An Exelon Company

Appendix P

Geotechnical Analysis Reports

Phase I Landside Investigation

Excerpts from Geotechnical Analysis Reports: Craig Testing Laboratories of Maryland, Inc.

LABORATORY ANALYSIS

SOIL SAMPLES
3400 BENNING ROAD
WASHINGTON, DC 20019

Prepared for:
AECOM
8320 Guilford Road, Suite L
Columbia, Maryland 21046

Prepared by:
Craig Testing Laboratories of Maryland, Inc.
10850-C Hanna Street
Beltsville, Maryland 20705

SAMPLE IDENTIFICATION SAMPLE NUMBER:	LOCATION DEPTH	MOISTURE CONTENT AS RECEIVED
1	SB-3, 9' - 11'	12.2%
2	SB-3, 25' - 27'	20.6%
3	SB-3, 40 - 42'	13.6%
4	SB-3, 60' - 62'	18.9%
5	SB-3, 70' - 72'	22.3%
6	SB-3, 15' - 17'	13.5%
7	SB-1, 5' - 7'	9.3%
8	SB-1, 25' - 27'	14.6%
9	SB-1, 65' - 67'	13.7%
10	SB-1, 75' - 77'	14.6%
11	SB-1, 15' - 17'	16.8%
12	SB-1, 45' - 47'	31.1%
13	SB-1, 95' - 99'	26.0%
14	SB-5, 5' - 7'	18.5%
15	SB-5, 9' - 11'	20.0%
16	SB-5, 13' - 15'	13.2%
17	SB-5, 35' - 37'	25.9%
18	SB-5, 40' - 42'	30.4%
19	SB-5, 55' - 60'	24.0%
20	SB-4, 20' - 22'	22.1%
21	SB-4, 30' - 32'	2.9%
22	SB-4, 45' - 47'	26.6%
23	SB-4, 55' - 57'	7.1%
24	SB-4, 15' - 17'	35.6%
25	SB-4, 70' - 75'	17.8%
26	SB-2, 11' - 13'	22.4%
27	SB-2, 35' - 37'	21.5%
28	SB-2. 40' - 42'	24.5%
29	SB-2, 55' - 57'	23.1%
30	SB-2, 80' - 82'	19.0%
31	SB-2, 20' - 22'	17.9%
32	SB-2, 50' - 52'	23.3%
33	SB-2, 87' - 93'	18.8%

Craig Testing Laboratories Of Maryland, Inc.

WASHED GRADATION ANALYSIS

SAMPLE #	#1	#2	#5	#7	#8	#10	#11	#12	#13
SIEVE SIZE	PERCENT PASSING								
4"	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2"	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/4"	89.0	100.0	100.0	91.5	100.0	100.0	100.0	100.0	100.0
3/8"	72.6	82.8	94.3	73.4	93.4	100.0	97.7	100.0	100.0
No. 4	62.3	69.7	87.1	57.7	91.7	100.0	94.7	100.0	100.0
No. 10	55.3	62.7	84.6	46.2	90.9	100.0	92.5	100.0	89.5
No. 50	25.4	36.6	64.1	12.9	73.7	68.0	32.5	96.2	60.1
#200	13.9	14.4	45.0	4.9	32.8	33.1	4.4	23.1	8.2

SAMPLE #	#14	#16	#21	#23	#24	#25	#26	#31	#32	#33
SIEVE SIZE	PERCENT PASSING									
4"	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2"	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/4"	100.0	100.0	96.2	100.0	100.0	100.0	100.0	99.2	93.1	100.0
3/8"	99.1	76.2	89.6	100.0	100.0	100.0	100.0	80.5	92.4	100.0
No. 4	96.1	55.8	85.9	100.0	100.0	100.0	97.3	68.1	89.2	100.0
No. 10	94.0	41.3	79.7	97.9	87.8	83.6	90.4	61.4	82.6	100.0
No. 50	14.2	8.2	18.8	16.3	24.5	23.8	18.8	8.6	73.0	94.7
#200	3.4	2.7	2.3	3.1	7.2	9.2	1.2	2.4	49.1	64.3

ATTERBERG LIMITS

SAMPLE NUMBER:	#1	#2	#3	#4	#6	#7
Liquid Limit			33.5	79.1	38.9	
Plastic Limit	Non-Plastic	Non-Plastic	20.5	31.8	30.4	Non-Plastic
Plasticity Index			13.0	47.3	8.5	

SAMPLE NUMBER:	#8	#9	#10	#11	#12	#13
Liquid Limit		29.9		28.6	61.2	
Plastic Limit	Non-Plastic	21.9	Non-Plastic	23.1	35.9	Non-Plastic
Plasticity Index		8.0		5.5	25.3	

SAMPLE NUMBER:	#14	#15	#16	#17	#18	#19
Liquid Limit		18.3			76.5	70.9
Plastic Limit	Non-Plastic	18.0	Non-Plastic	Non-Plastic	44.8	29.3
Plasticity Index		0.3			31.7	41.6

SAMPLE NUMBER:	#20	#22	#23	#24	#25	#26
Liquid Limit	77.5	40.7			88.5	
Plastic Limit	27.2	23.9	Non-Plastic	Non-Plastic	41.0	Non-Plastic
Plasticity Index	50.3	16.8			47.5	

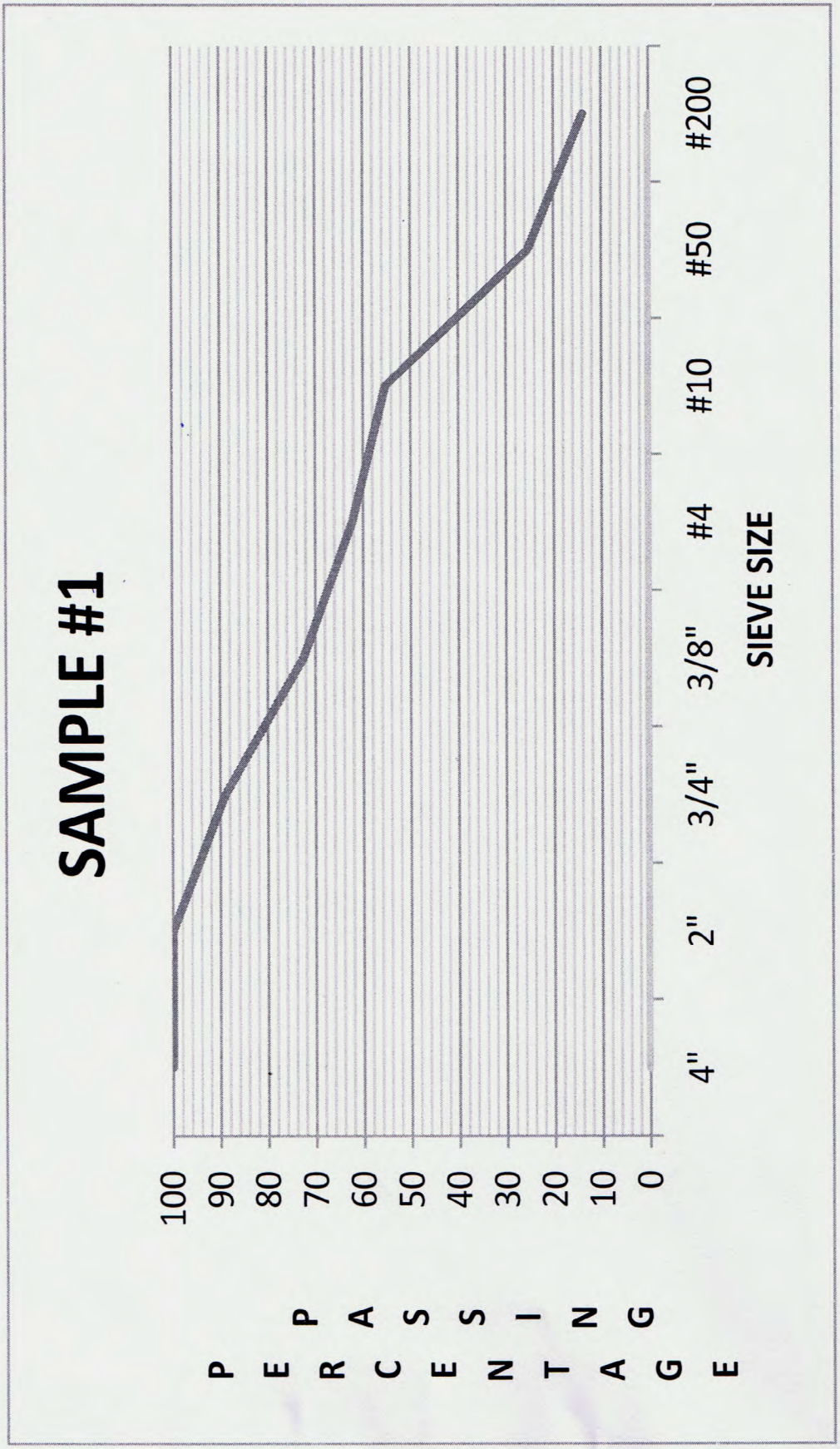
SAMPLE NUMBER:	#27	#28	#29	#30	#31	#32
Liquid Limit	36.3		30.7	27.7		
Plastic Limit	23.6	Non-Plastic	22.0	22.9	Non-Plastic	Non-Plastic
Plasticity Index	12.7		8.7	4.8		

SAMPLE NUMBER:	#33
Liquid Limit	70.1
Plastic Limit	27.6
Plasticity Index	42.5

HYDRAULIC CONDUCTIVITY

	RESULT	
Sample #12	3.71×10^{-8}	cm/sec
Sample #25	7.07×10^{-7}	cm/sec
Sample #32	5.50×10^{-8}	cm/sec
Sample #33	7.72×10^{-8}	cm/sec

AECOM
3400 BENNING ROAD
WASHINGTON, DC



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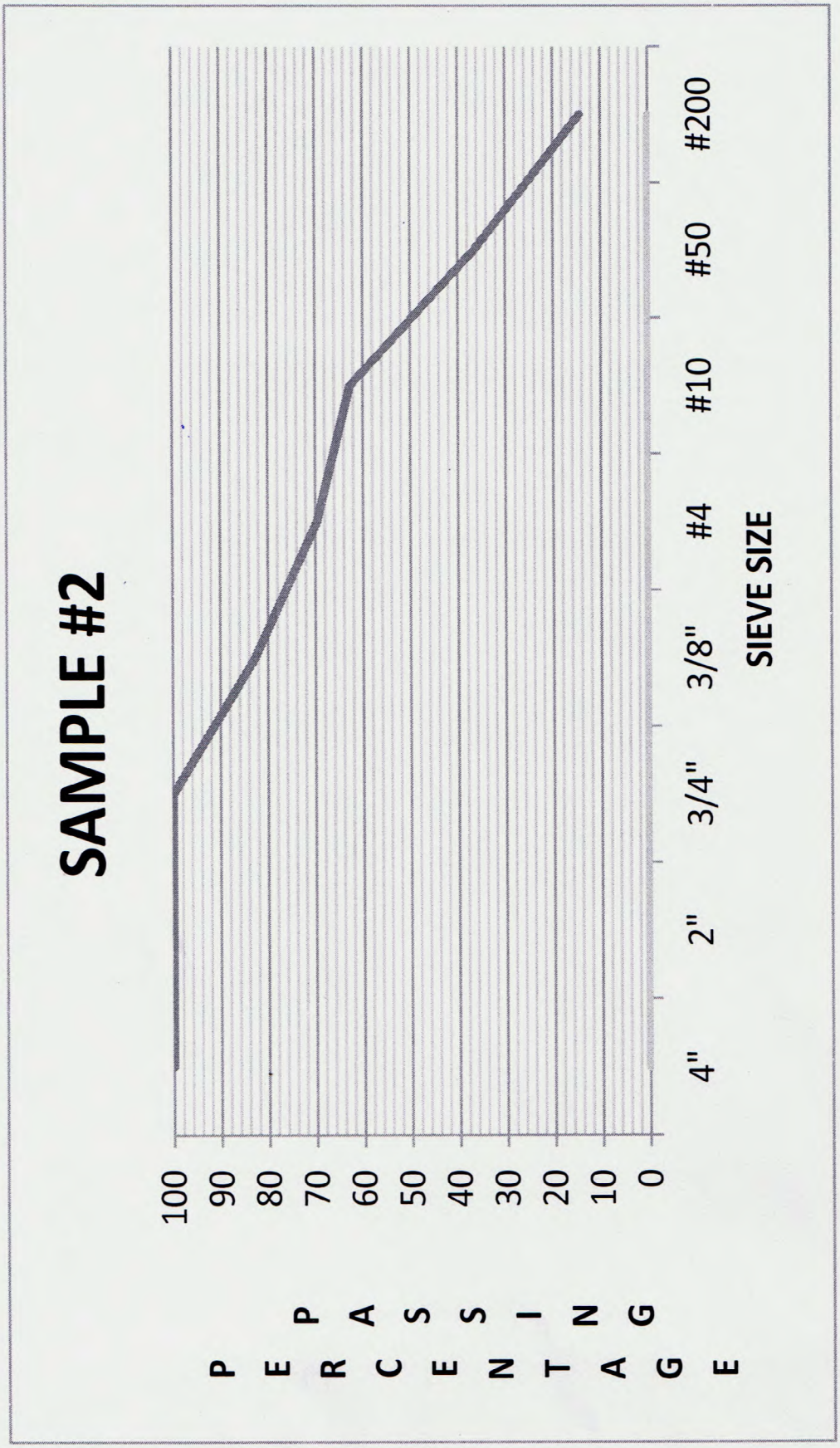

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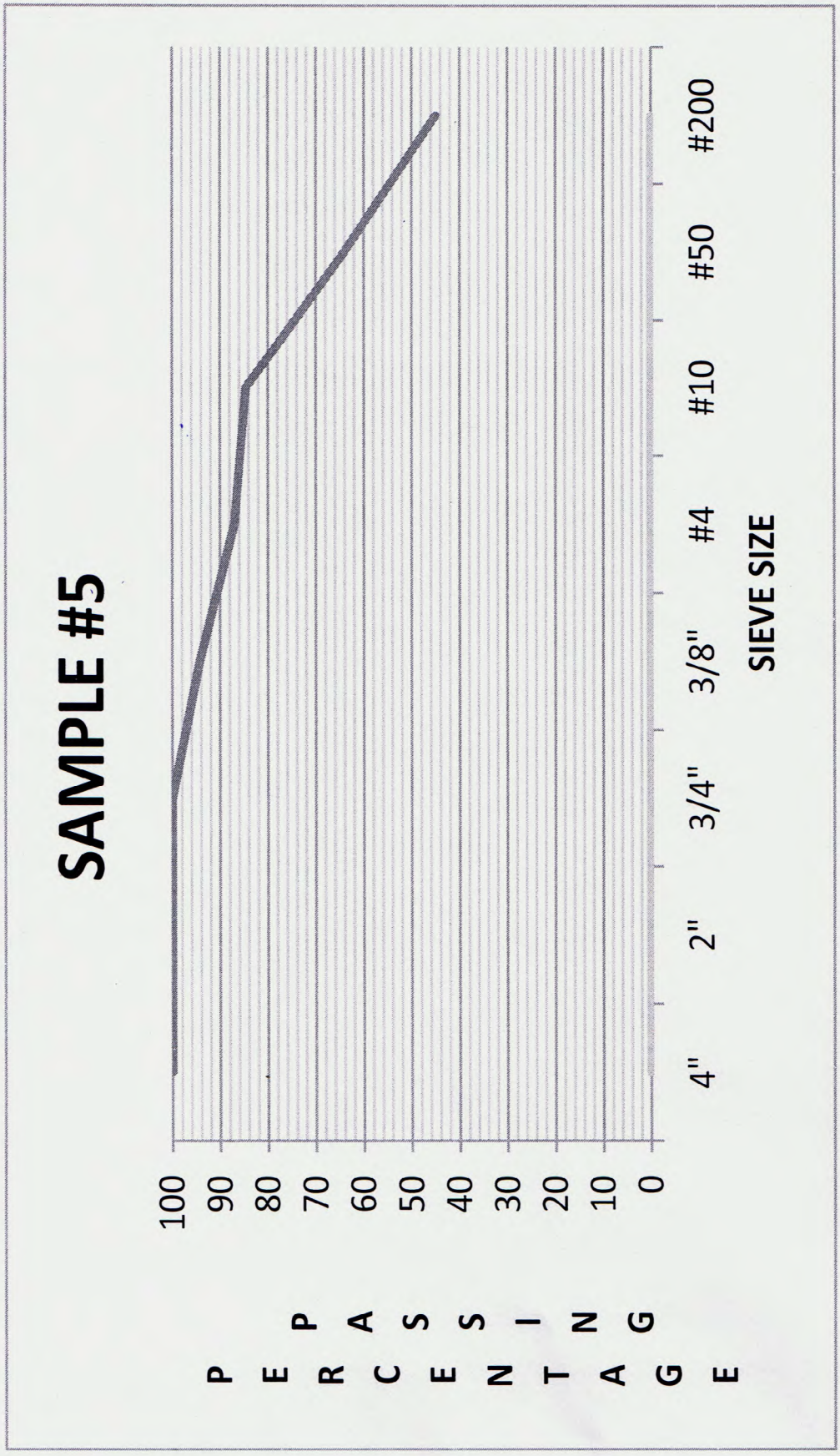

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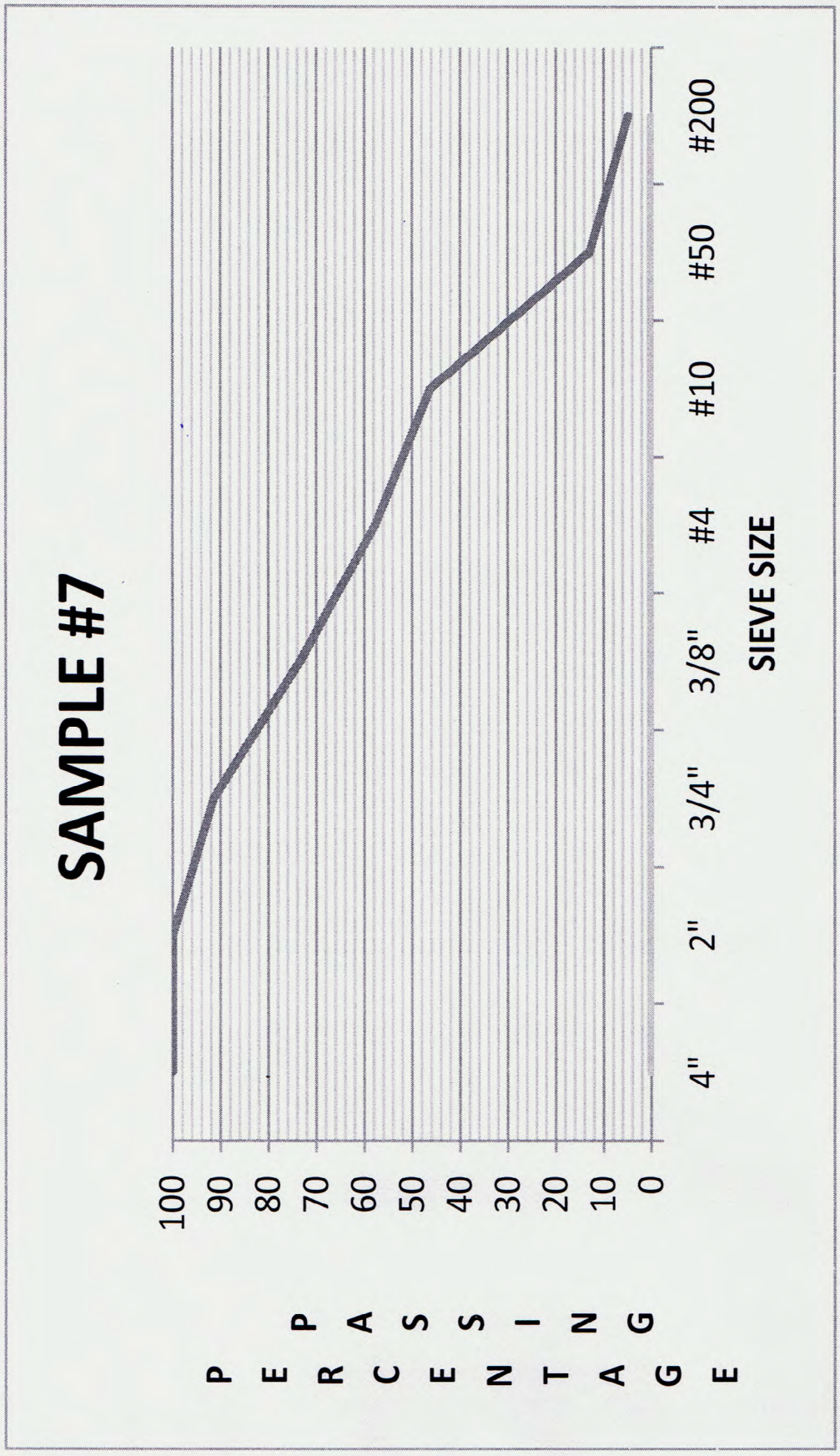

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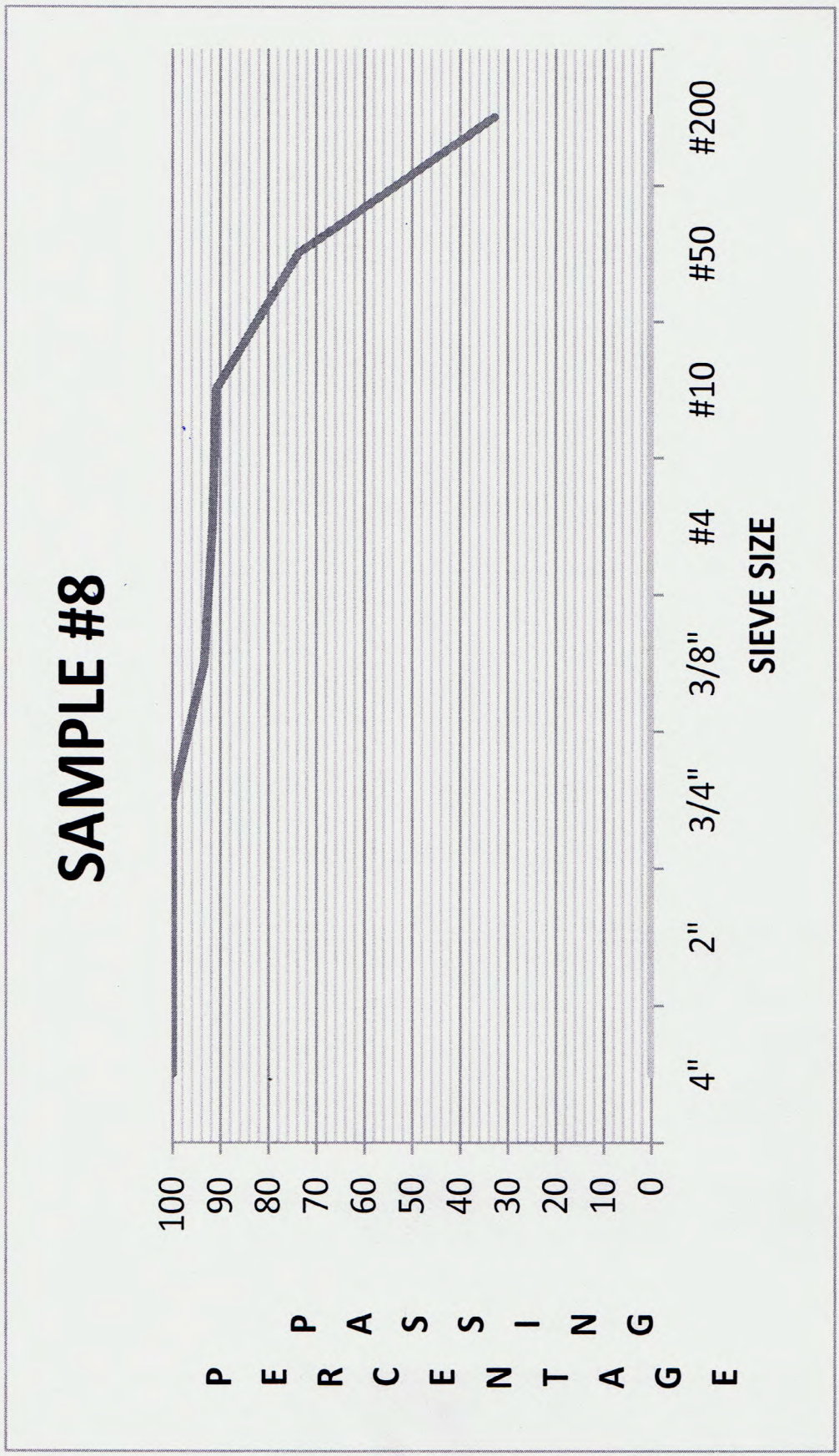

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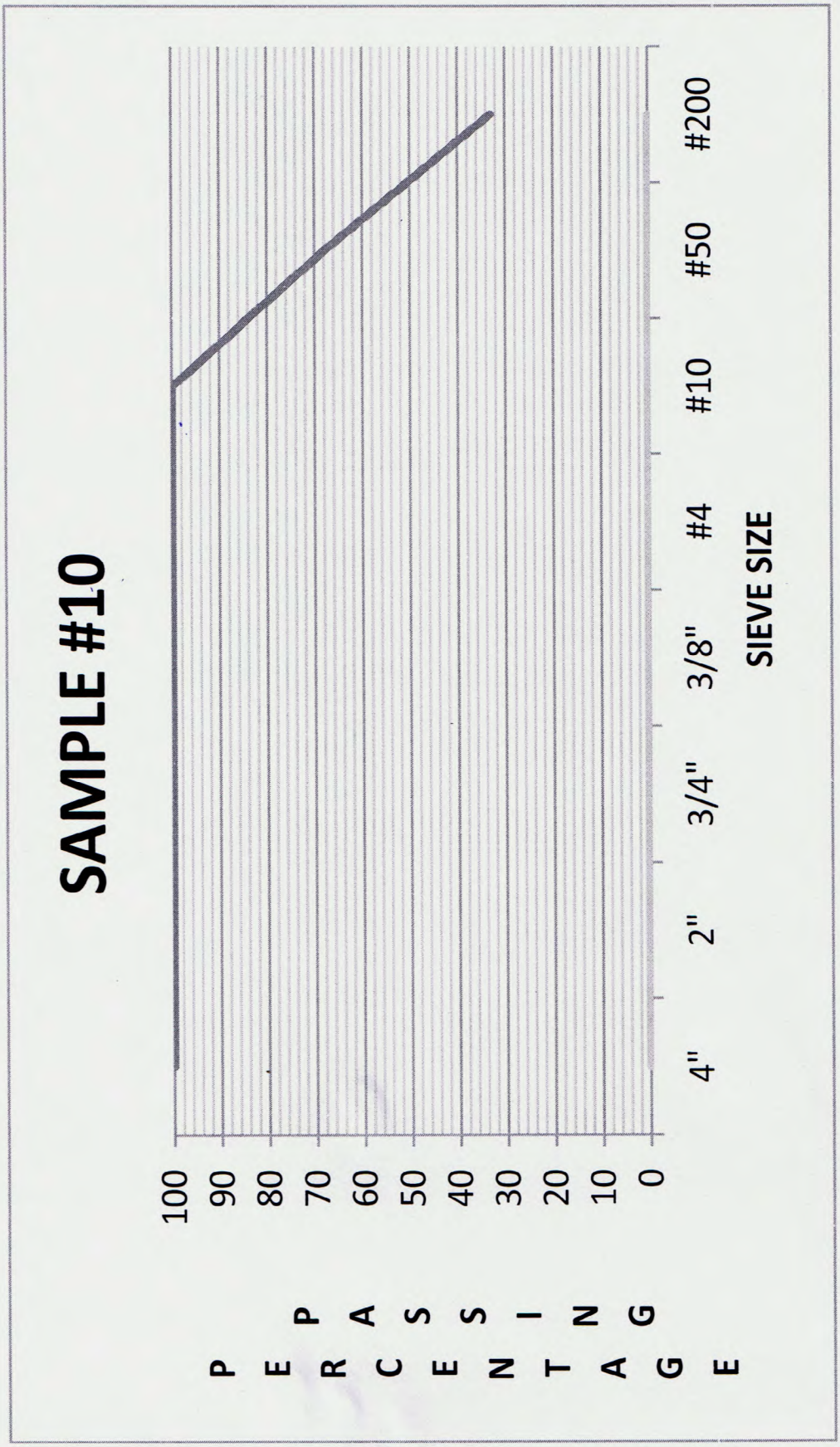

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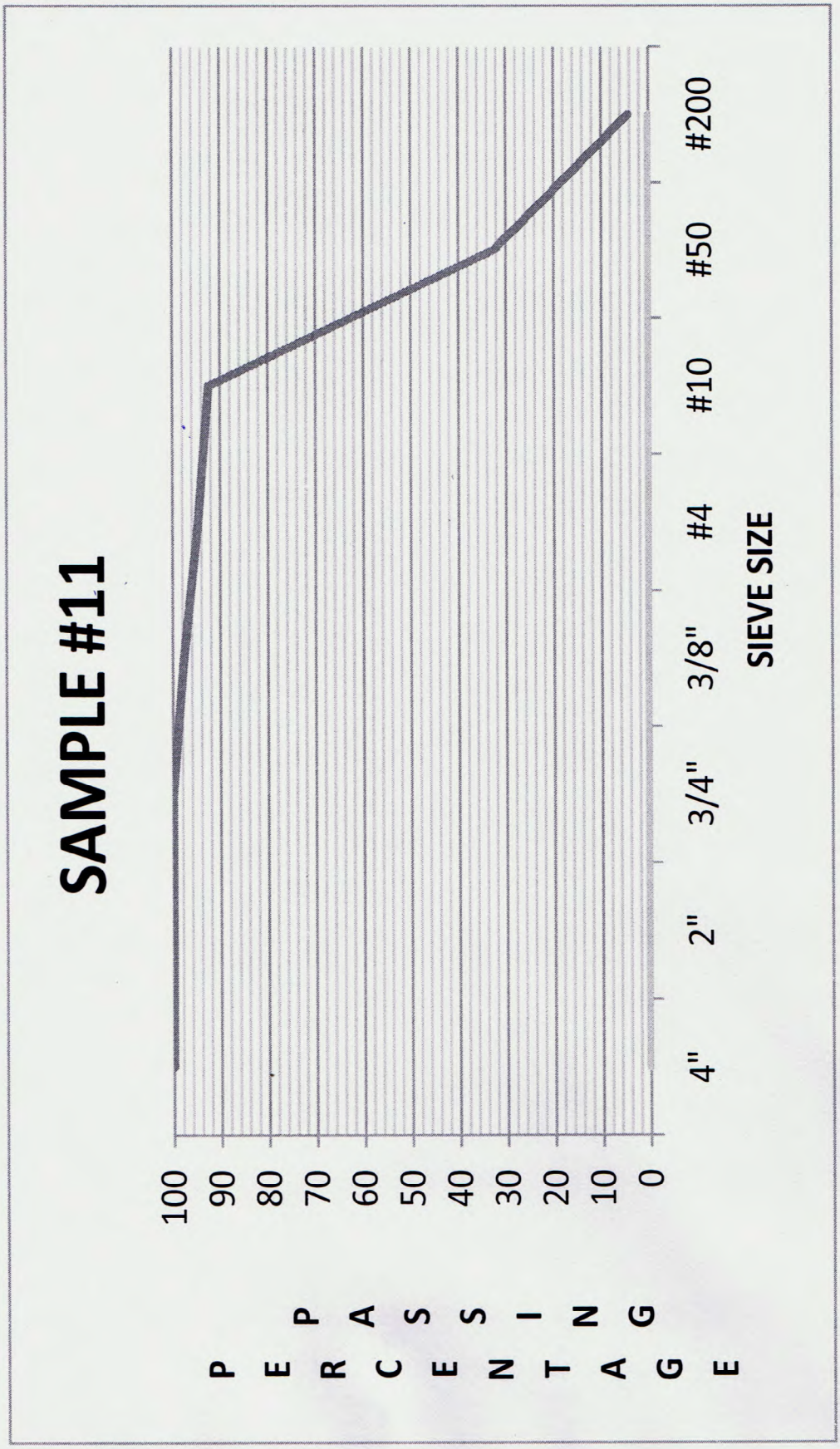

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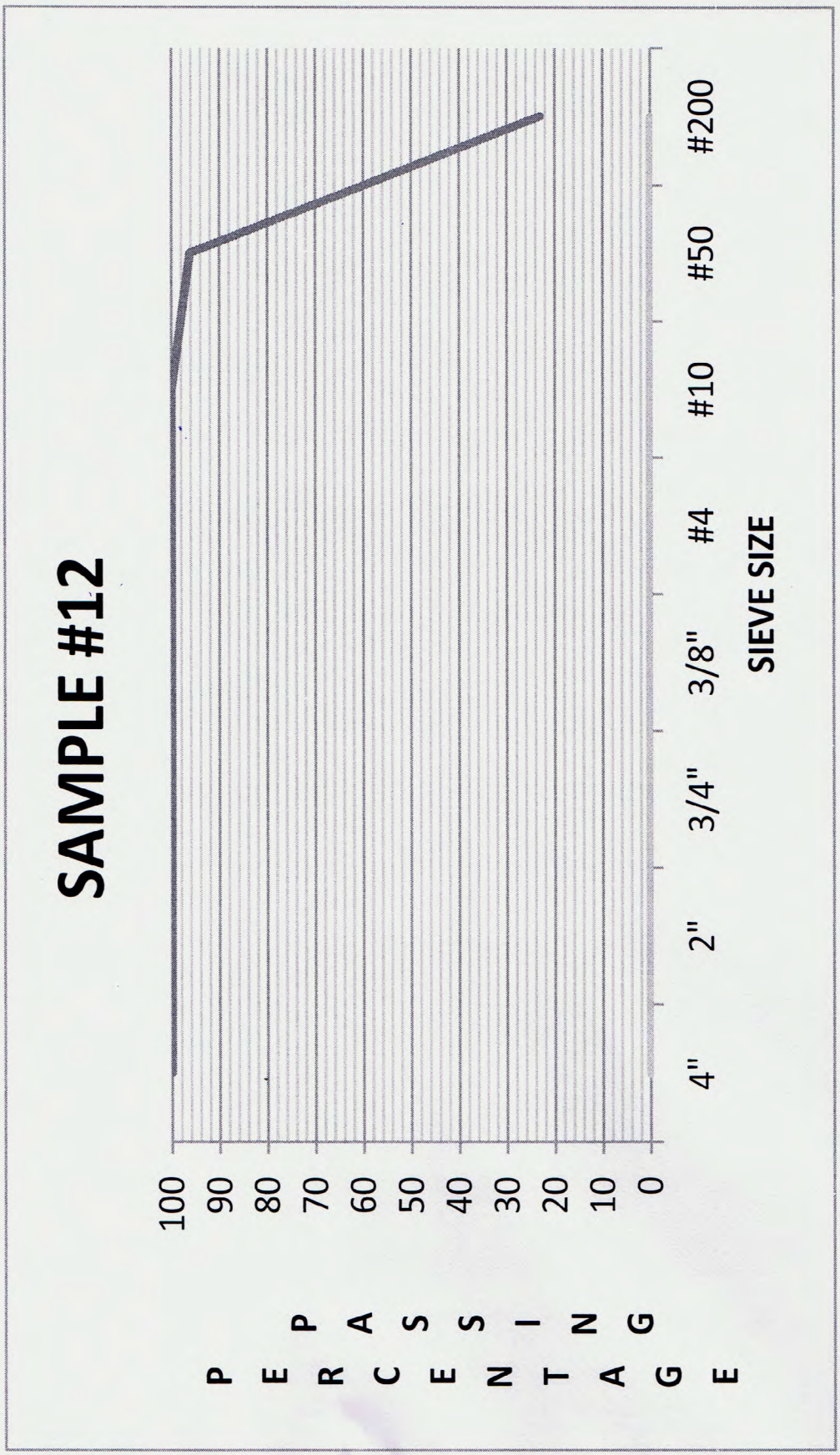

