ANSI D 22" x 34"



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AECOM

PROJECT

SOUTH BATTERY PARK RESILIENCY DESIGN SERVICES

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

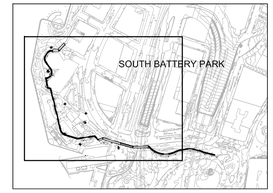
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SUB-CONSULTANT

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100 East Hanover Avenue, Suite 101,
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KEY PLAN



NOTE

Two more proposed test borings B-9 & B-10 will be performed and boring location plans will be updated including boring logs of B-9 & B-10

REGISTRATION

PRELIMINARY NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

BORING LOCATION PLAN

SHEET NUMBER

G000

ANSI D 22" x 34"

OWEIS ENGINEERING INC.

DOCUMENT 30008
REV 1 3/2015

PROJECT	South Battery Park Resiliency	**BORING NO.**	B-1
LOCATION	Battery Park City, NY	**SHEET NO.**	1 OF 6
CLIENT	AECOM	**PROJECT NO.**	17-NY165-01
BORING LOCATION	see plan	**SURFACE ELEV.**	10.5+/-
EASTING	**NORTHING**	**VER. DATUM**	NAVD 88
		HOR. DATUM	

EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

DRILLING RIG	Track Rig CME 55
CASING	
4 in. dia.	25 ft
dia.	
ADVANCEMENT METHOD	Clear Water Rotary
DRILL RODS	NWJ
ROTARY BIT DIAMETER, IN.	3-7/8 in. Tricone
DRILLING MUD USED	N/A
AUGER	N/A
SAMPLERS	
HAMMER TYPE	Safety Hammer
WEIGHT	140 lb **DROP** 30" **RATE** Auto
D-SAMPLER	2" split spoon
U-SAMPLER	N/A
OTHER	N/A
ROCK CORING	
CORING FEED	Hydraulic
CORE BARREL	NX
CORE BIT	Diamond bit

REMARKS

(1) Advance 5' casing into ground.
(2) Add 5' casing.
(3) Add 5' casing.
(4) Add 5' casing.
(5) Add 5'casing.

LEGEND

TV = Torvane Shear Strength, TSF
CT = Coring Time, minutes/foot
CB = Casing Blows Per Foot
OLT = Other Lab Testing Performed
PP = Pocket Penetrometer
Unconfined Compressive Strength, TSF

REMARK TYPES

LC = Lost Circulation
HD = Hard Drilling
RC = Rig Chatter
CBJ = Core Barrel Jam
PO = Petroleum Odor
CW = Change in Wash
SS = Slickensided
EOB = End Of Boring
ML = Mudline

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATIONS

PIEZOMETER __ **MONITORING WELL** __ **INSTALLED** no **SKETCH SHOWN ON** NO

PAY QUANTITIES

2" DIA. SAMPLE BORING	**LIN. FT.** 53.5 ft	**NO. OF 3" UNDISTURBED SAMPLES**	N/A
CORE DRILLING IN ROCK	**LIN. FT.** 10 ft	**OTHER** N/A	
BORING CONTRACTOR	Craig Test Boring Co.		
DRILLER	Mike Tarter	**HELPER(S):** Jimmy	
OEI OBSERVER	Jinfu Xiao	**DATE:**	5/20/2019
CLASSIFICATION CHECK	Burmister Soil Classification System		

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC. — INNOVATIVE GEOTECHNICAL ENGINEERING SOLUTIONS

PROJECT	South Battery Park Resiliency	**BORING NO.**	B-1
PROJECT NO.	17-NY165-01	**SHEET**	2 OF 6
LOCATION	South Battery Park Resiliency	**GROUND ELEVATION**	10.5+/-
		OEI OBSERVER	JX

DAILY PROGRESS	SAMPLE SYMBOL	SAMPLE NO.	DEPTH (ft)	SAMPLE BLOWS/6"	SAMPLE REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
5/20/19			1			2" Paving Stone	Road	1			
8:55		S-1A				5" Gray cm GRAVEL, little mf Sand, trace Silt	Base				
JX			2	35-17	17.0			2	M		
		S-1B	3	10-8		12" Brown cmf SAND, some mf Gravel/Brick, little Silt (Class 7)	FILL	3			
			4					4			(1)
			5					**5**			
		S-2A	6	5-9	10.0	8" Brown mf SAND, little Silt	FILL	6	VM		
		S-2B	7	23-23		2" Gray cm GRAVEL, little mf Sand, trace Silt		7	D		
			8					8			(2)
			9					9			
			10					**10**			
		S-3	11	5-6	10.0	Brown mf SAND, trace Silt, trace mf Gravel (Class 7)	FILL	11			
			12	6-8				12			(3)
			13					13			
			14					14			
			15					**15**			
Perm.		S-4	16	4-2	6.0	Brown f SAND, trace Silt (Class 7)	FILL	16			
Test			17	3-3				17			(4)
			18					18			
			19					19			
			20					**20**			
		S-5	21	3-3	6.0	Gray-brown f SAND, trace Silt, with plastic fragment (Class 7)	FILL	21			
			22	4-4				22			

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC. — INNOVATIVE GEOTECHNICAL ENGINEERING SOLUTIONS

PROJECT	South Battery Park Resiliency	**BORING NO.**	B-1
PROJECT NO.	17-NY165-01	**SHEET**	3 OF 6
LOCATION	South Battery Park Resiliency	**GROUND ELEVATION**	10.5+/-
		OEI OBSERVER	JX

DAILY PROGRESS	SAMPLE SYMBOL	SAMPLE NO.	DEPTH (ft)	SAMPLE BLOWS/6"	SAMPLE REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			23					23			
			24					24			
			25					25			
		S-6A	26	2-8	12.0	Same (Class 7)	FILL	26			
		S-6B	27	23-4		4" Decomposed wood	Wood	**27**			(5)
			28					28			
			29					29			
			30					30			
		S-7	31	6-5	10.0	Brown f- SAND, trace Silt (Class 3b)	SP	31			
			32	7-6				**32**			
			33					33			
			34					34			
			35					35			
		S-8	36	2-4	14.0	Reddish Brown mf SAND, some Silty Clay, trace mf Gravel (Class 4c)	SC	36			
			37	4-5				**37**			
			38					38			
			39					39			
			40					40			
		S-9	41	5-6	6.0	Brown mf SAND, little Silt (Class 3b)	SM	41			
			42	6-7				**42**			

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC. — INNOVATIVE GEOTECHNICAL ENGINEERING SOLUTIONS

PROJECT	South Battery Park Resiliency	**BORING NO.**	B-1
PROJECT NO.	17-NY165-01	**SHEET**	4 OF 6
LOCATION	South Battery Park Resiliency	**GROUND ELEVATION**	10.5+/-
		OEI OBSERVER	JX

DAILY PROGRESS	SAMPLE SYMBOL	SAMPLE NO.	DEPTH (ft)	SAMPLE BLOWS/6"	SAMPLE REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			43					43			
			44					44			
			45					45			
		S-10	46	5-7	12.0	Reddish Brown mf SAND, trace Silt, trace f Gravel (Class 3b)	SP-SM	46			
			47	7-8				**47**			
			48					48			
			49					49			RC
			50			10" Gray mf GRAVEL, and cmf Sand, little silty Clay (Class2b)	GP	50			Spoon
		S-11A	51	90-15	12.0			51			Bounce
		S-11B	52	8-20/4"		2" Black organic SILT, trace f Sand (Class 5b)	ML	**52**			Spoon
			53					53			Bounce RC
											RC
			54	30:30		Approx. top of bedrock		54			LC
			55	4:20		Gray hard, very slightly fractured, very slightly weathered schist (Class 1b)		55			
		C-1	56	3:15		Rec=47"/60"=78.3%		56			
			57	3:15		RQD=47"/60"=78.3%		**57**			
			58	3:15				58			
			59	3:15				59			
			60	3:15		Same		60			
		C-2	61	3:37		Rec=60"/60"=100%		61			
			62	3:00		RQD=47"/60"=78.3%		**62**			

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC. — INNOVATIVE GEOTECHNICAL ENGINEERING SOLUTIONS

PROJECT	South Battery Park Resiliency	**BORING NO.**	B-1
PROJECT NO.	17-NY165-01	**SHEET**	5 OF 6
LOCATION	South Battery Park Resiliency	**GROUND ELEVATION**	10.5+/-
		OEI OBSERVER	JX

DAILY PROGRESS	SAMPLE SYMBOL	SAMPLE NO.	DEPTH (ft)	SAMPLE BLOWS/6"	SAMPLE REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
5/20/19		C-2									
11:30			63	3:20				63			
JX											
			64			End of boring at 63.5' bgs.		64			
			65					65			
			66					66			
			67					**67**			
			68					68			
			69					69			
			70					70			
			71					71			
			72					**72**			
			73					73			
			74					74			
			75					75			
			76					76			
			77					**77**			
			78					78			
			79					79			
			80					80			
			81					81			
			82					**82**			

OWEIS ENGINEERING INC.

