATION UNIT
- PCE ABOVE GROUND STORAGE TANK REMOVED IN 2019
- ← GROUNDWATER FLOW DIRECTION Regional

**NOTES**

1. BASE MAP DEVELOPED FROM A GOOGLE PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS PUBLISHED BY THE U.S.G.S.
2. THE USE OF AERIAL PHOTOGRAPHY CAN OFTEN MAKE BUILDINGS AND OTHER SITE FEATURES APPEAR TO BE OVERLAPPING AND DISTORTED WHEN OVERLAID WITH ACTUAL SITE FEATURES.
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5. WATER LINES IN BUILDING ARE OVERHEAD.



NO.	ISSUE/DESCRIPTION	BY	DATE

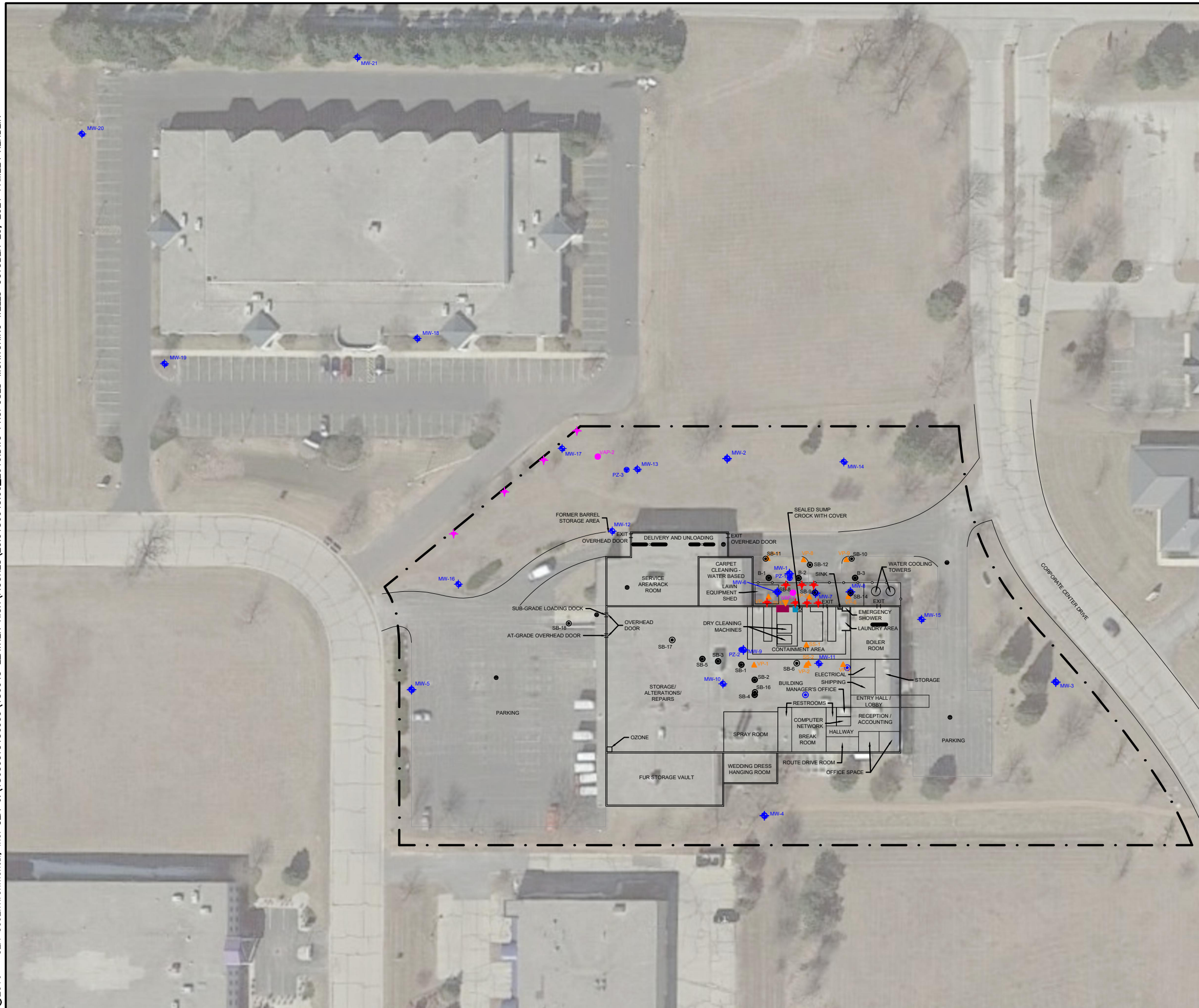
UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

