

SITE INVESTIGATION WORK PLAN

MERCURY MARINE PLANT NO 1 FMR BRRS # 02-46-588930

N49 W6337 Western Road, Cedarburg, Wisconsin, 53012 | January 2022



Prepared For:

Mr. Robert Bach
P2 Development Company
524 Technology Way
Saukville, Wisconsin 53080

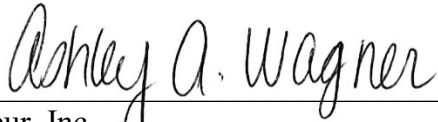
Prepared By:

Ashley Wagner, P.G.
Kapur Inc.
7711 N. Port Washington Road
Milwaukee, WI 53217

**SUBMITTAL CERTIFICATION
SITE INVESTIGATION WORK PLAN**

**Mercury Marine Plant No. 1 FMR
BRRTS# 02-46-588930
N49 W6337 Western Road
Cedarburg, Wisconsin 53012**

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



Kapur Inc.
Ashley A. Wagner, P.G.
Environmental Manager

January 25, 2022
Date



TABLE OF CONTENTS

Prepared For:	1
1.0 INTRODUCTION.....	1
1.1 Project Background.....	2
1.2 Potential Contaminant / Discharge Sources.....	6
2.0 GEOLOGY AND RECEPTORS.....	7
2.1 Regional and Local Geology and Hydrology.....	7
2.1.1 Site Topography.....	7
2.1.2 Site Geology.....	7
2.1.3 Site Hydrogeology	7
2.2 Receptors.....	7
3.0 INVESTIGATIVE ACTIVITIES STRATEGY.....	8
3.1 Scope of Work	8
4.0 REFERENCES.....	13

SITE MAPS AND FIGURES

Figure 1 Completed Soil Boring Locations and Proposed Well Locations

TABLES

Table A.1	Soil Analytical Results
Table A.1.i	TCLP Soil Analytical Results
Table A.2	Groundwater Analytical Results

1.0 INTRODUCTION

Kapur Inc. (Kapur) has prepared this Site Investigation Work Plan (SIWP) for Former Mercury Marine Plant No. 1, BRRTS # 02-46-588930, herein referred to as the subject property. The subject property is located at N49 W6337 Western Road in the City of Cedarburg, Ozaukee County, Wisconsin. This SIWP has been prepared in accordance with ch.NR 716 to provide additional information further detailing site environmental activities proposed in order to attain Wisconsin Department of Natural Resources (WDNR) concurrence and approval. Site information is detailed below.

Site Name: Mercury Marine Plant No. 1 FMR, BRRTS # 02-46-588930

Site Address: N49 W6337 Western Road, Cedarburg, Wisconsin 53012

Property Owner: Jackson Western, LLC
P.O. Box 727, Cedarburg, Wisconsin 53012

RP Contact: Jackson Western LLC
William Bratt
P.O. Box 727
Cedarburg, Wisconsin 53012
Phone: (414) 659-9566
Email: wbratt@gmail.com

Mercury Marine
Craig Dousharm
W6250 Pioneer Road
Fond du Lac, Wisconsin 54935
Phone: (920) 929-5955
Email: Craig.Dousharm@mercmarine.com

Developer Contact: Robert Bach
P2 Development Company
524 Technology Way
Saukville, Wisconsin 53080
Phone: (414) 573-1147
Email: Robert3Bach@gmail.com

Consultant: Kapur Inc.
Ashley Wagner, P.G./Environmental Manager
7711 North Port Washington Road
Milwaukee, Wisconsin 53217
Phone: (414) 410-5206
Email: awagner@kapurinc.com

Current Land Use: Manufacturing

Site Location: The subject property consists of one (1) parcel with Tax Key ID Number: 13-050-19-01-001 totaling 12.93 acres and is located in the Northeast 1/4 of the Northeast 1/4 of Section 34, Township 10N, Range 21E. The site is located on the south side of Western Road approximately 370 feet west of the intersection of Western Road and Washington Avenue in the City of Cedarburg, Ozaukee County, Wisconsin. The recorded parcel legal description according to The Ozaukee County Interactive Map (Ref 1) is as follows:

130501901001: PART LOTS 1-6, 11, 13 & 15 BLOCK 19 COMM NW COR LOT 1 TH E 389 FT S 566 FT E 130 FT S'LY 201 FT E 26 FT S 132 FT E 126 FT S 288 FT W 718 FT N 1059 FT POB 12.93 ACS ASSESSOR'S PLAT

Site History: The property was developed as early as the 1927 FIM. The current onsite buildings were observed in 1937. According to the CH2M Hill *Site Investigation Report* (Ref 2), the property was developed by Mercury Marine and operations at the plant began in 1939. As part of the manufacturing process, trichloroethene (TCE) was used in above ground vapor degreasing tank, located in the northwest corner of the building. The tank was replaced in 1977 with a similar tank. These tanks were reported to have been drained and cleaned approximately yearly. In the late 1970's, the tank was moved to a location south of the previous tank location. Mercury Marine sold the plant to Scot Pump (A Wilo Company) in the early 1980s. The subject property is currently occupied by Wilo Machining Co. Kapur was retained by Robert Bach of P2 Development Company (P2) to evaluate the property for future purchase and redevelopment. Kapur conducted a Phase I Environmental Site Assessment (ESA) on the property in October 2021, and subsequently a Phase II ESA in November 2021.

