TETRA TECH

January 26, 2022

Mr. BJ LeRoy
Wisconsin Department of Natural Resources
Milwaukee Service Center
1027 W. St. Paul Ave
Milwaukee, WI 53233

Re: MW-112, MW-114 and MW-115 Groundwater Monitoring Well Abandonment Documentation
Waste Management Boundary Road Landfill
WDNR License No. 0011

Dear Mr. LeRoy:

On behalf of Waste Management, Cornerstone Environmental Group, LLC, a Tetra Tech Company (Tetra Tech) is submitting documentation to the Wisconsin Department of Natural Resources (WDNR) for the abandonment of three groundwater monitoring wells at the Boundary Road Landfill during August of 2021. The monitoring wells were abandoned as requested by the department.

The abandoned groundwater monitoring wells were constructed with 2-inch PVC and were installed in unconsolidated soils. Wells MW-112 and MW-115 were abandoned August 4, 2021 and Well MW-114 was abandoned on August 18, 2021 by Soils and Engineering Services, Inc. of Madison, Wisconsin.

The abandonment work was performed in accordance with the Wisconsin Administrative Code NR 141 and NR 507, under the direction of a Wisconsin Professional Geologist. A Well Filling & Sealing Report (WDNR Form 3300-005) has been prepared for each well and the previously completed well construction logs which show casing and boring depth for each well, are provided in Attachment A. Additionally, an updated Well Information Form (WDNR Form 4400-089) for the three abandoned wells is included in Attachment B.

Upon your review of this letter, please contact me at 608-346-1677 with any questions.

Sincerely,

CORNERSTONE ENVIRONMENTAL GROUP, LLC – A TETRA TECH COMPANY

Luke Specketer, P.G.
Geologist

Cornerstone – A Tetra Tech Company
8413 Excelsior Drive, Suite 160, Madison, WI 53717
Tel 877.294.9070 Fax 877.845.1456 tetratech.com

Mr. BJ LeRoy
January 26, 2022

Enclosures: Attachment A - WDNR Abandonment Forms and Well Construction Logs
Attachment B - WDNR Well Information Form

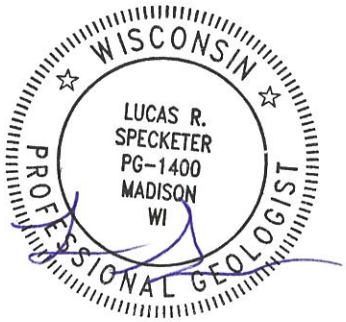
cc: BJ LeRoy – WDNR – electronic copy and hard copy
David Buser – WDNR – electronic copy
Ryan Baeten – Waste Management – electronic copy
Brett Coogan - Waste Management – electronic copy
Greg Konsionowski - Waste Management – electronic copy
Lee Daigle – Tetra Tech – electronic copy

CERTIFICATION

I, Lucas R Specketer, hereby certify that I am a licensed professional geologist in the State of Wisconsin in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code; that the preparation of this document has not involved any unprofessional conduct as detailed in ch. GHSS 5, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 500 to 538, Wis. Adm. Code.

Lucas R. Specketer
Signature

Geologist



TETRA TECH

Attachment A

WDNR Abandonment Forms and Well Construction Logs

Cornerstone – A Tetra Tech Company
8413 Excelsior Drive, Suite 160, Madison, WI 53717
Tel 877.294.9070 Fax 877.845.1456 tetratech.com

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☒ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Waukesha	NH079	N/A

Latitude / Longitude (see instructions): 43.182594 N / 88.862349 W
Format Code: ☒ DD ☐ DDM
Method Code: ☒ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
SE	NE	1	8 N	☒ E ☐ W

or Gov't Lot #

Well Street Address: W124 Boundary Road

Well City, Village or Town	Well ZIP Code
Menomonee Falls	53051

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
No longer monitored	NA

2. Facility / Owner Information

Facility Name: Boundary Road Landfill
Facility ID (FID or PWS): 26862940
License/Permit/Monitoring #: WDNR #0011
Original Well Owner: Waste Management
Present Well Owner: Waste Management
Mailing Address of Present Owner: W124 Boundary Road

City of Present Owner	State	ZIP Code
Menomonee Falls	WI	53051

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 10/11/1991

If a Well Construction Report is available, please attach.

