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***Appendix B***  
***Geotechnical Test Borings***



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-1  
**SHEET** 1 OF 2

**DATE STARTED:** 4/11/2019  
**DATE FINISHED:** 4/11/2019

**DEPTH OF WATER:** 12'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +17.0'±  
**GROUND WATER ELEV.:** +5.0'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	1 - 2 - 2 - 2		S-1 Black mf <b>SAND</b> , little+ Silt, little- f Gravel.
	S-2 2-4'	1 - 1 - 1 - 1		S-2 Black & Tan-Brown mf <b>SAND</b> , little Silt, little- mf Gravel.
--- 5' ---	S-3 4-6'	1 - 1 - 3 - 4		S-3 TOP 12": Same as <b>S-2</b> . BOT 12": Tan-Brown mf <b>SAND</b> , little+ Silt.
	S-4 6-8'	4 - 6 - 7 - 4		S-4 TOP 12": Black mf <b>SAND</b> , and Silt, trace f Gravel. BOT 12": Orange-Brown mf <b>SAND</b> , little- Clayey Silt.
--- 10' ---	S-5 8-10'	5 - 6 - 6 - 5		S-5 Orange & Tan-Brown <b>SAND</b> , some- Clayey Silt, little- mf Gravel.
	S-6 10-12'	2 - 1 - 2 - 1		S-6 Tan-Brown <b>CLAY &amp; SILT</b> , little+ f Sand.
--- 15' ---	S-7 15-17'	5 - 11 - 10 - 11		S-7 Tan-Brown cmf <b>SAND</b> , trace- Silt, trace- f Gravel.
--- 20' ---	S-8 20-22'	WOH - WOH - WOH - WOH		S-8 Grey <b>SILT &amp; CLAY</b> , trace f Sand.
--- 25' ---	S-9 25-27'	3 - 4 - 6 - 6		S-9 Tan-Brown cmf <b>SAND</b> , trace+ f Gravel, trace- Silt.
--- 30' ---	S-10 30-32'	8 - 12 - 14 - 14		S-10 Light Brown <b>SILT &amp; CLAY</b> , little+ mf Sand, little mf Gravel. (Low Recovery)
--- 35' ---	S-11 35-37'	12 - 13 - 14 - 13		S-11 Red-Brown cmf <b>SAND &amp; SILT</b> , some mf Gravel, little Silt.

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** S. KEARNEY

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. PANSEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-1  
SHEET 2 OF 2**

**DATE STARTED:** 4/11/2019  
**DATE FINISHED:** 4/11/2019

**DEPTH OF WATER:** 12'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +17.0'±  
**GROUND WATER ELEV.:** +5.0'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-12 40-42'	8 – 12 – 13 – 11		S-12 Red-Brown cm <sup>+</sup> f SAND, some <sup>+</sup> mf Gravel, some <sup>-</sup> Silt.
---4 5'---	S-13 45-47'	7 – 10 – 14 – 14		S-13 Same as S-12.
---50'---	S-14 50-52'	12 – 10 – 8 – 11		S-14 Same as S-12.
---55'---				END OF BORING @ 52'
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** S. KEARNEY

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. PANSEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-2  
SHEET 1 OF 2**

**DATE STARTED: 4/11/2019  
DATE FINISHED: 4/11/2019**

**DEPTH OF WATER: 12'±  
LOCATION: See Plan**

**GROUND ELEVATION: +16.5'±  
GROUND WATER ELEV.: +4.5'±**

**DRILLING TECHNIQUE: Mud Rotary  
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop**

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	1 - 3 - 4 - 6		S-1 Black & Tan-Brown <b>SILT</b> , little mf Sand, little f Gravel. (Fill w/ pieces of wood)
	S-2 2-4'	6 - 14 - 8 - 8		S-2 Black & Tan-Brown mf <b>SAND</b> , little+ mf Gravel. (Low Recovery)
--- 5' ---	S-3 4-6'	4 - 5 - 4 - 11		S-3 Red-Brown cmf <b>SAND</b> , little+ mf Gravel.
	S-4 6-8'	4 - 4 - 3 - 4		S-4 TOP 6": Red-Brown mf <b>GRAVEL</b> , little mf Sand. BOT 18": Dark Tan-Brown <b>Clayey SILT</b> , little+ mf Sand, trace f Gravel.
	S-5 8-10'	9 - 8 - 7 - 5		S-5 TOP 3": Black Silt, little f <b>SAND</b> . MID 9": Tan-Brown f <b>SAND</b> , little Clayey Silt. BOT 12": Tan-Brown mf <b>SAND</b> .
--- 10' ---	S-6 10-12'	4 - 5 - 3 - 2		S-6 TOP 3" Black <b>SILT</b> , little mf Sand, little- f Gravel. BOT 21": Grey & Tan mf <b>SAND</b> , little+ Silt & Clay.
	S-7 15-17'	2 - 6 - 5 - 6		S-7 Tan-Brown cmf <b>SAND</b> , little+ f Gravel, trace Silty Clay.
--- 15' ---	S-8 20-22'	1 - 1 - 1 - 1		S-8 Grey <b>SILT &amp; CLAY</b> , little+ mf Sand, trace f Gravel.
--- 20' ---	S-9 25-27'	1 - 1 - 1 - 1		S-9 Grey <b>SILT &amp; CLAY</b> , little+ f Sand trace f Gravel.
--- 25' ---	S-10 30-32'	8 - 9 - 9 - 9		S-10 Tan-Brown cmf <b>SAND</b> , some+ Silt.
--- 30' ---	S-11 35-37'	19 - 16 - 24 - 22		S-11 Orange & Red-Brown cmf <b>SAND &amp; SILT</b> , trace+ mf Gravel.

**SOILS ENGINEER: R. SWABSIN, PE  
DRILLING INSPECTOR: S. KEARNEY**

**CONTRACTOR: BORING BROTHERS, INC.  
DRILLER: M. PANSEL**

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-2  
SHEET 2 OF 2**

**DATE STARTED:** 4/11/2019  
**DATE FINISHED:** 4/11/2019

**DEPTH OF WATER:** 12'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +16.5'±  
**GROUND WATER ELEV.:** +4.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-12 40-42'	12 – 21 – 21 – 17		S-12 TOP 3": Red-Brown mf <b>SAND</b> , little+ Silt. BOT 21": Red-Brown cmf <b>SAND &amp; GRAVEL</b> , little+ Silt.
---4 5'---	S-13 45-47'	17 – 14 – 16 – 14		S-13 Red-Brown cmf <b>SAND</b> , some+ mf Gravel, some Silt. (w/ ¼" Clay Lenses)
---50'---	S-14 50-52'	3 – 10 – 11 – 11		S-14 Grey <b>SILT &amp; CLAY</b> , trace f Sand.
---55'---				END OF BORING @ 52'
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** S. KEARNEY

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. PANSEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING**  
**CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY**  
**(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-3  
**SHEET** 1 OF 2

**DATE STARTED:** 3/27/2019  
**DATE FINISHED:** 3/27/2019

**DEPTH OF WATER:** 5.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.5'±  
**GROUND WATER ELEV.:** +2'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 0-2'	3 - 8 - 8 - 8		S-1 TOP 5": Light Brown mf <b>SAND</b> , little Silt. (Fill) BOT 19": Brown & Dark Brown mf+ <b>SAND</b> , some+ Silt, little m+f Gravel. (Fill w/ many pieces of concrete & wood)
	S-2 2-4'	8 - 6 - 7 - 5		S-2 TOP 8": Same as <b>S-1 BOT 19"</b> . BOT 16": Light Tan-Brown f <b>SAND</b> , and+ Silt. (w/ lenses of grey silt & clay)
	S-3 4-6'	4 - 4 - 4 - 3		S-3 Tan-Brown & Orange-Brown mf+ <b>SAND</b> , some+ Silt, trace+ mf+ Gravel.
	S-4 6-8'	1 - 1 - 1 - 1		S-4 Tan-Brown & Grey-Brown mf <b>SAND</b> , some+ Silt, trace f Gravel. (w/ few lenses of grey clayey silt)
	S-5 8-10'	1 - 0 - 0 - 1		S-5 Tan-Brown mf+ <b>SAND</b> , some- Silt, trace+ f Gravel. (w/ few lenses of grey clayey silt)
---10'---	S-6 10-12'	3 - 0 - 1 - 1		S-6 TOP 12": Tan-Brown mf+ <b>SAND</b> , some- Silt, trace+ f Gravel. (w/ few lenses of grey clayey silt) BOT 12": Dark Grey-Brown <b>SILT &amp; CLAY</b> , some+ mf Sand.
	S-7 15-17'	WOH - WOH - WOH - WOH		S-7 Grey-Brown <b>SILT &amp; CLAY</b> , some f Sand.
	S-8 20-22'	WOR - WOR - WOR - 1		S-8 Grey-Brown <b>SILT &amp; CLAY</b> , some f Sand.
---20'---	S-9 25-27'	6 - 11 - 26 - 30		S-9 Red-Brown cmf <b>SAND</b> , Some+ Silt, little f Gravel. (lenses of Clayey Silt)
---25'---	S-10 30-32'	16 - 23 - 21 - 14		S-10 Red-Brown c+mf <b>SAND</b> , and f Gravel, trace Silt.
---30'---	S-11 35-37'	7 - 9 - 10 - 8		S-11 Red-Brown c+mf <b>SAND</b> , and mf+ Gravel

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** P. KINSELLA

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING**  
**CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY**  
**(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-3  
**SHEET** 2 OF 2

**DATE STARTED:** 3/26/2019  
**DATE FINISHED:** 3/26/2019

**DEPTH OF WATER:** 5.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.5'±  
**GROUND WATER ELEV.:** +2'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-12 40-42'	8 – 8 – 9 – 15		S-12 Red Brown c <sup>+</sup> mf SAND, some <sup>+</sup> mf <sup>+</sup> gravel, little Silt.
---45'---	S-13 45-47'	4 – 5 – 9 – 8		S-13 Grey SILT & CLAY, trace <sup>-</sup> f Sand. (micaceous)
---50'---				END OF BORING @ 47'
---55'---				
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** P.KINSELLA

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING**  
**CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY**  
**(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-4  
**SHEET** 1 OF 3

**DATE STARTED:** 11/28/2018  
**DATE FINISHED:** 11/28/2018

**DEPTH OF WATER:** 15'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +15.0'±  
**GROUND WATER ELEV.:** 0.0'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 0-2'	2 - 3 - 2 - 1		S-1 TOP 6": Dark Grey <b>SILT</b> , little mf Gravel, little cmf Sand.
	S-2 2-4'	1 - 4 - 10 - 10		BOT 18": Light Brown & Tan mf <b>SAND</b> , trace Silt, trace mf Gravel. (Fill)
--- 10' ---	S-3 4-6'	9 - 8 - 5 - 4		S-2 Red-Brown & Light Grey cmf <b>GRAVEL</b> , some cmf Sand, trace Silt. (Fill w/ pieces of brick & concrete)
	S-4 6-8'	3 - 3 - 4 - 5		S-3 Light Brown mf <b>SAND</b> , trace Silt, trace mf Gravel. (Fill w/ brick fragments)
	S-5 8-10'	6 - 4 - 3 - 3		S-4 Tan-Brown mf <b>SAND</b> , little mf+ Gravel, trace+ Silt. (Fill)
--- 15' ---	S-6 10-12'	6 - 4 - 4 - 5		S-5 Dark Tan-Brown cm+f <b>SAND</b> , little Silt, trace cf Gravel. (Fill)
	S-7 15-17'	7 - 16 - 7 - 5		S-6 Grey & Tan-Brown <b>Clayey SILT</b> , little f Sand, trace mf Gravel. (Fill w/ pieces of brick & timber)
				S-7 Grey-Brown <b>SILT</b> , little mf Sand, trace cf Gravel. (Low Recovery)
--- 20' ---	S-8 20-22'	2 - 2 - 6 - 8		S-8 Timber Pile Fragments with Grey cm+f <b>SAND</b> , trace mf Gravel, trace Silt.
	S-9 25-27'	WOH - WOH - WOH - WOH		S-9 Grey f <b>SAND</b> , and Clay & Silt, trace f Gravel.
--- 25' ---	S-10 27-29'	WOH - 4 - 4 - 5		S-10 TOP 12": Same as S-9. BOT 12": Grey cm+f <b>SAND</b> , little mf Gravel, trace+ Silt.
	S-11 30-32'	3 - 2 - 5 - 10		S-11 Light Grey-Tan <b>SILT &amp; CLAY</b> , some f Sand, trace f Gravel.
--- 30' ---	S-12 35-37'	10 - 18 - 19 - 17		S-12 Red-Brown mf+ <b>GRAVEL</b> , and cmf Sand, little Silt.

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.





# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-4  
SHEET 2 OF 3**

**DATE STARTED:** 11/28/2018  
**DATE FINISHED:** 11/28/2018

**DEPTH OF WATER:** 15'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +15.0'±  
**GROUND WATER ELEV.:** 0.0'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-13 40-42'	12 – 13 – 26 – 27		S-13 Red-Brown cm <sup>f</sup> <b>GRAVEL</b> , some <sup>+</sup> cm <sup>f</sup> Sand, little <sup>-</sup> Clayey Silt.
---45'---	S-14 45-47'	8 – 16 – 18 – 16		S-14 No Recovery.
---50'---	S-15 50-52'	11 – 10 – 8 – 10		S-15 Red-Brown cm <sup>f</sup> <b>GRAVEL</b> , little <sup>+</sup> cm <sup>f</sup> Sand, little <sup>-</sup> Silt.
---55'---	S-16 55-57'	4 – 4 – 8 – 4		S-16 Dark Grey <b>SILT &amp; CLAY</b> , trace f Sand. (micaceous)
---60'---	S-17 60-62'	25 – 7 – 10 – 16		S-17 TOP 18": Same as <b>S-16</b> . BOT 6": Grey <b>CLAY &amp; SILT</b> . (micaceous)
---65'---	UD-1 63-65'	PUSH: 24" REC: 24"		UD-1 Grey <b>CLAY &amp; SILT</b> , trace f Sand. (micaceous)
	S-8 17-19'	21 – 6 – 9 – 11		S-18 Grey <b>CLAY &amp; SILT</b> , trace <sup>-</sup> f Sand. (micaceous)
---70'---	S-19 70-72'	6 – 8 – 13 – 14		S-19 Light Grey <b>CLAY &amp; SILT</b> , trace <sup>-</sup> f Sand. (with Lignite fragments)
---75'---	S-20 75-77'	6 – 9 – 16 – 16		S-20 Grey <b>CLAY &amp; SILT</b> , trace <sup>-</sup> f Sand. (micaceous)

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-4  
SHEET 3 OF 3**

**DATE STARTED:** 11/28/2018  
**DATE FINISHED:** 11/28/2018

**DEPTH OF WATER:** 15'  
**LOCATION:** See Plan

**GROUND ELEVATION:** +15.0'±  
**GROUND WATER ELEV.:** 0.0'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---80'---	S-21 80-82'	15 – 17 – 19 – 22		S-21 Light Grey <b>SILT</b> . (micaceous)
--- 85'---	S-22 85-87'	13 – 17 – 27 – 27		S-22 Grey <b>CLAY &amp; SILT</b> , trace f Sand.
---90'---	S-23 90-92'	14 – 16 – 23 – 24		S-23 Same as <b>S-22</b> .
---95'---	S-24 95-97'	20 – 25 – 23 – 24		S-24 Same as <b>S-22</b> .
---100'---	S-25 100-102'	19 – 23 – 26 – 27		S-25 Same as <b>S-22</b> .
END OF BORING @ 102'				
---105'---				
---100'---				
---115'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-5  
SHEET 1 OF 2**

**DATE STARTED: 4/10/2019  
DATE FINISHED: 4/10/2019**

**DEPTH OF WATER: 6'±  
LOCATION: See Plan**

**GROUND ELEVATION: +7.5'±  
GROUND WATER ELEV.: +1.5'±**

**DRILLING TECHNIQUE: Mud Rotary  
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop**

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 0-2'	3 - 4 - 3 - 4		S-1 TOP 6": Dark Brown <b>SILT</b> , trace mf Gravel. BOT 18": Orange-Brown mf <b>SAND</b> , trace Silt, trace f Gravel.
	S-2 2-4'	3 - 3 - 1 - 1		S-2 Orange-Brown cmf <b>SAND</b> , little+ Silt, trace f Gravel.
	S-3 4-6'	2 - 2 - 2 - 3		S-3 Orange-Brown cmf <b>SAND</b> , little Silt, trace f Gravel.
	S-4 6-8'	3 - 5 - 7 - 6		S-4 Tan-Brown cmf <b>SAND</b> , little+ mf Gravel, trace-Silt.
	S-5 8-10'	6 - 7 - 11 - 13		S-5 Orange & Tan-Brown cmf <b>SAND</b> , little f Gravel.
	S-6 10-12'	11 - 7 - 7 - 10		S-6 Grey & Tan-Brown cmf <b>SAND</b> , little Clayey Silt, trace mf Gravel.
--- 15' ---	S-7 15-17'	3 - 1 - 1 - 1	S-7 Grey <b>Silty CLAY</b> , little mf Sand, trace f Gravel. (Low Recovery)	
--- 20' ---	S-8 20-22'	2 - 1 - 1 - 2	S-8 Grey cmf <b>SAND</b> , little+ Silt, little mf Gravel.	
--- 25' ---	S-9 25-27'	11 - 11 - 18 - 18	S-9 TOP 18" Orange & Red <b>CLAY &amp; SILT</b> , trace mf Gravel.: BOT 6" Grey & Red-Brown mf <b>SAND</b> , little+ Silt.	
--- 30' ---	S-10 30-32'	12 - 18 - 21 - 22	S-10 Red-Brown cmf <b>SAND</b> , some mf Gravel, little+ Silt.	
--- 35' ---	S-11 35-37'	5 - 9 - 12 - 9	S-11 Red-Brown mf <b>GRAVEL</b> , some cmf Sand, little Silt.	

**SOILS ENGINEER: R. SWABSIN, PE  
DRILLING INSPECTOR: S. KEARNEY**

**CONTRACTOR: BORING BROTHERS, INC.  
DRILLER: SAM H.**

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-5  
SHEET 2 OF 2**

**DATE STARTED: 4/10/2019  
DATE FINISHED: 4/10/2019**

**DEPTH OF WATER: 6'±  
LOCATION: See Plan**

**GROUND ELEVATION: +7.5'±  
GROUND WATER ELEV.: +1.5'±**

**DRILLING TECHNIQUE: Mud Rotary  
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop**

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-12 40-42'	2 - 7 - 7 - 7		S-12 Same as <b>S-11</b> . (Low Recovery)
---45'---	S-13 45-47'	5 - 7 - 9 - 13		S-13 Grey <b>SILT &amp; CLAY</b> , trace- f Sand.
---50'---	S-14 50-52'	4 - 8 - 10 - 12		S-14 Same as <b>S-13</b> .
---55'---	S-15 52-57'	5 - 9 - 9 - 11		S-15 Same as <b>S-13</b> .
---60'---				END OF BORING @ 57'
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER: R. SWABSIN, PE  
DRILLING INSPECTOR: S. KEARNEY**

**CONTRACTOR: BORING BROTHERS, INC.  
DRILLER: SAM H.**

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-6  
SHEET 1 OF 2**

**DATE STARTED: 4/10/2019  
DATE FINISHED: 4/10/2019**

**DEPTH OF WATER: 6'±  
LOCATION: See Plan**

**GROUND ELEVATION: +7.5'±  
GROUND WATER ELEV.: +1.5'±**

**DRILLING TECHNIQUE: Mud Rotary  
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop**

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	1 - 9 - 8 - 6		S-1 Black & Tan-Brown cmf <b>SAND</b> , little Silt, little mf Gravel.
	S-2 2-4'	4 - 5 - 4 - 7		S-2 TOP 6": Orange-Brown mf <b>SAND</b> , little Silty Clay. MID 6": Tan-Brown <b>Clayey SILT</b> , trace f Sand. BOT 12": Orange-Brown cmf <b>SAND</b> , little+ Silt.
--- 5' ---	S-3 4-6'	3 - 3 - 1 - 2		S-3 TOP 6": Orange & Tan-Brown Clayey <b>SILT</b> , some+ f Sand. BOT 18": Orange & Tan-Brown m+f <b>SAND</b> , some+ Silt.
	S-4 6-8'	WOH - WOH - WOH - WOH		S-4 Orange & Tan-Brown f <b>SAND</b> , and Silt.
--- 10' ---	S-5 8-10'	4 - 7 - 11 - 9		S-5 TOP 6": Orange & Tan-Brown mf <b>SAND</b> , some+ Silt. BOT 18" Black & Tan cmf <b>SAND</b> , some+ Silt, trace f Gravel.:
	S-6 10-12'	5 - 6 - 8 - 8		S-6 Grey & Tan-Brown cmf <b>SAND</b> , little Silt. S-7 Grey <b>SILT &amp; CLAY</b> , some f Sand.
--- 15' ---	S-7 15-17'	WOH - WOH - WOH - WOH		S-8 Grey cmf <b>SAND</b> , little mf Gravel, trace Silt.
--- 20' ---	S-8 20-22'	4 - 4 - 5 - 3		S-9 Tan-Brown f <b>SAND</b> , little+ Clay & Silt.
--- 25' ---	S-9 25-27'	3 - 3 - 3 - 4		S-10 Orange & Red-Brown cmf <b>SAND</b> , some+ Silt, trace f Gravel.
--- 30' ---	S-10 30-32'	10 - 12 - 12 - 13		S-11 Red-Brown mf <b>GRAVEL</b> , some cmf Sand, little+ Silt & Clay.
--- 35' ---	S-11 35-37'	7 - 13 - 15 - 12		

**SOILS ENGINEER: R. SWABSIN, PE  
DRILLING INSPECTOR: S. KEARNEY**

**CONTRACTOR: BORING BROTHERS, INC.  
DRILLER: SAM H.**

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-6  
SHEET 2 OF 2**

**DATE STARTED:** 4/10/2019  
**DATE FINISHED:** 4/10/2019

**DEPTH OF WATER:** 6'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.5'±  
**GROUND WATER ELEV.:** +1.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-12 40-42'	7 - 9 - 9 - 4		S-12 Red-Brown cmf <b>SAND</b> , some mf Gravel, little Silt.
---45'---	S-13 45-47'	3 - 10 - 9 - 10		S-13 Grey <b>SILT &amp; CLAY</b> , trace f Sand
---50'---	S-14 50-52'	4 - 8 - 9 - 14		S-14 Same as <b>S-13</b> .
---55'---				END OF BORING @ 52'
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** S. KEARNEY

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** SAM H.

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING**  
**CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY**  
**(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-7  
**SHEET** 1 OF 2

**DATE STARTED:** 11/26/2018  
**DATE FINISHED:** 11/26/2018

**DEPTH OF WATER:** 4'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +6.5'±  
**GROUND WATER ELEV.:** +2.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 0-2'	7 - 10 - 8 - 5		S-1 Dark Grey <b>SILT</b> , some mf <sup>+</sup> Sand, trace f Gravel. (w/ few roots)
	S-2 2-4'	4 - 3 - 3 - 2		S-2 No Recovery.
	S-3 4-6'	2 - 1 - 1 - 1		S-3 Tan-Brown mf <sup>+</sup> <b>SAND</b> , little mf Gravel, little Clayey Silt.
	S-4 6-8'	WOH - 3 - 4 - 5		S-4 Grey-Brown cm+f <b>SAND</b> , some Clayey Silt, little mf <sup>+</sup> Gravel.
---10' ---	S-5 8-10'	4 - 3 - 4 - 5		S-5 Grey-Brown cm+f <b>SAND</b> , some mf <sup>+</sup> Gravel, little Silt.
	S-6 10-12'	6 - 7 - 7 - 6		S-6 Grey-Brown cm+f <b>SAND</b> , little m f Gravel, little Silt.
	S-7 15-17'	1 - 2 - 1 - 2		S-7 Grey-c+mf <b>SAND</b> , some <sup>+</sup> f Gravel, little Silt.
---15' ---	S-8 17-19'	1 - 2 - 2 - 1		S-8 Grey cmf <b>SAND</b> , little Silt, trace m f Gravel. (w/ very few lenses of Clay.
	S-9 20-22'	1 - WOH - WOH - WOH		S-9 Grey cmf <sup>+</sup> <b>SAND</b> , some Clayey Silt, trace f Gravel.
	S-10 22-24'	WOH - WOH - 2 - 1		S-10 TOP 16": Same as S-9. BOT 8": Dark Grey <b>CLAY &amp; SILT</b> , trace f Sand, trace mf Gravel. (w/ many fibers)
---25' ---	S-11 25-27'	3 - 2 - 4 - 3		S-11 Dark Grey <b>PEAT</b> , little Organic Silt.
---30' ---	S-12 30-32'	4 - 9 - 6 - 13		S-12 Dark Grey-Brown cmf <b>GRAVEL</b> , and- cmf <sup>+</sup> Sand, little Silt. (Low Recovery)
---35' ---	S-13 35-37'	10 - 14 - 15 - 9		S-13 Dark Tan-Brown c+mf <b>SAND</b> , and- cmf <sup>+</sup> Gravel, little Silt.

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-7  
SHEET 2 OF 2**

**DATE STARTED:** 11/28/2018  
**DATE FINISHED:** 11/29/2018

**DEPTH OF WATER:** 4'  
**LOCATION:** See Plan

**GROUND ELEVATION:** +6.5'±  
**GROUND WATER ELEV.:** +2.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

<u>DEPTH FEET</u>	<u>SAMPLE DEPTH</u>	<u>SPT BLOW COUNTS (PER 6")</u>	<u>STRATA</u>	<u>DESCRIPTION OF SOIL</u>
---40'---	S-14 40-42'	11 – 10 – 8 – 8		S-14 Brown f <b>SAND</b> , little mf <sup>+</sup> Gravel, trace Silt.
--- 45'---	S-15 45-47'	6 – 7 – 8 – 10		S-15 Light Grey <b>CLAY &amp; SILT</b> . (Low Recovery, micaceous)
---50'---	S-16 50-52'	5 – 7 – 13 – 15		S-16 Grey <b>CLAY &amp; SILT</b> . (micaceous)
---55'---	S-17 55-57'	7 – 12 – 20 – 19		S-17 Same as <b>S-16</b> .
---60'---	S-18 60-62	9 – 14 – 21 – 29		S-18 Same as <b>S-16</b> .
---65'---	S-19 65-67'	8 – 12 – 19 – 23		S-19 Same as <b>S-16</b> .
---70'---	S-20 70-72'	7 – 12 – 19 – 20		S-20 Grey & Dark Grey <b>Clayey SILT</b> . (micaceous)
---75'---	S-21 75-77'	8 – 12 – 22 – 21		S-21 Same as <b>S-20</b> .
				END OF BORING @ 77'

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.





# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-8  
SHEET 1 OF 2**

**DATE STARTED:** 11/29/2018  
**DATE FINISHED:** 11/29/2018

**DEPTH OF WATER:** 4'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.0'±  
**GROUND WATER ELEV.:** +3.0'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	10 - 5 - 3 - 30		S-1 Dark Grey mf+ <b>SAND</b> , some Clayey Silt, trace <sup>-</sup> f Gravel.
	S-2 2-4'	2 - 4 - 2 - 2		S-2 Dark Grey <b>Clayey SILT</b> , some mf+ Sand.
--- 5' ---	S-3 4-6'	3 - 4 - 5 - 3		S-3 Dark Grey-Brown mf <b>SAND</b> , some Clayey Silt, little <sup>-</sup> mf Gravel.
	S-4 6-8'	2 - 1 - 3 - 3		S-4 Dark Grey mf <b>SAND</b> , some <sup>+</sup> Silt, trace <sup>+</sup> mf Gravel.
--- 10' ---	S-5 8-10'	4 - 5 - 4 - 3		S-5 Same as <b>S-4</b> .
	S-6 10-12'	2 - 1 - WH - 1		S-6 Dark Grey mf+ <b>SAND</b> , some Silt, trace <sup>-</sup> f Gravel.
---	S-7 12-14'	2 - 6 - 4 - 4		S-7 Dark Grey mf+ <b>SAND</b> , some <sup>+</sup> Silt & Clay, little mf+ Gravel.
	S-8 15-17'	WOH - WOH - WOH - WOH		S-8 Dark Grey <b>CLAY</b> , trace <sup>-</sup> f Sand (w/ shell fragments).
--- 15' ---	S-9 17-19'	WOH - WOH - WOH - WOH		S-9 Same as <b>S-8</b> .
	S-10 20-22'	WOH - WOH - WOH - WOH		S-10 Dark Grey <b>Silty CLAY</b> .
---	S-11 22-24'	WOH - WOH - WOH - WOH		S-11 Same as <b>S-10</b> .
	UD-1 24-26'	PUSH: 24" REC: 24"		UD-1 Dark Grey Brown <b>CLAY</b> , trace <sup>-</sup> f Sand.
--- 25' ---	S-12 26-28'	WOH - WOH - 2 - WOH		S-12 Dark Grey <b>Silty CLAY</b> .
	S-13 30-32'	7 - 12 - 14 - 15		S-13 Tan-Brown cm+f <b>SAND</b> , little <sup>+</sup> cmf+ Gravel, little <sup>-</sup> Silt.
---	S-14 35-37'	7 - 8 - 9 - 9		S-14 Same as <b>S-13</b> .