**LEATHER - RICH, INC.**  
 1250 CORPORATE CENTER DRIVE  
 OCONOMOWOC, WI 53066

**GROUNDWATER FLOW MAP**  
**SEPTEMBER, 2021**

PREPARED BY: <b>GZA GeoEnvironmental, Inc.</b> Engineers and Scientists www.gza.com	PREPARED FOR: <b>LEATHER - RICH, INC.</b> 1250 CORPORATE CENTER DRIVE OCONOMOWOC, WI 53066
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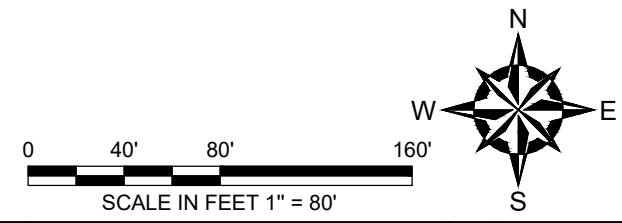
PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JLP	FIG
DESIGNED BY: HAW	DRAWN BY: HKP	SCALE: see above	<b>4</b>
DATE: OCTOBER 2021	PROJECT NO: 20.0156045.00	REVISION NO.	
			SHEET NO. OF



### LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- ◆ MW-1 GROUNDWATER MONITORING WELL
- PZ-1 PIEZOMETER
- B-1 SB-1 SOIL BORINGS
- DRAIN
- ▲ VP-1 SOIL VAPOR POINT
- ▲ SS-1 SUB-SLAB VAPOR POINT
- TRENCH DRAIN
- PCE FILTRATION UNIT
- PCE ABOVE GROUND STORAGE TANK
- ▼ SOIL VAPOR EXTRACTION WELL LOCATION
- ✦ PROPOSED INJECTION WELLS
- ✦ EXISTING INJECTION WELLS

- ### NOTES
1. BASE MAP DEVELOPED FROM A GOOGLE PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS PUBLISHED BY THE U.S.G.S.
  2. THE USE OF AERIAL PHOTOGRAPHY CAN OFTEN MAKE BUILDINGS AND OTHER SITE FEATURES APPEAR TO BE OVERLAPPING AND DISTORTED WHEN OVERLAID WITH ACTUAL SITE FEATURES.
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NO.	ISSUE/DESCRIPTION	BY	DATE

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**LEATHER - RICH, INC.**  
1250 CORPORATE CENTER DRIVE  
OCONOMOWOC, WI 53066

### PROPOSED OFF-SITE MONITORING WELLS

PREPARED BY: <b>GZA GeoEnvironmental, Inc.</b> Engineers and Scientists www.gza.com		PREPARED FOR: LEATHER - RICH, INC. 1250 CORPORATE CENTER DRIVE OCONOMOWOC, WI 53066	
PROJ MGR: HAW	REVIEWED BY: HAW	CHECKED BY: MV	FIG
DESIGNED BY: HAW	DRAWN BY: PLR	SCALE: see above	<b>5</b>
DATE: 10/29/2021	PROJECT NO: 20.0156045.00	REVISION NO:	
			SHEET NO. OF



## **ATTACHMENT 1**

### **Limitations**



## **GEOHYDROLOGICAL LIMITATIONS**

### Standard of Care

1. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the proposal and/or report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
2. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made. Specifically, GZA does not and cannot represent that the site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all its objectives or that the findings of this study will be upheld by a local, state, or federal agency.
3. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the report.

