CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

**April 19, 2022**

**Wisconsin Department of Natural Resources**
Attn: Mr. Phil Richard
875 South 4th Avenue
Park Falls, WI 54552

**Subject:**

Site Update
Phillips Plating Corporation
984 North Lake Avenue
Phillips, WI
BRRTS: 02-51-559634

**Dear Phil,**

This site does have a substantial groundwater monitoring well network and was regularly being sampled prior to the COVID-19 pandemic, which did cause a temporary reduction of sampling activities. The monitoring well network was once again sampled on a semi-annual basis in 2021. A site update was submitted on December 6, 2021. The purpose of this letter is to provide you with a plan for changes to the sampling plan for the above referenced site.

**BACKGROUND**

This site is in the NW ¼, SW ¼, Section 7, T37N, R01E in the City of Phillips, Price County. A site vicinity map is included as attachment (Figure 1). The facility is an operating plating facility which specializes in metallic plating of various plastic components.

**SITE SUMMARY**

The Site Investigation Report / Remedial Action Plan was submitted to WDNR on October 30, 2013. Site Update reports have been submitted on January 24, 2013, March 13, 2013, October 14, 2014, January 19, 2017, December 29, 2017, September 4, 2018, September 5, 2019, and December 6, 2021. These reports conclude that groundwater contamination originating from the Phillips Plating former wastewater process system is present on and off site. Historically, groundwater has been documented in a northeasterly flow direction. The expansion of the well network on the Phillips Medisize property revealed higher groundwater elevations in the monitoring wells near Elk Lake (WBIC 2240000) compared to elevations in monitoring wells near the source area. Elk Lake is part of the Phillips Chain of Lakes, expanded by the impoundment of the Elk River. The hydrologic lake type of Elk Lake is a drainage lake which means it has an inlet and an outlet and the main water source is stream drainage. Based on depth to groundwater and underlying geologic conditions, Elk Lake is likely fed from both groundwater and surface water sources. Increased elevations in monitoring wells closer to the lake are likely a product of a hydraulic Groundwater flow direction is mainly to the east/northeast from the subject property.

**OFF SITE ACCESS**

As a part of this investigation, Phillips Plating entered into a site access agreement with Phillips Medisize for the installation and continued sampling of groundwater monitoring wells and piezometers on July 2, 2013. This agreement expires on July 31, 2023. This agreement was signed by Mr. Dan Anderson as a representative of Phillips Medisize. Since that agreement, Phillips Medisize has been acquired by Molex and attempts to correspond with Mr. Dan Anderson have been unsuccessful. The access agreement documented the parameters to be sampled, identified reporting requirements, and required split samples to be collected for all parameters with the samples collected being sent to Pace Analytical Services in Green Bay, WI and Northern Lake Service in Crandon, WI. Since this initial sampling agreement, the well network has expanded. The time involved in travel and sample collection makes the logistics of collecting samples and getting to the lab within 24 hours of sample collection to meet analytical hold time requirements challenging. The split sampling has proven no discrepancies of laboratory data.

While the split sampling is not a requirement of WDNR, there is additional time and laboratory costs realized due to this requirement. REI on behalf of Phillips Plating desires to discontinue split sampling for the analyzed parameters and wanted WDNR to know that REI will work with Phillips Plating to plan with current contact at Molex to update the access agreement and discontinue split sampling requirements. This agreement will be updated with current certificates of insurance and other requirements such as reporting contact for Molex.

**GROUNDWATER MONITORING WELL NETWORK**

Piezometer PZ1 was installed in 2013. Additional Piezometers PZ2 and PZ3 were installed in 2018 on the Phillips Medisize property to the east. Since then, seven (7) sample events have been conducted. Groundwater flow direction continues to be towards the east/northeast. However, piezometric groundwater flow direction in the three piezometers appears to be towards the west. Thus, REI proposes to install an additional Piezometer (PZ4) to the west of the building addition. This will assist in determining that contamination is defined to the west in the piezometric surface. Once installed, this piezometer will be developed and sampled as part of future sample events. This piezometer will be surveyed and added into site datum.