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-8  
SHEET 2 OF 2**

**DATE STARTED:** 11/29/2018  
**DATE FINISHED:** 11/29/2018

**DEPTH OF WATER:** 4'  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.0'±  
**GROUND WATER ELEV.:** +3.0'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

<u>DEPTH FEET</u>	<u>SAMPLE DEPTH</u>	<u>SPT BLOW COUNTS (PER 6")</u>	<u>STRATA</u>	<u>DESCRIPTION OF SOIL</u>
---40'---	S-15 40-42'	6 – 11 – 12 – 12		S-15 Tan-Brown cm <sup>+</sup> f <b>SAND</b> , some c <sup>-</sup> mf Gravel, trace <sup>+</sup> Silt.
--- 45'---	S-16 45-47'	8 – 10 – 11 – 11		S-16 Tan-Brown cm <sup>+</sup> f <b>GRAVEL</b> , trace <sup>-</sup> cmf Sand, trace Silt. (Low Recovery)
---50'---				END OF BORING @ 47'
---55'---				
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-9  
SHEET 1 OF 2**

**DATE STARTED:** 11/26/2018  
**DATE FINISHED:** 11/26/2018

**DEPTH OF WATER:** 5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.2'±  
**GROUND WATER ELEV.:** +2.2'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 0-2'	9 - 12 - 6 - 10		S-1 Dark Grey <b>SILT</b> , little mf Sand, trace f Gravel. (Fly ash w/ cinders) (Fill)
	S-2 2-4'	4 - 7 - 6 - 6		S-2 Tan-Brown mf+ <b>SAND</b> , little Silt, trace f Gravel. (Fill)
	S-3 4-6'	7 - 3 - 5 - 3		S-3 Grey-Brown cm+f <b>SAND</b> , trace Silt, trace mf+ Gravel. (Fill)
	S-4 6-8'	2 - 2 - 3 - 4		S-4 Grey-Brown cm+f <b>SAND</b> . Trace Silt. trace cmf+ Gravel. (w lenses of Clay & Silt) (Possible Fill)
	S-5 8-10'	1 - 2 - 3 - 2		S-5 Grey-Brown mf+ <b>SAND</b> , little Silt, trace mf Gravel. (Possible Fill)
	S-6 10-12'	6 - 10 - 18 - 18		S-6 Same as S-5.
--- 15' ---	S-7 15-17'	1 - WOH - 1 - 1		S-7 Dark Grey Brown <b>CLAY &amp; SILT</b> , little mf+ Sand, trace f Gravel.
	S-8 17-19'	2 - 2 - 6 - 8		S-8 Grey cm+f <b>SAND</b> , trace+ Silt, trace mf+ Gravel. Grey cm+f <b>SAND</b> , trace+ Silt, trace mf+ Gravel.
--- 20' ---	S-9 20-22'	WOH - 6 - 6 - 7		S-9 Grey-Brown cmf+ <b>SAND</b> , trace+ Silt, trace mf Gravel. (Low Recovery)
--- 25' ---	S-10 25-27'	10 - 12 - 18 - 20		S-10 Brown cm+f <b>SAND</b> , some mf+ Gravel, little Silt.
--- 30' ---	S-11 30-32'	22 - 20 - 25 - 15		S-11 Dark Tan-Brown cmf <b>GRAVEL</b> , some cmf Sand, little Silt.
--- 35' ---	S-12 35-37'	15 - 14 - 16 - 14		S-12 Dark Tan-Brown cmf <b>SAND</b> , and+ cmf Gravel, little Silt.

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING**  
**CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY**  
**(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-9  
**SHEET** 2 OF 2

**DATE STARTED:** 11/26/2018  
**DATE FINISHED:** 11/26/2018

**DEPTH OF WATER:** 5'  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.2'±  
**GROUND WATER ELEV.:** +2.2'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-13 40-42'	8 – 6 – 9 – 8		S-13 Red-Brown c <sup>+</sup> mf SAND, some cmf <sup>+</sup> Gravel, trace <sup>+</sup> Silt.
--- 45'---	S-14 45-47'	4 – 4 – 6 – 9		S-14 Grey SILT & CLAY. (micaceous)
---50'---	S-15 50-52'	7 – 6 – 9 – 10		S-15 Same as S-14.
---55'---				END OF BORING @ 52'
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-10  
SHEET 1 OF 2**

**DATE STARTED:** 11/29/2018  
**DATE FINISHED:** 11/29/2018

**DEPTH OF WATER:** 4'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.0'±  
**GROUND WATER ELEV.:** +3.0'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 0-2'	2 - 6 - 8 - 7		S-1 Dark Grey mf+ <b>SAND</b> , some Silt, trace <sup>-</sup> f Gravel.
	S-2 2-4'	3 - 7 - 9 - 10		S-2 Tan & Grey-Light Brown f <b>SAND</b> , little+ Silt, trace <sup>-</sup> mf Gravel. (w/ lenses of Clay)
	S-3 4-6'	9 - 8 - 11 - 13		S-3 Same as <b>S-2</b> .
	S-4 6-8'	12 - 7 - 14 - 16		S-4 Tan, Orange Brown mf <b>SAND</b> , some+ Silt & Clay.
	S-5 8-10'	14 - 14 - 14 - 14		S-5 Same as <b>S-2</b> .
--- 10' ---	S-6 10-12'	11 - 10 - 11 - 9		S-6 Light Tan & Grey-Brown mf <b>SAND</b> , trace+ Silt, trace <sup>-</sup> m Gravel.
	S-7 15-17'	3 - 3 - 2 - 3		S-7 Grey-Brown m+f <b>SAND</b> , little <sup>-</sup> Silt, trace <sup>-</sup> mf Gravel.
--- 20' ---	S-8 20-22'	3 - 5 - 4 - 4		S-8 No Recovery.
--- 25' ---	S-9 25-27'	1 - 3 - 17 - 14		S-9 TOP 12": Dark Grey <b>Silty CLAY</b> . BOT 12": Dark Grey-Brown cmf <b>SAND</b> , some mf+ Gravel, little <sup>-</sup> Silt.
--- 30' ---	S-10 30-32'	15 - 17 - 22 - 23		S-10 Brown & Dark Grey mf+ <b>GRAVEL</b> , and cm+ f Sand, little Silt.
--- 35' ---	S-11 35-37'	11 - 14 - 20 - 15		S-11 Same as <b>S-10</b> .

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING**  
**CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY**  
**(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-10  
**SHEET** 2 OF 2

**DATE STARTED:** 11/29/2018  
**DATE FINISHED:** 11/29/2018

**DEPTH OF WATER:** 4'  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.0'±  
**GROUND WATER ELEV.:** +3.0'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-12 40-42'	7 - 9 - 11 - 10		S-12 Red-Brown c <sup>+</sup> mf SAND, some <sup>+</sup> cmf <sup>+</sup> Gravel, little <sup>-</sup> Silt.
--- 45'---	S-13 45-47'	7 - 4 - 5 - 5		S-13 TOP 8": Tan CLAY & SILT. BOT 14": Grey SILT. (micaceous)
---50'---	S-14 50-52'	3 - 5 - 7 - 8		S-14 Grey Clayey SILT, trace <sup>+</sup> f Sand.
---55'---				END OF BORING @ 52'
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-11  
**SHEET** 1 OF 2

**DATE STARTED:** 11/21/2018  
**DATE FINISHED:** 11/21/2018

**DEPTH OF WATER:** 12'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +13.5'±  
**GROUND WATER ELEV.:** +1.5'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	9 - 9 - 6 - 9		S-1 TOP 18": Dark Grey cmf <b>SAND</b> , some <sup>+</sup> mf Gravel, little Silt. (Asphalt millings)
	S-2 2-4'	9 - 12 - 12 - 16		BOT 6": Tan-Brown cm <sup>+</sup> f <b>SAND</b> , trace f Silt, some f Gravel. (Fill)
--- 5' ---	S-3 4-6'	13 - 12 - 11 - 12		S-2 Tan-Brown m <sup>+</sup> f <b>SAND</b> , little Silt, trace f Gravel. (w/ lenses of Clay) (Fill)
	S-4 6-8'	6 - 6 - 3 - 4		S-3 Same as <b>S-2</b> . (Low Recovery)
---	S-5 8-10'	1 - 1 - WOH - 1		S-4 Same as <b>S-2</b> .
	S-6 10-12'	6 - 22 - 16 - 12		S-5 Same as <b>S-2</b> .
	S-7 15-17'	1 - 1 - 1 - 1		S-6 TOP 12": Dark Grey cmf <b>SAND</b> , and <sup>-</sup> mf <sup>+</sup> Gravel, little <sup>+</sup> Silt. (w/ asphalt fragments) (Fill) BOT 12": Grey-Brown cm <sup>+</sup> f <b>SAND</b> , and <sup>-</sup> Silt & Clay, little <sup>+</sup> mf <sup>+</sup> Gravel.
---	S-8 17-19'	1 - WOH - 1 - WOH		S-7 Grey-Brown cm <sup>+</sup> f <b>SAND</b> , and <sup>-</sup> Clayey Silt, trace mf <sup>+</sup> Gravel.
	S-9 20-22'	1 - 1 - 3 - 2		S-8 Grey m <sup>+</sup> f <b>SAND</b> , and Silty Clay, trace <sup>-</sup> f Gravel.
---	S-10 22-24'	2 - 2 - 5 - 6		S-9 Grey cm <sup>+</sup> f <b>SAND</b> , some Silty Clay, trace <sup>-</sup> f Gravel.
	S-11 25-27'	4 - 1 - 2 - 8		S-10 Same as <b>S-9</b> .
---	S-12 27-29'	16 - 13 - 21 - 12		S-11 Same as <b>S-9</b> . (Low Recovery)
	S-13 30-32'	8 - 8 - 12 - 22		S-12 Light Grey-Brown cm <sup>+</sup> f <b>SAND</b> , little Silt, trace f Gravel.
---	S-14 35-37'	17 - 20 - 19 - 26		S-13 Grey-Brown <b>Clayey SILT</b> , some <sup>-</sup> cmf Sand, trace f Gravel.
---				S-14 Tan-Brown & Red-Brown c <sup>+</sup> mf <b>SAND</b> , and cmf <sup>+</sup> Gravel, little Clayey Silt.

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-11  
**SHEET** 2 OF 2

**DATE STARTED:** 11/21/2018  
**DATE FINISHED:** 11/21/2018

**DEPTH OF WATER:** 12'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +13.5'±  
**GROUND WATER ELEV.:** +1.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-15 40-42'	26 – 22 – 21 – 24		S-15 Red-Brown cmf <b>GRAVEL</b> , some <sup>+</sup> c <sup>+</sup> mf Sand, little Clayey Silt.
--- 45'---	S-16 45-47'	8 – 10 – 5 – 6		S-16 Same as <b>S-15</b> .
---50'---	S-17 50-52'	6 – 8 – 6 – 9		S-17 TOP 16": Tan-Brown <b>SILT &amp; CLAY</b> . BOT 8": Grey <b>SILT</b> . (micaceous)
---55'---				END OF BORING @ 52'
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. DANIEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.





# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-12  
SHEET 1 OF 2**

**DATE STARTED: 3/26/2019  
DATE FINISHED: 3/26/2019**

**DEPTH OF WATER: 5.5'±  
LOCATION: See Plan**

**GROUND ELEVATION: +7.5'±  
GROUND WATER ELEV.: +2'±**

**DRILLING TECHNIQUE: Mud Rotary  
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop**

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	3 - 5 - 11 - 13		S-1 TOP 5": Light Brown mf <b>SAND</b> , little Silt. (Fill) BOT 19": Brown & Dark Brown mf+ <b>SAND</b> , some+ Silt, little mf Gravel. (Fill w/ many pieces of concrete & wood)
	S-2 2-4'	9 - 15 - 11 - 15		S-2 TOP 8": Same as <b>S-1 BOT 19"</b> . BOT 16": Light Yellow-Brown f <b>SAND</b> , and Silt. (w/ lenses of grey silt & clay)
--- 5'---	S-3 4-6'	5 - 4 - 3 - 3		S-3 Tan-Brown & Orange-Brown mf+ <b>SAND</b> , some+ Silt, trace+ mf+ Gravel.
	S-4 6-8'	1 - 1 - 1 - 2		S-4 Tan-Brown & Grey-Brown mf+ <b>SAND</b> , little+ Silt, trace f Gravel. (w/ very few lenses of grey clayey silt)
--- 10'---	S-5 8-10'	4 - 1 - 2 - 1		S-5 Tan-Brown mf <b>SAND</b> , little Silt, trace mf+ Gravel.
	S-6 10-12'	2 - 2 - 2 - 3		S-6 Tan-Brown cm+f <b>SAND</b> , little Silt, trace+ mf Gravel.
--- 15'---	S-7 15-17'	WOH - 1 - 0 - 0		S-7 Dark Grey-Brown <b>SILT &amp; CLAY</b> , some+ mf Sand. (w/ few shell fragments) ( <i>P. Pen = 0.5 tsf</i> )
	S-8 20-22'	2 - 1 - 2 - 2		S-8 Grey-Brown <b>SILT</b> , and+ mf+ Sand. (w/ few shell fragments)
--- 20'---	S-9 25-27'	11 - 14 - 12 - 14		S-9 Light Brown cm+f <b>SAND</b> , some mf+ Gravel, little Silt.
--- 25'---	S-10 30-32'	16 - 15 - 17 - 16		S-10 Brown cmf <b>SAND</b> , little+ Silt, little mf Gravel.
--- 30'---	S-11 35-37'	7 - 7 - 8 - 13		S-11 Same as <b>S-10</b>

