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February 17, 2020
File No. 20.0156045.00

Mr. Christopher Dietrich, Water Resources Management Spec-Adv
Wisconsin Department of Natural Resources
2300 North Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-3128

Re: 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

Dear Mr. Dietrich:

GZA GeoEnvironmental, Inc. (GZA), on behalf of Leather-Rich, Inc. (Leather-Rich/"Client"), is submitting this letter report to the Wisconsin Department of Natural Resources (WDNR) for an enhanced reductive dechlorination (ERD) groundwater remediation scope of work and information necessary to meet the permitting requirements for the injection of electron donor at 1250 Corporate Center Drive in Oconomowoc, Wisconsin ("Site"), as shown on Figure 1. 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 Chapter NR 140.28(5) and a variance from Chapter NR 812.05 of the Wisconsin Administrative Code (Wis. Adm. Code). Limitations to this document are provided in Attachment 1.

INTRODUCTION

The Site is located on 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 and is situated along the southern property boundary. 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. 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 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 building. This area is referred to as the "containment area." The dry cleaning process and storage area was constructed with a 60-mil polyethylene membrane installed as a containment area beneath the dry cleaning area to contain spills or releases. The membrane was reported to be one piece of material with no seams, installed at a depth of 2 to 3 feet below the floor elevation. The north edge of the membrane was secured to the north building foundation wall based on Site construction photos; however, the completion details of the edges along the west, south, and east sides are not known.

The area above the membrane was backfilled with sand and base course gravel, 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 a spill of dry cleaning fluids. No spills 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 tetrachloroethene (PCE) used in the dry cleaning operation is recovered and treated for re-use. 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 highest concentrations of PCE in soils 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 soil to groundwater Residual Contaminant Levels (RCLs), but were less than the direct contact RCLs. The concentrations decreased with depth, indicating that the PCE was released to the soils from near the surface, or possibly from leakage from the membrane under the containment area.

Site investigation activities were conducted by Giles Engineering (Giles) from March to July 2018, to investigate 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 (SIR) prepared by Giles was submitted to the WDNR in November 2018. Following review of the SIR, the WDNR identified data gaps and required additional Site information and investigation.

From April through July 2019, GZA conducted Site investigation activities to gather additional data in order to close the data gaps identified by the WDNR. A total of 10 soil borings and nine NR 141-compliant, 2-inch monitoring wells were installed, as well as a soil vapor extraction well and seven injection points for ERD. Figure 2 presents the Site layout and features.

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 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 of Sun Prairie, Wisconsin. The soil borings were advanced to depths of 5 to 16 feet below ground surface (bgs) to collect select soil intervals for laboratory analysis.

The monitoring wells were installed using 4.25-inch hollow-stem augers operated by On-Site Environmental. The monitoring wells were constructed with 10 feet of 2-inch poly vinyl chloride (PVC), 0.010-inch screen and riser. The piezometer was construction 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 concrete apron over the well.

On April 16, 17, and 18, 2019, GZA collected groundwater samples from the monitoring well network utilizing low-flow sampling protocol. Select monitoring wells and piezometers were sampled on July 19, 2019. Each well was purged using a peristaltic pump connected to a flow-through cell equipped with a YSI multi-meter to measure the geochemical parameters of 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 analysis of volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260.

Soil

Chlorinated hydrocarbons were detected in the soil along the south side of the containment area and north of the building. Soil samples were not collected from beneath the containment area 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. Other borings advanced west of the containment area indicated that the soil concentrations were delineated in this direction.

The highest concentrations of PCE in soils 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 soil to groundwater RCLs, but were less than the direct contact RCLs.

The highest PCE concentrations were located north of the building, beginning in the 4- to 8-foot depth interval, and extended to groundwater. This distribution was indicative of a release emanating from beneath the building, the building foundation acting as a barrier in the upper 4 feet, and not 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.

One soil boring, SB-18, was advanced in the loading dock area to evaluate the area 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.

The concentrations detected in the soils outside of the building along the northern property boundary were generally in the 16- to 18-foot depth interval. This interval was consistent with the water table, therefore, the concentrations were likely from the fluctuation of groundwater in the soil column. Table 1 presents the soil analytical results and 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,* dated July 19, 2019.

Groundwater

The VOC results for the groundwater sampling indicated that the groundwater plume is migrating northwest. The highest concentration of PCE detected in groundwater was in MW-6 along the north wall of the building. Two additional wells (MW-12 and MW-13) were installed in April 2019, and MW-17 and PZ-3 were installed in July 2019 to evaluate the concentrations northwest and downgradient of MW-6. Based on the concentrations, it appeared that the plume was migrating toward MW-13 and MW-17, which was consistent with the previous groundwater flow direction. Inside of the building, MW-9, near the southwest corner of the containment area, had the highest PCE concentration, indicating a potential release in this area. Monitoring wells were not advanced beneath the containment area so that the membrane was not compromised. Monitoring wells MW-9 and MW-12 were along a similar flow direction as MW-6 and MW-13. Table 2 presents the groundwater analytical results and Figure 4 presents the PCE isocontour for groundwater. Groundwater analytical reports were previously submitted in the *Status Update Report,* dated July 19, 2019, and the *Interim Remedial Action Work Plan,* dated November 21, 2019.

An evaluation of the daughter products indicated that limited reductive dichlorination of PCE was occurring in the area of the highest concentrations. The soils at the Site are predominantly sand and gravel and contain little organic carbon to facilitate the reductive dichlorination as confirmed from the Fraction Organic Carbon samples collected in soil which were at or below 1% of total carbon weight per sample weight. In addition, the geochemical parameters collected during low-flow sampling indicated that the aquifer was likely anaerobic, which limits the reductive dichlorination of PCE. There were

indications in the ORP that reductive dichlorination could be a viable remedial alternative if the aquifer was amended to provide the proper conditions. Table 3 presents the groundwater geochemical parameters.

The 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 in the groundwater at concentrations exceeding the Enforcement Standard (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 to evaluate 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 and was measured to be approximately 9 to 20 degrees Celsius (°C). This temperature is sufficient to maintain the microbial population. Finally, the groundwater gradient for the Site is 0.005 feet per foot (ft/ft) to the northwest along the groundwater flow direction. During the 2018 Site investigation work conducted by Giles, the hydraulic conductivity measured at MW-1 was 5.122 x 10^{-3} centimeters per second (cm/s). Hydraulic conductivity is used to calculate the groundwater velocity to determine if there is sufficient groundwater flow to allow migration of the electron donor through the subsurface. The groundwater velocity is not a measure of contaminant migration because it is retarded by other subsurface factors and is only an estimate of the groundwater flow.

SITE CONDITION 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 the 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. Groundwater flow at the Site is to the northwest at an average hydraulic gradient of 0.005 ft/ft. The groundwater flow direction measured during the April 2019 sampling event is shown on Figure 5.
3. During the 2018 Site investigation work conducted by Giles, the horizontal hydraulic conductivity measured at the location of MW-1 was 5.122 x 10^{-3} cm/s. The horizontal groundwater flow velocity is estimated at approximately 530 feet per year (ft/yr).
4. PCE is the primary chlorinated hydrocarbon detected in groundwater and most recently has been detected at concentrations ranging from approximately 30 to 900 micrograms per liter (µg/l) in the groundwater monitoring wells near or downgradient of the containment area. Concentrations of degradation products trichloroethene (TCE), cis-1,2-dichloroethene (DCE), and trans-1,2-DCE were also detected at or downgradient of the containment area. Soil concentrations of PCE exceed the soil to groundwater RCL from ground surface within the building or from 4 feet bgs north of the containment area to the groundwater interface at approximately 16 feet. The direct contact RCL for PCE was not exceeded in the soil samples. The highest soil PCE concentrations are at or above the groundwater interface from 10 to 18 feet bgs. Limited samples have elevated PCE within the direct contact interval of 0 to 4 feet bgs, but it does not appear that these soil concentrations will affect the effectiveness of the ERD injection program.
5. The TCE-equivalent mass calculated from the groundwater analytical results for the April 2019 groundwater sampling event indicate approximately 0.56 pounds of PCE-equivalent mass in the groundwater and approximately 0.77 pounds of PCE in the soil column.

Based on the Site soil and groundwater conditions, applicable remedial technologies and the remediation goal, an ERD remedial action was selected for implementation at the Site. Conditions detrimental to an ERD remedial option do not and are not expected to exist at the Site based on analytical testing and related experience; the detrimental conditions include very low natural pH conditions, poor soil and groundwater buffering capacity, and low groundwater temperature.

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 injection points are 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 20 to 10 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.

