



GESTRA Engineering, Inc.  
1626 W. Fond du Lac Avenue  
Milwaukee, WI 53205  
414-933-7444

March 9, 2011

Paul Vraney  
Project Manager, WisDOT

Subject: Subsurface Information  
Project ID 1133-03-02  
STH 29 ad USH 41 Interchange  
Early Fill / Early Structures Contract  
Brown County

Mr. Vraney,

At the request of WisDOT we are providing a summary of soils information used by GESTRA at structures within the early fill / early structures contract.

In some cases the borings presented were completed by WisDOT and digitized by GESTRA for use in our reports. So there may be some duplication of borings provided in the February 22, 2011 memorandum prepared by Jeffrey Horsfall.

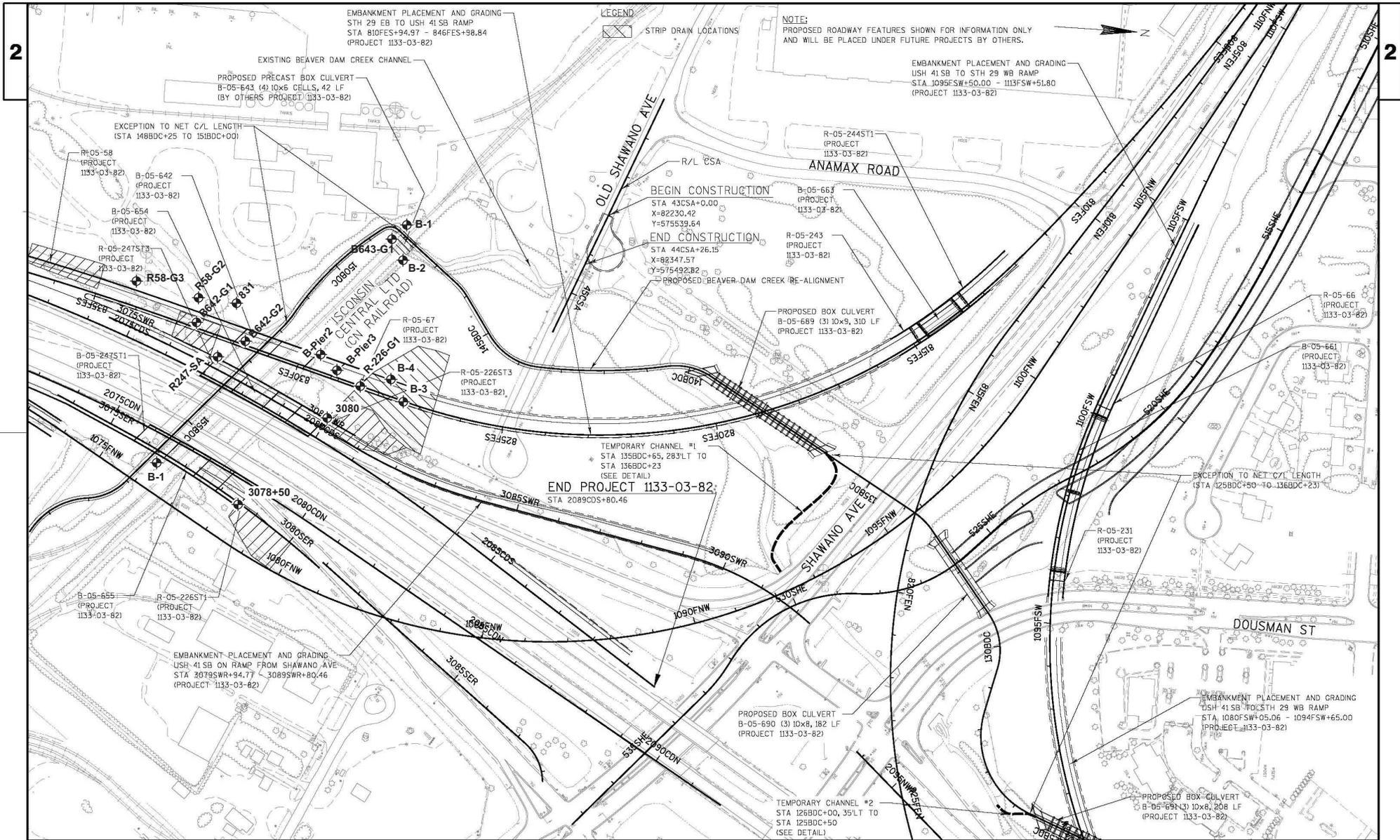
Sincerely,  
GESTRA Engineering, Inc.

A handwritten signature in black ink, appearing to read "Doug Bath", is written over a circular stamp or seal.

Doug Bath, P.E.

**Site Plan (2 sheets)**





PROJECT NO: 1133-03-82/84	HWY: USH 41	COUNTY: BROWN	PROJECT OVERVIEW	SHEET	<b>E</b>
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**Boring logs for B-05-646 and B-05-647**



Gestra Engineering Inc.  
1626 W. Fond du Lac Avenue  
Milwaukee, WI 53205  
Phone: 414-933-7444, Fax: 414-933-7844

# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41

DATE DRILLING STARTED

7/9/2010

BORING NUMBER

B-646-G1

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

7/12/2010

PROJECT NUMBER

10043-10

DRILLING RIG

CME 75 (F700)

BORING DRILLED BY

FIRM: GESTRA  
CREW CHIEF: Rick F

FIELD LOG

S. Nealy

NORTHING

573364

LAB LOG / QC

D. Bath

EASTING

82285

DRILLING METHOD

4 1/4" HSA

SURFACE ELEVATION

620 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	13	3/2/3	5			GRASS (2")								Offset from staked location : 4'S and 0'E to avoid the conflict with utility networks.
						TOPSOIL (16"), silty clay, trace organic, dark brown, moist								
SS - 2	18	4/4/4	8	5	615.0	FILL, silty clay, trace gravel, brown, moist				1.50			19	
						FILL, silty clay, with fine to coarse sand, reddish brown, moist								15
SS - 3	18	8/20/31	51			LEAN CLAY, trace gravel, dark gray-brown, dry to moist, hard				4.50			13	
SS - 4	18	13/23/32	55	10	610.0					4.50			11	
SS - 5	18	30/36/26	62							4.50			12	
SS - 6	18	17/25/27	52	15	605.0					4.50	29	12	12	
SS - 7	18	9/15/25	40				CL			4.50			18	
SS - 8	18	11/18/24	42	20	600.0					4.50			16	
SS - 9	18	12/17/21	38	25	595.0					4.50			17	
SS - 10	18	4/4/4	8	30	590.0	LEAN CLAY, brown, moist to wet, very stiff								
						0.5" thick sand seam observed at 29.5'				2.50			23	
SH - 11	24									3.00	38	22	29	
SS - 12	18	3/4/6	10	35	585.0	LEAN CLAY, trace gravel, brown, moist to wet, medium stiff to very stiff				1.00			18	

## WATER & CAVE-IN OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: 53.5 ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-646.GPJ GESTRA.GDT 8/26/10



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PROJECT NUMBER

10043-10

DRILLING RIG

CME 75 (F700)

BORING DRILLED BY

FIRM: GESTRA  
CREW CHIEF: Rick. F

FIELD LOG

S. Nealy

NORTHING

573364

LAB LOG / QC

D. Bath

EASTING

82285

DRILLING METHOD

4 1/4" HSA

SURFACE ELEVATION

620 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SH - 13	24			40	580.0	LEAN CLAY, trace gravel, brown, moist to wet, medium stiff to very stiff  Consolidation test was performed on sample SH-13	CL			2.20	32	18	26	Wet density= 128 pcf Dry density= 101 pcf
SS - 14	18	3/3/4	7	45	575.0					1.00			23	
SS - 15	18	3/4/6	10	50	570.0					1.50			27	
SS - 16	18	2/3/6	9	55	565.0					0.50			30	
SH - 17				60	560.0					3.00	30	15	26	
SS - 18	18	8/11/12	23	65	555.0					2.00			17	
SS - 19	18	4/14/30	44	70	550.0	SILTY SAND, with gravel, gray, dense	SM					8.5		

## WATER & CAVE-IN OBSERVATION DATA

	WATER ENCOUNTERED DURING DRILLING: 53.5 ft.		CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
	WATER LEVEL AT COMPLETION: N/A ft.		CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

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DRILLING RIG

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BORING DRILLED BY

FIRM: GESTRA  
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FIELD LOG

S. Nealy

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D. Bath

EASTING

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DRILLING METHOD

4 1/4" HSA

SURFACE ELEVATION

620 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 20	18	28/31/38	69	75	545.0	SILTY SAND, with gravel, gray, dense	SM							
						SILT, with sand and gravel, gray, moist, very dense	ML						11	
SS - 21	7	33/50/2"/-	50/2"	80	540.0	WEATHERED BEDROCK, gray, very dense							7.5	
													4.9	
SS - 22		34/50/6"/-	50/6"	85	535.0									
						BEDROCK, possible limestone								
				90	530.0									
				95	525.0	End of boring at 91'								
				100	520.0									
				105	515.0									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: 53.5 ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

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PROJECT NAME <b>Hwy-41</b>	DATE DRILLING STARTED <b>7/21/2010</b>	BORING NUMBER <b>B-646-G2</b>
PROJECT LOCATION <b>Green Bay, Wisconsin</b>	DATE DRILLING ENDED <b>7/21/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: GESTRA CREW CHIEF: Jerry</b>	FIELD LOG Mark	NORTHING <b>573304</b>
	LAB LOG / QC D. Bath	EASTING <b>82326</b>
		DRILLING METHOD <b>3/4" HSA</b>
		SURFACE ELEVATION <b>621 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	9	7/6/9	15			FILL, sand, with gravel and silt, gray, gray, moist				2.00				
SS - 2	6	5/5/5	10	5	616.0	FILL, silty sand, with gravel, gray-brown, moist								
SS - 2						SILTY CLAY, trace organic, dark brown, moist, medium stiff	CL-ML			0.50				
SS - 3	16	16/34/50/4"	84/10"			LEAN CLAY, reddish brown, dry to moist, hard				4.50			11	
SS - 4	13	10/26/50/5"	76/11"	10	611.0		CL			4.50			14	
SS - 5	17	8/20/45	65			Color changed to gray at 11'				4.50			17	
SS - 6	16	9/21/34	55	15	606.0					4.50	32	13	20	
SS - 7	17	8/18/46	64			SILTY CLAY, gray, dry to moist, very stiff to hard				4.50			19	
SS - 8	18	12/28/48	76	20	601.0	1" layer of reddish brown lean clay at 17'				4.25			18	
SS - 9	18	8/18/25	43	25	596.0	Moist condition observed at 23.5' 1" layer of reddish brown lean clay at 24'	CL-ML			2.75			21	
SS - 10	18	8/17/23	40	30	591.0	Moist to wet condition observed at 27' 3" layer of reddish brown lean clay at 28.5'				2.25			32	
SS - 11	18	1/3/5	8	35	586.0	LEAN CLAY, reddish brown, moist to wet, medium stiff to stiff	CL			0.75	47	28	35	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

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GESTRA 40FT LOGS B-05-646.GPJ GESTRA\_GDT 8/26/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 3

PROJECT NAME

Hwy-41

DATE DRILLING STARTED

7/21/2010

BORING NUMBER

B-646-G2

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

7/21/2010

PROJECT NUMBER

10043-10

DRILLING RIG

BORING DRILLED BY

FIRM: GESTRA  
CREW CHIEF: Jerry

FIELD LOG

Mark

NORTHING

573304

DRILLING METHOD

3/4" HSA

LAB LOG / QC

D. Bath

EASTING

82326

SURFACE ELEVATION

621 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SH - 12	19			40	581.0	LEAN CLAY, reddish brown, moist to wet, medium stiff to stiff	CL			1.52			27	Wet density= 126 pcf Dry density= 99 pcf
SS - 13	18	2/3/5	8	45	576.0					0.75			26	
SS - 14	18	2/3/4	7	50	571.0					0.75			30	
SS - 15	18	2/3/5	8	55	566.0	Consolidation test was performed on sample SH-16	CL			0.75			29	
SH - 16	18			60	561.0					1.40	33	13	25	
SS - 17	18	4/6/12	18	65	556.0					0.75			15	
SS - 18	18	4/8/13	21	70	551.0	LEAN CLAY, reddish brown and gray, moist, stiff	CL			1.75			13	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

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GESTRA 40FT LOGS B-05-646.GPJ GESTRA.GDT 8/26/10





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# SOIL BORING LOG

PAGE NUMBER

1 of 3

PROJECT NAME <b>Hwy-41 (Bridge Structure: B-05-0647)</b>	DATE DRILLING STARTED <b>7/15/2010</b>	BORING NUMBER <b>B-647-G1</b>
PROJECT LOCATION <b>Green Bay, Wisconsin</b>	DATE DRILLING ENDED <b>7/15/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: GESTRA CREW CHIEF: Jerry</b>	FIELD LOG <b>Hank</b>	NORTHING <b>573360</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>82506</b>
		DRILLING METHOD <b>3 1/4" HSA</b>
		SURFACE ELEVATION <b>618.3 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	12	2/2/5	7			TOPSOIL (11"), silty clay, with roots, dark brown, moist								
SS - 2	18	1/3/10	13	5	613.3	LEAN CLAY, with sand, trace organic, brown with occasional dark brown zones, medium stiff to stiff (Possible Fill)	CL						15	
SS - 3	18	7/26/50/5"	76/11"			LEAN CLAY, trace gravel, reddish brown, dry to moist, hard				4.50			12	
SS - 4	18	20/31/36	67	10	608.3	Color changed to dark gray at 8.5'	CL			4.00			11	
SS - 5	18	9/25/30	55							4.50			10	
SS - 6	18	7/22/36	58	15	603.3					4.50	31	17	12	
SS - 7	17	9/21/40	61			SILTY CLAY, gray, dry to moist, hard	CL-ML			4.50			17	
SS - 8	17	8/18/20	38	20	598.3	LEAN CLAY, gray, moist, stiff to very stiff	CL			3.00			18	
SS - 9	18	7/11/24	35	25	593.3					1.50			19	
SS - 10	17	6/5/14	19	30	588.3	SILTY CLAY, reddish gray, moist to wet, medium stiff	CL-ML			0.50			26	
SS - 11	18	2/2/8	10	35	583.3	LEAN CLAY, gray, moist to wet, soft to stiff	CL				35	20	24	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-647.GPJ GESTRA.GDT 3/8/11



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# SOIL BORING LOG

PAGE NUMBER

2 of 3

PROJECT NAME <b>Hwy-41 (Bridge Structure: B-05-0647)</b>	DATE DRILLING STARTED <b>7/15/2010</b>	BORING NUMBER <b>B-647-G1</b>
PROJECT LOCATION <b>Green Bay, Wisconsin</b>	DATE DRILLING ENDED <b>7/15/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: GESTRA CREW CHIEF: Jerry</b>	FIELD LOG <b>Hank</b>	NORTHING <b>573360</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>82506</b>
		DRILLING METHOD <b>3/4" HSA</b>
		SURFACE ELEVATION <b>618.3 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength ( $Q_u$ or $C_u$ ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments			
SH - 12	22			40	578.3	LEAN CLAY, gray, moist to wet, soft to stiff	CL			1.50							
SS - 13	18	3/3/7	10	45	573.3					<0.50	39	20	22				
SS - 14	18	2/3/7	10	50	568.3					<0.50	35	17	25				
SS - 15	18	2/3/11	14	55	563.3					0.50			27				
SH - 16	24			60	558.3					Consolidation test was performed on sample SH-16			1.31	35	18	25	Wet density= 123 pcf Dry density= 99 pcf Gravel= 0% Sand= 13% Silt= 42% Clay= 45%
SS - 17	18	2/2/7	9	65	553.3					Color changed to reddish brown at 63.5'			0.50			26	
SS - 18	18	2/3/6	9	70	548.3								0.50	32	13	23	

### WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

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GESTRA 40FT LOGS B-05-647.GPJ GESTRA.GDT 3/8/11



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# SOIL BORING LOG

PAGE NUMBER

3 of 3

PROJECT NAME

Hwy-41 (Bridge Structure: B-05-0647)

DATE DRILLING STARTED

7/15/2010

BORING NUMBER

B-647-G1

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

7/15/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D120

BORING DRILLED BY

FIRM: GESTRA  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

573360

LAB LOG / QC

D. Bath

EASTING

82506

DRILLING METHOD

3/4" HSA

SURFACE ELEVATION

618.3 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 19	12	19/11/50/5"	61/11"	75	543.3	LEAN CLAY, gray, moist to wet, soft to stiff	CL						12	Boring was terminated due to auger refusal
						gravelly LEAN CLAY, reddish brown, moist, hard	CL							
					80	538.3	End of boring at 77'							
					85	533.3								
					90	528.3								
				95	523.3									
				100	518.3									
				105	513.3									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.	<input type="checkbox"/>		WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

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# SOIL BORING LOG

PAGE NUMBER

1 of 3

PROJECT NAME

Hwy-41 (Bridge Structure: B-05-0647)

DATE DRILLING STARTED

7/16/2010

BORING NUMBER

B-647-G2

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

7/16/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D120

BORING DRILLED BY

FIRM: GESTRA  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

573290

LAB LOG / QC

D. Bath

EASTING

82536

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

620.5 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	13	3/7/13	20		sandy SILT, fine grain, reddish brown, moist to wet, medium dense to dense	ML						17	Offset: 23'E and 0'N from the staked location
SS - 2	16	6/7/28	35	5									
SS - 3	17	12/28/50	78		LEAN CLAY, reddish brown, dry to moist, very stiff to hard	CL		4.50			11		
SS - 4	18	13/26/50	76	10								610.5	
SS - 5	18	11/30/50	80										
SS - 6	16	9/20/41	61	15	605.5			4.50			17		
SS - 7	18	9/13/21	34		SILTY CLAY, dark gray, moist, very stiff	CL-ML		2.00	33	16	39		
SS - 8	18	10/13/27	40	20								600.5	
SS - 9	16	8/12/15	27	25	595.5			3.00			20		
SS - 10	18	4/5/6	11	30	590.5	CL		0.50	30	13	26		
SS - 11	18	2/3/6	9	35	585.5								

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-647.GPJ GESTRA.GDT 3/8/11



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (Bridge Structure: B-05-0647)

DATE DRILLING STARTED

7/16/2010

BORING NUMBER

B-647-G2

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

7/16/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D120

BORING DRILLED BY

FIRM: GESTRA  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

573290

LAB LOG / QC

D. Bath

EASTING

82536

DRILLING METHOD

3/4" HSA

SURFACE ELEVATION

620.5 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SH - 12	18			40	580.5	LEAN CLAY, reddish gray, moist to wet, medium stiff to very stiff								
						Consolidation test was performed on sample SH-12				1.48	34	17	27	Wet density= 126 pcf Dry density= 100 pcf
SS - 13	18	3/4/8	12	45	575.5					0.75			20	
SS - 14	18	2/4/7	11	50	570.5					0.75			27	
SS - 15	18	3/4/6	10	55	565.5		CL			0.50			26	
SH - 16	24			60	560.5					1.33	38	22	29	Wet density= 125 pcf Dry density= 97 pcf
SS - 17	18	2/3/6	9	65	555.5					0.50			23	
SS - 18	18	3/6/12	18	70	550.5	sandy LEAN CLAY, reddish gray, moist to wet, medium stiff	CL			0.50			12	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-647.GPJ GESTRA.GDT 3/8/11



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (Bridge Structure: B-05-0647)

DATE DRILLING STARTED

7/16/2010

BORING NUMBER

B-647-G2

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

7/16/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D120

BORING DRILLED BY

FIRM: GESTRA  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

573290

LAB LOG / QC

D. Bath

EASTING

82536

DRILLING METHOD

3/4" HSA

SURFACE ELEVATION

620.5 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments		
SS - 19	18	12/23/50	73	75	545.5	SILTY CLAY, with sand, reddish brown, medium stiff to very stiff	CL-ML			2.00			13			
SS - 20	11	26/50/5"/-	50/5"	80	540.5	weathered ROCK				2.00	16	5	11			
SS - 21	0	50/2"/-/-	---	85	535.5	BEDROCK										
CORE - 22				90	530.5	BEDROCK										
				95	525.5											
				100	520.5											
				105	515.5	End of boring at 96.5'										

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-647.GPJ GESTRA.GDT 3/8/11

**Boring logs for R-05-56, R-05-57, & R-05-58**



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME <b>Hwy-41 (Retaining Wall R-56)</b>	DATE DRILLING STARTED <b>8/11/2010</b>	BORING NUMBER <b>R-56-G1</b>
PROJECT LOCATION <b>Green Bay, Wisconsin</b>	DATE DRILLING ENDED <b>8/11/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: RVT CREW CHIEF: Lynn</b>	FIELD LOG <b>Bucko</b>	NORTHING <b>573172</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>82266</b>
		DRILLING METHOD <b>3 1/4" HSA</b>
		SURFACE ELEVATION <b>620.8 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	3/5/15	20			LEAN CLAY, with gravel, reddish brown, dry to moist, hard	CL			4.50			13	
SS - 2	12	5/24/24	48	5	615.8									
SS - 3	14	8/43/50/2"	93/8"											
SS - 4	18	5/17/25	42	10	610.8	SILTY CLAY, reddish gray, dry to moist, very stiff to hard	CL-ML			4.00			14	
SS - 5	18	5/15/22	37											
SS - 6	18	8/22/32	54	15	605.8									
SS - 7	18	15/25/33	58											
SS - 8	18	5/25/39	64	20	600.8				4.50			17		
SS - 9	18	5/25/30	55	25	595.8									
SS - 10	18	5/9/15	24	30	590.8	Moist condition observed at 28.5'				3.00			24	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-56.GPJ GESTRA.GDT 9/8/10



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (Retaining Wall R-56)

DATE DRILLING STARTED

8/11/2010

BORING NUMBER

R-56-G1

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/11/2010

PROJECT NUMBER

10043-10

DRILLING RIG

BK-51

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Lynn

FIELD LOG

Bucko

NORTHING

573172

LAB LOG / QC

D. Bath

EASTING

82266

DRILLING METHOD

3/4" HSA

SURFACE ELEVATION

620.8 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SH - 11	24			35	585.8	SILTY CLAY, reddish gray, dry to moist, very stiff to hard	CL-ML			2.50				
				40	580.8	LEAN CLAY, gray, moist, very stiff	CL			2.00		22		
SS - 12		3/2/5	7	40	580.8	End of boring at 40'								
				45	575.8									
				50	570.8									
				55	565.8									
				60	560.8									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.	<input type="checkbox"/>		WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-56.GPJ GESTRA.GDT 9/8/10



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME <b>Hwy-41 (Retaining Wall R-56)</b>	DATE DRILLING STARTED <b>8/11/2010</b>	BORING NUMBER <b>R-56-G2</b>
PROJECT LOCATION <b>Green Bay, Wisconsin</b>	DATE DRILLING ENDED <b>8/11/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: RVT CREW CHIEF: Lynn</b>	FIELD LOG <b>Hank</b>	NORTHING <b>572972</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>82264</b>
		DRILLING METHOD <b>3 1/4" HSA</b>
		SURFACE ELEVATION <b>623.4 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	3/10/20	30			LEAN CLAY, brown, moist, very stiff to hard				3.00			16	Offset: 4' S and 7' W from the staked location
SS - 2	18	7/17/22	39	5	618.4		CL			4.50			13	
SS - 3	18	7/11/18	29							4.00			18	
SS - 4	18	5/10/18	28	10	613.4	SILTY CLAY, reddish gray, dry to moist, very stiff				2.75			15	
SS - 5	18	6/14/20	34							3.00			18	
SS - 6	18	6/15/17	32	15	608.4					3.50			16	
SS - 7	18	8/19/32	51			1" thick layer of reddish brown lean clay observed at 16.5'	CL-ML			2.50			21	
SS - 8	18	9/18/31	49	20	603.4					2.50			19	
SS - 9	18	13/16/22	38	25	598.4	Moist condition observed at 23.5'				2.75			26	
SS - 10	18	8/9/8	17	30	593.4	LEAN CLAY, gray, moist, very stiff	CL			2.00			52	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-56.GPJ GESTRA.GDT 9/8/10



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (Retaining Wall R-56)

DATE DRILLING STARTED

8/11/2010

BORING NUMBER

R-56-G2

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/11/2010

PROJECT NUMBER

10043-10

DRILLING RIG

BK-51

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Lynn

FIELD LOG

Hank

NORTHING

572972

LAB LOG / QC

D. Bath

EASTING

82264

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

623.4 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 11	18	3/3/6	9	35	588.4	LEAN CLAY, gray, moist, very stiff	CL			0.50			25	
						LEAN CLAY, reddish brown, moist to wet, medium stiff to very stiff	CL							
SH - 12	24									2.50				
SS - 13	18	1/3/4	7	40	583.4	End of boring at 40'				0.50			29	
				45	578.4									
				50	573.4									
				55	568.4									
				60	563.4									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.	<input type="checkbox"/>		WET <input type="checkbox"/>
		<input type="checkbox"/>		DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-56.GPJ GESTRA.GDT 9/8/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 1

PROJECT NAME

Hwy-41 (Retaining Wall R-56)

DATE DRILLING STARTED

8/11/2010

BORING NUMBER

R-56-G3

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/11/2010

PROJECT NUMBER

10043-10

DRILLING RIG

BK-51

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Lynn

FIELD LOG

Hank

NORTHING

572772

LAB LOG / QC

D. Bath

EASTING

82260

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

625.1 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	8	2/9/15	24			TOPSOIL (18"), lean clay, with roots, dark brown, moist								Offset: 0' N and 7' W from the staked location
SS - 2	3	10/35/40	75	5	620.1	LEAN CLAY, light brown, moist, medium stiff to very stiff	CL			0.50			22	Poor Recovery- Sample may not be representative.
SS - 3	18	10/22/34	56							2.25			17	
SS - 4	18	10/21/33	54	10	615.1	Dry to moist condition observed at 8.5'				1.50			14	
SS - 5	18	11/19/32	51			LEAN CLAY, gray, dry to moist, very stiff to hard	CL			3.75			15	
SS - 6	18	12/21/34	55	15	610.1					4.25			16	
SS - 7	18	9/12/15	27				CL			4.00			17	
SS - 8	18	10/13/18	31	20	605.1					4.50			15	
SS - 9	18	8/11/15	26	25	600.1	SILTY CLAY, gray, dry to moist, hard	CL-ML			4.50			20	
SS - 10	18	10/22/34	56	30	595.1	End of boring at 30'				4.50			17	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-56.GPJ GESTRA.GDT 9/8/10



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (Retaining Wall R-56)

DATE DRILLING STARTED

8/10/2010

BORING NUMBER

R-56-G4

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/10/2010

PROJECT NUMBER

10043-10

DRILLING RIG

BK-51

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Lynn

FIELD LOG

Hank

NORTHING

572572

LAB LOG / QC

D. Bath

EASTING

82251

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

628.9 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS-1	18	2/6/8	14			LEAN CLAY, with sand, reddish brown, moist, stiff to very stiff	CL			2.00			11	Offset: 0' N and 9' W from the staked location.
SS-2	18	2/5/7	12	5	623.9					1.50			12	
SS-3	18	8/18/36	54			LEAN CLAY, reddish brown, dry to moist, hard	CL			4.50			13	
SS-4	18	10/18/32	50	10	618.9	SILTY CLAY, reddish gray, dry to moist, hard				4.50			16	
SS-5	18	10/19/34	53							4.50			16	
SS-6	14	16/40/50/3"	90/9"	15	613.9					4.50			14	
SS-7	15	32/42/50/3"	92/9"										16	
SS-8	15	31/41/50/4"	91/10"	20	608.9		CL-ML						19	
SS-9	15	32/40/50/3"	90/9"	25	603.9								20	
SS-10	3	38/72/50/3"	122/9"	30	598.9	End of boring at 30'							14	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-56.GPJ GESTRA.GDT 9/8/10



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (Retaining Wall R-56)

DATE DRILLING STARTED

8/10/2010

BORING NUMBER

R-56-G5

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/10/2010

PROJECT NUMBER

10043-10

DRILLING RIG

BK-51

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Lynn

FIELD LOG

Hank

NORTHING

572372

LAB LOG / QC

D. Bath

EASTING

82242

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

629.1 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	2/3/6	9			LEAN CLAY, reddish brown, moist, stiff	CL			1.50			25	Offset: 0' N and 9' W from the staked location
SS - 2	18	3/5/6	11	5	624.1	SILTY CLAY, light brown, moist, medium stiff	CL-ML			0.75			23	
SS - 3	18	4/8/13	21			LEAN CLAY, with sand, reddish brown, dry to moist, very stiff to hard	CL			3.50			13	
SS - 4	18	9/16/29	45	10	619.1		CL			4.50			17	
SS - 5	18	10/16/29	45			LEAN CLAY, reddish gray, dry to moist, hard				4.50			16	
SS - 6	16	5/40/50/4.5"	90/10.5"	15	614.1	Gray color observed below 13.5'	CL			4.50			11	
SS - 7	16	17/39/50/4"	89/10"							4.50			9.9	
SS - 8	15	18/40/50/3"	90/9"	20	609.1					4.50			13	
				25	604.1	End of boring at 20'								
				30	599.1									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-56.GPJ GESTRA.GDT 9/8/10



Gestra Engineering Inc.  
1626 W. Fond du Lac Avenue  
Milwaukee, WI 53205  
Phone: 414-933-7444, Fax: 414-933-7844

# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME <b>Hwy-41 (Retaining Wall R-56)</b>	DATE DRILLING STARTED <b>8/10/2010</b>	BORING NUMBER <b>R-56-G6</b>
PROJECT LOCATION <b>Green Bay, Wisconsin</b>	DATE DRILLING ENDED <b>8/10/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: RVT CREW CHIEF: Lynn</b>	FIELD LOG <b>Hank</b>	NORTHING <b>572172</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>82234</b>
		DRILLING METHOD <b>3 1/4" HSA</b>
		SURFACE ELEVATION <b>629.8 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS-1	15	1/3/4	7		LEAN CLAY, reddish brown, moist, stiff to hard				1.50			27	Offset: 0' N and 7' W from the staked location.
SS-2	18	2/3/5	8	5 624.8		CL		2.50			25		
SS-3	18	3/4/6	10					4.00			24		
SS-4	18	5/5/6	11	10 619.8	SILTY CLAY, light brown, moist, very stiff	CL-ML		2.75			17		
SS-5	18	3/10/18	28	▽	SILTY SAND, with gravel, brown, wet, medium dense	SM					16		
SS-6	15	10/20/33	53	15 614.8	LEAN CLAY, reddish gray, dry to moist, hard			4.50			17		
SS-7	16	10/20/32	52	▽		CL		4.50			16		
SS-8	18	11/19/32	51	20 609.8				4.50			18		
					End of boring at 20'								
				25 604.8									
				30 599.8									

## WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: 11.5 ft.	☒	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
▽	WATER LEVEL AT COMPLETION: 17.5 ft.	☒	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
▽	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-56.GPJ GESTRA.GDT 9/8/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME <b>Hwy-41 (Retaining Wall R-57)</b>	DATE DRILLING STARTED <b>8/9/2010</b>	BORING NUMBER <b>R-57-G1</b>
PROJECT LOCATION <b>Green Bay, Wisconsin</b>	DATE DRILLING ENDED <b>8/9/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: RVT CREW CHIEF: Jerry</b>	FIELD LOG <b>Lynn</b>	NORTHING <b>573458</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>82556</b>
		DRILLING METHOD <b>3 1/4" HSA</b>
		SURFACE ELEVATION <b>621.2 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments	
SS-1	14	3/4/6	10		LEAN CLAY, reddish brown, moist, very stiff	CL			2.75			22	Offset: 30'E and 0'N from the staked location	
SS-2	8	10/18/23	41	5 616.2	LEAN CLAY, with gravel, reddish gray, dry to moist, hard				4.5+			13		
SS-3	18	11/22/38	60					4.50	31	15	9.9			
SS-4	18	11/23/36	59	10 611.2		CL			4.50			11		
SS-5	18	12/23/36	59		Color changed to gray at 11'				4.50			11		
SS-6	18	11/23/28	51	15 606.2					4.50			10		
SS-7	18	11/14/22	36		SILT, gray, moist, dense	ML						19		
SS-8	18	6/9/18	27	20 601.2	SILT, with alternating layers of reddish brown LEAN CLAY, gray, moist, medium dense / very stiff to hard				4.50	28	10	19		Gravel= 0.0% Sand= 0.0% Silt= 55.4% Clay= 44.6%
SS-9	18	6/10/16	26	25 596.2		ML/CL			3.00			20		
SS-10	18	3/5/8	13	30 591.2	LEAN CLAY, reddish brown, moist to wet, medium stiff	CL			0.75	30	11	39		

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-57.GPJ GESTRA.GDT 9/22/10



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (Retaining Wall R-57)

DATE DRILLING STARTED

8/9/2010

BORING NUMBER

R-57-G1

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/9/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Lynn

NORTHING

573458

LAB LOG / QC

D. Bath

EASTING

82556

DRILLING METHOD

3/4" HSA

SURFACE ELEVATION

621.2 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 11	18	2/3/7	10	35	586.2	LEAN CLAY, reddish brown, moist to wet, medium stiff  Color changed to reddish gray at 33.5'	CL			0.50			28	
	18	2/4/6	10	40	581.2	End of boring at 40'				0.75			22	
				45	576.2									
				50	571.2									
				55	566.2									
				60	561.2									

### WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-57.GPJ GESTRA.GDT 9/22/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-57)

DATE DRILLING STARTED

8/9/2010

BORING NUMBER

R-57-G2

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/9/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Lynn

NORTHING

573629

LAB LOG / QC

D. Bath

EASTING

82584

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

621.1 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS-1	18	2/3/3	6			LEAN CLAY, reddish brown, moist, medium stiff	CL			0.50	43	23	27	Offset: 30'E and 13'S from the staked location  Gravel= 0.0% Sand= 9.5% Silt= 60.0% Clay= 30.5%
SS-2	18	10/19/32	51	5	616.1	LEAN CLAY, reddish gray, dry to moist, very stiff to hard				4.50			11	
SS-3	18	10/22/48	70							4.50			13	
SS-4	18	7/25/50	75	10	611.1		CL			4.50	36	18	12	
SS-5	18	8/26/52	78							4.50			13	
SS-6	18	7/13/25	38	15	606.1					3.00			15	
SS-7	18	7/19/18	37			SILT, gray, moist, dense							16	
SS-8	18	6/11/19	30	20	601.1		ML						26	
SS-9	18	2/4/7	11	25	596.1	SILTY CLAY, with alternating layers of reddish brown LEAN CLAY, gray, moist, stiff	CL-ML/CL			1.00			18	
SS-10	18	2/2/5	7	30	591.1	LEAN CLAY, gray, moist, medium stiff to stiff	CL			0.75			24	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-57.GPJ GESTRA.GDT 9/22/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-57)

DATE DRILLING STARTED

8/9/2010

BORING NUMBER

R-57-G2

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/9/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Lynn

NORTHING

573629

LAB LOG / QC

D. Bath

EASTING

82584

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

621.1 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 11	18	2/4/10	14	35	586.1	LEAN CLAY, gray, moist, medium stiff to stiff	CL			1.00	36	17	27	
	18	4/6/12	18	40	581.1					0.75		26		
SS - 12				45	576.1	End of boring at 40'								
				50	571.1									
				55	566.1									
				60	561.1									

### WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-57.GPJ GESTRA.GDT 9/22/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-57)

DATE DRILLING STARTED

8/12/2010

BORING NUMBER

R-57-G3

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/12/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

573797

LAB LOG / QC

D. Bath

EASTING

82624

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

617.5 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS-1	14	1/2/6	8			LEAN CLAY, brown, moist to wet, stiff	CL			1.25			34	
SS-2	18	2/3/6	9	5	612.5	SILTY CLAY, light brown, moist, stiff	CL-ML			1.75			18	
SS-3	18	3/12/16	28			LEAN CLAY, reddish brown, moist, very stiff to hard				4.50			14	
SS-4	18	9/16/25	41	10	607.5	Cobble observed from 10' to 11'	CL			4.50			17	
SS-5	16	6/8/10	18							3.25			16	
SS-6	18	4/9/12	21	15	602.5					4.00			15	
SS-7	16	8/9/12	21			SILT, reddish gray, moist, medium dense							21	
SS-8	13	4/6/9	15	20	597.5		ML						23	
SS-9	18	4/6/9	15	25	592.5	LEAN CLAY, gray, moist to wet, stiff to very stiff				2.00			34	
SS-10	18	3/3/5	8	30	587.5		CL			1.25			29	

## WATER & CAVE-IN OBSERVATION DATA

	WATER ENCOUNTERED DURING DRILLING: 20 ft.		CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
	WATER LEVEL AT COMPLETION: 35 ft.		CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-57.GPJ GESTRA.GDT 9/22/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-57)

DATE DRILLING STARTED

8/12/2010

BORING NUMBER

R-57-G3

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/12/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

573797

LAB LOG / QC

D. Bath

EASTING

82624

DRILLING METHOD

3/4" HSA

SURFACE ELEVATION

617.5 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 11	18	3/4/7	11	35	582.5	LEAN CLAY, gray, moist to wet, stiff to very stiff	CL			1.00			23	
	18	3/4/7	11	40	577.5					1.50			34	
SS - 12				45	572.5	End of boring at 40'								
				50	567.5									
				55	562.5									
				60	557.5									

### WATER & CAVE-IN OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: 20 ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AT COMPLETION: 35 ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-57.GPJ GESTRA.GDT 9/22/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 3

PROJECT NAME

Hwy-41 (Retaining Wall R-57)

DATE DRILLING STARTED

8/11/2010

BORING NUMBER

R-57-G4

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/11/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Bucko

NORTHING

573961

LAB LOG / QC

D. Bath

EASTING

82679

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

613.2 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS-1	18	1/2/3	5			LEAN CLAY, with sand, brown and gray mottled, very stiff	CL			2.00	22	10	13	
SS-2	18	5/8/12	20	5	608.2	LEAN CLAY, brown, moist, hard				4.50			16	
SS-3	18	11/15/33	48			With coarse sand from 6' to 7.5'	CL			4.50			11	
SS-4	18	12/23/55	78	10	603.2	1/2" thick silty sand layer observed at 9'				4.50			11	
SS-5	18	9/11/25	36			LEAN CLAY, with coarse sand, dark gray, dry to moist, hard	CL			4.50			7.8	
SS-6	18	9/15/16	31	15	598.2	LEAN CLAY, dark gray, moist, hard	CL			4.50	29	13	14	
SS-7	18	9/15/11	26			SILTY CLAY, dark gray, moist, very stiff					28	7	17	
SS-8	18	5/7/15	22	20	593.2	Layers of silt and moist to wet condition observed at 19.5'	CL-ML						24	
SS-9	18	5/7/13	20	25	588.2	Color changed to gray at 22'				2.00			22	
SS-10	18	6/6/11	17	30	583.2	LEAN CLAY, gray, moist, stiff to very stiff	CL			3.00			24	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-57.GPJ GESTRA.GDT 9/22/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 3

PROJECT NAME

Hwy-41 (Retaining Wall R-57)

DATE DRILLING STARTED

8/11/2010

BORING NUMBER

R-57-G4

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/11/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Bucko

NORTHING

573961

LAB LOG / QC

D. Bath

EASTING

82679

DRILLING METHOD

3/4" HSA

SURFACE ELEVATION

613.2 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 11	18	4/5/7	12	35	578.2	LEAN CLAY, gray, moist, stiff to very stiff				1.00			21	
SH - 12	24			40	573.2	Tri-axial test was performed on sample SH-12				40	24	29	Wet density= 116.6 pcf Dry density= 90.4 pcf Gravel= 0.0% Sand= 0.9% Silt= 54.4% Clay= 44.7%	
SS - 13	18	4/6/10	16	45	568.2		CL			1.50			17	
SH - 14	21			50	563.2	Consolidation test was performed on sample SH-14				2.04	34	19	27	Wet density= 129.3 pcf Dry density= 102.2 pcf Gravel= 0.0% Sand= 1.0% Silt= 39.0% Clay= 60.0%
SS - 15	18	3/5/8	13	55	558.2					2.00			24	
SH - 16	21			60	553.2					1.62			22	Wet density= 126.7 pcf Dry density= 103.6 pcf

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-57.GPJ GESTRA.GDT 9/22/10



Gestra Engineering Inc.  
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Phone: 414-933-7444, Fax: 414-933-7844

# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (Retaining Wall R-57)

DATE DRILLING STARTED

8/11/2010

BORING NUMBER

R-57-G4

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/11/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Bucko

NORTHING

573961

LAB LOG / QC

D. Bath

EASTING

82679

DRILLING METHOD

3/4" HSA

SURFACE ELEVATION

613.2 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 17	18	3/5/7	12	65	548.2	LEAN CLAY, gray, moist, stiff to very stiff	CL			1.50	30	30		
				70	543.2	LEAN CLAY, reddish brown and gray layers, moist, stiff	CL							
SH - 18	19			70	543.2		CL					1.79		30
				75	538.2									20
SS - 19	18	5/9/11	20	75	538.2	End of boring at 75'				1.50				
				80	533.2									
				85	528.2									
				90	523.2									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-57.GPJ GESTRA.GDT 9/22/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-57)

DATE DRILLING STARTED

8/11/2010

BORING NUMBER

R-57-G5

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/11/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Bucko

NORTHING

574120

LAB LOG / QC

D. Bath

EASTING

82747

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

616.1 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS-1	14	2/3/4	7			LEAN CLAY, reddish brown, moist, very stiff	CL			2.00			24	
SS-2	18	2/4/6	10	5	611.1	SILTY CLAY, tan-gray, moist, very stiff	CL-ML			3.00			17	
SS-3	6	15/37/50/4"	87/10"			LEAN CLAY, with gravel, brown, dry to moist, hard				4.00			14	
SS-4	18	11/20/30	50	10	606.1		CL			4.50			13	
SS-5	18	7/14/18	32			Color changed to dark gray	CL			4.50			17	
SS-6	18	7/14/18	32	15	601.1					4.50	30	13	16	
SS-7	18	6/12/17	29			SILT, reddish gray, moist, medium dense to dense							17	
SS-8	18	7/13/26	39	20	596.1		ML						17	
SS-9	18	6/7/10	17	25	591.1	LEAN CLAY, gray, moist to wet, stiff	CL			1.50			27	
SS-10	18	3/5/9	14	30	586.1					1.50			18	Sliver recovery due to stone

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-57.GPJ GESTRA.GDT 9/22/10



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME <b>Hwy-41 (Retaining Wall R-57)</b>	DATE DRILLING STARTED <b>8/11/2010</b>	BORING NUMBER <b>R-57-G5</b>
PROJECT LOCATION <b>Green Bay, Wisconsin</b>	DATE DRILLING ENDED <b>8/11/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: RVT CREW CHIEF: Jerry</b>	FIELD LOG <b>Bucko</b>	NORTHING <b>574120</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>82747</b>
		DRILLING METHOD <b>3 1/4" HSA</b>
		SURFACE ELEVATION <b>616.1 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SH - 11	24			35	581.1	LEAN CLAY, gray, moist to wet, stiff	CL							
SS - 12	18	3/5/8	13	40	576.1	End of boring at 40'				1.50			21	
				45	571.1									
				50	566.1									
				55	561.1									
				60	556.1									

### WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-57.GPJ GESTRA.GDT 9/22/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 1

PROJECT NAME <b>Hwy-41 (Retaining Wall R-58)</b>	DATE DRILLING STARTED <b>8/18/2010</b>	BORING NUMBER <b>R-58-G2</b>
PROJECT LOCATION <b>Green Bay, Wisconsin</b>	DATE DRILLING ENDED <b>8/18/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: RVT CREW CHIEF: Lynn</b>	FIELD LOG <b>Bucko</b>	NORTHING <b>574624</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>82525</b>
		DRILLING METHOD <b>3 1/4" HSA</b>
		SURFACE ELEVATION <b>606.02 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	12	4/6/10	16			FILL, lean clay, with sand, reddish brown, moist				4.50			12.3	
SS - 2	12	4/6/4	10	5	601.0					4.50			15.3	
SS - 3	8	1/1/5	6							1.50			25.0	<b>Q<sub>u</sub> = 1.88 tsf</b> Wet density= 120.8 pcf Dry density= 96.6 pcf
SS - 4	12	1/1/2	3	10	596.0	sandy LEAN CLAY, with roots, dark brown, moist, stiff	CL			1.50			24.4	
SS - 5	18	2/3/11	14			sandy SILT, brown, moist, loose to medium dense	ML						20.8	
SS - 6	18	1/1/4	5	15	591.0	LEAN CLAY, reddish brown, moist to wet, medium stiff							30.8	
SS - 7	18	2/3/6	9							0.50			25.4	
SS - 8	18	1/1/2	3	20	586.0	Color changed to gray at 18.5'	CL			0.50	32	17	30.4	
SH - 9	21			25	581.0	SILTY CLAY, gray, moist to wet, stiff	CL-ML			1.50	20	6	29.0	<b>Tri-axial (CU) test was performed on SH-9 (23'-25')</b>
				30	576.0	Auger refusal and end of boring at 28.5'								An additional boring (R-58-G2A : Surface Elv. 613.8) was blind drilled with an offset of 7' S from R-58-G2. R-58-G2A was also terminated due to auger refusal at 29.0'

## WATER & CAVE-IN OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/24/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-58)

DATE DRILLING STARTED

8/17/2010

BORING NUMBER

R-58-G3

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/17/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Lynn