**SOILS ENGINEER: R. SWABSIN, PE  
DRILLING INSPECTOR: D. ROHMEYER, PE**

**CONTRACTOR: BORING BROTHERS, INC.  
DRILLER: S. HEADLY**

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-12  
SHEET 2 OF 2**

**DATE STARTED:** 3/26/2019  
**DATE FINISHED:** 3/26/2019

**DEPTH OF WATER:** 5.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.5'±  
**GROUND WATER ELEV.:** +2'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-12 40-42'	12 – 11 – 7 – 8		S-12 Brown c+mf <b>SAND</b> , little mf Gravel, trace Silt.
---45'---	S-13 45-47'	6 – 7 – 7 – 10		S-13 Dark Brown c+mf <b>SAND</b> , some mf Gravel, trace Silt.
---50'---	S-14 50-52'	4 – 6 – 9 – 10		S-14 Grey <b>Clayey SILT</b> , trace f Sand. (micaceous)
---55'---				END OF BORING @ 52'
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** D. ROHMEYER, PE

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-13  
**SHEET** 1 OF 2

**DATE STARTED:** 3/26/2019  
**DATE FINISHED:** 3/26/2019

**DEPTH OF WATER:** 5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7'±  
**GROUND WATER ELEV.:** +2'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 0-2'	4 - 5 - 8 - 8		S-1 Dark Grey-Brown mf <sup>+</sup> <b>SAND</b> , and Silt, little <sup>+</sup> mf Gravel. (Fill w/ pieces of concrete & wood)
	S-2 2-4'	7 - 6 - 4 - 4		S-2 TOP 12": Same as <b>S-1</b> . BOT 12": Tan-Brown & Yellow-Brown mf <sup>+</sup> <b>SAND</b> , some Silt, little <sup>-</sup> mf Gravel. (w/ few lenses of grey silt & clay)
	S-3 4-6'	3 - 2 - 2 - 3		S-3 Tan-Brown mf <b>SAND</b> , little <sup>+</sup> Silt. (w/ few lenses of grey clayey silt)
	S-4 6-8'	1 - 2 - 2 - 0		S-4 TOP 14": Same as <b>S-3</b> . BOT 10": Dark Grey <b>CLAY &amp; SILT</b> , trace f Sand. (w/ few shell fragments) ( <i>P. Pen = 0.25 tsf</i> )
	S-5 8-10'	WOH - WOH - 4 - 7		S-5 Grey-Brown <b>SILT &amp; CLAY</b> , little f Sand. (w/ wood in tip of spoon) ( <i>P. Pen = 0.25 tsf</i> )
--- 10' ---	S-6 10-12'	1 - 0 - 1 - 1		S-6 Tan-Brown m <sup>+</sup> f <b>SAND</b> , little <sup>+</sup> Silt. (w/ many lenses of grey silt & clay)
	S-7 15-17'	WOH - WOH - WOH - WOH		S-7 Grey <b>Clayey SILT</b> , some mf <sup>+</sup> Sand, trace f Gravel. (w/ few shell fragments)
	S-8 20-22'	WOR - WOR - WOR - WOH		S-8 Grey-Brown <b>Organic SILT</b> , trace f Sand. (w/ few fibers) ( <i>P. Pen = 0.25 tsf</i> )
--- 20' ---	UD-1 23-25'	PUSH: 24" REC.: 17"		UD-1 Same as <b>S-8</b> .
	S-9 25-27'	4 - 7 - 8 - 11		S-9 Brown & Light Brown cm <sup>+</sup> f <b>SAND</b> , little mf <sup>+</sup> Gravel, little <sup>-</sup> Silt.
--- 25' ---	S-10 30-32'	21 - 16 - 17 - 16		S-10 Brown c <sup>+</sup> mf <b>SAND</b> , some <sup>+</sup> cmf Gravel, little <sup>+</sup> Silt.
--- 30' ---	S-11 35-37'	2 - 1 - 2 - 5		S-11 No Recovery. (wash in spoon)
--- 35' ---				<i>Boring collapsed @ 35'. Casing to 35' &amp; redrill</i>

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** D. ROHMEYER, PE

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-13  
SHEET 2 OF 2**

**DATE STARTED:** 3/26/2019  
**DATE FINISHED:** 3/26/2019

**DEPTH OF WATER:** 5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7'±  
**GROUND WATER ELEV.:** +2'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-11 40-42'	5 - 4 - 5 - 9		S-11 Grey <b>SILT &amp; CLAY</b> , trace f Sand. (micaceous) (P. Pen = 1.75 tsf)
				END OF BORING @ 42'
---4 5'---				
---50'---				
---55'---				
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** D. ROHMEYER, PE

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING**  
**CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY**  
**(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-14  
**SHEET** 1 OF 2

**DATE STARTED:** 1/9/2019  
**DATE FINISHED:** 1/9/2019

**DEPTH OF WATER:** 2.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** N/A  
**GROUND WATER ELEV.:** N/A

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---			Water	
--- 5' ---				
---				
---10'---				
---				
---15'---				
---				
---20'---	S-1 22-32'	PUSH: 120" REC: 24"	Mud Line	S-1 Dark Grey <b>Organic Clayey SILT</b> , trace mf Sand.
---				
---25'---				
---				
---30'---				
---				
---35'---	S-2 35-37'	WOR – WOR – WOR – WOR		S-2 Dark Grey <b>Organic SILT</b> , trace mf Gravel, trace mf Sand.

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. DANIEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-14  
**SHEET** 2 OF 2

**DATE STARTED:** 1/9/2019  
**DATE FINISHED:** 1/9/2019

**DEPTH OF WATER:** 2.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** N/A  
**GROUND WATER ELEV.:** N/A

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-3 40-42'	2 – 6 – 7 – 8		S-3 Brown cmf <b>GRAVEL</b> , some cm <sup>+</sup> f Sand, little <sup>-</sup> Silt. (w/ possible concrete obstruction at 37' – 38.5')
--- 45'---	S-4 45-47'	3 – 5 – 8 – 8		S-4 Grey <b>SILT &amp; CLAY</b> , trace <sup>-</sup> cm Gravel.
---50'---	S-5 50-52'	4 – 7 – 11 – 13		S-5 TOP 16": Same as <b>S-4</b> . BOT 8": Grey <b>SILT</b> .
---55'---	S-6 55-57'	16 – 21 – 9 – 14		S-6 TOP 12": Grey <b>SILT</b> , trace mf Gravel, trace cmf Sand. (w/ possible cobble in the first foot) BOT 12": Dark Grey <b>Silty CLAY</b> , some mf <sup>+</sup> Sand. (micaceous)
---60'---	S-7 60-62	8 – 11 – 17 – 20		S-7 Light Grey <b>SILT</b> , little <sup>+</sup> f Sand.
---65'---	S-8 65-67'	11 – 19 – 21 – 26		S-8 Grey <b>SILT &amp; CLAY</b> , trace f Sand.
---70'---	S-9 70-72'	9 – 17 – 23 – 22		S-9 Grey <b>SILT &amp; CLAY</b> .
---75'---				END OF BORING @ 72'

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. DANIEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)

BORING NO.: FPA-15  
SHEET 1 OF 1

DATE STARTED: N/A

DEPTH OF WATER:

GROUND ELEVATION: N/A

DATE FINISHED:

LOCATION:

GROUND WATER ELEV.: N/A

DRILLING TECHNIQUE:

HAMMER TYPE:

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---				<i>Note: Test Boring Omitted from the Subsurface Exploration Program.</i>
---10'---				
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				

SOILS ENGINEER:  
DRILLING INSPECTOR:

CONTRACTOR: BORING BROTHERS, INC.  
DRILLER:

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-16  
SHEET 1 OF 2**

**DATE STARTED:** 11/27/2018  
**DATE FINISHED:** 11/27/2018

**DEPTH OF WATER:** 12'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +18.5'±  
**GROUND WATER ELEV.:** +6.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	15 - 12 - 7 - 6		S-1 Dark Grey & Brown mf <sup>+</sup> <b>SAND</b> , some Silt, trace <sup>-</sup> mf Gravel. (w/ few lenses of Silt & Clay) (Fill)
	S-2 2-4'	5 - 5 - 4 - 4		S-2 Grey-Brown mf <b>SAND</b> , little Silt. (w/ very few lenses of Silt & Clay) (Fill)
--- 5' ---	S-3 4-6'	3 - 2 - 3 - 3		S-3 Light Tan f <b>SAND</b> , trace <sup>+</sup> Silt, (w/ vert few lenses of Silt & Clay) (Fill)
	S-4 6-8'	2 - 2 - 2 - 1		S-4 Same as <b>S-3</b> .
---10'---	S-5 8-10'	1 - 2 - 2 - 2		S-5 Light Tan mf <sup>+</sup> <b>SAND</b> , trace <sup>+</sup> Silt, trace <sup>-</sup> mf Gravel. (w/ very few lenses of Silt & Clay & wood pieces) (Fill)
	S-6 10-12'	1 - 1 - 1 - 1		S-6 Light Tan mf <sup>+</sup> <b>SAND</b> , trace <sup>+</sup> Silt. (w/ very few lenses of Silt & Clay)
---15'---	S-7 12-14'	6 - 16 - 14 - 9		S-7 Light Tan mf <sup>+</sup> <b>SAND</b> , trace <sup>+</sup> Silt, trace <sup>-</sup> f Gravel.
	S-8 15-17'	3 - 1 - 2 - 2		S-8 Dark Grey <b>Clayey SILT</b> , some f Sand. (w/ few fibers)
---20'---	S-9 17-19'	2 - 3 - 6 - 5		S-9 TOP 16": Dark Grey <b>CLAY &amp; SILT</b> , some mf <sup>+</sup> Sand. (w/ few fibers)
	S-10 20-22'	4 - 4 - 5 - 5		S-10 BOT 8": Dark Brown mf <b>SAND</b> , little <sup>-</sup> Silt. Dark Grey-Brown mf <sup>+</sup> <b>SAND</b> , little Silt.
---25'---	S-11 25-27'	6 - 7 - 11 - 11		S-11 Brown f <b>SAND</b> , little Silt.
---30'---	S-12 30-32'	9 - 13 - 19 - 19		S-12 Tan-Brown cmf <sup>+</sup> <b>SAND</b> , little Silt, trace f Gravel.
---35'---	S-13 35-37'	4 - 12 - 6 - 5		S-13 Tan-Brown & Grey cm <sup>+</sup> f <b>SAND</b> , and Clay & Silt, trace <sup>+</sup> cm <sup>+</sup> f Gravel.

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.





# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-16  
SHEET 2 OF 2**

**DATE STARTED:** 11/27/2018  
**DATE FINISHED:** 11/27/2018

**DEPTH OF WATER:** 12'  
**LOCATION:** See Plan

**GROUND ELEVATION:** +18.5'±  
**GROUND WATER ELEV.:** +6.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-14 40-42'	4 – 12 – 6 – 5		S-14 Tan-Brown cmf <b>SAND</b> , some Silt, little mf Gravel.
--- 45'---	S-15 45-47'	15 – 16 – 22 – 28		S-15 Red-Brown c+mf <b>SAND</b> , some mf Gravel, trace Silt.
---50'---	S-16 50-52'	8 – 19 – 22 – 8		S-16 TOP 18": Red-Brown mf <b>GRAVEL</b> , and cmf Sand, little Silt. BOT 6": Grey <b>SILT &amp; CLAY</b> .
---55'---				END OF BORING @ 52'
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING**  
**CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY**  
**(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-17  
**SHEET** 1 OF 1

**DATE STARTED:** 11/27/2018  
**DATE FINISHED:** 11/27/2018

**DEPTH OF WATER:** 6'  
**LOCATION:** See Plan

**GROUND ELEVATION:** +12.8'±  
**GROUND WATER ELEV.:** +6.8'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 0-2'	11 – 15 – 10 – 7		S-1 Dark Grey cmf <b>SAND</b> , some <sup>+</sup> mf <sup>+</sup> Gravel, little Silt. (Asphalt millings)
	S-2 2-4'	5 – 19 – 19 – 14		S-2 TOP 10": Dark Grey cmf <b>SAND</b> , some <sup>-</sup> Clay & Silt, little <sup>+</sup> mf <sup>+</sup> Gravel.
	S-3 4-6'	11 – 8 – 5 – 4		BOT 14": Light Tan-Brown mf <sup>+</sup> <b>SAND</b> , little <sup>-</sup> Silt. (w/ very few lenses of Clay)
	S-4 6-8'	2 – 2 – 2 – 1		S-3 Same as <b>S-2 BOT 14"</b> .
	S-5 8-10'	1 – 1 – 1 – 2		S-4 Dark Grey f <b>SAND</b> , some Silt.
--- 10' ---	S-6 10-12'	1 – 1 – 3 – 3		S-5 Grey & Light Grey-Brown mf <b>SAND</b> , little Silt.
	S-7 12-14'	6 – 22 – 23 – 18		S-6 Dark Grey cmf <sup>+</sup> <b>SAND</b> , some Clayey Silt, trace <sup>-</sup> f Gravel.
	S-8 15-17'	8 – 8 – 8 – 6		S-7 Grey-Brown cm <sup>+</sup> f <b>SAND</b> , little <sup>-</sup> Silt, trace <sup>-</sup> f Gravel.
--- 15' ---	S-9 20-22'	1 – 3 – 4 – 8		S-8 Same as <b>S-7</b> .
	S-10 25-27'	5 – 6 – 7 – 7		S-9 Dark Grey-Brown mf <sup>+</sup> <b>SAND</b> , little Silt, trace <sup>-</sup> f Gravel.
--- 20' ---	S-11 30-32'	10 – 10 – 12 – 13		S-10 Grey-Brown mf <sup>+</sup> <b>SAND</b> , trace Silt, trace <sup>-</sup> f Gravel.
--- 25' ---	S-12 35-37'	7 – 11 – 15 – 13		S-11 Tan-Brown cm <sup>+</sup> f <b>SAND</b> , trace <sup>+</sup> Silt, trace <sup>-</sup> f Gravel.
--- 30' ---				S-12 Brown <b>SILT</b> , some mf Sand.
--- 35' ---				END OF BORING @ 37'