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 as 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. The locations are presented on Figure 2.
- The injections are proposed to occur over an approximately 10-foot vertical interval from above the water table at a depth of 10 feet to a depth of 20 feet.
- The proposed 10-foot interval for electron donor injections is based the groundwater concentrations of PCE 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 1,305 pounds (approximately 165 gallons) of Lactoil® will be diluted with approximately 1,500 gallons of treated non-potable water, approximately 5 gallons of Accelerite® for a total of approximately 236 gallons of electron donor solution injected at each of the seven injection well locations.
- The injection volume in total is an estimated 0.7% 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 4, 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 evaluate the performance and progress of the groundwater remediation. A full monitoring well network sampling event will be conducted in early 2020, to assess the current conditions at the Site. GZA will monitor the effectiveness of the ERD by conducting groundwater sampling at select monitoring 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), and PZ-3 (downgradient piezometer). The samples will be collected using low-flow sampling protocol 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 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 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 pilot test 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 the 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 0.25-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 is served by the public water system of the City.
2. *A general description of the suspected sources of groundwater pollution at the site.* The source of PCE contamination on the Site is from dry cleaning operations within the Containment Area which have been performed on-Site since the building was constructed in 1993.
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 per the NR 141 monitoring well requirements. Minimal maintenance of the injection wells may be needed over the life of the project. 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)*. A WPDES 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 2 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 and analysis for constituents of concern.

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

Issuance of an injection permit (WPDES) by the WDNR is required before the injection can proceed. Therefore, a WPDES permit application is provided as Attachment 3. Additional details for the proposed electron donor injection and monitoring are provided in the WPDES permit application.

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) (compliance with Preventive Action Limits [PALs]) or NR 140.26(2) (compliance with ESs) 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 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. Impacts to Public Health or Welfare: The affected groundwater intended for treatment is within the property boundaries of the Site. 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. 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. Expansion of Groundwater Contamination: Because the anticipated volume of injection solution is a small percentage of the volume 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 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 3,000 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 2 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 Department-approved activity necessary for the remediation of contaminated groundwater, a variance under NR 812.05 is requested for this process.

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
Project Manager

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

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Attachments

c: Mr. Timothy Alessi, NR Region Program Manager, WDNR
Ms. Cheryl Chew, Leather-Rich, Inc.
Mr. Don Gallo, Axley Brynelson LLP

TABLES

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

Parameter	RCL Non-Industrial DC (mg/kg)	Groundwater Pathway	SB-6				SB-8				SB-9			
			4/13/2019				4/12/2019				4/12/2019			
			0-2'	6-8'	10-12'	14-16'	2-4'	6-8'	10-12'	14-16'	2-4'	6-8'	10-12'	14-16'
Collected by:			GZA				GZA				GZA			
Saturated Yes/No			No	No	No	No	No	No	No	No	No	No	No	No
Fractional Organic Carbon (% w/w)	NA	NA	1.1	-	0.27	-	0.96	-	0.18	-	-	-	-	-
Chloromethane	159	0.0155	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Tetrachloroethene	33	0.0045	***0.829***	***1.16***	***0.287***	***0.261***	***0.109***	***0.418***	***0.341***	***0.206***	< 0.025	***0.226***	***1.32***	***0.423***
Toluene	818	1.1072	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Trichloroethene	1.30	0.0036	***0.17***	***0.0321***	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
cis-1,2-Dichloroethene	156	0.0412	***0.09***	< 0.025	< 0.025	< 0.025	***0.183***	< 0.025	< 0.025	< 0.025	***0.111***	< 0.025	< 0.025	< 0.025

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

Parameter	RCL Non-Industrial DC (mg/kg)	Groundwater Pathway	SB-10				SB-11				SB-12		SB-14	SB-16	
			4/11/2019				4/11/2019				4/11/2019		4/12/2019	4/12/2019	
			2-4'	6-8'	10-12'	14-16'	0-2'	6-8'	10-12'	14-16'	2-4'	10-12'	8-10'	2-4'	10-12'
Collected by:			GZA				GZA				GZA		GZA	GZA	
Saturated Yes/No			No	No	No	No	No	No	No	No	No	No	No	No	No
Fractional Organic Carbon (% w/w)	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	159	0.0155	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0272	< 0.025
Tetrachloroethene	33	0.0045	< 0.025	***0.129***	***0.169***	***0.187***	< 0.025	***0.179***	***0.149***	***0.137***	***0.0433***	***0.324***	***0.137***	***0.247***	***0.0607***
Toluene	818	1.1072	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0272	< 0.025
Trichloroethene	1.30	0.0036	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0272	< 0.025
cis-1,2-Dichloroethene	156	0.0412	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	0.0295	< 0.025	< 0.025	< 0.0272	< 0.025

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

Parameter	RCL Non-Industrial DC (mg/kg)	Groundwater Pathway	SB-17		SB-18	MW-10				MW-11				MW-12	
			4/13/2019		4/12/2019	4/12/2019				4/13/2019				4/12/2019	
			0-2'	10-12'	2-4'	2-4'	6-8'	10-12'	14-16'	2-4'	6-8'	10-12'	14-16'	2-4'	16-18'
Collected by:			GZA		GZA	GZA				GZA				GZA	
Saturated Yes/No			No	No	No	No	No	No	No	No	No	No	No	No	Yes
Fractional Organic Carbon (% w/w)	NA	NA	-	-	-	-	0.25	-	0.19	-	0.24	-	0.21	-	-
Chloromethane	159	0.0155	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Tetrachloroethene	33	0.0045	< 0.025	< 0.025	< 0.025	***0.0736***	***0.0478***	***0.0344***	***0.037***	***0.141***	***0.482***	***0.155***	***0.218***	< 0.025	***0.0898***
Toluene	818	1.1072	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Trichloroethene	1.30	0.0036	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
cis-1,2-Dichloroethene	156	0.0412	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025

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-2	MW-3	MW-4	MW-5	MW-6		MW-7	
			4/11/2019		4/11/2019		4/11/2019		3/14/18	3/14/18	3/14/18	3/14/18	3/14/18		3/15/18	3/14/18
			2-4'	16-18'	0-2'	18-20'	2-4'	16-18'	16-18'	16-18'	12-14'	16-18'	0-4'	16-18'	0-4'	16-18'
Collected by:			GZA		GZA		GZA		Giles	Giles	Giles	Giles	Giles	Giles	Giles	Giles
Saturated Yes/No			No	Yes	No	Yes	No	Yes	Yes	Yes	No	Yes	No	Yes	No	Yes
Fractional Organic Carbon (% w/w)	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	159	0.0155	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	***0.12***	***0.053 J***	< 0.017	< 0.018	< 0.021	< 0.021	< 0.024	< 0.016
Tetrachloroethene	33	0.0045	***0.0378***	***0.0817***	< 0.025	< 0.025	***0.167***	***0.208***	***0.035 J***	< 0.021	< 0.02	< 0.021	< 0.024	***1.7***	< 0.028	***3.7***
Toluene	818	1.1072	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	0.015	< 0.0085	< 0.0078	< 0.0084	< <0.0097	< 0.0078	< 0.011	< 0.0074
Trichloroethene	1.30	0.0036	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.0098	< 0.0094	< 0.0087	< 0.0094	< 0.011	***0.047***	< 0.012	***0.046***
cis-1,2-Dichloroethene	156	0.0412	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.024	< 0.023	< 0.022	< 0.023	***0.11***	< 0.022	***0.32***	0.034 J

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

Parameter	RCL Non-Industrial DC (mg/kg)	Groundwater Pathway	MW-8		VP-1	VP-2	B-1	B-2	B-3	SB-1		SB-2		SB-3	
			3/15/18	3/15/18	4/23/18	4/23/18	4/23/18	4/23/18	4/23/18	7/2/18		7/2/18		7/23/18	
			0-4'	16-18'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	14-16'	2-4'	14-16'	2-4'	4-4.5'
Collected by:			Giles	Giles	Giles	Giles	Giles	Giles	Giles	Giles		Giles		Giles	
Saturated Yes/No			No	Yes	No	No	No	No	No	No	No	No	No	No	No
Fractional Organic Carbon (% w/w)	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	159	0.0155	< 0.02	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	< 0.02	< 0.017	< 20	< 0.0016	< 0.02	< 0.016
Tetrachloroethene	33	0.0045	< 0.023	***0.6***	***5.7***	***1***	< 0.02	< 0.02	< 0.02	***0.45***	***0.096***	***0.14***	***0.06***	***0.082***	< 0.019
Toluene	818	1.1072	< 0.0092	< 0.0078	< 0.0078	< 0.0078	< 0.0078	< 0.0078	< 0.0078	0.014 J	< 0.0085	< 0.01	< 0.0085	< 0.01	< 0.0084
Trichloroethene	1.30	0.0036	< 0.01	< 0.0087	***0.17***	***0.061***	< 0.0087	< 0.0087	< 0.0087	< 0.026	< 0.021	< 0.026	< 0.021	< 0.026	< 0.021
cis-1,2-Dichloroethene	156	0.0412	***0.089***	< 0.022	***0.075***	***0.045 J***	***0.16***	< 0.022	< 0.022	< 0.0094	< 0.0076	< 0.0094	< 0.0076	< 0.0094	< 0.0075

