



September 29, 2021

Wisconsin Department of Natural Resources  
3911 Fish Hatchery Road  
Fitchburg, Wisconsin 53711

Attention: Mr. Jeff Ackerman  
Telephone: (608) 275-3323  
E-mail: [Jeffrey.Ackerman@wisconsin.gov](mailto:Jeffrey.Ackerman@wisconsin.gov)

RE: **Site Investigation Work Plan**  
Loeb-Lorman Scrapyard Former  
115 Lorman Street  
Fort Atkinson, Wisconsin  
WDNR BRRTS #02-28-588371  
Terracon Project No. 58217147

Dear Mr. Ackerman:

On behalf of the City of Fort Atkinson, Terracon Consultants, Inc. (Terracon) has prepared this Site Investigation Work Plan (SIWP) for the reported release at the former Loeb-Lorman Scrapyard properties located at 115 Lorman Street, 600 Oak Street, and 205 Hake Street, Fort Atkinson, Wisconsin. This SIWP is presented to complete a NR 716, Wisconsin Administrative Code (WAC), compliant site investigation to delineate the extent of contamination detected during a Limited Site Investigation (LSI) performed in July 2021. A brief project background and proposed scope of services are provided in the following sections. This SIWP was prepared in accordance with the requirements of NR 716.09, WAC. On behalf of the City of Fort Atkinson, Terracon is requesting WDNR written approval of the SIWP. A completed "Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request" (WDNR form 4400-237) and the associated technical review fee will be submitted under separate cover.

## 1.0 PROJECT BACKGROUND AND SITE INFORMATION

Based on the available information, the former Loeb-Lorman Scrapyard (the "site") consists of three parcels.

- 115 Lorman Street (Parcel No. 226-0614-3433-0400). This 8.195-acre parcel is currently improved with several buildings located in the central and southern portions of the site;
- 600 Oak Street (Parcel No. 226-0614-3433-037). This 1.962-acre parcel currently consists of a vacant lot; and
- 205 Hake Street (Parcel No. 226-0614-3432-007). This 2.032-acre parcel is currently improved with two buildings, located in the southern and western portions of the site



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Geotechnical



Environmental



Construction Materials



Facilities

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A Phase I Environmental Site Assessment (ESA) was completed for the site on behalf of the City of Fort Atkinson. Based on the January 21, 2021 Phase I ESA report, the following recognized environmental conditions (RECs) were identified:

- “From sometime between 1940 and 1955 through 2015, the 115 Lorman Street parcel was utilized as a scrapyard. Aerial photographs indicate that vehicles were accepted in the 1950s and 1960s. More recently, the scrapyard accepted steel, brass, copper, and related metals, as well as lead-acid batteries. One or more fires requiring fire department response and/or causing building damage occurred during the period of scrapyard activities. In recent years, oily scrap was stored outdoors on concrete pads draining to oil/water separators and used batteries were stored indoors on pallets; however, limited information concerning storage practices prior to the 2000s is available. Most scrap storage areas are unpaved. Industrial equipment using hydraulic oil reservoirs was historically present on the parcel, with on-site fueling activities. Outdoor storage of scrap luggers and related materials expanded to the 205 Hake Street parcel in the 1970s and to the 600 Oak Street parcel in the 2000s. Potential releases associated with scrapyard activities may have impacted the subject property via soil, groundwater, and/or vapor.”
- “Topographic maps indicate that the 205 Hake Street and 115 Lorman Street parcels were comprised of wetlands in 1906. The 1940 aerial photograph depicts part of the 115 Lorman Street parcel as disturbed land, indicating possible filling activities. Soil boring logs from the 115 Lorman Street parcel indicate that fill material including wood chips, metal debris, glass shards, foundry sand, construction debris is present on the parcel at depths of up to 9.5 feet below ground surface (bgs). Impacted fill material is likely present on the 115 Lorman Street parcel and may be present on the other parcels, potentially impacting them via soil, groundwater and/or vapor.”
- “Fueling and maintenance activities for equipment and vehicles was conducted on the 115 Lorman Street parcel. At least 10 aboveground storage tanks (ASTs) ranging in size from 250 to 10,000 gallons were located on the subject property at various times, with contents including antifreeze, diesel fuel, gasoline, motor oil, used oil, kerosene, and hydraulic oil. Two ASTs were transported around the parcel using a forklift to fuel stationary equipment. Releases associated with petroleum storage, vehicle and equipment maintenance, and fueling activities may have impacted the subject property via soil, groundwater, and/or vapor.”
- “The 600 Oak Street parcel was utilized for a coal shed beginning as early as 1924 through sometime between 1930 and 1947. Aerial photographs from the period between 1937 through the 1960s depict the parcel with outdoor coal storage. Potential releases

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associated with historical coal storage may have impacted the subject property via soil, groundwater, and/or vapor.”

- “The 600 Oak Street parcel includes a narrow strip between the adjacent 624 Oak Street parcel and the railroad. The property at 624 Oak Street was identified as a bulk petroleum station, with five vertical ASTs present from 1937 or earlier through 1963/1964. Based on the locations of the ASTs relative to the railroad right-of-way, bulk loading/unloading from railcars may have occurred on the northern section of the 600 Oak Street parcel. Historical releases associated with the bulk petroleum station may have impacted the subject property via soil, groundwater, and/or vapor.”
- “The DB Oak Ltd. Property site (BRRTS #02-28-176509) is an open Environmental Repair Program (ERP) site and a former large quantity generator (LQG, generates 1,000 kg or more of hazardous waste) of ignitable waste located at 700 Oak Street, adjoining the subject property to the north and west. Sanborn fire insurance maps indicate that the site may have also been a plating site.” “The ERP case was opened in May 1995 to address impacts associated with a former 10,000-gallon PCE AST. The AST was located roughly 100 feet to the west of the 205 Hake Street parcel. Soil and surface water sampling results indicated that CVOCs released along the east side of the site building were being conveyed through a drainage swale running along the eastern edge of the site.” Investigation activities for this ERP case suggest groundwater contamination may be migrating onto the site.”
- “The property at 235 Hake Street, located to the north of the 115 Lorman Street parcel across Hake Street, was listed in city directories as Fort Truck Sales in 1964 and 1966; Ron’s Truck Repair in 1984; Blackhawk Express Inc. in 1984 and 1989; and R&M Auto Polish & Detailing in 1995. Potential releases associated with this site may have impacted the subject property via soil, groundwater, and/or vapor.”

The Phase I ESA also identified a closed leaking underground storage tank (LUST) case at the site as a controlled REC (CREC). The 115 Lorman Street parcel was identified as the Lorman Iron & Metal site (BRRTS #03-28-002397), a closed Leaking Underground Storage Tank (LUST) site with continuing obligations. The LUST case was opened in August 1994 to address impacts associated with two 10,000-gallon diesel underground storage tanks (USTs) and one 1,000-gallon gasoline UST which were removed from the southern end of the parcel. The 1,000-gallon UST was registered as containing diesel fuel. The LUST case was closed in December 2001 with continuing obligations. A groundwater use restriction is included in the parcel deed due to the presence of PCE in a groundwater sample from April 27, 2001 at a concentration greater than its NR 140 PAL).

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The Phase I ESA findings were presented in the *AAI Phase I Environmental Site Assessment*, prepared by the Sigma Group, dated January 2021. The Phase I ESA recommended subsurface investigation to evaluate the above-referenced RECs.

## 2.0 LIMITED SITE INVESTIGATION SUMMARY

Terracon was retained by the City of Fort Atkinson to conduct an LSI to evaluate the RECs identified in the Phase I ESA. Field activities were conducted from July 15-16, 2021, to evaluate the subsurface conditions. Seventeen (17) direct-push soil borings (P-1 through P-17) were advanced to depths up to 20 feet bgs and converted to temporary groundwater monitoring wells. Thirty-four (34) soil samples were submitted for laboratory analysis of volatile organic compounds (VOCs) by USEPA Method 8260B, diesel range organics (DRO) by WI Modified DRO, polychlorinated biphenyls (PCBs) by USEPA Method 8082, and Resource Conservation and Recovery Act (RCRA) 8 metals by USEPA Method 6010. Soil samples with elevated DRO concentrations were subsequently submitted for laboratory analysis of polycyclic aromatic hydrocarbons (PAHs). Seventeen (17) groundwater samples were submitted for laboratory analysis of VOCs. Soil boring locations are shown on Exhibit 1. Tabulated soil analytical results are shown in Table 1 through Table 4, and groundwater analytical results are shown in Table 5.

### 2.1 Soil Analytical Discussion

The WDNR has established guidance for the calculation of soil residual contaminant levels (RCLs) for direct-contact exposure and the protection of groundwater. Background threshold values (BTVs) have also been established for some metals. The guidance document, *Soil Residual Contaminant Level Determinations using the US EPA Regional Screening Level Web Calculator*, PUB-RR-890, dated January 2014 was used to establish RCLs for this site. The RCLs were calculated with input data effective as of December 2018.