FIELD LOG

Bucko

NORTHING

574465

LAB LOG / QC

D. Bath

EASTING

82481

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

612.5 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	12	3/5/5	10			FILL, lean clay and sandy clay, brown, moist				3.00			24.0	OFFSET: 15'W and 15'S from the staked location.
SS - 2	12	3/5/9	14	5	607.5					2.50	35	18	18.0	Q <sub>u</sub> = 2.66 tsf Wet density= 124.3 pcf Dry density= 105.3 pcf
SS - 3	18	3/5/14	19			LEAN CLAY, reddish brown, moist, very soft to hard				4.50			26.6	
SS - 4	18	3/5/11	16	10	602.5					3.50			25.3	
SS - 5	18	1/3/5	8							2.50			26.3	
SS - 6	18	1/3/5	8	15	597.5		CL			2.00			25.8	Q <sub>u</sub> = 1.68 tsf Wet density= 122.7 pcf Dry density= 97.6 pcf
SH - 7	17												29.8	Consolidation test was performed on SH-7 (16'-18')
SS - 8	18	1/1/1	2	20	592.5	Gray color and moist to wet condition observed at 18.5'				0.25			28.2	
SS - 9	18	7/6/12	18	25	587.5	LEAN CLAY, gray, dry to moist, stiff to hard				2.50			14.3	
SS - 10	18	1/15/50/6"	65/12"	30	582.5					3.50			15.9	

## WATER & CAVE-IN OBSERVATION DATA

	WATER ENCOUNTERED DURING DRILLING: 17 ft.		CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
	WATER LEVEL AT COMPLETION: 18 ft.		CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/15/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-58)

DATE DRILLING STARTED

8/17/2010

BORING NUMBER

R-58-G3

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/17/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Lynn

FIELD LOG

Bucko

NORTHING

574465

LAB LOG / QC

D. Bath

EASTING

82481

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

612.5 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 11	18	7/11/30	41	35	577.5	LEAN CLAY, gray, dry to moist, stiff to hard	CL			4.50			14.9	
	16	2/5/10	15	40	572.5	Moist to wet condition observed from 38.5'-40'				1.00			21.9	
SS - 12				45	567.5	End of boring at 40'								
				50	562.5									
				55	557.5									
				60	552.5									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: 17 ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: 18 ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.	<input type="checkbox"/>		WET <input type="checkbox"/>
		<input type="checkbox"/>		DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/15/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-58)

DATE DRILLING STARTED

8/17/2010

BORING NUMBER

R-58-G4

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/17/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Lynn

FIELD LOG

Bucko

NORTHING

574268

LAB LOG / QC

D. Bath

EASTING

82432

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

612 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength ( $Q_u$ or $Q_{tip}$ ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	7	7/3/7	10			FILL, sandy silt, brown, moist							17.2	OFFSET: 25'W and 15'N from the staked location.
SS - 2	4	1/3/5	8	5	607.0	LEAN CLAY, reddish brown, moist, medium stiff to very stiff				2.00			24.6	Sliver sample due to stone
SS - 3	18	3/5/8	13							2.00			26.1	
SS - 4	18	2/3/5	8	10	602.0					1.50	44	25	27.9	
SS - 5	18	1/2/4	6							1.50			27.7	$Q_u = 0.78$ tsf Wet density= 128.2 pcf Dry density= 100.3 pcf
SS - 6	18	1/2/4	6	15	597.0	Gray color observed below 13.5' Moist to wet condition observed from 13.5' - 15.0'	CL			0.50			29.1	
SH - 7	18									1.50				$Q_u = 0.56$ tsf Wet density= 127.6 pcf Dry density= 103.1 pcf
SS - 8	18	1/1/2	3	20	592.0					1.50			15.9	
SS - 9	18	2/3/10	13	25	587.0					2.50			22.5	
SS - 10	18	5/10/30	40	30	582.0	LEAN CLAY, dark gray, dry to moist, hard	CL			4.50			15.6	

## WATER & CAVE-IN OBSERVATION DATA

	WATER ENCOUNTERED DURING DRILLING: 14 ft.		CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
	WATER LEVEL AT COMPLETION: N/A ft.		CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/15/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-58)

DATE DRILLING STARTED

8/17/2010

BORING NUMBER

R-58-G4

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/17/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Lynn

FIELD LOG

Bucko

NORTHING

574268

LAB LOG / QC

D. Bath

EASTING

82432

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

612 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments			
SS - 11	18	5/12/29	41	35	577.0	LEAN CLAY, dark gray, dry to moist, hard	CL			4.50			17.8				
	18	9/12/25	37	40	572.0					4.50			24.4				
SS - 12				45	567.0	End of boring at 40'											
				50	562.0												
				55	557.0												
				60	552.0												

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: 14 ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/15/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-58)

DATE DRILLING STARTED

8/16/2010

BORING NUMBER

R-58-G5

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/16/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Lynn

FIELD LOG

Bucko

NORTHING

574074

LAB LOG / QC

D. Bath

EASTING

82388

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

613.6 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	12	2/4/8	12			FILL, lean clay, brown and dark brown, moist				2.00			16.8	
SS - 2	14	2/4/8	12	5	608.6	LEAN CLAY, with sand, dark brown, moist, very stiff	CL			3.00			15.9	
SS - 3	18	2/2/4	6			LEAN CLAY, reddish brown, moist, medium stiff to hard				2.00			30.3	
SS - 4	18	1/2/4	6	10	603.6					2.00			29.7	
SS - 5	18	1/2/4	6							2.50			27.7	
SS - 6	18	2/2/3	5	15	598.6	Gray color was observed below 13.5' Moist to wet condition was observed from 13.5'-15.0'	CL			0.50	43	17	30.6	
SH - 7	22									2.00			18.4	Consolidation test was performed on SH-7 (16'-18')
SS - 8	18	2/3/11	14	20	593.6					4.50			16.5	
SS - 9	18	9/15/30	45	25	588.6	SILTY CLAY, gray, dry to moist, very stiff to hard				2.00			20.1	
SS - 10	18	10/15/25	40	30	583.6					3.00			16.5	

## WATER & CAVE-IN OBSERVATION DATA

	WATER ENCOUNTERED DURING DRILLING: 28 ft.		CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
	WATER LEVEL AT COMPLETION: N/A ft.		CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/15/10



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Phone: 414-933-7444, Fax: 414-933-7844

# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (Retaining Wall R-58)

DATE DRILLING STARTED

8/16/2010

BORING NUMBER

R-58-G5

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/16/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Lynn

FIELD LOG

Bucko

NORTHING

574074

LAB LOG / QC

D. Bath

EASTING

82388

DRILLING METHOD

3/4" HSA

SURFACE ELEVATION

613.6 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 11	18	5/10/17	27	35	578.6	SILTY CLAY, gray, dry to moist, very stiff to hard	CL-ML							
						LEAN CLAY, gray, moist to wet, stiff	CL			4.50	33	17	16.6	
SS - 12	18	5/7/9	16	40	573.6	End of boring at 40'				1.50			24.1	
				45	568.6									
				50	563.6									
				55	558.6									
				60	553.6									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: 28 ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/15/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-58)

DATE DRILLING STARTED

8/12/2010

BORING NUMBER

R-58-G6

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/12/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

573871

LAB LOG / QC

D. Bath

EASTING

82349

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

618 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS-1	18	3/4/5	9			LEAN CLAY, reddish brown, moist, stiff to very stiff				2.25			29.2	OFFSET: 29'W and 0'N from the staked location.  <b>Q<sub>u</sub> = 3.25 tsf</b> Wet density= 125.6 pcf Dry density= 100.4 pcf
SS-2	15	3/5/6	11	5	613.0				2.25	34	15	25.0		
SS-3	18	3/5/6	11				CL		1.50			24.1		
SS-4	18	3/5/6	11	10	608.0				2.50			24.9		
SS-5	18	3/5/5	10						1.25			19.2		
SS-6	18	4/5/7	12	15	603.0	SILTY CLAY, brown, moist, very stiff	CL-ML		2.25			25.6		
SS-7	5	4/7/19	26			sandy SILTY CLAY, gray, moist, stiff	CL-ML		1.00			23.9		
SS-8	3	7/11/19	30	20	598.0	LEAN CLAY, gray, moist to wet, stiff	CL		1.00			27.3		
SS-9	18	13/18/34	52	25	593.0	SILTY CLAY, gray, moist, stiff	CL-ML		1.75			24.2		
SS-10	18	6/8/8	16	30	588.0	LEAN CLAY, gray, moist, stiff	CL		1.75			21.6	<b>Q<sub>u</sub> = 1.77 tsf</b>	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/15/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-58)

DATE DRILLING STARTED

8/12/2010

BORING NUMBER

R-58-G6

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/12/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

573871

LAB LOG / QC

D. Bath

EASTING

82349

DRILLING METHOD

3/4" HSA

SURFACE ELEVATION

618 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 11	18	3/5/7	12	35	583.0	LEAN CLAY, gray, moist, stiff	CL			1.50	39	20	25.1	Wet density= 124.4 pcf Dry density= 102.3 pcf
	18	3/5/8	13	40	578.0					1.75		19.6		
SS - 12				45	573.0	End of boring at 40'								
				50	568.0									
				55	563.0									
				60	558.0									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/15/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-58)

DATE DRILLING STARTED

8/12/2010

BORING NUMBER

R-58-G7

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/12/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

573678

LAB LOG / QC

D. Bath

EASTING

82317

DRILLING METHOD

3 1/4" HSA

SURFACE ELEVATION

619.8 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	16	4/5/8	13			LEAN CLAY, brown, moist, stiff to very stiff				3.50			21.7	
SS - 2	18	4/5/7	12	5	614.8		CL			1.75			23.5	
SS - 3	18	3/4/7	11							1.50			25.3	
SS - 4	18	3/5/8	13	10	609.8	LEAN CLAY, with sand, reddish brown, moist, stiff to very stiff				1.50			14.1	Q <sub>u</sub> = 1.98 tsf Wet density= 125.1 pcf Dry density= 99.8 pcf
SS - 5	18	3/5/8	13				CL			1.50			14.7	
SS - 6	18	5/9/21	30	15	604.8					2.00			16.6	
SS - 7	16	10/20/30	50			LEAN CLAY, gray, dry to moist, hard				4.50			13.2	
SS - 8	16	15/21/24	45	20	599.8		CL			4.5+			13.2	Q <sub>u</sub> = 17.98 tsf Wet density= 138.6 pcf Dry density= 122.4 pcf
SS - 9	18	14/18/21	39	25	594.8	SILTY CLAY, gray, dry to moist, very stiff to hard				4.50			15.0	
SS - 10	18	5/10/15	25	30	589.8	With reddish brown lean clay layers were observed from 28.5'-30.0'	CL-ML			3.00			31.3	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/15/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 2

PROJECT NAME

Hwy-41 (Retaining Wall R-58)

DATE DRILLING STARTED

8/12/2010

BORING NUMBER

R-58-G7

PROJECT LOCATION

Green Bay, Wisconsin

DATE DRILLING ENDED

8/12/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D-120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

573678

LAB LOG / QC

D. Bath

EASTING

82317

DRILLING METHOD

3/4" HSA

SURFACE ELEVATION

619.8 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 11	18	3/5/8	13	35	584.8	SILTY CLAY, gray, dry to moist, very stiff to hard	CL-ML							
				40	579.8	LEAN CLAY, reddish gray, moist, stiff	CL		1.25			28.9		
SS - 12	18	3/5/7	12	40	579.8	End of boring at 40'				1.25			23.6	
				45	574.8									
				50	569.8									
				55	564.8									
				60	559.8									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/15/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME <b>Hwy-41 (Retaining Wall R-58)</b>	DATE DRILLING STARTED <b>8/16/2010</b>	BORING NUMBER <b>R-58-G8</b>
PROJECT LOCATION <b>Green Bay, Wisconsin</b>	DATE DRILLING ENDED <b>8/16/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: RVT CREW CHIEF: Lynn</b>	FIELD LOG <b>Bucko</b>	NORTHING <b>573479</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>82290</b>
		DRILLING METHOD <b>3 1/4" HSA</b>
		SURFACE ELEVATION <b>616.34 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	6	2/5/8	13		LEAN CLAY, with sand, brown and dark brown, moist, very stiff	CL			2.50			22.7	OFFSET: 15' west from staked location  Consolidation test was performed on SH-4 (8'-10')  Q <sub>u</sub> = 2.41 tsf Wet density = 127.0 pcf Dry density = 105.4 pcf
SS - 2	10	2/2/5	7	5 611.3	LEAN CLAY, with sand, light gray and reddish brown, moist, stiff to very stiff				1.50			15.0	
SS - 3	10	1/1/2	3			CL			1.00	29	16	17.7	
SH - 4	15			10 606.3					2.00				
SS - 5	4	1/0/1	1		LEAN CLAY, brown, moist, very stiff to hard							21.5	
SS - 6	6	2/4/4	8	15 601.3	Color changed to dark gray at 13.5'	CL			4.50			18.0	
SS - 7	12	10/22/50/5"	72/11"						3.50			20.2	
SS - 8	14	10/20/50/4"	70/10"	20 596.3	SILTY CLAY, dark gray, moist, very stiff to hard	CL-ML			4.00			33.3	
SS - 9	18	7/14/36	50	25 591.3					3.50			20.2	
SS - 10	18	1/3/5	8	30 586.3	LEAN CLAY, gray, moist, stiff to very stiff	CL			1.00			30.1	

## WATER & CAVE-IN OBSERVATION DATA

	WATER ENCOUNTERED DURING DRILLING: 10 ft.		CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
	WATER LEVEL AT COMPLETION: 18 ft.		CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/24/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 2

PROJECT NAME <b>Hwy-41 (Retaining Wall R-58)</b>	DATE DRILLING STARTED <b>8/16/2010</b>	BORING NUMBER <b>R-58-G8</b>
PROJECT LOCATION <b>Green Bay, Wisconsin</b>	DATE DRILLING ENDED <b>8/16/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: RVT CREW CHIEF: Lynn</b>	FIELD LOG <b>Bucko</b>	NORTHING <b>573479</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>82290</b>
		DRILLING METHOD <b>3/4" HSA</b>
		SURFACE ELEVATION <b>616.34 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments			
SH - 11	22			35	581.3	LEAN CLAY, gray, moist, stiff to very stiff	CL			3.00			24.2				
SS - 12	18	2/4/6	10	40	576.3	End of boring at 40'				1.00			24.0				
					45					571.3							
					50					566.3							
					55					561.3							
				60	556.3												

### WATER & CAVE-IN OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: 10 ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AT COMPLETION: 18 ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-58.GPJ GESTRA.GDT 11/24/10

**Boring logs for B-05-642, B-05-654, B-05-655**



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# SOIL BORING LOG

PAGE NUMBER

1 of 3

PROJECT NAME <b>USH 41 (B-05-642)</b>	DATE DRILLING STARTED <b>10/19/2010</b>	BORING NUMBER <b>B-642-G1</b>
PROJECT LOCATION <b>Brown County, WI</b>	DATE DRILLING ENDED <b>10/19/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: GESTRA CREW CHIEF: J. Winston</b>	FIELD LOG <b>Bryan S.</b>	NORTHING <b>574596</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>82534</b>
		DRILLING METHOD <b>3 1/4" HSA</b>
		SURFACE ELEVATION <b>607.6 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	14	2/3/5	8			FILL, lean clay, trace gravel, reddish brown, moist				3.00			16.6	
SS - 2	15	2/2/2	4	5	602.6	LEAN CLAY, with organics, black, moist, stiff	CL			1.00			37.1	
SS - 3	10	1/1/2	3			LEAN CLAY, gray and brown mottled, moist, medium stiff	CL			0.50			27.9	
SH - 4	24			10	597.6	SANDY SILT, gray-brown, moist, very loose	ML							
SS - 5	18	1/2/2	4			LEAN CLAY, reddish brown, moist, medium stiff				0.50	39	21		
SS - 6	18	2/1/2	3	15	592.6	Gray-brown sandy silt layer was observed from 11.0' to 11.3'	CL			0.75			25.7	
SS - 7	18	0/2/1	3			SILTY CLAY, with fine sand, reddish gray, moist to wet, medium stiff	CL-ML			0.50			15.0	
SH - 8	24			20	587.6	LEAN CLAY, reddish gray, moist, medium stiff to stiff	CL			0.50			17.9	<b>Q<sub>u</sub> = 1.63 tsf</b> Wet density = 137.3 tsf Dry density = 116.5 tsf
SS - 9	12	4/8/11	19			LEAN CLAY, with layers of silty clay, reddish gray, moist, very stiff				3.00			20.8	
SS - 10	18	6/10/15	25	25	582.6		CL			3.50			18.7	
SS - 11	18	8/13/18	31	30	577.6	LEAN CLAY, gray, moist, hard	CL			4.50			17.6	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-642.GPJ GESTRA.GDT 11/16/10