**GROUNDWATER ANALYTICAL RESULTS**

The monitoring well network will continue to be sampled for the contaminant parameters of dissolved Nickel and Chromium along with field measurements and additional parameters as determined for evaluation of attenuation. The addition of new piezometer (PZ4) will hopefully allow for a route to case closure as much of the other sampling points are demonstrating stable or decreasing contaminant trends as identified in the latest site update. Sampling will continue to be proposed on a semi-annual basis of Spring and Fall for all source wells and historically impacted side, and down gradient wells. Upgradient wells and historically non-impacted wells will be sampled on an annual basis with field parameters collected semi-annually.

**EMERGING CONTAMININENTS**

WDNR has previously requested sampling on the Phillips Plating site for Emerging Contaminants, specifically, Perfluoroalkyl and Polyfluoroalkyl substances (PFAS). In March 2021, a representative of WDNR wastewater program did conduct a site visit and collected an effluent sample from Phillips Plating. This sample was submitted to the Wisconsin State lab of Hygiene as Phillips Plating was identified as Industry 12. These results are attached which reveal Phillips Plating as below proposed standards.

On April 12, 2022, A Waukesha County judge ruled that the WDNR cannot force companies to investigate and cleanup "emerging contaminants" such as PFAS as the agency is acting outside its legal authority until they go through the rulemaking process. Based on this recent ruling, Phillips Plating will not plan to sample for PFAS.

**CONCLUSIONS AND RECOMMENDATIONS**

On behalf of Phillips Plating, ongoing groundwater monitoring has been conducted to demonstrate stable or decreasing contaminant trends for Chromium and Nickel. Such trends have been identified in many of the Phillips Plating monitoring wells and it is the hope that this continued sampling will decrease annual costs while still allowing to demonstrate stable and/or decreasing contaminant trends. An additional piezometer to the west of the facility will further aid in defining piezometric groundwater flow direction and extent of any potential contamination to the west.

Please contact our office at (715) 675-9784 or electronically at klassa@reiengineering.com upon you review and questions.

Sincerely,
REI Engineering, Inc.

Kenneth J. Lassa, P.S.
Senior Consultant

Attachments

Table 1 – Summary of PFAS sample results with lab report
Figure 4d – Piezometric Contour Map with Proposed Piezometer Location

Cc: Mr. Darin Baratka, Phillips Plating Corp. (electronic copy)