Several VOC analytes were detected at concentrations above their respective soil-to-groundwater pathway RCLs including benzene, 1,1-dichloroethane cis-1,2-dichloroethene (DCE), methylene chloride, tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride (VC). VOCs were not detected at concentrations above their respective non-industrial, direct-contact RCLs.

DRO was detected at concentrations above its analytical limit of detection (LOD) in 29 of the 35 samples analyzed. The detected DRO concentrations ranged from 1.2 milligrams per kilogram (mg/kg) to 4,210 mg/kg. DRO concentrations were elevated in soil samples from borings P-3 through P-5, P-7 through P-13, and P-15 through P-17; therefore, these samples were submitted for PAH laboratory analysis. Several PAH compounds were detected within soil samples across the site at concentrations exceeding either their non-industrial, direct-contact RCL or soil-to-

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groundwater pathway RCL. PAHs were not detected at concentrations exceeding their respective industrial, direct-contact RCLs.

Several metals including arsenic, cadmium, lead, silver, and mercury were detected at concentrations exceeding either their soil-to-groundwater pathway RCLs or non-industrial, direct-contact RCLs at several boring locations. Arsenic and lead were detected within in a few samples at concentrations above their respective industrial, direct-contact RCL. Lead was detected at concentrations exceeding its industrial, direct-contact RCL within soil samples located on the Oak Street parcel. Arsenic was detected at concentrations exceeding its industrial, direct-contact pathway in one boring on the Hake Street parcel, one boring on the Lorman Street parcel, and both borings on the Oak Street parcel.

PCBs were detected at concentrations above their non-industrial, direct-contact RCL and their industrial, direct-contact RCLs at several borings on the Lorman parcel. Total PCB concentrations exceeded the soil-to-groundwater pathway RCL at several locations across the site.

## 2.2 Groundwater Analytical Discussion

The WDNR has established groundwater quality standards which are set forth in NR 140, WAC. For each regulated compound, two standards have been established, the Enforcement Standard (ES) and the PAL. In general, if the regulated contaminant concentration exceeds the PAL, but is below the ES, the WDNR may require additional investigation/continued monitoring. If the regulated contaminant is above the ES the WDNR may require additional investigation, continued monitoring, and/or remediation.

Benzene, 1,1-DCE, cis-1,2,-DCE, trans-1,2-DCE, PCE, TCE, and VC were the VOCs detected at concentrations exceeding NR 140, WAC standards. Benzene was detected at concentrations exceeding its PAL at temporary groundwater monitoring wells P-3, P-11, and P-16. 1,1-DCE was detected at a concentration exceeding its PAL at P-3, and its ES in temporary groundwater monitoring well P-1. Cis-1,2,-DCE was detected at concentrations exceeding its ES at temporary groundwater monitoring wells P-1, P-3 and P-5. Trans-1,2,-DCE was detected at concentrations exceeding its PAL at temporary groundwater monitoring well P-1. PCE was detected at concentrations exceeding its PAL at temporary groundwater monitoring well P-7, and its ES in temporary groundwater monitoring wells P-1 and P-3. TCE was detected at concentrations exceeding its PAL at temporary groundwater monitoring wells P-2, P-5, P-7, and P-8, and its ES at temporary groundwater monitoring wells P-1 and P-3. VC was detected at concentrations exceeding its ES at temporary groundwater monitoring wells P-1, P-2, P-3, P-5, P-6, P-11, P-12, and P-14.

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The LSI procedures/findings are presented in Terracon's *Limited Site Investigation Report*, dated September 10, 2021. On September 2, 2021, Terracon submitted analytical results to the WDNR along with Hazardous Discharge Notification Form 4400-225. On September 17, 2021, the WDNR responded to the notification by opening an environmental repair program (ERP) case for the property with BRRTS# 02-28-588371.

### 3.0 INVESTIGATION SCOPING

Terracon developed a scope of work for supplemental investigation to further evaluate subsurface conditions using the available data.

#### 3.1 Site Location and Contact Information

The following information is provided in accordance with NR 716.09(2)(a) and (b), WAC.

Site Name: Loeb-Lorman Scrapyard Former  
115 Lorman Street  
Fort Atkinson, Wisconsin  
BRRTS #02-28-588371

Site Location: The site is located at a street address of 115 Lorman Street, Fort Atkinson, Jefferson County, Wisconsin, comprised of 77.3 acres SW $\frac{1}{4}$  of the SW $\frac{1}{4}$  of Section 33, Township 6 North, Range 14 East  
WTM: X=615109, Y=274442  
Latitude/Longitude: 42.93684, -88.83408

Responsible Party: City of Fort Atkinson  
c/o Andy Selle  
101 North Main Street  
Fort Atkinson, Wisconsin 53538  
[ASelle@fortatkinsonwi.net](mailto:ASelle@fortatkinsonwi.net)

Property Owner: City of Fort Atkinson  
c/o Andy Selle  
101 North Main Street  
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### 3.2 Site Investigation Scoping

The following relevant items were evaluated in accordance with NR 716.07, WAC.

Site History [NR 716.07(1)] – A Phase I ESA has been completed for the site. For a majority of its history (1950 to 2017) the three parcels, 205 Hake Street, 115 Lorman Street and 600 Oak Street were used as storage areas, scales, and/or metal shearing/storage operations. According to the Phase I ESA, the 205 Hake Street parcel was formerly undeveloped as early as 1937. The 205 Hake Street parcel was then developed between 1971 and 1981 with as an outdoor storage area along with an aboveground storage tank (AST) structure and a central building. In 2006, the building had been removed along with the AST and the outdoor storage area was expanded across the parcel. In 2017 the 205 Hake Street parcel was no longer used for outdoor storage.

According to the Phase I ESA, the 115 Lorman Street parcel was formerly undeveloped as early as 1937. Possible filling activities occurred onsite as early as 1940. By 1955, the 115 Lorman Street parcel was then developed with a large building in the southwest corner of the parcel along with outdoor storage areas. By 1979 another building was constructed in the southeastern portion of the parcel. From 1955 to 2017 storage piles were documented throughout the parcel. In 2017, the parcel outdoor storage piles were gone. In 2006, the building had been removed along with the AST and the outdoor storage area had been expanded across the parcel. In 2017 the 205 Hake Street parcel was no longer used for outdoor storage.

According to the Phase I ESA, the 600 Oak Street parcel was developed as early as 1937 with a building/shed along with a bulk storage pile consistent with outdoor coal storage. The site appears to have been used as coal storage from 1937 until 1979. By 2006, the buildings and shed units had been razed. In 2010, the 600 Oak street parcel was depicted as an outdoor storage area with trailer storage and metal scrap bin storage. By 2017, the site appeared to be vacant with a gravel surface.

Contaminant Types [NR 716.07(2)] – Based on the history of metal scrapyard usage, knowledge of USTs and ASTs located across the parcels, the apparent history of known fill material across the site, adjacent site usage of chlorinated volatile organic compounds (CVOCs), and the

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investigative activities performed to date, the primary contaminants of concern are petroleum compounds, metals, PAHs, CVOCs, and PCBs.

Terracon, on behalf of the City of Fort Atkinson, evaluated emerging contaminants at the site using the WDNR guidance document “Site Investigation Scoping: Identifying Contaminants of Concern” (RR-101) for potential/emerging contaminants in general, and the Interstate Technology Regulatory Council (ITRC) fact sheet “History and Use of Per- and Polyfluoroalkyl Substances (PFAS)” for PFAS. The WDNR guidance document lists several classes of contaminants and associated chemicals and commercial/industrial operations. Table 2-4 of the ITRC document lists industries and applications associated with PFAS usage. PFAS has been used in a wide range of consumer products, including waterproofing and stain resisting agents. According to the Phase I ESA, the site usage and history does not show evidence that suggest PFAS were used onsite. TCE was detected in groundwater samples from two of the monitoring wells during the initial sampling event, but the results were not reproduced during the subsequent sampling event. 1,1,1-trichloroethane, associated with 1,4 dioxane, was not detected within the soil or groundwater, thus 1,4-dioxane is not considered to be an issue. These historical uses and CVOC results indicate emerging contaminants associated with solvents (i.e., 1,4-dioxane) and PFAS are likely not present at the site.

History of Previous Hazardous Substance Discharges [NR 716.07(3)] – Across the three parcels, only one discharge has been reported to the WDNR. The UST analytical results of a tank closure assessment were reported to the WDNR, which opened a LUST case (BRRTS #03-28-002397). The case was opened in 1994 and after years of monitoring and sampling, the case was closed in 2001 with continuing obligations to the 115 Lorman Property.