DOCUMENT 30008
REV 1 3/2015

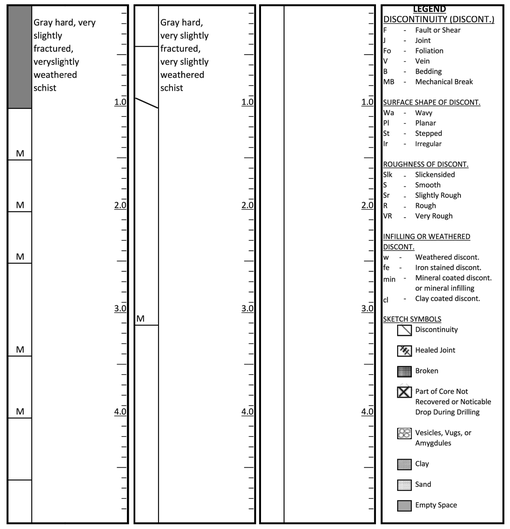
ROCK CORE SKETCH

PROJECT	South Battery Park Resiliency	**BORING NO.**	B-1
PROJECT NO.	17-NY165-01	**SHEET NO**	6 OF 6
LOCATION	Battery Park City, NY	**SURFACE NO.**	10.5+/-
		OEI REP.	J. Xiao

Run #	Start Depth	End Depth	Rec	RQD
C-1	53.5'	58.5'	78.3%	78.3%

Run #	Start Depth	End Depth	Rec	RQD
C-2	58.5'	63.5'	100%	78.3%

Run #	Start Depth	End Depth	Rec	RQD



LEGEND

DISCONTINUITY (DISCONT.)
F - Fault or Shear
J - Joint
Fo - Foliation
V - Vein
B - Bedding
MB - Mechanical Break

SURFACE SHAPE OF DISCONT.
Wa - Wavy
Pl - Planar
St - Stepped
Ir - Irregular

ROUGHNESS OF DISCONT.
Slk - Slickensided
S - Smooth
Sr - Slightly Rough
R - Rough
VR - Very Rough

INFILLING OR WEATHERED DISCONT.
we - Weathered discont.
fe - Iron stained discont.
min - Mineral coated discont. or mineral infilling
cl - Clay coated discont.

SKETCH SYMBOLS
Discontinuity
Healed Joint
Broken
Part of Core Not Recovered or Noticable Drop During Drilling
Vesicles, Vugs, or Amygdules
Clay
Sand
Empty Space

AECOM

PROJECT

SOUTH BATTERY PARK RESILIENCY DESIGN SERVICES

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

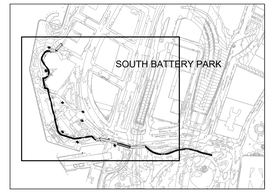
CONSULTANT

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SUB-CONSULTANT

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Phone: 973.539.4400 Fax: 973.539.1122
www.oweisengineering.com

KEY PLAN



REGISTRATION

PRELIMINARY NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

BORING LOGS
B-1

SHEET NUMBER

G001

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OWEIS ENGINEERING INC.

DOCUMENT 30008
REV 1 3/2015

PROJECT	South Battery Park Resiliency	**BORING NO.**	B-2
LOCATION	Battery Park City, NY	**SHEET NO.**	1 OF 4
CLIENT	AECOM	**PROJECT NO.**	17-NY165-01
BORING LOCATION	see plan	**SURFACE ELEV.**	10+/-
EASTING	**NORTHING**	**VER. DATUM**	NAVD 88
		HOR. DATUM	

EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

DRILLING RIG	Track Rig CME 55
CASING	
4 in. dia.	50 ft
dia.	
ADVANCEMENT METHOD	Clear Water Rotary
DRILL RODS	NWJ
ROTARY BIT DIAMETER, IN.	3-7/8 in. Tricone
DRILLING MUD USED	N/A
AUGER	N/A
SAMPLERS	
HAMMER TYPE	Safety Hammer
WEIGHT	140 lb **DROP** 30'' **RATE** Auto
D-SAMPLER	2'' split spoon
U-SAMPLER	N/A/
OTHER	3'' Spoon
ROCK CORING	
CORING FEED	N/A
CORE BARREL	N/A
CORE BIT	N/A

REMARKS

①Advance 5' casing into ground.
②Add 5' casing.
③Add 5' casing.
④Add 5' casing.
⑤Add 5'casing.
⑥Add 5' casing.
⑦Add 5' casing. Hard to advance casing.
⑧Add 5' casing.
⑨Add 5' casing.
⑩Add 5' casing.

LEGEND

TV = Torvane Shear Strength, TSF
CT = Coring Time, minutes/foot
CB = Casing Blows Per Foot
OLT = Other Lab Testing Performed
PP = Pocket Penetrometer
Unconfined Compressive Strength, TSF

REMARK TYPES

LC = Lost Circulation
HD = Hard Drilling
RC = Rig Chatter
CBJ = Core Barrel Jam
PO = Petroleum Odor
CW = Change in Wash
SS = Slickensided
EOB = End Of Boring
ML = Mudline

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATIONS
5/20/2019	8:19	26.4ft bgs.	N/A	9.6ft bgs.	17ft PVC Pipe+10ft screen.
5/21/2019	7:55	26.4ft bgs.	N/A	10.4ft bgs.	17ft PVC Pipe+10ft screen.

PIEZOMETER **MONITORING WELL** **INSTALLED** yes **SKETCH SHOWN ON** NO

PAY QUANTITIES

2" DIA. SAMPLE BORING	**LIN. FT.** 60 ft	**NO. OF 3" UNDISTURBED SAMPLES**	N/A
CORE DRILLING IN ROCK	**LIN. FT.** N/A	**OTHER** N/A	
BORING CONTRACTOR	Craig Test Boring Co.		
DRILLER	Mike Tarter	**HELPER(S):** Jimmy	
OEI OBSERVER	Jinfu Xiao	**DATE:**	5/18/2019
CLASSIFICATION CHECK	Burmister Soil Classification System		

BORING LOG

DOCUMENT 30008
REV 1 3/2015

PROJECT	South Battery Park Resiliency	**BORING NO.**	B-2
PROJECT NO.	17-NY165-01	**SHEET**	2 OF 4
LOCATION	South Battery Park Resiliency	**GROUND ELEVATION**	10+/-
		OEI OBSERVER	JX

DAILY PROGRESS	SYMBOL	SAMPLE NO.	SAMPLE DEPTH (ft)	SAMPLE BLOWS/6"	SAMPLE REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
5/18/19											
8:45		S-1A	1	1-2	16.0	12'' Dark brown mf SAND, some Silt with roots (Class 7)	Top Soil	1	M		
JX				1-2							
		S-1B	2			4'' Yellow brown mf SAND, little Silt (Class 7)	FILL	2			
			3					3			①
			4					4			
			5					5			
		S-2	6	8-9	13.0	Brown cmf SAND, little mf Gravel/Brick, trace silt	FILL	6	W		
			7	11-13		(Class 7)		7			
			8					8			②
			9					9			
			10					10			
		S-3	11	6-6	12.0	Brown mf SAND, little Silt	FILL	11			
			12	9-11		(Class 7)		12			③
			13					13			
			14					14			
			15					15			
		S-4	16	6-8	10.0	Gray mf SAND, little Silt (Class 7)		16			
			17	7-7				17			④
			18					18			
			19				FILL	19			
			20					20			
		S-5	21	2-2	4.0	Same (Class 7)		21			
			22	3-4				22			⑤

BORING LOG

DOCUMENT 30008
REV 1 3/2015

PROJECT	South Battery Park Resiliency	**BORING NO.**	B-2
PROJECT NO.	17-NY165-01	**SHEET**	3 OF 4
LOCATION	South Battery Park Resiliency	**GROUND ELEVATION**	10+/-
		OEI OBSERVER	JX

DAILY PROGRESS	SYMBOL	SAMPLE NO.	SAMPLE DEPTH (ft)	SAMPLE BLOWS/6"	SAMPLE REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			23					23			
			24					24			
			25					25			
		S-6	26	3-4	10.0	Same with shells (Class 7)	FILL	26			
			27	4-4				27			⑥
			28					28			
			29					29			
			30					30			
		S-7A	31	5-5	23.0	15'' same (Class 7)		31			
		S-7B	32	5-38		8'' decomposed wood	Wood	32			RC
			33					33			⑦
			34					34			
			35					35			
		S-8	36	5-5	4.0	Brown c-mf- SAND, trace Silt		36			
			37	4-6		(Class 6)		37			
			38					38			⑧
			39				SM	39			
			40					40			
		S-9	41	3-7	8.0	Brown mf SAND, little Silty Clay, trace mf Gravel		41			
			42	9-10		(Class 3b)		42			⑨

BORING LOG

DOCUMENT 30008
REV 1 3/2015

PROJECT	South Battery Park Resiliency	**BORING NO.**	B-2
PROJECT NO.	17-NY165-01	**SHEET**	4 OF 4
LOCATION	South Battery Park Resiliency	**GROUND ELEVATION**	10+/-
		OEI OBSERVER	JX

DAILY PROGRESS	SYMBOL	SAMPLE NO.	SAMPLE DEPTH (ft)	SAMPLE BLOWS/6"	SAMPLE REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			43					43			
			44					44			
			45					45			
Perm.		S-10	46	4-5	17.0	Brown mf SAND, trace Silt, trace f Gravel	SP-SM	46			
Test			47	9-14		(Class 3b)		47			⑩
			48					48			
			49					49			
			50					50			
Perm.		S-11A	51	3-4	24.0	20'' Brown mf SAND, trace Silt (Class 3b)	SP	51			
Test				6-25							
		S-11B	52			4'' Dark brown mf SAND, little Silty Clay (Class 3a)	SM	52			
			53					53			
			54			Approx. top of bedrock		54			
			55					55			
		S-12	56	50/0.5''	0.5	Decomposed schist		56			spoon
			57			(Class 1d)		57			bounce
			58					58			
5/18/19			59					59			spoon
4:30			60	50/0''	NR	Same		60			bounce
JX						End of boring at 60ft bgs.					
			61					61			
			62					62			

OWEIS ENGINEERING INC.