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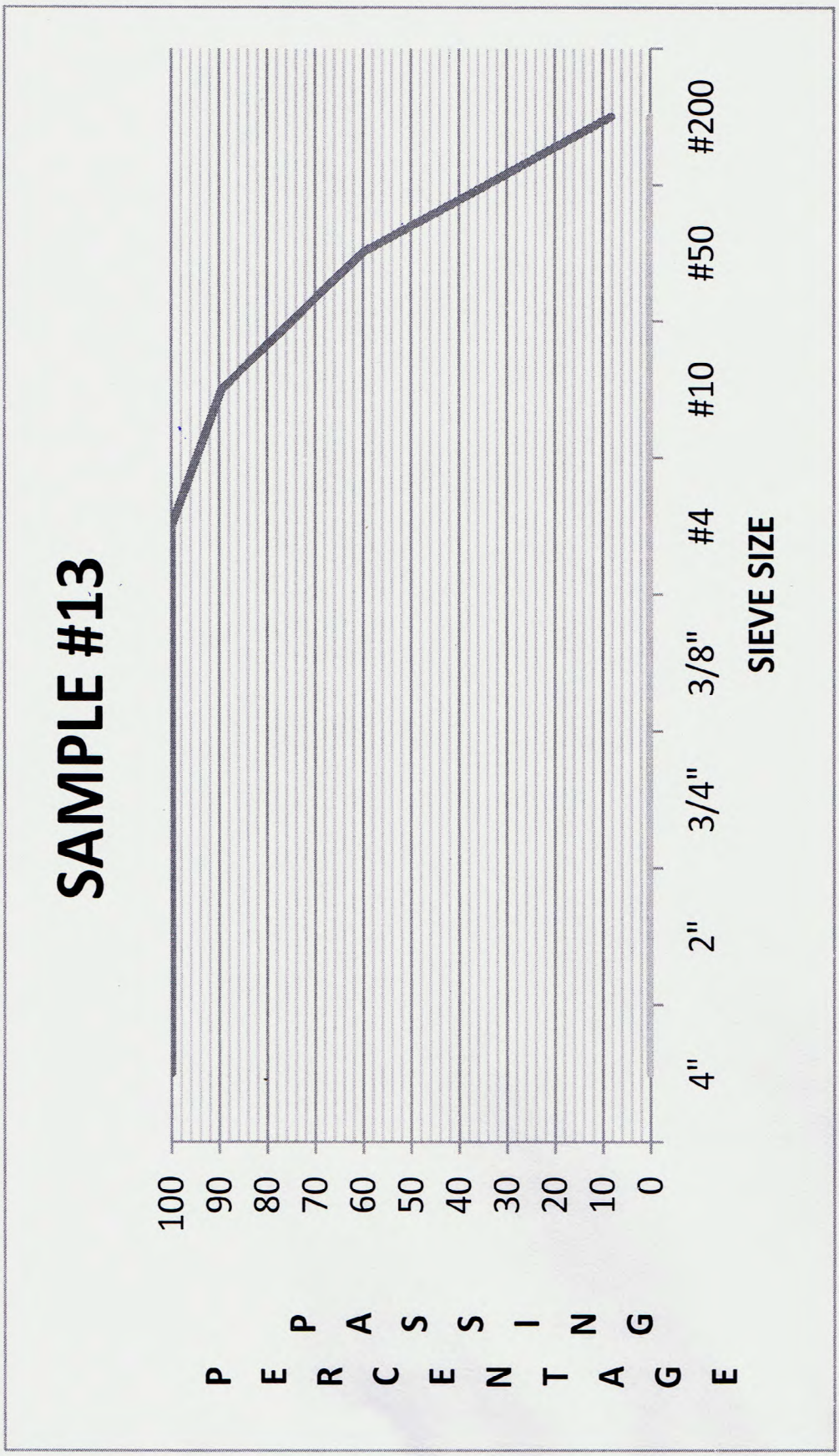

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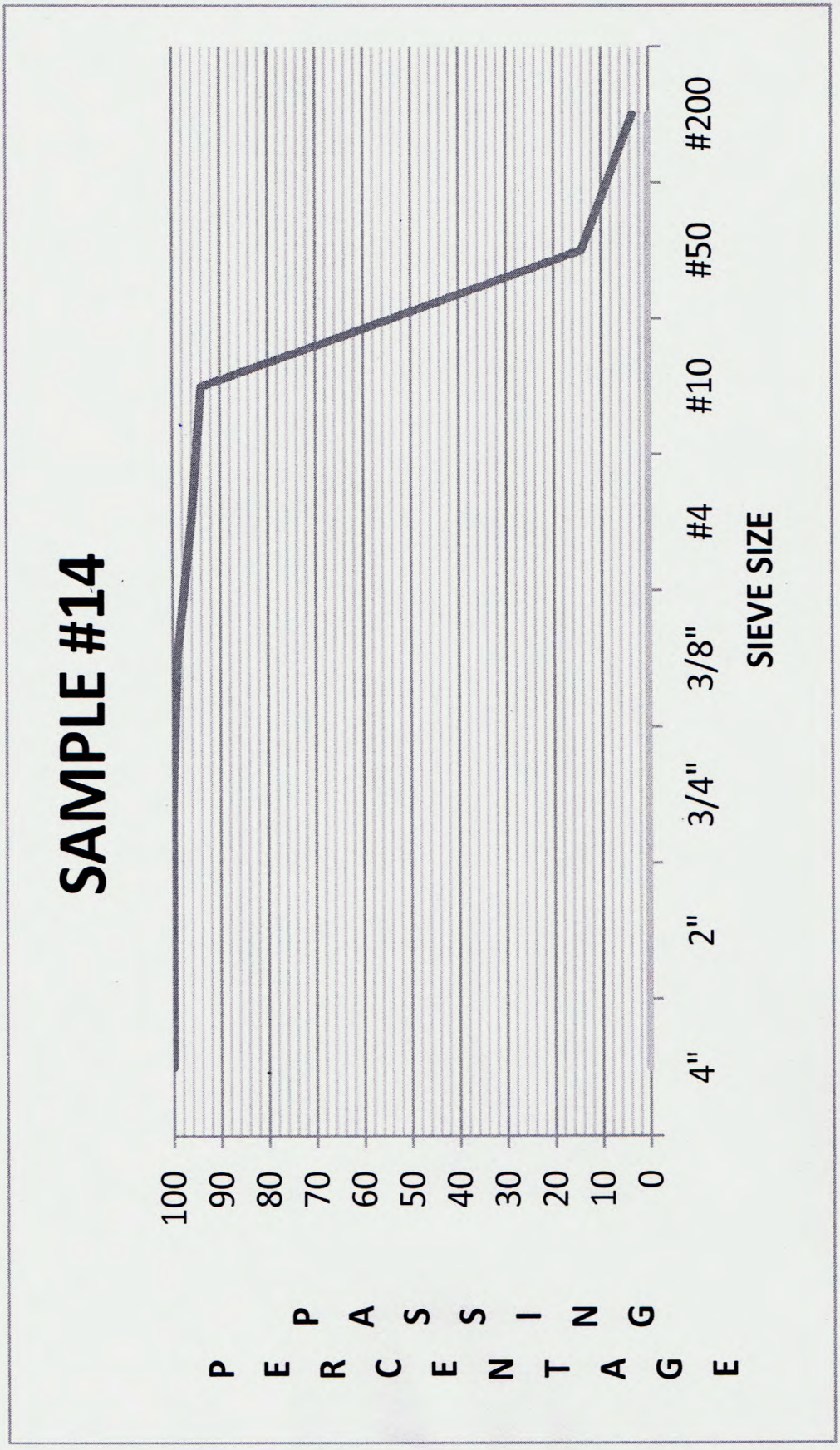

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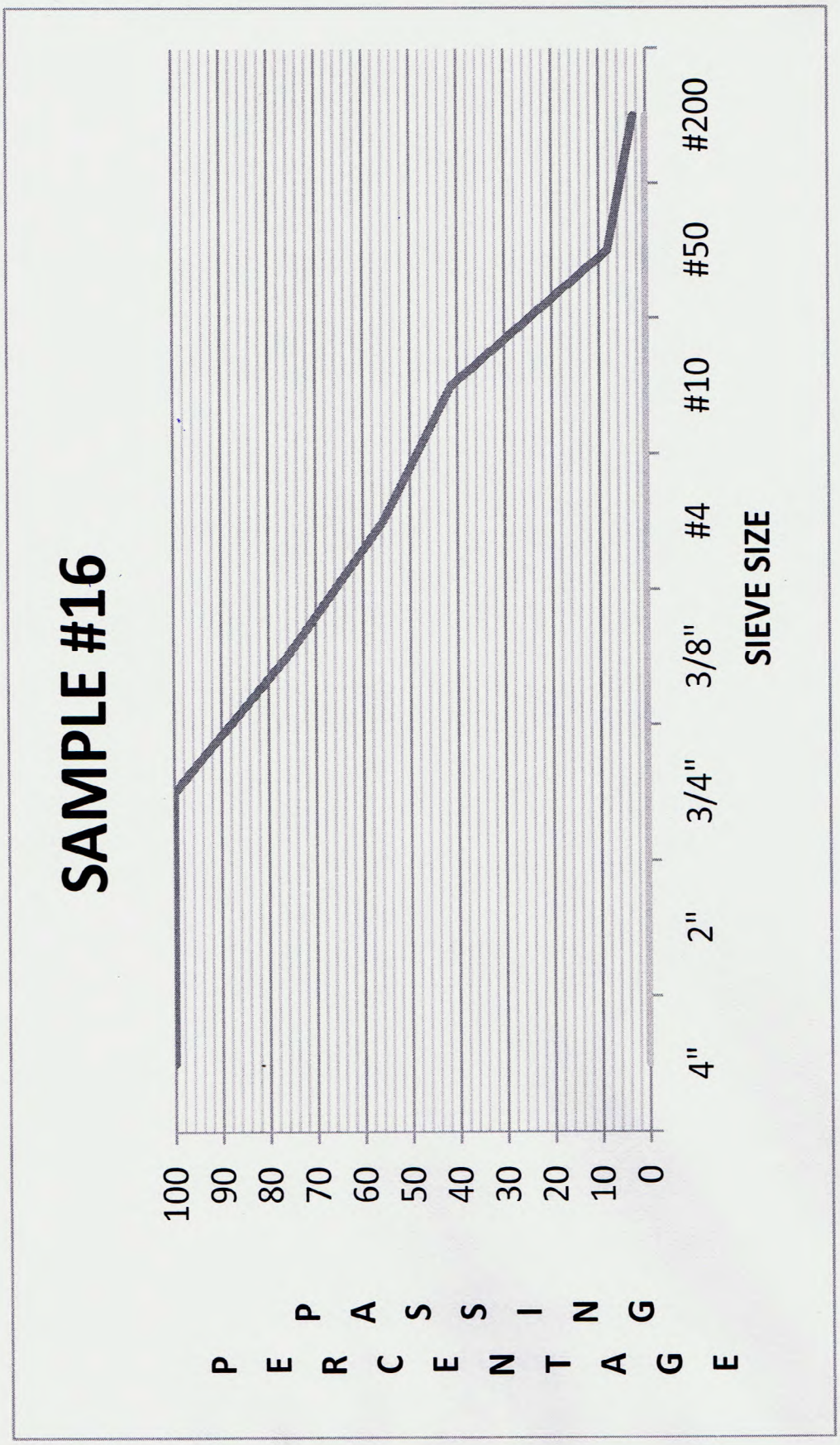

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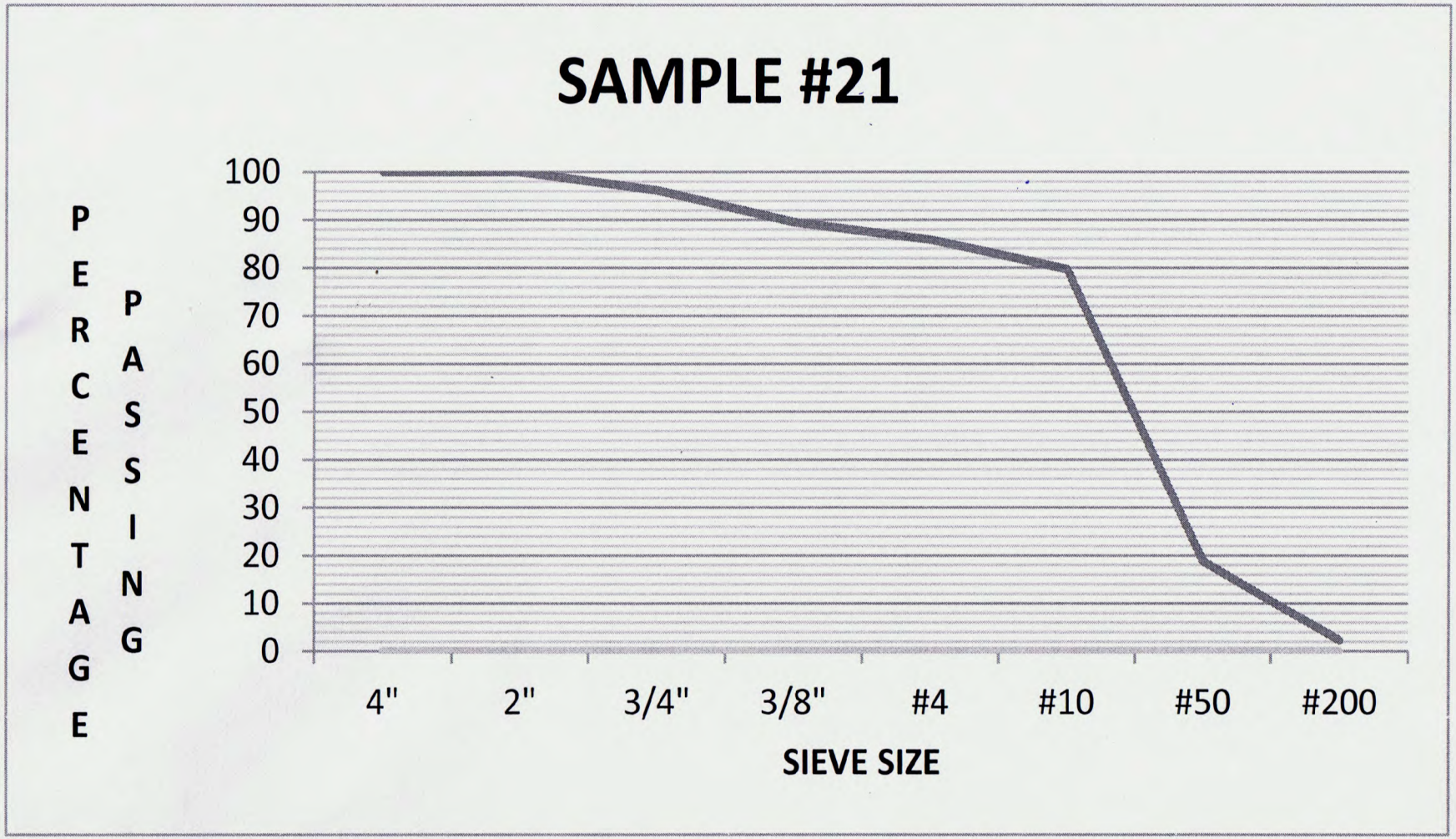

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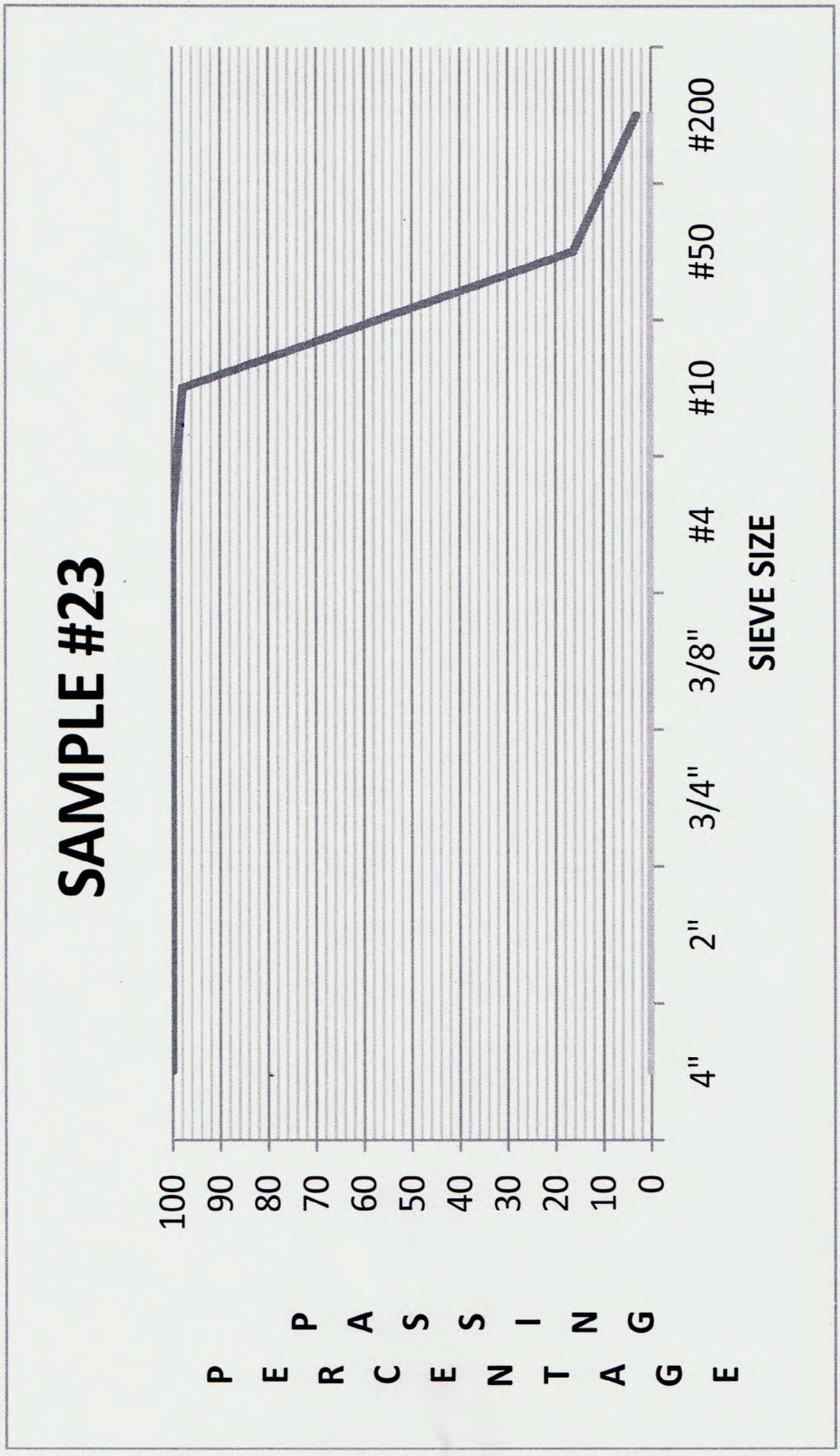

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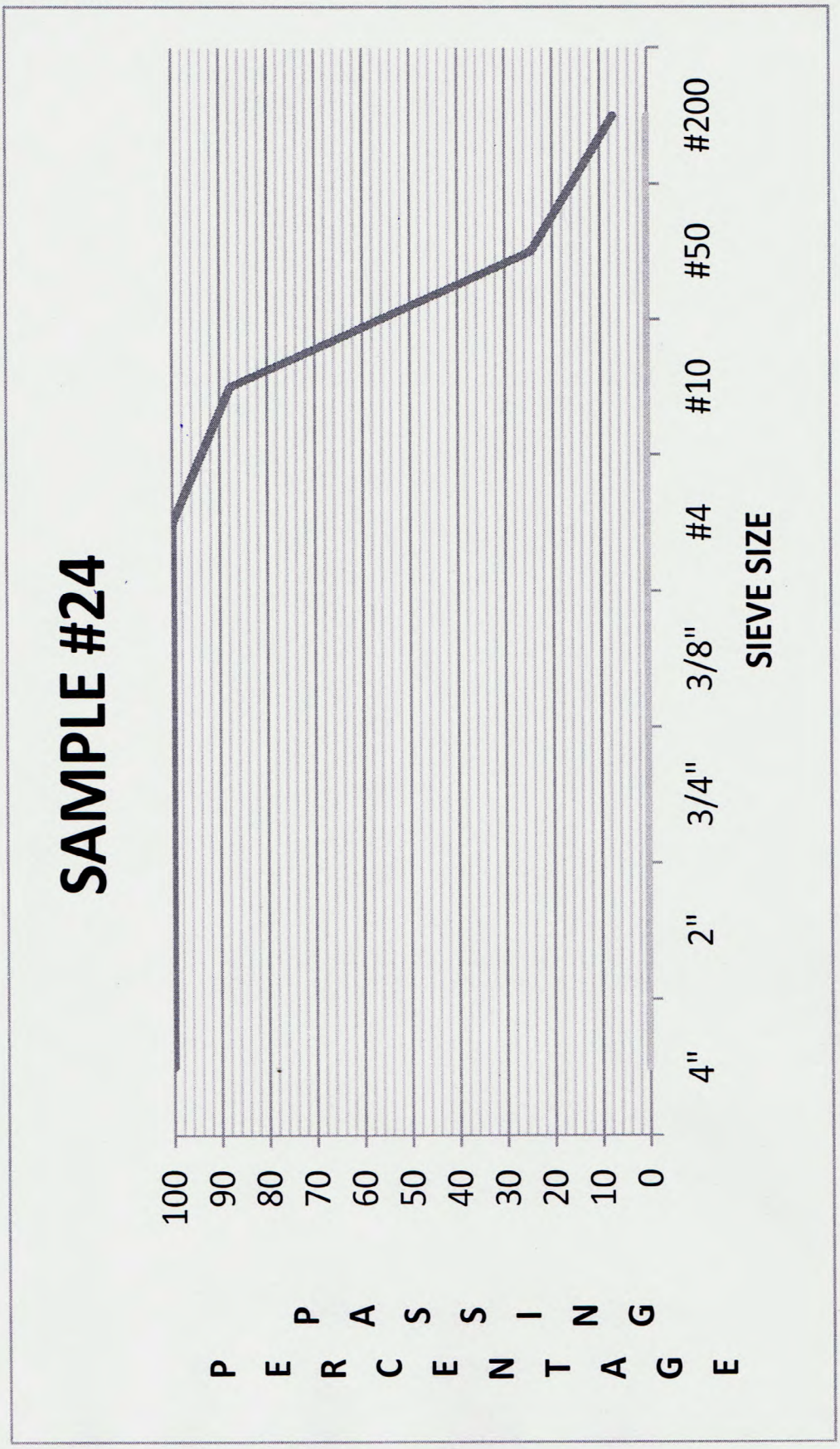

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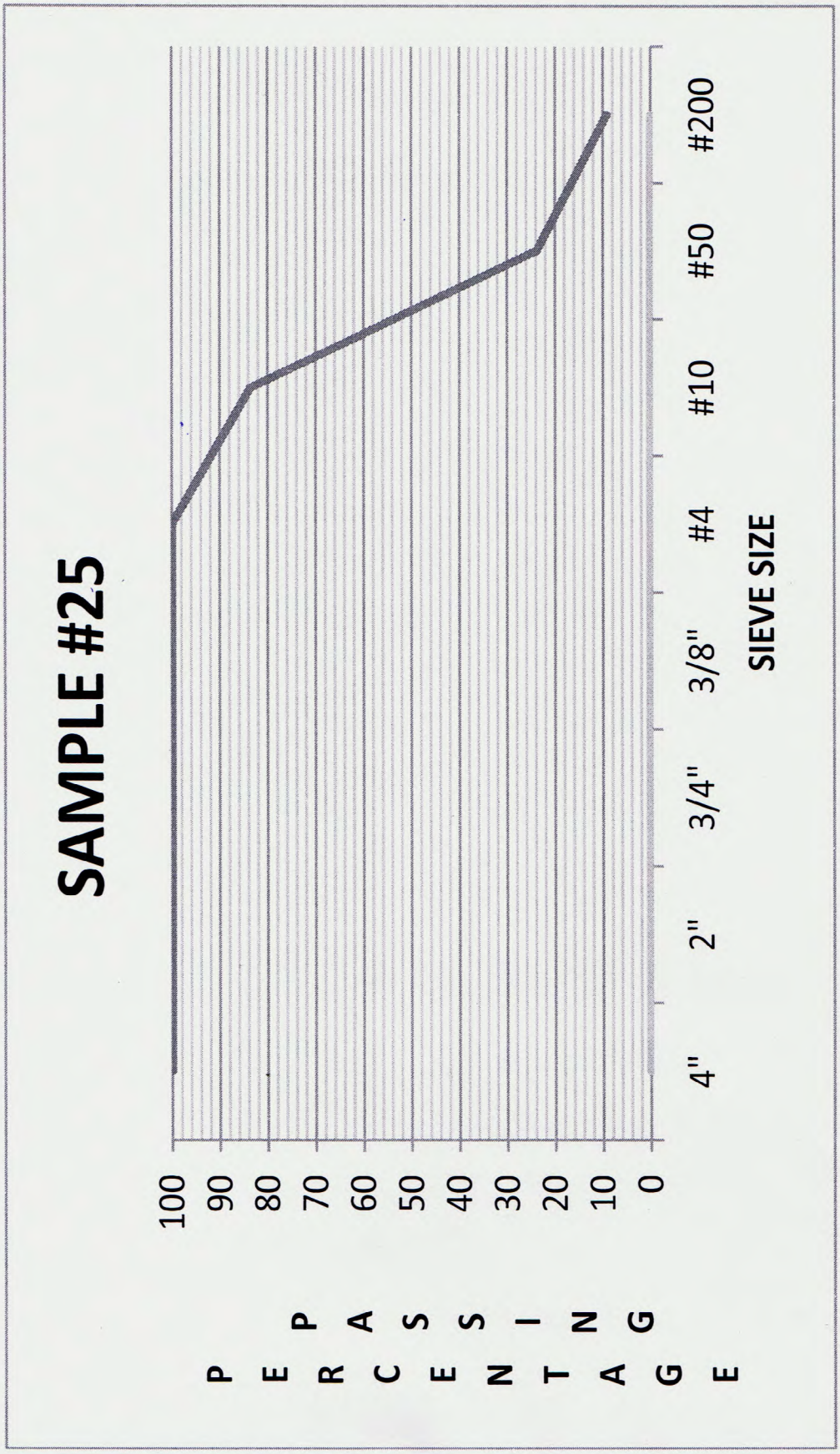

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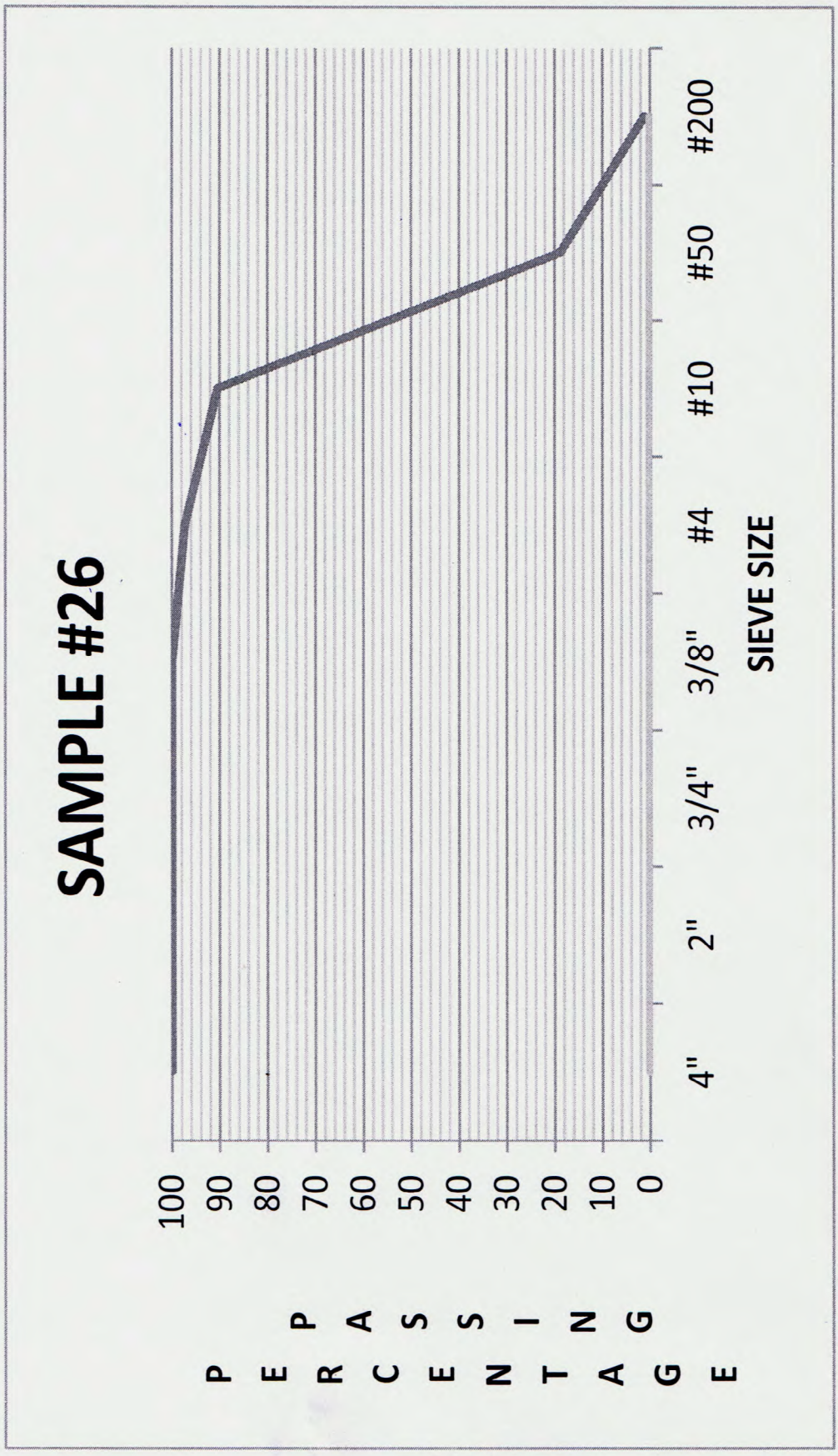

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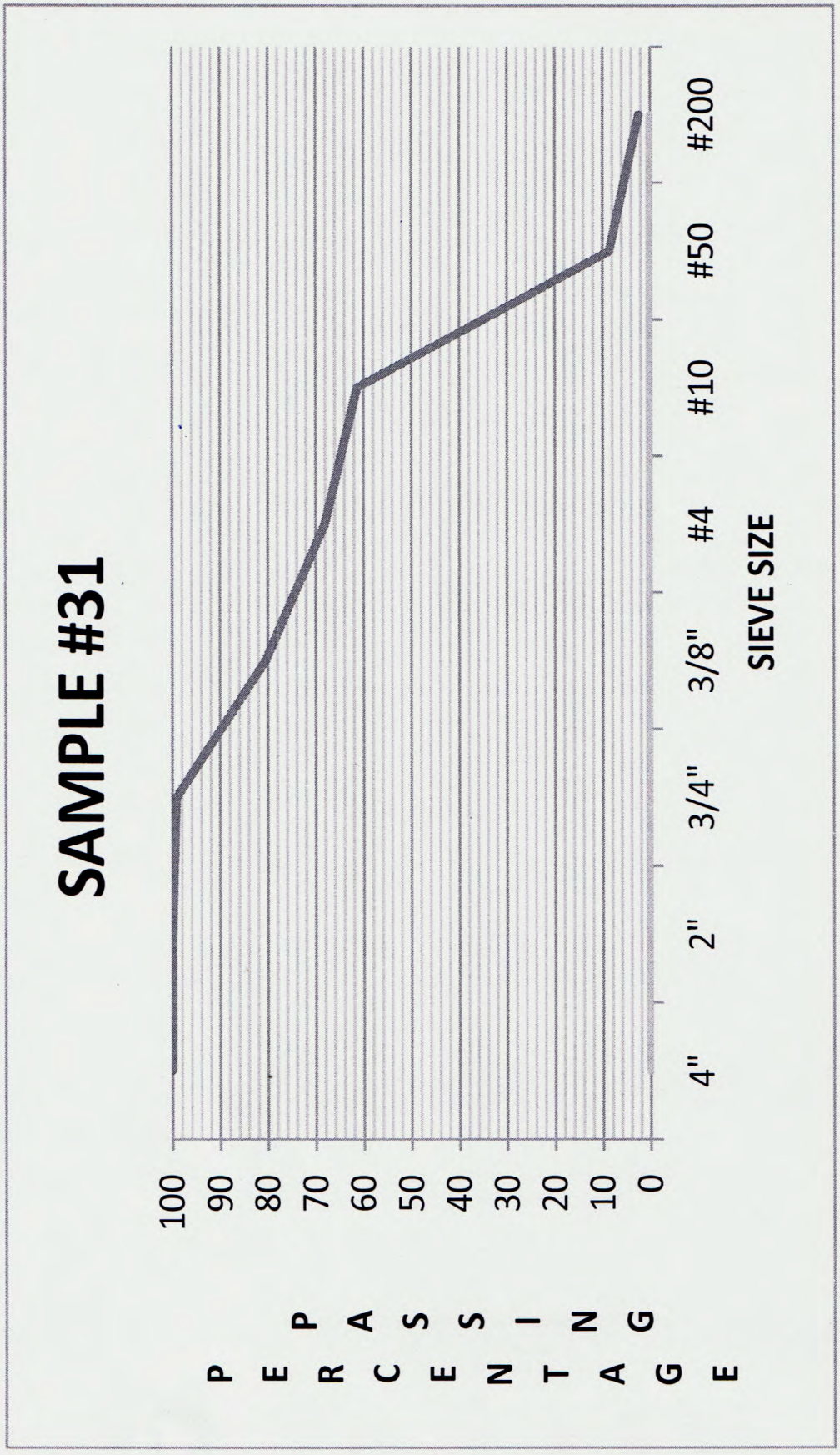

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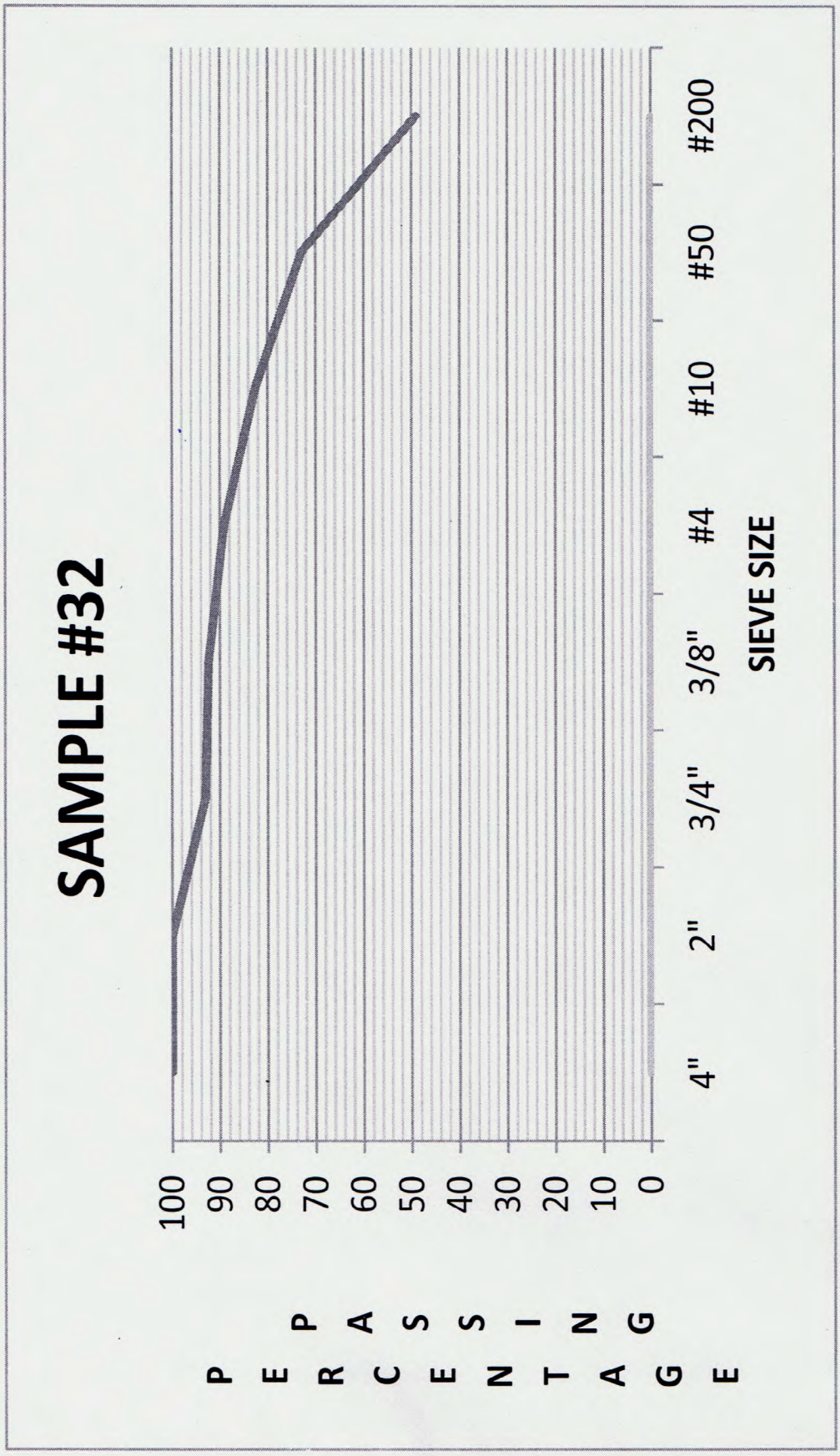