1.1 Project Background

1993 Remedial Investigation Report

The 1993 CH2M Hill Remedial Investigation Report was prepared in response to the WDNR request that Mercury Marine investigate potential release of chlorinated solvents on the property from its former plant, as volatile organic compounds (VOCs) had been detected in municipal wells. Chlorinated VOCs (CVOCS) were detected in soil and groundwater during this investigation, with impacts extending into the bedrock at the site. The highest concentrations were detected on the western side of the property, near the area of the former vapor degreasers (present day on the western side of the demolished building). No ERP site was ever opened for this property, although the contaminants had been identified and reported to the WDNR and the City.

2021 Phase I ESA

A Phase I ESA was conducted on N49 W6337 Western Road, by Kapur in October 2021 (Ref 3). The Phase I ESA was conducted for Robert Bach of P2. The Phase I ESA identified the following vapor encroachment concern (VEC) and recognized environmental conditions (RECs):

- **Subject Property**

- VEC: A review of the analytical data from the CH2M Hill report and historic and current land use information, along with available local and regional geologic/hydrogeological data, indicates that a potential Vapor Encroachment Condition (VEC) exists on-site.
- REC: The historical use of the site as an American Motors Co and the Cedarburg MFG Co. for the manufacture of electrical motors is considered a REC and additional investigation (Phase II ESA) is warranted.
- REC: 6337 Western Road was identified in the UST database for one (1) 1,000-gallon diesel UST that was closed by removal on May 15, 1990. There are no tank closure assessments available on this tank and no records of tank removal; therefore, additional investigation (Phase II ESA) is warranted.
- REC: Wilo Machine Co at N43W6300 Jackson Street was identified in the RCRA VSQG. Listed wastes include D001 Ignitable Waste, D002 Corrosive Waste, D005 Barium, D006 Cadmium, D007 Chromium, D008 Lead, D035 Methyl Ethyl Ketone, D039 Tetrachloroethylene, D040 Trichlorethylene, F003 Nonhalogenated Solvents, and F005 Nonhalogenated Solvents. The site was historically listed as SQG in 1986 and NONGEN in 2005. The listed wastes are considered a REC, and additional investigation (Phase II ESA) is warranted.
- REC: Mercury Marine PLT at N49W6337 Western Road was identified in the RCRA NONGEN. Listed wastes include F001 Halogenated Solvents. The listed wastes are considered a REC, and additional investigation (Phase II ESA) is warranted.
- REC: According to the April 8, 1993, Remedial Investigation Report, by CH2M Hill, the WDNR requested an investigation of the potential releases of chlorinated solvents from the former Mercury Marine Plant No. 1. The report concluded that there was VOC soil and groundwater contamination at the site above the DNR standards. Residual soil and groundwater contamination was located on the western and southeastern sides of the building and at the southern property boundary at 44' bgs. Groundwater flow is to the south-southwest. Depth to groundwater ranges from 11' bgs on the north end of the property to greater than 40' near the southern property boundary. No other investigation of the soil and groundwater contamination at the site was conducted. No activity pertaining to the known

contamination at the site has been opened by the WDNR. As there is known soil and groundwater contamination at the site, additional investigation (Phase II ESA) is warranted.

2021 Phase II ESA

On October 21 and October 22, 2021, Kapur supervised the installation of fourteen (14) soil borings, SB-1 through SB-14 (Ref. 4). The borings were advanced using direct push methods to a maximum depth of forty (40) feet below ground surface (ft bgs). Soil samples were collected and submitted for laboratory analysis including VOCs, polynuclear aromatic hydrocarbons (PAHs) Resource Conservation Recovery Act (RCRA) metals, and 1,4-dioxane. Select samples were analyzed for diesel range organics (DRO). Field sampling locations were chosen to confirm and delineate contamination reported in the 1993 CH2M Hill Report. Field observations and laboratory analytical results of the soil investigation indicated:

- The soils located at the site generally include asphalt or concrete to a depth of approximately one (1) foot bgs over sand and gravel fill, over silty clay fill, over native silty clay, silt, sand, silty sand, and clay to a maximum boring depth of forty (40) ft bgs.
- Bedrock was encountered in all soil borings, at depths of approximately 12 to 40 ft bgs, except in SB-7 and SB-13. Shallow bedrock was identified in the north, and deeper bedrock in the south.
 - Soil boring SB-7 was not extended to bedrock because the soil boring was used for a soil sample only as MSB6/MW-2 from the CH2M Hill Investigation was available for collection of a groundwater sample.
 - Soil boring SB-13 was not extended to bedrock as the GeoProbe could not drill through the silty clay.
- An unidentified odor was identified in SB-1 (2-4).
- Strong petroleum odors and staining were identified in SB-9 (7-10 ft bgs), and SB-10 (3.0-12.5 ft bgs). No obvious odor or staining was noted during the remaining soil boring activities.
- PID readings remained below background levels (<10 parts per million by volume in air (ppmv)) during soil boring activities in all soil borings except SB-7, SB-9, and SB-10.
 - The greatest PID readings were observed in soil boring SB-10, with the greatest reading observed in the 4-6 ft bgs interval (181.5 ppm). PID readings decreased in the 8-10 ft bgs sample interval and deeper.
- Bedrock was not investigated as part of this Phase II ESA.

Analytical Results

Soil

In the west, soil borings SB-10 and SB-12 contain PAHs exceeding ch. NR 720 Non-Industrial Direct Contact Residual Contaminant Levels (RCLs) at depths of 0 to 8 ft bgs. Soil boring, SB-12 also contained lead exceeding the applicable ch. NR Soil to Groundwater Pathway RCL at a depth of 0-5 ft bgs. Most of these impacts are located in areas where up to five (5) feet of fill has been added.

In the north, soil boring SB-2 contained arsenic exceeding the applicable ch. NR 720 Direct Contact Industrial RCL at a depth of 4 to 6 ft bgs and lead impacts exceeding the applicable ch. NR 720 Soil to Groundwater Pathway RCL at a depth of 0 to 2 ft bgs.

On the west-central portion of the Site, soil borings SB-3 through SB-5 and SB-9 contain trichloroethene (TCE) exceeding ch. NR 720 standards. These borings were in an area of native silt and silty clay and are located in the vicinity of the former vapor degreasers, where elevated impacts were identified during the 1993 investigation. The TCE exceedance in SB-4 at a depth of 10-12 ft bgs was further analyzed via the Toxicity Characteristic Leachate Procedure (TCLP) to determine whether a hazardous designation would be necessary and proper landfill disposal requirements. The TCLP resulted in a concentration of 0.15 mg/L for SB-4, which below the toxicity limit of 0.50 mg/L. Concentrations of TCE decreased with depth at soil borings SB-3 and SB-9 and increased with depth at soil borings SB-4 and SB-5.

DRO was detected at a concentration of 1,110 mg/kg at SB-10 (4-8') and at a concentration of 22.4 mg/kg at SB-9 (7-9'), however, there is no established standard for DRO. Soil boring SB-9 also contained 1,2,4-trimethylbenzene (1,2,4-TMB) exceeding the applicable ch. NR 720 Soil to Groundwater Pathway RCL at a depth of 7-9 ft bgs. No other petroleum VOCs (PVOCs) were detected above ch. NR 720 standards. These intervals had a petroleum odor, and the exceedance is likely a result of a petroleum release.

Groundwater

Depth to groundwater observed in the monitoring wells was approximately 6.31 ft bgs in TW-11 to 24.10 ft bgs in TW-14. Based upon local geology, the general local groundwater flow is to the south/southeast. Regional groundwater flow is expected to be east toward Cedar Creek.

Groundwater impacted with PAHs (benzo(a)fluoranthene and chrysene) exceeding the applicable ch. NR 140 Preventive Action Limits (PALs) is located on the northwest (TW-2), west-central

(TW-4), and south (TW-14) portions of the property. Turbidity was noted on the field forms for TW-4 and the PAH exceedances is a likely result of sediment within the sample.

Groundwater impacted with RCRA metals exceeding the applicable ch. NR 140 PALs are located on the west-central portion of the property in temporary monitoring wells TW-4 (chromium), TW-11 (lead) and TW-12 (barium).

Groundwater impacted with CVOCs exceeding applicable ch. NR 140 standards was identified site-wide. 1,4-Dioxane was detected between the laboratory's limit of detection and limit of quantification, and therefore the PAL values were not exceeded. Of the locations where a water sample was obtained, TW-8 was the only location where there was no ch. NR 140 exceedances. Impacts exceeding ch. NR 140 standards were identified near the northern, western and eastern property boundaries, and likely extend beyond these property boundaries.

TCE and its daughter products, vinyl chloride (VC) and cis 1,2-dichloroethene (cis-DCE), were identified exceeding ch. NR 140 PALs and Enforcement Standards (ESs) across the central portion of the site within the glacial till in temporary monitoring wells TW-9, TW-10, TW-11 and within the bedrock in monitoring well MSB6/MW-2. 1,1,1-Trichloroethane (TCA) exceeding the applicable ch. NR 140 PAL was identified in TW-9. 1,1-Dichloroethene exceeding the applicable ch. NR 140 PAL was identified in TW-9 and TW-10.

Notification of Hazardous Discharge

Kapur submitted a Notification of Hazardous Discharge for the impacts identified on the subject property on December 7, 2021.

