

**ATTACHMENT A
SOIL BORING LOGS**

**MARYLAND SCIENCE CENTER
PERVIOUS CONCRETE PILOT PROJECT**



BORING LOG

FOR: <u>Maryland Science Center</u> PROJECT: <u>MD Science Center Parking Lot Reconstruction</u> W.O. #: <u>31981-000</u>		HOLE NO: <u>MDSC-1</u> ELEV: _____ SHT NO.: _____ START DATE <u>7/17/2014</u> COMPLETED: <u>7/17/2014</u>
GROUND WATER OBSERVATIONS ENCOUNTERED: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT. CAVE-IN: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT.		DRILLING BY: <u>Geomatrix</u> DRILLER: <u>Paul Sult</u> INSPECTOR: _____ WR&A REP.: <u>Kevin T. Roberts</u>
HAMMER TYPE: <u>Automatic</u> SAMPLER TYPE: <u>SS</u> BORING METHOD: <u>HSA</u> BOREHOLE DIA: _____		ROD SIZE: _____ ROCK CORE SIZE: _____

DEPTH	WELL CONSTRUCTION	BLOW COUNT	CLASS	DESCRIPTION	SAMPLE SUBMITTED	RECOV.	Notes
				8" Concrete, 7" sand/gravel base (rebar 4" BGS)			
1-3'		7,12,13,11	Fill	Brown FG silty sand, dry, some brick frags	X	10"	
3-5'		12,20,13,22	Fill	Dark brown/black, M-CG sand, dry	X	12"	
				Boring terminated at 5' BGS			

Boring Method HSA: HOLLOW STEM AUGER HA/TR: HAND AUGER & TRIPOD DC: DRIVEN CASING MD: MUD DRILLING DP: DIRECT PUSH AR: AIR ROTARY/AIR HAMMER	Sampler Type: SPT: STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER 1.0 FT W/ 140 LB HAMMER FALLING 30" BLOW COUNTS RECORDED AS: AUGER SAMPLE RC: ROCK CORE SS: SPLIT SPOON @ST: SHELBY TUBE 6" INTERVALS. (SPLIT SPOON)	Abbreviations: NA: Not Applicable SAA: Same as above F-CG: fine to coarse grained BGS: below ground surface
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BORING LOG

FOR: <u>Maryland Science Center</u>	HOLE NO: <u>MDSC-2</u>
PROJECT: <u>MD Science Center Parking Lot Reconstruction</u>	ELEV: _____
W.O. #: <u>31981-000</u>	SHT NO.: _____
	START DATE <u>7/17/2014</u> COMPLETED: <u>7/17/2014</u>
GROUND WATER OBSERVATIONS	
ENCOUNTERED: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT.	DRILLING BY <u>Geomatrix</u>
CAVE-IN: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT.	DRILLER: <u>Paul Suit</u>
	IINSPECTOR: _____
	WR&A REP.: <u>Kevin T. Roberts</u>
HAMMER TYPE: <u>Automatic</u>	SAMPLER TYPE: <u>SS</u>
BORING METHOD: <u>HSA</u>	ROD SIZE: _____
	ROCK CORE SIZE: _____

DEPTH	WELL CONSTRUCTION	BLOW COUNT	CLASS	DESCRIPTION	SAMPLE SUBMITTED	RECOV.	Notes
				8" Concrete, 9" sand/gravel base (rebar 4" BGS)			
1-3'		8,11,50/1"	Fill	Dark brown M-CG sand, moist	X	10"	
3-5'		12,20,13,22	Fill	SAA	X	12"	
				Boring terminated at 5' BGS			

Boring Method	Sampler Type:	Abbreviations:
HSA: HOLLOW STEM AUGER	SPT: STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER	NA: Not Applicable
HAIR: HAND AUGER & TRIPOD	1.0 FT W/ 140 LB HAMMER FALLING 30" BLOW COUNTS RECORDED	SAA: Same as above
DC: DRIVEN CASING	AS: AUGER SAMPLE	F-CG: fine to coarse grained
MD: MUD DRILLING	RC: ROCK CORE	BGS: below ground surface
DP: DIRECT PUSH	SS: SPLIT SPOON	
AR: AIR ROTARY/AIR HAMMER	@ST: SHELBY TUBE 6" INTERVALS. (SPLIT SPOON)	

BORING LOG

FOR: PROJECT:	<u>Maryland Science Center</u> <u>MD Science Center Parking Lot Reconstruction</u>	HOLE NO: <u>MDSC-3</u> ELEV: _____ SHT NO.: _____ START DATE <u>7/17/2014</u> COMPLETED: <u>7/17/2014</u>
W.O. #: <u>31981-000</u>		
GROUND WATER OBSERVATIONS ENCOUNTERED: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT. CAVE-IN: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT.		DRILLING BY: <u>Geomatrix</u> DRILLER: <u>Paul Suit</u> INSPECTOR: _____ WR&A REP.: <u>Kevin T. Roberts</u>
HAMMER TYPE: <u>Automatic</u> BORING METHOD: <u>HSA</u>	SAMPLER TYPE: <u>SS</u> BOREHOLE DIA: _____	ROD SIZE: _____ ROCK CORE SIZE: _____