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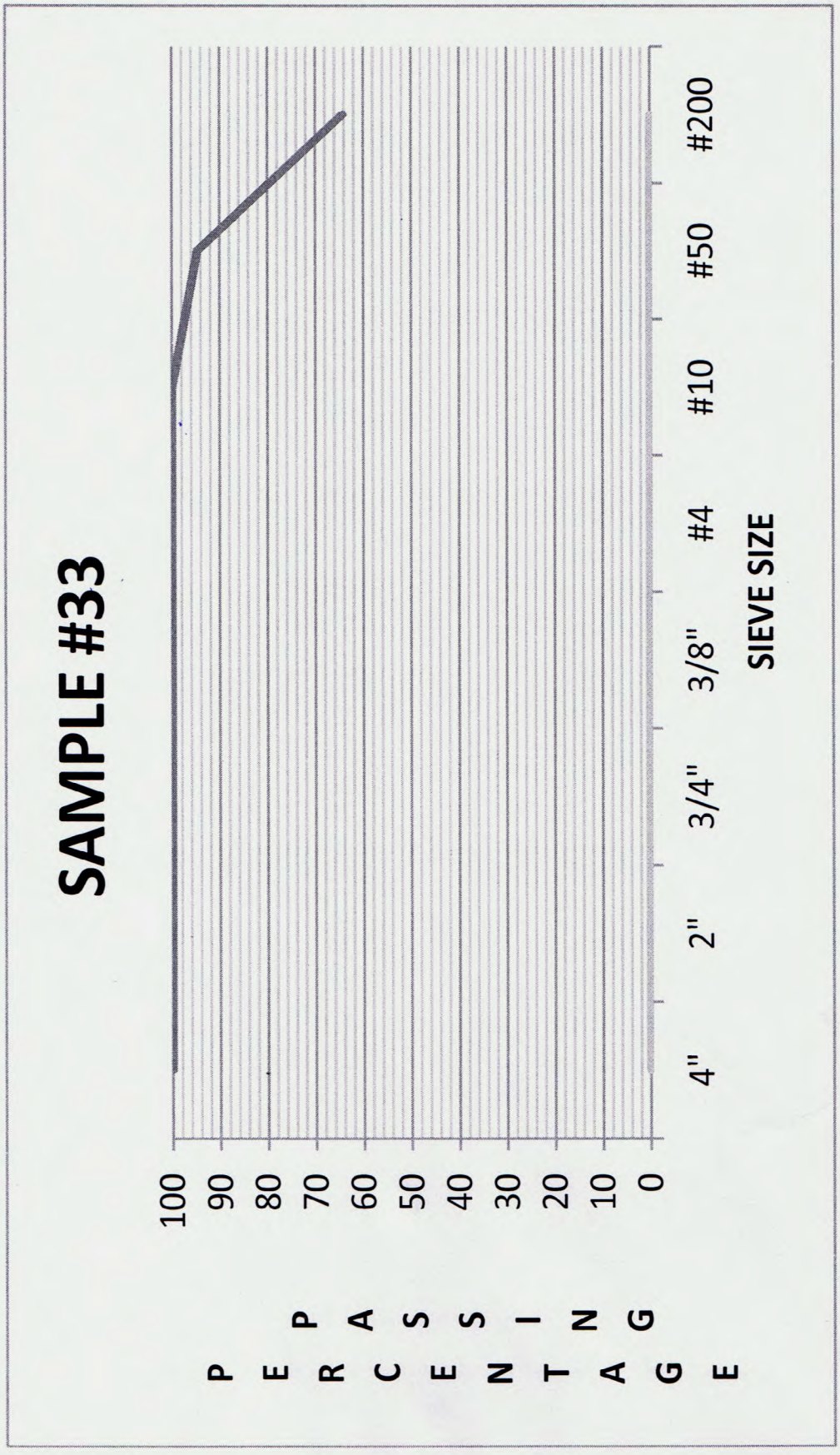
WASHINGTON, DC



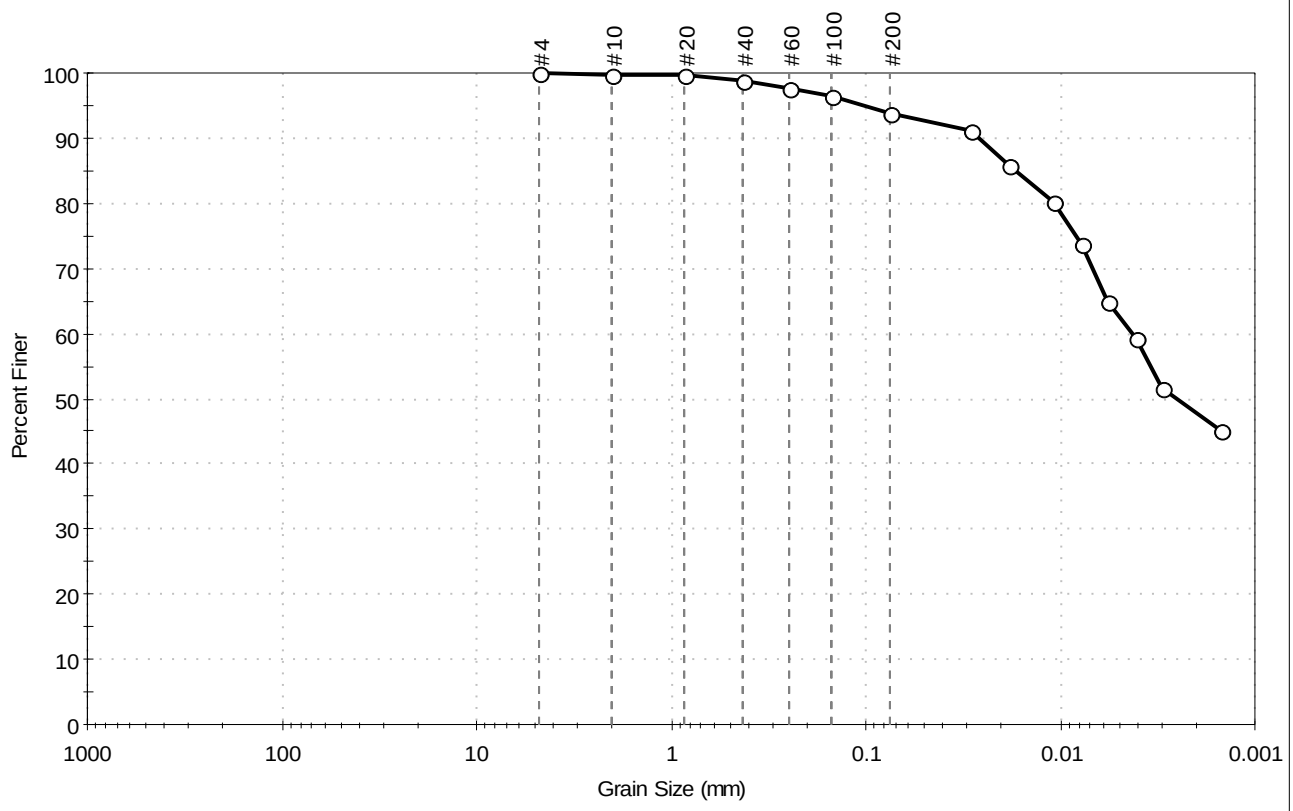
pepco
An Exelon Company

Phase I Landside Investigation

Excerpts from Geotechnical Analysis Reports:
GeoTesting Express
TestAmerica Laboratories, Inc.

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-1	Sample Type:	jar	Tested By:	jbr
Sample ID:	SB-1	Test Date:	06/12/13	Checked By:	jdt
Depth :	7-9 ft.	Test Id:	267618		
Test Comment:	---				
Sample Description:	Moist, yellowish brown clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	6.1	93.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	98		
#100	0.15	96		
#200	0.075	94		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0290	91		
---	0.0185	86		
---	0.0108	80		
---	0.0078	74		
---	0.0057	65		
---	0.0041	59		
---	0.0030	52		
---	0.0015	45		

Coefficients

D_{85} = 0.0172 mm	D_{30} = N/A
D_{60} = 0.0042 mm	D_{15} = N/A
D_{50} = 0.0025 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM fat clay (CH)

AASHTO Clayey Soils (A-7-6 (40))

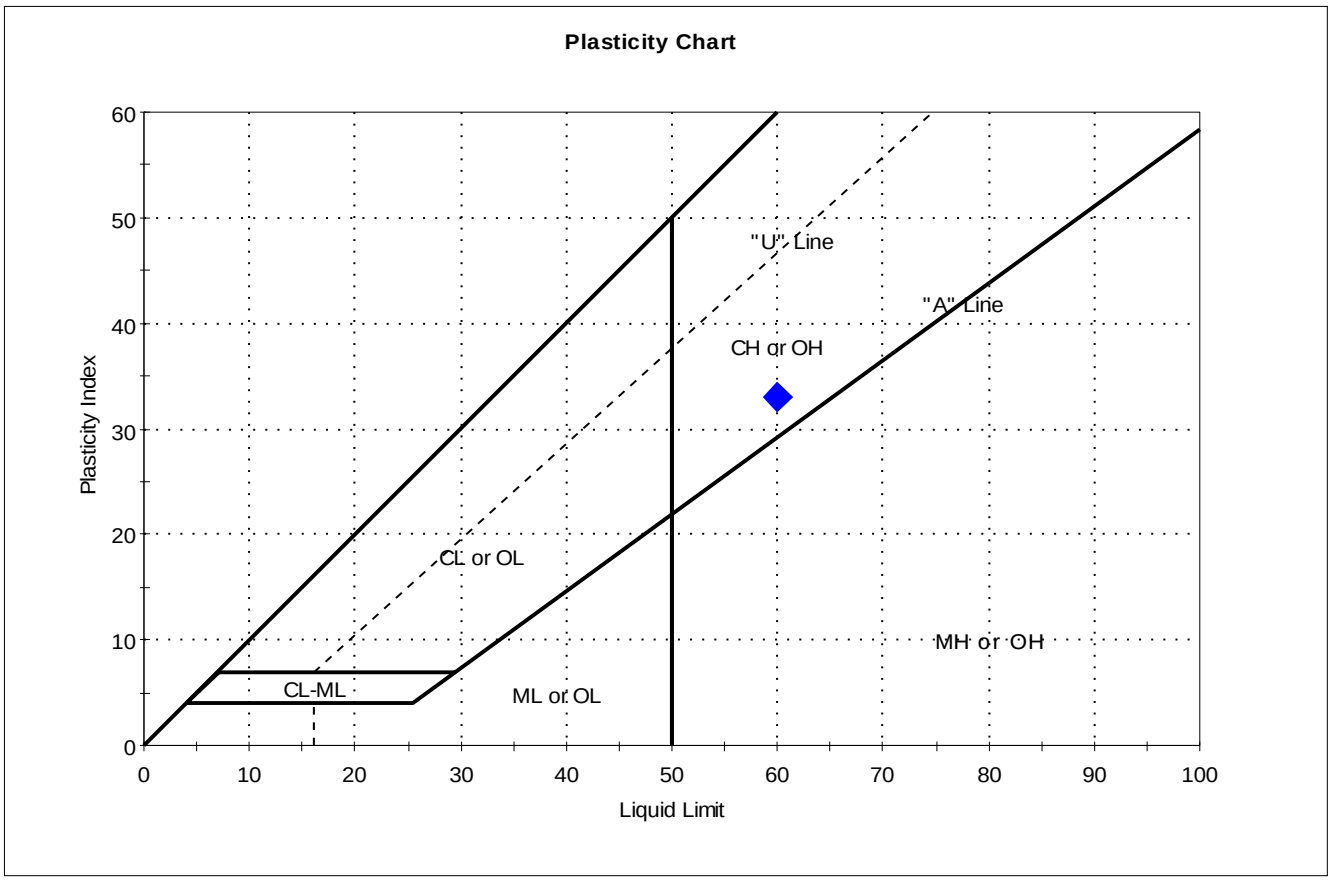
Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-1	Sample Type:	jar	Tested By:	cam
Sample ID:	SB-1	Test Date:	06/13/13	Checked By:	jdt
Depth :	7-9 ft.	Test Id:	267621		
Test Comment:	---				
Sample Description:	Moist, yellowish brown clay				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

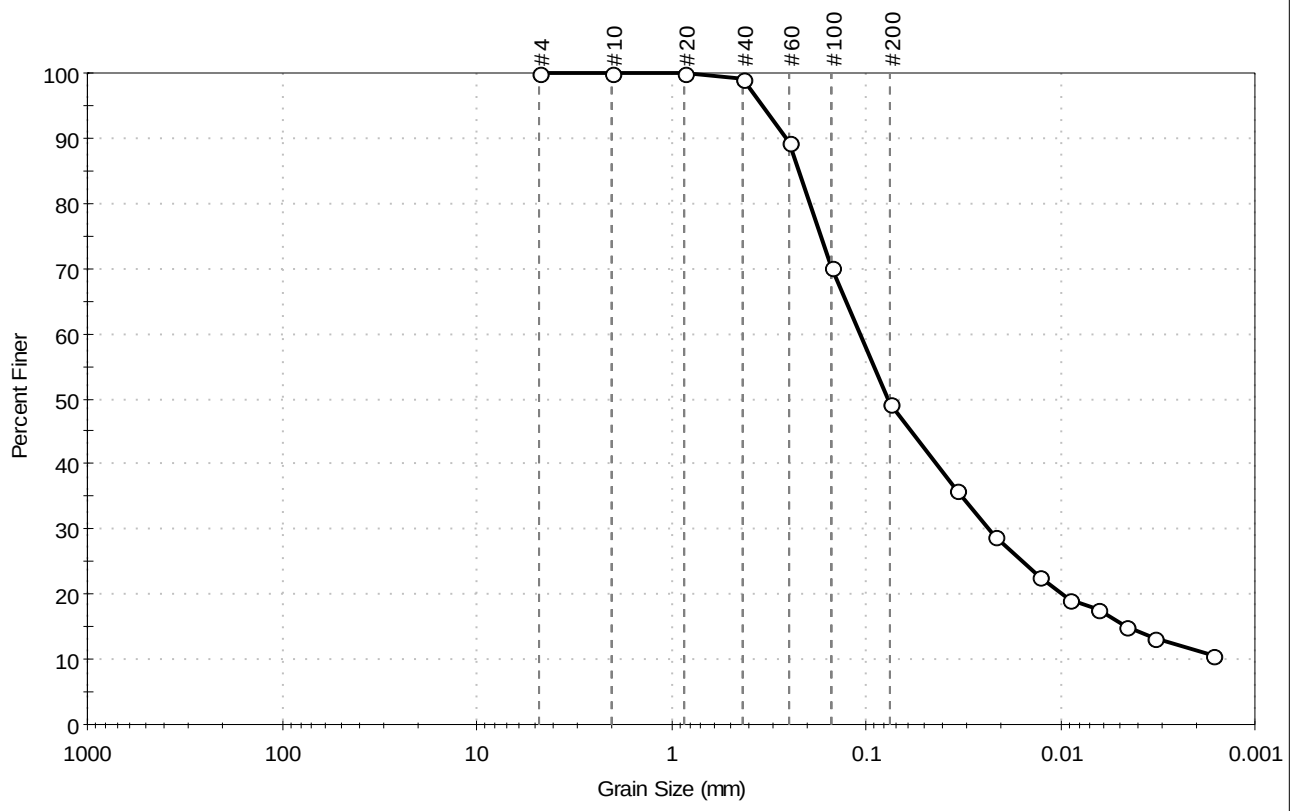


Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SB-1	SB-1	7-9 ft.	29	60	26	34	0	fat clay (CH)

Sample Prepared using the WET method
1% Retained on #40 Sieve
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-1	Sample Type:	jar	Tested By:	jbr
Sample ID:	SB-1	Test Date:	06/12/13	Checked By:	jdt
Depth :	70-72 ft.	Test Id:	267617		
Test Comment:	---				
Sample Description:	Moist, grayish brown clayey sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	50.7	49.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	89		
#100	0.15	70		
#200	0.075	49		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0340	36		
---	0.0218	29		
---	0.0128	23		
---	0.0091	19		
---	0.0065	18		
---	0.0046	15		
---	0.0033	13		
---	0.0016	11		

Coefficients

D_{85} = 0.2220 mm	D_{30} = 0.0232 mm
D_{60} = 0.1068 mm	D_{15} = 0.0047 mm
D_{50} = 0.0768 mm	D_{10} = 0.0014 mm
C_u = 76.286	C_c = 3.600

Classification

ASTM Clayey sand (SC)

AASHTO Silty Soils (A-4 (1))

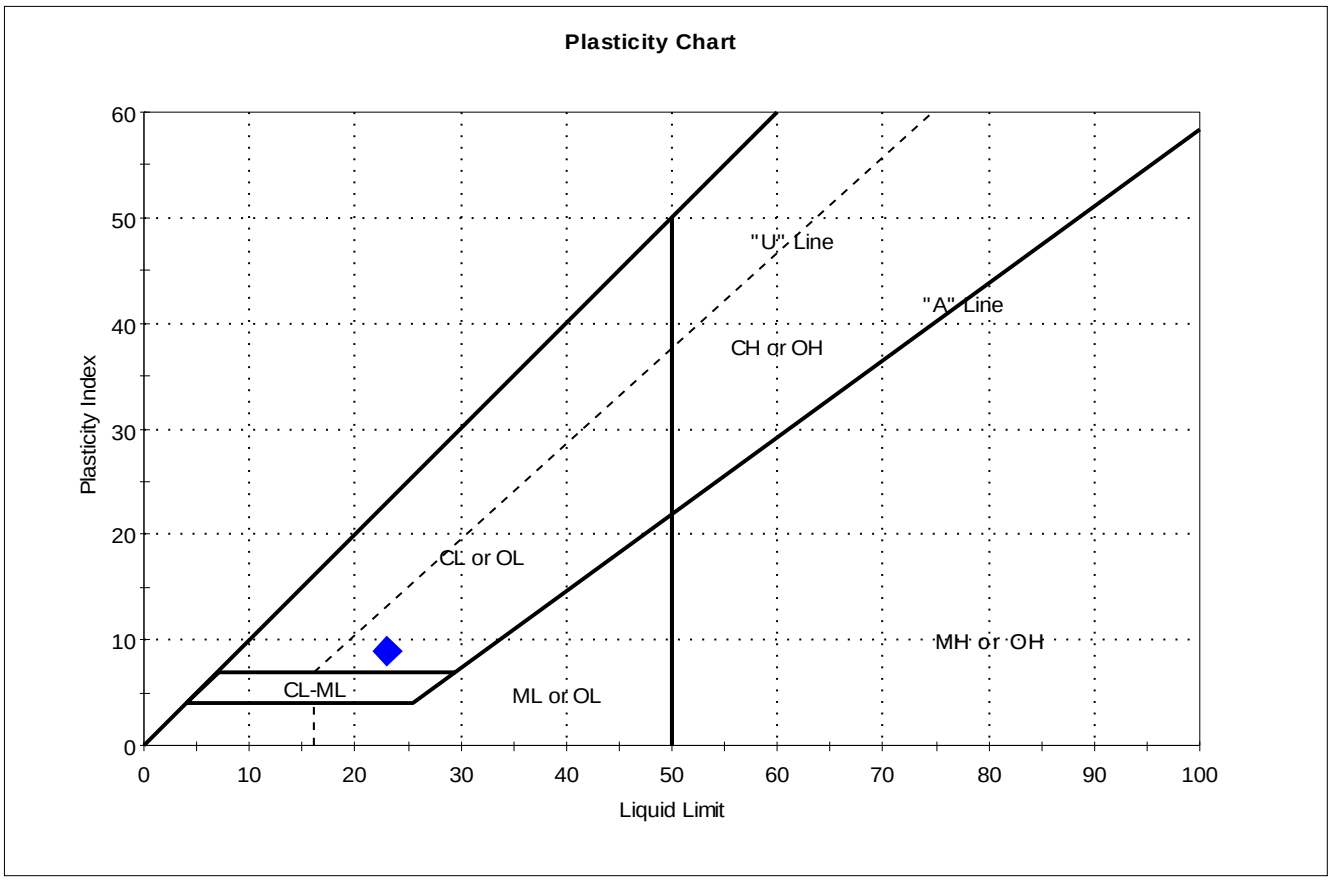
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-1	Sample Type:	jar	Tested By:	cam
Sample ID:	SB-1	Test Date:	06/13/13	Checked By:	jdt
Depth :	70-72 ft.	Test Id:	267620		
Test Comment:	---				
Sample Description:	Moist, grayish brown clayey sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318



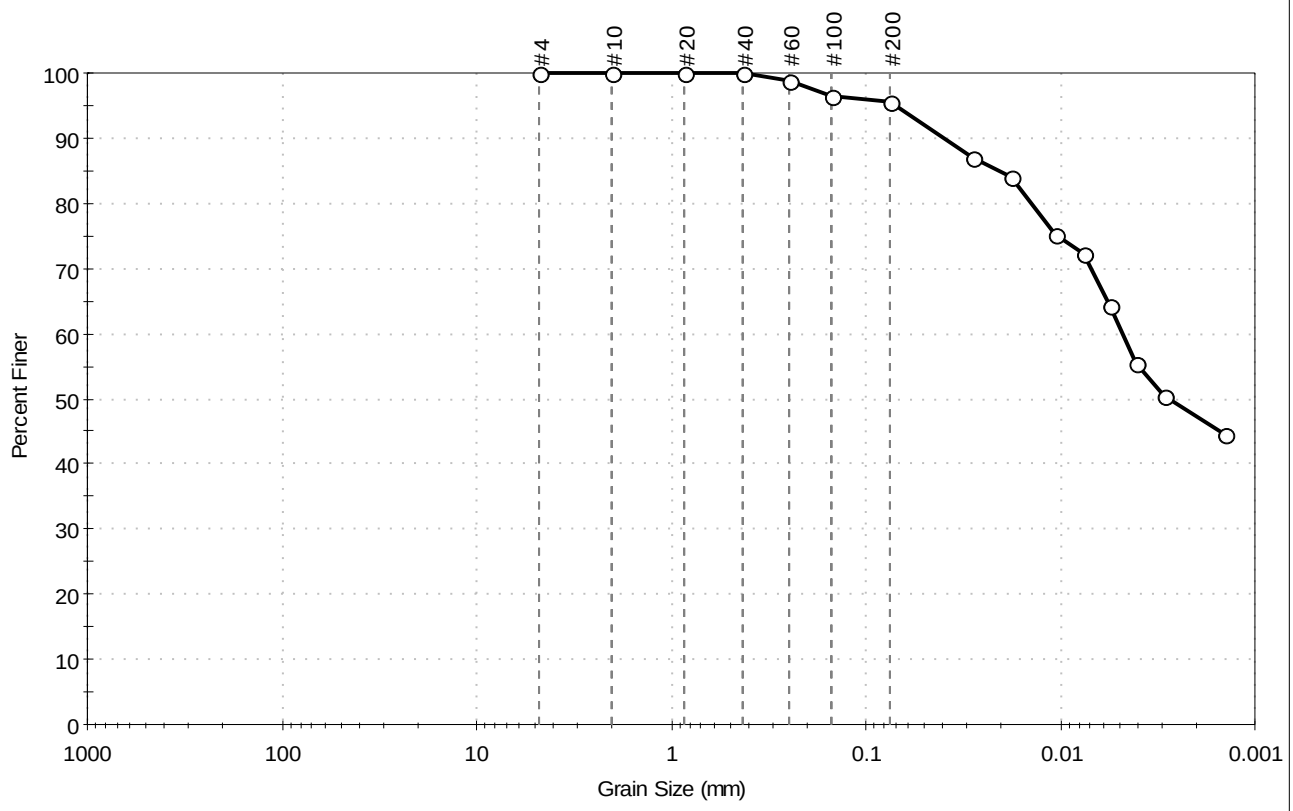
Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SB-1	SB-1	70-72 ft.	15	23	14	9	0	Clayey sand (SC)

Sample Prepared using the WET method
1% Retained on #40 Sieve
Dry Strength: HIGH
Dilatancy: SLOW
Toughness: LOW

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-1	Sample Type:	jar	Tested By:	jbr
Sample ID:	SB-1	Test Date:	06/12/13	Checked By:	jdt
Depth :	90-92 ft.	Test Id:	267616		
Test Comment:	---				
Sample Description:	Moist, mottled olive and gray clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	4.5	95.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	96		
#200	0.075	95		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0283	87		
---	0.0179	84		
---	0.0106	75		
---	0.0076	72		
---	0.0056	64		
---	0.0041	55		
---	0.0029	50		
---	0.0014	44		

Coefficients

D_{85} = 0.0207 mm D_{30} = N/A
D_{60} = 0.0048 mm D_{15} = N/A
D_{50} = 0.0028 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM fat clay (CH)

AASHTO Clayey Soils (A-7-6 (37))

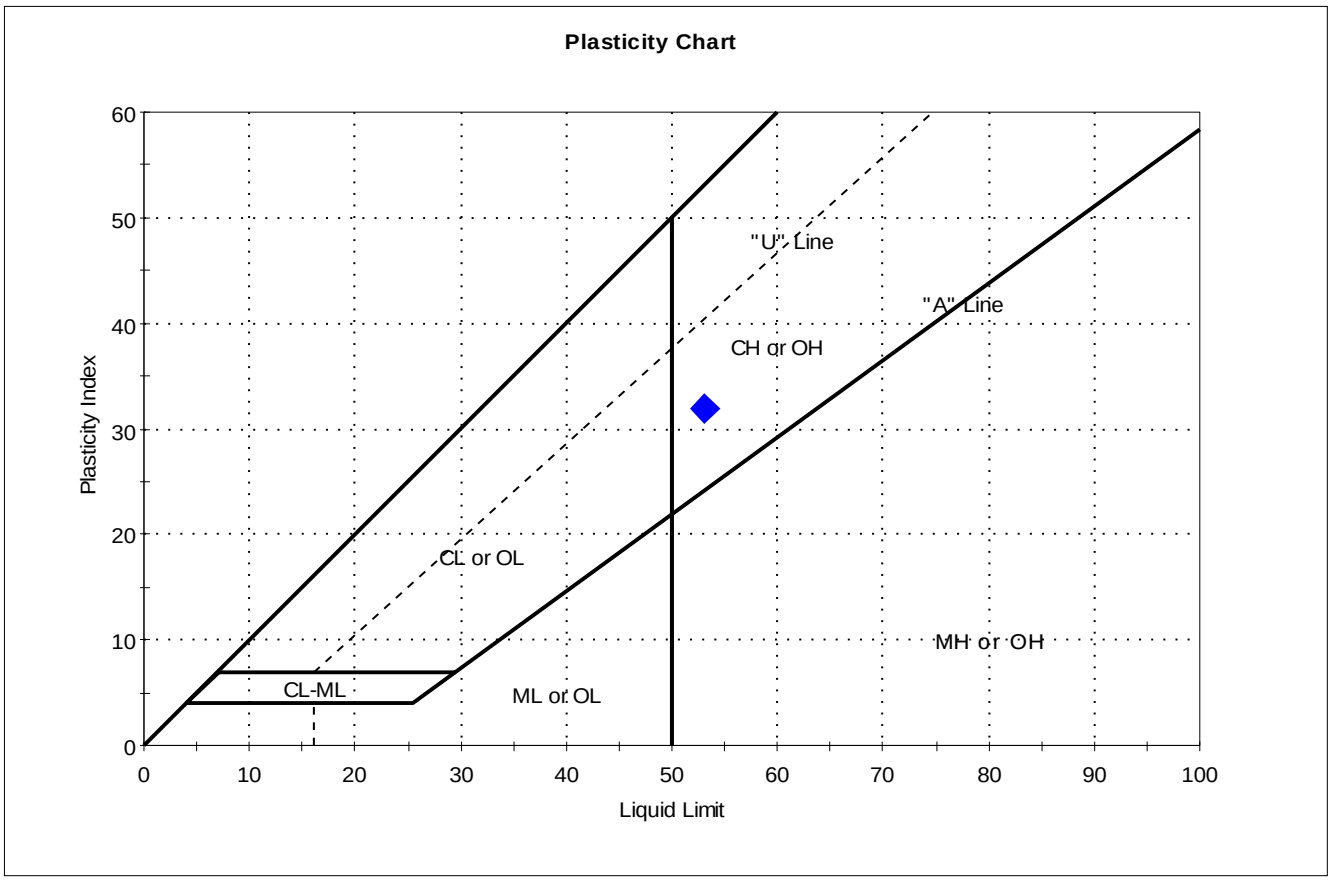
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-1	Sample Type:	jar	Tested By:	cam
Sample ID:	SB-1	Test Date:	06/13/13	Checked By:	jdt
Depth :	90-92 ft.	Test Id:	267619		
Test Comment:	---				
Sample Description:	Moist, mottled olive and gray clay				
Sample Comment:	---				

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SB-1	SB-1	90-92 ft.	19	53	21	32	0	fat clay (CH)

Sample Prepared using the WET method
0% Retained on #40 Sieve
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

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GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	---	Tested By:	jek
Sample ID:	---	Test Date:	07/30/13	Checked By:	mpd
Depth :	---	Test Id:	271028		

Moisture Content of Soil and Rock - ASTM D2216

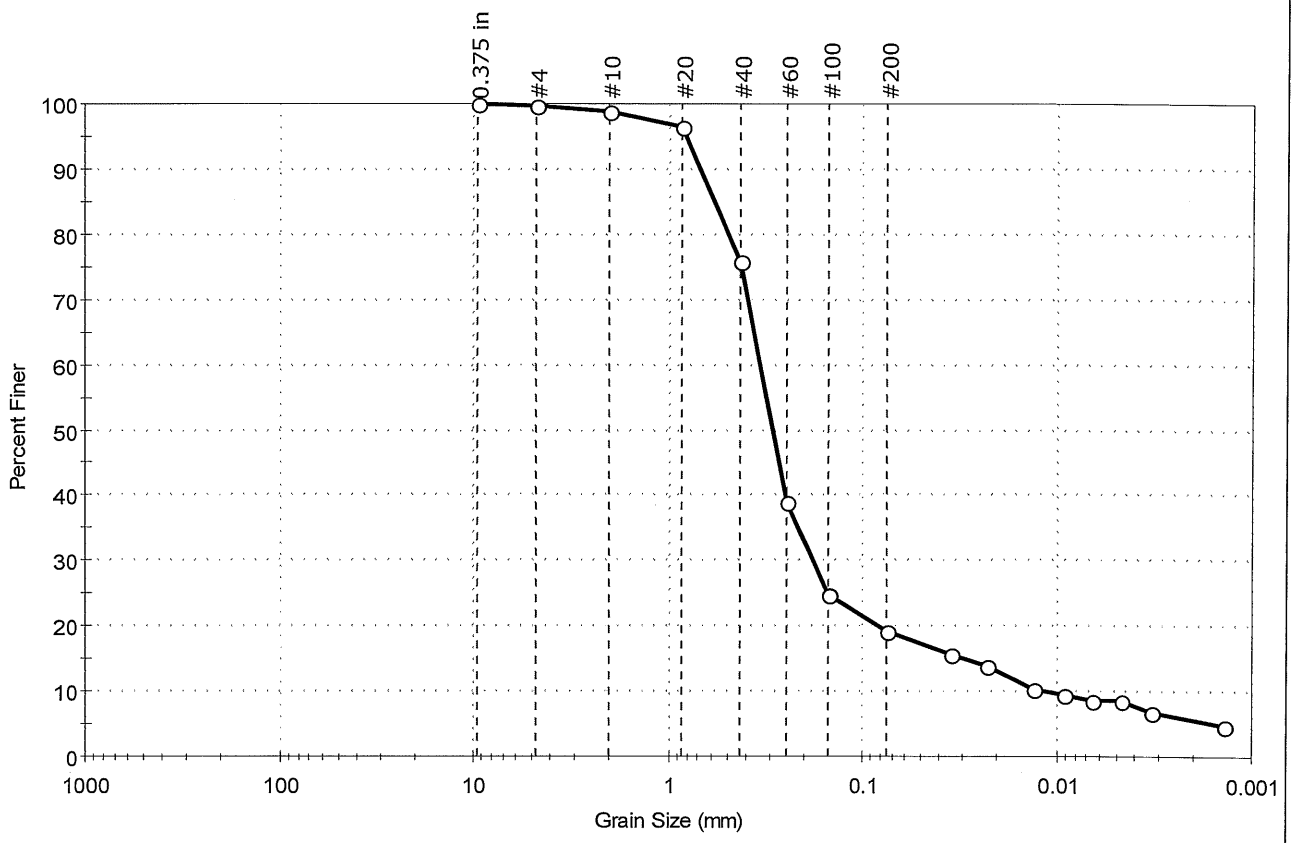
Boring ID	Sample ID	Depth	Description	Moisture Content,%
SB-1	SB-1	30-32 ft.	Moist, reddish yellow silty sand	20.2
SB-2	SB-2	60-62 ft.	Moist, grayish brown clayey sand	21.5
SB-2	SB-2	75-77 ft.	Moist, brown sandy clay	19.5
SB-2	SB-2	85-87 ft.	Moist, reddish brown clay	18.1
SB-3	SB-3	50-52 ft.	Moist, grayish brown silty sand	16.2
SB-3	SB-3	65-67 ft.	Moist, mottled gray and reddish brown clay with sand	15.3
SB-4	SB-4	25-27 ft.	Moist, olive clay	30.4
SB-4	SB-4	65-67 ft.	Moist, reddish brown clay	23.6
SB-5	SB-5	15-17 ft.	Moist, mottled yellowish brown and gray clay	23.4

Notes: Temperature of Drying : 110° Celsius

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-1	Sample Type:	jar	Tested By:	jbr
Sample ID:	SB-1	Test Date:	07/30/13	Checked By:	mpd
Depth :	30-32 ft.	Test Id:	271002		
Test Comment:	---				
Sample Description:	Moist, reddish yellow silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.3	80.5	19.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	99		
#20	0.85	97		
#40	0.42	76		
#60	0.25	39		
#100	0.15	25		
#200	0.075	19		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0348	16		
---	0.0230	14		
---	0.0132	10		
---	0.0093	10		
---	0.0067	9		
---	0.0047	9		
---	0.0033	7		
---	0.0014	5		

Coefficients

D_{85} =0.5770 mm	D_{30} =0.1811 mm
D_{60} =0.3385 mm	D_{15} =0.0303 mm
D_{50} =0.2933 mm	D_{10} =0.0113 mm
C_u =29.956	C_c =8.574

Classification

ASTM Silty sand (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-1	Sample Type:	jar	Tested By:	cam
Sample ID:	SB-1	Test Date:	07/26/13	Checked By:	mpd
Depth :	30-32 ft.	Test Id:	271011		
Test Comment:	---				
Sample Description:	Moist, reddish yellow silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