DOCUMENT 30008
REV 1 3/2015

PROJECT	South Battery Park Resiliency	**BORING NO.**	B-3
LOCATION	Battery Park City, NY	**SHEET NO.**	1 OF 6
CLIENT	AECOM	**PROJECT NO.**	17-NY165-01
BORING LOCATION	see plan	**SURFACE ELEV.**	11.5+/-
EASTING	**NORTHING**	**VER. DATUM**	NAVD 88
		HOR. DATUM	

EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

DRILLING RIG	Truck Rig CME 75
CASING	
4 in. dia.	40 ft
dia.	
ADVANCEMENT METHOD	Clear Water Rotary
DRILL RODS	NWJ
ROTARY BIT DIAMETER, IN.	3-7/8 in. Tricone/ 2-15/16 in. Tricone
DRILLING MUD USED	N/A
AUGER	N/A
SAMPLERS	
HAMMER TYPE	Safety Hammer
WEIGHT	140 lb **DROP** 30'' **RATE** Auto
D-SAMPLER	2'' split spoon
U-SAMPLER	Shelby Tube
OTHER	3'' Spoon
ROCK CORING	
CORING FEED	Hydraulic
CORE BARREL	NX
CORE BIT	Diamond bit

REMARKS

①Advance 10' casing into ground.
②Add 15' casing.
③Add 5' casing.
④Add 10' casing. Spoon bending.

LEGEND

TV = Torvane Shear Strength, TSF
CT = Coring Time, minutes/foot
CB = Casing Blows Per Foot
OLT = Other Lab Testing Performed
PP = Pocket Penetrometer
Unconfined Compressive Strength, TSF

REMARK TYPES

LC = Lost Circulation
HD = Hard Drilling
RC = Rig Chatter
CBJ = Core Barrel Jam
PO = Petroleum Odor
CW = Change in Wash
SS = Slickensided
EOB = End Of Boring
ML = Mudline

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATIONS

PIEZOMETER **MONITORING WELL** **INSTALLED** no **SKETCH SHOWN ON** NO

PAY QUANTITIES

2" DIA. SAMPLE BORING	**LIN. FT.** 53 ft	**NO. OF 3" UNDISTURBED SAMPLES**	1
CORE DRILLING IN ROCK	**LIN. FT.** 10 ft	**OTHER** N/A	
BORING CONTRACTOR	Craig Test Boring Co.		
DRILLER	Joe	**HELPER(S):** Garrett	
OEI OBSERVER	Jinfu Xiao	**DATE:**	5/13/2019
CLASSIFICATION CHECK	Burmister Soil Classification System		

BORING LOG

DOCUMENT 30008
REV 1 3/2015

PROJECT	South Battery Park Resiliency	**BORING NO.**	B-3
PROJECT NO.	17-NY165-01	**SHEET**	2 OF 6
LOCATION	South Battery Park Resiliency	**GROUND ELEVATION**	11.5+/-
		OEI OBSERVER	JX

DAILY PROGRESS	SYMBOL	SAMPLE NO.	SAMPLE DEPTH (ft)	SAMPLE BLOWS/6"	SAMPLE REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
5/13/19			1			2'' Pavement Stone		1			
8:20		S-1	2	11-10	12.0	Yellow brown mf SAND, little Silt (Class 7)	FILL	2	M		
JX			3	11-11				3			
			4					4			
			5					5			
		S-2	6	4-4	2.0	Brown mf SAND, little mf Gravel, trace Silt (Class 7)	FILL	6	W		
			7	6-14				7			
			8					8			①
			9					9			
			10					10			
		S-3	11	11-14	12.0	Brown mf SAND, little Silt, trace shell fragments	FILL	11			
			12	13-18		(Class 7)		12			
			13					13			
			14					14			
			15					15			
		S-4	16	12-12	10.0	Gray mf SAND, trace Silt, trace shell fragments		16			
			17	12-14		(Class 7)		17			
			18					18			
			19				FILL	19			
			20					20			
		S-5	21	3-5	12.0	Gray-brown f SAND, trace silt (Class 7)		21			
			22	5-5				22			②

AECOM

PROJECT

SOUTH BATTERY PARK RESILIENCY DESIGN SERVICES

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

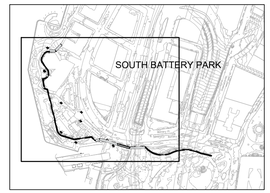
CONSULTANT

AECOM
AECOM DESIGN AND ENGINEERING
605 3rd Ave, 2nd Floor, New York, NY 10016
212.973.2900 tel www.aecom.com

SUB-CONSULTANT

OWEIS ENGINEERING INC.,
100 East Hanover Avenue, Suite 101,
Cedar Knolls, NJ 07927
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www.oweisengineering.com

KEY PLAN



REGISTRATION

PRELIMINARY NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

BORING LOGS
B-2 TO B-3

SHEET NUMBER

G002

30% DRAFT DESIGN DOCUMENTS

ANSI D 22" x 34"

Last saved by: DRAFTING(2019-09-24) Last Plotted: 2019-09-24
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ANSI D 22" x 34"

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC.

PROJECT South Battery Park Resiliency — **BORING NO.** B-3
PROJECT NO. 17-NY165-01 — **SHEET** 3 OF 6
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 11.5+/-
OEI OBSERVER JX

DAILY PROGRESS	SYMBOL	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			23					23			
			24					24			
			25					25			
		S-6	26	2-2	6.0	Same	FILL	26			
			27	3-3		(Class 7)		**27**			③
			28					28			
			29					29			
			30					30			
		S-7	31	4-4	12.0	Gray-brown mf SAND, trace silt (Class 7)	FILL	31			
			32	4-7				**32**			
			33					33			
			34					34			
			35					35			
		S-8	36	8-9	12.0	Same (Class 7)	FILL	36			
			37	12-17				**37**			
			38					38			
			39					39			
			40					40			
		S-9	41	6-8	14.0	Black mf SAND, little organic Silt	SM	41			
			42	9-11		(Class 3b)		**42**			

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC.

PROJECT South Battery Park Resiliency — **BORING NO.** B-3
PROJECT NO. 17-NY165-01 — **SHEET** 4 OF 6
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 11.5+/-
OEI OBSERVER JX

DAILY PROGRESS	SYMBOL	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			43					43			
			44					44			
			45					45			
		S-10	46	5-2	20.0	Dark gray Silty CLAY, little mf Gravel, trace mf Sand	POSS	46			
			47	2-3		(Class 6)	FILL	**47**			
			48					48			
		UD-1	49	PUSH 17''	6.0	Decomposed wood at tube bottom; Tube damaged.		49			
			50					50			
		S-11	51	23-28	2.0	Dark gray Silty CLAY, trace c Gravel, trace mf Sand	CH	51			
			52	16-32		(Class 4a)		**52**			④
			53					53			RC
			54	3:00		Approx. Top of Bedrock		54			
		C-1	55	2:30		Gray, hard, slightly fractured, slightly weathered Schist		55			
			56	2:30		(Class 1b) Rec=60''/60''=100%		56			
			57	2:30		RQD=60''/60''=100%		**57**			
			58	2:00				58			
			59	2:15				59			
		C-2	60	2:30		Same		60			
			61	2:00		Rec=60''/60''=100%		61			
			62	2:00		RQD=60''/60''=100%		**62**			

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC.

PROJECT South Battery Park Resiliency — **BORING NO.** B-3
PROJECT NO. 17-NY165-01 — **SHEET** 5 OF 6
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 11.5+/-
OEI OBSERVER JX

DAILY PROGRESS	SYMBOL	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
11:30		C-2		2:00							
JX			63					63			
						End of boring at 63' bgs.					
			64					64			
			65					65			
			66					66			
			67					**67**			
			68					68			
			69					69			
			70					70			
			71					71			
			72					**72**			
			73					73			
			74					74			
			75					75			
			76					76			
			77					**77**			
			78					78			
			79					79			
			80					80			
			81					81			
			82					**82**			

OWEIS ENGINEERING INC.

