



Environmental and Geotechnical Drilling Services
 Phone: 856-722-1111 FAX: 856-722-1745

SOIL BORING LOG
Highland Pump Station
 W. North Street, Highlands, New Jersey

November 26, 2012

SAMPLE	DEPTH	BLOW COUNT	"N"	SOIL CHARACTERIZATION	
S-1	0 - 2	0-13-14-17	27	0-.5 Asphalt; Tan light brown medium-fine SAND small fine gravel	
S-2	2-4	5-3-4-3	7	Ash/Cinders; Olive/brown fine to medium SAND	Wet
S-3	4-6	3-2-3-2	5	Shell fragments in olive/brown fine to medium SAND w/black fine sand	Wet
S-4	6-8	4-4-4-5	8	Fine gravels in olive fine to medium SAND w/black fine sand	Wet
S-5	8-10	4-3-3-3	6	Fine gravels in olive fine to medium SAND w/black fine sand, fine to medium brown sand	Wet
S-6	10-12	10-4-4-4	8	Olive brown/black fine to medim SAND, some silt	Wet
S-7	15-17	5-5-3-9	8	Silty gray/dark green medium to fine SAND, trace shell fragments	Wet
S-8	20-22	5-10-14-22	24	Light gray fine to medium SAND with some very fine to fine black grains, trace coarse sand	Wet
S-9	25-27	5-10-10-14	20	Light green fine to coarse sand (25'-25.5') Fine to coarse SAND over dark green glauconitic silty clay	Wet/Dry
S-10	30-32	4-9-10-16	19	Dark green glauconitic silty CLAY	Dry
S-11	35-37	5-8-7-11	15	Dark green/black glauconitic silty CLAY, trace fine sand	Dry/Damp
S-12	40-42	3-4-6-10	10	Dark geen/gray glauconitic clayey SILT, trace fine sand	Moist/Damp
S-13	45-47	4-6-8-11	14	Dark green glauconitic clayey SILT, trace fine sand	Moist/Damp
S-14	48-50	8-11-14-22	25	Light green silty very fine SAND w/mica flakes	Moist

End of Boring

Driller John Urban, ECDI
 Date 11/26/2012
 Client T&M Associates
 Job # TMAST0202
 Rig/Method B-57, HSA 8" Auger

Comments:
 Boring is located 36' west of the pump house, 25' south of
 the bulkhead.

Note: The soils information provided on this Boring Log is to be utilized as advisory information only and not be considered in a specific basis of design.



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TEST BORING LOG

160 ROUTE 35 NORTH
CLIFFWOOD BEACH, NJ 07735

BORING NO: B-1A
BORING LOCATION: See Plan

CLIENT: T & M Associates
PROJECT: Drainage Improvements
Highlands, N.J.
JOB NUMBER: 10-48
REPORT NO.: 10-48/R-1A

DATE START: 12/04/10
DATE FINISH: 12/04/10
DEPTH OF WATER: 3.5'±
Wet @ 3.5'

SAMPLER O.D.: 2"
SAMPLER HAMMER
WT.: 140 lbs. FALL: 30"

GROUND ELEV.: 5.1'±
SHEET 1 OF 2

DEPTH	CASING BLOWS PER FOOT	SAMPLE				SC TH RA AN TG AE	CLASSIFICATION OF MATERIALS
		NO	TYPE	DEPTHS FROM.. TO	BLOWS ON SAMPLER PER 6 INCHES		
							Topsoil 6" Hand Auger to 5'± Brown cf SAND, little Silt, trace mf gravel
5							
	C	1	SS	5-7	3-6-9-11		S-1: Brown cf SAND, trace f gravel, trace Silt
	A						
	S	2	SS	7-9	3-2-6-18		S-2: TOP: Brown mf SAND, little Silt BOTTOM (3"): Grey CLAY & SILT
10	I						
	N						
	G	3	SS	10-12	1-5-6-8		S-3: Green Brown cf SAND, trace Silt (Rec. 3")
15							
		4	SS	15-17	3-3-3-4		S-4: Same (Rec. 2")
20							
		5	SS	20-22	2-2-5-10		S-5: Green cf SAND, little mf gravel, trace Silt
25							
		6	SS	25-27	5-3-4-4		S-6: Green f SAND and Silt
30							

