State of Wisconsin
Department of Natural Resources
P.O. Box 7921, Madison, WI 53707-7921

GIS REGISTRY (Cover Sheet)
Form 4400-280 (R 6/13)

Source Property Information

CLOSURE DATE: 09/10/2014

BRRTS #: **02-20-426707**

FID #: 420040720

ACTIVITY NAME: Mercury Marine - Plt 98 TCE

DATCP #:

PROPERTY ADDRESS: W6250 Pioneer Rd

PECFA#:

MUNICIPALITY: Fond du Lac

PARCEL ID #: FDL-15-17-21-11-007-00

***WTM COORDINATES:**

X: **643651** Y: **366572**

** Coordinates are in WTM83, NAD83 (1991)*

WTM COORDINATES REPRESENT:

- (●) Approximate Center Of Contaminant Source
- ( ) Approximate Source Parcel Center

Please check as appropriate: (BRRTS Action Code)

CONTINUING OBLIGATIONS

Contaminated Media for Residual Contamination:

☒ Groundwater Contamination > ES *(236)*

- ☐ Contamination in ROW
- ☐ Off-Source Contamination

*(**note:** for list of off-source properties see "Impacted Off-Source Property Information, Form 4400-246")*

☒ Soil Contamination > *RCL or **SSRCL *(232)*

- ☐ Contamination in ROW
- ☐ Off-Source Contamination

*(**note:** for list of off-source properties see "Impacted Off-Source Property Information, Form 4400-246")*

Site Specific Obligations:

☐ Soil: maintain industrial zoning *(220)*

*(**note:** soil contamination concentrations between non-industrial and industrial levels)*

☐ Structural Impediment *(224)*

☐ Site Specific Condition *(228)*

☒ Cover or Barrier *(222)*

- ☐ Direct Contact
- ☒ Soil to GW Pathway

☒ Vapor Mitigation *(226)*

☐ Maintain Liability Exemption *(230)*

*(**note:** local government unit or economic development corporation was directed to take a response action)*

Monitoring Wells:

Are all monitoring wells properly abandoned per NR 141? *(234)*

(●) Yes ( ) No ( ) N/A

** Residual Contaminant Level*
***Site Specific Residual Contaminant Level*

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
2984 Shawano Avenue
Green Bay WI 54313-6727

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

WISCONSIN
DEPT. OF NATURAL RESOURCES

September 10, 2014

Mercury Marine
Attn: Mr. Craig Dousharm
W6250 Pioneer Road
Fond du Lac, WI 54935

KEEP THIS DOCUMENT WITH YOUR PROPERTY RECORDS

SUBJECT: Final Case Closure with Continuing Obligations
Mercury Marine – Plt 98 TCE, W6250 Pioneer Road, Fond du Lac, Wisconsin
DNR BRRTS Activity # 02-20-426707

Dear Mr. Dousharm:

The Department of Natural Resources (DNR) considers the Mercury Marine – Plt 98 TCE contamination case closed, with continuing obligations. No further investigation or remediation is required at this time. However, you, future property owners, and occupants of the property must comply with the continuing obligations as explained in the conditions of closure in this letter. Please read over this letter closely to ensure that you comply with all conditions and other on-going requirements. Provide this letter and any attachments listed at the end of this letter to anyone who purchases, rents or leases this property from you.

This final closure decision is based on the correspondence and data provided, and is issued under chs. NR 726 and 727, Wis. Adm. Code. The Northeast Region (NER) Closure Committee reviewed the request for closure on May 28, 2014. The Closure Committee reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases. A conditional closure letter was issued by the DNR on May 28, 2014, and documentation that the conditions in that letter were met was received on September 8, 2014.

The property is utilized by Mercury Marine for manufacturing purposes. The current property use is expected to remain the same for the foreseeable future. Contamination likely associated with an underground storage tank (UST) system was encountered during storm sewer installation work in 2002. Soil and groundwater contaminated with volatile organic compounds (VOC) remains in the vicinity of the former UST system. Groundwater monitoring over time has verified that natural attenuation is a viable remedy.

The conditions of closure and continuing obligations required were based on the property being used for industrial purposes.

Continuing Obligations

The continuing obligations for this site are summarized below. Further details on actions required are found in the section Closure Conditions.

- Groundwater contamination is present above ch. NR 140, Wis. Adm. Code enforcement standards;
- Residual soil contamination exists that must be properly managed should it be excavated or removed;
- The existing impervious surface cover must be maintained over contaminated soil and groundwater and the DNR must approve any changes to this barrier;
- Remaining soil and groundwater contamination could result in vapor intrusion if future construction activities occur. Vapor control technologies will be required for occupied buildings, unless the property owner assesses the potential for vapor intrusion, and the DNR agrees that vapor control technologies are not needed.

The DNR fact sheet, "Continuing Obligations for Environmental Protection", RR-819, helps to explain a property owner's responsibility for continuing obligations on their property. The fact sheet may be obtained at http://dnr.wi.gov/files/PDF/pubs/rr/RR819.pdf.

GIS Registry

This site will be included on the Bureau for Remediation and Redevelopment Tracking System (BRRTS on the Web) at http://dnr.wi.gov/topic/Brownfields/clean.html, to provide public notice of residual contamination and of any continuing obligations. The site can also be viewed on the Remediation and Redevelopment Sites Map (RRSM), a map view, under the Geographic Information System (GIS) Registry layer, at the same web address.

DNR approval prior to well construction or reconstruction is required for all sites shown on the GIS Registry, in accordance with s. NR 812.09 (4) (w), Wis. Adm. Code. This requirement applies to private drinking water wells and high capacity wells. To obtain approval, complete and submit Form 3300-254 to the DNR Drinking and Groundwater program's regional water supply specialist. This form can be obtained on-line at http://dnr.wi.gov/topic/wells/documents/3300254.pdf.

All site information is also on file at the Northeast Regional DNR office, at 2984 Shawano Avenue, Green Bay, WI 54313. This letter and information that was submitted with your closure request application, including any maintenance plan and maps, can be found as a Portable Document Format (PDF) in BRRTS on the Web.

Prohibited Activities

Certain activities are prohibited at closed sites because maintenance of a barrier is intended to prevent contact with any remaining contamination. When a barrier is required, the condition of closure requires notification of the DNR before making a change, in order to determine if further action is needed to maintain the protectiveness of the remedy employed. The following activities are prohibited on any portion of the property where maintenance of the existing pavement and building foundation is required, as shown on the attached map (Cap Location Map, Figure D.1), unless prior written approval has been obtained from the DNR:

- removal of the existing barrier or cover;
- replacement with another barrier or cover;
- excavating or grading of the land surface;
- filling on covered or paved areas;
- plowing for agricultural cultivation;
- construction or placement of a building or other structure; and

- changing the use or occupancy of the property to a residential exposure setting, which may include certain uses, such as single or multiple family residences, a school, day care, senior center, hospital, or similar residential exposure settings.

Closure Conditions

Compliance with the requirements of this letter is a responsibility to which you, and any subsequent property owners must adhere. DNR staff will conduct periodic prearranged inspections to ensure that the conditions included in this letter and the attached maintenance plan are met. If these requirements are not followed, the DNR may take enforcement action under s. 292.11, Wis. Stats. to ensure compliance with the specified requirements, limitations or other conditions related to the property.

Please send written notifications in accordance with the following requirements to:

Department of Natural Resources
Attn: Keld Lauridsen
2984 Shawano Avenue
Green Bay, WI 54313

Residual Groundwater Contamination (ch. NR 140, 812, Wis. Adm. Code)
Groundwater contamination greater than enforcement standards is present on this contaminated property, as shown on the attached map (Groundwater Isoconcentration, Figure B.3.b). If you intend to construct a new well, or reconstruct an existing well, you'll need prior DNR approval.

Residual Soil Contamination (ch. NR 718, chs. 500 to 536, Wis. Adm. Code or ch. 289, Wis. Stats.)
Soil contamination remains as indicated on the attached map (Pre/Post Remaining Soil Contamination, Figure B.2.c). If contaminated soil is excavated in the future, the property owner or right-of-way holder at the time of excavation must sample and analyze the excavated soil to determine if contamination remains. If sampling confirms that contamination is present, the property owner or right-of-way holder at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable standards and rules. Contaminated soil may be managed in accordance with ch. NR 718, Wis. Adm. Code, with prior DNR approval.

In addition, all current and future owners and occupants of the property and right-of-way holders need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken to prevent a direct contact health threat to humans.

Cover or Barrier (s. 292.12 (2) (a), Wis. Stats., s. NR 726.15, s. NR 727.07 Wis. Adm. Code)
The pavement, building or other impervious surface cover that exists in the location shown on the attached map (Cap Location Map, Figure D.1) shall be maintained in compliance with the attached maintenance plan in order to minimize the infiltration of water and prevent additional groundwater contamination that would violate the groundwater quality standards in ch. NR 140, Wis. Adm. Code.

A cover or barrier for industrial land uses, or certain types of commercial land uses may not be protective if the use of the property were to change such that a residential exposure would apply. This may include, but is not limited to single or multiple family residences, a school, day care, senior center, hospital or similar settings. In addition, a cover or barrier for multi-family residential housing use may not be appropriate for use at a single family residence.

The cover approved for this closure was designed to be protective for a commercial or industrial use setting. Before using the property for residential purposes, you must notify the DNR at least 45 days before taking an action, to determine if additional response actions are warranted.

A request may be made to modify or replace a cover or barrier. The replacement or modified cover or barrier must be protective of the revised use of the property, and must be approved in writing by the DNR prior to implementation.

The attached maintenance plan and inspection log (DNR form 4400-305) are to be kept up-to-date and on-site. Inspections shall be conducted annually, in accordance with the attached maintenance plan. Submit the inspection log to the DNR only upon request.

Vapor Mitigation or Evaluation (s. 292.12 (2), Wis. Stats., s. NR 726.15, s. NR 727.07, Wis. Adm. Code)
Vapor intrusion is the movement of vapors coming from volatile chemicals in the soil or groundwater, into buildings where people may breathe air contaminated by the vapors. Vapor mitigation systems are used to interrupt the pathway, thereby reducing or preventing vapors from moving into the building.

Future Concern: Petroleum and chlorinated VOCs remain in soil and groundwater, as shown on the attached map (Groundwater Isoconcentration, Figure B.3.b & Pre/Post Remaining Soil Contamination, Figure B.2.c), at levels that may be of concern for vapor intrusion in the future, depending on construction and occupancy of a building. Therefore, before a building is constructed and/or an existing building is modified, the property owner must notify the DNR at least 45 days before the change. Vapor control technologies are required for construction of occupied buildings unless the property owner assesses the vapor pathway and DNR agrees that vapor control technologies are not needed.

General Wastewater Permits for Construction Related Dewatering Activities

The DNR's Water Quality Program regulates point source discharges of contaminated water, including discharges to surface waters, storm sewers, pits, or to the ground surface. This includes discharges from construction related dewatering activities, including utility and building construction.

If you or any other person plan to conduct such activities, you or that person must contact that program, and if necessary, apply for the necessary discharge permit. Additional information regarding discharge permits is available at http://dnr.wi.gov/topic/wastewater/GeneralPermits.html. If residual soil or groundwater contamination is likely to affect water collected in a pit/trench that requires dewatering, a general permit for Discharge of Contaminated Groundwater from Remedial Action Operations may be needed. If water collecting in a pit/trench that requires dewatering is expected to be free of pollutants other than suspended solids and oil and grease, a general permit for Pit/Trench Dewatering may be needed.

In Closing

Please be aware that the case may be reopened pursuant to s. NR 727.13, Wis. Adm. Code, for any of the following situations:

- if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, or welfare or to the environment,
- if the property owner does not comply with the conditions of closure, or
- a property owner fails to maintain or comply with a continuing obligation (imposed under this closure approval letter).

The DNR appreciates your efforts to restore the environment at this site. If you have any questions regarding this closure decision or anything outlined in this letter, please contact Keld Lauridsen at (920) 662-5420, or at Keld.Lauridsen@wisconsin.gov.

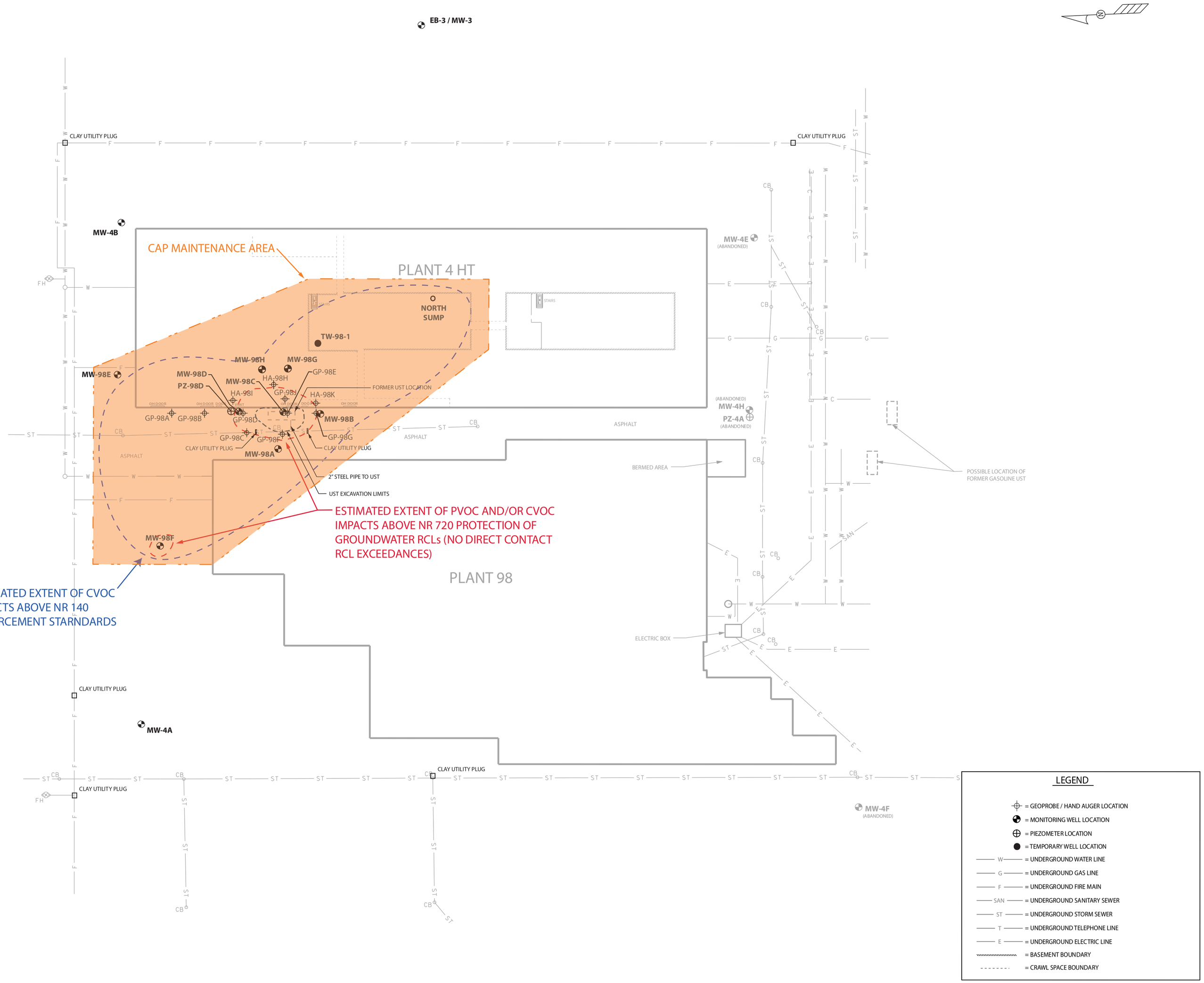
Sincerely,

Roxanne N. Chronert, Team Supervisor
Northeast Region Remediation & Redevelopment Program

Attachments:

- Cap maintenance area (Cap Location Map, Figure D.1)
- Remaining groundwater contamination (Groundwater Isoconcentration, Figure B.3.b)
- Remaining soil contamination (Pre/Post Remaining Soil Contamination, Figure B.2.c)
- Cap Maintenance Plan (August 2014)

cc: Adam Roder, The Sigma Group, Inc. (e-copy - aroder@thesigmagroup.com)



NOTE:

1. MAP IS BASED ON PREVIOUS SIGMA DRAWING 7786-007.DGN, WHICH WAS BASED ON AN APRIL 2004 SURVEY PERFORMED BY SIGMA DEVELOPMENT, INC.

0' 25' 50' 75' 100'

GRAPHIC SCALE: 1" = 50'

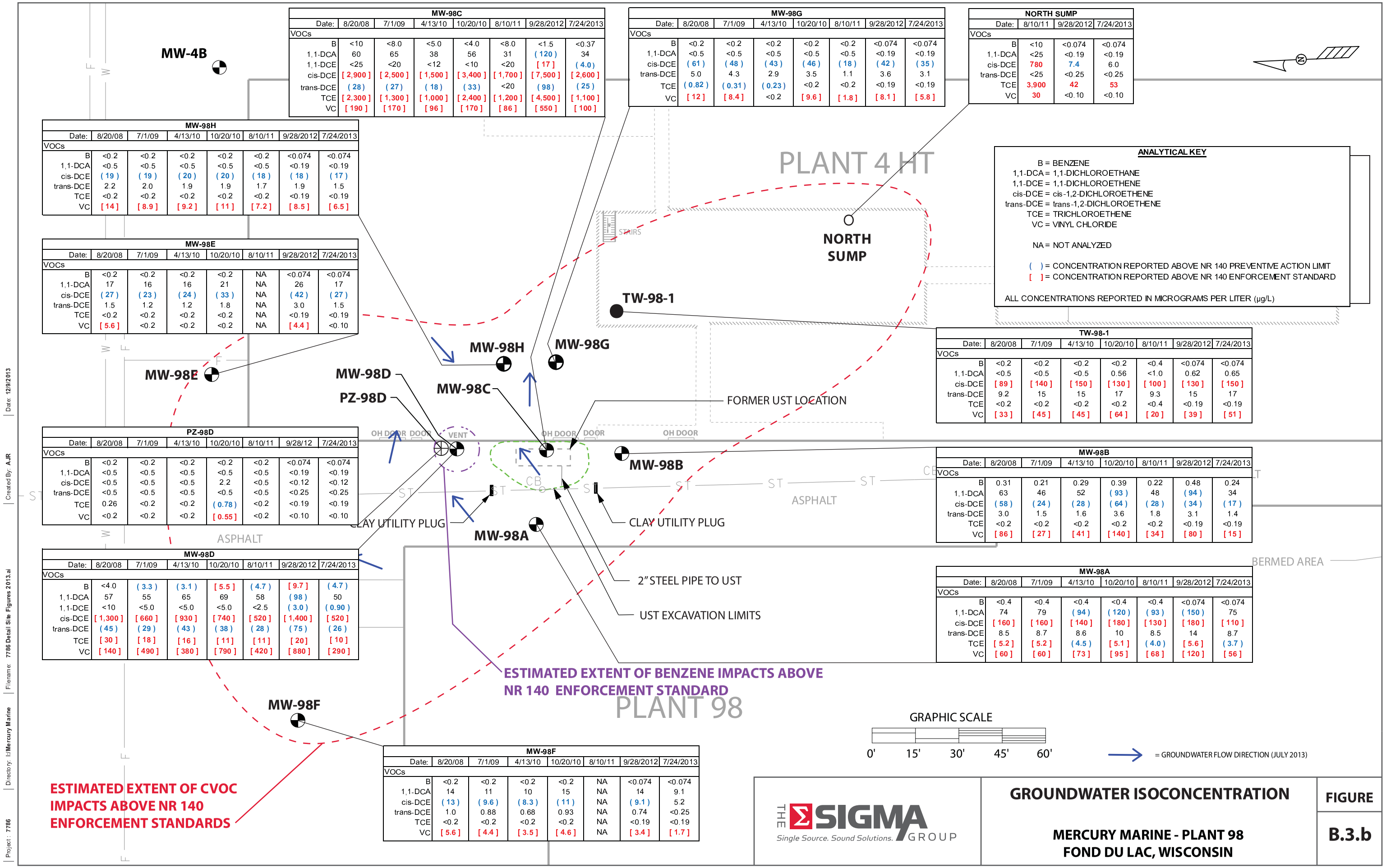
THE SIGMA GROUP
Single Source. Sound Solutions.

CAP LOCATION MAP

MERCURY MARINE - PLANT 98
FOND DU LAC, WISCONSIN

FIGURE
D.1

Project: 7786 | Directory: 7786\Figures | Filename: 7786 Site Map Figures 2011.ai | Created By: AJR | Date: 11/21/2011



MW-98C

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<10	<8.0	<5.0	<4.0	<8.0	<1.5	<0.37
1,1-DCA	60	65	38	56	31	(120)	34
1,1-DCE	<25	<20	<12	<10	<20	[17]	(4.0)
cis-DCE	[2,900]	[2,500]	[1,500]	[3,400]	[1,700]	[7,500]	[2,600]
trans-DCE	(28)	(27)	(18)	(33)	<20	(98)	(25)
TCE	[2,300]	[1,300]	[1,000]	[2,400]	[1,200]	[4,500]	[1,100]
VC	[190]	[170]	[96]	[170]	[86]	[550]	[100]

MW-98G

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<0.2	<0.2	<0.2	<0.2	<0.2	<0.074	<0.074
1,1-DCA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19
cis-DCE	(61)	(48)	(43)	(46)	(18)	(42)	(35)
trans-DCE	5.0	4.3	2.9	3.5	1.1	3.6	3.1
TCE	(0.82)	(0.31)	(0.23)	<0.2	<0.2	<0.19	<0.19
VC	[12]	[8.4]	<0.2	[9.6]	[1.8]	[8.1]	[5.8]

NORTH SUMP

Date:	8/10/11	9/28/2012	7/24/2013
VOCs			
B	<10	<0.074	<0.074
1,1-DCA	<25	<0.19	<0.19
cis-DCE	780	7.4	6.0
trans-DCE	<25	<0.25	<0.25
TCE	3,900	42	53
VC	30	<0.10	<0.10

MW-98H

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<0.2	<0.2	<0.2	<0.2	<0.2	<0.074	<0.074
1,1-DCA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19
cis-DCE	(19)	(19)	(20)	(20)	(18)	(18)	(17)
trans-DCE	2.2	2.0	1.9	1.9	1.7	1.9	1.5
TCE	<0.2	<0.2	<0.2	<0.2	<0.2	<0.19	<0.19
VC	[14]	[8.9]	[9.2]	[11]	[7.2]	[8.5]	[6.5]

MW-98E

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<0.2	<0.2	<0.2	<0.2	NA	<0.074	<0.074
1,1-DCA	17	16	16	21	NA	26	17
cis-DCE	(27)	(23)	(24)	(33)	NA	(42)	(27)
trans-DCE	1.5	1.2	1.2	1.8	NA	3.0	1.5
TCE	<0.2	<0.2	<0.2	<0.2	NA	<0.19	<0.19
VC	[5.6]	<0.2	<0.2	<0.2	NA	[4.4]	<0.10

ANALYTICAL KEY

B = BENZENE
1,1-DCA = 1,1-DICHLOROETHANE
1,1-DCE = 1,1-DICHLOROETHENE
cis-DCE = cis-1,2-DICHLOROETHENE
trans-DCE = trans-1,2-DICHLOROETHENE
TCE = TRICHLOROETHENE
VC = VINYL CHLORIDE

NA = NOT ANALYZED

( ) = CONCENTRATION REPORTED ABOVE NR 140 PREVENTIVE ACTION LIMIT
[ ] = CONCENTRATION REPORTED ABOVE NR 140 ENFORCEMENT STANDARD

ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L)

TW-98-1

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<0.2	<0.2	<0.2	<0.2	<0.4	<0.074	<0.074
1,1-DCA	<0.5	<0.5	<0.5	0.56	<1.0	0.62	0.65
cis-DCE	[89]	[140]	[150]	[130]	[100]	[130]	[150]
trans-DCE	9.2	15	15	17	9.3	15	17
TCE	<0.2	<0.2	<0.2	<0.2	<0.4	<0.19	<0.19
VC	[33]	[45]	[45]	[64]	[20]	[39]	[51]

PZ-98D

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/12	7/24/2013
VOCs							
B	<0.2	<0.2	<0.2	<0.2	<0.2	<0.074	<0.074
1,1-DCA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19
cis-DCE	<0.5	<0.5	<0.5	2.2	<0.5	<0.12	<0.12
trans-DCE	<0.5	<0.5	<0.5	<0.5	<0.5	<0.25	<0.25
TCE	0.26	<0.2	<0.2	(0.78)	<0.2	<0.19	<0.19
VC	<0.2	<0.2	<0.2	[0.55]	<0.2	<0.10	<0.10

MW-98B

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	0.31	0.21	0.29	0.39	0.22	0.48	0.24
1,1-DCA	63	46	52	(93)	48	(94)	34
cis-DCE	(58)	(24)	(28)	(64)	(28)	(34)	(17)
trans-DCE	3.0	1.5	1.6	3.6	1.8	3.1	1.4
TCE	<0.2	<0.2	<0.2	<0.2	<0.2	<0.19	<0.19
VC	[86]	[27]	[41]	[140]	[34]	[80]	[15]

MW-98D

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<4.0	(3.3)	(3.1)	[5.5]	(4.7)	[9.7]	(4.7)
1,1-DCA	57	55	65	69	58	(98)	50
1,1-DCE	<10	<5.0	<5.0	<5.0	<2.5	(3.0)	(0.90)
cis-DCE	[1,300]	[660]	[930]	[740]	[520]	[1,400]	[520]
trans-DCE	(45)	(29)	(43)	(38)	(28)	(75)	(26)
TCE	[30]	[18]	[16]	[11]	[11]	[20]	[10]
VC	[140]	[490]	[380]	[790]	[420]	[880]	[290]

MW-98A

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<0.4	<0.4	<0.4	<0.4	<0.4	<0.074	<0.074
1,1-DCA	74	79	(94)	(120)	(93)	(150)	75
cis-DCE	[160]	[160]	[140]	[180]	[130]	[180]	[110]
trans-DCE	8.5	8.7	8.6	10	8.5	14	8.7
TCE	[5.2]	[5.2]	(4.5)	[5.1]	(4.0)	[5.6]	(3.7)
VC	[60]	[60]	[73]	[95]	[68]	[120]	[56]

MW-98F

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<0.2	<0.2	<0.2	<0.2	NA	<0.074	<0.074
1,1-DCA	14	11	10	15	NA	14	9.1
cis-DCE	(13)	(9.6)	(8.3)	(11)	NA	(9.1)	5.2
trans-DCE	1.0	0.88	0.68	0.93	NA	0.74	<0.25
TCE	<0.2	<0.2	<0.2	<0.2	NA	<0.19	<0.19
VC	[5.6]	[4.4]	[3.5]	[4.6]	NA	[3.4]	[1.7]

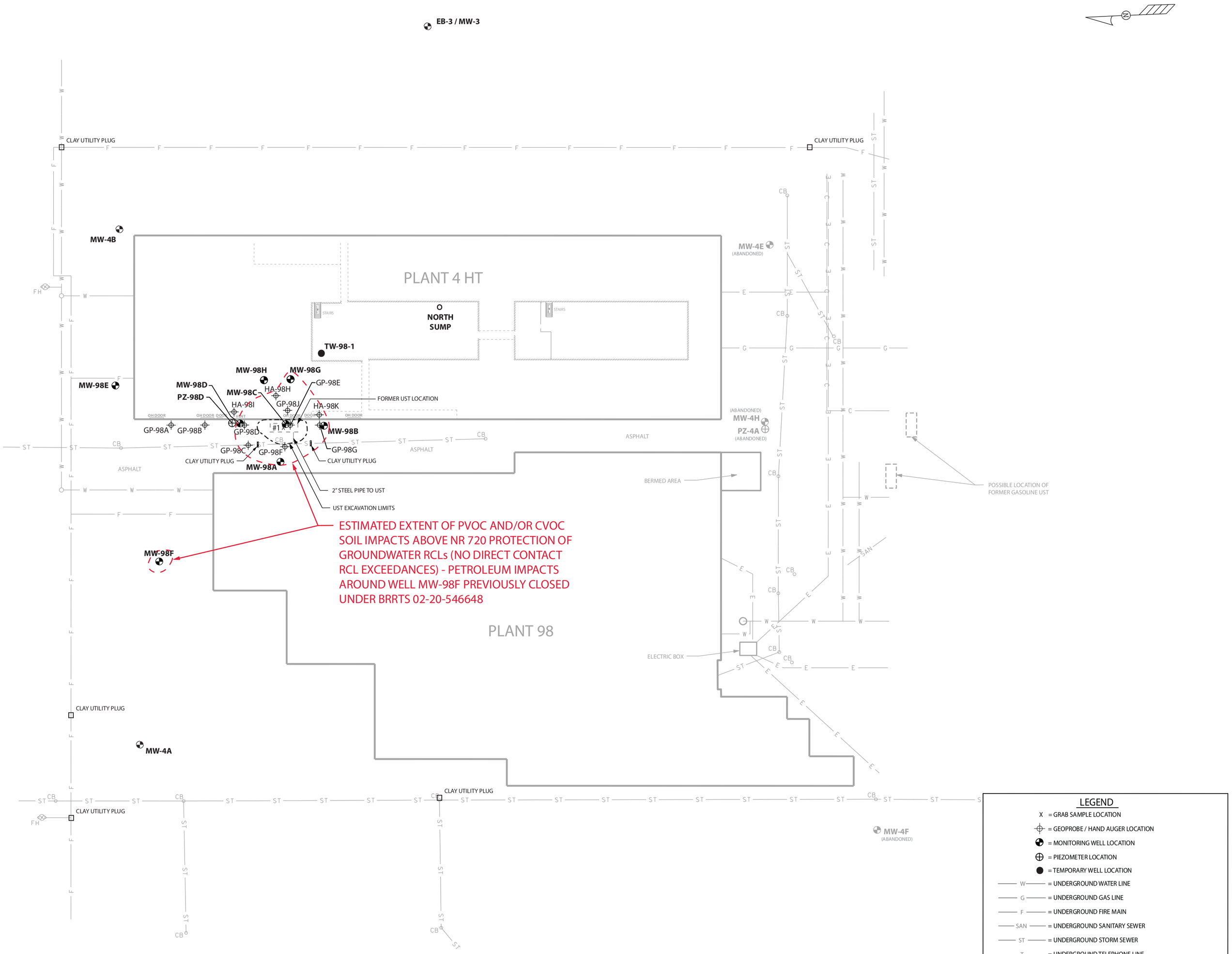
THE SIGMA GROUP
Single Source. Sound Solutions.

GROUNDWATER ISOCONCENTRATION

MERCURY MARINE - PLANT 98
FOND DU LAC, WISCONSIN

FIGURE
B.3.b

Project: 7786 | Directory: I:/Mercury Marine | Filename: 7786 Detail Site Figures 2013.ai | Created By: AJR | Date: 12/9/2013



LEGEND

- X = GRAB SAMPLE LOCATION
- = GEOPROBE / HAND AUGER LOCATION
- = MONITORING WELL LOCATION
- = PIEZOMETER LOCATION
- = TEMPORARY WELL LOCATION
- W = UNDERGROUND WATER LINE
- G = UNDERGROUND GAS LINE
- F = UNDERGROUND FIRE MAIN
- SAN = UNDERGROUND SANITARY SEWER
- ST = UNDERGROUND STORM SEWER
- T = UNDERGROUND TELEPHONE LINE
- E = UNDERGROUND ELECTRIC LINE
- = BASEMENT BOUNDARY
- = CRAWL SPACE BOUNDARY

0' 25' 50' 75' 100'

GRAPHIC SCALE: 1" = 50'

NOTE:

1. MAP IS BASED ON PREVIOUS SIGMA DRAWING 7786-007.DGN, WHICH WAS BASED ON AN APRIL 2004 SURVEY PERFORMED BY SIGMA DEVELOPMENT, INC.

THE SIGMA GROUP
Single Source. Sound Solutions.

PRE / POST REMAINING SOIL CONTAMINATION

MERCURY MARINE - PLANT 98
FOND DU LAC, WISCONSIN

FIGURE
B.2.c

Project: 7786 | Directory: 7786\Figures | Filename: 7786 Site Map Figures 2011.ai | Created By: AJR | Date: 11/21/2011

CAP MAINTENANCE PLAN
MERCURY MARINE PLANT 98 – FOND DU LAC, WISCONSIN
WDNR BRRTS #02-20-426707
AUGUST 2014

This Cap Maintenance Plan ("Plan") has been prepared in accordance with s. NR 724.13(2) and is designed to minimize precipitation infiltration through areas of residual soil impacts that exceed Wisconsin Department of Natural Resources (WDNR) protection of groundwater Residual Contaminant Levels (RCLs). Although not specifically warranted by the soil impacts, the cap area also prevents direct contact with underlying soil. The petroleum hydrocarbon and chlorinated solvent impacted soils are covered with existing asphalt and concrete pavements and concrete floor slabs as shown on the attached Cap Location Map. More site-specific information about this project may be found at:

- The case file in the WDNR Northeast Region office;
- BRRTS on the Web (WDNR's internet-based database of contaminated sites): http://botw.dnr.state.wi.us/botw/SetUpBasicSearchForm.do;
- GIS Registry PDF file: http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=brrts2; and
- The WDNR project manager for Fond du Lac County.

The normal operation of the ground surface barriers will serve as a precipitation barrier to minimize infiltration through impacted soils. The surface barriers will function as intended unless disturbed.

Additionally, the Plant 4HT building floor slab and HVAC controls within the building mitigate any potential vapor intrusion concerns from residual subsurface impacts. The heat treating process that takes place with the Plant 4HT building has a carbon monoxide (CO) generator for the metal heat treating process. An engineered air handling system manages CO within the building 24 hours a day during the work week (Monday through Friday)_- the air handling system moves approximately 120,000 cubic feet per minute, which results in 8 to 10 air volume changes per hour in the building. The system operates at this capacity during the work week, but is throttled back during the weekends when the building is unoccupied. The airflow automatically increases back to the design flow rate prior to the start of the Monday work shift. At times in the spring and fall, the airflow may be less because the multiple overhead garage doors (approximately 16 for the whole building) are opened for fresh air. Based on these high air exchange rates and corresponding fresh air introduced into the building, the potential vapor intrusion risk pathway is interrupted before posing a actual risk to building occupants. However, the vapor intrusion pathway may need to be reevaluated in the future if building usage changes.

Disturbance Management

Mercury Marine and subsequent owners of the site shall take the following steps to assure that uncontrolled disturbances of the surface barriers do not occur:

- WDNR's case closure documents and GIS Registry will establish future land use, development, and/or management restrictions of the site. This Plan will be incorporated into the case closure documents and/or GIS Registry, which will together identify the environmental impacts, the nature of the ground surface barriers, the requirements regarding the management of impacted soils, and the availability of this Plan.

- A copy of this Plan will be available from the property owner to all interested parties.

- A copy of this Plan will be provided to all private utilities seeking easements for the purpose of installing facilities on the property.

- A copy of this Plan will be provided to all contractors and repair workers, including utility and landscaping services, during construction and repairs on the property.

- On-site personnel employed by current or future business operators will be made familiar with the contents and restriction requirements of this Plan.

Inspections of Surface Barriers

Inspections will be required to assure that the surface barriers are functioning as planned:

- The property owner or designated representative shall perform annual inspections of the surface barriers. Inspections should be completed during non-winter months (when the ground surface is not obstructed by snow cover or vehicles) for all accessible areas, including the concrete floor slabs of Plant 4HT. The inspections will be performed to evaluate damage due to settling, exposure to weather, traffic wear, age, and other factors. Any areas where soils have become or likely to become exposed will be documented.

- As necessary, the surface barriers will be repaired to maintain integrity. Repairs may include, but are not limited to, the following:

    - Patching, resurfacing, or replacing concrete or asphalt pavement where it has been damaged and exposes underlying soil; and

    - Patching breaches in the concrete floor slab of Plant 4HT where underlying soil is exposed.

- An inspection log will be maintained to record the cap conditions, any disturbances of the cap, and the steps that have been taken to maintain the integrity of the surface barriers. The inspection log will be made available for inspection by representatives of the WDNR upon reasonable prior request. The on-site inspection log will be maintained as long as inspection and maintenance of the surface barriers are required.

Planned Breaches of Surface Barriers

In the event a surface barrier is to be breached, the WDNR shall be contacted to gain approval prior to the work taking place and the the following precautions shall be taken:

- The property owner shall be given advance notice of any planned breach. Property owner will make soil data available to workers who penetrate the surface barrier to allow for appropriate health and safety planning.

- The excavation zone and any soils excavated will be secured from public access until the cap is restored. The excavated soil will be placed on an impervious surface (e.g., existing concrete or asphalt pavement or plastic) and covered with plastic. Excavated soil shall be sampled and disposed of at a licensed landfill facility in accordance with applicable solid and/or hazardous waste rules and regulations, unless the WDNR or its successor agency grants approval to replace the soil into the same excavation.

- The surface barriers will be restored to meet original conditions. This work, including the proper disposal of excess soils, should be completed as soon as practical. Any replacement barrier will be subject to the same inspection and maintenance guidelines as outlined in this Plan unless otherwise indicated by the WDNR or its successor agency.

- Details of the surface barrier breach, the handling of excavated soils, individuals responsible for the work, and the restoration of the cap shall be recorded in the cap maintenance log. The maintenance log will be available for inspection by representatives of the WDNR upon reasonable prior request. An example inspection log page is included with this Plan.

Prohibition of Activities and Notification to WDNR

The following activities are prohibited on any portion of the site where asphalt or concrete pavements and/or building floor slab are required on the attached Cap Location Map, unless prior written approval has been obtained from the WDNR or its successor agency: (1) removal of the existing barriers, (2) replacement with another barrier, (3) excavating or grading of the land surface, (4) filling on capped or paved areas, (5) plowing for agricultural cultivation, (6) construction or placement of a building or other structure.

Amendments

This Plan may be amended or withdrawn upon written approval from the WDNR or its successor agency.

Contact Information

- For responsible party and current owner information contact:

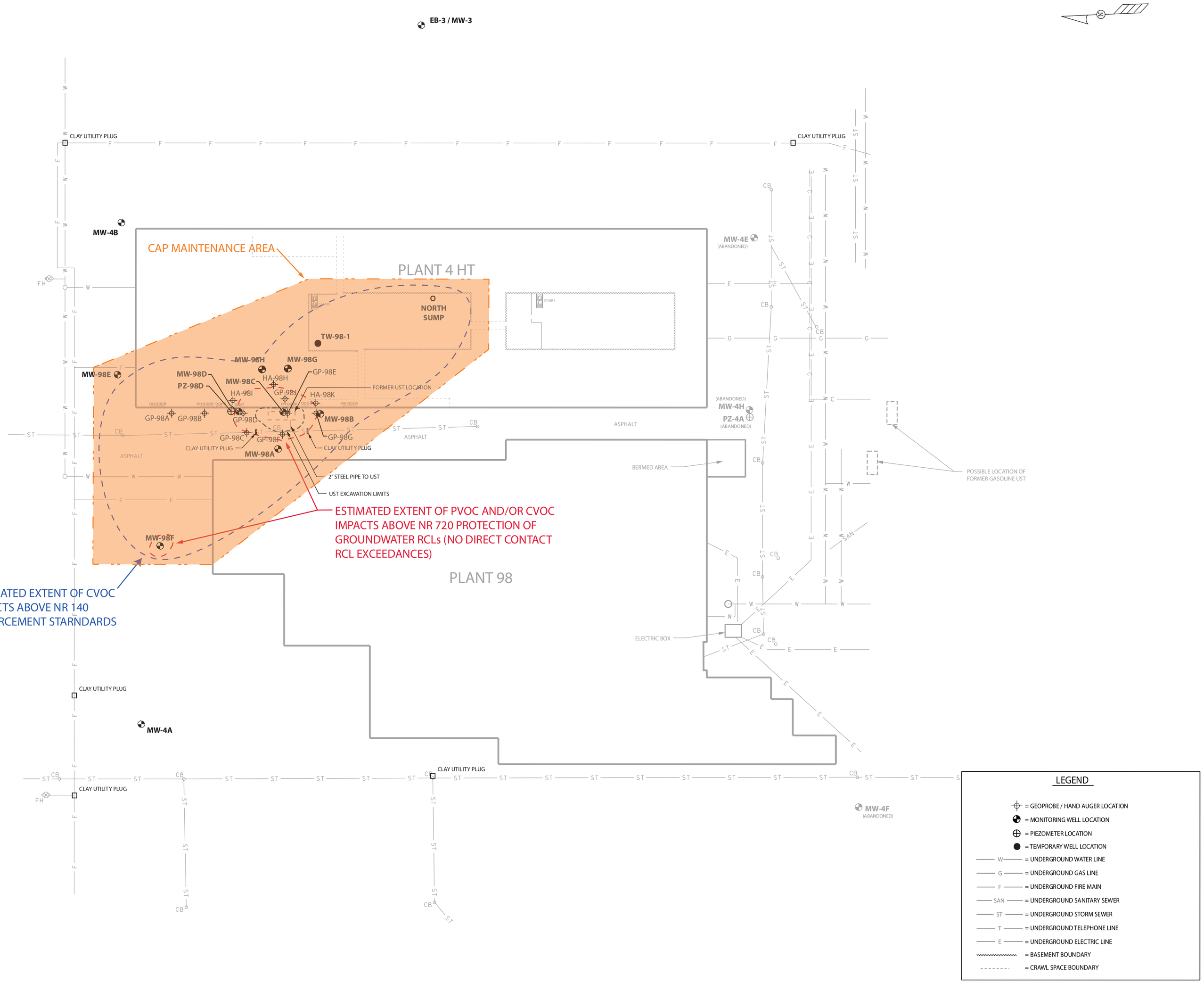
  Mercury Marine
  W 6250 Pioneer Road
  P.O. Box 1939
  Fond du Lac, WI 54936-1939
  Telephone: (920) 929-5955
  Fax: (920) 924-1005
  Contact: Mr. Craig Dousharm, P.E.