DEPTH	WELL CONSTRUCTION	BLOW COUNT	CLASS	DESCRIPTION	SAMPLE SUBMITTED	RECOV.	Notes
				8.5" Concrete, (rebar 4.5" BGS)			
1-3'		8,17,12,11	Fill	Brown CG sand, brick frags	X	10"	
3-5'		17,15,20,18	Fill	SAA	X	11"	
				Boring terminated at 5' BGS			

Boring Method
 HSA: HOLLOW STEM AUGER
 HA/TR: HAND AUGER & TRIPOD
 DC: DRIVEN CASING
 MD: MUD DRILLING
 DP: DIRECT PUSH
 AR: AIR ROTARY/AIR HAMMER

Sampler Type:
 SPT: STANDARD PENETRATION TEST; DRIVING 2" O.D. SAMPLER
 1.0 FT W/ 140 LB HAMMER FALLING 30" BLOW COUNTS RECORDED
 AS: AUGER SAMPLE
 RC: ROCK CORE
 SS: SPLIT SPOON
 @ST: SHELBY TUBE 6" INTERVALS. (SPLIT SPOON)

Abbreviations:
 NA: Not Applicable
 SAA: Same as above
 F-CG: fine to coarse grained
 BGS: below ground surface

BORING LOG

FOR: <u>Maryland Science Center</u> PROJECT: <u>MD Science Center Parking Lot Reconstruction</u> W.O. #: <u>31981-000</u>	HOLE NO: <u>MDSC-4</u> ELEV: _____ SHT NO.: _____ START DATE <u>7/17/2014</u> COMPLETED: <u>7/17/2014</u>
GROUND WATER OBSERVATIONS ENCOUNTERED: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT. CAVE-IN: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT.	
DRILLING BY <u>Geomatrix</u> DRILLER: <u>Paul Suit</u> INSPECTOR: _____ WR&A REP.: <u>Kevin T. Roberts</u>	
HAMMER TYPE: <u>Automatic</u> SAMPLER TYPE: <u>SS</u> BORING METHOD: <u>HSA</u> BOREHOLE DIA: _____ ROD SIZE: _____ ROCK CORE SIZE: _____	

DEPTH	WELL CONSTRUCTION	BLOW COUNT	CLASS	DESCRIPTION	SAMPLE SUBMITTED	RECOV.	Notes
				8" Concrete, no rebar			
1-3'		12,20,22,29	Fill	Brown/black CG sand, some quartz gravel and brick frags	X	9"	
3-5'		17,15,20,18	Fill	No recovery		0"	
				Boring terminated at 5' BGS			

Boring Method HSA: HOLLOW STEM AUGER HA/TR: HAND AUGER & TRIPOD DC: DRIVEN CASING MD: MUD DRILLING DP: DIRECT PUSH AR: AIR ROTARY/AIR HAMMER	Sampler Type: SPT: STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER 1.0 FT W/ 140 LB HAMMER FALLING 30" BLOW COUNTS RECORDED AS: AUGER SAMPLE RC: ROCK CORE SS: SPLIT SPOON @ST: SHELBY TUBE 6" INTERVALS. (SPLIT SPOON)	Abbreviations: NA: Not Applicable SAA: Same as above F-CG: fine to coarse grained BGS: below ground surface
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BORING LOG

FOR: <u>Maryland Science Center</u> PROJECT: <u>MD Science Center Parking Lot Reconstruction</u> W.O. #: <u>31981-000</u>	HOLE NO: <u>MDSC-5</u> ELEV: _____ SHT NO.: _____ START DATE <u>7/17/2014</u> COMPLETED: <u>7/17/2014</u>
GROUND WATER OBSERVATIONS ENCOUNTERED: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT. CAVE-IN: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT.	
DRILLING BY <u>Geomatrix</u> DRILLER: <u>Paul Suit</u> INSPECTOR: _____ WR&A REP.: <u>Kevin T. Roberts</u>	
HAMMER TYPE: <u>Automatic</u> SAMPLER TYPE: <u>SS</u> ROD SIZE: _____ BORING METHOD: <u>HSA</u> BOREHOLE DIA: _____ ROCK CORE SIZE: _____	

DEPTH	WELL CONSTRUCTION	BLOW COUNT	CLASS	DESCRIPTION	SAMPLE SUBMITTED	RECOV.	Notes
				8.25" Concrete, no rebar			
1-3'		55,35,51/4"	Fill	Brown/black CG sand, some quartz gravel and brick frags	X	4"	
3-5'				Refusal @ 2' BGS		0"	
				Boring terminated at 2' BGS			

