

PROJECT NUMBER	BORING NUMBER
170039	MW-111

SOIL BORING LOG

PROJECT : EBT Treatability Study LOCATION : Memphis Depot

ELEVATION : DRILLING CONTRACTOR : Boart Longyear

DRILLING METHOD AND EQUIPMENT USED : Rotasonic rig (4 inch sample casing / 6 inch outer casing)

	R LEVELS			START:	04/22/2002 END: 04/23/2002 LOGGER:	Mike Karafa
	PTH BELOW SURFACE (FT)				COMMENTS	
DEPTH					SOIL DESCRIPTION	COMMENTS
1		INTERVAL (FT) PENETRATION				
		RECOVE	RY (%)	TEST	SOIL NAME, USCS GROUP SYMBOL, COLOR,	DEPTH OF CASING, DRILLING RATE,
			#/TYPE	RESULTS	MOISTURE CONTENT, RELATIVE DENSITY,	DRILLING FLUID LOSS,
				6"-6"-6"	OR CONSISTENCY, SOIL STRUCTURE,	TESTS, AND INSTRUMENTATION.
				(N)	MINERALOGY.	Corrected FID (ppm):
					Asphalt and gravel	(Soil headspace)
-	-					-
-	1 1	100			Silt, brown, stiff, damp, (loess)	
		100			one, brown, damp, (locas)	0.0
_	1					1
	1					
5_	اا					
_						
-	-					
						1.5
-	-					1.5
1 -	1 !		I			
10		100	I			
I –	1		I			
1			I			
1]		I			
I _	<u>.</u>				Same as above, Silt	
_	.]					11.4
_	-					
15						
15	1+					
-	1 1					
_	1 1					
						0.0
_						
		Ī				
	i i	Ī				
20	. i	100				
	Î i	Ī				
_	.i i	Ī				
	i i	ĺ				
_	i i	Ī				
	Î i	Ī				0.8
1 -	1 i	I	I		Same as above, Silt	0.0
1	1	I	I		Same as above, one	
1 -	i i		I			
25	<u>J</u>	I	I			
	11		1		Sand, orange, loose, fine grained	1
I _	1	100	1		· · · · · · · · · · · · · · · · · · ·	
1	1		I			
1 -	-l	I	I			
1]	400	I		Silty Sand, reddish orange, fine to medium grained, stiff	40.5
-	- 1	100	1			10.5
1	1	I	I			
1 -	1+	I	I			
30	1	100	I			
30 —	1 1	100	I			
1			I			
1 -	<u>լ</u> է		I			
1			I			
1 -	î i	i	I		Sand, bright red, fine to coarse grained, poorly sorted, stiff	0.0
1	i i	i	I			1
1	i	100	I		Sand, tan, fine grained, loose, damp	Í
I _	i i	i	I			ĺ
I	i i	i	I		Sand, tan with red mottles, fine to medium grained, poorly sorted, stiff	
35	i	•	I			
	i 7		1		Sand, orange, fine to coarse grained, poorly sorted, loose, dry	
1 -	i	i	I			
1	i i	i	I		Sand, dark brown, fine to medium grained, stiff, damp	ĺ
				L		



PROJECT NUMBER	BORING NUMBER
170039	MW-111

SOIL BORING LOG

PROJECT: EBT Treatability Study LOCATION: Memphis Depot

ELEVATION:

DRILLING CONTRACTOR: Boart Longyear

DRILLING METHOD AND EQUIPMENT USED: Rotasonic rig (4 inch sample casing / 6 inch outer casing)

WATER LEVELS:

START: 04/22/2002 END: 04/23/2002 LOGGER: Mike Kar

WATER LEVELS :		START:	04/22/2002	END:	04/23/2002	LOGGER:	Mike Karafa	
DEPTH BELOW SURFACE (FT)			STANDARD	SOIL DESCRIPTION				COMMENTS
INTERVAL (FT)			PENETRATION	22.2.2.2.3.0.0				
RECOVERY (%)			TEST	SOIL NAME, USCS	GROUP SYMBOI	DEPTH OF CASING, DRILLING RATE,		
	#/TYPE RESULTS 6"-6"-6"-6"			MOISTURE CONTE				DRILLING FLUID LOSS,
				OR CONSISTENCY				TESTS, AND INSTRUMENTATION.
			(N)	MINERALOGY.			Corrected FID (ppm):	
i				Sand, grayn very fine	grained, loose, dr	у		
-1	<u>!</u>							0.0
l <u>.</u> !	!							
1 7				Sand, fine to medium	grained, poorly so	orted, loose, dry, some silt		
⁴⁰ —	100			Cand rad fine to mad	lium arained nee	rly sorted, stiff, some silt		
ļ ļ	Į l			Sand, red, line to med	ilum graineu, poo	ny sorteu, stin, some siit		
-	!							
-								
l i	i l							0.0
]	<u>!</u>			Sand, orange, fine to	coarse grained, p	oorly sorted, loose, dry, pebbles		
-	!							
45								
	-ī							
-	<u>į</u>							
] _!	!							
] -								2.2
-i	i							0.0
] _j	į l							
_ !								
50	100			Sand tan fine to med	lium grained noo	rly sorted, loose, dry, slight gravel		
l _i	i l			cana, tan, mic to mea	nam gramea, poor	ny sorteu, loose, ary, slight graver		
i	i							
-!	Į l							
_:								0.0
1 7								
I -i	i l							
55	Ī							
<u>-i</u> -	-1							
	!			Sand orange fine to	ocarco grained n	corloy corted loose gravel dry		
1	i l			Sand, Grange, fine to	coarse graineu, p	oorloy sorted, loose, gravel, dry		
-j	i l							
_1	ı							0.0
1 !	!							
-								
60	100							
į į	ı							
] -!	ļ l							
-				Cand tan fine to re-	lium arainad Is	o poorly corted gravel		
1 i	i			oanu, tan, tine to med	num gramed, 1008	e, poorly sorted, gravel		0.0
] <u> </u>	i l			Sand, tan, fine grained	d, loose dry, well	sorted		
<u> </u>	Į l							
65	!							
				Sand, brown, fine to n	nedium grained, lo	oose, dry, poorly sorted		
-i	i l							
l į	<u>į</u>							
-	!			Sand, light tan, fine gr	rained, loose, dry,	well sorted		
-								18.3
l i	i							
<u> </u>	ı							
70	100							
!	!							
-				Sand, yellow, fine grai	ined, well sorted			
I –i	i l			Silty Sand, some clay	, gray/orange/red,	, fine grained, interbedding, stiff, da	mp to dry	
] [<u>į</u>							0.0
1 -!	!							0.0
	ļ							



PROJECT NUMBER	BORING NUMBER
170039	MW-111

SOIL BORING LOG

PROJECT: EBT Treatability Study

ELEVATION:

DRILLING CONTRACTOR: Boart Longyear

DRILLING METHOD AND EQUIPMENT USED: Rotasonic rig (4 inch sample casing / 6 inch outer casing)

WATER LEVELS:

START: 04/22/2002 END: 04/23/2002 LOGGER: Mike Karafa

WATER LEVELS			START :	04/22/2002	END:	04/23/2002	LOGGER :	Mike Karafa
DEPTH BELOW SU	JRFACE (F	T)	STANDARD		SOI	L DESCRIPTION		COMMENTS
	INTERVAL (FT)			• •				
	RECOVER	RY (%)	PENETRATION TEST	SOIL NAME, USCS GROU	JP SYMBO	L, COLOR,		DEPTH OF CASING, DRILLING RATE,
		#/TYPE	RESULTS	MOISTURE CONTENT, R				DRILLING FLUID LOSS,
			6"-6"-6"	OR CONSISTENCY, SOIL				TESTS, AND INSTRUMENTATION.
			(N)	MINERALOGY.	. 01110010	nce,		Corrected FID (ppm):
			(14)	Sand, yellowish orange, fine	arained w	vell sorted loose dry		Corrected FID (ppin).
75				oana, yonomon orango, mi	gramou, n			
l ii				Sand, orange and tan, fine		grained, poorly sorted, pe	ebble to cobble,	
1 -i i	ĺ			well rounded to angular, loc	se, dry			
<u> </u>								
l <u>!</u> !								0.0
1 - i	!							
80	100							
	İ			Clayey Silt, brown, fine grai	ned, stiff,we	et		l
-! !								
4								0.0
l i i	İ			Sand, white, fine grained	i, well sort	ed, loose,dry		
-i i								
85								
1 4								
l i i								
_i i	İ							0.0
<u> </u>				Sand, dark grey, fine gra	ined, well	sorted, loose, dry		
-! !								
90	100							
				Sand, orange to tan, fine gr	ained, well	sorted, loose, dry		
l -i i	!							
l i i	İ							
<u> </u>				Same as above with gravel	pebble to o	cobble		
_! !				-				0.0
-								
95	İ							
				Sand, brown, fine to coarse		oorly sorted, gravel, pebb	ole to cobble,	
				subangular to subrounded, Wet	loose			Watertable @ approximately 96 feet bg
1 4								approximately of feet by
1 7 1				Sand, gray to white, fine gra	ained, well s	orted, subangular to sub	prounded, loose wet	
-i i	İ							
i i								
				Clay, some silt, gray with re	d mottling,	stiff, massive		1
100	100							
1 1	!							
-j i	İ							
_i i								
! !								
-! !								
105								
105 — — — —				Boring Terminated @ 105 for	aet hae			1
				Donny reminated @ 1051	set by8			
-								
-								
-								
110								
110								
	<u></u>							