- For environmental consultant information contact:

  The Sigma Group, Inc.
  1300 West Canal Street
  Milwaukee, WI 53233
  Telephone: (414) 643-4200
  Fax: (414) 643-4210
  Contact: Mr. Adam Roder, P.E.

- For Wisconsin Department of Natural Resources information contact:

  Wisconsin Department of Natural Resources
  Northeast Region - Green Bay Office
  2984 Shawano Avenue
  Green Bay, WI 54313
  Telephone: (920) 662-5420
  Fax: (920) 662-5197
  Contact: Mr. Keld Lauridsen



NOTE:

1. MAP IS BASED ON PREVIOUS SIGMA DRAWING 7786-007.DGN, WHICH WAS BASED ON AN APRIL 2004 SURVEY PERFORMED BY SIGMA DEVELOPMENT, INC.

0' 25' 50' 75' 100'

GRAPHIC SCALE: 1" = 50'

THE SIGMA GROUP
Single Source. Sound Solutions.

CAP LOCATION MAP

MERCURY MARINE - PLANT 98
FOND DU LAC, WISCONSIN

FIGURE
D.1

Project: 7786 | Directory: 7786\Figures | Filename: 7786 Site Map Figures 2011.ai | Created By: AJR | Date: 11/21/2011

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Continuing Obligations Inspection and Maintenance Log

Form 4400-305 (2/14)

Directions: In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.]. When using this form, identify the condition that is being inspected. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. Do NOT delete previous inspection results. This form was developed to provide a continuous history of site inspection results. The Department of Natural Resources project manager is identified in the closure letter. The project manager may also be identified from the database, BRRTS on the Web, at http://dnr.wi.gov/botw/SetUpBasicSearchForm.do, by searching for the site using the BRRTS ID number, and then looking in the "Who" section.

Activity (Site) Name	BRRTS No.
Mercury Marine Plant 98	02-20-426707

Inspections are required to be conducted (see closure approval letter):

- (●) annually
- ( ) semi-annually
- ( ) other – specify _____

When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):

keld.lauridsen@wisconsin.gov

Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented?	Photographs taken and attached?
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N

{Click to Add/Edit Image} Date added: 09/04/2014

Title: Exterior pavement on west side of the Plant 4 HT bldg (view to SE).

{Click to Add/Edit Image} Date added: 09/04/2014

Title: Interior concrete floor slab of the Plant 4 HT building (view to SW).

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
2984 Shawano Avenue
Green Bay WI 54313-6727

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

May 28, 2014

Mercury Marine
Attn: Mr. Craig Dousharm
W6250 Pioneer Road
Fond du Lac, WI 54935

Subject: Conditional Closure Decision with Requirements to Achieve Final Closure
Mercury Marine – Plt 98 TCE, W6250 Pioneer Road, Fond du Lac, Wisconsin
DNR BRRTS Activity # 02-20-426707

Dear Mr. Dousharm:

On May 28, 2014, the Northeast Region Closure Committee reviewed your request for closure of the case described above. The Closure Committee reviews environmental remediation cases for compliance with state rules and statutes to maintain consistency in the closure of these cases. After careful review of the closure request, the Closure Committee has determined that the petroleum and chlorinated solvent contamination identified at the site in the vicinity of the former location of a 3,000 gallon underground storage tank appears to have been investigated and remediated to the extent practicable under site conditions. Your case has been remediated to Department standards in accordance with ch. NR 726, Wis. Adm. Code and will be closed if the following conditions are satisfied.

CONDITIONS

Monitoring Well Abandonment
The monitoring wells at the site must be properly abandoned, unless needed for other ongoing investigations, in accordance with ch. NR 141, Wis. Adm. Code. Documentation of well abandonment must be submitted to me on Form 3300-005, found at http://dnr.wi.gov/topic/groundwater/forms.html.

Purge Water, Waste and Soil Pile Removal
Any remaining purge water, waste and/or soil piles generated as part of site investigation or remediation activities must be removed from the site and disposed of or treated in accordance with the applicable rules. Once that work is completed, please send appropriate documentation regarding the treatment or disposal of the remaining purge water, waste and/or soil piles.

Documentation: When the above conditions have been satisfied, please submit the appropriate documentation (for example, well abandonment forms, disposal receipts, copies of correspondence, etc.) to verify that applicable conditions have been met, and your case will be closed.

Your site will be listed on the DNR Remediation and Redevelopment Program's GIS Registry. Information that was submitted with your closure request application will be included on the Bureau for Remediation and Redevelopment Tracking System (BRRTS on the Web). The site may be viewed on the Remediation and Redevelopment Sites Map (RRSM), on the GIS Registry layer. To review the site on BRRTS on the Web, or to view the GIS Registry web page, see http://dnr.wi.gov/topic/Brownfields/rrsm.html.

CONTINUING OBLIGATIONS

As part of the approval of the closure of this case, you will be responsible for maintaining the following continuing obligations:

- Groundwater contamination is present above ch. NR 140, Wis. Adm. Code enforcement standards.
- Residual soil contamination exists that must be properly managed should it be excavated or removed.
- The existing surface cover (building and asphalt pavement) must be maintained over contaminated soil and the DNR must approve any changes to this barrier.
- Remaining contamination could result in vapor intrusion if future construction activities occur. Vapor control technologies will be required for occupied buildings, unless the property owner assesses the potential for vapor intrusion, and the DNR agrees that vapor control technologies are not needed.

In the final closure approval, you will also be required to conduct annual inspections. Documentation of the inspection will be required to be kept on site.

IN CLOSING

Please be aware that the case may be reopened pursuant to s. NR 727.13, Wis. Adm. Code, for any of the following situations:

- if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, or welfare or to the environment,
- if the property owner does not comply with the conditions of closure, with any deed restrictions applied to the property, or with a certificate of completion issued under s. 292.15, Wis. Stats, or
- a property owner fails to maintain or comply with a continuing obligation (imposed under this closure approval letter).

We appreciate your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me at (920 662-5420), or by email at keld.lauridsen@wisconsin.gov.

Sincerely,

Keld Lauridsen
Hydrogeologist
Remediation & Redevelopment Program

cc: Adam Roder, The Sigma Group, Inc. (e-copy - aroder@thesigmagroup.com)

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

Case Closure - GIS Registry

SUBMIT AS UNBOUND PACKAGE IN THE ORDER SHOWN

Notice: Pursuant to ch. 292, Wis. Stats., and chs. NR 726 and 746, Wis. Adm. Code, this form is required to be completed for case closure requests. The closure of a case means that the Department of Natural Resources (DNR) has determined that no further response is required at that time based on the information that has been submitted to the DNR. All sections of this form must be completed unless otherwise directed by the Department. Incomplete forms will be considered "administratively incomplete" and processing of the request will stop until required information is provided. Any section of the form not relevant to the case closure request must be fully filled out or explained on a separate page and attached to the relevant section of this form. DNR will consider your request administratively complete when the form and all sections are completed, all attachments are included, and the applicable fees required under ch. NR 749, Wis. Adm. Code, are included, and sent to the proper destinations. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

Site Information

BRRTS No. 02-20-426707	Parcel ID No. FDL-15-17-21-11-007-00		
BRRTS Activity (Site) Name MERCURY MARINE - PLT 98 TCE	WTM Coordinates X 643651	Y 366572	
Street Address W6250 PIONEER ROAD	City FOND DU LAC	State WI	ZIP Code 54935
Responsible Party (RP) Name CRAIG DOUSHARM			
Company Name MERCURY MARINE			
Street Address W6250 PIONEER ROAD	City FOND DU LAC	State WI	ZIP Code 54935
Phone Number (920) 929-5955	Email CRAIG_DOUSHARM@MERCURYMARINE.COM		

☒ Check here if the RP is the owner of the source property.

Environmental Consultant Name ADAM J. RODER			
Consulting Firm THE SIGMA GROUP, INC.			
Street Address 1300 W. CANAL STREET	City MILWAUKEE	State WI	ZIP Code 53233
Phone Number (414) 643-4200	Email ARODER@THESIGMAGROUP.COM		
Acres Ready For Use 59	Voluntary Party Liability Exemption Site? ○ Yes ◉ No		

Fees and Mailing of Closure Request

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

1. **Send a copy of page one** of this form and the applicable ch. NR 749, Wis. Adm. Code, fee(s) to the DNR regional Environmental Program Associate at **http://dnr.wi.gov/topic/Brownfields/Contact.html**. Check all fees that apply:

   ☒ $1,050 Closure Fee
   ☒ $300 Database Fee for Soil
   ☒ $350 Database Fee for Groundwater
   ☐ $350 Database Fee for Other Condition

   Total Amount of Payment $ $1,700.00

2. **Send one paper copy and one e-copy on compact disk of the entire closure package** to the Regional Project Manager assigned to your site. Submit as *unbound, separate documents* in the order and with the titles prescribed by this form. For electronic document submittal requirements, see **http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf.**

Site Summary

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

1. General Site Information and Site History

A. **Site Location**: Describe the physical location of the site, both generally and specific to its immediate surroundings.
Mercury Marine Plant 98 (hereafter "the site") is located in the northeast corner of the Mercury Marine complex at W6250 Pioneer Road, Fond Du Lac, WI (NE 1/4 of the NE 1/4 of Sec 21, T15N, R17E). The site is bordered to the south and west by other Mercury Marine industrial/manufacturing buildings and to the north and east by other industrial properties (not part of the Mercury Marine complex).

B. **Prior and current site usage**: Specifically describe the current and historic occupancy and types of use.
The site is and has been used by Mercury Marine for machining components of outboard boat engines. The site is covered primarily with buildings and asphalt/concrete pavements.

C. Describe how and when site contamination was discovered.
In November 2002, a 3,000 gallon underground storage tank (UST) and impacted soil were encountered during storm sewer installation work in the alley between Plant 98 and Plant 4HT. Sigma conducted a UST closure assessment and notified the WDNR of a release.

D. Describe the type(s) and source(s) or suspected source(s) of contamination.
Chlorinated volatile organic compounds (CVOCs) and lesser amounts of petroleum volatile organic compounds (PVOCs) have been detected in soil and groundwater samples collected at the site. The subsurface impacts are attributed to the former UST that was removed in 2002.

E. Other relevant site description information (or enter Not Applicable).
Storm sewer, water, and fire protection utilities are present in the subsurface within the Plant 98 investigation area. Other utilities in the general area include underground electric and natural gas as depicted in figures included with this case closure request.

F. List BRRTS activity site name and number for all other BRRTS activities at this property, including closed cases.

02-20-544804 MERCURY MARINE PLT 15-WW TREATMENT LINE (Closed)
04-20-045175 W6250 PIONEER RD @ MERCURY MARINE (Closed)
03-20-001485 MERCURY MARINE SITE #2 (Closed)
03-20-001560 MERCURY MARINE PLT 12 UST (Closed)
02-20-544807 MERCURY MARINE - PLT 4S (Closed)
04-20-049732 SADOFF/RUDOY TRUCK SPILL@ MERCURY MARINE (Closed)
02-20-001587 MERCURY MARINE PLT 15 METAL SHAVINGS (Closed)
04-20-189785 W6250 W PIONEER RD-PLT#15 @ MERC MARINE (Closed)
04-20-050073 PLT 15 (Closed)
04-20-553824 MERCURY MARINE PLT 15 HAZ PAINT SPILL (Closed)
04-20-050589 PLT 15 (Closed)
04-20-050653 PLT 3 (Closed)
04-20-206261 MERCURY MARINE PLT #15 (Closed)
04-20-217846 MERCURY MARINE (Closed)
04-20-553826 MERCURY MARINE PLT 15 COOLANT SPILL (Closed)
02-20-182169 MERCURY MARINE PLT 15 - NORTH AST (Closed)
02-20-183271 BRUNSWICK INC MERCURY MARINE DIV PLT#4 (Closed)
04-20-284506 MERCURY MARINE PLT #15 (Closed)
02-20-184076 MERCURY MARINE PLT #98 (Closed)
04-20-228161 BRUNSWICK INC MERCURY MARINE DIV PLT#4 (Closed)
02-20-187597 MERCURY MARINE PLT 15 - SOUTH AST (Closed)
04-20-284701 MERCURY MARINE (Closed)
04-20-228153 BRUNSWICK INC MERCURY MARINE DIV PLT#4 (Closed)
02-20-218183 MERCURY MARINE PLT 15 SOLVENT INVESTIG (Closed)
04-20-224024 MERCURY MARINE DIV PLT 15 (Closed)
02-20-224045 MERCURY MARINE PLT 15 EXCAVATION-MAZAK (Closed)
04-20-230247 MERCURY MARINE PLT #12 (Closed)
04-20-235245 MERCURY MARINE STORM SEWER (Closed)
04-20-253022 MERCURY MARINE PLT 12 SPILL (Closed)
10-20-255360 MERCURY MARINE MACHINE COOLANT (Removed)
04-20-270513 MERCURY MARINE PLT 15 COOLANT (Closed)
04-20-263359 W SIDE OF PLT #15 @ MERCURY MARINE (Closed)
09-20-544806 MERCURY MARINE PLT 17A-6000 GAL FUEL OIL UST (No Action Required)
02-20-259378 MERCURY MARINE - PLT # 17 DYE RELEASE (Closed)
04-20-415626 MERCURY MARINE (Closed)
04-20-285038 MERCURY MARINE AST FARM (Closed)

Save...

04-20-402023 MERCURY MARINE (Closed)
02-20-285839 MERCURY MARINE PLT 12 - STORM SEWER (Closed)
02-20-354380 MERCURY MARINE-SULLIVAN STORM SEWER (Closed)
02-20-354504 MERCURY MARINE - PLT 17A PCB (Closed)
02-20-426707 MERCURY MARINE - PLT 98 TCE (Open)
04-20-547808 MERCURY MARINE (Closed)
02-20-546648 MERCURY MARINE-PLT 98 NORTH - PETRO (Closed)
02-20-545162 MERCURY MARINE - PLT 4 EAST 2006-03-14
04-20-548769 MERCURY MARINE (Closed)
04-20-549547 MERCURY MARINE (Closed)
02-20-549419 SITEWIDE MW-1 (Closed)
09-20-554908 MERCURY MARINE - 545 W PIONEER RD (No Action Required)
04-20-555912 MERCURY MARINE (Closed)
04-20-556509 MERCURY MARINE SPILL (Closed)

G. List BRRTS activity/site name(s) and number(s) for all properties immediately adjacent to this site, and those impacted by contamination from this site.

03-20-001200 FIRST & PORTLAND CORP
02-20-544483 PURINA MILLS INC - WI DOT
02-20-354472 US CHROME CORP
03-20-000404 INTERNATIONAL PAPERS

H. **Current zoning** (e.g. industrial, commercial, residential) for the site and for neighboring properties, and how verified (Provide documentation in Attachment G).

The site is zoned M-2 (Manufacturing District). All neighboring properties are zoned B-5 (Special Commercial District) or M-2 according to the City of Fond du Lac Zoning Map.

2. General Site Conditions

A. Soil/Geology

i. Describe soil type(s) and relevant physical properties, thickness of soil column across the site, vertical and lateral variations in soil types.

The native soil at the site generally consists of medium stiff to stiff red silty clay to a depth of at least 30 feet below ground surface (bgs) based on site investigation work completed by Sigma. Some occasional areas of reworked sandy/ gravely soil exist at shallower depths (from 2 to 4 feet bgs) at the site beneath pavements and building floor slabs.

ii. Describe the composition, location and lateral extent, and depth of fill or waste deposits on the site.

Reworked soil was limited to the shallow zones beneath pavement and building areas. No specific areas of waste deposits were discovered during drilling activities.

iii. Depth to bedrock, bedrock type, and whether or not it was encountered during the investigation.

Shale (Maquoketa Formation) or dolomite (Sinnipee Group) bedrock is expected to be approximately 100 feet bgs at the site. Bedrock was not encountered during Sigma's subsurface investigation activities.

iv. Describe the nature and locations of current surface cover(s) across the site (e.g. natural vegetation, landscaped areas, gravel, hard surfaces, and buildings).

The surface cover in the direct vicinity of Plant 98 consists of paved driveways and parking lots and buildings, and other hard surfaces. Grass/green space areas are located further east of the Plant 4HT building and west of the Plant 98 building.

B. Groundwater

i. **Discuss depth to groundwater and piezometric elevations.** Describe and explain depth variations, and whether free product affects measurement or water table elevation. Describe the stratigraphic unit(s) where water table was found or which were measured for piezometric levels.

Groundwater was encountered between approximately 2.6 feet bgs at MW-3 and 7.7 feet bgs in MW-98G based on data gathered in July 2013. The water table is located in the native red silty clay unit. No free product was encountered in Sigma's investigation.

ii. Discuss groundwater flow direction(s), shallow and deep. Describe and explain flow variations, including fracture flow if present.

Based on September 2013 static groundwater elevations, shallow groundwater appears to flow across the site to the east/ northeast toward the Plant 4HT building in the vicinity of the former UST (central investigation area); this data is consistent with previous sampling events. It is possible that the basement sump system affects groundwater flow beneath the Plant 4HT building.

iii. Discuss groundwater flow characteristics: hydraulic conductivity, flow rate and permeability, or state why this information was not obtained.

The hydraulic conductivity of the native silty clay is expected to be very low (less than 1 x 10-5 cm/s) based on the physical soil characteristics and slow well recovery during purging for groundwater sampling. The average horizontal gradient during the July 2013 sampling event, based on wells MW-98A, MW-98D and MW-98E, is approximately 0.05

Save...

feet per foot. The vertical hydraulic gradient at well nest MW-98D and PZ-98D was calculated to be approximately 0.08 feet per foot downward. Using an assumed (conservative) hydraulic conductivity of 1 x 10-5 cm/s and an assumed soil porosity of 0.3, the approximate rate of groundwater flow is on the order of 2 feet per year in native soil.

iv. Identify and describe locations/distance of potable and/or municipal Wells within 1200 feet of the site.

No potable and/or municipal wells are located within 1,200 feet of the site. The site and surrounding properties are serviced by the City of Fond du Lac municipal water supply system, which utilizes a series of groundwater wells as the source for water. The closest municipal well (Well #16) is approximately 5,000 feet southeast of the site and constructed to a depth of 970 feet below grade.

3. Site Investigation Summary

A. General

i. Provide a brief summary of the site investigation history. Reference previous submittals by name and date. Describe site investigation activities undertaken since the last submittal for this project and attach the appropriate documentation in Attachment C, if not previously provided.

In November 2002, a 3,000 gallon UST and impacted soil were encountered during storm sewer installation work in the alley between Plant 98 and Plant 4HT. Sigma conducted a UST closure assessment and notified the WDNR of the release, which consisted of CVOCs and PVOCs. Mercury Marine retained Sigma to complete a subsurface investigation of the release in 2003 (see details of this investigation in Sigma's January 2006 report, "Subsurface Investigation Status Report, Mercury Marine Plant 98, Fond du Lac, Wisconsin"). Site investigation activities included the following:

- In May and December of 2003, Sigma oversaw the drilling of six hollow stem auger boring and installation of groundwater monitoring wells (MW-98A through MW-98F) to a depth of approximately 16 feet bgs. Two soil samples per boring were submitted for laboratory analysis of VOCs.

- In October 2005, Sigma advanced eight Geoprobe soil borings (GP-98A through GP-98G and GP-98J) and three hand auger borings (HA-98H, HA-98I, and HA-98K). One to two soil samples from each Geoprobe soil boring were submitted for laboratory analysis of VOCs; no soil samples were submitted from the three hand auger borings because of shallow auger refusal depths (less than 1.5 feet bgs).

- In May 2008, Sigma oversaw the installation of soil borings/monitoring wells MW-98G and MW-98H, piezometer PZ-98D, and temporary well TW-98-1. One to two soil samples from each boring location were submitted for laboratory analysis of VOCs.

Up to 16 rounds of groundwater samples have been collected from the monitoring well network for laboratory analysis of VOCs, which includes shallow wells MW-98A through MW-98H, piezometer PZ-98D, temporary well TW-98-1, and perimeter wells MW-3, MW-4A, and MW-4B (originally installed for other environmental projects at Mercury Marine, which have since been closed by the WDNR but the wells were left in place for Plant 98 work). Additionally, several groundwater samples from the North Sump have also been analyzed for VOCs. (It is noted that there is a "South Sump" in the Plant 4HT building; however, this sump contains water from a cooling tower process.) Additionally, in situ field measurements including dissolved oxygen, reduction-oxidation potential, pH, ferrous iron, and temperature have been recorded during each sampling event. Details of groundwater monitoring events are presented in Sigma's annual status reports, the most recent which is titled "Status Report 2012, Mercury Marine Plant 98 - W6250 Pioneer Road, Fond du Lac, Wisconsin".

ii. Identify whether contamination extends beyond the source property boundary, describe the off-site media (e.g., soil, groundwater, etc.) impacted, and the vertical and horizontal extent of off-site impacts.

Perimeter monitoring wells at the site indicate that VOC impacts have not migrated off-site.

iii. Identify any structural impediments to the completion of site investigation and/or remediation and whether these impediments are on the source property or off the source property. Identify the type and location of any structural impediment (e.g., structure) that also serves as the performance standard barrier for protection of the direct contact or the groundwater pathway.

Soil sampling efforts were slightly restricted by equipment within the Plant 4HT building; however, soil samples were collected at several locations within the building to define the extent of impacts.

B. Soil

i. Describe degree and extent of **soil contamination** at and from this site. Relate this to known or suspected sources and known or potential receptors/migration pathways.

Soil quality data collected during site investigation activities indicates that PVOC and/or CVOC impacts above protection of groundwater RCLs are limited to the area immediately around the former UST (borings MW-98D, GP-98C, GP-98D, GP-98F, and GP-98J) and an isolated area around boring MW-98F as shown in the soil quality figures. None of the soil quality data exceeded direct contact RCLs for an industrial property. Identified impacts above the protection of groundwater RCLs include the following:

- benzene: MW-98D (4 to 6 feet bgs) and GP-98D (4 to 6 feet bgs) with concentrations ranging between 42.4 and 60.5

Save...

µg/kg
- chloroethane: GP-98F (4 to 6 feet bgs) at a concentration of 497 µg/kg
- cis-1,2-DCE: MW-98D (4 to 6 feet bgs), MW-98F (6 to 8 feet bgs), GP-98C (6 to 8 feet bgs), GP-98D (4 to 6 feet bgs), GP-98F (4 to 6 feet bgs), GP-98J (6 to 8 feet bgs), and MW-98G (6 to 8 feet bgs) with concentrations ranging between 81 and 5,340 µg/kg
- TCE: GP-98F (4 to 6 feet bgs) and GP-98J (6 to 8 feet bgs) with concentrations ranging between 253 and 276 µg/kg
- Trimethylbenzenes: MW-98F (0 to 2 feet bgs) at a total concentration of 3,730 µg/kg
- Vinyl chloride: MW-98D (4 to 6 feet bgs) and GP-98J (6 to 8 feet bgs) with concentrations ranging between 86.4 and 427 µg/kg
- Xylenes: MW-98F (0 to 2 feet bgs) at a total concentration of 8,770 µg/kg.

It is noted that some other reported concentrations were higher in some soil samples (refer to data tables); however, it was determined that these other samples were located below the water table (saturated samples) and would be considered to be more indicative of groundwater quality rather than soil quality.

The residual impacts in the area of the former UST are close to building Plant 4HT and a storm sewer line that runs along the alley between buildings Plant 4HT and Plant 98. Further discussion of these potential receptors is discussed below in following sections.

ii. Describe the level and types of **soil contaminants** found in the upper four feet of the soil column.
Four soil samples were collected within 4 feet of the ground surface. No concentrations exceeded direct contact RCLs in these samples (nor any other unsaturated soil sample collected below 4 feet bgs).

iii. Identify the ch. NR 720, Wis. Adm. Code, method used to establish the soil cleanup standards for this site. This includes a soil performance standard established in accordance with s. NR 720.08, a Residual Contaminant Level (RCL) established in accordance with s. NR 720.10 that is protective of groundwater quality, or an RCL established in accordance with s. NR 720.12 that is protective of human health from direct contact with contaminated soil. Identify the land use classification that was used to establish cleanup standards. Provide a copy of the supporting calculations/ information in Attachment C.
RCLs are from the WDNR's RCL Excel spreadsheet (dated June 2013), which are calculated in accordance with NR 720 and WDNR guidance document PUB-RR-890. Direct contact RCLs (which take into account the dermal contact, ingestion, and inhalation pathway components) are based on industrial property usage, which is consistent with zoning of the site.

C. Groundwater

i. Describe degree and extent of groundwater contamination at or from this site. Relate this to known or suspected sources and known or potential receptors/migration pathways. Specifically address any potential or existing impacts to water supply wells or interception with building foundation drain systems.
Up to 16 rounds of groundwater samples have been collected from shallow wells MW-98A through MW-98H, piezometer PZ-98D, temporary well TW-98-1, and perimeter wells MW-3, MW-4A, and MW-4B (originally installed for other environmental projects at Mercury Marine, which have since been closed by the WDNR but the wells were left in place for Plant 98 work). Additionally, several groundwater samples have been collected from the North Sump within the Plant 4HT basement. Based on the latest (July 2013) groundwater quality data, groundwater impacts reported above NR 140 Enforcement Standards (ESs) include TCE and its biodegradation daughter products cis-1,2-DCE and VC centered around the former UST:

- Well MW-98A (west of former UST): cis-1,2-DCE and VC
- Well MW-98B (south of former UST): VC
- Well MW-98C (within former UST basin): TCE, cis-1,2-DCE, and VC
- Well MW-98D (north of former UST): TCE, cis-1,2-DCE, VC
- Well MW-98F (farther northwest of former UST): VC
- Well MW-98G (farther east of former UST within Plant 4HT): VC
- Well MW-98H (farther east of former UST within Plant 4HT): VC
- Temporary well TW-98-1 (east-southeast of former UST within Plant 4HT): cis-1,2-DCE and VC
- North Sump (southeast of former UST basin): TCE

The down-gradient TCE, cis-1,2-DCE, and VC concentrations generally decrease by one to three orders of magnitude laterally from source area well MW-98C and the current monitoring well network adequately defines the plume margins; the vertical extent is defined by piezometer PZ-98D (no impacts).

It is not visibly evident if a drain tile network beneath/around the basement leads to the North Sump and construction drawings are not available to show if drain tiles are present; however, this sump discharges to the sanitary sewer system and not to the storm sewer network. Additionally, the Plant 4HT building foundation may be creating a northward bias in the direction of shallow groundwater flow and dissolved CVOC transport despite the apparent eastward gradient, in which case groundwater sample results from well MW-98E are representative of the farthest down-gradient CVOC concentrations. Overall, wells MW-98E, MW-4B, and MW-3 define the limits of the dissolved CVOC plume in the north, northeast, and east (down-gradient) directions. No water supply wells are located within 1,200 feet of the site,

Save...

thus the impacts associated with Plant 98 are not expected to pose a risk to local water supplies.

ii. Describe the presence of free product at the site, including the thickness, depth, and locations.
No free product has been observed in the on-site wells. Furthermore, VOC concentrations in soil and groundwater samples are not indicative of free product.

D. Vapor

i. Describe how the vapor migration pathway was assessed, including locations where vapor or indoor air samples were collected. If the vapor pathway was not assessed, explain reasons why.
Although vapor intrusion into building Plant 4HT cannot be specifically ruled out based on screening criteria presented in WDNR PUB-RR-800 "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin" because of the proximity of the former UST and CVOC impacted groundwater beneath the building and within the basement sump, vapor intrusion sampling was not performed because of the following reasons:

- All of the CVOC concentrations in unsaturated soil samples are reported below the direct contact RCLs for an industrial property. As part of the direct contact pathway, inhalation is one of three routes evaluated (the others being ingestion and dermal contact), therefore, the inhalation / vapor intrusion pathway is not considered a risk at this site based on the VOC concentrations in soil.
- Potential vapor intrusion risk via migration from impacted groundwater beneath the building was evaluated by utilizing WDNR vapor action levels for an industrial property for the CVOCs of concern (TCE = 8.8 µg/m3; cis-1,2-DCE = no VAL established; trans-1,2-DCE = 260 µg/m3; and VC = 28 µg/m3)and applying Henry's Law Constant for each chemical and a vapor attenuation factor of 0.0001 (for groundwater to indoor air per WDNR guidance document PUB-RR-800) to derive theoretical groundwater concentrations that could potentially case a vapor intrusion concern. The theoretical groundwater concentrations were calculated to be TCE = 219 µg/L, cis-12,-DCE = not calculated (because of no VAL), trans-1,2-DCE = 15,587 µg/L, and VC = 246 µg/L. All current groundwater concentrations inside the Plant 4HT building are reported below these theoretical values, and only two compounds exceeded the theoretical levels at exterior wells (TCE [1,000 µg/L] in well MW-98C and VC [290 µg/L] in well MW-98D.
- The Plant 4HT ventilation system was upgraded in the summer of 2011 to balance the air flow into the building for the industrial operations that take place. The ventilation systems in Plant 4HT (and Plant 98 as well) are expected to evacuate any potential vapors that may enter the buildings.

ii. Identify the applicable DNR action levels and the land use classification used to establish them. Describe where the DNR action levels were reached or exceeded (e.g., sub slab, indoor air or both).
Not applicable. Vapor intrusion is not considered a significant risk due to the industrial usage of Plant 98 and other nearby buildings.

E. Surface Water and Sediment

i. Identify whether surface water and/or sediment was assessed and describe the impacts found. If this pathway was not assessed, explain why.
Surface water and/or sediment pathways were not assessed. The closest surface water bodies are the East Branch and West Branch of the Fond du Lac River, and each is located approximately 2,800 feet from the site. Based on perimeter monitoring wells that indicate impacts have not migrated off site, these surface water bodies are not potential contamination receptors.

ii. Identify any surface water and/or sediment action levels used to assess the impacts for this pathway and how these were derived. Describe where the DNR action levels were reached or exceeded.
Not applicable based on comment above.

4. Remedial Actions Implemented and Residual Levels at Closure

A. General: Provide a brief summary of the remedial action history. List previous remedial action report submittals by name and date. Identify remedial actions undertaken since the last submittal for this project and provide the appropriate documentation in Attachment C.
Other than the UST removal activities performed in November 2002, no active remediation has been performed at the site. However, natural attenuation processes have been addressing groundwater impacts based on the overall stable to decreasing concentrations over time.

B. Describe any immediate or interim actions taken at the site under ch NR 708, Wis. Adm. Code.
Other than the UST removal activities performed in November 2002, no immediate or interim actions have been performed at the site.

C. Describe the *active* remedial actions taken at the site, including: type of remedial system(s) used for each media impacted; the size and location of any excavation or in-situ treatment; the effectiveness of the systems to address the contaminated media and substances; operational history of the systems; and summarize the performance of the active remedial actions. Provide any system performance documentation in Attachment A.7.
No active remedial systems were installed or operated at the site.

Save...

D. Provide a discussion of the nature, degree and extent of residual contamination that will remain at the site or on off-site affected properties after case closure.

As discussed in section 3.B.i. above, residual PVOC and CVOC soil impacts will remain in the vicinity of the former UST basin and an isolated area near boring MW-98F. The depth of the soil impacts typically ranges between approximately 4 feet bgs and the shallow groundwater table, which is generally 6 to 10 feet bgs; shallow soil impacts were also identified at MW-98F but these concentrations do not pose a direct contact risk.

As discussed in section 3.C.i. above, residual dissolved CVOC impacts will remain in groundwater beneath the site, but perimeter monitoring wells indicate that impacts are not migrating off site. Laboratory analytical data from groundwater samples indicate that the overall CVOC plume is stable to decreasing as the TCE degrades into daughter compounds cis-1,2-DCE (and to a lesser extent trans-1,2-DCE) and VC.

E. Describe the remaining soil contamination within four feet of ground surface (direct contact zone) that attains or exceeds Residual Contaminant Levels established under s. NR 720. 12 , the ch. NR720, Wis. Adm. Code, for protection of human health from direct contact.

No concentrations exceed direct contact RCLs in shallow samples collected from the site.

F. Describe the remaining soil contamination in the vadose zone that attains or exceeds the soil standard(s) for the groundwater pathway.

As discussed in section 3.B.i. above, residual soil impacts in the vadose zone that exceed protection of groundwater RCLs include the following:

- benzene: MW-98D (4 to 6 feet bgs) and GP-98D (4 to 6 feet bgs) with concentrations ranging between 42.4 and 60.5 µg/kg
- chloroethane: GP-98F (4 to 6 feet bgs) at a concentration of 497 µg/kg
- cis-1,2-DCE: MW-98D (4 to 6 feet bgs), MW-98F (6 to 8 feet bgs), GP-98C (6 to 8 feet bgs), GP-98D (4 to 6 feet bgs), GP-98F (4 to 6 feet bgs), GP-98J (6 to 8 feet bgs), and MW-98G (6 to 8 feet bgs) with concentrations ranging between 81 and 5,340 µg/kg
- TCE: GP-98F (4 to 6 feet bgs) and GP-98J (6 to 8 feet bgs) with concentrations ranging between 253 and 276 µg/kg
- Trimethylbenzenes: MW-98F (0 to 2 feet bgs) at a total concentration of 3,730 µg/kg
- Vinyl chloride: MW-98D (4 to 6 feet bgs) and GP-98J (6 to 8 feet bgs) with concentrations ranging between 86.4 and 427 µg/kg
- Xylenes: MW-98F (0 to 2 feet bgs) at a total concentration of 8,770 µg/kg.

All of these soil samples are located within or adjacent to the former UST basin except for boring MW-98F.

G. Describe how the residual contamination will be addressed, including but not limited to details concerning: covers, engineering controls or other barrier features; use of natural attenuation of groundwater; and vapor mitigation systems or measures.

The entire area with residual soil and groundwater impacts is covered by asphalt or concrete pavement and industrial buildings, thus direct contact is not a risk (in addition to the shallow soils not exhibiting elevated concentrations above direct contact RCLs) and precipitation infiltration is minimized. Vapor intrusion is not considered a significant risk due to the factors presented above in section 3.D.i. above.

Bentonite plugs were installed in October and November 1996 at various locations along the fire protection lines and storm sewers around Plant 4HT and Plant 98 to prevent preferential migration of impacted groundwater or potential vapors.

The Plant 4HT basement sump (at least seasonally) removes impacted groundwater from the subsurface. The sump system discharges to the sanitary sewer system under a site permit.

Any remaining residual groundwater contamination will be degraded over time due to natural attenuation, which, based on current laboratory analytical and in situ data, is occurring at the site.

H. If using natural attenuation as a groundwater remedy, describe how the data collected supports the conclusion that natural attenuation is effective in reducing contaminant mass and concentration, (e.g. stable or receding groundwater plume).

As previously documented in recent annual groundwater monitoring updates and after evaluating the July 2013 laboratory analytical data, the overall CVOC plume is stable to decreasing at the source area and down-gradient locations. TCE is degrading into its daughter product cis-1,2-DCE (and to a lesser extent trans-1,2-DCE), which is in turn degrading into VC. The 1,1-dichloroethane (1,1-DCA) concentrations detected in some of the monitoring wells are likely the result of the degradation of 1,1,1-trichloroethane (1,1,1-TCA) previously identified in source-area well MW-98C. Both biodegradation pathways are associated with reductive dechlorination of the parent CVOCs. In situ measurements and geochemical results obtained during groundwater sampling events at the site further suggest that reductive dechlorination is likely occurring at the site:

- Dissolved oxygen readings have typically been below 1 milligram per liter (mg/L), and even below 0.5 mg/L in the wells closest to the source area, suggesting that anaerobic conditions exist in the areas of identified groundwater impacts. Anaerobic conditions provide a favorable environment for the reductive dechlorination of CVOCs.

Save...

- Redox measurements were lowest closest to the former UST source, which indicates reducing, anaerobic conditions.
- pH readings were neutral at the well locations, which is considered optimal for microbial biodegradation activity.
- Temperature readings are typical of shallow groundwater systems in southeast Wisconsin and should not hinder the natural attenuation/degradation of CVOC impacts. Some seasonal fluctuations have been observed and are typical of shallow groundwater systems; however, the heat from Plant 4HT operations have and will continue to moderate temperature fluctuations in groundwater beneath the building and make temperature conditions more consistent for improved microbial growth.
- Light hydrocarbon dissolved gas results indicate that natural attenuation via biodegradation is occurring, as evidenced by increased concentrations of ethane, ethene, and methane in impacted wells:

o Elevated methane concentrations (above 100 µg/L) during the last several monitoring events were measured in wells MW-98A, MW-98B, MW-98D, MW-98F, and MW-98G, while lower concentrations were measured in wells MW-98C, MW-98E, and MW-98H. Increases in methane demonstrate reducing groundwater geochemical conditions and can be indicative of reductive dechlorination of CVOCs.

o VC can be reductively dechlorinated into ethene, which in turn breaks down into ethane. Elevated ethene concentrations (above 10 µg/L) during the last several monitoring events were measured in more-impacted wells MW-98A through MW-98D, while lower concentrations (less than 1 µg/L) were detected in lesser-impacted wells MW-98E through MW-98H. The higher ethene concentrations at wells MW-98A through MW-98D suggest that VC is biodegrading at the site.

o Elevated ethane concentrations (near or above 5 µg/L) during the last several monitoring events were measured in impacted wells MW-98B and MW-98D. The presence of ethane inidcate that ethene is being further degraded in the natural attenuation processes.

Finally, groundwater microbial gene assay results from the August 2008 sampling event indicate that reductive dechlorinating microbes capable of TCE, cis-1,2-DCE and VC biodegradation are present at the site. Based on all of this information, it is expected that residual impacts are and will continue to naturally biodegrade over time.

I. Identify how all exposure pathways were removed and/or adequately addressed by immediate and/or remedial action(s) described above in paragraphs, B, C, D, E and F.

Residual soil impacts do not pose a direct contact risk, and natural attenuation will continue to reduce groundwater impacts over time. Vapor intrusion is not considered a significant risk due to the air handling that exist in the Plant 4HT and Plant 98 buildings, which function to provide adequate air quality with respect to manufacturing operations within the buildings. Bentonite clay plugs have been installed at various locations along fire protection and storm sewer lines around Plant 98 and Plant 4HT to prevent preferential migration of impacted groundwater or potential vapors. Lastly, potable water is supplied to the site by the City of Fond du Lac's municipal water supply system and not by private on-site production wells.

J. Identify any system hardware anticipated to be left in place after site closure, and explain the reasons why it will remain.

Not applicable. No system hardware was used at the site.

K. Identify the need for a ch. NR 140, Wis. Adm. Code, groundwater Preventive Action Limit (PAL) or Enforcement Standard (ES) exemption, and identify the affected monitoring points and applicable substances.

Based on current groundwater quality data, NR 140 ES and PAL exceedances included the following:

MW-98A
TCE: 3.7 µg/L > PAL of 0.5 µg/L
cis-1,2-DCE: 110 µg/L > ES of 70 µg/L
VC: 56 µg/L > ES of 0.2 µg/L

MW-98B
cis-1,2-DCE: 17 µg/L > PAL of 7 µg/L
VC: 15 µg/L > ES of 0.2 µg/L

MW-98C
TCE: 1,100 µg/L > ES of 5 µg/L
cis-1,2-DCE: 2,600 µg/L > ES of 70 µg/L
trans-1,2-DCE: 25 µg/L > PAL of 20 µg/L
VC: 100 µg/L > ES of 0.2 µg/L
1,1 DCE: 4.0 µg/L > PAL of 0.7 µg/L

MW-98D
TCE: 10 µg/L > ES of 5 µg/L
cis-1,2-DCE: 520 µg/L > ES of 70 µg/L
trans-1,2-DCE: 26 µg/L > PAL of 20 µg/L
VC: 290 µg/L > ES of 0.2 µg/L
Benzene: 4.7 µg/L > PAL of 0.5 µg/L
1,1 DCE: 0.90 µg/L > PAL of 0.7 µg/L

Save...

MW-98E
cis-1,2-DCE: 27 µg/L > PAL of 7 µg/L

MW-98F
VC: 1.7 µg/L > ES of 0.2 µg/L

MW-98G
VC: 5.8 µg/L > ES of 0.2 µg/L
cis-1,2-DCE: 35 µg/L > PAL of 7 µg/L

MW-98H
VC: 6.5 µg/L > ES of 0.2 µg/L
cis-1,2-DCE: 17 µg/L > PAL of 7 µg/L

North Sump
TCE: 53 µg/L > ES of 5 µg/L
Bromoform: 15 µg/L > ES of 4.4 µg/L

TW-98-1
cis-1,2-DCE: 150 µg/L > ES of 70 µg/L
VC: 51 µg/L > ES of 0.2 µg/L

PZ-98D, MW-3, MW-4A and MW-4B
No exceedances

L. If a DNR action level for vapor intrusion was exceeded (for indoor air, sub slab, or both) describe where it was exceeded and how the pathway was addressed.
Vapor intrusion was not assessed as described in section 3.D.i. above.

M. Describe the surface water and/or sediment contaminant concentrations and areas after remediation. If a DNR action level was exceeded, describe where it was exceeded and how the pathway was addressed.
Not applicable. No surface water bodies are present on-site or adjacent to the site.

5. Continuing Obligations: Situations where a maintenance plan(s) and inclusion on DNR's GIS Registry are required.

Directions: Check all that apply to this case closure request:

	This scenario Applies to this Case Closure		Case Closure Scenario: Maintenance Plans and GIS Registry	Maintenance Plan (s) Required in Attachment D	GIS Registry Listing
	A. On-Site	B. Off-Site			
i.	☐	☐	Engineering Control/Barrier for Direct Contact	✓	✓
ii.	☒	☐	Engineering Control/Barrier for Groundwater Infiltration	✓	✓
iii.	☐	☐	Vapor Mitigation - post closure passive system	✓	✓
iv.	☐	☐	Vapor Mitigation - post closure active system	✓	✓
v.	☐	☒	None of the above scenarios apply to this case closure	NA	NA

Save...