**Table 1**
**Water Analytical Results**
**Phillips Plating**

| | | | | | |
|---|---|---|---|---|---|
| | | | ***Date-->*** | ***4/15/22*** | |
| | | | ***Sample-->*** | ***Industry 12*** | |
| **PFAS's (ng/L)** | **CAS Number** | Enforcement Standard (ES) | Preventive Action Limit (PAL) | | WSLH Code |
| Perfluoro-n-butanoic acid (PFBA) | 375-22-4 | 10,000[2] | 2,000[2] | <2.53 | 99991 |
| Perfluoro-n-pentanoic acid (PFPeA) | 2706-90-3 | - - | - - | 0.529 | 99992 |
| Perfluoro-n-hexanoic acid (PFHxA) | 307-24-4 | 150,000[2] | 30,000[2] | 11.5 | 99993 |
| Perfluoro-n-hexadecanoic acid (PFHxDA) | 67905-19-5 | - - | - - | | |
| Perfluoro-n-heptanoic acid (PFHpA) | 375-85-9 | - - | - - | 2.08 | 99994 |
| Perfluoro-n-octadecanoic acid (PFODA) | 16517-11-6 | 400,000[2] | 80,000[2] | | |
| Perfluoro-n-octanoic acid (PFOA) | 335-67-1 | 20[1, 3] | 2[1, 3] | <176 | 99597 |
| Perfluoro-n-nonanoic acid (PFNA) | 375-95-1 | 30[2] | 3[2] | <0.141 | 99995 |
| Perfluoro-n-decanoic acid (PFDA) | 335-76-2 | 300[2] | 60[2] | <0.137 | 99996 |
| Perfluoro-n-undecanoic acid (PFUdA) | 2058-94-8 | 3,000[2] | 600[2] | <0.0171 | 99997 |
| Perfluoro-n-dodecanoic acid (PFDoA) | 307-55-1 | 500[2] | 100[2] | <0.232 | 99998 |
| Perfluoro-n-tridecanoic acid (PFTrDA) | 72629-94-8 | - - | - - | <0.222 | 99923 |
| Perfluoro-n-tetradecanoic acid (PFTeDA) | 376-06-7 | 10,000[2] | 2,000[2] | <0.449 | 99924 |
| Perfluoro-1-butanesulfonic acid (PFBS) | 375-73-5 | 450,000[2] | 90,000[2] | 1.23 | 99987 |
| Perfluoro-1-pentanesulfonic acid (PFPeS) | 2706-91-4 | - - | - - | <0.0765 | 97425 |
| Perfluoro-1-hexanesulfonic acid (PFHxS) | 355-46-4 | 40[2] | 4[2] | <0.0844 | 99988 |
| Perfluoro-1-heptanesulfonic acid (PFHpS) | 375-92-8 | - - | - - | 0.283 | 99989 |
| Perfluoro-1-octanesulfonic acid (PFOS) | 1763-23-1 | 20[1, 3] | 2[1, 3] | <0.791 | 97422 |
| Perfluoro-1-nonanesulfonic acid (PFNS) | 68259-12-1 | - - | - - | <0.173 | 97424 |
| Perfluoro-1-decanesulfonic acid (PFDS) | 335-77-3 | - - | - - | <0.179 | 99990 |
| Perfluoro-1-dodecanesulfonic acid (PFDOS) | 79780-39-5 | - - | - - | <0.812 | 97423 |
| 1H, 1H, 2H, 2H-perfluorohexane sulfonic acid (4:2 FTS) | 757124-72-4 | - - | - - | 7.21 | 97415 |
| 1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS) | 27619-97-2 | - - | - - | 977 | 97414 |
| 1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS) | 39108-34-4 | - - | - - | <0.120 | 97413 |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 120226-60-0 | - - | - - | | 97412 |
| Perfluorooctanesulfonamide (PFOSA) | 754-91-6 | 20[2, 3] | 2[2, 3] | 0.885 | 99598 |
| N-methylperfluoro-1-octanesulfonamide (MeFOSA) | 31506-32-8 | - - | - - | <0.421 | 97421 |
| N-ethylperfluoro-1-octanesulfonamide (EtFOSA) | 4151-50-2 | 20[2, 3] | 2[2, 3] | <0.286 | 97420 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA) | 2355-31-9 | - - | - - | <0.177 | 97437 |
| N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA) | 2991-50-6 | 20[2, 3] | 2[2, 3] | <0.269 | 97436 |
| 2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE) | 24448-09-7 | - - | - - | <0.392 | 97417 |
| 2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE) | 1691-99-2 | 20[2, 3] | 2[2, 3] | <0.444 | 97416 |
| Hexafluoropropylene oxide dimer acid (HPFO-DA; Gen X[4]) | 13252-13-6 | 3,000[2] | 600[2] | <0.133 | 97435 |
| 4, 8-dioxa-3H-perfluorononanoic acid (ADONA) | 919005-14-4 | 300[2] | 60[2] | <0.0922 | 97434 |
| 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS) | 756426-58-1 | - - | - - | <0.130 | 97432 |
| 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | 763051-92-9 | - - | - - | <0.128 | 97433 |
| Combined Standard[3] (EtFOSA, EtFOSAA, EtFOSE, PFOSA, PFOA, and PFOS) | - - | 20[1, 2, 3] | 2[1, 2, 3] | ***0.9*** | |

Notes:
ng/L - Parts Per Trillion (ppt)
< = Concentration Below Laboratory Detection Limit
- = Not Sampled
- - = No Standard/Not Applicable
J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ)
1 = WI DHS proposed groundwater standards for the protection of human health (Cycle 10 - June 21, 2019)
2 = WI DHS proposed groundwater standards for the protection of human health (Cycle 11 - November 6, 2020)
3 = WI DHS recommends a combinded standard for EtFOSA, EtFOSAA, EtFOSE, PFOSA, PFOA, and PFOS (Cycle 11 - November 6, 2020)
4 = Gen X is a trade name for Hexafluoropropylene oxide dimer acid (HPFO-DA)
5 = Analyzed past hold time
6 = Collection Date Unknown. Analyzed past hold time

| | |
|---|---|
| **Bold** | = Exceeds NR140.10 Enforcement Standard |
| *Italic* | = Exceeds NR140.10 Preventive Action Limit |

