Engineers
Planners
Economists
Scientists

February 9, 1993

GLO33316.A0.00

Ms. Sharon L. Schaver
District Hydrogeologist
Department of Natural Resources
Richards Street Annex
4041 N. Richards St.
P.O. Box 12436
Milwaukee, WI 53212

Dear Sharon:

Subject: Mercury Marine Plant No. 1; Cedarburg, Wisconsin

Per NR 141, I am sending you the completed soil boring logs, monitoring well construction/well development forms, and borehole abandonment forms. Please distribute to the appropriate department(s).

If you have any questions, please call me at 414/272-2426.

Sincerely,

CH2M HILL

Laura Peterson

Laura Peterson
Project Hydrogeologist

State of Wisconsin
Department of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A 8-89

Facility/Project Name: Mercury Marine	Grid Location: 477,714 ft. ☒ N. ☐ S.; 2,535,376 ft. ☒ E. ☐ W.	Well Name: MW-1
Facility License, Permit or Monitoring Number: _____		Wis. Unique Well Number / DNR Well Number
Type of Well: ~~Water Table~~ Observation Well ☒ 11; Piezometer ☐ 12	Section Location: NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 ☒ E ☐ W	Date Well Installed: 01/13/93 (m m / d d / y y)
Distance Well Is From Waste/Source Boundary: unknown ft.	Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☐ Downgradient ☒ Not Known	Well Installed By: (Person's Name and Firm): Vince Meindel; Layne - Northwest
Is Well A Point of Enforcement Std. Application? ☐ Yes ☒ No		

A. Protective pipe, top elevation 787.37 ft. MSL
B. Well casing, top elevation 787.02 ft. MSL
C. Land surface elevation 787.4 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 4.0 ft.

12. USCS classification of soil near screen:
☐ GP ☐ GM ☐ GC ☐ GW ☒ SW ☐ SP
☐ SM ☒ SC ☐ ML ☐ MH ☒ CL ☐ CH
☐ Bedrock

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☐ No
Describe _____

17. Source of water (attach analysis):
_____

E. Bentonite seal, top _____ ft. MSL or NA ft.
F. Fine sand, top _____ ft. MSL or 6.0 ft.
G. Filter pack, top _____ ft. MSL or 8.0 ft.
H. Well screen, top _____ ft. MSL or 10.0 ft.
I. Well screen, bottom _____ ft. MSL or 15.0 ft.
J. Filter pack, bottom _____ ft. MSL or 15.0 ft.
K. Borehole, bottom _____ ft. MSL or 15.0 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.05 in.

1. Cap and lock? ☒ Yes ☐ No
2. ~~Protective cover pipe~~: Flush Mount
a. Inside diameter: 8.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; Other ☐ _____

4. Material between well casing and protective pipe: Bentonite ☐ 30; Annular space seal ☒; Other ☐ _____

5. Annular space seal: Chipped ~~Granular~~ Bentonite ☒ 33
_____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
_____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
_____ % Bentonite .... Bentonite-cement grout ☐ 50
0.33 Ft^3 volume added for any of the above
How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08

6. Bentonite seal: Bentonite granules ☐ 33
☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
None Other ☒

7. Fine sand material: Manufacturer, product name and mesh size
U.S. Silica; Fine sand; 0.2 - 0.3
Volume added 0.33 ft^3

8. Filter pack material: Manufacturer, product name and mesh size
American Materials; 0.35 - 0.45
Volume added 1.16 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____

10. Screen material: same
Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
Manufacturer Monoflex
Slot size: 0.010 in.
Slotted length: 5.0 ft.

11. Backfill material (below filter pack): None ☒; Other ☐ _____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Laura Peterson | Firm: CH2M Hill

Please complete and return both sides of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with s. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5,000 for each day of violation. In accordance

State of Wisconsin
Department of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A 8-89

Facility/Project Name: Mercury Marine
Facility License, Permit or Monitoring Number: _____

Grid Location: 477,005 ft. ☒ N. ☐ S.; 2,535,484 ft. ☒ E. ☐ W.

Well Name: MW-3
Wis. Unique Well Number: _____ DNR Well Number: _____

Type of Well: ~~Water Table~~ Observation Well ☒ 11; Piezometer ☐ 12

Section Location: NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 ☒ E ☐ W

Date Well Installed: 01/15/93 (m m / d d / y y)

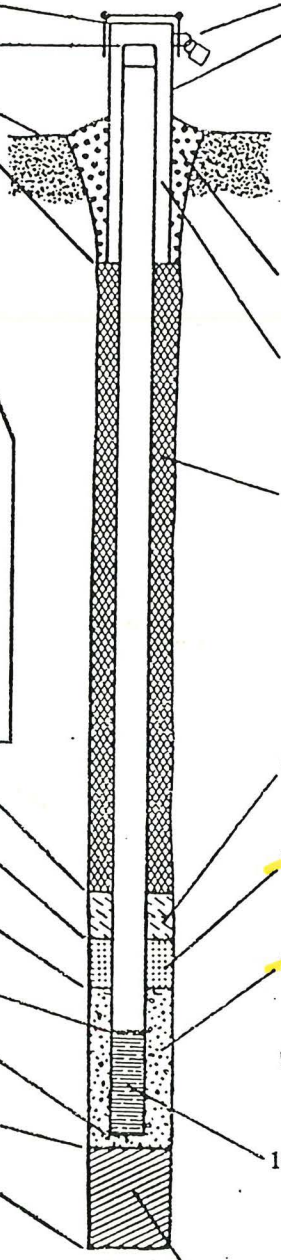
Distance Well Is From Waste/Source Boundary: unknown ft.

Well Installed By: (Person's Name and Firm)
Vince Meindel
Layne-Northwest

Is Well A Point of Enforcement Std. Application? ☐ Yes ☒ No

Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☐ Downgradient ☒ Not Known

A. Protective pipe, top elevation 799.58 ft. MSL
B. Well casing, top elevation 799.18 ft. MSL
C. Land surface elevation 799.5 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 4.0 ft.



12. USCS classification of soil near screen:
☐ GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP
☒ SM ☒ SC ☐ ML ☐ MH ☒ CL ☐ CH
☐ Bedrock

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis):
_____

E. Bentonite seal, top _____ ft. MSL or NA ft.
F. Fine sand, top _____ ft. MSL or 26.0 ft.
G. Filter pack, top _____ ft. MSL or 28.0 ft.
H. Well screen, top _____ ft. MSL or 30.0 ft.
I. Well screen, bottom _____ ft. MSL or 35.0 ft.
J. Filter pack, bottom _____ ft. MSL or 35.0 ft.
K. Borehole, bottom _____ ft. MSL or 44.0 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.05 in.

1. Cap and lock? ☒ Yes ☐ No
2. ~~Protective cover~~ pipe: Flush Mount
a. Inside diameter: 8.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; Other ☐ _____

4. Material between well casing and protective pipe: Bentonite ☐ 30; Annular space seal ☒; Other ☐ _____

5. Annular space seal: Chipped ~~Granular~~ Bentonite ☒ 33
_____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
_____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
_____ % Bentonite .... Bentonite-cement grout ☐ 50
3.64 Ft³ volume added for any of the above
How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08

6. Bentonite seal: Bentonite granules ☐ 33
☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
None Other ☒ _____

7. Fine sand material: Manufacturer, product name and mesh size
U.S. Silica; 0.2-0.3
Volume added 0.33 ft³

8. Filter pack material: Manufacturer, product name and mesh size
American Materials; 0.35-0.45
Volume added 1.16 ft³

9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____

10. Screen material: same
Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
Manufacturer Monoflex
Slot size: 0.010 in.
Slotted length: 5.0 ft.

11. Backfill material (below filter pack): None ☐
Bentonite Chips Other ☒

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Laura Peterson
Firm: Cham Hill

Please complete and return both sides of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with ch. 144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5,000 for each day of violation. In accordance

State of Wisconsin
Department of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A 8-89

Facility/Project Name: Mercury Marine
Facility License, Permit or Monitoring Number: _____

Grid Location: 477,433 ft. ☒ N. ☐ S.; 2,535,317 ft. ☒ E. ☐ W.

Well Name: MW-4
Wis. Unique Well Number: _____ DNR Well Number: _____

Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12

Section Location: NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 ☒ E ☐ W

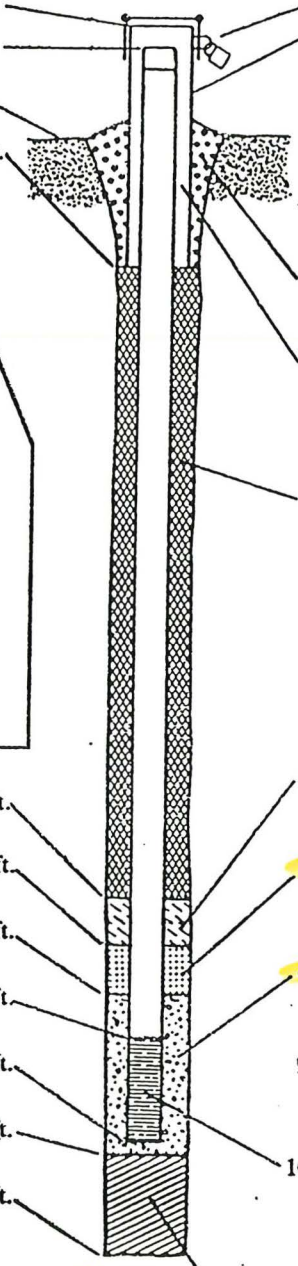
Date Well Installed: 01/26/93 (m m / d d / y y)

Distance Well Is From Waste/Source Boundary: Unknown ft.

