

CORRESPONDENCE/MEMORANDUM _____ State of Wisconsin

DATE: February 22, 2011

TO: Ken Hanzel, P.E.
Northeast Region Soils and Materials Engineer

FROM: Jeffrey D Horsfall, P.E.
Geotechnical Engineer

SUBJECT: **Subsurface Information Memorandum**
Project I.D. 1133-03-02
STH 29 and USH 41 Interchange
Early Fill / Early Structures Contract
Brown County

General

The purpose of this memorandum is to provide subsurface information as “Information Available to Bidders”. The following information is attached to this memorandum:

- Attachment 1: Field Boring Logs
- Attachment 2: Summary of Soils Laboratory Tests
- Attachment 3: WisDOT Soil Consolidation Parameters
- Attachment 4: WisDOT Soil Shear Strength Parameters

Please call if you have any questions.

cc: Northeast Region (via e-mail)
Bureau of Structures, Structures Design (via e-mail)
Central Office Files
Geotechnical File (original)

Subsurface Information Memorandum
Early Fill / Early Structure Contract
Attachment 1

Attachment 1

Field Boring Logs

Boring No. HF-29-1 Structure HIGH FILL AREA County Brown Sheet 1 of 2
 Project 9202-07-01 Road 3TH-29
 Station 795+00 Offset 15' W of 3TH-29 EB TO 41 SB RAMP Surface Elevation 615.0'
GROUND WATER OBSERVATIONS AT 3TH-29 EB TO 41 NB RAMP
 Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Splitspoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 11-19-9 Unit 3
 Finish 11-20-9 Chief RJA

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	m					TOP So. L			A	34
						Fine Sand, Silty, Brown, Firm				CASING
1	W	5	8		17	5			↓	
		9							2 1/2	
									RB	
									Dm	↓
2	W	5	3		13	10 Firm				
		8								
3	W	1	2		4	15 Silty, Lt. Clay, Gray, V-Loose.				
		3								
4	W	0	0		0	20 V-Loose				
		0								
5	W	0	0		0	25				
		0								
6	W	0	0		0	30				
		0								
7	W	0	0		0	35 W/BROWN CLAY SEAMS				
		0								
8	W	0	0		0	40				
		0								

Checked by _____ Final Boring No. HF-29-1

FIELD BORING LOG

Boring No. HF-29 #1 Structure High Fill Area County Brown Sheet 2 of 2
 Project 9202-07-01 Road STH-29
 Station 795+00 Offset 15' L of STH-29 EB To 41 SB RAMP Surface Elevation 615.0'
GROUND WATER OBSERVATIONS AT STH-29 EB To 41 NB RAMP
 Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem
 M = Moist WA = Wash Ahead
 W = Wet RB = Rockbit

DRILLING METHOD
 ST = Shelby Tube A = Auger E = Easy
 SS = Splitspoon C = Coring M = Medium
 DM = Drilling Mud W = Wash H = Hard

Start 1-19-9 Unit 3
 Finish 1-20-9 Chief RWA

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unclassified Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	W					Silt, little clay, GRAY/BRN V-Loose			27/6 RD DM	
9	W	0	0			45 V-Loose	45			
10	W	0	0			50 V-Loose Few Brown CLAY SEAMS	50			
11	W mw m	0	1		1	55 CLAY, SILTY, TRAC GRAVEL STIFF	55		1.25	
12	W	12	16		28	60 CLAY, SILTY, TRAC SAND & GRAVEL Brown, V-STIFF	60		2.75 3.00	
						62 End of B-HF29 #1 62'	62			
						30	30			
						35	35			
						40	40			

Boring No. HF-29 #1A Structure High Fill County Brown Sheet 1 of 2
 Project: 9202-07-01 Road STH-29
 Station 795+05 Offset _____ Surface Elevation 614.0'

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Splice Spoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 12-1-9 Unit 3
 Finish 12-2-9 Chief RudA

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
						Topsoil			A	4" CASID
					5	Fine Sand, Silty, Lt. Brn				
					10				3 7/8 RD DM	
					15	Clay, Silty, Brown				
					20	Silt, some clay Gray/Brn				
					25	Medium SIZED VANE Peak 600 in/LBS + AFTER 5 minutes AVERAGE 200 in/LBS Peak 350 in/LBS AVERAGE 200 in/LBS				
					30	Tube #1 30'-32' FULL TUBE				
					35					
					40	Medium SIZED VANE Peak 300 in/LBS AFTER 5 minutes AVERAGE 100 in/LBS Peak 160 in/LBS AVERAGE 80 in/LBS				

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Boring No. HF-29 #1A Structure High Fill County Brown Sheet 2 of 2
 Project 9202-07-01 Road STH-29
 Station 795+05 Offset SAME AS HF-29 #1 Surface Elevation 614.0'

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Splitspoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 12-1-9 Unit 3
 Finish 12-2-9 Chief RJA

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	W					Silt, some clay, GRAY/BRN v-loose			3 1/8 RB DM	
					45					
					50	Tube # 2. 50'-52' FULL TUBE				
					15	End of B-HF-29 #1A				
					20					
					25					
					30					
					35					
					40					

Checked by _____ Final Boring No. #1A

Boring No. 4539 #2 Structure High Fill County Br Sheet 1 of 2
 Project 9202-07-01 Road 3TH-29
 Station 795+00 Offset 3.6' LT of 99 EB to 41 MB Ramp Surface Elevation 96.70'
GROUND WATER OBSERVATIONS 1.5' LT of 99 EB to 41 MB Ramp
 Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Splitspoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 11-26-9 Unit 3
 Finish 11-30-9 Chief RJA

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	M					DARK BROWN SILT LT SAND - TOP SOIL	606.7		A	3'
						FINE SAND, SATY, FIRM	607.7		M	35'
						FINE SAND, SATY, BROWN, FIRM				
1	W	3	7			5	5			
							601.7		RF	
2	W	2	3			10	10		DM	
							597.7			
3	W	0	0			15	15			
							605			
4	W	0	0			20	20			
							600			
5	W	0	1			25	25			
							594.7			
6	W	14	16			30	30			
							578.2			
7	W	0	0			35	35			
							572.7			
8	W	0	0			40	40			

Boring No. WF-28 #3 Structure HIGH FILL County BROWN Sheet 1 of 2
 Project 9202-07-01 Road STW-29
 Station 801+00 Offset 20' LT 29 EB TO 41 NB RAMP Surface Elevation 610.1'

GROUND WATER OBSERVATIONS 35' LT 29 EB TO 41 SB RAMP

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Splitspoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 12-1-9 Unit 3
 Finish 12-1-9 Chief PL

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	M					5' 600.1'			A	3"
						5' 601.6'			RB	
1	W	6	7		13	5' 601.6'			DM	
2	W	3	7		10	10' 601.6'				
3	W	0	0		15	15'				
4	W	0	0		20	20'				
5	W	0	0		25	25'				
6	W	0	0		30	30'				
7	W	0	0		35	35'				
8	W	0	0		40	40'				

Checked by _____ Final Boring No. #3

FIELD BORING LOG

Boring No. HF-29 #3 Structure H. H. G. W. County Brown Sheet 2 of 2

Project 99-2-07-01 Road STW-29

Station 801+40 Offset 20 FT. SW - REF TO 41 N B RAMP Surface Elevation 610.1'

GROUND WATER OBSERVATIONS 35 FT 29 FT TO 41 N B RAMP

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem
 M = Moist WA = Wash Ahead
 W = Wet RB = Rockbit

DRILLING METHOD
 ST = Shelby Tube A = Auger E = Easy
 SS = Splitspoon C = Coring M = Medium
 DM = Drilling Mud W = Wash H = Hard

Start 12-19 Unit 3
 Finish 12-19 Chief RDA

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
						<u>5</u>			<u>DM</u>	
						<u>10</u>				
						<u>15</u>				
						<u>20</u>				
						<u>25</u>				
						<u>30</u>				
						<u>35</u>				
						<u>40</u>				

Checked by _____ Final _____ Boring No. #3

FIELD BORING LOG

Boring No. HP-29 #4 Structure HIGH FILL County BROWN Sheet 1 of 2
 Project 9202-07-01 Road STH-29
 Station 804+00 Offset 50' LT 29 EB To 41 SB RAMP Surface Elevation 609.7'
GROUND WATER OBSERVATIONS 20' LT 29 EB To 41 NB RAMP
 Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem
 M = Moist WA = Wash Ahead
 W = Wet RB = Rockbit