# Wisconsin Department of Natural Resources
# Laboratory Report

9/14/2021 Lab FID: 113133790 Sample ID: 556763001

**Laboratory:** Wisconsin State Laboratory of Hygiene
PO Box 7996
2601 Agriculture Dr
Madison WI 53718
*Phone:* 608-224-6203 *Fax:* 608-224-6213

**DNR ID:** 113133790

**Sample:**

*Field #:* IND12EFF
*Sample #:* 556763001
*Collection Start:* 4/15/2021 7:56:00 AM
*Collection End:* 4/15/2021 7:59:00 AM
*Collected By:* JORDAN ENGLEBERT
*ID #:*
*Waterbody/Outfall Id:*
*County:*
*ID Point #:* IN PLANT SP 101
*Sample Location:* INDUSTRY 12
**Account #:** WQ033
*Sample Description:* INDUSTRY 12 EFFLUENT GRAB SAMPLE
*Sample Source:* Effluent
*Sample Depth:*
*Date Reported:* 6/15/2021
*Sample Status:* COMPLETE
*Project No:*
*Sample Reason:*

**Comment:** Analyzed past the 30 days holding time: Method WSLH PFAS in Water analyzed on 06/02/21 1411 The data for 6:2 FTSA is the only data that comes from outside the 30 day hold time. All other compounds were analyzed within the hold time. Initial analysis of the sample indicated 6:2 FTSA concentration was determined to be higher than the calibration curve and higher than the software could calculate an approximate value for. Analysis of a dilution of the sample extract was necessary to accurately determine the concentration for 6:2 FTSA.

**Analyses and Results:**

Sample ID: 556763001

| *Analysis Method* | *Analysis Date* | *Lab Comment* |
|---|---|---|
| **WSLH PFAS in Water** | **5/4/2021** | |

| *Code* | *Description* | *Result* | *Units* | *LOD* | *Report Limit* | *LOQ* |
|---|---|---|---|---|---|---|
| **99994** | **PERFLUORO-N-HEPTANOIC ACID** | **2.08** | ng/L | 0.0940 | | 0.904 |
| **99993** | **PERFLUORO-N-HEXANOIC ACID** | **11.5** | ng/L | 0.122 | | 0.904 |
| **97415** | **4:2 Fluorotelomer sulfonic acid** | **7.21** | ng/L | 0.200 | | 0.904 |
| **99987** | **Perfluoro-n-butanesulfonic acid** | **1.23** | ng/L | 0.141 | | 0.904 |
| **99924** | **PERFLOURO-N-TETRADECANOIC ACID** | **<0.449** | ng/L | 0.449 | | 0.904 |
| **97416** | **N-Ethyl perfluorooctanesulfonamidoethanol** | **<0.444** | ng/L | 0.444 | | 0.904 |
| **97420** | **N-ethyl perfluorooctanesulfonamide** | **<0.286** | ng/L | 0.286 | | 0.904 |

