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LEGEND

- ⊙ - APPROXIMATE STANDARD PENETRATION TEST BORING LOCATION
- ⊠ - APPROXIMATE CONE PENETRATION TEST SOUNDING LOCATION

SCALE



APPR.	
DATE	
DESCRIPTION	
SYMBOL	
<p>APPROVED</p> <p>FOR COMMANDER NAVFAC</p> <p>ACTIVITY</p> <p>SATISFACTORY TO DATE</p> <p>DIES DPR DRW DPR CHK FAD</p> <p>PM/DM M. PERRY/L. SANDERS</p> <p>BRANCH MANAGER</p> <p>CHIEF ENG/ARCH</p> <p>FIRE PROTECTION</p>	
<p>NAVAL FACILITIES ENGINEERING COMMAND</p> <p>NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC</p> <p>NAVAL STATION - NORFOLK, VIRGINIA</p> <p>NORFOLK, VIRGINIA</p>	
<p>DEPARTMENT OF THE NAVY</p> <p>NAVAL FACILITIES ENGINEERING COMMAND</p> <p>HAMPTON ROADS FT</p> <p>NAVAL STATION NORFOLK</p> <p>FY 2016 P-518</p> <p>MH-60 AVET TRAINING FACILITY</p> <p>FIELD EXPLORATION LOCATION PLAN</p>	
<p>SCALE: AS NOTED</p> <p>PROJECT NO.: 1291639</p> <p>CONSTR. CONTR. NO.</p> <p>NAVFAC DRAWING NO. 12701600</p> <p>SHEET 4 OF 109</p> <p>B-100</p>	

FILE NAME: F:\VA\NavalStationNorfolk\MILCON\2016_1291639_P-518_DBE_MH-60 AVET Training Facility\B_Design Drawings\Sheet Files\04_Geotech\B-100 FIELD EXPLORATION LOCATION PLAN.dwg LAYOUT NAME: Layout1 PLOTTED: Thursday, September 24, 2015 - 5:21pm USER: dandredrgr