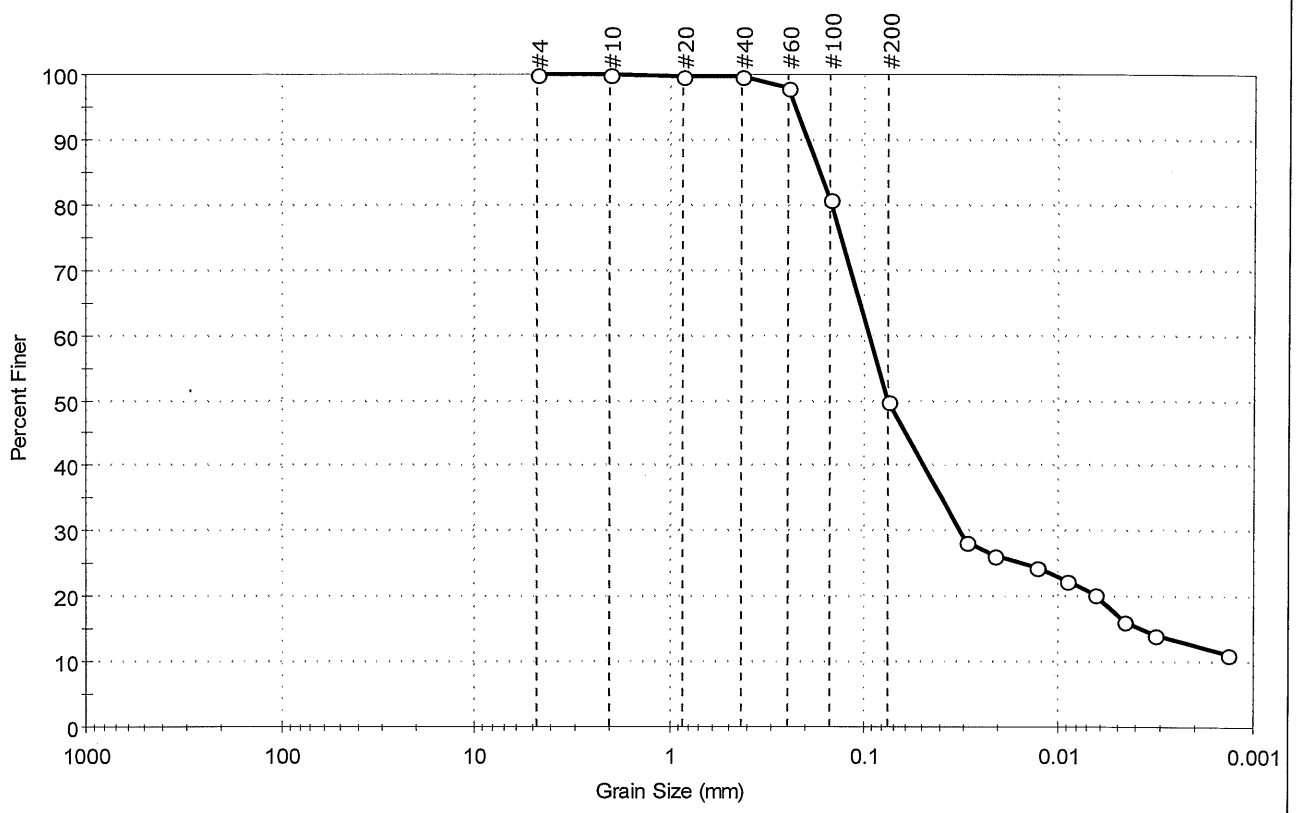
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SB-1	SB-1	30-32 ft.	20	n/a	n/a	n/a	n/a	Silty sand (SM)

24% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-2	Sample Type:	jar	Tested By:	jbr
Sample ID:	SB-2	Test Date:	07/30/13	Checked By:	mpd
Depth :	60-62 ft.	Test Id:	271003		
Test Comment:	---				
Sample Description:	Moist, grayish brown clayey sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
—	0.0	50.2	49.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	98		
#100	0.15	81		
#200	0.075	50		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0294	28		
---	0.0213	26		
---	0.0128	24		
---	0.0090	22		
---	0.0064	20		
---	0.0046	16		
---	0.0033	14		
---	0.0014	11		

Coefficients

D_{85} =0.1703 mm	D_{30} =0.0315 mm
D_{60} =0.0942 mm	D_{15} =0.0037 mm
D_{50} =0.0753 mm	D_{10} =0.0010 mm
C_u =94.200	C_c =10.533

Classification

ASTM Clayey sand (SC)

AASHTO Silty Soils (A-4 (1))

Sample/Test Description

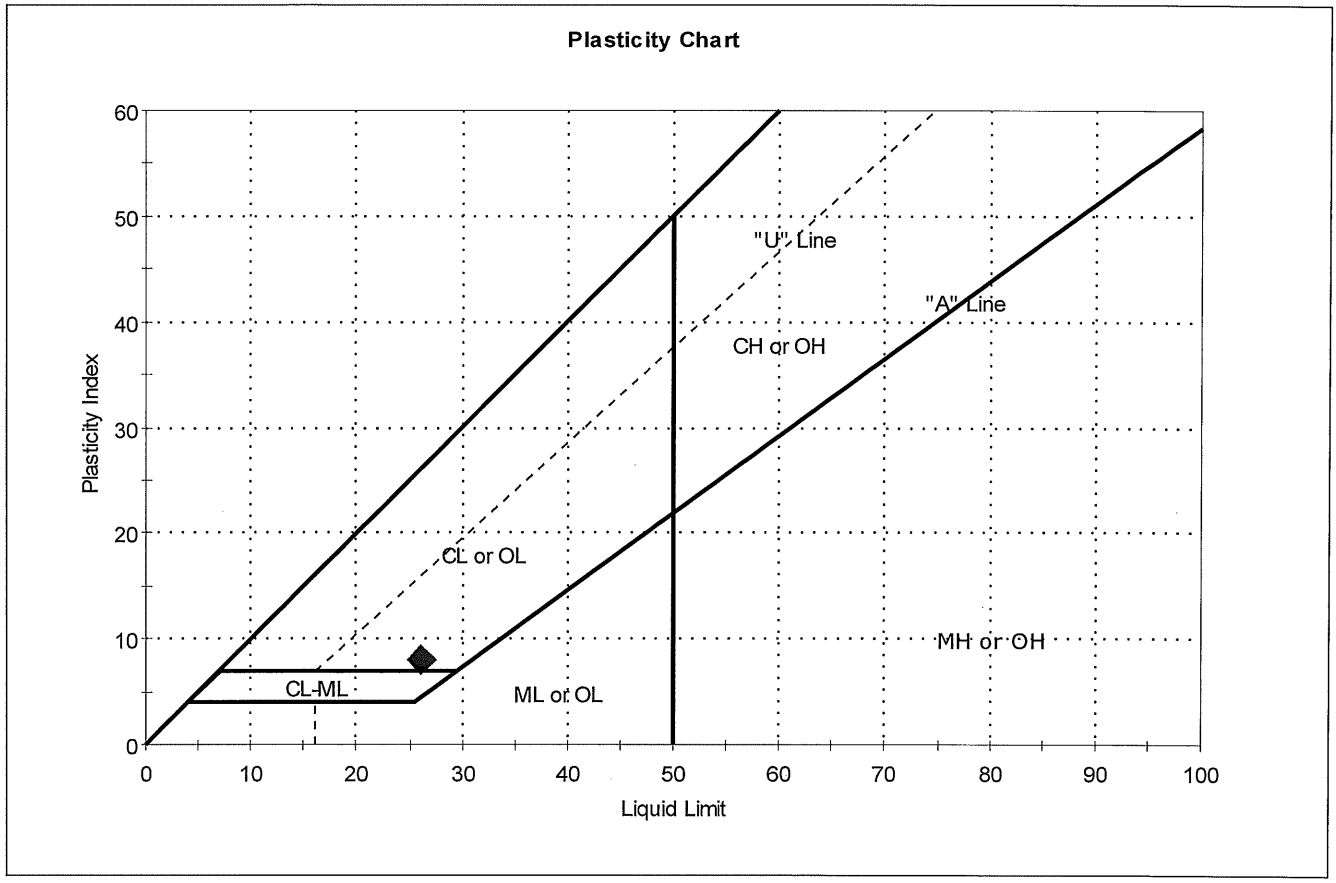
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-2	Sample Type:	jar	Tested By:	cam
Sample ID:	SB-2	Test Date:	07/29/13	Checked By:	mpd
Depth :	60-62 ft.	Test Id:	271012		
Test Comment:	---				
Sample Description:	Moist, grayish brown clayey sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318



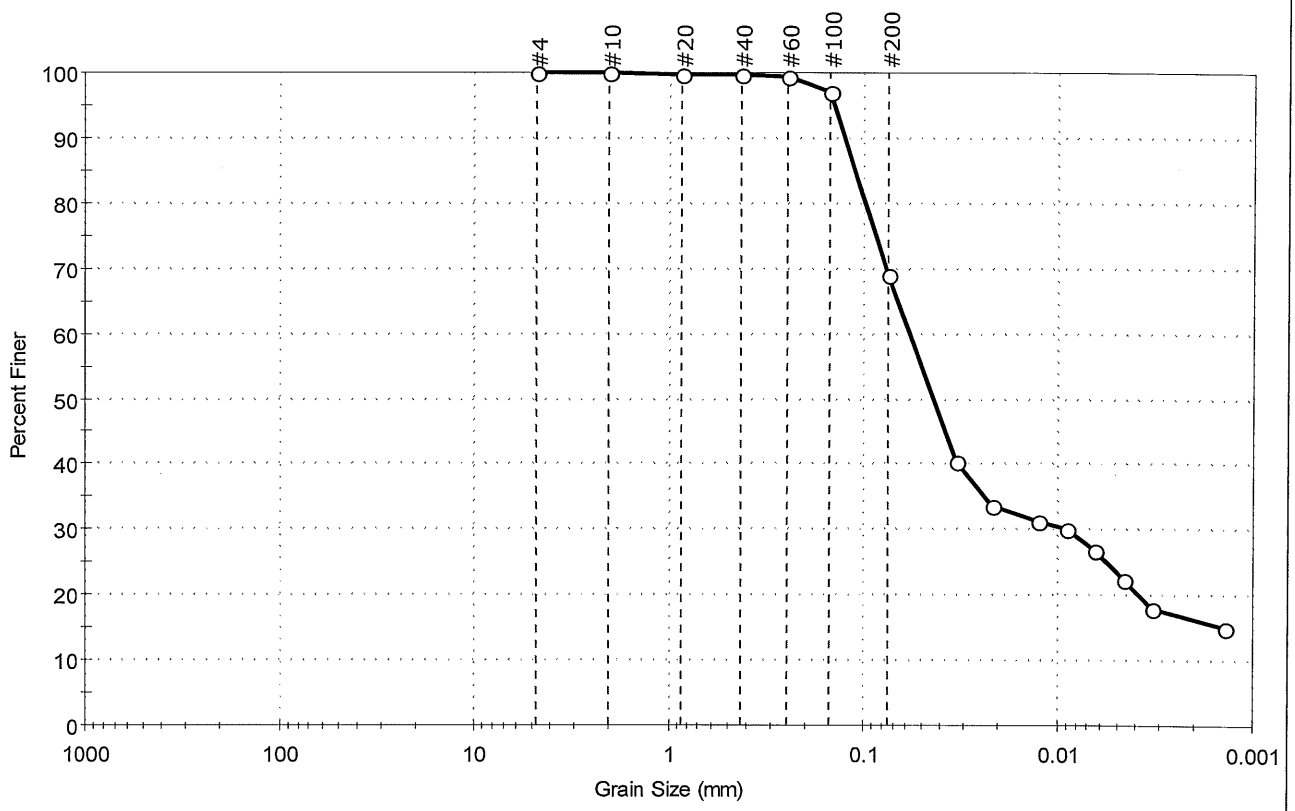
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SB-2	SB-2	60-62 ft.	22	26	18	8	0	Clayey sand (SC)

Sample Prepared using the WET method
0% Retained on #40 Sieve
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-2	Sample Type:	jar	Tested By:	jbr
Sample ID:	SB-2	Test Date:	07/30/13	Checked By:	mpd
Depth :	75-77 ft.	Test Id:	271474		
Test Comment:	---				
Sample Description:	Moist, brown sandy clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	31.0	69.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	97		
#200	0.075	69		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0337	40		
---	0.0217	34		
---	0.0126	31		
---	0.0090	30		
---	0.0064	27		
---	0.0046	22		
---	0.0033	18		
---	0.0014	15		

Coefficients

D_{85} =0.1113 mm	D_{30} =0.0088 mm
D_{60} =0.0584 mm	D_{15} =N/A
D_{50} =0.0442 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM Sandy lean clay (CL)

AASHTO Clayey Soils (A-6 (10))

Sample/Test Description

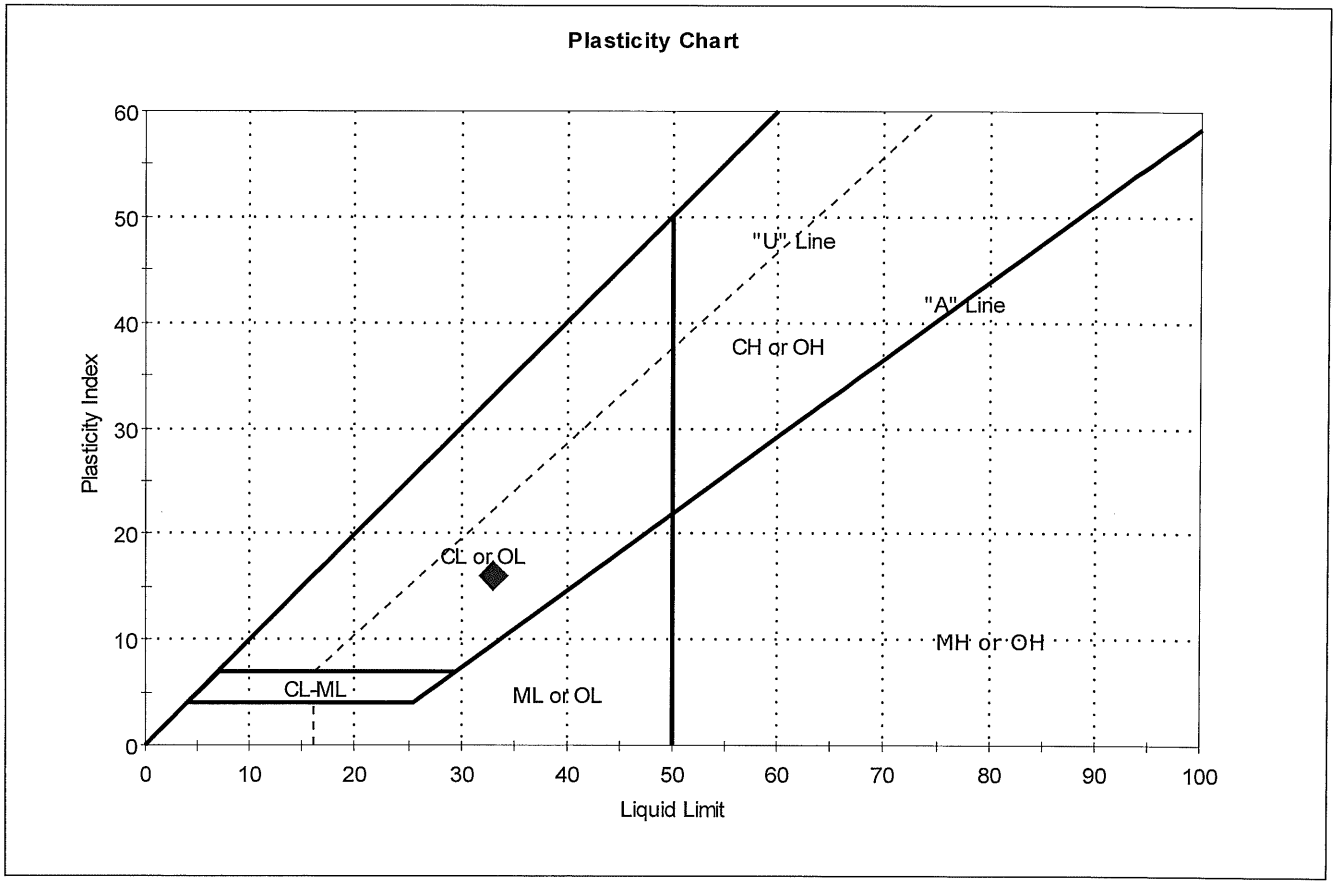
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-2	Sample Type:	jar	Tested By:	cam
Sample ID:	SB-2	Test Date:	07/29/13	Checked By:	mpd
Depth :	75-77 ft.	Test Id:	271013		
Test Comment:	---				
Sample Description:	Moist, brown sandy clay				
Sample Comment:	---				

Atterberg Limits - ASTM D4318



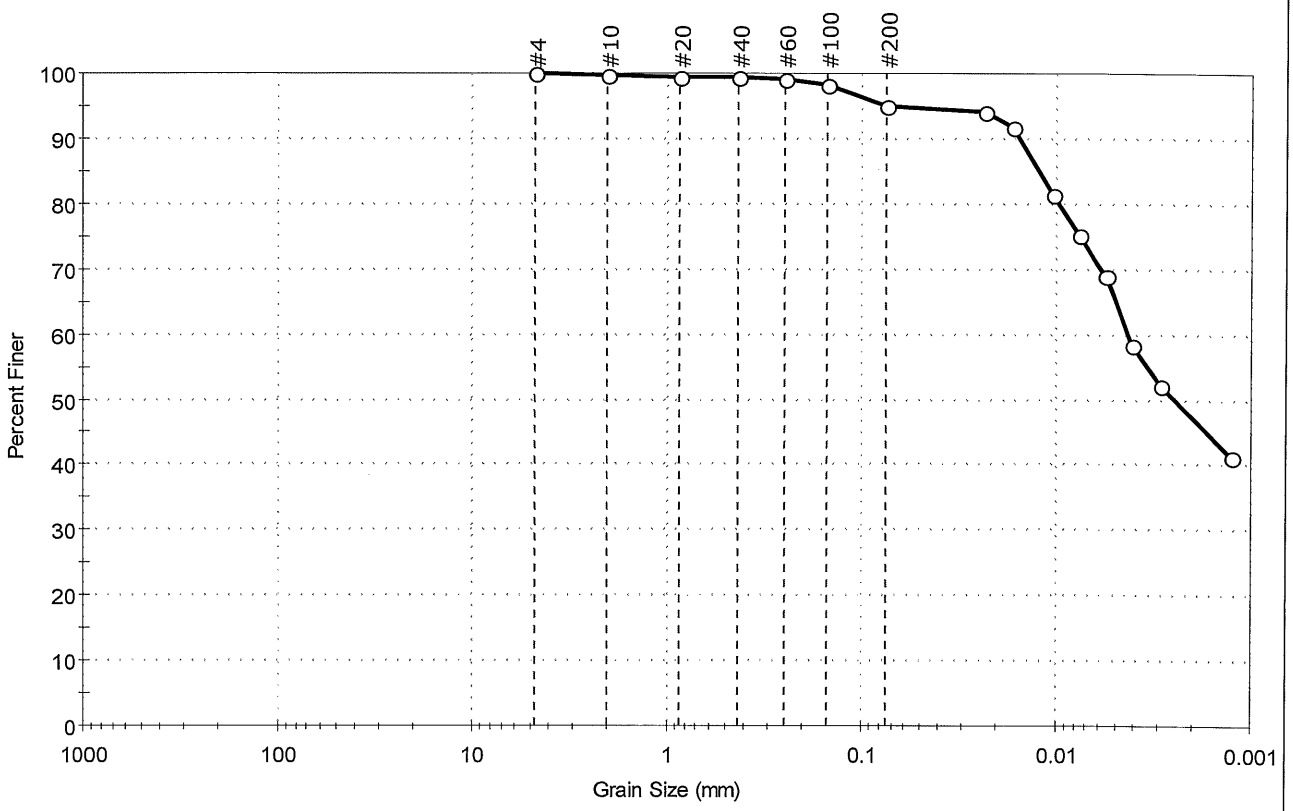
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SB-2	SB-2	75-77 ft.	20	33	17	16	0	Sandy lean clay (CL)

Sample Prepared using the WET method
0% Retained on #40 Sieve
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-2	Sample Type:	jar	Tested By:	jbr
Sample ID:	SB-2	Test Date:	07/30/13	Checked By:	mpd
Depth :	85-87 ft.	Test Id:	271005		
Test Comment:	---				
Sample Description:	Moist, reddish brown clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
—	0.0	5.1	94.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	99		
#100	0.15	98		
#200	0.075	95		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0232	94		
---	0.0166	92		
---	0.0103	81		
---	0.0076	75		
---	0.0055	69		
---	0.0040	58		
---	0.0029	52		
---	0.0013	41		

Coefficients

D_{85} =0.0122 mm	D_{30} =N/A
D_{60} =0.0042 mm	D_{15} =N/A
D_{50} =0.0025 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM fat clay (CH)

AASHTO Clayey Soils (A-7-6 (41))

Sample/Test Description

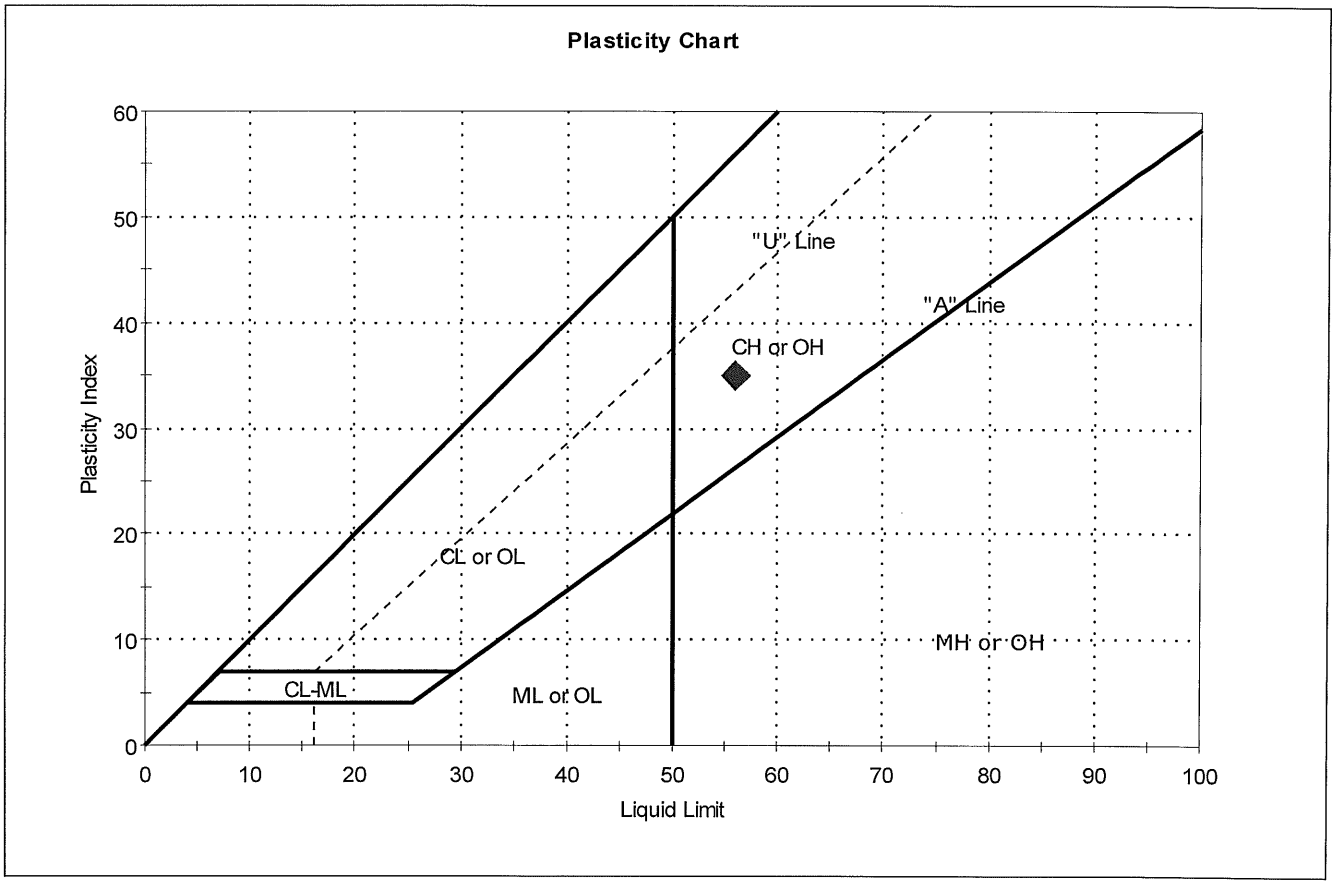
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-2	Sample Type:	jar	Tested By:	cam
Sample ID:	SB-2	Test Date:	07/30/13	Checked By:	mpd
Depth :	85-87 ft.	Test Id:	271014		
Test Comment:	---				
Sample Description:	Moist, reddish brown clay				
Sample Comment:	---				

Atterberg Limits - ASTM D4318



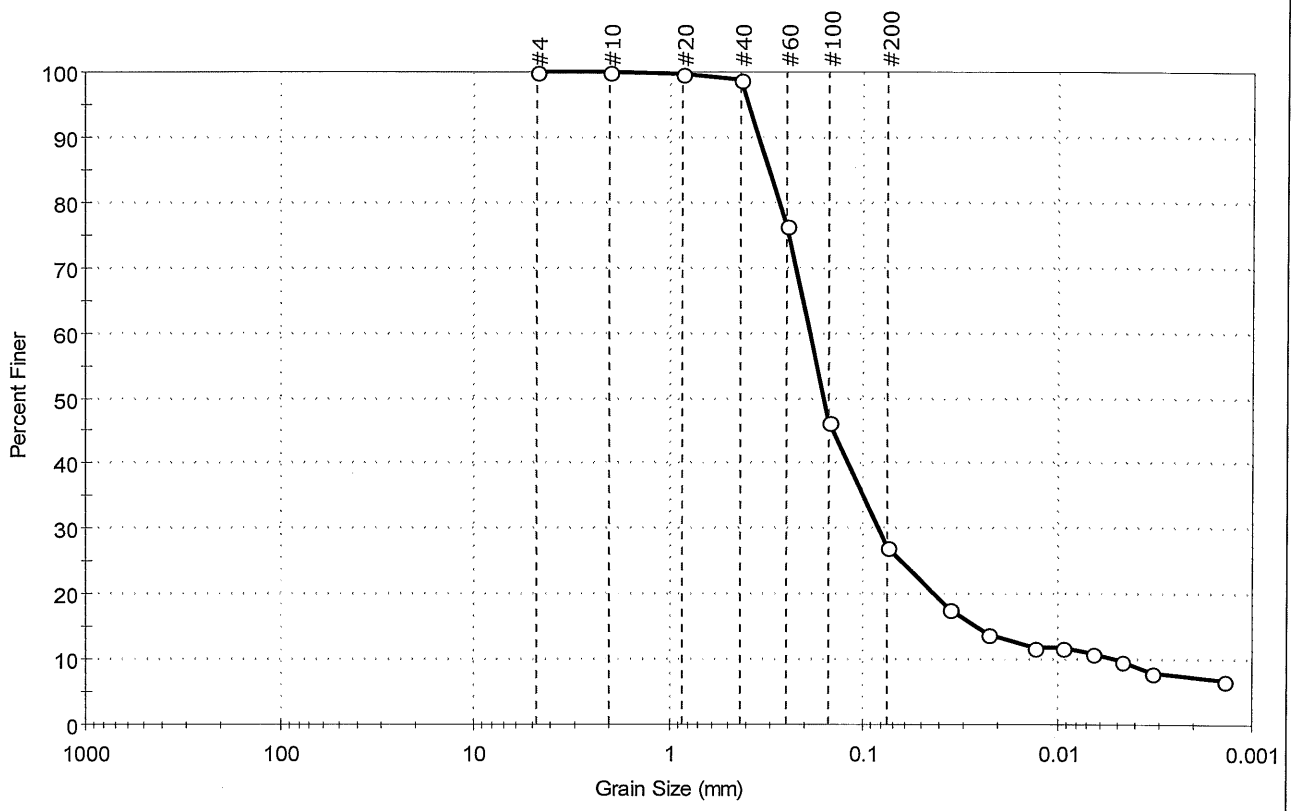
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SB-2	SB-2	85-87 ft.	18	56	21	35	0	fat clay (CH)

Sample Prepared using the WET method
1% Retained on #40 Sieve
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-3	Sample Type:	jar	Tested By:	jbr
Sample ID:	SB-3	Test Date:	07/30/13	Checked By:	mpd
Depth :	50-52 ft.	Test Id:	271006		
Test Comment:	---				
Sample Description:	Moist, grayish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	—	72.9	27.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	76		
#100	0.15	46		
#200	0.075	27		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0355	18		
---	0.0228	14		
---	0.0133	12		
---	0.0094	12		
---	0.0066	11		
---	0.0047	10		
---	0.0033	8		
---	0.0014	7		

Coefficients

D_{85} =0.3073 mm	D_{30} =0.0834 mm
D_{60} =0.1896 mm	D_{15} =0.0260 mm
D_{50} =0.1600 mm	D_{10} =0.0049 mm
C_u =38.694	C_c =7.487

Classification

ASTM Silty sand (SM)

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-3	Sample Type:	jar	Tested By:	cam
Sample ID:	SB-3	Test Date:	07/26/13	Checked By:	mpd
Depth :	50-52 ft.	Test Id:	271015		
Test Comment:	---				
Sample Description:	Moist, grayish brown silty sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

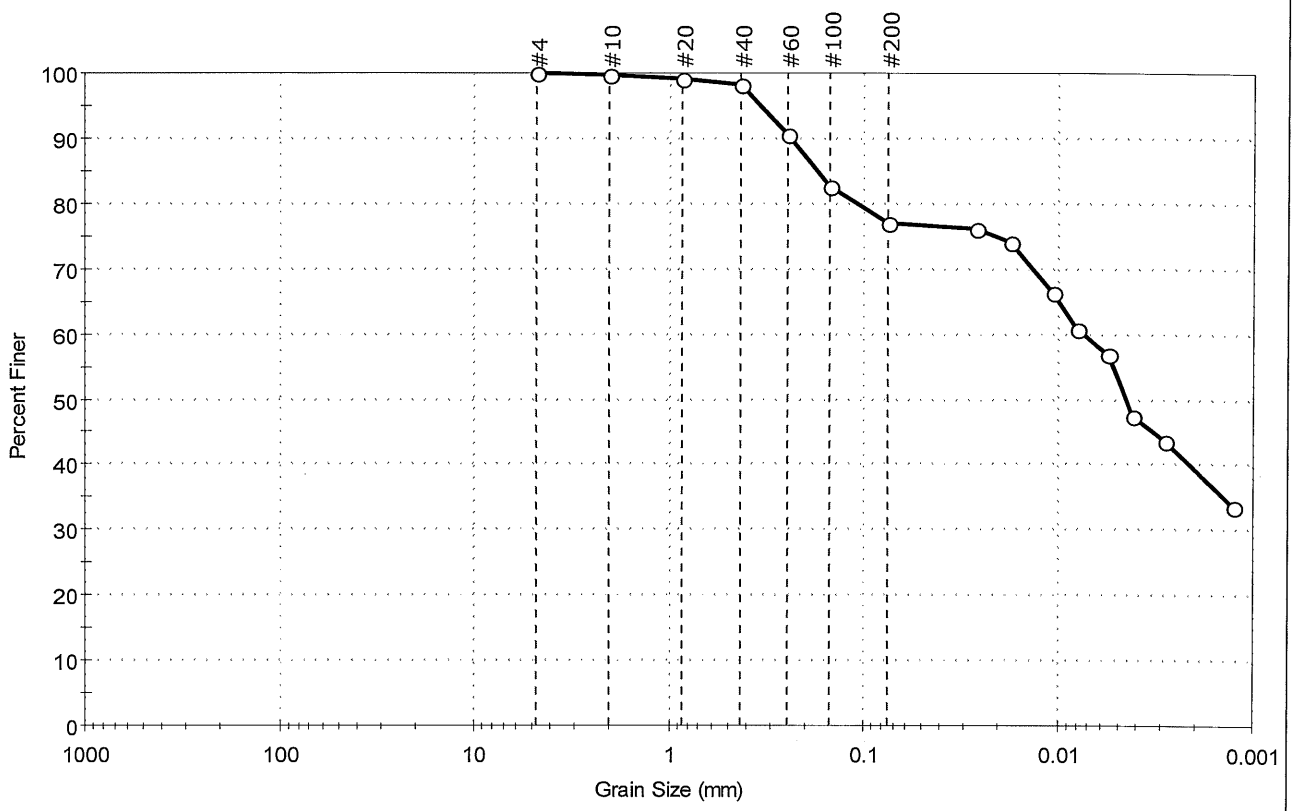
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SB-3	SB-3	50-52 ft.	16	n/a	n/a	n/a	n/a	Silty sand (SM)

1% Retained on #40 Sieve
Dry Strength: LOW
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-3	Sample Type:	jar	Tested By:	jbr
Sample ID:	SB-3	Test Date:	07/30/13	Checked By:	mpd
Depth :	65-67 ft.	Test Id:	271007		
Test Comment:	---				
Sample Description:	Moist, mottled gray and reddish brown clay with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	22.9	77.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	98		
#60	0.25	91		
#100	0.15	83		
#200	0.075	77		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0260	76		
---	0.0176	74		
---	0.0105	67		
---	0.0079	61		
---	0.0056	57		
---	0.0041	48		
---	0.0029	44		
---	0.0013	34		

Coefficients

D_{85} =0.1758 mm	D_{30} =N/A
D_{60} =0.0073 mm	D_{15} =N/A
D_{50} =0.0045 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM lean clay with sand (CL)

AASHTO Clayey Soils (A-6 (18))

Sample/Test Description

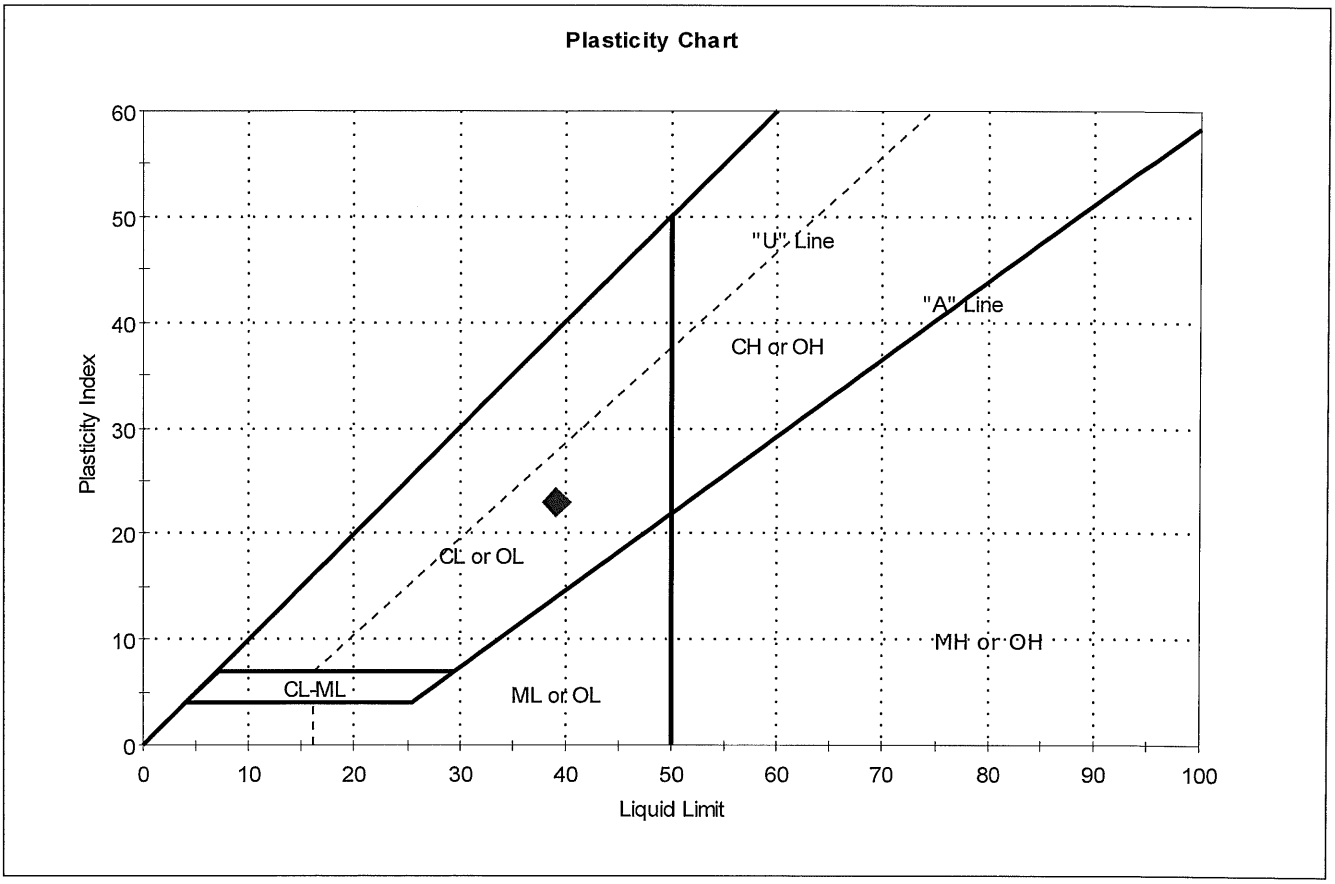
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-3	Sample Type:	jar	Tested By:	cam
Sample ID:	SB-3	Test Date:	07/30/13	Checked By:	mpd
Depth :	65-67 ft.	Test Id:	271016		
Test Comment:	---				
Sample Description:	Moist, mottled gray and reddish brown clay with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318