1.2 Potential Contaminant / Discharge Sources

Contaminant impacts appear to be site-wide and though no known definitive source of the contamination besides the former Mercury Marine vapor degreasers was identified, it is likely due to the historical land use.

2.0 GEOLOGY AND RECEPTORS

2.1 Regional and Local Geology and Hydrology

2.1.1 Site Topography

Based on the USGS Cedarburg, WI Quadrangle topographic maps (Ref. 5), the subject site is relatively flat with an elevation of approximately 789 feet above the Mean Sea Level (MSL). The surrounding topography slopes to the east.

2.1.2 Site Geology

Based on of investigative results, the general makeup of the material at the subject property asphalt or concrete, underlain by fill, underlain by glacial till until bedrock is encountered. The extent of the fill depth generally ranges from 1 to 5 ft bgs. The glacial till is composed of silty clay interspersed with discontinuous lenses of silty and coarse sand and gravel. During the Phase II ESA, bedrock was encountered in all soil borings, at depths of approximately 12 to 40 ft bgs. Shallow bedrock was identified in the north, and deeper bedrock in the south.

2.1.3 Site Hydrogeology

Hydraulic conductivity specific to the subject property was not obtained. During the Phase II ESA, depth to groundwater observed in the temporary monitoring wells was approximately 6.31 ft bgs in TW-11 to 24.10 ft bgs in TW-14. Elevations of the locations of the temporary monitoring wells was not recorded. During the 1993 CH2M Hill investigation, groundwater flow was reported to the south/southeast. Regional groundwater flow is to the east towards Cedar Creek.

2.2 Receptors

Contamination has been identified site-wide within both the subsurface fill materials and native soil and within the fractured bedrock. The surrounding area is supplied with municipal water and sewer. According to the WDNR online well records database, there are three (3) well construction reports available within 1,200 feet of the subject property. The vertical and horizontal extents of the contamination have not been delineated and the potential for contaminant migration exists.

3.0 INVESTIGATIVE ACTIVITIES STRATEGY

The results of the 1993 CH2M Hill Remedial Investigation and the 2021 Kapur Phase II ESA, indicated that the property is impacted with VOCs, RCRA metals, and PAHs, as well as localized DRO. The purpose of the Site Investigation is to determine the vertical and horizontal extents within the property boundaries.

3.1 Scope of Work

TASK 1 - Emerging Contaminants Scoping

A desktop evaluation for the potential contamination of per- and polyfluoroalkyl substances (PFAS) will be completed and provided to the WDNR prior to commencement of Site Investigation activities. If the evaluation concludes that PFAS compounds have not been historically or currently produced, used, handled or stored onsite, Kapur will recommend that no further evaluation or investigation of these compounds be completed. If the evaluation concludes that PFAS compounds have been historically or currently produced, used, handled or stored onsite, Kapur will recommend that further evaluation or investigation of these compounds be completed under the guidance of the WDNR during Site Investigation activities.

1,4-Dioxane was sampled for during the Phase II ESA. Analytical results indicated that 1,4-dioxane was detected between the laboratory's limit of detection and limit of quantification, and therefore the PAL values were not exceeded in any location. Based on the absence of 1,4-dioxane detections during the Phase II ESA, no additional analysis is warranted.

TASK 2 – Existing Monitoring Well/Piezometer Rehab

Efforts will be made to locate and check the integrity of the monitoring wells that were installed during previous investigations at the site. If wells are located, depth to bottom measurements will be collected and compared to well construction documents (if available). All previously installed monitoring wells/piezometers will be redeveloped. If there appears to be an obstruction in the well, efforts will be made to dislodge the obstruction. If efforts are unsuccessful, a drilling contractor will be retained to rehabilitate the well.

Any wells that are located and in sound condition will be included in the sampling plan outlined below. If the wells appear to be damaged beyond repair, Kapur will have the wells properly abandoned. Abandonment forms will be prepared for all wells abandoned.

TASK 3 – Onsite Investigation

Drilling operations will be directed by Kapur, and all field personnel will be OSHA trained in accordance with 29 CFR 1910.120. Prior to subsurface soil probing activities, drilling subcontractor will notify Diggers Hotline for utility clearance. Prior to fieldwork, the down-hole sampling equipment will be decontaminated with an Alconox and potable water solution followed by a potable water rinse. New nitrile gloves will be worn by sampling personnel and changed between samples. These procedures will be used to reduce the possibility of cross-contamination between samples and sample locations. Equipment decontamination, sample collection, field documentation, sample custody and laboratory analyses will be performed in general accordance with methods prescribed by the United States Environmental Protection Agency (USEPA).

Drilling activities will be performed by a local contractor with permanent groundwater monitoring wells to be installed per ch. NR 141 of the Wisconsin Administrative Code (WAC).