6. Continuing Obligations: Situations where inclusion on DNR's GIS Registry is required.

Directions: Check all that apply to this case closure request:

	This scenario Applies to this Case Closure		Case Closure Scenario: GIS Registry Only	GIS Registry Listing
	A. On-Site	B. Off-Site		
i.	☒	☐	Residual soil contamination exceeds ch. NR 720 generic or site-specific RCLs	✓
ii.	☒	☐	Sites with groundwater contamination equal to or greater than the ch. NR 140, enforcement standards (ES)	✓
iii.	☐	☐	Monitoring wells: lost, transferred or remaining in use	✓
iv.	☐	☐	Structural Impediment (not as a performance standard)	✓
v.	☐	☐	Residual soil contamination remaining at ch. NR 720 Industrial Use levels	✓
vi.	☒	☐	Vapor intrusion may be future, post-closure issue if building use or land use changes	✓
vii.	☐	☒	None of the above scenarios apply to this case closure	NA

7. Underground Storage Tanks

A. Were any tanks, piping or other associated tank system components removed as part of the investigation or remedial action? ◉ Yes ○ No

B. Do any upgraded tanks meeting the requirements of ch. SPS 310, Wis. Adm. Code, exist on the property? ○ Yes ◉ No

C. If the answer to question 7b is yes, is the leak detection system currently being monitored? ○ Yes ○ No

Data Tables (Attachment A)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form.All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

General directions for Data Tables:

- Use bold and italics font on information of importance on tables and figures. Use **bold font** for ch. NR 140, Wis. Adm. Code, groundwater enforcement standard (ES) attainments or exceedances, and *italicized font* for ch. NR 140, Wis. Adm. Code, groundwater preventive action limit (PAL) standard attainments or exceedances.
- Do not use shading or highlighting on the analytical tables.
- Include on Data Tables the level of detection for results which are below the detection level (i.e. do not just list as no detect (ND)).
- Include the units on data tables.
- Summaries of all data must include information collected by previous consultants.
- Do not submit lab data sheets unless these have not been submitted in a previous report. Tabulate all data required in s. NR 716.15 (3)(c), Wis. Adm. Code, in the format required in s. NR 716.15(4)(e), Wis. Adm. Code.
- Include in Attachment A all of the following tables, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: A.1. Groundwater Analytical Table; A.2. Pre-remedial Soil Analytical Table, etc).
- For required documents, each table (e.g., A.1., A.2., etc.,) should be a separate PDF.

A. Data Tables

A.1. **Groundwater Analytical Table(s):** Table(s) showing the analytical results and collection dates, for all groundwater sampling points e.g. monitoring wells, temporary wells, sumps, extraction wells, any potable wells and any other wells, extraction wells and any potable wells for which samples have been collected.

A.2. **Pre-remedial Soil Analytical Table(s):** Table(s) showing the soil analytical results and collection dates - prior to conducting the interim and/or remedial action. Indicate if sample was collected above or below the all-time low water table (unsaturated verses saturated).

A.3. **Post-remedial Soil Analytical Table(s):** Table(s) showing the post-remedial action soil analytical results and collection dates. Indicate if sample was collected above or below the all-time low water table (unsaturated verses saturated).

A.4. **Pre and Post Remaining Soil Contamination Soil Analytical Table(s):** Table(s) showing only the pre and post remedial action soil analytical results that exceed a Residual Contaminate Level (RCL) or a Site-Specific Residual Level (SSRCL).

A.5. **Vapor Analytical Table**: Table(s) showing type(s) of samples, sample collection methods, analytical method, sample results, date of sample collection, time period for sample collection, method and results of leak detection, and date, method

Save...

and results of communication testing.

A.6. **Other Media of Concern (e.g., sediment or surface water)**: Table(s) showing type(s) of sample, sample collection method, analytical method, sample results, date of sample collection, time period for sample collection, method and results sampling.

A.7. **Water Level Elevations:** Table(s) showing all water level elevation measurements and dates from all monitoring wells. If present, free product should be noted on the table.

A.8. **Other:** This attachment should include: 1) any available tabulated natural attenuation data; 2) data tables pertaining to engineered remedial systems that document operational history, demonstrate system performance and effectiveness, and display emissions data; and (3) any other data tables relevant to case closure not otherwise noted above. If this section is not applicable, please explain the reasons why.

Maps and Figures (Attachment B)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

General Directions for all Maps and Figures:

- If any map or figure is not relevant to the case closure request, you must fully explain the reason(s) why and attach that explanation (properly labeled with the map/ figure title) in Attachment B.
- Provide on paper no larger than 11 x 17 inches, unless otherwise directed by the Department. Maps and figures may be submitted in a larger electronic size than 11x17 inches, in a portable document format (pdf) readable by the Adobe Acrobat Reader. However, those larger-size documents must be legible when printed.
- Prepare visual aids, including maps, plans, drawings, fence diagrams, tables and photographs according to the applicable portions of ss. NR 716.15(4), 726.09(2) and 726.11(3), (5) and (6), Wis Adm. Code.
- Do not use shading or highlights on any of the analytical tables.
- Include all sample locations.
- Contour lines should be clearly labeled and defined.
- Include in Attachment B all of the following maps and figures, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: B.1. Location Map; B.2. Detailed Site Map, etc).
- For the electronic copies that are required, each map (e.g., B.1.a., B.2.a, etc.,) should be a separate PDF.

B.1. Location Maps

B.1.a. **Location Map:** A map outlining all properties within the contaminated site boundaries on a U.S.G.S. topographic map or plat map in sufficient detail to permit easy location of all impacted and/or adjacent parcels. If groundwater standards are exceeded, include the location of all potable wells, including municipal wells, within 1200 feet of the area of contamination.

B.1.b. **Detailed Site Map:** A map that shows all relevant features (buildings, roads, current ground surface cover, individual property boundaries for on-site and applicable off-site properties, contaminant sources, utility lines, monitoring wells and potable wells) within the contaminated area. This map is to show the location of all contaminated public streets, and highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination exceeding a ch. NR 140 Enforcement Standard (ES), and/or in relation to the boundaries of soil contamination exceeding a Residual Contaminant Level (RCL) established in accordance with the provisions contained in s. NR 720.10 or s. NR 720.12, Wis. Adm. Code.

B.1.c. **RR Site Map:** From RR Sites Map (http://dnrmaps.wi.gov/sl/?Viewer=RR Sites) attach a map depicting the source property, and all open and closed BRRTS sites within a half-mile radius or less of the property.

B.2. Soil Figures

B.2.a. **Pre-remedial Soil Contamination:** Figure(s) showing the sample location of all pre-remedial, unsaturated contaminated soil and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeded a Residual Contaminant Level (RCL) established in accordance with the provisions contained in s. NR 720.10 or s. NR 720.12, Wis. Adm. Code.

B.2.b. **Post-remedial Soil Contamination :** Figure(s) showing the sample location of all post-remedial, unsaturated contaminated soil and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeds a Residual Contaminant Level (RCL) established in accordance with the provisions contained in s. NR 720.10 or s. NR 720.12, Wis. Adm. Code. A separate contour line should be used to indicate the extent of residual direct contact exceedances.

B.2.c. **Pre/Post Remaining Soil Contamination:** Figure(s) showing the only location of all pre and post remedial residual soil sample location(s) where unsaturated contaminated soil remains after remediation and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeds a Residual Contaminate Level (RCL) established in accordance with the provisions contained in s. NR 720.10 or s. NR 720.12, Wis. Adm. Code. A separate contour line should be used to indicate the extent of residual direct contact exceedances.

B.3. Groundwater Figures

B.3.a. **Geologic Cross-Section Figure(s):** One or more cross-section diagrams showing soil types and correlations across the site, water table and piezometric elevations, and locations and elevations of geologic rock units, if encountered.

Save...

Display on one or more figures all of the following:

- Source location(s) and vertical extent of residual soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL).
- Source location(s) and lateral and vertical extent if groundwater contamination exceeds a ch. NR 140 Enforcement Standard (ES)
- Surface features, including buildings and basements, and show surface elevation changes.
- Any areas of active remediation within the cross section path, such as excavations or treatment zones.
- Include a map displaying the cross-section location(s), if they are not displayed on the Detailed Site Map (Map B.1b)

B.3.b. **Groundwater Isoconcentration:** Figure(s) showing the horizontal extent of the post-remedial groundwater contamination exceeding a ch. NR 140, Wis. Adm. Code, Preventive Action Limit (PAL) and/or an Enforcement Standard (ES). Indicate the date and direction of groundwater flow based on the most recent sampling data.

B.3.c. **Groundwater Flow Direction:** Figure(s) representing groundwater movement at the site. If the flow direction varies by more than 20° over the history of the site, submit two groundwater flow maps showing the maximum variation in flow direction.

B.3.d. **Monitoring Wells:** Figure(s) showing all monitoring wells, with well identification number. Clearly designate any wells that: (1) are proposed to be abandoned; (2) cannot be located; (3) are being transferred; (4) will be retained for further sampling, or (5) have been previously abandoned.

B.4. Vapor Maps and Other Media

B.4.a. **Vapor Intrusion Map:** Map(s) showing all locations and results for samples taken to investigate the vapor intrusion pathway, in relation to remaining soil and groundwater contamination, including sub-slab, indoor air, soil vapor, ambient air, and communication testing. Show locations and footprints of affected structures and utility corridors, and/or where residual contamination poses a future risk of vapor intrusion.

B.4.b. **Other media of concern (e.g., sediment or surface water)**: Map(s) showing all sampling locations and results for other media investigation. Include the date of sample collection and identify where any standards are exceeded.

B.4.c. **Other:** Include any other relevant maps and figures not otherwise noted above. (This section may remain blank)

Documentation of Remedial Action (Attachment C)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

General Directions:

- Include in Attachment C all of the following documentation, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: C.1. Site Investigation Documentation; C.2. Investigative Waste, etc).
- If the documentation requested below is "not applicable" to the site-specific circumstances, include a brief explanation to support that conclusion.
- If the documentation requested below has already been submitted to the Department, please note the title and date of the report for that particular document requested.

C.1. **Site investigation documentation,** that has not otherwise been previously submitted.

C.2. **Investigative waste** disposal documentation.

C.3. **Provide a description of the methodology used along with all supporting documentation if the Residual Contaminant Levels are different than those contained in the Department's RCL Spreadsheet available at: http://dnr.wi.gov/topic/Brownfields/Professionals.html.**

C.4. **Construction documentation** or as-built report for any constructed remedial action or portion of, or interim action specified in s. NR 724.02(1), Wis. Adm. Code.

C.5. **Decommissioning of Remedial Systems.** Include plans to properly abandon any systems or equipment upon receiving conditional closure.

C.6. **Photos.** For sites or facilities with a cover or other performance standard, a structural impediment or a vapor mitigation system. Include one or more photographs documenting the condition and extent of the feature at the time of the closure request. Pertinent features should be visible and discernible. Photographs must be labeled with the site name, the features shown, location and the date on which the photograph was taken.

C.7. **Other**. Include any other relevant documentation not otherwise noted above. (This section may remain blank)

Maintenance Plan(s) and Photographs (Attachment D)

Save...

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

When one or more "maintenance plans" are required for a site closure, include in each maintenance plan all required information in sections D.1. through D.5. below, and attach the plan(s) in Attachment D. The following "model" maintenance plans can be located at: (1) Maintenance plan for a engineering control or cover: http://dnr.wi.gov/topic/Brownfields/documents/maintenance-plan.pdf; and (2) Maintenance plan for vapor intrusion: http://dnr.wi.gov/topic/Brownfields/documents/appendix5_606.pdf.

D.1. **Location map(s)** which show(s): (1) the feature that requires maintenance; (2) the location of the feature(s) that require(s) maintenance - on and off the source property; (3) the extent of the structure or feature(s) to be maintained, in relation to other structures or features on the site; (4) the extent and type of residual contamination; and (5) and all property boundaries.

D.2. **Brief descriptions** of the type, depth and location of residual contamination.

D.3. **Description of maintenance action(s)** required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required.

D.4. **Inspection log**, to be maintained on site, or at a location specified in the maintenance plan or approval letter.

D.5. **Contact information,** including the name, address and phone number of the individual or facility who will be conducting the maintenance.

D.6 For site or facilities with a cover or other performance standard, a structural impediment or a vapor mitigation system, include one or more photographs documenting the condition and extent of the feature at the time of the closure request. Pertinent features shall be visible and discernible.

D.6.b. Photographs shall be submitted with a title related to the site name and location, and the date on which it was taken.

Monitoring Well Information (Attachment E)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

General Directions:

Attach monitoring well construction and development forms (DNR FORM 4400-113 A and B: http://dnr.wi.gov/topic/groundwater/documents/forms/4400_113_1_2.pdf) for all wells that will remain in-use, be transferred to another party or that could not be located. A figure of these wells should be included in Attachment B.3.d.

Select One:

○ No monitoring wells were required as part of this response action.

◉ All monitoring wells have been located and will be properly abandoned upon the DNR granting conditional closure to the site

○ ***Select One or More:***

☐ Not all monitoring wells can be located, despite good faith efforts. Attachment E must include description of efforts made to locate the "lost" wells.

☐ One or more wells will be transferred to another owner upon case closure being granted. Attachment E should include documentation identifying the name, address and email for the new owner(s).

☐ One or more wells will remain in use at the site after this closure. Attachment E must include documentation as to the reason(s) the well(s) will remain in use.

Save...

Notifications to Owners of Impacted Properties (Attachment F)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

General Directions:

- State law requires that the responsible party provide a 30-day, written advance notice (i.e., a letter) to certain persons prior to applying for case closure. This requirement applies if: (1) the person conducting the response action does not own the source property; (2) the contamination has migrated onto another property; and/or (3) one or more monitoring wells will not be abandoned.
- A model "template letter" for these mandatory notifications can be downloaded at: http://dnr.wi.gov/files/PDF/pubs/rr/RR919.pdf.

Check all that apply to the site-specific circumstances of this case closure:

	A. Impacted Source Property and Owner is not Conducting Cleanup	B. Impacted Right of Way	C. Impacted Off-Site Property Owner	Impacted Property Notification Situations: Ch. NR 726 Appendix A Letter
1.	☐	☐	☐	Residual groundwater contamination exceeds Ch. NR 140 Wis. Administrative Code enforcement standards.
2.	☐	☐	☐	Residual soil contamination that attains or exceeds standards is present after the remedial action is complete, and must be properly managed should it be excavated or removed.
3.	☐	☐	☐	An engineered cover or a soil barrier (e.g. pavement) must be maintained over contaminated soil for direct contact or groundwater infiltration concerns.
4.	☐	☐	☐	Industrial land use soil standards were used for the clean-up standard.
5.	☐	☐	☐	A vapor mitigation system (or other specific vapor protection) must be operated and maintained.
6.	☐	☐	☐	Vapor assessment needed if use changes.
7.	☐	☐	☐	Structural impediment.
8.	☐	☐	☐	Lost, transferred or open monitoring wells.
9.	☒	☒	☒	Not Applicable.

If any of the previous boxes in rows 1 thru 8 were checked, include the following as part of Attachment F:

- FORM 4400-246;
- Copy of each letter sent, 30 days or more prior to requesting closure; and
- Proof of receipt for each letter.
- For this site closure, 0 (number) property (ies) has/have been impacted, the owners have been notified, and copies of the letters and receipts are included in Attachment F.

Source Legal Documents (Attachment G)

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form.All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

Include all of the following documents, in this order, in Attachment G:

G.1. **Deeds - Source Property and Other Impacted Properties:** The most recent deed with legal descriptions clearly labeled for (1) the **Source Property** (where the contamination originated) and (2) all **off-source** (off-site) properties where letters were required to be sent per the ch. NR 700, Wis. Adm. Code, rule series (e.g., off-site cover maintenance required, lost monitoring well, off-site cover property impacts to groundwater exceeding the ch. NR 140, Wis. Adm. Code.

Note: *If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*

G.2. ***Certified Survey Map:*** *A copy of the certified survey map or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map.* (Lots on subdivided or platted property (e.g. lot 2 of xyz subdivision)).

G.3. **Verification of Zoning**: Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.

G.4. **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description(s) accurately describe(s) the correct contaminated property or properties.

Save...

Signatures and Findings for Closure Determination

If any section is not relevant to the case closure request, you must fully explain the reasons why and attach that explanation to the relevant section of the form. All information submitted shall be legible. Providing illegible information may result in a submittal being considered incomplete until corrected.

Check the correct box for this case closure request, and have either a professional engineer or a hydrogeologist, as defined in ch. NR 712, Wis. Adm. Code, sign this document.

☒ A response action(s) for this site addresses groundwater contamination (including natural attenuation remedies).

☐ The response action(s) for this site addresses media other than groundwater.

Engineering Certification

I Adam J. Roder, P.E. hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A–E 4, Wis. Adm. Code; that this case closure request has been prepared by me or prepared under my supervision in accordance with the Rules of Professional Conduct in ch. A–E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this case closure request is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code. Specifically, with respect to compliance with the rules, in my professional opinion a site investigation has been conducted in accordance with ch. NR 716, Wis. Adm. Code, and all necessary remedial actions have been completed in accordance with chs. NR 140, NR 718, NR 720, NR 722, NR 724 and NR 726, Wis. Adm. Codes."

Adam J. Roder, P.E.	Senior Engineer	
Printed Name	Title	
Adam J. Roder	9/5/14	35739-0
Signature	Date	P.E. Stamp and Number

WISCONSIN ADAM J. RODER E-35739 NEW BERLIN WIS. PROFESSIONAL ENGINEER

Hydrogeologist Certification

I _____ hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this case closure request is correct and the document was prepared by me or prepared by me or prepared under my supervision and, in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code. Specifically, with respect to compliance with the rules, in my professional opinion a site investigation has been conducted in accordance with ch. NR 716, Wis. Adm. Code, and all necessary remedial actions have been completed in accordance with chs. NR 140, NR 718, NR 720, NR 722, NR 724 and NR 726, Wis. Adm. Codes."

Printed Name	Title
Signature	Date

Save...

Table A.1
Groundwater Analytical Table
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID				MW-98A																
Date	Units	NR 140 ES	NR 140 PAL	05/09/03	09/10/03	01/12/04	06/07/04	08/26/04	11/17/04	11/03/05	03/27/06	09/27/06	08/20/08	07/01/09	04/13/10	10/20/10	08/10/11	09/28/12	07/24/13
Volatile Organic Compounds																			
Benzene	µg/l	5	0.5	<0.5	<17.6	<25	<0.5	<1.0	<0.5	<0.171	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.074	<0.074
Bromobenzene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<5.0	<0.272	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.25	<0.25
Bromodichloromethane	µg/l	0.6	0.06	<0.5	<18	<18	<0.391	<0.782	<0.391	<0.274	<0.5	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.17	<0.17
n-Butylbenzene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<5.0	<0.417	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.13	<0.13
sec-Butylbenzene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<5.0	<0.276	<0.25	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.15	<0.15
tert-Butylbenzene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<5.0	<0.24	<0.2	<0.8	<0.3	<0.4	<0.4	<0.4	<0.4	<0.14	<0.14
Carbon tetrachloride	µg/l	5	0.5	<0.5	<29.6	<29.6	<0.372	<0.744	<0.372	<0.29	<0.5	<2.0	<1.0	<1.0	<1.6	<1.6	<1.6	<0.26	<0.26
Chlorobenzene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<5.0	<0.234	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.14	<0.14
Chloroethane	µg/l	400	80	2.14	<250	<250	<5.0	<10	<5.0	<0.345	1.3[J]	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.34	<0.34
Chloroform	µg/l	6	0.6	<0.14	<23.2	<23.2	<0.316	<0.632	<0.316	<0.182	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.20	<0.20
Chloromethane	µg/l	30	3	<0.6	<46	<46	<0.448	<0.896	<0.448	<0.306	<0.3	<0.8	<0.6	<0.6[B]	<0.6	<0.6	<0.6	<0.18	<0.18
2-Chlorotoluene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<5.0	<0.272	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21
4-Chlorotoluene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<5.0	<0.265	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.20	<0.20
Dibromochloromethane	µg/l	60	6.0	<0.5	<100	<250	<5.0	<10	<5.0	<0.275	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.32	<0.32
1,2-Dibromo-3-chloropropane	µg/l	0.2	0.02	<0.39	<31.4	<31.4	<0.264	<0.528	<0.264	<0.440	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.87	<0.87
1,2-Dibromoethane	µg/l	0.05	0.005	<0.38	<16.4	<16.4	<0.251	<0.502	<0.251	<0.124	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.36	<0.36
1,2-Dichlorobenzene	µg/l	600	60	<0.5	<250	<250	<5.0	<10	<5.0	<0.378	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.27	<0.27
1,3-Dichlorobenzene	µg/l	600	120	<0.5	<250	<250	<5.0	<10	<5.0	<0.311	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.15	<0.15
1,4-Dichlorobenzene	µg/l	75	15	<0.5	<250	<250	<5.0	<10	<5.0	<0.286	<0.2	<0.8	<1.0	<1.0	<1.0	<1.0	<1.0	<0.15	<0.15
Dichlorodifluoromethane	µg/l	1,000	200	<0.5	<250	<250	18.6	<10	<5.0	<0.275	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20
1,1-Dichloroethane	µg/l	850	85	14.6	51.5	66	56.8	(90.2)	(97.1)	81.9	81	77	74	79	(94)	(120)	(93)	(150)	75
1,2-Dichloroethane	µg/l	5	0.5	<0.5	<12	<25	<0.5	<1.0	<0.5	<1.76	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.28	<0.28
1,1-Dichloroethene	µg/l	7	0.7	<0.5	<20.7	<25	<0.5	<1.0	<0.5	(0.97)	(0.74[J])	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.66[J]	<0.31
cis-1,2-Dichloroethene	µg/l	70	7	(49.2)	[204]	[240]	[163]	[240]	[310[G20]]	[216]	[150]	[180]	[160]	[160]	[140]	[180]	[130]	[180]	[110]
trans-1,2-Dichloroethene	µg/l	100	20	2.24	<250	<250	5.39	<10	(22.7)	8.94	7.6	8.1	8.5	8.7	8.6	10	8.5	14	8.7
1,2-Dichloropropane	µg/l	5	0.5	<0.5	<16.8	<25	<0.5	<1.0	<0.5	<0.208	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20
1,3-Dichloropropane	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<5.0	<0.12	<0.25	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13
2,2-Dichloropropane	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<5.0	<0.233	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.32	<0.32
Di-isopropyl ether	µg/l	NS	NS	<5.0	<250	<250	<5.0	<10	<5.0	<0.219	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.15	<0.15
Ethylbenzene	µg/l	700	140	<0.5	<250	<250	<5.0	<10	<5.0	<0.152	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.13	<0.13
Hexachlorobutadiene	µg/l	NS	NS	<0.5	<500	<500	<10	<20	<10	<0.527	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.26	<0.26
Isopropylbenzene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<5.0	<0.168	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.14	<0.14
p-Isopropyltoluene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<5.0	<0.241	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.17	<0.17
Methylene chloride	µg/l	5	0.5	<0.53	<32	<32	<0.386	<0.772	<0.386	<0.437	<1.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<0.68	<0.68
Methyl tert-butyl ether	µg/l	60	12	<0.5	<19	<19	<0.290	<0.58	<0.29	<0.2	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.24	<0.24
Naphthalene	µg/l	100	10	<2.0	<400	<400	<8.0	<16	<8.0	<0.16	<0.25	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.16	<0.16
n-Propylbenzene	µg/l	NS	NS	<0.5	<200	<250	<5.0	<10	<5.0	<0.229	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.13	<0.13
1,1,2,2-Tetrachloroethane	µg/l	0.2	0.02	<0.35	<21.1	<21.1	<0.331	<0.662	<0.331	<0.314	<0.2	<0.8	<0.5	<0.5	<4.0	<4.0	<0.4	<0.23	<0.23
Tetrachloroethene	µg/l	5	0.5	<0.5	<24	<25	<0.5	(2.54)	<0.5	<0.189	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.17	<0.17
Toluene	µg/l	800	160	<0.5	<250	<250	<5.0	<10	<5.0	<0.17	<0.2	<0.8	<1.0	<1.0	<1.0	<1.0	<1.0	<0.11	<0.11
1,2,3-Trichlorobenzene	µg/l	NS	NS	<2.0	<500	<500	<10	<20	<10	<0.472	<0.25	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.24	<0.24
1,2,4-Trichlorobenzene	µg/l	70	14	<2.0	<500	<500	<10	<20	<10	<0.448	<0.25	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.31	<0.31
1,1,1-Trichloroethane	µg/l	200	40	1.98	<250	<250	6.6	11.1	<5.0	8.98	8.0	6.2[J]	3.8	<1.0	3.4[J]	3.6[J]	2.8[J]	3.4	2.7
1,1,2-Trichloroethane	µg/l	5	0.5	<0.16	<17.4	<17.4	<0.145	<0.29	<0.145	<0.116	<0.25	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.28	<0.28
Trichloroethene	µg/l	5	0.5	(4.29)	[28.5]	[24]	[11.5]	[16.5]	[18.6]	[10.8]	[8.7]	[8.6]	[5.2]	[5.2]	(4.5)	[5.1]	(4.0)	[5.6]	(3.7)
Trichlorofluoromethane	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<5.0	<0.248	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.19	<0.19
1,2,4-Trimethylbenzene	µg/l	NS	NS	<1.0	<250	<250	<5.0	<10	<5.0	<0.241	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.14	<0.14
1,3,5-Trimethylbenzene	µg/l	NS	NS	<1.0	<250	<250	<5.0	<10	<5.0	<0.188	<0.2	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.18	<0.18
Trimethylbenzene	µg/l	480	96	<2.0	<500	<500	<10	<20	<10	<0.429	<0.4	<1.6	<0.8	<0.8	<0.8	<0.8	<0.8	<0.32	<0.32
Vinyl chloride	µg/l	0.2	0.02	[18.7]	[60]	<32.6	<0.217	<0.434	[52.6]	[16.4]	[30]	[51]	[60]	[60]	[73]	[95]	[68]	[120]	[56]
Total Xylenes	µg/l	2,000	400	<1.2	<250	<250	<5.0	<10	<5.0	<0.428	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.068	<0.068
Dissolved Gases																			
Carbon dioxide	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	54.00	NA	NA	NA	NA	NA
Ethane	µg/l	NS	NS	NA	0.30	NA	0.16	0.93	0.72	NA	0.47	1.2	NA	0.67	1.6	NA	6.4	2.6	2.0
Ethene	µg/l	NS	NS	NA	2.5	NA	0.58	5.9	3.2	NA	1.8	7.1	NA	4.5	9.5	NA	6.6	19	13
Methane	µg/l	NS	NS	NA	26	NA	2.4	72	43	NA	35	120	NA	70	150	NA	96	250	230

Notes:

B = Analyte was detected in the associated Method Blank.
C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, date not impacted.
J = Results reported between the Method Detection Limit and Limit of Quantitation are less certain than results at or above the LOQ.
G20 = This anaylte was initially analyzed within holdtime; however, reanalysis at a dilution was performed outside the method specified holdtime.
G28 = The recovery of this Calibration Check Compound (CCC) in the check standard is above the method specified acceptance criteria.
µg/L = micrograms per liter (equivalent to parts per billion)
NA = Not Analyzed NS =No Standard
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
Exceedances: ( ) = concentration exceeds Chapter NR 140 PAL
[ ] = concentration exceeds Chapter NR 140 ES

Table A.1
Groundwater Analytical Table
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID	Units	NR 140 ES	NR 140 PAL	MW-98B																
Date				05/09/03	09/10/03	01/12/04	06/07/04	08/26/04	11/17/04	11/03/05	03/27/06	09/27/06	08/21/08	07/01/09	04/13/10	10/20/10	08/10/11	09/28/12	07/24/13
Volatile Organic Compounds																				
Benzene	µg/l	5	0.5	<0.5	<17.6	<25	<0.5	<1.0	<2.5	<0.171	<0.2	0.33[J]	0.31[J]	0.21[J]	0.29[J]	0.39[J]	0.22[J]	0.48[J]	0.24[J]
Bromobenzene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<25	<0.272	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.25	<0.25
Bromodichloromethane	µg/l	0.6	0.06	<0.5	<18	<18	<0.391	<0.782	<1.96	<0.274	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.17	<0.17
n-Butylbenzene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<25	<0.417	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.13	<0.13
sec-Butylbenzene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<25	<0.276	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.15	<0.15
tert-Butylbenzene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<25	<0.24	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14
Carbon tetrachloride	µg/l	5	0.5	<0.5	<29.6	<29.6	<0.372	<0.744	<1.86	<0.29	<0.5	<0.5	<0.5	<0.5	<0.8	<0.8	<0.8	<0.26	<0.26
Chlorobenzene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<25	<0.234	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14
Chloroethane	µg/l	400	80	<0.5	<250	<250	<5.0	<10	<25	<0.345	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.34	<0.34
Chloroform	µg/l	6	0.6	<0.14	<23.2	<23.2	<0.316	<0.632	<1.58	<0.182	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20
Chloromethane	µg/l	30	3	<0.6	<46	<46	<0.448	<0.896	<2.24	<0.306	<0.3	<0.3	<0.3	<0.3[C]	<0.3	<0.3	<0.3	<0.18	<0.18
2-Chlorotoluene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<25	<0.272	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.21	<0.21
4-Chlorotoluene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<25	<0.265	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20
Dibromochloromethane	µg/l	60	6.0	<0.5	<100	<250	<5.0	<10	<25	<0.275	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.32	<0.32
1,2-Dibromo-3-chloropropane	µg/l	0.2	0.02	<0.39	<31.4	<31.4	<0.264	<0.528	<1.32	<0.44	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.87	<0.87
1,2-Dibromoethane	µg/l	0.05	0.005	<0.38	<16.4	<16.4	<0.251	<0.502	<1.26	<0.124	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.36	<0.36
1,2-Dichlorobenzene	µg/l	600	60	<0.5	<250	<250	<5.0	<10	<25	<0.378	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.27	<0.27
1,3-Dichlorobenzene	µg/l	600	120	<0.5	<250	<250	<5.0	<10	<25	<0.311	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.15	<0.15
1,4-Dichlorobenzene	µg/l	75	15	<0.5	<250	<250	<5.0	<10	<25	<0.286	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.15	<0.15
Dichlorodifluoromethane	µg/l	1,000	200	<0.5	<250	<250	12.5	<10	<25	<0.275	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20
1,1-Dichloroethane	µg/l	850	85	59.4	72	81.5	67.5	60.3	77.8	74	15	(85)	63	46	52	(93)	48	(94)	34
1,2-Dichloroethane	µg/l	5	0.5	<0.5	<12	<25	<0.5	<1.0	<2.5	<1.76	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.28	<0.28
1,1-Dichloroethene	µg/l	7	0.7	<0.5	<20.7	<25	<0.5	<1.0	<2.5	(0.97)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.31	<0.31
cis-1,2-Dichloroethene	µg/l	70	7	[178]	[162]	[141]	[160]	[96.6]	[125]	[90.8]	(17)	[100]	(58)	(24)	(28)	(64)	(28)	(34)	(17)
trans-1,2-Dichloroethene	µg/l	100	20	7.38	<250	<250	5.39	<10	<25	<0.172	0.68[J]	4.4	3.0	1.5[J]	1.6[J]	3.6	1.8[J]	3.1	1.4
1,2-Dichloropropane	µg/l	5	0.5	<0.5	<16.8	<25	<0.5	<1.0	<2.5	<0.208	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20
1,3-Dichloropropane	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<25	<0.12	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.13	<0.13
2,2-Dichloropropane	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<25	<0.233	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.32	<0.32
Di-isopropyl ether	µg/l	NS	NS	<5.0	<250	<250	<5.0	<10	<25	<0.219	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.15	<0.15
Ethylbenzene	µg/l	700	140	<0.5	<250	<250	<5.0	<10	<25	<0.152	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13
Hexachlorobutadiene	µg/l	NS	NS	<0.5	<500	<500	<10	<20	<50	<0.527	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.26	<0.26
Isopropylbenzene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<25	<0.168	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14
p-Isopropyltoluene	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<25	<0.241	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.17	<0.17
Methylene chloride	µg/l	5	0.5	<0.53	<32	<32	<0.386	<0.772	<1.93	<0.437	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.68	<0.68
Methyl tert-butyl ether	µg/l	60	12	<0.5	<19	<19	<0.290	<0.58	<1.45	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.24	<0.24
Naphthalene	µg/l	100	10	<2.0	<400	<400	<8.0	<16	<40	<0.16	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.16	<0.16
n-Propylbenzene	µg/l	NS	NS	<0.5	<200	<250	<5.0	<10	<25	<0.229	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13
1,1,2,2-Tetrachloroethane	µg/l	0.2	0.02	<0.35	<21.1	<21.1	<0.331	<0.662	<1.66	<0.314	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.23	<0.23
Tetrachloroethene	µg/l	5	0.5	<0.5	<24	<25	<0.5	(2.74)	<2.5	<0.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.17	<0.17
Toluene	µg/l	800	160	<0.5	<250	<250	<5.0	<10	<25	<0.17	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.11	<0.11
1,2,3-Trichlorobenzene	µg/l	NS	NS	<2.0	<500	<500	<10	<20	<50	<0.472	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.24	<0.24
1,2,4-Trichlorobenzene	µg/l	70	14	<2.0	<500	<500	<10	<20	<50	<0.448	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.31	<0.31
1,1,1-Trichloroethane	µg/l	200	40	0.659	<250	<250	<5.0	<10	<25	8.98	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20
1,1,2-Trichloroethane	µg/l	5	0.5	<0.16	<17.4	<17.4	<0.145	<0.29	<0.725	<0.116	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.28	<0.28
Trichloroethene	µg/l	5	0.5	(0.614)	<19.8	<25	<0.5	<1.0	<2.5	(0.59)	<0.2	<0.2[B]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.19	<0.19
Trichlorofluoromethane	µg/l	NS	NS	<0.5	<250	<250	<5.0	<10	<25	<0.248	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19
1,2,4-Trimethylbenzene	µg/l	NS	NS	<1.0	<250	<250	<5.0	<10	<25	<0.241	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14
1,3,5-Trimethylbenzene	µg/l	NS	NS	<1.0	<250	<250	<5.0	<10	<25	<0.188	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.18	<0.18
Trimethylbenzene	µg/l	480	96	<2.0	<500	<500	<10	<20	<50	<0.429	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.32	<0.32
Vinyl chloride	µg/l	0.2	0.02	[282]	[304]	[216]	[592]	<0.434	[460[G28]]	[60.8]	[34]	[190]	[86]	[27]	[41]	[140]	[34]	[80]	[15]
Total Xylenes	µg/l	2,000	400	<0.5	<250	<250	<5.0	<10	<25	<0.428	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.068	<0.068
Dissolved Gases																				
Ethane	µg/l	NS	NS	NA	22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0	2.0
Ethene	µg/l	NS	NS	NA	46	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13	5.9
Methane	µg/l	NS	NS	NA	420	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	160	46

Notes:

B = Analyte was detected in the associated Method Blank.
C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, date not impacted.
J = Results reported between the Method Detection Limit and Limit of Quantitation are less certain than results at or above the LOQ.
G20 = This anaylte was initially analyzed within holdtime; however, reanalysis at a dilution was performed outside the method specified holdtime.
G28 = The recovery of this Calibration Check Compound (CCC) in the check standard is above the method specified acceptance criteria.
µg/L = micrograms per liter (equivalent to parts per billion)
NA = Not Analyzed NS =No Standard
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
Exceedances: ( ) = concentration exceeds Chapter NR 140 PAL
[ ] = concentration exceeds Chapter NR 140 ES

Table A.1
Groundwater Analytical Table
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID	Units	NR 140 ES	NR 140 PAL	MW-98C															
Date				05/09/03	09/10/03	01/12/04	06/07/04	08/26/04	11/17/04	11/03/05	03/27/06	09/27/06	08/20/08	07/01/09	04/13/10	10/20/10	08/10/11	09/28/12	07/24/13
Volatile Organic Compounds																			
Benzene	µg/l	5	0.5	<0.5	<35.2	<50	(4.55)	<25	(3.11)	(4.01)	(2.2^{J})	<10	<10	<8.0	<5.0	<4.0	<8.0	<1.5	<0.37
Bromobenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.272	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<5.0	<1.3
Bromodichloromethane	µg/l	0.6	0.06	<0.5	<35.9	<35.9	[14.3]	<19.6	<0.391	<0.274	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<3.4	<0.85
n-Butylbenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.417	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<2.6	<0.65
sec-Butylbenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.276	<1.0	<12	<12	<10	<6.2	<5.0	<10	<3.0	<0.75
tert-Butylbenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.24	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<2.8	<0.70
Carbon tetrachloride	µg/l	5	0.5	<0.5	<59.2	<59.2	<0.372	<18.6	<0.372	<0.29	<2.0	<25	<25	<20	<20	<16	<32	<5.2	<1.3
Chlorobenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.234	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<2.8	<0.70
Chloroethane	µg/l	400	80	2.47	<500	<500	<5.0	<250	<5.0	5.12	<4.0	<50	<50	<40	<25	<20	<40	<6.8	<1.7
Chloroform	µg/l	6	0.6	<0.14	<46.3	<46.3	<0.316	<15.8	<0.316	<0.182	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<4.0	<1.0
Chloromethane	µg/l	30	3	<0.6	<92	<92	<0.448	<22.4	<0.448	<0.306	<0.8	<10	<15	<12	<7.5	<6.0	<12	<3.6	<0.90
2-Chlorotoluene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.272	<2.0	<25	<25	<20	<12	<10	<20	<4.2	<1.1
4-Chlorotoluene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.265	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<4.0	<1.0
Dibromochloromethane	µg/l	60	6.0	<0.5	<200	<500	<5.0	<250	<5.0	<0.275	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<6.4	<1.6
1,2-Dibromo-3-chloropropane	µg/l	0.2	0.02	<0.39	<62.9	<62.9	<0.264	<13.2	<0.264	<0.440	<2.0	<25	<25	<20	<12	<10	<20	<17	<4.4
1,2-Dibromoethane	µg/l	0.05	0.005	<0.38	<32.9	<32.9	<0.251	<12.6	<0.251	<0.124	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<7.2	<1.8
1,2-Dichlorobenzene	µg/l	600	60	<0.5	<500	<500	<5.0	<250	<5.0	<0.378	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<5.4	<1.4
1,3-Dichlorobenzene	µg/l	600	120	<0.5	<500	<500	<5.0	<250	<5.0	<0.311	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<3.0	<0.75
1,4-Dichlorobenzene	µg/l	75	15	<0.5	<500	<500	<5.0	<250	<5.0	<0.286	<0.8	<10	<25	<20	<12	<10	<20	<3.0	<0.75
Dichlorodifluoromethane	µg/l	1,000	200	<0.5	<500	<500	11.9	<250	<5.0	<0.275	<2.0	<25	<25^{C}	<20	<12	<10	<20	<4.0	<1.0
1,1-Dichloroethane	µg/l	850	85	40.9	(118)	(159)	(88)	(102)	(152)	81.7	74	(130)	60^{J}	65^{J}	38^{J}	56	31^{J}	(120)	34
1,2-Dichloroethane	µg/l	5	0.5	<0.5	<24	<50	<0.5	<25	<0.5	<1.76	<2.0	<25	<25	<20	<12	<10	<20	<5.6	<1.4
1,1-Dichloroethene	µg/l	7	0.7	(1.44)	<41.4	<50	<0.5	<25	[22.1]	[9.18]	(4.7^{J})	<25	<25	<20	<12	<10	<20	[17^{J}]	(4.0^{J})
cis-1,2-Dichloroethene	µg/l	70	7	[888]	[4,200]	[7,430]	[1,800]	[4,220]	[7,280]	[6,430]	[4,200]	[7,100]	[2,900]	[2,500]	[1,500]	[3,400]	[1,700]	[7,500]	[2,600]
trans-1,2-Dichloroethene	µg/l	100	20	8.12	<500	<500	11.2	<250	(67.3)	<0.172	(30)	(50^{J})	(28^{J})	(27^{J})	(18^{J})	(33^{J})	<20	(98)	(25)
1,2-Dichloropropane	µg/l	5	0.5	<0.5	<33.5	<50	<0.5	<25	<0.5	<0.208	<2.0	<25	<25	<20	<12	<10	<20	<4.0	<1.0
1,3-Dichloropropane	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.12	<1.0	<12	<12	<10	<6.2	<5.0	<10	<2.6	<0.65
2,2-Dichloropropane	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.233	<2.0	<25	<25	<20	<12	<10	<20	<6.4	<1.6
Di-isopropyl ether	µg/l	NS	NS	<5.0	<500	<500	<5.0	<250	<5.0	<0.219	<2.0	<25	<25	<20	<12	<10	<20	<3.0	<0.75
Ethylbenzene	µg/l	700	140	<0.5	<500	<500	<5.0	<250	<5.0	<0.152	<2.0	<25	<25	<20	<12	<10	<20	<2.6	<0.65
Hexachlorobutadiene	µg/l	NS	NS	<0.5	<1000	<1000	<10	<500	<10	<0.527	<2.0	<25	<25	<20	<12	<10	<20	<5.2	<1.3
Isopropylbenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.168	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<2.8	<0.70
p-Isopropyltoluene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.241	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<3.4	<0.85
Methylene chloride	µg/l	5	0.5	(4.48)	<64.1	<64.1	[9.0]	<19.3	[29.2]	[14.9]	[12^{S2,J}]	<50	<50	<40	<25	<20	<40	<14	<3.4
Methyl tert-butyl ether	µg/l	60	12	<0.5	<38.1	<38.1	<0.29	<14.5	<0.29	<0.2	<2.0	<25	<25	<20	<12	<10	<20	<4.8	<1.2
Naphthalene	µg/l	100	10	<2.0	<800	<800	<8.0	<400	<8.0	2.44	1.2^{J}	<12	<12	<10	<6.2	<5.0	<10	<3.2	<0.80
n-Propylbenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.229	<2.0	<25	<25	<20	<12	<10	<20	<2.6	<0.65
1,1,2,2-Tetrachloroethane	µg/l	0.2	0.02	<0.35	<42.2	<42.2	<0.331	<16.6	<0.331	<0.314	<0.8	<10	<10	<10	<5.0	<4.0	<10	<4.6	<1.2
Tetrachloroethene	µg/l	5	0.5	<0.5	<47.9	<50	<0.5	[58.5]	<0.5	<0.189	<2.0	<25	<25	<20	<12	<10	<20	<3.4	<0.85
Toluene	µg/l	800	160	0.581	<500	<500	<5.0	<250	<5.0	1.33	<0.8	<10	<25	<20	<12	<10	<20	<2.2	<0.55
1,2,3-Trichlorobenzene	µg/l	NS	NS	<2.0	<1000	<1000	<10	<500	<10	<0.472	<1.0	<12	<12	<10	<6.2	<5.0	<10	<4.8	<1.2
1,2,4-Trichlorobenzene	µg/l	70	14	<2.0	<1000	<1000	<10	<500	<10	<0.448	<1.0	<12	<12	<10	<6.2	<5.0	<10	<6.2	<1.6
1,1,1-Trichloroethane	µg/l	200	40	[208]	[464]	(184)	<250	(146)	(106)	(124)	(59)	(100)	(49^{J})	<20	20^{J}	22^{J}	<20	<4.0	15
1,1,2-Trichloroethane	µg/l	5	0.5	<0.16	<34.7	<34.7	<0.145	<7.25	<0.145	<0.116	<1.0	<12	<12	<10	<6.2	<5.0	<10	<5.6	<1.4
Trichloroethene	µg/l	5	0.5	[1,450]	[3,050]	[3,620]	[1,800]	[3,980]	[6,700]	[4,280]	[2,200]	[5,800]	[2,300]	[1,300]	[1,000]	[2,400]	[1,200]	[4,500]	[1,100]
Trichlorofluoromethane	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<5.0	<0.248	<2.0	<25	<25	<20	<12	<10	<20	<3.8	<0.95
1,2,4-Trimethylbenzene	µg/l	NS	NS	<1.0	<500	<500	<5.0	<250	<5.0	<0.241	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<2.8	<0.70
1,3,5-Trimethylbenzene	µg/l	NS	NS	<1.0	<500	<500	<5.0	<250	<5.0	<0.188	<0.8	<10	<10	<8.0	<5.0	<4.0	<8.0	<3.6	<0.90
Trimethylbenzene	µg/l	480	96	<2.0	<1000	<1000	<10	<500	<10	<0.429	<1.6	<20	<20	<16	<10	<8.0	<16	<6.4	<1.60
Vinyl chloride	µg/l	0.2	0.02	[14.8]	[122]	[145]	<0.217	<10.8	[446^{G28}]	[61.2]	[200]	[370]	[190]	[170]	[96]	[170]	[86]	[550]	[100]
Total Xylenes	µg/l	2,000	400	0.689	<500	<500	<5.0	<250	6.29	8.07	2.5^{J}	<25	<25	<20	<12	<10	<20	<1.4	<0.34
Dissolved Gases																			
Ethane	µg/l	NS	NS	NA	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.6	0.80
Ethene	µg/l	NS	NS	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38	14
Methane	µg/l	NS	NS	NA	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13	13