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1

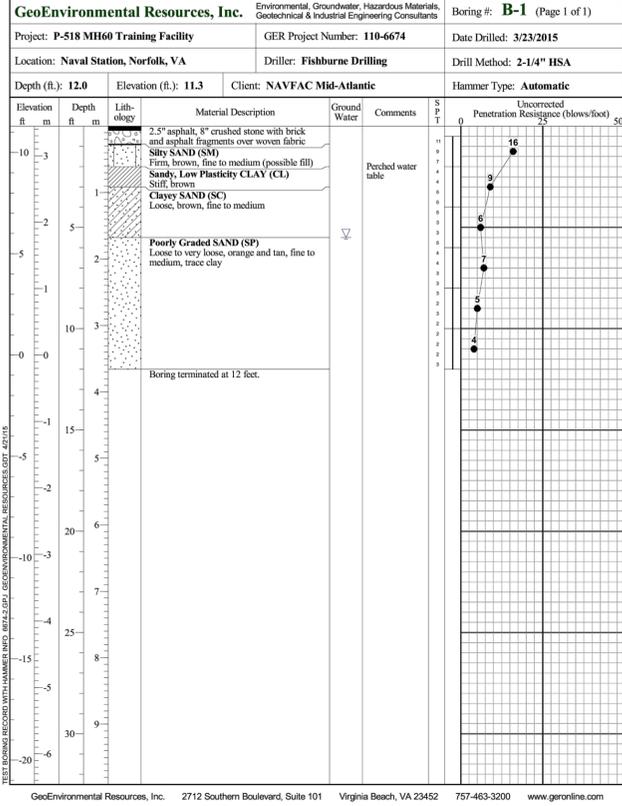
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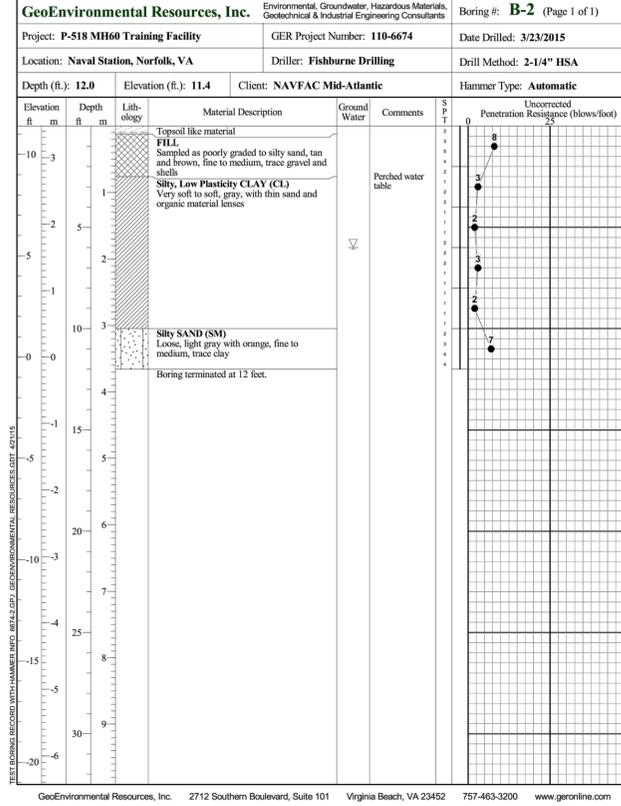
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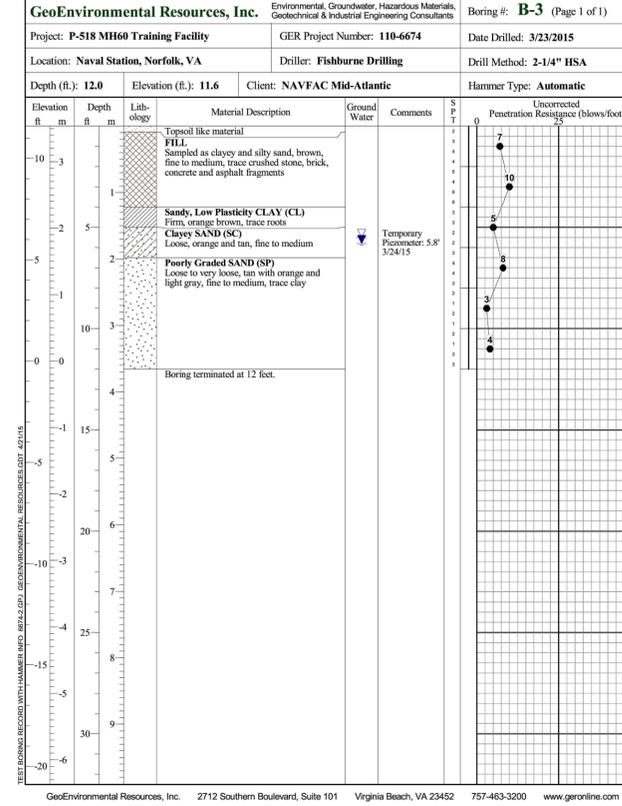