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

Parameter	RCL Non-Industrial DC (mg/kg)	Groundwater Pathway	SB-4		SB-5		PZ-1			PZ-2	
			7/23/18		7/23/18		6/7/18			7/2/18	
			0-2'	4-6'	0-2'	6-8'	2-4'	8-10'	12-14'	0-2'	12-14'
Collected by:			Giles		Giles		Giles			Giles	
Saturated Yes/No			No	No	No	No	No	No	No	No	No
Fractional Organic Carbon (% w/w)	NA	NA	-	-	-	-	-	-	-	-	-
Chloromethane	159	0.0155	< 0.019	< 0.017	< 0.021	< 0.015	< 0.02	< 0.017	< 0.018	< 0.022	< 0.018
Tetrachloroethene	33	0.0045	< 0.022	***0.0275 J***	***0.046 J***	< 0.017	< 0.023	***3.5***	***0.7***	***0.19***	***0.069***
Toluene	818	1.1072	< 0.0099	< 0.0088	< 0.011	< 0.0076	< 0.01	< 0.087	< 0.0093	< 0.011	< 0.009
Trichloroethene	1.30	0.0036	< 0.025	< 0.022	< 0.026	< 0.019	***0.25***	< 0.022	< 0.023	< 0.028	< 0.022
cis-1,2-Dichloroethene	156	0.0412	< 0.0089	< 0.0079	***0.055 B***	< 0.068	< 0.0093	< 0.0078	< 0.0084	< 0.0099	< 0.0081

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

Parameter	ES (ug/L)	PAL (ug/L)	MW-1						MW-2			
			9/24/1993	10/24/2017	3/15/2018	7/17/2018	4/19/2019	7/15/2019	3/15/2018	7/17/2018	4/19/2019	7/15/2019
Collected by:			Giles	Giles	Giles	Giles	GZA	GZA	Giles	Giles	GZA	GZA
Bromodichloromethane	0.6	0.06	-	-	-	-	< 0.36	< 0.36	-	-	< 0.36	< 0.36
Chloroform	6	0.6	< 0.7	< 2.5	< 0.37	< 0.37	< 1.3	< 1.3	< 0.37	< 0.37	< 1.3	< 1.3
Tetrachloroethene	5	0.5	< 0.7	36.2	190	16	135	45.3	45	35	40.0	28
Trichloroethene	5	0.5	< 0.7	***2.2***	26	***2.1***	21.7	6.9	< 0.16	0.026 J	< 0.26	< 0.26
cis-1,2-Dichloroethene	70	7	< 0.7	***8.3***	***54***	5.7	***51.6***	***16.1***	< 0.41	< 0.41	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	< 0.7	< 0.26	1.5	< 0.35	1.3	< 1.1	< 0.35	< 0.35	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	***8000***	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	22800	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	< 35.4	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	< 1.1	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	600 J	NA	NA	NA	NA

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

Parameter	ES (ug/L)	PAL (ug/L)	MW-3			MW-4			MW-5			MW-5 DUP
			3/15/2019	7/17/2018	4/17/2019	3/15/2018	7/17/2018	4/24/2019	3/15/2018	7/17/2018	4/18/2019	4/18/2019
Collected by:			Giles	Giles	GZA	Giles	Giles	GZA	Giles	Giles	GZA	GZA
Bromodichloromethane	0.6	0.06	-	-	< 0.36	-	-	< 0.36	-	-	< 0.36	< 0.36
Chloroform	6	0.6	< 0.37	< 0.37	< 1.3	< 0.37	< 0.37	< 1.3	< 0.37	< 0.37	< 1.3	< 1.3
Tetrachloroethene	5	0.5	< 0.37	< 0.37	***0.81***	***0.61 J***	< 0.37	< 0.33	***1.6***	***1.6***	***0.99***	***1.0***
Trichloroethene	5	0.5	< 0.16	< 0.16	< 0.26	< 0.16	< 0.16	< 0.26	< 0.16	< 0.16	< 0.26	< 0.26
cis-1,2-Dichloroethene	70	7	< 0.41	< 0.41	< 0.27	< 0.41	< 0.41	< 0.27	< 0.41	< 0.41	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	< 0.35	< 0.35	< 1.1	< 0.35	< 0.35	< 1.1	< 0.35	< 0.35	< 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 2
GROUNDWATER ANALYTICAL RESULTS
Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin

Parameter	ES (ug/L)	PAL (ug/L)	MW-6				MW-7			MW-8		
			3/15/2018	7/17/2018	4/16/2019	7/15/2019	3/15/2018	7/17/2018	4/16/2019	3/15/2018	7/17/2018	4/16/2019
Collected by:			Giles	Giles	GZA	GZA	Giles	Giles	GZA	Giles	Giles	GZA
Bromodichloromethane	0.6	0.06	-	-	< 0.36	< 1.8	-	-	< 0.36	-	-	***0.44***
Chloroform	6	0.6	< 0.74	< 0.37	< 1.3	< 6.4	0.54 J	< 0.37	< 1.3	< 0.37	< 0.37	**8.8**
Tetrachloroethene	5	0.5	**760**	**620**	**939**	**636**	**180**	**170**	**204**	**120**	**63**	**61.9**
Trichloroethene	5	0.5	**170**	**190**	**194**	**76.8**	**18**	**34**	**29.8**	***4.9***	***1.8***	***1.1***
cis-1,2-Dichloroethene	70	7	**320**	**360**	**366**	**242**	***36***	**100**	**84.9**	5.6	2.7	2.1
trans-1,2-Dichloroethene	100	20	8.7	< 0.35	14.9	5.7 J	1.2	2.3	2.1	< 0.35	< 0.35	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	***6300***	NA	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	20400	NA	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	206	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	20.6	NA	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	770 J	NA	NA	NA	NA	NA	NA

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

Parameter	ES (ug/L)	PAL (ug/L)	MW-9		MW-10	MW-11	MW-12		MW-13		MW-14	MW-15
			7/17/2018	4/17/2019	4/17/2019	4/17/2019	4/17/2019	7/15/2019	4/17/2019	7/15/2019	4/17/2019	4/17/2019
Collected by:			Giles	GZA	GZA	GZA	GZA	GZA	GZA	GZA	GZA	GZA
Bromodichloromethane	0.6	0.06	-	< 0.36	< 0.73	< 0.36	< 0.73	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36
Chloroform	6	0.6	< 0.37	< 1.3	< 2.5	< 1.3	< 2.5	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
Tetrachloroethene	5	0.5	400	363	177	266	97.3	49.5	167	98.8	10.7	***0.71***
Trichloroethene	5	0.5	110	78.3	24.5	34.1	13.1	5.1	22.5	8.4	< 0.26	< 0.26
cis-1,2-Dichloroethene	70	7	190	163	***41.5***	***44.9***	***25.2***	***7.3***	***45.4***	***17.9***	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	10	7.9	3.5	2.0	< 2.2	< 1.1	1.3	< 1.1	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	***8900***	NA	***8200***	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	23600	NA	24000	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	59.4 J	NA	35.4	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	7.1	NA	2 J	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	560 J	NA	780 J	NA	NA

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

Parameter	ES (ug/L)	PAL (ug/L)	MW-16	MW-17	PZ-1		PZ-1 DUP
			7/15/2019	7/15/2019	7/17/2018	4/16/2019	4/16/2019
Collected by:			GZA	GZA	Giles	GZA	GZA
Bromodichloromethane	0.6	0.06	< 0.36	< 0.36	-	< 0.36	< 0.36
Chloroform	6	0.6	< 1.3	< 1.3	< 0.37	< 1.3	< 1.3
Tetrachloroethene	5	0.5	**6.6**	**187**	< 0.37	***0.84***	***0.90***
Trichloroethene	5	0.5	***0.62 J***	**17.7**	***0.63 J***	< 0.26	< 0.26
cis-1,2-Dichloroethene	70	7	1.4	***38.2***	< 0.41	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	< 1.1	< 1.1	< 0.35	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA

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

Parameter	ES (ug/L)	PAL (ug/L)	PZ-2		PZ-3	Containment Area
			7/17/2018	4/17/2019	7/15/2019	4/17/2019
Collected by:			Giles	GZA	GZA	GZA
Bromodichloromethane	0.6	0.06	-	< 0.36	< 0.36	< 3.6
Chloroform	6	0.6	< 0.37	< 1.3	< 1.3	< 12.7
Tetrachloroethene	5	0.5	< 0.37	***3.0***	**106**	**82.3**
Trichloroethene	5	0.5	< 0.16	0.37	***2.4***	**730**
cis-1,2-Dichloroethene	70	7	< 0.41	< 0.27	4.2	**1640**
trans-1,2-Dichloroethene	100	20	< 0.35	< 1.1	< 1.1	***23.2***
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 3
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	MW-8	MW-9	MW-10	MW-11	MW-12		MW-13	
Date	4/16/2019	7/152019	4/17/2019	7/15/2019	4/17/2019	4/24/2019	4/18/2019	4/16/2019	7/15/2019	4/16/2019	4/16/2019	4/17/2019	4/17/2019	4/17/2019	4/17/2019	7/15/2019	4/17/2019	7/15/2019
Depth to Water (ft btoc)	16.91	16.9	15.9	15.87	16.65	12.6	16.05	16.8	16.79	16.85	16.91	17	17.12	17	16.61	16.41	16.5	16.44
DO (mg/L)	4.86	9.86	7.65	9.8	6.49	9.38	6.54	6.44	9.02	5.99	6.52	7.71	7.59	8.17	5.42	8.47	5.9	7.03
ORP (mV)	159	46.9	136	18.9	196	-10.6	155	141	43.9	164	167	156	162	165	170	69	183	61.2
Conductivity (mS/cm)	0.994	1.402	1.15	1.284	1.13	0.646	1.23	0.857	1.128	0.812	0.709	0.92	1.11	1.12	0.95	1.3	1.12	1.318
Temperature (°C)	19.84	13	10.3	14	12.6	9.2	16.02	17.17	16	18.63	17.75	17.27	15.75	17.61	17.24	14	15.5	13
pH (s.u.)	7.49	7.12	7.65	7.83	7.1	7.8	7.25	6.82	7.35	6.15	6.99	7.48	7.57	7.77	8.02	7.12	7.52	6.75

TABLE 3
GROUNDWATER PARAMETERS AND WATER DEPTH
Leather-Rich, Inc.
1250 Corporate Drive
Oconomowoc, Wisconsin

Well ID	MW-14	MW-15	MW-16	MW-17	PZ-1	PZ-2	PZ-3
Date	4/17/2019	4/17/2019	7/15/2019	7/15/2019	4/16/2019	4/17/2019	7/15/2019
Depth to Water (ft btoc)	15.38	15.9	15.47	16.22	16.77	16.89	16.37
DO (mg/L)	7.11	7.4	8.16	9.53	4.51	6.29	6.48
ORP (mV)	137	189	42.4	56.5	151	142	68.9
Conductivity (mS/cm)	1.11	0.989	1.043	0.997	1.08	1.37	1.231
Temperature (°C)	11.9	9.3	14	11	20.87	15.8	15
pH (s.u.)	7.56	7.8	7.34	7.2	7.51	7.34	7.22

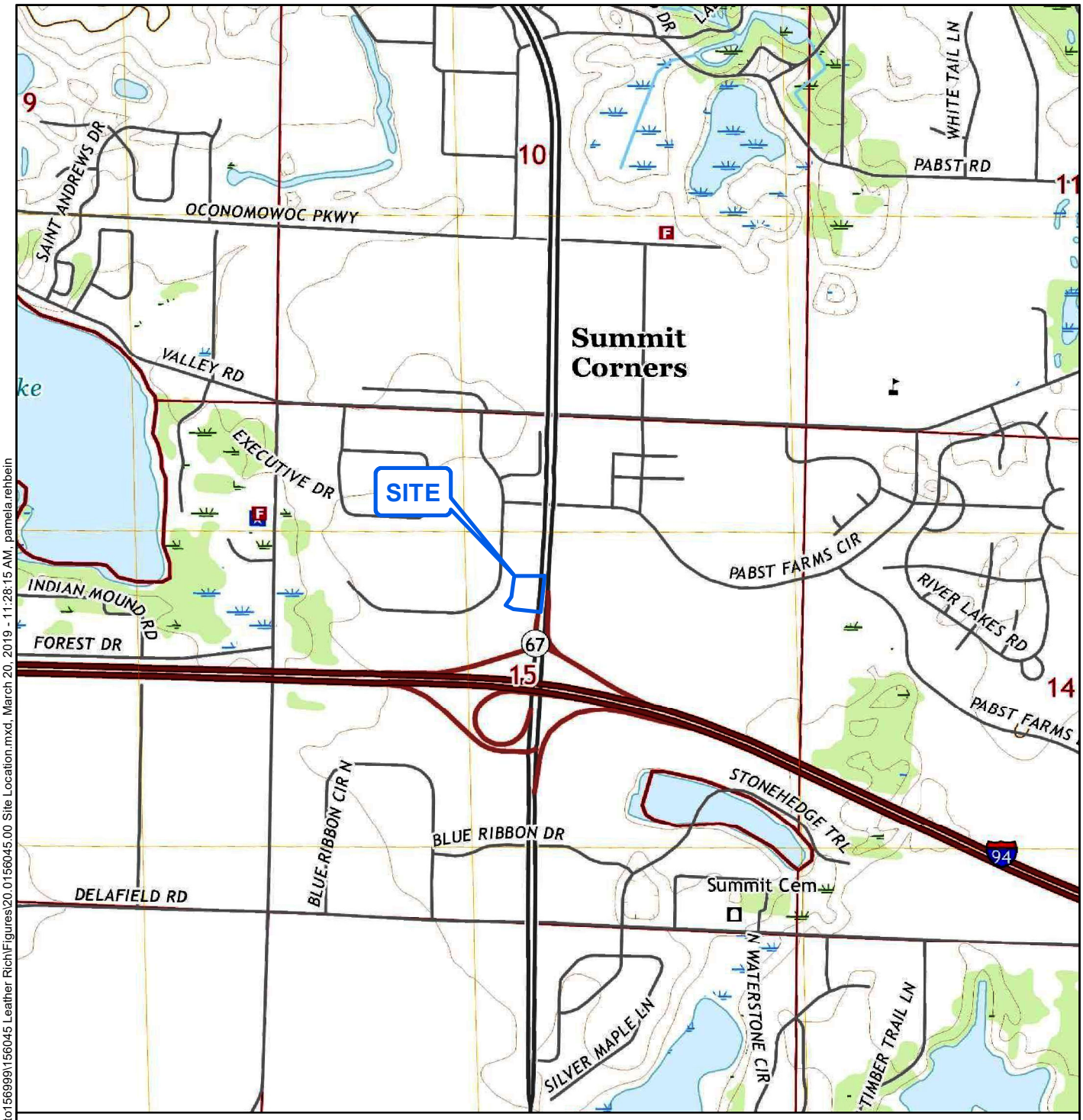
TABLE 4
PROPOSED GROUNDWATER REMEDIATION MONITORING
Leather Rich
1205 Corporate Center Drive
Oconomowoc, Wisconsin

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, 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, PZ-1, PZ-3	Water	Once Prior to Injections	Dissolved gasses (methane, ethane and ethene), sulfate, dissolved iron, and total organic carbon[2]	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, PZ-1, PZ-2	Water	Three-times Daily During Injections[3]	Groundwater Level	To monitor changes in groundwater levels during injections
MW-8, MW-9, MW-13, MW-17, PZ-3	Water	Monthly for three months	cVOCs, dissolved gasses (methane, ethane and ethene), sulfate, dissolved iron, total organic carbon[2]	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, 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, PZ-1, PZ-3	Water	Quarterly for two rounds	cVOCs, dissolved gasses (methane, ethane and ethene), sulfate, dissolved iron, total organic carbon[2]	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



SOURCE:

BASE MAP FROM THE FOLLOWING USGS QUADRANGLE MAP:

OCONOMOWOC, WI (2018)