SS SPLIT SPOON SAMPLER
U UNDISTURBED SHELBY
HSA HOLLOW STEM AUGER
PP POCKET PENETROMETER READING (tsf)

DRILLING CONTRACTOR: ECD
DRILLING CREW: Tim Saris & Mike Norris

Location: At Valley Street Pumpstation

Note: The soils information provided on this Boring Log is to be as advisory information only and not be considered in a specific basis of design.

GENTECH

TEST BORING LOG

B-1A - Drainage Improvements, Highlands

SHEET 2 OF 2

DEPTH	CASING BLOWS PER FOOT	S A M P L E				S C T H R A A N T G A E	CLASSIFICATION OF MATERIALS
		NO.	T Y P E	DEPTHS FROM ..TO	BLOWS ON SAMPLER PER 6 INCHES		
31							
	C	7	SS	30-32	8-8-13-14		S-7: Green CLAY & SILT, little m-f Sand, trace f gravel
35	S						
	I						
	N	8	SS	35-37	4-5-7-8		S-8: Grey mf SAND, some Silt
	G						
40							
		9	SS	40-42	10-10-10-14		S-9: Green mf SAND, some Silt varved with light Grey Clay & Silt
45							End of Boring @ 42'
50							
55							
60							
65							
70							

DRILLING INSPECTOR: TB

Location: At Valley Street Pumpstation

Note: The soils information provided on this Boring Log is to be utilized as advisory information only and not be considered in a specific basis of design.



TEST BORING LOG

160 ROUTE 35 NORTH
CLIFFWOOD BEACH, NJ 07735

DATE START: 12/04/10
DATE FINISH: 12/04/10
DEPTH OF WATER: 5'±

BORING NO: B-2A
BORING LOCATION: See Plan

SAMPLER O.D.: 2"
SAMPLER HAMMER
WT.: 140 lbs. FALL: 30"

CLIENT: T & M Associates
PROJECT: Drainage Improvements
Highlands, N.J.
JOB NUMBER: 10-48
REPORT NO.: 10-48/R-1A

GROUND ELEV.: 3.4'±
SHEET 1 OF 1

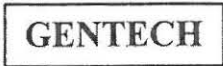
DEPTH	CASING BLOWS PER FOOT	SAMPLE				SC TH RA AN TG AE	CLASSIFICATION OF MATERIALS
		NO.	TYPE	DEPTHS FROM.. TO	BLOWS ON SAMPLER PER 6 INCHES		
		1	SS	0.5-2	8-3-4		3"± Asphalt Pavement + Stone 6"± S-1: Red Brown to Brown c-f SAND, trace Silt, trace f gravel
5	C A S I N G						
		2	SS	5-7	1-2-2-2		S-2: Brown c-f SAND, some mf gravel, trace Silt
10	G	3	SS	8-10	2-2-4-5		S-3: TOP: Same MIDDLE: Dark Grey mf SAND and organic Silt BOTTOM: Green mf SAND, little Silt
		4	SS	10-12	2-1-1-4		S-4: Green mf SAND, trace Silt, trace f gravel
15							
		5	SS	15-17	2-2-3-3		S-5: Green c-f SAND, little Silt
20							
		6	SS	20-22	WH-4-5		S-6: TOP: Dark Grey CLAY & SILT (organics) BOTTOM (6"): Green c-f SAND, little mf gravel, trace Silt
25							End of Boring @ 22'
30							

SS SPLIT SPOON SAMPLER
U UNDISTURBED SHELBY
HSA HOLLOW STEM AUGER
PP POCKET PENETROMETER READING (tsf)
WH WEIGHT OF HAMMER

DRILLING CONTRACTOR: ECD
DRILLING CREW: Tim Saris, Mike Norris

Location: On Recreation Place between Washington Avenue and Barberie Avenue

Note: The soils information provided on this Boring Log is to be utilized as advisory information only and not be considered in a specific basis of design.