Terracon reviewed the RR Sites Map to evaluate if additional reported releases are present in the vicinity. The following two releases are located in the vicinity of the site:

- #02-28-588171 W D HOARD PROPERTY

The case is an open ERP case located southwest of the 115 Lorman Street parcel. The site was recently opened in August 2021. Site investigation has begun; however, a report has not yet been uploaded to the BRRTS website. Contaminants of concern include CVOCs, PAHs, and metals identified in soil and groundwater.

- #02-28-176509 FORMER DB OAK PROPERTY

The case is an open ERP case and a former large quantity generator of ignitable waste located at 700 Oak Street, adjoining the subject property to the north and west. The ERP case was opened in May 1995 to address impacts associated with a former 10,000-gallon PCE AST. The AST was located roughly 100 feet to the west of the 205 Hake Street



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parcel. Soil and surface water sampling results indicated that CVOCs released along the east side of the site building were being conveyed through a drainage swale running along the eastern edge of the site. Investigation activities for this ERP case suggest groundwater contamination may be migrating onto the site.

### ■ #02-28-556416 UNCLE JOSH BAIT COMPANY

The case is a closed ERP case which was opened in November 2010 and closed in August 2012. The case is located to the southeast of the 115 Lorman Street parcel. The BRRTS website indicates contaminants of concern are metals, VOCs, and CVOCs.

Environmental Media [NR 716.07(4)] – Based on the LSI information, soil and groundwater impacts are present. Fill material up to 10 feet thick is located across a majority of the 115 Lorman Street and 600 Oak Street parcels. Fill material was also identified at two of the three locations for the 205 Hake Street Parcel. The fill was needed to bring the site to grade. The LSI identified PAHs and metals in this fill material. Other soil impacts include traces of VOCs and PCBs at select locations across the site. VOCs detections within the groundwater appear to be across all three parcels. In particular, CVOCs were documented well above their respective ESs at location along the western property boundary to the 205 Hake Street and 115 Lorman Street parcels. Due to the current site operations of the site, which is vacant, vapor intrusion risk is limited.

Site Location [NR 716.07(5)] – According to the City of Fort Atkinson's zoning map, the 205 Hake Street and 115 Lorman Street parcels are zoned M2 - Heavy Industrial and the 600 Oak Street parcel is zoned M1 – Light Industrial.

Access [NR 716.07(6)] – The current site owner is the City of Fort Atkinson, and there are no issues with respect to site access.

Receptors [NR 716.07(7)] – Well records show one water supply well within 1,200 feet of the site. According to the well construction report available through the WDNR's Well Driller Viewer map, well 8MC714 was installed in 1937. Gravel and sand were documented to 47 feet and limestone rock was identified to 164 feet below surface. Standing water level in the well was documented at 40 feet below surface. The well is located side-gradient to the site to the west-southwest.

Communication, gas, and water utility lines were documented south and east of the 115 Lorman Street property. Additionally, an onsite storm drainage system is located across the site and drains to the southeastern portion of the property into the municipal storm sewer system along Jefferson Street. However, the groundwater located at the southeastern portion of the property (down-gradient P-15) did not contain VOCs at concentrations above their respective PALs or ESs.

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Additional evaluation of the utility corridors is not warranted. Utilities are depicted on the attached Exhibit 1.

The 115 Lorman Street parcel is located approximately 1,900 feet up-gradient from the Rock River. However, because the groundwater contamination appears decrease from the western to eastern site boundary, it is unlikely the Rock River has been affected by contamination observed onsite.

Potential Impacts to Sensitive Habitat, Wetlands, Resource Waters, and Historical Sites [NR 716.07(8)] – The National Wetlands Inventory map depicts wetlands on the property located to the northwest of the 205 Hake Street and 115 Lorman Street parcels. The wetland is about 5.59 acres in size and is located upgradient from the onsite observed soil and groundwater contamination. The site is not associated with outstanding resource waters or exceptional resource waters as defined in NR 102, WAC. Based on the historical use of the property, the site is not likely occupied by sensitive habitat or a historical/archeological site.

Interim Action [NR 716.07(9)] – The Phase I ESA and LSI identified soil and groundwater contamination. Based on the contaminant concentrations detected during the LSI, interim action is not being considered at this time.

Other Conditions [NR 716.07(10)] – The site is not located in an area with unique climatological conditions that may affect the scope of site investigation activities.

Hydraulic Conductivity [NR 716.07(12)] – Hydraulic conductivity testing has not been completed. Soil consists primarily of silts mantling sandy silts. The soils likely exhibit a hydraulic conductivity in the range of  $10^{-5}$  to  $10^{-6}$  centimeters per second.

## 4.0 SCOPE OF SERVICES

The LSI confirmed the presence of impacted soil and groundwater. The purpose of the site investigation will be to delineate the extent of PCB-impacted soil at concentrations above industrial, direct-contact RCLs on the Lorman Street parcel, and delineate the extent of metals, VOCs, and PAHs in soil on the Oak Street parcel. No additional investigation is recommended for the Hake Street parcel, as arsenic detections are slightly above its BTV and suggestive of background conditions, and the VOC impacts to groundwater appear attributable to off-site CVOC contamination from the DB Oak property release. Further groundwater sampling for VOCs, PAHs, metals, and PCBs (select wells) is presented to evaluate groundwater quality in WAC, NR 141-complaint groundwater monitoring wells relative to temporary well detections, and soil to groundwater RCL exceedances in soils on the Lorman and Oak Street parcels. Terracon

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proposes the following scope of services to further investigate the extent and magnitude of the impacts.

### 4.1 Health and Safety Plan

Terracon is committed to the safety of all its employees. As such, and in accordance with our Incident and Injury Free® safety goals, Terracon will review and (if needed) update the existing safety plan to be used by our personnel during field services. Prior to commencement of on-site activities, Terracon will hold a brief health and safety meeting to review health and safety needs for this specific project. At this time, we anticipate performing fieldwork in a United States Environmental Protection Agency (USEPA) Level D work uniform consisting of hard hats, safety glasses, protective gloves, and steel-toed boots. It may become necessary to upgrade this level of protection, at additional cost, during sampling activities in the event that we encounter petroleum or chemical constituents in soils or groundwater that present an increased risk for personal exposure.

### 4.2 Locate Utilities in Work Area

In an effort to locate utilities in the work area, Terracon will review any site plans provided to us and will contact Diggers Hotline. To the extent practicable, the locations and depths of the various utilities will be identified to avoid damage to such utilities. If needed, a private utility locator will be contracted to locate private, on-site utilities not marked by Diggers Hotline. The proposed boring locations may be modified based upon the presence of utilities, or if access is otherwise restricted.

### 4.3 Soil Sampling

Terracon proposes to advance seventeen (17) soil borings (GP-1 through GP-10, and MW-1 through MW-7) to facilitate collection of additional soil and groundwater samples. The borings will be advanced using a drill rig capable of collecting soil samples using direct-push methods as well as turning hollow-stem augers to depths of approximately 15 feet bgs. Soil borings GP-1 through GP-5, and MW-1 through MW-4 will be advanced on the 115 Lorman Street parcel to delineate PCB-impacted soil, and soil borings MW-5 and MW-6 will be advanced on the Lorman Street parcel to delineate contaminant extent along the southern property boundary. Soil borings GP-6 through GP-10, and MW-7 will be advanced on the 600 Oak Street parcel to delineate soil impacts encountered at borings P-7 and P-8. If obvious contamination is encountered in a boring, the scope of work may be expanded by adding borings to attempt to delineate the extent of the impacts. The proposed boring locations are depicted in the attached Exhibit 1; however, the locations may be modified based upon the presence of utilities or if access is otherwise restricted.

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Soil samples will be collected continuously to the terminus of each boring. Soil characteristics (e.g. texture, color) and any unusual odors or discoloration will be noted on each soil boring log. A photoionization detector (PID) will be used to field screen soil samples for volatile organic compound (VOC) vapors. Two soil samples will be collected from each soil boring. One soil sample will be selected for analysis from the upper four feet, and a second sample will be collected from below four feet. Both samples will be collected from depths with the highest PID readings. Or, if PID readings are not elevated, the deeper soil sample will be collected from immediately above the apparent groundwater surface, and the shallow soil sample will be collected from 2 feet bgs, unless other indications of impacts suggest another sample depth.

The soil samples will be collected in laboratory-supplied containers, placed in an ice chest to cool to approximately 4 degrees Celsius (°C), and transferred under chain-of-custody protocol to a Wisconsin-certified laboratory for analysis. The soil samples from borings GP-1 through GP-5, and MW-1 through MW-4 will be analyzed for PCBs using United States Environmental Protection Agency Method (USEPA) Method 8082. The soil samples collected from soil borings GP-6 through GP-10, and MW-5 through MW-7 will be analyzed for VOCs, PAHs, and RCRA 8 metals using USEPA Method 8260B, USEPA Method 8270, and USEPA Method 6010/7470.