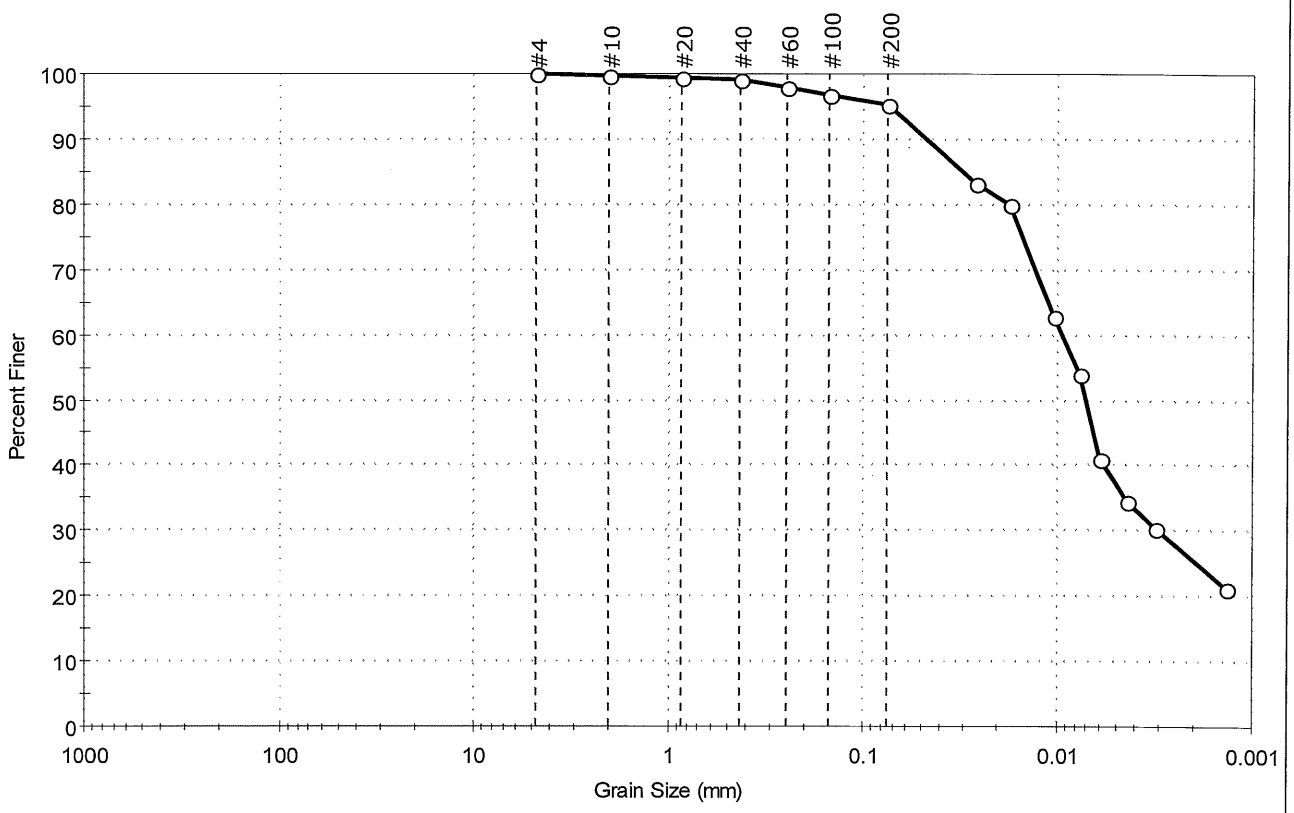
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SB-3	SB-3	65-67 ft.	15	39	16	23	0	lean clay with sand (CL)

Sample Prepared using the WET method
2% Retained on #40 Sieve
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-4	Sample Type:	jar	Tested By:	jbr
Sample ID:	SB-4	Test Date:	07/26/13	Checked By:	mpd
Depth :	25-27 ft.	Test Id:	271008		
Test Comment:	---				
Sample Description:	Moist, olive clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
—	0.0	4.8	95.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	98		
#100	0.15	97		
#200	0.075	95		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0265	83		
---	0.0177	80		
---	0.0103	63		
---	0.0076	54		
---	0.0059	41		
---	0.0043	35		
---	0.0031	30		
---	0.0014	21		

Coefficients

D_{85} =0.0307 mm	D_{30} =0.0030 mm
D_{60} =0.0093 mm	D_{15} =N/A
D_{50} =0.0070 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM lean clay (CL)

AASHTO Clayey Soils (A-6 (15))

Sample/Test Description

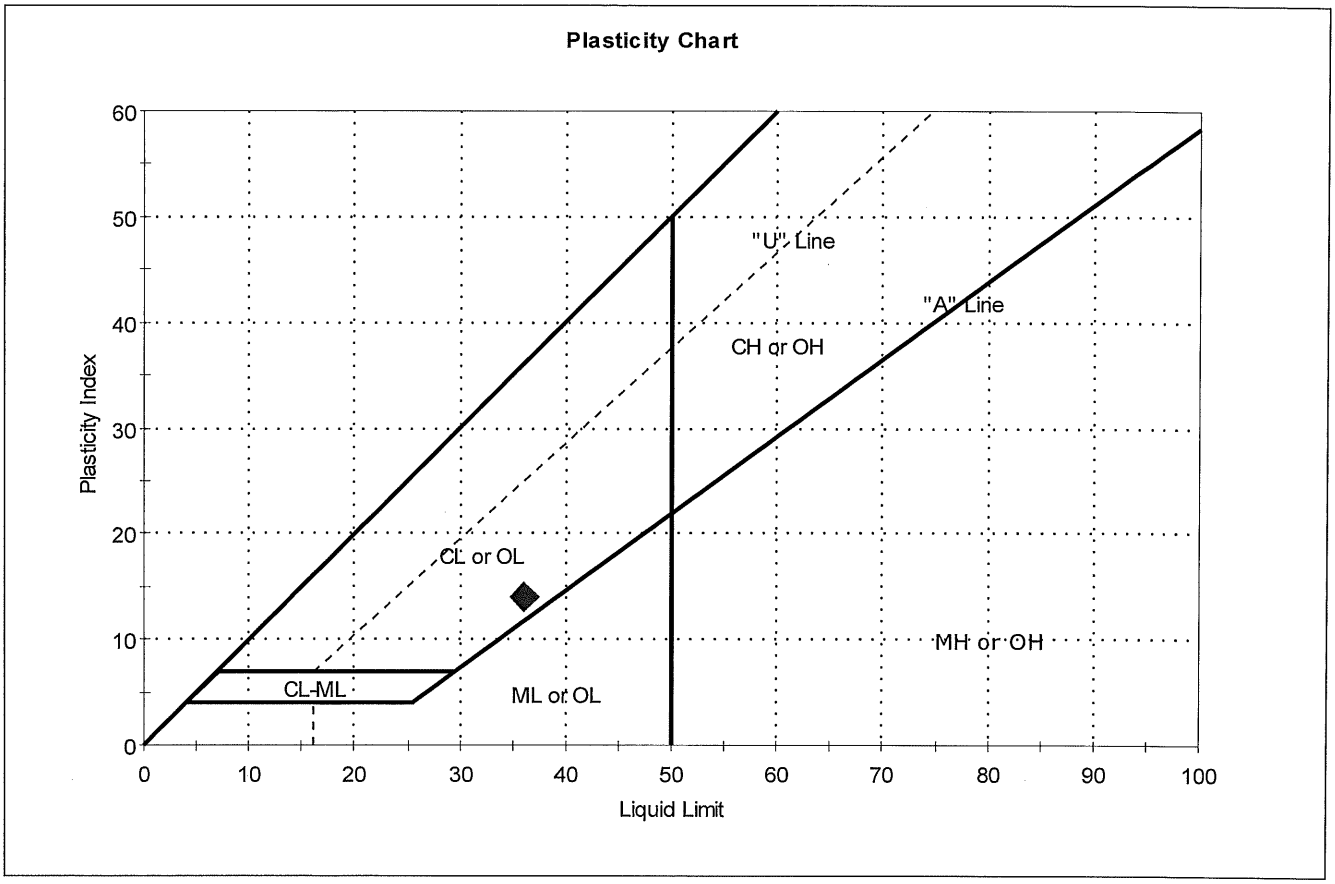
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-4	Sample Type:	jar	Tested By:	cam
Sample ID:	SB-4	Test Date:	07/29/13	Checked By:	mpd
Depth :	25-27 ft.	Test Id:	271017		
Test Comment:	---				
Sample Description:	Moist, olive clay				
Sample Comment:	---				

Atterberg Limits - ASTM D4318



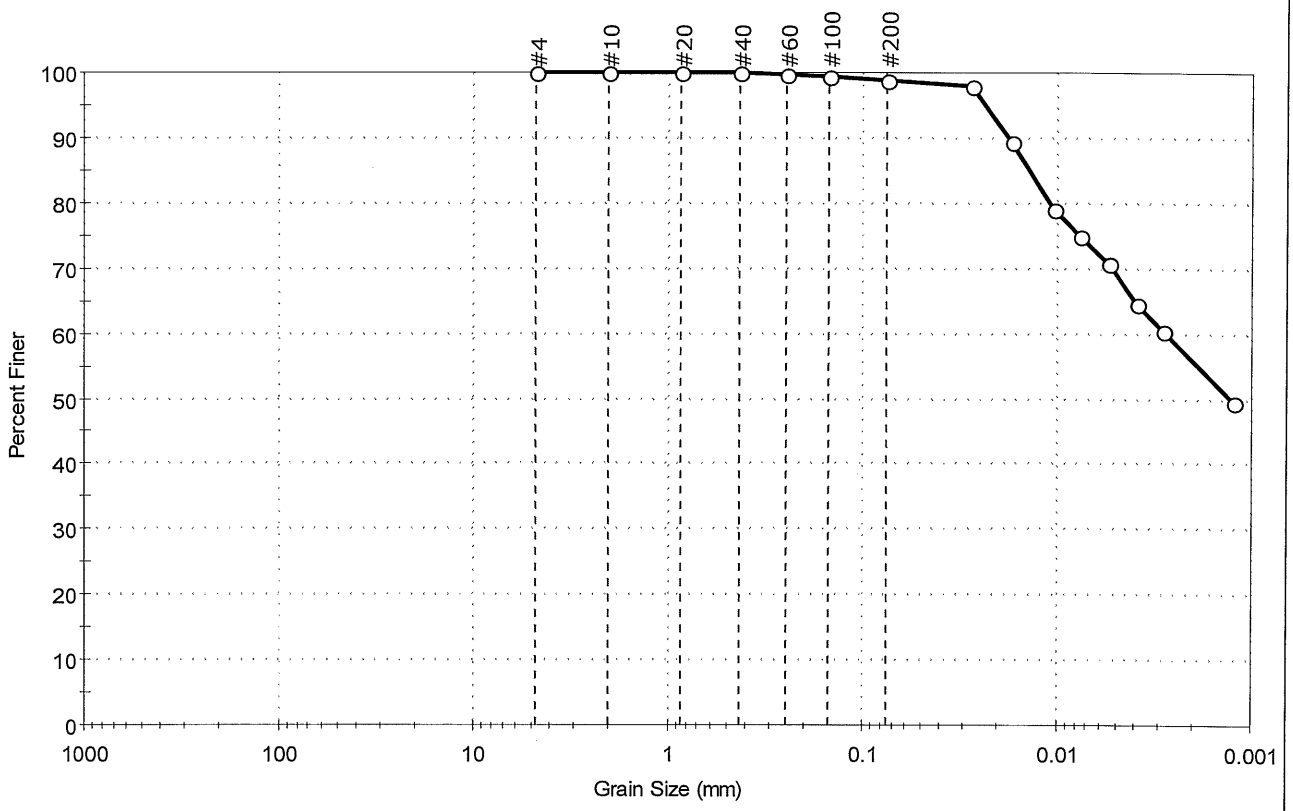
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SB-4	SB-4	25-27 ft.	30	36	21	15	1	lean clay (CL)

Sample Prepared using the WET method
1% Retained on #40 Sieve
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-4	Sample Type:	jar	Tested By:	jbr
Sample ID:	SB-4	Test Date:	07/30/13	Checked By:	mpd
Depth :	65-67 ft.	Test Id:	271009		
Test Comment:	---				
Sample Description:	Moist, reddish brown clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	1.1	98.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#200	0.075	99		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0275	98		
---	0.0171	89		
---	0.0105	79		
---	0.0075	75		
---	0.0055	71		
---	0.0039	65		
---	0.0028	60		
---	0.0012	49		

Coefficients

D_{85} =0.0138 mm	D_{30} =N/A
D_{60} =0.0028 mm	D_{15} =N/A
D_{50} =0.0013 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM fat clay (CH)

AASHTO Clayey Soils (A-7-6 (76))

Sample/Test Description

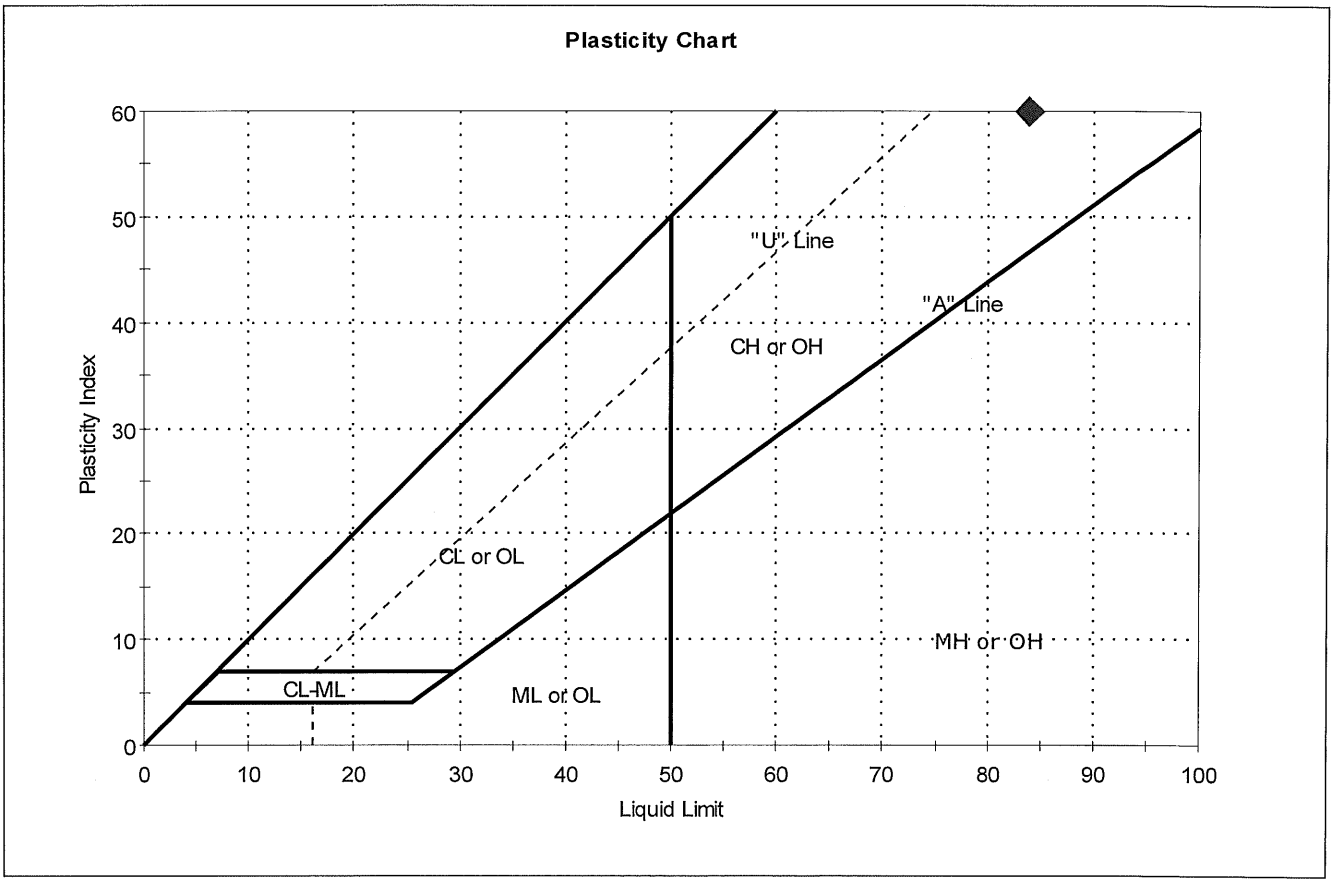
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-4	Sample Type:	jar	Tested By:	cam
Sample ID:	SB-4	Test Date:	07/30/13	Checked By:	mpd
Depth :	65-67 ft.	Test Id:	271018		
Test Comment:	---				
Sample Description:	Moist, reddish brown clay				
Sample Comment:	---				

Atterberg Limits - ASTM D4318



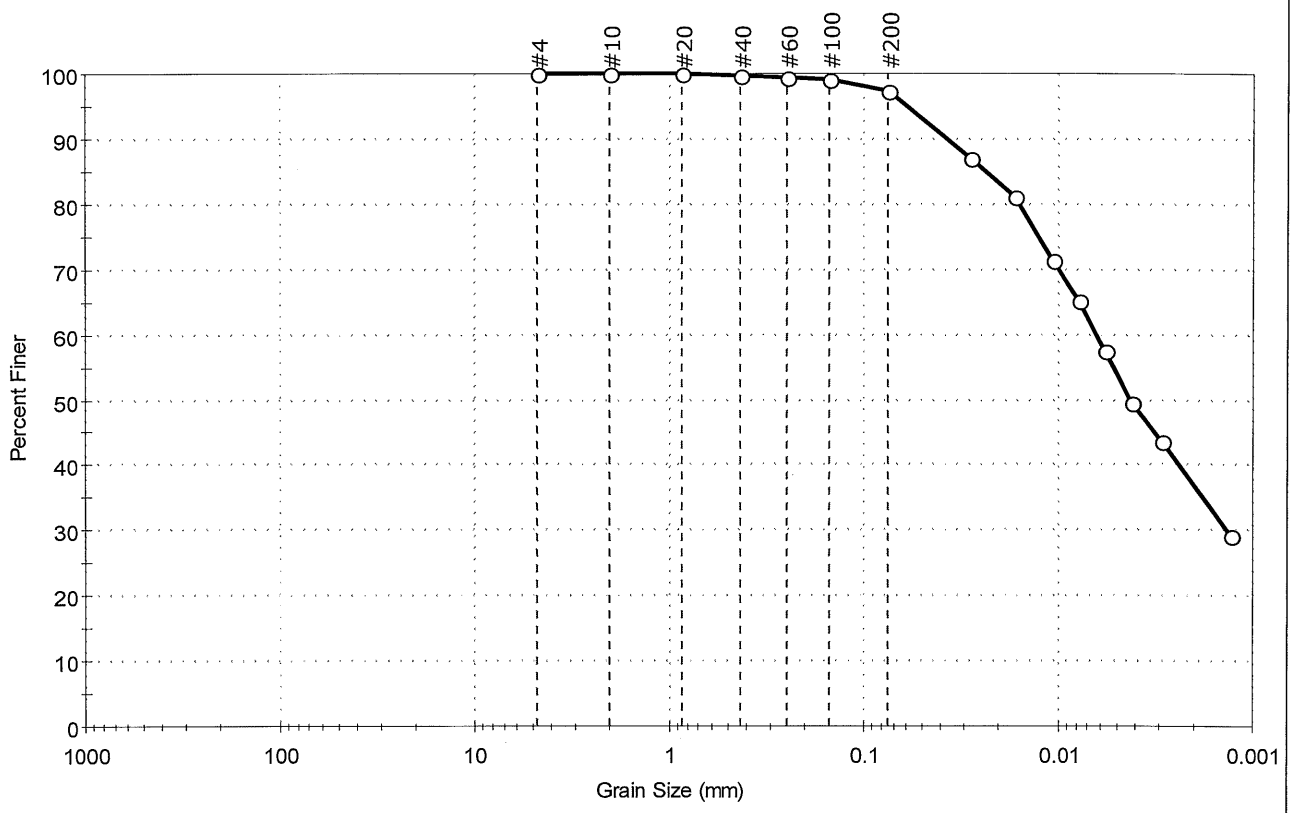
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SB-4	SB-4	65-67 ft.	24	84	24	60	0	fat clay (CH)

Sample Prepared using the WET method
0% Retained on #40 Sieve
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-5	Sample Type:	jar	Tested By:	jbr
Sample ID:	SB-5	Test Date:	07/30/13	Checked By:	mpd
Depth :	15-17 ft.	Test Id:	271010		
Test Comment:	---				
Sample Description:	Moist, mottled yellowish brown and gray clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	2.6	97.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#200	0.075	97		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0284	87		
---	0.0168	81		
---	0.0107	71		
---	0.0078	65		
---	0.0057	57		
---	0.0041	49		
---	0.0029	44		
---	0.0013	29		

Coefficients

D_{85} =0.0236 mm D_{30} =0.0014 mm
D_{60} =0.0063 mm D_{15} =N/A
D_{50} =0.0042 mm D_{10} =N/A
C_u =N/A C_c =N/A

Classification

ASTM lean clay (CL)

AASHTO Clayey Soils (A-7-6 (29))

Sample/Test Description

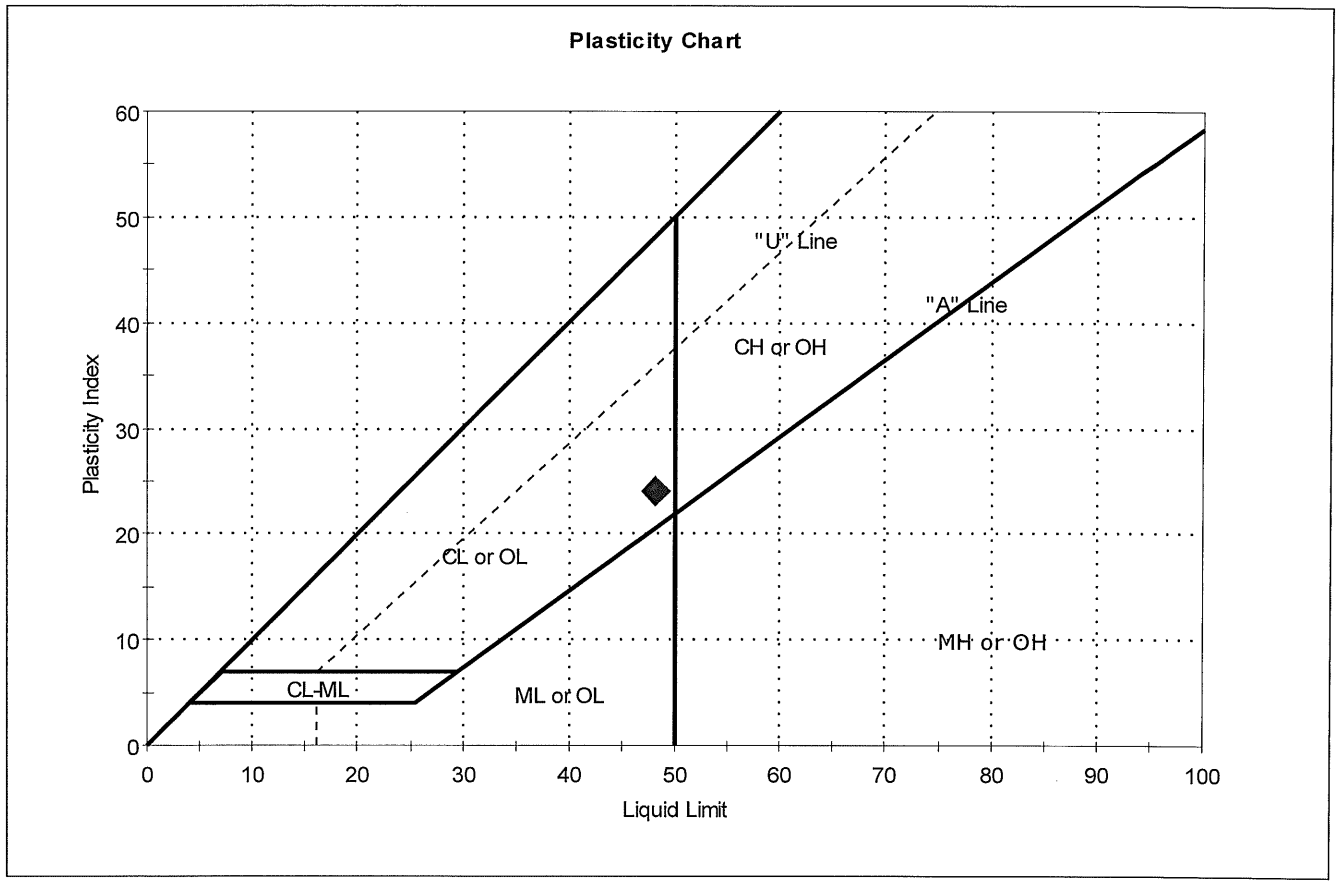
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	SB-5	Sample Type:	jar	Tested By:	cam
Sample ID:	SB-5	Test Date:	07/29/13	Checked By:	mpd
Depth :	15-17 ft.	Test Id:	271019		
Test Comment:	---				
Sample Description:	Moist, mottled yellowish brown and gray clay				
Sample Comment:	---				

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SB-5	SB-5	15-17 ft.	23	48	24	24	0	lean clay (CL)

Sample Prepared using the WET method
0% Retained on #40 Sieve
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

pepco
An Exelon Company

Phase II Storm Drain Investigation

Excerpts from Geotechnical Analysis Reports: TestAmerica Laboratories, Inc.

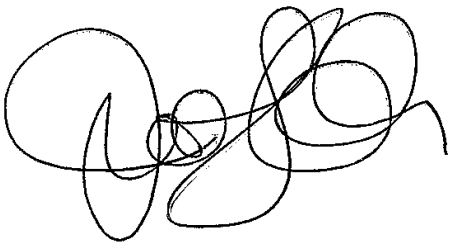
ANALYTICAL REPORT

Job Number: 180-68573-3

Job Description: Pepco Benning Road Facility

For:
AECOM, Inc.
250 Apollo Drive
Chelmsford, MA 01824

Attention: Mr. Robert Kennedy



Approved for release.
Jill L Colussy
Project Manager I
2/20/2018 3:24 PM

Jill L Colussy, Project Manager I
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2444
jill.colussy@testamericainc.com
02/20/2018

Method: D422 - Grain Size

Client Sample ID: SDRF025074N
Date Collected: 07/25/17 09:30
Date Received: 07/26/17 08:58

Lab Sample ID: 180-68573-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			02/13/18 11:44	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			02/13/18 11:44	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			02/13/18 11:44	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			02/13/18 11:44	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			02/13/18 11:44	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			02/13/18 11:44	1
Sieve Size #4 - Percent Finer	87.5				% Passing			02/13/18 11:44	1
Sieve Size #10 - Percent Finer	70.7				% Passing			02/13/18 11:44	1
Sieve Size #20 - Percent Finer	54.7				% Passing			02/13/18 11:44	1
Sieve Size #40 - Percent Finer	31.1				% Passing			02/13/18 11:44	1
Sieve Size #60 - Percent Finer	19.3				% Passing			02/13/18 11:44	1
Sieve Size #80 - Percent Finer	17.1				% Passing			02/13/18 11:44	1
Sieve Size #100 - Percent Finer	16.6				% Passing			02/13/18 11:44	1
Sieve Size #200 - Percent Finer	16.1				% Passing			02/13/18 11:44	1
Hydrometer Reading 1 - Percent Finer	1.9				% Passing			02/13/18 11:44	1
Hydrometer Reading 2 - Percent Finer	1.5				% Passing			02/13/18 11:44	1
Hydrometer Reading 3 - Percent Finer	1.5				% Passing			02/13/18 11:44	1
Hydrometer Reading 4 - Percent Finer	1.1				% Passing			02/13/18 11:44	1
Hydrometer Reading 5 - Percent Finer	0.7				% Passing			02/13/18 11:44	1
Hydrometer Reading 6 - Percent Finer	0.3				% Passing			02/13/18 11:44	1
Hydrometer Reading 7 - Percent Finer	0.2				% Passing			02/13/18 11:44	1

Method: D422 - Grain Size

Client Sample ID: SDRF025074R
Date Collected: 07/25/17 09:35
Date Received: 07/26/17 08:58

Lab Sample ID: 180-68573-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			02/13/18 11:48	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			02/13/18 11:48	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			02/13/18 11:48	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			02/13/18 11:48	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			02/13/18 11:48	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			02/13/18 11:48	1
Sieve Size #4 - Percent Finer	91.7				% Passing			02/13/18 11:48	1
Sieve Size #10 - Percent Finer	74.8				% Passing			02/13/18 11:48	1
Sieve Size #20 - Percent Finer	54.7				% Passing			02/13/18 11:48	1
Sieve Size #40 - Percent Finer	29.7				% Passing			02/13/18 11:48	1
Sieve Size #60 - Percent Finer	15.6				% Passing			02/13/18 11:48	1
Sieve Size #80 - Percent Finer	12.9				% Passing			02/13/18 11:48	1
Sieve Size #100 - Percent Finer	12.4				% Passing			02/13/18 11:48	1
Sieve Size #200 - Percent Finer	11.9				% Passing			02/13/18 11:48	1
Hydrometer Reading 1 - Percent Finer	1.9				% Passing			02/13/18 11:48	1
Hydrometer Reading 2 - Percent Finer	1.5				% Passing			02/13/18 11:48	1
Hydrometer Reading 3 - Percent Finer	1.5				% Passing			02/13/18 11:48	1
Hydrometer Reading 4 - Percent Finer	1.1				% Passing			02/13/18 11:48	1
Hydrometer Reading 5 - Percent Finer	0.7				% Passing			02/13/18 11:48	1
Hydrometer Reading 6 - Percent Finer	0.3				% Passing			02/13/18 11:48	1
Hydrometer Reading 7 - Percent Finer	0.2				% Passing			02/13/18 11:48	1

Method: D422 - Grain Size

Client Sample ID: SDRF477827N
Date Collected: 07/25/17 12:30
Date Received: 07/26/17 08:58

Lab Sample ID: 180-68573-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			02/13/18 11:51	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			02/13/18 11:51	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			02/13/18 11:51	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			02/13/18 11:51	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			02/13/18 11:51	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			02/13/18 11:51	1
Sieve Size #4 - Percent Finer	98.7				% Passing			02/13/18 11:51	1
Sieve Size #10 - Percent Finer	97.9				% Passing			02/13/18 11:51	1
Sieve Size #20 - Percent Finer	96.5				% Passing			02/13/18 11:51	1
Sieve Size #40 - Percent Finer	84.7				% Passing			02/13/18 11:51	1
Sieve Size #60 - Percent Finer	41.5				% Passing			02/13/18 11:51	1
Sieve Size #80 - Percent Finer	17.6				% Passing			02/13/18 11:51	1
Sieve Size #100 - Percent Finer	8.8				% Passing			02/13/18 11:51	1
Sieve Size #200 - Percent Finer	2.3				% Passing			02/13/18 11:51	1
Hydrometer Reading 1 - Percent Finer	2.3				% Passing			02/13/18 11:51	1
Hydrometer Reading 2 - Percent Finer	1.9				% Passing			02/13/18 11:51	1
Hydrometer Reading 3 - Percent Finer	1.5				% Passing			02/13/18 11:51	1
Hydrometer Reading 4 - Percent Finer	1.1				% Passing			02/13/18 11:51	1
Hydrometer Reading 5 - Percent Finer	1.1				% Passing			02/13/18 11:51	1
Hydrometer Reading 6 - Percent Finer	1.1				% Passing			02/13/18 11:51	1
Hydrometer Reading 7 - Percent Finer	0.6				% Passing			02/13/18 11:51	1

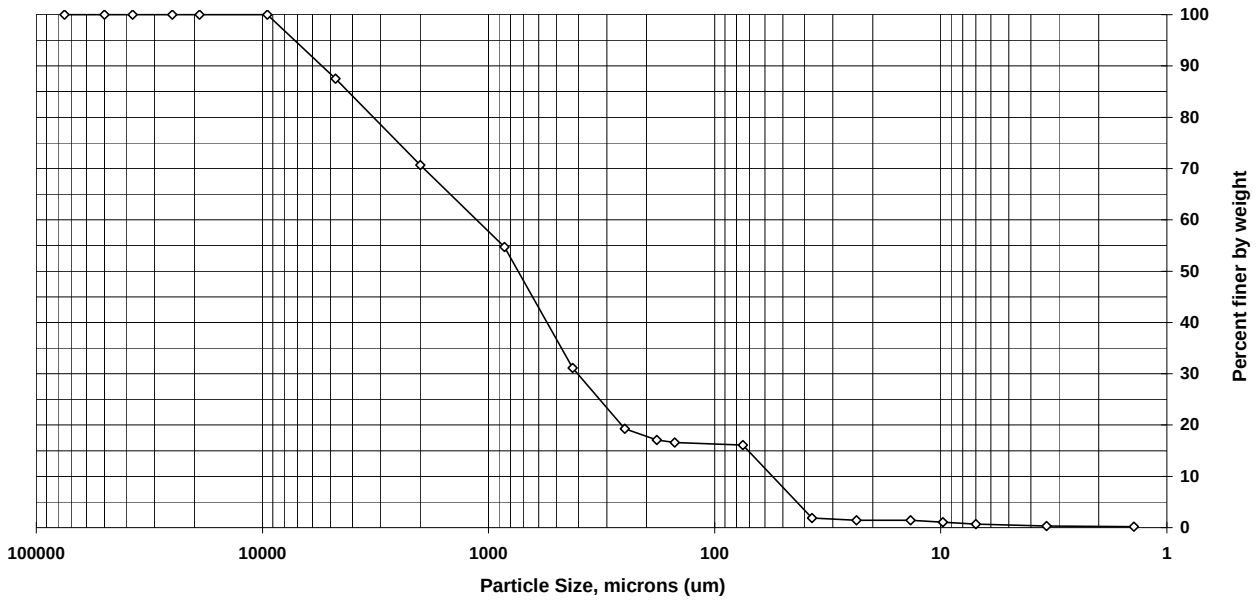
Particle Size of Soils by ASTM D422

				Date Received:	7/26/2017
Sample ID:	SDRF025074N	**Percent Solids:**	87.1%	**Start Date:**	2/13/2018
Lab ID:	180-68573-H-1	**Specific Gravity:**	2.650	**End Date:**	2/16/2018

Shape (> #10): angular

Non-soil material: na

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	87.5	12.5
#10	2000	70.7	16.8
#20	850	54.7	16.0
#40	425	31.1	23.6
#60	250	19.3	11.8
#80	180	17.1	2.2
#100	150	16.6	0.5
#200	75	16.1	0.5
Hyd1	37.1	1.9	14.3
Hyd2	23.6	1.5	0.4
Hyd3	13.6	1.5	0.0
Hyd4	9.8	1.1	0.4
Hyd5	7	0.7	0.4
Hyd6	3.4	0.3	0.4
Hyd7	1.4	0.2	0.1

Soil Classification	Percent of sample
Gravel	12.5
Sand	71.4
Coarse Sand	16.8
Medium Sand	39.6
Fine Sand	15.0
Silt	15.4
Clay	0.7