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Phone: 414-933-7444, Fax: 414-933-7844

# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME <b>USH 41 (B-05-642)</b>		DATE DRILLING STARTED <b>10/19/2010</b>	BORING NUMBER <b>B-642-G1</b>
PROJECT LOCATION <b>Brown County, WI</b>		DATE DRILLING ENDED <b>10/19/2010</b>	PROJECT NUMBER <b>10043-10</b>
FIELD LOG Bryan S.		NORTHING 574596	DRILLING RIG Diedrich D50
LAB LOG / QC D. Bath		EASTING 82534	DRILLING METHOD 3 1/4" HSA
FIRM: GESTRA CREW CHIEF: J. Winston			SURFACE ELEVATION 607.6 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 12	18	8/15/21	36	35	572.6	LEAN CLAY, gray, moist, hard	CL			4.50			18.4	
SS - 13	18	8/14/20	34	40	567.6	LEAN CLAY, gray, moist to wet, medium stiff 1/4" thick silty sand layer was observed at 44'	CL			4.50			17.9	
SS - 14	18	2/3/5	8	45	562.6	LEAN CLAY, gray, moist to wet, medium stiff 1/4" thick silty sand layer was observed at 44'	CL			0.50			19.0	
SS - 15	18	2/3/3	6	50	557.6	LEAN CLAY, gray, moist to wet, medium stiff 1/4" thick silty sand layer was observed at 44'	CL			0.50			19.2	
SS - 16	18	1/2/3	5	55	552.6	LEAN CLAY, gray, moist to wet, medium stiff 1/4" thick silty sand layer was observed at 44'	CL			0.50			18.8	
SS - 17	18	2/3/5	8	60	547.6	LEAN CLAY, gray, moist to wet, medium stiff 1/4" thick silty sand layer was observed at 44'	CL			0.50			20.4	

### WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.	<input type="checkbox"/>		WET <input type="checkbox"/>
		<input type="checkbox"/>		DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-642.GPJ GESTRA.GDT 11/16/10



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# SOIL BORING LOG

PAGE NUMBER

3 of 3

PROJECT NAME <b>USH 41 (B-05-642)</b>	DATE DRILLING STARTED <b>10/19/2010</b>	BORING NUMBER <b>B-642-G1</b>
PROJECT LOCATION <b>Brown County, WI</b>	DATE DRILLING ENDED <b>10/19/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: GESTRA CREW CHIEF: J. Winston</b>	FIELD LOG <b>Bryan S.</b>	NORTHING <b>574596</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>82534</b>
		DRILLING METHOD <b>3 1/4" HSA</b>
		SURFACE ELEVATION <b>607.6 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 18	18	2 3/4	7	65	542.6	LEAN CLAY, gray, moist to wet, medium stiff	CL			0.75			22.0	
	SS - 19	18	3 3/4	7	70					537.6			0.50	
SS - 20		18	3 4/5	9	75					532.6			0.50	
	SS - 21	18	3 2/3	5	80					527.6			0.75	
										End of boring at 80'				
				85	522.6									
				90	517.6									

### WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-642.GPJ GESTRA.GDT 11/16/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 3

PROJECT NAME

USH 41 (B-05-642)

DATE DRILLING STARTED

10/27/2010

BORING NUMBER

B-642-G2

PROJECT LOCATION

Brown County, WI

DATE DRILLING ENDED

10/27/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D 120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

LAB LOG / QC

D. Bath

EASTING

DRILLING METHOD

HSA

SURFACE ELEVATION

605.8 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength ( $Q_u$ or $C_u$ ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
				5	600.8	No Sample Obtained								Offset: 8'N and 4'E from the staked location
SS - 1	18	2/2/2	4	10	595.8	LEAN CLAY, reddish brown, moist to wet, medium stiff	CL			0.50			25.5	<b>In-situ Vane Shear Test (12'-13')</b> Shear strength = 620 psf (uncorrected) = 418 psf (corrected for overburden pressure)
SH - 2	6			15	590.8									<b>In-situ Vane Shear Test (17'-18')</b> Shear strength = 560 psf (uncorrected) = 420 psf (corrected for overburden pressure)
SS - 3	2	10/20/24	44	20	585.8	LEAN CLAY, gray with layers of reddish brown, moist, stiff to very stiff	CL						20.9	Poor recovery SPT "N-value" not considered representative
SS - 4	18	7/7/9	16	30	575.8					2.00			31.1	

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-642.GPJ GESTRA.GDT 11/16/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 3

PROJECT NAME <b>USH 41 (B-05-642)</b>	DATE DRILLING STARTED <b>10/27/2010</b>	BORING NUMBER <b>B-642-G2</b>
PROJECT LOCATION <b>Brown County, WI</b>	DATE DRILLING ENDED <b>10/27/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: RVT CREW CHIEF: Jerry</b>	FIELD LOG <b>Hank</b>	NORTHING <b>HSA</b>
	LAB LOG / QC <b>D. Bath</b>	EASTING <b>605.8 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength ( $Q_u$ or $C_u$ ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SH - 5				35	570.8	LEAN CLAY, gray with layers of reddish brown, moist, stiff to very stiff	CL			2.50				Recovery is not recorded in field log
				40	565.8									
				45	560.8									
SH - 6	23			50	555.8				1.50	37	19		<b><math>Q_u = 1.58</math> tsf</b> Wet density= 125.7 tsf Dry density= 98.0 tsf	
				55	550.8									
SS - 7	18	3/3/8	11	60	545.8				0.75			21.0		

### WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-642.GPJ GESTRA.GDT 11/16/10



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# SOIL BORING LOG

PAGE NUMBER

3 of 3

PROJECT NAME

USH 41 (B-05-642)

DATE DRILLING STARTED

10/27/2010

BORING NUMBER

B-642-G2

PROJECT LOCATION

Brown County, WI

DATE DRILLING ENDED

10/27/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D 120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

LAB LOG / QC

D. Bath

EASTING

DRILLING METHOD

HSA

SURFACE ELEVATION

605.8 ft

Number and Type and Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments	
SS - 8	6	50/6%--/--	--	65	540.8	LEAN CLAY, gray with layers of reddish brown, moist, stiff to very stiff	CL						
				65	540.8	sandy SILTY CLAY, with gravel, gray, moist, hard	CL-ML						
				70	535.8	Auger refusal and end of boring at 69'							
				75	530.8								
				80	525.8								
				85	520.8								
				90	515.8								

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.



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# SOIL BORING LOG

PAGE NUMBER

1 of 3

PROJECT NAME

USH 41 (B-05-642)

DATE DRILLING STARTED

8/4/2010

BORING NUMBER

B-831

PROJECT LOCATION

Brown County, WI

DATE DRILLING ENDED

8/4/2010

PROJECT NUMBER

10043-10

DRILLING RIG

BORING DRILLED BY

FIRM: Gestra  
CREW CHIEF: P. Fitzgibbon

FIELD LOG

D. Reid

NORTHING

LAB LOG / QC

E. Jeske

EASTING

DRILLING METHOD

SURFACE ELEVATION

605.6 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	3	0/3/3/3	6		SILT, dark brown, moist, loose, trace clay, sand and gravel	ML							Station: 831+91 Offset: 62' RT of 29EB to 41SB Ramp RL  Passing #200 Sieve=19.9%  Passing #200 Sieve=94.6%
SS - 2	6	1/4/4/4	8	5 600.6	SILTY SAND, brown, moist to wet, loose, with small silt layers, fine sand	SM							
SS - 3	18	1/2/1/2	3		SILTY SAND, gray, moist to wet, very loose	SM							
SS - 4	12	1/2			LEAN CLAY, red, moist, medium stiff to stiff, trace to little silt	CL		0.7					
SS - 5	12	1/2/0"			CLAYEY SILT, reddish brown, moist to wet, loose, with small red clay layers	ML		1.5					
SS - 6	24	0/2/3/2	5	10 595.6	LEAN CLAY, red and gray, moist to wet, very soft	CL		0.1					
SS - 7	24	1/2/2/2	4		SILT, gray, moist to wet, very loose, trace clay	ML		0.0	29	13			
SS - 8	24	0/0/0/0	0	15 590.6	LEAN CLAY, reddish brown, moist, soft, little silt	CL		3.50					
SS - 9	24	0/0/0/0	0		SILTY CLAY, red and gray, dry, very stiff, trace gravel	CL-ML		4.50					
SS - 10	18	0/0/3	3	20 585.6	LEAN CLAY, gray, and red, dry, very stiff, some silt	CL							
SS - 11	18	7/13/17	30	25 580.6									
		7/12/11		30 575.6									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-642.GPJ GESTRA.GDT 11/16/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 3

PROJECT NAME <b>USH 41 (B-05-642)</b>	DATE DRILLING STARTED <b>8/4/2010</b>	BORING NUMBER <b>B-831</b>
PROJECT LOCATION <b>Brown County, WI</b>	DATE DRILLING ENDED <b>8/4/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: Gestra CREW CHIEF: P. Fitzgibbon</b>	FIELD LOG <b>D. Reid</b>	NORTHING
	LAB LOG / QC <b>E. Jeske</b>	EASTING
		DRILLING METHOD
		SURFACE ELEVATION <b>605.6 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength ( $Q_u$ or $C_u$ ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 12	18	7/12/11	23			LEAN CLAY, gray, and red, dry, very stiff, some silt	CL			4.50				
SS - 13	18	1/2/3	5	35	570.6	SILTY CLAY, red and gray, moist, soft to medium stiff	CL-ML			1.50				
SS - 14	18	1/2/2	4	40	565.6	LEAN CLAY, gray and red, moist, medium stiff	CL			0.3				
SS - 15	18	1/2/3	5	45	560.6	LEAN CLAY, gray with small layers of red, moist, medium stiff	CL			0.5	34	18	22.9	$Q_u = 0.67$ tsf Wet density= 137.1 pcf Dry density= 111.6 pcf
SS - 16	18	1/2/2	4	50	555.6	LEAN CLAY, gray with small layers of red, moist, medium stiff	CL			0.7	36	20		
SS - 17	18	1/2/3	5	55	550.6	LEAN CLAY, gray, moist, medium stiff, some silt	CL			0.5				
		2/3/4		60	545.6	LEAN CLAY, gray, moist, medium stiff, some silt	CL							

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-642.GPJ GESTRA.GDT 11/16/10



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# SOIL BORING LOG

PAGE NUMBER

3 of 3

PROJECT NAME

USH 41 (B-05-642)

DATE DRILLING STARTED

8/4/2010

BORING NUMBER

B-831

PROJECT LOCATION

Brown County, WI

DATE DRILLING ENDED

8/4/2010

PROJECT NUMBER

10043-10

DRILLING RIG

BORING DRILLED BY

FIRM: Gestra  
CREW CHIEF: P. Fitzgibbon

FIELD LOG

D. Reid

NORTHING

LAB LOG / QC

E. Jeske

EASTING

DRILLING METHOD

SURFACE ELEVATION

605.6 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 18	18	2/3/4	7			LEAN CLAY, gray, moist, medium stiff, some silt	CL			0.5	28	15	23.7	Q <sub>u</sub> = 0.90 tsf Wet density= 137.1 pcf Dry density= 110.8 pcf
	18													
SS - 19	6	1/76	65	540.6		LEAN CLAY, red, moist, hard, some silt, trace gravels	CL			2.5				
	12													
SS - 21	12	34				SILT, moist, dense, little sand and gravel, trace clay	ML			4.0				
	18													
CORE - 1	18	18/18/26	44	70	535.6	DOLOMITE (HIGHLY WEATHERED)								
	29													
CORE - 2	29			75	530.6	DOLOMITE (SLIGHTLY WEATHERED), light, thinly bedded, medium crystalline, galena or platteville fm.								Recovery = 29"/30" = 97% RQD = 11"/30" = 37%
	29													
	80			80	525.6	End of Boring at 79.5								
	85			85	520.6									
	90			90	515.6									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-642.GPJ GESTRA.GDT 11/16/10



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# SOIL BORING LOG

BORING NUMBER **B-Pier2**

PROJECT NAME  
**USH 41 Ramp ES over Howard RR Spur**

DATE DRILLING STARTED  
**4/7/2010**

DRILLING METHOD  
**HSA**

PROJECT NUMBER  
**WisDOT 1133-09-02; Gestra 10043-10**

DATE DRILLING ENDED  
**4/19/2010**

DRILL RIG  
**Unit 3 (WisDOT)**

BORING DRILLED BY  
**FIRM: WisDOT  
CREW CHIEF:**

FIELD LOG

NORTHING

HAMMER TYPE:

LAB LOG / QC

**E. Jeske**

EASTING

**0**

**Auto**

SURFACE ELEVATION

**0**

**607.2 ft.**

Sample Number and Type	Sample Recovery (in)	Blow Counts per 6"	N - Value (bpf)	Depth (ft)	Elevation (ft)	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Compressive Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit (%)	Plasticity Index (%)	Moisture Content (%)	Comments
						FILL (18"), gravel								Station: 829+56 Offset: 35'RT 29 EB to 41SB RL Drilling was performed by WisDOT
						TOPSOIL (6")								
SS - 1	18	2 2 3	5	5	602.2	LEAN CLAY reddish brown, dry to moist, stiff to very stiff	CL			<b>2.00</b>				
SS - 2	18	2 5 3	8	10	597.2	With very light silt lamination from 11.5' to 28.5'	CL			<b>1.00</b>				
SS - 3	18	0 0 0	0	15	592.2	SILTY CLAY, reddish brown, dry to moist, soft	CL			<b>0.25</b>				
SS - 4	0	1 1 2	3	20	587.2	SILTY CLAY, reddish brown, dry to moist, soft, with very light silt lamination	CL-ML							
						With gray silt clay seams below 23.5'	CL-ML							
SS - 5	18	3 7 12	19	25	582.2	LEAN CLAY reddish brown, dry to moist, hard, with very light silt lamination to 28.5'	CL			<b>4.50</b>				
				30	577.2									

## WATER OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A	WET <input type="checkbox"/> DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER ENCOUNTERED AT COMPLETION: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A	WET <input type="checkbox"/> DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER HOURS: N/A		NOTE: Bolded Unconfined Compressive Strength values denote a Q <sub>p</sub> test.	