A summary of the proposed soil sampling/analysis strategy is presented as follows:

<u>Sample Locations</u>	<u>Matrix/Analyses</u>	<u>No. of Samples</u>	<u>Lab Method</u>
GP-1 through GP-5 MW-1 through MW-4	Shallow and Deep Soil Samples: PCBs	18	8082
GP-6 through GP-10 MW-5 through MW-7	Shallow and Deep Soil Samples: VOCs, Metals, and PAHs	16	8260/6010/7470/8270

**4.4 Groundwater Monitoring Well Installation, Development, and Surveying**

Upon completion of soil sampling, seven shallow groundwater monitoring wells (MW-1 through MW-7) will be constructed. The groundwater monitoring wells will be installed to a depth of approximately 15 feet bgs using hollow-stem augers per NR 141, WAC. The shallow monitoring wells will be constructed by attaching a 10-foot length of 2-inch-diameter, 0.010-inch slotted, polyvinyl chloride (PVC) well screen to a solid PVC riser pipe. A sand filter pack will be placed around the screen to a depth of approximately one foot above the top of the screen. The remainder of the borehole will be filled with bentonite to near the ground surface. Flush mount well protectors will be installed for the groundwater monitoring wells.

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Following installation, the wells will be developed with disposable bailers per NR 141, WAC, and the development water placed in labeled, 55-gallon drums for temporary on-site storage. The groundwater monitoring wells will be surveyed relative to a national geodetic survey datum, so that groundwater flow direction can be determined from static water level measurements.

**4.5 Groundwater Monitoring Well Sampling**

Not sooner than one week following well development, groundwater samples will be collected from groundwater monitoring wells MW-1 through MW-7. Prior to sampling, static water levels will be measured at each groundwater monitoring well. A groundwater sample will be collected from each of the monitoring wells and submitted for laboratory analysis. The groundwater samples will be collected using low-flow sampling methods to reduce the potential for sample turbidity that might bias the results. Terracon will purge each monitoring well prior to sampling using a low-flow pump and dedicated tubing. Natural attenuation field parameters such as dissolved oxygen (DO), oxidation-reduction potential (ORP), specific conductance, pH, and temperature will be measured using a water quality meter with a flow-through cell until stable readings are observed for each of the parameters. Generally, a goal of three consecutive readings within 10% taken a minimum of five minutes apart during purging is indicative that groundwater in the wells have stabilized. Upon stabilization, a groundwater sample will be collected from the monitoring well. The groundwater samples will be collected in laboratory-supplied containers, placed in an ice chest to cool to approximately 4°C, and transferred under COC protocol to a Wisconsin-certified laboratory for analysis of VOCs using USEPA Method 8260B, PAHs using USEPA Method 8270, and RCRA metals using USEPA Method 6010/7471. Groundwater samples collected from MW-1 through MW-4 will also be submitted for PCB laboratory analysis using EPA Method 8082. The groundwater samples for RCRA metals analysis will be field-filtered using a 0.45-micron filter while being transferred to the laboratory containers. A trip blank and duplicate sample will also be submitted for VOC laboratory analysis.

A summary of the proposed groundwater sampling/analysis strategy is presented as follows

<u>Sample Locations</u>	<u>Matrix/Analyses</u>	<u>No. of Samples</u>	<u>Lab Method</u>
MW-1 through MW-4	Groundwater Samples: VOCs, Metals, PAHs, and PCBs	4	8260/6010/8270/8082
MW-5 through MW-7	Groundwater Samples: VOCs, Metals, and PAHs	3	8260/6010/8270
Duplicate and Field Blank	Groundwater: VOCs	2	8260

## Site Investigation Work Plan

Loeb-Lorman Scrapyard Former ■ Fort Atkinson, Wisconsin

September 29, 2021 ■ Terracon Project No. 58217147

### 4.6 Investigative Derived Waste Disposal

All investigation-derived wastes (IDW), soil cuttings and development water, will be containerized in labeled 55-gallon drums for temporary storage on site. Upon receipt of the analytical results, Terracon will arrange for the appropriate disposal of the IDW generated during well construction.

### 4.7 Preparation of Site Investigation Report

Assuming the proposed seventeen(17) soil borings and seven (7) groundwater monitoring wells adequately delineate the extent of the soil and groundwater contamination, a Site Investigation Report (SIR) and remedial action plan (RAP) will be prepared that will include the following:

- Documentation of field activities;
- Sample location map;
- Soil boring logs;
- Analytical laboratory results;
- Data evaluation and presentation of pertinent findings;
- Evaluation of remedial action options; and
- Remedial action plan.

If the extent of contamination is not delineated, a work plan for additional investigation will be prepared. If you have any questions or comments regarding this SIWP or require additional information, please contact us at (414) 423-0255.

Sincerely,



Timothy P. Welch, P.G.  
Senior Project Manager

Edmund A. Buc, P. E.  
Department Manager

TPW/LPC/EAB:/tpw/N:\Projects\2021\58217147\Project Documents\SIWP\02-28-588371\_Fm Loeb-Lorman\_SIWP.docx

Attachment: Exhibit 1- Proposed Soil Boring Locations  
Table 1 - Soil Analytical Test Results Summary for VOCs  
Table 2 - Soil Analytical Test Results Summary for DRO and PAHs

**Site Investigation Work Plan**

Loeb-Lorman Scrapyard Former ■ Fort Atkinson, Wisconsin

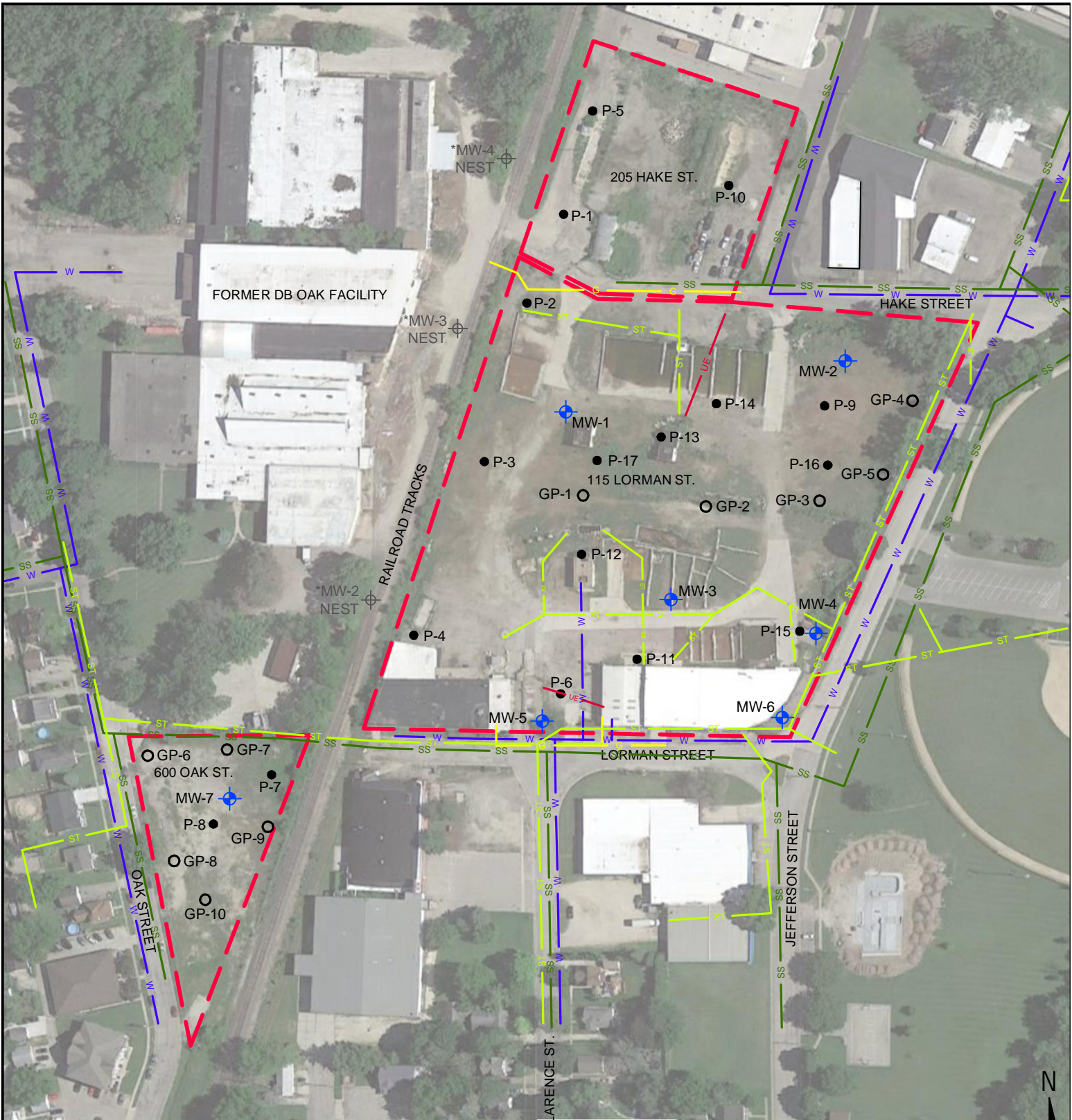
September 29, 2021 ■ Terracon Project No. 58217147

