Joslin, Richard R - DNR

From: Weimer, Ashley <Ashley.Weimer@tetratech.com>
Sent: Monday, March 13, 2017 10:50 AM
To: Joslin, Richard R - DNR
Subject: RE: Ripon FF/NN Landfill
Attachments: p-117 well development.pdf; p-117 soil boring.pdf; p-117 well construction.pdf

Here you go. Let me know if there is anything else that you need or missing! Thanks!

From: Joslin, Richard R - DNR [mailto:Richard.Joslin@wisconsin.gov]
Sent: Monday, March 13, 2017 10:41 AM
To: Weimer, Ashley <Ashley.Weimer@tetratech.com>
Subject: RE: Ripon FF/NN Landfill

That would be great.

Thanks again Ashley.

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Richard R. Joslin
Hydrogeologist – Remediation & Redevelopment Bureau
Wisconsin Department of Natural Resources
2984 Shawano Avenue, Green Bay WI 54313-6727
Phone: (920) 662-5165
Cell Phone: (920) 360-4291
Richard.Joslin@Wisconsin.gov

dnr.wi.gov

From: Weimer, Ashley [mailto:Ashley.Weimer@tetratech.com]
Sent: Monday, March 13, 2017 10:40 AM
To: Joslin, Richard R - DNR
Subject: RE: Ripon FF/NN Landfill

You can assign it, PG226.

Would you like me to enter it in on the logs and send them over too?

From: Joslin, Richard R - DNR [mailto:Richard.Joslin@wisconsin.gov]
Sent: Friday, March 10, 2017 9:18 AM
To: Weimer, Ashley <Ashley.Weimer@tetratech.com>
Subject: RE: Ripon FF/NN Landfill

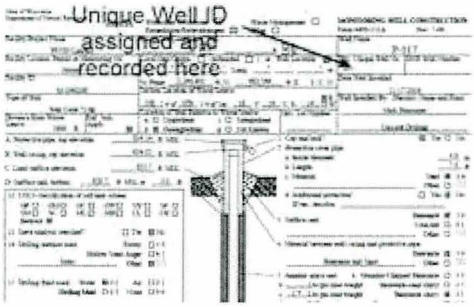
Ashley

Thanks for the quick response, but the DNR well ID is the number used for keeping track of the well in GEMs for each landfill. For example, the well was given a DNR point ID of 144, but that is specific to the landfill. Other landfills can have wells with a point ID of 144 as well.

What the Department needs is the Wisconsin Unique Well Number (WUWN; also referred to as the unique well ID). The unique well ID should be a number that has two letters and three numbers (e.g., BS549). Every well that is installed in the state of Wisconsin should have a unique well ID. I know when I installed wells in the past (as a consultant) I put the sticker with the unique well ID on the well (or protective top) and recorded the alphanumeric ID on the boring log, well construction, and well development forms.

When the Department went to set up P-117 in GEMS we looked on the boring log, well construction, and well development forms and it was blank. Not sure if one was assigned to the well and not recorded or if it was inadvertently missed.

Here is the boring log and well construction form where the unique well ID is recorded (blank for P-117).



Sorry to be a pain but we will need this in order to get things right in GEMS. Let me know what you find or if you want to discuss give me a call.

Thanks and have a great weekend!

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Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Richard R. Joslin
Hydrogeologist – Remediation & Redevelopment Bureau
Wisconsin Department of Natural Resources
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Phone: (920) 662-5165
Cell Phone: (920) 360-4291
Richard.Joslin@Wisconsin.gov


dnr.wi.gov

From: Weimer, Ashley [mailto:Ashley.Weimer@tetratech.com]
Sent: Monday, March 06, 2017 1:13 PM
To: Joslin, Richard R - DNR
Subject: Ripon FF/NN Landfill

Rick,

Sorry, I must have sent the draft GEMs data (without the DNR well ID assigned). Attached is the final copy with P-117 ID as 144. Let me know if you have any further questions. Thanks!