Well Installed By: (Person's Name and Firm)
Vince Meindel
Layne-Northwest

Is Well A Point of Enforcement Std. Application? ☐ Yes ☒ No

Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☐ Downgradient ☒ Not Known



A. Protective pipe, top elevation 786.06 ft. MSL
B. Well casing, top elevation 785.84 ft. MSL
C. Land surface elevation 785.9 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 2.0 ft.

12. USCS classification of soil near screen:
☐ GP ☐ GM ☐ GC ☒ GW ☐ SW ☒ SP
☒ SM ☐ SC ☐ ML ☐ MH ☒ CL ☐ CH
☐ Bedrock

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis):
_____

E. Bentonite seal, top _____ ft. MSL or NA ft.
F. Fine sand, top _____ ft. MSL or 3.0 ft.
G. Filter pack, top _____ ft. MSL or 4.0 ft.
H. Well screen, top _____ ft. MSL or 5.0 ft.
I. Well screen, bottom _____ ft. MSL or 15.0 ft.
J. Filter pack, bottom _____ ft. MSL or 15.0 ft.
K. Borehole, bottom _____ ft. MSL or 15.0 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.05 in.

1. Cap and lock? ☒ Yes ☐ No
2. ~~Protective cover pipe~~: Flush Mount
a. Inside diameter: 8.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; Other ☐ _____

4. Material between well casing and protective pipe: Bentonite ☐ 30; Annular space seal ☒; Other ☐ _____

5. Annular space seal: Chipped ~~Granular~~ Bentonite ☒ 33
_____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
_____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
_____ % Bentonite . . . . Bentonite-cement grout ☐ 50
0.17 Ft³ volume added for any of the above
How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08

6. Bentonite seal: Bentonite granules ☐ 33
☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
None Other ☒

7. Fine sand material: Manufacturer, product name and mesh size
U.S. Silica; 0.2-0.3
Volume added 0.17 ft³

8. Filter pack material: Manufacturer, product name and mesh size
American Materials; 0.35-0.45
Volume added 1.82 ft³

9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____

10. Screen material: Same
Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
Manufacturer Monoflex
Slot size: 0.010 in.
Slotted length: 10.0 ft.

11. Backfill material (below filter pack): None ☒; Other ☐ _____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Sam Peterson
Firm: CH2M Hill

Please complete and return both sides of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with s. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5,000 for each day of violation. In accordance

State of Wisconsin
Department of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A 8-89

Facility/Project Name: Mercury Marine
Facility License, Permit or Monitoring Number: _____

Grid Location: 477,680 ft. ☒ N. ☐ S.; 2,535,210 ft. ☐ E. ☒ W.

Well Name: MW-5
Wis. Unique Well Number: DNR Well Number:

Type of Well: ~~Water Table~~ Observation Well ☒ 11; Piezometer ☐ 12

Section Location: NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 ☒ E ☐ W

Date Well Installed: 01/27/93 (m m / d d / y y)

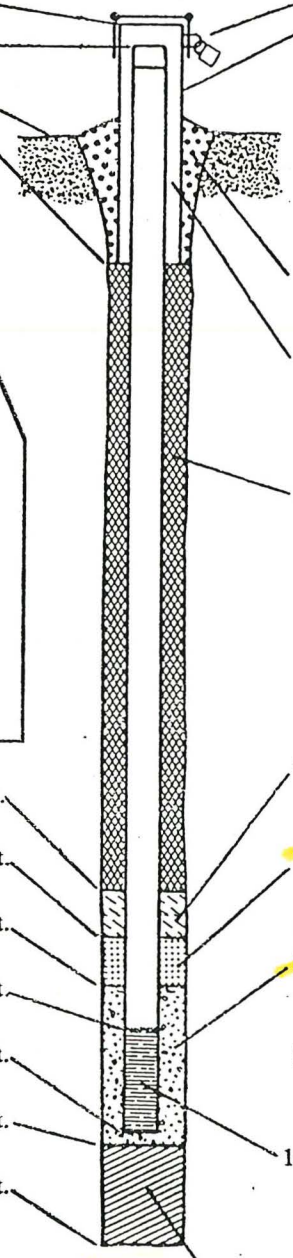
Distance Well Is From Waste/Source Boundary: unKnown ft.

Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☐ Downgradient ☒ Not Known

Well Installed By: (Person's Name and Firm)
Vince Meindel
Layne - Northwest

Is Well A Point of Enforcement Std. Application? ☐ Yes ☒ No

A. Protective pipe, top elevation 793.43 ft. MSL
B. Well casing, top elevation 793.20 ft. MSL
C. Land surface elevation 793.2 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 4.0 ft.



1. Cap and lock? ☒ Yes ☐ No
2. ~~Protective cover pipe~~: Flush Mount
   a. Inside diameter: 8.0 in.
   b. Length: 1.0 ft.
   c. Material: Steel ☒ 04; Other ☐
   d. Additional protection? ☐ Yes ☒ No
   If yes, describe: _____
3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 30; Annular space seal ☒; Other ☐
5. Annular space seal: Chipped ~~Granular~~ Bentonite ☒ 33
   _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
   _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
   _____ % Bentonite . . . . Bentonite-cement grout ☐ 50
   1.24 Ft³ volume added for any of the above
   How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: Bentonite granules ☐ 33; ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite pellets ☐ 32
   None Other ☒
7. Fine sand material: Manufacturer, product name and mesh size
   U.S. Silica; 0.2 - 0.3
   Volume added 0.17 ft³
8. Filter pack material: Manufacturer, product name and mesh size
   American Materials; 0.35 - 0.45
   Volume added 1.16 ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: Same
    Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
    Manufacturer Monoflex
    Slot size: 0.010 in.
    Slotted length: 5.0 ft.
11. Backfill material (below filter pack): None ☒; Other ☐

12. USCS classification of soil near screen:
    ☐ GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP
    ☐ SM ☐ SC ☐ ML ☐ MH ☒ CL ☐ CH
    ☐ Bedrock
13. Sieve analysis attached? ☐ Yes ☒ No
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____
15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99
16. Drilling additives used? ☐ Yes ☒ No
    Describe _____
17. Source of water (attach analysis):

E. Bentonite seal, top _____ ft. MSL or NA ft.
F. Fine sand, top _____ ft. MSL or 11.5 ft.
G. Filter pack, top _____ ft. MSL or 12.5 ft.
H. Well screen, top _____ ft. MSL or 14.5 ft.
I. Well screen, bottom _____ ft. MSL or 19.5 ft.
J. Filter pack, bottom _____ ft. MSL or 19.5 ft.
K. Borehole, bottom _____ ft. MSL or 19.5 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.05 in.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Sam Peters
Firm: CHam HILL

Please complete and return both sides of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with ch. 144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5,000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation.

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5B Rev. 12-91

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole (circled: Borehole) Location: Cedarburg
County: Ozaukee

NW 1/4 of SE 1/4 of Sec. 34 ; T. 10 N; R. 21 ☒ E ☐ W
(If applicable)
Gov't Lot ____ Grid Number ____

Grid Location: 477,928 ft. ☒ N. ☐ S., 2,535,313 ft. ☒ E. ☐ W.

Civil Town Name:

Street Address of Well: N49 W6337 Western Rd.

City, Village: Cedarburg

(2) FACILITY NAME

Original Well Owner (If Known):

Present Well Owner: Former Mercury Marine Plant No. 1

Street or Route:

City, State, Zip Code:

Facility Well No. and/or Name (If Applicable): MSB1
WI Unique Well No.: _ _ _ _ _

Reason For Abandonment: No water in which to set well

Date of Abandonment: 01/13/93

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole (circled: Borehole) Construction Completed On (Date): 01/13/93

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☐ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) ____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total ~~Well~~ borehole Depth (ft.) 7 Casing Diameter (ins.) ____
(From groundsurface)

Casing Depth (ft.) NA

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown
If Yes, To What Depth? ____ Feet

(4) Depth to Water (Feet): dry

Pump & Piping Removed? ☐ Yes ☐ No ☒ Not Applicable
Liner(s) Removed? ☐ Yes ☐ No ☒ Not Applicable
Screen Removed? ☐ Yes ☐ No ☒ Not Applicable
Casing Left in Place? ☐ Yes ☐ No NA
If No, Explain ____

Was Casing Cut Off Below Surface? ☐ Yes ☐ No NA
Did Sealing Material Rise to Surface? ☐ Yes ☒ No
Did Material Settle After 24 Hours? ☐ Yes ☒ No
If Yes, Was Hole Retopped? ☐ Yes ☐ No

(5) Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Dump Bailer ☒ Other (Explain) Gravity

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☐ Granular Bentonite
☐ Bentonite - Cement Grout

(7)

Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant (circled) or Volume (Circle One)	Mix Ratio or Mud Weight
Bentonite Chips (< 3/8")	Surface	7	3	

(8) Comments:

(9) Name of Person or Firm Doing Sealing Work: Layne-Northwest

Signature of Person Doing Work: D. Peterson / CH2M Hill
Date Signed: 2/3/93

Street or Route: W229 N5005 Duplainville Rd.
Telephone Number: (414) 246-4646

City, State, Zip Code: Pewaukee, WI 53072

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 12-91

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: Cedarburg

County: Ozaukee

NW 1/4 of SE 1/4 of Sec. 34 ; T. 10 N; R. 21 ☒ E ☐ W

(If applicable) Gov't Lot _____ Grid Number _____

Grid Location: 477,464 ft. ☒ N. ☐ S., 2535671 ft. ☒ E. ☐ W.

Civil Town Name:

Street Address of Well: N49 W6337 Western Rd.