Table 3 - Soil Analytical Test Results Summary for Metals

Table 4 - Soil Analytical Test Results Summary for PCBs

Table 5 - Groundwater Analytical Test Results Summary for VOCs

Copy: Mr. Andy Selle (City of Fort Atkinson) – electronic copy



LEGEND	
	PROPOSED GROUNDWATER MONITORING WELL LOCATIONS
	*GROUNDWATER MONITORING WELL NESTS (DB OAK)
	PROPOSED SOIL BORING
	SOIL BORING/TEMPORARY WELL LOCATIONS
	GAS
	WATER
	STORM SEWER
	SANITARY SEWER
	UNDERGROUND ELECTRIC
	APPROXIMATE SITE BOUNDARY

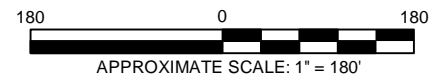


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mng:	TPW	Project No.	58217147
Drawn By:	JLM (41)	Scale:	AS SHOWN
Checked By:	TPW	File No.	58217147C1
Approved By:	TPW	Date:	9/2021

**Terracon**  
 Consulting Engineers and Scientists  
 9856 SOUTH 57th STREET FRANKLIN, WI 53132  
 PH. (414) 423-0255 FAX. (414) 423-0566

**PROPOSED BORING LOCATIONS**  
 FORMER LOEB - LORMAN SCRAPYARD  
 115 LORMAN STREET, 205 HAKE STREET, AND 600 OAK STREET  
 FORT ATKINSON, WISCONSIN

**EXHIBIT**  
 1  
(E)X-1 (SD)





**Table 2  
Soil Analytical Test Results Summary for DRO and PAHs**

**Former Loeb-Lorman Scrapyard  
Fort Atkinson, Wisconsin  
Terracon Project No. 58217147**

Sample ID	Sample Depth (feet)	Sample Date	PID	Fill/Native	PAHs (ug/kg)																			Diesel Range Organics (mg/kg)
					Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	DRO	
P-1 (2')	2	7/15/2021	<1	Native	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8	
P-1 (5')	5	7/15/2021	<1	Native	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2	
P-2 (2')	2	7/16/2021	<1	Fill	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.2	
P-2 (6')	6	7/16/2021	<1	Native	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7	
P-3 (1')	1	7/16/2021	1	Fill	66.6J	53.9J	116	412	<b>409</b>	<b>759</b>	100	390	<b>470</b>	32.0J	1,050	30.1J	104	22.4J	42.1J	43.8J	398	867	1,370	
P-3 (7')	7	7/16/2021	<1	Native	<2.3	<2.3	2.6J	7.4J	6.3J	10.9J	6.0J	4.6J	10.2J	<2.5	19.0	<2.2	4.4J	<2.6	<2.6	<1.8	6.2J	12.8J	5.9	
P-4 (1')	1	7/16/2021	<1	Fill	9.0J	15.1J	34.7	76.2	83.8	158	27.9	54.9	86.3	11.2J	138	6.4J	26.5	26.0	33.5	32.3	114	122	125	
P-4 (7')	7	7/16/2021	<1	Native	<2.4	<2.3	<2.3	<2.4	<2.1	<2.6	<3.3	<2.4	<3.5	<2.6	<2.2	<2.2	<3.9	<2.7	<2.7	<1.8	<2.1	<2.7	<1.2	
P-5 (2')	2	7/15/2021	<1	Fill	6.5J	15.2J	24.6	64.8	66.4	117	31.2	55.7	91.4	11.1J	129	6.4J	25.8	15.6J	24.6	29.4	83.6	122	69.5	
P-5 (5')	5	7/15/2021	<1	Native	115	<2.7	16.7J	19.4J	15.5J	28.1	13.5J	9.8J	23.4	3.4J	74.2	67.1	10.6J	11.9J	18.3J	7.6J	173	53.7	<1.2	
P-6 (2')	2	7/15/2021	<1	Fill	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	
P-6 (8')	8	7/15/2021	<1	Fill	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.2	
P-7 (3')	3	7/16/2021	<1	Fill	<12.0	26.0J	45.5J	523	<b>715</b>	<b>2,020</b>	285	660	<b>559</b>	114	285	<11.1	338	17.9J	25.8J	32.3J	135	326	119	
P-7 (9')	9	7/16/2021	<1	Native	<2.5	<2.5	<2.4	<2.5	<2.2	<2.7	<3.4	<2.5	<3.7	<2.7	<2.3	<2.3	<4.1	<2.9	<2.9	<1.9	<2.2	<2.9	<1.1	
P-8 (4')	4	7/16/2021	1	Fill	96.2J	49.1J	167	388	<b>362</b>	<b>646</b>	121J	191	<b>673</b>	68.2J	618	91.5J	95.6J	415	569	521	1,050	672	420	
P-8 (7')	7	7/16/2021	<1	Native	<2.6	<2.5	<2.5	4.5J	3.2J	4.8J	<3.5	<2.5	7.7J	<2.8	5.3J	<2.4	<4.2	<2.9	<2.9	<1.9	4.6J	4.4J	189	
P-9 (2')	2	7/15/2021	<1	Fill	<23.3	<22.7	49.5J	168J	<b>214</b>	296	250	147J	<b>228</b>	58.5J	334	<21.6	158J	34.8J	46.0J	34.0J	162J	384	1,480	
P-9 (8')	8	7/15/2021	<1	Native	35.6J	<9.6	27.6J	31.1J	80.9	123	29.2J	60.7J	79.0	<10.5	151	34.4J	25.2J	78.1	118	157	183	142	32.7	
P-10 (2')	2	7/15/2021	<1	Fill	<2.4	<2.4	<2.3	2.5J	<2.1	<2.6	<3.3	<2.4	<3.6	<2.6	3.8J	<2.3	<3.9	<2.7	<2.8	<1.8	3.4J	3.1J	12.5	
P-10 (6')	6	7/15/2021	<1	Native	3.0J	<2.8	<2.8	5.2J	3.4J	5.8J	<4.0	<2.9	5.8J	<3.1	8.5J	<2.7	<4.7	<3.3	<3.3	<2.2	9.3J	7.2J	20.6	
P-11 (1')	1	7/15/2021	<1	Fill	8.9J	19.8	38.5	175	<b>211</b>	354	89.7	139	<b>212</b>	29.2	399	10.2J	75.4	10J	14.1J	15.3J	201	306	166	
P-11 (9')	9	7/15/2021	<1	Native	<2.7	<2.6	<2.5	9.2J	7.2J	10.8J	6.6J	4.2J	11.1J	<2.8	14.2J	<2.5	<4.3	<3.0	<3.0	<2.0	6.0J	14.3J	4.2	
P-12 (2')	2	7/15/2021	<1	Fill	5.1J	<2.3	14.4J	21.4	20.8	36.3	22.3	14.7J	26	5.1J	48.1	6.8J	18.0J	<2.7	3.3J	5.1J	50.9	32.0	111	
P-12 (9')	9	7/15/2021	<1	Fill	10.4J	3.3J	9.3J	16.1J	10.5J	13.8J	10.9J	4.2J	24.0	<2.7	25.0	6.3J	5.8J	62.0	95.2	127	83.3	25.6	44.9	
P-13 (2')	2	7/16/2021	<1	Fill	260J	<91.7	345J	566J	<b>599J</b>	<b>812</b>	177J	429J	<b>847</b>	<101	1,620	376J	161J	249J	329J	260J	1,750	1,420	3,860	
P-13 (5')	5	7/16/2021	<1	Fill	10.0J	3.9J	15.0J	18.7	21.5	30.5	22.1	10.7J	29.8	5.7J	38.7	27.6	14.7J	54.8	135	59.7	126	30.7	33.0	
P-14 (2')	2	7/16/2021	<1	Fill	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5	
P-14 (5')	5	7/16/2021	<1	Native	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.1	
P-15 (1')	1	7/15/2021	<1	Fill	<46.9	155J	177J	336J	<b>720</b>	<b>1,080</b>	407	563	<b>985</b>	<b>121J</b>	1,300	<43.3	356J	<52.8	<52.8	<52.8	525	980	4,210	
P-15 (7')	7	7/15/2021	<1	Fill	850	<12.6	172	122	27.3J	45.6J	<17.6	23.1J	109	<13.9	875	692	<20.9	592	1190	<b>1370</b>	2,030	469	56.2	
P-16 (2')	2	7/15/2021	1	Fill	7.4J	10.2J	39.9	96.9	111	264	66.2	138	94.5	18.8	165	7.9J	51.6	9.6J	15.6J	11.1J	92.4	277	779	
P-16 (8')	8	7/15/2021	<1	Fill	96.7J	<64.4	182J	468J	<b>403J</b>	<b>624</b>	328J	251J	<b>546</b>	73.9J	1120	74.4J	244J	<74.7	85.5J	676	887	1,610		
P-17 (2')	2	7/16/2021	<1	Fill	57.5J	9.1J	130	333	<b>238</b>	477	51.1J	221	<b>339</b>	16.5J	770	73.1	49.3J	61.1J	91.9	85.0	566	695	1,090	
P-17 (7')	7	7/16/2021	<1	Native	40.3J	<12.8	123	107	90.2J	139	50.2J	50.0J	<b>145</b>	<14.0	349	51.3J	39.5J	55.6J	93.6J	126	325	284	678	
Direct Contact Non-Industrial RCL <sup>1</sup>					<b>3,590,000</b>	--	<b>17,900,000</b>	<b>1,140</b>	<b>115</b>	<b>1,150</b>	<b>17,900,000</b>	<b>11,500</b>	<b>115,000</b>	<b>115</b>	<b>2,390,000</b>	<b>2,390,000</b>	<b>1,150</b>	<b>17,600</b>	<b>239,000</b>	<b>5,520</b>	--	<b>1,790,000</b>	--	
Direct Contact Industrial RCL <sup>2</sup>					<u>45,200,000</u>	--	<u>100,000,000</u>	<u>20,800</u>	<u>2,110</u>	<u>21,100</u>	<u>100,000,000</u>	<u>211,000</u>	<u>2,110,000</u>	<u>2,110</u>	<u>30,100,000</u>	<u>30,100,000</u>	<u>21,100</u>	<u>72,700</u>	<u>3,010,000</u>	<u>24,100</u>	--	<u>22,600,000</u>	--	
Soil to Groundwater Pathway RCL <sup>3</sup>					--	--	<i>196,949.2</i>	--	<i>470</i>	<i>478.1</i>	<i>196,949.2</i>	--	<i>144.2</i>	--	<i>88,877.8</i>	<i>14,829.9</i>	--	--	--	<i>658</i>	--	<i>54,545.5</i>	--	

