SB-10

Geo Services Inc.
Geotechnical, Environmental & Civil Engineering
805 Aurora Court, Suite 204
Naperville, Illinois 60565
(630) 355-8326

SOIL BORING LOG

PAGE 2 of 4
DATE 3/18-20/2009
LOGGED BY DR
GSI JOB No. 08201

ROUTE I-70
DESCRIPTION I-70 Tri-Level Connection IDOT Job No. D-98-059-08
SECTION 82-2-1HVB
LOCATION I-70 Curved Approach Structures
COUNTY St. Clair
DRILLING METHOD 3.25" Hollow Stem Auger
HAMMER TYPE CME Automatic

STRUCT. NO. S.N. 082-0318
Station: 127+00 to 140+74
BORING NO. SB-10
Station: 140+74
Offset: 43.0' Right
Ground Surface Elev. 406.7

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After 24 Hrs. n/a

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND-loose to medium dense (A-3)	366.2				
SAND-gray- medium dense to very dense (A-3)			8, 13, 13	NP	21
		-45	9, 19, 19	NP	18
		-50	11, 23, 28	NP	20
		-55	24, 23, 36	NP	23
		-60	23, 30, 33	NP	19
	333.7				
SAND with Gravel-gray- medium dense to dense (A-1-b)			10, 10, 13	NP	24
		-65	8, 9, 11	NP	23
		-70	8, 9, 11	NP	23
SAND-gray- medium dense to very dense (A-3)			12, 14, 21	NP	23
		-85	10, 12, 12	NP	24
		-90	7, 13, 14	NP	36
		-95	12, 15, 17	NP	21
		-100	12, 20, 28	NP	15
		-105	10, 9, 8	NP	12
		-110	22, 12, 10		NR
		-115	15, 17, 23	NP	13

Trace organics from -66.0' to -67.5'.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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After 24 Hrs. n/a

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND with Gravel-gray- medium dense to dense (A-1-b)			11, 15, 12	NP	13
		-85	13, 15, 13	NP	11
		-90	14, 11, 9	NP	10
	318.7				
SAND-brown & gray- dense to very dense (A-3)			13, 15, 21	NP	18
		-95	24, 38, 50	NP	13
		-100	22, 23, 29	NP	16
	308.7				
SAND with Gravel-gray- very dense (A-1-b)			505"	NP	16
SAND with Gravel-gray- very dense (A-1-b)			36, 502", 45	NP	12
	302.2				
		-105	39, 24, 502"	NP	10
					NR
	298.7				
		-110			
		-115			
	288.7				
		-120			

Drillers Observation: Cobbles & Boulders.

RUN 1 (-108.0' to -118.0')
Mississippian System,
Valmeyeran Series Limestone
Light gray & fine grained with horizontal bedding, & some chert replacement.
Numerous horizontal fractures throughout.
Recovery=100.0%
R.Q.D.=33.5%
RUN1

RUN 2 (-118.0' to -123.0')
Mississippian System,
Valmeyeran Series Limestone
RUN 2

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
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Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter n/a
Upon Completion n/a
After 24 Hrs. n/a

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Light gray & fine grained with horizontal bedding, & some chert replacement. Numerous horizontal fractures throughout, with some thin clay partings.			RUN 2		
Recovery=100.0% R.Q.D.=52.0%	283.7				
End Of Boring @ -123.0' Hollow Stem Augers To -10.0' Rotary Drilling To Completion CME Automatic Hammer 10' Of 4"* Casing Used 109' Of 3"* Casing Used		-125			
		-130			
		-135			
		-140			
		-145			
		-150			
		-155			
		-160			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
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NR-No Recovery