



MACTEC Engineering and Consulting  
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# FIELD BOREHOLE LOG


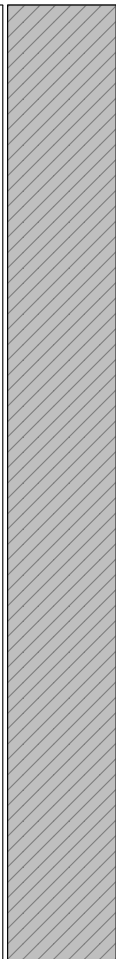


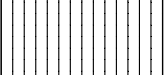
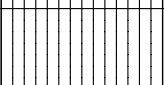
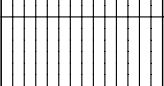


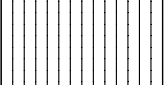

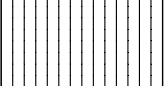
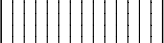


BOREHOLE NO.: **MW-39A**

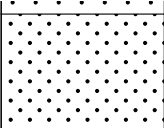
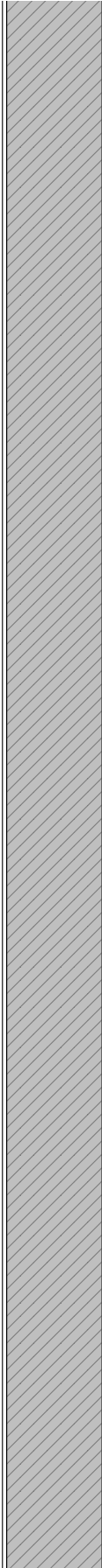

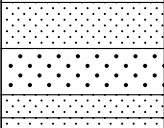
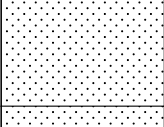
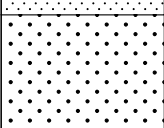
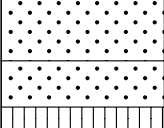
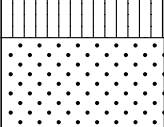
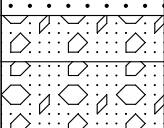
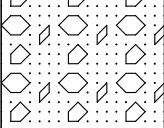
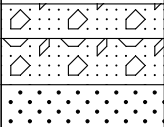
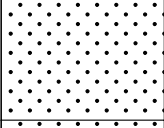
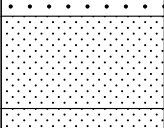
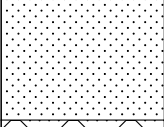
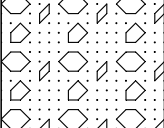
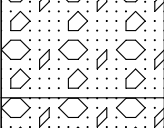
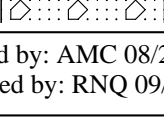



TOTAL DEPTH: **176**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	<b>DDMT</b>	DRILLING CO.:	<b>ProSonic</b>
SITE LOCATION:	<b>Memphis, TN</b>	DRILLER:	<b>David Wilcox</b>
JOB NO.:	<b>6301-04-0002</b>	RIG TYPE:	<b>RotoSonic</b>
LOGGED BY:	<b>Kevin Arnold</b>	TOP OF CASING ELEVATION:	<b>298.49'</b>
PROJECT MANAGER:	<b>Tom Holmes</b>	GROUND SURFACE ELEVATION:	<b>298.45'</b>
DATE DRILLED:	<b>5/12/04</b>		

## NOTES:

- 1) Drilling technique: 0 to 176 ft, bgs 6-inch diameter borehole with roto sonic.
- 2) Well construction: 2-inch diameter schedule 40 PVC casing set to 168.3ft, bgs with 20 ft of 0.01-inch slot well screen.
- 3) Well screens the fluvial aquifer.
- 4)  Stabilized water level measured on 6/24/04