**Notes:**  
 PID=Photoionization Detector  
 PAHs=Polycyclic aromatic hydrocarbons  
 DRO=Diesel Range Organics  
 PAH results expressed in micrograms per kilogram (ug/kg), DRO results expressed in milligrams per kilogram (mg/kg)  
<sup>1</sup> Non-Industrial Residual Contaminant Levels (RCLs) for Direct Contact (December 2018) per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator PUB-RR-890, dated January 2014 (with WDNR spreadsheet input parameters updated December 2018).  
<sup>2</sup> Industrial Residual Contaminant Levels (RCLs) for Direct Contact (December 2018) per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator PUB-RR-890, dated January 2014 (with WDNR spreadsheet input parameters updated December 2018).  
<sup>3</sup> Protection of Groundwater RCLs (December 2018) per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator PUB-RR-890, dated January 2014 (with WDNR spreadsheet input parameters updated December, 2018).  
<sup>4</sup> Wisconsin Department of Natural Resources Statewide Background Threshold Value, July 2015  
**XX.XX** Bold and brown = Exceeds Non-Industrial Direct Contact RCL  
XX.XX Underlined and pink = Exceeds Industrial Direct Contact RCL  
*XX.XX* Italicized and blue = Exceeds Soil to Groundwater Pathway RCL  
 "J" = Estimated concentration at or above the limit of detection (LOD) and below the limit of quantitation (LOQ)  
 -- Dashed lines = No established standard or not analyzed

**Table 3  
Soil Analytical Test Results Summary for Metals**

**Former Loeb-Lorman Scrapyard  
Fort Atkinson, Wisconsin  
Terracon Project No. 58217147**

Sample ID	Sample Depth (feet)	Sample Date	PID	Fill/Native	Metals (mg/kg)							
					Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
P-1 (2')	2	7/15/2021	<1	Native	3.6	46.0	<0.16	21.9	8.4	<1.5	<0.36	0.078
P-1 (5')	5	7/15/2021	<1	Native	4.6	35.7	<0.15	17.7	7.4	<1.5	<0.34	0.062
P-2 (2')	2	7/16/2021	<1	Fill	2.3J	65.8	<0.15	17.4	13.7	<1.5	<0.36	0.019J
P-2 (6')	6	7/16/2021	<1	Native	<1.6	53.3	<0.15	29.4	5.2	<1.5	<0.35	0.018J
P-3 (1')	1	7/16/2021	1	Fill	<b>8.2J</b>	114	<b>2.5J</b>	701	<b>216</b>	<7.0	<b>2.6J</b>	<b>0.66</b>
P-3 (7')	7	7/16/2021	<1	Native	2.0J	22.8	<0.14	14.9	4.8	<1.4	<0.33	0.020J
P-4 (1')	1	7/16/2021	<1	Fill	4.6J	80.4	<b>2.5</b>	18.9	<b>151</b>	<3.0	<0.70	<b>0.93</b>
P-4 (7')	7	7/16/2021	<1	Native	2.3J	33.0	<0.14	12.4	5.7	<1.4	<0.33	<0.010
P-5 (2')	2	7/15/2021	<1	Fill	<b>11.3</b>	118	0.69	37	39.4	<1.6	<0.37	0.13
P-5 (5')	5	7/15/2021	<1	Native	<b>12.0</b>	111	<0.16	31.2	14.5	<1.5	<0.36	0.093
P-6 (2')	2	7/15/2021	<1	Fill	2.5J	42.9	<0.14	10.2	6.6	<1.4	<0.33	<0.011
P-6 (8')	8	7/15/2021	<1	Fill	2.3J	30.4	0.28J	10.7	42.4	<1.4	<0.33	0.031J
P-7 (3')	3	7/16/2021	<1	Fill	<b>8.2</b>	454	<b>20.7</b>	18.3	<b>2,830</b>	<2.7	<b>1.4J</b>	<b>9.9</b>
P-7 (9')	9	7/16/2021	<1	Native	3.6	64.3	0.23J	24.3	14.3	<1.4	<0.33	0.039J
P-8 (4')	4	7/16/2021	1	Fill	<b>27.6</b>	106	<b>40.6</b>	42.1	<b>6,100</b>	<7.9	<b>19.7</b>	<b>1.0</b>
P-8 (7')	7	7/16/2021	<1	Native	2.0J	85.2	<b>4.5</b>	28.2	<b>502</b>	<1.6	<0.37	0.078
P-9 (2')	2	7/15/2021	<1	Fill	<7.8	148	<b>4.7</b>	<b>1,350</b>	<b>312</b>	<7.0	<1.6	<b>0.55</b>
P-9 (8')	8	7/15/2021	<1	Native	3.8	67.8	0.24J	35.4	25.7	<1.4	<0.33	0.075
P-10 (2')	2	7/15/2021	<1	Fill	<31.3	112	<2.8	<b>2,400</b>	<12.8	<28.0	<b>6.7J</b>	0.044
P-10 (6')	6	7/15/2021	<1	Native	<3.7	59.5	<0.34	36.7	7.8	<3.3	<0.78	0.068
P-11 (1')	1	7/15/2021	<1	Fill	6.5	67.3	<b>2.6</b>	<b>64.9</b>	<b>162</b>	<1.4	<0.33	0.14
P-11 (9')	9	7/15/2021	<1	Native	2.9	90.0	0.69	30.6	9.7	<1.5	<0.35	0.018J
P-12 (2')	2	7/15/2021	<1	Fill	<32.1	82.5	<2.9	<b>2,040</b>	<b>29.7J</b>	<28.7	<6.7	0.22
P-12 (9')	9	7/15/2021	<1	Fill	5.5	38.8	<b>2.0</b>	27.8	<b>86.4</b>	<1.5	0.63J	0.091
P-13 (2')	2	7/16/2021	<1	Fill	<3.0	114	<b>5.6</b>	<b>68.4</b>	<b>424</b>	<2.7	<0.64	<b>1.3</b>
P-13 (5')	5	7/16/2021	<1	Fill	<29.9	83.1	<2.7	24.8	<b>72.5</b>	<26.7	<6.3	<b>0.27</b>
P-14 (2')	2	7/16/2021	<1	Fill	1.6J	9.2	<0.14	4.0	2.4	<1.4	<0.32	0.023J
P-14 (5')	5	7/16/2021	<1	Native	<1.5	10.2	<0.14	3.9	2.4	<1.3	<0.32	0.027J
P-15 (1')	1	7/15/2021	<1	Fill	<15.7	91.2	<1.4	<b>1,560</b>	<b>63.8</b>	<14.0	<3.3	<b>0.31</b>
P-15 (7')	7	7/15/2021	<1	Fill	4.7J	40.5	<0.32	15.0	10.6	<3.1	<0.73	0.067
P-16 (2')	2	7/15/2021	1	Fill	<7.8	153	<b>6.5</b>	<b>700</b>	<b>227</b>	<6.9	<b>3.7J</b>	<b>0.76</b>
P-16 (8')	8	7/15/2021	<1	Fill	<3.4	148	<b>2.6</b>	<b>206</b>	<b>115</b>	<3.0	<0.70	<b>1.2</b>
P-17 (2')	2	7/16/2021	<1	Fill	<14.6	321	<b>1.7J</b>	<b>3,100</b>	<b>278</b>	<b>15.1J</b>	<b>4.2J</b>	<b>1.1</b>
P-17 (7')	7	7/16/2021	<1	Native	2.1J	110	<b>2.5</b>	<b>86.4</b>	<b>73.4</b>	<1.5	<0.36	0.14
Direct Contact Non-Industrial RCL <sup>1</sup>					<b>0.677</b>	<b>15,300</b>	<b>71.1</b>	<b>100,000</b>	<b>400</b>	<b>391</b>	<b>391</b>	<b>3.13</b>
Direct Contact Industrial RCL <sup>2</sup>					<b>3</b>	<b>100,000</b>	<b>985</b>	<b>100,000</b>	<b>800</b>	<b>5,840</b>	<b>5,840</b>	<b>5,840</b>
Soil to Groundwater Pathway RCL <sup>3</sup>					<b>0.584</b>	<b>164.8</b>	<b>0.752</b>	<b>360,000</b>	<b>27</b>	<b>0.52</b>	<b>0.8491</b>	<b>0.208</b>
Statewide Background Threshold Value <sup>4</sup>					<b>8</b>	<b>364</b>	<b>1</b>	<b>44</b>	<b>52</b>	--	--	--

