

Appendix K

Soil Boring Logs within 300 feet of Proposed Expansion

BORING NO. TB-4

CENTRAL WISCONSIN

SURFACE ELEV. 1232.9

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S BLOWS ON SAMPLER A (140 lbs., 2" O.D.) H - FALLING 30") P			CLASSIFICATION AND REMARKS		M U N	U S C	GEOLOGY	D E P T H	ELEV. (ft.)
#	6"	6"	12"						
1	1	3		Clay, Brown, with Silt	10 YR 5/3	CL	LOESS	-	1230.9
	3	4		-2.0'-				-	
2	3	4		Clay, Red-Brown to Brown, with Trace Sand and Gravel	5 YR 4/4	CL	RESIDUUM	2.5	
	8	11						-	
3	20	17			7.5 YR 4/6	CL		5	
	10	19						-	
4	18	15		-7.0'-				-	1225.9
	25	40		Sand, Yellow, with Gravel, Clay	7.5 YR 7/6	SC		7.5	
				-8.0'-				-	1224.9
5	12	11		Clay, Dark Brown, with Sand and Gravel	7.5 YR 3/4	CL		-	
	10	25						10	
6	2	5		-12.0'-				-	1220.9
	5	6		Weathered Dolomite	2.5 YR 8/6		WEATHERED DOLOMITE	12.5	
7	17	19						-	
	19	20						-	
	27	80		-15.0'-				15	1217.9
				E.O.B.				-	

KEY

USC = UNIFIED SOIL CLASSIFICATION

MUN = MUNSELL SOIL COLOR

PROJECT Vernon County Landfill

DATE(S) DRILLED April 28, 1988

LOCATION Klahn Site

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS Wisconsin Test Drilling

JOB NO. 57786

DATE June 3, 1988

BORING NO. TB-5

SURFACE ELEV. 1221.0

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S BLOWS ON SAMPLER A (140 lbs., 2" O.D. M - FALLING 30") P # 6" 6" 12"			CLASSIFICATION AND REMARKS	M U N	U S C	GEOLOGY	D E P T H	ELEV. (ft.)
1	1	1	Silt, Brown, with Clay	10 YR		LOESS	-	1219.0
	2	2	-2.0'	4/3			-	
2	6	5	Clay, Red-Brown, with Trace	5 YR	CL	RESIDUUM	-	1213.5
	7	8	Sand and Gravel	4/4			-	
3	2	5		2.5 YR			5	1211.0
	8	10		3/4			-	
4	3	5	-7.5'				-	1207.0
	8	15	Sand, Red-Brown, with Clay and	5 YR	SC		-	
5	5	7	Occasional Gravel	5/8			-	1199.0
	13	15	-10.0'				10	
6	8	9	Clay, Red-Brown, with Sand	7.5 YR	CL		-	1196.0
	11	13	and Trace Gravel	4/6			-	
7	5	8		10 YR			-	1199.0
	11	13	-14.0'	7/8			-	
8	8	12	Clay, Red-Brown, with Dolomite	5 YR	CL		15	1199.0
	10	7	Fragments, Mottles (2.5 YR 2/0)	4/4			-	
9	10	12					-	1199.0
	18	34					-	
10	5	8					-	1199.0
	10	14	-22.0'	10 YR			20	
11	8	10		7/8			-	1196.0
	14	11	Sand, with Dolomite Fragments	10 YR	SM	WEATHERED	-	
12	32	36	and Silt	7/6		DOLOMITE	-	1196.0
	27	57	-25.0'				25	
13	32	100	E.O.B.				-	

KEY

USC = UNIFIED SOIL CLASSIFICATION

MUN = MUNSELL SOIL COLOR

PROJECT Vernon County Landfill

DATE(S) DRILLED April 27, 1988

LOCATION Klahn Site

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS Wisconsin Test Drilling

JOB NO. 57786

DATE June 3, 1988

BORING NO. TB-6

SURFACE ELEV. 1218.7

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S BLOWS ON SAMPLER A (140 lbs., 2" O.D. M - FALLING 30") P			CLASSIFICATION AND REMARKS	M U N	U S C	GEOLOGY	D E P T H	ELEV. (ft.)
#	6"	6"	12"					
1	2	2	Clay, Brown, with Silt	10 YR	CL	LOESS	-	1217.7
	2	4	1.0' Clay, Red-Brown, with Trace Sand	4/3	CL	RESIDUUM	-	
2	3	6		5 YR			2.5	1214.7
	7	14		3/2			-	
3	4	5	4.0' Clay, Brown, with Trace Gravel	7.5 YR	CL		-	1212.7
	9	12		4/4			5	
4	10	0	6.0' Clay, Red-Brown, with Sand and Occasional Gravel	5 YR	CL		-	1210.7
	10	12		4/4			7.5	
5	5	5	8.0' Clay, Red-Brown, with Sand and Trace Gravel	5 YR	CL		-	1205.2
				3/3			-	
6	9	21		5 YR			10	1202.2
	7	10		4/8			-	
7	18	19		2.5 YR			-	1205.2
	21	8		4/8			-	
8	5	6	13.5' Weathered Dolomite (No Recovery)	7.5 YR		WEATHERED DOLOMITE	12.5	1202.2
	7	11		6/8			15	
9	100		16.5' E.O.B.				-	

KEY

USC = UNIFIED SOIL CLASSIFICATION

MUN = MUNSELL SOIL COLOR

PROJECT Vernon County Landfill

DATE(S) DRILLED April 26, 1988

LOCATION Klahn Site

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS Wisconsin Test Drilling

JOB NO. 57786

DATE June 3, 1988

BORING NO. TB-7

SURFACE ELEV. 1245.38

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S BLOWS ON SAMPLER A (140 lbs., 2" O.D. M - FALLING 30") P				CLASSIFICATION AND REMARKS		M U N	U S C	GEOLOGY	D E P T H	ELEV. (ft.)
#	6"	6"	12"							
1	3	4		Clay, Brown, with Trace Sand and Silt		10 YR		LOESS	-	
	4	5				5/3	CL		-	
2	4	6				7.5 YR			-	
	10	10				4/4			-	
3	3	5				10 YR			5	
	6	6		Clay, Red-Yellow, with Weathered Dolomite Fragments		3/3		RESIDUUM	-	
4	1	2				7.5 YR			-	
	1	6				4/2			-	
5	4	9				5 YR			-	
	9	11				4/6			-	
6	4	9		Clay, Brown, with Weathered Dolomite Fragments		7.5 YR		CL	10	1235.28
	9	12				6/8			-	
7	9	11				5 YR			-	
	12	10				4/3			-	
8	8	9				10 YR	CL		-	
	13	12		Sand, Brown, with Clay		6/4		SC	-	
9	5	11				5 Y			-	
	16	19				8/1			-	
10	8	18				10 YR			20	1224.28
	30	24				4/3			-	
11	10	26		Clay, Red-Brown		7.5 YR	CL		-	1223.28
	26	21				7/8			-	
12	8	9				5 YR			-	
	9	11				4/4			-	
13	8	9				5 YR			25	
	15	17		Mottles (10 YR 8/6)		4/4			-	
14	6	7				5 YR			-	
	7	10				5/8			-	
15	4	7				10 YR			-	
	19	16				4/4			-	
16	9	62		Clay, Red-Brown, with Trace Gravel		7.5 YR		CL	30	1214.28
	27	106				4/4			-	
17	43	26				2.5 YR			-	
	14	18				4/6			-	

KEY

USC = UNIFIED SOIL CLASSIFICATION

MUN = MUNSELL SOIL COLOR

PROJECT Vernon County Landfill

DATE(S) DRILLED April 26, 1988

LOCATION Klahn Site

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS Wisconsin Test Drilling

JOB NO. 57786

DATE June 3, 1988

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

[illegible]