Ashley A. Weimer | Senior Project Geologist
Office: 262.792.1282 ext. 226 | FAX: 262.792.1310 | Mobile: 262.719.5242
ashley.weimer@tetratech.com

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
FF/NN Landfill	000467	P-117

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mark Biermaier Cascade Drilling	11/16/2016	11/17/2016	vibratory

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PG226	144	P-117	817.8 Feet MSL	831.7 Feet MSL	6.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 2,264,401 N, 683,564 E S/C/N
NE 1/4 of NW 1/4 of Section 18, T 16 N, R 14 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
431048200	Fond Du Lac	20	Town of Ripon

Sample Number and Type	Sample Length Att. & 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: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	60 31.2		1	FILL. Very dark brown, medium grained gravel fill. Gravel pieces are red, angular. Wet. No odor.	GP			3.3						
			2	TOPSOIL. Very dark brown topsoil with little fine to medium grained gravel fill and roots. Wet to moist. No odor.										
			3	POORLY GRADED SAND. Dark yellowish brown poorly graded, fine grained sand with trace silt and trace coarse grained sand. Moist. No odor.	SP									
			4											
			5	GRAVELLY SILT. Yellowish brown silt to very fine grained sand with gravel. Dry. No odor.	ML									
	24 31.2		6	SILT WITH CLAY. Dark yellowish brown silt with clay. Dry to moist. No odor.	CL-ML			0.2						
			7	POORLY GRADED SAND. Reddish brown very fine grained sand with few silt. Dry. Loose. No odor.	SP									
	96 36		8	SAND. Reddish brown very fine grained sand with few silt, and few fine to coarse grained subrounded gravel. Dry. Loose. No odor.				0.2						
			9		SP									
			10											
			11											
			12											

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

Signature	Firm	Tel:
Ashley A. Weimer	Tetra Tech	Fax:

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number P-117 Use only as an attachment to Form 4400-122. Page 2 of 9

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			13	SAND. Reddish brown very fine grained sand with few silt, and few fine to coarse grained subrounded gravel. Dry. Loose. No odor. *(continued)*	SP									
			14											
	120		15	POORLY GRADED SAND. Dark yellowish brown to reddish brown poorly graded fine grained sand with trace silt and trace fine to very coarse grained gravel. Wet. No odor.				0.2						
	36		16											
			17		SP									
			18											
			19	WELL GRADED GRAVEL. Dark yellowish brown, fine grained sand to medium grained gravel. Wet. No odor.	GW									
			20	POORLY GRADED SAND. Pale brown to olive brown poorly graded fine to medium grained sand. Wet. No odor. Cobble at 19.8 ft bgs.				0.7						
			21											
			22											
			23		SP									
			24											
	60		25					0.5						
	42		26											
			27	WELL GRADED SANDY GRAVEL. Olive brown, subrounded, well graded gravel (fine grained sand to coarse grained gravel). Wet. No odor.	GW									
			28	WELL GRADED SANDY GRAVEL. Very dark brown, subrounded, well graded gravel (fine grained sand to coarse grained gravel). Wet. No odor.	GW									
			29	POORLY GRADED SAND. Grayish brown, poorly graded fine grained sand. Wet. NO odor.	SP									
	60		30	POORLY GRADED SAND. Light olive brown to yellowish brown, poorly graded coarse grained sand with trace fine to medium grained gravel. Wet. No odor.	SP			0.9						
	44.4		31											
			32											

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number P-117 Use only as an attachment to Form 4400-122. Page 3 of 9