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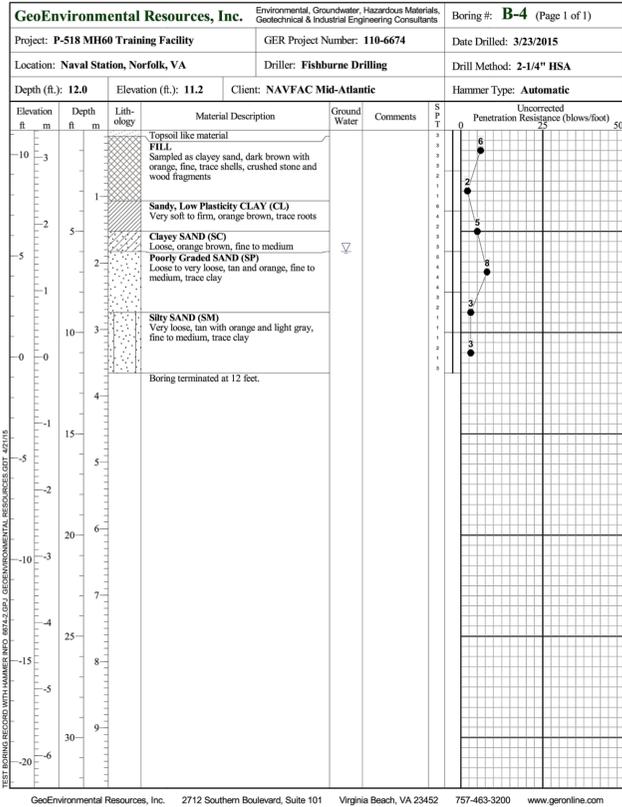
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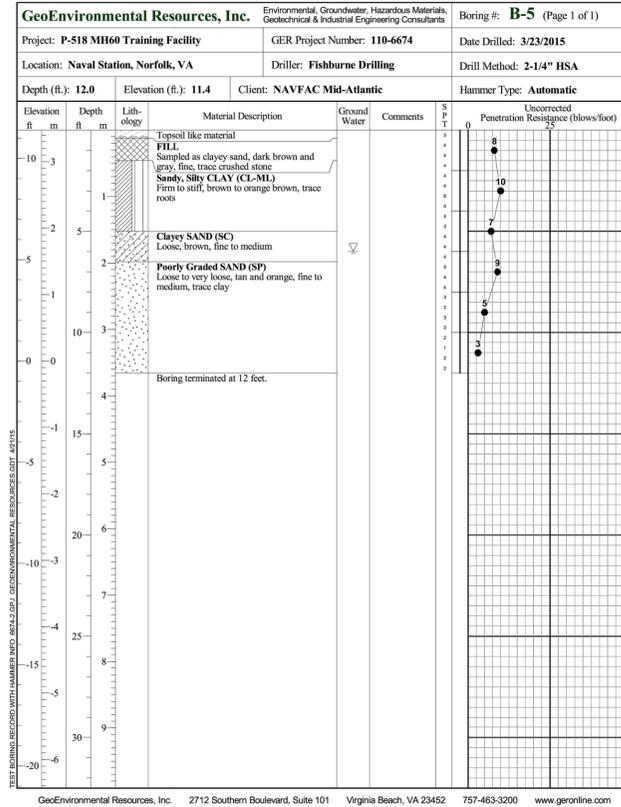
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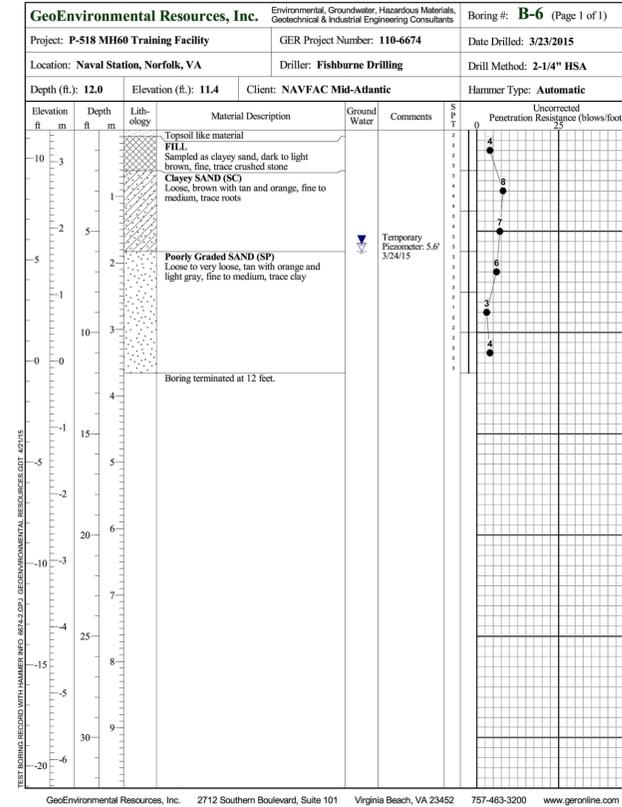
TEST BORING RECORD