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING**  
**CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY**  
**(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-18  
**SHEET** 1 OF 1

**DATE STARTED:** 11/27/2018  
**DATE FINISHED:** 11/27/2018

**DEPTH OF WATER:** 3'  
**LOCATION:** See Plan

**GROUND ELEVATION:** +10.0'±  
**GROUND WATER ELEV.:** +7.0'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	6 - 8 - 8 - 5		S-1 Grey f <b>GRAVEL</b> , some+ cm+f Sand, little Silt. (DGA)
	S-2 2-4'	3 - 2 - 2 - 2		S-2 Grey & Tan-Brown <b>CLAY &amp; SILT</b> , little+ mf Sand.
--- 5'---	S-3 4-6'	4 - 2 - 2 - 1		S-3 Tan-Brown cmf <b>SAND</b> , some+ Clayey Silt, trace+ mf+ Gravel.
	S-4 6-8'	2 - 2 - 1 - 2		S-4 Dark Grey <b>SILT</b> , some cmf+ Sand.
---10'---	S-5 8-10	1 - 2 - 3 - 3		S-5 Dark Grey mf+ <b>SAND</b> , some+ Silt.
	S-6 10-12'	5 - 4 - 5 - 4		S-6 Grey-Brown mf <b>SAND</b> , some Silt.
---15'---	S-7 15-17'	5 - 11 - 10 - 9		S-7 Grey-Brown mf <b>SAND</b> , little Silt, trace mf Gravel.
---20'---	S-8 20-22'	11 - 11 - 16 - 15		S-8 Grey-Brown mf <b>SAND</b> , little Silt.
---25'---	S-9 25-27'	11 - 11 - 15 - 15		S-9 Light Tan-Brown mf+ <b>SAND</b> , little Silt.
---30'---	S-10 30-32'	5 - 5 - 7 - 10		S-10 Grey-Brown <b>SILT</b> , some f Sand.
---35'---	S-11 35-37'	16 - 30 - 39 - 26		S-11 Red-Brown & Light Tan-Brown cmf <b>SAND</b> , some mf+ Gravel, little+ Clayey Silt.
				END OF BORING @ 37'

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-19  
SHEET 1 OF 2**

**DATE STARTED:** 11/26/2018  
**DATE FINISHED:** 11/26/2018

**DEPTH OF WATER:** 5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.5'±  
**GROUND WATER ELEV.:** +2.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 0-2'	2 - 3 - 3 - 4		S-1 Tan-Brown mf+ <b>SAND</b> , some Silt, trace mf Gravel.
	S-2 2-4'	1 - WOH - 1 - 1		S-2 Dark Grey & Tan-Brown <b>Silty CLAY</b> , some mf+ Sand, trace f Gravel.
	S-3 4-6'	2 - 3 - 4 - 5		S-3 TOP 12": Same as <b>S-2</b> . BOT 12": Brown cm+f <b>SAND</b> , little Silt, trace mf+ Gravel.
	S-4 6-8'	1 - 2 - 2 - 3		S-4 TOP 18": Same as <b>S-3</b> , <b>BOT 12"</b> . BOT 6": Grey-Brown mf <b>SAND</b> , trace+ Silt, trace f Gravel.
	S-5 8-10'	1 - WOH - 2 - 4		S-5 Same as <b>S-4</b> , <b>BOT 6"</b> .
	S-6 10-12'	1 - 2 - 7 - 8		S-6 Grey mf+ <b>SAND</b> , some Silt, trace f Gravel.
--- 15' ---	S-7 15-17'	3 - 2 - 2 - 3		S-7 Dark Grey-Brown mf+ <b>SAND</b> , little+ Clayey Silt.
	S-8 17-19'	2 - 2 - 4 - 6		S-8 Grey-Brown mf+ <b>SAND</b> , little Silt, trace f Gravel.
--- 20' ---	S-9 20-22'	3 - 6 - 6 - 7		S-9 Same as <b>S-8</b> .
--- 25' ---	S-10 25-27'	8 - 12 - 16 - 17		S-10 Tan-Brown cmf <b>SAND</b> , little mf+ Gravel, trace+ Silt.
--- 30' ---	S-11 30-32'	30 - 13 - 16 - 20		S-11 Brown cm+f <b>SAND</b> , little Silt, trace mf Gravel.
--- 35' ---	S-12 35-37'	18 - 20 - 19 - 18		S-12 Brown cmf+ <b>GRAVEL</b> , some+ cmf Sand, trace+ Silt.

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-19  
SHEET 2 OF 2**

**DATE STARTED:** 11/26/2018  
**DATE FINISHED:** 11/26/2018

**DEPTH OF WATER:** 5'  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.5'±  
**GROUND WATER ELEV.:** +2.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

<u>DEPTH FEET</u>	<u>SAMPLE DEPTH</u>	<u>SPT BLOW COUNTS (PER 6")</u>	<u>STRATA</u>	<u>DESCRIPTION OF SOIL</u>
---40'---	S-13 40-42'	3 – 3 – 5 – 7		S-13 Grey <b>SILT &amp; CLAY</b> . (micaceous)
--- 45'---	S-14 45-47'	2 – 3 – 3 – 5		S-14 Grey <b>Clayey SILT</b> , trace <sup>+</sup> f Sand.
---50'---	S-15 50-52'	4 – 6 – 16 – 15		S-15 Same as <b>S-13</b> .
---55'---				END OF BORING @ 52'
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
 CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
 (FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-20  
 SHEET 1 OF 1**

**DATE STARTED: N/A  
 DATE FINISHED:**

**DEPTH OF WATER:  
 LOCATION:**

**GROUND ELEVATION: N/A  
 GROUND WATER ELEV.: N/A**

**DRILLING TECHNIQUE:  
 HAMMER TYPE:**

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---				<p><i>Note: Test Boring Omitted from the Subsurface Exploration Program.</i></p>
---10'---				
---15'---				
---20'---				
---25'---				
---30'---				
---35'---				

**SOILS ENGINEER:  
 DRILLING INSPECTOR:**

**CONTRACTOR: BORING BROTHERS, INC.  
 DRILLER:**

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING**  
**CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY**  
**(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-21  
**SHEET** 1 OF 2

**DATE STARTED:** 11/21/2018  
**DATE FINISHED:** 11/21/2018

**DEPTH OF WATER:** 12'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +16.0'±  
**GROUND WATER ELEV.:** +4.0'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 0-2'	3 - 6 - 4 - 4		S-1 Dark Grey mf <sup>+</sup> <b>GRAVEL</b> , and <sup>-</sup> cmf Sand, little <sup>-</sup> Silt. (Asphalt millings)
	S-2 2-4'	5 - 4 - 3 - 3		S-2 Light Tan mf <b>SAND</b> , trace Silt, trace <sup>-</sup> mf Gravel. (w/ lenses of Silt & Clay.
	S-3 4-6'	1 - 1 - 2 - 2		S-3 Light Tan mf <sup>+</sup> <b>SAND</b> , trace Silt, trace <sup>-</sup> m <sup>+</sup> f Gravel. (w/ lenses of Silt & Clay)
	S-4 6-8'	1 - 1 - 1 - 2		S-4 Same as <b>S-3</b> .
	S-5 8-10'	1 - 1 - 1 - 1		S-5 Same as <b>S-3</b> .
---10' ---	S-6 10-12'	10 - 10 - 11 - 9		S-6 TOP 20": Same as <b>S-3</b> . BOT 4": Dark Grey <b>PEAT</b> , some cmf <sup>+</sup> Gravel, little <sup>+</sup> Organic Silt, trace <sup>+</sup> cmf Sand.
	S-7 15-17'	WOH - 1 - 1 - 3		S-7 Tan-Brown mf <b>SAND</b> , some <sup>-</sup> Clay & Silt, trace <sup>-</sup> cmf Gravel.
---15' ---	S-8 17-19'	1 - WOH - WOH - 1		S-8 Light Grey-Brown & Light Grey mf <sup>+</sup> <b>SAND</b> , and <sup>-</sup> Clayey Silt, trace cmf Gravel.
	S-9 20-22'	1 - 3 - WOH - WOH		S-9 Dark Grey <b>Silty CLAY</b> , trace <sup>-</sup> f Sand. (w/ some fibers)
---20' ---	S-10 22-24'	1 - 1 - WOH - 1		S-10 Grey <b>Silty CLAY</b> , little cmf Sand, trace <sup>+</sup> mf Gravel.
	S-11 25-27'	4 - 5 - 5 - 6		S-11 Dark Grey-Brown mf <sup>+</sup> <b>SAND</b> , little Silt, trace <sup>+</sup> cf <sup>+</sup> Gravel.
---25' ---	S-12 30-32'	4 - 8 - 12 - 17		S-12 Grey-Brown mf <sup>+</sup> <b>SAND</b> , little <sup>-</sup> cmf <sup>+</sup> Gravel, little <sup>-</sup> Silt.
	S-13 35-37'	1 - 4 - 2 - 7		S-13 Light Brown <b>SILT</b> , trace <sup>-</sup> f Sand. (micaceous)

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-21  
SHEET 2 OF 2**

**DATE STARTED:** 11/21/2018  
**DATE FINISHED:** 11/21/2018

**DEPTH OF WATER:** 12'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +16.0'±  
**GROUND WATER ELEV.:** +4.0'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-14 40-42'	9 – 30 – 44 – 50		S-14 Tan-Brown cm <sup>+</sup> <b>SAND</b> , and cm <sup>+</sup> Gravel, little <sup>-</sup> Clayey Silt,
--- 45'---	S-15 45-47'	14 – 19 – 18 – 23		S-15 Brown f <b>SAND</b> , little <sup>-</sup> Silt, trace <sup>-</sup> m <sup>f</sup> Gravel.
---50'---	S-16 50-52'	4 – 6 – 12 – 17		S-16 Grey-Brown m <sup>f</sup> <b>GRAVEL</b> , and <sup>-</sup> Silt. (Low Recovery, micaceous)
---55'---	S-17 55-57'	2 – 2 – 6 – 7		S-17 Grey <b>SILT &amp; CLAY</b> , trace <sup>+</sup> f Sand.
---60'---	S-18 60-62'	1 – 2 – 3 – 7		S-18 Same as <b>S-17</b> .
---65'---	S-19 65-67'	6 – 9 – 17 – 20		S-19 Same as <b>S-17</b> .
---70'---	S-20 70-72'	7 – 9 – 19 – 22		S-20 Same as <b>S-17</b> .
---75'---	S-21 75-77'	13 – 18 – 37 – 40		S-21 Same as <b>S-17</b> .
				END OF BORING @ 77'

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

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# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-22  
SHEET 1 OF 1**

**DATE STARTED: 1/7/2019  
DATE FINISHED: 1/7/2019**

**DEPTH OF WATER: '±  
LOCATION: See Plan**

**GROUND ELEVATION: N/A  
GROUND WATER ELEV.: N/A**

**DRILLING TECHNIQUE: Mud Rotary  
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop**

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---			Water	
---5'---				
---				
---10'---				
---				
---15'---	S-1 15-18'	PUSH: 36" REC: 20"	Mud Line	S-1 Dark Grey Organic <b>Clayey SILT</b> , trace mf Sand. (Firm resistance on Sampler @18').
---				END OF BORING @ 18'
---20'---				
---				
---25'---				
---				
---30'---				
---				
---35'---				

**SOILS ENGINEER: R. SWABSIN, PE  
DRILLING INSPECTOR: C. PULASKI**

**CONTRACTOR: BORING BROTHERS, INC.  
DRILLER: M. DANIEL**

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-23  
SHEET 1 OF 3**

**DATE STARTED:** 1/4/2019  
**DATE FINISHED:** 1/4/2019

**DEPTH OF WATER:** 2.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** N/A  
**GROUND WATER ELEV.:** N/A

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---			Water	
5'				
10'				
15'				
20'			Mud Line	
23.5-33.5'	S-1	PUSH: 120" REC: 36"		S-1 Dark Grey Organic <b>Clayey SILT</b> , trace mf Sand.
25'				
30'				
35'				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. DANIEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-23  
**SHEET** 2 OF 3

**DATE STARTED:** 1/4/2019  
**DATE FINISHED:** 1/4/2019

**DEPTH OF WATER:** 2.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** N/A  
**GROUND WATER ELEV.:** N/A

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-2 40-42'	WOR – WOR – WOR – WOR		S-2 Dark Grey <b>Organic SILT</b> . (casing resistance @ 40')
--- 45'---	S-3 45-47'	WOR – WOR – WOR – WOR		S-3 Same as <b>S-2</b> .
---50'---	S-4 50-52'	WOR – WOR – WOR – WOR		S-4 Grey <b>Silty CLAY</b> . (w/ few seashell fragments)
---55'---	S-5 55-57'	WOR – WOR – WOR – WOR		S-5 Grey <b>Silty CLAY</b> , trace f Sand, trace f Gravel. (w/ few seashell fragments)
---60'---	S-6 60-62	WOR – WOR – WOR – WOR		S-6 Grey <b>Silty CLAY</b> , trace mf Sand. (w/ very few seashell fragments)
---65'---	S-7 65-67'	WOR – WOR – WOR – WOR		S-7 Grey <b>Silty CLAY</b> , trace mf Sand, trace f Gravel. (w/ many seashell fragments)
---70'---	S-8 70-72'	WOR – WOR – WOR – WOR		S-8 Same as <b>S-7</b> .
---75'---	S-9 75-77'	WOH – 8 – 10 – 8		S-9 TOP 6": Same as <b>S-8</b> . BOT 18": Brown cmf <b>GRAVEL</b> , some cmf Sand, little Silt.