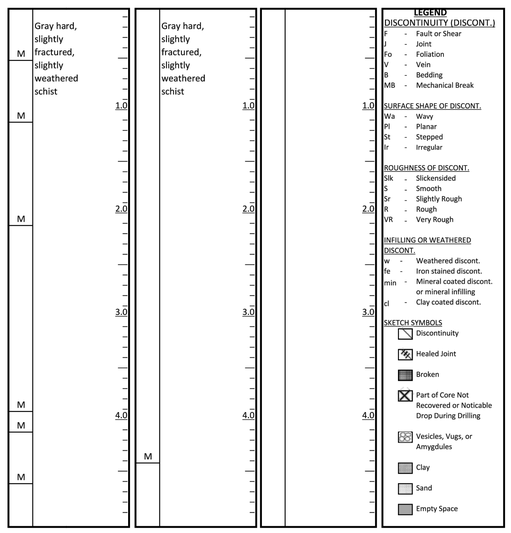
DOCUMENT 30008
REV 1 3/2015

ROCK CORE SKETCH
PROJECT South Battery Park Resiliency — **BORING NO.** B-3
PROJECT NO. 17-NY165-01 — **SHEET NO** 6 OF 6
LOCATION Battery Park City, NY — **SURFACE NO.** 11.5+/-
OEI REP. J. Xiao

Run #	Start Depth	End Depth	Rec	RQD
C-1	53'	58'	100%	100%

Run #	Start Depth	End Depth	Rec	RQD
C-2	58'	63'	100%	100%

Run #	Start Depth	End Depth	Rec	RQD



LEGEND

DISCONTINUITY (DISCONT.)
F - Fault or Shear
J - Joint
Fo - Foliation
V - Vein
B - Bedding
MB - Mechanical Break

SURFACE SHAPE OF DISCONT.
Wa - Wavy
Pl - Planar
St - Stepped
Ir - Irregular

ROUGHNESS OF DISCONT.
Slk - Slickensided
S - Smooth
Sr - Slightly Rough
R - Rough
VR - Very Rough

INFILLING OR WEATHERED DISCONT.
w - Weathered discont.
fe - Iron stained discont.
min - Mineral coated discont. or mineral infilling
cl - Clay coated discont.

SKETCH SYMBOLS
Discontinuity
Healed Joint
Broken
Part of Core Not Recovered or Noticable Drop During Drilling
Vesicles, Vugs, or Amygdules
Clay
Sand
Empty Space

OWEIS ENGINEERING INC.

DOCUMENT 30008
REV 1 3/2015

PROJECT South Battery Park Resiliency — **BORING NO.** B-4
LOCATION Battery Park City, NY — **SHEET NO.** 1 OF 4
CLIENT AECOM — **PROJECT NO.** 17-NY165-01
BORING LOCATION see plan — **SURFACE ELEV.** 12+/-
EASTING **NORTHING** — **VER. DATUM** NAVD 88
HOR. DATUM

EQUIPMENT AND METHODS OF STABILIZING BOREHOLE
DRILLING RIG Track Rig CME 55
CASING 4 in. dia. to 30 ft; dia.
ADVANCEMENT METHOD Clear Water Rotary
DRILL RODS NWJ
ROTARY BIT DIAMETER, IN. 3-7/8 in. Tricone
DRILLING MUD USED N/A
AUGER N/A
SAMPLERS
HAMMER TYPE Safety Hammer
WEIGHT 140 lb **DROP** 30'' **RATE** Auto
D-SAMPLER 2'' split spoon
U-SAMPLER N/A/
OTHER 3'' Spoon
ROCK CORING
CORING FEED N/A
CORE BARREL N/A
CORE BIT N/A

REMARKS
(1) Advance 5' casing into ground.
(2) Add 5' casing.
(3) Add 5' casing.
(4) Add 5' casing.
(5) Add 5'casing.

LEGEND
TV = Torvane Shear Strength, TSF
CT = Coring Time, minutes/foot
CB = Casing Blows Per Foot
OLT = Other Lab Testing Performed
PP = Pocket Penetrometer
Unconfined Compressive Strength, TSF

REMARK TYPES
LC = Lost Circulation
HD = Hard Drilling
RC = Rig Chatter
CBJ = Core Barrel Jam
PO = Petroleum Odor
CW = Change In Wash
SS = Slickensided
EOB = End Of Boring
ML = Mudline

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATIONS

PIEZOMETER **MONITORING WELL** **INSTALLED** no — **SKETCH SHOWN ON** NO

PAY QUANTITIES
2" DIA. SAMPLE BORING **LIN. FT.** 60 ft — **NO. OF 3" UNDISTURBED SAMPLES** N/A
CORE DRILLING IN ROCK **LIN. FT.** N/A — **OTHER** N/A
BORING CONTRACTOR Craig Test Boring Co.
DRILLER Nick Beehler — **HELPER(S):** Miles
OEI OBSERVER Jinfu Xiao — **DATE:** 5/16/2019
CLASSIFICATION CHECK Burmister Soil Classification System

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC.

PROJECT South Battery Park Resiliency — **BORING NO.** B-4
PROJECT NO. 17-NY165-01 — **SHEET** 2 OF 4
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 12+/-
OEI OBSERVER JX

DAILY PROGRESS	SYMBOL	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
5/16/19		S-1A	1	1-2	19.0	Dark brown mf SAND, some Silt with roots (Class 7)	Top	1	M		
9:20				1-3			Soil				
JX		S-1B	2			Light brown mf SAND, trace Silt (Class 6)	FILL	2			
			3					3			①
			4					4			
			5					**5**			
		S-2	6	7-12	16.0			6	W		
			7	16-17		4'' Brown f SAND, trace Silt		7			
			8			(Class 7)		8			
			9					9			
			10					**10**			
		S-3	11	9-7	15.0	Brown f SAND, little mf Gravel, trace Silt (Class 7)	FILL	11			
			12	10-9				12			②
			13					13			
			14					14			
			15					**15**			
Perm.		S-4	16	8-12	17.0	Brown f SAND,trace Silt (Class 7)		16			
Test			17	16-13				17			③
			18					18			
			19					19			
			20					**20**			
		S-5	21	3-3	15.0	Gray f+ SAND, trace Silt, trace gravel	FILL	21			
			22	5-4		(Class 6)		22			④

AECOM

PROJECT

SOUTH BATTERY PARK RESILIENCY DESIGN SERVICES

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

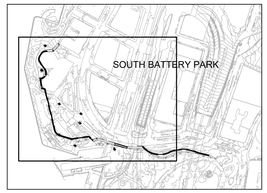
CONSULTANT

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605 3rd Ave, 2nd Floor, New York, NY 10016
212.973.2900 tel www.aecom.com

SUB-CONSULTANT

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Phone: 973.539.4400 Fax: 973.539.1122
www.oweisengineering.com

KEY PLAN



REGISTRATION

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

BORING LOGS
B-3 TO B-4

SHEET NUMBER

G003

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30% DRAFT DESIGN DOCUMENTS

ANSI D 22" x 34"

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC.

PROJECT South Battery Park Resiliency — **BORING NO.** B-4
PROJECT NO. 17-NY165-01 — **SHEET** 3 OF 4
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 12+/-
OEI OBSERVER JX

DAILY PROGRESS	SAMPLE TYPE	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			23					23			
			24					24			
			25					25			
		S-6	26	2-2	2.0	Same (Class 7)	FILL	26			
			27	3-4				**27**			⑤
			28					28			
			29					29			
			30					30			
Perm. Test		S-7	31	4-4	12.0	Gray f SAND, trace Silt (Class 7)	FILL	31			
			32	7-7				**32**			RC
			33					33			
			34					34			
			35					35			
		S-8	36	6-6	19.0	Same (Class 7)	FILL	36			spoon
			37	4-5				**37**			bounce RC
			38					38			
			39					39			
			40					40			spoon
		S-9A	41	4-4	15.0	6" Same (Class 7)		41			bounce
		S-9B	42	5-6		9" Brown mf SAND, trace Silt (Class 6)	SP	**42**			

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC.

PROJECT South Battery Park Resiliency — **BORING NO.** B-4
PROJECT NO. 17-NY165-01 — **SHEET** 4 OF 4
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 12+/-
OEI OBSERVER JX

DAILY PROGRESS	SAMPLE TYPE	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			43					43			
			44					44			
			45					45			
		S-10	46	5-3	17.0	Brown cmf SAND, trace Silt, trace f Gravel (Class 6)	SP	46			
			47	5-5				**47**			⑩
			48					48			
			49					49			
			50					50			
						Wood	Wood				
		S-11	51	47-8	4.0	Gray mf Gravel (Class 2b)	GP	51			
			52	7-10				**52**			RC
			53					53			
			54			Approx. Top of Bedrock		54			
			55					55			
		S-12	56	90/1"	1.0	Gray decomposed schist (Class 1d)	DR	56			spoon
			57					**57**			bounce RC
			58					58			
5/16/19 14:00 JX			59					59			
			60	50/0"				60			spoon bounce
			61			End of boring at 60ft bgs.		61			
			62					**62**			

OWEIS ENGINEERING INC.

DOCUMENT 30008
REV 1 3/2015

PROJECT South Battery Park Resiliency — **BORING NO.** B-5
LOCATION Battery Park City, NY — **SHEET NO.** 1 OF 5
CLIENT AECOM — **PROJECT NO.** 17-NY165-01
BORING LOCATION see plan — **SURFACE ELEV.** 11+/-
EASTING **NORTHING** — **VER. DATUM** NAVD 88
HOR. DATUM

EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

DRILLING RIG Truck Rig CME 75
CASING 4 in. dia. 30 ft dia.
ADVANCEMENT METHOD Clear Water Rotary
DRILL RODS NWJ
ROTARY BIT DIAMETER, IN. 3-7/8 in. Tricone/ 2-15/16 in. Tricone
DRILLING MUD USED N/A
AUGER N/A
SAMPLERS
HAMMER TYPE Safety Hammer
WEIGHT 140 lb **DROP** 30" **RATE** Auto
D-SAMPLER 2" split spoon
U-SAMPLER N/A
OTHER 3" Spoon
ROCK CORING
CORING FEED Hydraulic
CORE BARREL NX
CORE BIT Diamond bit

REMARKS
① Advance 10' casing into ground.
② Add 5' casing.
③ Add 5' casing.
④ Add 5' casing.
⑤ Add 5' casing.