City, Village: Cedarburg

(2) FACILITY NAME

Original Well Owner (If Known):

Present Well Owner: Former Mercury Marine Plant No. 1

Street or Route:

City, State, Zip Code:

Facility Well No. and/or Name (If Applicable): MSB3

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: No water in which to set well

Date of Abandonment: 01/19/93

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date): 01/14/93

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☐ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well/Borehole Depth (ft.) 10.5 Casing Diameter (ins.) ____
(From groundsurface)

Casing Depth (ft.) NA

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown
If Yes, To What Depth? _____ Feet

(4) Depth to Water (Feet) dry

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	NA

If No, Explain _____

Was Casing Cut Off Below Surface?	☐ Yes	☐ No NA
Did Sealing Material Rise to Surface?	☐ Yes	☒ No
Did Material Settle After 24 Hours?	☐ Yes	☒ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Dump Bailer ☒ Other (Explain) Gravity

(6) Sealing Materials — For monitoring wells and monitoring well boreholes only
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite
☐ Bentonite Pellets
☐ Granular Bentonite
☐ Bentonite - Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume (Circle One)	Mix Ratio or Mud Weight
Bentonite Chips (< 3/8")	Surface	10.5	5	

(8) Comments:

(9) Name of Person or Firm Doing Sealing Work: Layne - Northwest

Signature of Person Doing Work: D. Peterson/CH2MHill — Date Signed: 2/3/93

Street or Route: W229 N5005 Duplainville — Telephone Number: (414) 246-4646

City, State, Zip Code: Pewaukee, WI 53072

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

DNR/COUNTY

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B
Rev. 12-91

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: Cedarburg

County: Ozaukee

NW 1/4 of SE 1/4 of Sec. ~~10~~ 34 ; T. 10 N; R. 21 ☒ E ☐ W

(If applicable) Gov't Lot _____ Grid Number _____

Grid Location: 477907 ft. ☒ N. ☐ S., 2,535,~~307~~ 677 ft. ☒ E. ☐ W.

Civil Town Name

Street Address of Well: N49 W6337 Western Rd.

City, Village: Cedarburg

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner: Former Mercury Marine Plant No. 1

Street or Route

City, State, Zip Code

Facility Well No. and/or Name (If Applicable): MSB4

WI Unique Well No. _ _ _ _ _ _

Reason For Abandonment: No water in which to set well

Date of Abandonment: 01/19/93

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date): 01/14/93

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☐ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock
borehole

Total ~~Well~~ Depth (ft.) 15 Casing Diameter (ins.) NA
(From groundsurface)

Casing Depth (ft.) NA

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown
If Yes, To What Depth? _____ Feet

(4) Depth to Water (Feet) dry

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	NA

If No, Explain _____

Was Casing Cut Off Below Surface?	☐ Yes	☐ No	NA
Did Sealing Material Rise to Surface?	☐ Yes	☒ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

(5) Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Dump Bailer ☒ Other (Explain) Gravity

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☐ Granular Bentonite
☐ Bentonite - Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume (Circle One)	Mix Ratio or Mud Weight
Bentonite Chips (< 3/8")	Surface	15	6	NA

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: Layne-Northwest

Signature of Person Doing Work: A. Peterson / Cham Hill — Date Signed: 2/3/93

Street or Route: W229 N5005 Duplainville Rd. — Telephone Number: (414) 246-4646

City, State, Zip Code: Pewaukee, WI 53072

(10) FOR DNR OR COUNTY USE ONLY	
Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

DNR/COUNTY

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 12-91

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: Cedarburg

County: Ozaukee

NW 1/4 of SE 1/4 of Sec. 34 ; T. 10 N; R. 21 ☒ E ☐ W

(If applicable) Gov't Lot ____ Grid Number ____

Grid Location: 477,586 ft. ☒ N. ☐ S., 2,535,312 ft. ☒ E. ☐ W.

Civil Town Name:

Street Address of Well: N49 W6337 Western Rd.

City, Village: Cedarburg

(2) FACILITY NAME

Original Well Owner (If Known):

Present Well Owner: Former Mercury Marine Plant No. 1

Street or Route:

City, State, Zip Code:

Facility Well No. and/or Name (If Applicable): MSB7

WI Unique Well No.: _ _ _ _ _

Reason For Abandonment: Abandoned following soil & groundwater sampling

Date of Abandonment: 01/22/93

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date): 01/22/93

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☐ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify)

Formation Type:
☒ Unconsolidated Formation (borehole) ☒ Bedrock

Total ~~Well~~ Depth (ft.) 28 Casing Diameter (ins.) ____
(From groundsurface)

Casing Depth (ft.) NA

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown
If Yes, To What Depth? ____ Feet

(4) Depth to Water (Feet) 11.5

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	NA

If No, Explain

Was Casing Cut Off Below Surface?	☐ Yes	☐ No	NA
Did Sealing Material Rise to Surface?	☐ Yes	☒ No	
Did Material Settle After 24 Hours?	☐ Yes	☒ No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

(5) Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Dump Bailer ☒ Other (Explain) Gravity

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☐ Granular Bentonite
☐ Bentonite - Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume (Circle One)	Mix Ratio or Mud Weight
Bentonite Chips (< 3/8")	Surface	28	6	

(8) Comments:

(9) Name of Person or Firm Doing Sealing Work: Layne-Northwest

Signature of Person Doing Work: [signature] / Chan Hill

Date Signed: 2/3/93

Street or Route: W229 N5005 Duplainville

Telephone Number: (414) 246-4646

City, State, Zip Code: Pewaukee, WI 53072

(10) FOR DNR OR COUNTY USE ONLY	
Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

DNR/COUNTY

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT
Form 3300-5B
Rev. 12-91

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/(Borehole) Location: Cedarburg
County: Ozaukee

NW 1/4 of SE 1/4 of Sec. 34 ; T. 10 N; R. 21 [X] E [ ] W
(If applicable)
Gov't Lot ____ Grid Number ____

Grid Location
477,443 ft. [X] N. [ ] S., 2,535,307 ft. [X] E. [ ] W.

Civil Town Name:

Street Address of Well: N49 W6337 Western Rd.

City, Village: Cedarburg

(2) FACILITY NAME

Original Well Owner (If Known):

Present Well Owner: Former Mercury Marine Plant No. 1

Street or Route:

City, State, Zip Code:

Facility Well No. and/or Name (If Applicable): MSB8
WI Unique Well No.: _ _ _ _ _

Reason For Abandonment: Abandoned following soil sampling

Date of Abandonment: 1/22/93

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/(Borehole) Construction Completed On (Date) 1/20/93

[ ] Monitoring Well
[ ] Water Well
[ ] Drillhole
[X] Borehole

Construction Report Available? [ ] Yes [ ] No

Construction Type:
[X] Drilled [ ] Driven (Sandpoint) [ ] Dug
[ ] Other (Specify) ____

Formation Type:
[X] Unconsolidated Formation [ ] Bedrock

Total ~~Well~~ borehole Depth (ft.) 13.3 Casing Diameter (ins.) ____
(From groundsurface)

Casing Depth (ft.) NA

Was Well Annular Space Grouted? [ ] Yes [ ] No [ ] Unknown
If Yes, To What Depth? ____ Feet

(4) Depth to Water (Feet) dry

Pump & Piping Removed? [ ] Yes [ ] No [X] Not Applicable
Liner(s) Removed? [ ] Yes [ ] No [X] Not Applicable
Screen Removed? [ ] Yes [ ] No [X] Not Applicable
Casing Left in Place? [ ] Yes [ ] No NA
If No, Explain ____

Was Casing Cut Off Below Surface? [ ] Yes [ ] No NA
Did Sealing Material Rise to Surface? [ ] Yes [X] No
Did Material Settle After 24 Hours? [ ] Yes [X] No
If Yes, Was Hole Retopped? [ ] Yes [ ] No

(5) Required Method of Placing Sealing Material
[ ] Conductor Pipe-Gravity [ ] Conductor Pipe-Pumped
[ ] Dump Bailer [X] Other (Explain) gravity

(6) Sealing Materials
[ ] Neat Cement Grout
[ ] Sand-Cement (Concrete) Grout
[ ] Concrete
[ ] Clay-Sand Slurry
[ ] Bentonite-Sand Slurry
[ ] Chipped Bentonite

For monitoring wells and monitoring well boreholes only
[ ] Bentonite Pellets
[ ] Granular Bentonite
[X] Bentonite - Cement Grout

(7)

Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or (Volume) (Circle One)	Mix Ratio or Mud Weight
Bentonite-Cement grout	Surface	13.3	2.6 ft^3	

(8) Comments:

(9) Name of Person or Firm Doing Sealing Work: Layne-Northwest

Signature of Person Doing Work: [signature] Peterson/CH2M Hill
Date Signed: 2/3/93

Street or Route: W229 N5005 Duplainville
Telephone Number: (414) 246-4646

City, State, Zip Code: Pewaukee, WI 53072

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	[ ] Complying Work [ ] Noncomplying Work
Follow-up Necessary	

DNR/COUNTY

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 12-91

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: Cedarburg

County: Ozaukee

NW 1/4 of SE 1/4 of Sec. 34 ; T. 10 N; R. 21 ☒ E ☐ W

(If applicable) Gov't Lot _____ Grid Number _____

Grid Location: 477,587 ft. ☒ N. ☐ S., 2,535,300 ft. ☒ E. ☐ W.

Civil Town Name

Street Address of Well: N49 W6337 Western Rd.