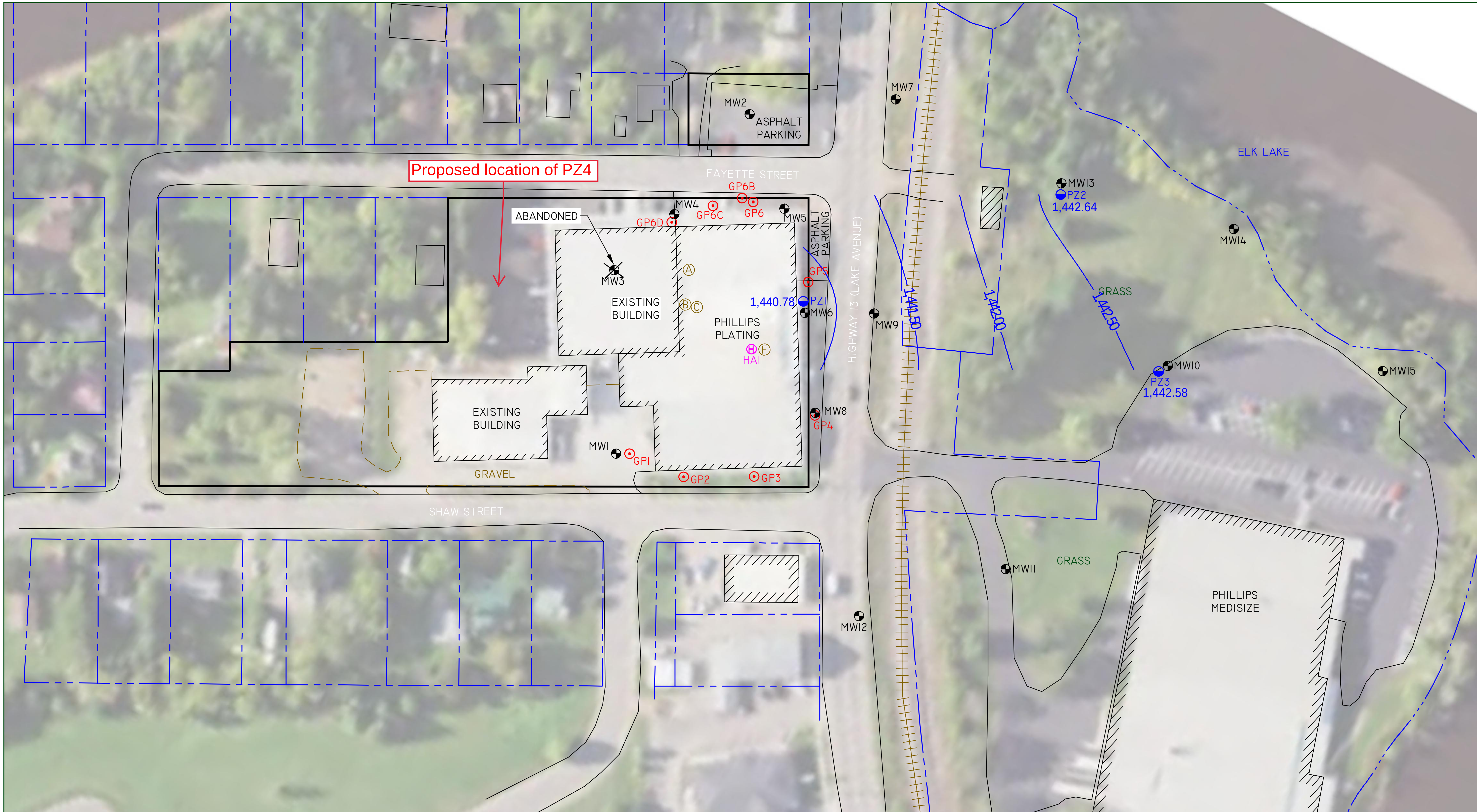
| | | | | | | |
|---|---|---|---|---|---|---|
| 97417 | **N-Methyl perfluorooctanesulfonamidoethanol** | **<0.392** | ng/L | 0.392 | | 0.904 |
| 97421 | **N-methyl perfluorooctanesulfonamide** | **<0.421** | ng/L | 0.421 | | 0.904 |
| 99923 | **PERFLOURO-N-TRIDECANOIC ACID** | **<0.222** | ng/L | 0.222 | | 0.904 |
| 97423 | **Perfluorododecanesulfonic acid** | **<0.812** | ng/L | 0.812 | | 3.62 |
| 99998 | **PERFLUORO-N-DODECANOIC ACID** | **<0.232** | ng/L | 0.232 | | 0.904 |
| 97433 | **11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid** | **<0.128** | ng/L | 0.128 | | 0.904 |
| 99990 | **Perfluoro-n-decanesulfonic acid** | **<0.179** | ng/L | 0.179 | | 0.904 |
| 99997 | **PERFLUORO-N-UNDECANOIC ACID** | **<0.171** | ng/L | 0.171 | | 0.904 |
| 97422 | **Perfluorooctanesulfonamide** | **<0.791** | ng/L | 0.791 | | 3.62 |
| 97436 | **N-ethyl perfluorooctanesulfonamidoacetic acid** | **<0.269** | ng/L | 0.269 | | 0.904 |
| 97437 | **N-methyl perfluorooctanesulfonamidoacetic acid** | **<0.177** | ng/L | 0.177 | | 0.904 |
| 97424 | **Perfluorononanesulfonic acid** | **<0.173** | ng/L | 0.173 | | 0.904 |
| 99996 | **PERFLUORO-N-DECANOIC ACID** | **<0.137** | ng/L | 0.137 | | 0.904 |
| 97413 | **8:2 Fluorotelomer sulfonic acid** | **<0.120** | ng/L | 0.120 | | 0.904 |
| 97432 | **9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid** | **<0.130** | ng/L | 0.130 | | 0.904 |
| 99995 | **PERFLUORO-N-NONANOIC ACID** | **<0.141** | ng/L | 0.141 | | 0.904 |
| 99597 | **Perfluoro-n-octanoic acid** | **<0.176** | ng/L | 0.176 | | 0.904 |
| 97434 | **4,8-Dioxa-3H-perfluorononanoic acid** | **<0.0922** | ng/L | 0.0922 | | 0.904 |
| 99988 | **Perfluoro-n-hexanesulfonic acid** | **<0.0844** | ng/L | 0.0844 | | 0.904 |
| 97435 | **Hexafluoropropylene oxide dimer acid** | **<0.133** | ng/L | 0.133 | | 0.904 |
| 97425 | **Perfluoropentanesulfonic acid** | **<0.0765** | ng/L | 0.0765 | | 0.904 |
| 99991 | **PERFLUORO-N-BUTANOIC ACID** | **<2.53** | ng/L | 2.53 | | 7.23 |
| 99598 | **Perfluoro-n-octanesulfonic acid** | **0.885** | ng/L | 0.118 | | 0.904 |
| 99989 | **Perfluoro-n-heptanesulfonic acid** | **0.283** | ng/L | 0.101 | | 0.904 |
| 99992 | **PERFLUORO-N-PENTANOIC ACID** | **0.529** | ng/L | 0.218 | | 0.904 |