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA B-05-642.GPJ GESTRA.GDT 10/11/10



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# SOIL BORING LOG

BORING NUMBER **B-Pier2**

PROJECT NAME  
USH 41 Ramp ES over Howard RR Spur

DATE DRILLING STARTED  
4/7/2010

DRILLING METHOD  
HSA

PROJECT NUMBER  
WisDOT 1133-09-02; Gestra 10043-10

DATE DRILLING ENDED  
4/19/2010

DRILL RIG  
Unit 3 (WisDOT)

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF:

FIELD LOG

LAB LOG / QC

E. Jeske

NORTHING

0

EASTING

0

HAMMER TYPE:

Auto

SURFACE ELEVATION

607.2 ft.

Sample Number and Type	Sample Recovery (in)	Blow Counts per 6"	N - Value (bpf)	Depth (ft)	Elevation (ft)	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Compressive Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit (%)	Plasticity Index (%)	Moisture Content (%)	Comments
SS - 6	18	12 12 17	29			LEAN CLAY reddish brown, dry to moist, hard, with very light silt lamination to 28.5'	CL			4.50				
				35	572.2									
SS - 7	18	5 6 6	12			LEAN CLAY reddish brown, dry to moist, very stiff to hard	CL			2.50				
				40	567.2									
SS - 8	0	1 3 3	6			LEAN CLAY, reddish brown, wet, medium stiff	CL			1.00				
				45	562.2									
SS - 9	18	2 3 4	7			LEAN CLAY, reddish brown, wet, medium stiff	CL			1.25				
				50	557.2									
SS - 10	18	5 4 5	9			LEAN CLAY WITH SAND, reddish brown, wet, medium stiff, trace gravel	CL			0.50				
				55	552.2									
SS - 11	18	2 3 3	6			LEAN CLAY WITH SAND, reddish brown, wet, medium stiff, trace gravel	CL			0.75				
				60	547.2									

## WATER OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER ENCOUNTERED AT COMPLETION: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER HOURS: N/A		NOTE: Bolded Unconfined Compressive Strength values denote a Q <sub>p</sub> test.	WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA B-05-642.GPJ GESTRA.GDT 10/11/10



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Ph: (414) 933-7444, Fx: (414) 933-7844

# SOIL BORING LOG

BORING NUMBER **B-Pier2**

PROJECT NAME  
USH 41 Ramp ES over Howard RR Spur

DATE DRILLING STARTED  
4/7/2010

DRILLING METHOD  
HSA

PROJECT NUMBER  
WisDOT 1133-09-02; Gestra 10043-10

DATE DRILLING ENDED  
4/19/2010

DRILL RIG  
Unit 3 (WisDOT)

BORING DRILLED BY  
FIRM: WisDOT  
CREW CHIEF:

FIELD LOG

NORTHING

HAMMER TYPE:

LAB LOG / QC

E. Jeske

EASTING

0

Auto

SURFACE ELEVATION

0

607.2 ft.

Sample Number and Type	Sample Recovery (in)	Blow Counts per 6"	N - Value (bpf)	Depth (ft)	Elevation (ft)	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Compressive Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit (%)	Plasticity Index (%)	Moisture Content (%)	Comments
SS - 12	18	2 3 3	6			LEAN CLAY WITH SAND, reddish brown, wet, medium stiff, trace gravel	CL			<b>0.50</b>				
				65	542.2									
SS - 13	18	3 30 13	43			SANDY CLAY WITH GRAVEL, reddish brown, wet, stiff, fine sand	CL							
				70	537.2									
SS - 14	18	20 20 27	47			CLAYEY SAND WITH SILT AND GRAVEL, gray, wet, dense	SC							
				75	532.2									
SS - 15	6	38 60/1"				HIGHLY WEATHERED BEDROCK								
						APPARENT BEDROCK								
				80	527.2									
						End of Boring at 80.0'								
				85	522.2									
				90	517.2									

## WATER OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER ENCOUNTERED AT COMPLETION: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER HOURS: N/A		NOTE: Bolded Unconfined Compressive Strength values denote a Q <sub>p</sub> test.	WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

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# SOIL BORING LOG

BORING NUMBER **B-Pier3**

PROJECT NAME  
USH 41 Ramp ES over Howard RR Spur

DATE DRILLING STARTED  
4/6/2010

DRILLING METHOD  
HSA w/ RWB

PROJECT NUMBER  
WisDOT 1133-09-02; Gestra 10043-10

DATE DRILLING ENDED  
4/7/2010

DRILL RIG  
Unit 3 (WisDOT)

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF:

FIELD LOG

LAB LOG / QC

E. Jeske

NORTHING

EASTING

1

1

HAMMER TYPE:

Auto

SURFACE ELEVATION

607.3 ft.

Sample Number and Type	Sample Recovery (in)	Blow Counts per 6"	N - Value (bpf)	Depth (ft)	Elevation (ft)	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Compressive Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit (%)	Plasticity Index (%)	Moisture Content (%)	Comments
				5	602.3	FILL (18"), gravel, silt and sand, gray								Station: 829+08 Offset: 15'RT 29 EB to 41 SB RL Drilling was performed by WisDOT
SS - 1	18	4 6 7	13			LEAN CLAY, reddish brown, moist to wet, stiff to medium stiff	CL			2.00				
				10	597.3									
SS - 2	18	4 6 7	13							1.25				
				15	592.3	Brown, with very light silt lamination at 15.0'								
SS - 3	18	0 0 0	0			SILTY CLAY WITH SAND, light brown to brown, moist to wet, very soft to soft, greenish gray clay layer in sample SS-4	CL-ML			0.25				
				20	587.3									
SS - 4	18	0 0 0	0							0.00				
				25	582.3									
SS - 5	18	5 12 20	32			LEAN CLAY, reddish brown, dry, hard, with very light silt lamination, some silt	CL			4.50				
				30	577.3									

## WATER OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER ENCOUNTERED AT COMPLETION: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER HOURS: N/A		NOTE: Bolded Unconfined Compressive Strength values denote a Q <sub>p</sub> test.	WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA B-05-642.GPJ GESTRA.GDT 10/11/10



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# SOIL BORING LOG

BORING NUMBER **B-Pier3**

PROJECT NAME  
USH 41 Ramp ES over Howard RR Spur

DATE DRILLING STARTED  
4/6/2010

DRILLING METHOD  
HSA w/ RWB

PROJECT NUMBER  
WisDOT 1133-09-02; Gestra 10043-10

DATE DRILLING ENDED  
4/7/2010

DRILL RIG  
Unit 3 (WisDOT)

BORING DRILLED BY  
FIRM: WisDOT  
CREW CHIEF:

FIELD LOG

NORTHING

HAMMER TYPE:

LAB LOG / QC

E. Jeske

EASTING

Auto

SURFACE ELEVATION

607.3 ft.

Sample Number and Type	Sample Recovery (in)	Blow Counts per 6"	N - Value (bpf)	Depth (ft)	Elevation (ft)	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Compressive Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit (%)	Plasticity Index (%)	Moisture Content (%)	Comments
SS - 6	18	6 10 15	25			LEAN CLAY, reddish brown, dry, hard, with very light silt lamination, some silt	CL			4.50				
				35	572.3	LEAN CLAY, reddish brown, moist, medium stiff to stiff								
SS - 7	18	3 5 6	11							0.50-1.50				
				40	567.3									
SS - 8	18	2 4 5	9							1.50				Converted to mud rotary at 40.0'
				45	562.3									
SS - 9	18	3 3 4	7				CL			1.00-1.50				
				50	557.3									
SS - 10	18	3 3 4	7							1.00-1.50				
				55	552.3									
SS - 11	18	2 3 3	6							0.75-1.00				
				60	547.3									

## WATER OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER ENCOUNTERED AT COMPLETION: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER HOURS: N/A		NOTE: Bolded Unconfined Compressive Strength values denote a Q <sub>p</sub> test.	WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA B-05-642.GPJ GESTRA.GDT 10/11/10





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# SOIL BORING LOG

BORING NUMBER **R-226-G1**

PROJECT NAME <b>USH 41 Ramp ES over Howard RR Spur</b>	DATE DRILLING STARTED <b>10/1/2010</b>	DRILLING METHOD <b>HSA</b>
PROJECT NUMBER <b>WisDOT 1133-09-02; Gestra 10043-10</b>	DATE DRILLING ENDED <b>10/1/2010</b>	DRILL RIG <b>CME 55</b>

BORING DRILLED BY <b>FIRM: RVT CREW CHIEF: J. Broennimann</b>	FIELD LOG <b>LAB LOG / QC E. Jeske</b>	NORTHING <b>3</b>	HAMMER TYPE: <b>Auto</b>
		EASTING <b>3</b>	SURFACE ELEVATION <b>607.4 ft.</b>

Sample Number and Type	Sample Recovery (in)	Blow Counts per 6"	N - Value (bpf)	Depth (ft)	Elevation (ft)	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Compressive Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit (%)	Plasticity Index (%)	Moisture Content (%)	Comments
SS - 1	6	6 6 4	10			TOPSOIL (2.5'), silty clay, with roots, gravel and sand, dark brown, moist				<b>0.50</b>				Station: 828+50 Offset: 0' 29 EB to 41 SB RL  Rig chatter at 27.0'
SS - 2	18	3 4 6	10	5	602.4	LEAN CLAY, reddish brown, dry to moist, stiff to very stiff	CL			<b>1.25</b>				
SS - 3	0	3 3 5	8				CL							
SH - 4	24			10	597.4					<b>2.00</b>				
SS - 5	18	1 2 2	4			LEAN CLAY, brown, moist to wet, soft to medium stiff Wet at 12.5'	CL			<b>0.25</b>				
SH - 6	24			15	592.4		CL			<b>0.75</b>				
SH - 7	24			20	587.4	LEAN CLAY, red and gray, moist, medium stiff to hard	CL			<b>1.25</b>				
SH - 8	24			25	582.4		CL			<b>2.25</b>				
SS - 9	18	7 12 18	30	30	577.4					<b>4.00</b>				

## WATER OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: 12.5 ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER ENCOUNTERED AT COMPLETION: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER HOURS: N/A		NOTE: Bolded Unconfined Compressive Strength values denote a Q <sub>p</sub> test.	WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA B-05-642.GPJ GESTRA.GDT 10/11/10



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# SOIL BORING LOG

BORING NUMBER **R-226-G1**

PROJECT NAME  
USH 41 Ramp ES over Howard RR Spur

DATE DRILLING STARTED  
10/1/2010

DRILLING METHOD  
HSA

PROJECT NUMBER  
WisDOT 1133-09-02; Gestra 10043-10

DATE DRILLING ENDED  
10/1/2010

DRILL RIG  
CME 55

BORING DRILLED BY  
FIRM: RVT  
CREW CHIEF: J. Broennimann

FIELD LOG  
LAB LOG / QC  
E. Jeske

NORTHING  
3  
EASTING  
3

HAMMER TYPE:  
Auto  
SURFACE ELEVATION  
607.4 ft.

Sample Number and Type	Sample Recovery (in)	Blow Counts per 6"	N - Value (bpf)	Depth (ft)	Elevation (ft)	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Compressive Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit (%)	Plasticity Index (%)	Moisture Content (%)	Comments
SS - 10		8 12 32	44	35	572.4	LEAN CLAY, red and gray, moist, medium stiff to hard 1' thick cobble field at 30.0'	CL			4.50				
SS - 11	18	4 8 12	20	40	567.4									
SS - 12	18	4 5 9	14	45	562.4									
SS - 13	18	3 4 5	9	50	557.4									
SH - 14	23			55	552.4									
SS - 15	18	3 3 7	10	60	547.4	LEAN CLAY WITH SAND, red and brown, moist, medium stiff to stiff	CL			0.50				

## WATER OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: 12.5 ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER ENCOUNTERED AT COMPLETION: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER HOURS: N/A		NOTE: Bolded Unconfined Compressive Strength values denote a Q <sub>p</sub> test.	WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA B-05-642.GPJ GESTRA.GDT 10/11/10



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# SOIL BORING LOG

BORING NUMBER **R-226-G1**

PROJECT NAME  
USH 41 Ramp ES over Howard RR Spur

DATE DRILLING STARTED  
10/1/2010

DRILLING METHOD  
HSA

PROJECT NUMBER  
WisDOT 1133-09-02; Gestra 10043-10

DATE DRILLING ENDED  
10/1/2010

DRILL RIG  
CME 55

BORING DRILLED BY  
FIRM: RVT  
CREW CHIEF: J. Broennimann

FIELD LOG  
LAB LOG / QC  
E. Jeske

NORTHING  
3  
EASTING  
3

HAMMER TYPE:  
Auto  
SURFACE ELEVATION  
607.4 ft.

Sample Number and Type	Sample Recovery (in)	Blow Counts per 6"	N - Value (bpf)	Depth (ft)	Elevation (ft)	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Compressive Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit (%)	Plasticity Index (%)	Moisture Content (%)	Comments
SS - 16	8	6 8 18	26	65	542.4	LEAN CLAY WITH SAND, red and brown, moist, medium stiff to stiff	CL			1.25				Rig chatter below 65.0'
SS - 17	18	7 13 15	28	70	537.4	CLAYEY SAND WITH GRAVEL, gray, moist, stiff to hard, driller notes cobble				1.75				
SS - 18	12	34 50/6"	50/6"	75	532.4		SC			4.50				
SS - 19	0	39 50/1"	50/1"	80	527.4	End of Boring at 80.0'								
				85	522.4									
				90	517.4									

## WATER OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: 12.5 ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER ENCOUNTERED AT COMPLETION: N/A	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER HOURS: N/A		NOTE: Bolded Unconfined Compressive Strength values denote a Q <sub>p</sub> test.	WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA B-05-642.GPJ GESTRA.GDT 10/11/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 1

PROJECT NAME

Hwy-41 (R-05-226-4)

DATE DRILLING STARTED

4/20/2010

BORING NUMBER

B-3

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

4/20/2010

PROJECT NUMBER

10043-10

DRILLING RIG

Unit 3

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF: Ruda

FIELD LOG

WisDOT

NORTHING

LAB LOG / QC

Viki

EASTING

DRILLING METHOD

Auger

SURFACE ELEVATION

607.9 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS-1	24	3/3/4/4	7			BASE COURSE								WisDOT Project # 1133-03-02 STATION: 827+65 OFFSET: 7' LT. from Ramp ES RL.
						FAT CLAY, trace fine gravel, brown, moist, very soft to very stiff	CH		2.50	52	31			
SS-2	24	3/4/5/7	9	5	602.9	LEAN CLAY, trace fine gravel, brown, moist, very soft to very stiff			2.50-2.00					
SS-3	24	4/4/5/5	9			Moist to wet at 7'			2.00-1.75	37	20			
SS-4	24	3/3/4/4	7	10	597.9	Wet at 10'			1.25-1.00					
SS-5	24	1/2/2/3	4				CL		0.50-0.25	37	20			
SS-6	24	0/0/1/1	1						0.00					
SS-7	24	0/1/2/1	3	15	592.9				0.00-0.25					
SS-8	18	1/1/2	3		20	587.9	LEAN CLAY, trace fine gravel, fine sand laminations, light reddish brown, wet, soft	CL		0.25	20	7		
SS-9	18	1/1/2	3		25	582.9			0.25					
					30	577.9	End of boring at 26.5'							

## WATER & CAVE-IN OBSERVATION DATA

	WATER ENCOUNTERED DURING DRILLING: N/A ft.		CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
	WATER LEVEL AT COMPLETION: N/A ft.		CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
	WATER LEVEL AFTER 1/4 HOURS: 9 ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-226-4.GPJ GESTRA.GDT 10/8/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 1

