



MACTEC Engineering and Consulting
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FIELD BOREHOLE LOG


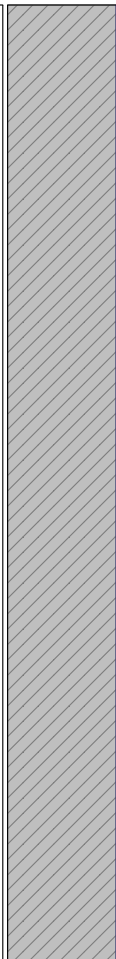


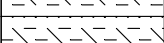
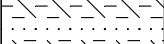
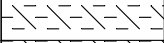
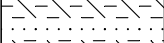

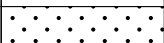
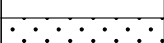


BOREHOLE NO.: **DR1-1A**

TOTAL DEPTH: **112**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	DDMT	DRILLING CO.:	ProSonic
SITE LOCATION:	Memphis, TN	DRILLER:	David Wilcox
JOB NO.:	6301-04-0002	RIG TYPE:	RotoSonic
LOGGED BY:	Kevin Arnold	TOP OF CASING ELEVATION:	293.13'
PROJECT MANAGER:	Tom Holmes	GROUND SURFACE ELEVATION:	293.29'
DATE DRILLED:	5/23/04		

NOTES:

- 1) Drilling technique: 0 to 112 ft, bgs 6-inch diameter borehole with roto sonic.
- 2) Well construction: 2-inch diameter schedule 40 PVC casing set to 110 ft, 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		Fill	coarse GRAVEL, silt and clay, fill type material	0.0				Grouted Annulus
-5		CL	brown slightly silty CLAY, medium stiff, medium to highly plastic, moist	0.0				
-10		CL	brown silty CLAY with fine grain sand, medium plastic, medium stiff	0.0				
-15		CL		0.0				
-20		CL	gray and reddish brown silty fine grain sandy CLAY, stiff to very stiff, low plasticity	0.0				
-25		CL		0.0				
-30		CL		0.0				
-35		SM	yellowish orange reddish brown silty fine grained SAND, with trace clay, loose to very loose	0.0				
-40		NR	no recovery	0.0				
-40		SM	reddish brown, silty fine grain SAND, soft	0.0				

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	FID ppm	WELL COMPLETION		WELL DESCRIPTION
-45		SM	reddish brown and yellow silty fine grain SAND, well graded, with trace medium and coarse sand, trace rounded, coarse chert	0.0			
-50		NR	no recovery	0.0			
-55		SP-SC	yellowish orange slightly clayey SAND with rounded to subrounded coarse size chert nodules, soft	0.0			
-60		NR	no recovery	0.0			
-65		SP-SC	yellowish orange slightly clayey fine grain SAND with rounded to subrounded coarse size chert nodules, soft	0.0			
-70		SP-SM	yellowish orange silty fine grain SAND, with medium to coarse size chert fragments, soft	0.0			
-75		SP	yellowish orange fine grain SAND, rounded to subrounded coarse to cobble size chert nodules, soft	0.0			
-80		ML	light gray slightly fine sandy SILT, very soft	0.0			
-85		SP	yellowish orange fine grain SAND with rounded to subrounded coarse and cobble size chert nodules	0.0			
-90		SP	fine grain SAND with rounded coarse to cobble size chert nodules	0.0			
-95		SP	fine grain SAND well graded with rounded coarse to cobble size chert nodules	0.0			
-100		SP	yellowish orange fine grain SAND, soft to very soft, wet	NA			
-105		NR	no recovery	NA			
-110		SP	yellowish orange fine and medium grain SAND, wet	NA			
-115		SP	light gray fine grain SAND, wet	NA			
-120		SP	yellowish orange fine grain SAND, wet	NA			
-125		SP	light gray fine grained SAND well graded with rounded to subrounded coarse to cobble size chert nodules	NA			
-130			Boring Terminated at 112 ft, bgs	NA			

Bentonite Seal

Sand Pack /
Screened Interval