KEY

USC = UNIFIED SOIL CLASSIFICATION

MUN = MUNSELL SOIL COLOR

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 57786

DATE June 3, 1988

BORING NO. TB-8

SURFACE ELEV. 1249.42

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

BLOWS ON SAMPLER (140 lbs., 2" O.D. - FALLING 30")			CLASSIFICATION AND REMARKS	M U N	U S C	GEOLOGY	D E P T H	ELEV. (ft.)
#	6"	6"						
1	2	2	Silt, Brown, with Clay	10 YR	CL	LOESS	-	1242.92
	3	3		3/2			-	
2	5	7		7.5 YR			-	
	7	7	6.5'	4/4	SC	RESIDUUM	5	1242.92
3	3	5		2.5 YR			-	
	11	10		5/8			-	
4	5	8	Sand, Red, with Silt and Clay	7.5 YR	SC	RESIDUUM	-	1237.42
	12	14		7/8			10	
5	8	10		5 YR			-	
	13	11	12.0'	6/8	SC	RESIDUUM	-	1237.42
6	5	6		7.5 YR			-	
	7	8		7/8			-	
7	3	5	Weathered Dolomite, with Silt and Clay	7.5 YR	SC	RESIDUUM	-	1227.42
	10	24		4/8			15	
8	6	10		5 YR			-	
	15	24	Sand, Red-Brown, with Clay and Gravel	4/6	SC	RESIDUUM	-	1225.42
9	8	9		5 Y			20	
	16	17		6/2			-	
10	13	9	22.0'	5 YR	CL	CLAY	-	1225.42
	11	10		5/8			-	
11	3	5		12.5 YR			25	
	8	9	24.0'	4/6	SC	RESIDUUM	-	1221.42
12	9	10		10 YR			-	
	11	11		3/2			-	
13	5	10	28.0'	10 YR	SC	RESIDUUM	-	1221.42
	11	11		7/8			30	
14	15	9		5 YR			-	
	7	7	Sand, Lt. Brown, with Gravel	5/8	SC	RESIDUUM	-	1221.42
15	5	6		10 YR			-	
	11	18		8/3			-	
16	15	17					-	
	7	5					-	
17	11	5					-	
	13	9					-	

KEY

USC = UNIFIED SOIL CLASSIFICATION

MUN = MUNSELL SOIL COLOR

PROJECT Vernon County Landfill

DATE(S) DRILLED April 27 and 28, 1988

LOCATION Klahn Site

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS Wisconsin Test Drilling

JOB NO. 57786

DATE June 3, 1988

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

[illegible]

KEY

USC, = UNIFIED SOIL CLASSIFICATION

MUN = MUNSELL SOIL COLOR

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR

FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 57786

DATE June 3, 1988

SURFACE ELEV. 1193.5

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

[illegible]

MUN = MUNSELL SOIL COLOR (DRY SOIL)

JOB NO. 703

DATE Jan. 3, 1990

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

Page 1 of 2

Facility/Project Name Vernon County Landfill - 2021 Geotech Investigation			License/Permit/Monitoring Number 3268		Boring Number B-15	
Boring Drilled By: Name of crew chief (first, last) and Firm Chris B. Mathy Construction Co.			Date Drilling Started 5/20/2021		Date Drilling Completed 5/20/2021	
Drilling Method flight auger						
WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level Feet MSL	Surface Elevation 1,252.9 Feet MSL	Borehole Diameter 4.0 inches	
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒ State Plane N, E S/C/N			Lat 90° 50' 375.0"		Local Grid Location ☐ N ☐ E	
SE 1/4 of SW 1/4 of Section 15, T 13 N, R 4 W			Long 43° 35' 934.0"		Feet ☐ S Feet ☐ W	

Facility ID 3268	County Vernon	County Code 63	Civil Town/City/ or Village Viroqua
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Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 AU				TOPSOIL	OL									
			2.5	Brown, sandy, LEAN CLAY, little gravel										
2 AU			5.0											
					CL									
3 AU			7.5											
4 AU			10.0											
5 AU			12.5											
														</

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

Signature <i>Jim E. Hall</i>	Firm Short Elliot Henrickson Inc.	Tel: Fax:
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Boring Number		Use only as an attachment to Form 4400-122.										Page 2 of 2		
Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
7 AU			32.5	Brown, LEAN CLAY, some sand, little gravel, occasional hard pan layers <i>(continued)</i>	CL									
8 AU		35.0												
		37.5												
9 AU			40.0	BEDROCK, dolomite	BR									
		42.5												
		45.0												
				Boring Refusal at 45 feet. Lithologic Descriptions are based entirely on auger cuttings and therefore are very generalized. Difficulty advancing augers.										

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

Page 1 of 2

Facility/Project Name Vernon County Landfill - 2021 Geotech Investigation		License/Permit/Monitoring Number 3268		Boring Number B-17	
Boring Drilled By: Name of crew chief (first, last) and Firm Chris B. Mathy Construction Co.		Date Drilling Started 5/20/2021		Date Drilling Completed 5/20/2021	
Drilling Method flight auger					
WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level Feet MSL	Surface Elevation 1,238.8 Feet MSL	Borehole Diameter 4.0 inches
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒ State Plane N, E S/C/N			Local Grid Location ☐ N ☐ E ☐ S ☐ W		
SW 1/4 of SE 1/4 of Section 15, T 13 N, R 4 W			Lat 90° 50' 363.0" Long 43° 35' 955.0"		

Facility ID 3268	County Vernon	County Code 63	Civil Town/City/ or Village Viroqua
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Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 AU				TOPSOIL	OL									
			2.5	Brown, LEAN CLAY, some fine sand, layers of numerous cobbles and gravel	CL									
2 AU		5.0												
		7.5												
		10.0												
3 AU			12.5											
			15.0											
4 AU			17.5											
			20.0											
5 AU			22.5											
			25.0											
6 AU			27.5											
			30.0	BEDROCK, likely dolomite	BR									

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

Signature <i>Jim E. Hall</i>	Firm Short Elliot Henrickson Inc.	Tel: Fax:
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Boring Number		Use only as an attachment to Form 4400-122.										Page 2 of 2		
Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
7 AU			32.5	BEDROCK, likely dolomite (<i>continued</i>)	BR									
			35.0											
8 AU			37.5											
				Boring Refusal at 39 feet. Lithologic Descriptions are based entirely on auger cuttings and therefore are very generalized. Difficulty advancing augers.										

BORING NO. MW-3

SURFACE ELEV. 1233.0

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P L E #	No Samples CORE RUN Obtained		CLASSIFICATION AND REMARKS Note: Logs based on drill cuttings.	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
			Clay, Red					
			-20'				20	1213.0
			Dolomite, Broken Up With Several Crevices Between 70 and 80 ft. (1163.0 and 1153.0)				40	
			-80'				80	1153.0
			Dolomite, Hard				100	
							120	

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED February 1, 1988

LOCATION Klahn Site, 14+81N 16+25E

GROUNDWTR 171.38 FT BELOW GS AT ELEV. OF 1061.62

DRILLERS Ace Well Drilling

JOB NO. 57786

DATE 12/21/88

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

[illegible]

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR 171.38 FT BELOW GS AT ELEV. OF 1061.62

DRILLERS

JOB NO. 57786

DATE 12/21/88

BORING NO. MW-4

CENTRAL WISCONSIN

SURFACE ELEV. 1232.9

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	No Samples CORE RUN Obtained		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO	Note: Logs based on drill cuttings.					
			Clay, Red					
			-20'				20	1212.9
			Dolomite, Broken With Several Small Crevices Between 70 and 80 ft. (1162.9 and 1152.9)				40	
			-80'				80	1152.90
			Dolomite, hard				100	
							120	

Note: Depth to Groundwater
refers to perched water.

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED January 28, 1988

LOCATION Klahn Site 14+81N, 16+34E

GROUNDWTR 87.41 FT BELOW GS AT ELEV. OF 1145.49

DRILLERS Ace Well Drilling

JOB NO. 57786

DATE 12/21/88

BORING NO. MW-4

CENTRAL WISCONSIN

SURFACE ELEV. 1232.9

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	CORE RUN		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
			Dolomite, Hard, With Several Crevices Between 145 and 150 ft. (1087.9 and 1082.9)					
			-----160'-----				160	1072.9
							180	
							200	
							220	
							50	
							55	

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 57786

DATE

BORING NO. MW-5A		CENTRAL WISCONSIN						
SURFACE ELEV. 1224.0		ENGINEERS						
P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400								
S	BLOWS ON SAMPLER	CLASSIFICATION AND REMARKS		M	USC	GEOLOGY	D	ELEV. (ft.)
A	(140 lbs., 2" O.D.)			U			P	
M	- FALLING 30")			N			T	
P							H	
#	6" 6" 12"							
1	4 3 15	-0.5' Silt, Lt. Brown, With Clay		10 YR	ML	LOESS		
2	6 9 27	-3.0' Clay, Red-Brown, With Sand		6/4	CL	RESIDUUM		1221.0
3	7 12 19	-6.0' Sand/Clay Mixture, Yellow to Red-Brown to Brown, With Dolomite Fragments and Silt		5YR	SC		5	1218.0
4	8 8 26			4/6				
5	7 12 21			10 YR				
6	5 8 22			7/6				
7	11 12 23			10 YR			10	1215.0
8	9 12 23			6/6				
9	4 8 22			10 YR	SC			
10	4 5 23			4/3				
11	10 13 26			10 YR	SC		15	1208.5
12	6 9 26			4/4				
13	8 18 19	-17.5' Weathered Dolomite With Silty Sand		10 YR		WEATHERED DOLOMITE		1206.5
14	5 9 56			7/2			20	1203.5
15	15 41 50	-20.5' No Samples: Rotary Drilling						
16							25	
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