DRILLING METHOD
 ST = Shelby Tube A = Auger E = Easy
 SS = Split spoon C = Coring M = Medium
 DM = Drilling Mud W = Wash H = Hard

Start 2-29 Unit 3
 Finish 2-29 Chief Rok

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	M					SILT, Some CLAY, TRACE SAND, FIRM			A	4"
						SILT, Fine SANDY, BROWN				
	W					5 Fine SAND, SILTY, GRAY				
1		5	7		10	SILT, Fine SANDY, BROWN, FIRM	1.00		37/80	
		9								
2	MW	3	4		7	10 CLAY, SILTY, BROWN, STIFF	1.75		DM	
		3								
3	MW	0	2		5	15 Medium	.75			
		3								
	W					20 Medium Sized Vane Peak 400 in/LBS AVERAGE 150 in/LBS AFTER 5 minutes Peak 180 in/LBS AVERAGE 100 in/LBS				
	W					25 CLAY, SILTY, V-SOFT, GRAY/BEN				
4	W	0	0		0					
		0								
						30-32' 3/4 TUBE				
	W									
						35 SILT, Some CLAY, GRAY/BEN V-Loose				
5	W	0	0		0					
		0								
						40 Medium sized Vane Peak - 200 in/LBS AVERAGE 80 in/LBS AFTER 5 min Peak - 100 in/LBS AVERAGE - 60 in/LBS				

FIELD BORING LOG

Boring No. HF-29#4 Structure High Fill County Brown Sheet 2 of 2
 Project 9202-07-01 Road STH-29
 Station 804+00 Offset 50' LT 29 EB To 41 SB RAMP Surface Elevation 609.7'

GROUND WATER OBSERVATIONS 20' LT 29 EB To 41 NB RAMP

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Splitspoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 2-2-9 Unit 3
 Finish 2-3-9 Chief RDA

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	W					SILT, Some CLAY, GRAY/BRN V-Loose			3 1/4 RB DM	
6	W	0	0		45	45 V-Loose	0			
					50	50 - NO Recovery				
					53	53 - 53.5' FULL TUBE				
7	M	3	4		55	CLAY, SILTY, LT. SAND, BRN - STIFF	1.25			
8	M	4	5		20	20 STIFF	1.50		V	
					25	End of B-HF-29#4 01.5'				
					30					
					35					
					40					

Boring No. HF-29#5 Structure High Pile County Brown Sheet 1 of 2
 Project 9202-07-01 Road STN-29
 Station 801+00 Offset 40' W of 29EB to 41NB Surface Elevation 609.2'

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Splice Spoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 12-3-9 Unit 3
 Finish 12-3-9 Chief RJA

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Uncoupled Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	M					SILT, some clay, Brown			A	30
	W					606.7				
1	M	5	7		15	5 Fine Sand, SILTY, GRAY	2.50		2 1/2	
		8				CLAY, SILTY, Brown V-STIFF			RB	
						10 V-STIFF			DM	
2	M	7	8		15		3.25			
		10				609.1				
3	W	0	0		0	15 CLAY, SILTY, GRAY, SOFT	.25			
		0								
4	W	0	0		0	20	.25			
		0								
5	W	0	0		0	25	0			
		0								
6	W	0	0		0	30	0			
		0								
7	W	0	0		0	35 SILT, some clay, GRAY/BROWN	0			
		0								
8	W	0	0		0	40	0			
		0								

Checked by _____ Final Boring No. #5

FIELD BORING LOG

Boring No. HF-29 #5	Structure High Fill	County Brown	Sheet 2 of 2
Project 4202-07-01	Road STH-29		
Station 807+00	Offset 40' W of 29 EB to 41 WB Ramp	Surface Elevation 609.2'	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:				
Water Elevation:	Depth to Water:				
Top of Well Elevation:					

MOISTURE	DRILLING METHOD	Unit 3	Chief RJA
D = Damp M = Moist W = Wet	HS = Hollowstem WA = Wash Ahead RB = Rockbit	Start 12-3-9	Finish 12-3-9
	ST = Shelby Tube SS = Splitspoon DM = Drilling Mud		
	A = Auger C = Coring W = Wash		
	E = Easy M = Medium H = Hard		

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	W					SILT, some clay, GRAY/BRN, V-Loose			2 7/8
						CLAY, SILTY, BROWN, V-SOFT			RB
9	W	0	0		0	45'	0		DM
						SILT, some clay, LT. SAND, GRAY			
10	W	0	0		0	50' V-Loose	0		
						SILT, LT. SAND, LT. CLAY, GRAY			
11	mw	4	8		17	55' Firm	1.75		
						CLAY, SILTY, LT. SAND, BRN			
12	mw	3	5		12	60' STIFF	1.5		↓
						End of B-HF/29.#5			
						25'			
						30'			
						35'			

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Boring No. **#5**

FIELD BORING LOG

Boring No. HF-29 #6	Structure High Fill	County Brown	Sheet 1 2'
Project 9202-07-01	Road STH-29		
Station 810+00	Offset 40' W. 29 EB TO 41 W. RAMP	Surface Elevation 609.5'	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:				
Water Elevation:	Depth to Water:				
Top of Well Elevation:					

MOISTURE	DRILLING METHOD	Unit 3	Chief RWA
D = Damp M = Moist W = Wet	HS = Hollowstem WA = Wash Ahead RB = Rockbit ST = Shelby Tube SS = Splitspoon DM = Drilling Mud A = Auger C = Coring W = Wash E = Easy M = Medium H = Hard	Start 12-4-9	Finish 12-4-9

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	M					SILT, Fine Sandy, Brown		3'	A
	↓					Fine Sand, Silty, GRAY			
	W					5' SILT, Fine Sandy, Brown, Firm			2 7/8 RB DM
1		3	9		20				
		11							
						10' CLAY, SILTY, Brown, STIFF	1.75		
2	M	3	4		8				
		4							
						15' CLAY, SILTY, Brown, V-SOFT	.25		
3	W	0	0		0				
		0							
						20'	0		
4	W	0	0		0				
		0							
						25'	0		
5	W	0	0		0				
		0							
						30' V-SOFT	0		
6	W	0	0		0				
		0							
						35'			

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FIELD BORING LOG

Boring No. HF-29 #6	Structure HIGH FILL	County Brown	Sheet 2 of 2
Project 9202-07-01	Road W STN-29		
Station 810+00	Offset 40' RT 29 EB TO HWY 41 NB RAMP	Surface Elevation	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:			
Water Elevation:	Depth to Water:			
Top of Well Elevation:				

MOISTURE		DRILLING METHOD				Unit 3	Chief RDA
D = Damp	HS = Hollowstem	ST = Shelby Tube	A = Auger	E = Easy	Start	Finish	
M = Moist	WA = Wash Ahead	SS = Spitspoon	C = Coring	M = Medium	12-4-9	12-4-9	
W = Wet	RB = Rockbit	DM = Drilling Mud	W = Wash	H = Hard			

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	W					CLAY, SILTY, BROWN, V-SOFT			27/16
									RB
									DM
7	W	0	0	0	0	35'	0		
8	W	0	0	0	0	40'	0		
9	W	0	0	0	0	45'	0		
10	W	0	0	0	0	20'	0		
11	W	2	2	4	4	25' SILT, LT. SAND, LT. CLAY, GRAY V-LOOSE	1.50		
12	M	8	16	30	30	30' CLAY, SILTY, BRN, V-STIFF Trace sand	3.50		
						End of HF/29 #6 61.5'	548.0'		
						65'			

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Boring No. **#6**

FIELD BORING LOG

Boring No. HF 29 #7 / W.A.BUT	Structure B-5-658	County Brown	Sheet 1 Of 3
Project 9202-07-02	Road STH 29 over USH 41		
Station 813+35	Offset 30' LT of 29 EB-41 NB Ramp	Surface Elevation 607.9	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:				
Water Elevation:	Depth to Water:				
Top of Well Elevation:					

MOISTURE	DRILLING METHOD	Unit 3	Chief Rudca
D = Damp M = Moist W = Wet	HS = Hollowstem WA = Wash Ahead RB = Rockbit ST = Shelby Tube SS = Splitspoon DM = Drilling Mud A = Auger C = Coring W = Wash E = Easy M = Medium H = Hard	Start 12/15/09	Finish 12-16-9