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	FID ppm	WELL COMPLETION			WELL DESCRIPTION
0		ML	brown SILT	0.0				Grouted Annulus
		FILL	gray brown/black railroad bed material, FILL					
		ML	light brown, brittle SILT	0.0				
-5								
		ML	light gray, very fine sandy SILT grades to a light brown SILT	0.0				
-10								
		ML	mottled greenish gray and light brown SILT	0.0				
-15								
		ML	mottled greenish gray and light brown SILT, with some quartz	0.0				
		ML	mottled greenish brown and light brown SILT	40.6/20.3				
-20								
		ML	mottled brown and gray SILT	0.0				
-25								
		ML	light brown SILT	0.0				
-30								
		ML	light brown and reddish brown very fine sandy SILT	0.0				
-35								
		SM	orange brown, very fine SAND with trace silt					
		SM	light brown, very fine silty SAND					
-40								
		SM	mottled reddish brown, light brown and gray, fine SAND with trace of silt	0.0				

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	FID ppm	WELL COMPLETION		WELL DESCRIPTION
-45		SW	light orange brown fine SAND and GRAVEL	0.0			
-50		SP	orangish red fine SAND with trace of gravel and gray silt	0.0			
-55		SW	orange red fine to coarse SAND and gravel	0.0			
-60		SP	orange brown fine SAND and some gravel	0.0			
-65		SP	orangish brown fine SAND with some fine gravel	0.0			
-70		SP	orangish brown fine SAND, grading to light gray very fine SAND	0.0			
-75		SW	orangish brown fine to coarse SAND and fine GRAVEL	0.0			
-80		SW	orange brown fine to coarse SAND and fine GRAVEL, grading to very fine tan-brown silt with very fine SAND and fine GRAVEL	0.0			
-85		ML	tan-brown SILT with very fine sand and fine gravel	53.5/0.0			
-90		SW	orangish brown fine to coarse SAND and fine GRAVEL	0.0			
-95		SW-GW	orangish brown fine to coarse SAND and fine to coarse GRAVEL	0.0			
-100		SW-GW	orangish brown fine to coarse SAND and fine to coarse GRAVEL	0.0			
-105		SW-GW	orangish brown fine to coarse SAND and fine to coarse GRAVEL with trace of dark gray silt	0.0			
-110		SW-GW	orangish brown and dark brown fine to coarse SAND and fine to coarse GRAVEL, moist	0.0			
-115		SW	orangish brown and dark brown fine to coarse SAND and fine to coarse gravel, moist	0.0			
-120		SW	light brown to tan fine to coarse SAND, trace of gravel, moist to wet	0.0			▼
-125		SP	reddish brown, fine SAND with some silt and subangular gravel, moist	0.0			
-130		SP	light brown to tan fine SAND with some fine gravel and trace silt, moist	NA			
-135		SW-GW	orangish brown fine to coarse SAND with fine to coarse GRAVEL, wet	NA			
-140		SW-GW	orangish brown, fine to medium SAND with fine to coarse gravel, wet	NA			

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	FID ppm	WELL COMPLETION			WELL DESCRIPTION
-120		SW-GW		NA				
-125				NA				
-130				NA				
-135			orangish brown fine to coarse SAND with fine to coarse quartz gravel, wet	NA				
		SW-GP SP	orange brownish fine to coarse SAND with fine gravel, wet	NA				Bentonite Seal
			brownish-tan fine to medium grain SAND	NA				
-140		SW-GP		NA				Sand Pack / Screened Interval
-145			brownish-tan fine to coarse SAND with fine gravel	NA				
-150				NA				
-155				NA				
		SP-GP SP-GP	brownish-tan fine to medium SAND with fine gravel	NA				
			brownish-tan fine to medium SAND with fine gravel	NA				
-160		SW-GP		NA				
-165				NA				
			orangish brown, fine to coarse SAND with fine gravel	NA				
			greenish gray dense silty CLAY	NA				
-170		CH	greenish gray dense silty CLAY, with dark brown lignite	NA				Bentonite Plug
		CH		NA				
-175			Boring Terminated at 176 feet bgs	NA				