**Notes:**

PID=Photoionization Detector

ppm = parts per million

Results expressed in milligrams per kilogram (mg/kg)

<sup>1</sup> Non-Industrial Residual Contaminant Levels (RCLs) for Direct Contact (Dec 2018) per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator PUB-RR-890, dated December, 2018 (with WDNR spreadsheet input parameters updated December 2018).

<sup>2</sup> Industrial Residual Contaminant Levels (RCLs) for Direct Contact (Dec 2018) per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator PUB-RR-890, dated December 2018 (with WDNR spreadsheet input parameters updated December 2018).

<sup>3</sup> Protection of Groundwater RCLs (Dec 2018) per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator PUB-RR-890, dated January 2014 (with WDNR spreadsheet input parameters updated December, 2018).

<sup>4</sup> Wisconsin Department of Natural Resources Statewide Background Threshold Value, July 2015

**XX.XX** Bold and brown = Exceeds Non-Industrial Direct Contact RCL

XX.XX Underlined and pink = Exceeds Industrial Direct Contact RCL

*XX.XX* Italicized and blue = Exceeds Soil to Groundwater Pathway RCL

**XX.XX** Bold only = Exceeds BTV

J = Estimated concentration at or above the limit of detection (LOD) and below the limit of quantitation (LOQ)

-- Dashed lines = No established standard

**Table 4  
Soil Analytical Test Results Summary for PCBs**

**Former Loeb-Lorman Scrapyard  
Fort Atkinson, Wisconsin  
Terracon Project No. 58217147**

Sample ID	Sample Depth (feet)	Sample Date	PID	Fill/Native	PCBs (ug/kg)							PCB, Total
					PCB-1016 (Aroclor 1016)	PCB-1221 (Aroclor 1221)	PCB-1232 (Aroclor 1232)	PCB-1242 (Aroclor 1242)	PCB-1248 (Aroclor 1248)	PCB-1254 (Aroclor 1254)	PCB-1260 (Aroclor 1260)	
P-1 (2')	2	7/15/2021	<1	Native	<18.2	<18.2	<18.2	<18.2	<18.2	<18.2	<18.2	<18.2
P-1 (5')	5	7/15/2021	<1	Native	<17.3	<17.3	<17.3	<17.3	<17.3	<17.3	<17.3	<17.3
P-2 (2')	2	7/16/2021	<1	Fill	<17.8	<17.8	<17.8	<17.8	<17.8	25.7J	<17.8	25.7J
P-2 (6')	6	7/16/2021	<1	Native	<17.6	<17.6	<17.6	<17.6	<17.6	<17.6	<17.6	<17.6
P-3 (1')	1	7/16/2021	1	Fill	<33.1	<33.1	<33.1	713	<33.1	844	134	1,690
P-3 (7')	7	7/16/2021	<1	Native	<16.4	<16.4	<16.4	19.1J	<16.4	<16.4	<16.4	19.1J
P-4 (1')	1	7/16/2021	<1	Fill	<17.9	<17.9	<17.9	34.2J	<17.9	573	142	750
P-4 (7')	7	7/16/2021	<1	Native	<17.0	<17.0	<17.0	<17.0	<17.0	<17.0	<17.0	<17.0
P-5 (2')	2	7/15/2021	<1	Fill	<19.5	<19.5	<19.5	62.9J	<19.5	45.0J	47.6J	156
P-5 (5')	5	7/15/2021	<1	Native	<19.5	<19.5	<19.5	<19.5	<19.5	<19.5	<19.5	<19.5
P-6 (2')	2	7/15/2021	<1	Fill	<16.6	<16.6	<16.6	<16.6	<16.6	<16.6	<16.6	<16.6
P-6 (8')	8	7/15/2021	<1	Fill	<17.4	<17.4	<17.4	<17.4	<17.4	<17.4	<17.4	<17.4
P-7 (3')	3	7/16/2021	<1	Fill	<16.9	<16.9	<16.9	<16.9	<16.9	<16.9	<16.9	<16.9
P-7 (9')	9	7/16/2021	<1	Native	<17.8	<17.8	<17.8	<17.8	<17.8	<17.8	<17.8	<17.8
P-8 (4')	4	7/16/2021	1	Fill	<19.0	<19.0	<19.0	<19.0	<19.0	<19.0	<19.0	<19.0
P-8 (7')	7	7/16/2021	<1	Native	<18.1	<18.1	<18.1	<18.1	<18.1	<18.1	<18.1	<18.1
P-9 (2')	2	7/15/2021	<1	Fill	<164	<164	<164	1,930	<164	801	<164	2,731
P-9 (8')	8	7/15/2021	<1	Native	<17.3	<17.3	<17.3	181	<17.3	60.7	<17.3	242
P-10 (2')	2	7/15/2021	<1	Fill	<17.1	<17.1	<17.1	<17.1	<17.1	<17.1	<17.1	<17.1
P-10 (6')	6	7/15/2021	<1	Native	<20.5	<20.5	<20.5	<20.5	<20.5	<20.5	<20.5	<20.5
P-11 (1')	1	7/15/2021	<1	Fill	<16.6	<16.6	<16.6	<16.6	<16.6	85.0	41.4J	126
P-11 (9')	9	7/15/2021	<1	Native	<18.7	<18.7	<18.7	<18.7	<18.7	<18.7	<18.7	<18.7
P-12 (2')	2	7/15/2021	<1	Fill	<16.8	<16.8	<16.8	35.0J	<16.8	71.5	<16.8	106
P-12 (9')	9	7/15/2021	<1	Fill	<17.7	<17.7	<17.7	<17.7	<17.7	<17.7	<17.7	<17.7
P-13 (2')*	2	7/16/2021	<1	Fill	<8,290	<8,290	<8,290	<8,290	<8,290	<8,290	<8,290	<8,290
P-13 (5')	5	7/16/2021	<1	Fill	<16.6	<16.6	<16.6	<16.6	<16.6	94.2	44.7J	139
P-14 (2')	2	7/16/2021	<1	Fill	<15.9	<15.9	<15.9	<15.9	<15.9	<15.9	<15.9	<15.9
P-14 (5')	5	7/16/2021	<1	Native	<15.8	<15.8	<15.8	<15.8	<15.8	<15.8	<15.8	<15.8
P-15 (1')*	1	7/15/2021	<1	Fill	<16,500	<16,500	<16,500	<16,500	<16,500	<16,500	<16,500	<16,500
P-15 (7')	7	7/15/2021	<1	Fill	<18.3	<18.3	<18.3	<18.3	<18.3	168	<18.3	168
P-16 (2')	2	7/15/2021	1	Fill	<171	<171	<171	992	<171	512J	<171	1,500
P-16 (8')	8	7/15/2021	<1	Fill	<186	<186	<186	2,040	<186	1,180	<186	3,230
P-17 (2')	2	7/16/2021	<1	Fill	<81.5	<81.5	<81.5	2,520	<81.5	773	<81.5	3,290
P-17 (7')	7	7/16/2021	<1	Native	<18.6	<18.6	<18.6	411	<18.6	517	<18.6	928
Direct Contact Non-Industrial RCL <sup>1</sup>					4,110	213	190	235	236	239	243	--
Direct Contact Industrial RCL <sup>2</sup>					28,000	883	792	972	975	988	1,000	--
Soil to Groundwater Pathway RCL <sup>3</sup>					--	--	--	--	--	--	--	9.4

**Notes:**

PID=Photoionization Detector

PCBs=Polychlorinated biphenyl

Results expressed in micrograms per kilogram (ug/kg)

<sup>1</sup> Non-Industrial Residual Contaminant Levels (RCLs) for Direct Contact (June 2018) per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator PUB-RR-890, dated January 2014 (with WDNR spreadsheet input parameters updated December 2018).