City, Village: Cedarburg

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner: Former Mercury Marine Plant No. 1

Street or Route

City, State, Zip Code

Facility Well No. and/or Name (If Applicable): MSB9

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: Abandoned following soil & groundwater sampling

Date of Abandonment: 1/22/93

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date): 1/21/93

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☐ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total ~~Well~~ borehole Depth (ft.) (From groundsurface): 11.5 Casing Diameter (ins.): ____

Casing Depth (ft.): NA

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown
If Yes, To What Depth? _____ Feet

(4) Depth to Water (Feet): 11

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	NA

If No, Explain _____

Was Casing Cut Off Below Surface?	☐ Yes ☐ No	NA
Did Sealing Material Rise to Surface?	☐ Yes ☒ No	
Did Material Settle After 24 Hours?	☐ Yes ☒ No	
If Yes, Was Hole Retopped?	☐ Yes ☐ No	

(5) Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Dump Bailer ☒ Other (Explain) Gravity

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☐ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☐ Granular Bentonite
☒ Bentonite - Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume (Circle One)	Mix Ratio or Mud Weight
Bentonite-Cement grout	Surface	11.5	2.3 ft³	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: Layne-Northwest

Signature of Person Doing Work: ☒ Peterson/CH2M Hill

Date Signed: 2/3/93

Street or Route: W229 N5005 Duplainville

Telephone Number: (414) 246-4646

City, State, Zip Code: Pewaukee, WI 53072

(10) FOR DNR OR COUNTY USE ONLY	
Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

DNR/COUNTY

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B   Rev. 12-91

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: Cedarburg
County: Ozaukee

NW 1/4 of SE 1/4 of Sec. 34 ; T. 10 N; R. 21 ☒ E ☐ W
(If applicable)
Gov't Lot ______ Grid Number ______

Grid Location
477,719 ft. ☒ N. ☐ S., 2,535,305 ft. ☒ E. ☐ W.

Civil Town Name:

Street Address of Well: N49 W6337 Western Rd.

City, Village: Cedarburg

(2) FACILITY NAME

Original Well Owner (If Known):

Present Well Owner: Former Mercury Marine Plant No. 1

Street or Route:

City, State, Zip Code:

Facility Well No. and/or Name (If Applicable): MSB10
WI Unique Well No.: _ _ _ _ _

Reason For Abandonment: Abandoned following soil & groundwater sampling

Date of Abandonment: 1/26/93

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date) 1/25/93

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☐ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) ______

Formation Type:
☒ Unconsolidated Formation ☒ Bedrock

Total ~~Well~~ borehole Depth (ft.) 23.5 (From groundsurface)
Casing Diameter (ins.) ____

Casing Depth (ft.) NA

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown
If Yes, To What Depth? ______ Feet

(4) Depth to Water (Feet) 12.5

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☐ Yes	☐ No	NA

If No, Explain ______

Was Casing Cut Off Below Surface?	☐ Yes	☐ No NA
Did Sealing Material Rise to Surface?	☐ Yes	☒ No
Did Material Settle After 24 Hours?	☐ Yes	☒ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Dump Bailer ☒ Other (Explain) Gravity

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☐ Granular Bentonite
☐ Bentonite - Cement Grout

(7)

Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume (Circle One)	Mix Ratio or Mud Weight
Bentonite Chips (< 3/8")	Surface	23.5	6	

(8) Comments: ______

(9) Name of Person or Firm Doing Sealing Work: Layne-Northwest

Signature of Person Doing Work: [signature] Peterson/CH2M Hill
Date Signed: 2/3/93

Street or Route: W229 N5005 DuPlainville
Telephone Number: (414) 246-4646

City, State, Zip Code: Pewaukee, WI 53072

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

DNR/COUNTY

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Mercury Marine Plant No. 1	_ _ _ _ _ _ _	MSB1

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M / D D / Y Y)	Date Drilling Completed (M M / D D / Y Y)	Drilling Method
CH2M HILL Laura Peterson / Project Hydrogeologist	01/13/93	01/13/93	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	_ _ _ _ _ _ _		Dry Feet MSL	785.42 Feet MSL	6.0 inches

Boring Location
State Plane 477,928 N, 2,535,313 E S/C/N Lat ___ ___ ___
NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 E/W Long ___ ___ ___

Local Grid Location (If applicable)
_____ Feet ☐ N ☐ S _____ Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Ozaukee	46	Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				See attached soil boring log										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Laura Peterson Firm CH2M HILL

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

CH2M HILL

PROJECT NUMBER	BORING NUMBER		
GL033316-A0.00	MSB1	SHEET 1	OF 1

SOIL BORING LOG

PROJECT Mercury Marine Plant No. 1 LOCATION NW corner of north parking lot

ELEVATION _____ DRILLING CONTRACTOR Layne-NW

DRILLING METHOD AND EQUIPMENT Brat-22R 4.25" HSA, 3" split-spoon

WATER LEVELS _____ START 1/13/93 FINISH 1/13/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						OVA BG = 0 ppm
0					Asphalt.	Start drilling @ 1054
1					Sandy gravel fill. Brown. Dry.	
	1-3		0.9		Sandy gravel fill. Gray brown. moist. Med. dense.	OVA = BG
2					2'6"	
					Silty sand (SM). DK. brown. Moist. Loose. Trace rock fragments.	
3						
					Silty sandy Clay (CL). DK. brown. moist. Stiff. Sand is medium - Coarse-grained. Rock fragments in tip of spoon.	Split-spoon encountering resistance - cobbles?
4	3-5		0.3			OVA breathing zone = BG @ 1135
5						Encountering resistance while augering down - rocks.
					Blind drilled. Cuttings appear to be weathered bedrock. Silty sand and rock fragments. Light brown. Dry. Med. dense. Some large rock fragments 5-6" diameter. Dolomite.	
6	5-7	Blind Drilled				
7					7' EOB	EOB @ 1210

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Mercury Marine Plant No. 1	_ _ _ _ _ _ _	MSB2

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
CH2M HILL Laura Peterson / Project Hydrogeologist	01/13/93	01/13/93	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_____	_____	MW-1	776.84 Feet MSL	787.37 Feet MSL	6.0 inches

Boring Location
State Plane 477,714 N, 2,535,376 E S/C/N | Lat ___ ___ ___ | Long ___ ___ ___

NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 E/W

Local Grid Location (If applicable)
_____ Feet ☐ N ☐ S _____ Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/or Village
Ozaukee	46	Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				See attached soil boring log										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Laura Peterson Firm: CH2M HILL

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

CH2MHILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
GLO 33316.A0.00	MSB2 (MW-1)	1	1

SOIL BORING LOG

PROJECT Mercury Marine Plant No. 1 LOCATION In front of garage door "K"

ELEVATION _____ DRILLING CONTRACTOR Layne-NW

DRILLING METHOD AND EQUIPMENT Brat - 22R

WATER LEVELS _____ START 1/13/93 FINISH 1/13/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL	SAMPLE: NUMBER AND TYPE	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						OVA BG = 0 ppm
1					Asphalt. Sandy Gravel Fill.	Begin drilling @ 1349
	1-3		1		Silty Clay (CL). DK brown - Black. Moist. Stiff. Some Clay.	OVA = BG
					2'6"	
3					Silty Sand (SM). Lt. Brown. Moist. Med. Dense. Some black clay.	
	3-5		1		Same (SM). Dense. Trace fine gravel. Some orange mottling. Trace rock fragments.	OVA = BG
5						
	5-7		2		Same (SM). Some black clay. Somewhat more clayey than above. Some gravel. Some larger gravel (2-in ϕ) in bottom 8".	OVA = BG
7						
	7-9		2		Clayey SILT (CL-ML). Brown. Moist. Very dense. Some fine sand. Some rounded gravel.	OVA = BG
9						
	9-11		0.8		Same as above (CL-ML).	OVA = BG OVA breathing zone = BG t = 1435
11						
	11-13		0.9		Silty, well-graded SAND (SW). Brown. Wet. Med. dense. Some gravel.	OVA = BG ▽
13						
	13-15		1.4		Clayey, well-graded SAND ( ). Brown. Wet. Some silt and gravel. Dense. Some gravel angular. 14'4" ±	OVA = BG
15					Silty CLAY (ML-CL). Lt gray. Moist. Hard. Some sand and gravel.	Hit rock @ 15.5'

EOB @ 15.5'

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Mercury Marine Plant No. 1	_ _ _ _ _ _ _	MSB3

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
CH2M HILL Laura Peterson/Project Hydrogeologist	01/14/93	01/14/93	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _	_ _ _ _ _ _		dry Feet MSL	786.42 Feet MSL	6.0 inches

Boring Location
State Plane 477,464 N, 2,535,671 E S/C/N
Lat _____ Long _____
NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 E/W

Local Grid Location (If applicable)
_____ Feet ☐ N ☐ S _____ Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/or Village
Ozaukee	46	Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				See attached soil boring log										

I hereby certlify that the information on this form is true and correct to the best of my knowledge.

Signature Laura Peterson Firm CH2M HILL

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CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
GL033316.A0.00	MSB3	1	1

SOIL BORING LOG

PROJECT Mercury Marine Plant No. 1 LOCATION East of bldg near Door # 4

ELEVATION _____ DRILLING CONTRACTOR Layne-NW

DRILLING METHOD AND EQUIPMENT Brat-22R, 4.25" HSA, 3" split-spoon

WATER LEVELS _____ START 1/14/93 FINISH 1/14/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						HNu BG = 0.25 ppm
0					Asphalt.	Begin boring @ 0931.
					Sand & Gravel Fill. (GW)	
1						
	1-3		1.5		Sandy gravel (GW). Black & brown. Moist. Some silt. Trace asphalt. Trace clay. 2'	HNu = BG HNu breathing zone = BG
					Poorly-graded fine silty Sand (SP-SM). Brown. Slightly moist. Med. dense.	
3						
	3-5		1.8		Same (SP). Grading to a silt with some clay. 3'6"	HNu deflected slightly above BG.
					Clayey SILT (ML). Brown. Moist. Dense. Trace fine sand. Trace orange mottling	
5						
	5-7		1		Clayey silt (ML-CL). somewhat more Clayey than above. Brown. Moist. Dense. Some fine sand. Trace gravel. Rock fragments 4" from tip.	HNu = BG
7						
	7-9		1.5		Same (ML-CL). More moist than above. Some fine sand seams.	HNu = BG
					Poorly-graded, fine, silty sand (SM-SP) 8'10"	
9					Brown. Moist. Loose.	
	9-11		1.8		Clayey SILT (ML-CL) Brown. Moist. Dense. Trace gravel. Fine sand seams. Rock fragment about 1' from tip.	HNu = BG.
					3 inch sand lense at tip. Clayey silt in spoon tip. 10'6"	Hit bedrock @ 10.5' No water.
11					EOB @ 10.5' t = 1040	

ate of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Mercury Marine Plant No. 1	_ _ _ _ _ _ _ _	MS B4

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
Cham Hill Laura Peterson / Project Hydrogeologist	01 / 14 / 93	01 / 14 / 93	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
___ ___ ___	_ _ _ _ _ _ _ _		dry Feet MSL	786.64 Feet MSL	6.0 inches

Boring Location
State Plane 477,307 N, 2,535,677 E S/C/N Lat ___ ___ ___
NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 E/W Long ___ ___ ___

Local Grid Location (If applicable)
_____ Feet ☐ N ☐ S _____ Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/or Village
Ozaukee	46	Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				See attached soil boring log. ~~for~~										

I hereby certlify that the information on this form is true and correct to the best of my knowledge.