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

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
20	2

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
8.5	9.8

Was well annular space grouted? ☒ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
5.5	5.8 TOC

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☐ No	☒ N/A
Did material settle after 24 hours?	☐ Yes	☐ No	☒ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☒ Concrete
☐ Sand-Cement (Concrete) Grout ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	20	40 pounds	

6. Comments

MW-112, total well depth was originally 20.0ft below ground surface. First the PVC well casing was filled with bentonite chips then the well casing, screen and protective steels pipe were removed with the drill rig. The empty hole was then filled with bentonite

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Tetra Tech		08/04/2021

Street or Route	Telephone Number
8413 Excelsior Drive, Suite 160	(630) 410-7725

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53717		8/20/2021

DNR Use Only

Date Received	Noted By

Comments

ate of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: Boundary Road Landfill

Local Grid Location of Well: _____ ft. ☐N ☐S _____ ft. ☐E ☐W

Well Name: MW112

acility License, Permit or Monitoring Number: _____

Grid Origin Location: Lat. _____ Long. _____ or

Wis. Unique Well Number / DNR Well Number: _____ / _____

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

St. Plane 437012 ft. N, 2516789 ft. E.

Date Well Installed: 10/11/91 (m m / d d / y y)

Distance Well Is From Waste/Source Boundary: 350 ft.

Section Location of Waste/Source: -- 1/4 of SE 1/4 of Sec. 1, T. 8 N, R. 21 ☒E ☐W

Well Installed By: (Person's Name and Firm) G. Prior-Warzyn Inc.

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

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

A. Protective pipe, top elevation: 757.22 ft. MSL

B. Well casing, top elevation: 757.07 ft. MSL

C. Land surface elevation: 755.0 ft. MSL

D. Surface seal, bottom: 749.5 ft. MSL or 5.5 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

Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis): _____

E. Bentonite seal, top: 749.5 ft. MSL or 5.5 ft.

F. Fine sand, top: --- ft. MSL or --- ft.

G. Filter pack, top: 747.9 ft. MSL or 7.1 ft.

H. Screen joint, top: 745.2 ft. MSL or 9.8 ft.

I. Well bottom: 735.0 ft. MSL or 20.0 ft.

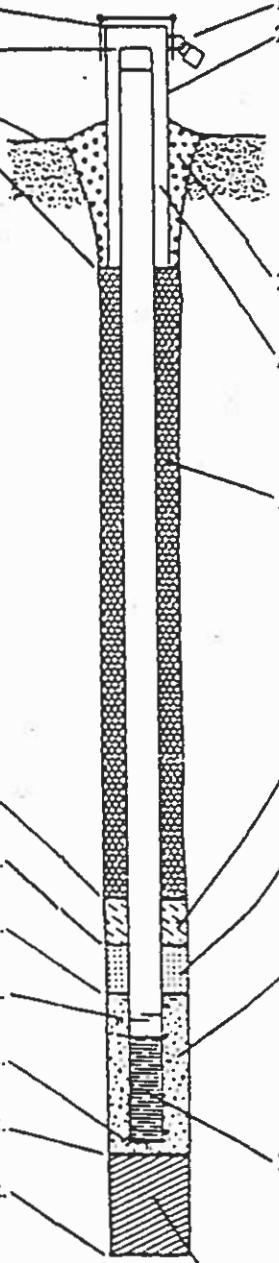
J. Filter pack, bottom: 735.0 ft. MSL or 20.0 ft.

K. Borehole, bottom: 735.0 ft. MSL or 20.0 ft.

L. Borehole, diameter: 8.5 in.

M. O.D. well casing: 2.40 in.

N. I.D. well casing: 2.00 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 3.8 in.
b. Length: 7.0 ft.
c. Material: Anodized aluminum — 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 ☒ __
#30 Flint sand

5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. 1.0 Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite pellets ☒ 32
c. _____ Other ☐ __

7. Fine sand material: Manufacturer, product name & mesh size
a. None
b. Volume added NA ft³

8. Filter pack material: Manufacturer, product name and mesh size
a. Red flint sand #30
b. Volume added 2.1 ft³

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

10. Screen material: Schedule 40 PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ __
b. Manufacturer Diedrich
c. Slot size: 0.010 in.
d. Slotted length: 9.5 ft.