LEGEND
TV = Torvane Shear Strength, TSF
CT = Coring Time, minutes/foot
CB = Casing Blows Per Foot
OLT = Other Lab Testing Performed
PP = Pocket Penetrometer
Unconfined Compressive Strength, TSF

REMARK TYPES
LC = Lost Circulation
HD = Hard Drilling
RC = Rig Chatter
CBJ = Core Barrel Jam
PO = Petroleum Odor
CW = Change in Wash
SS = Slickensided
EOB = End Of Boring
ML = Mudline

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATIONS
5/13/2019	11:30	28.1ft	N/A	10.3ft bgs.	PVC Well; 20' Pipe + 10' Screen
5/16/2019	7:45	28.1ft	N/A	9.85ft bgs.	PVC Well; 20' Pipe + 10' Screen
5/17/2019	7:30	28.1ft	N/A	9.9ft bgs.	PVC Well; 20' Pipe + 10' Screen
5/20/2019	8:25	28.1ft	N/A	10.4ft bgs.	PVC Well; 20' Pipe + 10' Screen
5/21/2019	8:00	28.1ft	N/A	10.7ft bgs.	PVC Well; 20' Pipe + 10' Screen

PIEZOMETER__ MONITORING WELL__ INSTALLED Yes — **SKETCH SHOWN ON** N/A no

PAY QUANTITIES
2" DIA. SAMPLE BORING **LIN. FT.** 40 ft — **NO. OF 3" UNDISTURBED SAMPLES** N/A
CORE DRILLING IN ROCK **LIN. FT.** 10 ft — **OTHER** N/A
BORING CONTRACTOR Craig Test Boring Co.
DRILLER Joe — **HELPER(S):** Garrett
OEI OBSERVER Jinfu Xiao — **DATE:** 5/10/2019
CLASSIFICATION CHECK Burmister Soil Classcification System

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC.

PROJECT South Battery Park Resiliency — **BORING NO.** B-5
PROJECT NO. 17-NY165-01 — **SHEET** 2 OF 5
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 11+/-
OEI OBSERVER JX

DAILY PROGRESS	SAMPLE TYPE	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
5/10/19 8:45 JX			1			2" Pavement Stone Gray cmf SAND, trace Silt (Class 7)	FILL	1			
		S-1A	2	13-11	19.0			2	M		
		S-1B	3	17-24		Brown mf+ SAND, little Silt, little m Gravel (Class 7)	FILL	3			
			4					4			
			5					**5**			
		S-2	6	9-14	12.0	Brown f SAND, trace Silt (Class 7)	FILL	6	W		
			7	23-23				7			
			8					8			①
			9					9			
			10					**10**			
		S-3	11	13-16	12.0	Same (Class 7)	FILL	11			
			12	17-19				12			
			13					13			②
			14					14			
			15					**15**			
		S-4	16	6-5	6.0	Same (Class 7)	FILL	16			
			17	6-5				17			③
			18					18			
			19					19			
			20					**20**			
		S-5	21	3-3	7.0	Gray f SAND, trace Silt (Class 6)	SP	21			
			22	4-7				22			④

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC.

PROJECT South Battery Park Resiliency — **BORING NO.** B-5
PROJECT NO. 17-NY165-01 — **SHEET** 3 OF 5
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 11+/-
OEI OBSERVER JX

DAILY PROGRESS	SAMPLE TYPE	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			23					23			
			24					24			
			25					25			
Perm. Test		S-6	26	5-8	8.0	Same (Class 3b)		26			
			27	5-7				**27**			⑤
			28					28			
			29					29			
			30					30			
		S-7	31	3-4	10.0	Same (Class 6)	SP	31			
			32	3-4				**32**			
			33					33			
			34					34			
			35					35			
		S-8	36	6-5	10.0	Same (Class 3b)		36			
			37	6-8				**37**			
			38					38			
			39					39			
			40					40			
		C-1	41	2:30		Approx. Top of Bedrock		41			
			42	2:30				**42**			

BORING LOG

DOCUMENT 30008
REV 1 3/2015

Oweis ENGINEERING INC.

PROJECT South Battery Park Resiliency — **BORING NO.** B-5
PROJECT NO. 17-NY165-01 — **SHEET** 4 OF 5
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 11+/-
OEI OBSERVER JX

DAILY PROGRESS	SAMPLE TYPE	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			43	2:30		White mottled very hard, intensively fractured, intensively weathered Granite		43			
		C-1	44	3:00		Rec=51"/60"=85%		44			
			45	3:00		RQD=10"/60"=16.7% (Class 1d)		45			
			46	2:30				46			
			47	2:00		Same		**47**			
		C-2	48	2:00		Rec=60"/60"=100%		48			
5/10/19 13:00 JX			49	2:00		RQD=33"/60"=55% (Class 1b)		49			
			50	2:00				50			
			51			End of boring at 50' bgs.		51			
			52					**52**			
			53					53			
			54					54			
			55					55			
			56					56			
			57					**57**			
			58					58			
			59					59			
			60					60			
			61					61			
			62					**62**			

AECOM

PROJECT

SOUTH BATTERY PARK RESILIENCY DESIGN SERVICES

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

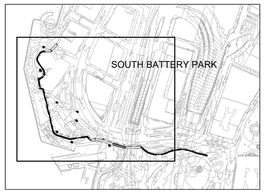
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SUB-CONSULTANT

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KEY PLAN



REGISTRATION

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

BORING LOGS
B-4 TO B-5

SHEET NUMBER

G004

Last saved by: DRAFTING(2019-09-24) Last Plotted: 2019-09-24
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DOCUMENT 30008
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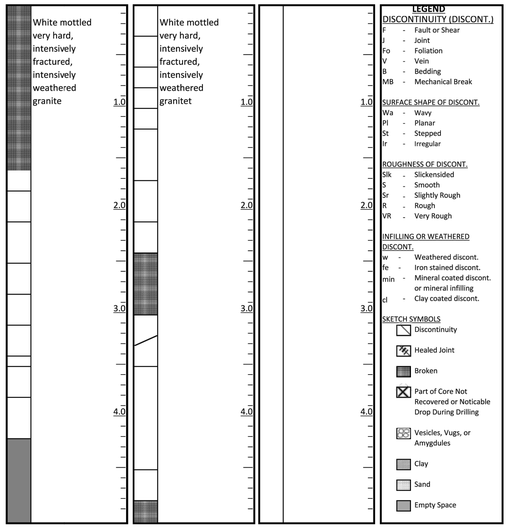
ROCK CORE SKETCH
PROJECT South Battery Park Resiliency
PROJECT NO. 17-NY165-01
LOCATION Battery Park City, NY

BORING NO. B-5
SHEET NO 5 OF 5
SURFACE NO. 11+/-
OEI REP. J. Xiao

Run #	Start Depth	End Depth	Rec	RQD
C-1	40'	45'	85%	16.7%

Run #	Start Depth	End Depth	Rec	RQD
C-2	45'	50'	100%	55%

Run #	Start Depth	End Depth	Rec	RQD



LEGEND

DISCONTINUITY (DISCONT.)
F - Fault or Shear
J - Joint
Fo - Foliation
V - Vein
B - Bedding
MB - Mechanical Break

SURFACE SHAPE OF DISCONT.
Wa - Wavy
Pl - Planar
St - Stepped
Ir - Irregular

ROUGHNESS OF DISCONT.
Slk - Slickensided
S - Smooth
Sr - Slighly Rough
R - Rough
VR - Very Rough

INFILLING OR WEATHERED DISCONT.
w - Weathered discont.
fe - Iron stained discont.
min - Mineral coated discont. or mineral infilling
cl - Clay coated discont.

SKETCH SYMBOLS
- Discontinuity
- Healed Joint
- Broken
- Part of Core Not Recovered or Noticable Drop During Drilling
- Vesicles, Vugs, or Amygdules
- Clay
- Sand
- Empty Space

OWEIS ENGINEERING INC.

DOCUMENT 30008
REV 1 3/2015

PROJECT South Battery Park Resiliency
LOCATION Battery Park City, NY
CLIENT AECOM
BORING LOCATION see plan
EASTING **NORTHING**

BORING NO. B-6
SHEET NO. 1 OF 5
PROJECT NO. 17-NY165-01
SURFACE ELEV. 10+/-
VER. DATUM NAVD 88
HOR. DATUM

EQUIPMENT AND METHODS OF STABILIZING BOREHOLE
DRILLING RIG Truck Rig CME 75
CASING
4 in. dia. 30 ft
dia.
ADVANCEMENT METHOD Mud rotary
DRILL RODS NWJ
ROTARY BIT DIAMETER, IN. 3-7/8 in. Tricone/ 2-15/16 in. Tricone
DRILLING MUD USED QUIK-GEL
AUGER N/A
SAMPLERS
HAMMER TYPE Safety Hammer
WEIGHT 140 lb **DROP** 30" **RATE** Auto
D-SAMPLER 2" split spoon
U-SAMPLER N/A
OTHER N/A
ROCK CORING
CORING FEED Hydraulic
CORE BARREL NX
CORE BIT Diamond bit

REMARKS
①Advance 10' casing into ground.
②Add 20' casing.