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	M					top soil	607.9		
						F sand silty Br	606.9	3"	A
						clay silty Br	604.9		
1	M	6	2	7	13	5' STIFF	2.5		
2		4	4	8	8	10' stiff	2.75	2 3/8"	DM
3	M	23	10	33	37	15' F-sand some silty dense Br	443.9		
4	W	0	0	0	0	20' clay silty Br v. soft	425		
5	W	0	0	0	0	25'	0		
6	W	0	0	0	0	30'	0		
7		0	0	0	0	35'			

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Boring No.
HF 29 #7
W.A.BUT

FIELD BORING LOG

Boring No. HF 29 #7 / W. ABUT	Structure B-5-658	County Brown	Sheet 2	Of 3
Project 9202-07-02	Road STH 29 over USH 41			
Station 813+35	Offset 30' LT of 29 ER411NB Ramp	Surface Elevation 607.9		

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:			
Water Elevation:	Depth to Water:			
Top of Well Elevation:				

MOISTURE	DRILLING METHOD				Unit 3	Chief Ruda
D = Damp M = Moist W = Wet	HS = Hollowstem WA = Wash Ahead RB = Rockbit	ST = Shelby Tube SS = Splittspoon DM = Drilling Mud	A = Auger C = Coring W = Wash	E = Easy M = Medium H = Hard	Start 12/15/09	Finish 12-16-9

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	W					clay silty Br. v. soft			RB DM
8		0	0	0	5' 40		0		
9		0	0	0	10' 45		0		
10	M	7	12	19	15' 50	clay Br. little silt Hard little F-C gravel	4.25		
11	M	5	5	10	20' 55	clay Br w/ gray silt stiff	2.5		
12	M	5	2	7	25' 60		2.25		
13	M	3	4	7	30' 65		2.5		
14	M	20	20	40	35' 70	clay Br. little F-m Hard tr. silt gravel	4.54		

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Boring No. HF 29 #7 W. ABUT

FIELD BORING LOG

Boring No. HF-29 #7/W.ABUT	Structure B-5-658	County Brown	Sheet 3 Of 3
Project 9202-07-02	Road SH-29 over USH-41		
Station 813+35	Offset 30' LT of 29 EB to 41 NB Ramp	Surface Elevation 607.9'	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:			
Water Elevation:	Depth to Water:			
Top of Well Elevation:				

MOISTURE	DRILLING METHOD	Unit 3	Chief RJA
D = Damp M = Moist W = Wet	HS = Hollowstem WA = Wash Ahead RB = Rockbit	Start 12-15-9	Finish 12-16-9
	ST = Shelby Tube SS = Spillspoon DM = Drilling Mud		
	A = Auger C = Coring W = Wash		
	E = Easy M = Medium H = Hard		

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	M					clay Br little F-in gravel To silt Hard			27/8 RB DM
			22			silt gray some F-C gravel some F-C sand			
K		60	39		99	5" V-Dense 75			
						Limestone Bedrock AT 77'			↓
						10' End of HF-29 #7/W.ABUT 79'			
						NOTE: LOST ALL FLUID RETURN AT 78.5' FRACTURE/VOID IN ROCK.			
						15' AT 78.5' FRACTURE/VOID IN ROCK.			
						20'			
						25'			
						30'			
						35'			

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Final

Boring No.

HF-29 #7/WEST ABUT

FIELD BORING LOG

Boring No. HF 29 #8/Pier 1	Structure B-5-658	County BROWN	Sheet 1 of 3
Project 9202-07-02	Road STH 29 over USH 41		
Station 815+05	Offset 15' Lt of 29 EB 41 NB R/W	Surface Elevation 607.4	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:				
Water Elevation:	Depth to Water:				
Top of Well Elevation:					

MOISTURE	DRILLING METHOD	Unit 3	Chief Ruda
D = Damp M = Moist W = Wet	HS = Hollowstem WA = Wash Ahead RB = Rockbit ST = Shelby Tube SS = Spiltspoon DM = Drilling Mud A = Auger C = Coring W = Wash E = Easy M = Medium H = Hard	Start 12-17-9	Finish 1-5-10

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	M					F-C gravel Br		3"	A
						clay Br. silty			
	M		2			shff			
1	M	3	4		7	5'	2.75		2 7/8" PR WA DM
2	M	9	4		13	10'			
3	M	0	0		0	15'	2.25		
4	W	0	0		0	20'	0		
5	W	0	0		0	25'	0		
6	W	0	0		0	30'	0		
7	M	3	4		7	35'	1.0		

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Boring No.

HF 29 #8 Pier

FIELD BORING LOG

Boring No. HF 29 #8 Pier 1	Structure B-5-600	County Bremen	Sheet 2 Of 3
Project 9202-07-02	Road SPH 29 over USH 41		
Station 815+05	Offset 15' LT of 29 EB - 41 NB	Surface Elevation 607.4	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:			
Water Elevation:	Depth to Water:			
Top of Well Elevation:				

MOISTURE	DRILLING METHOD	Unit 3	Chief Ruda
D = Damp M = Moist W = Wet	HS = Hollowstem WA = Wash Ahead RB = Rockbit ST = Shelby Tube SS = Spitspoon DM = Drilling Mud A = Auger C = Coring W = Wash E = Easy M = Medium H = Hard	Start 12-17-4	Finish 1-5-10

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	D/W					silt Br. tr. sand tr. clay			2 7/8 RB
						clay Br. little silt little gravel			10M
8	M	4	8	4	12	5' 40	5' 40	2.5	
9	M	4	7	3	11	10' 45	10' 45	2.0	
10	M	4	6	4	10	15' 50	15' 50	1.0	
11	M	4	4	3	8	20' 55	20' 55	1.0	
12	M	2	3	2	5	25' 60	25' 60	2.5	
13	M	4	4	2	4	30' 65	30' 65	1.25	
14	M	14	49	10	63	35' 70	35' 70		

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Boring No.

HF 29 #8
Pier 1

FIELD BORING LOG

Boring No. HF 29 8 / Pier 1	Structure P-5-659	County Brown	Sheet 3 Of 3
Project 9202-07-02	Road STH 29 over USH 41		
Station 815+05	Offset 5' E of 29 EB-41 NB Bump	Surface Elevation 667.4	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:			
Water Elevation:	Depth to Water:			
Top of Well Elevation:				

MOISTURE	DRILLING METHOD	Unit 3	Chief Rudq
D = Damp M = Moist W = Wet	HS = Hollowstem WA = Wash Ahead RB = Rockbit ST = Shelby Tube SS = Splitspoon DM = Drilling Mud A = Auger C = Coring W = Wash E = Easy M = Medium H = Hard	Start 12-17-9	Finish 1-5-10

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	in					silt gray some F-C gravel (fill) some F-C some			27/6
						V dense			80
						Limestone SLAB			
15		6/10	60		5'	silt gray some F-C gravel (fill) Limestone	5'		BQ core #1
					75	BQ core run #1 76-81' 100% recover	75		
					10'	BQ core run #2 81-85' 100% Recover	10'		BQ core #2
					80		80		
					15'	BQ core run #3 85-91' 100% Recover	15'		BQ core #3
					85		85		
					20'	BQ core run #4 91-92' 100% Rec	20'		BQ core #4
					90		90		
					25'	BQ core run #5 92-97' 100% recover	25'		BQ core #5
					95		95		
					30'	BQ core run #6 97'-102' 100% recover	30'		BQ core #6
					100		100		
					35'	E.O.B - B - HF 29 8 Pier 1	35'		
					105		105		

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Boring No.