0 1,000 2,000 4,000

SCALE IN FEET

N W E S

DIGITAL TOPOGRAPHIC MAPS PROVIDED BY NGMDB.USGS.GOV

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

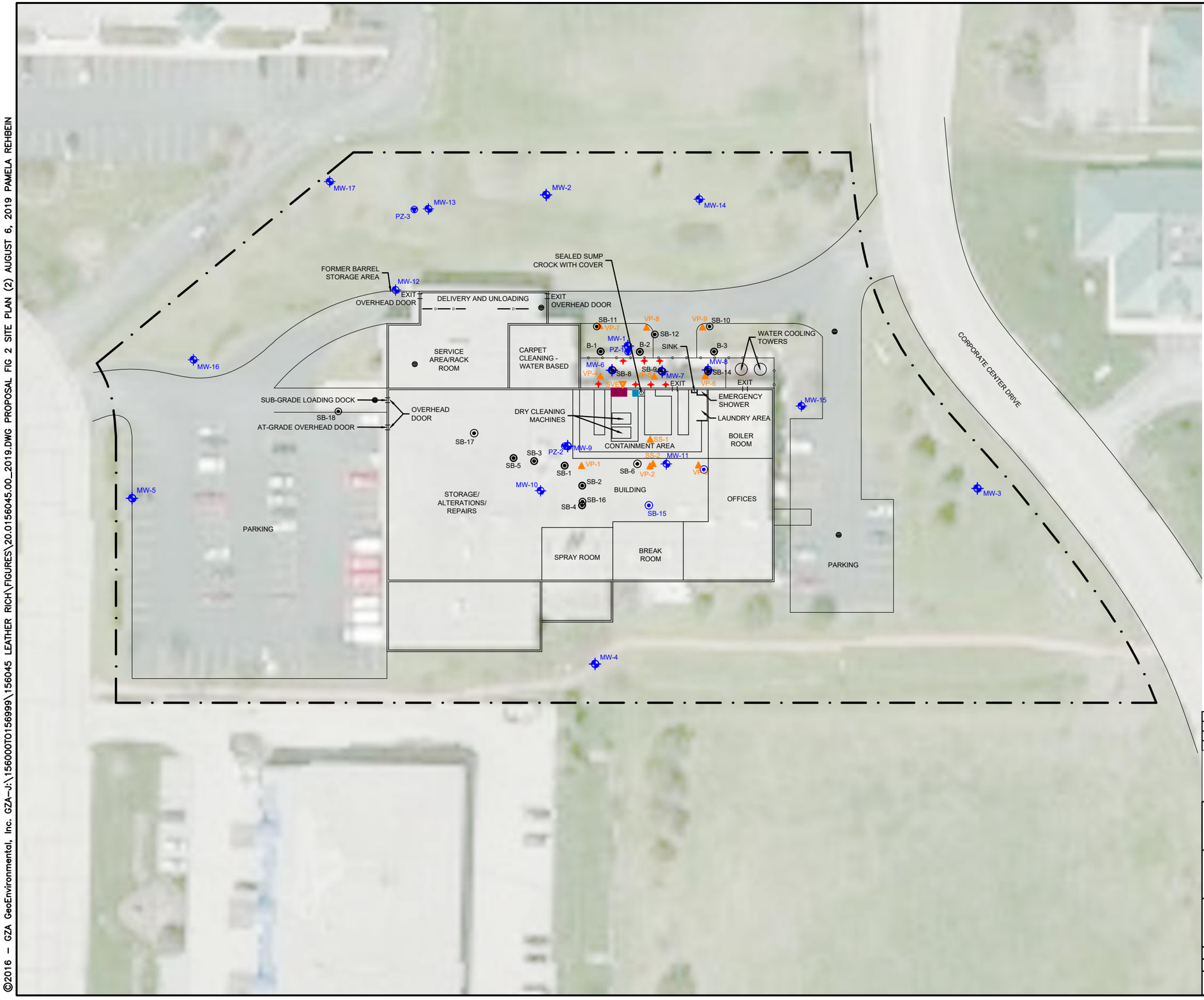
LEATHER-RICH
1205 CORPORATE CENTER DRIVE
OCONOMOWOC, WI

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: KMH	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG 1
DESIGNED BY:	DRAWN BY: MJS	SCALE: 1 in = 2,000 ft	
DATE: 03/20/2019	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
- INJECTION WELL LOCATION
- SOIL VAPOR EXTRACTION WELL LOCATION

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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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.

N W E S

0 30' 60' 120'

SCALE IN FEET 1" = 60'

NO.	ISSUE/DESCRIPTION	BY	DATE

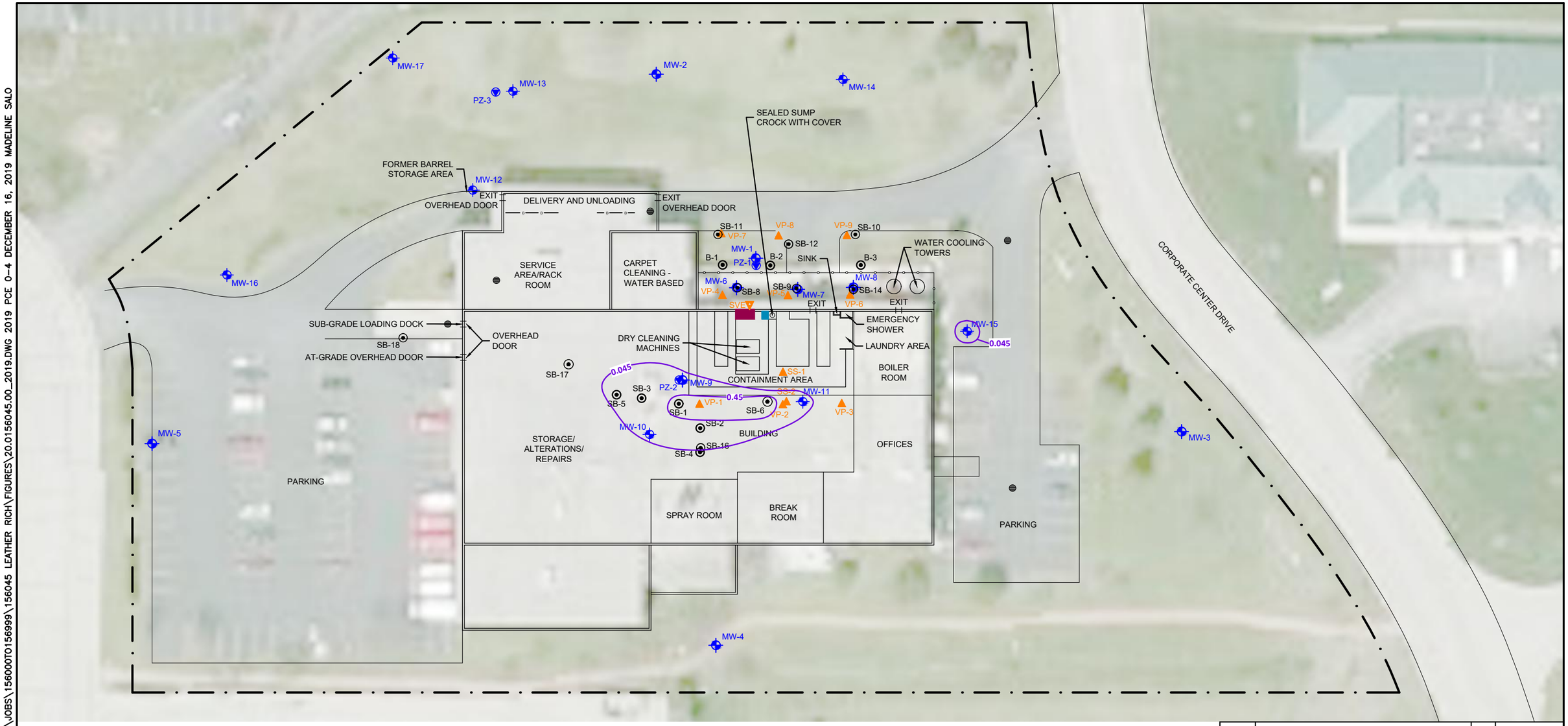
LEATHER - RICH, INC.
1250 CORPORATE CENTER DRIVE
OCONOMOWOC, WI 53066

SITE PLAN

PREPARED BY:
GZA 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: JJLP	FIG 2
DESIGNED BY: HAW	DRAWN BY: LES	SCALE: see above	
DATE: 8/6/2019	PROJECT NO. 20.0156045.00	REVISION NO.	SHEET NO. OF



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 0-4 FEET BELOW GROUND SURFACE

N / W / E / S

0 25' 50' 100'

SCALE IN FEET 1" = 50'