<sup>2</sup> Industrial Residual Contaminant Levels (RCLs) for Direct Contact (June 2018) per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator PUB-RR-890, dated January 2014 (with WDNR spreadsheet input parameters updated December 2018).

<sup>3</sup> Protection of Groundwater RCLs (June 2018) per Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator PUB-RR-890, dated January 2014 (with WDNR spreadsheet input parameters updated December, 2018).

**XX.XX** Bold and brown = Exceeds Non-Industrial Direct Contact RCL

XX.XX Underlined and pink = Exceeds Industrial Direct Contact RCL

*XX.XX* Italicized and blue = Exceeds Soil to Groundwater Pathway RCL

\* = Samples were given a qualifier because each sample was diluted due to the presence of high levels of non-target analysis (DRO)

"J" = Estimated concentration at or above the limit of detection (LOD) and below the limit of quantitation (LOQ)

-- Dashed lines = No established standard or not analyzed

**Table 5  
Groundwater Analytical Test Results Summary for VOCs  
Detected Compounds Only**

**Former Loeb-Lorman Scrapyard  
Fort Atkinson, Wisconsin  
Terracon Project No. 58217147**

Sample ID	Sample Date	VOCs (ug/L)																				
		Benzene	sec-Butylbenzene	Chlorobenzene	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene (Cumene)	Naphthalene	n-Propylbenzene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl chloride	m&p-Xylene	o-Xylene
P-1	7/19/2021	<0.30	<0.42	<0.86	1.7J	<0.30	11.1	1,850	51.3	<0.33	<1.0	<1.1	<0.35	47.4	0.37J	<0.30	3,090	<0.45	<0.36	242	<0.70	<0.35
P-2	7/19/2021	<0.30	<0.42	<0.86	<1.4	<0.30	<0.58	3.9	<0.53	<0.33	<1.0	<1.1	<0.35	<0.41	<0.29	<0.30	1.3	<0.45	<0.36	1.4	<0.70	<0.35
P-3	7/19/2021	1.5	<0.42	<0.86	1.5J	<0.30	1.4	490	9.7	<0.33	<1.0	<1.1	<0.35	86.1	0.62J	<0.30	66.8	<0.45	<0.36	62.7	<0.70	<0.35
P-4	7/19/2021	<0.30	<0.42	<0.86	<1.4	<0.30	<0.58	<0.47	<0.53	<0.33	<1.0	<1.1	<0.35	<0.41	<0.29	<0.30	<0.32	<0.45	<0.36	<0.17	<0.70	<0.35
P-5	7/19/2021	<0.30	<0.42	<0.86	<1.4	<0.30	<0.58	116	0.72J	<0.33	<1.0	<1.1	<0.35	<0.41	<0.29	<0.30	3.4	<0.45	<0.36	2.2	<0.70	<0.35
P-6	7/19/2021	<0.30	<0.42	<0.86	<1.4	<0.30	<0.58	<0.47	<0.53	<0.33	<1.0	<1.1	<0.35	<0.41	<0.29	<0.30	<0.32	<0.45	<0.36	0.26J	<0.70	<0.35
P-7	7/19/2021	<0.30	<0.42	<0.86	<1.4	<0.30	<0.58	0.54J	<0.53	<0.33	<1.0	<1.1	<0.35	2.0	0.31J	<0.30	0.50J	<0.45	<0.36	<0.17	<0.70	<0.35
P-8	7/19/2021	<0.30	<0.42	<0.86	<1.4	<0.30	<0.58	<0.47	<0.53	<0.33	<1.0	<1.1	<0.35	<0.41	<0.29	<0.30	1.8	<0.45	<0.36	<0.17	<0.70	<0.35
P-9	7/19/2021	0.94J	<0.42	<0.86	<1.4	<0.30	<0.58	<0.47	<0.53	<0.33	<1.0	<1.1	<0.35	<0.41	0.45J	<0.30	<0.32	<0.45	<0.36	<0.17	<0.70	<0.35
P-10	7/19/2021	<0.30	<0.42	<0.86	<1.4	<0.30	<0.58	1.6	<0.53	<0.33	<1.0	<1.1	<0.35	<0.41	<0.29	<0.30	<0.32	<0.45	<0.36	<0.17	<0.70	<0.35
P-11	7/19/2021	1.7	<0.42	1.3	<1.4	<0.30	<0.58	<0.47	<0.53	<0.33	<1.0	<1.1	<0.35	<0.41	<0.29	<0.30	<0.32	<0.45	<0.36	1.7	<0.70	<0.35
P-12	7/19/2021	<0.30	<0.42	<0.86	<1.4	0.74J	<0.58	<0.47	<0.53	<0.33	<1.0	<1.1	<0.35	<0.41	<0.29	<0.30	<0.32	<0.45	<0.36	1.5	<0.70	<0.35
P-13	7/19/2021	0.44J	<0.42	<0.86	<1.4	<0.30	<0.58	<0.47	<0.53	<0.33	<1.0	<1.1	<0.35	<0.41	<0.29	<0.30	<0.32	<0.45	<0.36	<0.17	<0.70	<0.35
P-14	7/19/2021	0.35J	<0.42	<0.86	<1.4	<0.30	<0.58	<0.47	<0.53	0.37J	1.1J	<1.1	<0.35	<0.41	0.94J	<0.30	<0.32	<0.45	<0.36	0.32J	<0.70	<0.35
P-15	7/19/2021	<0.30	<0.42	<0.86	<1.4	<0.30	<0.58	<0.47	<0.53	<0.33	<1.0	<1.1	<0.35	<0.41	<0.29	<0.30	<0.32	<0.45	<0.36	<0.17	<0.70	<0.35
P-16	7/19/2021	0.78J	0.56J	<0.86	<1.4	4.1	<0.58	<0.47	<0.53	0.33J	<1.0	4.7J	1.4	<0.41	3.1	0.48J	<0.32	14.6	4.1	<0.17	0.98J	1.0
P-17	7/19/2021	0.30J	<0.42	<0.86	<1.4	<0.30	<0.58	<0.47	<0.53	<0.33	<1.0	<1.1	<0.35	<0.41	0.44J	<0.30	<0.32	<0.45	<0.36	<0.17	<0.70	<0.35
<b>NR 140 WAC, PAL<sup>1</sup></b>		<u>0.5</u>	--	--	<u>80</u>	<u>85</u>	<u>0.7</u>	<u>7</u>	<u>20</u>	<u>140</u>	--	<u>10</u>	--	<u>0.5</u>	<u>160</u>	<u>40</u>	<u>0.5</u>	<u>96</u>	<u>0.02</u>	<u>400</u>		
<b>NR 140 WAC, ES<sup>2</sup></b>		<b>5</b>	--	--	<b>400</b>	<b>850</b>	<b>7</b>	<b>70</b>	<b>100</b>	<b>700</b>	--	<b>100</b>	--	<b>5</b>	<b>800</b>	<b>200</b>	<b>5</b>	<b>480</b>	<b>0.2</b>	<b>2,000</b>		

**Notes:**  
 Results expressed in micrograms per liter (ug/L)  
 VOCs = Volatile Organic Compounds  
<sup>1</sup>NR 140, Wisconsin Administrative Code, (WAC) Preventive Action Limit (PAL), Register, June 2021  
<sup>2</sup>NR 140, WAC, Enforcement Standard (ES), Register, June 2021  
 XX.XX Exceeds NR 140 PAL  
 XX.XX Exceeds NR 140 ES  
 -- Dashed lines = No established standard or not analyzed  
 "J" = Estimated concentration at or above the limit of detection (LOD) and below the limit of quantitation (LOQ)