Sample: Number and Type	Sample: Length Att. & 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: Compressive Strength	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			33	POORLY GRADED SAND. Light brownish gray, poorly graded fine to medium grained sand with trace coarse grained sand and trace fine grained gravel. Wet to moist. No odor. *(continued)*	SP									
			34											
			35											
	60 30		36	POORLY GRADED SAND. Grayish brown, poorly graded fine to medium grained sand. Moist to wet. No odor. Loose.				0.8						
			37											
			38		SP									
			39											
	60 36		40					0.6						
			41											
			42	POORLY GRADED SAND. Pinkish gray to gray, poorly graded very fine grained sand with trace silt. Moist to wet. No odor.										
			43											
			44											
	60 44.4		45		SP			0.5						
			46											
			47											
			48											
			49	SILT WITH CLAY. Pinkish gray to gray silt with clay. Wet. No odor.										
			50		CL-ML									
	60 44.4		51					0.8						
			52		SP									

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SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number P-117 Use only as an attachment to Form 4400-122. Page 4 of 9

Sample Number and Type	Sample Length Att. & 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: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			53	POORLY GRADED SAND. Pinkish gray to gray, poorly graded fine to very fine grained sand. Moist to wet. No odor. *(continued)*	SP									
			54	POORLY GRADED SAND. Pinkish gray to gray, poorly graded medium grained sand. Moist to wet. No odor.	SP									
	60 60		55	POORLY GRADED SAND. Pinkish gray to gray, poorly graded very fine grained sand. Moist to wet. No odor.				0.6						
			56		SP									
			57											
			58											
			59	SILT WITH CLAY. Gray to pinkish gray, silt with clay and trace very fine grained sand. Moist to wet. Dense. No odor.										
	60 52.8		60		CL-ML			0.4						
			61											
			62	SILTY CLAY. Gray to pinkish gray, silty clay and trace very fine grained sand. Moist to wet. Dense. No odor.	CL-ML									
			63	SILT. Gray to pinkish gray, silt with trace very fine grained sand. Moist to wet. No odor.	ML									
			64	POORLY GRADED SAND. Gray to pinkish gray, poorly graded fine grained sand. Moist. No odor.										
	60 44.4		65					0.5						
			66											
			67											
			68		SP									
			69											
	60 40.8		70					0.4						
			71											
			72											

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SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number P-117 Use only as an attachment to Form 4400-122. Page 5 of 9

Sample Number and Type	Sample Length Att. & 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: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			73	POORLY GRADED SAND. Gray to pinkish gray, poorly graded fine grained sand. Moist. No odor. *(continued)*										
			74											
	60 72		75		SP			0.7						
			76											
			77											
			78											
			79	WELL GRADED SAND. Reddish gray, well graded fine to coarse grained sand. Moist to wet. No odor.	SW									
	60 57.6		80	POORLY GRADED SAND. Gray, poorly graded coarse grained sand with few fine grained gravel. Wet. No odor. Cobble 80.55-80.85 ft bgs.	SP			0.6						
			81											
			82	SILTY CLAY. Gray mottled red, silty clay. Low plasticity. Moist. Dense. No odor.										
			83		CL-ML									
			84											
			85	SILTY CLAY. Gray mottled red, silty clay (varying amounts of silt) Low to moderate plasticity. Moist. Dense. No odor.				0.6						
	60 48		86											
			87											
			88											
			89		CL-ML									
			90					0.4						
	60 45.6		91											
			92											

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SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number P-117 Use only as an attachment to Form 4400-122. Page 6 of 9

Sample Number and Type	Sample Length Att. & 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: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			93	SILTY CLAY. Gray mottled red, silty clay (varying amounts of silt) Low to moderate plasticity. Moist. Dense. No odor. *(continued)*	CL-ML									
			94											
	60 45.6		95	WELL GRADED SAND. Brownish gray, well graded sand, fine to coarse grained sand. Wet. Loose. No odor.	SW			0.9						
			96	WELL GRADED SANDY GRAVEL. Browinish gray, coarse grained gravel to fine grained sand. Gravel is subangular to subrounded. Wet. Loose. No odor.	GW									
			97											
			98											
			99	COBBLES. Red, subangular to subrounded cobbles with little gravel (medium to very coarse grained gravel). Wet. No odor.	GP									
	60 33.6		100	POORLY GRADED SAND. Grayish brown mottled red, poorly graded, medium grained sand. Wet. Loose. No odor.	SP			1.0						
			101											
			102											
			103	POORLY GRADED SAND. Grayish brown mottled red, poorly graded, fine grained sand. Wet. Loose. No odor.	SP									
			104	POORLY GRADED SAND. Brown mottled red, poorly graded, very fine grained sand. Wet. Loose. No odor.	SP									
	120 0		105	NO RECOVERY										
			106											
			107											
			108											
			109											
			110											
			111											
			112											