Notes:

B = Analyte was detected in the associated Method Blank.
C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, date not impacted.
J = Results reported between the Method Detection Limit and Limit of Quantitation are less certain than results at or above the LOQ.
G20 = This anaylte was initially analyzed within holdtime; however, reanalysis at a dilution was performed outside the method specified holdtime.
G28 = The recovery of this Calibration Check Compound (CCC) in the check standard is above the method specified acceptance criteria.
µg/L = micrograms per liter (equivalent to parts per billion)
NA = Not Analyzed NS =No Standard
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
Exceedances: ( ) = concentration exceeds Chapter NR 140 PAL
[ ] = concentration exceeds Chapter NR 140 ES

Table A.1
Groundwater Analytical Table
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID	Units	NR 140 ES	NR 140 PAL	MW-98D																
Date				05/09/03	09/10/03	01/12/04	06/07/04	08/26/04	11/17/04	11/03/05	03/27/06	09/27/06	08/20/08	07/01/09	04/13/10	10/20/10	08/10/11	09/28/12	07/24/13
Volatile Organic Compounds																				
Benzene	µg/l	5	0.5	[6.32]	<35.2	<50	[8.13]	<25	[14.2]	(3.69)	<0.8	(4.3)	<4.0	(3.3^{J})	(3.1^{J})	[5.5^{J}]	(4.7^{J})	[9.7]	(4.7)
Bromobenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.272	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<1.3	<0.25
Bromodichloromethane	µg/l	0.6	0.06	<0.5	<35.9	<35.9	[1.04]	<19.6	<7.82	<0.274	<0.8	<0.5	<4.0	<2.0	<2.0	<2.0	<1.0	<0.85	<0.40
n-Butylbenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.417	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<0.65	<0.13
sec-Butylbenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.276	<1.0	<0.25	<5.0	<2.5	<2.5	<2.5	<1.3	<0.75	<0.15
tert-Butylbenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.24	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<0.70	<0.14
Carbon tetrachloride	µg/l	5	0.5	<0.5	<59.2	<59.2	<0.372	<18.6	<7.44	<0.29	<2.0	<0.5	<10	<5.0	<8.0	<8.0	<4.0	<1.3	<0.26
Chlorobenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.234	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<0.70	<0.14
Chloroethane	µg/l	400	80	<0.5	<500	<500	<5.0	<250	<100	<0.345	<4.0	<1.0	<20	<10	<10	<10	<5.0	<1.7	<0.34
Chloroform	µg/l	6	0.6	<0.14	<46.3	<46.3	<0.316	<15.8	<6.32	<0.182	<0.8	0.34^{J}	<4.0	<2.0	<2.0	<2.0	<1.0	<1.0	<0.20
Chloromethane	µg/l	30	3	<0.6	<92	<92	<0.448	<22.4	<8.96	<0.306	<0.8	<0.3	<6.0	<3.0^{J}	<3.0	<3.0	<1.5	<0.90	<0.18
2-Chlorotoluene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.272	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<1.1	<0.21
4-Chlorotoluene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.265	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<1.0	<0.20
Dibromochloromethane	µg/l	60	6.0	<0.5	<200	<500	<5.0	<250	<100	<0.275	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<1.6	<0.32
1,2-Dibromo-3-chloropropane	µg/l	0.2	0.02	<0.39	<62.9	<62.9	<0.264	<13.2	<5.28	<0.44	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<4.4	<0.87
1,2-Dibromoethane	µg/l	0.05	0.005	<0.38	<32.9	<32.9	<0.251	<12.6	<5.02	<0.124	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<1.8	<0.36
1,2-Dichlorobenzene	µg/l	600	60	<0.5	<500	<500	<5.0	<250	<100	<0.378	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<1.4	<0.27
1,3-Dichlorobenzene	µg/l	600	120	<0.5	<500	<500	<5.0	<250	<100	<0.311	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<0.75	<0.15
1,4-Dichlorobenzene	µg/l	75	15	<0.5	<500	<500	<5.0	<250	<100	<0.286	<0.8	<0.2	<10	<5.0	<5.0	<5.0	<2.5	<0.75	<0.15
Dichlorodifluoromethane	µg/l	1,000	200	<0.5	<500	<500	12.2	<250	<100	<0.275	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<1.0	<0.20
1,1-Dichloroethane	µg/l	850	85	(105)	(127)	(143)	(166)	<250	(104)	<0.179	55	(90)	57	55	65	69	58	(98)	50
1,2-Dichloroethane	µg/l	5	0.5	<0.5	<24	<50	<0.5	<25	<10	[79.4]	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<1.4	<0.28
1,1-Dichloroethene	µg/l	7	0.7	(2.37)	<41.4	<50	<0.5	<25	<10	(2.07)	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	(3.0^{J})	(0.90^{J})
cis-1,2-Dichloroethene	µg/l	70	7	[1,700]	[3,220]	[3,540]	[163]	[3,400]	[4,530]	[2,140]	[1,400]	[2,100]	[1,300]	[660]	[930]	[740]	[520]	[1,400]	[520]
trans-1,2-Dichloroethene	µg/l	100	20	(73.4)	[113]	[130]	(93.1)	<250	[340]	(53.6)	(39)	(78)	(45)	(29)	(43)	(38)	(28)	(75)	(26)
1,2-Dichloropropane	µg/l	5	0.5	<0.5	<33.5	<50	<0.5	<25	<10	<0.208	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<1.0	<0.20
1,3-Dichloropropane	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.12	<1.0	<0.25	<5.0	<2.5	<2.5	<2.5	<1.3	<0.65	<0.13
2,2-Dichloropropane	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.233	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<1.6	<0.32
Di-isopropyl ether	µg/l	NS	NS	<5.0	<500	<500	<5.0	<250	<100	<0.219	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<0.75	<0.15
Ethylbenzene	µg/l	700	140	<0.5	<500	<500	<5.0	<250	<100	<0.152	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<0.65	<0.13
Hexachlorobutadiene	µg/l	NS	NS	<0.5	<1000	<1000	<10	<500	<200	<0.527	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<1.3	<0.26
Isopropylbenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.168	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<0.70	<0.14
p-Isopropyltoluene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.241	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<0.85	<0.17
Methylene chloride	µg/l	5	0.5	<0.53	<64.1	<64.1	<0.386	<19.3	<7.72	<0.473	<4.0	(3.3^{S2})	<20	<10	<10	<10	<1.3	<3.4	<0.68
Methyl tert-butyl ether	µg/l	60	12	<0.5	<38.1	<38.1	<0.29	<14.5	<5.8	<0.2	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<1.2	<0.24
Naphthalene	µg/l	100	10	<2.0	<800	<800	<8.0	<400	<160	2.44	<1.0	<0.25	<5.0	<2.5	<2.5	<2.5	<1.3	<0.80	<0.16
n-Propylbenzene	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.229	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<0.65	<0.13
1,1,2,2-Tetrachloroethane	µg/l	0.2	0.02	<0.35	<42.2	<42.2	<0.331	<16.6	<6.62	<0.314	<0.8	<0.2	<4.2	<2.0	<2.0	<2.0	<1.0	<1.2	<0.23
Tetrachloroethene	µg/l	5	0.5	(1.8)	<47.9	<50	<0.5	[62.5]	<10	<0.189	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<0.85	<0.17
Toluene	µg/l	800	160	0.892	<500	<500	<5.0	<250	<100	<0.17	<0.8	<0.2	<10	<5.0	<5.0	<5.0	<2.5	<0.55	<0.11
1,2,3-Trichlorobenzene	µg/l	NS	NS	<2.0	<1000	<1000	<10	<500	<200	<0.472	<1.0	<0.25	<5.0	<2.5	<2.5	<2.5	<1.3	<1.2	<0.24
1,2,4-Trichlorobenzene	µg/l	70	14	<2.0	<1000	<1000	<10	<500	<200	<0.448	<1.0	<0.25	<5.0	<2.5	<2.5	<2.5	<1.3	<1.6	<0.31
1,1,1-Trichloroethane	µg/l	200	40	2.32	<500	<500	23.4	<250	<100	<0.187	2.5^{J}	3.5	<10	<5.0	<5.0	<5.0	<2.5	<1.0	<0.20
1,1,2-Trichloroethane	µg/l	5	0.5	<0.16	<34.7	<34.7	<0.145	<7.25	<2.9	<0.116	<1.0	<0.25	<5.0	<2.5	<2.5	<2.5	<1.3	<1.4	<0.28
Trichloroethene	µg/l	5	0.5	[75.8]	[130]	[145]	[106]	[139]	[153]	[54.5]	[42]	[57]	[30]	[18]	[16^{J}]	[11^{J}]	[11]	[20]	[10]
Trichlorofluoromethane	µg/l	NS	NS	<0.5	<500	<500	<5.0	<250	<100	<0.248	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<0.95	<0.19
1,2,4-Trimethylbenzene	µg/l	NS	NS	<1.0	<500	<500	<5.0	<250	<100	<0.241	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<0.70	<0.14
1,3,5-Trimethylbenzene	µg/l	NS	NS	<1.0	<500	<500	<5.0	<250	<100	<0.188	<0.8	<0.2	<4.0	<2.0	<2.0	<2.0	<1.0	<0.90	<0.18
Trimethylbenzene	µg/l	480	96	<2.0	<1000	<1000	<10	<500	<200	<0.429	<1.6	<0.4	<8.0	<4.0	<4.0	<4.0	<2.0	<1.60	<0.32
Vinyl chloride	µg/l	0.2	0.02	[612]	[743]	[540]	[881]	<10.8	[1,080^{G28}]	[66.3]	[24]	[160]	[140]	[490]	[380]	[790]	[420]	[880]	[290]
Total Xylenes	µg/l	2,000	400	0.542	<500	<500	<5.0	<250	<100	<0.428	<2.0	<0.5	<10	<5.0	<5.0	<5.0	<2.5	<0.34	<0.068
Dissolved Gases																			
Carbon dioxide	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	83.00	NA	NA	NA	NA	NA
Ethane	µg/l	NS	NS	NA	19	NA	15	6.6	11	NA	1.2	4.5	NA	2.7	4.9	NA	4.5	12	6.3
Ethene	µg/l	NS	NS	NA	150	NA	61	83	110	NA	1.8	20	NA	66	21	NA	120	88	93
Methane	µg/l	NS	NS	NA	1,200	NA	550	200	370	NA	53	200	NA	110	130	NA	200	790	310

Notes:

B = Analyte was detected in the associated Method Blank.
C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, date not impacted.
J = Results reported between the Method Detection Limit and Limit of Quantitation are less certain than results at or above the LOQ.
G20 = This anaylte was initially analyzed within holdtime; however, reanalysis at a dilution was performed outside the method specified holdtime.
G28 = The recovery of this Calibration Check Compound (CCC) in the check standard is above the method specified acceptance criteria.
µg/L = micrograms per liter (equivalent to parts per billion)
NA = Not Analyzed NS =No Standard
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
Exceedances: ( ) = concentration exceeds Chapter NR 140 PAL
[ ] = concentration exceeds Chapter NR 140 ES

Table A.1
Groundwater Analytical Table
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID	Units	NR 140 ES	NR 140 PAL	MW-98E													
Date				01/12/04	06/07/04	08/26/04	11/17/04	11/03/05	03/27/06	09/27/06	08/20/08	07/01/09	04/13/10	10/20/10	08/10/11	09/28/12	07/24/13
Volatile Organic Compounds																	
Benzene	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.171	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.074	<0.074
Bromobenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.272	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.25	<0.25
Bromodichloromethane	µg/l	0.6	0.06	<0.359	<0.391	<0.391	<0.391	<0.274	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	NA	<0.17	<0.17
n-Butylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.417	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.13	<0.13
sec-Butylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.276	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.15	<0.15
tert-Butylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.24	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.14	<0.14
Carbon tetrachloride	µg/l	5	0.5	<0.592	<0.372	<0.372	<0.372	<0.29	<0.5	<0.5	<0.5	<0.5	<0.8	<0.8	NA	<0.26	<0.26
Chlorobenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.234	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.14	<0.14
Chloroethane	µg/l	400	80	<5.0	<5.0	<5.0	<5.0	<0.345	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<0.34	<0.34
Chloroform	µg/l	6	0.6	<0.463	<0.316	<0.316	<0.316	<0.182	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.20	<0.20
Chloromethane	µg/l	30	3	<0.92	<0.448	<0.448	<0.448	<0.306	<0.2	<0.3	<0.3	<0.3[B]	<0.3	<0.3	NA	<0.18	<0.18
2-Chlorotoluene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.272	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.21	<0.21
4-Chlorotoluene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.265	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.20	<0.20
Dibromochloromethane	µg/l	60	6.0	<5.0	<5.0	<5.0	<5.0	<0.275	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.32	<0.32
1,2-Dibromo-3-chloropropane	µg/l	0.2	0.02	<0.629	<0.264	<0.264	<0.264	<0.44	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.87	<0.87
1,2-Dibromoethane	µg/l	0.05	0.005	<0.329	<0.251	<0.251	<0.251	<0.124	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.36	<0.36
1,2-Dichlorobenzene	µg/l	600	60	<5.0	<5.0	<5.0	<5.0	<0.378	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.27	<0.27
1,3-Dichlorobenzene	µg/l	600	120	<5.0	<5.0	<5.0	<5.0	<0.311	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.15	<0.15
1,4-Dichlorobenzene	µg/l	75	15	<5.0	<5.0	<5.0	<5.0	<0.286	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	NA	<0.15	<0.15
Dichlorodifluoromethane	µg/l	1,000	200	<5.0	11.5	<5.0	<5.0	<0.275	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.20	<0.20
1,1-Dichloroethane	µg/l	850	85	11.2	13.1	14.6	20.2	13.6	17	18	17	16	16	21	NA	26	17
1,2-Dichloroethane	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5	<1.76	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.28	<0.28
1,1-Dichloroethene	µg/l	7	0.7	<0.5	<0.5	<0.5	<0.5	(0.97)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.31	<0.31
cis-1,2-Dichloroethene	µg/l	70	7	(23.6)	(25.4)	(30.7)	(41)	(30.6)	(32)	(33)	(27)	(23)	(24)	(33)	NA	(42)	(27)
trans-1,2-Dichloroethene	µg/l	100	20	0.92	5.39	<5.0	<5.0	<0.172	1.7	1.6[J]	1.5[J]	1.2[J]	1.2[J]	1.8[J]	NA	3.0	1.5
1,2-Dichloropropane	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5[G28]	<0.208	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.20	<0.20
1,3-Dichloropropane	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.12	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.13	<0.13
2,2-Dichloropropane	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.233	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.32	<0.32
Di-isopropyl ether	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.219	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.15	<0.15
Ethylbenzene	µg/l	700	140	<5.0	<5.0	<5.0	<5.0[G28]	<0.152	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.13	<0.13
Hexachlorobutadiene	µg/l	NS	NS	<10	<10	<10	<10	<0.527	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.26	<0.26
Isopropylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.168	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.14	<0.14
p-Isopropyltoluene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.241	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.17	<0.17
Methylene chloride	µg/l	5	0.5	<0.641	<0.386	<0.386	<0.386	<0.473	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<0.68	<0.68
Methyl tert-butyl ether	µg/l	60	12	<0.381	<0.29	<0.29	<0.29	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.24	<0.24
Naphthalene	µg/l	100	10	<8.0	<8.0	<8.0	<8.0	2.44	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.16	<0.16
n-Propylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.229	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.13	<0.13
1,1,2,2-Tetrachloroethane	µg/l	0.2	0.02	<0.422	<0.331	<0.331	<0.331	<0.314	<0.2	<0.2	<0.25	<0.25	<0.25	<0.25	NA	<0.23	<0.23
Tetrachloroethene	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.17	<0.17
Toluene	µg/l	800	160	<5.0	<5.0	<0.5	<5.0	<0.17	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	NA	<0.11	<0.11
1,2,3-Trichlorobenzene	µg/l	NS	NS	<10	<10	<10	<10	<0.472	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.24	<0.24
1,2,4-Trichlorobenzene	µg/l	70	14	<10	<10	<10	<10	<0.448	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.31	<0.31
1,1,1-Trichloroethane	µg/l	200	40	<5.0	<5.0	<5.0	<5.0	<0.187	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.20	<0.20
1,1,2-Trichloroethane	µg/l	5	0.5	<0.347	<0.145	<0.145	<0.145	<0.116	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.28	<0.28
Trichloroethene	µg/l	5	0.5	<0.5	(0.65)	<0.5	<0.5	(1.42)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.19	<0.19
Trichlorofluoromethane	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.248	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.19	<0.19
1,2,4-Trimethylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.241	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.14	<0.14
1,3,5-Trimethylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.188	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.18	<0.18
Trimethylbenzene	µg/l	480	96	<10	<10	<10	<10	<0.429	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	NA	<0.32	<0.32
Vinyl chloride	µg/l	0.2	0.02	[42.4]	[32.2]	<0.217	[12.6[G28]]	[3.55]	[1.2]	[3.5]	[5.6]	<0.2	<0.2	<0.2	NA	[4.4]	<0.10
Total Xylenes	µg/l	2,000	400	<5.0	<5.0	<0.5	<5.0	<0.428	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.068	<0.068
Dissolved Gases																	
Carbon dioxide	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	96.00	NA	NA	NA	NA	NA
Ethane	µg/l	NS	NS	NA	0.14	0.10	0.25	NA	0.083	0.061	NA	<0.025	<0.025	NA	NA	0.069	0.097
Ethene	µg/l	NS	NS	NA	0.27	0.32	0.17	NA	0.045	0.033	NA	<0.025	0.045	NA	NA	0.17	0.026
Methane	µg/l	NS	NS	NA	1.2	1.8	2.7	NA	0.23	0.5	NA	0.51	9.7	NA	NA	3.9	7.0

Notes:

B = Analyte was detected in the associated Method Blank.
C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, date not impacted.
J = Results reported between the Method Detection Limit and Limit of Quantitation are less certain than results at or above the LOQ.
G20 = This anaylte was initially analyzed within holdtime; however, reanalysis at a dilution was performed outside the method specified holdtime.
G28 = The recovery of this Calibration Check Compound (CCC) in the check standard is above the method specified acceptance criteria.
µg/L = micrograms per liter (equivalent to parts per billion)
NA = Not Analyzed NS =No Standard
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
Exceedances: ( ) = concentration exceeds Chapter NR 140 PAL
[ ] = concentration exceeds Chapter NR 140 ES

Table A.1
Groundwater Analytical Table
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID	Units	NR 140 ES	NR 140 PAL	MW-98F													
Date				01/12/04	06/07/04	08/26/04	11/17/04	11/03/05	03/27/06	09/27/06	08/20/08	07/01/09	04/13/10	10/20/10	08/10/11	09/28/12	07/24/13
Volatile Organic Compounds																	
Benzene	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.171	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.074	<0.074
Bromobenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.272	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.25	<0.25
Bromodichloromethane	µg/l	0.6	0.06	<0.359	<0.391	<0.391	<0.391	<0.274	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	NA	<0.17	<0.17
n-Butylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.417	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.13	<0.13
sec-Butylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.276	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.15	<0.15
tert-Butylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.24	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.14	<0.14
Carbon tetrachloride	µg/l	5	0.5	<0.592	<0.372	<0.372	<0.372	<0.29	<0.5	<0.5	<0.5	<0.5	<0.8	<0.8	NA	<0.26	<0.26
Chlorobenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.234	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.14	<0.14
Chloroethane	µg/l	400	80	<5.0	<5.0	<5.0	<5.0	<0.345	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<0.34	<0.34
Chloroform	µg/l	6	0.6	<0.463	<0.316	<0.316	<0.316	<0.182	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.20	<0.20
Chloromethane	µg/l	30	3	<0.92	<0.448	<0.448	<0.448	<0.306	<0.2	<0.3	<0.3	<0.3[B]	<0.3	<0.3	NA	<0.18	<0.18
2-Chlorotoluene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.272	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.21	<0.21
4-Chlorotoluene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.265	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.20	<0.20
Dibromochloromethane	µg/l	60	6.0	<5.0	<5.0	<5.0	<5.0	<0.275	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.32	<0.32
1,2-Dibromo-3-chloropropane	µg/l	0.2	0.02	<0.629	<0.264	<0.264	<0.264	<0.44	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.87	<0.87
1,2-Dibromoethane	µg/l	0.05	0.005	<0.329	<0.251	<0.251	<0.251	<0.124	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.36	<0.36
1,2-Dichlorobenzene	µg/l	600	60	<5.0	<5.0	<5.0	<5.0	<0.378	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.27	<0.27
1,3-Dichlorobenzene	µg/l	600	120	<5.0	<5.0	<5.0	<5.0	<0.311	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.15	<0.15
1,4-Dichlorobenzene	µg/l	75	15	<5.0	<5.0	<5.0	<5.0	<0.286	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	NA	<0.15	<0.15
Dichlorodifluoromethane	µg/l	1,000	200	<5.0	10.8	<5.0	<5.0	<0.275	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.20	<0.20
1,1-Dichloroethane	µg/l	850	85	20.7	26.6	25	35.8	28.6	23	30	14	11	10	15	NA	14	9.1
1,2-Dichloroethane	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5	<1.76	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.28	<0.27
1,1-Dichloroethene	µg/l	7	0.7	<0.5	<0.5	<0.5	<0.5	<0.192	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.31	<0.31
cis-1,2-Dichloroethene	µg/l	70	7	**(13.6)**	**(28.2)**	**(26.7)**	**(32.9)**	**(29.3)**	**(24)**	**(33)**	**(13)**	**(9.6)**	**(8.3)**	**(11)**	NA	**(9.1)**	5.2
trans-1,2-Dichloroethene	µg/l	100	20	0.8	5.39	<5.0	<5.0	<0.172	1.5[J]	2.0	1.0[J]	0.88[J]	0.68[J]	0.93[J]	NA	0.74J	<0.25
1,2-Dichloropropane	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5[G28]	<0.208	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.20	<0.20
1,3-Dichloropropane	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.12	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.13	<0.13
2,2-Dichloropropane	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.233	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.32	<0.32
Di-isopropyl ether	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.219	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.15	<0.15
Ethylbenzene	µg/l	700	140	<5.0	<5.0	<5.0	<5.0	<0.152	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.13	<0.13
Hexachlorobutadiene	µg/l	NS	NS	<10	<10	<10	<10	<0.527	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.26	<0.26
Isopropylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.168	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.14	<0.14
p-Isopropyltoluene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.241	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.17	<0.17
Methylene chloride	µg/l	5	0.5	<0.641	<0.386	<0.386	<0.386	<0.473	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<0.68	<0.68
Methyl tert-butyl ether	µg/l	60	12	<0.381	<0.29	<0.290	<0.29	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.24	<0.24
Naphthalene	µg/l	100	10	<8.0	<8.0	<8.0	<8.0	<0.16	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.16	<0.16
n-Propylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.229	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.13	<0.13
1,1,2,2-Tetrachloroethane	µg/l	0.2	0.02	<0.422	<0.331	<0.331	<0.331	<0.314	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.23	<0.23
Tetrachloroethene	µg/l	5	0.5	<0.5	<0.5	**(1.53)**	<0.5	<0.189	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.17	<0.17
Toluene	µg/l	800	160	<5.0	<5.0	<0.5	<5.0	<0.17	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	NA	<0.11	<0.11
1,2,3-Trichlorobenzene	µg/l	NS	NS	<10	<10	<10	<10	<0.472	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.24	<0.24
1,2,4-Trichlorobenzene	µg/l	70	14	<10	<10	<10	<10	<0.448	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.31	<0.31
1,1,1-Trichloroethane	µg/l	200	40	<5.0	<5.0	<5.0	<5.0	<0.187	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.20	<0.20
1,1,2-Trichloroethane	µg/l	5	0.5	<0.347	<0.145	<0.145	<0.145	<0.116	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.28	<0.28
Trichloroethene	µg/l	5	0.5	<0.5	**(0.62)**	<0.5	<0.5	**(0.61)**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.19	<0.19
Trichlorofluoromethane	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.248	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.19	<0.19
1,2,4-Trimethylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.241	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.14	<0.14
1,3,5-Trimethylbenzene	µg/l	NS	NS	<5.0	<5.0	<5.0	<5.0	<0.188	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.18	<0.18
Trimethylbenzene	µg/l	480	96	<10	<10	<10	<10	<0.429	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	NA	<0.32	<0.32
Vinyl chloride	µg/l	0.2	0.02	**[23.5]**	**[46.2]**	<0.217	**[34.7[G28]]**	**[6.56]**	**[18]**	**[17]**	**[5.6]**	**[4.4]**	**[3.5]**	**[4.6]**	NA	**[3.4]**	**[1.7]**
Total Xylenes	µg/l	2,000	400	<5.0	<5.0	<0.5	<5.0	<0.428	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.068	<0.068
Dissolved Gases																	
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.8	1.8
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.44	0.29
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300	430

Notes:

B = Analyte was detected in the associated Method Blank.
C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, date not impacted.
J = Results reported between the Method Detection Limit and Limit of Quantitation are less certain than results at or above the LOQ.
G20 = This anaylte was initially analyzed within holdtime; however, reanalysis at a dilution was performed outside the method specified holdtime.
G28 = The recovery of this Calibration Check Compound (CCC) in the check standard is above the method specified acceptance criteria.
µg/L = micrograms per liter (equivalent to parts per billion)
NA = Not Analyzed NS
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
Exceedances: ( ) = concentration exceeds Chapter NR 140 PAL
[ ] = concentration exceeds Chapter NR 140 ES

Table A.1
Groundwater Analytical Table
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID	Units	NR 140 ES	NR 140 PAL	MW-98G							MW-98H							North Sump		
Date				08/20/08	07/01/09	04/14/10	10/20/10	08/11/11	09/28/12	07/24/13	08/20/08	07/01/09	04/14/10	10/20/10	08/10/11	09/28/12	07/24/13	08/11/11	09/28/12	07/24/13
Volatile Organic Compounds																				
Benzene	µg/l	5	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.074	<0.074	<0.2	<0.2	<0.2	<0.2	<0.2	<0.074	<0.074	<10	<0.074	<0.074
Bromobenzene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.25	<0.25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.25	<0.25	<10	<0.25	<0.25
Bromodichloromethane	µg/l	0.6	0.06	<0.2	<0.2	<0.2	<0.2	<0.2	<0.17	<0.17	<0.2	<0.2	<0.2	<0.2	<0.2	<0.17	<0.17	<10	<0.17	<0.17
Bromoform	µg/l	4.4	0.44	<0.2	<0.2	<0.2	<0.2	<0.20	<0.28	<0.28	<0.2	<0.2	<0.2	<0.2	<0.20	<0.28	<0.28	<10	**2.0**	**15**
n-Butylbenzene	µg/l	NS	NS	0.25[J]	<0.2	<0.2	<0.2	<0.2	<0.13	<0.13	0.29[J]	0.21[J]	<0.2	<0.2	<0.2	<0.13	<0.13	<10	<0.13	<0.13
sec-Butylbenzene	µg/l	NS	NS	<0.25	<0.25	<0.25	<0.25	<0.25	<0.15	<0.15	<0.25	<0.25	<0.25	<0.25	<0.25	<0.15	<0.15	<13	<0.15	<0.15
tert-Butylbenzene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.26	<10	<0.14	<0.14
Carbon tetrachloride	µg/l	5	0.5	<0.5	<0.5	<0.8	<0.8	<0.8	<0.26	<0.26	<0.5	<0.5	<0.8	<0.8	<0.8	<0.26	<0.26	<40	<0.26	<0.26
Chlorobenzene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14	<10	<0.14	<0.14
Chloroethane	µg/l	400	80	<1.0	<1.0	<1.0	<1.0	<1.0	<0.34	<0.34	<1.0	<1.0	<1.0	<1.0	<1.0	<0.34	<0.34	<50	<0.34	<0.34
Chloroform	µg/l	6	0.6	**(0.69)**	**(0.37[J])**	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<10	<0.20	<0.20
Chloromethane	µg/l	30	3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.18	<0.18	<0.3	<0.3	<0.3	<0.3	<0.3	<0.18	<0.18	<15	<0.18	<0.18
2-Chlorotoluene	µg/l	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.21	<0.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.21	<0.21	<25	<0.21	<0.21
4-Chlorotoluene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<10	<0.20	<0.20
Dibromochloromethane	µg/l	60	6.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.32	<0.32	<0.2	<0.2	<0.2	<0.2	<0.2	<0.32	<0.32	<10	<0.32	0.81[J]
1,2-Dibromo-3-chloropropane	µg/l	0.2	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.87	<0.87	<0.5	<0.5	<0.5	<0.5	<0.5	<0.87	<0.87	<25	<0.87	<0.87
1,2-Dibromoethane	µg/l	0.05	0.005	<0.2	<0.2	<0.2	<0.2	<0.2	<0.36	<0.36	<0.2	<0.2	<0.2	<0.2	<0.2	<0.36	<0.36	<10	<0.36	<0.36
1,2-Dichlorobenzene	µg/l	600	60	<0.2	<0.2	<0.2	<0.2	<0.2	<0.27	<0.27	<0.2	<0.2	<0.2	<0.2	<0.2	<0.27	<0.27	<10	<0.27	<0.27
1,3-Dichlorobenzene	µg/l	600	120	<0.2	<0.2	<0.2	<0.2	<0.2	<0.15	<0.15	<0.2	<0.2	<0.2	<0.2	<0.2	<0.15	<0.15	<10	<0.15	<0.15
1,4-Dichlorobenzene	µg/l	75	15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.15	<0.15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.15	<0.15	<25	<0.15	<0.15
Dichlorodifluoromethane	µg/l	1,000	200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20	<25	<0.20	<0.20
1,1-Dichloroethane	µg/l	850	85	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19	<25	<0.19	<0.19
1,2-Dichloroethane	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.28	<0.28	<0.5	<0.5	<0.5	<0.5	<0.5	<0.28	<0.28	<25	<0.28	<0.28
1,1-Dichloroethene	µg/l	7	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.31	<0.31	<0.5	<0.5	<0.5	<0.5	<0.5	<0.31	<0.31	<25	<0.31	<0.31
cis-1,2-Dichloroethene	µg/l	70	7	**(61)**	**(48)**	**(43)**	**(46)**	**(18)**	**(42)**	**(35)**	**(19)**	**(19)**	**(20)**	**(20)**	**(18)**	**(18)**	**(17)**	**780**	**7.4**	6.0
trans-1,2-Dichloroethene	µg/l	100	20	5.0	4.3	2.9	3.5	1.1[J]	3.6	3.1	2.2	2.0	1.9[J]	1.9[J]	1.7[J]	1.9	1.5	<25	<0.25	<0.25
1,2-Dichloropropane	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20	<25	<0.20	<0.20
1,3-Dichloropropane	µg/l	NS	NS	<0.25	<0.25	<0.25	<0.25	<0.25	<0.13	<0.13	<0.25	<0.25	<0.25	<0.25	<0.25	<0.13	<0.13	<13	<0.13	<0.13
2,2-Dichloropropane	µg/l	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.32	<0.32	<0.5	<0.5	<0.5	<0.5	<0.5	<0.32	<0.32	<25	<0.32	<0.32
Di-isopropyl ether	µg/l	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.15	<0.15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.15	<0.15	<25	<0.15	<0.15
Ethylbenzene	µg/l	700	140	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13	<25	<0.13	<0.13
Hexachlorobutadiene	µg/l	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.26	<0.26	<0.5	<0.5	<0.5	<0.5	<0.5	<0.26	<0.26	<25	<0.26	<0.26
Isopropylbenzene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14	<10	<0.14	<0.14
p-Isopropyltoluene	µg/l	NS	NS	0.37[J]	<0.2	<0.2	<0.2	<0.2	<0.17	<0.17	0.33[J]	<0.2	<0.2	<0.2	<0.2	<0.17	<0.17	<10	<0.17	<0.17
Methylene chloride	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<0.68	<0.68	<1.0	<1.0	<1.0	<1.0	<1.0	<0.68	<0.68	<13	<0.68	<0.68
Methyl tert-butyl ether	µg/l	60	12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.24	<0.24	<0.5	<0.5	<0.5	<0.5	<0.5	<0.24	<0.24	<25	<0.24	<0.24
Naphthalene	µg/l	100	10	0.25[J]	0.25	0.25	<0.25	<0.25	<0.16	<0.16	0.27[J]	<0.25	<0.25	<0.25	<0.25	<0.16	<0.16	<13	<0.16	<0.16
n-Propylbenzene	µg/l	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13	<25	<0.13	<0.13
1,1,2,2-Tetrachloroethane	µg/l	0.2	0.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.23	<0.23	<0.2	<0.2	<0.2	<0.2	<0.2	<0.23	<0.23	<10	<0.23	<0.23
Tetrachloroethene	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.17	<0.17	<0.5	<0.5	<0.5	<0.5	<0.5	<0.17	<0.17	<25	<0.17	<0.17
Toluene	µg/l	800	160	0.72[J]	<0.5	<0.5	<0.5	<0.5	<0.11	<0.11	0.61[J]	<0.5	<0.5	<0.5	<0.5	<0.11	<0.11	<25	<0.11	<0.11
1,2,3-Trichlorobenzene	µg/l	NS	NS	<0.25	<0.25	<0.25	<0.25	<0.25	<0.24	<0.24	<0.25	<0.25	<0.25	<0.25	<0.25	<0.24	<0.24	<13	<0.24	<0.24
1,2,4-Trichlorobenzene	µg/l	70	14	<0.25	<0.25	<0.25	<0.25	<0.25	<0.31	<0.31	<0.25	<0.25	<0.25	<0.25	<0.25	<0.31	<0.31	<13	<0.31	<0.31
1,1,1-Trichloroethane	µg/l	200	40	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20	<25	<0.20	<0.20
1,1,2-Trichloroethane	µg/l	5	0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.28	<0.28	<0.25	<0.25	<0.25	<0.25	<0.25	<0.28	<0.28	<13	<0.28	<0.28
Trichloroethene	µg/l	5	0.5	**(0.82)**	**(0.31[J])**	**(0.23[J])**	<0.2	<0.2	<0.19	<0.19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.19	<0.19	**3,900**	**42**	**53**
Trichlorofluoromethane	µg/l	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19	<25	<0.19	<0.19
1,2,4-Trimethylbenzene	µg/l	NS	NS	0.66[J]	0.38[J]	<0.2	<0.2	<0.2	<0.14	<0.14	0.34[J]	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14	<10	<0.14	<0.14
1,3,5-Trimethylbenzene	µg/l	NS	NS	0.25[J]	<0.2	<0.2	<0.2	<0.2	<0.18	<0.18	<0.2	<0.2	<0.2	<0.2	<0.2	<0.18	<0.18	<10	<0.18	<0.18
Trimethylbenzene	µg/l	480	96	0.91[J]	0.58[J]	<0.4	<0.4	<0.4	<0.32	<0.32	0.34[J]	<0.4	<0.4	<0.4	<0.4	<0.32	<0.32	<20	<0.32	<0.32
Vinyl chloride	µg/l	0.2	0.02	**[12]**	**[8.4]**	<0.2	**[9.6]**	**[1.8[J]]**	**[8.1]**	**[5.8]**	**[14]**	**[8.9]**	**[9.2]**	**[11]**	**[7.2]**	**[8.5]**	**[6.5]**	**30[J]**	<0.10	<0.10
Total Xylenes	µg/l	2,000	400	1.4[J]	<0.5	<0.5	<0.5	<0.5	<0.068	<0.068	<0.5	<0.5	<0.5	<0.5	<0.5	<0.068	<0.068	<25	<0.068	<0.068
Dissolved Gases																				
Ethane	µg/l	NS	NS	NA	NA	NA	NA	0.43	2.3	2.5	NA	NA	NA	NA	NA	1.4	1.9	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	0.28	0.40	0.31	NA	NA	NA	NA	NA	0.33	0.33	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	46	130	150	NA	NA	NA	NA	NA	28	32	NA	NA	NA

Notes:

B = Analyte was detected in the associated Method Blank.
C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, date not impacted.
J = Results reported between the Method Detection Limit and Limit of Quantitation are less certain than results at or above the LOQ.
G20 = This anaylte was initially analyzed within holdtime; however, reanalysis at a dilution was performed outside the method specified holdtime.
G28 = The recovery of this Calibration Check Compound (CCC) in the check standard is above the method specified acceptance criteria.
µg/L = micrograms per liter (equivalent to parts per billion)
NA = Not Analyzed NS
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
Exceedances: ( ) = concentration exceeds Chapter NR 140 PAL
[ ] = concentration exceeds Chapter NR 140 ES