PROJECT NAME

Hwy-41 (R-05-226-4)

DATE DRILLING STARTED

4/20/2010

BORING NUMBER

B-4

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

4/20/2010

PROJECT NUMBER

10043-10

DRILLING RIG

Unit 3

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF: Ruda

FIELD LOG

WisDOT

NORTHING

LAB LOG / QC

Viki

EASTING

DRILLING METHOD

Auger

SURFACE ELEVATION

605.4 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
						BITUMINUS PAVEMENT (4") BASE COURSE								WisDOT Project # 1133-03-02 STATION: 827+75 OFFSET: 35' RT. from Ramp ES RL. West
SS - 1	24	3/1/3/4	4			LEAN CLAY, light reddish brown, moist, stiff to very stiff				175-2.2540		22		
SS - 2	24	3/4/5/5	9	5	600.4		CL			150-1.25				
SS - 3	24	2/3/3/4	6							125-1.50				
SS - 4	24	1/2/2/2	4	10	595.4	LEAN CLAY, brown, wet, soft	CL			0.25				
SS - 5	24	0/0/2/1	2			SILTY CLAY, brown, wet, very soft	CL-ML			0.00	22	5		
SS - 6	24	1/1/2/2	3			LEAN CLAY, with gravel, little sand, gray, wet, soft	CL			0.25	24	12		
SS - 7	24	0/0/1/2	1	15	590.4	CLAYEY SAND, gray, moist, very loose	SC						15.9	
						LEAN CLAY, with sand, brown, wet, soft								
SS - 8	18	1/3/2	5	20	585.4		CL			0.25				
SS - 9	18	1/6/9	15	25	580.4	LEAN CLAY, trace sand, brown, moist, very stiff	CL			3.50				
						End of boring at 26.5'								
				30	575.4									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-226-4.GPJ GESTRA.GDT 10/8/10



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Phone: 414-933-7444, Fax: 414-933-7844

# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME <b>Hwy-41 (R-05-247)</b>	DATE DRILLING STARTED <b>8/3/2010</b>	BORING NUMBER <b>R-247 S.A.</b>
PROJECT LOCATION <b>Brown County, Wisconsin</b>	DATE DRILLING ENDED <b>8/4/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: WisDOT CREW CHIEF: Ruda</b>	FIELD LOG <b>WisDOT</b>	NORTHING
	LAB LOG / QC <b>D. Bath</b>	EASTING
		DRILLING METHOD <b>HSA with RWB</b>
		SURFACE ELEVATION <b>619.6 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	3/4/5	9	5	614.6	FILL, silty sand, light brown, moist, loose, fine sand								WisDOT Project # 1133-03-02 Station: 2077+15 Offset: 48' LT of SB CD R/L Driller observation  Converted to mud rotary at 5.0'
					FILL, lean clay, brown, slightly moist, medium stiff									
SS - 2	18	3/2/2	4	10	609.6	FILL, silty sand, brown, moist, very loose, fine sand								
SS - 3	18	2/3/5	8	15	604.6	LEAN CLAY, brown, moist, soft to medium stiff, trace sand				1.50	32	15	18.9	
					CL									
SS - 4	18	1/2/2	4	20	599.6					1.00				
SS - 5	18	0/0/2	2	25	594.6	LEAN CLAY, brown, moist to wet, soft, trace coarse sand				0.75	26	11	21.7	
					CL									
				30	589.6	LEAN CLAY, reddish brown, stiff to hard, trace fine gravel, occasional silt lamination								

### WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-247.GPJ GESTRA.GDT 10/19/10



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (R-05-247)

DATE DRILLING STARTED

8/3/2010

BORING NUMBER

R-247 S.A.

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

8/4/2010

PROJECT NUMBER

10043-10

DRILLING RIG

Unit 7

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF: Ruda

FIELD LOG

WisDOT

NORTHING

LAB LOG / QC

D. Bath

EASTING

DRILLING METHOD

HSA with RWB

SURFACE ELEVATION

619.6 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 6	24	2/3/6/7	9		LEAN CLAY, reddish brown, stiff to hard, trace fine gravel, occasional silt lamination	CL			150-2.00				
SS - 7	24	3/7/11/11	18						4.5+				
SS - 8	24	2/8/10/14	18	35					584.6	4.5+			
SS - 9	24	7/14/21/22	35						4.5+	31	17	23.6	
SS - 10	24	5/11/14/18	25	40					579.6	4.5+			
SS - 11	24	7/11/17/19	28		LEAN CLAY, brown trace red mottles, moist, hard	CL			4.5+				
SS - 12	24	4/10/13/14	23						4.00				
SS - 13	24	4/10/12/13	22	45					574.6	3.00-2.75			
SS - 14	18	2/3/3	6	50	569.6	CL			1.00	30	16	20.0	
SS - 15	18	2/3/4	7	55	564.6				1.00				
				60	559.6								

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-247.GPJ GESTRA.GDT 10/19/10



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# SOIL BORING LOG

PAGE NUMBER

3 of 3

PROJECT NAME <b>Hwy-41 (R-05-247)</b>	DATE DRILLING STARTED <b>8/3/2010</b>	BORING NUMBER <b>R-247 S.A.</b>
PROJECT LOCATION <b>Brown County, Wisconsin</b>	DATE DRILLING ENDED <b>8/4/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: WisDOT CREW CHIEF: Ruda</b>	FIELD LOG <b>WisDOT</b>	NORTHING
	LAB LOG / QC <b>D. Bath</b>	EASTING
		DRILLING METHOD <b>HSA with RWB</b>
		SURFACE ELEVATION <b>619.6 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 16	18	2/3/3	6			LEAN CLAY, brown with gray mottles, moist, medium stiff, occasional red mottles	CL			1.00				
				65	554.6	LEAN CLAY, brown, moist to wet, soft to medium stiff								
SS - 17	18	2/3/3	6							0.75	34	18	24.4	
				70	549.6									
SS - 18	18	2/3/3	6				CL			0.75				
				75	544.6									
SS - 19	18	2/3/5	8			Wet fine sand seam noted				0.50				
				80	539.6									
SS - 20	18	4/16/21	37			SANDY SILT, gray, wet, dense, fine sand	ML						17.8	Gravel= 0.2% Sand= 21.4% P200= 78.4%
				85	534.6	LIMESTONE								
CORE - 1				90	529.6	End of Boring at 89.0'								

### WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-247.GPJ GESTRA.GDT 10/19/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME <b>Hwy-41 (R-05-226-3)</b>	DATE DRILLING STARTED <b>7/14/2010</b>	BORING NUMBER <b>3080</b>
PROJECT LOCATION <b>Brown County, Wisconsin</b>	DATE DRILLING ENDED <b>7/14/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: WisDOT CREW CHIEF: M</b>	FIELD LOG <b>WisDOT</b>	NORTHING
	LAB LOG / QC <b>Viki</b>	EASTING
		DRILLING METHOD <b>Auger</b>
		SURFACE ELEVATION <b>623.7 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	8/8/8	16	5 618.7	TOPSOIL SILTY SAND, light brown, moist, medium dense to dense								WisDOT Project # 1133-03-02 STATION: 3080+00 OFFSET: 20' LT. from 29E to Hwy 41 S Ramp RL.  Gravel= 0.0% Sand= 73.5% P200= 26.5%
SS - 2	18	14/17/15/19	32	10 613.7		SM						6.7	
SS - 3	12	6/9/11/14	20										
SS - 4	12	5/5/8/13	13	15 608.7	Wet at 15'								
SS - 5	18	6/6/4/2	10										
SS - 6	24	3/4/5/6	9		LEAN CLAY, light brown, moist, very stiff to hard	CL			4.00	33	14	22.6	
SS - 7	24	3/4/6/7	10	20 603.7		CL			4.00				
SS - 8	24	2/3/4/5	7						3.00				
SS - 9	24	3/3/5/5	8						2.00				
SS - 10	24	2/4/3/4	7	25 598.7	LEAN CLAY, occasional silt seams, reddish brown, moist, very soft to medium stiff	CL			0.70	35	18	25.4	
SS - 11	24	1/2/2/2	4						0.20-0.10				
	24	0/0/0/1		30 593.7									

## WATER & CAVE-IN OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER 1/4 HOURS: 9 ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-226-3.GPJ GESTRA.GDT 10/29/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 2

PROJECT NAME <b>Hwy-41 (R-05-226-3)</b>	DATE DRILLING STARTED <b>7/14/2010</b>	BORING NUMBER <b>3080</b>
PROJECT LOCATION <b>Brown County, Wisconsin</b>	DATE DRILLING ENDED <b>7/14/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: WisDOT CREW CHIEF: M</b>	FIELD LOG <b>WisDOT</b>	NORTHING
	LAB LOG / QC <b>Viki</b>	EASTING
		DRILLING METHOD <b>Auger</b>
		SURFACE ELEVATION <b>623.7 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 13S - 12	24	0/0/0/1	0			LEAN CLAY, occasional silt seams, reddish brown, moist, very soft to medium stiff	CL			0.00	40	24	40.7	
	24	0/0/0/1	0			SANDY LEAN CLAY, gray with brown mottles, wet, soft	CL			0.30			18.7	Gravel= 10.0% Sand= 28.4% P200= 61.6%
SS - 14	18	0/0/0	0	35	588.7		CL							
						CLAYEY SAND, brown, moist, loose	SC				21	8	12.8	Gravel= 6.9% Sand= 44.0% P200= 49.1%
SS - 15	18	0/4/6	10	40	583.7		CL							
						LEAN CLAY, brown with gray mottles, moist, hard	CL			4.50	35	19	17.8	
SS - 16	18	9/19/23	42	45	578.7									
						End of boring at 46'								
				50	573.7									
				55	568.7									
				60	563.7									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 1/4 HOURS: 9 ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-226-3.GPJ GESTRA.GDT 10/29/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 4

PROJECT NAME <b>Hwy-41 (B-05-655)</b>	DATE DRILLING STARTED <b>7/29/2010</b>	BORING NUMBER <b>3078</b>
PROJECT LOCATION <b>Brown County, Wisconsin</b>	DATE DRILLING ENDED <b>7/29/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: WisDOT CREW CHIEF: M</b>	FIELD LOG <b>WisDOT</b>	NORTHING
	LAB LOG / QC <b>Viki</b>	EASTING
		DRILLING METHOD <b>Auger</b>
		SURFACE ELEVATION <b>622.4 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	4/6/9	15	5	617.4	POORLY GRADED SAND, light reddish brown, moist, medium dense	SP							WisDOT Project # 1133-03-02 STATION: 3078+50 OFFSET: 9' RT.  21.8 Gravel= 0.2% Sand= 56.9% P200= 42.9%
SS - 2	18	9/9/8/8	17	10	612.4	SILTY SAND, brown, wet, medium dense	SM							
SS - 3	18	5/6/4/6	10											
SS - 4	24	2/2/3/4	5			LEAN CLAY, reddish brown, moist to wet, medium stiff to very stiff			2.00					
SS - 5	24	2/2/3/2	5	15	607.4		CL		0.70-1.50					
SS - 6	24	1/1/3/6	4						0.50-1.00					
SS - 7	24	3/5/5/60/5"	10	20	602.4	SANDY LEAN CLAY, little gravel, light brown, moist, very stiff	CL		2.00			17.2	Gravel= 6.0% Sand= 38.4% P200= 55.6%	
SS - 8	24	15/14/17/25	31			SILTY CLAY with sand, light reddish brown, moist, hard			4.5+					
SS - 9	24	6/18/19/22	37				CL-ML		4.5+			21.9	Gravel= 0.0% Sand= 19.5% P200= 80.5%	
				25	597.4									
				30	592.4	LEAN CLAY, brown, moist, stiff to very stiff, silt seams noted	CL							

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-655.GPJ GESTRA.GDT 10/19/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 4

PROJECT NAME

Hwy-41 (B-05-655)

DATE DRILLING STARTED

7/29/2010

BORING NUMBER

3078

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

7/29/2010

PROJECT NUMBER

10043-10

DRILLING RIG

Unit 3

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF: M

FIELD LOG

WisDOT

NORTHING

LAB LOG / QC

Viki

EASTING

DRILLING METHOD

Auger

SURFACE ELEVATION

622.4 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength ( $Q_u$ or $C_u$ ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 10	18	3/5/5	10			LEAN CLAY, brown, moist, stiff to very stiff, silt seams noted				2.00	37	19		
	18													
SS - 11		3/5/6	11	35	587.4	Gray mottles observed in sample SS-11	CL			1.50				
	18													
SS - 12		4/5/8	13	40	582.4	LEAN CLAY, trace gravel, reddish gray, moist, very stiff	CL			2.00				
	18													
SS - 13		4/7/8	15	45	577.4	LEAN CLAY, brown, moist to wet, stiff	CL			1.70				
	18													
SS - 14		3/3/5	8	50	572.4	LEAN CLAY, reddish gray, moist, medium stiff	CL			1.50	34	18		
	18													
SS - 15		3/4/5	9	55	567.4	LEAN CLAY, some silt layers, little sand, fine sand laminations, red, moist, stiff	CL			1.50				
	18													
		3/3/4		60	562.4	LEAN CLAY, red, wet, stiff	CL							

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-655.GPJ GESTRA.GDT 10/19/10



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# SOIL BORING LOG

PAGE NUMBER

3 of 4

PROJECT NAME

Hwy-41 (B-05-655)

DATE DRILLING STARTED

7/29/2010

BORING NUMBER

3078

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

7/29/2010

PROJECT NUMBER

10043-10

DRILLING RIG

Unit 3

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF: M

FIELD LOG

WisDOT

NORTHING

LAB LOG / QC

Viki

EASTING

DRILLING METHOD

Auger

SURFACE ELEVATION

622.4 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 16	18	3/3/4	7			LEAN CLAY, red, wet, stiff	CL			1.50-1.70	36	20		
SS - 17	18	2/3/3	6	65	557.4	LEAN CLAY, red-brown, wet, medium stiff to stiff	CL			1.50	33	14		
SS - 18		2/3/4	7	70	552.4		CL			1.00				
SS - 19	18	15/32/13	45	75	547.4	SILTY CLAY, trace fine sand and gravel, brown, moist to wet, medium stiff (vertical sand seam thru sample)	CL-ML			0.50				Sample collected from 74.5' to 76' was saved in 2 jars as Sample 19 and Sample 20
SS - 21	18	5/7/11	18	80	542.4	SANDY SILT, trace clay, light brown, wet, medium dense	ML						15.3	Gravel= 0.9% Sand= 45.4% P200= 53.7%
SS - 22	18	11/15/13	28	85	537.4	LEAN CLAY, trace fine gravel, reddish brown, moist, hard	CL			4.00				
		60/5"		90	532.4		SC							

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-655.GPJ GESTRA.GDT 10/19/10



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (B-05-655)

DATE DRILLING STARTED

7/29/2010

BORING NUMBER

3078

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

7/29/2010

PROJECT NUMBER

10043-10

DRILLING RIG

Unit 3

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF: M

FIELD LOG

WisDOT

NORTHING

LAB LOG / QC

Viki

EASTING

DRILLING METHOD

Auger

SURFACE ELEVATION

622.4 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 23	6 6	60/5"				CLAYEY SAND, with gravel, light brown, moist, dense Possible cobbles and boulders	SC						5.7	Gravel= 30.6% Sand= 34.7% P200= 34.7%
SS - 24	18	10/18/26	44	95	527.4	LEAN CLAY, with sand and gravel, light brown, moist, hard	CL			4.5+				
CORE - 1	60			100	522.4	BEDROCK, Possible LIMESTONE								
				105	517.4	End of boring at 104.5'								
				110	512.4									
				115	507.4									
				120	502.4									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-655.GPJ GESTRA.GDT 10/19/10