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SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number P-117 Use only as an attachment to Form 4400-122. Page 7 of 9

Sample Number and Type	Sample Length Att. & 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: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			113	NO RECOVERY *(continued)*										
			114											
			115											
	240 84		116	POORLY GRADED SAND. Grayish brown, poorly graded, fine grained sand. Wet. Loose. No odor.	SP			0.3						
			117	GRAVELLY SAND. Grayish brown, gravelly sand with little cobbles (grain size ranged from cobbles to fine grained sand). Wet. Loose. No odor.										
			118											
			119											
			120					0.3						
			121		GW									
			122											
			123											
			124											
			125					0.3						
			126	GRAVELLY SAND. Grayish brown, gravelly sand (grain size ranged from coarse grained gravel to fine grained sand). Wet. Loose. No odor.										
			127		GW									
			128											
			129	POORLY GRADED SAND. Brownish gray to reddish gray, poorly graded, medium grained sand. Wet. Loose. No odor.										
			130		SP			0.4						
			131											
			132											

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SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number P-117 Use only as an attachment to Form 4400-122. Page 8 of 9

Sample Number and Type	Sample Length Att. & 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: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			133	POORLY GRADED SAND. Brownish gray to reddish gray, poorly graded, medium grained sand. Wet. Loose. No odor. *(continued)*										
			134											
			135					0.4						
	240 76.8		136		SP									
			137											
			138											
			139											
			140					0.6						
			141	GRAVELLY SAND. Grayish brown, gravelly sand with little cobbles (grain size ranged from cobbles to fine grained sand). Wet. Loose. No odor.										
			142											
			143											
			144											
			145					0.3						
			146		GW									
			147											
			148											
			149											
			150					0.3						
			151											
			152											

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SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number P-117 Use only as an attachment to Form 4400-122. Page 9 of 9

Sample Number and Type	Sample Length Att. & 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: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			153	SAND WITH GRAVEL. Reddish yellow to pink sand with coarse grained gravel (pieces of weathered bedrock) and little clay. Wet. Loose. No odor. *(continued)*	SW									
			154		SW									
			155											
	132 132		156	BEDROCK. Red sandstone. Mostly weathered bedrock (not very competent). Some clay within the matrix. Fine grained, well sorted/poorly graded sand.				0.5						
			157	BEDROCK. Red sandstone (color changed to yellowish brown at ~164 ft bgs). Not competent throughout. Some clay within the matrix. Fine grained, well sorted/poorly graded sand. More competent at ~158.5										
			158											
			159											
			160					3.1						
			161											
			162											
			163											
			164											
			165											
			166					0.3						

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: FF/NN Landfill	Local Grid Location of Well: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: P-117
Facility License, Permit or Monitoring No.: 000467	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: PG226 / DNR Well Number: 144
Facility ID: 431048200	St. Plane 2,264,401 ft. N, 683,564 ft. E. S/C/N	Date Well Installed: 11/17/2016
Type of Well: Well Code 72/dp	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 18, T. 16 N, R. 14 ☒E ☐W	Well Installed By: (Person's Name and Firm): Mark Biermaier / Cascade Drilling
Distance from Waste/Source: 1800 ft. Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	Gov. Lot Number:

A. Protective pipe, top elevation: 834.14 ft. MSL
B. Well casing, top elevation: 834.02 ft. MSL
C. Land surface elevation: 831.7 ft. MSL
D. Surface seal, bottom: 828.7 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 ☐ 5 0; Hollow Stem Auger ☐ 4 1; Sonic; Other ☒

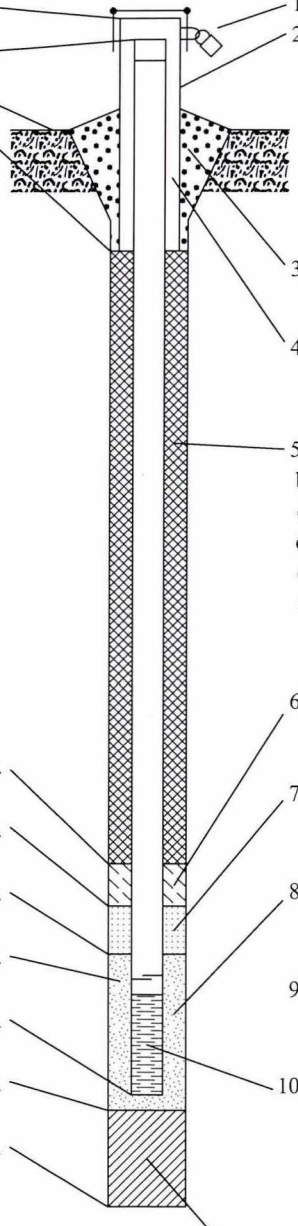
15. Drilling fluid used: Water ☒ 0 2; Air ☐ 0 1; Drilling Mud ☐ 0 3; None ☐ 9 9

16. Drilling additives used? ☐ Yes ☒ No

Describe

17. Source of water (attach analysis, if required): City of Ripon

E. Bentonite seal, top: 685.7 ft. MSL or 146.0 ft.
F. Fine sand, top: 678.7 ft. MSL or 153.0 ft.
G. Filter pack, top: 676.2 ft. MSL or 155.5 ft.
H. Screen joint, top: 673.7 ft. MSL or 158.0 ft.
I. Well bottom: 668.7 ft. MSL or 163.0 ft.
J. Filter pack, bottom: 667.2 ft. MSL or 164.5 ft.
K. Borehole, bottom: 665.7 ft. MSL or 166.0 ft.
L. Borehole, diameter: 6.0 in.
M. O.D. well casing: 2.37 in.
N. I.D. well casing: 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 7.0 ft.
c. Material: Steel ☒ 0 4; Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe:
3. Surface seal: Bentonite ☒ 3 0; Concrete ☐ 0 1; Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 3 0; Bentonite and Sand; Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. 3.4 Lbs/gal mud weight . . . Bentonite slurry ☒ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____Ft³ volume added for any of the above
f. How installed: Tremie ☐ 0 1; Tremie pumped ☒ 0 2; Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Premier Silica
b. Volume added 0.375 ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint
b. Volume added 1 ft³
9. Well casing: Flush threaded PVC schedule 40 ☐ 2 3; Flush threaded PVC schedule 80 ☒ 2 4; Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1; Continuous slot ☐ 0 1; Other ☐
b. Manufacturer
c. Slot size: 0.010 in.
d. Slotted length: 5.0 ft.
11. Backfill material (below filter pack): None ☒ 1 4; Slough; Other ☐

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

Signature: Ashley A. Weimer | Firm: Tetra Tech | Tel: | Fax:

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	County	Well Name
FF/NN Landfill	Fond Du Lac	P-117

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
000467	20	PG226	144

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed, and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☒	51
pumped slowly	☐	50
other Surged Pump	☒	

3. Time spent developing well 150 min.

4. Depth of well (from top of well casing) 165.0 ft.

5. Inside diameter of well 1.94 in.

6. Volume of water in filter pack and well casing 27.2 gal.

7. Volume of water removed from well 275.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added NA

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	13.83 ft.	13.88 ft.
Date b.	11/16/2016	11/16/2016
Time c.	☒ a.m. 11:15 ☐ p.m.	☐ a.m. 01:45 ☒ p.m.
12. Sediment in well bottom	inches	inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe) Reddish Brown	Clear ☒ 20 Turbid ☐ 25 (Describe) Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Mark Biermaier
Cascade Drilling

17. Additional comments on development:
Water level probe on site at the time of development was not long enough to reach the bottom of the well. Sediment thickness was not measured before development.