11. Backfill material (below filter pack): None ☒ 14; Other ☐ __

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

Signature: [signature] Firm: Warzyn Inc.

Please complete both sides of this form and return to the appropriate DNR office listed at the top 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 $5000 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

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☒ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Waukesha	NH097	N/A

Latitude / Longitude (see instructions): 43.185013 N / 88.063038 W
Format Code: ☒ DD ☐ DDM
Method Code: ☒ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
SE	NE	1	8 N	☒ E ☐ W

or Gov't Lot #

Well Street Address: W124 Boundary Road

Well City, Village or Town	Well ZIP Code
Menomonee Falls	53051

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
No longer monitored	___ ___NA ___ ___ ___

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 10/07/1992

If a Well Construction Report is available, please attach.

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

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
17.3	2

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
8.5	8.0

Was well annular space grouted? ☒ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
5.0	6.3 - TOC

2. Facility / Owner Information

Facility Name: Boundary Road Landfill
Facility ID (FID or PWS): 26862940
License/Permit/Monitoring #: WDNR #0011
Original Well Owner: Waste Management
Present Well Owner: Waste Management
Mailing Address of Present Owner: W124 Boundary Road

City of Present Owner	State	ZIP Code
Menomonee Falls	WI	53051

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☐ No	☒ N/A
Did material settle after 24 hours?	☐ Yes	☐ No	☒ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☒ Concrete
☐ Sand-Cement (Concrete) Grout ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	17.3	45 pounds	

6. Comments

MW-114, total well depth was originally 18.1ft below ground surface. First the PVC well casing was filled with bentonite chips then the well casing, screen and protective steels pipe were removed with the drill rig. The empty hole was then filled with bentonite chips.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Tetra Tech		08/18/2021

Street or Route	Telephone Number
8413 Excelsior Drive, Suite 160	(630) 410-7725

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53717		8/20/2021

DNR Use Only

Date Received	Noted By

Comments:

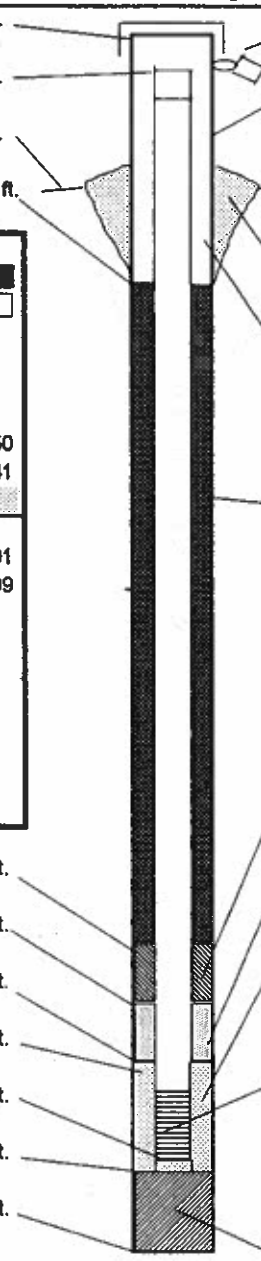
State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ■ Underground Tanks ☐ Other ____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 4-90

Facility/Project Name: Boundary Road Landfill	Local Grid Location of Well: ☐ N. ft. ☐ S. ft. ☐ E. ☐ W.	Well Name: MW114
Facility License, Permit or Monitoring Number:	Grid Origin Location: Lat. ____ Long. ____ or	Wis. Unique Well Number / DNR Well Number:
Type of Well: Water Table Observation Well ■ 11; Piezometer ☐ 12	St. Plane 437950 ft. N, 2516624 ft. E.	Date Well Installed: 10-07-92
Distance Well Is From Waste/Source Boundary: 420 ft.	Section Location of Waste/Source: -- 1/4 of SE 1/4 of Sec. 1, T.8N, R20 ■ E. ☐ W.	Well Installed By: (Person's Name and Firm): T. Karwoski - Warzyn Inc.
Is Well A Point of Enforcement Std. Application? ■ Yes ☐ No	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☐ Downgradient n ■ Not Known	