Signature Laura Peterson Firm Cham Hill

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PROJECT NUMBER	BORING NUMBER (MW-2)	
GLO 33316.AØ.ØØ	MSB4 & MSB6	SHEET 1 OF 1

SOIL BORING LOG

PROJECT Mercury Marine Plant No. 1 LOCATION East of bldg. near dock

ELEVATION _____ DRILLING CONTRACTOR Layne-NW

DRILLING METHOD AND EQUIPMENT Brat-22R, 4.25" HSA, 3" split-spoon

WATER LEVELS _____ START 1/14/93 FINISH 1/14/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						HNu BG = 0.25 ppm
	Blind Drilled				Silty sand and gravel fill. Fine roots in upper 2 inches.	Start drilling @ 1150
1	1-3		1.3		Clayey SILT (CL-ML). Brown. slightly moist. Very dense. Trace gravel. Some fine sand. Much orange mottling.	HNu = BG
3	3-5		1.5		SILT (ML). Brown. Slightly Moist. Very dense. Some fine sand. Trace clay and gravel. Some fine sand seams. Much rust mottling.	HNu = BG
5	5-7		0.3		Clayey Silt (ML-CL). Brown. Moist. Dense. Some fine sand. Trace gravel. Fine rock fragments in tip.	Couldn't drive spoon past 6½'. Hit rock. Rock fragments in cuttings from 5-7 ft.
7	7-9		0		Some clayey silt in tip of spoon. Rock fragments in tip	
9	9-11		1		Silty, very fine, poorly-graded sand (SM-SP). Brown Moist Loose. Trace rock fragments 9'4"- Clayey SILT (CL-ML). Brown. Moist. Very dense, some sand seams. Trace orange mottling. Bottom 3" sandier.	HNu = BG
11	11-13		0.3		Clayey Sand (SC). Brown. Very Moist. Med. dense. Some gravel. Sand is coarser than above.	HNu = BG
13	13-15		0.7		Clayey Silt (CL-ML). Brown. Very Moist. Dense. Clayier than above. Trace gravel. Some fine sand seams	HNu = BG
15						

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page _____ of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Mercury Marine Plant No. 1	_ _ _ _ _ _ _	MSB5

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
CH2M HILL Laura Peterson / Project Hydrogeologist	01/14/93	01/15/93	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _	_ _ _ _ _ _ _	MW-3	766.72 Feet MSL	799.58 Feet MSL	6.0 inches

Boring Location
State Plane 477,005 N, 2,535,484 E S/C/N | Lat _____ Long _____
NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 E/W

Local Grid Location (If applicable)
_____ Feet ☐ N ☐ S _____ Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Ozaukee	46	Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				See attached soil boring log										

I hereby certlify that the information on this form is true and correct to the best of my knowledge.

Signature: Laura Peterson Firm: CH2M HILL

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CH2M HILL

PROJECT NUMBER	BORING NUMBER		
GL033316.A0.00	MSB5 (MW-3)	SHEET 1	OF 3

SOIL BORING LOG

PROJECT Mercury Marine Plant No. 1 LOCATION South Parking lot

ELEVATION _____ DRILLING CONTRACTOR Layne-NW

DRILLING METHOD AND EQUIPMENT Brat. 22R; 4.25" HSA; 3" Split spoon

WATER LEVELS _____ START 1/14/93 FINISH 1/15/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						HNu BG = 0.25 ppm
					Asphalt Silty, sandy, clayey gravel Fill.	Start drilling @ 1500
1	1-3		1.3		Clayey SILT (CL-ML). Brown. Moist. Hard. Some fine sand.	HNu = BG
3	3-5		1.1		Same (CL-ML). Lower 6" softer. Trace gravel.	HNu = BG
5	5-7		1.2		Same (CL-ML). Trace orange mottling. Bottom 8" is a lighter brown than above. Trace small gravel.	HNu = BG
7	7-9		1.4		Clayey Silt. (CL-ML). Brown. Slightly moist. Very dense. Some fine sand. Trace gravel. Some orange mottling.	HNu = BG
9	9-11		1.5		Same (CL-ML). Not as clayey as above. One fine sand seam fracture.	HNu = BG
11	11-13		2		Same (CL-ML). Some 1½" gravel. Some orange mottling. Dense.	HNu = BG
13	13-15		2		Same (CL-ML). Very dense. Rock fragment 1' from bottom.	HNu = BG
15						

PROJECT NUMBER	BORING NUMBER MSB5 SHEET 2 OF 3

SOIL BORING LOG

PROJECT _____ LOCATION South Parking Lot

ELEVATION _____ DRILLING CONTRACTOR _____

DRILLING METHOD AND EQUIPMENT _____

WATER LEVELS _____ START 1/14/93 FINISH 1/15/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	15-17		0		Rock and clayey silt in tip	
17	17-19		0.8		Same (CL-ML). Some rock fragments.	HNu = BG
19	19-21		1.8		Same (CL-ML). Dense. Some gravel and rocks.	HNu = BG
21	21-23		2		Same (CL-ML) Silty Clay (CL). Gray. Moist. Stiff. Trace gravel. 22'	Stop drilling @ 1655
23	23-25		0.3		Silty Clay (CL). Brown. Wet. Soft. Trace gravel. Some fine sand.	Begin drilling @ 0720 on 1/15 HNu BG = 0.3 ppm
25	25-27		0.3		Same (CL). Wet. 2" fine-medium Clayey sand lense in tip.	
27	27-29		1.5		Same (CL). Clayey sand and rock fragments in tip	HNu = BG
29	29-31		0.7		Same (CL). 4" sandy gravel in tip. Brown. Dry. Loose.	HNu: BG

CH2M HILL

PROJECT NUMBER	BORING NUMBER MSB5	SHEET 3 OF 3

SOIL BORING LOG

PROJECT _____ LOCATION South Parking Lot

ELEVATION _____ DRILLING CONTRACTOR _____

DRILLING METHOD AND EQUIPMENT _____

WATER LEVELS _____ START 1/14/93 FINISH 1/15/93 LOGGER L Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
31						
	31-33		1.1		Same ( ). Two inches of orange mottling about 6" from tip (right above fine sand). 32'6"	HNu = BG
33					Fine, poorly-graded Sand (SP). Brown. moist. Loose, Some silt.	
	33-35		1.1		Same (SM-SP). Wet. Trace small rounded gravel.	HNu deflected slightly ½ ppm.
35					Clayey sand (SC). Wet. Some gravel. 36'	
	35-37		1.2		Silty Clay (CL). Gray-brown. Moist. Hard. Trace sand and gravel. Some rock fragments.	HNu = BG
37						
	37-39		0.7		Same (CL). Rock 6" from tip.	HNu = BG
39						
	39-41		0		No Recovery.	Spoon probably pushing rock.
41						
	41-43		0		No Recovery.	Rock in tip. cuttings are the silty clay.
43						
	43-45		0.3		Silty clay (CL). Same as above. Weathered bedrock in bottom inch. sandy rock fragments. Lt. brown. EOB @ 44'	EOB @ 1015 AM
45						

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Mercury Marine Plant No. 1	_ _ _ _ _ _ _	MSB6

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
CH2M HILL Laura Peterson / Project Hydrogeologist	01/18/93	01/21/93	HSA & air rotary

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _	_ _ _ _ _ _	MW-2	766.04 Feet MSL	786.64 Feet MSL	6.0 inches

Boring Location
State Plane 477,317 N, 2,535,677 E S/C/N Lat _____
NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 E/W Long _____

Local Grid Location (If applicable)
☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
Ozaukee	46	Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				See attached soil boring and rock coring logs										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Laura Peterson Firm CH2M HILL

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PROJECT NUMBER	BORING NUMBER (MW-2)	
GLO 33316.AØ.ØØ	MSB4 & MSB6	SHEET 1 OF 1

SOIL BORING LOG

PROJECT Mercury Marine Plant No. 1 LOCATION East of bldg. near dock

ELEVATION _____ DRILLING CONTRACTOR Layne-NW

DRILLING METHOD AND EQUIPMENT Brat-22R, 4.25" HSA, 3" split-spoon

WATER LEVELS _____ START 1/14/93 FINISH 1/14/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						HNu BG = 0.25 ppm
	Blind Drilled				Silty sand and gravel fill. Fine roots in upper 2 inches.	Start drilling @ 1150
1	1-3		1.3		Clayey SILT (CL-ML). Brown. slightly moist. Very dense. Trace gravel. Some fine sand. Much orange mottling	HNu = BG
3	3-5		1.5		SILT (ML). Brown. Slightly Moist. Very dense. Some fine sand. Trace clay and gravel. some fine sand seams. Much rust mottling.	HNu = BG
5	5-7		0.3		Clayey Silt (ML-CL). Brown. Moist. Dense. Some fine sand. Trace gravel. Fine rock fragments in tip.	Couldn't drive spoon past 6½'. Hit rock. Rock fragments in cuttings from 5-7 ft.
7	7-9		0		Some clayey silt in tip of spoon. Rock fragments in tip	
9	9-11		1		Silty, very fine, poorly-graded sand (SM-SP) Brown Moist Loose. Trace rock fragments. 9'4"- Clayey SILT (CL-ML). Brown. Moist Very dense, some sand seams. Trace orange mottling. Bottom 3" sandier.	HNu = BG
11	11-13		0.3		Clayey Sand (SC). Brown. Very Moist. Med. dense. Some gravel. Sand is coarser than above.	HNu = BG
13	13-15		0.7		Clayey Silt (CL-ML). Brown. Very Moist. Dense. Clayier than above. Trace gravel. some fine sand seams	HNu = BG
15						

CH2MHILL

PROJECT NUMBER	BORING NUMBER (mw-2)	
GLO 33316.A0.00	MSB6	SHEET 1 OF 3

ROCK CORE LOG

PROJECT Mercury Marine Plant No. 1 LOCATION East side of bldg.