KEY		PROJECT Vernon County Landfill	
USC = UNIFIED SOIL CLASSIFICATION		DATE(S) DRILLED	August 23, 1989
PPR = POCKET PEN READING		LOCATION	Klahn 8+64N 12+58E
X = SPLIT SPOON		GROUNDWGT	88.8 FT BELOW GS AT ELEV. OF 1135.18
MUN = MUNSSELL SOIL COLOR (DRY SOIL)		DRILLERS	Exploration Technology, Inc.
		JOB NO. 703	DATE Jan. 3, 1990

BORING NO. MW-5

CENTRAL WISCONSIN

SURFACE ELEV. 1223.3

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P L E #	No Samples CORE RUN Obtained		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
			Note: Logs based on drill cuttings.					
			Clay, Red					
			-----20'-----				20	1203.3
			Dolomite With Streaks of Clay					
			-----35'-----					1188.3
			Dolomite, Broken Up, With Crevices at:				40	
			43'-44' (1179.3-1180.3)					
			65'-67' (1156.3-1158.3)					
			87'-88' (1135.3-1136.3)				60	
			93'-94' (1129.3-1130.3)					
							80	
			-----102'-----				100	1121.3
			Dolomite, Hard					
							120	
			-----135'-----					1088.3

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

* = Well was dry on 12/21/88

PROJECT Vernon County Landfill

DATE(S) DRILLED February 16, 1988

LOCATION Klahn Site 8+62N, 18+04E

GROUNDWTR * FT BELOW GS AT ELEV. OF

DRILLERS Ace Well Drilling

JOB NO. 57786

DATE 12/21/88

DATE _____

BORING NO. MW-6

SURFACE ELEV. 1233.0

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	No Samples CORE RUN Obtained		CLASSIFICATION AND REMARKS Note: Logs based on drill cuttings.	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
			Clay, Red. 14'				20	1219.0
			Dolomite, Broken Up With Crevices At: 23'-25' (1208.0-1210.0) 28'-29' (1204.0-1205.0)				40	
							60	
							80	1153.0
			Dolomite, Fairly Consistent				100	
							120	

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED February 19, 1988

LOCATION Klahn Site, 14+80N, 16+21E

GROUNDWTR 174.15 FT BELOW GS AT ELEV. OF 1058.85

DRILLERS Ace Well Drilling

JOB NO. 57786

DATE 12/21/89

DATE _____

BORING NO. MW-10

CENTRAL WISCONSIN

SURFACE ELEV. 1215.6

ENGINEERS

Page 1 of 6

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S BLOWS ON SAMPLER A (140 lbs., 2" O.D. M - FALLING 30") P #				CLASSIFICATION AND REMARKS		M U N	USC	GEOLOGY	D E P T H	ELEV. (ft.)
6"	6"	12"								
1	3	4		Topsoil Disturbed	10 YR			LOESS	-	
	6	7	13	0.5'	5/2				-	
2	5	6		Silt/Clay, Lt. Brown	10 YR		CL	RESIDUUM	-	
	13	16	29	4.5'	6/6				-	1211.1
3	6	6		Med. Sand, Red-Brown, With Some Clay	7.5YR		SC		5	
	7	11	18	7.0'	5/6				-	
4	4	6		Clay/Silt, Lt. Gray-Brown, With Pebbles @ 9.0'	10 YR		CL		-	1208.6
	10	13	23	9.5'	7/1				-	
5	6	10		Med. Sand, Red-Brown, With Some Clay	7.5YR		SC		10	1206.1
	12	20	32	5/6	5/8				-	
6	7	9		14.5'					-	1201.1
	13	19	32						15	
7	12	16		Med. Sand, Tan to Brown, With Clay	10 YR		SC		-	
	24	25	49	18.0'	6/4				-	1197.6
8	11	23		Med. Sand, Yellow to Lt. Brown to Red-Brown, With Silt, Trace Clay	10 YR		SP-SH		20	
	18	19	37	24.5'	7/8				-	
9	5	22		continued on page 2 of 6	10 YR			WEATHERED DOLOMITE	25	1191.1
	29	20	49		6/4				-	
10	10	15							-	
	16	21	37						-	
11	10	15							-	
	19	24	43						-	
12	17	12							-	
	11	12	23						-	
	50	-	-						-	

KEY

USC = UNIFIED SOIL CLASSIFICATION

PPR = POCKET PEN READING

X = SPLIT SPOON

MUN = MUNSSELL SOIL COLOR (DRY SOIL)

PROJECT Vernon County Landfill

DATE(S) DRILLED August 24, 1989

LOCATION Klahn Site 2+16N 16+57E

GROUNDW 145.47 FT BELOW GS AT ELEV OF 1070.13

DRILLERS Exploration Technology, Inc.

JOB NO. 703 DATE Jan. 3, 1990

BORING NO. MW-10

CENTRAL WISCONSIN

SURFACE ELEV. 1215.6

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	CORE RUN		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
			No Samples - Poor Quality Dolomite w/Clay Residuum					

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 70389

DATE Jan. 5, 1990

BORING NO. MW-10

SURFACE ELEV. 1215.6

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	CORE RUN		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
1	61	66.5	61.0 Dolomite, With Occasional Small Vugs	18%	2.02	6.4%	65	1154.6
2	66.5	71.5		0%	-	-	70	
3	71.5	74.0	71.5 Poorly Consolidated Silty Sandstone	0%	-	0%	75	1144.1
4	76.5	80.0	74.0 Dolomite, With Occasional Small Vugs	75%	1.52	59%	80	1141.6
5	80	89		52%	3.2	17%	85	
6	89	99.5		100%	2.1	77%	90	

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 70389

DATE

BORING NO. MW-10

SURFACE ELEV. 1215.6

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	CORE RUN		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
7	99.5	106.8	100' Dolomite, With Occasional Sandstone and Gray-Green Shale Interbeds	90%	3.03	51.6%	100	1115.6
8	106.8	110.5	106.0 Sandy Dolomite, With Occasional Sandstone and Gray-Green Shale Interbeds	100%	1.1	100%	105	1109.6
9	110.5	120.5		100%	1.3	93%	115	
10	120.5	129.3		90%	1.3	80%	120	
							125	

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 70389

DATE

BORING NO. MW-10

SURFACE ELEV. 1215.6

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	CORE RUN		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
11	129.3	133		18%	6.0	0%		
			-----134-----					
			Sandy Dolomite, With Occasional Sandstone and Gray-Green Shale Interbeds; Numerous Small Vugs				135	1081.6
12	133	140.5		100%	2.3	63%		
			-----139.0-----					
			Sandy Dolomite, With Occasional Sandstone and Gray-Green Shale Interbeds; Few to No Vugs.				140	1076.6
13	140.5	150.5		100%	1.5	82%		
							145	
							150	
14	150.5	155.2		100%	0.9	96%		
							155	
15	155.2	157.5		100%	1.3	83%		
			-----155.5-----					
			Dolomitic Sandstone, Brown					1060.1
			-----157.5-----					
			Sandy Dolomite With Occasional Sandstone and Gray-Green Shale Interbeds					1058.1
16	157.5	167		100%	1.7	73%		
							160	
			-----163.0-----					
								1052.6

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 70389

DATE

BORING NO. MW-10

SURFACE ELEV. 1215.6

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	CORE RUN		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
17	167	177	Dolomitic Sandstone With Occasional Gray-Green Shale Interbeds ----- 167.0	100%	2.2	73%	170	1048.6
			Sandy Dolomite and Dolomitic Sandstone With Occasional Gray-Green Shale Interbeds ----- 172.5					1043.1
			Sandstone, Brown, Fine to Medium Grained With Occasional Cross Beds				175	
18	177	181	----- 178.5	100%	2.0	79%		1037.1
			Dolomitic Sandstone With Some Sandy Dolomite ----- 181.0				180	1034.6
			E.O.B.				185	

KEY

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PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR

FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 70389

DATE

BORING NO. MW-11

SURFACE ELEV. 1216.4

CENTRAL WISCONSIN

ENGINEERS

Page 1 of 5

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S BLOWS ON SAMPLER A (140 lbs., 2" O.D. M - FALLING 30") P # 6" 6" 12 "				CLASSIFICATION AND REMARKS		M U N	USC	GEOLOGY	D E P T H	ELEV. (ft.)
1	3	4		Topsoil Disturbed	10 YR			LOESS	-	
	6	7	13	-0.5'	5/2				-	
2	5	6		Silt/Clay, Lt. Brown	10 YR		CL	RESIDUUM	-	
	13	16	29	-4.5'	6/6				-	1211.1
3	6	6		Med. Sand, Red-Brown, With Some Clay	7.5YR		SC		5	
	7	11	18	-7.0'	5/6				-	
4	4	6		Clay/Silt, Lt. Gray-Brown, With Pebbles @ 9.0'	10 YR		CL	WEATHERED DOLOMITE	-	1208.6
	10	13	23	-9.5'	7/1				-	
5	6	10		Med. Sand, Red-Brown, With Some Clay	7.5YR		SC		10	1206.1
	12	20	32	-14.5'	5/6				-	
6	7	9		Med. Sand, Tan to Brown, With Clay	7.5YR		SC		-	
	13	19	32	-18.0'	5/8				-	
7	12	16		Med. Sand, Yellow to Lt. Brown to Red-Brown, With Silt, Trace Clay	10 YR		SP-SM		-	1197.6
	24	25	49	-24.5'	7/8				20	
8	11	23		continued on page 2 of 5	10 YR				-	
	18	19	37		6/4				-	
9	5	22			10 YR				-	
	29	20	49		7/8				-	
10	10	15			10 YR				-	
	16	21	37		6/4				-	
11	10	15							-	
	19	24	43						-	
12	17	12							-	
	11	12	23						-	
	50	-	-						-	
									-	

KEY

USC = UNIFIED SOIL CLASSIFICATION

PPR = POCKET PEN READING

X = SPLIT SPOON

MUN = MUNSSELL SOIL COLOR (DRY SOIL)

PROJECT Vernon County Landfill

DATE(S) DRILLED August 24, 1989

LOCATION Klahn Site 2+16N 16+57E

GROUNDWT 145.47 FT BELOW GS AT ELEV OF 1070.13

DRILLERS Exploration Technology, Inc.

JOB NO. 703 DATE Jan. 3, 1990

BORING NO. MW-11

SURFACE ELEV. 1216.4

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	CORE RUN		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
			No Samples - Poor Quality Dolomite w/Clay Residium					

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 70389

DATE Jan. 5, 1990

BORING NO. MW-11

SURFACE ELEV. 1216.4

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	CORE RUN		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
			61.0					1154.6
1	61	66.5	Dolomite, With Occasional Small Vugs	18%	2.02	6.4%	65	
2	66.5	71.5		0%	-	-	70	1144.1
3	71.5	74.0	Poorly Consolidated Silty Sandstone	0%	-	0%	75	1141.6
4	76.5	80.0	Dolomite, With Occasional Small Vugs	75%	1.52	59%	80	
5	80	89		52%	3.2	17%	85	
6	89	99.5		100%	2.1	77%	90	

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 70389

DATE

BORING NO. MW-11

SURFACE ELEV. 1216.4

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	CORE RUN		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
7	99.5	106.8	-100'- Dolomite, With Occasional Sandstone and Gray-Green Shale Interbeds	90%	3.03	51.6%	100	1115.6
8	106.8	110.5	-106.0- Sandy Dolomite, With Occasional Sandstone and Gray-Green Shale Interbeds	100%	1.1	100%	105	1109.6
9	110.5	120.5		100%	1.3	93%	110	
							115	
							120	
10	120.5	129.3		90%	1.3	80%	125	

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 70389

DATE

BORING NO. MW-11

SURFACE ELEV. 1216.4

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	CORE RUN		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
11	129.3	133		18%	6.0	0%	-	
			-----134-----				-	1081.6
			Sandy Dolomite, With Occasional Sandstone and Gray-Green Shale Interbeds; Numerous Small Vugs				135	
12	133	140.5		100%	2.3	63%	-	
			-----139.0-----				-	1076.6
			Sandy Dolomite, With Occasional Sandstone and Gray-Green Shale Interbeds; Few to No Vugs.				140	
13	140.5	150.5		100%	1.5	82%	-	
							145	
							-	
							-	
							150	
14	150.5	155.2		100%	0.9	96%	-	
							-	
							-	
			-----155.5-----				155	
15	155.2	157.5	Dolomitic Sandstone, Brown	100%	1.3	83%	-	1060.1
			-----157.5-----				-	1058.1
			Sandy Dolomite With Occasional Sandstone and Gray-Green Shale Interbeds				160	
16	157.5	167		100%	1.7	73%	-	
			-----163.0-----				-	1052.6
			End of Boring - Set Well				-	

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 70389

DATE

BORING NO. MW-12

SURFACE ELEV. 1216.4

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

Page 1 of 4

S	BLOWS ON SAMPLER			CLASSIFICATION AND REMARKS	M U N	USC	GEOLOGY	D E P T H	ELEV. (ft.)
A	(140 lbs., 2" O.D.								
M	- FALLING 30")								
P									
#	6"	6"	12 "						
	3	4		Topsoil Disturbed	10 YR		LOESS	-	
1	6	7	13	-----0.5'-----	5/2			-	
	5	6		Silt/Clay, Lt. Brown	10 YR	CL		-	
2	13	16	29	-----4.5'-----	6/6			-	1211.1
	6	6		Med. Sand, Red-Brown,	7.5YR	SC	RESIDUUM	5	
3	7	11	18	With Some Clay	5/6			-	
	4	6		-----7.0'-----	10 YR			-	1208.6
4	10	13	23	Clay/Silt, Lt. Gray-Brown,	7/1	CL		-	
	6	10		With Pebbles @ 9.0'	7.5YR			-	
5	12	20	32	-----9.5'-----	5/6			10	1206.1
	7	9		Med. Sand, Red-Brown,	7.5YR	SC		-	
6	13	19	32	With Some Clay	5/8			-	
	12	16						-	
7	24	25	49	-----14.5'-----				-	1201.1
	11	23						15	
8	18	19	37	Med. Sand, Tan to Brown,	10 YR	SC		-	
	5	22		With Clay	6/4			-	
9	29	20	49	-----18.0'-----				-	1197.6
	10	15		Med. Sand, Yellow to Lt. Brown	10 YR			-	
10	16	21	37	to Red-Brown,	7/8	SP-SM		20	
	10	15		With Silt, Trace Clay	10 YR			-	
11	19	24	43		6/4			-	
	17	12						-	
12	11	12	23	-----24.5'-----				-	1191.1
	50	-	-	continued on page 2 of 4			WEATHERED DOLOMITE	25	
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KEY

USC = UNIFIED SOIL CLASSIFICATION

PPR = POCKET PEN READING

X = SPLIT SPOON

MUN = MUNSELL SOIL COLOR (DRY SOIL)

PROJECT Vernon County Landfill

DATE(S) DRILLED August 24, 1989

LOCATION Klahn Site 2+16N 16+57E

GROUNDW 145.47 FT BELOW GS AT ELEV OF 1070.13

DRILLERS Exploration Technology, Inc.

JOB NO. 703

DATE Jan. 3, 1990

BORING NO. MW-12

CENTRAL WISCONSIN

SURFACE ELEV. 1216.4

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	CORE RUN		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
			No Samples - Poor Quality Dolomite w/Clay Residuum				-	
							-	
							-	
							-	
							30	
							-	
							-	
							-	
							35	
							-	
							-	
							-	
							40	
							-	
							-	
							45	
							-	
							-	
							50	
							-	
							-	
							55	
							-	
							-	

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 70389

DATE Jan. 5, 1990

BORING NO. MW-12

SURFACE ELEV. 1216.4

CENTRAL WISCONSIN

ENGINEERS

P.O. BOX F - SCHOFIELD, WI 54476 - (715)359-9400

S A M P #	CORE RUN		CLASSIFICATION AND REMARKS	REC (%)	FF	RQD (%)	D E P T H	ELEV. (ft.)
	FROM	TO						
			-----61.0-----				-	1154.6
1	61	66.5	Dolomite, With Occasional Small Vugs	18%	2.02	6.4%	65	-
2	66.5	71.5		0%	-	-	70	-
			-----71.5-----				-	1144.1
3	71.5	74.0	Poorly Consolidated Silty Sandstone	0%	-	0%	-	1141.6
			-----74.0-----				75	-
4	76.5	80.0	Dolomite, With Occasional Small Vugs	75%	1.52	59%	-	-
5	80	89		52%	3.2	17%	85	-
6	89	99.5		100%	2.1	77%	90	-

KEY

REC = PERCENT RECOVERY

FF = FRACTURE FREQUENCY (PER FOOT)

RQD = ROCK QUALITY DESIGNATION

PROJECT Vernon County Landfill

DATE(S) DRILLED

LOCATION

GROUNDWTR FT BELOW GS AT ELEV. OF

DRILLERS

JOB NO. 70389

DATE

Facility/Project Name Vernon Co. Balefill			License/Permit/Monitoring Number 03268		Boring Number MW-14
Boring Drilled By (Firm name and name of crew chief) Traut Hydro Tech Daryl Karasch			Date Drilling Started 03/10/2003	Date Drilling Completed 03/12/2003	Drilling Method Versa Sonic
DNR Facility Well No. 118	WI Unique Well No. JX072	Common Well Name MW-14	Final Static Water Level 1066.87 Feet MSL	Surface Elevation 1247.5 Feet MSL	Borehole Diameter 7.0" inches
Boring Location State Plane N, E SW 1/4, SE 1/4, Sec. 15, T13N, R4E			Lat 43 / 35' / 49.49" Long 90 / 4.' / 14.85"		Local Grid Location (if applicable) 1275.90 Feet N 1678.68 Feet E

County Vernon	DNR County Code 63	Civil Town/City/ or Village Viroqua
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Munsell Color	Soil Properties					P 200	RdD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index			
			2 4 6 8 10 12 14 16 18 20 22	See Boring Log for MW-14Z											

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

Signature 	Firm Central Wisconsin Engineers & Architects
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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.