Sample ID: 556763001

| *Analysis Method* | *Analysis Date* | *Lab Comment* |
|---|---|---|
| **WSLH PFAS in Water** | **6/2/2021** | **Analyzed past the 30 days holding time.** |

| *Code* | *Description* | *Result* | *Units* | *LOD* | *Report Limit* | *LOQ* |
|---|---|---|---|---|---|---|
| **97414** | **6:2 Fluorotelomer sulfonic acid** | **977** | ng/L | 1.51 | | 9.04 |

Comment: The Laboratory Control Spike (LCS) does not meet the upper QC limit.




## LEGEND

SCALE

0 50 100

- GEOPROBE SOIL BORING
- MONITORING WELL
- PIEZOMETER
- HAND AUGER SOIL BORING
- PROPERTY BOUNDARY
- PHILLIPS PLATING PROPERTY
- (A) 550 GALLON SPILL CATCH TANK
- (B) 5500 GALLON WASTE TREATMENT PROCESS TANK (STORAGE TANK)
- (C) 1500 GALLON WASTE TREATMENT PROCESS TANK (WASTE TREATMENT COLLECTION TANK)
- (F) 600 GALLON WASTE TREATMENT PROCESS TANK (PLATING LINE COLLECTION TANK)

NOTES:
1. ELEVATION DATA IS PRESENTED IN FEET MEAN SEA LEVEL (MSL).
2. PIEZOMETRIC CONTOUR MAP IS BASED ON DEPTH TO GROUNDWATER MEASUREMENTS COLLECTED FROM PIEZOMETER WELLS DURING THE AUGUST 25, 2021 GROUNDWATER MONITORING EVENT.

REI Engineering, INC.

REI CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

PHILLIPS PLATING CORP.
984 N LAKE AVENUE
PHILLIPS, WISCONSIN

FIGURE 4d : PIEZOMETRIC CONTOUR MAP (08/25/2021)

| PROJECT No. | DRAWN BY: | DATE: |
|---|---|---|
| 6134B | MCM | 10/20/2021 |

DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-PZ-082521.DWG LAYOUT: GW PLOTTED: OCT 20, 2021 - 4:17PM PLOTTED BY: MATTM