A. Protective pipe, top elevation 760.65 ft. MSL
B. Well casing, top elevation 760.47 ft. MSL
C. Land surface elevation 758.3 ft. MSL
D. Surface Seal, bottom 753.3 ft. MSL or 5.0 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):
City of Milwaukee

E. Bentonite seal, top 758.3 ft. MSL or 0.0 ft.
F. Fine sand, top 753.3 ft. MSL or 5.0 ft.
G. Filter pack, top 752.3 ft. MSL or 6.0 ft.
H. Screen joint, top 750.3 ft. MSL or 8.0 ft.
I. Well bottom 740.2 ft. MSL or 18.1 ft.
J. Filter pack, bottom 740.2 ft. MSL or 18.1 ft.
K. Borehole, bottom 738.3 ft. MSL or 20.0 ft.
L. Borehole, diameter 8.5 in.
M. O.D. well casing 2.40 in.
N. I.D. well casing 2.00 in.

1. Cap and lock? ■ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 3.8 in.
b. Length: 6.0 ft.
c. Material: Steel ☐ 04; Anodized Aluminum; 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 ☐; #30 Flint Sand Above Ground Surface; Other ■
5. Annular space seal: a. Granular Bentonite ■ 33
b. ____ Lbs/gal mud weight... Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight..... Bentonite slurry ☐ 31
d. ____ % Bentonite..... Bentonite-cement grout ☐ 50
e. 1.4 cu ft volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ■ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
c. 3/8" Bentonite Chips; Other ■
7. Fine sand material: Manufacturer, product name & mesh size
a. Badger Mining corporation Fine Mesh Silica
b. Volume a 0.25 cu ft
8. Filter pack material: Manufacturer, product name & mesh size
a. American Mat'ls Red Flint #30
b. Volume added 1.75 cu ft
9. Well casing: Flush threaded PVC schedule 40 ■ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: Sch 40 PVC
a. Screen type: Factory cut ■ 11; Continuous slot ☐ 01; Other ☐
b. Manufacturer Diedrich
c. Slot size: 0.01 in.
d. Slotted length: 10.1 ft.
11. Backfill material (below filter pack): None ☐ 14; Caved Soil; Other ■

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

Signature: Thomas J Karwoski | Firm: Warzyn Inc. | MWCONST

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 & 160, Wis. Stats., and ch. NR 141, Wis, Ad. 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 $5000 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. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☒ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Waukesha	NH098	N/A

Latitude / Longitude (see instructions): 43.185239 N / 88.065244 W
Format Code: ☒ DD ☐ DDM
Method Code: ☒ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
SE	NE	1	8 N	☒ E ☐ W

or Gov't Lot #

Well Street Address: W124 Boundary Road

Well City, Village or Town	Well ZIP Code
Menomonee Falls	53051

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
No longer monitored	___ ___NA ___ ___ ___

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 10/22/1992

If a Well Construction Report is available, please attach.

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

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
11.9	2

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
8.5	4.9

Was well annular space grouted? ☒ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
3.0	Dry

2. Facility / Owner Information

Facility Name: Boundary Road Landfill
Facility ID (FID or PWS): 26862940
License/Permit/Monitoring #: WDNR #0011
Original Well Owner: Waste Management
Present Well Owner: Waste Management
Mailing Address of Present Owner: W124 Boundary Road

City of Present Owner	State	ZIP Code
Menomonee Falls	WI	53051

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☐ Yes	☐	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☐ Yes	☐ No	☒ N/A
Did material settle after 24 hours?	☐ Yes	☐ No	☒ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	7.9	40 pounds	

6. Comments

MW-115, total well depth was originally 11.9ft below ground surface. Measured well depth was 7.9ft. The well casing was removed to 7.9ft and the protective steels pipe was removed with the drill rig. The hole was then filled with bentonite chips.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Tetra Tech		08/04/2021

Street or Route	Telephone Number
8413 Excelsior Drive, Suite 160	(630) 410-7725

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53717		8/22/2021

DNR Use Only

Date Received	Noted By

Comments:

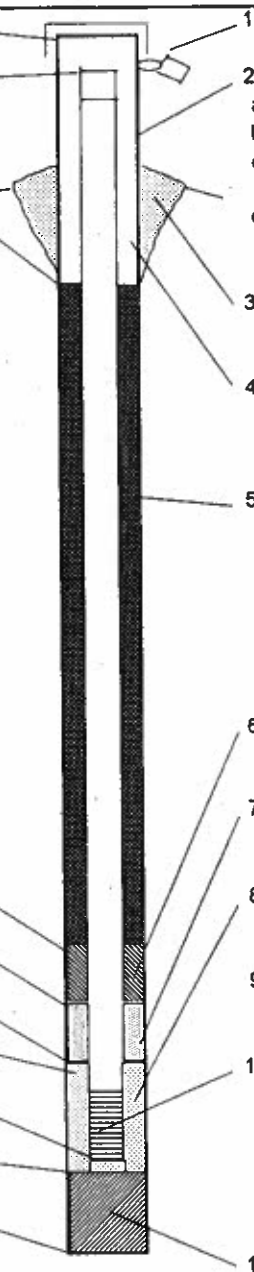
State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ■ Underground Tanks ☐ Other ☐

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 4-90

Facility/Project Name: Boundary Road Landfill	Local Grid Location of Well: ☐ N. ft. ☐ S. ft. ☐ E. ☐ W.	Well Name: MW115
Facility License, Permit or Monitoring Number:	Grid Origin Location: Lat. ___ Long. ___ or St. Plane 437977 ft. N, 2515987 ft. E.	Wis. Unique Well Number / DNR Well Number:
Type of Well: Water Table Observation Well ■ 11; Piezometer ☐ 12	Section Location of Waste/Source: -- 1/4 of SE 1/4 of Sec. 1, T.8N, R20 ■ E. ☐ W.	Date Well Installed: 10-22-92
Distance Well Is From Waste/Source Boundary: 400 ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient d ☐ Downgradient s ☐ Sidegradient n ■ Not Known	Well Installed By: (Person's Name and Firm): T. Karwoski - Warzyn Inc.
Is Well A Point of Enforcement Std. Application? ■ Yes ☐ No		



A. Protective pipe, top elevation 764.37 ft. MSL
B. Well casing, top elevation 764.25 ft. MSL
C. Land surface elevation 761.0 ft. MSL
D. Surface Seal, bottom 758.0 ft. MSL or 3.0 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):
City of Milwaukee

E. Bentonite seal, top 761.0 ft. MSL or 0.0 ft.
F. Fine sand, top 758.0 ft. MSL or 3.0 ft.
G. Filter pack, top 757.5 ft. MSL or 3.5 ft.
H. Screen joint, top 756.1 ft. MSL or 4.9 ft.
I. Well bottom 749.1 ft. MSL or 11.9 ft.
J. Filter pack, bottom 749.0 ft. MSL or 12.0 ft.
K. Borehole, bottom 749.0 ft. MSL or 12.0 ft.
L. Borehole, diameter 8.5 in.
M. O.D. well casing 2.40 in.
N. I.D. well casing 2.00 in.

1. Cap and lock? ■ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 3.8 in.
b. Length: 7.0 ft.
c. Material: Steel ☐ 04; Anodized Aluminum; Other ■
d. Additional protection? ☐ Yes ■ No
If yes, describe:
3. Surface seal: Bentonite ■ 3; Concrete ☐ 01; Other ☐
4. Material between well casing and protective pipe: Bentonite ■ 3; Annular space seal ☐; Other ☐
5. Annular space seal: a. Granular Bentonite ■ 3
b. ___ Lbs/gal mud weight... Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight..... Bentonite slurry ☐ 31
d. ___ % Bentonite..... Bentonite-cement grout ☐ 5
e. 0.7 cu ft volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ■ 0
6. Bentonite seal: a. Bentonite granules ☐ 3
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
c. Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Badger Mining corporation Fine Mesh Silica
b. Volume a 0.12 cu ft
8. Filter pack material: Manufacturer, product name & mesh size
a. American Mat'ls Red Flint #30
b. Volume added 2.0 cu ft
9. Well casing: Flush threaded PVC schedule 40 ■ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: Sch 40 PVC
a. Screen type: Factory cut ■ 11; Continuous slot ☐; Other ☐
b. Manufacturer Diedrich
c. Slot size: 0.01 in.
d. Slotted length: 7.0
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 knowlege.