TEST BORING RECORD



TEST BORING RECORD



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APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES. DPR. DRW. DPR. CHK. FAD.

FM/WM. M. PERRY/L. SANDERS

BRANCH MANAGER

CHEF ENG/ARCH

FIRE PROTECTION

NAVFACILITIES ENGINEERING COMMAND

NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC

NAVAL STATION - NORFOLK, VIRGINIA

NORFOLK, VIRGINIA

DEPARTMENT OF THE NAVY

NAVAL STATION NORFOLK

FY 2016 P-518

MH-60 AVET TRAINING FACILITY

TEST BORING RECORDS

SCALE: NONE

EPROJECT NO.: 1291639

CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12701602

SHEET 6 OF 109

B-102

DRAWING REVISION: 10 MARCH 2009

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C

B

A

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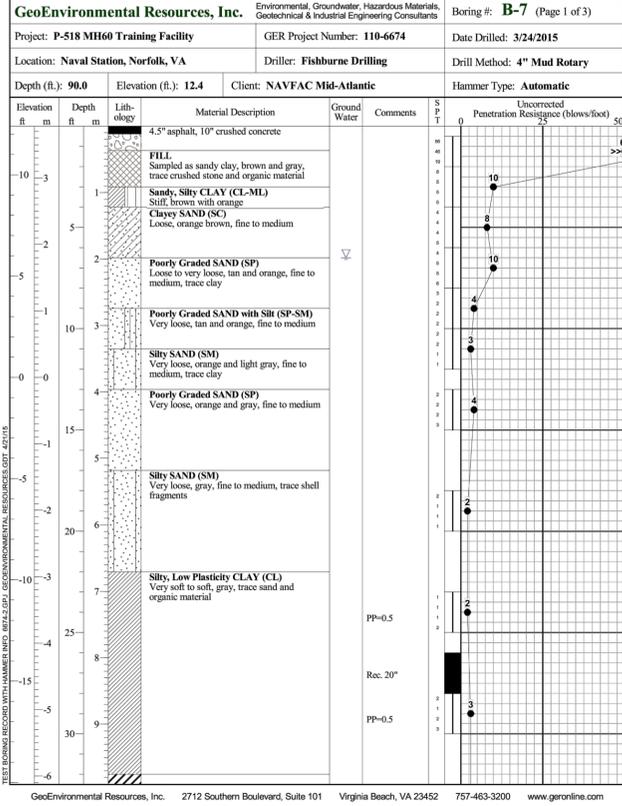
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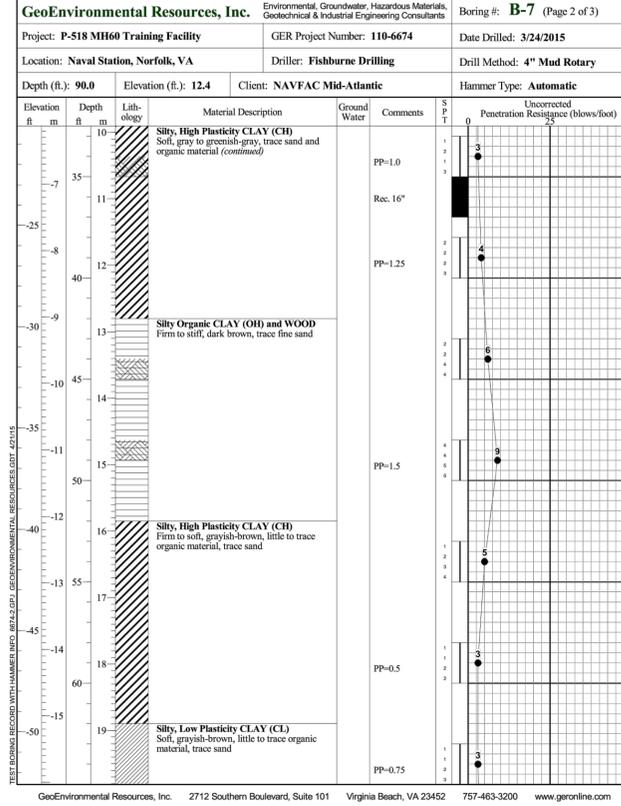
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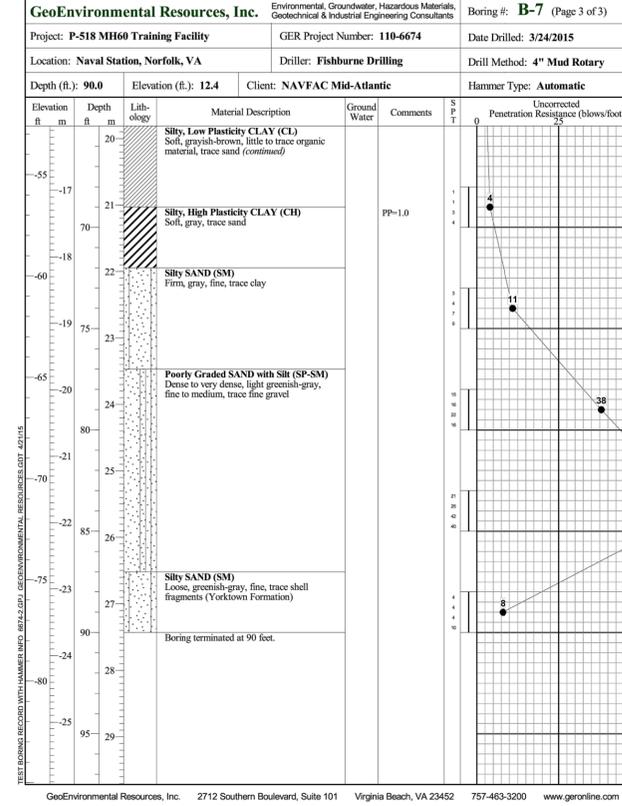
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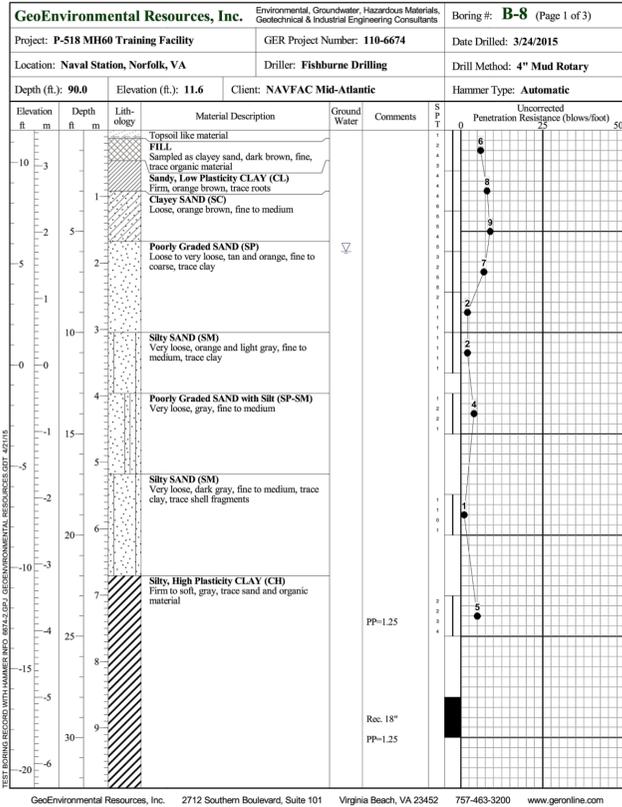
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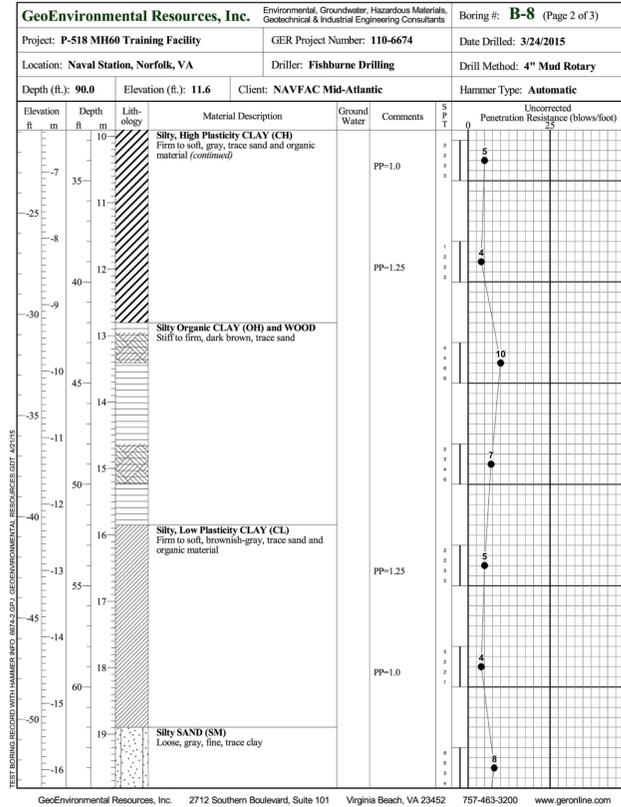
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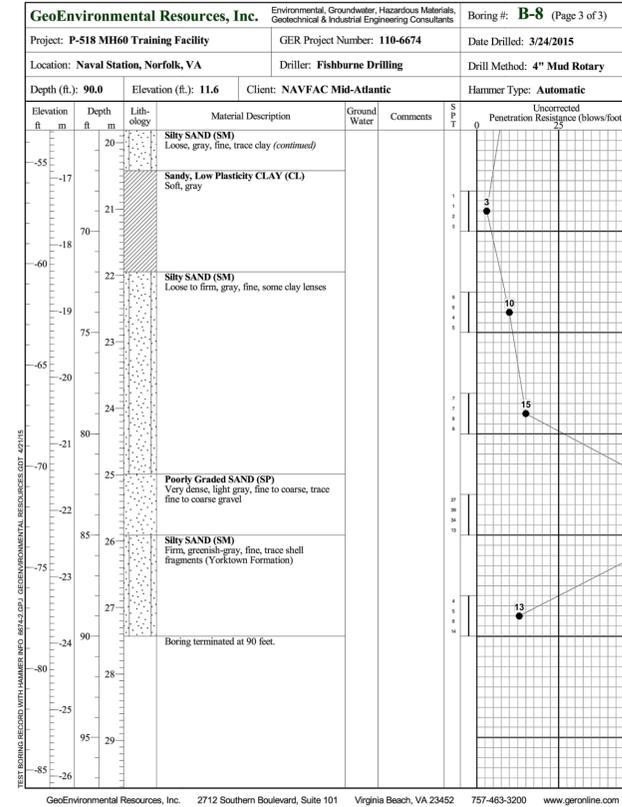
TEST BORING RECORD