### Subsurface Conditions

4. The generalized soil profile(s) provided in our report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata and the transitions between strata may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location, refer to the exploration logs.
5. Water level readings have been made in test holes (as described in the report) and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level of the groundwater, however, occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the report.

### Compliance with Codes and Regulations

6. GZA used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various and possibly contradictory interpretations. Interpretations and compliance with codes and regulations by other parties are beyond our control.

### Screening and Analytical Testing

7. GZA collected environmental samples at the locations identified in the report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future site activities and uses may result in a requirement for additional testing.
8. Our interpretation of field screening and laboratory data is presented in the report. Unless otherwise noted, GZA relied on the laboratory's quality assurance (QA)/quality control (QC) program to validate these data.
9. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological or radiological processes. Subsequently observed concentrations may be other than indicated in the report.





#### Interpretation of Data

10. Our opinions are based on available information, as described in the report, and on our professional judgment. Additional observations made over time and/or space may not support the opinions provided in the report.

#### Additional Information

11. If Client or others authorized to use this report obtain information on environmental or hazardous waste issues at the site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, based on this evaluation, may modify the conclusions stated in this report.

#### Additional Services

12. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction and/or property development/redevelopment at the site. This will allow us the opportunity to:  
i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes if conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.



**ATTACHMENT 2**

**Product Information Sheets**

# ACCELERITE®

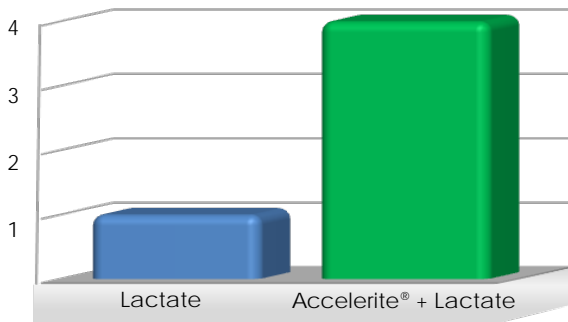
## BIOREMEDIATION NUTRIENT

### UNIQUE NUTRIENT FORMULATION INCREASES ELECTRON DONOR KINETICS AND EFFICIENCY

**BENEFITS OF ACCELERITE®** Accelerite® (patent-pending<sup>1</sup>) is a formulation of growth factors, B-vitamins and micronutrients. Studies have shown that adding Accelerite® to your electron donor can:

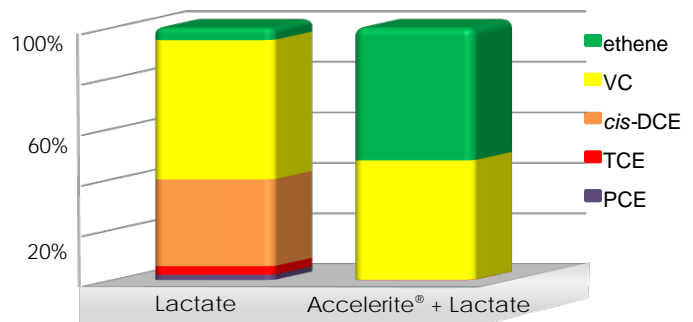
- ▶ Increase the kinetics and efficiency of your electron donor
- ▶ Stimulate anaerobic bacteria
- ▶ Promote the production of propionate over acetate

**INCREASE ELECTRON DONOR EFFICIENCY WITH ACCELERITE®**



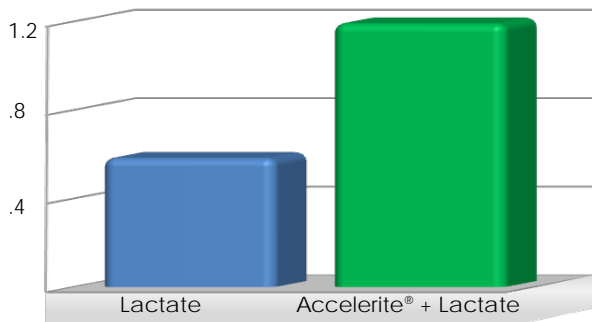
Accelerite® increases the efficiency of sodium lactate by greater than 3 times. Microcosm results shown at 84 days<sup>2</sup>.