1. Install up to eight, 2-inch permanent groundwater monitoring wells and up to eight, 2-inch permanent piezometers on the subject property at the approximate locations shown on Figure 1. The monitoring wells/piezometers will be in clusters, in separate boreholes, and screened at different depths. The location of the soil borings was determined based off the previous investigative soil and groundwater sampling results. If Task 2 determines previously installed monitoring wells/piezometers are in sound condition, those wells/piezometers will take the place of any proposed new monitoring wells/piezometers in that location (identified as “Potential Piezometer” and “Potential Monitoring Well on Figure 1). The actual number of monitoring wells/piezometers to be installed will be determined following Task 2.
2. Monitoring wells will be installed within the glacial till. Depth of the wells will be determined by the depth where water is encountered. During the Phase II ESA, depth to groundwater observed in the monitoring wells was approximately 6.31 ft bgs in TW-11 to 24.10 ft bgs in TW-14. The depth of the proposed monitoring wells is estimated to be 12-40 ft bgs (shallower in the north, and deeper in the south). Monitoring wells will be installed with a 10-foot length of factory-cut slotted polyvinyl chloride (PVC) intersecting the water table, with solid PVC riser to the top of the well. The 2-inch monitoring wells will be installed in accordance with the requirements of ch. NR 141. WDNR Monitoring Well Construction forms (4400-113A) will be prepared for each monitoring well installed.
3. Piezometers will be installed within the competent bedrock. To avoid downward migration of contaminants, the piezometers will be screened only within bedrock using a 5-15 ft

length of factory-cut slotted PVC below the water table, and solid PVC riser will extend through the unconsolidated material to the top of the well. The well will be sealed at or below the bedrock interface.

4. Hollow stem augers will be utilized in the unconsolidated material. Once the top of bedrock is encountered, the boring will be advanced using air rotary drilling methods.
5. If soil data has not been previously collected in the vicinity of the proposed wells, soil samples will be collected and analyzed for PAH, RCRA metals and VOCs.
6. Monitoring wells will be completed with flush-mount protective covers if in areas of pavement. All monitoring wells installed in grass will be completed with lockable above-grade protective well covers.
7. The monitoring wells will be developed prior to sampling activities in accordance with ch. NR 141.21. Monitoring wells will be purged of 10 well volumes, until the well produces sediment free water, or until the well purges dry, whichever comes first. WDNR Monitoring Well Development forms (4400-113B) will be prepared for each monitoring well.
8. Following installation, all monitoring wells will be surveyed by a licensed surveyor.
9. Prior to sampling, groundwater elevation data will be collected from all wells. Wells will be sampled using low-flow sampling techniques, where able. If wells are not able to be sampled using low-flow techniques, wells will be purged of a minimum of 3 casing volumes, prior to sampling. All wells will be sampling using dedicated or decontaminated equipment.
10. Kapur will collect groundwater samples from each of the monitoring well for laboratory analysis of RCRA Metals, PAHs, VOCs and PFAS (only if evaluation deems necessary).
11. All samples will be prepared in laboratory supplied containers using new, disposable nitrile gloves. All samples will be placed in a cooler with ice and transported under chain-of-custody to Pace Analytical Laboratory (PACE) in Green Bay, Wisconsin for chemical analysis performed on a standard turn-around basis. The analytical methods for the analysis discussed above are as follows:
 - VOCs (soil and groundwater) (SW 846 Method 8260)

- RCRA Metals (SW 846 Method 6010)
 - PAHs (SW 846 Method 8270 SIM)
 - PFAS (EPA Method 537M only if evaluation deems necessary)
12. One trip blank for VOC analysis will be submitted with each round of groundwater monitoring.
13. Monitoring wells/piezometers will be sampled quarterly. Reduction of parameters analyzed will be completed after two full rounds of groundwater monitoring. If at the end of one year, a conclusion can be drawn on contamination trends and flow characteristics, a Site Investigation Report (SIR) will be prepared and submitted to the WDNR for review. If contamination trends and flow characteristics can not be determined, additional sampling will be completed.
14. Investigation derived waste (including soil cuttings and purge water) from the site will be containerized in a sealed and labeled 55-gallon drum and either taken for disposal by the drilling contractor or left onsite until disposal can be arranged. If left onsite, drums will be placed in an area to limit potential tampering.
15. Upon completion of the Task 3 work, Kapur will complete a report in general accordance with NR 716. The report will contain the following elements:
- Executive summary consisting of a brief narrative of the site investigation results, conclusions and recommendations for future action.
 - General site information.
 - Site background information obtained during the project scoping and performance of the field investigation.
 - Method of investigation utilized to characterize the site.
 - Detailed results of the data obtained during the project scoping, field investigation, and sample analysis.
 - Visual aids including maps, figures, tables, diagrams and photographs to support our results, interpretation and recommendations.
 - Monitoring well and borehole documentation contained on the appropriate WDNR forms.
 - Conclusions and Recommendations – A summary of results, a comparison of the results to the current cleanup standards and detailed recommendations for further response actions deemed necessary to protect public health, safety, welfare and the environment.