LEGEND
TV = Torvane Shear Strength, TSF
CT = Coring Time, minutes/foot
CB = Casing Blows Per Foot
OLT = Other Lab Testing Performed
PP = Pocket Penetrometer
Unconfined Compressive Strength, TSF

REMARK TYPES
LC = Lost Circulation
HD = Hard Drilling
RC = Rig Chatter
CBJ = Core Barrel Jam
PO = Petroleum Odor
CW = Change in Wash
SS = Slickensided
EOB = End Of Boring
ML = Mudline

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATIONS

PIEZOMETER__ MONITORING WELL__ INSTALLED no **SKETCH SHOWN ON** NO

PAY QUANTITIES
2" DIA. SAMPLE BORING **LIN. FT.** 44 ft **NO. OF 3" UNDISTURBED SAMPLES** 0
CORE DRILLING IN ROCK **LIN. FT.** 10 ft **OTHER** N/A
BORING CONTRACTOR Craig Test Boring Co.
DRILLER Joe **HELPER(S):** Garrett
OEI OBSERVER Jinfu Xiao **DATE:** 5/7/2019
CLASSIFICATION CHECK Burmister Soil Classification System

BORING LOG

DOCUMENT 30008
REV 1 3/2015

PROJECT South Battery Park Resiliency **BORING NO.** B-6
PROJECT NO. 17-NY165-01 **SHEET** 2 OF 5
LOCATION South Battery Park Resiliency **GROUND ELEVATION** 10+/-
OEI OBSERVER JX

DAILY PROGRESS	SAMPLE SYMBOL	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
5/7/19			1			2" Pavement Stone		1			
9:00											
JX		S-1	2	21-16	17.0	Dark brown mf SAND, little mf Gravel/brick fragments	FILL	2	M		
			3	15-15		trace Silt (Class 7)		3			
			4					4			
			5					**5**			
		S-2	6	13-15	10.0	Brown mf SAND, trace Silt (Class 7)	FILL	6	M		
			7	15-15				7			
			8					8			①
			9					9			
			10					**10**			
		S-3	11	12-14	10.0	Same (Class 7)	FILL	11	W		
			12	12-13				12			
			13					13			
			14					14			
			15					**15**			
		S-4	16	4-3	7.0	Gray f SAND, trace Silt		16			
			17	5-4		(Class 6)		17			
			18					18			
			19					19			
			20				SP	**20**			
		S-5	21	3-2	11.0	Same		21			
			22	3-3		(Class 6)		22			

BORING LOG

DOCUMENT 30008
REV 1 3/2015

PROJECT South Battery Park Resiliency **BORING NO.** B-6
PROJECT NO. 17-NY165-01 **SHEET** 3 OF 5
LOCATION South Battery Park Resiliency **GROUND ELEVATION** 10+/-
OEI OBSERVER JX

DAILY PROGRESS	SAMPLE SYMBOL	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			23					23			
			24					24			
			25					25			
		S-6	26	8-8	11.0	Same	SP	26			
			27	9-12		(Class 3b)		**27**			
			28					28			②
			29					29			
			30					30			
		S-7	31	3-4	11.0	Gray f SAND, trace Silt, trace Gravel	SP-SM	31			
			32	6-7		(Class 3b)		**32**			
			33					33			
			34					34			
			35					35			
		S-8A	36	3-4	12.0	6" Black mf SAND, some organic Silt&Clay	SM	36			
		S-8B	37	6-6		(Class 6) 6" Brown cmf SAND, trace Silt (Class 3b)	SM/SP	**37**			
			38					38			
			39					39			
			40					40			
		S-9	41	WOH/12"	15.0	Black organic Silty CLAY, some cm Gravel (Class 6)	CH	41			
			42	27/3"		(decomposed rock)		**42**			RC

BORING LOG

DOCUMENT 30008
REV 1 3/2015

PROJECT South Battery Park Resiliency **BORING NO.** B-6
PROJECT NO. 17-NY165-01 **SHEET** 4 OF 5
LOCATION South Battery Park Resiliency **GROUND ELEVATION** 10+/-
OEI OBSERVER JX

DAILY PROGRESS	SAMPLE SYMBOL	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			43					43			
			44					44			
			45	2:15		Approx. top of bedrock		45			
			46	3:30		Gray hard, slightly weathered, slightly fractured schist (Class 1b)		46			
		C-1	47	3:30		Rec=56"/60"=93.3%		**47**			
			48	3:00		RQD=48"/60"=80%		48			
			49	3:00				49			
			50	3:00				50			
			51	3:00		Same		51			
		C-2	52	2:30		Rec=60"/60"=100%		**52**			
5/7/19			53	2:30		RQD=60"/60"=100% (Class 1a)		53			
11:40											
JX			54	2:30				54			
			55			End of boring at 54' bgs.		55			
			56					56			
			57					**57**			
			58					58			
			59					59			
			60					60			
			61					61			
			62					**62**			

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DOCUMENT 30008
REV 1 3/2015

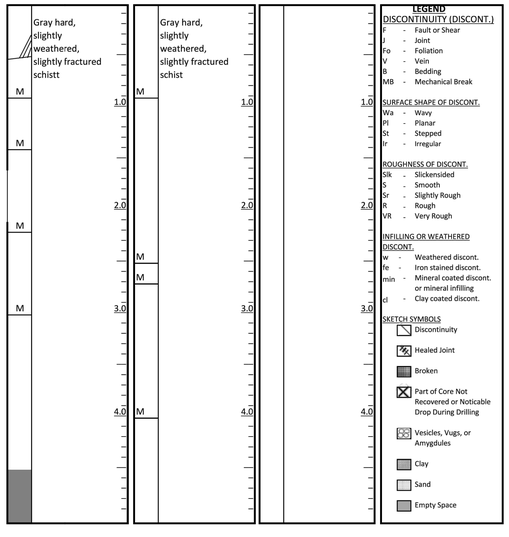
ROCK CORE SKETCH
PROJECT South Battery Park Resiliency
PROJECT NO. 17-NY165-01
LOCATION Battery Park City, NY

BORING NO. B-6
SHEET NO 5 OF 5
SURFACE NO. 10+/-
OEI REP. J. Xiao

Run #	Start Depth	End Depth	Rec	RQD
C-1	44'	49'	93.3%	80%

Run #	Start Depth	End Depth	Rec	RQD
C-2	49'	54'	100%	100%

Run #	Start Depth	End Depth	Rec	RQD



LEGEND

DISCONTINUITY (DISCONT.)
F - Fault or Shear
J - Joint
Fo - Foliation
V - Vein
B - Bedding
MB - Mechanical Break

SURFACE SHAPE OF DISCONT.
Wa - Wavy
Pl - Planar
St - Stepped
Ir - Irregular

ROUGHNESS OF DISCONT.
Slk - Slickensided
S - Smooth
Sr - Slighly Rough
R - Rough
VR - Very Rough

INFILLING OR WEATHERED DISCONT.
w - Weathered discont.
fe - Iron stained discont.
min - Mineral coated discont. or mineral infilling
cl - Clay coated discont.

SKETCH SYMBOLS
- Discontinuity
- Healed Joint
- Broken
- Part of Core Not Recovered or Noticable Drop During Drilling
- Vesicles, Vugs, or Amygdules
- Clay
- Sand
- Empty Space

AECOM

PROJECT

SOUTH BATTERY PARK RESILIENCY DESIGN SERVICES

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

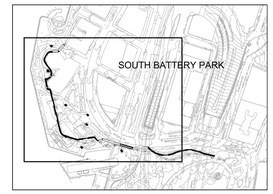
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Phone: 973.539.4400 Fax: 973.539.1122
www.oweisengineering.com

KEY PLAN



REGISTRATION

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

BORING LOGS
B-5 TO B-6

SHEET NUMBER

G005

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DOCUMENT 30008
REV 1 3/2015

PROJECT South Battery Park Resiliency
LOCATION Battery Park City, NY
CLIENT AECOM
BORING LOCATION see plan
EASTING **NORTHING**

BORING NO. B-7
SHEET NO. 1 OF 3
PROJECT NO. 17-NY165-01
SURFACE ELEV. 6.5+/-
VER. DATUM NAVD 88
HOR. DATUM

EQUIPMENT AND METHODS OF STABILIZING BOREHOLE
DRILLING RIG Truck Rig CME 75
CASING
4 in. dia. 40 ft
dia.
ADVANCEMENT METHOD Clear Water Rotary
DRILL RODS NWJ
ROTARY BIT DIAMETER, IN. 3-7/8 in. Tricone/ 2-15/16 in. Tricone
DRILLING MUD USED N/A
AUGER N/A
SAMPLERS
HAMMER TYPE Safety Hammer
WEIGHT 140 lb **DROP** 30'' **RATE** Auto
D-SAMPLER 2'' split spoon
U-SAMPLER N/A
OTHER 3'' Spoon
ROCK CORING
CORING FEED Hydraulic
CORE BARREL NX
CORE BIT Diamond bit

REMARKS
①Advance 10' casing into ground.
②Add 5' casing.
③Add 5' casing.
④Add 5' casing.
⑤Add 5' casing.
⑥Add 5' casing.
⑦Add 5' casing.