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. DANIEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-23  
SHEET 3 OF 3**

**DATE STARTED:** 1/4/2019

**DEPTH OF WATER:** 2.5'±

**GROUND ELEVATION:** N/A

**DATE FINISHED:** 1/4/2019

**LOCATION:** See Plan

**GROUND WATER ELEV.:** N/A

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

<u>DEPTH FEET</u>	<u>SAMPLE DEPTH</u>	<u>SPT BLOW COUNTS (PER 6")</u>	<u>STRATA</u>	<u>DESCRIPTION OF SOIL</u>
---80'---	S-10 80-82'	2 – 6 – 7 – 8		S-10 Grey <b>Silty CLAY</b> , trace f Sand, trace f Gravel.
				END OF BORING @ 82'
--- 85' ---				
---90'---				
---95'---				
---100'---				
---105'---				
---110'---				
---115'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. DANIEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-24  
SHEET 1 OF 3**

**DATE STARTED:** 1/7/2019  
**DATE FINISHED:** 1/7/2019

**DEPTH OF WATER:** 2.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** N/A  
**GROUND WATER ELEV.:** N/A

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---				
--- 5' ---			Water	
---				
---10'---				
---				
---15'---				
---				
---20'---				
---				
---25'---	S-1 25-35'	PUSH: 120" REC: 14"	Mud Line	S-1 Dark Grey <b>Organic Clayey SILT</b> , trace f Sand.
---				
---30'---				
---				
---35'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. DANIEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-24  
SHEET 2 OF 3**

**DATE STARTED:** 1/7/2019  
**DATE FINISHED:** 1/7/2019

**DEPTH OF WATER:** 2.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** N/A  
**GROUND WATER ELEV.:** N/A

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

<u>DEPTH FEET</u>	<u>SAMPLE DEPTH</u>	<u>SPT BLOW COUNTS (PER 6")</u>	<u>STRATA</u>	<u>DESCRIPTION OF SOIL</u>
---40'---	S-2 40-42'	WOR – WOR – WOR – WOR		S-2 Dark Grey <b>Organic SILT</b> , little mf Gravel.
--- 45'---	S-3 45-47'	WOR – WOR – WOR – WOR		S-3 Same as S-2.
---50'---	S-4 50-52'	WOR – WOR – WOR – WOR		S-4 Grey <b>Silty CLAY</b> .
---55'---	S-5 55-57'	WOR – WOR – WOR – WOR		S-5 Same as S-4.
---60'---	S-6 60-62'	WOR – WOR – WOR – WOR		S-6 Grey <b>Silty CLAY</b> , trace f Sand.
---65'---	S-7 65-67'	WOR – WOR – WOR – WOR		S-7 Grey <b>Silty CLAY</b> .
---70'---	S-8 70-72'	WOR – WOR – WOR – WOR		S-8 Grey <b>Silty CLAY</b> , little+ cmf+ Sand.
---75'---	S-9 75-77'	WOR – WOR – WOR – WOR		S-9 Grey <b>Silty CLAY</b> , little mf Sand

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. DANIEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-24  
SHEET 3 OF 3**

**DATE STARTED:** 1/7/2019  
**DATE FINISHED:** 1/7/2019

**DEPTH OF WATER:** 2.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** N/A  
**GROUND WATER ELEV.:** N/A

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---80'---	S-10 80-82'	WOR – WOR – WOR – WOR		S-10 Grey <b>Silty CLAY</b> , little mf Sand.
--- 85'---	S-11 85-87'	WOR – 5 – 6 – 6		S-11 Same as <b>S-10</b> . (micaceous)
---90'---	S-12 90-92'	WOR – WOH – WOH – 4		S-12 Grey <b>Silty CLAY</b> , little <sup>+</sup> cm <sup>f</sup> Sand, trace mf Gravel.
---95'---	S-13 95-97'	3 – 6 – 10 – 12		S-13 TOP 14": Grey <b>Silty CLAY</b> , little <sup>-</sup> mf Sand. BOT 8": Grey & Light Grey <b>Clayey SILT</b> . (micaceous)
---100'---	S-14 100-102'	3 – 7 – 10 – 13		S-14 Grey <b>Silty CLAY</b> .
---105'---	S-15 105-107'	2 – 4 – 9 – 12		S-15 Grey <b>Silty CLAY</b> , some <sup>-</sup> f Sand.
---110'---	S-16 110-112'	5 – 10 – 13 – 15		S-16 Light Grey <b>Silty CLAY</b> , some <sup>+</sup> f Sand.
---115'---	S-17 115-117'	7 – 12 – 13 – 19		S-17 Light Grey & Dark Orange-Brown <b>CLAY</b> , trace <sup>-</sup> cmf Sand.
				END OF BORING @ 117'

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. DANIEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-25  
SHEET 1 OF 3**

**DATE STARTED:** 1/6/2019  
**DATE FINISHED:** 1/6/2019

**DEPTH OF WATER:** 2.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** N/A  
**GROUND WATER ELEV.:** N/A

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---			Water	
5'				
10'				
15'				
20'				
25'	S-1 25-35'	PUSH: 120" REC: 14"	Mud Line	S-1 Dark Grey <b>Organic Clayey SILT</b> , trace mf Sand.
30'				
35'				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. DANIEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.





# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-25  
**SHEET** 2 OF 3

**DATE STARTED:** 1/6/2019  
**DATE FINISHED:** 1/6/2019

**DEPTH OF WATER:** 2.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** N/A  
**GROUND WATER ELEV.:** N/A

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---				
--- 45'---	S-2 45-47'	WOR – WOR – WOR – WOR		S-2 Grey <b>Silty CLAY</b> , trace f Sand. (w/ some seashell fragments)
---50'---	S-3 50-52'	WOR – WOR – WOR – WOR		S-3 Same as <b>S-2</b> .
---55'---	S-4 55-57'	WOR – WOR – WOR – WOR		S-4 Grey <b>Silty CLAY</b> .
---60'---	S-5 60-62'	WOR – WOR – WOR – WOR		S-5 Same as <b>S-4</b> .
---65'---	S-6 65-67'	WOR – WOR – WOR – WOR		S-6 Same as <b>S-4</b> . (w/ some seashell fragments)
---70'---	S-7 70-72'	WOR – WOR – WOR – WOR		S-7 Same as <b>S-4</b> . (w/ few seashell fragments)
---75'---	S-8 75-77'	WOR – WOR – WOR – WOR		S-8 Same as <b>S-4</b> .

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. DANIEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-25  
SHEET 3 OF 3**

**DATE STARTED:** 1/6/2019  
**DATE FINISHED:** 1/6/2019

**DEPTH OF WATER:** 2.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** N/A  
**GROUND WATER ELEV.:** N/A

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

<u>DEPTH FEET</u>	<u>SAMPLE DEPTH</u>	<u>SPT BLOW COUNTS (PER 6")</u>	<u>STRATA</u>	<u>DESCRIPTION OF SOIL</u>
---80'---	S-9 80-82'	WOR – WOH – 8 – 10		S-9 Grey <b>Silty CLAY</b> , little+ m+f Sand.
--- 85'---	S-10 85-87'	2 – 8 – 10 – 22		S-10 Grey <b>Silty CLAY</b> , little- cm+f Sand.
---90'---	S-11 90-92'	WOR – 3 – 4 – 8		S-11 Grey <b>Silty CLAY</b> . (w/ intermittent lenses of Silt)
---95'---	S-12 95-97'	5 – 12 – 18 – 21		S-12 Grey & Dark Grey <b>Clayey SILT</b> , trace- mf Sand. (micaceous)
---100'---	S-13 100-102'	7 – 15 – 25 – 23		S-13 TOP 19": Grey <b>Clayey SILT</b> . BOT 5": Grey f <b>SAND</b> , and- Clayey Silt.
---105'---	S-14 105-107'	WOR – 3 – 4 – 8		S-14 Grey <b>CLAY &amp; SILT</b> .
---110'---				END OF BORING @ 107'
---115'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** M. DANIEL

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-26  
SHEET 1 OF 1**

**DATE STARTED: 10/5/2020  
DATE FINISHED: 10/5/2020**

**DEPTH OF WATER: 5'±  
LOCATION: See Plan**

**GROUND ELEVATION: +8.5'±  
GROUND WATER ELEV.: +3.5'±**

**DRILLING TECHNIQUE: Mud Rotary**

**HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop**

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	4 - 9 - 7 - 6		S-1 Grey mf+ <b>GRAVEL</b> , little cmf Sand, little Silt. (DGA)
	S-2 2-4'	5 - 4 - 3 - 1		S-2 Same as S-1.
--- 5' ---	S-3 4-6'	2 - 1 - 1 - 1		S-3 Same as S-1.
	S-4 6-8'	2 - 1 - 1 - 2		S-4 Same as S-1.
--- 10' ---	S-5 8-10'	2 - 3 - 2 - 5		S-5 Dark Brown f <b>SAND</b> , little Silt.
	S-6 10-12'	2 - 2 - 2 - 3		S-6 Dark Brown mf+ <b>SAND</b> , little Silt.
--- 15' ---	S-7 15-17'	6 - 15 - 15 - 15		S-7 Brown mf+ <b>SAND</b> , little Silt, trace cmf Gravel.
--- 20' ---	S-8 20-22'	9 - 11 - 14 - 16		S-8 Brown mf+ <b>SAND</b> , little Silt.
--- 25' ---	S-9 25-27'	9 - 9 - 10 - 11		S-9 Brown mf+ <b>SAND</b> , some Silt, trace mf Gravel.
--- 30' ---	S-10 30-32'	7 - 8 - 11 - 10		S-10 Grey-Brown mf+ <b>SAND</b> , some Silt, trace+ mf+ Gravel.
--- 35' ---				END OF BORING AT 32'

**SOILS ENGINEER: R. SWABSIN, PE  
DRILLING INSPECTOR: C. PULASKI**

**CONTRACTOR: BORING BROTHERS, INC.  
DRILLER: S. HEADLEY**

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-27  
SHEET 1 OF 1**

**DATE STARTED: 10/2/2020  
DATE FINISHED: 10/2/2020**

**DEPTH OF WATER: 4'±  
LOCATION: See Plan**

**GROUND ELEVATION: +6.0'±  
GROUND WATER ELEV.: +2.0'±**

**DRILLING TECHNIQUE: Mud Rotary  
HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop**

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	7 - 11 - 10 - 9		S-1 Dark Grey and Brown cm+f <b>SAND</b> , little Silt, trace f Gravel.
	S-2 2-4'	6 - 3 - 4 - 3		S-2 Grey-Brown cm+f <b>SAND</b> , little+ Silt, trace f Gravel. (w/ few 2" streaks of silt & clay)
--- 5' ---	S-3 4-6'	2 - 2 - 1 - 4		S-3 Tan-Brown cm+f <b>SAND</b> , some Silt & Clay.
	S-4 6-8'	4 - 3 - 6 - 3		S-4 Grey cm+f <b>SAND</b> , some Silt & Clay, trace f Gravel.
--- 10' ---	S-5 8-10'	2 - 2 - 4 - 4		S-5 Grey cm+f <b>SAND</b> , some+ Silt & Clay, little mf+ Gravel.
	S-6 10-12'	WOH - 1 - 2 - 3		S-6 Grey-Brown cm+f <b>SAND</b> , and Silt.
--- 15' ---	S-7 15-17'	4 - 6 - 8 - 11		S-7 Brown mf <b>SAND</b> , trace Silt.
--- 20' ---	S-8 20-22'	8 - 11 - 11 - 13		S-8 Same as <b>S-7</b> .
--- 25' ---	S-9 25-27'	11 - 13 - 13 - 12		S-9 Dark Brown f <b>SAND</b> , some Silt.
--- 30' ---				END OF BORING AT 27'
--- 35' ---				

**SOILS ENGINEER: R. SWABSIN, PE  
DRILLING INSPECTOR: C. PULASKI**

**CONTRACTOR: BORING BROTHERS, INC.  
DRILLER: S. HEADLEY**

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-28  
SHEET 1 OF 1**

**DATE STARTED:** 10/5/2020  
**DATE FINISHED:** 10/5/2020

**DEPTH OF WATER:** 7'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +9.5'±  
**GROUND WATER ELEV.:** +2.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	20 – 16 – 6 – 15		S-1 Dark Grey cm <sup>+</sup> f <b>SAND</b> , some mf <sup>+</sup> Gravel, little Silt. (w/ many asphalt pieces)
	S-2 2-4'	23 – 15 – 16 – 12		S-2 Tan-Brown cm <sup>+</sup> f <b>SAND</b> , some Clayey Silt, trace f Gravel.
--- 5'---	S-3 4-6'	7 – 9 – 5 – 5		S-3 Tan-Brown mf <sup>+</sup> <b>SAND</b> , little <sup>+</sup> Silt, trace mf <sup>+</sup> Gravel.
	S-4 6-8'	1 – 3 – 2 – 1		S-4 Tan-Brown cm <sup>+</sup> f <b>SAND</b> , little Silt, trace mf <sup>+</sup> Gravel.
---10'---	S-5 8-10'	WOH – WOH – WOH – WOH		S-5 Tan-Brown mf <b>SAND</b> , little <sup>+</sup> Silt, trace mf Gravel.
	S-6 10-12'	2 – 2 – 3 – 5		S-6 Grey-Brown cm <sup>+</sup> f <b>SAND</b> , little Silt, trace f Gravel.
	S-7 15-17'	WOH – 4 – 3 – 2		S-7 Dark Grey <b>SILT</b> , and cm <sup>+</sup> f Sand, trace mf <sup>+</sup> Gravel.
---20'---	S-8 20-22'	WOH – WOH – WOH – WOH		S-8 Dark Grey <b>SILT</b> , some mf <sup>+</sup> Sand.
---25'---	S-9 25-27'	2 – 3 – 2 – 8		S-9 Grey-Brown cm <sup>+</sup> f <b>SAND</b> , some Clayey Silt, trace mf Gravel.
---30'---	S-10 30-32'	7 – 16 – 18 – 19		S-10 Brown cmf <b>SAND</b> , and cm <sup>+</sup> f Gravel, little <sup>+</sup> Silt & Clay.
---35'---				END OF BORING AT 32'

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLEY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-29  
SHEET 1 OF 1**