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Sample		Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Munsell Color	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			186 188 190 192 194 196 198 200 202 204 206 208 210 212 214 216 218 220 222	E.O.B. @ 190'										

Facility/Project Name Vernon Co. Balefill			License/Permit/Monitoring Number 03268		Boring Number MW-14Z
Boring Drilled By (Firm name and name of crew chief) Traut Hydro Tech Daryl Karasch			Date Drilling Started 03/05/2003	Date Drilling Completed 03/07/2003	Drilling Method Versa Sonic
DNR Facility Well No. 119	WI Unique Well No. JX073	Common Well Name MW-14Z	Final Static Water Level 1067.07 Feet MSL	Surface Elevation 1247.5 Feet MSL	Borehole Diameter 7.0 inches
Boring Location State Plane N, E SW 1/4, SE 1/4, Sec. 15, T13N, R4E			Lat 43 / 35' / 49.49" Long 90 / 43' / 14.85"		Local Grid Location (if applicable) 1261.80 Feet N 1691.28 Feet E

County Vernon	DNR County Code 63	Civil Town/City/ or Village Viroqua
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Munsell Color	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
	10/10		2	Yellowish brown clayey silt, little sand (Loess)	CL									
			4											
			6	Reddish brown sandy clayey silt	CL									
			8											
			10											
			12											
	10/10		14	Red, yellow, brown silty sand w/varying amounts of clay	SC									
			16											
			18		SM									
			20											
			22											
	10/10			Red, yellow, brown sandy, clayey silt	CL									
					SM									

I hereby certify that the information on this form is true and correct to the best of my knowledge.	
Signature 	Firm Central Wisconsin Engineers & Architects

Sample		Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Munsell Color	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
	10/10		26	Red, yellow, brown silty sand w/varying amounts of clay	SM			10YR 7/8						
			28											
			30											
			32											
	9/10		34	Yellow, red, brown sandy, clayey silt w/little gravel	CL			10YR 6/8						
			36											
			38											
			40											
	8/10		42	Brown sandy clayey silt and silty clay w/little gravel	CH			10YR 4/4						
			44											
			46											
			48											
			50	Yellowish brown silty sand w/varying amounts of clay and occasional clay lenses	SM			10YR 7/4						
			52											
			54											
			56											
	6/10		58		SP/SM			10YR 7/4						
			60											
			62											
	8/10				SM									
					SC									

Sample		Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Munsell Color	Soil Properties					RGD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
	9/10		106	(Highly fractured zone @ 110' - 111')	Bdrk								FF: 5.6/ft	
			108										RGD: 4%	
			110											
			112										Rec: 75%	
	9/10		114	FF: 5.1/ft										
			116	RGD: 0%										
			118											
			120	(Highly fractured zone @ 118' - 120')										
			122											
			124											
	10/10		126	Rec: 94%										
			128	FF: 3.5/ft										
			130	RGD: 41%										
			132											
			134	Dolomite										
			136	Sandy Dolomite with Grey-Green Shale and Sandstone Interbeds										
	10/10		138	Rec: 97%										
			140	FF: 2.6/ft										
			142	RGD: 69%										
	9/10		142	Dolomite, occasional small vugs										
				(Highly fractured zone @ 142' - 143')	Rec: 69%									

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

Page 1 of 2

Facility/Project Name Vernon County Landfill Expansion		License/Permit/Monitoring Number 3268		Boring Number B-18	
Boring Drilled By: Name of crew chief (first, last) and Firm Braun Intertec		Date Drilling Started 9/19/2022		Date Drilling Completed 9/19/2022	
Drilling Method hsa,mud rotary					
WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level Feet MSL	Surface Elevation 1,239.0 Feet MSL	Borehole Diameter 6.0 inches
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒ State Plane 164,513 N, 715,479 E S/C/N SW 1/4 of SE 1/4 of Section 15, T 13 N, R 4 W			Local Grid Location Lat _____ ' _____ " _____" Long _____ ' _____ " _____" Feet ☐ N ☐ E Feet ☐ S ☐ W		

Facility ID 3268	County Vernon	County Code 63	Civil Town/City/ or Village Viroqua
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Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 AU	24			LEAN CLAY (CL), brown to gray, moist, some sand, medium plasticity, mottled (Residuum)	CL					20	38	19	84	1% Gravel, 15% Sand
2 SS	18 7	2 3 4	1.5 3.0							27	64	40	86	0% Gravel, 14% Sand
3 SS	18 8	2 3 3	4.5 6.0							27	51	32	64	0% Gravel, 37% Sand
4 SS	18 14	3 7 8	7.5							10				
5 SS	18 14	3 7 9	9.0 10.5	CLAYEY SAND (SC), brown to gray, moist, fine to medium grained, slightly cohesive (Residuum)	SC					15	39	24	41	0% Gravel, 59% Sand
6 SS	18 16	6 6 5	12.0 13.5	CLAYEY SAND (SC), orangish brown, moist, fine grained, slightly cohesive (Residuum)	SC					27	72	49	70.5	0% Gravel, 30% Sand
7 SS	18 16	5 8 8	15.0	LEAN CLAY (CL), dark brown to dark reddish brown, moist, little sand, medium plasticity, light brown sandy transition (Residuum)	CL					20				
8 SS	18 12	3 3 12	16.5 18.0							16				
9	18	14	19.5	WEATHERED SANDY DOLOSTONE, light brown, moist, fine grained, with fine to medium gravel, some clay (Saprolite)										

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

Signature <i>Anton [Signature]</i>	Firm Short Elliott Hendrickson Inc.	Tel: Fax:
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This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in 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 this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

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

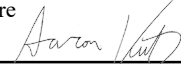
Page 1 of 2

Facility/Project Name Vernon County Landfill Expansion		License/Permit/Monitoring Number 3268		Boring Number B-19	
Boring Drilled By: Name of crew chief (first, last) and Firm Braun Intertec		Date Drilling Started 9/19/2022		Date Drilling Completed 9/19/2022	
Drilling Method hsa,mud rotary					
WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level Feet MSL	Surface Elevation 1,233.3 Feet MSL	Borehole Diameter 6.0 inches
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒ State Plane 164,380 N, 715,477 E S/C/N SW 1/4 of SE 1/4 of Section 15, T 13 N, R 4 W			Local Grid Location Lat _____ ° _____ ' _____ " _____" Long _____ ° _____ ' _____ " _____" Feet ☐ N ☐ E Feet ☐ S ☐ W		

Facility ID 3268	County Vernon	County Code 63	Civil Town/City/ or Village Viroqua
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Sample Number and Type	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					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 AU	24			LEAN CLAY (CL), brown to gray, moist, little fine sand, medium plasticity (Residuum or Fill)	CL						50	33	75	0% Gravel, 26% Sand
2 SS	18 10	4 7 4	1.5 3.0							16	52	33	54	24% Gravel, 23% Sand
3 SS	18 10	2 3 2	4.5 6.0	LEAN CLAY (CL), brown to gray, moist, with sand, low to medium plasticity (Residuum)						44				
4 SS	18 12	4 2 2	7.5	NOTE: sand seam from 7 to 7.5 feet, fine to medium grained.	CL					53				
5 SS	18 14	2 2 2	9.0 10.5							54				
6 SS	18 6	1 2 1	12.0 13.5	NOTE: gravel from 12.5 to 13.5 feet of weathered bedrock.						33				
7 SS	18 8	1 1 1	15.0	FAT CLAY (CH), brown, moist, little sand and gravel, high plasticity, soft (Residuum)	CH					40				
8 SS	18 14	1 1 2	16.5 18.0							57	105	71	97	0% Gravel, 3% Sand
9	18	0	19.5							57				