HF 29 8 Pier 1

FIELD BORING LOG

Boring No. <i>HF 29 9 Pier 2</i>	Structure <i>B-5-658</i>	County <i>Brown</i>	Sheet <i>1</i>	Of <i>3</i>
Project <i>9202-07-02</i>	Road <i>US 29 over US 41</i>			
Station <i>B17+15</i>	Offset <i>20' R - 5TH 29 PIER 2</i>	Surface Elevation <i>608.2</i>		

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:				
Water Elevation:	Depth to Water:				
Top of Well Elevation:					

MOISTURE		DRILLING METHOD				Unit <i>3</i>	Chief <i>Ruda</i>
D = Damp	HS = Hollowstem	ST = Shelby Tube	A = Auger	E = Easy	Start <i>1/5/10</i>	Finish <i>1-13-10</i>	
M = Moist	WA = Wash Ahead	SS = Splitspoon	C = Coring	M = Medium			
W = Wet	RB = Rockbit	DM = Drilling Mud	W = Wash	H = Hard			

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
						<i>top soil</i> <i>silt Brown little sand little gravel</i>		<i>3" Ca</i>	<i>A</i>
<i>1</i>	<i>M</i>	<i>4</i>	<i>5</i>		<i>12</i>	<i>5' clay Br. little silt stiff</i>	<i>2.75</i>		<i>3 7/8" RB Sm</i>
<i>2</i>	<i>W</i>	<i>1</i>	<i>1</i>		<i>2</i>	<i>10' clay Br. silt v. soft</i>	<i>.25</i>		
<i>3</i>		<i>0</i>	<i>0</i>		<i>0</i>	<i>15'</i>	<i>0</i>		
<i>4</i>	<i>W</i>	<i>0</i>	<i>2</i>		<i>3</i>	<i>20' silt gray little Fm gravel v. soft</i>	<i>.25</i>		
<i>5</i>	<i>W</i>	<i>1</i>	<i>1</i>		<i>2</i>	<i>25'</i>	<i>.25</i>		
<i>6</i>	<i>M</i>	<i>3</i>	<i>5</i>		<i>13</i>	<i>30' silt Br. little clay stiff</i>	<i>2.0</i>		
<i>7</i>		<i>11</i>	<i>11</i>		<i>22</i>	<i>35' tr. gravel Hard</i>	<i>4.5</i>		

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Boring No.

HF 29 9 Pier 2

FIELD BORING LOG

Boring No. 4F-29-9 Pier 2	Structure B-5-65B	County BROWN	Sheet 2 Of 3
Project 9202-57-02	Road STH 29 171st USH 41		
Station 817+15	Offset 30' R+ - STH 29 EB to USH NB RL	Surface Elevation 603.2	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:				
Water Elevation:	Depth to Water:				
Top of Well Elevation:					

MOISTURE	DRILLING METHOD	Unit 3	Chief Ruda
D = Damp M = Moist W = Wet	HS = Hollowstem WA = Wash Ahead RB = Rockbit	Start 1/5/10	Finish 1-13-10
	ST = Shelby Tube SS = Splitspoon DM = Drilling Mud		
	A = Auger C = Coring W = Wash		
	E = Easy M = Medium H = Hard		

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	M					silt br. little clay Tr-gravel Hard		3"	S 3/8 RB DM
8	M	5	7		16	clay br silt silt	2.5		
		9					4.0		
9	M	4	4		8	clay br w/ gray silt seams.	1.0		
	W	4					1.0		
10	M	3	4		8		1.0		
	W	4					1.0		
11	W	3	3		7		1.0		
	W	4					1.0		
12	W	4	3		7	stiff	2.0		
	W	4					2.0		
13	W	3	3		7	soft	1.0		
	W	4					1.0		
14	M	8	9		28	clay br. some sand some fine gravel	3.5		
	W	19					3.5		

Checked By	Final	Boring No. 4F-29 #9 Pier # 2
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FIELD BORING LOG

Boring No. HF 29-9 Pier 2	Structure B-5-658	County Brown	Sheet 3 of 3
Project 9202-87-02	Road STH 29 over USH 41		
Station 217+15	Offset 20' R+ STH 29 EB to USH 41 NR	Surface Elevation 608.2	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:			
Water Elevation:	Depth to Water:			
Top of Well Elevation:				

MOISTURE	DRILLING METHOD	Unit 3	Chief Rude
D = Damp M = Moist W = Wet	HS = Hollowstem WA = Wash Ahead RB = Rockbit ST = Shelby Tube SS = Splitspoon DM = Drilling Mud A = Auger C = Coring W = Wash E = Easy M = Medium H = Hard	Start 1/5/10	Finish 1-13-10

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	M					clay Br some F-m sand some F-c gravel		3"	3" RB DM
15	W	13	19		60	5' silt gray w/ F-c gravel & F-c sand 75 Limestone slab till - silt gray w/ F-c gravel & F-c sand Limestone Bedrock			
						80 core run #1 77.5' - 82.5' 95% recovery			BQ core #1
						80			
						15' BQ core run #2 82.5' - 87.5' 100% recovery			BQ core #2
						85			
						20' BQ core run #3 87.5' - 92.5' 80% recovery			BQ core #3
						90			
						25' BQ core run #4 92.5' - 96.5' 90% Rec.			BQ core #4
						95			
						30' BQ core run #5 96.5' - 101.5' 100% Recovery			BQ core #5
						100			
						35' BQ core run #6 101.5' - 106' 90% Recovery			BQ core #6
						105			

Checked By _____ Final _____ Boring No. **HF 29-9 Pier 2**

End of B-11A-21 #9 106'

FIELD BORING LOG

Boring No. 6 middle	Structure B-5-689 & HIGH FILL	County Brown	Sheet 1 Of 2
Project 1133-03-02	Road STH-29 EB TO USH-41 SB		
Station: 319+00	Offset on 29 EB TO 41 S.B. R/L	Surface Elevation 605.0'	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:				
Water Elevation:	Depth to Water:				
Top of Well Elevation:					

MOISTURE	DRILLING METHOD				Unit 3	Chief RJA
D = Damp M = Moist W = Wet	HS = Hollowstem WA = Wash Ahead RB = Rockbit	ST = Shelby Tube SS = Spillspoon DM = Drilling Mud	A = Auger C = Coring W = Wash	E = Easy M = Medium H = Hard	Start 4-20-10	Finish 4-21-10

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	M					TOPSOIL		3"	A
						SILT, FINE SANDY, BROWN FILL MATERIAL			
1	MW	3	3		5	5' TOPSOIL - SILT, LT. SANDY BROWN	1.00		
2		2	2		4	SILT, LT. FINE SAND, GRAY, V-LOOSE	1.00		27%
3	W	3	1		6	10' FINE SAND, SILTY, LOOSE - BROWN	.75		DM
4		2	1		3	CLAY, SILTY, GRAY, DRG - STIFF	1.00		
5		2	3		6		1.25		
6		3	3		6	15' SOFT	.75		
7		0	0		0	SILT, LT. CLAY, GRAY, W/DRN CLAY SEAMS	0		
8		0	0		0	V-LOOSE	0		
9	W	0	0		0	20'	0		
						25' SILT, SOME CLAY, LT. SAND	1.25		
						GRAY / BRN V-LOOSE			
10	W	1	4		4	30' BROWN - LOOSE	.50		
						CLAY, SILTY, BROWN			
11	M	3	6		13	35' V-STIFF	2.25		

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Final

Boring No. **6**

FIELD BORING LOG

Boring No. <u>6 Middle</u>	Structure <u>B-5-689 @ H.A. N. Hill</u>	County <u>Brown</u>	Sheet <u>2</u> Of <u>2</u>
Project <u>1133-03-02</u>	Road <u>SH-29 EB TO USH-41 SB</u>		
Station <u>819+00</u>	Offset <u>on 29 EB to 41 SB R/L</u>	Surface Elevation <u>605.0'</u>	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:				
Water Elevation:	Depth to Water:				
Top of Well Elevation:					

MOISTURE		DRILLING METHOD				Unit <u>3</u>	Chief <u>R. D. A.</u>
D = Damp	HS = Hollowstem	ST = Shelby Tube	A = Auger	E = Easy	Start <u>4-20-10</u>	Finish <u>4-21-10</u>	
M = Moist	WA = Wash Ahead	SS = Splitspoon	C = Coring	M = Medium			
W = Wet	RB = Rockbit	DM = Drilling Mud	W = Wash	H = Hard			

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	M					CLAY, SILTY, BROWN, V-STIFF	2.25		2 7/8 RB DM
12	M	5	6		13	40' 40'	1.50		
13	M	3	5		13	45' 45'	1.50		
		8				End of B-6: 46.5'			
						15'			
						20'			
						25'			
						30'			
						35'			

Checked By

Final

Boring No. 6

FIELD BORING LOG

Boring No. 004 Structure R-5-67 County Brown Sheet 1 of 2
 Project 113-02-02 Road 29 EB TO 41 SB
 Station 004+00 Offset 30' RP 29 EB 41 SB Surface Elevation 600.2