ELEVATION _____ DRILLING CONTRACTOR Layne - NW

DRILLING METHOD AND EQUIPMENT Brat - 22R, Air Rotary ORIENTATION _____

WATER LEVEL AND DATE _____ START 1/19/93 FINISH 1/20/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	CORE RUN, LENGTH, AND RECOVERY (%)	DISCONTINUITIES: RQD (%)	DISCONTINUITIES: FRACTURES PER FOOT	DISCONTINUITIES: DESCRIPTION (DEPTH, TYPE, ORIENTATION, ROUGHNESS, PLANARITY, INFILLING MATERIAL AND THICKNESS, SURFACE STAINING, AND TIGHTNESS)	GRAPHIC LOG	LITHOLOGY (ROCK TYPE, COLOR, MINERALOGY, TEXTURE, WEATHERING, HARDNESS, AND ROCK MASS CHARACTERISTICS)	COMMENTS (SIZE AND DEPTH OF CASING, FLUID LOSS, CORING RATE AND SMOOTHNESS, CAVING ROD DROPS, TEST RESULTS, ETC.)
16						Unconsolidated. Gravel (up to 3" ø) Gray clay. Fine silty sands.	
17							
18							
19							
20							
21	10'/10' =100%	61		RQD = Fair. Fracturing - Vertical (0°) Jointing - 80° Some vugs - filled with calcite. Small solution cavities (up to ½" ø) Some secondary jointing at 90°. Jointing is moderately close (1 - 3 ft).		Dolomite. Lt. gray to Lt. tan. Fine-grained. Hard. Slightly weathered. Massive bedding.	
22							
23							
24							
25							
26							
27							
28							
29							
30							

CRA/HILL

PROJECT NUMBER	BORING NUMBER	SHEET
GLO 33316.A0.00	MSB6	2 OF 3

ROCK CORE LOG

PROJECT Mercury Marine Plant No. 1 LOCATION

ELEVATION DRILLING CONTRACTOR

DRILLING METHOD AND EQUIPMENT ORIENTATION

WATER LEVEL AND DATE START 1/19/93 FINISH 1/20/93 LOGGER

DEPTH BELOW SURFACE (FT)	CORE RUN, LENGTH, AND RECOVERY (%)	DISCONTINUITIES: RQD (%)	DISCONTINUITIES: FRACTURES PER FOOT	DISCONTINUITIES: DESCRIPTION (DEPTH, TYPE, ORIENTATION, ROUGHNESS, PLANARITY, INFILLING MATERIAL AND THICKNESS, SURFACE STAINING, AND TIGHTNESS)	GRAPHIC LOG	LITHOLOGY (ROCK TYPE, COLOR, MINERALOGY, TEXTURE, WEATHERING, HARDNESS, AND ROCK MASS CHARACTERISTICS)	COMMENTS (SIZE AND DEPTH OF CASING, FLUID LOSS, CORING RATE AND SMOOTHNESS, CAVING ROD DROPS, TEST RESULTS, ETC.)
31	10'/10'	80		RQD = Good Fracturing at 0° & 45°. One large solution cavity (1.5") @ 35' filled with calcite. Not as much Fe Ox staining, fracturing, jointing, or vugs as above.		Dolomite. Lt. gray. Fine-grained. Hard. Massive bedding.	
32							
33							
34							
35							
36							
37							
38							
39							
40							
41	10'/10'	82		RQD = Good. Fractures nearly vertical. Little Fe Ox staining. Few vugs. Little to no solution cavities. Some secondary jointing @ 90°. Joint spacing moderately close.		Dolomite. Lt gray. fine-grained. Hard. Slightly weathered. Massive bedding.	
42							
43							
44							
45							

CRMHILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
GLO 33316.A0.00	MSB6	3	3

ROCK CORE LOG

PROJECT Mercury Marine Plant No. 1 LOCATION

ELEVATION DRILLING CONTRACTOR

DRILLING METHOD AND EQUIPMENT ORIENTATION

WATER LEVEL AND DATE START 1/19/93 FINISH 1/20/93 LOGGER

DEPTH BELOW SURFACE (FT)	CORE RUN, LENGTH, AND RECOVERY (%)	DISCONTINUITIES: RQD (%)	DISCONTINUITIES: FRACTURES PER FOOT	DISCONTINUITIES: DESCRIPTION (DEPTH, TYPE, ORIENTATION, ROUGHNESS, PLANARITY, INFILLING MATERIAL AND THICKNESS, SURFACE STAINING, AND TIGHTNESS)	GRAPHIC LOG	LITHOLOGY (ROCK TYPE, COLOR, MINERALOGY, TEXTURE, WEATHERING, HARDNESS, AND ROCK MASS CHARACTERISTICS)	COMMENTS (SIZE AND DEPTH OF CASING, FLUID LOSS, CORING RATE AND SMOOTHNESS, CAVING ROD DROPS, TEST RESULTS, ETC.)
46							
47							
48							
49							
50							
51	10/10'	91		RQD = Excellent. No solution Cavities increase. (up to 1"ϕ) Fracturing - 0°, 40°, 90°. Highly vesicular, more fractured than above. Joint spacing - close. much Fe Ox Staining.		Dolomite. Lt-gray. Fine-grained Hard. Moderate weathering. Massive bedding.	
52							
53							
54							
55							
56							
57							
58							
59							
60							

EOB @ 60'

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Mercury Marine Plant No. 1	_ _ _ _ _ _ _ _	MSB7

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
CH2M HILL Laura Peterson / Project Hydrogeologist	01/22/93	01/22/93	HSA & air rotary

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _	_ _ _ _ _ _ _ _		_____ Feet MSL	787.28 Feet MSL	6.0 inches

Boring Location
State Plane 477,586 N, 2,535,312 E S/C/N Lat _____
NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 E W Long _____

Local Grid Location (If applicable)
☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
Ozaukee	46	Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				See attached soil boring and rock coring logs										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Laura Peterson Firm CH2M HILL

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PROJECT NUMBER	BORING NUMBER		
GL033316.A0.00	MSB7	SHEET 1	OF 2

SOIL BORING LOG

PROJECT Mercury Marine Plant No. 1 LOCATION West of bldg.

ELEVATION _____ DRILLING CONTRACTOR Layne-NW

DRILLING METHOD AND EQUIPMENT Brat. 22R, 4.25" HSA, 3" split-spoon

WATER LEVELS _____ START 1/22/93 FINISH 1/22/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						HNu BG = 0.4 ppm
					Asphalt. Concrete 1'	Start boring @ 0808
1	1-3		1.8		Gravelly sand (SW). Black & Brown. Moist. Loose. Black cinders throughout. 1'6" Clay (CL). Brown & Lt. gray. Moist. Medium. Some silt. Trace fine gravel. Much orange mottling.	HNu = BG
3	3-5				Pushed Shelby Tube.	Same silty clay in tip of Shelby Tube.
5	5-7		2		Clay (CL). Lt. Gray. Moist. Soft. Some black discoloration. Trace orange mottling. 6' Silty Clay (CL). Brown & Lt. gray. Moist. Medium. Trace fine gravel. More gravelly in lower 4 inches.	(Oily odor from 5-6') HNu deflected slightly (0.1 ppm) Two fractures in lower foot (Some fine-med. grained sand in fractures & slight discoloration greenish black)
7	7-9		1		Well-graded gravelly sand (SW). Orangish-brown. Moist. Loose	HNu = BG
9	9-11				Pushed Shelby Tube	
11	11-13		0.5		Same (SW). Lower 4" wet.	HNu = BG ▽ Getting into weathered rock.
13	13-15		0.8		Silty Clay (CL). Gray. Moist. Very stiff. Much gravel, large dolomite fragments.	In weathered bedrock. Tough drilling.
15						

PROJECT NUMBER	BORING NUMBER		
GLO33316.AØ.ØØ	MSB7	SHEET 2	OF 2

SOIL BORING LOG

PROJECT Mercury Marine Plant No 1 LOCATION west side of bldg

ELEVATION _____ DRILLING CONTRACTOR _____

DRILLING METHOD AND EQUIPMENT _____

WATER LEVELS _____ START 1/22/93 FINISH 1/22/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL	SAMPLE: NUMBER AND TYPE	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	15-16		0.3		Sandy, silty clay (CL). Gray. Wet. Soft. Much gravel. 2-inch rock 16'	Met refusal @ 16'
					EOB	Will collect 10' rock core. Reamed down thru weathered bedrock to 18'. Will try to core from 18-28'.