**INCREASE DECHLORINATION KINETICS WITH ACCELERITE®**



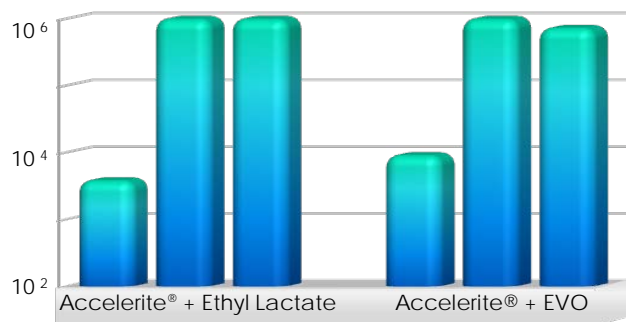
Accelerite® increases the rate of dechlorination to ethene. Microcosm results shown at 53 days<sup>2</sup>.

**INCREASE PROPIONATE:ACETATE RATIO WITH ACCELERITE®**



Studies show that Accelerite® promotes the production of propionate over acetate. Microcosm data shown at 11 days.

**INCREASE ANAEROBIC BACTERIAL POPULATIONS WITH ACCELERITE®**



Field data shows that Accelerite® increases microbial biomass by greater than 2 times in just one week. PLFA data shown<sup>3</sup>.

<sup>1</sup>United States Patent Application US20080227179  
<sup>2</sup>Smith and Sieczkowski 2007. Ninth International In Situ and On-Site Bioremediation Symposium. ISBN 978-1-57477-161-9, Battelle, Columbus, OH  
<sup>3</sup>Sieczkowski et al. 2008. Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds. ISBN 1-57477-163-9, Battelle, Columbus, OH



**JRW** *BIOREMEDIATION* LLC

www.jrwbio remediation.com  
 (913)438-5544  
 info@jrwbio rem.com

# LACTOIL<sup>®</sup>

## SOY MICROEMULSION

CONCENTRATED FORMULATION  
PROVIDES SAVINGS THROUGH  
INCREASED DISTRIBUTION,  
EXTENDED LONGEVITY, HIGH  
EFFICIENCY

LACTOIL<sup>®</sup> is a thermodynamically stable microemulsion designed to provide the subsurface distribution and remediation performance characteristics of a highly soluble substrate with the longevity of a vegetable oil.



Neat LACTOIL<sup>®</sup>



LACTOIL<sup>®</sup>/Water  
After 4 Weeks

### INCREASED SUBSURFACE DISTRIBUTION:

- Average particle size < 1 micron
- High emulsion stability allows for greater subsurface transport

### EXTENDED LONGEVITY:

- 98% fermentable emulsion
- Emulsion particles contain both readily soluble and slowly soluble material

### INCREASED DEGRADATION RATES:

- Provides sustained lactate for accelerated metabolism

### HIGHER EFFICIENCY:

- Increased contaminant degradation per unit of fermentable product injected as compared to standard EVO

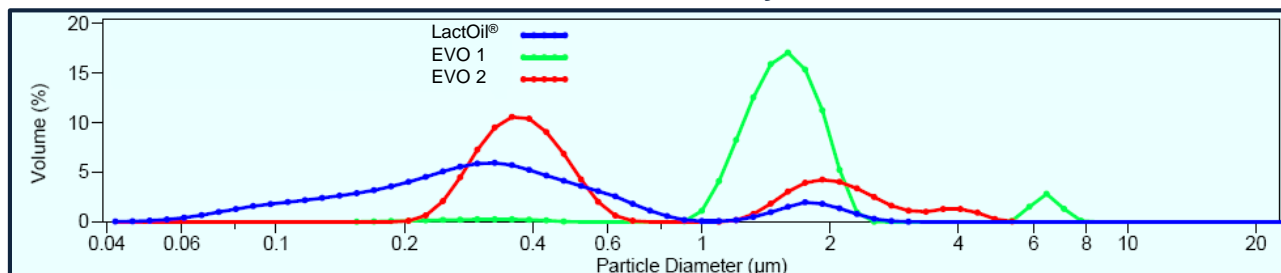
### CONTAMINANTS TREATED:

- Chlorinated solvents, nitrates, perchlorate, RDX, metals, trichloropropane, mine impacted water

### TREATMENT APPLICATIONS:

- Permanent wells, direct push, excavation backfill, bedrock

### Particle Size Analysis



Analysis conducted using 1:10 dilution on a Beckman Coulter Light Scattering Particle Size Analyzer



**JRW** *BIOREMEDIATION* LLC

www.jrwbioremediation.com

(913)438-5544

info@jrwbiorem.com



**ATTACHMENT 3**

**NOI and WPDES Permit Application**

**Notice:** Pursuant to chs. NR 200 and 205, Wis. Adm. Code, this notice of intent (NOI) is required to request coverage under the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit No. WI-0046566-07-0 for discharges of contaminated groundwater to waters of the state of Wisconsin. Failure to complete this form in its entirety may result in a returned NOI or a denied NOI. Personal information collected will be used for administrative purposes and may be provided to requestors to the extent required by Wisconsin Open Records law [ss. 19.31-19.39, Wis. Stats.].

<b>SECTION I: FACILITY/PROJECT LOCATION INFORMATION</b>			
Facility/Project Name Leather-Rich, Inc.		Facility Mailing Address (i.e. PO Box, Street, or Route) 1250 Corporate Center Drive	
Facility/Project Physical Address (i.e. Street or Route) 1250 Corporate Center Drive		City, State, Zip Code Oconomowoc, Wisconsin 53066	
County Waukesha	Facility Phone No. (262) 569-3100	Facility Fax No.	Facility Email Address
<b>SECTION II: FACILITY CONTACT INFORMATION</b>			
<b>Facility Operator/Plant Manager</b> Ms. Cheryl Chew		Title	
Company Leather-Rich, Inc.		Contact Mailing Address (i.e. PO Box, Street, or Route) 1250 Corporate Center Drive	
City, State, Zip Code Oconomowoc, Wisconsin 53066		Contact Phone No. (262) 569-3100	Alternative Phone No.
Contact Fax No.		Contact Email Address cherylm321@gmail.com	
<b>Discharge Monitoring Contact Name</b> Ms. Heidi Woelfel		Title Project Manager/Geologist	
Company GZA GeoEnvironmental, Inc.		Contact Mailing Address (i.e. PO Box, Street, or Route) 17975 West Sarah Lane, Suite 100	
City, State, Zip Code Brookfield, WI 53045		Contact Phone No. 262-754-2594	Alternative Phone No. 262-754-2560
Contact Fax No. 262-923-7758		Contact Email Address Heidi.woelfel@gza.com	
<b>Authorized Representative Name</b> Ms. Cheryl Chew		Title	
Company Leather-Rich, Inc.		AR Mailing Address (i.e. PO Box, Street, or Route) 1250 Corporate Center Drive	
City, State, Zip Code Oconomowoc, WI 53066		AR Phone No. (262) 569-3100	Alternative Phone No.
AR Fax No.		AR Email Address cherylm321@gmail.com	

<b>SECTION III: FACILITY OWNER MAILING ADDRESS (if different from Authorized Representative)</b>		
<b>Facility Owner Name</b> Ms. Cheryl Chew	<b>Title</b>	
<b>Parent Company</b> Leather-Rich, Inc.	<b>Owner Mailing Address (i.e. PO Box, Street, or Route)</b> 1250 Corporate Center Drive	
<b>City, State, Zip Code</b> Oconomowoc, Wisconsin 53066	<b>Owner Phone No.</b> (262) 569-3100	<b>Alternative Phone No.</b>
<b>Contact Fax No.</b>	<b>Contact Email Address</b> cherylm321@gmail.com	

