DLZ Ohio, Inc. * 6121 Huntley Road, Columbus, Ohio 43229 * (614) 888-0040

Client: ms consultants | *Project:* FRA-70-8.93 | *Job No.* 0221-1004.01

LOG OF: Boring B-037-0-08 | *Location:* Sta. 207+95.00, 29.17' LT., BL I-70 WB | *Date Drilled:* 7/21/2008 to 7/24/2008

WATER OBSERVATIONS:
Water seepage at: 21.0', 25.4', 33.0', 40.5'
Water level at completion: 25.6' (prior to coring), 51.6' (includes drilling water)

FIELD NOTES: *Advanced boring using 3.0" diameter flush joint casing.*

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	Graphic Log	GRADATION % Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N60) / Natural Moisture Content, %
	649.1						Very stiff to hard gray SILTY CLAY (A-6b), trace fine to coarse sand; moist.								
105		23 32 35	18	32		2.75			0	1	---	3	49	47	70
108.5	640.6														
		50/5	5	33		4.5+	Severely weathered gray SHALE.								50+
110.0 110	639.1														
		Core 60"	Rec 60"	RQD 60%	R1		Interbedded Shale (92%) and Limestone (8%) RQD 76% LOSS 0%; Shale, dark gray, highly weathered, weak, laminated, calcareous, moderately fractured to fractured; Limestone, light gray, moderately weathered, moderately strong to strong, thinly bedded.								
115															
		Core 60"	Rec 60"	RQD 83%	R2		@ 110.8'-111.2', 111.7'-111.8', 113.2'-113.5', 119.6'-120.0', 122.9'-123.0', high angle fractures.								
120															
		Core 60"	Rec 60"	RQD 77%	R3		@ 121.2' - 121.7', qu = 1546 psi @ 122.1'-125.4', highly to severely weathered.								
125	624.1														

PL — LL; Blows per foot - ○ / Non-Plastic - NP; 10 20 30 40