CH2MHILL

PROJECT NUMBER	BORING NUMBER	
GLO 33316.AØ.ØØ	MSB7	SHEET 1 OF 1

ROCK CORE LOG

PROJECT Mercury Marine Plant No. 1 LOCATION West side of bldg.

ELEVATION _____ DRILLING CONTRACTOR Layne-NW

DRILLING METHOD AND EQUIPMENT Brat-22R, Air Rotary ORIENTATION _____

WATER LEVEL AND DATE _____ START 1/22/93 FINISH 1/22/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	CORE RUN, LENGTH, AND RECOVERY (%)	DISCONTINUITIES: RQD (%)	DISCONTINUITIES: FRACTURES PER FOOT	DISCONTINUITIES: DESCRIPTION (DEPTH, TYPE, ORIENTATION, ROUGHNESS, PLANARITY, INFILLING MATERIAL AND THICKNESS, SURFACE STAINING, AND TIGHTNESS)	GRAPHIC LOG	LITHOLOGY (ROCK TYPE, COLOR, MINERALOGY, TEXTURE, WEATHERING, HARDNESS, AND ROCK MASS CHARACTERISTICS)	COMMENTS (SIZE AND DEPTH OF CASING, FLUID LOSS, CORING RATE AND SMOOTHNESS, CAVING ROD DROPS, TEST RESULTS, ETC.)
19	10/10' = 100%	50		RQD = Poor. Some solution cavities Fractures - 20°, 35°, Some secondary jointing @ 90°. Very little Fe Ox staining.		Dolomite. Lt-gray. Slightly Weathered/Fresh. Fine-grained. Hard. Bedding Massive	
20							
21							
22							
23							
24							
25							
26							
27							
28							

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Mercury Marine Plant No. 1	_ _ _ _ _ _ _ _	MSB8

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
CH2M HILL Laura Peterson / Project Hydrogeologist	01/20/93	01/20/93	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _ _ _ _ _		dry Feet MSL	786.38 Feet MSL	6.0 inches

Boring Location
State Plane 477,443 N, 2,535,307 E S/C/N Lat _____
NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 E/W Long _____

Local Grid Location (If applicable)
☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
Ozaukee	46	Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				See attached soil boring log										

I hereby certlify that the information on this form is true and correct to the best of my knowledge.

Signature Laura Peterson Firm CH2M HILL

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PROJECT NUMBER	BORING NUMBER		
GL033316-AØ.ØØ	MSB8	SHEET 1	OF 1

SOIL BORING LOG

PROJECT Mercury Marine Plant No. 1 LOCATION Inside bldg @ south end

ELEVATION _____ DRILLING CONTRACTOR Layne-NW

DRILLING METHOD AND EQUIPMENT Simpco Electric Rig, 4.25" HSA, 3" split-spoon

WATER LEVELS _____ START 1/20/93 FINISH 1/20/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						HNu BG: 0.35 ppm
1					Concrete Gravel Concrete	Abandoned pit
2					Sand + gravel fill 2'3"	
3	2-4		1		Very fine silty sand (SP-SM). Brown. Moist. Med. dense. Large rock 8" from tip.	HNu = BG Collect soil sample 2-4'
4						
5	4-6		0.8		Silty Clay (CL). Brown. Moist. Stiff. Some fine sand. Trace gravel. Some rust mottling.	HNu = BG Collect soil sample 4-6'
6						
7	6-8		2		Silty Clay (CL). Brown. Moist. Stiff. Some sand. Much gravel. Trace rust mottling. About 1 ft from tip some sand discolored - greenish black.	HNu = BG
8						
9	8-10		1.3		Same (CL). Some greenish-black sand about 8" from tip where there was a fracture. Some rock fragments in lower 6".	HNu of sand fracture = 3 ppm Collect soil sample 8-10' Driller says it feels like we're getting into weathered bedrock
10						
11	10-12		1.8		Silty Clay (CL). Gray-brown. Slightly moist. Very stiff. Some sand. Trace fine gravel. Two fractures in lower foot.	HNu = 2.6 ppm Collected soil sample from 10-12'
12						
	12-13		1		Clay (CL). DK. gray. Slightly moist. Hard. Some silt. Trace sand and fine gravel. Trace hairline fractures. 13'3"	HNu = 2 ppm Met resistance @ 13'3". Weathered bedrock in spoon tip
					EOB	
14						

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Mercury Marine Plant No. 1	_ _ _ _ _ _ _	MSB9

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
CH2M HILL Laura Peterson / Project Hydrogeologist	01/21/93	01/21/93	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _ _	_ _ _ _ _ _ _		dry Feet MSL	786.49 Feet MSL	6.0 inches

Boring Location
State Plane 477,587 N, 2,535,300 E S/C/N
NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 E/W
Lat _____ Long _____

Local Grid Location (If applicable)
_____ Feet ☐ N ☐ S _____ Feet ☐ E ☐ W

County: Ozaukee
DNR County Code: 46
Civil Town/City/ or Village: Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				See attached soil boring log										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Laura Peterson Firm: CH2M HILL

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PROJECT NUMBER	BORING NUMBER		
GLO 33316.AØ.ØØ	MSB9	SHEET 1	OF 1

SOIL BORING LOG

PROJECT Mercury Marine Plant No. 1 LOCATION Inside Bldg - NW Corner

ELEVATION _____ DRILLING CONTRACTOR Layne - NW

DRILLING METHOD AND EQUIPMENT Simpco Electric Rig, 4.25" HSA, 3" split-spoon

WATER LEVELS _____ START 1/21/93 FINISH 1/21/93 LOGGER L Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						HNu BG = 0.35 ppm
	(Blind drilled)				Concrete upper 7". Then 5" of sandy, silty clay.	Start boring @ 1200
1						
	1-3		1.8		Silty, gravelly sand (SM-SW). Brown. Slightly moist. Dense. Lower foot more silty. Trace rust mottling.	Slight deflect of needle on HNu (0.1 ppm). Encountering much resistance while augering from 1-3 feet. Collected sample from 1-3'
3						
	3-5		1.7		Silty clay (CL). Lt. brown. Moist. Medium, much sand. Trace small gravel. 4'	Collected sample from 3-5'. HNu = 0.3 ppm
					Silty, fine sand (SM-SP). Brown. Moist. Loose. Trace clay. 4'8"	Slight discoloration of sand cone. Some sand greenish black
5					Silty clay (CL). Lt. brown. Moist. Med. stiff. Trace fine gravel.	
	5-7		0		No Recovery.	Hitting a lot of rocks.
7						
	7-9		1.2		Gravelly sand (SW). Brown. Dry. 7'11" Dolomite Rock. Lt. Gray 8'4" Gravelly sand (SW). Brown. Dry. Loose. Some orange coloring	Collected sample from 7-9'. HNu = 0.4 ppm. Weathered bedrock in spoon tip.
9						
	9-11		1.2		Same (SW). Very moist. Some 2" subangular gravel. One dolomite rock fragment at top. Some discolored sand (greenish-black).	HNu = 6 ppm. Collected sample from 9-11'. HNu of cuttings = 4 ppm
11					11'6" EOB	Resistance due to bedrock
13						

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Mercury Marine Plant No. 1	_ _ _ _ _ _ _	MSB 10

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
CH2M HILL Laura Peterson / Project Hydrogeologist	01 / 25 / 93	01 / 25 / 93	HSA + air rotary

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _	_ _ _ _ _ _ _ _		_____ Feet MSL	788.57 Feet MSL	6.0 inches

Boring Location
State Plane 477,719 N, 2,535,305 E S/C/N
NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 E/W

Lat _____
Long _____

Local Grid Location (If applicable)
_____ Feet ☐ N ☐ S _____ Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Ozaukee	46	Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				See attached soil boring and rock coring logs										

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Signature Laura Peterson Firm CH2M HILL

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CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
GL033316-A0.00	MSB10	1	1

SOIL BORING LOG

PROJECT Mercury Marine Plant No. 1 LOCATION Outside Bldg - NW Corner

ELEVATION _____ DRILLING CONTRACTOR Layne - NW

DRILLING METHOD AND EQUIPMENT Brat-22R, 4.25" HSA 3-inch split-spoon

WATER LEVELS _____ START 1/22/93 FINISH 1/22/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						HNu BG = 0.3 ppm
					Asphalt. Concrete. Sand & Gravel fill.	
1	1-3		2		Clayey sand & Gravel (GC). 1'4" Blackish brown. Moist. Very stiff. Bits of coal. Some thin wires. Silty Clay (CL). Brown & Lt. gray. Moist. Stiff. Some bits of coal. A few thin wires.	At about 1 ft depth, some copper wires in cuttings. HNu = BG Sample collected from 1-3'
3	3-5		2		Same (CL). Some black discoloration in upper foot. A 3" silty sand lense (med-coarse) about 4" from tip. Some greenish-black discoloration of sand.	Collected sample from 3.5' HNu = BG
5	5-7		1.7		Same (CL.) 2-inch rocks 1' from tip. Drier than above. Trace coarse sand. Trace stones. Trace orange mottling.	HNu = BG.
7	7-9		2		Same (CL). Trace gravel. 8'6"	HNu = BG
9	9-11		1		Well-graded sand & gravel (SW). Orangish-brown. Moist. Loose. Rock fragments in spoon tip. Same (SW). Three dk. rust horizontal bands	HNu = BG Collected sample from 9-11'
11					Pushed Shelby Tube.	Only recovered about 4". Tip of tube bent up. Wet, sand & gravel (SW) in tip. ▽
13	13-13.5		0		13.5' EOB	Hitting pretty competent bedrock at about 13.5 ft. Stop drilling @ 1610 Will rock core on Monday

CH2MHILL

PROJECT NUMBER	BORING NUMBER	
GLO33316.A0.00	MSB10	SHEET 1 OF 1

ROCK CORE LOG

PROJECT Mercury Marine Plant No. 1 LOCATION NW corner of bldg.