Signature: Thomas J Karwoski | Firm: Warzyn Inc. | MWCON

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 & 160, Wis. Stats., and ch. NR 141, Wis, Ad. 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 $5000 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. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

TETRA TECH

Attachment B

WDNR Well Information Form

Cornerstone – A Tetra Tech Company
8413 Excelsior Drive, Suite 160, Madison, WI 53717
Tel 877.294.9070 Fax 877.845.1456 tetratech.com

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

GROUNDWATER MONITORING WELL AND POINT INFORMATION

Form 4400-089 (R 04/19)

Use the Groundwater Monitoring Well and Point Information Form to record identification, location and construction information for groundwater monitoring wells and any other sample "points," (e.g., gas probes, lysimeters, leachate collection systems, etc.), that are part of the environmental monitoring program. **NOTE:** Not all fields will be applicable to all point types. Only **one** coordinate reference system may be used per site. Allowable coordinate systems are listed below. (Coordinates for each system require a minimum number of digits as described below.) Local grid coordinates cannot be accepted. Identify the Coordinate Reference System, Datum and Method used.

Facility Name	County	Facility ID No. (FID)	License, Permit or Monitoring No.	Date	Completed By (Name and Firm)
Boundary Road Landfill	Waukesha	26862940	0011		Luke Specketer, Tetra Tech

DNR Point ID No.	Point Name[1]	WUWN[2] (if app.)	Type	Status	Gradient	Enf. Stds. Y/N.	Construction Date	Elevations msl (ft)		Well Casing			Well Screen Length (ft)	Well (Pt) Total Length[5] (ft)	Coordinates[6,7,8,9]	
								Ground Surface	Well Top (of casing)	Type	Diam[3] (in)	Length[4] (ft)			Y / Lat / Northing	X / Long / Easting
053	MW-112	NH079	11	P	N	No	10/11/1991	755.0	757.07	P	2	11.87	9.5	21.37	437012	2516789
089	MW-114	NH097	11	P	N	No	10/07/1992	758.3	760.47	P	2	10.17	10.1	20.27	437950	2516624
091	MW-115	NH098	11	P	N	No	10/22/1992	761.0	764.25	P	2	8.15	7.0	15.15	437977	2515967

[1]Include previous name as well if one exists.

[2]Wisconsin Unique Well Number.

[3]Well Casing Diameter measures inside diameter.

[4]Length of well casing from top of casing to top of screen.

[5]Total length of well from top of casing to bottom of well. *Should equal sum of well casing length and screen length.*

[6]Identify Coordinate Reference System (only one system may be used per site):

- ◯ Lat/Long (Decimal Degrees) WGS84 (min. 8 digits total w/ 6 right of decimal, e.g., -89.123456)

State Plane (min. 2 digits right of decimal)

- ◯ North
- ◯ Central
- ⊗ South
- ◯ Wisc. Transverse Mercator WTM91 (min. 2 digits right of decimal)
- ◯ Local County Coord. Sys. (WISCRS) (min. digits vary by county)

[7]Identify Projection Datum and units*

- ◯ NAD83
- ⊗ NAD27
- ◯ NAD83(91)
- ◯ NAD83(11)
- ◯ Other Describe: _____

Units used for State Plane, WTM or County Coord. Sys:

- ◯ meters
- ◉ feet

*NOTE: A datum and units are not required for Lat/Long

[8]Identify the Method Used to Determine the Coordinates:

- ⊗ GPS001-Survey grade
- ◯ GPS003-Mapping grade/real-time differential correction
- ◯ GPS004-Mapping grade/post processing
- ◯ SRV001-Classical terrestrial surveying techniques
- ◯ OTH001 (Other), Describe:

[9]Y / Lat / Northing describe the vertical axis.

X / Long / Easting describe the horizontal axis.

(include "-" where needed, e.g., -89.123456)

Remarks:
MW-112 and MW-115 abandoned on 8/4/2021, MW-114 abandoned on 8/18/2021

Completion of this form is mandatory under chs. 281, 289 and 292, Wis. Stats., and ss. NR 110.25, NR 507.14 and NR 716.15, Wis. Admin. Code