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

Signature 	Firm Short Elliott Hendrickson Inc.	Tel: Fax:
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Route To: Watershed/Wastewater ☐ Waste Management ☒
Remediation/Redevelopment ☐ Other ☐

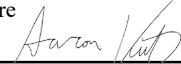
Page 1 of 2

Facility/Project Name Vernon County Landfill Expansion		License/Permit/Monitoring Number 3268		Boring Number B-20	
Boring Drilled By: Name of crew chief (first, last) and Firm Braun Intertec		Date Drilling Started 9/19/2022		Date Drilling Completed 9/19/2022	
Drilling Method hsa,mud rotary					
WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level Feet MSL	Surface Elevation 1,215.8 Feet MSL	Borehole Diameter 6.0 inches
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒ State Plane 164,064 N, 715,518 E S/C/N SW 1/4 of SE 1/4 of Section 15, T 13 N, R 4 W			Local Grid Location Lat _____ ' _____ " _____" Long _____ ' _____ " _____" Feet ☐ N ☐ E Feet ☐ S ☐ W		

Facility ID 3268	County Vernon	County Code 63	Civil Town/City/ or Village Viroqua
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Sample Number and Type	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					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 AU	24			LEAN CLAY (CL), reddish brown, moist, with gravel, some sand, medium plasticity, medium stiff (Residuum)							58	42	65	0% Gravel, 35% Sand
2 SS	18 12	10 4 5	1.5 3.0							19				
3 SS	18 12	3 4 6	4.5 6.0		CL					27				
4 SS	18 12	2 3 6	7.5	NOTE: decreased gravel content						33				
5 SS	18 12	2 12 11	9.0 10.5	SANDY LEAN CLAY (CL), brown, moist, low plasticity (Residuum)						15				
6 SS	18 12	3 4 5	12.0 13.5		CL					30				
7 SS	18 14	2 1 2	15.0							46				
8 SS	18 16	5 4 4	16.5 18.0	LEAN CLAY (CL), dark brown to brown, moist, little sand, low to medium plasticity (Residuum) NOTE: blue to green colored seam at 15 feet. NOTE: increased sand content between 17 to 17.5 feet.	CL					39				
9	18	4	19.5											

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

Signature 	Firm Short Elliott Hendrickson Inc.	Tel: Fax:
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Route To: Watershed/Wastewater ☐ Waste Management ☒
Remediation/Redevelopment ☐ Other ☐

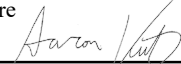
Page 1 of 2

Facility/Project Name Vernon County Landfill Expansion		License/Permit/Monitoring Number 3268		Boring Number B-21	
Boring Drilled By: Name of crew chief (first, last) and Firm Braun Intertec		Date Drilling Started 9/19/2022		Date Drilling Completed 9/19/2022	
WI Unique Well No.		DNR Well ID No.		Common Well Name	
		Final Static Water Level Feet MSL		Surface Elevation 1,226.1 Feet MSL	
				Borehole Diameter 6.0 inches	
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒		State Plane 163,857 N, 715,398 E S/C/N		Local Grid Location ☐ N ☐ E ☐ S ☐ W	
SW 1/4 of SE 1/4 of Section 15, T 13 N, R 4 W		Lat _____ ' _____ "		Long _____ ' _____ "	

Facility ID 3268	County Vernon	County Code 63	Civil Town/City/ or Village Viroqua
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Sample Number and Type	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					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 AU	24			LEAN CLAY (CL), brown, moist, medium to high plasticity, medium stiff (Fill)							67	48	75	0% Gravel, 25% Sand
2 SS	18 8	2 2 3	1.5 3.0		CL					24	50	34	76	0% Gravel, 25% Sand
3 SS	18 8	1 1 2	4.5 6.0							25				
4 SS	18 12	1 4 8	7.5	NOTE: trace to little gravel at 7.5 feet.						19				
5 SS	18 12	3 6 7	9.0 10.5	LEAN CLAY TO SILT (CL-ML), grayish brown, moist, low plasticity, medium stiff, trace roots/organics through 21 feet (Fill)						17	36	18	86	3% Gravel, 12% Sand
6 SS	18 14	3 7 8	12.0 13.5		CL-ML					19	36	14	86	0% Gravel, 6% Sand
7 SS	18 10	2 3 5	15.0 16.5							20				
8 SS	18 14	4 6 9	18.0							18	36	18	88	0% Gravel, 12% Sand
9	18	5	19.5							19	40	21	95	0% Gravel,

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

Signature 	Firm Short Elliott Hendrickson Inc.	Tel: Fax:
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Page 2 of 2

Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
SS	 12	5 7	21.0	LEAN CLAY TO SILT (CL-ML), grayish brown, moist, low plasticity, medium stiff, trace roots/organics through 21 feet (Fill) <i>(continued)</i>	CL-ML					19				5% Sand
10 SS	 18 12	4 7 8	22.5											
			24.0											
			25.5											
			27.0											
			28.5											
			30.0											
11 SS	 18 18													
Boring Terminated at 31 feet.												0% Gravel, 1% Sand		

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

Page 1 of 4

Facility/Project Name Vernon County Landfill Expansion			License/Permit/Monitoring Number 3268		Boring Number MW-14WT	
Boring Drilled By: Name of crew chief (first, last) and Firm Braun Intertec			Date Drilling Started 8/29/2022		Date Drilling Completed 9/20/2022	
Drilling Method hsa,mud rotary,coring						
WI Unique Well No. WC334	DNR Well ID No. 125	Common Well Name MW-14WT	Final Static Water Level 1,152.8 Feet MSL	Surface Elevation 1,247.2 Feet MSL	Borehole Diameter 6.0 inches	
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒ State Plane 164,748 N, 715,687 E S/C/N SW 1/4 of SE 1/4 of Section 15, T 13 N, R 4 W			Lat ° ' " Long ° ' "		Local Grid Location ☐ N ☐ E ☐ S ☐ W	
Facility ID 3268		County Vernon	County Code 63	Civil Town/City/ or Village Viroqua		

Sample Number and Type	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					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 AU	24			LEAN CLAY WITH SAND (CL), brown to light brown, moist, medium plasticity, mottled (Residuum)										
2 SS	18 18	3 6 7	1.5 3.0		CL									
3 SS	18 18	4 7 7	4.5 6.0	FAT CLAY WITH SAND (CH), light brown, moist, little gravel, stiff (Residuum) NOTE: Mottled below 7 feet bgs.										
4 SS	18 18	4 3 6	7.5		CH					37	64	42	68	0% Gravel, 32% Sand
5 SS	18 6	3 6 11	9.0 10.5											
6 SS	18 16	3 4 8	12.0 13.5	SANDY LEAN CLAY (CL), brown, moist, trace gravel, mottled (Residuum) NOTE: Light brown sand layer <1" thick at 13.5 feet bgs.	CL									
7 SS	18 16	3 5 6	15.0 16.5	FAT CLAY (CH), brown to reddish brown, moist, little sand, stiff (Residuum) NOTE: Light brown sand layer <1" thick at 15 feet bgs.	CH									
8 SS	18 18	14 12 8	18.0											
9 X	18	6	19.5											

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

Signature <i>Ben Korte</i>	Firm Short Elliott Hendrickson Inc.	Tel: Fax:
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Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
SS	18	8 12	21.0	FAT CLAY (CH), brown to reddish brown, moist, little sand, stiff (Residuum) <i>(continued)</i>	CH									
			22.5											
			24.0											
10 SS	18 18	4 9 11	25.5											
			27.0	SANDY LEAN CLAY (CL), brown, moist, stiff	CL									
11 SH	6	6	28.5	DOLOSTONE, fractured, hard drilling from 28.5 to 33.5 feet, switched to mud rotary at 33.5 feet No recovery										Permeability = 3.1E-08 cm/sec
12 SS	6	50+	30.0											
13 SS	0	50+	31.5											
14 SS	0 0	50+	33.0											
			34.5											
			36.0											
15 RC	55.2 2.125		37.5	DOLOSTONE, light brown to buff, fine grained, <5mm vugs throughout, no bedding, slightly decomposed, trace mineralization, iron oxide staining, void from 37.0 to 39.0 feet, switched to mud rotary at 41.5 feet										Poor RQD (10%)
			39.0											
			40.5											
			42.0											
			43.5											
16 SS	0 0	50+	45.0	No recovery, void from 48.0 to 49.0 feet										
			46.5											
			48.0											
			49.5											
17 SS	5 4	50+	51.0	SAND, light brown, poorly graded, fine to coarse										
			52.5											
18	96													Poor RQD