NO.	ISSUE/DESCRIPTION	BY	DATE

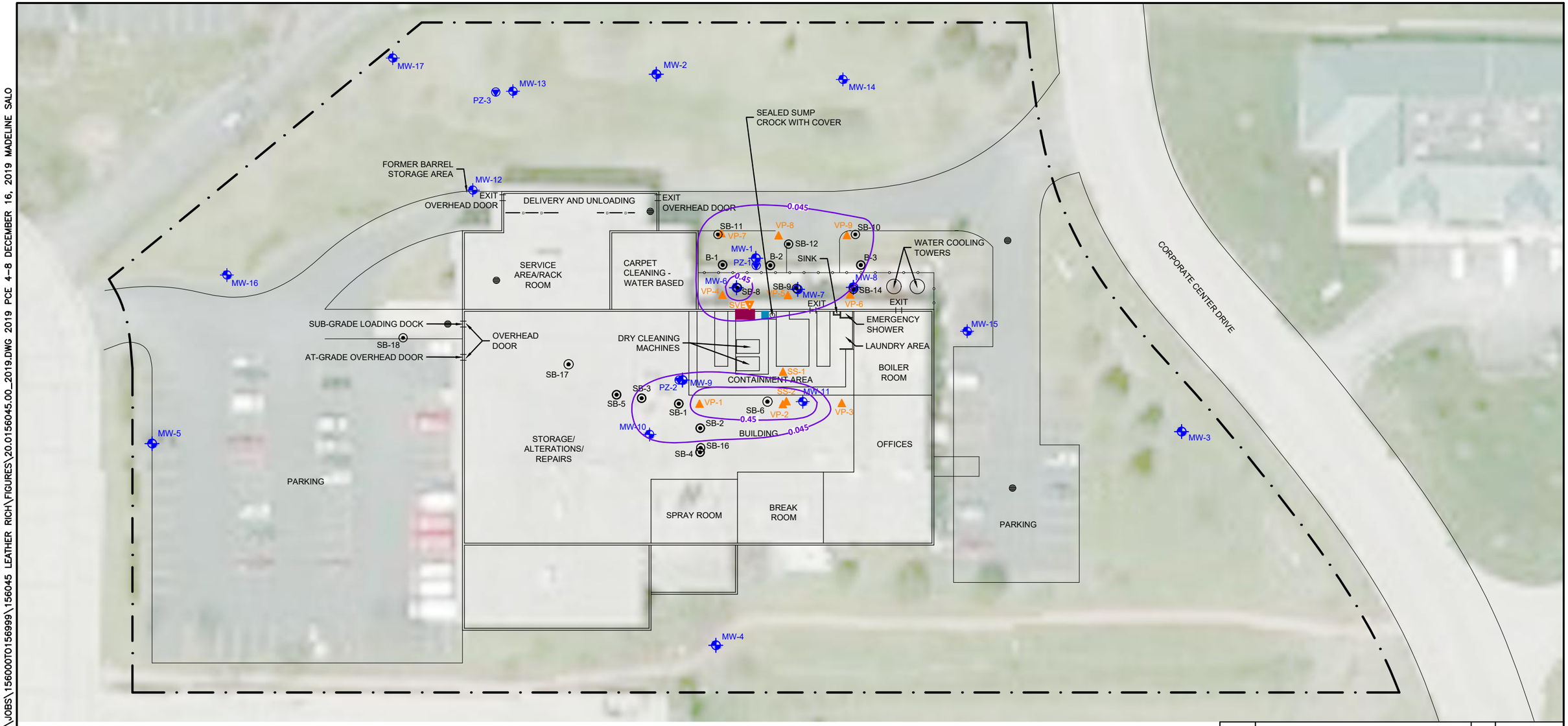
LEATHER - RICH, INC.
1250 CORPORATE CENTER DRIVE
OCONOMOWOC, WISCONSIN

TETRACHLOROETHENE (PCE) SOIL ISOCONCENTRATION MAP 0-4 FEET BGS (APRIL 2019)

PREPARED BY:
GZA 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: JJLP	FIG 3a
DESIGNED BY: HAW	DRAWN BY: LES	SCALE: see above	
DATE: 12/16/2019	PROJECT NO. 20.0156045.00	REVISION NO.	SHEET NO. OF



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 4-8 FEET BELOW GROUND SURFACE

N / W / E / S

0 25' 50' 100'

SCALE IN FEET 1" = 50'

NO.	ISSUE/DESCRIPTION	BY	DATE

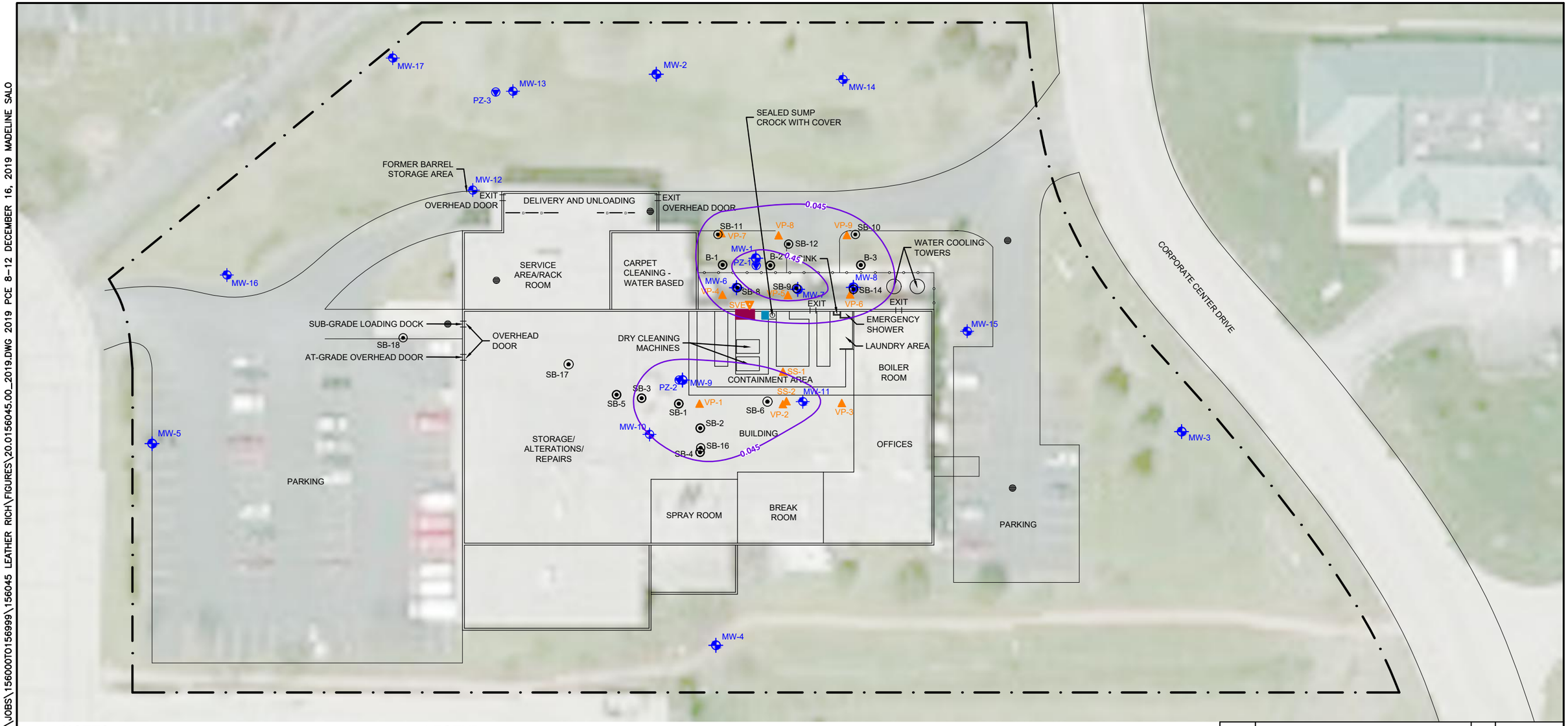
LEATHER - RICH, INC.
1250 CORPORATE CENTER DRIVE
OCONOMOWOC, WISCONSIN

TETRACHLOROETHENE (PCE)
SOIL ISOCONCENTRATION MAP
4-8 FEET BGS (APRIL 2019)

PREPARED BY:
GZA 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: JJLP	FIG 3b
DESIGNED BY: HAW	DRAWN BY: LES	SCALE: see above	
DATE: 12/16/2019	PROJECT NO. 20.0156045.00	REVISION NO.	SHEET NO. OF



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

N / W / E / S

0 25' 50' 100'

SCALE IN FEET 1" = 50'

NO.	ISSUE/DESCRIPTION	BY	DATE

LEATHER - RICH, INC.
1250 CORPORATE CENTER DRIVE
OCONOMOWOC, WISCONSIN

TETRACHLOROETHENE (PCE) SOIL ISOCONCENTRATION MAP 8-12 FEET BGS (APRIL 2019)

PREPARED BY:
GZA 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: JJLP	FIG 3c
DESIGNED BY: HAW	DRAWN BY: LES	SCALE: see above	
DATE: 12/16/2019	PROJECT NO. 20.0156045.00	REVISION NO.	SHEET NO. OF

MW-17
MW-2
MW-13
PZ-3
MW-14
SEALED SUMP CROCK WITH COVER
FORMER BARREL STORAGE AREA
MW-12
EXIT OVERHEAD DOOR
DELIVERY AND UNLOADING
EXIT OVERHEAD DOOR
0.045
SB-11
VP-7
VP-8
VP-9
SB-10
SB-12
WATER COOLING TOWERS
MW-1
B-1
PZ-1
B-2
SINK
B-3
0.045
MW-16
SERVICE AREA/RACK ROOM
CARPET CLEANING - WATER BASED
MW-6
VP-4
SB-8
SB-9
MW-7
EXIT
MW-8
SB-14
VP-6
EXIT
SVE
EMERGENCY SHOWER
MW-15
SUB-GRADE LOADING DOCK
SB-18
AT-GRADE OVERHEAD DOOR
OVERHEAD DOOR
DRY CLEANING MACHINES
LAUNDRY AREA
SB-17
SS-1
BOILER ROOM
CONTAINMENT AREA
SB-3
PZ-2
MW-9
SS-2
MW-11
SB-5
SB-1
VP-1
SB-6
VP-2
VP-3
MW-5
MW-10
SB-2
BUILDING
0.045
MW-3
STORAGE/ ALTERATIONS/ REPAIRS
SB-16
SB-4
OFFICES
PARKING
SPRAY ROOM
BREAK ROOM
PARKING
CORPORATE CENTER DRIVE
MW-4