The WDNR shall receive one hard copy and an electronic copy of each report prepared by Kapur.

- It is likely that the site will need to be placed on the WDNR's Geographic Information System (GIS) Registry as a condition of case closure. Upon case closure, the monitoring wells will be abandoned, appropriate forms and abandonment data submitted to the Department.

Task 4 – Additional Investigation

If at the completion of the aforementioned Site Investigation activities, if vertical or horizontal impacts have not been clearly defined onsite, the installation of additional wells or piezometers will be warranted. An additional SIWP will be prepared for that work.

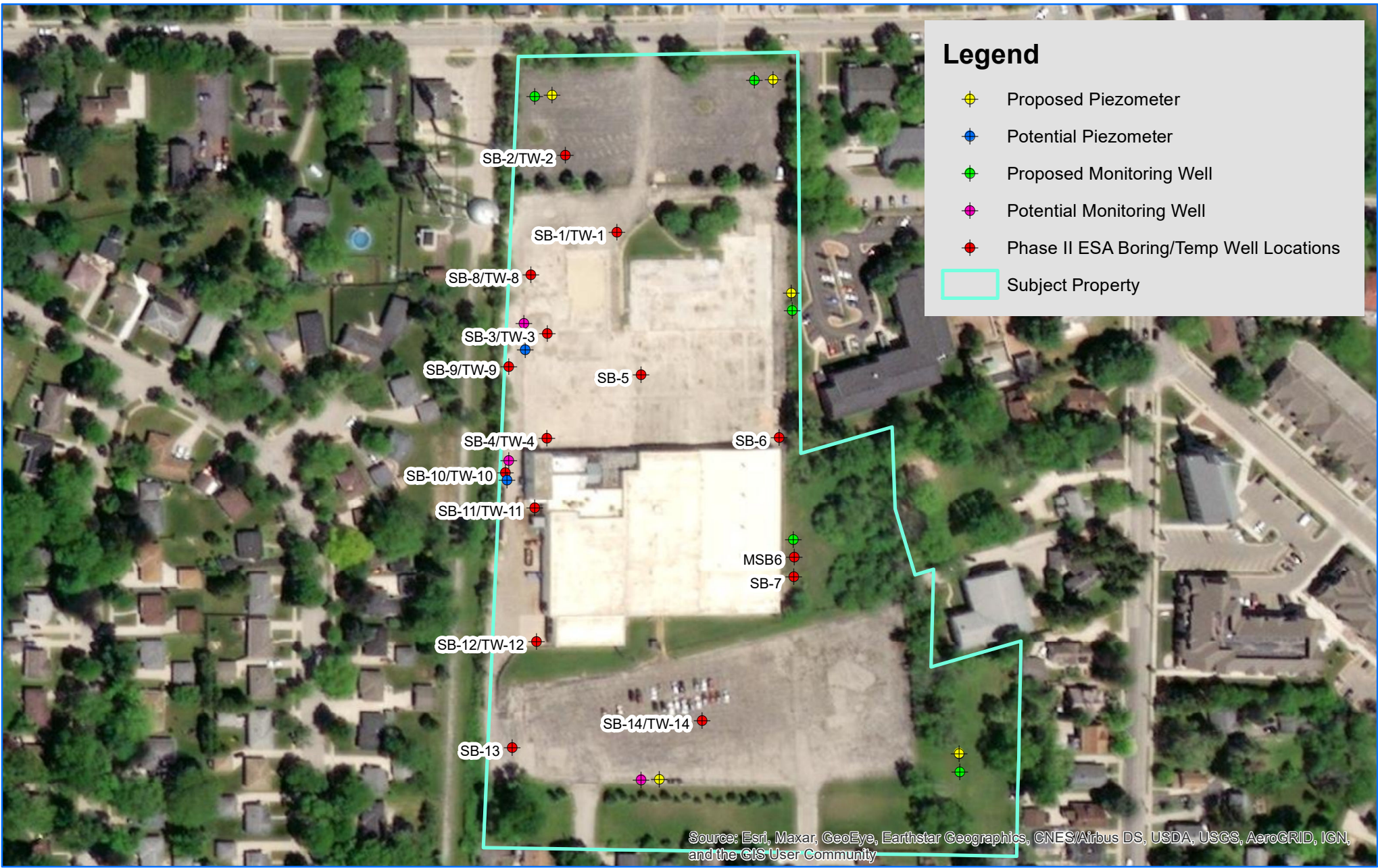
Following the onsite SI activities, if deemed appropriate, an off-site SIWP will be prepared to address the potential for off-site contaminants.