Page 3 of 4

Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
RC	39		54.0 55.5 57.0 58.5 60.0 61.5 63.0 64.5 66.0 67.5 69.0 70.5 72.0 73.5 75.0 76.5 78.0 79.5 81.0 82.5 84.0 85.5	DOLOSTONE, gray to brown, fine grained, 5 to 10mm vugs throughout with mineralization, chert at approximately 53.0 feet, very fractured, difficult coring. <i>(continued)</i> End of coring at 60.5 feet due to formation too difficult to core.									(19.5%)	

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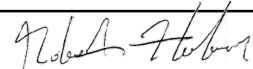
Route To: Watershed/Wastewater ☐ Waste Management ☒
Remediation/Redevelopment ☐ Other ☐

Page 1 of 4

Facility/Project Name Vernon County Landfill Expansion			License/Permit/Monitoring Number 3268		Boring Number MW-15WT	
Boring Drilled By: Name of crew chief (first, last) and Firm Braun Intertec			Date Drilling Started 9/26/2022		Date Drilling Completed 9/27/2022	
Drilling Method hsa,mud rotary						
WI Unique Well No. WC335	DNR Well ID No. 127	Common Well Name MW-15WT	Final Static Water Level 1,136.4 Feet MSL	Surface Elevation 1,220.6 Feet MSL	Borehole Diameter 6.0 inches	
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒ State Plane 164,382 N, 715,726 E S/C/N SW 1/4 of SE 1/4 of Section 15, T 13 N, R 4 W			Lat ° ' " Long ° ' "		Local Grid Location ☐ N ☐ E ☐ S ☐ W	
Facility ID 3268		County Vernon	County Code 63	Civil Town/City/ or Village Viroqua		

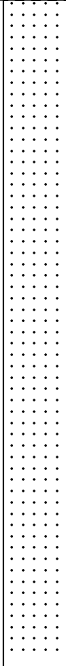
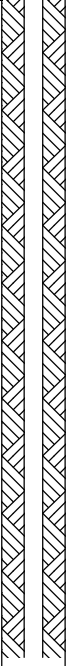
Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 AU	24			SILTY SAND (SM), dark brown, moist, fine grained, trace organics (Topsoil)	SM									
2 SS	18 14	5 6 7	1.5 3.0	LEAN CLAY WITH SAND (CL), brown to dark brown, moist, with silt, low plasticity (Residuum)	CL									
3 SS	18 4	6 5 6	4.5 6.0											
4 SS	18 16	5 4 5	7.5	CLAYEY SAND (SC), reddish brown, moist, fine to medium grained, trace gravel (Residuum)	SC									
5 SS	18 14	6 6 22	9.0 10.5	LEAN CLAY WITH SAND (CL), light brown to to brown, moist, medium plasticity, stratified with light gray to red fat clay (CH) lenses < 1cm thick (Residuum)	CL									
6 SS	18 14	3 4 5	12.0 13.5	NOTE Occasional sand layers throughout sample 5. NOTE: Sample 6 highly disturbed due to gravel.										
7 SS	18 16	3 3 4	15.0	FAT CLAY (CH), brown to reddish brown, moist, high plasticity, mottled, with sand (Residuum)	CH									
8 SS	18 18	2 4 4	16.5 18.0							46	109	73	97	0% Gravel, 3% Sand
9	18	2	19.5	NOTE: Started mud rotary drilling after sample 8.										

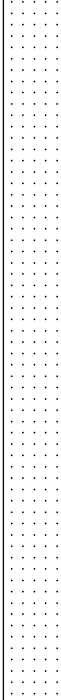
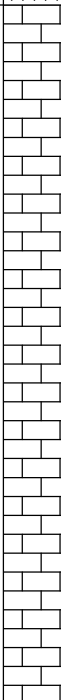
I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature  Firm **Short Elliott Hendrickson Inc.** Tel:
Fax:

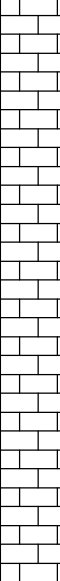
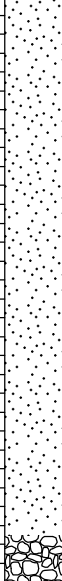
Boring Number **MW-15WT** Use only as an attachment to Form 4400-122.

Page **2** of **4**

Sample		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					RQD/ Comments				
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200					
SS	16	4 6	21.0 22.5 24.0	NOTE: Occasional clayey sand (SC) layers throughout sample 9. FAT CLAY (CH), brown to reddish brown, moist, high plasticity, mottled, with sand (Residuum) <i>(continued)</i>	CH													
10 SS	18 18	2 4 9	25.5 27.0 28.5															
11 SS	18 16	9 8 4	30.0 31.5 33.0															
12 SS	18 14	2 1 1	34.5 36.0 37.5															
13 SS	16 12	38 17 50	39.0 40.5 42.0 43.5											WEATHERED SANDSTONE, light brown fine grained, moderately cemented, highly to completely weathered (Saprolite).				
14 SS	14 16	10 15 50	45.0 46.5 48.0	NOTE: poorly cemented with occasional silt layers throughout sample 14.														
15 SS	13 12	15 45 50	49.5 51.0 52.5															

Sample		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					RQD/ Comments								
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200									
16 SS	 18 14	32 27 24	54.0 55.5	WEATHERED SANDSTONE, light brown fine grained, moderately cemented, highly to completely weathered (Saprolite). <i>(continued)</i>																		
			57.0																			
			58.5																			
			60.0																			
			61.5																			
			63.0																			
			64.5																			
17 SS	 18 14	6 5 10	64.5 66.0																			
			67.5																			
			69.0																			
			70.5																			
18 SS	 2 1	50	70.5											SANDY DOLOSTONE, light brown, moderately weathered to fresh.								
			72.0																			
			73.5																			
			75.0																			
			76.5																			
			78.0																			
			79.5																			
			81.0																			
			82.5																			
			84.0																			
			85.5	NOTE: Static water level could not be directly observed during drilling. Groundwater encountered at 84.2 feet bgs on 9/28/2022.																		

Page 4 of 4

Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			87.0	SANDY DOLOSTONE, light brown, moderately weathered to fresh. <i>(continued)</i>										
			88.5											
			90.0											
			91.5											
			93.0											
			94.5											
			96.0											
			97.5											
			99.0	Boring Terminated at 99 feet.										

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

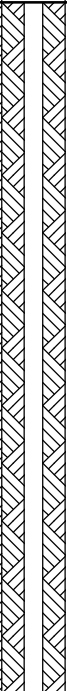
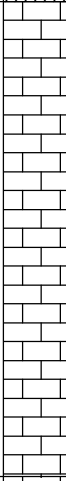
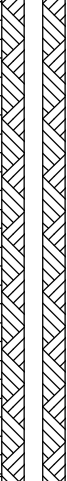
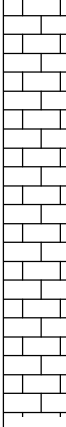
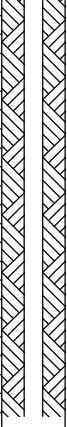
Page 1 of 4

Facility/Project Name Vernon County Landfill Expansion			License/Permit/Monitoring Number 3268		Boring Number MW-16	
Boring Drilled By: Name of crew chief (first, last) and Firm Braun Intertec			Date Drilling Started 8/22/2022		Date Drilling Completed 8/26/2022	
Drilling Method hsa,mud rotary						
WI Unique Well No. WC337	DNR Well ID No. 131	Common Well Name MW-16	Final Static Water Level 1,103.9 Feet MSL	Surface Elevation 1,184.3 Feet MSL	Borehole Diameter 6.0 inches	
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒ State Plane 163,931 N, 715,671 E S/C/N SW 1/4 of SE 1/4 of Section 15, T 13 N, R 4 W			Lat ° ' " Long ° ' "		Local Grid Location ☐ N ☐ E ☐ S ☐ W	
Facility ID 3268		County Vernon	County Code 63	Civil Town/City/ or Village Viroqua		

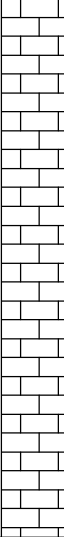
Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 CU	24 -		1.5	LEAN CLAY WITH SAND (CL), brown, moist, low plasticity, occasional fine roots (Fill)	CL									
2 SS	18 0	2 2 2	3.0											
3 SS	18 10	1 1 2	4.5 6.0											
4 ST	24 -		7.5								43	21		
5 ST	24 -		9.0 10.5	LEAN CLAY WITH SAND (CL), brown to light brown, moist, low to medium plasticity, mottled (Residium) NOTE: Trace gravel below 15 feet bgs.	CL					24	37	16	96	0% Gravel, 4% Sand, Permeability = 3.1E-08 cm/sec
6 SS	18 14	2 3 3	12.0 13.5											
7 SS	18 14	8 7 6	15.0 16.5											
8 SS	18 18	4 4 6	18.0											
9	18	4	19.5		CL									