<b>SECTION IV: DISCHARGE CHARACTERIZATION</b>					
<b>Type of Wastewater (check all that apply):</b>	<b>Discharge Frequency (e.g. Annual, Monthly, Daily)</b>	<b>Average Daily Flow (gallons of water discharged per day)</b>	<b>Type of Wastewater (check all that apply):</b>	<b>Discharge Frequency (e.g. Annual, Monthly, Daily)</b>	<b>Average Daily Flow (gallons of water discharged per day)</b>
<input type="checkbox"/> Treated wastewater from groundwater remediation project			<input type="checkbox"/> Cleaning or decontamination wastewaters from the cleaning of treatment equipment for a remediation project		
<input checked="" type="checkbox"/> Infiltration or injection of a substance or remedial material for remediation of soil or groundwater	annual	1,000 – 2,500	<input type="checkbox"/> Other (describe type)		
<input type="checkbox"/> Treated wastewater from dewatering of construction trenches or pits			<input type="checkbox"/> Other (describe type)		
<input type="checkbox"/> Landspreading or spray irrigation of agricultural chemical contaminated wastewater			<input type="checkbox"/> Other (describe type)		

<b>SECTION V: ELIGIBILITY CHECKLIST</b>
<p>1. Is the wastewater discharged from and/or to properties within tribal lands (i.e. land owned by or held in trust for the tribes and land within recognized reservation boundaries)?</p> <p><input type="checkbox"/> Yes. <b>Your discharge is not eligible for this General Permit.</b> <i>If all discharges from your facility go to or come from properties in tribal lands, you do not require regulation under a WPDES discharge permit. Therefore, skip the rest of the NOI and sign the last page. We will remove you from our tracking system. The Tribe or United States</i></p>

*Environmental Protection Agency (EPA) regulates discharges within tribal lands.*

**No. Proceed to question 2.**

2. Is the wastewater discharged to a Publicly Owned Treatment Works (i.e. sanitary sewer)? A septic system is not considered a sanitary sewer.

**Yes. Your discharge is not eligible for this General Permit.** *If all discharges from your facility go to a sanitary sewer, you do not require regulation under a WPDES discharge permit. Therefore, skip the rest of the NOI and sign the last page. We will remove you from our tracking system. If at some point in the future operations at your facility result in a discharge, you will need to inform the Department. If only some or no discharges from your facility go to the sanitary sewer, please proceed to question 3.*

**No. Proceed to question 3.**

3. Are any of the following wastewaters discharged or mixed with the above wastewaters to surface water or groundwater: Contact or noncontact cooling water, water from boiler cleaning operations, air compressor condensate contaminated with oil and grease, softener regeneration backwash, municipal wastewater, domestic wastewater, or process wastewaters from the production of any material or product, or other wastewater not otherwise cover by this general permit?

**Yes. Your discharge is not eligible for this General Permit.** *Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.*

**No. Proceed to question 4.**

4. What is the receiving water for your discharge? If your facility has more than one outfall, indicate in the space provided which outfalls go to groundwater and which go to surface waters. (*check all that apply*)

**Groundwater Discharge** (*any wastewater that is allowed to infiltrate or seep into the soil from a permeable surface including but not limited to any drain field, agricultural field, ditch, swale, depression, trench or pit, adsorption pond, infiltration pond, rain garden, prairie, or vegetative area that may impact groundwater quality*). **If you will only be discharging to groundwater, please proceed to question 5.**

**Outfall #(s):**

**Wetland Discharge** (*any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that will carry wastewater to a wetland. Wetlands mean an area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions*). **If you will only be discharging to wetlands, please proceed to question 5.**

**Outfall #(s):**

**Note:** *The Department will need to determine if your discharge would cause significant adverse impacts to wetlands*

**Surface Water Discharge** (*any discernible, confined and discrete conveyance system including but not limited to any pipe, ditch, channel, tunnel, conduit, swale, or storm sewer that will carry wastewater to a creek, stream, pond, marsh, bay, reservoir, river, lake, or other surface water within the state of Wisconsin*). **Proceed to question 4A.**

**Outfall #(s):**



A. What is the name(s) of the surface water your discharge enters?

**Proceed to question 4B.**

B. What is the Water Body Identification Code (WBIC) of the surface water your discharge enters?

**Proceed to question 4C.**

**Note:** The WBIC for a specific surface water can be found at: <http://dnr.wi.gov/water/waterSearch.aspx>.

C. Is the discharge directly to a surface water classified as an outstanding or exceptional resource waters as defined in ch. NR 102, Wis. Adm. Code.?