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Splitepoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 7-13 Unit 3
 Finish 7-13-10 Chief M

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Uncontained Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	MW					Top Soil			A	4/10
						Sand silty Br				
1	MW	4	10				40		S	
2	MW	6	11		5	Firm Silt sandy br	25		S	
3		8	10		5				S	
4		5	7		15	Firm Sand Firm some silt	1.5		S	
5		5	3		8	Silt little clay			S	
6		3	4		10	Loose Clay little silt Red	1.5		S	
7		2	3		5	Loose Clay silty Red	.7		S	
8		2	2		2	Loose Clay some silt Red	.3		S	
9	W	0	0		15	Loose	.1		S	
10		0	0		0	Loose Silt to Clay Red	0		S	
11		0	0		20	Loose	0		S	
12		0	0		25	Loose	0		S	
13		0	0		30	Loose	0		S	
14		0	0		35	Loose small layers clay silty	0		S	
15		0	0		40		0.2		S	

Checked by _____ Final 611 Boring No. 004

FIELD BORING LOG

Boring No. 804 Structure R-5-67 County Brown Sheet of 2
 Project 1133-02-02 Road 29EB to 41SB Ramp
 Station 804+00 Offset 30' AT 29EB 41 SB Surface Elevation 608.2

GROUND WATER OBSERVATIONS Ramp PL

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Split spoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 7-13 Unit 3
 Finish 7-13-10 Chief M

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	W					Silt + Clay Red Small lags clay silty				
16		0	0	10	10	5 45 V loose	5			55
18		0	0	10	10	10 50 Silt some sand to coarse V loose Silt gray sandy	10			55
19		7	4	11	18	15 55 Firm Silt some sand little clay + gravel	15			35
20		8	5	13	18	20 60 Firm	20			55
						61' EOB "804"				
						25 65	25			
						30 70	30			
						35 75	35			
						40 80	40			

Checked by _____ Final 61' Boring No. 804

FIELD BORING LOG

Boring No. B04 ST Structure R-5-67 County Brown Sheet 1 of 2
 Project 1133-02-02 Road 29 EB to 41 SB Ramp
 Station 203+95 Offset 30' to 29 EB to 41 SB Surface Elevation 603.2

GROUND WATER OBSERVATIONS Ramp RL

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem
 M = Moist WA = Wash Ahead
 W = Wet RB = Rockbit

DRILLING METHOD
 ST = Shelby Tube A = Auger E = Easy
 SS = Splitepoon C = Coring M = Medium
 DM = Drilling Mud W = Wash H = Hard

Start 7-13 Unit 3
 Finish 7-13-10 Chief M

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Uncontained Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
						5				
(1)						10			ST	
						15			SV	
						20			SV	
(2)						25			ST	
						30			SV	
(3)						35			ST	
						40			SV	

Checked by _____ Final 50 1/2 Boring No. B04 ST

FIELD BORING LOG

Wisconsin Department of Transportation

Boring No. 806 Structure R-5-67 County Brown Sheet 1 of 2
 Project 1133-02-02 Road 29 EB TO 41 Sh
 Station 806100 Offset 12' RT 29 EB TO 41 Sh Surface Elevation 607.3

GROUND WATER OBSERVATIONS Ramp Rd

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem
 M = Moist WA = Wash Ahead
 W = Wet RB = Rockbit

DRILLING METHOD
 ST = Shelby Tube A = Auger E = Easy
 SS = Split Spoon C = Coring M = Medium
 DM = Drilling Mud W = Wash H = Hard

Start 7-12 Unit 3
 Finish 7-12-10 Chief M

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	W					Silt Black some Organs			A	4.2
1		1	4			Firm Silt Dark Br				
2		1	2			Sand Fine Br with silt	7.2		SS	
3		4	4		6	loose silt Br			SS	
4		1	2		6	loose clay br tr silt	1.7		SS	
5		3	5		8	loose Sand layer fine			SS	
6		3	4		10	clay br tr silt	1.2		SS	
7		3	3		6	loose silt sandy br	3.0		SS	
8		3	4		6	loose clay little silt br	1.5		SS	
9		1	2		4	loose clay tr silt br	0.7		SS	
10		0	0		2	loose clay some silt	1.2		SS	
11		0	0		0	loose silt some clay	0.1		SS	
12		0	0		0	loose silt tr clay Red	0.1		SS	
13		0	0		0					
14		0	0		0	loose 1" layer clay	1.0		SS	

Checked by _____ Final 561 Boring No. 806

FIELD BORING LOG

Boring No. 806 Structure A-5-67 County Brown Sheet 2 of 2
 Project 1133-0202 Road 29EB to 41 SB
 Station B06+00 Offset 17' RT 29EB to 41 Surface Elevation 607.3

GROUND WATER OBSERVATIONS

SB - Pump RL

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE

D = Damp
 M = Moist
 W = Wet

HS = Hollowstem
 WA = Wash Ahead
 RB = Rockbit

DRILLING METHOD

ST = Shelby Tube
 SS = Split Spoon
 DM = Drilling Mud

A = Auger
 C = Coring
 W = Wash

E = Easy
 M = Medium
 H = Hard

Start 7-12 Unit 3

Finish 7-12-10 Chief [Signature]

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	W					Silt to clay red			WA	
(15)		0	0	0	0	5 45 V. loam silt gray little sand & gravel	10		SS	
(16)		6	9	15	15	10 50 Firm clay silty silt sand with gravel	2.0 4.0		SS	
(17)	M	15	23	38	30	15 55 Silt some sand little clay gravel	1.5		SS	
56' EOB # 806										
					20	20 60				
					25	25				
					30	30				
					35	35				
					40	40				

Checked by _____ Final SB Boring No. 806

FIELD BORING LOG

Boring No. B-808 Structure R-5-67 County Brown Sheet 1 of 2

Project 1133-02-02 Road USH 415B STA 29.60

Station 808+00 Offset 38' RT 29.60 to 41.50 Surface Elevation 606.0

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water Standstill Water 14"

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Split spoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 5-12-70 Unit 3
 Finish 5-12-70 Chief RL

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Uncounted Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
						<u>5 1/2' Bit</u> <u>Sand + Gravel</u>			<u>A</u>	<u>31100</u>
①	<u>W</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>4</u>	<u>v loose Sand F-M Br</u>			<u>SS</u>	
②		<u>2</u>	<u>3</u>	<u>2</u>	<u>8</u>	<u>5 loose Sand F to silt Br</u>			<u>SS</u>	
③		<u>5</u>	<u>7</u>	<u>2</u>	<u>16</u>	<u>5 loose Sand F to silt Br</u>			<u>SS</u>	
④		<u>5</u>	<u>7</u>	<u>2</u>	<u>16</u>	<u>Finer (small silt layers to gravel)</u>			<u>SS</u>	
⑤	<u>MW</u>	<u>1</u>	<u>3</u>	<u>2</u>	<u>10</u>	<u>loose silt clay</u>	<u>1.3</u>		<u>SS</u>	
⑥		<u>5</u>	<u>7</u>	<u>2</u>	<u>10</u>	<u>silt</u>	<u>1.0</u>		<u>SS</u>	
⑦	<u>M</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>6</u>	<u>loose Clay some silt Red Br</u>	<u>1.5</u>		<u>SS</u>	
⑧	<u>MW</u>	<u>3</u>	<u>4</u>	<u>2</u>	<u>7</u>	<u>loose Clay silty</u>	<u>2.0</u>		<u>SS</u>	
⑨	<u>M</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>15</u>	<u>small silt layers Clay till silt to sand</u>	<u>1.0</u>		<u>SS</u>	
⑩	<u>MW</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>20</u>	<u>v loose silt some clay Red</u>			<u>SS</u>	
⑪		<u>0</u>	<u>0</u>	<u>0</u>	<u>25</u>	<u>v loose</u>			<u>SS</u>	
⑫		<u>0</u>	<u>0</u>	<u>0</u>	<u>30</u>		<u>1.05</u>		<u>SS</u>	
⑬		<u>0</u>	<u>0</u>	<u>0</u>	<u>35</u>				<u>SS</u>	
⑭		<u>0</u>	<u>0</u>	<u>0</u>	<u>40</u>	<u>silt to clay gray</u>			<u>SS</u>	