TEST BORING RECORD



TEST BORING RECORD



APPROVED: _____ DATE: _____

FOR COMMANDER NAVFAC

ACTIVITY: _____

SATISFACTORY TO DATE: _____

DES: DPR DRW DPR CHK FAD

FW/IM: M. PERRY/L. SANDERS

BRANCH MANAGER: _____

CHIEF ENG/ARCH: _____

FIRE PROTECTION: _____

NAVFAC ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
HAMPTON ROADS IPT
NAVAL STATION NORFOLK
NORFOLK, VIRGINIA

SCALE: NONE

EPROJECT NO.: 1291639

CONSTR. CONTR. NO.: _____

NAVFAC DRAWING NO.: 12701603

SHEET 7 OF 109

B-103

DRAWING REVISION: 10 MARCH 2009

FILE NAME: P:\VA\NavalStation\Norfolk\MLCON\2016_L_1291639_P-518_OBB_MH-60_AVET_Training_Facility\B_Design\Drawings\Sheet_Files\04_Geotech\B-103_TEST BORING RECORDS.dwg LAYOUT NAME: Model PLOTTED: Thursday, September 24, 2015 - 5:52pm USER: dvid.ridgler

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SAMPLE NUMBER	DEPTH (FEET)	SAMPLE TYPE	CLASS.	MOISTURE CONTENT (%)	% FINES	LL	PL	PI	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	CBR	SWELL (%)	OTHER TESTS
B-1	3	SS	SC	13.8	23.0	-	-	-	-	-	-	-	SIEVE
B-2	1 to 2	Bulk	SM	13.0	16.1	-	-	-	114.1	11.3	16.1	0.0	SIEVE
B-2	5	SS	CL	35.3	-	43	22	21	-	-	-	-	-
B-3	5	SS	SC	17.4	33.0	-	-	-	-	-	-	-	SIEVE
B-4	1 to 2	Bulk	SC	10.2	34.6	-	-	-	123.3	10.8	4.4	0.1	SIEVE
B-5	1 to 2	Bulk	CL-ML	18.0	57.3	20	15	5	117.6	12.8	4.8	0.2	-
B-6	7	SS	SP	19.7	2.0	-	-	-	-	-	-	-	SIEVE

SAMPLE NUMBER	DEPTH (FEET)	SAMPLE TYPE	CLASS.	MOISTURE CONTENT (%)	% FINES	LL	PL	PI	VOID RATIO	SPECIFIC GRAVITY	NATURAL DENSITY (pcf)	OTHER TESTS
B-7	3	SS	CL-ML	16.9	-	23	16	7	-	-	-	-
B-7	9	SS	SP-SM	19.9	10.6	-	-	-	-	-	-	SIEVE
B-7	27	UD	CL	29.2	98.0	45	23	22	0.812	2.760	122.9	CONSOLIDATION
B-7	36	UD	CH	38.2	96.5	56	27	29	-	-	114.2	-
B-7	44	SS	OH	158.0	-	-	-	-	-	-	-	-
B-7	64	SS	CL	31.7	-	38	22	16	-	-	-	-
B-7	79	SS	SP-SM	22.3	5.1	-	-	-	-	-	-	SIEVE
B-8	14	SS	SP-SM	24.9	7.0	-	-	-	-	-	-	SIEVE
B-8	29	UD	CH	40.2	95.9	68	30	38	-	-	110.5	-
B-8	49	SS	PT	626.0	-	-	-	-	-	-	-	-
B-8	59	SS	CL	41.3	-	47	25	22	-	-	-	-