4.0 REFERENCES

1. Ozaukee County GIS Property Information Web Portal
<https://www.arcgis.com/apps/webappviewer/index.html?id=1846293f82c24db2a9d7adf5e6554b77>
2. CH2M Hill (April 8, 1993). Remedial Investigation Report: Former Mercury Marine Plant No. 1, Cedarburg, Wisconsin.
3. Kapur Inc. (October 2021). Phase I Environmental Site Assessment, Manufacturing Property, N49W6337 Western Road & N47W6300 Jackson Street, Cedarburg, Wisconsin 53012.
4. Kapur Inc. (November 2021). Phase II Environmental Site Assessment, Former Mercury Marine Plant No. 1, N49W6337 Western Road & N47W6300 Jackson Street, Cedarburg, Wisconsin 53012.
5. USGS Topographic Map (2016) Cedarburg, Wisconsin Quadrangle 7.5-Minute Series.

S:\EcoDev\220009-Former Merc Marine Redevelopment\SIWP\SIWP Former Mercury Marine Plant No. 1.docx

SITE MAPS AND FIGURES



Legend

- Proposed Piezometer
- Potential Piezometer
- Proposed Monitoring Well
- Potential Monitoring Well
- Phase II ESA Boring/Temp Well Locations
- Subject Property

	SHEET: COMPLETED SOIL BORING LOCATIONS AND PROPOSED WELL LOCATIONS	FIGURE: 1	NORTH ARROW: 		
	PROJECT: FORMER MERCURY MARINE				
	LOCATION: N49W6337 WESTERN ROAD, CEDARBURG, WISCONSIN 53012	we listen. we innovate. we turn your vision into reality.			
DRAWN BY: JMS	CHECKED BY: TEH	APPROVED BY: AAW	PROJECT NO. 22.0009.01	DATE: 01/25/2022	REVISION DATE:

TABLES



Table A.1.i: TCLP Soil Analytical Results
Former Mercury Marine
N49W6337 Western Road, Cedarburg, Wisconsin

Parameter	Units	TCLP Limit	SB-4 (10-12')
Trichloroethene	mg/L	0.5	0.15

NOTES:

Concentrations equal to or exceeding the TCLP Standards are in **bold**

TCLP= Toxicity Characteristic Leaching Procedure

mg/L=milligrams per Liter

Sample Date: October 21, 2021



Table A.2: Groundwater Analytical Results
Former Mercury Marine
N49W6337 Western Road, Cedarburg, Wisconsin