Checked by _____ Final 6/2 Boring No. B-808

FIELD BORING LOG

Boring No. B 008 Structure R-5-67 County Brown Sheet 2 of 2
 Project 1133 02-02 Road USH 415B Sta 29 EB
 Station 808+00 Offset 28' RT 29 EA 415B Surface Elevation 606.0
GROUND WATER OBSERVATIONS RL
 Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem
 M = Moist WA = Wash Ahead
 W = Wet RB = Rockbit

DRILLING METHOD
 ST = Shelby Tube A = Auger E = Easy
 SS = Split spoon C = Coring M = Medium
 DM = Drilling Mud W = Wash H = Hard

Start 5-12 Unit 3
 Finish 5-12-10 Chief M

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	MW					Silt to Clay Gray				
(14)	00	00		100%	5 45	loose	5		SS	
(15)	00	00		100%	10 50	Small Red layers like clay	10		SS	
(16)	00	00	2	2	15 55	Silt Gray to clay	15		SS	
(17)	5 11	10	21	21	20 60	No Red layers	20		g	
					25 65	6 1/2 EOB # B008	25			
					30 70		30			
					35 75		35			
					40 80		40			

Checked by _____ Final 6/1/2 Boring No. 008

FIELD BORING LOG

Boring No. B-010 Structure R-5-67 County Brown Sheet of 12
 Project 1133-02-02 Road ST 29 EB to CB USH 41
 Station 809+90 Offset 38' RT Ramp Surface Elevation 606.5

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE

D = Damp
 M = Moist
 W = Wet

HS = Hollowstem
 WA = Wash Ahead
 RB = Rockbit

DRILLING METHOD

ST = Shelby Tube
 SS = Splitepoon
 DM = Drilling Mud
 A = Auger
 C = Coring
 W = Wash
 E = Easy
 M = Medium
 H = Hard

Start 8-7 Unit 3
 Finish 7-10 Chief PL

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		J/6	6/12							
	M					Top soil				4/1 cas
1	W	3	4		7	Loose			SS	
2	W	3	3		6	Sand P Br little silt			SS	
	W	9	9		18	5 Firm			SS	
3	M	3	4		7	Loose Clay Br Red	2.5		SS	
4	MW	4	4		8	Loose Clay small (silt layers wet)	1.5		Clay	
5	W	2	3		5	Firm	1.5		Silt	
6	MW	17	12		29	Silt sandy Br Red	3.0		SS	
7	W	1	2		3	Loose Clay some silt Red br	1.6		SS	
8	W	0	2		2	Loose silt some clay	0.1		SS	
9	MW	0	2		2	Loose	0.1		SS	
10	W	0	0		0	Loose	0.1		SS	
11	W	0	0		0	V. loose	0		SS	
12	W	0	0		0	Loose	0.2		SS	
13	W	0	0		0	Loose silt to clay Red	0		SS	
14	W	0	0		0	Red + Grey	0		SS	
15	W	0	0		0	Grey	0		SS	

Checked by _____ Final 86 1/2 Boring No. B-010

FIELD BORING LOG

Boring No. B-810 Structure R-5-67 County Brown Sheet 2 of 2
 Project 1133-02-02 Road St 29 EB to USH 41 SR
 Station 869+90 Offset 30' RT Ramp Surface Elevation 606.5

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE

D = Damp HS = Hollowstem
 M = Moist WA = Wash Ahead.
 W = Wet RB = Rockbit

DRILLING METHOD

ST = Shelby Tube A = Auger E = Easy
 SS = Split Spoon C = Coring M = Medium
 DM = Drilling Mud W = Wash H = Hard

Start 7-7 Unit 3
 Finish 7-8-10 Chief PL

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	W					Silt to Clay Green				
(15)		0 0			5	Loose	0		SS	
(16)		0 0			10	Silt to Gravel	0		SS	
(17)	MW	3 4			15	Silt Sandy to Gravel with clay Red	07		SS	
		4 7			20	No Rec	7		SS	
(18)	M	5 6			25	Clay silt to Sand Gravel firm	25		SS	
					30	66 1/2 EOB # B10				
					35					
					40					

Checked by _____ Final 66 1/2 Boring No. B-810

FIELD BORING LOG

Wisconsin Department of Transportation

Boring No. SV-ST 910 Structure R-5-67 County Brown Sheet 1 of 2
 Project 4133-02-02 Road St 29 EB to US 41 SB
 Station 210-100 Offset 33' RT Road Surface Elevation 607.1

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE

D = Damp
 M = Moist
 W = Wet

HS = Hollowstem
 WA = Wash Ahead
 RB = Rockbit

DRILLING METHOD

ST = Shelby Tube A = Auger E = Easy
 SS = Splitspoon C = Coring M = Medium
 DM = Drilling Mud W = Wash H = Hard

Start 7-9-10 Unit 3

Finish 7-10-10 Chief TJ

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
						5-15-30-45				
					5					5
					10	10 1/2 SV-S-P-500 in ponds R 250 ip				SV
①					15	ST 15-18 100% Art. Stat 1 1/2'				2 ST
					20	SV 20 1/2 SV-M-P 350 ip SV-M R 140 ip				SV
					25	SV SV-M-P 325 ip R 120 ip				SV
②					30	ST 30-32 100%				06 ST
					35	SV-M-P 400 ip R 120 ip				SV
					40	SV-M-P 200 ip R 130 ip				SV

Checked by _____

Final 50 1/2

Boring No. SV-ST 910

FIELD BORING LOG

Boring No. 5057-810 Structure R-S-67 County Brown Sheet 2 of 2
 Project 11.33.02.02 Road Jh 29 EB to US 41 SB
 Station 215+00 Offset 52 FT Ramp Surface Elevation 607.1

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE

D = Damp
 M = Moist
 W = Wet

HS = Hollowstem
 WA = Wash Ahead
 RB = Rockbit

DRILLING METHOD

ST = Shelby Tube A = Auger E = Easy
 SS = Split spoon C = Coring M = Medium
 DM = Drilling Mud W = Wash H = Hard

Start 7-8 Unit 3

Finish 7-8 10 Chief M

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
						5 45				
						45-47 ST			ST	
						10 50				
						50-50 1/2 SV-M P 350 ip R 120 10			SV	
						50 1/2 EQB				
						# SV-ST-810				
						15				
						20				
						25				
						30				
						35				
						40 80				
						40				

Checked by _____

Final 505

Boring No. 5057-810

Boring No. B-HP012 Structure R-5-67 County Brown Sheet 1 of 2
 Project 193-03-02 Road Stn 29 EB to 41 SB
 Station B12+00 Offset 29 EB to 41 SB Road Surface Elevation 608.6

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem
 M = Moist WA = Wash Ahead
 W = Wet RB = Rockbit

DRILLING METHOD
 ST = Shelby Tube A = Auger E = Easy
 SS = Split spoon C = Coring M = Medium
 DM = Drilling Mud W = Wash H = Hard

Start 7-28 Unit 3
 Finish 4-29-0 Chief M

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	MW					Top soil Silt some sand Br			A	3" ce
1	W	2	2							
2		3	4		5	5 loose Sand silty Br			SS	
3		2	4		5	5 loose Sand F little silt			SS	
4	MW	3	7		10	10 Firm Br silt Br to sand	3.0		SS	
5		13	13		20	20 Firm Br			SS	
6		2	4		10	10 loose	1.5		SS	
7	FW	2	3		10	10 loose			SS	WA
8		3	4		6	6 loose Clay Red to silt	1.6		SS	
9		0	1		3	3 loose	1.5		SS	
10	MW	1	2		5	5 loose Clay silty red	0.5		SS	
11		0	0		20	20 loose silt to clay red	0.2		SS	
12		0	0		25	25 loose	0.1		SS	
13	W	0	0		30	30 loose silt	1.0		SS	
14		0	0		35	35 loose Red	0.9		SS	
15		0	0		40	40 loose Gray	0.8		SS	

Checked by _____ Final 7/6 Boring HP012

Boring No. B-01P012 Structure R-5-67 County Plover Sheet 2 of 2
 Project 1333-03-02 Road St 29 6541
 Station 912+00 Offset 29 EB-4158 Ramp 2 Surface Elevation _____

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Spiltepoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 4-28 Unit 3
 Finish 8-29-10 Chief [Signature]