APPROVED: _____
DATE: _____
SYN: _____
DESCRIPTION: _____

FOR COMMANDER NAVFAC
ACTIVITY: _____

SATISFACTORY TO DATE: _____
DES: DPR | DRW | DPR | CHK | FAD
FM/IM: M. PERRY/L. SANDERS
BRANCH MANAGER: _____
CHIEF ENGINEER: _____
FIRE PROTECTION: _____

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC
NAVAL STATION - NORFOLK, VIRGINIA
NAVAL STATION NORFOLK
NORFOLK, VIRGINIA
FY 2016 P-518
MH-60 AVET TRAINING FACILITY
LABORATORY TEST RESULTS

SCALE: NONE
EPROJECT NO.: 1291639
CONSTR. CONTR. NO.: _____
NAVFAC DRAWING NO.: 12701605
SHEET 9 OF 109
B-105

Client Sample Results

Client: GeoEnvironmental Resources Inc GER
Project/Site: P-518 MH60 Training Facility
TestAmerica Job ID: 400-103568-1

Client Sample ID: B-2 @ 0.5'-3'
Date Collected: 03/23/15 13:50
Date Received: 03/26/15 09:29
Lab Sample ID: 400-103568-1
Matrix: Solid
Percent Solids: 87.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0053		0.0053		mg/Kg	D	04/06/15 10:13	04/06/15 13:47	1
Toluene	<0.0053		0.0053		mg/Kg	D	04/06/15 10:13	04/06/15 13:47	1
Ethylbenzene	<0.0053		0.0053		mg/Kg	D	04/06/15 10:13	04/06/15 13:47	1
Xylenes, Total	<0.0053		0.0053		mg/Kg	D	04/06/15 10:13	04/06/15 13:47	1

Surrogate

%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
99		72 - 122	04/06/15 10:13	04/06/15 13:47	1
93		79 - 123	04/06/15 10:13	04/06/15 13:47	1
103		80 - 120	04/06/15 10:13	04/06/15 13:47	1

Method: 8015C - GRO by 8015C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C8-C10	<4.1		4.1		mg/Kg	D	03/31/15 15:45	04/01/15 13:14	50

Surrogate

%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
105		65 - 125	03/31/15 15:45	04/01/15 13:14	50

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	22		11		mg/Kg	D	03/27/15 08:18	03/27/15 20:25	1

Surrogate

%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
104		27 - 151	03/27/15 08:18	03/27/15 20:25	1

Method: 6010C - RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.025		0.025		mg/L	D	04/03/15 09:52	04/06/15 18:12	1
Barium	<5.0		5.0		mg/L	D	04/03/15 09:52	04/03/15 20:19	1
Cadmium	<0.025		0.025		mg/L	D	04/03/15 09:52	04/03/15 20:19	1
Chromium	<0.050		0.050		mg/L	D	04/03/15 09:52	04/03/15 20:19	1
Lead	<0.025		0.025		mg/L	D	04/03/15 09:52	04/03/15 20:19	1
Selenium	<0.050		0.050		mg/L	D	04/03/15 09:52	04/03/15 20:19	1
Silver	<0.025		0.025		mg/L	D	04/03/15 09:52	04/03/15 20:19	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0016		0.0016		mg/L	D	04/01/15 15:55	04/03/15 12:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13		0.10		%	D	03/27/15 17:18		1

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Client Sample Results

Client: GeoEnvironmental Resources Inc GER
Project/Site: P-518 MH60 Training Facility
TestAmerica Job ID: 400-103568-1