Parameter	Units	ch. NR 140 GW Quality Enforcement Standards	ch. NR 140 GW Quality Preventive Action Limits	TW-14	MSB6
Sample Date:				10/26/2021	
Polynuclear Aromatic Hydrocarbons (PAHs)					
1-Methylnaphthalene	ug/L			<0.017	<0.017
2-Methylnaphthalene	ug/L			<0.013	0.022 J
Acenaphthene	ug/L			<0.013	<0.013
Acenaphthylene	ug/L			<0.012	<0.012
Anthracene	ug/L	3,000	600	<0.018	<0.017
Benzo(a)anthracene	ug/L			0.014 J	<0.013
Benzo(a)pyrene	ug/L	0.2	0.02	<0.019	<0.018
Benzo(b)fluoranthene	ug/L	0.2	0.02	0.026	<0.018
Benzo(g,h,i)perylene	ug/L			<0.022	<0.022
Benzo(k)fluoranthene	ug/L			<0.021	<0.021
Chrysene	ug/L	0.2	0.02	0.026	<0.025
Dibenz(a,h)anthracene	ug/L			<0.017	<0.016
Fluoranthene	ug/L	400	80	0.056	<0.024
Fluorene	ug/L	400	80	<0.023	<0.022
Indeno(1,2,3-cd)pyrene	ug/L			<0.015	<0.014
Naphthalene	ug/L	100	10	0.042 J	0.035 J
Phenanthrene	ug/L			0.036 J	<0.024
Pyrene	ug/L	250	50	0.042 J	<0.021
RCRA Metals					
Arsenic, Dissolved	ug/L	10	1.0	<8.3	<8.3
Barium, Dissolved	ug/L	2000	400	40.5	53.5
Cadmium, Dissolved	ug/L	5.0	0.5	<1.3	<1.3
Chromium, Dissolved	ug/L	100	10	<2.5	<2.5
Lead, Dissolved	ug/L	15	1.5	<5.9	<5.9
Selenium, Dissolved	ug/L	50	10	<12.2	<12.2
Silver, Dissolved	ug/L	50	10	<3.2	<3.2
Mercury, Dissolved	ug/L	2.0	0.2	<0.066	<0.066
Volatile Organic Compounds (VOCs)					
1,4-Dioxane (SIM)	ug/L	3.0	0.3	0.31 J*	0.28 J*
1,1,1,2-Tetrachloroethane	ug/L	70	7.0	<0.36	<0.71
1,1,1-Trichloroethane	ug/L	200	40	<0.30	0.91 J
1,1,2,2-Tetrachloroethane	ug/L	0.2	0.02	<0.38	<0.76
1,1,2-Trichloroethane	ug/L	5.0	0.5	<0.34	<0.69
1,1-Dichloroethane	ug/L	850	85	<0.30	1.2 J
1,1-Dichloroethene	ug/L	7.0	0.7	<0.58	<1.2
1,1-Dichloropropene	ug/L			<0.41	<0.82
1,2,3-Trichlorobenzene	ug/L			<1.0	<2.0
1,2,3-Trichloropropane	ug/L	60	12	<0.56	<1.1
1,2,4-Trichlorobenzene	ug/L	70	14	<0.95	<1.9
1,2,4-Trimethylbenzene	ug/L	480	96	<0.45	<0.90
1,2-Dibromo-3-chloropropane	ug/L	0.2	0.02	<2.4	<4.7
1,2-Dibromoethane (EDB)	ug/L	0.05	0.005	<0.31	<0.62
1,2-Dichlorobenzene	ug/L	600	60	<0.33	<0.65
1,2-Dichloroethane	ug/L	5.0	0.5	<0.29	<0.58
1,2-Dichloropropane	ug/L	5.0	0.5	<0.45	<0.90
1,3,5-Trimethylbenzene	ug/L	480	96	<0.36	<0.71
1,3-Dichlorobenzene	ug/L	600	120	<0.35	<0.70
1,3-Dichloropropane	ug/L			<0.30	<0.61
1,4-Dichlorobenzene	ug/L	75	15	<0.89	<1.8
2,2-Dichloropropane	ug/L			<4.2	<8.4
2-Chlorotoluene	ug/L			<0.89	<1.8
4-Chlorotoluene	ug/L			<0.89	<1.8
Benzene	ug/L	5.0	0.5	<0.30	<0.59
Bromobenzene	ug/L			<0.36	<0.72
Bromochloromethane	ug/L			<0.36	<0.72
Bromodichloromethane	ug/L	0.6	0.06	<0.42	<0.83
Bromoform	ug/L	4.4	0.44	<3.8	<7.6
Bromomethane	ug/L	10	1.0	<1.2	<2.4
Carbon tetrachloride	ug/L	5.0	0.5	<0.37	<0.74
Chlorobenzene	ug/L	100	20	<0.86	<1.7
Chloroethane	ug/L	400	80	<1.4	<2.8
Chloroform	ug/L	6.0	0.6	<1.2	<2.4
Chloromethane	ug/L	30	3.0	<1.6	<3.3
Dibromochloromethane	ug/L	60	6.0	<2.6	<5.3
Dibromomethane	ug/L			<0.99	<2.0
Dichlorodifluoromethane	ug/L	1,000	200	<0.46	<0.91
Diisopropyl ether	ug/L			<1.1	<2.2
Ethylbenzene	ug/L	700	140	<0.33	<0.65
Hexachloro-1,3-butadiene	ug/L			<2.7	<5.5
Isopropylbenzene (Cumene)	ug/L			<1.0	<2.0
Methyl-tert-butyl ether	ug/L	60	12	<1.1	<2.3
Methylene Chloride	ug/L	5.0	0.5	<0.32	<0.64
Naphthalene	ug/L	100	10	<1.1	<2.3
Styrene	ug/L	100	10	<0.36	<0.71
Tetrachloroethene	ug/L	5.0	0.5	<0.41	<0.82
Toluene	ug/L	800	160	<0.29	<0.58
Trichloroethene	ug/L	5.0	0.5	<0.32	259
Trichlorofluoromethane	ug/L	3,490	698	<0.42	<0.84
Vinyl chloride	ug/L	0.2	0.02	<0.17	1.0
cis-1,2-Dichloroethene	ug/L	70	7.0	<0.47	14.5
cis-1,3-Dichloropropene	ug/L	0.4	0.04	<0.36	<0.72
m&p-Xylene	ug/L			<0.70	<1.4
n-Butylbenzene	ug/L			<0.86	<1.7
n-Propylbenzene	ug/L			<0.35	<0.69
o-Xylene	ug/L			<0.35	<0.70
p-Isopropyltoluene	ug/L			<1.0	<2.1
sec-Butylbenzene	ug/L			<0.42	<0.85
tert-Butylbenzene	ug/L			<0.59	<1.2
trans-1,2-Dichloroethene	ug/L	100	20	<0.53	3.8
trans-1,3-Dichloropropene	ug/L	0.4	0.04	<3.5	<6.9

NOTES:

Only analytes with a detection in at least one sample are shown

NA = Not Analyzed

ug/kg = micrograms per kilogram

Concentrations equal to or exceeding the WI NR 140 GW Quality Enforcement Standards are **bold faced**

Concentrations equal to or exceeding the WI NR 140 GW Quality Preventive Action Limits are **bold faced**

J = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

* ch. NR 140.14(3): if the preventive action limit or enforcement standard is between the limit of detection (LOD) and the limit of quantitation (LOQ), the regulatory agency shall consider the preventive action limit (PAL) or enforcement standard (ES) to be attained or exceeded if the concentration of a substance is reported at or above the LOQ. The PAL or ES is not exceeded as the value of the estimated concentration is below the LOQ.