Table A.1
Groundwater Analytical Table
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID				PZ-98D							TW-98-1						
Date	Units	NR 140 ES	NR 140 PAL	08/20/08	07/01/09	04/13/10	10/20/10	08/10/11	09/28/12	07/24/13	08/20/08	07/01/09	04/14/10	10/01/10	08/10/11	09/28/12	07/24/13
Volatile Organic Compounds																	
Benzene	µg/l	5	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.074	<0.074	<0.2	<0.2	<0.2	<0.2	<0.4	<0.074	<0.074
Bromobenzene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.25	<0.25	<0.2	<0.2	<0.2	<0.2	<0.4	<0.25	<0.25
Bromodichloromethane	µg/l	0.6	0.06	<0.2	<0.2	<0.2	<0.2	<0.2	<0.17	<0.17	<0.2	<0.2	<0.2	<0.2	<0.4	<0.17	<0.17
n-Butylbenzene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.13	<0.13	<0.2	<0.2	<0.2	<0.2	<0.4	<0.13	<0.13
sec-Butylbenzene	µg/l	NS	NS	<0.25	<0.25	<0.25	<0.25	<0.25	<0.15	<0.15	<0.25	<0.25	<0.25	<0.25	<0.5	<0.15	<0.15
tert-Butylbenzene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14	<0.2	<0.2	<0.2	<0.2	<0.4	<0.14	<0.14
Carbon tetrachloride	µg/l	5	0.5	<0.5	<0.5	<0.8	<0.8	<0.8	<0.26	<0.26	<0.5	<0.5	<0.8	<0.8	<1.5	<0.26	<0.26
Chlorobenzene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14	<0.2	<0.2	<0.2	<0.2	<0.4	<0.14	<0.14
Chloroethane	µg/l	400	80	<1.0	<1.0	<1.0	<1.0	<1.0	<0.34	<0.34	<1.0	<1.0	<1.0	<1.0	<2.0	<0.34	<0.34
Chloroform	µg/l	6	0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.4	<0.20	<0.20
Chloromethane	µg/l	30	3	<0.3	<0.3[B]	<0.3	<0.3	<0.3	<0.18	<0.18	<0.3	<0.3	<0.3	<0.3	<0.6	<0.18	<0.18
2-Chlorotoluene	µg/l	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.21	<0.21	<0.5	<0.5	<0.5	<0.5	<1.0	<0.21	<0.21
4-Chlorotoluene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.4	<0.20	<0.20
Dibromochloromethane	µg/l	60	6.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.32	<0.32	<0.2	<0.2	<0.2	<0.2	<0.4	<0.32	<0.32
1,2-Dibromo-3-chloropropane	µg/l	0.2	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.87	<0.87	<0.5	<0.5	<0.5	<0.5	<1.0	<0.87	<0.87
1,2-Dibromoethane	µg/l	0.05	0.005	<0.2	<0.2	<0.2	<0.2	<0.2	<0.36	<0.36	<0.2	<0.2	<0.2	<0.2	<0.4	<0.36	<0.36
1,2-Dichlorobenzene	µg/l	600	60	<0.2	<0.2	<0.2	<0.2	<0.2	<0.27	<0.27	<0.2	<0.2	<0.2	<0.2	<0.4	<0.27	<0.27
1,3-Dichlorobenzene	µg/l	600	120	<0.2	<0.2	<0.2	<0.2	<0.2	<0.15	<0.15	<0.2	<0.2	<0.2	<0.2	<0.4	<0.15	<0.15
1,4-Dichlorobenzene	µg/l	75	15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.15	<0.15	<0.5	<0.5	<0.5	<0.5	<1.0	<0.15	<0.15
Dichlorodifluoromethane	µg/l	1,000	200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20	<0.5[C]	0.54[J]	<0.5	<0.5	<1.0	<0.20	<0.20
1,1-Dichloroethane	µg/l	850	85	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19	<0.5	<0.5	<0.5	0.56[J]	<1.0	0.62[J]	0.65[J]
1,2-Dichloroethane	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.28	<0.28	<0.5	<0.5	<0.5	<0.5	<1.0	<0.28	<0.28
1,1-Dichloroethene	µg/l	7	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.31	<0.31	<0.5	<0.5	<0.5	<0.5	<1.0	<0.31	<0.31
cis-1,2-Dichloroethene	µg/l	70	7	<0.5	<0.5	<0.5	2.2	<0.5	<0.12	<0.12	[89]	[140]	[150]	[130]	[100]	[130]	[150]
trans-1,2-Dichloroethene	µg/l	100	20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.25	<0.25	9.2	15	15	17	9.3	15	17
1,2-Dichloropropane	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20	<0.5	<0.5	<0.5	<0.5	<1.0	<0.20	<0.20
1,3-Dichloropropane	µg/l	NS	NS	<0.25	<0.25	<0.25	<0.25	<0.25	<0.13	<0.13	<0.25	<0.25	<0.25	<0.25	<0.5	<0.13	<0.13
2,2-Dichloropropane	µg/l	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.32	<0.32	<0.5	<0.5	<0.5	<0.5	<1.0	<0.32	<0.32
Di-isopropyl ether	µg/l	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.15	<0.15	<0.5	<0.5	<0.5	<0.5	<1.0	<0.15	<0.15
Ethylbenzene	µg/l	700	140	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13	1.1[J]	<0.5	<0.5	<0.5	<1.0	<0.13	<0.13
Hexachlorobutadiene	µg/l	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.26	<0.26	<0.5	<0.5	<0.5	<0.5	<1.0	<0.26	<0.26
Isopropylbenzene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14	0.29[J]	<0.2	<0.2	<0.2	<0.4	<0.14	<0.14
p-Isopropyltoluene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.17	<0.17	0.27[J]	<0.2	<0.2	<0.2	<0.4	<0.17	<0.17
Methylene chloride	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<0.68	<0.68	<1.0	<1.0	<1.0	<1.0	<2.0	<0.68	<0.68
Methyl tert-butyl ether	µg/l	60	12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.24	<0.24	<0.5	<0.5	<0.5	<0.5	<1.0	<0.24	<0.24
Naphthalene	µg/l	100	10	<0.25	<0.25	<0.25	<0.25	<0.25	<0.16	<0.16	<0.25	<0.25	<0.25	<0.25	<0.5	<0.16	<0.16
n-Propylbenzene	µg/l	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13	0.82[J]	<0.5	<0.5	<0.5	<1.0	<0.13	<0.13
1,1,2,2-Tetrachloroethane	µg/l	0.2	0.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.23	<0.23	<0.2	<0.2	<0.2	<0.2	<0.4	<0.23	<0.23
Tetrachloroethene	µg/l	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.17	<0.17	<0.5	<0.5	<0.5	<0.5	<1.0	<0.17	<0.17
Toluene	µg/l	800	160	<0.5	<0.5	<0.5	<0.5	<0.5	<0.11	<0.11	0.94[J]	<0.5	<0.5	<0.5	<1.0	<0.11	<0.11
1,2,3-Trichlorobenzene	µg/l	NS	NS	<0.25	<0.25	<0.25	<0.25	<0.25	<0.24	<0.24	<0.25	<0.25	<0.25	<0.25	<0.5	<0.24	<0.24
1,2,4-Trichlorobenzene	µg/l	70	14	<0.25	<0.25	<0.25	<0.25	<0.25	<0.31	<0.31	<0.25	<0.25	<0.25	<0.25	<0.5	<0.31	<0.31
1,1,1-Trichloroethane	µg/l	200	40	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20	<0.5	<0.5	<0.5	<0.5	<1.0	<0.20	<0.20
1,1,2-Trichloroethane	µg/l	5	0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.28	<0.28	<0.25	<0.25	<0.25	<0.25	<0.5	<0.28	<0.28
Trichloroethene	µg/l	5	0.5	0.26[J]	<0.2	<0.2	(0.78[J])	<0.2	<0.19	<0.19	<0.2	<0.2	<0.2	<0.2	<0.4	<0.19	<0.19
Trichlorofluoromethane	µg/l	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19	<0.5	<0.5	<0.5	<0.5	<1.0	<0.19	<0.19
1,2,4-Trimethylbenzene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14	0.26[J]	<0.2	<0.2	<0.2	<0.4	<0.14	<0.14
1,3,5-Trimethylbenzene	µg/l	NS	NS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.18	<0.18	<0.2	<0.2	<0.2	<0.2	<0.4	<0.18	<0.18
Trimethylbenzene	µg/l	480	96	<0.4	<0.4	<0.4	<0.4	<0.4	<0.32	<0.32	0.26[J]	<0.4	<0.4	<0.4	<0.8	<0.32	<0.32
Vinyl chloride	µg/l	0.2	0.02	<0.2	<0.2	<0.2	[0.55[J]]	<0.2	<0.10	<0.10	[33]	[45]	[45]	[64]	[20]	[39]	[51]
Total Xylenes	µg/l	2,000	400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.068	<0.068	1.5[J]	<0.5	<0.5	<0.5	<1.0	<0.068	<0.068
Dissolved Gases																	
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

B = Analyte was detected in the associated Method Blank.
C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, date not impacted.
J = Results reported between the Method Detection Limit and Limit of Quantitation are less certain than results at or above the LOQ.
G20 = This anaylte was initially analyzed within holdtime; however, reanalysis at a dilution was performed outside the method specified holdtime.
G28 = The recovery of this Calibration Check Compound (CCC) in the check standard is above the method specified acceptance criteria.
µg/L = micrograms per liter (equivalent to parts per billion)
NA = Not Analyzed NS
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
Exceedances: ( ) = concentration exceeds Chapter NR 140 PAL
[ ] = concentration exceeds Chapter NR 140 ES

Table A.1
Groundwater Analytical Table
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID				**EB-3/MW-3 (site-wide)**													
Date	Units	NR 140 ES	NR 140 PAL	06/18/97	01/10/01	04/26/01	08/28/01	04/22/03	03/16/04	06/15/05	03/28/06	06/26/07	05/08/08	09/30/09	04/14/10	09/28/12	07/24/13
Volatile Organic Compounds																	
Benzene	µg/l	5	0.5	ND	<1.0	<1.0	<1.0	<0.291	<0.5	<0.572	<0.2	<0.2	<0.2	<0.2	<0.2	<0.074	<0.074
Bromobenzene	µg/l	**	**	ND	<1.0	<1.0	<1.0	<5.0	<5.0	<0.909	<0.2	<0.2	<0.2	<0.2	<0.2	<0.25	<0.25
Bromodichloromethane	µg/l	0.6	0.06	ND	<1.0	<1.0	<1.0	<0.284	<0.359	<0.913	<0.2	<0.2	<0.2	<0.2	<0.2	<0.17	<0.17
n-Butylbenzene	µg/l	**	**	0.47[J]	<1.0	<1.0	<1.0	<5.0	<5.0	<1.39	<0.2	<0.2	<0.2	<0.2	<0.2	<0.13	<0.13
sec-Butylbenzene	µg/l	**	**	ND	<1.0	<1.0	<1.0	<5.0	<5.0	<0.921	<0.25	<0.25	<0.25	<0.25	<0.25	<0.15	<0.15
t-Butylbenzene	µg/l	**	**	ND	<1.0	<1.0	<1.0	<5.0	<5.0	<0.802	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14
Carbon Tetrachloride	µg/l	5	0.5	ND	<1.0	<1.0	<1.0	<0.341	<0.592	<0.968	<0.5	<0.5	<0.5	<0.5	<0.8	<0.26	<0.26
Chlorobenzene	µg/l	**	**	ND	<1.0	<1.0	<1.0	<5.0	<5.0	<0.78	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14
Chloroethane	µg/l	400	80	ND	<5.0	<5.0	<1.0	<5.0	<5.0	<1.15	<1.0	<1.0	<1.0	<1.0	<1.0	<0.34	<0.34
Chloroform	µg/l	6	0.6	ND	<1.0	<1.0	<1.0	<0.299	<0.463	<0.607	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20
Chloromethane	µg/l	30	3	ND	<5.0	<5.0	<1.0	<0.356	<0.92	<1.02	<0.2	<0.2	<0.2	<0.3[C]	<0.3	<0.18	<0.18
2-Chlorotoluene	µg/l	**	**	NA	<1.0	<1.0	<1.0	<5.0	<5.0	<0.908	<0.5	<0.5	<0.5	<0.5	<0.5	<0.21	<0.21
4-Chlorotoluene	µg/l	**	**	NA	<1.0	<1.0	<1.0	<5.0	<5.0	<0.883	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20
Dibromochloromethane	µg/l	60	6	ND	<1.0	<1.0	<1.0	<2.0	<5.0	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.32	<0.32
1,2-Dibromo-3-chloropropane	µg/l	0.2	0.02	NA	<5.0	<5.0	<1.0	<0.894	<0.629	<1.47	<0.5	<0.5	<0.5	<0.5	<0.5	<0.87	<0.87
1,2-Dibromoethane (EDB)	µg/l	0.05	0.005	NA	<1.0	<1.0	<1.0	<0.478	<0.329	<0.414	<0.2	<0.2	<0.2	<0.2	<0.2	<0.36	<0.36
1,2-Dichlorobenzene	µg/l	600	60	NA	<1.0	<1.0	<1.0	<5.0	<5.0	<1.26	<0.2	<0.2	<0.2	<0.2	<0.2	<0.27	<0.27
1,3-Dichlorobenzene	µg/l	600	120	NA	<1.0	<1.0	<1.0	<5.0	<5.0	<1.04	<0.2	<0.2	<0.2	<0.2	<0.2	<0.15	<0.15
1,4-Dichlorobenzene	µg/l	75	15	NA	<1.0	<1.0	<1.0	<5.0	<5.0	<0.953	<0.2	<0.2	<0.2	<0.5	<0.5	<0.15	<0.15
Dichlorodifluoromethane	µg/l	1,000	200	ND	<5.0	<5.0	<1.0	<5.0	<5.0	<0.918	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20
1,1-Dichloroethane	µg/l	850	85	NA	<1.0	<1.0	<1.0	<5.0	<5.0	<0.587	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19
1,2-Dichloroethane	µg/l	5	0.5	NA	<1.0	<1.0	<1.0	<0.356	<0.50	<0.587	<0.5	<0.5	<0.5	<0.5	<0.5	<0.28	<0.28
1,1-Dichloroethene	µg/l	7	0.7	NA	<1.0	<1.0	<1.0	<0.291	<0.5	<0.639	<0.5	<0.5	<0.5	<0.5	<0.5	<0.31	<0.31
cis-1,2-Dichloroethene	µg/l	70	7	ND	<1.0	<1.0	<1.0	<5.0	<5.0	<0.795	<0.5	<0.5	<0.5	<0.5	<0.5	<0.12	<0.12
trans-1,2-Dichloroethene	µg/l	100	20	ND	<1.0	<1.0	<1.0	<5.0	<5.0	<0.573	<0.5	<0.5	<0.5	<0.5	<0.5	<0.25	<0.25
1,2-Dichloropropane	µg/l	5	0.5	NA	<1.0	<1.0	<1.0	<5.0	<0.5	<0.693	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20
1,3-Dichloropropane	µg/l	**	**	NA	<1.0	<1.0	<1.0	<5.0	<5.0	<0.402	<0.25	<0.25	<0.25	<0.25	<0.25	<0.13	<0.13
2,2-Dichloropropane	µg/l	**	**	NA	<1.0	<1.0	<1.0	<5.0	<5.0	<0.778	<0.5	<0.5	<0.5	<0.5	<0.5	<0.32	<0.32
Di-isopropyl Ether	µg/l	**	**	ND	<1.0	<1.0	<1.0	<5.0	<5.0	<0.729	NA	NA	NA	NA	NA	<0.15	<0.15
Ethylbenzene	µg/l	700	140	ND	<1.0	<1.0	<1.0	<5.0	<5.0	<0.506	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13
Hexachlorobutadiene	µg/l	**	**	ND	<1.0	<1.0	<1.0	<10	<10	<1.76	<0.5	<0.5	<0.5	<0.5	<0.5	<0.26	<0.26
Isopropylbenzene	µg/l	**	**	ND	<1.0	<1.0	<5.0	<5.0	<5.0	<0.562	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14
p-Isopropyltoluene	µg/l	**	**	ND	NA	NA	NA	<5.0	<5.0	<0.804	<0.2	<0.2	<0.2	<0.2	<0.2	<0.17	<0.17
Methylene Chloride [+]	µg/l	5	0.5	ND	<5.0	<5.0	<5.0	<1.75	<0.641	**(2.87)**	<1.0	<1.0	<1.0	<1.0	<1.0	<0.68	<0.68
Methyl Tert Butyl Ether	µg/l	60	12	ND	<5.0	<5.0	<5.0	<0.317	<0.381	<0.668	<0.5	<0.5	<0.5	<0.5	<0.5	<0.24	<0.24
Naphthalene	µg/l	100	10	NA	<5.0	<5.0	<5.0	<8.0	<8.0	<0.535	<0.25	<0.25	<0.25	<0.25	<0.25	<0.16	<0.16
n-Propylbenzene	µg/l	**	**	ND	<1.0	<1.0	<1.0	<5.0	<5.0	<0.765	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13
1,1,2,2-Tetrachloroethane	µg/l	0.2	0.02	NA	<1.0	<1.0	<1.0	<0.415	<0.422	<1.05	<0.2	<0.2	<0.2	<0.2	<0.2	<0.23	<0.23
Tetrachloroethene	µg/l	5.0	0.5	ND	<1.0	<1.0	<1.0	<0.364	<0.5	<0.63	<0.5	<0.5	<0.5	<0.5	<0.5	<0.17	<0.17
Toluene	µg/l	800	160	ND	<1.0	<1.0	<1.0	<5.0	<5.0	<0.567	<0.2	<0.2	<0.2	<0.5	<0.5	<0.11	<0.11
1,2,3-Trichlorobenzene	µg/l	**	**	NA	<1.0	<1.0	<5.0	<10	<10	<1.58	<0.25	<0.25	<0.25	<0.25[A-01]	<0.25	<0.24	<0.24
1,2,4-Trichlorobenzene	µg/l	70	14	NA	<5.0	<5.0	<5.0	<10	<10	<1.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.31	<0.31
1,1,1-Trichloroethane	µg/l	200	40	NA	<1.0	<1.0	<1.0	<5.0	<5.0	<0.623	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20
1,1,2-Trichloroethane	µg/l	5	0.5	NA	<1.0	<1.0	<1.0	<0.39	<0.347	<0.385	<0.25	<0.25	<0.25	<0.25	<0.25	<0.28	<0.28
Trichloroethene	µg/l	5	0.5	ND	<1.0	<1.0	<1.0	<0.475	<0.5	<0.734	<0.2	<0.2	<0.2	<0.2	<0.2	<0.19	<0.19
Trichlorofluoromethane	µg/l	**	**	ND	<5.0	<5.0	<1.0	<5.0	<5.0	<0.828	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19
1,2,4-Trimethylbenzene	µg/l	**	**	NA	<1.0	<1.0	<1.0	<5.0	<5.0	<0.629	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14
1,3,5-Trimethylbenzene	µg/l	**	**	NA	<1.0	<1.0	<1.0	<5.0	<5.0	<0.803	<0.2	<0.2	<0.2	<0.2	<0.2	<0.18	<0.18
Total Trimethylbenzene	µg/l	480	96	NA	<1.0	<1.0	<1.0	<5.0	<5.0	<0.803	<0.2	<0.2	<0.2	<0.2	<0.2	<0.32	<0.32
Vinyl Chloride	µg/l	0.2	0.02	ND	<5.0	<5.0	<1.0	<0.312	<0.652	<1.25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.10	<0.10
Xylenes	µg/l	2,000	400	ND	<3.0	<3.0	<3.0	<5.0	<5.0	<1.43	<0.5	<0.5	<0.5	<0.5	<0.5	<0.068	<0.068
Dissolved Gases																	
Carbon Dioxide	mg/L	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: Groundwater samples collected from 10/93 through 6/00 completed by STS; groundwater samples collected from 11/00 and thereafter completed by Sigma.

+ = Laboratory contaminant
µg/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million)
A-01 = external verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
C = calibration verification recovery was above the method control limit for this anayte. Analyte not detected, data not impacted.
J = results reported between the Method Detection Limit and Limit of Quantitation are less certain than results at or above the LOQ.
NA = Not Analyzed
** =No Standard
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
Exceedances: ( ) = concentration exceeds Chapter NR 140 PAL
[ ] = concentration exceeds Chapter NR 140 ES

Table A.1
Groundwater Analytical Table
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID	Units	NR 140 ES	NR 140 PAL	MW-4A													
Date				01/10/01	04/26/01	08/28/01	04/04/02	04/22/03	03/16/04	06/15/05	03/28/06	06/26/07	05/08/08	09/30/09	04/14/10	09/28/12	07/24/13
Volatile Organic Compounds																	
Benzene	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<0.291	<0.5	<0.572	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.074
Bromobenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.909	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.25
Bromodichloromethane	µg/l	0.6	0.06	<1.0	<1.0	<1.0	<1.0	<0.284	<0.359	<0.913	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.17
n-Butylbenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.39	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.13
sec-Butylbenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.921	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.15
t-Butylbenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.802	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.14
Carbon Tetrachloride	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<0.341	<0.592	<0.968	<0.5	<0.5	<0.5	<0.5	<0.8	NA	<0.26
Chlorobenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.78	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.14
Chloroethane	µg/l	400	80	<5.0	<5.0	<1.0	<1.0	<5.0	<5.0	<1.15	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<0.34
Chloroform	µg/l	6	0.6	<1.0	<1.0	<1.0	<1.0	<0.299	<0.463	<0.607	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.20
Chloromethane	µg/l	30	3	<5.0	<5.0	<1.0	<1.0	<0.356	<0.92	<1.02	<0.2	<0.2	<0.2	<0.3[C]	<0.3	NA	<0.18
2-Chlorotoluene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.908	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.21
4-Chlorotoluene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.883	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.20
Dibromochloromethane	µg/l	60	6	<1.0	<1.0	<1.0	<1.0	<2.0	<5.0	NA	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.32
1,2-Dibromo-3-chloropropane	µg/l	0.2	0.02	<5.0	<5.0	<1.0	<1.0	<0.894	<0.629	<1.47	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.87
1,2-Dibromoethane (EDB)	µg/l	0.05	0.005	<1.0	<1.0	<1.0	<1.0	<0.478	<0.329	<0.414	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.36
1,2-Dichlorobenzene	µg/l	600	60	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.26	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.27
1,3-Dichlorobenzene	µg/l	600	120	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.04	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.15
1,4-Dichlorobenzene	µg/l	75	15	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.953	<0.2	<0.2	<0.2	<0.5	<0.5	NA	<0.15
Dichlorodifluoromethane	µg/l	1,000	200	<5.0	<5.0	<1.0	<1.0	<5.0	<5.0	<0.918	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.20
1,1-Dichloroethane	µg/l	850	85	6.8	12	17	11	12.3	9.1	12.5	12	5.8	6.7	11	8.6	NA	5.9
1,2-Dichloroethane	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<0.356	<0.5	<0.587	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.28
1,1-Dichloroethene	µg/l	7	0.7	<1.0	<1.0	<1.0	<1.0	<0.291	<0.5	<0.639	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.31
cis-1,2-Dichloroethene	µg/l	70	7	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.795	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.12
trans-1,2-Dichloroethene	µg/l	100	20	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.573	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.25
1,2-Dichloropropane	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<0.5	<0.693	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.20
1,3-Dichloropropane	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.402	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.13
2,2-Dichloropropane	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.778	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.32
Di-isopropyl Ether	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.729	NA	NA	NA	NA	NA	NA	<0.15
Ethylbenzene	µg/l	700	140	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.506	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.13
Hexachlorobutadiene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<10	<10	<1.76	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.26
Isopropylbenzene	µg/l	**	**	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<0.562	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.14
p-Isopropyltoluene	µg/l	**	**	NA	NA	NA	NA	<5.0	<5.0	<0.804	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.17
Methylene Chloride +	µg/l	5	0.5	<5.0	<5.0	<5.0	<5.0	<1.75	<0.641	**[10.8]**	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<0.68
Methyl Tert Butyl Ether	µg/l	60	12	<5.0	<5.0	<5.0	<5.0	<0.317	<0.381	<0.668	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.24
Naphthalene	µg/l	100	10	<5.0	<5.0	<5.0	<5.0	<8.0	<8.0	<0.535	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.16
n-Propylbenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.765	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.13
1,1,2,2-Tetrachloroethane	µg/l	0.2	0.02	<1.0	<1.0	<1.0	<1.0	<0.415	<0.422	<1.05	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.23
Tetrachloroethene	µg/l	5.0	0.5	<1.0	<1.0	<1.0	<1.0	<0.364	<0.5	<0.63	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.17
Toluene	µg/l	800	160	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.567	<0.2	<0.2	<0.2	<0.5	<0.5	NA	<0.11
1,2,3-Trichlorobenzene	µg/l	**	**	<1.0	<1.0	<5.0	<5.0	<10	<10	<1.58	<0.25	<0.25	<0.25	<0.25[A-01]	<0.25	NA	<0.24
1,2,4-Trichlorobenzene	µg/l	70	14	<5.0	<5.0	<5.0	<5.0	<10	<10	<1.5	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.31
1,1,1-Trichloroethane	µg/l	200	40	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.623	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.20
1,1,2-Trichloroethane	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<0.39	<0.347	<0.385	<0.25	<0.25	<0.25	<0.25	<0.25	NA	<0.28
Trichloroethene	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<0.475	<0.5	<0.734	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.19
Trichlorofluoromethane	µg/l	**	**	<5.0	<5.0	<1.0	<1.0	<5.0	<5.0	<0.828	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.19
1,2,4-Trimethylbenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.629	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.14
1,3,5-Trimethylbenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.803	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.18
Total Trimethylbenzene	µg/l	480	96	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.803	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.32
Vinyl Chloride	µg/l	0.2	0.02	<5.0	<5.0	<1.0	<1.0	<0.312	<0.652	<1.25	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.10
Xylenes	µg/l	2,000	400	<3.0	<3.0	<3.0	<3.0	<5.0	<5.0	<1.43	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.068
Dissolved Gases																	
Carbon Dioxide	mg/L	**	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethane	µg/l	**	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	**	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	**	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

+ = Laboratory contaminant
µg/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million)
A-01 = external verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
C = calibration verification recovery was above the method control limit for this anayte. Analyte not detected, data not impacted.
J = results reported between the Method Detection Limit and Limit of Quantitation are less certain than results at or above the LOQ.
NA = Not Analyzed
** =No Standard
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
Exceedances: ( ) = concentration exceeds Chapter NR 140 PAL
[ ] = concentration exceeds Chapter NR 140 ES

Table A.1
Groundwater Analytical Table
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID				**MW-4B**													
Date	Units	NR 140 ES	NR 140 PAL	01/10/01	04/26/01	08/28/01	11/19/01	04/22/03	03/16/04	06/15/05	03/28/06	06/26/07	05/08/08	09/30/09	04/14/10	09/28/12	07/24/13
Volatile Organic Compounds																	
Benzene	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<0.291	<0.5	<0.572	<0.2	<0.2	<0.2	<0.2	<0.2	<0.074	<0.074
Bromobenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.909	<0.2	<0.2	<0.2	<0.2	<0.2	<0.25	<0.25
Bromodichloromethane	µg/l	0.6	0.06	<1.0	<1.0	<1.0	<1.0	<0.284	<0.359	<0.913	<0.2	<0.2	<0.2	<0.2	<0.2	<0.17	<0.17
n-Butylbenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.39	<0.2	<0.2	<0.2	<0.2	<0.2	<0.13	<0.13
sec-Butylbenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.921	<0.25	<0.25	<0.25	<0.25	<0.25	<0.15	<0.15
t-Butylbenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.802	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14
Carbon Tetrachloride	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<0.341	<0.592	<0.968	<0.5	<0.5	<0.5	<0.5	<0.8	<0.26	<0.26
Chlorobenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.78	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14
Chloroethane	µg/l	400	80	<5.0	<5.0	<1.0	<1.0	<5.0	<5.0	<1.15	<1.0	<1.0	<1.0	<1.0	<1.0	<0.34	<0.34
Chloroform	µg/l	6	0.6	<1.0	<1.0	<1.0	<1.0	<0.299	<0.463	<0.607	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20
Chloromethane	µg/l	30	3	<5.0	<5.0	<1.0	<1.0	<0.356	<0.92	<1.02	<0.2	<0.2	<0.2[C4]	<0.3[C]	<0.3	<0.18	<0.18
2-Chlorotoluene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.908	<0.5	<0.5	<0.5	<0.5	<0.5	<0.21	<0.21
4-Chlorotoluene	µg/l	**	**	<1.0	<1.0	<1.0	<1.1	<5.0	<5.0	<0.883	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20
Dibromochloromethane	µg/l	60	6	<1.0	<1.0	<1.0	<1.0	<2.0	<5.0	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.32	<0.32
1,2-Dibromo-3-chloropropane	µg/l	0.2	0.02	<5.0	<5.0	<1.0	<1.0	<0.894	<0.629	<1.47	<0.5	<0.5	<0.5	<0.5	<0.5	<0.87	<0.87
1,2-Dibromoethane (EDB)	µg/l	0.05	0.005	<1.0	<1.0	<1.0	<1.0	<0.478	<0.329	<0.414	<0.2	<0.2	<0.2	<0.2	<0.2	<0.36	<0.36
1,2-Dichlorobenzene	µg/l	600	60	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.26	<0.2	<0.2	<0.2	<0.2	<0.2	<0.27	<0.27
1,3-Dichlorobenzene	µg/l	600	120	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.04	<0.2	<0.2	<0.2	<0.2	<0.2	<0.15	<0.15
1,4-Dichlorobenzene	µg/l	75	15	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.953	<0.2	<0.2	<0.2	<0.5	<0.5	<0.15	<0.15
Dichlorodifluoromethane	µg/l	1,000	200	<5.0	<5.0	<1.0	<1.0	<5.0	<5.0	<0.918	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20
1,1-Dichloroethane	µg/l	850	85	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	0.72	<0.5	<0.5	<0.5	0.52[J]	<0.5	<0.19	<0.19
1,2-Dichloroethane	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<0.356	<0.5	<0.587	<0.5	<0.5	<0.5	<0.5	<0.5	<0.28	<0.36
1,1-Dichloroethene	µg/l	7	0.7	<1.0	<1.0	<1.0	<1.0	<0.291	<0.5	<0.639	<0.5	<0.5	<0.5	<0.5	<0.5	<0.31	<0.31
cis-1,2-Dichloroethene	µg/l	70	7	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.795	<0.5	<0.5	<0.5	<0.5	<0.5	<0.12	<0.12
trans-1,2-Dichloroethene	µg/l	100	20	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.573	<0.5	<0.5	<0.5	<0.5	<0.5	<0.25	<0.25
1,2-Dichloropropane	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<5.0	<0.5	<0.693	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20
1,3-Dichloropropane	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.402	<0.25	<0.25	<0.25	<0.25	<0.25	<0.13	<0.13
2,2-Dichloropropane	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.778	<0.5	<0.5	<0.5	<0.5	<0.5	<0.32	<0.32
Di-isopropyl Ether	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.729	NA	NA	NA	NA	NA	<0.15	<0.15
Ethylbenzene	µg/l	700	140	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.506	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13
Hexachlorobutadiene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<10	<10	<1.76	<0.5	<0.5	<0.5	<0.5	<0.5	<0.26	<0.26
Isopropylbenzene	µg/l	**	**	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<0.562	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14
p-Isopropyltoluene	µg/l	**	**	NA	NA	NA	NA	<5.0	<5.0	<0.804	<0.2	<0.2	<0.2	<0.2	<0.2	<0.17	<0.17
Methylene Chloride +	µg/l	5	0.5	<5.0	<5.0	<5.0	<5.0	<1.75	<0.641	**(2.2)**	<1.0	<1.0	<1.0	<1.0	<1.0	<0.68	<0.68
Methyl Tert Butyl Ether	µg/l	60	12	<5.0	<5.0	<5.0	<5.0	<0.317	<0.381	<0.668	<0.5	<0.5	<0.5	<0.5	<0.5	<0.24	<0.24
Naphthalene	µg/l	100	10	<5.0	<5.0	<5.0	<5.0	<8.0	<8.0	<0.535	<0.25	<0.25	<0.25	<0.25	<0.25	<0.16	<0.16
n-Propylbenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.765	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	<0.13
1,1,2,2-Tetrachloroethane	µg/l	0.2	0.02	<1.0	<1.0	<1.0	<1.0	<0.415	<0.422	<1.05	<0.2	<0.2	<0.2	<0.2	<0.2	<0.23	<0.23
Tetrachloroethene	µg/l	5.0	0.5	<1.0	<1.0	<1.0	<1.0	<0.364	<0.5	<0.63	<0.5	<0.5	<0.5	<0.5	<0.5	<0.17	<0.17
Toluene	µg/l	800	160	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.567	<0.2	<0.2	<0.2	<0.5	<0.5	<0.11	<0.11
1,2,3-Trichlorobenzene	µg/l	**	**	<1.0	<1.0	<5.0	<5.0	<10	<10	<1.58	<0.25	<0.25	<0.25	<0.25[A-01]	<0.25	<0.24	<0.24
1,2,4-Trichlorobenzene	µg/l	70	14	<5.0	<5.0	<5.0	<5.0	<10	<10	<1.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.31	<0.31
1,1,1-Trichloroethane	µg/l	200	40	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.623	<0.5	<0.5	<0.5	<0.5	<0.5	<0.20	<0.20
1,1,2-Trichloroethane	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<0.39	<0.347	<0.385	<0.25	<0.25	<0.25	<0.25	<0.25	<0.28	<0.28
Trichloroethene	µg/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<0.475	<0.5	<0.734	<0.2	<0.2	<0.2	<0.2	<0.2	<0.19	<0.19
Trichlorofluoromethane	µg/l	**	**	<5.0	<5.0	<1.0	<1.0	<5.0	<5.0	<0.828	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19
1,2,4-Trimethylbenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.629	<0.2	<0.2	<0.2	<0.2	<0.2	<0.14	<0.14
1,3,5-Trimethylbenzene	µg/l	**	**	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.803	<0.2	<0.2	<0.2	<0.2	<0.2	<0.18	<0.18
Total Trimethylbenzene	µg/l	480	96	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<0.803	<0.2	<0.2	<0.2	<0.2	<0.2	<0.32	<0.32
Vinyl Chloride	µg/l	0.2	0.02	<5.0	<5.0	<1.0	<1.0	<0.312	<0.652	<1.25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.10	<0.10
Xylenes	µg/l	2,000	400	<3.0	<3.0	<3.0	<3.0	<5.0	<5.0	<1.43	<0.5	<0.5	<0.5	<0.5	<0.5	<0.068	<0.068
Dissolved Gases																	
Carbon Dioxide	mg/L	**	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethane	µg/l	**	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	**	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	**	**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

+ = Laboratory contaminant
µg/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrams per liter (equivalent to parts per million)
A-01 = external verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
C = calibration verification recovery was above the method control limit for this anayte. Analyte not detected, data not impacted.
J = results reported between the Method Detection Limit and Limit of Quantitation are less certain than results at or above the LOQ.
NA = Not Analyzed
** =No Standard
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
Exceedances: ( ) = concentration exceeds Chapter NR 140 PAL
[ ] = concentration exceeds Chapter NR 140 ES

Table A.2
Pre-remedial Soil Analytical Table
Mercury Marine - Plant 98
Fond du Lac, Wisconsin
Project Reference #7786

Soil Sample Location:		**#1 (Below UST)**	**MW-98A**		**MW-98B**		**MW-98C**		**MW-98D**		**MW-98E**		**MW-98F**		**GP-98A**		**GP-98B**	**GP-98C**		**Groundwater Pathway RCL**	**Industrial Direct Contact RCL**
Sample Depth (ft bgs):		7 - 8	4 - 6	14 - 16	2 - 4	12 - 14	8 - 10	10 - 12	4 - 6	14 - 16	2 - 4	6 - 8	0 - 2	6 - 8	4 - 8	8 - 10	7 - 9.5	4 - 5.5	6 - 8		
Sample Collection Date:		11/20/02	5/1/03		5/1/03		5/1/03		5/1/03		12/17/03		12/17/03		10/13/05		10/13/05	10/13/05			
Depth to Groundwater (ft bgs):		6.1 +/-	8.1		7.7		6.1		7.5		10.7		7.4		8 - 10 +/-		8 - 9 +/-	8 +/-			
Unsaturated / Smear Zone (U) or Saturated (S):		S	U	S	U	S	S	S	U	S	U	U	U	U	U	U	U	U	U		
VOCs																					
Benzene	µg/kg	<790	<25	<25	<25	<25	<25	<25	**42.4**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	5.1	7,410
Bromodichloromethane	µg/kg	<790	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	0.3	1,960
n-Butylbenzene	µg/kg	1,200	265	37.4	<25	<25	<25	<25	88.2	<25	<25	<25	275	<25	<25	<25	<25	<25	<25	NS	108,000
sec-Butylbenzene	µg/kg	1,500	535	74.1	<25	<25	<25	35.8	144	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NS	145,000
tert-Butylbenzene	µg/kg	<790	273	<25	<25	<25	<25	<25	66.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NS	183,000
Chloroethane	µg/kg	<3,400	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	226.6	NS
1,1-Dichloroethane	µg/kg	<790	158	<25	<25	47.3	60.2	36.7	55.6	35.7	<25	<25	44.5	97.2	<25	<25	<25	<25	<25	483.6	23,700
1,1-Dichloroethene	µg/kg	<790	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	5	1,190,000
cis-1,2-Dichloroethene	µg/kg	5,000	183	<25	<25	81.3	3,930	2,970	**2,180**	946	<25	<25	<25	**143**	<25	<25	<25	<25	**2,050**	41.2	2,040,000
trans-1,2-Dichloroethene	µg/kg	<790	<25	<25	<25	<25	46	61.7	**71.3**	52.3	<25	<25	<25	<25	<25	<25	<25	<25	<25	58.8	976,000
Ethylbenzene	µg/kg	<790	39.9	<25	<25	<25	<25	<25	<25	<25	<25	<25	2,230	<25	<25	<25	<25	<25	<25	1,570	37,000
Isopropylbenzene	µg/kg	<790	114	<25	<25	<25	<25	<25	<25	<25	<25	<25	299	<25	<25	<25	<25	<25	<25	NS	NS
p-Isopropyltoluene	µg/kg	2,300	240	<25	<25	<25	96.6	51.4	45.8	<25	<25	<25	281	<25	<25	<25	<25	<25	<25	NS	162,000
2-Methylnaphthalene	µg/kg	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	2,200,000
Naphthalene	µg/kg	<3,400	455	<25	<25	<25	73.3	<25	<25	<25	<25	<25	274	<25	<25	<25	<25	<25	<25	658.7	26,000
n-Propylbenzene	µg/kg	1,700	128	<25	<25	<25	<25	<25	30.3	<25	<25	<25	834	<25	<25	<25	<25	<25	<25	NS	264,000
Toluene	µg/kg	<790	<25	<25	<25	<25	<25	<25	50.3	<25	<25	<25	386	<25	<25	<25	<25	<25	<25	1,107.2	818,000
1,1,1-Trichloroethane	µg/kg	2,200	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	140.2	640,000
Trichloroethene	µg/kg	70,000	<25	61.5	<25	<25	23,000	17,600	<25	96.7	<25	<25	<25	<25	<25	<25	<25	<25	**1,140**	3.6	8,810
1,2,2-Trichloro-1,1,2-trifluoroethane	µg/kg	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	910,000
1,2,4-Trimethylbenzene	µg/kg	16,000	113	<25	<25	<25	56.8	<25	40.4	<25	<25	<25	**2,110**	<25	<25	<25	<25	<25	<25	1,379.3	219,000
1,3,5-Trimethylbenzene	µg/kg	6,300	150	45.9	<25	<25	31.6	32.5	90.7	<25	<25	<25	**1,620**	<25	<25	<25	<25	<25	<25		182,000
Vinyl Chloride	µg/kg	<790	**11**	<25	<25	67.8	73.6	64.6	**427**	134	<25	<25	<25	<25	<25	<25	<25	<25	<25	0.1	2,030
Total Xylenes	µg/kg	3,400	125	<25	<25	<25	<25	<25	<25	<25	<25	<25	**8,770**	<25	<25	<25	<25	<25	<25	3,940	258,000

Notes:
1. Unsaturated/smear zone versus saturated soil conditions based on measured water levels in adjacent/nearby monitoring wells.
2. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as described in NR 720.10. Current RCLs based on WDNR's RCL Spreadsheet (dated June 2013) as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 20, 2013.
5. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as described in NR 720.12. Current RCLs based on WDNR's RCL Spreadsheet (dated June 2013) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 20, 2013.
6. NS = no standard established
7. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL (unsaturated soil samples only)
[ ] = Concentration exceeds Industrial Direct Contact RCL (shallow, unsaturated soil samples only)

Table A.2
Pre-remedial Soil Analytical Table
Mercury Marine - Plant 98
Fond du Lac, Wisconsin
Project Reference #7786

Soil Sample Location:		**GP-98D**		**GP-98E**		**GP-98F**		**GP-98G**	**HA-98H**	**HA-98I**	**GP-98J**		**HA-98K**	**MW-98G**		**MW-98H**		**TW-98-1**	**PZ-98D**		**Groundwater Pathway RCL**	**Industrial Direct Contact RCL**
Sample Depth (ft bgs):		4 - 6	8 - 9	4 - 6	9 - 10	4 - 6	8 - 10	8 - 10	---	---	6 - 8	9 - 10	---	6 - 8	10 - 12	4 - 6	8 - 10	2 - 3	25 - 27.5	27.5 - 30		
Sample Collection Date:		10/13/05		10/13/05		10/13/05		10/13/05	10/13/05	10/13/05	10/13/05		10/13/05	5/28/08		5/28/08		5/28/08	5/28/08			
Depth to Groundwater (ft bgs):		7.5 +/-		6.1 +/-		7 +/-		7.7 +/-	---	---	8 +/-		---	11.2		11.1		0.5	7.5			
Unsaturated / Smear Zone (U) or Saturated (S):		U	S	U	S	U	S	S	---	---	U	S	---	U	U	U	U	S	S	S		
VOCs																						
Benzene	µg/kg	**60.5**	38.2	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	5.1	7,410
Bromodichloromethane	µg/kg	<25	<25	<25	234	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	0.3	1,960
n-Butylbenzene	µg/kg	<25	33.4	<25	<25	73.3	<25	<25	NA	NA	210	40.1	NA	<30	<30	<30	<30	<31	<30	<28	NS	108,000
sec-Butylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	NS	145,000
tert-Butylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	NS	183,000
Chloroethane	µg/kg	<25	<25	<25	<25	**497**	<25	<25	NA	NA	<25	<25	NA	<60	<61	<60	<60	<62	<60	<56	226.6	NS
1,1-Dichloroethane	µg/kg	<25	<25	<25	74	310	368	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	483.6	23,700
1,1-Dichloroethene	µg/kg	<25	<25	<25	<25	<25	38.4	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	5	1,190,000
cis-1,2-Dichloroethene	µg/kg	**574**	2,250	<25	5,340	**117**	993	234	NA	NA	**5,340**	7,000	NA	**81**	35	<30	<30	110	<30	<28	41.2	2,040,000
trans-1,2-Dichloroethene	µg/kg	<25	66.8	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	58.8	976,000
Ethylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	35.3	<25	NA	<30	<30	<30	<30	<31	<30	<28	1,570	37,000
Isopropylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	NS	NS
p-Isopropyltoluene	µg/kg	<25	<25	<25	118	31.2	<25	<25	NA	NA	152	43.7	NA	<30	<30	<30	<30	<31	<30	<28	NS	162,000
2-Methylnaphthalene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<30	NA	NA	NA	NA	NA	NS	2,200,000
Naphthalene	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<60	<61	<60	<60	<62	<60	<56	658.7	26,000
n-Propylbenzene	µg/kg	<25	<25	<25	38.2	58.9	<25	<25	NA	NA	121	<25	NA	<30	<30	<30	<30	<31	<30	<28	NS	264,000
Toluene	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	46	<28	1,107.2	818,000
1,1,1-Trichloroethane	µg/kg	<25	<25	99.9	<25	<25	138	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	140.2	640,000
Trichloroethene	µg/kg	<25	190	<25	22,500	**276**	1,500	<25	NA	NA	**253**	5,950	NA	<30	<30	<30	<30	<31	<30	<28	3.6	8,810
1,2,2-Trichloro-1,1,2-trifluoroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	910,000
1,2,4-Trimethylbenzene	µg/kg	<25	<25	32.1	154	133	<25	<25	NA	NA	180	<25	NA	<30	<30	<30	<30	<31	74	<28	1,379.3	219,000
1,3,5-Trimethylbenzene	µg/kg	<25	<25	38.9	66.6	<25	<25	<25	NA	NA	194	<25	NA	<30	<30	<30	<30	<31	31	<28		182,000
Vinyl Chloride	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	**86.4**	<25	NA	<42	<42	<42	<42	<43	<42	<39	0.1	2,030
Total Xylenes	µg/kg	<25	<25	<25	77	121	<25	<25	NA	NA	235	32.3	NA	<100	<100	<100	<100	<110	<100	<96	3,940	258,000

Notes:
1. Unsaturated/smear zone versus saturated soil conditions based on measured water levels in adjacent/nearby monitoring wells.
2. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as described in NR 720.10. Current RCLs based on WDNR's RCL Spreadsheet (dated June 2013) as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 20, 2013.
5. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as described in NR 720.12. Current RCLs based on WDNR's RCL Spreadsheet (dated June 2013) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 20, 2013.
6. NS = no standard established
7. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL (unsaturated soil samples only)
[ ] = Concentration exceeds Industrial Direct Contact RCL (shallow, unsaturated soil samples only)

Table A.3 Post-remedial Soil Analytical Table

No post-remediation soil samples were collected from the site because no active soil remediation actions were performed.