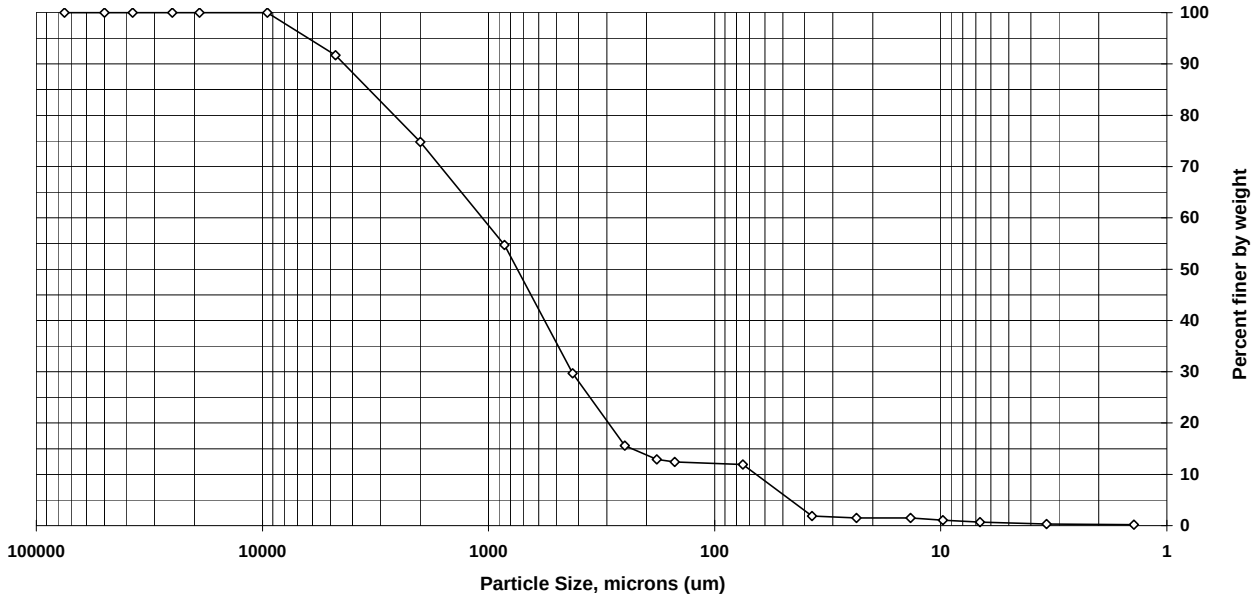
Particle Size of Soils by ASTM D422

				Date Received:	7/26/2017
Sample ID:	SDRF025074R	**Percent Solids:**	84.8%	**Start Date:**	2/13/2018
Lab ID:	180-68573-H-2	**Specific Gravity:**	2.650	**End Date:**	2/16/2018

Shape (> #10): angular

Non-soil material: plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	91.7	8.3
#10	2000	74.8	16.9
#20	850	54.7	20.1
#40	425	29.7	25.0
#60	250	15.6	14.1
#80	180	12.9	2.7
#100	150	12.4	0.5
#200	75	11.9	0.5
Hyd1	37.1	1.9	10.0
Hyd2	23.6	1.5	0.4
Hyd3	13.6	1.5	0.0
Hyd4	9.8	1.1	0.4
Hyd5	6.7	0.7	0.4
Hyd6	3.4	0.3	0.4
Hyd7	1.4	0.2	0.1

Soil Classification	Percent of sample
Gravel	8.3
Sand	79.8
Coarse Sand	16.9
Medium Sand	45.1
Fine Sand	17.8
Silt	11.2
Clay	0.7

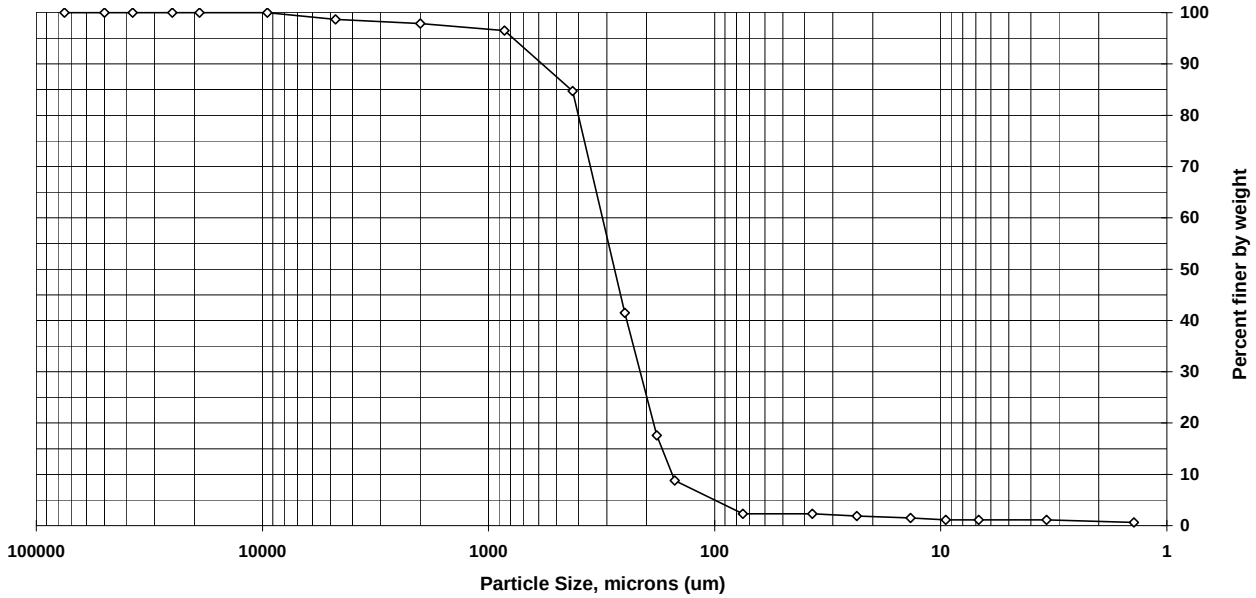
Particle Size of Soils by ASTM D422

				Date Received:	7/26/2017
Sample ID:	SDRF477827N	**Percent Solids:**	81.4%	**Start Date:**	2/13/2018
Lab ID:	180-68573-H-3	**Specific Gravity:**	2.650	**End Date:**	2/16/2018

Shape (> #10): angular

Non-soil material: na

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	98.7	1.3
#10	2000	97.9	0.8
#20	850	96.5	1.4
#40	425	84.7	11.8
#60	250	41.5	43.2
#80	180	17.6	23.9
#100	150	8.8	8.8
#200	75	2.3	6.5
Hyd1	37	2.3	0.0
Hyd2	23.5	1.9	0.4
Hyd3	13.6	1.5	0.4
Hyd4	9.5	1.1	0.4
Hyd5	6.8	1.1	0.0
Hyd6	3.4	1.1	0.0
Hyd7	1.4	0.6	0.5

Soil Classification	Percent of sample
Gravel	1.3
Sand	96.4
Coarse Sand	0.8
Medium Sand	13.2
Fine Sand	82.4
Silt	1.2
Clay	1.1

Sediment Grain Size - D422

Client	
Client Sample ID	SDRF025074N
Lab Sample ID	180-68573-H-1

Date Received	7/26/2017
Start Date	02/13/2018 11:44
End Date	02/16/2018 11:35

Dry Weight Determination

Tin Weight	1.02	g
Wet Sample + Tin	16.49	g
Dry Sample + Tin	14.50	g
% Moisture	12.86	%

Non-soil material:	na
Shape (> #10):	angular
Hardness (> #10):	hard

Date/Time in oven	02/13/2018 11:44
Date/Time out of oven	02/15/2018 21:18

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.71	280.86	236.15
Sample Weight (Oven Dried)			206

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			60.3
Sample <#10			146
% Passing #10			61.8

Hydrometer Data	
Serial Number	542318
Calib. Date (mm/dd/yyyy)	01/03/2018
Low Temp (C)	17.0
Reading at Low Temp	1.0035
High Temp (C)	23.0
Reading at High Temp	1.0020
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00775
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.03	513.82	25.79	g	87.5	Gravel	
#10	2000	462.66	497.20	34.54	g	70.7	Sand	Coarse
#20	850	375.14	408.01	32.87	g	54.7	Sand	Medium
#40	425	363.37	411.95	48.58	g	31.1	Sand	Medium
#60	250	335.89	360.16	24.27	g	19.3	Sand	Fine
#80	180	319.80	324.38	4.58	g	17.1	Sand	Fine
#100	150	328.82	329.77	0.95	g	16.6	Sand	Fine
#200	75	314.78	315.91	1.13	g	16.1	Sand	Fine
				0.00	g	16.1		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	206

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0050	20.5	37.1	1.85	Silt	
5	5	1.0045	20.5	23.6	1.46	Silt	
15	15	1.0045	20.5	13.6	1.46	Silt	
30	29	1.0040	20.5	9.8	1.07	Silt	
60	58	1.0035	20.5	7	0.682	Silt	
250	250	1.0030	20.5	3.4	0.292	Clay	
1440	1434	1.0030	20.0	1.4	0.195	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	SDRF025074R
Lab Sample ID	180-68573-H-2

Date Received	7/26/2017
Start Date	02/13/2018 11:48
End Date	02/16/2018 11:44

Dry Weight Determination

Tin Weight	1.01	g
Wet Sample + Tin	19.66	g
Dry Sample + Tin	16.83	g
% Moisture	15.17	%

Non-soil material:	plant
Shape (> #10):	angular
Hardness (> #10):	hard

Date/Time in oven	02/13/2018 11:48
Date/Time out of oven	02/15/2018 21:19

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.75	284.25	239.5
Sample Weight (Oven Dried)			203

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			51.3
Sample <#10			152
% Passing #10			63.5

Hydrometer Data

Serial Number	542318
Calib. Date (mm/dd/yyyy)	01/03/2018
Low Temp (C)	17.0
Reading at Low Temp	1.0035
High Temp (C)	23.0
Reading at High Temp	1.0020
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00775
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.03	504.94	16.91	g	91.7	Gravel	
#10	2000	462.66	497.05	34.39	g	74.8	Sand	Coarse
#20	850	379.06	419.86	40.80	g	54.7	Sand	Medium
#40	425	352.88	403.66	50.78	g	29.7	Sand	Medium
#60	250	348.08	376.75	28.67	g	15.6	Sand	Fine
#80	180	337.85	343.30	5.45	g	12.9	Sand	Fine
#100	150	328.50	329.60	1.10	g	12.4	Sand	Fine
#200	75	325.32	326.40	1.08	g	11.9	Sand	Fine
				0.00	g	11.9		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	203

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0050	20.5	37.1	1.88	Silt	
5	5	1.0045	20.5	23.6	1.48	Silt	
15	15	1.0045	20.5	13.6	1.48	Silt	
30	29	1.0040	20.5	9.8	1.09	Silt	
60	63	1.0035	20.5	6.7	0.692	Silt	
250	250	1.0030	20.5	3.4	0.297	Clay	
1440	1434	1.0030	20.0	1.4	0.198	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SDRF477827N
Lab Sample ID	180-68573-H-3

Date Received	7/26/2017
Start Date	02/13/2018 11:51
End Date	02/16/2018 11:48

Dry Weight Determination

Tin Weight	1.02	g
Wet Sample + Tin	19.58	g
Dry Sample + Tin	16.12	g
% Moisture	18.64	%

Non-soil material:	na
Shape (> #10):	angular
Hardness (> #10):	hard

Date/Time in oven	02/13/2018 11:51
Date/Time out of oven	02/15/2018 21:19

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.84	292.06	247.22
Sample Weight (Oven Dried)			201

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			4.29
Sample <#10			197
% Passing #10			79.7

Hydrometer Data

Serial Number	542318
Calib. Date (mm/dd/yyyy)	01/03/2018
Low Temp (C)	17.0
Reading at Low Temp	1.0035
High Temp (C)	23.0
Reading at High Temp	1.0020
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00775
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.03	490.69	2.66	g	98.7	Gravel	
#10	2000	462.66	464.29	1.63	g	97.9	Sand	Coarse
#20	850	375.14	377.95	2.81	g	96.5	Sand	Medium
#40	425	363.37	387.17	23.80	g	84.7	Sand	Medium
#60	250	335.89	422.72	86.83	g	41.5	Sand	Fine
#80	180	319.80	367.74	47.94	g	17.6	Sand	Fine
#100	150	328.82	346.51	17.69	g	8.8	Sand	Fine
#200	75	314.78	327.79	13.01	g	2.3	Sand	Fine
				0.00	g	2.3		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	201

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0055	20.5	37	2.3	Silt	
5	5	1.0050	20.5	23.5	1.9	Silt	
15	15	1.0045	20.5	13.6	1.5	Silt	
30	31	1.0040	20.5	9.5	1.1	Silt	
60	60	1.0040	20.5	6.8	1.1	Silt	
250	240	1.0040	20.5	3.4	1.1	Clay	
1440	1424	1.0035	20.0	1.4	0.599	Clay	

An Exelon Company

Phase II Landside Investigation

Geotechnical Analysis Report:
AECOM Germantown, MD
Geotechnical Laboratory

Project: Pepco Benning Rd RI-FS Support
Project No.: 60340344

AECOM

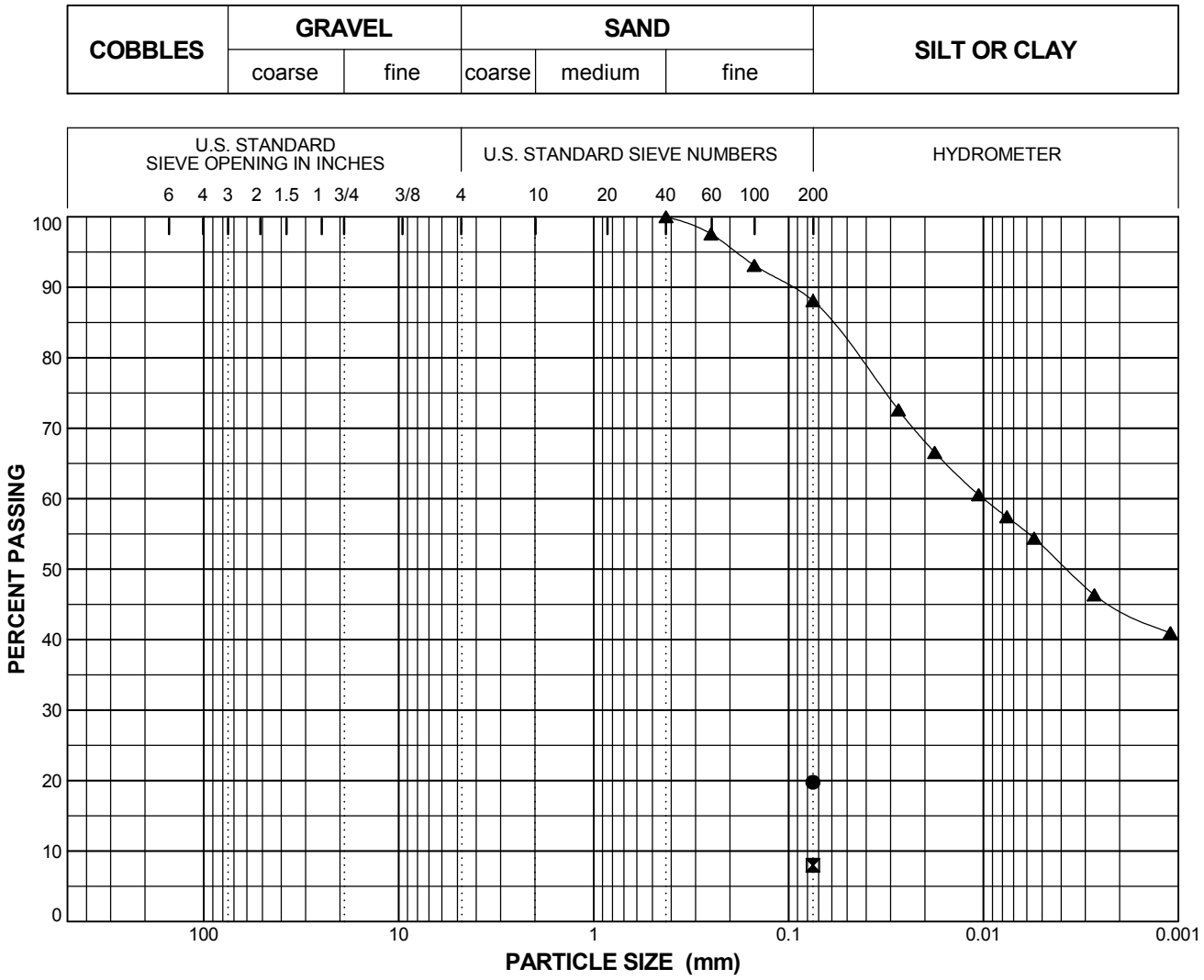
SUMMARY OF LABORATORY TEST RESULTS

Boring and Sample Number	Depth (feet)	Classification	USCS Symbol	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		Specific Gravity	Organic Content (%)	Grain Size		Compaction	Consolidation	Unconfined Compression		Triaxial Compression		Permeability (cm/sec)	Special Tests
						Liquid Limit	Plastic Limit			<#200 (%)	<2µ (%)			Stress (psi)	Strain (%)	UU	CIU		
SB-6 S-1	10.0-12.0			14.5						20									
SB-6 S-4	24.0-25.0			12.8						8									
SB-6 T-1	31.0-33.0	Brown LEAN CLAY	CL	25.2		45	19			88	45							9.3E-09	
SB-6 S-8	44.0-46.0	Brown CLAYEY SAND	SC	23.1		24	14			31	14								
SB-6 S-9	49.0-51.0			16.8						39									
SB-6 T-2	51.0-53.0	Brown SANDY LEAN CLAY with GRAVEL	CL	20.2		36	16			55	22							1.6E-07	
SB-6 S-12	63.0-65.0	Brown FAT CLAY	CH	21.6		52	21			97	51								

Note: The soil classification is based partially on visual classification unless both grain size and Atterberg limits are performed.

* Refer to Laboratory Test Curves

Project File Path:



SYMBOL	●	⊠	▲
Boring	SB-6	SB-6	SB-6
Sample	S-1	S-4	T-1
Spec			
Depth (ft)	10.0-12.0	24.0-25.0	31.0-33.0
% +3"	0.0	0.0	0.0
% Gravel	0.0	0.0	0.0
% Sand	0.0	0.0	11.9
% Fines	19.8	8.0	88.1
% -2μ			44.5
Cc			
Cu			
LL			45
PL			19
PI			26
USCS			CL
w (%)	14.5	12.8	25.2

Particle Size (Sieve #)	PERCENT FINER ●	⊠	▲
2"			
1 1/2"			
1"			
3/4"			
1/2"			
3/8"			
4			
10			
20			
40			100.0
60			97.6
100			93.1
200	19.8	8.0	88.1

SYMBOL	DESCRIPTION AND REMARKS
●	
⊠	
▲	Brown LEAN CLAY (CL)

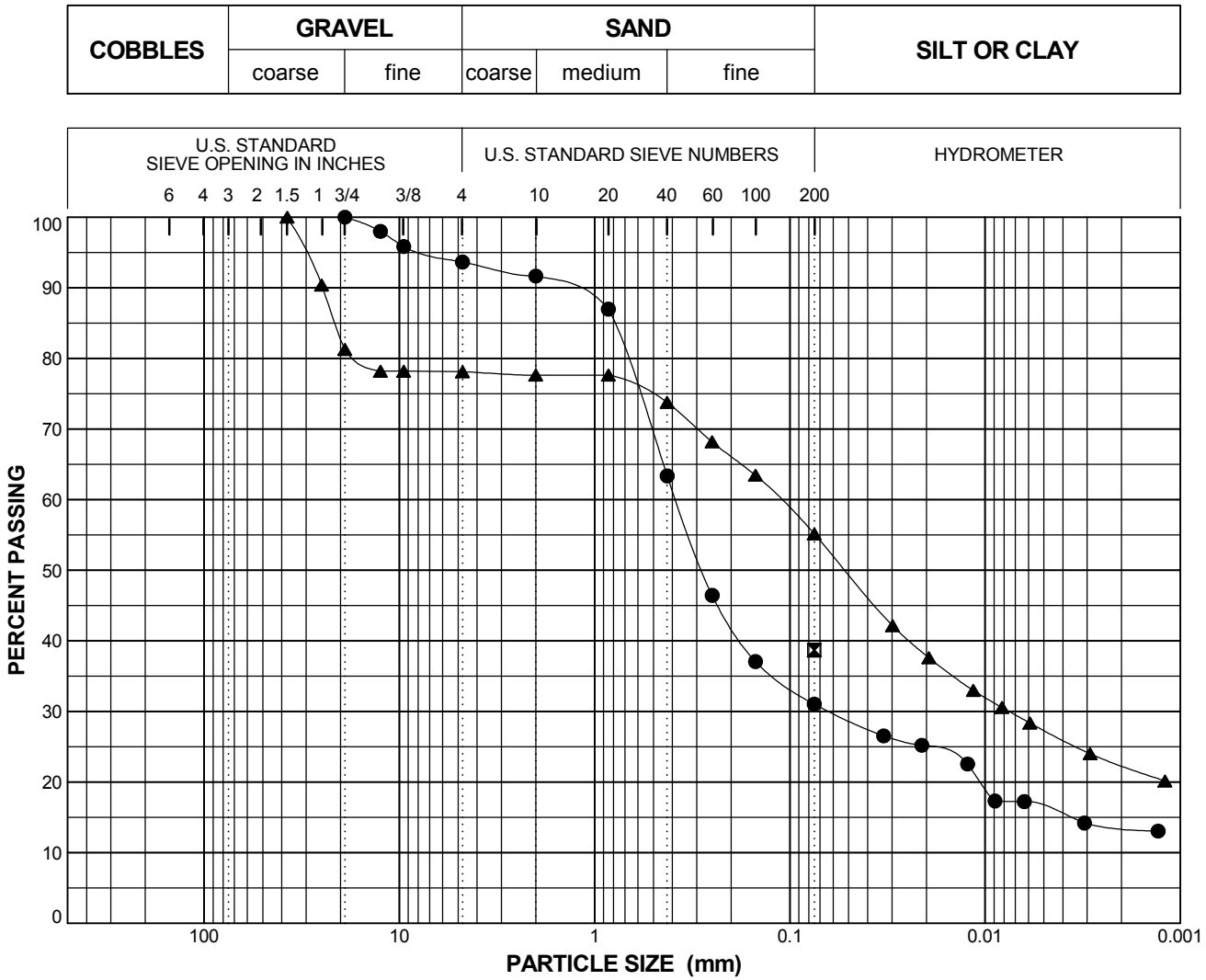
PARTICLE SIZE DISTRIBUTION

Pepco Benning Rd RI-FS Support

Project Number 60340344	May 2017	Figure 1

AECOM

SIEVE_BLUEBELL_NEW 60340344_2017-04-09_PEPCO BENNING.GPJ URS_BLUE.GDT 5/1/17



SYMBOL	●	⊠	▲
Boring	SB-6	SB-6	SB-6
Sample	S-8	S-9	T-2
Spec			
Depth (ft)	44.0-46.0	49.0-51.0	51.0-53.0
% +3"	0.0	0.0	0.0
% Gravel	6.4	0.0	21.9
% Sand	62.6	0.0	23.0
% Fines	31.0	38.7	55.2
% -2μ	13.6		22.4
Cc			
Cu			
LL	24		36
PL	14		16
PI	10		20
USCS	SC		CL
w (%)	23.1	16.8	20.2

Particle Size (Sieve #)	PERCENT FINER ●	⊠	▲
2"			
1 1/2"			100.0
1"			90.4
3/4"	100.0		81.3
1/2"	98.0		78.2
3/8"	95.8		78.2
4	93.6		78.1
10	91.7		77.6
20	87.0		77.6
40	63.4		73.8
60	46.4		68.2
100	37.1		63.5
200	31.0	38.7	55.2

SYMBOL	DESCRIPTION AND REMARKS
●	Brown CLAYEY SAND (SC)
⊠	
▲	Brown SANDY LEAN CLAY with GRAVEL (CL)

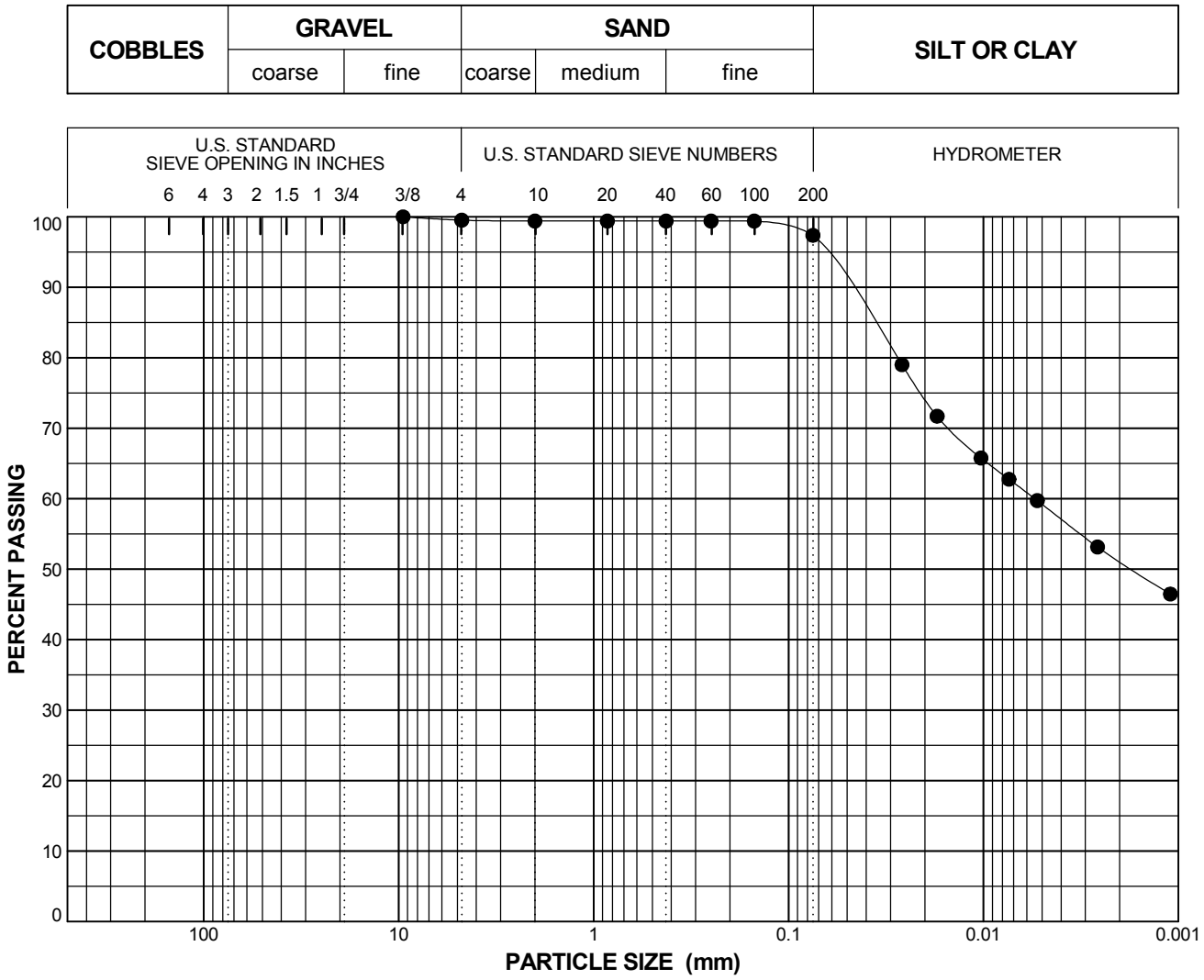
PARTICLE SIZE DISTRIBUTION

Pepco Benning Rd RI-FS Support

Project Number		
60340344	May 2017	Figure 2

AECOM

SIEVE_BLUEBELL_NEW 60340344_2017-04-09_PEPCO BENNING.GPJ URS_BLUE.GDT 5/1/17



SYMBOL	●
Boring	SB-6
Sample	S-12
Spec	
Depth (ft)	63.0-65.0
% +3"	0.0
% Gravel	0.5
% Sand	2.1
% Fines	97.4
% -2μ	51.1
Cc	
Cu	
LL	52
PL	21
PI	31
USCS	CH
w (%)	21.6

Particle Size (Sieve #)	PERCENT FINER ●
2"	
1 1/2"	
1"	
3/4"	
1/2"	
3/8"	100.0
4	99.5
10	99.4
20	99.4
40	99.4
60	99.4
100	99.4
200	97.4

SYMBOL	DESCRIPTION AND REMARKS
●	Brown FAT CLAY (CH)

PARTICLE SIZE DISTRIBUTION

Pepco Benning Rd RI-FS Support

Project Number 60340344	May 2017	Figure 3

AECOM

SIEVE_BLUEBELL_NEW 60340344_2017-04-09_PEPCO BENNING.GPJ URS_BLUE.GDT 5/1/17

PERMEABILITY TEST
VARIABLE HEAD TEST WITH CONSTANT VOLUME U-TUBE
TEST METHOD: ASTM D 5084-F

Project Number:	60340344	Project Name:	Pepco Benning Rd RI-FS Support
Sample Identification:	SB-6 T-1 32.3-32.8 ft		
Sample Classification:	Brown LEAN CLAY		
Maximum Dry Density (pcf):		Optimum Moisture Content:	
Apparatus Number:	4	Cell Number:	P-7
		Date:	04/21/17

Test Sample Data

Specimen Height (in):	4.041	Specimen Diameter (in):	2.875
	4.041		2.875
	4.041		2.875
Average Height (in):	4.041	Average Diameter (in):	2.875
L, Average Height (cm):	10.264		
Change in Length, DH_c, (in.):	0.046	**A_O**, Sample Area(cm^2):	41.883
Initial Wet Sample wt (g):	854.1	**A_C**, Final Area(cm^2):	40.436
Final Specimen Height L_c (in):	3.995	Specific Gravity of Sample:	2.75

Water Content

	Initial		Final
Pan Number:		Pan Number:	
Pan weight:	0	Pan weight:	0
Wet Sample + Pan Weight:	854.1	Wet Sample + Pan Weight:	845.3
Dry Sample + Pan Weight:	667.5	Dry Sample + Pan Weight:	667.5
Water Content, %:	28.0	Water Content, %:	26.6
% Over Optimum:			

	Initial	Final
Dry Density (pcf):	97.0	100.3
Wet Density (pcf):	124.1	127.0
Degree of Saturation (%):	99.9	103.1
% Compaction:		

Test Sample Run Data

Run	Date	Start Time	Elapsed Time (min)	Temp. ^0C	Temp. ^0F		Gradient	Mercury Readings Right (h_{Ro})	Mercury Readings Left(h_{Lo})	Perm.@20^{0}C (cm/sec)
1	4/21/2017		50	23.0	73.0	Initial	14.00	38.10	26.80	1.4E-08
						Final	13.63	37.90	26.90	
2	4/21/2017		57	23.0	73.0	Initial	12.70	37.40	27.15	9.9E-09
						Final	12.45	37.25	27.20	
3	4/21/2017		71	23.0	73.0	Initial	13.50	37.80	26.90	5.0E-09
						Final	13.44	37.70	26.85	
4	4/21/2017		94	23.0	73.0	Initial	14.25	38.20	26.70	9.0E-09
						Final	13.81	37.95	26.80	

AVERAGE PERMEABILITY @ 20^{o}C = 9.3E-09

Maximum Cell Pressure:	117.4 psi	Permeant Liquid Utilized:	City tap water (deaired)
Confining Pressure:	17.4 psi		
Maximum Back Pressure:	100 psi	B Coefficient:	0.97

Remarks:

Performed by: TV Checked By: YM Date: 4/21/2017

PERMEABILITY TEST
VARIABLE HEAD TEST WITH CONSTANT VOLUME U-TUBE
TEST METHOD: ASTM D 5084-F

Project Number:	60340344	Project Name:	Pepco Benning Rd RI-FS Support
Sample Identification:	SB-6 T-2 51.3-51.8 ft		
Sample Classification:	Brown SANDY LEAN CLAY with GRAVEL		
Maximum Dry Density (pcf):		Optimum Moisture Content:	
Apparatus Number:	3	Cell Number:	P-123
		Date:	04/21/17

Test Sample Data

Specimen Height (in):	4.012	Specimen Diameter (in):	2.875
	4.012		2.875
	4.012		2.875
Average Height (in):	4.012	Average Diameter (in):	2.875
L, Average Height (cm):	10.190		
Change in Length, DH_c, (in.):	0.052	**A_O**, Sample Area(cm^2):	41.883
Initial Wet Sample wt (g):	899.4	**A_C**, Final Area(cm^2):	40.233
Final Specimen Height L_c (in):	3.960	Specific Gravity of Sample:	2.75

Water Content

Initial		Final	
Pan Number:		Pan Number:	
Pan weight:	0	Pan weight:	0
Wet Sample + Pan Weight:	899.4	Wet Sample + Pan Weight:	892.6
Dry Sample + Pan Weight:	757.6	Dry Sample + Pan Weight:	757.6
Water Content, %:	18.7	Water Content, %:	17.8
% Over Optimum:			

	Initial	Final
Dry Density (pcf):	110.8	115.2
Wet Density (pcf):	131.6	135.8
Degree of Saturation (%):	93.9	100.2
% Compaction:		

Test Sample Run Data

Run	Date	Start Time	Elapsed Time (min)	Temp. ^0C	Temp. ^0F		Gradient	Mercury Readings Right (h_{Ro})	Mercury Readings Left(h_{Lo})	Perm.@20^{0}C (cm/sec)
1	4/21/2017		42	23.0	73.0	Initial	13.62	37.00	26.10	1.7E-07
						Final	10.37	35.30	27.00	
2	4/21/2017		66	23.0	73.0	Initial	13.25	36.80	26.20	1.4E-07
						Final	9.56	34.85	27.20	
3	4/21/2017		73	23.0	73.0	Initial	14.06	37.25	26.00	1.1E-07
						Final	10.38	35.30	27.00	
4	4/21/2017		76	23.0	73.0	Initial	14.19	37.30	25.95	2.0E-07
						Final	8.06	34.10	27.65	

AVERAGE PERMEABILITY @ 20^{o}C = 1.6E-07

Maximum Cell Pressure:	125 psi	Permeant Liquid Utilized:	City tap water (deaired)
Confining Pressure:	25 psi		
Maximum Back Pressure:	100 psi	B Coefficient:	1

Remarks:

Performed by: TV Checked By: YM Date: 4/21/2017

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Phase II Waterside Investigation

Excerpts from Geotechnical Analysis Reports: GeoTesting Express Reports

GeoTesting EXPRESS

Technologies to manage risk for infrastructure

Atlanta
Boston
Chicago
New York
San Francisco

www.geotesting.com

Geotechnical Test Report

1/9/2014

GTX-300626
Pepco Benning Road Facility

Washington, DC

Client Project No.: 60287343.02

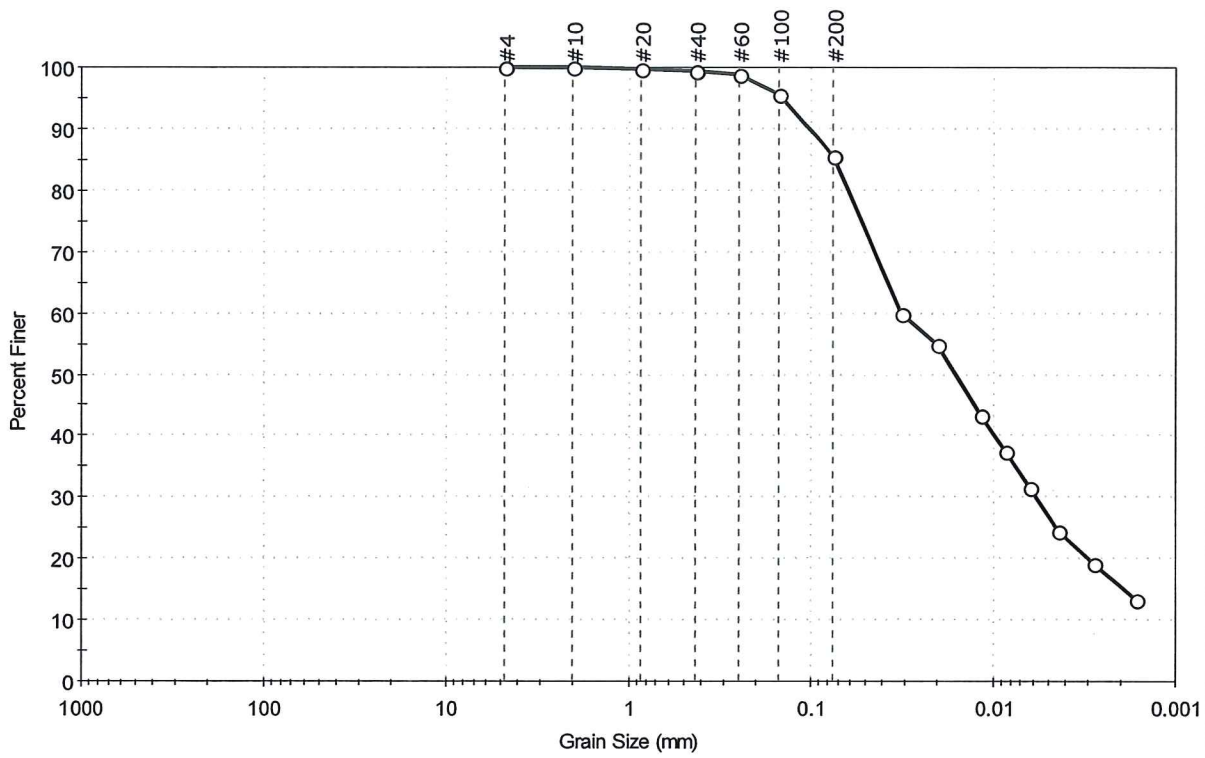
Prepared for:

AECOM

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED4COON	Test Date:	12/08/13	Checked By:	jdt
Depth :	---	Test Id:	282681		
Test Comment:	---				
Sample Description:	Wet, brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	14.3	85.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	99		
#100	0.15	96		
#200	0.075	86		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0320	60		
---	0.0200	55		
---	0.0118	43		
---	0.0087	37		
---	0.0062	32		
---	0.0044	24		
---	0.0028	19		
---	0.0016	13		

Coefficients

D_{85} = 0.0733 mm	D_{30} = 0.0058 mm
D_{60} = 0.0320 mm	D_{15} = 0.0019 mm
D_{50} = 0.0161 mm	D_{10} = 0.0012 mm
C_u = 26.667	C_c = 0.876

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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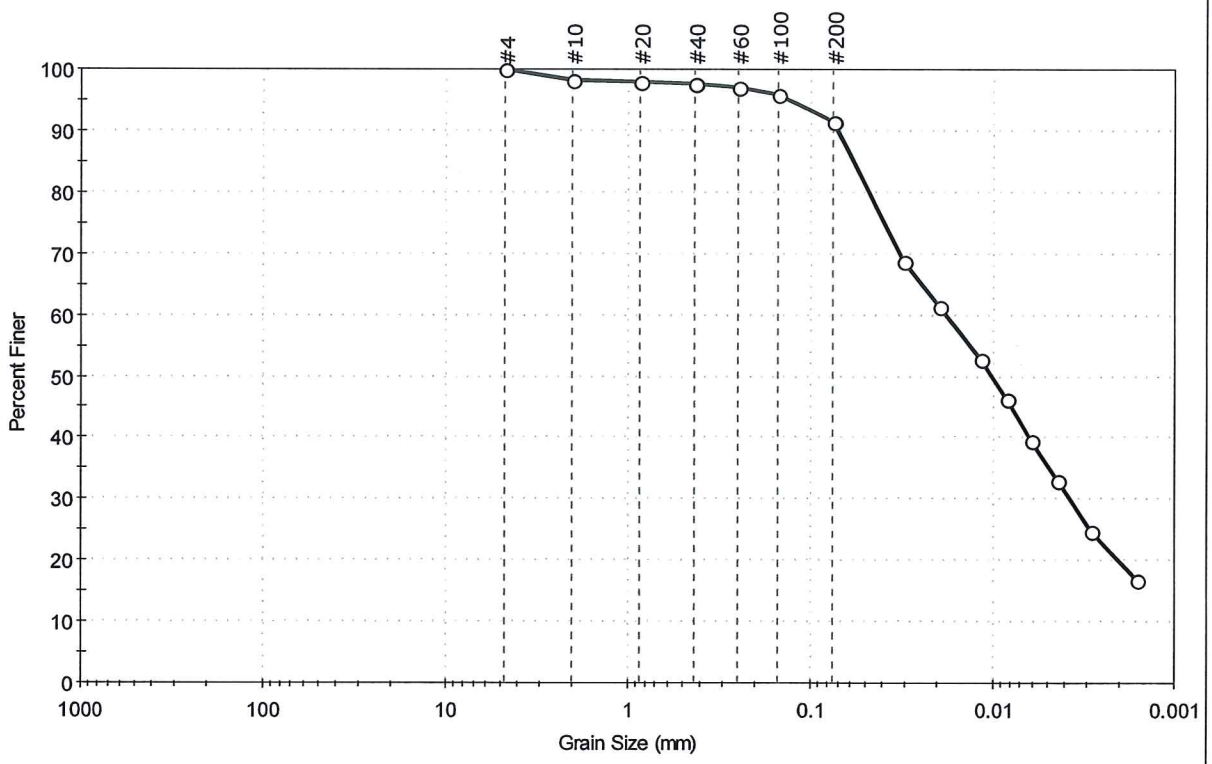
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED5.5BOON	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	282678		
Test Comment:	---				
Sample Description:	Wet, brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	8.5	91.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	98		
#20	0.85	98		
#40	0.42	98		
#60	0.25	97		
#100	0.15	96		
#200	0.075	92		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0307	69		
---	0.0199	61		
---	0.0116	53		
---	0.0084	46		
---	0.0061	39		
---	0.0044	33		
---	0.0029	25		
---	0.0016	17		

Coefficients

D_{85} =0.0580 mm	D_{30} =0.0038 mm
D_{60} =0.0183 mm	D_{15} =N/A
D_{50} =0.0101 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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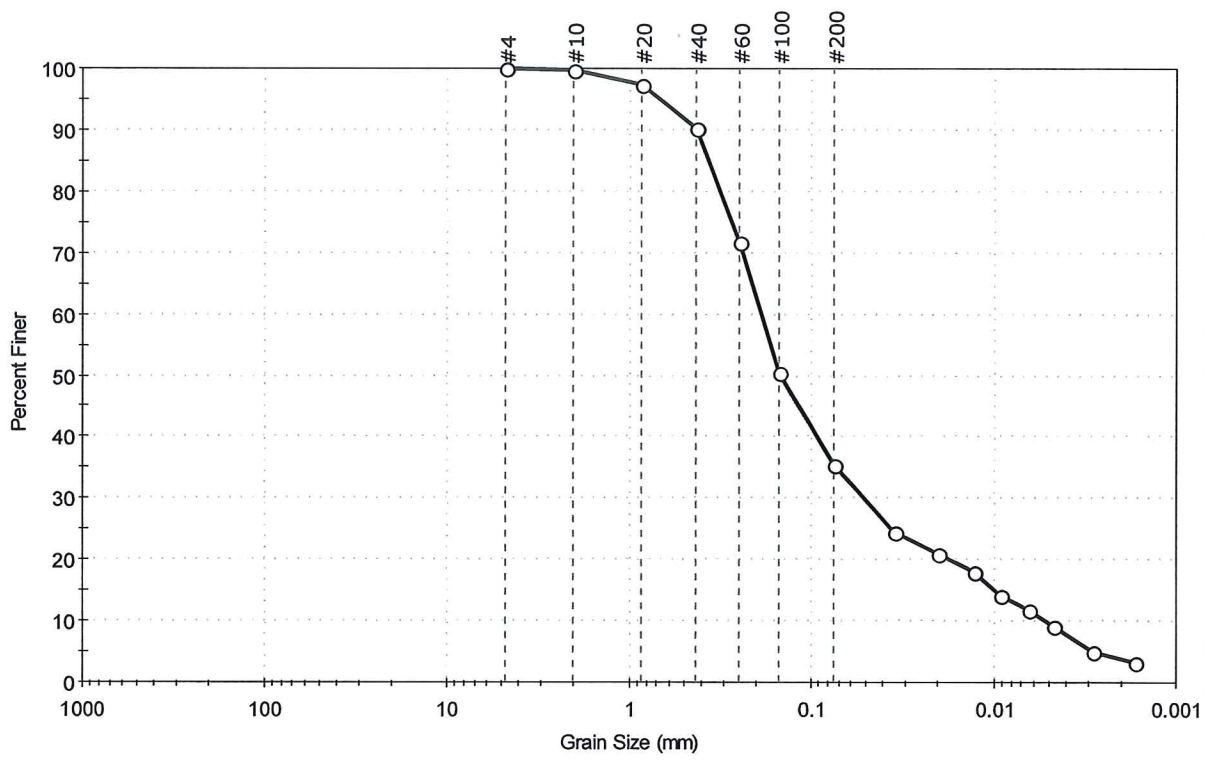
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED6AOON	Test Date:	12/08/13	Checked By:	jdt
Depth :	---	Test Id:	283739		
Test Comment:	---				
Sample Description:	Wet, brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	64.6	35.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	97		
#40	0.42	90		
#60	0.25	72		
#100	0.15	50		
#200	0.075	35		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0354	25		
---	0.0205	21		
---	0.0129	18		
---	0.0091	14		
---	0.0065	12		
---	0.0047	9		
---	0.0029	5		
---	0.0017	3		

Coefficients

D_{85} =0.3655 mm	D_{30} =0.0514 mm
D_{60} =0.1890 mm	D_{15} =0.0097 mm
D_{50} =0.1470 mm	D_{10} =0.0052 mm
C_u =36.346	C_c =2.688

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

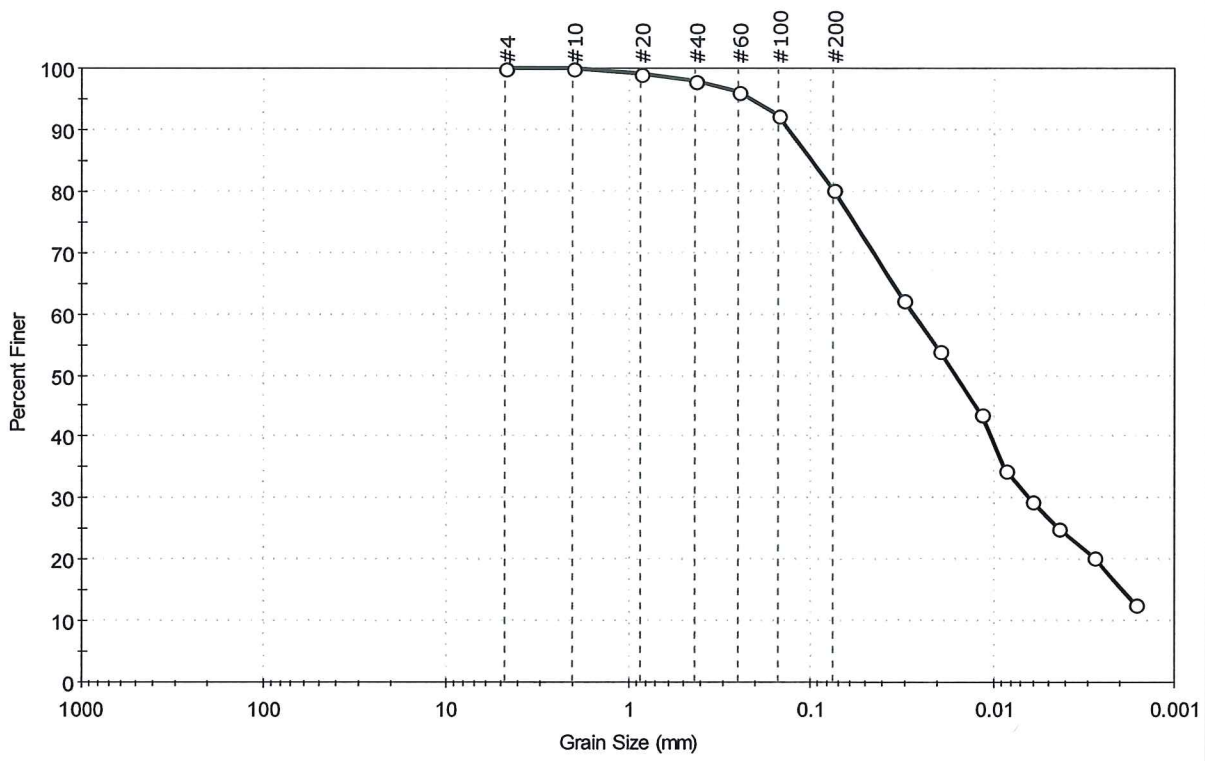
Separation of Sample: 4 Sieve

printed 12/9/2013 11:46:19 AM

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED6BO1N	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283752		
Test Comment:	---				
Sample Description:	Wet, brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	19.6	80.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	98		
#60	0.25	96		
#100	0.15	92		
#200	0.075	80		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0307	62		
---	0.0199	54		
---	0.0118	44		
---	0.0086	35		
---	0.0062	29		
---	0.0044	25		
---	0.0028	20		
---	0.0016	13		

Coefficients

D_{85} =0.0980 mm	D_{30} =0.0064 mm
D_{60} =0.0272 mm	D_{15} =0.0019 mm
D_{50} =0.0162 mm	D_{10} =0.0013 mm
C_u =20.923	C_c =1.158

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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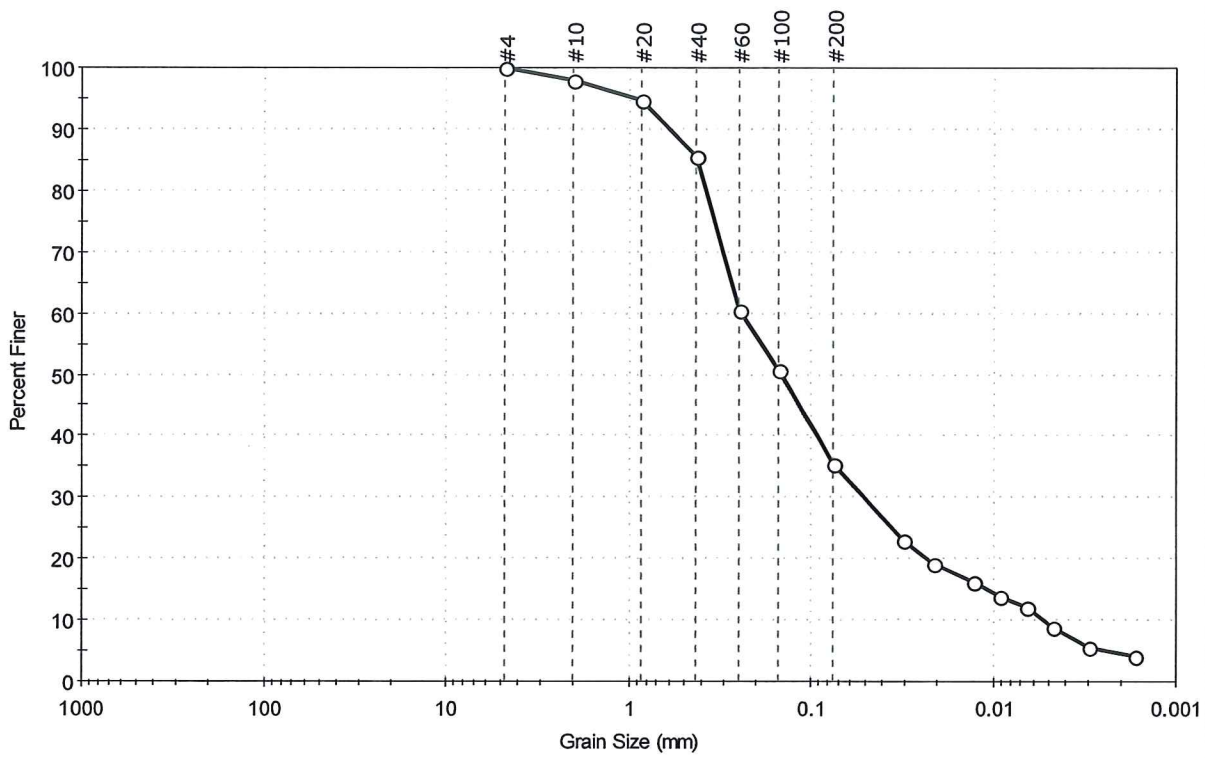
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED6BOON	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283738		
Test Comment:	---				
Sample Description:	Wet, brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	64.7	35.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	98		
#20	0.85	95		
#40	0.42	85		
#60	0.25	61		
#100	0.15	51		
#200	0.075	35		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0308	23		
---	0.0210	19		
---	0.0128	16		
---	0.0092	14		
---	0.0066	12		
---	0.0047	9		
---	0.0030	6		
---	0.0017	4		

Coefficients

D_{85} =0.4211 mm	D_{30} =0.0512 mm
D_{60} =0.2426 mm	D_{15} =0.0109 mm
D_{50} =0.1456 mm	D_{10} =0.0053 mm
C_u =45.774	C_c =2.039

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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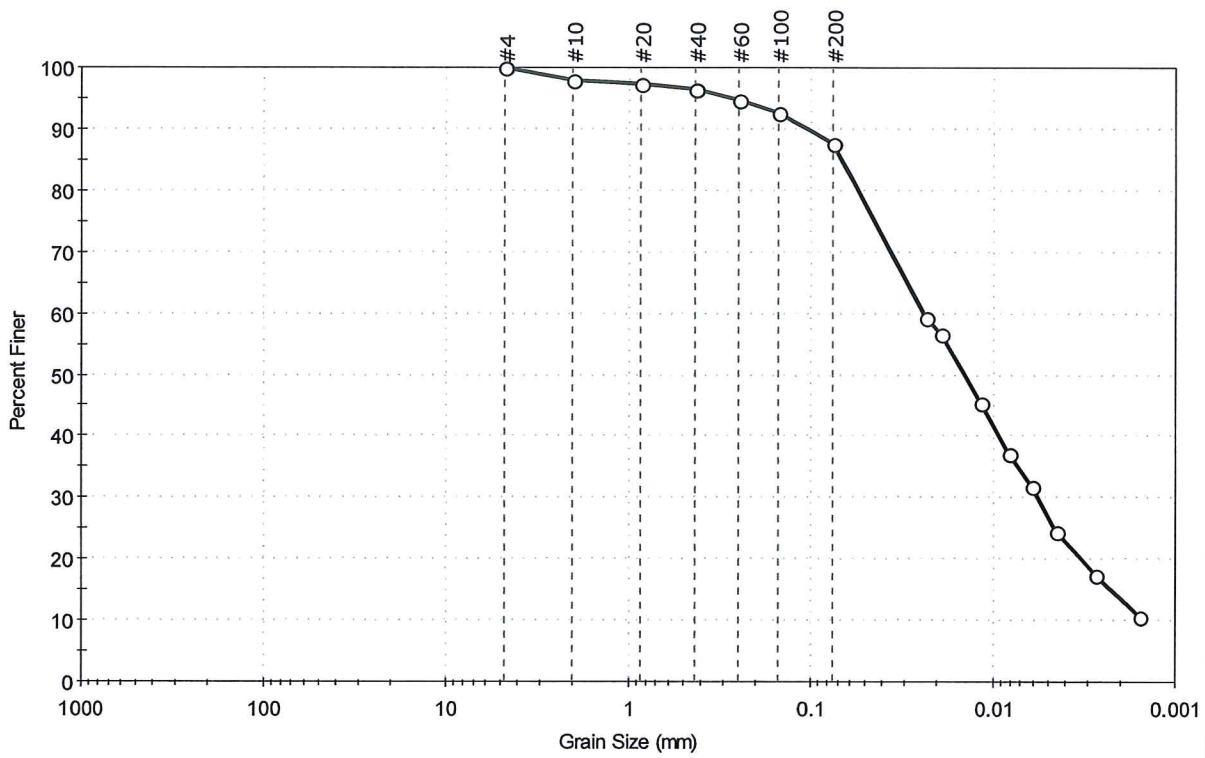
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED6COON	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283743		
Test Comment:	---				
Sample Description:	Wet, brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	12.5	87.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	98		
#20	0.85	97		
#40	0.42	96		
#60	0.25	95		
#100	0.15	93		
#200	0.075	88		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0234	59		
---	0.0195	57		
---	0.0118	46		
---	0.0081	37		
---	0.0062	32		
---	0.0045	24		
---	0.0027	17		
---	0.0016	11		

Coefficients

D_{85} = 0.0676 mm	D_{30} = 0.0057 mm
D_{60} = 0.0241 mm	D_{15} = 0.0022 mm
D_{50} = 0.0145 mm	D_{10} = 0.0015 mm
C_u = 16.067	C_c = 0.899

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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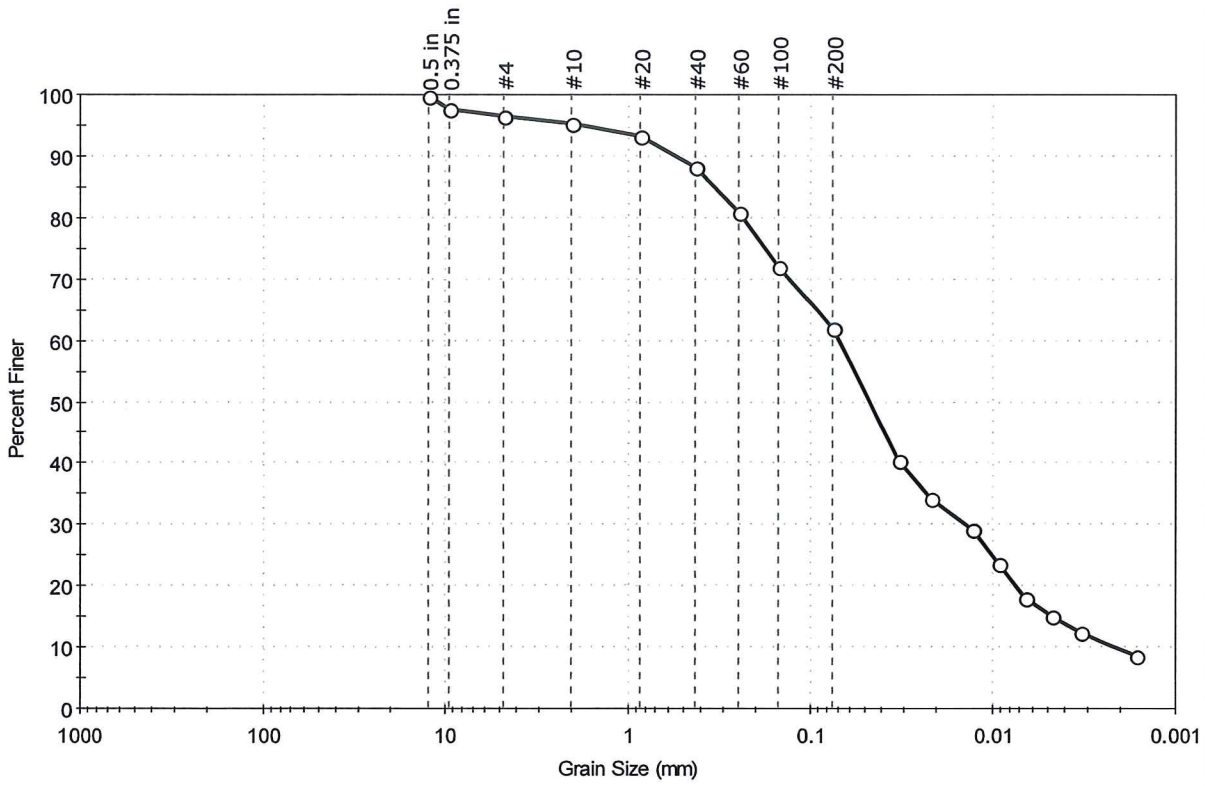
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED6.5DOON	Test Date:	12/18/13	Checked By:	jdt
Depth :	---	Test Id:	284842		
Test Comment:	---				
Sample Description:	Moist, dark brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.6	34.5	61.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	98		
#4	4.75	96		
#10	2.00	95		
#20	0.85	93		
#40	0.42	88		
#60	0.25	81		
#100	0.15	72		
#200	0.075	62		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0325	41		
---	0.0216	34		
---	0.0128	29		
---	0.0092	23		
---	0.0066	18		
---	0.0047	15		
---	0.0033	12		
---	0.0017	9		

Coefficients

D_{85} = 0.3389 mm	D_{30} = 0.0138 mm
D_{60} = 0.0697 mm	D_{15} = 0.0047 mm
D_{50} = 0.0471 mm	D_{10} = 0.0022 mm
C_u = 31.682	C_c = 1.242

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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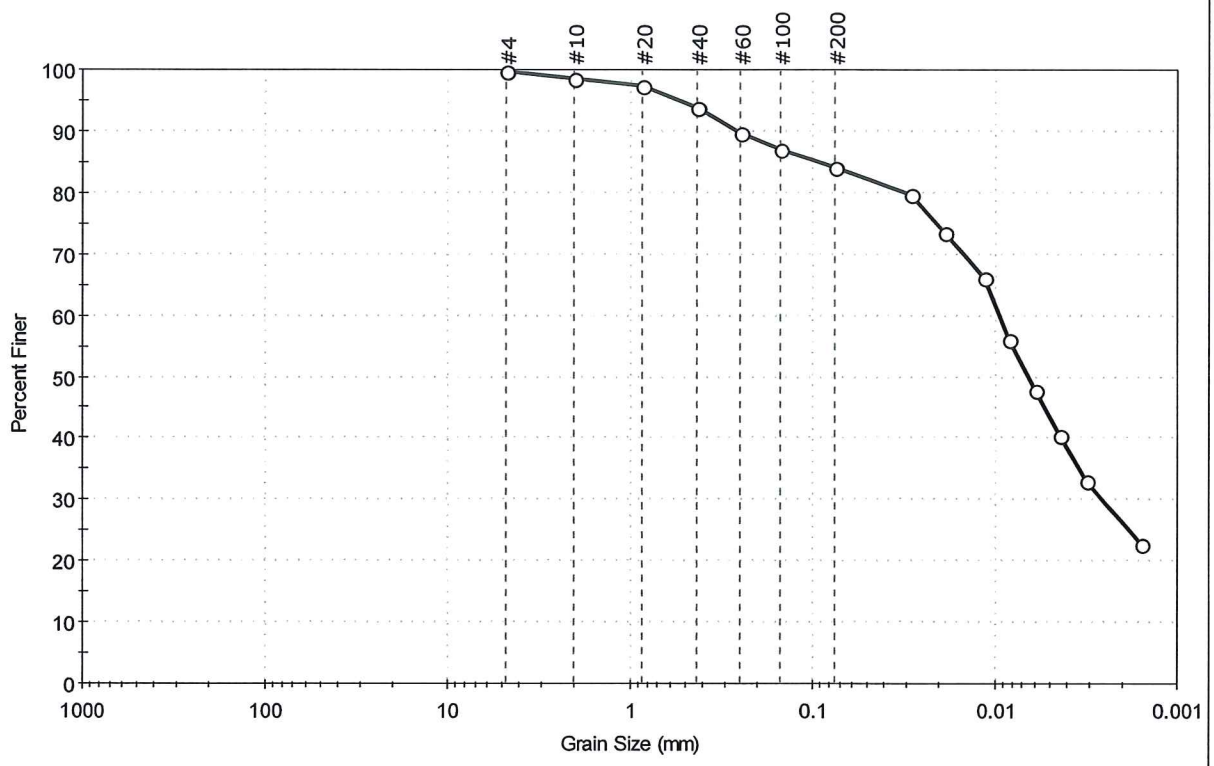
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED6.5EO1N	Test Date:	12/18/13	Checked By:	jdt
Depth :	---	Test Id:	284841		
Test Comment:	---				
Sample Description:	Wet, dark brown clay with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.3	15.7	84.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	97		
#40	0.42	94		
#60	0.25	90		
#100	0.15	87		
#200	0.075	84		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0287	80		
---	0.0188	73		
---	0.0114	66		
---	0.0083	56		
---	0.0060	48		
---	0.0043	40		
---	0.0031	33		
---	0.0016	23		

Coefficients

D_{85} = 0.0954 mm	D_{30} = 0.0026 mm
D_{60} = 0.0094 mm	D_{15} = N/A
D_{50} = 0.0066 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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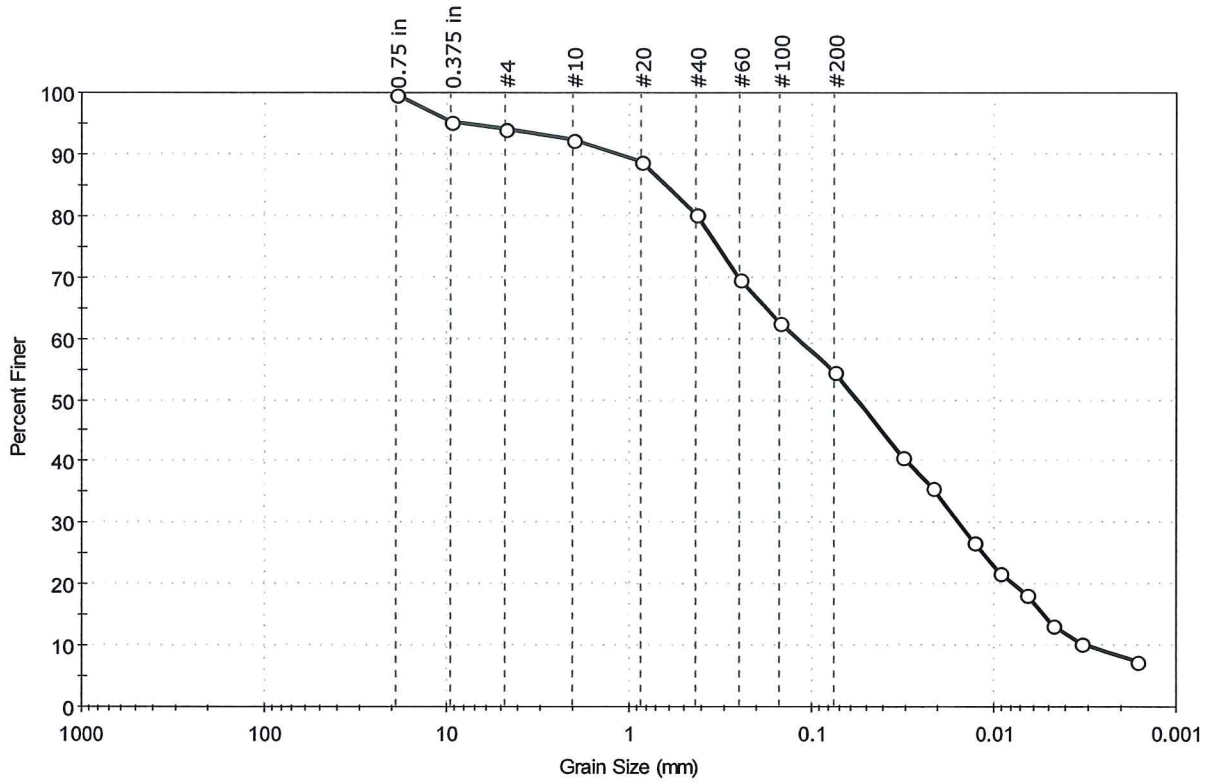
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED6.5EOON	Test Date:	12/18/13	Checked By:	jdt
Depth :	---	Test Id:	284840		

Test Comment: ---
Sample Description: Moist, olive brown sandy silt
Sample Comment: ---

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	6.0	39.4	54.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.375 in	9.50	95		
#4	4.75	94		
#10	2.00	92		
#20	0.85	89		
#40	0.42	80		
#60	0.25	70		
#100	0.15	63		
#200	0.075	55		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0317	41		
---	0.0219	36		
---	0.0128	27		
---	0.0092	22		
---	0.0066	18		
---	0.0047	13		
---	0.0033	10		
---	0.0016	7		

Coefficients

D_{85} = 0.6239 mm	D_{30} = 0.0154 mm
D_{60} = 0.1192 mm	D_{15} = 0.0053 mm
D_{50} = 0.0562 mm	D_{10} = 0.0031 mm
C_u = 38.452	C_c = 0.642

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED
Sand/Gravel Hardness : SOFT
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: #200 Sieve

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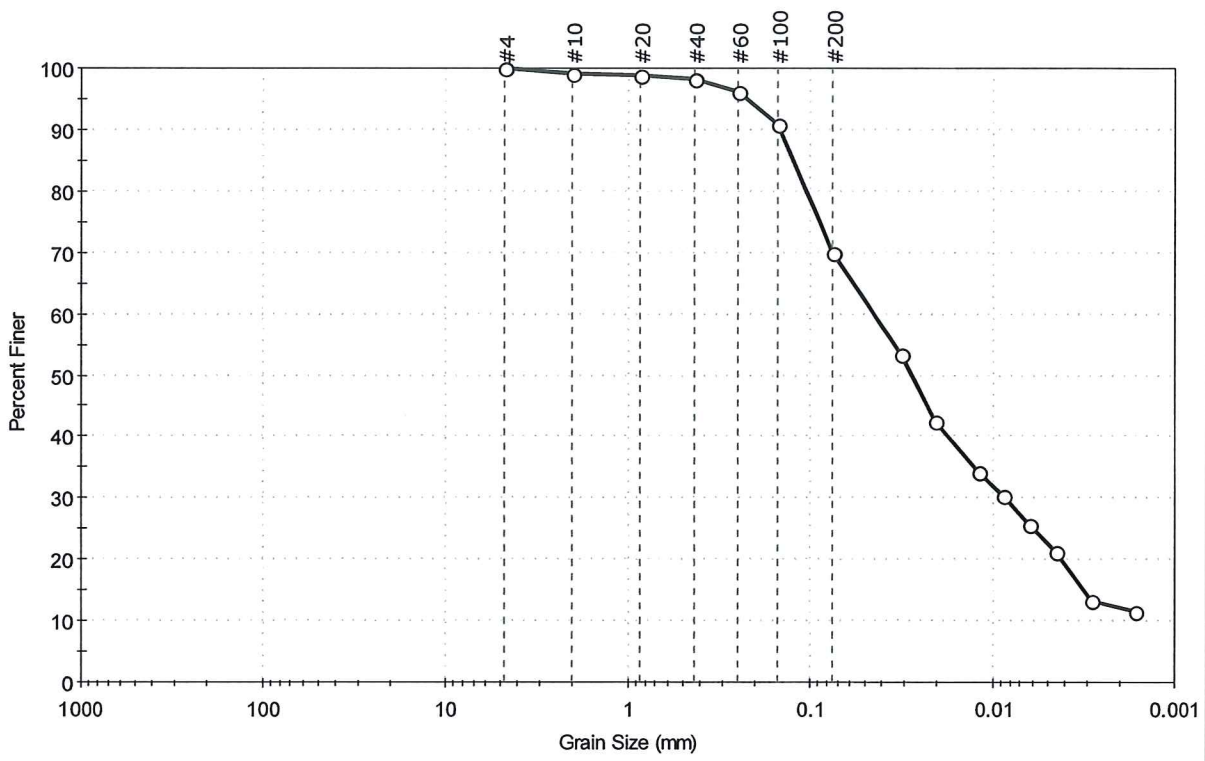
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED7AOON	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283737		
Test Comment:	---				
Sample Description:	Wet, brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	30.2	69.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	98		
#60	0.25	96		
#100	0.15	91		
#200	0.075	70		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0319	53		
---	0.0209	42		
---	0.0121	34		
---	0.0087	30		
---	0.0063	26		
---	0.0045	21		
---	0.0028	13		
---	0.0016	12		

Coefficients

D_{85} = 0.1237 mm	D_{30} = 0.0085 mm
D_{60} = 0.0450 mm	D_{15} = 0.0031 mm
D_{50} = 0.0280 mm	D_{10} = 0.0010 mm
C_u = 45.000	C_c = 1.606