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unclassified Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
13	M	0	4	11	11	5 45 Firm Clay some silt Red	30		SS	
14	D	6	11	17	27	10 50 Firm Clay some silt little gravel + sand	46		SS	
		7	9	16	22	15 55 Firm No Recovery	15		SS	
15		6	7	13	19	20 60 Firm Clay + silt	45		SS	
16	M	2	3	5	7	25 65 loose layers Gray silt clay Red clay silt	25		SS	
17	W	4	5	9	12	30 70 Firm Silt Gravel some sand Coarse	30		SS	
18	D	60	60.5	120.5	120.5	35 75 Silt sandy some gravel 76' EOBH HP012	45		SS	
						40 80	40			

Checked by _____ Final 7/6 HP012

Boring No. **#9 WEST ABUT** Structure **B-S-663** County **Brown** Sheet **1** of **3**
 Project **133-03-02** Road **STH-29 EB TO USH-41 SB**
 Station **813+68** Offset **37' Rd 29E TO 41S R/L** Surface Elevation **606.7'**

GROUND WATER OBSERVATIONS

Streambed Elevation: _____ Time After Drilling: _____
 Water Elevation: _____ Depth to Water: _____
 Top of Well Elevation: _____

MOISTURE: D = Damp, M = Moist, W = Wet
 DRILLING METHOD: HS = Hollowstem, ST = Shelby Tube, A = Auger, E = Easy, M = Medium, H = Hard, WA = Wash Ahead, SS = Splitspoon, C = Coring, W = Wash, DM = Drilling Mud
 Unit **3** Chief **RDA**
 Start **4-22-10** Finish **4-22-10**

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	M					TOP SOIL			
	W					SILT, F-SANDY, LT. CLAY, BROWN			
1	M	2	5		11	5' CLAY, SILTY, BROWN, 1/2 STIFF	3.00		RB
2	W	1	2		5	10' STIFF - GRAY	1.00		DR
3	W	0	0		0	15' SOFT - GRAY	.25		
4	W	0	0		0	20'	0		
5	W	0	0		0	25'	0		
6	W	0	0		0	30' SILT, SOME CLAY, GRAY, 1/2 STIFF W/BROWN CLAY SPANS			
7	W	0	0		0	35'			

Checked By **[Signature]** Final Boring No. **WEST ABUT-9**

FIELD BORING LOG

Boring No. 9 WEST ABUT. Structure B-5-683 County Brown Sheet 2 of 3
 Project 1133-03-02 Road SH-29 EB TO USH-41 SB
 Station 813+63 Offset 37' R/L GAGE TO 415 R/L Surface Elevation 606.7'

GROUND WATER OBSERVATIONS

Streambed Elevation: _____ Time After Drilling: _____
 Water Elevation: _____ Depth to Water: _____
 Top of Well Elevation: _____

MOISTURE: D = Damp, M = Moist, W = Wet
 DRILLING METHOD: HS = Hollowstem, ST = Shelby Tube, SS = Splitspoon, DM = Drilling Mud, A = Auger, C = Coring, W = Wash, E = Easy, M = Medium, H = Hard
 Unit 3 Chief RJA
 Start 4-22-10 Finish 4-22-10

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	W					SILT, Some CLAY, GRAY, V-Loose W/Brown CLAY SEAMS	0		27/8 KB DM
8	W	0	0		10	5'40 V-Loose	0		
9	m	3	6		15	10'45 CLAY, SILTY, GRAY-BROWN, FINE GRAVEL V-STIFF	3.00		
10	mw	2	3		6	15'50 CLAY, SILTY, GRAY BROWN-STIFF	1.25		
11	mw	2	3		7	20'55 STIFF	1.25		
12	mw	2	2		5	25'60 SILT, Some CLAY, GRAY-Loose W/BROWN CLAY SEAMS	.75		
13	mw	2	2		5	30'65 CLAY, SILTY, GRAY	.75		
14	D	25	39		65	35'70 SILT, F-m SANDY, Some F-c GRAVEL 35'70 GRAY V-Dense	4.54		✓

Checked By 26 Final Boring No. 9 WEST ABUT

FIELD BORING LOG

Boring No. 9 WEST ABOT.	Structure B-5-663	County BROWN	Sheet 3 Of 3
Project 1133-03-02	Road STH-29 SB TO USH-41 SB		
Station 813+68	Offset 37' R/O 29 E TO 41 S R/L	Surface Elevation 606.7'	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:				
Water Elevation:	Depth to Water:				
Top of Well Elevation:					

MOISTURE		DRILLING METHOD				Unit 3	Chief RueA
D = Damp	HS = Hollowstem	ST = Shelby Tube	A = Auger	E = Easy	Start 4-22-10	Finish 4-22-10	
M = Moist	WA = Wash Ahead	SS = Splitspoon	C = Coring	M = Medium			
W = Wet	RB = Rockbit	DM = Drilling Mud	W = Wash	H = Hard			

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	M					SILT F-m SANDY, SOME F-C GRAVEL GRAY, V-DENSE F-C GRAVEL LAYER - CAVING IN	4.5+		27/10 RB DM
15 W		9 18	20		38	75' SILT & F-C GRAVEL - GRAY-DENSE WEATHERED & BROKEN LIMESTONE COMPACT LIMESTONE	4.5+		
						80' End of B-9 80'			
						15' LOST FLUID RETURN AT 77'			
						20'			
						25'			
						30'			
						35'			

Checked By	Final	Boring No. 9 WEST ABOT
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FIELD BORING LOG

Wisconsin Department of Transportation

Boring No. **8 EAST ABUTMENT** Structure **B-5-663** County **Brown** Sheet **Of 3**
 Project **W33-03-02** Road **SR-29 SB TO USH-41 SB**
 Station **8+60** Offset **7' 2" of 29 E to 41 S R/L** Surface Elevation **607.0'**

Streambed Elevation: _____ Time After Drilling: _____
 Water Elevation: _____ Depth to Water: _____
 Top of Well Elevation: _____

MOISTURE: D = Damp, M = Moist, W = Wet; HS = Hollowstem, WA = Wash Ahead, RB = Rockbit; DRILLING METHOD: ST = Shelby Tube, SS = Splitspoon, DM = Drilling Mud; A = Auger, C = Coring, W = Wash; E = Easy, M = Medium, H = Hard
 Unit **3** Chief **RJA**
 Start **4-21-10** Finish **4-21-10**

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	W					Top Soil 607.0'		3"	A
	W					Silt, F-m Sandy, BRN, V-Loose 604.0'			
	W		2			CLAY, SILTY, BROWN, V-STIFF			
1	W	4	8		12	5'	3.40		
	W		2			10' STIFF, GRAY			
2	MW	3	3		6	10'	1.25		DM
	W		0			15' SOFT, GRAY			
3	W	0	1		1	15'	.50		
	W		0			20' V-SOFT			
4	W	0	0		0	20'	0		
	W		0			25' SILT, TRACE CLAY, GRAY, W/ BROWN CLAY SEAMS V-LOOSE 601.0'			
5	W	0	0		0	25'	0		
	W		0			30'			
6	W	0	0		0	30'	0		
	W		0			35'			
7	W	0	0		0	35'	0		

Checked By _____ Final _____ Boring No. **8 EAST ABUT.**

FIELD BORING LOG

Wisconsin Department of Transportation

Boring No. **8 EAST ABUTMENT** Structure **B-5-663** County **Brown** Sheet **2** Of **3**
 Project **1133-03-02** Road **STH-29 EB TO USH-41 SB**
 Station **814+60** Offset **LT 29 ET 41 S R/L** Surface Elevation **607.0'**

GROUND WATER OBSERVATIONS

Streambed Elevation: _____ Time After Drilling: _____
 Water Elevation: _____ Depth to Water: _____
 Top of Well Elevation: _____

MOISTURE

D = Damp
 M = Moist
 W = Wet

HS = Hollowstem
 WA = Wash Ahead
 RB = Rockbit

DRILLING METHOD

ST = Shelby Tube A = Auger E = Easy
 SS = Splitspoon C = Coring M = Medium
 DM = Drilling Mud W = Wash H = Hard

Unit **3** Chief **RJA**
 Start **4-21-10** Finish **4-21-10**

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	W					SILT, TRAC CLAY, GRAY w/ BROWN CLAY SEAMS V-Loose			27/6 R/S M
6	m	4	7		11	5'40" CLAY, SILTY, GRAY-BROWN STIFF	2.00		
7	m	6	6		12	10'45" V-STIFF	3.00		
10	mw	3	4		7	15'50" STIFF	1.25		
11	mw	3	3		6	20'55"	1.00		
12	mw	3	3		6	25'60" SILT, Some CLAY, GRAY w/ BROWN CLAY SEAMS - LOOSE	1.25		
13	mw	3	3		6	30'05"	1.00		
14	m	40			60	35'70" SILT, F-m SANDY, LT. GRAVEL, GRAY V-DENSE	4.54		

Checked By _____

Final

Boring No.