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 12-16 FEET BELOW GROUND SURFACE

N
W E
S

0 25' 50' 100'
SCALE IN FEET 1" = 50'

NO.	ISSUE/DESCRIPTION	BY	DATE

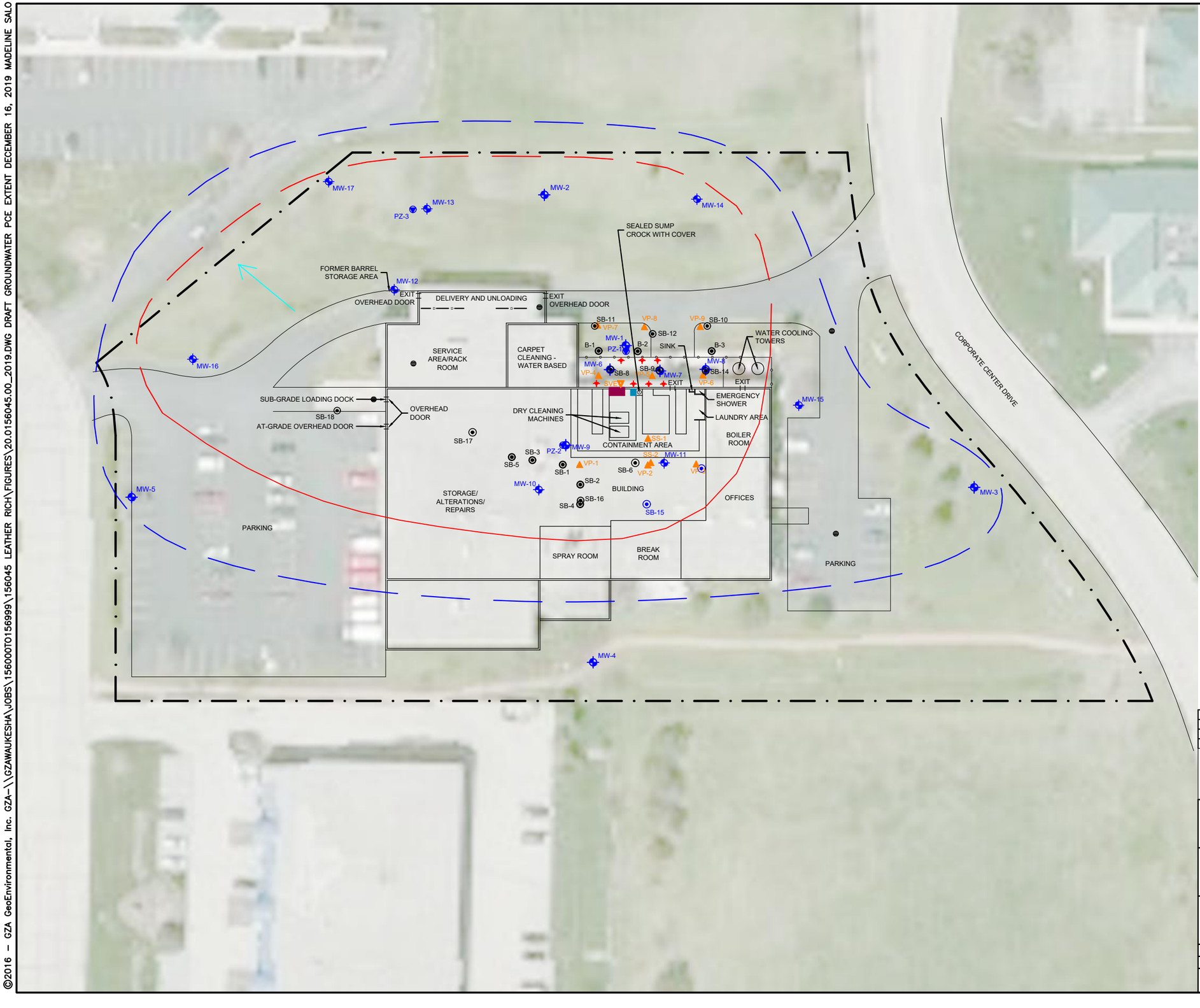
LEATHER - RICH, INC.
1250 CORPORATE CENTER DRIVE
OCONOMOWOC, WISCONSIN

TETRACHLOROETHENE (PCE) SOIL ISOCONCENTRATION MAP 12-16 FEET BGS (APRIL 2019)

PREPARED BY:
GZA 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: JJLP	FIG 3d
DESIGNED BY: HAW	DRAWN BY: LES	SCALE: see above	
DATE: 12/16/2019	PROJECT NO. 20.0156045.00	REVISION NO.	SHEET NO. OF



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- GROUNDWATER MONITORING WELL (MW-1)
- PIEZOMETER (PZ-1)
- SOIL BORINGS (B-1, SB-1)
- DRAIN
- SOIL VAPOR POINT (VP-1)
- SUB-SLAB VAPOR POINT (SS-1)
- TRENCH DRAIN
- PCE FILTRATION UNIT
- PCE ABOVE GROUND STORAGE TANK
- INJECTION WELL LOCATION
- SOIL VAPOR EXTRACTION WELL LOCATION
- PCE PAL EXCEEDANCE, 0.5 UG/L
- PCE ES EXCEEDANCE, 5 UG/L
- GROUNDWATER FLOW DIRECTION

NOTES

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N
W E
S

0 30' 60' 120'

SCALE IN FEET 1" = 60'

NO.	ISSUE/DESCRIPTION	BY	DATE

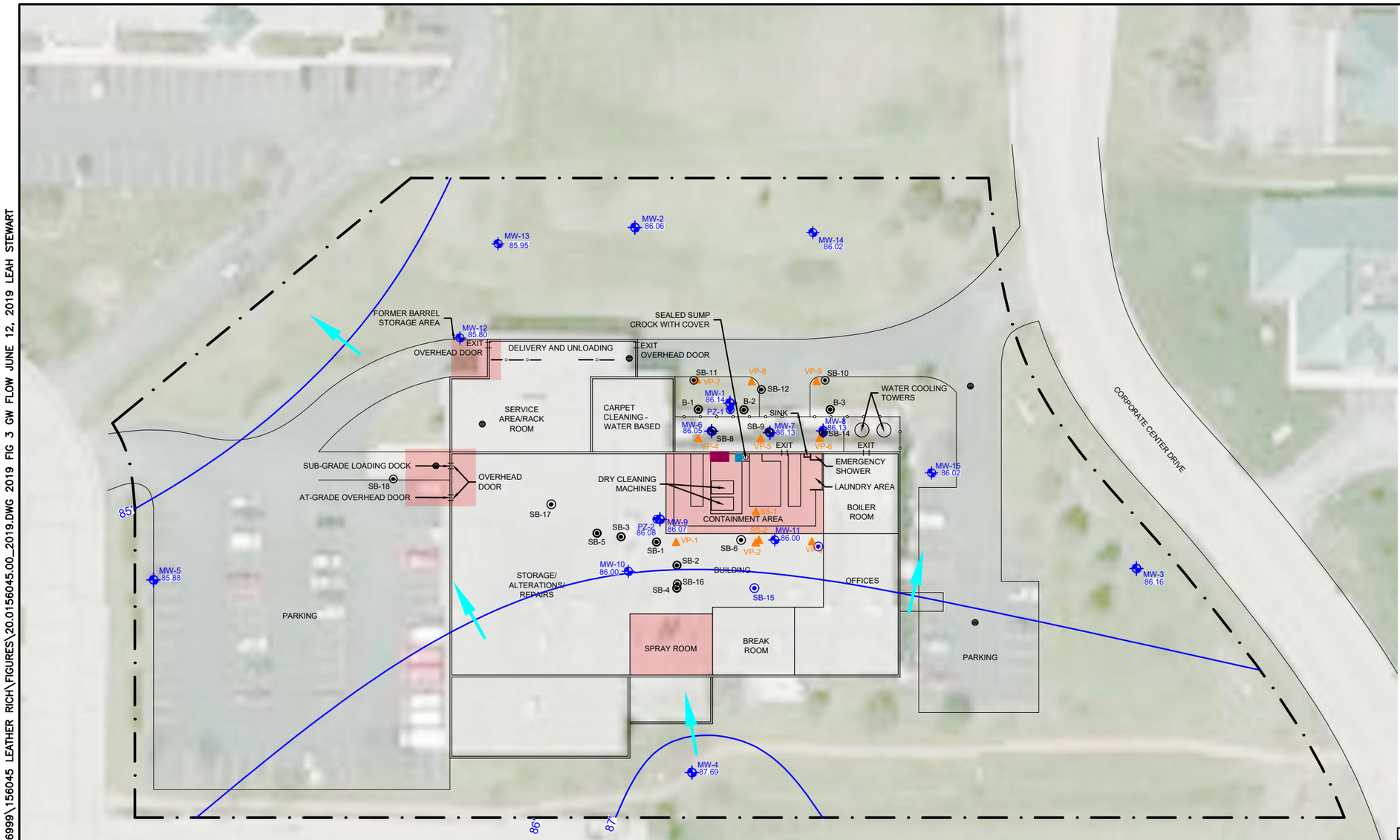
LEATHER - RICH, INC.
1250 CORPORATE CENTER DRIVE
OCONOMOWOC, WI 53066

GROUNDWATER TETRACHLOROETHENE (PCE) EXTENT

PREPARED BY:
GZA 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: JJLP	FIG 4
DESIGNED BY: HAW	DRAWN BY: PLR	SCALE: see above	
DATE: 12/16/2019	PROJECT NO. 20.0156045.00	REVISION NO.	SHEET NO. OF