LEGEND
TV = Torvane Shear Strength, TSF
CT = Coring Time, minutes/foot
CB = Casing Blows Per Foot
OLT = Other Lab Testing Performed
PP = Pocket Penetrometer
Unconfined Compressive Strength, TSF

REMARK TYPES
LC = Lost Circulation
HD = Hard Drilling
RC = Rig Chatter
CBJ = Core Barrel Jam
PO = Petroleum Odor
CW = Change in Wash
SS = Slickensided
EOB = End Of Boring
ML = Mudline

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATIONS

PIEZOMETER **MONITORING WELL** **INSTALLED** no **SKETCH SHOWN ON** NO

PAY QUANTITIES
2" DIA. SAMPLE BORING **LIN. FT.** 40 ft **NO. OF 3" UNDISTURBED SAMPLES** 0
CORE DRILLING IN ROCK **LIN. FT.** 1 ft **OTHER** N/A
BORING CONTRACTOR Craig Test Boring Co.
DRILLER Joe **HELPER(S):** Garrett
OEI OBSERVER Jinfu Xiao **DATE:** 5/9/2019 to 5/10/2019
CLASSIFICATION CHECK Burmister Soil Classification System

BORING LOG

DOCUMENT 30008
REV 1 3/2015

PROJECT South Battery Park Resiliency
PROJECT NO. 17-NY165-01
LOCATION South Battery Park Resiliency

BORING NO. B-7
SHEET 2 OF 3
GROUND ELEVATION 6.5+/-
OEI OBSERVER JX

DAILY PROGRESS	SAMPLE: STATUS	SAMPLE: NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
5/9/19 11:00 JX			1			2'' Pavement Stone		1			
		S-1	2	4-5	10.0	Brown cmf SAND, some mf Gravel/Brick fragments	FILL	2	M		
			3	8-11		(Class 7)		3			
			4					4			
			5					5			
		S-2	6	3-6	6.0	Same with brick fragments (Class 7)	FILL	6	W		
			7	4-5				7			
			8					8			①
			9					9			
			10					10			
		S-3	11	3-2	2.0	Same (Class 7)	FILL	11			
			12	1-3				12			②
			13					13			
			14					14			
			15					15			
		S-4	16	3-1	6.0	Black mf SAND, some Silt, little f Gravel	FILL	16			
			17	1-1		(Class 7)		17			③
			18					18			
			19					19			
			20					20			
		S-5	21	4-2	6.0	Brown mf SAND, little cmf Gravel/Brick fragments	FILL	21			
			22	2-2		(caved in material) (Class 7)		22			④

BORING LOG

DOCUMENT 30008
REV 1 3/2015

PROJECT South Battery Park Resiliency
PROJECT NO. 17-NY165-01
LOCATION South Battery Park Resiliency

BORING NO. B-7
SHEET 3 OF 3
GROUND ELEVATION 6.5+/-
OEI OBSERVER JX

DAILY PROGRESS	SAMPLE: STATUS	SAMPLE: NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			23					23			
			24					24			
			25					25			
		S-6	26	3-1	0.0			26			
			27	2-1				27			⑤
			28					28			
			29					29			
			30					30			
		S-7	31	WOH/12''	4.0	Black f SAND, some Silty Clay, trace f Gravel	FILL	31			
			32	1-1		(Class 7)		32			⑥
			33					33			
			34					34			
			35					35			
		S-8	36	11-13	4.0	Decomposed wood with Silty Clay	CL-ML	36			
			37	11-18		(Class 6)		37			⑦
			38					38			
5/9/19 13:30 JX			39					39			
			40			Approx. top of bedrock		40			
5/10/19 JX		C-1	41		9.0	Fractured schist (Class 1c)		41			
			42			End of boring at 41' bgs.		42			

OWEIS ENGINEERING INC.

DOCUMENT 30008
REV 1 3/2015

PROJECT South Battery Park Resiliency
LOCATION Battery Park City, NY
CLIENT AECOM
BORING LOCATION see plan
EASTING **NORTHING**

BORING NO. B-8
SHEET NO. 1 OF 6
PROJECT NO. 17-NY165-01
SURFACE ELEV. 5+/-
VER. DATUM NAVD 88
HOR. DATUM

EQUIPMENT AND METHODS OF STABILIZING BOREHOLE
DRILLING RIG Truck Rig CME 75
CASING
4 in. dia. 30 ft
dia.
ADVANCEMENT METHOD Clear Water Rotary
DRILL RODS NWJ
ROTARY BIT DIAMETER, IN. 3-7/8 in. Tricone/ 2-15/16 in. Tricone
DRILLING MUD USED N/A
AUGER N/A
SAMPLERS
HAMMER TYPE Safety Hammer
WEIGHT 140 lb **DROP** 30'' **RATE** Auto
D-SAMPLER 2'' split spoon
U-SAMPLER Shelby Tube
OTHER 3'' Spoon
ROCK CORING
CORING FEED Hydraulic
CORE BARREL NX
CORE BIT Diamond bit

REMARKS
①Advance 10' casing into ground.
②3'' spoon sampling
③Add 5' casing.
④3'' spoon sampling.
⑤Add 5' casing.
⑥Add 5' casing.
⑦Add 5' casing.
⑧lost 5' casing at about 29' bgs.
⑨Redrill B-8 next to original location. advance 30' casing into ground.
⑩Switch to core barrel.

LEGEND
TV = Torvane Shear Strength, TSF
CT = Coring Time, minutes/foot
CB = Casing Blows Per Foot
OLT = Other Lab Testing Performed
PP = Pocket Penetrometer
Unconfined Compressive Strength, TSF

REMARK TYPES
LC = Lost Circulation
HD = Hard Drilling
RC = Rig Chatter
CBJ = Core Barrel Jam
PO = Petroleum Odor
CW = Change in Wash
SS = Slickensided
EOB = End Of Boring
ML = Mudline

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATIONS

PIEZOMETER **MONITORING WELL** **INSTALLED** no **SKETCH SHOWN ON** NO

PAY QUANTITIES
2" DIA. SAMPLE BORING **LIN. FT.** 55 ft **NO. OF 3" UNDISTURBED SAMPLES** 1
CORE DRILLING IN ROCK **LIN. FT.** 10 ft **OTHER** N/A
BORING CONTRACTOR Craig Test Boring Co.
DRILLER Joe **HELPER(S):** Garrett
OEI OBSERVER Jinfu Xiao **DATE:** 5/8/2019
CLASSIFICATION CHECK Burmister Soil Classification System

BORING LOG

DOCUMENT 30008
REV 1 3/2015

PROJECT South Battery Park Resiliency
PROJECT NO. 17-NY165-01
LOCATION South Battery Park Resiliency

BORING NO. B-8
SHEET 2 OF 6
GROUND ELEVATION 5+/-
OEI OBSERVER JX

DAILY PROGRESS	SAMPLE: STATUS	SAMPLE: NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
5/8/19 8:15 JX			1			2'' Paving Stone		1			
		S-1	2	21-78	12.0	Brown/Gray mf SAND, little mf Gravel/ Brick fragments		2	M		
			3	28-21		trace Silt (Class 7)		3			
			4					4			
			5					5			
		S-2	6	5-2	3.0	Gray cmf SAND with brick fragments, trace Silt		6	W		
			7	2-3		(Class 7)		7			
			8					8			①
			9					9			
			10					10			
		S-3	11	1-3	1.0	Brown mf SAND, little Silt, little cmf Gravel	FILL	11			
			12	1-2		(Class 7)		12			②
			13					13			③
			14					14			
			15					15			
		S-4	16	5-4	2.0	Gray mf SAND, little Silt, little cm Gravel/ Brick fragments		16			
			17	6-2		(Class 7)		17			④
			18					18			⑤
			19					19			
			20					20			
		S-5	21	7-9	8.0	mf Gravel/ Brick fragments, and Gray mf SAND,	FILL	21			
			22	7-6		little Silt (Class 7)		22			⑥

BORING LOG

DOCUMENT 30008
REV 1 3/2015

PROJECT South Battery Park Resiliency
PROJECT NO. 17-NY165-01
LOCATION South Battery Park Resiliency

BORING NO. B-8
SHEET 3 OF 6
GROUND ELEVATION 5+/-
OEI OBSERVER JX

DAILY PROGRESS	SAMPLE: STATUS	SAMPLE: NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			23					23			
			24					24			
			25					25			
Perm. Test		S-6	26	4-2	8.0	Dark gray cmf SAND, some cmf Gravel, little Silty Clay,	SP-SC	26			
			27	2-3		organic odor (Class 6)		27			⑦
			28					28			
5/8/19 12:30 JX			29					29			⑧
			30					30			
5/9/19 8:00 JX		S-7	31	1-2	6.0	Same (Class 6)	SP-SC	31			⑨
			32	2-1				32			
			33					33			
			34					34			
			35					35			
		S-8A	36	WOH/18''	24.0	6'' Brown f SAND, little Silt (Class 6)	SP-SM	36			
		S-8B	37	10		18'' Dark gray Silty CLAY with shell fragments, organic (Class 6)	CH	37			
			38					38			
			39					39			
			40					40			
		S-9	41	1-1	14.0	Same (Class 6)	CH	41			
			42	1-3				42			

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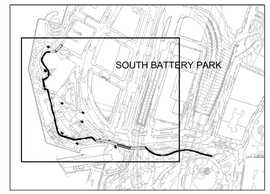
PROJECT
SOUTH BATTERY PARK RESILIENCY DESIGN SERVICES

CLIENT
HUGH L. CAREY BATTERY PARK CITY AUTHORITY

CONSULTANT
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AECOM DESIGN AND ENGINEERING
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KEY PLAN