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME <b>Hwy-41 (R-05-247)</b>	DATE DRILLING STARTED <b>8/9/2010</b>	BORING NUMBER <b>B-1</b>
PROJECT LOCATION <b>Brown County, Wisconsin</b>	DATE DRILLING ENDED <b>8/9/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: WisDOT CREW CHIEF: Ruda</b>	FIELD LOG <b>WisDOT</b>	NORTHING
	LAB LOG / QC <b>D. Bath</b>	EASTING
		DRILLING METHOD <b>HSA with RWB</b>
		SURFACE ELEVATION <b>613.7 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1				5 608.7	FILL, lean clay, brown, slightly moist, soft to medium stiff, trace sand				0.50				Station: 3075+70 Offset: 18' RT of SE RAMP R/L
	12	2/3/3	6										Converted to mud rotary at 5.0'
SS - 2				10 603.7	FILL, silty sand, brown, moist, fine to medium sand								Driller observation
	12	3/4/5	9		ORGANIC SILT, black, wet, loose	OH							
SS - 3				15 598.7	GRAVEL, fine to coarse gravel	GP							Driller observation
	18	3/7/7	14		SILTY CLAY, brown, slightly moist, medium stiff, trace gravel	CL-ML			1.50				
SS - 4				20 593.7	LEAN CLAY, brown, slightly moist to moist, stiff, with gray silt seams								
	18	11/17/16	33					3.00	35	17			
SS - 5				25 588.7		CL							
	18	3/6/5	11		Moist at 25.0'			1.75					
				30 583.7									

### WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-247.GPJ\_GESTRA.GDT 10/14/10



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (R-05-247)

DATE DRILLING STARTED

8/9/2010

BORING NUMBER

B-1

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

8/9/2010

PROJECT NUMBER

10043-10

DRILLING RIG

Unit 7

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF: Ruda

FIELD LOG

WisDOT

NORTHING

LAB LOG / QC

D. Bath

EASTING

DRILLING METHOD

HSA with RWB

SURFACE ELEVATION

613.7 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength ( $Q_u$ or $C_u$ ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 6	24	3/5/6/6	11			LEAN CLAY, brown, slightly moist to moist, stiff, with gray silt seams	CL			2.00-2.25				
SS - 7	24	2/3/2/4	5			LEAN CLAY, grayish brown, slightly moist, medium stiff, occasional silt seams				0.50-0.75				
SS - 8	24	2/3/3/4	6	35	578.7		CL			1.00-1.25	35	18	31.3	
SS - 9	24	3/4/3/4	7							1.50				
SS - 10	24	2/3/3/4	6	40	573.7	LEAN CLAY, brown with red mottles, moist, soft to medium stiff				0.75				
SS - 11	24	3/3/3/4	6							0.75	31	13	26.3	
SS - 12	24	2/3/3/3	6							0.75				
SS - 13	24	3/3/3/5	6	45	568.7					0.50-0.75	31	14		
SS - 14	18	3/3/3	6	50	563.7		CL			1.25				
SS - 15	18	3/3/3	6	55	558.7					0.50	29	13		
				60	553.7									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-247.GPJ GESTRA.GDT 10/14/10



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# SOIL BORING LOG

PAGE NUMBER

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PROJECT NAME

Hwy-41 (R-05-247)

DATE DRILLING STARTED

8/9/2010

BORING NUMBER

B-1

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

8/9/2010

PROJECT NUMBER

10043-10

DRILLING RIG

Unit 7

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF: Ruda

FIELD LOG

WisDOT

NORTHING

LAB LOG / QC

D. Bath

EASTING

DRILLING METHOD

HSA with RWB

SURFACE ELEVATION

613.7 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 16	0	1/2/3	5			LEAN CLAY, brown with red mottles, moist, soft to medium stiff								
				65	548.7									
SS - 17	18	2/3/3	6				CL			0.50	26	14		
				70	543.7	Trace fine gravel noted at 70.0'								
SS - 18	18	3/3/4	7							1.00	24	13	10.9	
				75	538.7	LEAN CLAY, olive, slightly moist, stiff to hard, silt seams noted, trace gravel								
SS - 19	18	12/18/30	48							4.00	25	13		
				80	533.7		CL							
SS - 20	18	11/20/35	55							4.00				
				85	528.7									
CORE - 1	57.6			90	523.7	BEDROCK								Recovery = 57.6"/60" = 96%

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-247.GPJ GESTRA.GDT 10/14/10



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# SOIL BORING LOG

PAGE NUMBER

4 of 4

PROJECT NAME <b>Hwy-41 (R-05-247)</b>	DATE DRILLING STARTED <b>8/9/2010</b>	BORING NUMBER <b>B-1</b>
PROJECT LOCATION <b>Brown County, Wisconsin</b>	DATE DRILLING ENDED <b>8/9/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: WisDOT CREW CHIEF: Ruda</b>	FIELD LOG <b>WisDOT</b>	NORTHING
	LAB LOG / QC <b>D. Bath</b>	EASTING
		DRILLING METHOD <b>HSA with RWB</b>
		SURFACE ELEVATION <b>613.7 ft</b>

Number and Type and Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
57.6				BEDROCK								
			95 518.7	End of Boring at 91.0'								
			100 513.7									
			105 508.7									
			110 503.7									
			115 498.7									
			120 493.7									

### WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS R-05-247.GPJ GESTRA.GDT 10/14/10

**Borings not part of Early Fill / Early Structures Contract**

**Structure B-05-643**



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME <b>Hwy-41 (Rail Road Box Culvert: B-05-643)</b>	DATE DRILLING STARTED <b>8/3/2010</b>	BORING NUMBER <b>B-1</b>
PROJECT LOCATION <b>Brown County, Wisconsin</b>	DATE DRILLING ENDED <b>8/3/2010</b>	PROJECT NUMBER <b>10043-10</b>
BORING DRILLED BY <b>FIRM: WisDOT CREW CHIEF: Ruda</b>	FIELD LOG <b>WisDOT</b>	NORTHING
	LAB LOG / QC <b>Viki</b>	EASTING
		DRILLING METHOD <b>2 7/8" RB-DM</b>
		SURFACE ELEVATION <b>606.7 ft</b>

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	2/2/2	4	5	601.7	TOPSOIL, silt, with gravel, little clay, dark brown, moist				0.75			15.1	WisDOT Project # 9202-07-02 STATION: 538+65 OFFSET: 20' RT. from RR. CL.  <b>Sample 1A</b> Gravel= 11.9% Sand= 37.6% P200= 50.5%
SS - 1	24	1/10/5/30	15	10	596.7	FILL, silt, black, moist CONCRETE footing, weathered				1.00				
SS - 2	24	4/4/3/4	7			LEAN CLAY, trace plant fibers, olive brown, moist, medium stiff to stiff	CL			1.25-1.50	31	15	26.1	
SS - 3	24	1/2/2/3	4	15	591.7	LEAN CLAY, reddish brown, moist to wet, soft	CL			0.75-1.00				
SS - 4	24	0/1/0/2	1			SILT, olive brown, moist to wet, very loose	ML			0.25	33	17	28.2	
SS - 5	24	0/0/0/0	0			LEAN CLAY, occasional fine sand seams, brown, moist, soft	CL			0.25				
SS - 6	24	0/1/0/1	1	20	586.7	LEAN CLAY, trace medium sand, brown, moist, stiff to very stiff	CL			2.50				
SS - 7	24	2/6/1/5	7							1.00	24	12	17.0	
SS - 8	24	1/3/3/3	6	25	581.7		CL							
SS - 9	18	2/4/4		30	576.7									

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-643.GPJ GESTRA.GDT 11/9/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 2

PROJECT NAME

Hwy-41 (Rail Road Box Culvert: B-05-643)

DATE DRILLING STARTED

8/3/2010

BORING NUMBER

B-1

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

8/3/2010

PROJECT NUMBER

10043-10

DRILLING RIG

Unit 7

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF: Ruda

FIELD LOG

WisDOT

NORTHING

LAB LOG / QC

Viki

EASTING

DRILLING METHOD

2 7/8" RB-DM

SURFACE ELEVATION

606.7 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments	
SS - 10		2/4/4	8			LEAN CLAY, trace medium sand, brown, moist, stiff to very stiff	CL			1.25					
	18	1/4/3	7	35	571.7					1.50					
					40	566.7	End of boring at 35.5'								
					45	561.7									
					50	556.7									
				55	551.7										
				60	546.7										

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.	<input type="checkbox"/>		WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-643.GPJ GESTRA.GDT 11/9/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 2

PROJECT NAME

Hwy-41 (Rail Road Box Culvert: B-05-643)

DATE DRILLING STARTED

8/4/2010

BORING NUMBER

B-2

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

8/4/2010

PROJECT NUMBER

10043-10

DRILLING RIG

Unit 3

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF: M

FIELD LOG

WisDOT

NORTHING

LAB LOG / QC

Viki

EASTING

DRILLING METHOD

HSA

SURFACE ELEVATION

608.8 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength ( $Q_u$ or $Q_p$ ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	2 1/2	3	5	603.8	SILTY CLAY, some gravel, little sand, moist	CL-ML							WisDOT Project # 9202-07-02 STATION: 539+10 OFFSET: 11' LT. from RR. CL.
						CLAYEY SAND, reddish brown, moist, very loose	SC			29	13	19.7	Gravel= 1.3% Sand= 65.3% P200= 33.4%	
SS - 2	24	1 1/1/3	2	10	598.8	LEAN CLAY, trace plant fibers, light reddish brown, moist to wet, soft to medium stiff	CL			0.70				
										0.30				
SS - 3	12	2 3/3/3	6											
SS - 4	24	1 1/1/2	2	15	593.8	LEAN CLAY, trace coarse sand, brown, moist, very soft to medium stiff	CL			0.01	34	18	24.8	
SS - 5	6	1 1/1/2	2			LEAN CLAY, trace fine gravel, brown with gray mottles, wet, very soft	CL			0.60				
SS - 6	24	3/3/4/3	7	20	588.8	LEAN CLAY, with sand, trace gravel, brown, moist, very soft to stiff	CL				20	8	11.3	Gravel= 14.0% Sand= 24.0% P200= 62.0%
SS - 7	0	2/2/0/3	2				CL							
SS - 8	24	0/0/0/0	0			LEAN CLAY, trace sand, dark brown, moist, very soft	CL							
SS - 9	18	0/6/3/7	9	25	583.8	LEAN CLAY, with sand, occasional sand seams, brown, moist, very stiff	CL							
				30	578.8	LEAN CLAY, trace medium sand, brown, moist, stiff	CL							

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.	<input type="checkbox"/>		WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-643.GPJ GESTRA.GDT 11/9/10



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# SOIL BORING LOG

PAGE NUMBER

2 of 2

PROJECT NAME

Hwy-41 (Rail Road Box Culvert: B-05-643)

DATE DRILLING STARTED

8/4/2010

BORING NUMBER

B-2

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

8/4/2010

PROJECT NUMBER

10043-10

DRILLING RIG

Unit 3

BORING DRILLED BY

FIRM: WisDOT  
CREW CHIEF: M

FIELD LOG

WisDOT

NORTHING

LAB LOG / QC

Viki

EASTING

DRILLING METHOD

HSA

SURFACE ELEVATION

608.8 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or Q <sub>p</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 10	18	2/5/3	8			LEAN CLAY, trace medium sand, brown, moist, stiff	CL							
				35	573.8									
SS - 11	0	3/7/5	12			LEAN CLAY, occasional silt laminations, brown, moist, very stiff	CL							
				40	568.8									
SS - 12	18	4/8/6	14			End of boring at 41.5'								
				45	563.8									
				50	558.8									
				55	553.8									
			60	548.8										

## WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-643.GPJ GESTRA.GDT 11/9/10



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# SOIL BORING LOG

PAGE NUMBER

1 of 3

PROJECT NAME

Hwy-41 (Rail Road Box Culvert: B-05-643)

DATE DRILLING STARTED

10/26/2010

BORING NUMBER

B-643-G1

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

10/26/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D 120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

LAB LOG / QC

EASTING

DRILLING METHOD

HSA

SURFACE ELEVATION

593 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength ( $Q_u$ or $C_u$ ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	10	2/2/2	4	5	588.0	LEAN CLAY, grayish brown, moist, medium stiff	CL		0.75			24.8	Offset to south side of the R.R.T.
				10	583.0								
SH - 2	20			15	578.0	LEAN CLAY, reddish brown, moist, stiff to very stiff	CL			23	9	20.5	Wet density= 132.0 pcf Dry density= 109.5 pcf
				20	573.0								
SS - 3	18	3/5/6	11	25	568.0	LEAN CLAY, reddish brown, moist, stiff to very stiff	CL		1.25			15.7	
				30	563.0								

### WATER & CAVE-IN OBSERVATION DATA

<input type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AT COMPLETION: N/A ft.	WET <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
<input type="checkbox"/>	WATER LEVEL AFTER 0 HOURS: N/A ft.	<input type="checkbox"/>		WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GESTRA 40FT LOGS B-05-643.GPJ GESTRA.GDT 11/9/10



Gestra Engineering Inc.  
1626 W. Fond du Lac Avenue  
Milwaukee, WI 53205  
Phone: 414-933-7444, Fax: 414-933-7844

# SOIL BORING LOG

PAGE NUMBER

2 of 3

PROJECT NAME

Hwy-41 (Rail Road Box Culvert: B-05-643)

DATE DRILLING STARTED

10/26/2010

BORING NUMBER

B-643-G1

PROJECT LOCATION

Brown County, Wisconsin

DATE DRILLING ENDED

10/26/2010

PROJECT NUMBER

10043-10

DRILLING RIG

D 120

BORING DRILLED BY

FIRM: RVT  
CREW CHIEF: Jerry

FIELD LOG

Hank

NORTHING

LAB LOG / QC

EASTING

DRILLING METHOD

HSA

SURFACE ELEVATION

593 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft)	Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength ( $Q_u$ or $C_u$ ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SH - 4	14			35	558.0	LEAN CLAY, reddish brown, moist, stiff to very stiff	CL			2.75	23	11	18.5	$Q_u = 0.49$ tsf Wet density= 133.1 pcf Dry density= 112.4 pcf
				40	553.0									
SS - 5	18	2 3/5	8	45	548.0	LEAN CLAY, reddish brown, moist to wet, medium stiff	CL			0.75			25.4	
				50	543.0									
SH - 6	15.5			55	538.0	FAT CLAY, reddish brown, moist, very stiff	CH			3.00	53	32	31.2	Wet density= 118.0 pcf Dry density= 90.0 pcf
				60	533.0									

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<input type="checkbox"/>	WATER LEVEL AT COMPLETION: N/A ft.	<input type="checkbox"/>	CAVE DEPTH AFTER HOURS: N/A ft., 0 hrs.	DRY <input type="checkbox"/>
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# SOIL BORING LOG

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593 ft

Number and Type and Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q <sub>u</sub> or C <sub>u</sub> ) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
				FAT CLAY, reddish brown, moist, very stiff	CH							Serious rig chatter from 61'-62'
			65 528.0	Auger refusal and end of boring at 64'								
			70 523.0									
			75 518.0									
			80 513.0									
			85 508.0									
			90 503.0									

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