**DATE STARTED:** 10/5/2020  
**DATE FINISHED:** 10/5/2020

**DEPTH OF WATER:** 4.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +8.0'±  
**GROUND WATER ELEV.:** +3.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	1 - 4 - 4 - 4		S-1 TOP 6": Dark Grey cm <sup>+</sup> f SAND, some <sup>+</sup> Silt, trace cmf Gravel.
	S-2 2-4'	1 - 4 - 3 - 2		BOT 18": Dark Grey and Tan SILT & CLAY, little <sup>-</sup> mf <sup>+</sup> Sand, trace cmf Gravel.
--- 5' ---	S-3 4-6'	1 - 2 - WOH - 1		S-2 Tan-Brown Clayey SILT, little <sup>-</sup> mf <sup>+</sup> Sand, trace mf <sup>+</sup> Gravel.
	S-4 6-8'	1 - 4 - 7 - 7		S-3 Tan cm <sup>+</sup> f SAND, little Silt, trace mf Gravel.
--- 10' ---	S-5 8-10'	3 - 4 - 6 - 8		S-4 TOP 6": Same as S-3. BOT 18": Light Grey-Brown cm <sup>+</sup> f SAND, little Silt, trace cmf Gravel.
	S-6 10-12'	4 - 9 - 9 - 6		S-5 Grey-Brown cm <sup>+</sup> f SAND, little Silt, trace cmf Gravel.
	S-7 15-17'	1 - WOH - 1 - 2		S-6 Light Grey-Brown cmf SAND, some <sup>-</sup> mf Gravel, little Silt. S-7 No Recovery.
--- 20' ---	S-8 20-22'	1 - WOH - 1 - 2		S-8 Grey-Brown cm <sup>+</sup> f SAND, little <sup>-</sup> Silt, little mf <sup>+</sup> Gravel.
--- 25' ---	S-9 25-27'	4 - 3 - 4 - 10		S-9 Brown Clayey SILT, trace cm <sup>+</sup> f Sand, trace <sup>-</sup> f Gravel.
--- 30' ---	S-10 30-32'	13 - 14 - 15 - 14		S-10 Brown cm <sup>+</sup> f SAND, some mf <sup>+</sup> Gravel, little <sup>+</sup> Silt.
--- 35' ---				END OF BORING AT 32'

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLEY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-30  
SHEET 1 OF 1**

**DATE STARTED:** 10/2/2020  
**DATE FINISHED:** 10/2/2020

**DEPTH OF WATER:** 4.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +7.0'±  
**GROUND WATER ELEV.:** +2.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	6-8-6-8		S-1 TOP 10": Dark Grey mf+ SAND, some Silt, trace f Gravel. (Fill w/ some cinders)
	S-2 2-4'	4-6-6-5		BOT 14": Light Tan-Brown SILT, some cmf+ Sand, trace f Gravel. (w/ some clay lenses)
--- 5'---	S-3 4-6'	3-3-1-2		S-2 Light Tan-Brown mf+ SAND, little Silt, trace f Gravel.
	S-4 6-8'	1-3-2-3		S-3 Same as S-2.
---10'---	S-5 8-10'	2-2-4-5		S-4 Grey-Brown mf SAND, little Silt, trace+ mf+ Gravel.
	S-6 10-12'	3-2-4-4		S-5 Grey-Brown cmf SAND, some mf+ Gravel, little Silt.
	S-7 15-17'	2-2-3-1		S-6 Grey-Brown cmf+ SAND, little+ Silt, trace mf+ Gravel.
---15'---	S-8 20-22'	WOH-2-2-2		S-7 Grey-Brown cm+f SAND, and Organic Silt, trace+ mf+ Gravel.
	S-9 25-27'	2-10-9-10		S-8 Grey Organic SILT, and cm+f Sand, trace mf+ Gravel.
---20'---	S-10 30-32'	11-12-16-23		S-9 Brown mf+ SAND, little Silt.
	S-10 30-32'	11-12-16-23		S-10 Tan-Brown cm+f SAND, some mf+ Gravel, little+ Silt.
---35'---				END OF BORING AT 32'

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLEY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.:** FPA-31  
**SHEET** 1 OF 2

**DATE STARTED:** 9/30/2020  
**DATE FINISHED:** 9/30/2020

**DEPTH OF WATER:** 5.5'±  
**LOCATION:** See Plan

**GROUND ELEVATION:** +6.0'±  
**GROUND WATER ELEV.:** +0.5'±

**DRILLING TECHNIQUE:** Mud Rotary  
**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	9 - 14 - 9 - 8		S-1 Dark Brown cmf+ <b>SAND</b> , some Silt, trace f Gravel.
	S-2 2-4'	2 - 2 - 4 - 2		S-2 Light Brown mf <b>SAND</b> , trace+ Silt, trace f Gravel.
--- 5'---	S-3 4-6'	2 - 2 - 2 - 2		S-3 Light Brown mf+ <b>SAND</b> , little- mf+ Gravel, little- Silt.
	S-4 6-8'	1 - 2 - 2 - 2		S-4 Grey mf <b>SAND</b> , little Silt & Clay, trace- mf+ Gravel.
---10'---	S-5 8-10'	4 - 6 - 6 - 7		S-5 Same as <b>S-4</b> .
	S-6 10-12'	8 - 5 - 4 - 3		S-6 Grey-Brown mf <b>SAND</b> , little Silt, trace- mf+ Gravel. (w/ few Silt & Clay lenses)
	S-7 15-17'	1 - 1 - 1 - 1		S-7 Grey <b>Organic SILT</b> , trace+ mf+ Sand.
---20'---	S-8 20-22'	1 - 2 - 6 - 8		S-8 TOP 8": Same as <b>S-7</b> . BOT 16": Light Grey-Brown mf <b>SAND</b> , little Silt, trace- f Gravel.
	S-9 25-27'	5 - 8 - 10 - 12		S-9 Tan-Brown cm+f <b>SAND</b> , little+ mf Gravel, little- Silt.
---30'---	S-10 30-32'	10 - 10 - 12 - 12		S-10 Brown cm+f <b>SAND</b> , some mf Gravel, trace+ Silt.
---35'---	S-11 35-37'	29 - 26 - 14 - 12		S-11 Dark Brown cmf <b>SAND</b> , some+ cm+f Gravel, little+ Silt & Clay.

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLEY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.





# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-31  
SHEET 2 OF 2**

**DATE STARTED:** 9/30/2020

**DEPTH OF WATER:** 5.5'±

**GROUND ELEVATION:** +6.0'±

**DATE FINISHED:** 9/30/2020

**LOCATION:** See Plan

**GROUND WATER ELEV.:** +0.5'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-12 40-42'	2 – 3 – 4 – 5		S-12 Grey <b>SILT &amp; CLAY</b> , trace mf Sand. (micaceous)
---4 5'---	S-13 45-47'	2 – 5 – 4 – 50/0"		S-13 Grey <b>SILT &amp; CLAY</b> , trace mf Sand. (micaceous) <i>possible cobble at 46.5'.</i>
---50'---	S-14 50-52'	3 – 5 – 6 – 7		S-14 Same as <b>S-13</b> .
---55'---	S-15 55-57'	2 – 2 – 4 – 6		S-15 Same as <b>S-13</b> .
---60'---	S-16 60-62'	2 – 5 – 6 – 10		S-16 Dark Grey <b>CLAY &amp; SILT</b> , trace+ cm+f Sand, trace mf+ Gravel. (w/ few pieces of Lignite)
---65'---				END OF BORING @ 62'
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLEY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-32  
SHEET 1 OF 1**

**DATE STARTED:** 9/30/2020

**DEPTH OF WATER:** 6'±

**GROUND ELEVATION:** +7.5'±

**DATE FINISHED:** 9/30/2020

**LOCATION:** See Plan

**GROUND WATER ELEV.:** +1.5'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL	
--- 5' ---	S-1 0-2'	2 - 8 - 7 - 5		S-1 Dark Grey & Tan-Brown cm <sup>+</sup> f SAND, some <sup>+</sup> Silt & Clay, little <sup>-</sup> mf Gravel.	
	S-2 2-4'	6 - 2 - 3 - 2		S-2 Grey-Brown cmf SAND, little <sup>+</sup> Silt, trace <sup>+</sup> f Gravel.	
	S-3 4-6'	3 - 1 - 3 - 2		S-3 Light Brown & Dark Grey cm <sup>+</sup> f SAND, little <sup>-</sup> Silt, trace mf <sup>+</sup> Gravel. (w/ Clay lenses)	
	S-4 6-8'	2 - 1 - 2 - 2		S-4 Light Brown & Dark Grey cm <sup>+</sup> f SAND, little <sup>-</sup> Silt, trace mf <sup>+</sup> Gravel. (w/ few Clay lenses)	
	--- 10' ---	S-5 8-10'	10 - 3 - 5 - 3		S-5 Tan-Brown mf <sup>+</sup> SAND, trace <sup>+</sup> Silt, trace <sup>-</sup> f Gravel.
		S-6 10-12'	4 - 4 - 3 - 2		S-6 No Recovery. <i>(Moved hole 6' North. Obstruction @ 4'. Moved hole 2 additional times and hit obstructions)</i>
--- 15' ---				END OF BORING @ 12' <i>(Hole Abandoned)</i>	
--- 20' ---					
--- 25' ---					
--- 30' ---					
--- 35' ---					

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLEY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-33  
SHEET 1 OF 1**

**DATE STARTED:** 9/30/2020

**DEPTH OF WATER:** 5'±

**GROUND ELEVATION:** +6.5'±

**DATE FINISHED:** 10/1/2020

**LOCATION:** See Plan

**GROUND WATER ELEV.:** +1.5'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 0-2'	3 - 21 - 14 - 7		S-1 Hit obstruction @ 2'; moved hole 2' West. No Recovery
	S-2 2-4'	3 - 4 - 6 - 6		S-2 Dark Grey cm <sup>+</sup> f SAND, some Silt, little <sup>-</sup> f Gravel. (Fill w/ cinders & wood)
	S-3 4-6'	3 - 4 - 4 - 3		S-3 Grey-Brown cm <sup>+</sup> f SAND, and <sup>-</sup> mf <sup>+</sup> Gravel, little <sup>+</sup> Silt.
	S-4 6-8'	3 - 2 - 2 - 2		S-4 Dark Grey mf GRAVEL, little cm <sup>+</sup> f Sand, trace Silt. (Fill, asphalt millings)
	S-5 8-10'	2 - 1 - 1 - 1		S-5 TOP 16": Same as S-4. BOT 8": Dark Grey <b>Organic SILT</b> .
--- 10' ---	S-6 10-12'	2 - 1 - 2 - 2		S-6 Dark Grey mf <b>GRAVEL</b> , little <sup>+</sup> cm <sup>+</sup> f Sand, trace Silt. (Fill, asphalt millings)
	S-7 15-17'	WOH - WOH - WOH - WOH		S-7 Dark Grey <b>Organic SILT</b> , trace <sup>-</sup> cm <sup>+</sup> f Sand.
--- 20' ---	S-8 20-22'	WOR - WOR - WOR - WOR		S-8 Dark Grey <b>Organic SILT</b> , trace <sup>-</sup> cmf Sand.
	S-9 25-27'	WOR - WOR - WOR - WOR		S-9 Dark Grey <b>Organic SILT</b> , trace cm <sup>+</sup> f Sand, trace <sup>-</sup> f Gravel.
--- 30' ---	S-10 30-32'	15 - 24 - 34 - 30		S-10 Dark Brown cm <sup>+</sup> f SAND, some <sup>+</sup> mf Gravel, little <sup>-</sup> Silt.
	S-11 35-37'	6 - 9 - 10 - 10		S-11 Dark Brown cm <sup>+</sup> f SAND, trace <sup>+</sup> mf Gravel, trace Silt.
				END OF BORING AT 37'

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLEY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-34  
SHEET 1 OF 2**

**DATE STARTED: 10/1/2020  
DATE FINISHED: 10/1/2020**

**DEPTH OF WATER: 1'±  
LOCATION: See Plan**

**GROUND ELEVATION: +4.0'±  
GROUND WATER ELEV.: +3.0'±**

**DRILLING TECHNIQUE: Mud Rotary**

**HAMMER TYPE: 140 lb. Automatic Trip Hammer, 30 Inch Drop**

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	WOH - 2 - 1 - 5		S-1 Dark Brown cm+f <b>SAND</b> , trace+ Silt, trace mf Gravel.
	S-2 2-4'	5 - 10 - 13 - 11		S-2 Light Tan-Brown mf+ <b>SAND</b> , some Silt. (w/ few Clay lenses)
--- 5'---	S-3 4-6'	12 - 16 - 16 - 18		S-3 Light Tan-Brown mf+ <b>SAND</b> , some Silt, trace+ mf Gravel. (w/ few Clay lenses & cemented Sand pieces)
	S-4 6-8'	12 - 13 - 12 - 18		S-4 Light Tan-Brown mf+ <b>SAND</b> , some Silt, little mf Gravel. (w/ few Clay lenses)
---10'---	S-5 8-10'	5 - 5 - 6 - 7		S-5 Grey mf+ <b>SAND</b> , some+ Clay & Silt, trace f Gravel.
	S-6 10-12'	7 - 5 - 4 - 4		S-6 Light Grey mf+ <b>SAND</b> , little Silt, trace mf Gravel. (w/ few Clay lenses & cemented Sand pieces)
---15'---	S-7 15-17'	2 - 2 - 3 - 4		S-7 Light Grey-Brown mf+ <b>SAND</b> , little+ Silt. (w/ 4" Clay lense)
---20'---	S-8 20-22'	3 - 4 - 4 - 4		S-8 Light Grey-Brown mf <b>SAND</b> , little Silt, trace f Gravel. (w/ few Clay lenses)
---25'---	S-9 25-27'	1 - 1 - 1 - 1		S-9 Dark Grey <b>SILT</b> , little cmf Sand, trace f Gravel
---30'---	S-10 30-32'	14 - 17 - 15 - 13		S-10 Dark Brown cmf <b>SAND</b> , some mf Gravel, little+ Silt.
---35'---	S-11 35-37'	9 - 12 - 6 - 7		S-11 Dark Brown cm+f <b>SAND</b> , little+ mf Gravel, little Silt.