Facility Address or Owner/Responsible Party Address

Name: FF/NN Landfill Group

Firm:

Street:

City/State/Zip:

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

Signature: Ashley A. Weimer

Print Name: Ashley Weimer

Firm: Tetra Tech

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

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

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 5-92

Page 1 of 4

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
FF/NN LANDFILL		MW-112

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
BART LONGYEAR / PAUL DICKINSON	11/26/96	11/26/96	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-112	____ Feet MSL	____ Feet MSL	8.0 inches

Boring Location
State Plane ____ N, ____ E S/C/N
____ 1/4 of ____ 1/4 of Section ____, T ____ N, R ____ E/W
Lat ° ' "
Long ° ' "

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

County	DNR County Code	Civil Town/City/ or Village
FOND DU LAC	20	RIPON

Sample Number and Type	Sample Length Att. & 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: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–12	0.0-8.0: LEAN CLAY (CL) About 95% fines, and 5% fine grained Sand Brown (10YR 5/4) moist, medium plasticity. Thin gravel seam encountered Around 5.5 feet.	CL					M				
				8.0-10.0: Poorly Graded Sand (SP) About 95% fine grained Sand, And 5% fines, Brown (10YR 5/4), moist, nonplastic.	SP					M				
					MH					M				

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

Signature

Firm HYDRO-SEARCH
175 N. CORPORATE DR. SUITE 100 BROOKFIELD, WI

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.

Sample Number and Type	Sample Length Att. & 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: Compressive Strength	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			13	10.0-15.0: Gravelly Elastic Silt (MH), About 60% fines, 30% Coarse gravel, And 10% fine grained Sand Brown (10YR5/4), moist, nonplastic	MH					M				
			14											
			15											
			16											
			17											
			18	15.0-45.0: Silty Sand with Cobbles (SM) About 40% fine grained Sand, 40% Cobbles, And 20% fines, Brown (10YR5/4), moist, nonplastic	SM					M				
			19											
			20											
			21											
			22											
			23											
			24											
			25											
			26											
			27											
			28											
			29		SM					M				
			30											
			31											
			32											

Sample Number and Type	Sample Length Att. & 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: Compressive Strength	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			33											
			34											
			35											
			36											
			37											
			38		SM					M				
			39											
			40											
			41											
			42											
			43											
			44											
			45	45.0 - 52.0: Poorly Graded Sand (SP) About 95% fine grained Sand, and 5% fine gravel, Brown (10YR 5/4), Moist, nonplastic.									
			46											
			47											
			48											
			49		SP					M				
			50											
1	70%	10,12 13,15	51		SP					M				
			52							W				

Sample Number and Type	Sample Length Att. & 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: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
2	20%	15,23 12,29	53	52.0-54.0: Poorly Graded Gravel with Sand (GP) About 80% fine gravel, and 20% fine to coarse grained Sand, Brown (10YR 5/4), wet, nonplastic.	GP					M				
			54											
3	70%	4,5 7,23	55		SP					W				
			56											
4	30%	2,4 5,6	57	54.0-58.0: Poorly Graded Sand (SP) About 95% fine grained Sand, And 5% fine gravel, Brown (10YR 5/4), Wet, Nonplast. BLACK Layer Encountered from 55.0 to 55.1 feet.	SP					W				
			58											
			59											
			60											
				EoB: 59.0										