Boring Method HSA: HOLLOW STEM AUGER HA/TR: HAND AUGER & TRIPOD DC: DRIVEN CASING MD: MUD DRILLING DP: DIRECT PUSH AR: AIR ROTARY/AIR HAMMER	Sampler Type: SPT: STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER 1.0 FT W/ 140 LB HAMMER FALLING 30" BLOW COUNTS RECORDED AS: AUGER SAMPLE RC: ROCK CORE SS: SPLIT SPOON @ST: SHELBY TUBE 6" INTERVALS. (SPLIT SPOON)	Abbreviations: NA: Not Applicable SAA: Same as above F-CG: fine to coarse grained BGS: below ground surface
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BORING LOG

FOR: <u>Maryland Science Center</u> PROJECT: <u>MD Science Center Parking Lot Reconstruction</u> W.O. #: <u>31981-000</u>	HOLE NO: <u>MDSC-6</u> ELEV: _____ SHT NO.: _____ START DATE <u>7/17/2014</u> COMPLETED: <u>7/17/2014</u>
GROUND WATER OBSERVATIONS	
ENCOUNTERED: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT. CAVE-IN: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT.	DRILLING BY <u>Geomatrix</u> DRILLER: <u>Paul Suit</u> INSPECTOR: _____ WR&A REP.: <u>Kevin T. Roberts</u>
HAMMER TYPE: <u>Automatic</u> BORING METHOD: <u>HSA</u>	SAMPLER TYPE: <u>SS</u> BOREHOLE DIA: _____ ROD SIZE: _____ ROCK CORE SIZE: _____

DEPTH	WELL CONSTRUCTION	BLOW COUNT	CLASS	DESCRIPTION	SAMPLE SUBMITTED	RECOV.	Notes
				8" Concrete, no rebar			
1-3'		18, 18, 17, 21	Fill	Grey/brown clayey sand, moist	X	14"	
3-5'		8, 10, 10, 10	Fill	Brown/tan M-CG sand, moist	X	10"	
				Boring terminated at 5' BGS			

Boring Method HSA: HOLLOW STEM AUGER HA/TR: HAND AUGER & TRIPOD DC: DRIVEN CASING MD: MUD DRILLING DP: DIRECT PUSH AR: AIR ROTARY/AIR HAMMER	Sampler Type: SPT: STANDARD PENETRATION TEST; DRIVING 2" O.D. SAMPLER 1.0 FT W/ 140 LB HAMMER FALLING 30" BLOW COUNTS RECORDED AS: AUGER SAMPLE RC: ROCK CORE SS: SPLIT SPOON @ST: SHELBY TUBE 6" INTERVALS. (SPLIT SPOON)	Abbreviations: NA: Not Applicable SAA: Same as above F-CG: fine to coarse grained BGS: below ground surface
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BORING LOG

FOR: Maryland Science Center	HOLE NO: MDSC-7
PROJECT: MD Science Center Parking Lot Reconstruction	ELEV: _____
W.O. #: 31981-000	SHT NO.: _____
	START DATE 7/17/2014 COMPLETED: 7/17/2014

<u>GROUND WATER OBSERVATIONS</u>		DRILLING BY: Geomatrix
ENCOUNTERED: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT.		DRILLER: Paul Suit
CAVE-IN: _____ FT; @ COMP: _____ FT; @ _____ HRS. _____ FT.		IINSPECTOR: _____
		WR&A REP.: Kevin T. Roberts

HAMMER TYPE: Automatic	SAMPLER TYPE: SS	ROD SIZE: _____
BORING METHOD: HSA	BOREHOLE DIA: _____	ROCK CORE SIZE: _____

DEPTH	WELL CONSTRUCTION	BLOW COUNT	CLASS	DESCRIPTION	SAMPLE SUBMITTED	RECOV.	Notes
				8" Concrete, no rebar			
1-3'		100/5"		No recovery, concrete blocked SS shoe	X	0"	
3-5'		9,51,15,11	Fill	Brown/tan M-CG sand, moist Boring terminated at 5' BGS	X	5"	

Boring Method HSA: HOLLOW STEM AUGER HAITR: HAND AUGER & TRIPOD DC: DRIVEN CASING MD: MUD DRILLING DP: DIRECT PUSH AR: AIR ROTARY/AIR HAMMER	Sampler Type: SPT: STANDARD PENETRATION TEST; DRIVING 2" O.D. SAMPLER 1.0 FT W/ 140 LB HAMMER FALLING 30" BLOW COUNTS RECORDED AS: AUGER SAMPLE RC: ROCK CORE SS: SPLIT SPOON @ST: SHELBY TUBE 6" INTERVALS. (SPLIT SPOON)	Abbreviations: NA: Not Applicable SAA: Same as above F-CG: fine to coarse grained BGS: below ground surface
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