TEST BORING LOG

169 ROUTE 35 NORTH
CLIFFWOOD BEACH, NJ 07735

BORING NO: B-3A
BORING LOCATION: See Plan

CLIENT: T & M Associates
PROJECT: Drainage Improvements
Highlands, N.J.
JOB NUMBER: 10-48
REPORT NO.: 10-48/R-1A

DATE START: 12/04/10
DATE FINISH: 12/04/10
DEPTH OF WATER: wet @ 5'

SAMPLER O.D.: 2"
SAMPLER HAMMER
WT.: 140 lbs. FALL: 30"

GROUND ELEV.: 5.0'
SHEET 1 OF 1

DEPTH	CASING BLOWS PER FOOT	SAMPLE				SC TH RA AN TG AE	CLASSIFICATION OF MATERIALS
		NO.	TYPE	DEPTHS FROM.. TO	BLOWS ON SAMPLER PER 6 INCHES		
							Gravel Parking Lot
5							
	C	1	SS	5-7	1-2-2-3		S-1: Brown & Green c-f SAND, trace f gravel trace Silt,
	A						
	S	2	SS	7-9	4-4-4-3		S-2: Brown & Green c-f SAND, little f gravel, trace silt
10	I						
	N						
	G	3	SS	10-12	3-4-7-6		S-3: Green c-f SAND, trace Silt, trace f gravel, trace organics on top
15							
		4	SS	15-17	11-14-18-22		S-4: Green c-f SAND, some mf gravel, trace Silt
							End of Boring @ 17'
20							
25							
30							

SS SPLIT SPOON SAMPLER
U UNDISTURBED SHELBY
HSA HOLLOW STEM AUGER
PP POCKET PENETROMETER READING (tsf)

DRILLING CONTRACTOR: ECD
DRILLING CREW: Tim Saris & Mike Norris

Location: At the corner of Cedar Street and Fifth Street

Note: The soils information provided on this Boring Log is to be utilized as advisory information only and not be considered in a specific basis of design

GENTECH

TEST BORING LOG

160 ROUTE 35 NORTH
CLIFFWOOD BEACH, NJ 07735

BORING NO: B-4A
BORING LOCATION: See Plan

CLIENT: T & M Associates
PROJECT: Drainage Improvements
Highlands, N.J.
JOB NUMBER: 10-48
REPORT NO.: 10-48/R-1A

DATE START: 12/04/10
DATE FINISH: 12/04/10
DEPTH OF WATER: Wet 5.1

SAMPLER O.D.: 2"
SAMPLER HAMMER
WT.: 140 lbs. FALL: 30"

GROUND ELEV.: 3.9±
SHEET 1 OF 1

D E P T H	CASING BLOWS PER FOOT	S A M P L E				S C T H R A N T G A E	CLASSIFICATION OF MATERIALS
		NO.	T Y P E	DEPTHS FROM.. ..TO	BLOWS ON SAMPLER PER 6 INCHES		
							3" Asphalt & Stone below casing to 5'
5							
	C	1	SS	5-7	5-4-3-2		S-1: Grey to Brown c-f SAND, trace f gravel, trace Silt
	A						S-2: TOP: Same
10	S	2	SS	7-9	1-1-1/12		BOTTOM (3"): organic Silt
	I						
	N						
	G	3	SS	10-12	3-4-5-10		S-3: TOP (12"): organic Silt
							BOTTOM: Brown c-f SAND, trace f gravel
15							trace Silt
		4	SS	15-17	14-17-18-20		S-4: Same
20							End of Boring @ 17'
25							
30							

SS SPLIT SPOON SAMPLER
U UNDISTURBED SHELBY
HSA HOLLOW STEM AUGER
PP POCKET PENETROMETER READING (tsf)

DRILLING CONTRACTOR: ECD
DRILLING CREW: Tim Saris, Mike Norris

Location: Near the Northern End of Atlantic Street

Note: The soils information provided on this Boring Log is to be utilized as advisory information only and not be considered in a specific basis of design.