8 EAST ABUTMENT

FIELD BORING LOG

Wisconsin Department of Transportation

Boring No. 8 EAST ABUTMENT Structure B-5-633 County Brewin Sheet 3 of 3
 Project 1133-03-02 Road SH-29 EB TO USH-41 SB
 Station 814+60 Offset 74.6 29E TO 41S R/L Surface Elevation 607.01

GROUND WATER OBSERVATIONS

Streambed Elevation: _____ Time After Drilling: _____
 Water Elevation: _____ Depth to Water: _____
 Top of Well Elevation: _____

MOISTURE: D = Damp, M = Moist, W = Wet
 DRILLING METHOD: HS = Hollowstem, ST = Shelby Tube, A = Auger, E = Easy, WA = Wash Ahead, SS = Spiltspoon, C = Coring, M = Medium, RB = Rockbit, DM = Drilling Mud, W = Wash, H = Hard
 Unit 3 Chief RJA
 Start 4-21-10 Finish 4-21-10

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	m					Silt, F-m Sandy, Lt. Gravel, Coarse (Till)	4.5+		27/8 FB DM
15	m	26	42		68	75' V-Dense	4.5+		
						Limestone SLAB 77.5' - 78.5'			
						Silt, F-m Sandy, Lt. Gravel V-Dense			
						10' Limestone Bedrock - 79.5' to 80.5'			
CORE						BQ Core 81' - 86'			BQ CORE
						100% Recovery			
						End of B-8 86'			
						20'			
						25'			
						30'			
						35'			

Checked By _____ Final

Boring No. B-8

27' HC

DT1434 96, (Replaces EL3A(S)) **FIELD BORING LOG** Wisconsin Department of Transportation
 Boring No. HF 816 Structure HF County Brown Sheet 1 of 2
 Project 9202-07-01 Road Sth 29 Wsh 41
 Station 816+00 Offset R/L L&R 2-9 to 816 41 Surface Elevation 606.3

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Spiltspoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 4-26 Unit 3
 Finish 4-27-10 Chief M

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
						Top Soil				
						Silt Red	10		A	3"
						Clay Red to Silt	2.5			
①		4	8	17	5	Firm	4.5			
②		3	4	10	10	loose Clay Red some silt	1.5		SS	
③	W	0	0	0	15	Clay Red some silt Very loose small gray layers silt	0.5		SS	
④		0	0	0	20	Silt some clay Very loose	0		SS	
⑤		0	0	0	25	loose	0.2		SS	
⑥	M	1	4	0	30	loose Clay some silt some gravel	2.0 2.5		SS	
⑦		4	5	0	35	Firm	2.8		SS	
⑧		0	4	0	40	loose	1.2		SS	

Checked by _____ Final 7 1/2 Boring No. HF 816

FIELD BORING LOG

Boring No. HF 816 Structure HF County Brown Sheet 2 of 2
 Project 9202-07-01 Road STH 29 + 1/2 to 1/4
 Station B16+00 Offset PL EB 29 TO SB 41 Surface Elevation 606.3

GROUND WATER OBSERVATIONS

Streambed Elev. _____ Time After Drilling _____
 Water Elev. _____
 Top of Well Elev. _____ Depth to Water _____

MOISTURE
 D = Damp HS = Hollowstem ST = Shelby Tube A = Auger E = Easy
 M = Moist WA = Wash Ahead SS = Splicepoon C = Coring M = Medium
 W = Wet RB = Rockbit DM = Drilling Mud W = Wash H = Hard

Start 426 Unit 3
 Finish 4-27-10 Chief [Signature]

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Uncontained Strength	Boulders	Drilling Method	Probe Blows
		0/6	6/12							
	M					Clay some silt some gravel				
①	M	1 4	3	7	5 10000	Clay some silt Tr Gravel	5	10	SS	
10	M	1 3	3	6	10 10000	loose	10	10	SS	
11	M	3 3	3	6	15 10000	loose	15	10	SS	
②	M	2 3	3	6	20 10000	loose layers Red clay silt clay	20	25	SS	
③	M	3 4	4	8	25 10000	Clay some silt loose	25	10	SS	
14	M	4 63	11	74	30 10000	7 1/2 EOB # HF 816	30	20	SS	
					35 10000		35			
					40 10000		40			

Checked by _____ Final: 7 1/2 Boring No. HF 816

Boring No. **6 middle** Structure **B-5-689 & HIGH FILL** County **Brown** Sheet **1** of **2**
 Project **1133-03-02** Road **STH-29 EBT to USH-41 SB**
 Station **319+00** Offset **on 29 EBT to 41 S.B. R/L** Surface Elevation **605.0'**

GROUND WATER OBSERVATIONS

Streambed Elevation: _____ Time After Drilling: _____
 Water Elevation: _____ Depth to Water: _____
 Top of Well Elevation: _____

MOISTURE: D = Damp, M = Moist, W = Wet
 DRILLING METHOD: HS = Hollowstem, ST = Shelby Tube, A = Auger, E = Easy, M = Medium, H = Hard, WA = Wash Ahead, SS = Splitspoon, C = Coring, W = Wash, DM = Drilling Mud
 Unit **3** Chief **RJA**
 Start **4-20-10** Finish **4-21-10**

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	M					605.0 Topsoil		3"	A
						603.0 Silt, F-m Sand, Brown			
						5' Fill Material			
1	MW	3	3		5	5' 599.5' Topsoil - Silt, Lt. Sand - Dark Brown	1.00		
2		2	2		4	598.0' Silt, Lt. Fine Sand, Gray, V-Loose	1.00		2 1/2"
3	W	3	1		6	596.0' 10' Fine Sand, Silty, Loose - Brown	.75		RR
4		2	1		3	594.0' Clay, Silty, Gray, Brn - Stiff	1.00		
5		2	3		6		1.25		
6		0	0		1	15' Soft	.75		
7		0	0		0	592.0' Silt, Lt. Clay, Gray, w/ Brn clay seams	0		
8		0	0		0	V-Loose	0		
9	W	0	0		0	20' 25' Silt, some clay, Lt. Sand	1.25		
		0			0	GRAY / BRN V-Loose			
10	W	1	4		9	30' Brown - Loose	.50		
		5				579.0' Clay, Silty, Brown			
11	M	3	6		13	35' V-Stiff	2.25		

Checked By **7** Final Boring No. **6**

FIELD BORING LOG

Boring No. 6 Middle	Structure B-5-689 HIGH FILL	County Brown	Sheet 2 Of 2
Project 1133-03-02	Road STH-29 EB TO USH-41 SB		
Station 819+00	Offset on 29 EB to 41 SB R/L	Surface Elevation 605.0'	

GROUND WATER OBSERVATIONS

Streambed Elevation:	Time After Drilling:			
Water Elevation:	Depth to Water:			
Top of Well Elevation:				

MOISTURE	DRILLING METHOD				Unit 3	Chief RWA
D = Damp M = Moist W = Wet	HS = Hollowstem WA = Wash Ahead RB = Rockbit	ST = Shelby Tube SS = Splitspoon DM = Drilling Mud	A = Auger C = Coring W = Wash	E = Easy M = Medium H = Hard	Start 4-20-16	Finish 4-21-16

Sample No.	Moisture	Blows on Sampler		Sample and Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Unconfined Strength	Boulders	Drilling Method
		0/6	6/12						
	M					CLAY, SILTY, BROWN, V-STIFF	2.25		2 7/8 RB DM
12	M	5 7	6		13	40'	1.50		
13	M	3 8	5		13	45'	1.50		
						End of B-6: 46.5'			
						15'			
						20'			
						25'			
						30'			
						35'			

Checked By

Final

Boring No. **6**