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

Signature 	Firm Short Elliott Hendrickson Inc.	Tel: Fax:
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Boring Number		MW-16		Use only as an attachment to Form 4400-122.										Page 2 of 4	
Sample		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					RQD/ Comments	
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
SS	18	5 6	21.0 22.5 24.0	LEAN TO FAT CLAY (CL-CH), brown to light brown, moist, medium to high plasticity, mottled, occasional clayey sand (SC) layers less than 1" thick throughout (Residuum) <i>(continued)</i>	CL										
10 SS	18 14	4 4 5	25.5 27.0 28.5	NOTE: Occasional weathered sandstone layering at 25 to 26 feet bgs.											
11 SS	18 8	8 7 5	30.0 31.5 33.0	NOTE: Sample 11 - All Sluff.											
12 SS	18 8	22 28 30	34.5 36.0 37.5 39.0	WEATHERED SANDY DOLOSTONE, brown to light brown, moist, highly weathered, with sand layers throughout (Saprolite) NOTE: Sample 12 - All Sluff.											
13 MC	18 -	6 15 42	40.5 42.0 43.5												
14 SS	18 16	5 8 16	45.0 46.5 48.0	WEATHERED SANDY DOLOSTONE, brown to light brown, moist, highly weathered, little gravel, with sand layers throughout (Saprolite)											
15 SS	18 16	8 10 26	49.5 51.0 52.5	NOTE: Switched to mud rotary after sample 15.											

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
16 SS	5 4	50	54.0 55.5 57.0 58.5	WEATHERED SANDY DOLOSTONE, brown to light brown, moist, highly weathered, little gravel, with sand layers throughout (Saprolite) (<i>continued</i>)										
17 SS	9 8	15 50	60.0 61.5 63.0											
18 SS	18 18	35 8 3	64.5 66.0 67.5 69.0	WEATHERED SHALE, brown, moist, highly to completely weathered, little gravel (Saprolite)										
19 SS	3 3	50	70.5 72.0 73.5	WEATHERED SANDY DOLOSTONE, brown to light brown, moist, highly weathered, little gravel, with sand layers throughout (Saprolite) NOTE: Borehole lost water at 70 feet to termination.										
20 SS	18 18	3 9 25	75.0 76.5 78.0	NOTE: 6" layer of weathered shale at 75 feet bgs.										
21 SS	1 1	50	79.5 81.0 82.5 84.0	SANDY DOLOSTONE, brown to light brown, moist, fresh to moderately weathered NOTE: Static water level could not be directly observed during drilling. Groundwater encountered at 80.4 feet bgs on 8/26/2022.										
22 SS	1 1	50	85.5											

Boring Number		MW-16										Use only as an attachment to Form 4400-122.										Page 4 of 4	
Sample		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					RQD/ Comments									
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200										
23 SS	4 2	50	87.0	SANDY DOLOSTONE, brown to light brown, moist, fresh to moderately weathered (continued)																			
			88.5																				
			90.0																				
			91.5																				
			93.0																				
24 SS	1 1	50	94.5	Boring Terminated at 98 feet.																			
			96.0																				
			97.5																				

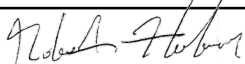
Route To: Watershed/Wastewater ☐ Waste Management ☒
Remediation/Redevelopment ☐ Other ☐

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Facility/Project Name Vernon County Landfill Expansion			License/Permit/Monitoring Number 3268		Boring Number MW-16WT	
Boring Drilled By: Name of crew chief (first, last) and Firm Braun Intertec			Date Drilling Started 9/20/2022		Date Drilling Completed 9/21/2022	
Drilling Method hsa, mud rotary						
WI Unique Well No. WC336	DNR Well ID No. 129	Common Well Name MW-16WT	Final Static Water Level 1,116.3 Feet MSL	Surface Elevation 1,184.7 Feet MSL	Borehole Diameter 6.0 inches	
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒ State Plane 163,940 N, 715,674 E S/C/N SW 1/4 of SE 1/4 of Section 15, T 13 N, R 4 W			Lat ° ' " Long ° ' "		Local Grid Location ☐ N ☐ E ☐ S ☐ W	
Facility ID 3268		County Vernon	County Code 63	Civil Town/City/ or Village Viroqua		

Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			1.5 3.0 4.5 6.0 7.5 9.0 10.5 12.0 13.5 15.0 16.5 18.0 19.5	See MW-16 for description.										

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

Signature 	Firm Short Elliott Hendrickson Inc.	Tel: Fax:
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Page 2 of 3

Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			21.0	See MW-16 for description. <i>(continued)</i>										
			22.5											
			24.0											
			25.5											
			27.0											
			28.5											
			30.0											
			31.5											
			33.0											
			34.5											
			36.0											
			37.5											
			39.0											
			40.5											
			42.0											
			43.5											
			45.0											
			46.5											
			48.0											
			49.5											
			51.0											
			52.5											

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

Page 1 of 4

Facility/Project Name Vernon County Landfill Expansion			License/Permit/Monitoring Number 3268		Boring Number MW-17WT	
Boring Drilled By: Name of crew chief (first, last) and Firm Braun Intertec			Date Drilling Started 9/21/2022		Date Drilling Completed 9/23/2022	
Drilling Method hsa, mud rotary						
WI Unique Well No. WC338	DNR Well ID No. 133	Common Well Name MW-17WT	Final Static Water Level 1,116.5 Feet MSL	Surface Elevation 1,196.4 Feet MSL	Borehole Diameter 6.0 inches	
Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒ State Plane 163,691 N, 715,688 E S/C/N SW 1/4 of SE 1/4 of Section 15, T 13 N, R 4 W			Lat ° ' " Long ° ' "		Local Grid Location ☐ N ☐ E ☐ S ☐ W	
Facility ID 3268		County Vernon	County Code 63	Civil Town/City/ or Village Viroqua		

Sample Number and Type	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					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 AU	18			LEAN CLAY WITH SAND (CL), brown (Residuum)	CL									
2 SS	18	5	1.5	CLAYEY SAND (SC), brown, rock fragments at 4.5 to 6 and 7 to 8.5 feet bgs, poorly graded sand seam (1 inch) at 8.4 feet, rough drilling from 7.5 to 8 feet bgs (Residuum).	SC									
3 SS	18	9	3.0											
4 SS	18	6	4.5											
5 SS	18	10	6.0	WEATHERED SANDSTONE, light brown, very friable, iron oxide staining (Saprolite).										
6 SS	18	28	7.5											
7 SS	18	20	9.0											
8 SS	18	14	10.5											
9 SS	18	10	12.0											
10 SS	18	10	13.5											
11 SS	18	14	15.0											
12 SS	18	14	16.5											
13 SS	18	25	18.0											
14 SS	18	24	19.5											
15 SS	18	40												

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

Signature <i>Ben Korte</i>	Firm Short Elliott Hendrickson Inc.	Tel: Fax:
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Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
SS	18	14 34	21.0	WEATHERED SANDSTONE, light brown, very friable, iron oxide staining (Saprolite). <i>(continued)</i>										
			22.5											
			24.0											
10 SS	18 18	12 14 16	25.5											
			27.0											
			28.5											
11 SS	18 14	4 5 11	30.0											
			31.5											
			33.0											
12 SS	18 16	10 15 32	34.5	WEATHERED SANDSTONE, Dark brown, very friable, iron oxide staining (Saprolite).										
			36.0	WEATHERED SANDSTONE, brown to dark brown, clayey, very friable (Saprolite).										
			37.5											
13 SS	18 14	8 6 6	40.5											
			42.0											
			43.5											
14 SS	18 8	35 50+	45.0											
			46.5											
			48.0											
15 SS	18 8	10 10 17	49.5											
			51.0											
			52.5											

Boring Number		MW-17WT		Use only as an attachment to Form 4400-122.		Page 3 of 4								
Sample		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					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
16 SS	18 18	10 14 16	54.0 55.5	WEATHERED SANDSTONE, brown to dark brown, clayey, very friable (Saprolite). (continued)										
			57.0											
			58.5											
17 SS	18 8	14 10 10	60.0											
			61.5											
			63.0											
18 SS	18 1	50+	64.5											
			66.0											
			67.5											
			69.0											
			70.5	SANDSTONE, brown to dark brown, clayey, very friable.										
			72.0											
			73.5											
			75.0											
			76.5											
			78.0											
			79.5											
			81.0											
			82.5											
			84.0											
			85.5											

NOTE: Static water level could not be directly observed during drilling.
Groundwater encountered at 79.9 feet bgs on 9/26/2022.

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