Client Sample ID: B-5 @ 0.5'-3'
Date Collected: 03/23/15 15:00
Date Received: 03/26/15 09:29
Lab Sample ID: 400-103568-2
Matrix: Solid
Percent Solids: 87.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0055		0.0055		mg/Kg	D	04/06/15 10:13	04/06/15 14:12	1
Toluene	<0.0055		0.0055		mg/Kg	D	04/06/15 10:13	04/06/15 14:12	1
Ethylbenzene	<0.0055		0.0055		mg/Kg	D	04/06/15 10:13	04/06/15 14:12	1
Xylenes, Total	0.0057		0.0055		mg/Kg	D	04/06/15 10:13	04/06/15 14:12	1

Surrogate

%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
101		72 - 122	04/06/15 10:13	04/06/15 14:12	1
87		79 - 123	04/06/15 10:13	04/06/15 14:12	1
103		80 - 120	04/06/15 10:13	04/06/15 14:12	1

Method: 8015C - GRO by 8015C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C8-C10	<4.4		4.4		mg/Kg	D	03/31/15 15:45	04/01/15 13:42	50

Surrogate

%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
102		65 - 125	03/31/15 15:45	04/01/15 13:42	50

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	<11		11		mg/Kg	D	03/27/15 08:18	03/27/15 20:35	1

Surrogate

%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
105		27 - 151	03/27/15 08:18	03/27/15 20:35	1

Method: 6010C - RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.025		0.025		mg/L	D	04/03/15 09:52	04/06/15 18:29	1
Barium	<5.0		5.0		mg/L	D	04/03/15 09:52	04/03/15 20:47	1
Cadmium	<0.025		0.025		mg/L	D	04/03/15 09:52	04/03/15 20:47	1
Chromium	<0.050		0.050		mg/L	D	04/03/15 09:52	04/03/15 20:47	1
Lead	<0.025		0.025		mg/L	D	04/03/15 09:52	04/03/15 20:47	1
Selenium	<0.050		0.050		mg/L	D	04/03/15 09:52	04/03/15 20:47	1
Silver	<0.025		0.025		mg/L	D	04/03/15 09:52	04/03/15 20:47	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0016		0.0016		mg/L	D	04/01/15 15:55	04/03/15 12:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12		0.10		%	D	03/27/15 17:18		1

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Client Sample Results

Client: GeoEnvironmental Resources Inc GER
Project/Site: P-518 MH60 Training Facility
TestAmerica Job ID: 400-103568-1

Client Sample ID: B-7 @ 0.5'-3'
Date Collected: 03/24/15 09:10
Date Received: 03/26/15 09:29
Lab Sample ID: 400-103568-3
Matrix: Solid
Percent Solids: 84.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0061		0.0061		mg/Kg	D	04/06/15 10:13	04/06/15 14:36	1
Toluene	<0.0061		0.0061		mg/Kg	D	04/06/15 10:13	04/06/15 14:36	1
Ethylbenzene	<0.0061		0.0061		mg/Kg	D	04/06/15 10:13	04/06/15 14:36	1
Xylenes, Total	<0.0061		0.0061		mg/Kg	D	04/06/15 10:13	04/06/15 14:36	1

Surrogate

%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
102		72 - 122	04/06/15 10:13	04/06/15 14:36	1
87		79 - 123	04/06/15 10:13	04/06/15 14:36	1
97		80 - 120	04/06/15 10:13	04/06/15 14:36	1

Method: 8015C - GRO by 8015C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C8-C10	<4.7		4.7		mg/Kg	D	03/31/15 15:45	04/01/15 14:09	50

Surrogate

%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
107		65 - 125	03/31/15 15:45	04/01/15 14:09	50

Method: 8015C - Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	12		11		mg/Kg	D	03/27/15 08:18	03/27/15 20:44	1

Surrogate

%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
107		27 - 151	03/27/15 08:18	03/27/15 20:44	1

Method: 6010C - RCRA Metals - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.025		0.025		mg/L	D	04/03/15 09:52	04/06/15 18:33	1
Barium	<5.0		5.0		mg/L	D	04/03/15 09:52	04/03/15 20:50	1
Cadmium	<0.025		0.025		mg/L	D	04/03/15 09:52	04/03/15 20:50	1
Chromium	<0.050		0.050		mg/L	D	04/03/15 09:52	04/03/15 20:50	1
Lead	0.853		0.025		mg/L	D	04/03/15 09:52	04/03/15 20:50	1
Selenium	<0.050		0.050		mg/L	D	04/03/15 09:52	04/03/15 20:50	1
Silver	<0.025		0.025		mg/L	D	04/03/15 09:52	04/03/15 20:50	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0016		0.0016</						