Yes. **Your discharge is not eligible for this General Permit.** Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.

No. **Proceed to question 4D.**

D. Is the discharge directly to a surface water classified as a public water supply (i.e. Lake Superior, Lake Michigan and Lake Winnebago) in ch. NR 104, Wis. Adm. Code?

Yes. **Your discharge is not eligible for this General Permit.** Skip the rest of the NOI and complete the certification on last page. Contact the Department to obtain application for an individual WPDES discharge permit.

No. **Proceed to question 5.**

5. Does the discharge contain water treatment additives (i.e. biocides such as microbicides, fungicides, molluscicides, chlorine, etc.) or water quality conditioners (i.e. scale and corrosion inhibitors, pH adjustment chemicals, oxygen scavengers, conditioning agents, water softening compounds, etc.) that may enter surface water or groundwater without receiving wastewater treatment or that are used in a treatment process but are not expected to be removed by wastewater treatment?

Yes. **For each additive used, please fill out and attach an Additive Review Worksheet.** Additive Review Worksheets must be completed to receive coverage under this general permit. The Additive Review Worksheet is not required for additives with active ingredients consisting of chlorine, hypochlorite, sulfuric acid, hydrochloric acid or sodium hydroxide. Also, chemicals used in an industrial process generating wastewater that eventually receives treatment or chemicals added as part of wastewater treatment process (such as ferric chloride, alum or pickle liquor) are not considered water treatment additives and need not require an additive review. **Proceed to question 6.**

No. **Proceed to question 6.**

6. Will chlorine-based compounds be used to control the growth of micro-organisms in the treatment system or used to decontaminate the treatment system after completion of the remediation project?

Yes. **Proceed to question 6A.**

No. **Proceed to question 7.**

A. Will chemicals be used to dechlorinate the wastewater prior to discharge to surface water?

Yes. **The wastewater will be dechlorinated with chemicals. Proceed to question 7.**

No. **The wastewater will not be dechlorinated with chemicals. Proceed to question 7.**

7. Is a discharge management plan attached to this NOI that includes all the information necessary from Section 3 of the permit?

- Yes. **Proceed to question 8.**  
 No. **This form will be considered incomplete and returned to you.**

8. Has the groundwater at the site been analyzed for contaminants and are the results attach to the discharge management plan?

- Yes. **Proceed to question 9.**  
 No. **This form will be considered incomplete and returned to you.**

9. If a treatment facility is required for the treatment of contaminated groundwater, have the plans and specifications been submitted to or approved by the department under s. 281.41, Wis. Stats., and ch. NR 108, Wis. Adm. Code?

- Yes. **Proceed to Section VI.**  
 No. **Please contact wastewater plan review staff to find out how to get the plans approved. Proceed to Section VI.**

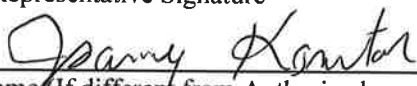

**Note:** Department wastewater plan review staff can be found here:  
<http://dnr.wi.gov/topic/wastewater/planreviewers.html>.

Additionally, department plan submittal requirements can be found here:  
<http://dnr.wi.gov/topic/wastewater/AdequateSubmittal.html>.

**SECTION VI: CERTIFICATION**

*This form must be signed by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2., Wis. Adm. Code. To delegate signatory authority to a duly authorized representative, please submit a Delegation of Signature Authority (DSA) form (Form 3400-220).*

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Representative Name Joanne Kantor	Title
Authorized Representative Signature 	Date Signed 1-3-20
Submitter Name (If different from Authorized Representative) Heidi Woelfel	Title PROJECT MANAGER
Submitter Signature 	Date Signed 1-3-20