**SOILS ENGINEER: R. SWABSIN, PE  
DRILLING INSPECTOR: C. PULASKI**

**CONTRACTOR: BORING BROTHERS, INC.  
DRILLER: S. HEADLEY**

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-34  
SHEET 2 OF 2**

**DATE STARTED:** 10/1/2020

**DEPTH OF WATER:** 1'±

**GROUND ELEVATION:** +4.0'±

**DATE FINISHED:** 10/1/2020

**LOCATION:** See Plan

**GROUND WATER ELEV.:** +3.0'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---40'---	S-12 40-42'	9 – 7 – 8 – 6		S-12 Dark Brown cm+f SAND, little+ mf+ Gravel, little Silt.
				END OF BORING AT 42'
---4 5'---				
---50'---				
---55'---				
---60'---				
---65'---				
---70'---				
---75'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLEY

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# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-35  
SHEET 1 OF 1**

**DATE STARTED:** 10/1/2020

**DEPTH OF WATER:** 15'±

**GROUND ELEVATION:** +16.0'±

**DATE FINISHED:** 10/1/2020

**LOCATION:** See Plan

**GROUND WATER ELEV.:** +1.0'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL	
--- 5' ---	S-1 0-2'	12 - 10 - 11 - 9		S-1 TOP 18": Dark Grey cmf+ SAND, little Silt, trace mf+ Gravel. BOT 6": Light Tan-Brown mf+ SAND, trace Silt, trace mf+ Gravel.	
	S-2 2-4'	6 - 7 - 7 - 4		S-2 Same as S-1, BOT 6".	
	S-3 4-6'	4 - 2 - 4 - 3		S-3 Light Tan-Brown mf+ SAND, little Silt, trace f Gravel. (w/ few Clay lenses)	
	S-4 6-8'	2 - 2 - 2 - 2		S-4 Same as S-3.	
	--- 10' ---	S-5 8-10'		2 - 1 - 2 - 1	S-5 Light Tan-Brown mf+ SAND, trace Silt, trace mf+ Gravel.
		S-6 10-12'		2 - 2 - 1 - 2	S-6 Same as S-5.
--- 15' ---	S-7 15-17'	2 - 1 - 2 - 2		S-7 Tan-Brown cmf+ SAND, little+ Clayey Silt, trace mf Gravel.	
--- 20' ---	S-8 20-22'	7 - 10 - 6 - 4		S-8 Grey-Brown f SAND, trace+ Silt, trace f Gravel.	
--- 25' ---	S-9 25-27'	7 - 12 - 14 - 13		S-9 Grey-Brown cmf+ SAND, little Silt, trace mf+ Gravel.	
--- 30' ---	S-10 30-32'	5 - 7 - 9 - 15		S-10 Grey-Brown cm+f SAND, trace+ Silt, trace+ mf Gravel.	
--- 35' ---			END OF BORING AT 32'		

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLEY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-36  
SHEET 1 OF 1**

**DATE STARTED:** 10/1/2020

**DEPTH OF WATER:** 7.5'±

**GROUND ELEVATION:** +9.0'±

**DATE FINISHED:** 10/2/2020

**LOCATION:** See Plan

**GROUND WATER ELEV.:** +1.5'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL	
--- 5' ---	S-1 0-2'	8 - 5 - 3 - 4		S-1 Dark Grey-Brown cmf+ <b>SAND</b> , little+ mf Gravel, little+ Silt. (Fill w/ few brick pieces)	
	S-2 2-4'	6 - 8 - 5 - 4		S-2 Dark Grey and Yellow-Brown cm+f <b>SAND</b> , some mf+ Gravel, little Silt. (Fill w/ some brick and asphalt pieces)	
	S-3 4-6'	3 - 3 - 2 - 2		S-3 Light Tan-Brown cmf+ <b>SAND</b> , trace+ Silt, trace f Gravel. (Fill w/ few brick pieces)	
	S-4 6-8'	2 - 2 - 2 - 3		S-4 Tan and Grey cmf+ <b>SAND</b> , and+ Silt & Clay, trace- f Gravel.	
	--- 10' ---	S-5 8-10'	1 - 3 - 2 - 1		S-5 Grey <b>Organic SILT</b> , trace mf+ Sand.
		S-6 10-12'	WOH - WOH - WOH - WOH		S-6 Dark Grey <b>Organic SILT</b> , trace- mf Sand, trace- f Gravel.
--- 15' ---	S-7 15-17'	WOH - WOH - 1 - 1		S-7 Dark Grey <b>Organic SILT</b> , little- mf Sand.	
--- 20' ---	S-8 20-22'	1 - WOH - 1 - 2		S-8 Grey cm+f <b>SAND</b> , some+ Organic Silt.	
--- 25' ---	S-9 25-27'	8 - 1 - 2 - 2		S-9 TOP 6": Wood. BOT 18": Same as <b>S-8</b> .	
--- 30' ---	S-10 30-32'	5 - 19 - 19 - 26		S-10 Dark Brown cm+f <b>SAND</b> , some cmf+ Gravel, some Silt.	
--- 35' ---	S-11 35-37'	9 - 15 - 21 - 19		S-11 Dark Brown cmf <b>GRAVEL</b> , and- cm+f Sand, little+ Silt.	
				END OF BORING AT 37'	

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLEY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-37  
SHEET 1 OF 1**

**DATE STARTED:** 10/2/2020

**DEPTH OF WATER:** 4'±

**GROUND ELEVATION:** +5.0'±

**DATE FINISHED:** 10/2/2020

**LOCATION:** See Plan

**GROUND WATER ELEV.:** 1.0'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 5-7'	WOH – WOH – 1 – 1		S-1 TOP 12": Light Brown f <b>SAND</b> , some Silt. BOT 12": Grey and Tan cm+f <b>GRAVEL</b> , and Silt & Clay, little+ cmf+ Sand.
---10'---	S-2 9-11'	4 – 1 – 1 – WOH		S-2 Wood, Brick and Concrete pieces. <i>Void from 8-9 feet.</i>
---15'--	S-3 15-17'	3 – 2 – 3 – 3		S-3 Grey cm+f <b>SAND</b> , some Organic Silt, trace f Gravel. <i>Casing obstructed at 7 feet. Hole moved 10 feet N/W.</i>
---20'---	S-4 20-22'	2 – 3 – 2 – 3		S-4 Grey cm+f <b>SAND</b> , some+ mf Gravel, little+ Organic Silt.
---25'---	S-5 25-27'	2 – 2 – 4 – 4		S-5 Dark Grey <b>Organic SILT</b> , some cm+f Sand, little mf Gravel. (low recovery)
---30'---	S-6 30-32'	2 – 4 – 14 – 20		S-6 TOP 12": Light Grey mf+ <b>SAND</b> , little+ Silt. BOT 12": Dark Tan-Brown cm+f <b>SAND</b> , some cmf Gravel, little+ Clayey Silt.
---35'---				END OF BORING AT 32'

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** S. HEADLEY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.





# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-38  
SHEET 1 OF 1**

**DATE STARTED:** 10/5/2020

**DEPTH OF WATER:** 5'±

**GROUND ELEVATION:** +6.0'±

**DATE FINISHED:** 10/5/2020

**LOCATION:** See Plan

**GROUND WATER ELEV.:** +1.0'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 5-7'	2 - 3 - 2 - 3		S-1 Light Brown cmf+ <b>SAND</b> , little Silt, trace mf+ Gravel.
---10'---	S-2 10-12'	1 - 1 - 1 - 3		S-2 Dark Grey <b>Organic SILT</b> , and mf Sand, trace f Gravel. (w/ some seashell pieces and very few wood pieces)
---15'--	S-3 15-17'	1 - 1 - 1 - 1		S-3 Dark Grey-Brown <b>Organic SILT</b> , trace mf Sand.
---20'---	S-4 20-22'	WOH - 1 - 1 - 1		S-4 Dark Grey-Brown <b>Organic SILT</b> , and cm+f Sand, trace cmf Gravel.
---25'---	S-5 25-27'	4 - 5 - 6 - 20		S-5 TOP 18": Light Grey-Brown <b>Clayey SILT</b> , trace f Sand. BOT 6": Tan-Brown cmf <b>SAND</b> , some mf+ Gravel, little+ Silt.
---30'---	S-6 30-32'	17 - 18 - 18 - 17		S-6 Tan-Brown cm+f <b>SAND</b> , little+ mf+ Gravel, little+ Silt.
---35'---				END OF BORING AT 32'

**SOILS ENGINEER:** R. SWABSIN, PE

**CONTRACTOR:** BORING BROTHERS, INC.

**DRILLING INSPECTOR:** C. PULASKI

**DRILLER:** S. HEADLEY

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-39  
SHEET 1 OF 1**

**DATE STARTED:** 11/9/2020

**DEPTH OF WATER:** 1'±

**GROUND ELEVATION:** +1.0'±

**DATE FINISHED:** 11/9/2020

**LOCATION:** See Plan

**GROUND WATER ELEV.:** +0'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
---	S-1 0-2'	WOH – 1 – 2 – 2		S-1 TOP 6" Grey-Brown cmf+ <b>SAND</b> , some Clayey Silt, trace mf+ Gravel. BOT 18": Dark Grey mf+ <b>SAND</b> , some+ Organic Silt, trace mf Gravel.
--- 5'---	S-2 5-7'	2 – 3 – 5 – 3		S-2 Dark Grey <b>Clayey SILT</b> , and mf Sand. (layered or varved in spoon)
---10'---	S-3 10-12'	4 – 4 – 5 – 3		S-3 Dark Grey <b>Clayey SILT</b> , and cm+f Sand, trace mf+ Gravel.
---15'--	S-4 15-17'	WOH – WOH – WOH – WOH		S-4 Dark Grey <b>Organic SILT</b> , trace mf Sand.
---20'---	S-5 20-22'	WOH – WOH – WOH – WOH		S-5 Same as <b>S-4</b> .
---25'---	S-6 25-27'	2 – 8 – 15 – 20		S-6 Brown cm+f <b>SAND</b> , some mf Gravel, little Silt. <i>Hole collapsed and boring terminated.</i>
---30'---				END OF BORING AT 27'
---35'---				

**SOILS ENGINEER:** R. SWABSIN, PE  
**DRILLING INSPECTOR:** C. PULASKI

**CONTRACTOR:** BORING BROTHERS, INC.  
**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-40  
SHEET 1 OF 1**

**DATE STARTED:** 11/9/2020

**DEPTH OF WATER:** 1.5'±

**GROUND ELEVATION:** +2.0'±

**DATE FINISHED:** 11/9/2020

**LOCATION:** See Plan

**GROUND WATER ELEV.:** +0.5'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
--- 5' ---	S-1 5-7'	WOH – 1 – 1 – WOH		S-1 Brown c+mf <b>SAND</b> , trace Silt, trace f Gravel.
---10'---	S-2 10-12'	WOH – WOH – WOH – WOH		S-2 Dark Grey <b>Organic SILT</b> , trace cmf Sand.
---15'--	S-3 15-17'	WOR – WOR – WOR – WOR		S-3 Same as <b>S-2</b> .
---20'---	S-4 20-22'	WOH – WOH – WOH – WOH		S-4 Dark Grey <b>Organic SILT</b> , trace cmf Sand, trace f Gravel.
---25'---	S-5 25-27'	11 – 12 – 13 – 14		S-5 Brown cm+f <b>SAND</b> , some+ mf Gravel, little+ Silt.
---30'---	S-6 30-32'	4 – 9 – 12 – 9		S-6 Brown & Red-Brown cmf+ <b>SAND</b> , little mf+ Gravel, little Silt.
	S-7 32-34'	10 – 8 – 6 – 10		S-7 Brown c+mf <b>SAND</b> , mf+ Gravel, little+ Silt.
---35'---				END OF BORING AT 34'

**SOILS ENGINEER:** R. SWABSIN, PE

**CONTRACTOR:** BORING BROTHERS, INC.

**DRILLING INSPECTOR:** C. PULASKI

**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.



# TEST BORING LOG

**SOUTH AMBOY FERRY TERMINAL FACILITY DESIGN AND PERMITTING  
CITY OF SOUTH AMBOY, MIDDLESEX COUNTY, NEW JERSEY  
(FPA PROJECT NO. 13749.002)**

**BORING NO.: FPA-41  
SHEET 1 OF 1**

**DATE STARTED:** 11/9/2020

**DEPTH OF WATER:** 5'±

**GROUND ELEVATION:** +6.5'±

**DATE FINISHED:** 11/9/2020

**LOCATION:** See Plan

**GROUND WATER ELEV.:** +1.5'±

**DRILLING TECHNIQUE:** Mud Rotary

**HAMMER TYPE:** 140 lb. Automatic Trip Hammer, 30 Inch Drop

DEPTH FEET	SAMPLE DEPTH	SPT BLOW COUNTS (PER 6")	STRATA	DESCRIPTION OF SOIL
	S-1 0-2'	2 – 3 – 2 – 6		S-1 TOP 18": Light Brown mf <b>SAND</b> , trace <sup>+</sup> Silt, trace <sup>-</sup> f Gravel. BOT 6" Dark Grey <b>CLAY &amp; SILT</b> .
--- 5'---	S-2 5-7'	4 – 5 – 6 – 7		S-2 Grey-Brown cm <sup>+</sup> f <b>SAND</b> , some Silt, little <sup>+</sup> mf Gravel.
---10'---	S-3 10-12'	WOH – 1 – 1 – 1		S-3 Light Brown mf <b>SAND</b> , trace Silt. (w/ very few Clay lenses)
---15'--	S-4 15-17'	3 – 4 – 4 – 6		S-4 No Recovery.
---20'---	S-5 20-22'	5 – 3 – 4 – 6		S-5 Dark Grey mf <b>GRAVEL</b> , some Silt, little <sup>-</sup> cm <sup>+</sup> f Sand. (w/ brick, asphalt pieces)
---25'---	S-6 25-27'	3 – 3 – 6 – 7		S-6 Dark Grey cm <sup>+</sup> f <b>SAND</b> , some <sup>+</sup> mf <sup>+</sup> Gravel, some Silt & Clay.
---30'---	S-7 30-32'	14 – 15 – 18 – 27		S-7 Light Tan-Brown cm <sup>+</sup> f <b>SAND</b> , some mf Gravel, little <sup>+</sup> Silt.
---35'---	S-8 35-37'	16 – 15 – 11 – 18		S-8 Brown cm <sup>+</sup> f <b>SAND</b> , some mf Gravel, little Silt.
				END OF BORING AT 37'

**SOILS ENGINEER:** R. SWABSIN, PE

**CONTRACTOR:** BORING BROTHERS, INC.

**DRILLING INSPECTOR:** C. PULASKI

**DRILLER:** R. DOLLAR

The information shown hereon indicates the subsurface conditions encountered at the specific boring location on the date(s) of drilling. Subsurface conditions are likely to vary across the project site. Interpretation of the subsurface data shall be at the discretion of the user.