ELEVATION _____ DRILLING CONTRACTOR Layne - NW

DRILLING METHOD AND EQUIPMENT Brat - 22R, Air Rotary ORIENTATION _____

WATER LEVEL AND DATE _____ START 1/25/93 FINISH 1/25/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	CORE RUN, LENGTH, AND RECOVERY (%)	DISCONTINUITIES: RQD (%)	DISCONTINUITIES: FRACTURES PER FOOT	DISCONTINUITIES: DESCRIPTION (DEPTH, TYPE, ORIENTATION, ROUGHNESS, PLANARITY, INFILLING MATERIAL AND THICKNESS, SURFACE STAINING, AND TIGHTNESS)	GRAPHIC LOG	LITHOLOGY (ROCK TYPE, COLOR, MINERALOGY, TEXTURE, WEATHERING, HARDNESS, AND ROCK MASS CHARACTERISTICS)	COMMENTS (SIZE AND DEPTH OF CASING, FLUID LOSS, CORING RATE AND SMOOTHNESS, CAVING ROD DROPS, TEST RESULTS, ETC.)
14.5	10/10 = 100%	52		RQD = Fair Jointing - Moderately Close Fractures - 0° & 90° Some solution cavities. Somewhat vesicular. Some Fe Ox staining.		Dolomite. Lt-gray. Fine-grained. Slightly Weathered. Hard. Bedding - Massive.	
15.5							
16.5							
17.5							
18.5							
19.5							
20.5							
21.5							
22.5							
23.5							

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Mercury Marine Plant No. 1	_ _ _ _ _ _ _ _	MSB11

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
CH2M HILL Laura Peterson / Project Hydrogeologist	01/25/93	01/26/93	HSA + air rotary

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _ _ _	_ _ _ _ _ _ _ _	MW-4	775.82 Feet MSL	786.06 Feet MSL	6.0 inches

Boring Location
State Plane 477,433 N, 2,535,317 E S/C/N Lat _____
NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 E/W Long _____

Local Grid Location (If applicable)
☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
Ozaukee	46	Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				See attached soil boring and rock coring logs										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Laura Peterson Firm CH2M HILL

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CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
GLO 33316.AØ.ØØ	MSB11 (MW-4)	1	1

SOIL BORING LOG

PROJECT Mercury Marine Plant No. 1 LOCATION SW Corner of bldg.

ELEVATION _____ DRILLING CONTRACTOR Layne-NW

DRILLING METHOD AND EQUIPMENT Brat-22R, 4.25" HSA, 3-inch split-spoon

WATER LEVELS _____ START 1/25/93 FINISH 1/25/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL	SAMPLE: NUMBER AND TYPE	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						HNu BG = 0.3 ppm
					Asphalt - 6" Concrete - 6"	Start drilling @ 1352
1			1.5		Sandy, silty clay (CL). Brown-Black. Moist. Stiff. Much black ashes. Some 1'6" gravel. Very fine silty sand (SM-SP). Brown. Moist. Trace black cinders. Some gravel much gravel in tip.	HNu = BG Collected sample + dupe from 1-3'
3					Pushed Shelby Tube	Silt and med-grained sand in tip.
5			1		Silty Clay. Lt. Brown. Moist. Medium 5'6" Silty, med. grained sand (SM-SP). Brown. Wet. Loose. Some greenish-black discoloration.	Collected sample from 5-7'
7			1.6		Silty Clay (CL-ML). Lt. brown. Moist. Medium. Some gravel and rock fragments. 8'6" Med-grained sand (SP). Brown. Wet. Loose. Trace gravel. Rocks in Lower 3".	HNu = BG Some green discoloration of sand
9			2		Silty Clay (CL). Upper foot very moist with much sand. Same sand green. Lower foot drier and siltier. Two horizontal fractures. Some gravel throughout.	HNu = BG Collected sample + MS-MSD from 9-11'
11					Pushed shelby tube	Tried pushing Shelby Tube from 11-13'. No recovery. Just rock in tip.
13			1.1		Rock. Lt-tan. Very Weathered. 13'4" Sandy gravel (GW). Gray. Wet. Loose. Rock fragments. Some sand is green. 15' EOB	HNu = BG Collected sample from 13-15' Resistance @ 15' t=15/0
15						

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET / OF
GLO 33316.A0.00	MSB11	1 / 1

ROCK CORE LOG

PROJECT Mercury Marine Plant No. 1 LOCATION SW corner of bldg.

ELEVATION _____ DRILLING CONTRACTOR Layne - NW

DRILLING METHOD AND EQUIPMENT Brat - 22R, Air Rotary ORIENTATION _____

WATER LEVEL AND DATE _____ START 1/26/93 FINISH 1/26/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	CORE RUN, LENGTH, AND RECOVERY (%)	DISCONTINUITIES: RQD (%)	DISCONTINUITIES: FRACTURES PER FOOT	DISCONTINUITIES: DESCRIPTION (DEPTH, TYPE, ORIENTATION, ROUGHNESS, PLANARITY, INFILLING MATERIAL AND THICKNESS, SURFACE STAINING, AND TIGHTNESS)	GRAPHIC LOG	LITHOLOGY (ROCK TYPE, COLOR, MINERALOGY, TEXTURE, WEATHERING, HARDNESS, AND ROCK MASS CHARACTERISTICS)	COMMENTS (SIZE AND DEPTH OF CASING, FLUID LOSS, CORING RATE AND SMOOTHNESS, CAVING ROD DROPS, TEST RESULTS, ETC.)
19	10'/10' = 100%	57		RQD = Fair Fracturing - 0°, 90° A few vugs. Some Fe Ox staining.		Dolomite. Lt. gray. Fine grained. Hard. Slightly weathered. Bedding - Massive.	
20							
21							
22							
23							
24							
25							
26							
27							
28							

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page 1 of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Mercury Marine Plant No. 1	_ _ _ _ _ _ _	MSB12

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
CH2M HILL Laura Peterson / Project Hydrogeologist	01/26/93	01/26/93	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _	_ _ _ _ _ _ _	MW-5	777.43 Feet MSL	793.43 Feet MSL	6.0 inches

Boring Location
State Plane 477,680 N, 2,535,210 E S/C/N Lat _____
NW 1/4 of SE 1/4 of Section 34, T 10 N, R 21 E/W Long _____

Local Grid Location (If applicable)
☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
Ozaukee	46	Cedarburg

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				See attached soil boring log										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Laura Peterson Firm CH2M HILL

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

CH2MHILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
GL033316.AP.06	MSB12 (MW-5)	1	2

SOIL BORING LOG

PROJECT Mercury Marine Plant No. 1 LOCATION Near City Well No. 3 (inside fence)

ELEVATION _____ DRILLING CONTRACTOR Layne - NW

DRILLING METHOD AND EQUIPMENT Brat-22R, 4.25" HSA, 3-inch split spoon

WATER LEVELS _____ START 1/26/93 FINISH 1/26/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL	SAMPLE: NUMBER AND TYPE	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						HNu BG = 0.25 ppm
		Blind Drilled			Topsoil	Start drilling @ 1333
1	1-3		1.5		Clayey SILT (ML). DK. brown. Moist. very dense. Much fine sand. Some fine roots in upper 8". Lower 6" has some gravel. Some horizontal fractures.	HNu = BG
3	3-5		2		Silty Clay (CL). DK brown - Black. Moist. Stiff. 3'6" Silty Clay (CL). Lt. brown. Slightly moist. very stiff. Some gravel. Trace coarse sand. Trace orange mottling. Trace Lt. gray mottling.	HNu = BG. About 8" from tip, some coarser black sand (green-black?) along side of sample.
5	5-7		1.5		Same (CL). A couple of 2" rocks in lower foot.	HNu = BG
7	7-9		1.7		Same (CL). >18" Silt (ML). Lt. Brown. Moist. Dense. 2" Coarse sand seam with gravel at lower end - Very moist. 8'4" Silty Clay (CL). Lt. brown. Moist. Stiff. Much gravel. Some coarse sand.	HNu = BG. 2" rock about 1.1 ft. from tip.
9	9-11		1.7		Same (CL). slightly moist. Hard. Rock in tip. Much orange mottling. Some black speckles.	HNu = BG.
11	11-13		0.2		Clay (CL). Lt. Brown. Very Moist. Medium. Some silt. Much gravel.	
13	13-15		2		Same (CL). Grades into a gray Clay. 13'6" Clay (CL). Gray. Dry. Hard. Some Silt. A couple of hairline horizontal fractures.	HNu = BG.
15						

PROJECT NUMBER	BORING NUMBER MSB12 SHEET 2 OF 2

SOIL BORING LOG

PROJECT _____ LOCATION Near city well No. 3 (inside fenc

ELEVATION _____ DRILLING CONTRACTOR _____

DRILLING METHOD AND EQUIPMENT _____

WATER LEVELS _____ START 1/26/93 FINISH 1/26/93 LOGGER L. Peterson

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	15-17		1.5		Same (CL). Some horizontal hairline fractures. Somewhat siltier than above.	
17	17-19		1		Same (CL). 17'3" Clay (CL). Gray. Moist. very stiff. Some silt and sand. Much gravel. Some weathered rock fragments — (yellowish tan in color)	HNu = BG A well-graded sand seam about 8" from tip - WET
19	19-19.5		0.3		Sandy Clay (CL). Gray. Wet. 19.5' Medium. Some gravel. Dolomite rocks in tip. EOB @ 19.5'	HNu = BG Net resistance @ 19.5' Stop drilling @ 14-55