Table A.4
Pre and Post Remaining Soil Contamination Soil Analytical Table
Mercury Marine - Plant 98
Fond du Lac, Wisconsin
Project Reference #7786

Soil Sample Location:		**#1 (Below UST)**	**MW-98A**		**MW-98B**		**MW-98C**		**MW-98D**		**MW-98E**		**MW-98F**		**GP-98A**		**GP-98B**	**GP-98C**		**Groundwater Pathway RCL**	**Industrial Direct Contact RCL**
Sample Depth (ft bgs):		7 - 8	4 - 6	14 - 16	2 - 4	12 - 14	8 - 10	10 - 12	4 - 6	14 - 16	2 - 4	6 - 8	0 - 2	6 - 8	4 - 8	8 - 10	7 - 9.5	4 - 5.5	6 - 8		
Sample Collection Date:		11/20/02	5/1/03		5/1/03		5/1/03		5/1/03		12/17/03		12/17/03		10/13/05		10/13/05	10/13/05			
Depth to Groundwater (ft bgs):		6.1 +/-	8.1		7.7		6.1		7.5		10.7		7.4		8 - 10 +/-		8 - 9 +/-	8 +/-			
Unsaturated / Smear Zone (U) or Saturated (S):		S	U	S	U	S	S	S	U	S	U	U	U	U	U	U	U	U	U		
VOCs																					
Benzene	µg/kg	<790	<25	<25	<25	<25	<25	<25	**42.4**	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	5.1	7,410
Bromodichloromethane	µg/kg	<790	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	0.3	1,960
n-Butylbenzene	µg/kg	1,200	265	37.4	<25	<25	<25	<25	88.2	<25	<25	<25	275	<25	<25	<25	<25	<25	<25	NS	108,000
sec-Butylbenzene	µg/kg	1,500	535	74.1	<25	<25	<25	35.8	144	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NS	145,000
tert-Butylbenzene	µg/kg	<790	273	<25	<25	<25	<25	<25	66.4	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	NS	183,000
Chloroethane	µg/kg	<3,400	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	226.6	NS
1,1-Dichloroethane	µg/kg	<790	158	<25	<25	47.3	60.2	36.7	55.6	35.7	<25	<25	44.5	97.2	<25	<25	<25	<25	<25	483.6	23,700
1,1-Dichloroethene	µg/kg	<790	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	5	1,190,000
cis-1,2-Dichloroethene	µg/kg	5,000	183	<25	<25	81.3	3,930	2,970	**2,180**	946	<25	<25	<25	**143**	<25	<25	<25	<25	**2,050**	41.2	2,040,000
trans-1,2-Dichloroethene	µg/kg	<790	<25	<25	<25	<25	46	61.7	**71.3**	52.3	<25	<25	<25	<25	<25	<25	<25	<25	<25	58.8	976,000
Ethylbenzene	µg/kg	<790	39.9	<25	<25	<25	<25	<25	<25	<25	<25	<25	2,230	<25	<25	<25	<25	<25	<25	1,570	37,000
Isopropylbenzene	µg/kg	<790	114	<25	<25	<25	<25	<25	<25	<25	<25	<25	299	<25	<25	<25	<25	<25	<25	NS	NS
p-Isopropyltoluene	µg/kg	2,300	240	<25	<25	<25	96.6	51.4	45.8	<25	<25	<25	281	<25	<25	<25	<25	<25	<25	NS	162,000
2-Methylnaphthalene	µg/kg	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	2,200,000
Naphthalene	µg/kg	<3,400	455	<25	<25	<25	73.3	<25	<25	<25	<25	<25	274	<25	<25	<25	<25	<25	<25	658.7	26,000
n-Propylbenzene	µg/kg	1,700	128	<25	<25	<25	<25	<25	30.3	<25	<25	<25	834	<25	<25	<25	<25	<25	<25	NS	264,000
Toluene	µg/kg	<790	<25	<25	<25	<25	<25	<25	50.3	<25	<25	<25	386	<25	<25	<25	<25	<25	<25	1,107.2	818,000
1,1,1-Trichloroethane	µg/kg	2,200	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	140.2	640,000
Trichloroethene	µg/kg	70,000	<25	61.5	<25	<25	23,000	17,600	<25	96.7	<25	<25	<25	<25	<25	<25	<25	<25	**1,140**	3.6	8,810
1,2,2-Trichloro-1,1,2-trifluoroethane	µg/kg	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	910,000
1,2,4-Trimethylbenzene	µg/kg	16,000	113	<25	<25	<25	56.8	<25	40.4	<25	<25	<25	**2,110**	<25	<25	<25	<25	<25	<25	1,379.3	219,000
1,3,5-Trimethylbenzene	µg/kg	6,300	150	45.9	<25	<25	31.6	32.5	90.7	<25	<25	<25	**1,620**	<25	<25	<25	<25	<25	<25		182,000
Vinyl Chloride	µg/kg	<790	**11**	<25	<25	67.8	73.6	64.6	**427**	134	<25	<25	<25	<25	<25	<25	<25	<25	<25	0.1	2,030
Total Xylenes	µg/kg	3,400	125	<25	<25	<25	<25	<25	<25	<25	<25	<25	**8,770**	<25	<25	<25	<25	<25	<25	3,940	258,000

Notes:
1. Unsaturated/smear zone versus saturated soil conditions based on measured water levels in adjacent/nearby monitoring wells.
2. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as described in NR 720.10. Current RCLs based on WDNR's RCL Spreadsheet (dated June 2013) as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 20, 2013.
5. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as described in NR 720.12. Current RCLs based on WDNR's RCL Spreadsheet (dated June 2013) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 20, 2013.
6. NS = no standard established
7. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL (unsaturated soil samples only)
[ ] = Concentration exceeds Industrial Direct Contact RCL (shallow, unsaturated soil samples only)

Table A.4
Pre and Post Remaining Soil Contamination Soil Analytical Table
Mercury Marine - Plant 98
Fond du Lac, Wisconsin
Project Reference #7786

Soil Sample Location:		GP-98D		GP-98E		GP-98F		GP-98G	HA-98H	HA-98I	GP-98J		HA-98K	MW-98G		MW-98H		TW-98-1	PZ-98D		Groundwater Pathway RCL	Industrial Direct Contact RCL
Sample Depth (ft bgs):		4 - 6	8 - 9	4 - 6	9 - 10	4 - 6	8 - 10	8 - 10	---	---	6 - 8	9 - 10	---	6 - 8	10 - 12	4 - 6	8 - 10	2 - 3	25 - 27.5	27.5 - 30		
Sample Collection Date:		10/13/05		10/13/05		10/13/05		10/13/05	10/13/05	10/13/05	10/13/05		10/13/05	5/28/08		5/28/08		5/28/08	5/28/08			
Depth to Groundwater (ft bgs):		7.5 +/-		6.1 +/-		7 +/-		7.7 +/-	---	---	8 +/-		---	11.2		11.1		0.5	7.5			
Unsaturated / Smear Zone (U) or Saturated (S):		U	S	U	S	U	S	S	---	---	U	S	---	U	U	U	U	S	S	S		
VOCs																						
Benzene	µg/kg	**60.5**	38.2	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	5.1	7,410
Bromodichloromethane	µg/kg	<25	<25	<25	234	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	0.3	1,960
n-Butylbenzene	µg/kg	<25	33.4	<25	<25	73.3	<25	<25	NA	NA	210	40.1	NA	<30	<30	<30	<30	<31	<30	<28	NS	108,000
sec-Butylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	NS	145,000
tert-Butylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	NS	183,000
Chloroethane	µg/kg	<25	<25	<25	<25	**497**	<25	<25	NA	NA	<25	<25	NA	<60	<61	<60	<60	<62	<60	<56	226.6	NS
1,1-Dichloroethane	µg/kg	<25	<25	<25	74	310	368	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	483.6	23,700
1,1-Dichloroethene	µg/kg	<25	<25	<25	<25	<25	38.4	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	5	1,190,000
cis-1,2-Dichloroethene	µg/kg	**574**	2,250	<25	5,340	**117**	993	234	NA	NA	**5,340**	7,000	NA	**81**	35	<30	<30	110	<30	<28	41.2	2,040,000
trans-1,2-Dichloroethene	µg/kg	<25	66.8	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	58.8	976,000
Ethylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	35.3	<25	NA	<30	<30	<30	<30	<31	<30	<28	1,570	37,000
Isopropylbenzene	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	NS	NS
p-Isopropyltoluene	µg/kg	<25	<25	<25	118	31.2	<25	<25	NA	NA	152	43.7	NA	<30	<30	<30	<30	<31	<30	<28	NS	162,000
2-Methylnaphthalene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<30	NA	NA	NA	NA	NA	NS	2,200,000
Naphthalene	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<60	<61	<60	<60	<62	<60	<56	658.7	26,000
n-Propylbenzene	µg/kg	<25	<25	<25	38.2	58.9	<25	<25	NA	NA	121	<25	NA	<30	<30	<30	<30	<31	<30	<28	NS	264,000
Toluene	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	46	<28	1,107.2	818,000
1,1,1-Trichloroethane	µg/kg	<25	<25	99.9	<25	<25	138	<25	NA	NA	<25	<25	NA	<30	<30	<30	<30	<31	<30	<28	140.2	640,000
Trichloroethene	µg/kg	<25	190	<25	22,500	**276**	1,500	<25	NA	NA	**253**	5,950	NA	<30	<30	<30	<30	<31	<30	<28	3.6	8,810
1,2,2-Trichloro-1,1,2-trifluoroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	910,000
1,2,4-Trimethylbenzene	µg/kg	<25	<25	32.1	154	133	<25	<25	NA	NA	180	<25	NA	<30	<30	<30	<30	<31	74	<28	1,379.3	219,000
1,3,5-Trimethylbenzene	µg/kg	<25	<25	38.9	66.6	<25	<25	<25	NA	NA	194	<25	NA	<30	<30	<30	<30	<31	31	<28		182,000
Vinyl Chloride	µg/kg	<25	<25	<25	<25	<25	<25	<25	NA	NA	**86.4**	<25	NA	<42	<42	<42	<42	<43	<42	<39	0.1	2,030
Total Xylenes	µg/kg	<25	<25	<25	77	121	<25	<25	NA	NA	235	32.3	NA	<100	<100	<100	<100	<110	<100	<96	3,940	258,000

Notes:
1. Unsaturated/smear zone versus saturated soil conditions based on measured water levels in adjacent/nearby monitoring wells.
2. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as described in NR 720.10. Current RCLs based on WDNR's RCL Spreadsheet (dated June 2013) as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 20, 2013.
5. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as described in NR 720.12. Current RCLs based on WDNR's RCL Spreadsheet (dated June 2013) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 20, 2013.
6. NS = no standard established
7. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL (unsaturated soil samples only)
[ ] = Concentration exceeds Industrial Direct Contact RCL (shallow, unsaturated soil samples only)

Table A.5 Vapor Analytical Table

Subslab vapor and indoor air samples were not collected because industrial air handling controls are in place for the Plant 98 and Plant 4HT buildings.

Table A.6 Other Media of Concern

There are no other media of concern at the site.

Table A.7
Water Level Elevations
Mercury Marine - Plant 98
Fond du Lac, Wisconsin
Project Reference #7786

Monitoring Well Identification	Ground Surface Elevation (MSL)	Top of Casing Elevation (MSL)	Screen Interval (ft bgs)	Depth to Groundwater (ft toc)	Depth to Groundwater (ft bgs)	Groundwater Elevation (MSL)	Date
MW-98A	778.3	777.97	3-18	7.70	8.07	770.27	05/09/03
				5.08	5.45	772.89	09/10/03
				4.88	5.25	773.09	12/03/03
				5.00	5.37	772.97	01/12/04
		778.02		4.35	4.67	773.67	06/07/04
				4.49	4.81	773.53	08/26/04
				5.09	5.41	772.93	11/17/04
				5.19	5.51	772.83	11/03/05
				4.91	5.23	773.11	03/27/06
				4.71	5.03	773.31	09/27/06
				4.63	4.95	773.39	08/20/08
				4.45	4.77	773.57	07/01/09
				4.61	4.93	773.41	04/13/10
				4.76	5.08	773.26	10/20/10
				4.36	4.68	773.66	08/10/11
				5.14	5.46	772.88	09/28/12
				4.44	4.76	773.58	07/24/13
MW-98B	778.4	778.11	3-18	7.40	7.68	770.71	05/09/03
				6.00	6.28	772.11	09/10/03
				5.56	5.84	772.55	12/03/03
				6.00	6.28	772.11	01/12/04
		778.11		5.83	6.11	772.28	06/07/04
				5.92	6.20	772.19	08/26/04
				6.02	6.30	772.09	11/17/04
				6.07	6.35	772.04	11/03/05
				5.93	6.21	772.18	03/27/06
				5.93	6.21	772.18	09/27/06
				5.87	6.15	772.24	08/20/08
				5.65	5.93	772.46	07/01/09
				5.62	5.90	772.49	04/13/10
				5.76	6.04	772.35	10/20/10
				5.87	6.15	772.24	08/10/11
				5.65	5.93	772.46	09/28/12
				5.99	6.27	772.12	07/24/13
MW-98C	778.3	777.63	3-18	5.28	5.95	772.35	05/09/03
				5.39	6.06	772.24	09/10/03
				5.26	5.93	772.37	12/03/03
				5.27	5.94	772.36	01/12/04
		777.68		5.26	5.88	772.42	06/07/04
				5.29	5.91	772.39	08/26/04
				5.28	5.90	772.40	11/17/04
				5.31	5.93	772.37	11/03/05
				5.28	5.90	772.40	03/27/06
				5.19	5.81	772.49	09/27/06
				5.23	5.85	772.45	08/20/08
				5.15	5.77	772.53	07/01/09
				4.99	5.61	772.69	04/13/10
				5.30	5.92	772.38	10/20/10
				5.27	5.89	772.41	08/10/11
				5.27	5.89	772.41	09/28/12
				5.20	5.82	772.48	07/24/13

Table A.7
Water Level Elevations
Mercury Marine - Plant 98
Fond du Lac, Wisconsin
Project Reference #7786

Monitoring Well Identification	Ground Surface Elevation (MSL)	Top of Casing Elevation (MSL)	Screen Interval (ft bgs)	Depth to Groundwater (ft toc)	Depth to Groundwater (ft bgs)	Groundwater Elevation (MSL)	Date
MW-98D	778.4	778.07	3-18	7.43	7.75	770.64	05/09/03
				6.73	7.05	771.34	09/10/03
				6.96	7.28	771.11	12/03/03
				7.21	7.53	770.86	01/12/04
		778.12		6.85	7.12	771.27	06/07/04
				6.63	6.90	771.49	08/26/04
				7.03	7.30	771.09	11/17/04
				6.85	7.12	771.27	11/03/05
				7.03	7.30	771.09	03/27/06
				6.71	6.98	771.41	09/27/06
				6.69	6.96	771.43	08/20/08
				6.83	7.10	771.29	07/01/09
				6.85	7.12	771.27	04/13/10
				6.68	6.95	771.44	10/20/10
				6.73	7.00	771.39	08/10/11
				6.90	7.17	771.22	09/28/12
				6.81	7.08	771.31	07/24/13
MW-98E	778.3	777.89	3-18	10.32	10.73	767.57	01/12/04
				6.06	6.47	771.83	06/07/04
				6.26	6.67	771.63	08/26/04
				6.37	6.78	771.52	11/17/04
				6.56	6.97	771.33	11/03/05
				7.16	7.57	770.73	03/27/06
				6.38	6.79	771.51	09/27/06
				6.40	6.81	771.49	08/20/08
				6.22	6.63	771.67	07/01/09
				6.28	6.69	771.61	04/13/10
				5.88	6.29	772.01	10/20/10
				6.11	6.52	771.78	08/10/11
				7.24	7.65	770.65	09/28/12
				6.78	7.19	771.11	07/24/13
MW-98F	778.3	777.86	3-18	6.97	7.41	770.89	01/12/04
				6.14	6.58	771.72	06/07/04
				6.31	6.75	771.55	08/26/04
				6.30	6.74	771.56	11/17/04
				6.49	6.93	771.37	11/03/05
				6.40	6.84	771.46	03/27/06
				6.17	6.61	771.69	09/27/06
				6.01	6.45	771.85	08/20/08
				5.87	6.31	771.99	07/01/09
				5.45	5.89	772.41	04/13/10
				5.86	6.30	772.00	10/20/10
				6.03	6.47	771.83	08/10/11
				5.80	6.24	772.06	09/28/12
				5.66	6.10	772.20	07/24/13
MW-98G	778.5	778.35	8-18	7.78	7.89	770.57	08/20/08
				7.71	7.82	770.64	07/01/09
				7.97	8.08	770.38	04/14/10
				11.11	11.22	767.24	10/20/10
				7.72	7.83	770.63	08/10/11
				8.18	8.29	770.17	09/28/12
				7.60	7.71	770.75	07/24/13
MW-98H	778.5	778.22	4-19	7.20	7.43	771.02	08/20/08
				7.18	7.41	771.04	07/01/09
				7.53	7.76	770.69	04/14/10
				10.84	11.07	767.38	10/20/10
				7.26	7.49	770.96	08/10/11
				7.75	7.98	770.47	09/28/12
				7.05	7.28	771.17	07/24/13

Table A.7
Water Level Elevations
Mercury Marine - Plant 98
Fond du Lac, Wisconsin
Project Reference #7786

Monitoring Well Identification	Ground Surface Elevation (MSL)	Top of Casing Elevation (MSL)	Screen Interval (ft bgs)	Depth to Groundwater (ft toc)	Depth to Groundwater (ft bgs)	Groundwater Elevation (MSL)	Date
PZ-98D	778.4	778.10	24-29	16.35	16.67	761.75	08/20/08
				11.24	11.56	766.86	07/01/09
				7.90	8.22	770.20	04/13/10
				8.00	8.32	770.10	10/20/10
				7.94	8.26	770.16	08/10/11
				8.65	8.97	769.45	09/28/12
				7.91	8.23	770.19	07/24/13
TW-98-1	769*	769*	10.75-17**	0.40	0.40	768.6	08/20/08
				0.40	0.40	768.6	07/01/09
				0.40	0.40	768.6	04/14/10
				0.45	0.45	768.6	10/20/10
				0.40	0.40	768.6	08/10/11
				0.50	0.50	768.5	09/28/12
				0.10	0.10	768.9	07/24/13
EB-3/MW-3	775.6	778.10	2-12 +/-	7.54	5.04	770.56	09/16/08
				8.02	5.52	770.08	09/30/09
				4.80	2.30	773.30	04/14/10
				NM	---	---	10/20/10
				NM	---	---	08/11/11
				10.00	7.50	768.10	09/28/12
				5.05	2.55	773.05	07/24/13
MW-4A	778.3	777.99		4.59	4.92	773.40	09/16/08
				4.75	5.08	773.24	09/30/09
				4.11	4.44	773.88	04/14/10
				NM	---	---	10/20/10
				NM	---	---	08/11/11
				NM	---	---	09/28/12
				4.85	5.18	773.14	07/24/13
MW-4B	778.3	777.93	4-14	4.70	5.02	773.23	09/16/08
				3.62	3.94	774.31	09/30/09
				3.23	3.55	774.70	04/14/10
				NM	---	---	10/20/10
				NM	---	---	08/11/11
				5.92	6.24	772.01	09/28/12
				3.51	3.83	774.42	07/24/13

Notes:

MSL = Mean Sea Level
ft bgs = Feet below ground surface
ft toc = Feet below top of casing
* = Elevation is approximate
** = Depth is relative to ground-level (outdoor) ground surface (TW-98-1 is screened from 1.75 to 8 feet below the basement floor slab).

Table A.8
Groundwater Field Parameters
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID	Date	Dissolved Oxygen (mg/l)	Redox (mV)	pH (S.U.)	Ferrous Iron (mg/l)	Temperature (C)
MW-98A	05/07/03	0.44	NA	7.0	0.0	11.6
	09/10/03	0.29	85.3	7.0	0.0	16.2
	01/12/04	0.26	69.7	7.0	0.0	10.1
	06/07/04	0.15	70.8	7.0	0.0	14.1
	08/26/04	0.24	47.1	7.0	0.0	13.2
	11/17/04	0.23	63.7	7.0	0.0	16.2
	11/03/05	0.27	81	--	0.0	--
	03/27/06	0.37	112	7.0	0.0	10.3
	09/27/06	0.26	63	7.0	0.0	17.7
	08/20/08	0.47	66	7.0	0.0	15.8
	07/01/09	0.25	174	7.0	0.0	15.2
	04/13/10	0.47	58	7.0	0.0	12.5
	10/20/10	0.40	42	7.0	0.0	17.2
	08/10/11	0.10	-50	7.1	0.0	15.7
	09/28/12	4.0	-74	7.4	0.0	17.2
	07/24/13	0.20	-54	7.4	1.0	15.0
MW-98B	05/07/03	0.47	NA	7.0	0.0	12.0
	09/10/03	0.24	57.3	7.0	1.0	17.8
	01/12/04	0.23	41.2	7.0	0.0	10.3
	06/07/04	0.18	50.8	7.0	1.6	14.2
	08/26/04	0.21	24.6	7.0	0.0	13.6
	11/17/04	0.25	65.1	7.0	0.8	16.0
	11/03/05	0.30	-12	--	3.8	--
	03/27/06	0.42	100	7.0	0.0	10.5
	09/27/06	0.32	73	7.0	0.4	17.7
	08/20/08	0.39	70	8.0	0.0	16.2
	07/01/09	0.26	147	8.0	0.0	14.3
	04/13/10	0.50	67	7.0	0.0	12.5
	10/20/10	0.30	46	7.0	3.0	18.3
	08/10/11	0.20	-69.0	6.8	0.0	17.2
	09/28/12	3.6	-68	7.0	0.0	18.5
	07/24/13	0.20	-61	7.1	0.0	15.7
MW-98C	05/07/03	0.46	NA	7.0	0.0	11.4
	09/10/03	0.23	66.4	7.0	0.0	16.8
	01/12/04	0.24	57.2	7.0	0.0	10.0
	06/07/04	0.25	28.7	7.0	0.0	13.9
	08/26/04	0.26	28.2	7.0	0.0	13.1
	11/17/04	0.20	-2.3	7.0	0.0	16.7
	11/03/05	0.70	181	--	0.0	--
	03/27/06	0.44	134	7.0	0.0	10.0
	09/27/06	0.25	92	7.0	0.0	17.8
	08/20/08	0.41	93	7.0	0.0	16.2
	07/01/09	0.23	82	7.0	1.6	14.7
	04/13/10	0.41	74	7.0	0.0	12.4
	10/20/10	0.28	70	7.0	0.0	17.9
	08/10/11	0.18	22	7.1	0.0	18.2
	09/28/12	3.50	-73	7.0	0.0	20.1
	07/24/13	0.22	-14	7.3	0.0	17.7
MW-98D	05/07/03	0.43	NA	7.0	0.0	12.2
	09/10/03	0.32	72.1	7.0	1.0	16.5
	01/12/04	0.29	65.4	7.0	0.0	10.1
	06/07/04	0.16	-31.5	7.0	2.2	13.0
	08/26/04	0.33	49.5	4.0	0.0	13.7
	11/17/04	0.23	54.4	7.0	1.0	16.8
	11/03/05	0.39	53	--	4.2	--
	03/27/06	0.35	122	7.0	0.0	9.8
	09/27/06	0.24	107	7.0	0.0	16.6
	08/20/08	0.54	71	7.0	0.0	15.0
	07/01/09	0.32	118	8.0	1.0	13.1
	04/13/10	0.44	19	7.0	2.0	12.1
	10/20/10	0.30	46	7.0	6.0	17.7
	08/10/11	0.16	-72	6.8	0.6	14.6
	09/28/12	1.8	-54	7.2	2.6	16.8
	07/24/13	0.30	-77	7.3	4.0	14.3

Table A.8
Groundwater Field Parameters
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

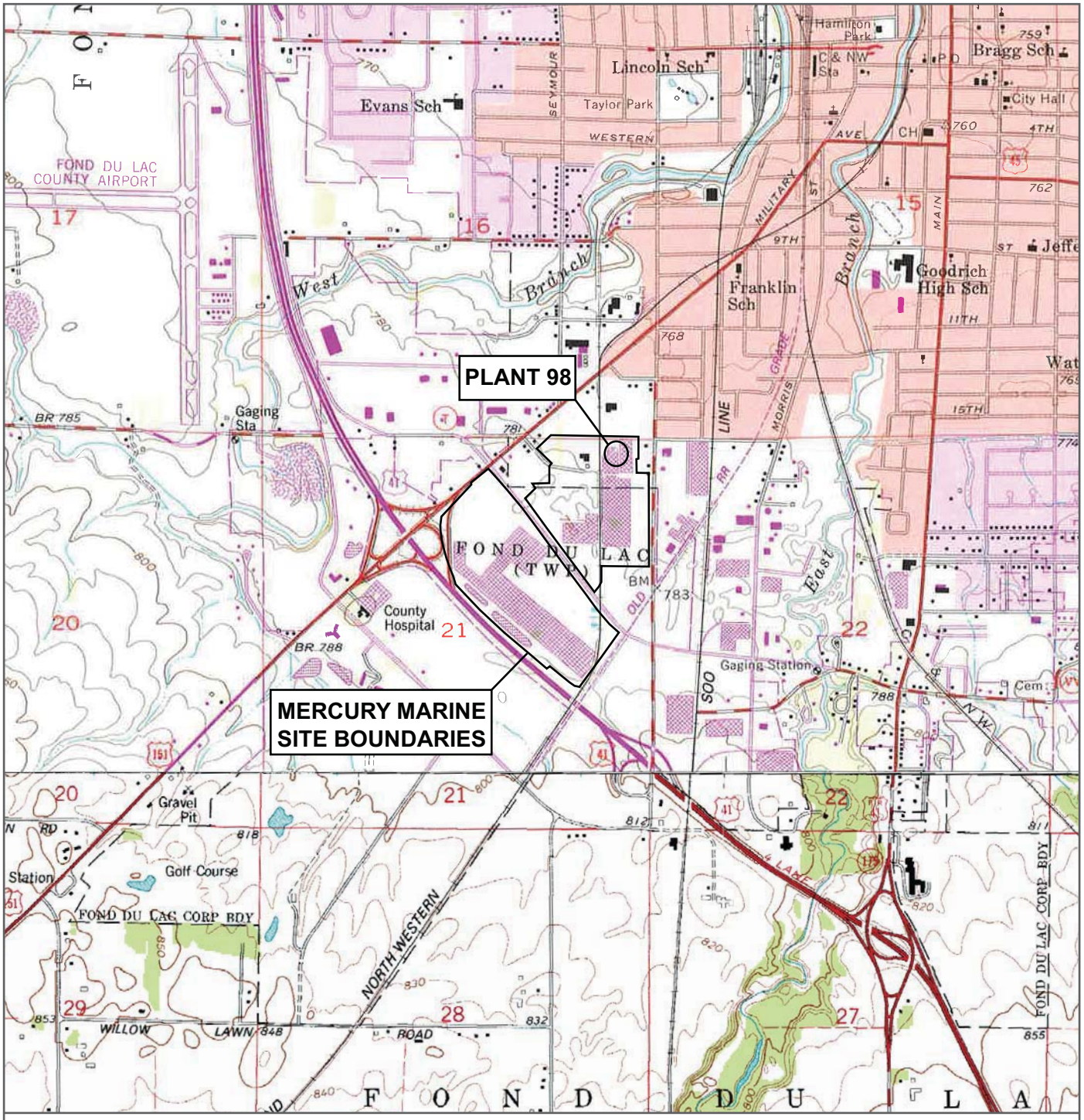
Well ID	Date	Dissolved Oxygen (mg/l)	Redox (mV)	pH (S.U.)	Ferrous Iron (mg/l)	Temperature (C)
MW-98E	01/12/04	0.27	46.1	7.0	0.0	9.9
	06/07/04	1.50	60.3	7.0	0.0	10.5
	08/26/04	0.28	30.9	7.0	0.0	13.3
	11/17/04	0.73	5	7.0	0.0	14.8
	11/03/05	0.34	168	--	0.0	--
	03/27/06	0.31	116	7.0	0.0	10.1
	09/27/06	1.30	144	7.0	0.0	14.7
	08/20/08	0.89	48	7.0	0.0	14.9
	07/01/09	1.80	173	7.0	0.0	11.7
	04/13/10	2.50	36	7.0	0.0	8.8
	10/20/10	1.40	36	7.0	0.0	15.7
	08/10/11	NA	NA	NA	NA	NA
	09/28/12	4.8	30	7.0	0.0	15.3
	07/24/13	0.76	51	7.3	0.0	12.1
MW-98F	01/12/04	0.26	62.7	7.0	0.0	9.6
	06/07/04	0.18	-15.5	7.0	1.6	10.2
	08/26/04	0.29	41.2	7.0	0.0	13.4
	11/17/04	0.27	74.9	7.0	1.0	14.9
	01/03/05	0.25	129	--	0.0	--
	03/27/06	0.34	74	7.0	0.8	9.7
	09/27/06	0.24	58	7.0	1.2	14.7
	08/20/08	0.90	25	7.0	1.2	14.3
	07/01/09	0.42	154	7.0	1.0	11.8
	04/13/10	0.70	53	7.0	1.4	8.0
	10/20/10	0.50	26	7.0	2.0	15.0
	08/10/11	NA	NA	NA	NA	NA
	09/28/12	1.0	-4	7.1	2.0	14.9
	07/24/13	0.10	28	7.0	1.2	12.1
MW-98G	08/20/08	0.66	29	7.5	0.8	17.4
	07/01/09	0.47	88	7.0	1.0	15.8
	04/14/10	0.57	43	7.0	1.0	14.2
	10/20/10	0.90	90	7.0	1.0	19.4
	08/10/11	0.34	117	7.2	0.0	19.4
	09/28/12	0.74	112	7.1	0.0	19.6
	07/24/13	0.90	-6	7.3	1.4	21.0
MW-98H	08/20/08	0.69	35	7.0	0.0	17.6
	07/01/09	0.53	100	7.0	1.0	16.0
	04/14/10	0.48	60	7.0	0.8	14.2
	10/20/10	0.90	82	7.0	1.0	19.4
	08/10/11	0.44	140	6.8	0.6	19.4
	09/28/12	0.80	132	7.0	0.8	19.6
	07/24/13	1.0	42	7.4	0.5	20.0
PZ-98D	08/20/08	0.76	48	7.0	0.0	14.5
	07/01/09	0.66	156	7.0	0.0	13.2
	04/13/10	2.17	19	7.0	0.0	14.2
	10/20/10	0.30	60	7.0	0.0	15.0
	08/10/11	0.09	-125	8.3	0.0	14.2
	09/28/12	3.0	55	8.2	0.0	15.3
	07/24/13	1.2	33	8.9	0.0	14.3
TW-98-1	08/20/08	0.47	43	7.0	0.0	17.2
	07/01/09	0.82	98	7.0	0.0	16.0
	04/14/10	0.24	11	7.0	1.0	13.9
	10/20/10	0.80	65	7.0	1.0	19.2
	08/10/11	0.30	19	7.2	0.0	18.6
	09/28/12	0.67	26	7.2	0.0	19.2
	07/24/13	1.5	55	7.4	0.0	23.0
EB-3/MW-3	05/08/08	2.00	95	7.0	0.0	8.0
	09/30/09	0.59	215	7.0	0.0	13.6
	04/14/10	0.50	89	7.0	0.0	7.9
	10/20/10	NA	NA	NA	NA	NA
	08/10/11	NA	NA	NA	NA	NA
	09/28/12	4.2	160	7.6	0.0	15.2
	07/24/13	1.0	13	7.8	0.0	12.8

Table A.8
Groundwater Field Parameters
Mercury Marine - Plant 98, Fond du Lac, Wisconsin
Project Reference #7786

Well ID	Date	Dissolved Oxygen (mg/l)	Redox (mV)	pH (S.U.)	Ferrous Iron (mg/l)	Temperature (C)
MW-4A	05/08/08	0.57	90	7.0	0.0	8.0
	09/30/09	0.55	254	7.0	0.0	16.8
	04/14/10	0.60	77	7.0	0.0	8.0
	10/20/10	NA	NA	NA	NA	NA
	08/10/11	NA	NA	NA	NA	NA
	09/28/12	NA	NA	NA	NA	NA
	07/24/13	0.40	56	7.2	0.0	14.4
MW-4B	05/08/08	1.23	69	7.0	0.0	10.9
	09/30/09	0.65	253	7.0	0.0	17.8
	04/14/10	0.5	95	7.0	0.0	7.9
	10/20/10	NA	NA	NA	NA	NA
	08/10/11	NA	NA	NA	NA	NA
	09/28/12	4.0	-26	7.3	0.0	17.2
	07/24/13	0.40	-17	7.4	0.0	13.2
North Sump	08/10/11	NA	NA	NA	NA	NA
	09/28/12	7.0	200	7.2	0.0	24.6
	07/24/13	NA	NA	NA	NA	NA

Notes:

mg/l = milligrams per liter
mV = millivolts
S.U. = standards pH units
C = degrees Celsius
NA = not analyzed



Plant 98 area located in the NE 1/4 of the NE 1/4 of Section 21, T15N, R17E
Mercury Marine property located in portions of the NE 1/4 and SE 1/4 of Section 21, T15N, R17E

USGS Fond du Lac Quadrangle (1955, photorevised 1985) & Byron Quadrangle (1974)
7.5 minute, 1 : 24,000 Topographic Map Collection

N

0 ft 2,000 ft 4,000 ft

SCALE: 1" = 2,000 FEET

THE SIGMA GROUP
Single Source. Sound Solutions.

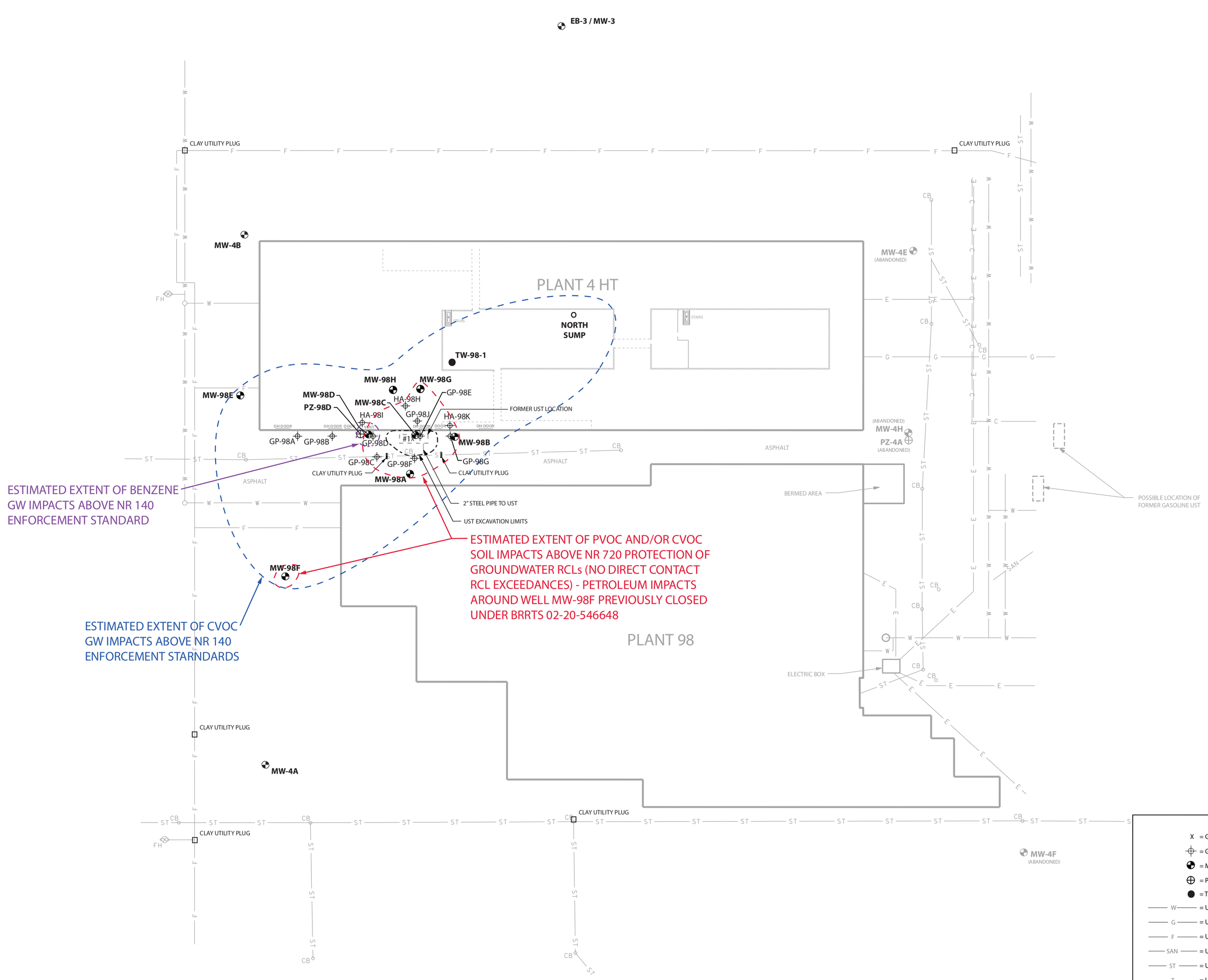
LOCATION MAP

MERCURY MARINE - PLANT 98
W6250 PIONEER ROAD
FOND DU LAC, WISCONSIN

FIGURE

B.1.a

Date: 11/25/2013
Created By: AJR
Filename: 7786 Fig 1 Site Loc Map.ai
Directory: Figures
Project: 7786



LEGEND

- X = GRAB SAMPLE LOCATION
- = GEOPROBE / HAND AUGER LOCATION
- = MONITORING WELL LOCATION
- = PIEZOMETER LOCATION
- = TEMPORARY WELL LOCATION
- W = UNDERGROUND WATER LINE
- G = UNDERGROUND GAS LINE
- F = UNDERGROUND FIRE MAIN
- SAN = UNDERGROUND SANITARY SEWER
- ST = UNDERGROUND STORM SEWER
- T = UNDERGROUND TELEPHONE LINE
- E = UNDERGROUND ELECTRIC LINE
- = BASEMENT BOUNDARY
- = CRAWL SPACE BOUNDARY

0' 25' 50' 75' 100'

GRAPHIC SCALE: 1" = 50'

NOTE:

1. MAP IS BASED ON PREVIOUS SIGMA DRAWING 7786-007.DGN, WHICH WAS BASED ON AN APRIL 2004 SURVEY PERFORMED BY SIGMA DEVELOPMENT, INC.