REGISTRATION

PRELIMINARY
NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER
Contract No. 18-2586

SHEET TITLE
BORING LOGS
B-7 TO B-8

SHEET NUMBER
G006

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BORING LOG

DOCUMENT 30008 REV 1 3/2015

PROJECT South Battery Park Resiliency — **BORING NO.** B-8
PROJECT NO. 17-NY165-01 — **SHEET** 4 OF 6
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 5+/-
OEI OBSERVER JX

DAILY PROGRESS	SYMBOL	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			43					43			
		UD-1	44	PUSH	24.0	Same (Class 6)	CL-ML	44			
			45			Gray cmf- SAND, trace Silt at tube bottom		45			
		S-10	46	2-3	12.0	Same (Class 6)	SM	46			
			47	2-3				**47**			
			48					48			
			49					49			
			50					50			
		S-11	51	4-3	6.0	Gray mf- SAND, little Silty Clay, trace C Gravel (Class 6)	SM	51			
			52	3-3				**52**			
			53					53			
			54					54			
			55					55			
			56	2:20		Approx. top of bedrock		56			
			57	2:15		Gray hard, slightly fractured, slightly weathered schist (Class 1b)		**57**			
		C-1	58	2:30		Rec=51"/60"=85% RQD=47"/60"=78.3%		58			
			59	2:30				59			
			60	2:00				60			
			61	2:30		Gray m hard, m fractured, m weathered schist (Class 1c)		61			
		C-2	62	2:30				**62**			

BORING LOG

DOCUMENT 30008 REV 1 3/2015

PROJECT South Battery Park Resiliency — **BORING NO.** B-8
PROJECT NO. 17-NY165-01 — **SHEET** 5 OF 6
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 5+/-
OEI OBSERVER JX

DAILY PROGRESS	SYMBOL	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			63	2:10		Rec=60"/60"=100%		63			
		C-2	64	2:30		RQD=58"/60"=96.7%		64			
5/9/19 11:00 JX			65	2:30		(Class 1a)		65			
			66			End of boring at 65' bgs.		66			
			67					**67**			
			68					68			
			69					69			
			70					70			
			71					71			
			72					**72**			
			73					73			
			74					74			
			75					75			
			76					76			
			77					**77**			
			78					78			
			79					79			
			80					80			
			81					81			
			82					**82**			

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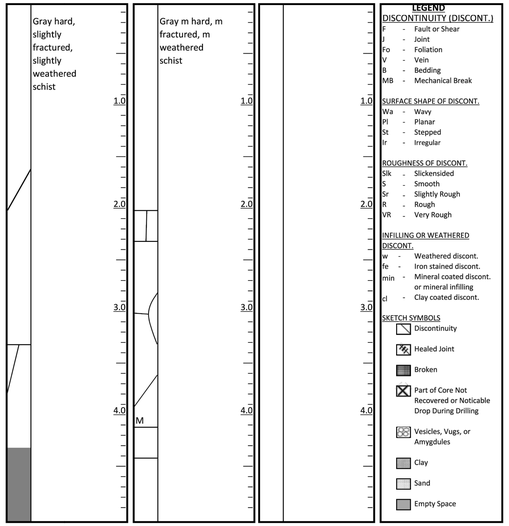
ROCK CORE SKETCH
PROJECT South Battery Park Resiliency
PROJECT NO. 17-NY165-01
LOCATION Battery Park City, NY

BORING NO. B-8
SHEET NO 6 OF 6
SURFACE NO. 5+/-
OEI REP. J. Xiao

Run #	Start Depth	End Depth	Rec	RQD
C-1	55'	60'	85%	78.3%

Run #	Start Depth	End Depth	Rec	RQD
C-2	60'	65'	100%	96.7%

Run #	Start Depth	End Depth	Rec	RQD



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DOCUMENT 30008 REV 1 3/2015

PROJECT South Battery Park Resiliency
LOCATION Battery Park City, NY
CLIENT AECOM
BORING LOCATION see plan
EASTING ____ **NORTHING** ____

BORING NO. B-11
SHEET NO. 1 OF 3
PROJECT NO. 17-NY165-01
SURFACE ELEV. 10.5+/-
VER. DATUM NAVD 88
HOR. DATUM ____

EQUIPMENT AND METHODS OF STABILIZING BOREHOLE
DRILLING RIG Track Rig CME 55
CASING 4 in. dia. to 12 ft; ____ dia.
ADVANCEMENT METHOD Clear Water Rotary
DRILL RODS NWJ
ROTARY BIT DIAMETER, IN. 3-7/8 in. Tricone
DRILLING MUD USED N/A
AUGER N/A
SAMPLERS
HAMMER TYPE Safety Hammer
WEIGHT 140 lb **DROP** 30" **RATE** Auto
D-SAMPLER 2" split spoon
U-SAMPLER N/A/
OTHER N/A
ROCK CORING
CORING FEED N/A
CORE BARREL N/A
CORE BIT N/A

REMARKS
1. Advance 5' casing into ground.
2. Add 2' casing.
3. Add 5' casing.

LEGEND
TV = Torvane Shear Strength, TSF
CT = Coring Time, minutes/foot
CB = Casing Blows Per Foot
OLT = Other Lab Testing Performed
PP = Pocket Penetrometer
Unconfined Compressive Strength, TSF

REMARK TYPES
LC = Lost Circulation
HD = Hard Drilling
RC = Rig Chatter
CBJ = Core Barrel Jam
PO = Petroleum Odor
CW = Change in Wash
SS = Slickensided
EOB = End Of Boring
ML = Mudline

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATIONS

PIEZOMETER ____ **MONITORING WELL** ____ **INSTALLED** no — **SKETCH SHOWN ON** NO

PAY QUANTITIES
2" DIA. SAMPLE BORING — **LIN. FT.** 32 ft — **NO. OF 3" UNDISTURBED SAMPLES** N/A
CORE DRILLING IN ROCK — **LIN. FT.** N/A — **OTHER** N/A
BORING CONTRACTOR Craig Test Boring Co.
DRILLER Mike Tarter — **HELPER(S):** Jimmy
OEI OBSERVER Jinfu Xiao — **DATE:** 5/21/2019
CLASSIFICATION CHECK Burmister Soil Classcification System

BORING LOG

DOCUMENT 30008 REV 1 3/2015

PROJECT South Battery Park Resiliency — **BORING NO.** B-11
PROJECT NO. 17-NY165-01 — **SHEET** 2 OF 3
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 10.5+/-
OEI OBSERVER JX

DAILY PROGRESS	SYMBOL	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
5/21/19 9:00 JX		S-1	1	2-4	27.0	Dark brown mf SAND, traces Silt, trace Gravel (Class 7)		1	M		
			2	4-3				2			
Perm. Test		S-2	3	8-10	15.0	Light brown f SAND, trace Silt (Class 7)		3			
			4	14-16				4			①
Perm. Test		S-3	5	5-9	12.0	Same (Class 7)		**5**			
			6	10-10				6	W		②
		S-4	7	6-7	12.0	Light brown f SAND, trace Silt, trace Gravel (Class 7)		7			
			8	8-8				8			
Perm. Test		S-5	9	8-8	14.0	Light brown f SAND, trace Silt (Class 7)	FILL	9			
			10	8-7				**10**			③
		S-6	11	13-7	8.0	Same (Class 7)		11			
			12	5-5				12			
			13					13			
			14					14			
			15					**15**			
		S-7	16	7-9	14.0	Same (Class 7)		16			
			17	11-12				17			
			18					18			
			19					19			
			20					**20**			
		S-5	21	7-7	10.0	Same (Class 7)		21			
			22	10-5				22			④

BORING LOG

DOCUMENT 30008 REV 1 3/2015

PROJECT South Battery Park Resiliency — **BORING NO.** B-11
PROJECT NO. 17-NY165-01 — **SHEET** 3 OF 3
LOCATION South Battery Park Resiliency — **GROUND ELEVATION** 10.5+/-
OEI OBSERVER JX

DAILY PROGRESS	SYMBOL	SAMPLE NO.	DEPTH (ft)	BLOWS/6"	REC (in)	SAMPLE DESCRIPTION	USCS	DEPTH (ft)	MOISTURE CONDITION	FIELD TESTS	REMARKS (TYPE)
			23					23			
			24					24			RC
			25					25			
		S-9	26	9-8	12.0	Same, cm Gravel at spoon tip (Class 7)	FILL	26			
			27	7-7				**27**			
			28					28			
			29					29			
			30					30			
5/12/19 11:40 JX		S-10	31	7-7	14.0	12" Gray mf SAND, little Silt (Class 3b)	SP-SM	31			
			32	10-10				**32**			
			33			End of boring at 32 ft bgs.		33			
			34					34			
			35					35			
			36					36			
			37					**37**			
			38					38			
			39					39			
			40					40			
			41					41			
			42					**42**			

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PROJECT

SOUTH BATTERY PARK RESILIENCY DESIGN SERVICES

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

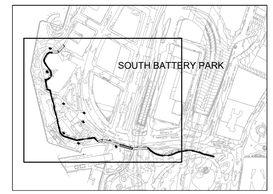
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KEY PLAN



REGISTRATION

PRELIMINARY NOT FOR CONSTRUCTION

ISSUE/REVISION

I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

BORING LOGS B-8 AND B-11

SHEET NUMBER

G007

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