



Proj. No.: 113630.01.ZZ

SOIL BORING LOG

Project: DDMT GW Investigation

Drilling Contractor: Boart Longyear/Minnesota

Drilling Method & Equipment: Rotasonic

Logger: S. Bruer/MGM

Depth Below Surface (FT)	Sample			Standard Penetration Test Results	Soil Description	Comments
	Interval	Number and Type	Recovery (FT)			
				6"-6'-5" (N)	Soil name, uscs group symbol, color, moisture content, relative density or consistency, soil structure, mineralogy	Depth of casing, drilling rate, drilling fluid loss, tests and instrumentation
Elevation:					Location: Memphis, TN	Boring No. STB-13
Start: 0900 2/11/98					Finish: 1735 2/11/98	Water Level:
Sheet 1 of 4						
0	0		5		1 inch TOPSOIL SILTY CLAY (CL) , light brown with black and light gray mottling, moist, medium stiff, medium plasticity, trace organics	Start Drilling at 0900 - using 6" core barrel <u>modified loess</u>
5	5					
10			10		CLAYEY SILT (ML) , light brown, moist, soft, low plasticity, trace organics	- gradational contact
15	15					
20			10		SILTY CLAY (CL) , light brown with black mottling, moist, medium stiff, medium plasticity - stiff with black and orange mottling and iron nodules (<1/8 inch diameter) below 21 ft - with black, orange, and light gray mottling below 23 ft - reddish-brown with trace to some, fine to medium, quartz sand below 25 ft	- gradational contact
25	25					
30			9		SANDY CLAY (CL) , reddish- to orangish-brown, moist, stiff to very stiff, medium plasticity, fine to medium, quartz sand, trace fine to medium, subrounded, chert gravel	- gradational contact <u>Fluvial Deposits</u>
35	34					

NOTES:

CHM-HILL

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Depth Below Surface (FT)	Sample			Standard Penetration Test Results 6'-0"-6" (N)	Soil Description Soil name, uscs group symbol, color, moisture content, relative density or consistency, soil structure, mineralogy	Comments Depth of casing, drilling rate, drilling fluid loss, tests and instrumentation
	Interval	Number and Type	Recovery (FT)			
Elevation:					Location: Memphis, TN	Boring No. STB-13
Start: 0900 2/11/96					Finish: 1735 2/11/96	Water Level:
Sheet 2 of 4						
40	40		6		<u>SILTY SAND (SM)</u> , orangish-brown, moist, medium dense, fine to medium, quartz	- gradational contact
					<u>POORLY GRADED SAND (SP)</u> , brownish-orange, moist, loose, fine to medium, quartz	- gradational contact
45	45		5		- tan and micaceous below 39 ft - orangish- to yellowish-brown and micaceous below 40 ft	
					<u>WELL GRADED GRAVELLY SAND (SW)</u> , orangish-brown, moist, loose, fine to coarse, quartz, with fine to coarse, sub-rounded to rounded, chert gravel	- abrupt contact
50	50		5		- tan below 48 ft - orangish-brown with coarsening sand below 49 ft	- 1 inch <u>SILTY CLAY (CL)</u> , light gray, moist, soft at 47 ft
					<u>POORLY GRADED SAND (SP)</u> , brownish-orange, moist, loose, fine to medium, quartz, micaceous	- minor clay at 53 ft - some coarse sand and fine to coarse, subrounded, chert gravel 53.5 ft to 54 ft
55	55		5		- trace fine, subrounded, chert gravel below 55 ft	- gradational contact
					- yellowish-brown with trace coarse, quartz sand below 60 ft	
60	60		5			
					<u>WELL GRADED GRAVELLY SAND (SW)</u> , orangish-brown, moist, loose, fine to coarse, quartz with fine to coarse, sub-rounded to rounded, chert gravel	- gradational contact
65	65		5			
70	70		5			

NOTES:

C&M HILL

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	Interval	Number and Type	Recovery (FT)			
	Elevation:					Location: Memphis, TN
Start: 0900 2/11/86					Finish: 1735 2/11/86	Water Level:
Sheet 3 of 4						
70	70		3		- dark brown iron staining below 73 ft	- switching to 4" core barrel
75	75		5		WELL GRADED GRAVELLY SAND (SW) , dark brown iron stained, moist, loose, fine to coarse, quartz with fine to coarse, subrounded to rounded, chert gravel	74.5 ft to 75.5 ft: SANDSTONE / CONGLOMERATE , dark reddish-brown iron stained, fine to coarse sand and fine to medium, chert gravel, well-cemented
80	80		5		- white to tan below 78 feet - yellowish-brown, with very coarse, chert sand and fine gravel below 80 ft - clayey and lignitic below 83 ft	- 2 inches SILTY CLAY , light gray, moist, soft at 79.5 ft - abrupt contact
85	85		5		POORLY GRADED SAND (SP) , tan, moist loose, medium, quartz and chert, trace coarse sand and fine, subrounded, chert gravel	- gradational contact
90	90		5		SILTY FINE SAND (SM) , light gray, moist, loose, quartz, micaceous	- WELL GRADED SAND (SW) dark brown, moist, loose, fine to coarse, quartz, some fine to coarse, chert gravel and ferruginous sandstone fragments from 88 ft to 89 ft - abrupt contact, clayey at 91 ft
95	95		5			
100	100		5			
105	105		5			

NOTES:



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Elevation:					Location: Memphis, TN	Boring No. STB-13
Start: 0900 2/11/96					Finish: 1735 2/11/96	Water Level:
Sheet 4 of 4						
105	105				(see previous page)	
110			10			
115	115					
			5			
120	120				Boring Terminated at 120 Feet	Stopped Drilling at 1548 1735: Borehole grouted with high solids bentonite clay - PureGold Grout - 17 sacks
125						
130						
135						
140						
NOTES:						