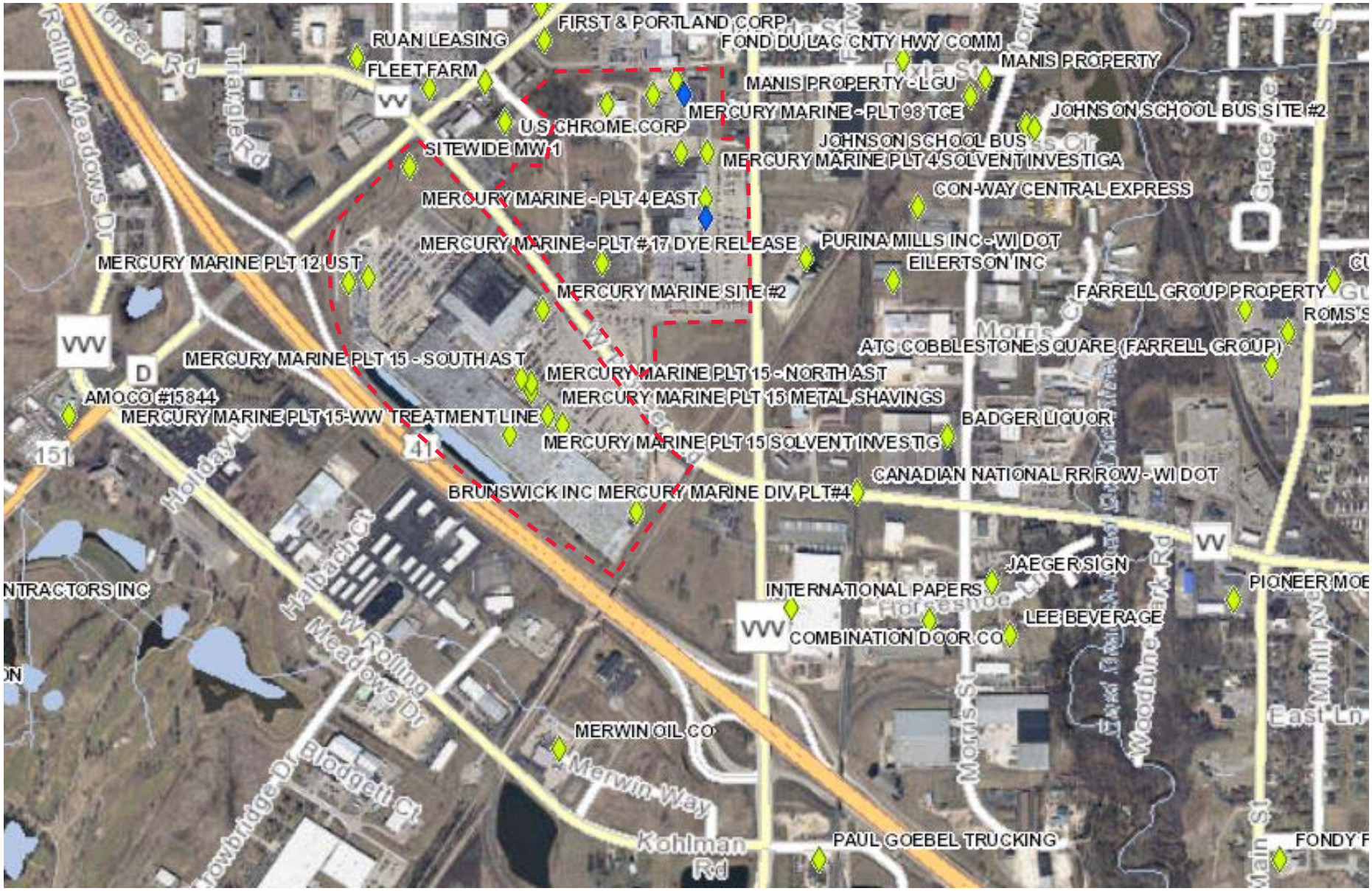
THE SIGMA GROUP
Single Source. Sound Solutions.

DETAILED SITE MAP

MERCURY MARINE - PLANT 98
FOND DU LAC, WISCONSIN

FIGURE
B.1.b

Project: 7786 | Directory: 7786\Figures | Filename: 7786 Site Map Figures 2011.ai | Created By: AJR | Date: 11/21/2011



N

0 ~500ft

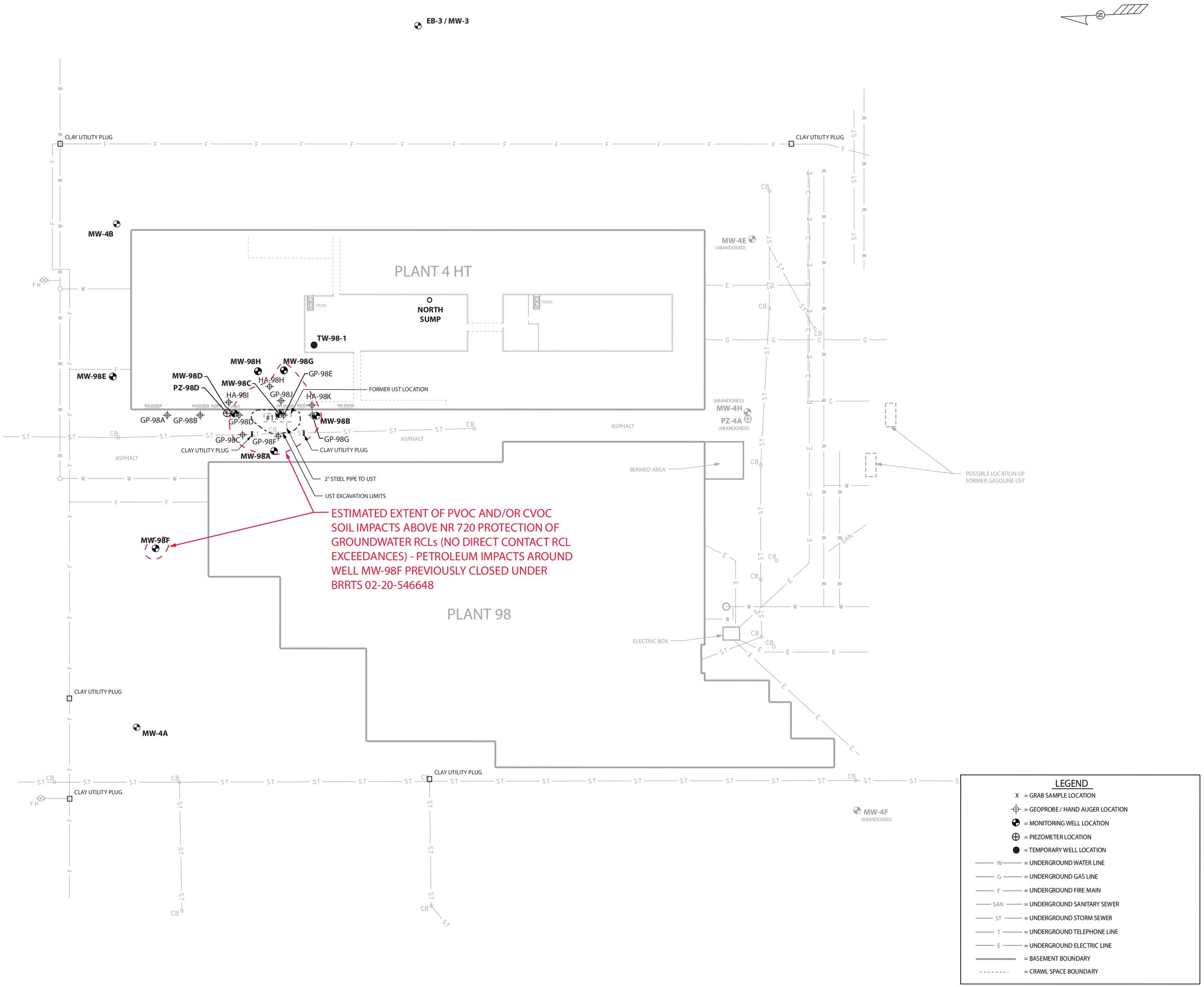
THE SIGMA GROUP
Single Source. Sound Solutions.

RR SITE MAP
MERCURY MARINE - PLANT 98

W6250 PIONEER ROAD
FOND DU LAC, WISCONSIN

FIGURE

B.1.c



NOTE:

1. MAP IS BASED ON PREVIOUS SIGMA DRAWING 7786-007.DGN, WHICH WAS BASED ON AN APRIL 2004 SURVEY PERFORMED BY SIGMA DEVELOPMENT, INC.

THE SIGMA GROUP
Single Source. Sound Solutions.

PRE-REMEDIAL SOIL CONTAMINATION

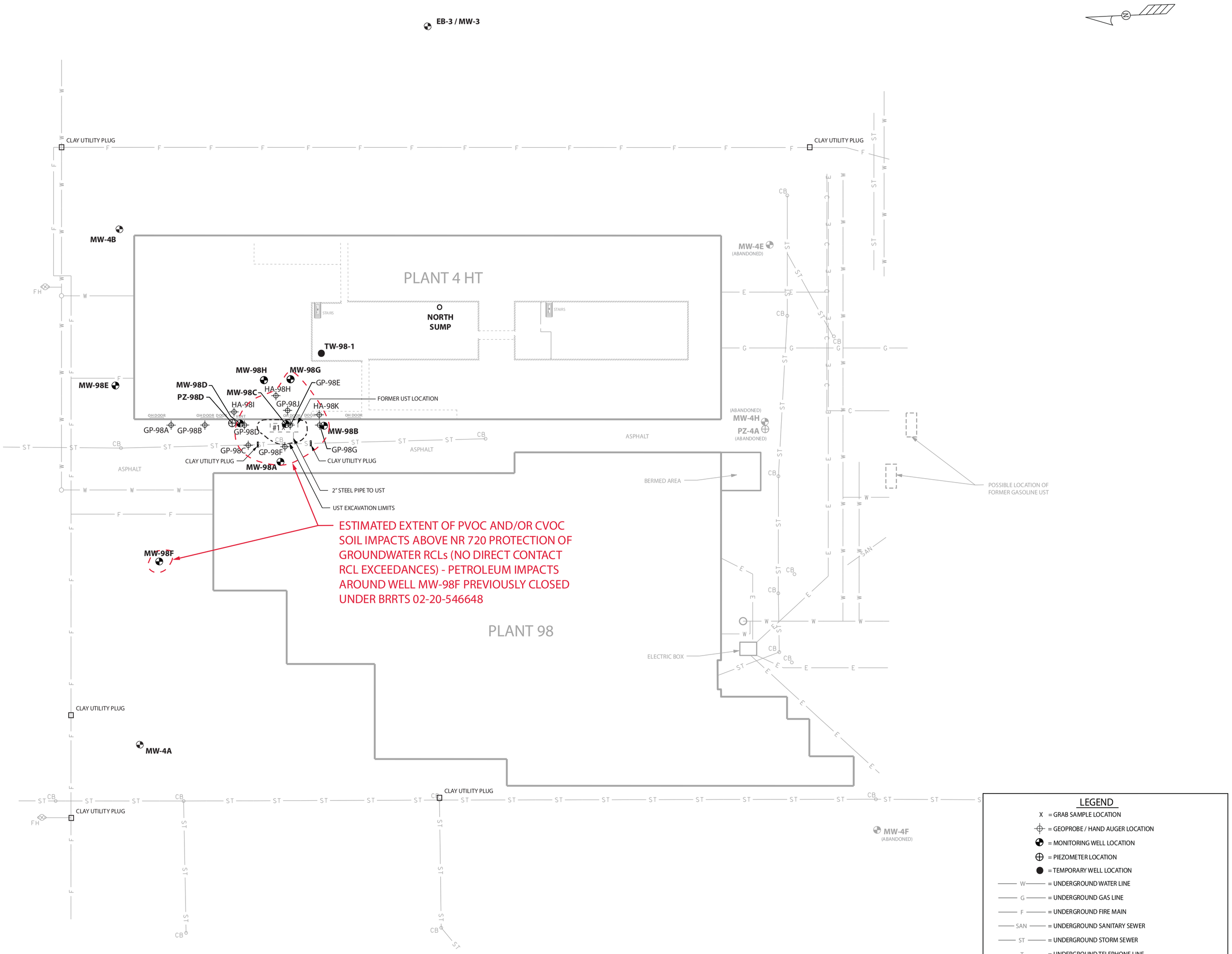
MERCURY MARINE - PLANT 98
FOND DU LAC, WISCONSIN

FIGURE
B.2.a

Project: 7786 | Directory: 7786\Figures | Filename: 7786 Site Map Figures 2011.ai | Created By: AJR | Date: 11/21/2011

B.2.b Post-remedial Soil Contamination

No post-remediation soil samples were collected from the site because no active soil remediation actions were performed.



LEGEND

- X = GRAB SAMPLE LOCATION
- = GEOPROBE / HAND AUGER LOCATION
- = MONITORING WELL LOCATION
- = PIEZOMETER LOCATION
- = TEMPORARY WELL LOCATION
- W = UNDERGROUND WATER LINE
- G = UNDERGROUND GAS LINE
- F = UNDERGROUND FIRE MAIN
- SAN = UNDERGROUND SANITARY SEWER
- ST = UNDERGROUND STORM SEWER
- T = UNDERGROUND TELEPHONE LINE
- E = UNDERGROUND ELECTRIC LINE
- = BASEMENT BOUNDARY
- = CRAWL SPACE BOUNDARY

0' 25' 50' 75' 100'

GRAPHIC SCALE: 1" = 50'

NOTE:

1. MAP IS BASED ON PREVIOUS SIGMA DRAWING 7786-007.DGN, WHICH WAS BASED ON AN APRIL 2004 SURVEY PERFORMED BY SIGMA DEVELOPMENT, INC.

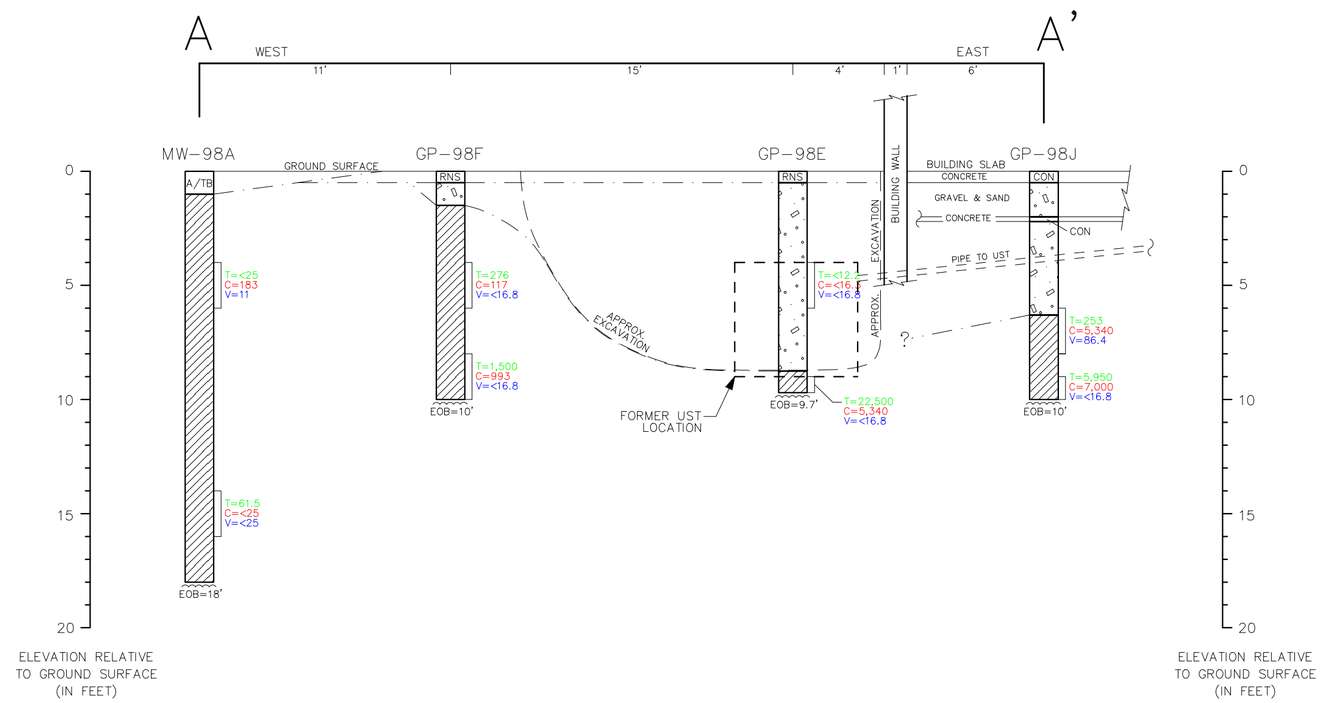
THE SIGMA GROUP
Single Source. Sound Solutions.

PRE / POST REMAINING SOIL CONTAMINATION

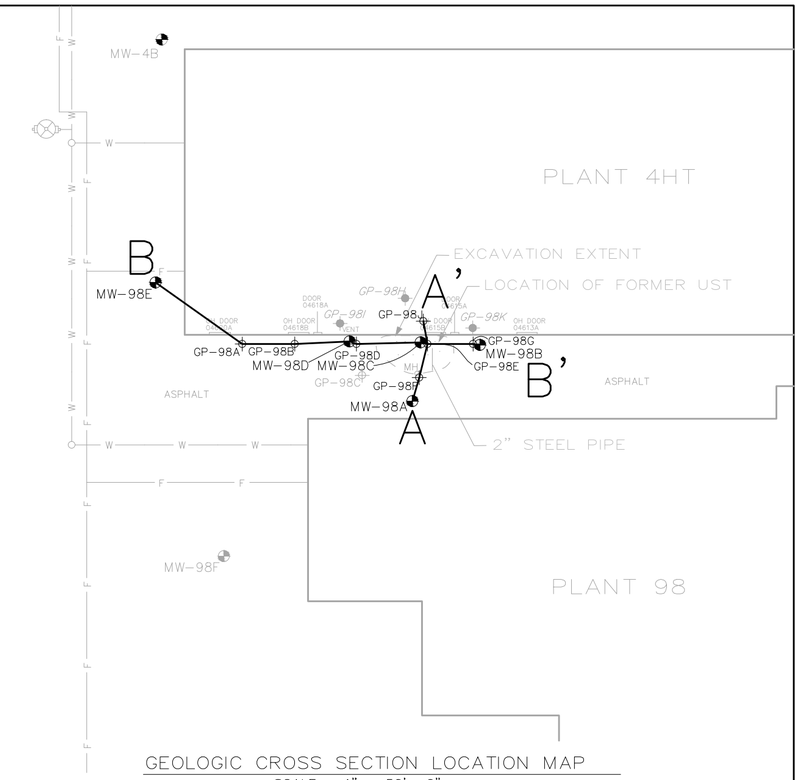
MERCURY MARINE - PLANT 98
FOND DU LAC, WISCONSIN

FIGURE
B.2.c

Project: 7786 | Directory: 7786\Figures | Filename: 7786 Site Map Figures 2011.ai | Created By: AJR | Date: 11/21/2011

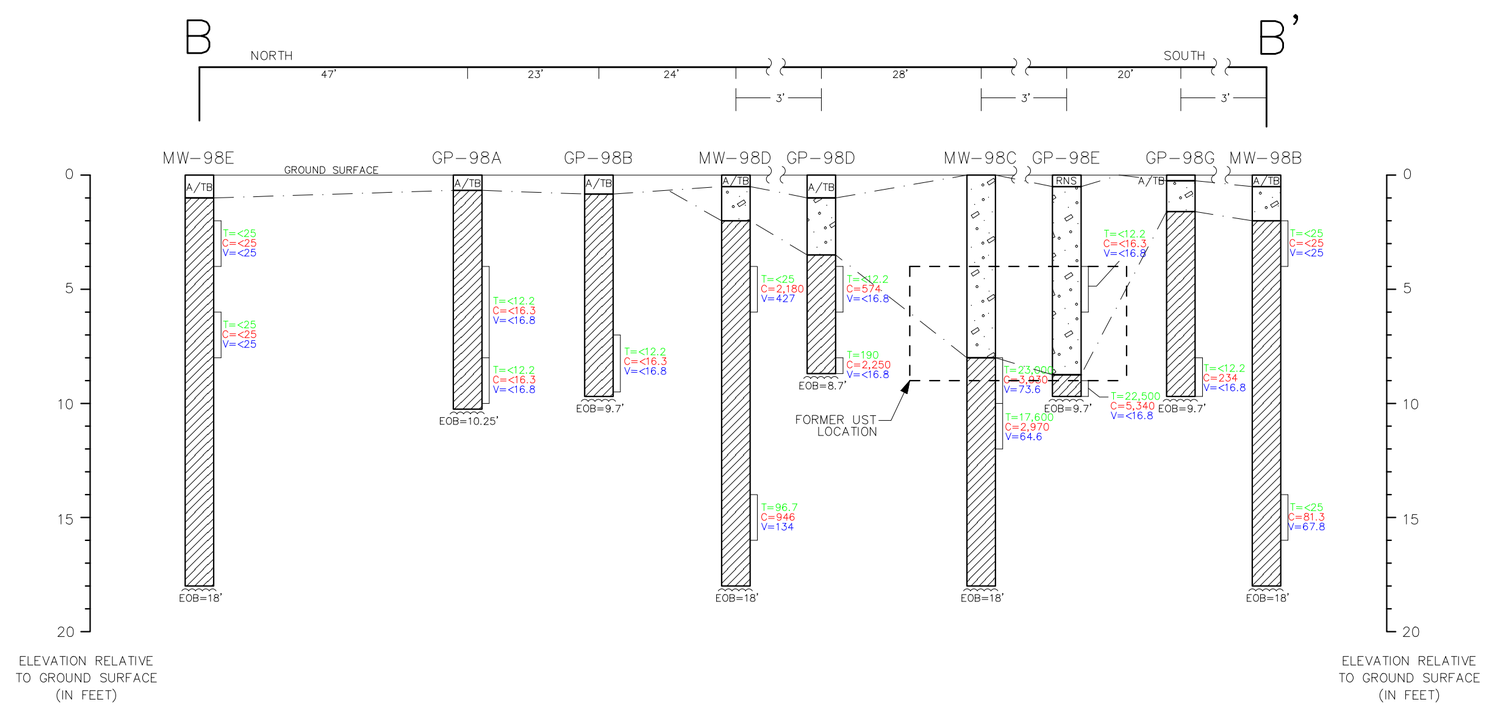


NOTES:
HORIZONTAL SCALE 1" = 5'
VERTICAL SCALE 1" = 5'



GEOLOGIC CROSS SECTION LOCATION MAP
SCALE – 1" = 50'– 0"

NOTE:
MAP IS BASED ON A SURVEY PERFORMED BY SIGMA DEVELOPMENT, INC, DATED 4–4–04



NOTES:
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'

LOCATION MAP LEGEND

- = PROPOSED GEOPROBE LOCATION
- = GEOPROBE LOCATION
- = MONITORING WELL LOCATION
- = PIEZOMETER LOCATION
- W = UNDERGROUND WATER LINE
- G = UNDERGROUND GAS LINE
- F = UNDERGROUND FIRE MAIN
- SAN = UNDERGROUND SANITARY SEWER
- ST = UNDERGROUND STORM SEWER
- T = UNDERGROUND TELEPHONE LINE
- E = UNDERGROUND ELECTRIC LINE

LEGEND

EOB = END OF BORING
— · — = INFERRED CONTACT LINE
(GREEN) T= TRICHLOROETHENE
(RED) C= cis–1,2–DICHLOROETHENE
(BLUE) V= VINYL CHLORIDE

ALL SOIL CONCENTRATIONS EXPRESSED IN MICROGRAMS PER KIOLOGRAM (ug/kg)

USCS SYMBOLS

CL – INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SAND CLAYS, SILTY CLAYS, LEAN CLAYS.

NON–USCS SYMBOLS

A/TB = ASPHALT/ TRAFFIC BOND
CON = CONCRETE
RNS = REWORKED NATIVE SOIL
= GRAVEL AND SAND FILL MATERIAL

MERCURY

SIGMA ENVIRONMENTAL SERVICES INC.
1300 W. CANAL STREET
MILWAUKEE, WISCONSIN 53233
PHONE : (414) 643–4200
1–800–732–4671

SCALE – 1" = 50'– 0"
UNLESS NOTED
0' 25' 50' 75' 100'

NO	DATE	REVISIONS	BY	APVD

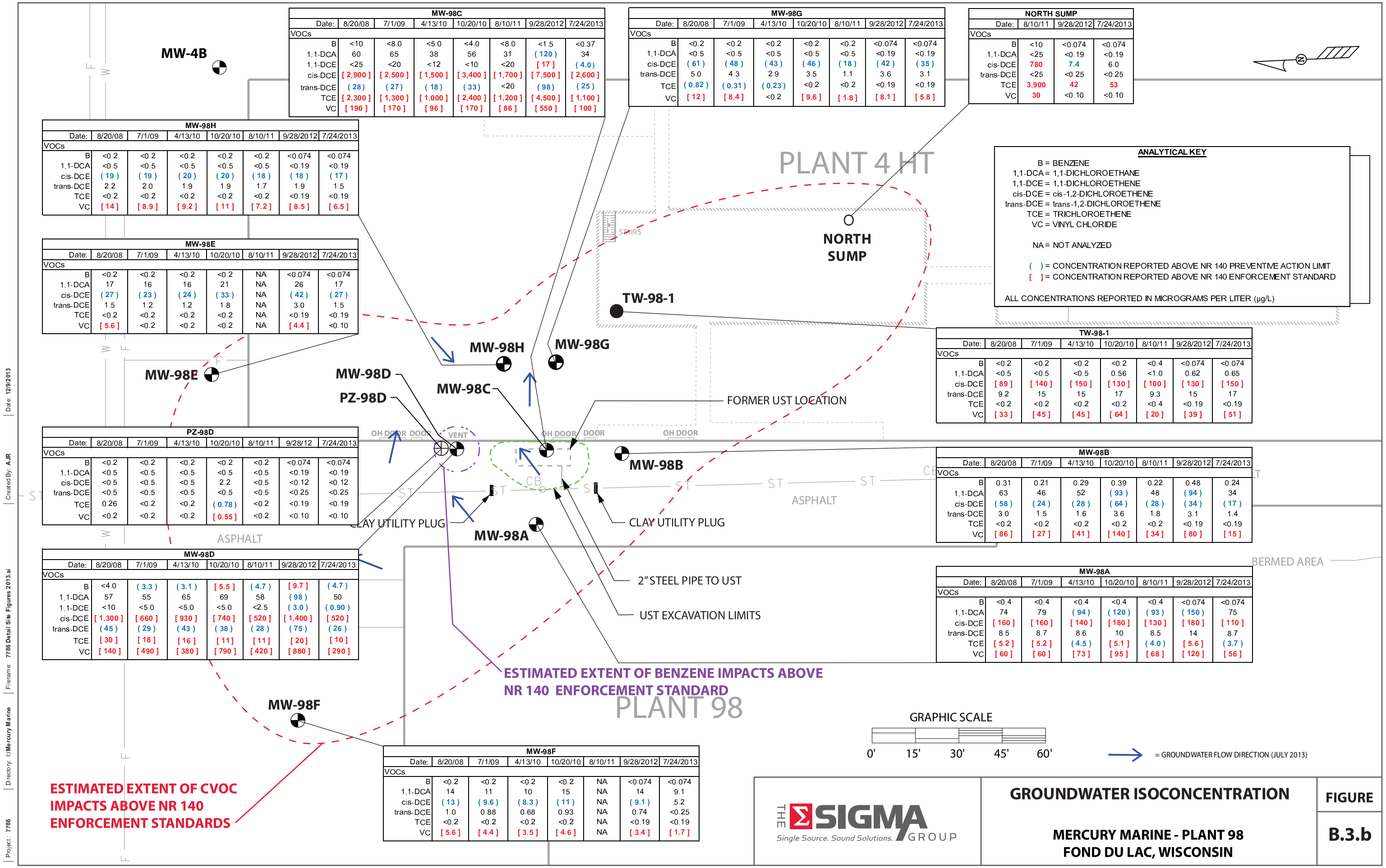
	NAME:	DATE:
DRAWN BY:	BEB	11–7–06
DESIGNED BY:		
CHECKED BY:		
APPROVED BY:		

GEOLOGIC CROSS SECTIONS A – A' AND B – B'

MERCURY MARINE – PLANT 98
FOND DU LAC, WISCONSIN

DRAWING NUMBER
7786–012

B.3.a



MW-98C

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<10	<8.0	<5.0	<4.0	<8.0	<1.5	<0.37
1,1-DCA	60	65	38	56	31	(120)	34
1,1-DCE	<25	<20	<12	<10	<20	[17]	(4.0)
cis-DCE	[2,900]	[2,500]	[1,500]	[3,400]	[1,700]	[7,500]	[2,600]
trans-DCE	(28)	(27)	(18)	(33)	<20	(98)	(25)
TCE	[2,300]	[1,300]	[1,000]	[2,400]	[1,200]	[4,500]	[1,100]
VC	[190]	[170]	[96]	[170]	[86]	[550]	[100]

MW-98G

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<0.2	<0.2	<0.2	<0.2	<0.2	<0.074	<0.074
1,1-DCA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19
cis-DCE	(61)	(48)	(43)	(46)	(18)	(42)	(35)
trans-DCE	5.0	4.3	2.9	3.5	1.1	3.6	3.1
TCE	(0.82)	(0.31)	(0.23)	<0.2	<0.2	<0.19	<0.19
VC	[12]	[8.4]	<0.2	[9.6]	[1.8]	[8.1]	[5.8]

NORTH SUMP

Date:	8/10/11	9/28/2012	7/24/2013
VOCs			
B	<10	<0.074	<0.074
1,1-DCA	<25	<0.19	<0.19
cis-DCE	780	7.4	6.0
trans-DCE	<25	<0.25	<0.25
TCE	3,900	42	53
VC	30	<0.10	<0.10

MW-98H

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<0.2	<0.2	<0.2	<0.2	<0.2	<0.074	<0.074
1,1-DCA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19
cis-DCE	(19)	(19)	(20)	(20)	(18)	(18)	(17)
trans-DCE	2.2	2.0	1.9	1.9	1.7	1.9	1.5
TCE	<0.2	<0.2	<0.2	<0.2	<0.2	<0.19	<0.19
VC	[14]	[8.9]	[9.2]	[11]	[7.2]	[8.5]	[6.5]

MW-98E

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<0.2	<0.2	<0.2	<0.2	NA	<0.074	<0.074
1,1-DCA	17	16	16	21	NA	26	17
cis-DCE	(27)	(23)	(24)	(33)	NA	(42)	(27)
trans-DCE	1.5	1.2	1.2	1.8	NA	3.0	1.5
TCE	<0.2	<0.2	<0.2	<0.2	NA	<0.19	<0.19
VC	[5.6]	<0.2	<0.2	<0.2	NA	[4.4]	<0.10

ANALYTICAL KEY

B = BENZENE
1,1-DCA = 1,1-DICHLOROETHANE
1,1-DCE = 1,1-DICHLOROETHENE
cis-DCE = cis-1,2-DICHLOROETHENE
trans-DCE = trans-1,2-DICHLOROETHENE
TCE = TRICHLOROETHENE
VC = VINYL CHLORIDE

NA = NOT ANALYZED

( ) = CONCENTRATION REPORTED ABOVE NR 140 PREVENTIVE ACTION LIMIT
[ ] = CONCENTRATION REPORTED ABOVE NR 140 ENFORCEMENT STANDARD

ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L)

TW-98-1

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<0.2	<0.2	<0.2	<0.2	<0.4	<0.074	<0.074
1,1-DCA	<0.5	<0.5	<0.5	0.56	<1.0	0.62	0.65
cis-DCE	[89]	[140]	[150]	[130]	[100]	[130]	[150]
trans-DCE	9.2	15	15	17	9.3	15	17
TCE	<0.2	<0.2	<0.2	<0.2	<0.4	<0.19	<0.19
VC	[33]	[45]	[45]	[64]	[20]	[39]	[51]

PZ-98D

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/12	7/24/2013
VOCs							
B	<0.2	<0.2	<0.2	<0.2	<0.2	<0.074	<0.074
1,1-DCA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.19	<0.19
cis-DCE	<0.5	<0.5	<0.5	2.2	<0.5	<0.12	<0.12
trans-DCE	<0.5	<0.5	<0.5	<0.5	<0.5	<0.25	<0.25
TCE	0.26	<0.2	<0.2	(0.78)	<0.2	<0.19	<0.19
VC	<0.2	<0.2	<0.2	[0.55]	<0.2	<0.10	<0.10

MW-98B

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	0.31	0.21	0.29	0.39	0.22	0.48	0.24
1,1-DCA	63	46	52	(93)	48	(94)	34
cis-DCE	(58)	(24)	(28)	(64)	(28)	(34)	(17)
trans-DCE	3.0	1.5	1.6	3.6	1.8	3.1	1.4
TCE	<0.2	<0.2	<0.2	<0.2	<0.2	<0.19	<0.19
VC	[86]	[27]	[41]	[140]	[34]	[80]	[15]

MW-98D

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<4.0	(3.3)	(3.1)	[5.5]	(4.7)	[9.7]	(4.7)
1,1-DCA	57	55	65	69	58	(98)	50
1,1-DCE	<10	<5.0	<5.0	<5.0	<2.5	(3.0)	(0.90)
cis-DCE	[1,300]	[660]	[930]	[740]	[520]	[1,400]	[520]
trans-DCE	(45)	(29)	(43)	(38)	(28)	(75)	(26)
TCE	[30]	[18]	[16]	[11]	[11]	[20]	[10]
VC	[140]	[490]	[380]	[790]	[420]	[880]	[290]

MW-98A

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<0.4	<0.4	<0.4	<0.4	<0.4	<0.074	<0.074
1,1-DCA	74	79	(94)	(120)	(93)	(150)	75
cis-DCE	[160]	[160]	[140]	[180]	[130]	[180]	[110]
trans-DCE	8.5	8.7	8.6	10	8.5	14	8.7
TCE	[5.2]	[5.2]	(4.5)	[5.1]	(4.0)	[5.6]	(3.7)
VC	[60]	[60]	[73]	[95]	[68]	[120]	[56]

MW-98F

Date:	8/20/08	7/1/09	4/13/10	10/20/10	8/10/11	9/28/2012	7/24/2013
VOCs							
B	<0.2	<0.2	<0.2	<0.2	NA	<0.074	<0.074
1,1-DCA	14	11	10	15	NA	14	9.1
cis-DCE	(13)	(9.6)	(8.3)	(11)	NA	(9.1)	5.2
trans-DCE	1.0	0.88	0.68	0.93	NA	0.74	<0.25
TCE	<0.2	<0.2	<0.2	<0.2	NA	<0.19	<0.19
VC	[5.6]	[4.4]	[3.5]	[4.6]	NA	[3.4]	[1.7]

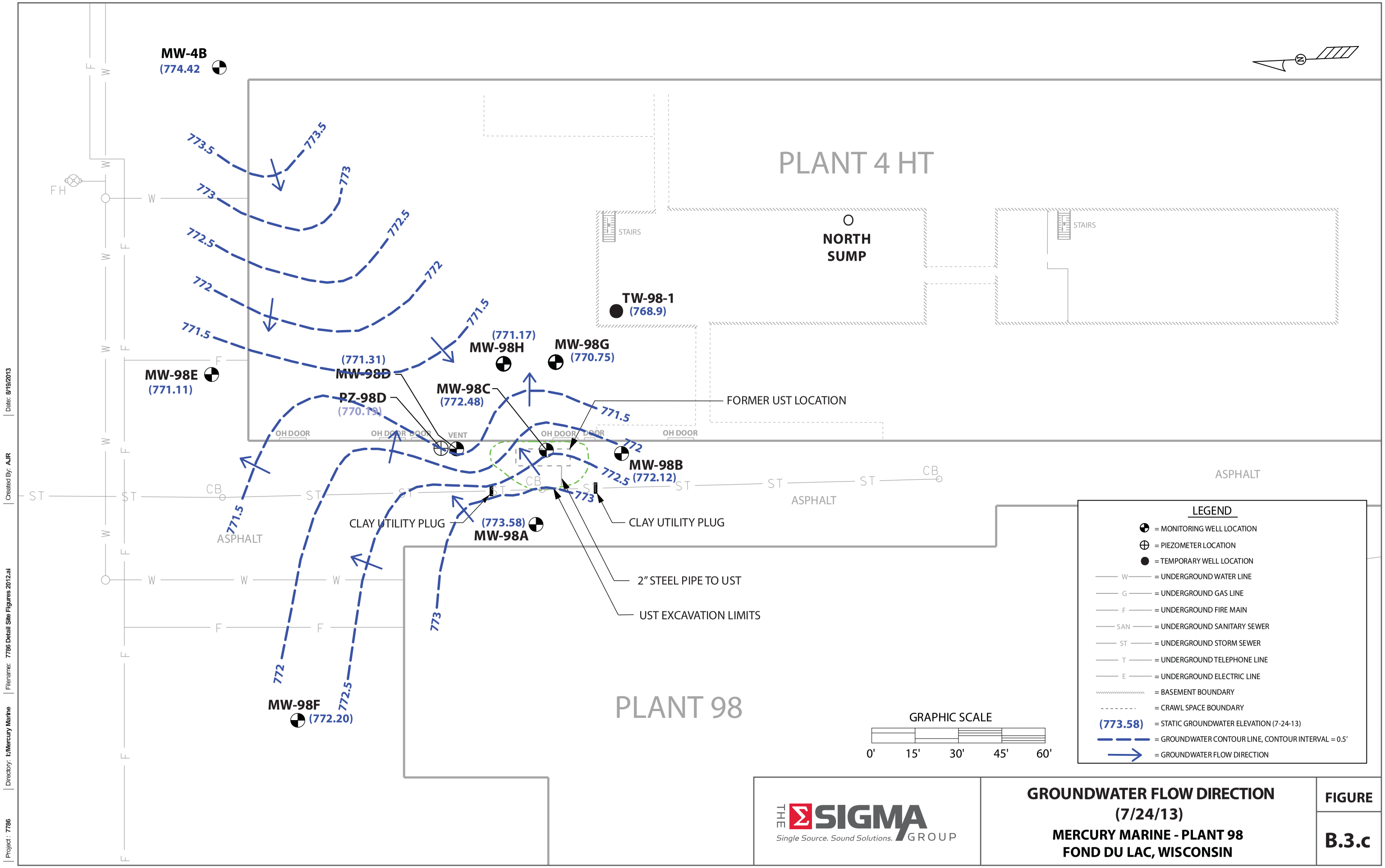
THE SIGMA GROUP
Single Source. Sound Solutions.

GROUNDWATER ISOCONCENTRATION

MERCURY MARINE - PLANT 98
FOND DU LAC, WISCONSIN

FIGURE
B.3.b

Project: 7786 | Directory: I:/Mercury Marine | Filename: 7786 Detail Site Figures 2013.ai | Created By: AJR | Date: 12/9/2013

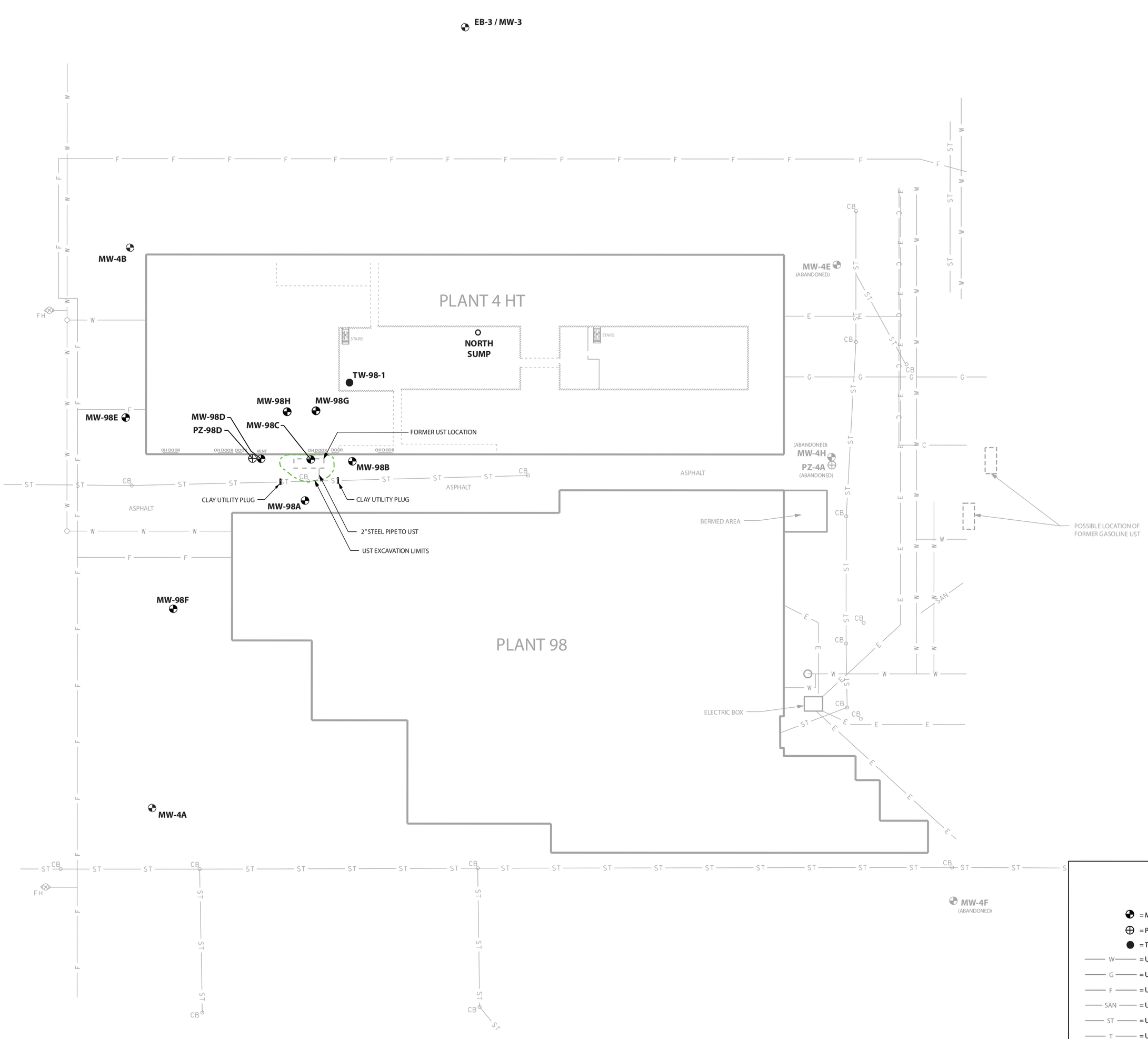


THE SIGMA GROUP
Single Source. Sound Solutions.