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- MW-1 — GROUNDWATER MONITORING WELL
- 86.11 — GROUNDWATER TABLE ELEVATION (WATER LEVELS TAKEN 4/17/2019)
- GROUNDWATER FLOW DIRECTION
- 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

NOTES

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N / W / E / S

0 30' 60' 120'

SCALE IN FEET 1" = 60'

NO.	ISSUE/DESCRIPTION	BY	DATE

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

GROUNDWATER FLOW DIRECTION MAP
APRIL 17-19, 2019

PREPARED BY:
GZA 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: JJP	FIG
~~DESIGNED BY: HAW~~	DRAWN BY: LES	SCALE: see above	5
DATE: 6/6/2019	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

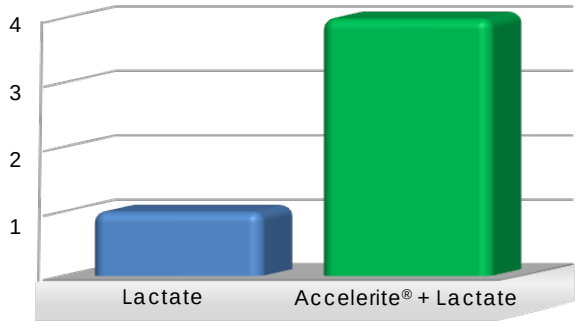
ACCELERITE®
BIOREMEDIATION NUTRIENT

UNIQUE NUTRIENT FORMULATION INCREASES ELECTRON DONOR KINETICS AND EFFICIENCY

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

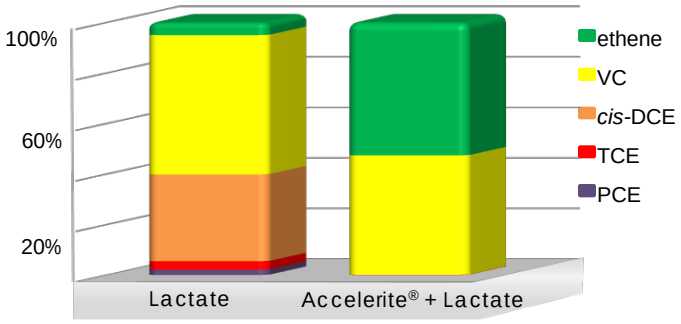
- Increase the kinetics and efficiency of your electron donor
- Stimulate anaerobic bacteria
- Promote the production of propionate over acetate

INCREASE ELECTRON DONOR EFFICIENCY WITH ACCELERITE®



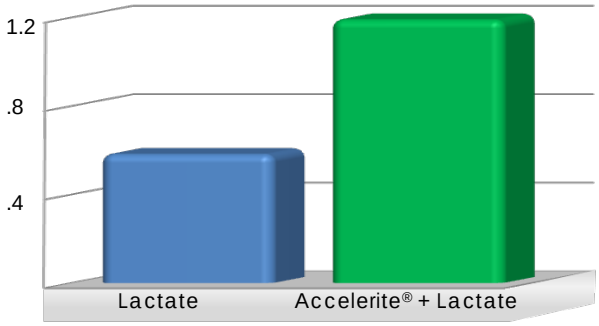
Accelerite® increases the efficiency of sodium lactate by greater than 3 times. Microcosm results shown at 84 days[2].

INCREASE DECHLORINATION KINETICS WITH ACCELERITE®



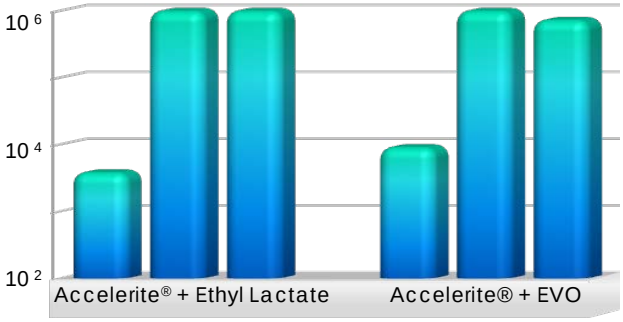
Accelerite® increases the rate of dechlorination to ethene. Microcosm results shown at 53 days[2].

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[3].

[1]United States Patent Application US20080227179
[2] Smith and Sieczkowski 2007. Ninth International In Situ and On-Site Bioremediation Symposium. ISBN 978-1-57477-161-9, Battelle, Columbus, OH
[3]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.jrwbioremediation.com
(913)438-5544
info@jrwbiorem.com

LACTOIL®
SOY MICROEMULSION

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

LACTOIL® 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 ® | **LACTOIL ® /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

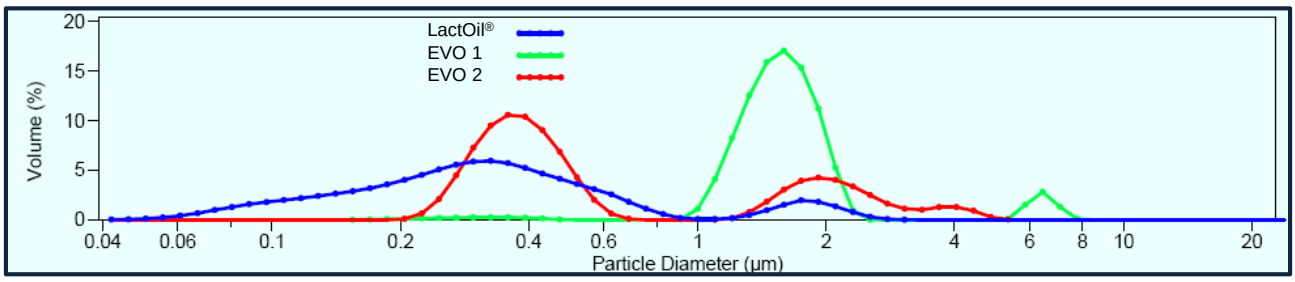
INCREASED DEGRADATION RATES:
- Provides sustained lactate for accelerated metabolism

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

State of Wisconsin
Department of Natural Resources
Bureau of Water Quality
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Notice of Intent (NOI)
Contaminated Groundwater from Remedial Action Operations
WPDES Permit No. WI-0046566-07-0
Rev. 06/2018

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.].

SECTION I: FACILITY/PROJECT LOCATION INFORMATION			
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
SECTION II: FACILITY CONTACT INFORMATION			
Facility Operator/Plant Manager 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 cherylmc321@gmail.com	
Discharge Monitoring Contact Name 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	
Authorized Representative Name 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 cherylmc321@gmail.com	

State of Wisconsin
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Notice of Intent (NOI)
Contaminated Groundwater from Remedial Action Operations
WPDES Permit No. WI-0046566-07-0
Rev. 06/2018

SECTION III: FACILITY OWNER MAILING ADDRESS (if different from Authorized Representative)		
Facility Owner Name Ms. Cheryl Chew	Title	
Parent Company Leather-Rich, Inc.	Owner Mailing Address (i.e. PO Box, Street, or Route) 1250 Corporate Center Drive	
City, State, Zip Code Oconomowoc, Wisconsin 53066	Owner Phone No. (262) 569-3100	Alternative Phone No.
Contact Fax No.	Contact Email Address cherylmc321@gmail.com	

SECTION IV: DISCHARGE CHARACTERIZATION

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

SECTION V: ELIGIBILITY CHECKLIST

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)?

☐ Yes. **Your discharge is not eligible for this General Permit.** *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*

State of Wisconsin
Department of Natural Resources
Bureau of Water Quality
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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, molluscicdes, 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.**

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