GROUNDWATER FLOW DIRECTION (7/24/13)
MERCURY MARINE - PLANT 98
FOND DU LAC, WISCONSIN

FIGURE
B.3.c

Date: 8/19/2013
Created By: AJR
Filename: 7786 Detail Site Figures 2012.ai
Directory: I:/Mercury Marine
Project: 7786



LEGEND

- = MONITORING WELL LOCATION
- = PIEZOMETER LOCATION
- = TEMPORARY WELL LOCATION
- W = UNDERGROUND WATER LINE
- G = UNDERGROUND GAS LINE
- F = UNDERGROUND FIRE MAIN
- SAN = UNDERGROUND SANITARY SEWER
- ST = UNDERGROUND STORM SEWER
- T = UNDERGROUND TELEPHONE LINE
- E = UNDERGROUND ELECTRIC LINE
- = BASEMENT BOUNDARY
- = CRAWL SPACE BOUNDARY

0' 25' 50' 75' 100'

GRAPHIC SCALE: 1" = 50'

NOTE:

1. MAP IS BASED ON PREVIOUS SIGMA DRAWING 7786-007.DGN, WHICH WAS BASED ON AN APRIL 2004 SURVEY PERFORMED BY SIGMA DEVELOPMENT, INC.

THE SIGMA GROUP
Single Source. Sound Solutions.

MONITORING WELLS

MERCURY MARINE - PLANT 98
FOND DU LAC, WISCONSIN

FIGURE
B.3.d

Project: 7786 | Directory: 7786\Figures | Filename: 7786 Site Map Figures 2011.sil | Created By: AJR | Date: 11/21/2011

B.4.a Vapor Intrusion Map

Sigma did not conduct vapor intrusion analysis as part of this investigation (see Site Investigation Summary, section 3.D.i).

B.4.b Other media of concern

There are no other media of concern at the site.

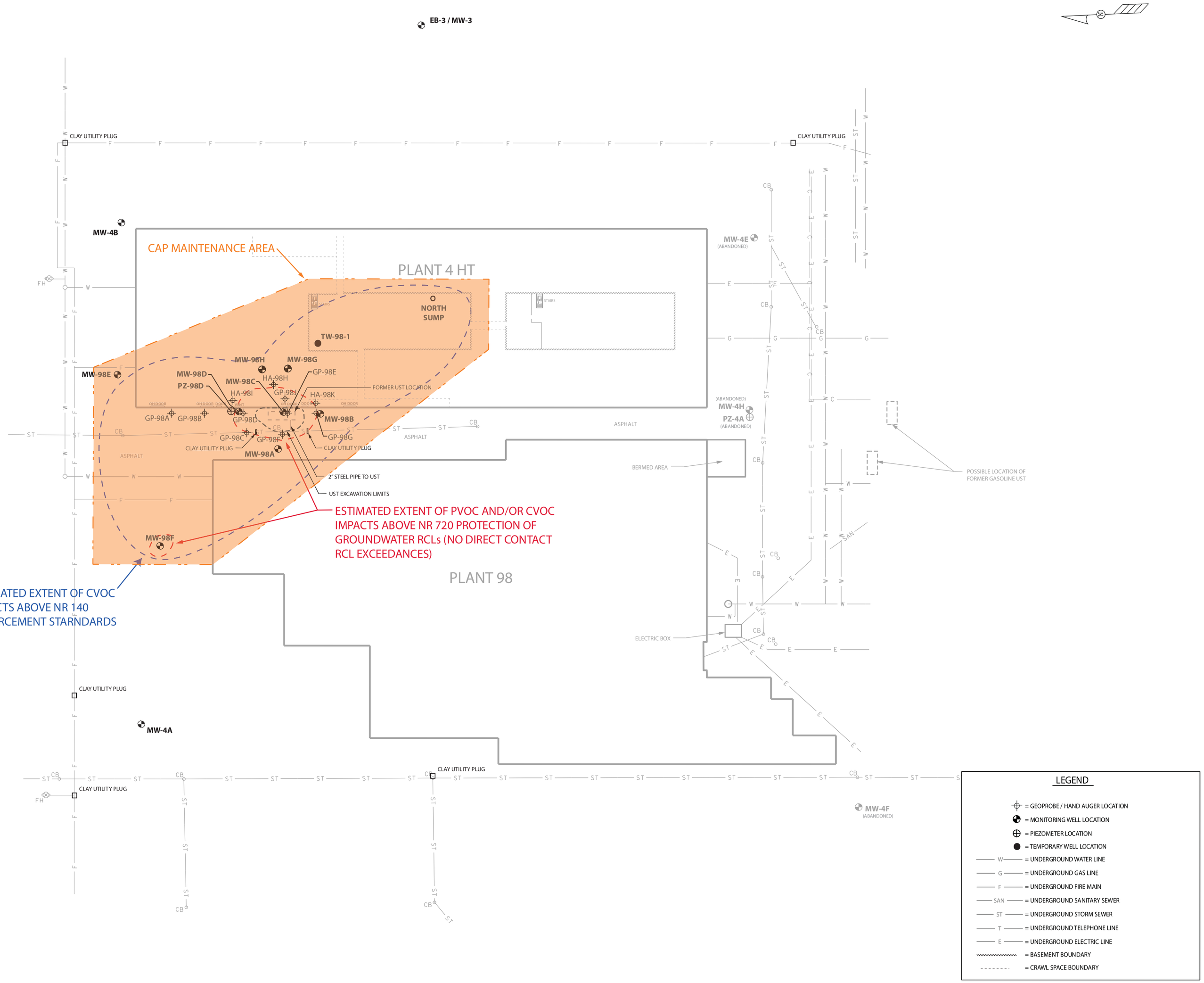
Documentation of Remedial Action (Attachment C)

DISCLAIMER

Documents contained in Attachment C of the Case Closure – GIS Registry (Form 4400-202) are not included in the electronic version (GIS Registry Packet) available on RR Sites Map to limit file size.

For information on how to obtain a copy or to review the file, please contact the Remediation & Redevelopment (RR) Environmental Program Associate (EPA) at http://dnr.wi.gov/topic/Brownfields/Contact.html

WISCONSIN
DEPT. OF NATURAL RESOURCES



NOTE:

1. MAP IS BASED ON PREVIOUS SIGMA DRAWING 7786-007.DGN, WHICH WAS BASED ON AN APRIL 2004 SURVEY PERFORMED BY SIGMA DEVELOPMENT, INC.

0' 25' 50' 75' 100'

GRAPHIC SCALE: 1" = 50'

THE SIGMA GROUP
Single Source. Sound Solutions.

CAP LOCATION MAP

MERCURY MARINE - PLANT 98
FOND DU LAC, WISCONSIN

FIGURE
D.1

Project: 7786 | Directory: 7786\Figures | Filename: 7786 Site Map Figures 2011.ai | Created By: AJR | Date: 11/21/2011

CAP MAINTENANCE PLAN
MERCURY MARINE PLANT 98 – FOND DU LAC, WISCONSIN
WDNR BRRTS #02-20-426707
AUGUST 2014

This Cap Maintenance Plan ("Plan") has been prepared in accordance with s. NR 724.13(2) and is designed to minimize precipitation infiltration through areas of residual soil impacts that exceed Wisconsin Department of Natural Resources (WDNR) protection of groundwater Residual Contaminant Levels (RCLs). Although not specifically warranted by the soil impacts, the cap area also prevents direct contact with underlying soil. The petroleum hydrocarbon and chlorinated solvent impacted soils are covered with existing asphalt and concrete pavements and concrete floor slabs as shown on the attached Cap Location Map. More site-specific information about this project may be found at:

- The case file in the WDNR Northeast Region office;
- BRRTS on the Web (WDNR's internet-based database of contaminated sites): http://botw.dnr.state.wi.us/botw/SetUpBasicSearchForm.do;
- GIS Registry PDF file: http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=brrts2; and
- The WDNR project manager for Fond du Lac County.

The normal operation of the ground surface barriers will serve as a precipitation barrier to minimize infiltration through impacted soils. The surface barriers will function as intended unless disturbed.

Additionally, the Plant 4HT building floor slab and HVAC controls within the building mitigate any potential vapor intrusion concerns from residual subsurface impacts. The heat treating process that takes place with the Plant 4HT building has a carbon monoxide (CO) generator for the metal heat treating process. An engineered air handling system manages CO within the building 24 hours a day during the work week (Monday through Friday)_- the air handling system moves approximately 120,000 cubic feet per minute, which results in 8 to 10 air volume changes per hour in the building. The system operates at this capacity during the work week, but is throttled back during the weekends when the building is unoccupied. The airflow automatically increases back to the design flow rate prior to the start of the Monday work shift. At times in the spring and fall, the airflow may be less because the multiple overhead garage doors (approximately 16 for the whole building) are opened for fresh air. Based on these high air exchange rates and corresponding fresh air introduced into the building, the potential vapor intrusion risk pathway is interrupted before posing a actual risk to building occupants. However, the vapor intrusion pathway may need to be reevaluated in the future if building usage changes.

Disturbance Management

Mercury Marine and subsequent owners of the site shall take the following steps to assure that uncontrolled disturbances of the surface barriers do not occur:

- WDNR's case closure documents and GIS Registry will establish future land use, development, and/or management restrictions of the site. This Plan will be incorporated into the case closure documents and/or GIS Registry, which will together identify the environmental impacts, the nature of the ground surface barriers, the requirements regarding the management of impacted soils, and the availability of this Plan.

- A copy of this Plan will be available from the property owner to all interested parties.

- A copy of this Plan will be provided to all private utilities seeking easements for the purpose of installing facilities on the property.

- A copy of this Plan will be provided to all contractors and repair workers, including utility and landscaping services, during construction and repairs on the property.

- On-site personnel employed by current or future business operators will be made familiar with the contents and restriction requirements of this Plan.

Inspections of Surface Barriers

Inspections will be required to assure that the surface barriers are functioning as planned:

- The property owner or designated representative shall perform annual inspections of the surface barriers. Inspections should be completed during non-winter months (when the ground surface is not obstructed by snow cover or vehicles) for all accessible areas, including the concrete floor slabs of Plant 4HT. The inspections will be performed to evaluate damage due to settling, exposure to weather, traffic wear, age, and other factors. Any areas where soils have become or likely to become exposed will be documented.

- As necessary, the surface barriers will be repaired to maintain integrity. Repairs may include, but are not limited to, the following:

    - Patching, resurfacing, or replacing concrete or asphalt pavement where it has been damaged and exposes underlying soil; and

    - Patching breaches in the concrete floor slab of Plant 4HT where underlying soil is exposed.

- An inspection log will be maintained to record the cap conditions, any disturbances of the cap, and the steps that have been taken to maintain the integrity of the surface barriers. The inspection log will be made available for inspection by representatives of the WDNR upon reasonable prior request. The on-site inspection log will be maintained as long as inspection and maintenance of the surface barriers are required.

Planned Breaches of Surface Barriers

In the event a surface barrier is to be breached, the WDNR shall be contacted to gain approval prior to the work taking place and the the following precautions shall be taken:

- The property owner shall be given advance notice of any planned breach. Property owner will make soil data available to workers who penetrate the surface barrier to allow for appropriate health and safety planning.

- The excavation zone and any soils excavated will be secured from public access until the cap is restored. The excavated soil will be placed on an impervious surface (e.g., existing concrete or asphalt pavement or plastic) and covered with plastic. Excavated soil shall be sampled and disposed of at a licensed landfill facility in accordance with applicable solid and/or hazardous waste rules and regulations, unless the WDNR or its successor agency grants approval to replace the soil into the same excavation.

- The surface barriers will be restored to meet original conditions. This work, including the proper disposal of excess soils, should be completed as soon as practical. Any replacement barrier will be subject to the same inspection and maintenance guidelines as outlined in this Plan unless otherwise indicated by the WDNR or its successor agency.

- Details of the surface barrier breach, the handling of excavated soils, individuals responsible for the work, and the restoration of the cap shall be recorded in the cap maintenance log. The maintenance log will be available for inspection by representatives of the WDNR upon reasonable prior request. An example inspection log page is included with this Plan.

Prohibition of Activities and Notification to WDNR

The following activities are prohibited on any portion of the site where asphalt or concrete pavements and/or building floor slab are required on the attached Cap Location Map, unless prior written approval has been obtained from the WDNR or its successor agency: (1) removal of the existing barriers, (2) replacement with another barrier, (3) excavating or grading of the land surface, (4) filling on capped or paved areas, (5) plowing for agricultural cultivation, (6) construction or placement of a building or other structure.

Amendments

This Plan may be amended or withdrawn upon written approval from the WDNR or its successor agency.

Contact Information

- For responsible party and current owner information contact:

  Mercury Marine
  W 6250 Pioneer Road
  P.O. Box 1939
  Fond du Lac, WI 54936-1939
  Telephone: (920) 929-5955
  Fax: (920) 924-1005
  Contact: Mr. Craig Dousharm, P.E.

- For environmental consultant information contact:

  The Sigma Group, Inc.
  1300 West Canal Street
  Milwaukee, WI 53233
  Telephone: (414) 643-4200
  Fax: (414) 643-4210
  Contact: Mr. Adam Roder, P.E.

- For Wisconsin Department of Natural Resources information contact:

  Wisconsin Department of Natural Resources
  Northeast Region - Green Bay Office
  2984 Shawano Avenue
  Green Bay, WI 54313
  Telephone: (920) 662-5420
  Fax: (920) 662-5197
  Contact: Mr. Keld Lauridsen

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Continuing Obligations Inspection and Maintenance Log

Form 4400-305 (2/14)

Directions: In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.]. When using this form, identify the condition that is being inspected. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. Do NOT delete previous inspection results. This form was developed to provide a continuous history of site inspection results. The Department of Natural Resources project manager is identified in the closure letter. The project manager may also be identified from the database, BRRTS on the Web, at http://dnr.wi.gov/botw/SetUpBasicSearchForm.do, by searching for the site using the BRRTS ID number, and then looking in the "Who" section.

Activity (Site) Name	BRRTS No.
Mercury Marine Plant 98	02-20-426707

Inspections are required to be conducted (see closure approval letter):

- (●) annually
- ( ) semi-annually
- ( ) other – specify _____

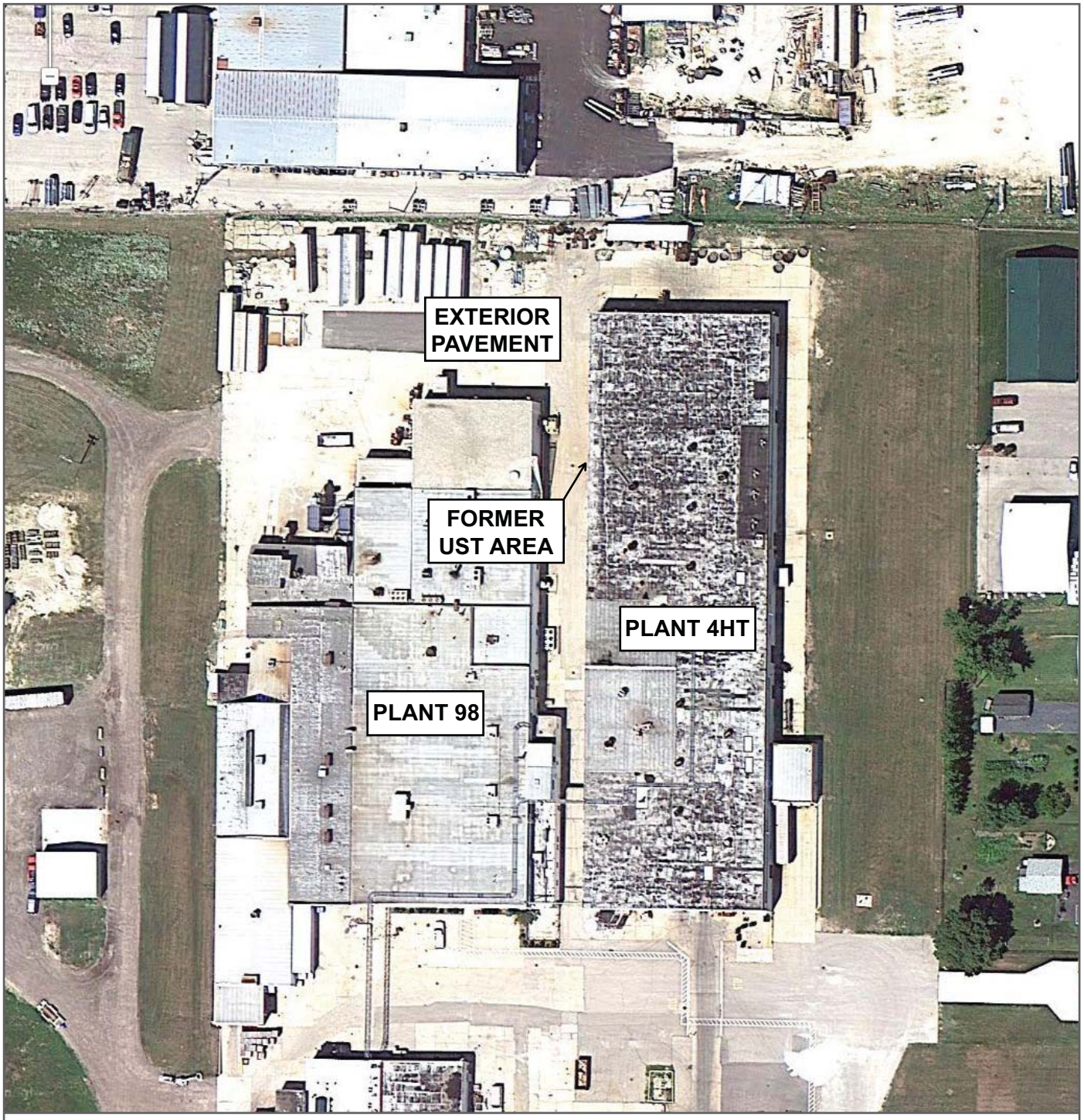
When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):

keld.lauridsen@wisconsin.gov

Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented?	Photographs taken and attached?
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N

D.6 Photos

An aerial photograph and regular photographs are included to show engineered caps for this project.



N

0 ft 100 ft 200 ft

SCALE: 1" = 100 FEET

THE SIGMA GROUP
Single Source. Sound Solutions.

AERIAL PHOTO MAP

MERCURY MARINE - PLANT 98
W6250 PIONEER ROAD
FOND DU LAC, WISCONSIN

FIGURE

D.6

Project: 7786 | Directory: Figures | Filename: 7786 Fig C.6 D.6 Aerial Photo Map.ai | Created By: AJR | Date: 12/6/2013

Photo Page 1

Photo 1: Exterior pavement on the west side of the Plant 4 HT building in the cap maintenance area. View to southeast; photograph taken on September 4, 2014.

Photo 2: Interior concrete floor slab of the Plant 4 HT building in the cap maintenance area. View to southwest; photograph taken on September 4, 2014.

Mercury Marine Plant 98
W6250 Pioneer Road, Fond du Lac, Wisconsin

Sigma Project Number: 7786

Monitoring Well Information

(Attachment E)

No attachments required as the monitoring well network will be properly abandoned upon the DNR granting conditional closure.

Notifications to Owners of Impacted Proerties

(Attachment F)

No attachments required as Mercury Marine is conducting the environmental cleanup and owns the property, no right-of-ways are impacted, and no off-site properties are impacted.

WARRANTY DEED

THIS INDENTURE, made this 22nd day of July, A.D., 1955 between County of Fond du Lac being a political subdivision of the State of Wisconsin and also known and referred to as Fond du Lac County, Wisconsin; Fond du Lac County Asylum, and Trustees of Fond du Lac County Asylum, parties of the first part and Kiekhaefer Corporation, a Wisconsin Corporation, party of the second part.

WITNESSETH: That the said parties of the first part, for and in consideration of the sum of Thirty Thousand One hundred dollars ($30,100)to it paid by the said party of the second part, the receipt whereof is hereby confessed and acknowledged, has given, granted, bargained, sold, remised, released, aliened, conveyed and confirmed, and by these presents does give, grant, bargain, sell, remise, release, alien, convey and confirm unto the said party of the second part, its successors and assigns forever, the following described real estate, situated in the County of Fond du Lac and State of Wisconsin, to-wit:

"A part of the Northeast quarter, part of the East half of the Northwest quarter, and part of the North half of the Southeast quarter, all in Section 21 - T15N - R17E, Fond du Lac County, Wisconsin, and more particularly described as follows, to-wit: Beginning at a point on the West right-of-way line of the Chicago, Milwaukee, St. Paul & Pacific Railway Co., 1885.23 feet South of the North line of said Section 21, which point is the Southeast corner of lands conveyed to the Greater Fond du Lac Corporation as described in Vol. 286 of Deeds on page 457, and running thence North 89 degrees and 35 minutes West along the South line of Greater Fond du Lac Corporation lands a distance of 945.19 feet; thence running North no degrees and 49 minutes West along the West line of said Greater Fond du Lac Corporation lands a distance of 969.45 feet to an angle point; thence running North 41 degrees and 46 minutes West along an old property line fence, a distance of 701.71 feet to a point which is 33.0 feet southeasterly from the centerline of U.S. Highway No. 151 (last described line, if extended to such centerline, strikes it at a point 550.0 feet southwesterly from the point of intersection of said centerline with the North line of Section 21); thence running South 49 degrees and eight minutes West, parallel with said centerline of Highway No. 151 and 33.0 feet

right-of-way for said Highway No. 41; thence running Southeasterly on a curve to the left (radius 9449.34 feet) and along the easterly right-of-way line of said U.S. Highway No. 41, about 1796.5 feet to the end of said curve, this point being South 45 degrees and 23 minutes East a distance of 1793.5 feet from last described corner; thence running South 50 degrees and 49 minutes East along said easterly right-of-way line of Highway No. 41, a distance of 612.0 feet to an angle point; thence running North 36 degrees and 29 minutes East, 50.0 feet to a point which is 150.0 feet from aforesaid centerline of Highway No. 41 right-of-way; thence running South 50 degrees and 49 minutes East along the right-of-way line for said Highway No. 41, a distance of 467.5 feet to an intersection with the westerly right-of-way line of the Chicago, Milwaukee, St. Paul & Pacific Railway Co.; thence running northeasterly on a curve to the left, parallel with and 25.0 feet westerly from the centerline of the track of said Railway Company, about 850 feet to the east-west quarter section line of said Section 21; thence running West on said quarter line 5.0 feet; thence running northerly, parallel with and 30.0 feet from the centerline of said track, about 92 feet to the end of aforesaid curve, this point being North 16 degrees and 31 minutes East a distance of 923.8 feet from aforesaid intersection of Highway and Railway right-of-way lines; thence running Northerly along the right-of-way line ofsaid Railway Co., parallel with and 30.0 feet west from the centerline of the track, a distance of 668.7 feet to the place of beginning; and containing 78.9 acres of land, more or less."

Subject to:

(a) An easement 50 feet in width to the Michigan-Wisconsin Pipe Line Company, the center line of which is parallel to and ten (10) feet on the westerly side of the center line of the Michigan-Wisconsin Pipe Line Company's pipe line as presently laid across the above described lands, and

(b) An exclusive, perpetual right and easement forever to Fond du Lac County of a strip of land 30 feet in width and parallel to the South line of said Highway 151 for the purposes of maintaining, repairing and re-laying sewer and water mains as now laid therein and being a part of the lands hereby conveyed the center line of which 30 foot strip of land is equal distance between the said water and sewer mains as now located,

and that the above bargained premises in the quiet and peaceable possession of the said party of the second part, its successors and assigns, against all and every person or persons lawfully claiming the whole or any part thereof, it will forever WARRANT AND DEFEND.

Fond du Lac County Asylum and Trustees of Fond du Lac County Asylum join herewith in this conveyance as such institution and Trustees of Fond du Lac County for the purpose of perfecting title.

IN WITNESS WHEREOF, the said County of Fond du Lac, being a political subdivision of the State of Wisconsin, and also known and referred to as Fond du Lac County, Wisconsin, has caused these presents to be signed by Arnold Sook, County Clerk, and countersigned by Walter Hollander, County Board Chairman; Fond du Lac County Asylum and Trustees of Fond du Lac County Asylum have caused these presents to be signed by the proper officers appropriate to such County Institution and Board of Trustees, with the county seal hereunto affixed by said County Clerk this 22nd day of July, 1955.

Signed and Sealed in Presence of:

Mary A. Koenig

John Nemick

County of Fond du Lac, being a political subdivision of the State of Wisconsin, and also known and referred to as Fond du Lac County, Wisconsin

By Arnold Sook
ARNOLD SOOK, County Clerk

Countersigned:

Walter Hollander
WALTER HOLLANDER
County Board Chairman

Fond du Lac County Asylum and Trustees of Fond du Lac County Asylum

By Albert Wagner
ALBERT WAGNER, Trustee

Herman Engel
HERMAN ENGEL, Trustee

STATE OF WISCONSIN)
FOND DU LAC COUNTY) ss.

Personally came before me this 22nd day of July, 1955, Arnold Sook, County Clerk, and Walter Hollander, County Board Chairman, of the above named Fond du Lac County, and Albert Wagner, Herman Engel and Leon Bluemke, Trustees, and R. J. Stroebel, Superintendent, of Fond du Lac County Asylum and Trustees of Fond du Lac County Asylum above named, to me known to be the persons who executed the foregoing instrument and to me known to be such County Clerk, County Board Chairman, Trustees and Superintendent, respectively, and acknowledged that they executed the foregoing instrument as such officers as the deed of said Fond du Lac County, Fond du Lac County Asylum and Trustees of Fond du Lac County Asylum by proper authority.

Eugene F. McEssey
Notary Public, Fond du Lac Co. Wis.
My Commission expires: February 22, 1959

135091
Register's Office
Fond du Lac County, Wis.
Received for record this 22nd
day of July A. D. 19 55
at 2:50 O'clock P. M. and
recorded in Vol. 383 of Deeds
on page 402
J. Brunkhorst
Register of Deeds.

STATE OF WISCONSIN

135091

No.....

Fond du Lac County, et al

to

Kiekhaefer Corporation

WARRANTY DEED

Register's Office
State of Wisconsin
Fond du Lac County

Received for Record this
.....day of.....
A.D. 19... at.....
o'clock ....M., and recorded
in Vol.....of Deeds on
page.....

.....
Register of Deeds

.....
Deputy

135091
Register's Office
Fond du Lac County, Wis.
Received for record this 22nd
day of July A.D. 19 55
at 2:50 o'clock P.M. and
recorded in Vol. 383 of Deeds
on page 402
J. Brunkhorst
Register of Deeds.

G. H. Edgarton

7/22 2 50 ch 2 20

second part, its/ ~~heirs~~ and assigns forever, the following described real estate, situated in the County of Fond du Lac and State of Wisconsin, to-wit:

VOL 395 PAGE 180

Together with all and singular the hereditaments and appurtenances thereunto belonging or in any wise appertaining; and all the estate, right, title, interest, claim or demand whatsoever, of the said party of the first part, either in law or equity, either in possession or expectancy of, in and to the above bargained premises, and their hereditaments and appurtenances.

To have and to hold the said premises as above described with the hereditaments and appurtenances, unto the said party of the second part, and to its/ successors ~~heirs~~ and assigns FOREVER.

And the said THE GREATER FOND DU LAC CORPORATION, party of the first part, for itself and its successors, does covenant, grant, bargain and agree to and with the said party of the second part, its/ successors ~~heirs~~ and assigns, that at the time of the ensealing and delivery of these presents it is well seized of the premises above described, as of a good, sure, perfect, absolute and indefeasible estate of inheritance in the law, in fee simple. and that the same are free and clear from all incumbrances whatever,

and that the above bargained premises in the quiet and peaceable possession of the said party of the second part, its/ successors ~~heirs~~ and assigns, against all and every person or persons lawfully claiming the whole or any part thereof, it will forever WARRANT and DEFEND.

In Witness Whereof, the said THE GREATER FOND DU LAC CORPORATION, party of the first part, has caused these presents to be signed by J. E. Ahern its President, and countersigned by R. W. Mills its Secretary at Fond du Lac, Wisconsin, and its corporate seal to be hereunto affixed, this 31st day of December, A. D., 1956

Signed and Sealed in Presence of

THE GREATER FOND DU LAC CORPORATION

Corporate Name

No. 146493

The Greater Fond du Lac Corporation,

TO

Kiekhaefer Corporation

Warranty Deed

REGISTER'S OFFICE

State of Wisconsin,
Fond du Lac County.

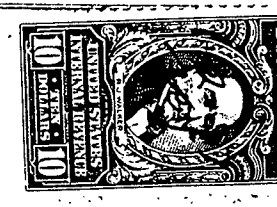
Received for Record this 2nd day of JAN. A. D., 1957, at 4:30 o'clock P. M., and recorded in Vol. 395 of Deeds on page 179

J. G. Brunkhorst
Register of Deeds.

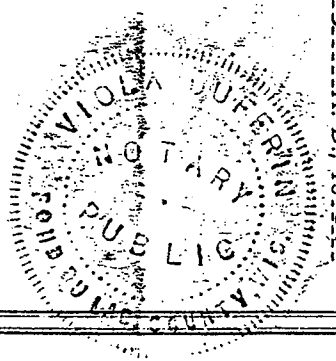
Deputy.

Cly. & ret.
Edgarton Law Office

REVENUE STAMPS CANCELLED



Viola Duffrin
Notary Public, Fond du Lac County, Wis.
My commission expires February 3, A. D., 1957



Fond du Lac County Real Estate Tax Record Detail

Property Record for Parcel Number: FDL-15-17-21-11-007-00

Location Information

Municipality:	CITY OF FOND DU LAC	Location Address:	545 W PIONEER RD
Owner Name(s):	MERCURY MARINE DIVISION; OF BRUNSWICK CORP	Mailing Address:	P O BOX 1939
		City, State, Zip:	FOND DU LAC WI 54936

Property Description

(As of Last Tax Bill Issued)

Legal Description:

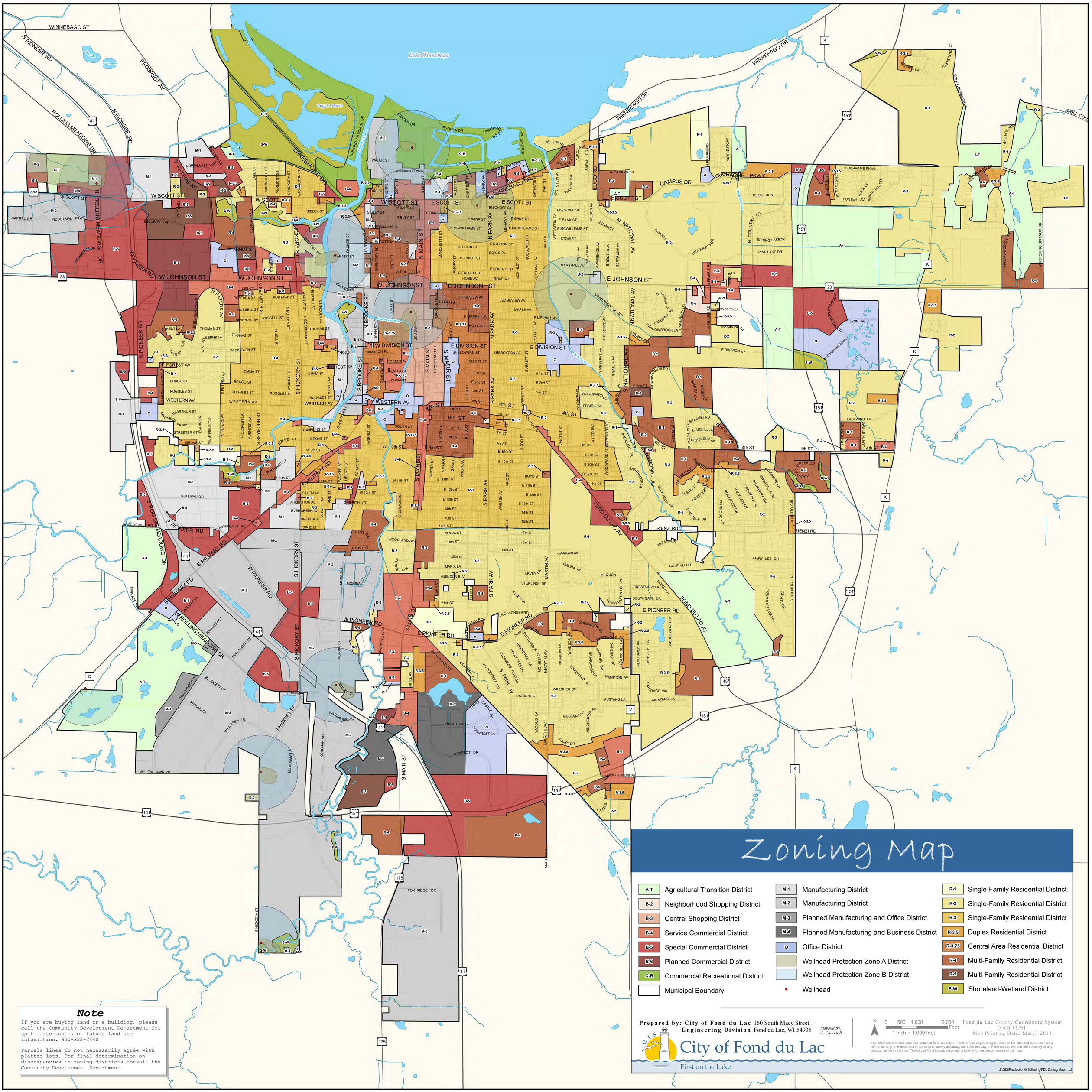
(Please refer to original source document for actual legal description)

SEC 21-15-17, UNPL LAND DESC AS: COMM NE COR NE1/4 SEC 21, TH W ALG N LI SEC 21 60FT TO W LI S HICKORY ST, TH CONT W ALG N LI SEC 21 150FT TO POB, TH CONT W ALG N LI SEC 21 586.5FT M/L TO W LI VACATED CMSTP&P RR ROW, TH CONT W ALG N LI SEC 21 590.7FT, TH SWLY 280.4FT TO A PT ON E LI OAK PARK AVE SD PT BEING 220FT SE ALG SD E LI FROM SLY LI OF S MILITARY RD, TH SELY ALG E LI OAK PARK AVE ROW 289.16FT TO END, TH SWLY 60FT TO W LI OAK PARK AVE ROW AND NE COR LOT 2 OF CSM #2128 V11-117, TH SLY ALG E LI LOT 2 OF CSM #2128 233.43FT TO SE COR SD LOT 2, TH WLY ALG S LI LOT 2 OF CSM #2128 234.85FT TO SW COR SD LOT 2, TH S40*52'E 94.27FT, TH SWLY 213.06FT TO A PT ON E LI W PIONEER RD SD PT BEING 310FT M/L S OF SW COR CSM #242 V3-41, TH SELY ALG W PIONEER RD ROW 1636.2FT M/L TO SWLY COR LOT 1 CSM #7519 V55-25, TH N33*25'05"E 110.84FT, TH N01*03'36"W 189.60FT TH S89*08'28"E 645.00FT TO NE COR SD LOT 1 CSM #7519 AND THE W LI S HICKORY ST ROW TH NLY ALG SD W LI S HICKORY ST ROW 1272.78FT M/L TO A PT 489.99FT S OF N LI SEC 21, TH WLY AND P/W N LI SEC 21 170FT, TH NLY AND P/W W LI S HICKORY ST ROW 181.24FT, TH ELY AND P/W N LI SEC 21 20FT, TH NLY AND P/W W LI S HICKORY ST ROW 308.75FT TO N LI SEC 21 AND POB.

(The last line of the legal description contains the volume & page numbers for recorded documents in the Register of Deeds Office.)

Section, Town, Range:		Volume:	Document Number:
Total Acres:	58.7150	Page:	

Note: Fair Market Value is not shown for Agricultural Land because of Use Value Assessment per State law.


Zoning Map
A-T Agricultural Transition District
B-2 Neighborhood Shopping District
B-3 Central Shopping District
B-4 Service Commercial District
B-5 Special Commercial District
B-6 Planned Commercial District
C-R Commercial Recreational District
Municipal Boundary
M-1 Manufacturing District
M-2 Manufacturing District
M-3 Planned Manufacturing and Office District
M-4 Planned Manufacturing and Business District
O Office District
Wellhead Protection Zone A District
Wellhead Protection Zone B District
Wellhead
R-1 Single-Family Residential District
R-2 Single-Family Residential District
R-3 Single-Family Residential District
R-3.5 Duplex Residential District
R-3.75 Central Area Residential District
R-4 Multi-Family Residential District
R-5 Multi-Family Residential District
S-W Shoreland-Wetland District
Prepared by: City of Fond du Lac Engineering Division
160 South Macy Street
Fond du Lac, WI 54935
Mapped By: C. Churchill
City of Fond du Lac
First on the Lake
1 inch = 1,000 feet
0 500 1,000 2,000 Feet
Fond du Lac County Coordinate System
NAD 83/91
Map Printing Date: March 2011
The information on this map was obtained from the City of Fond du Lac Engineering Division and is intended to be used as a reference only. The map data is not of land survey accuracy, nor does the City of Fond du Lac warrant the accuracy of any data contained in the map. The City of Fond du Lac assumes no liability for the use or misuse of this map.
J:\GIS\ProductionGIS\Zoning\FDL Zoning Map.mxd
Lake Winnebago
Supple Marsh
WINNEBAGO ST
N PIONEER RD
PROSPECT AV
ROLLING MEADOWS DR
LAKESHORE DR
WINNEBAGO DR
W SCOTT ST
E SCOTT ST
W JOHNSON ST
E JOHNSON ST
N PARK AV
N MAIN ST
N BROOKE ST
W DIVISION ST
E DIVISION ST
FOREST AV
WESTERN AV
4th ST
6th ST
S MAIN ST
S MARR ST
S PARK AV
S MILITARY RD
S HICKORY ST
W PIONEER RD
E PIONEER RD
S PIONEER RD
N NATIONAL AV
S NATIONAL AV
FOND DU LAC AV
RIENZI RD
MARTIN AV
DUCHARME PKWY
CAMPUS DR
LUCO RD
N COUNTRY LA
S COUNTRY LA
MEADOWBROOK BLV
MEADOW CREEK LA
WISCONSIN AMERICAN CT
LYNN AV
EASTWIND LA
FOURTH ST WAY
BLUEHILL AV
SPRINGS RD
CRESCENT AV
PRIMROSE LA
MARY LEE DR
GOLF VU DR
MEQUON
CRESTVIEW LA
SOUTHGATE DR
HOBBS LA
COUNTRY CLUB LA
ESTATE DR
SHERWOOD AV
LINGSWOOD AV
NEW HAVEN AV
CARRIAGE LA
CARRIAGE CIR
WEDGEWOOD LA
HAMPTON AV
MUSTANG LA
WILLSHER DR
YACOUB LA
WINCHESTER AV
T-BIRD DR
COURTHOUSE VILLAGE RD
CATTAIL LA
KNIGHTS WAY
STONE CASTLE DR
SOMERSET LA
CAMELOT DR
FOX RIDGE DR
WILLOW LAWN RD
WAREHOUSE CT
KOHLMAN RD
MORRIS ST
MORRIS CT
HASS CIR
WOODLAND AV
GREENWOOD ST
MARIA LA
GUINN BLV
STERLING DR
ARVEY LA
NAKAWN AV
MACNA AV
MARTIN AV
OLD PIONEER RD
SOUTHLAKE DR
EASTON LA
WOODCREST DR
S PARK AV
HAWTHORNE DR
BUTTERMILK CREEK DR
BIRCHTREE LA
HOLLY TREELA
SYCAMORE TREE DR
ELLEN LA
MEADOW LA
WINDSOR LA
BRIARWOOD LA
WAKEFIELD AV
ASHBURY DR
DANBURY AV
CHURCHILL LA
MILL AV
S HICKORY ST
W LARSEN DR
E LARSEN DR
FREUND CT
BLODGETT CT
TROWBRIDGE DR
HOLLANDER CT
HALBACH CT
HOLIDAY LA
TERRACE RD
ROGERSVILLE RD
SULLIVAN DR
EVERGREEN AV
ARLINGTON AV
SALEM AV
UNEEDA ST
DIXIE ST
GROVE ST
TOMPKINS ST
SOUTH ST
MORRIS ST
WALKER ST
LIBERTY ST
CEDAR ST
GRIFFITH ST
W 9th ST
W 11th ST
W 12th ST
E 9th ST
E 10th ST
E 11th ST
E 12th ST
E 13th ST
E 14th ST
E 15th ST
E 16th ST
E 17th ST
E 18th ST
E 19th ST
E 20th ST
E 21st ST
E 1st ST
E 2nd ST
E 3rd ST
E 4th ST
E 5th ST
E 6th ST
E 7th ST
E 8th ST
E 9th ST
E 10th ST
E 11th ST
E 12th ST
E 13th ST
E 14th ST
E 15th ST
E 16th ST
E 17th ST
E 18th ST
E 19th ST
E 20th ST
E 21st ST
Note
If you are buying land or a building, please call the Community Development Department for up to date zoning or future land use information. 920-322-3440
Parcels lines do not necessarily agree with platted lots. For final determination on discrepancies in zoning districts consult the Community Development Department.

GIS Registry Packet
Mercury Marine Plant 98
BRRTS #02-20-426707

STATEMENT BY RESPONSIBLE PARTY

Mercury Marine, the responsible party for the "Plant 98" area located at W6250 Pioneer Road, Fond du Lac, Wisconsin states that the legal description provided to the Wisconsin Department of Natural Resources in this case closure request and Geographic Information System (GIS) Registry packet for WDNR BRRTS #02-20-426707 is complete and accurate to the best of our knowledge.

Signature of Representative for Responsible Party

12/10/13
Date

Craig F. Dousharon, Env. Engineering Manager
Printed Name & Title