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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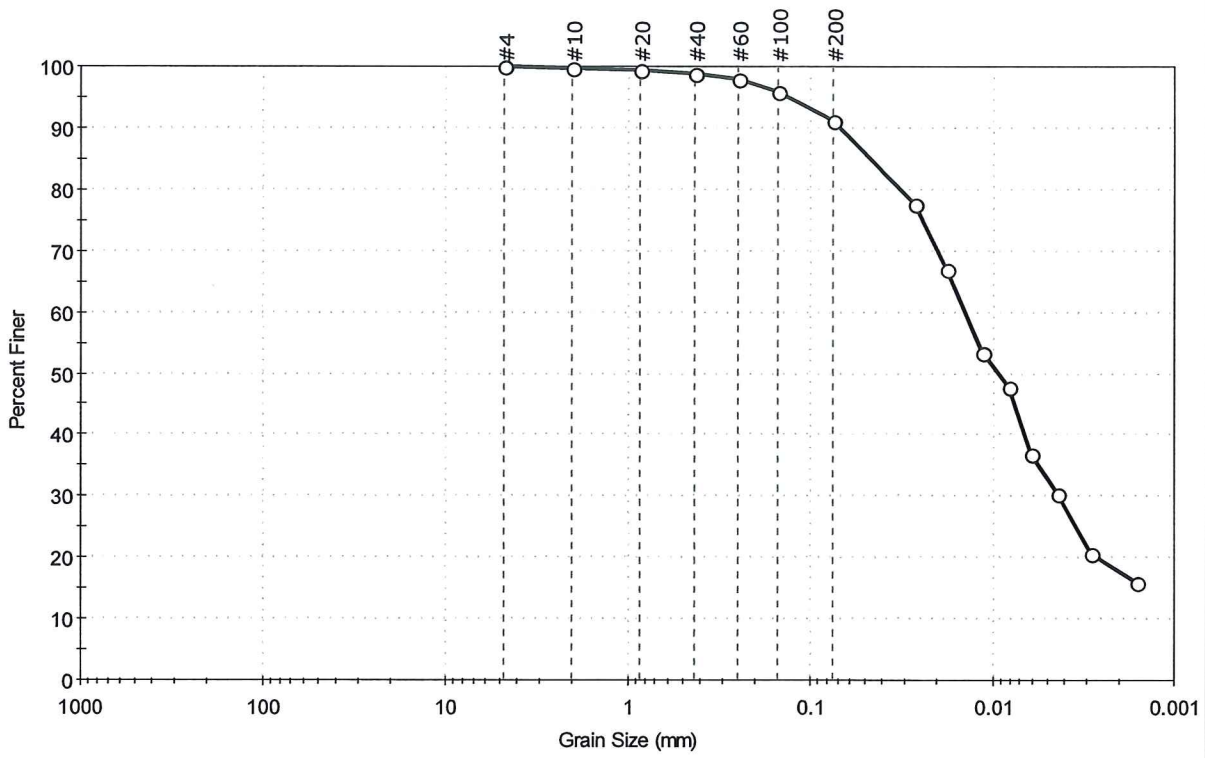
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED7BO1N	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283736		
Test Comment:	---				
Sample Description:	Wet, brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	8.7	91.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	98		
#100	0.15	96		
#200	0.075	91		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0271	78		
---	0.0178	67		
---	0.0114	53		
---	0.0083	48		
---	0.0061	37		
---	0.0044	30		
---	0.0028	21		
---	0.0016	16		

Coefficients

D_{85} =0.0469 mm	D_{30} =0.0043 mm
D_{60} =0.0141 mm	D_{15} =N/A
D_{50} =0.0094 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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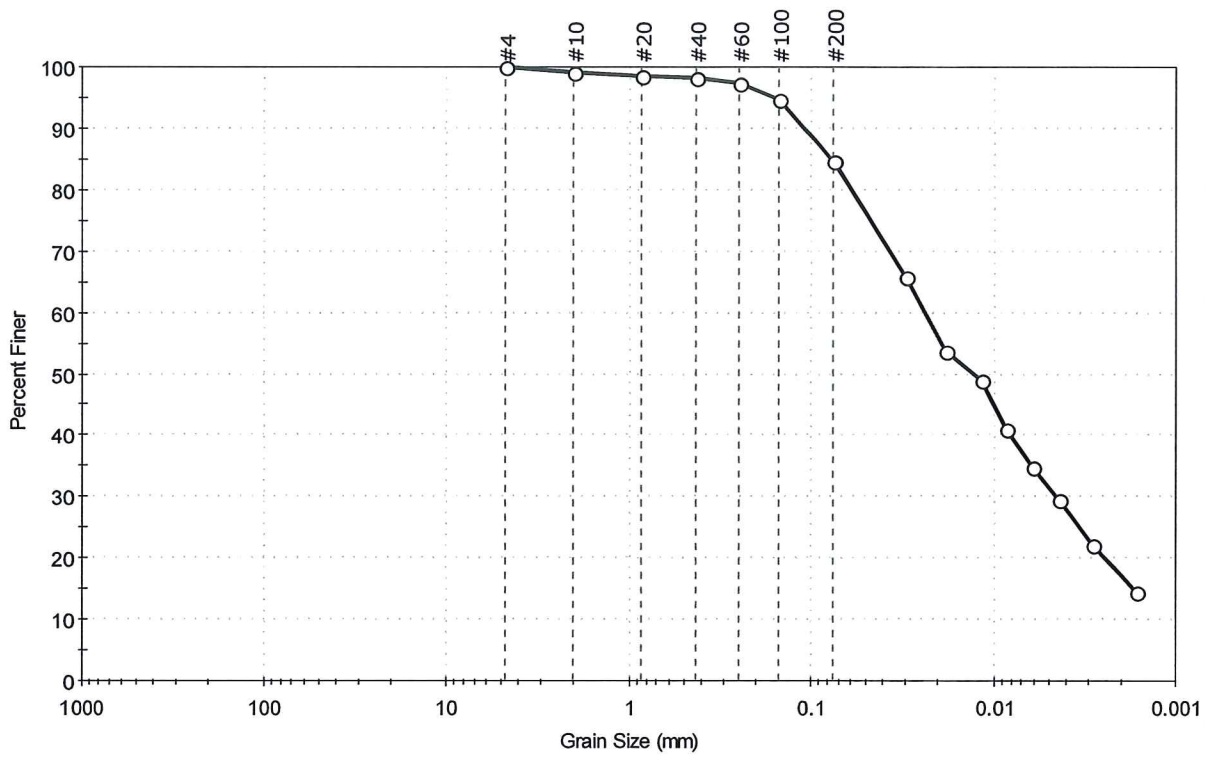
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED7BOON	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283753		
Test Comment:	---				
Sample Description:	Wet, brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	15.2	84.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	98		
#60	0.25	97		
#100	0.15	95		
#200	0.075	85		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0306	66		
---	0.0184	54		
---	0.0116	49		
---	0.0085	41		
---	0.0061	35		
---	0.0044	29		
---	0.0028	22		
---	0.0016	14		

Coefficients

D_{85} =0.0762 mm	D_{30} =0.0045 mm
D_{60} =0.0240 mm	D_{15} =0.0017 mm
D_{50} =0.0130 mm	D_{10} =0.0012 mm
C_u =20.000	C_c =0.703

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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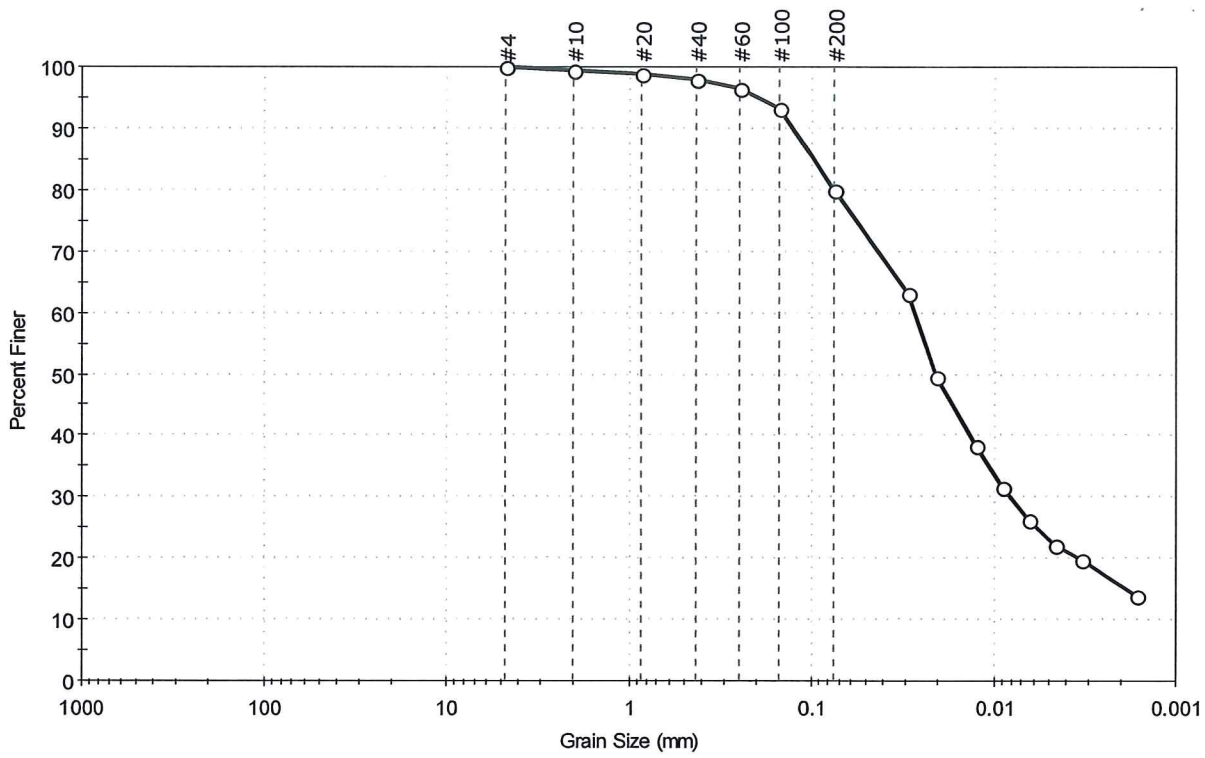
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED7DOON	Test Date:	12/18/13	Checked By:	jdt
Depth :	---	Test Id:	284839		
Test Comment:	---				
Sample Description:	Wet, dark brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	20.0	79.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	98		
#60	0.25	96		
#100	0.15	93		
#200	0.075	80		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0294	63		
---	0.0208	50		
---	0.0125	38		
---	0.0091	32		
---	0.0064	26		
---	0.0046	22		
---	0.0033	20		
---	0.0016	14		

Coefficients

D_{85} =0.0978 mm	D_{30} =0.0082 mm
D_{60} =0.0272 mm	D_{15} =0.0019 mm
D_{50} =0.0211 mm	D_{10} =0.0010 mm
C_u =27.200	C_c =2.472

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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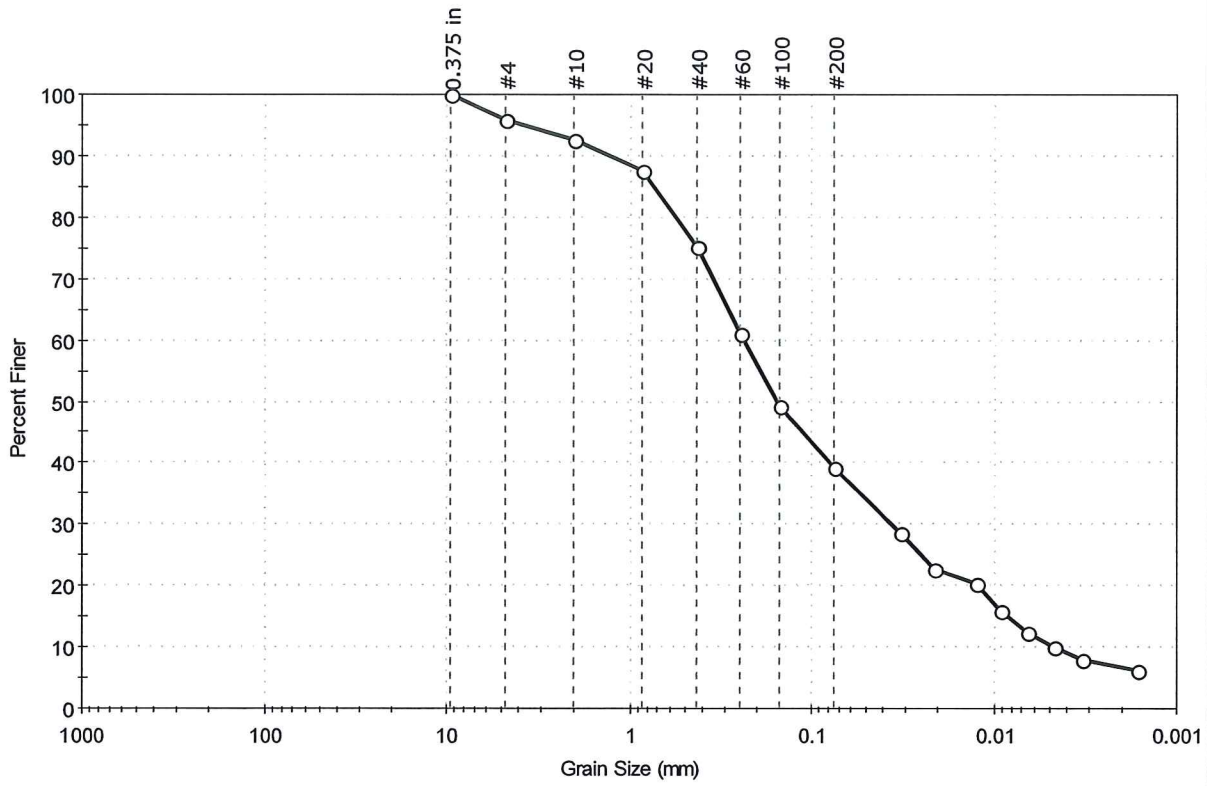
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED7EOON	Test Date:	12/18/13	Checked By:	jdt
Depth :	---	Test Id:	284835		
Test Comment:	---				
Sample Description:	Moist, dark brown silty sand				
Sample Comment:	Sampel contains organics				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	4.2	56.6	39.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	96		
#10	2.00	93		
#20	0.85	87		
#40	0.42	75		
#60	0.25	61		
#100	0.15	49		
#200	0.075	39		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0324	29		
---	0.0210	23		
---	0.0126	20		
---	0.0092	16		
---	0.0066	12		
---	0.0047	10		
---	0.0033	8		
---	0.0016	6		

Coefficients

D_{85} =0.7398 mm	D_{30} =0.0362 mm
D_{60} =0.2385 mm	D_{15} =0.0085 mm
D_{50} =0.1551 mm	D_{10} =0.0047 mm
C_u =50.745	C_c =1.169

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : SOFT
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: #200 Sieve

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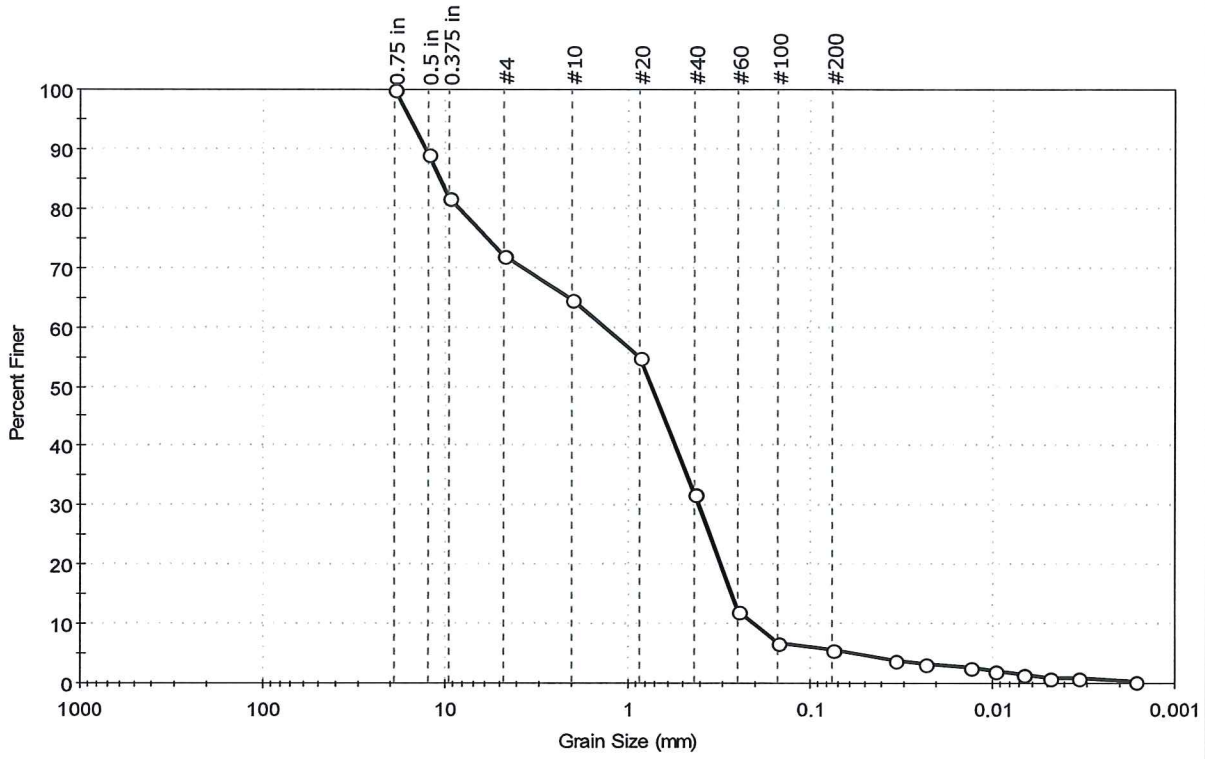
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED7FO1N	Test Date:	12/18/13	Checked By:	jdt
Depth :	---	Test Id:	284836		
Test Comment:	---				
Sample Description:	Moist, grayish brown sand with silt and gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	28.1	66.4	5.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	89		
0.375 in	9.50	82		
#4	4.75	72		
#10	2.00	64		
#20	0.85	55		
#40	0.42	32		
#60	0.25	12		
#100	0.15	7		
#200	0.075	6		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0344	4		
---	0.0231	3		
---	0.0133	3		
---	0.0095	2		
---	0.0067	2		
---	0.0048	1		
---	0.0034	1		
---	0.0017	0		

Coefficients

D_{85} = 10.7155 mm D_{30} = 0.4044 mm
D_{60} = 1.3408 mm D_{15} = 0.2701 mm
D_{50} = 0.7337 mm D_{10} = 0.2038 mm
C_u = 6.579 C_c = 0.598

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: #200 Sieve

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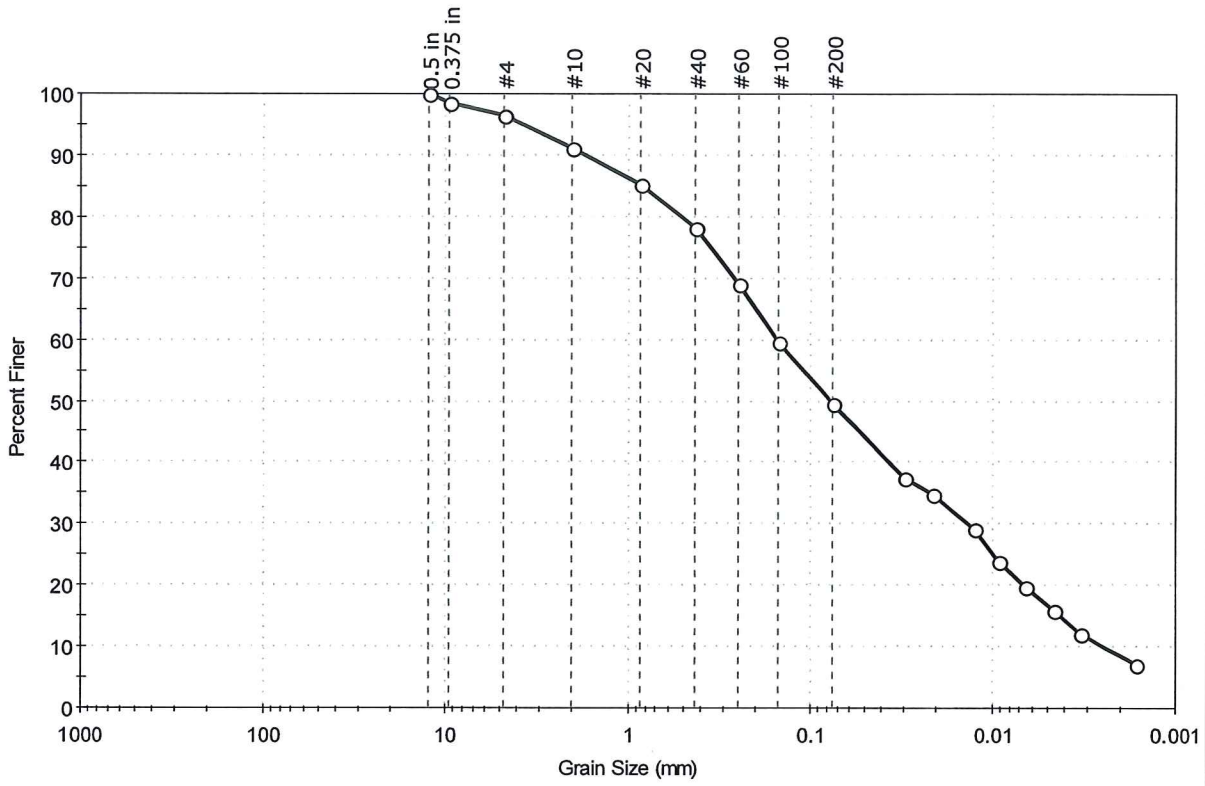
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED7FOON	Test Date:	12/18/13	Checked By:	jdt
Depth :	---	Test Id:	284837		
Test Comment:	---				
Sample Description:	Moist, dark brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.5	47.1	49.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	99		
#4	4.75	97		
#10	2.00	91		
#20	0.85	85		
#40	0.42	78		
#60	0.25	69		
#100	0.15	60		
#200	0.075	49		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0304	37		
---	0.0213	35		
---	0.0127	29		
---	0.0092	24		
---	0.0065	20		
---	0.0047	16		
---	0.0033	12		
---	0.0016	7		

Coefficients

D_{85} = 0.8250 mm	D_{30} = 0.0135 mm
D_{60} = 0.1534 mm	D_{15} = 0.0043 mm
D_{50} = 0.0778 mm	D_{10} = 0.0024 mm
C_u = 63.917	C_c = 0.495

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: #200 Sieve

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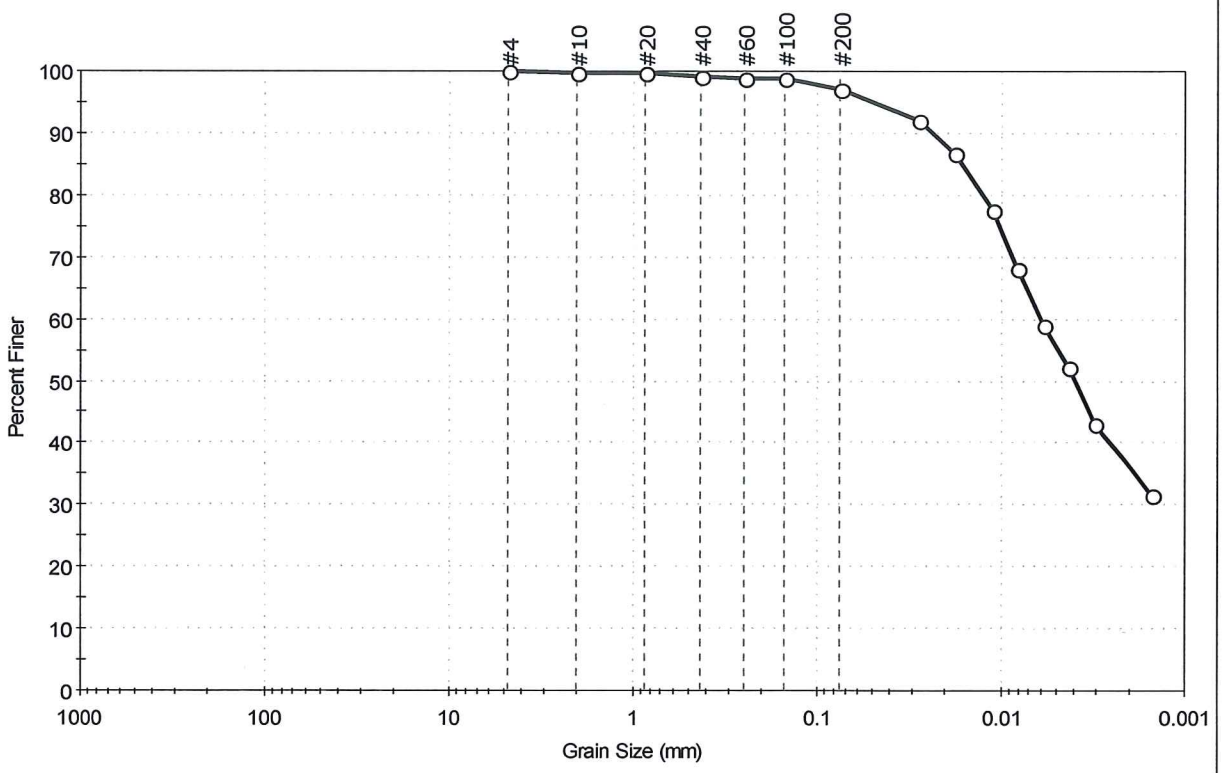
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED7.5DOON	Test Date:	12/18/13	Checked By:	jdt
Depth :	---	Test Id:	284838		
Test Comment:	---				
Sample Description:	Moist, dark brown clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
—	0.0	2.8	97.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	99		
#100	0.15	99		
#200	0.075	97		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0279	92		
---	0.0181	87		
---	0.0111	77		
---	0.0082	68		
---	0.0059	59		
---	0.0043	52		
---	0.0031	43		
---	0.0015	32		

Coefficients

D_{85} =0.0166 mm	D_{30} =N/A
D_{60} =0.0061 mm	D_{15} =N/A
D_{50} =0.0039 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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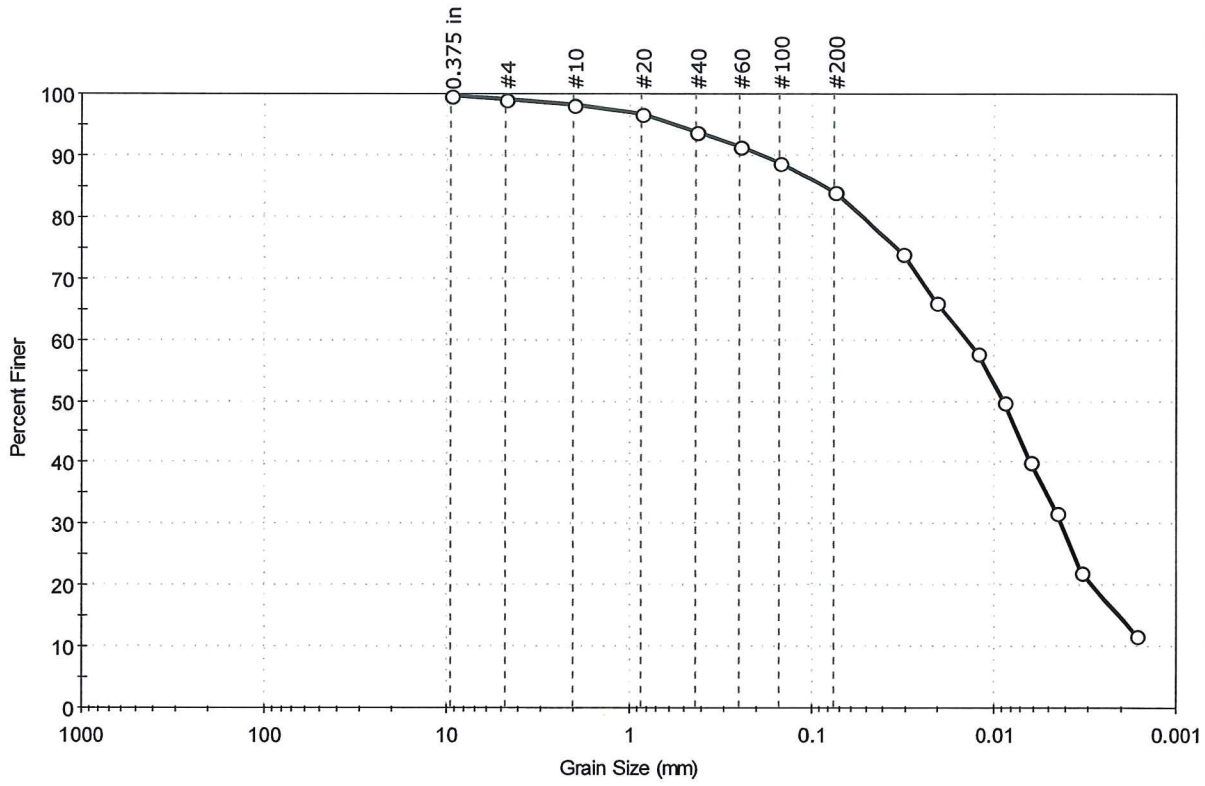
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED7.5EOON	Test Date:	12/18/13	Checked By:	jdt
Depth :	---	Test Id:	284843		
Test Comment:	---				
Sample Description:	Wet, dark brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.9	14.9	84.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	98		
#20	0.85	97		
#40	0.42	94		
#60	0.25	91		
#100	0.15	89		
#200	0.075	84		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0320	74		
---	0.0205	66		
---	0.0122	58		
---	0.0087	50		
---	0.0063	40		
---	0.0045	32		
---	0.0033	22		
---	0.0017	12		

Coefficients

D_{85} =0.0850 mm	D_{30} =0.0042 mm
D_{60} =0.0140 mm	D_{15} =0.0020 mm
D_{50} =0.0088 mm	D_{10} =0.0015 mm
C_u =9.333	C_c =0.840

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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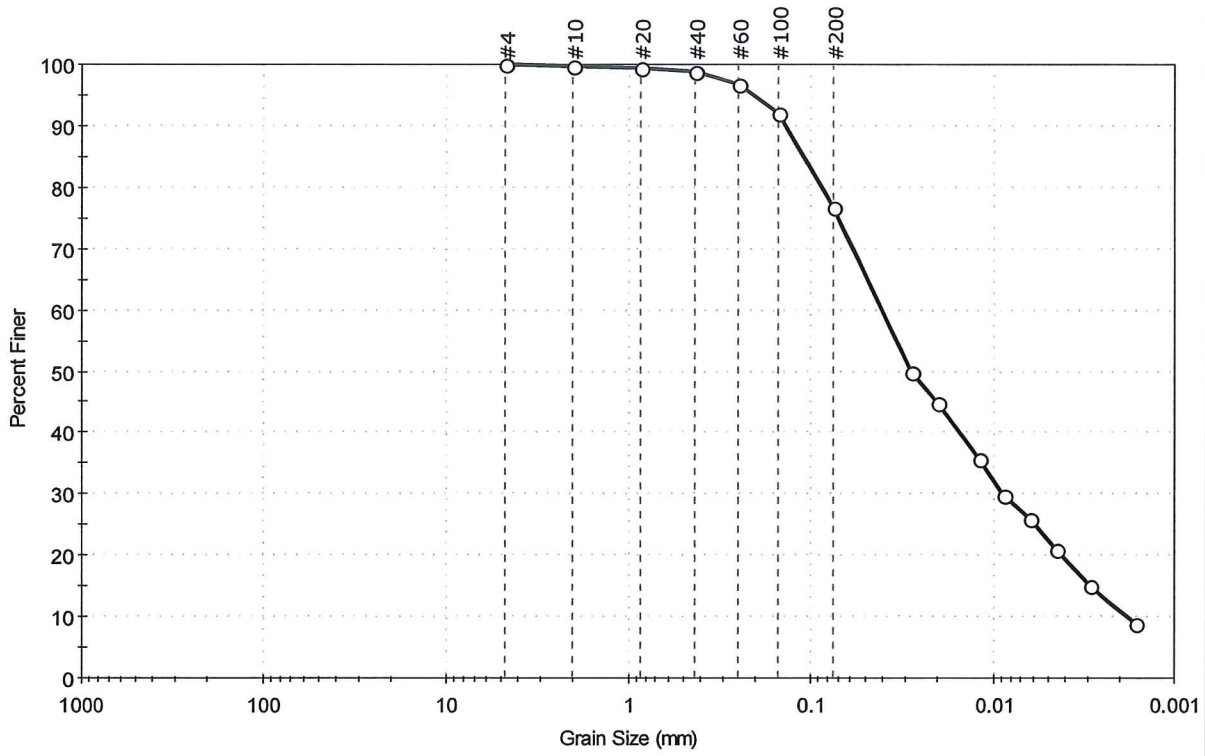
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED8AOON	Test Date:	12/08/13	Checked By:	jdt
Depth :	---	Test Id:	283735		
Test Comment:	---				
Sample Description:	Wet, brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	23.4	76.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	97		
#100	0.15	92		
#200	0.075	77		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0279	50		
---	0.0202	45		
---	0.0120	36		
---	0.0087	30		
---	0.0062	26		
---	0.0045	21		
---	0.0029	15		
---	0.0017	9		

Coefficients

D_{85} = 0.1094 mm D_{30} = 0.0088 mm
D_{60} = 0.0406 mm D_{15} = 0.0030 mm
D_{50} = 0.0280 mm D_{10} = 0.0018 mm
C_u = 22.556 C_c = 1.060

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: 4 Sieve

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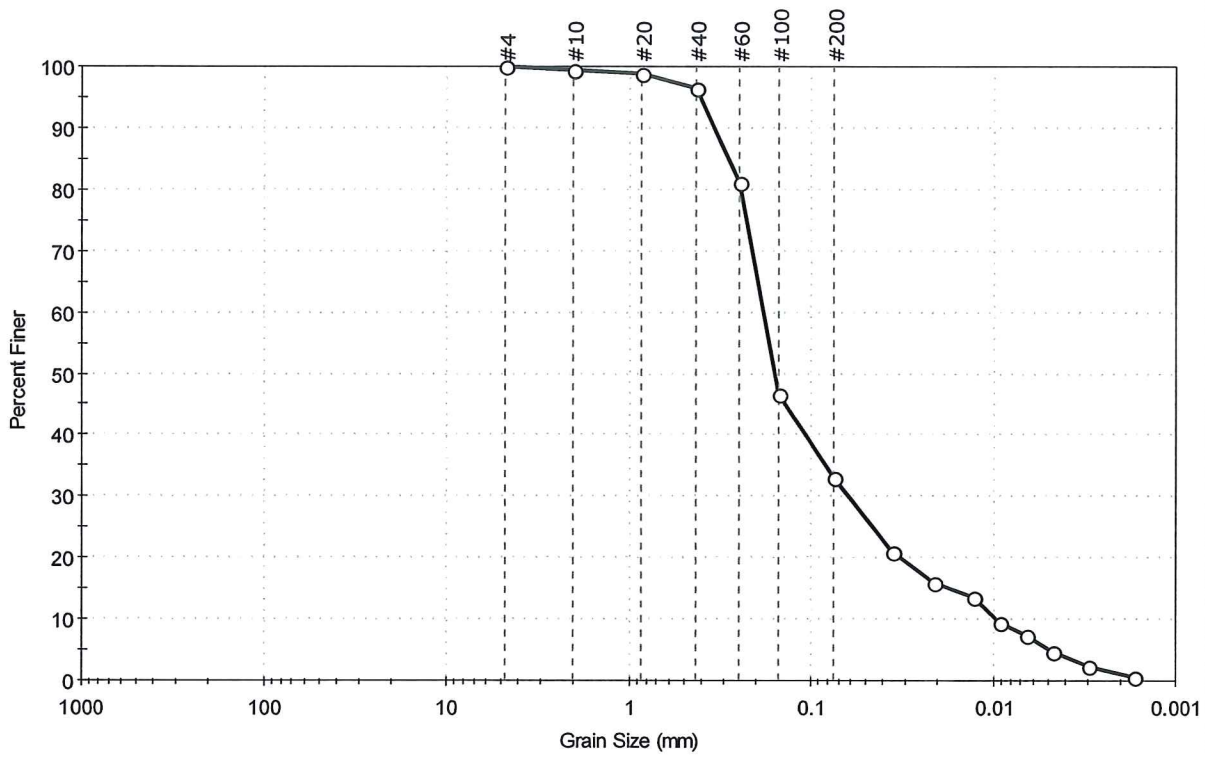
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED8BOON	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283734		
Test Comment:	---				
Sample Description:	Wet, brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	—	66.9	33.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	97		
#60	0.25	81		
#100	0.15	47		
#200	0.075	33		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0358	21		
---	0.0214	16		
---	0.0128	14		
---	0.0093	9		
---	0.0066	7		
---	0.0047	5		
---	0.0030	2		
---	0.0017	0		

Coefficients

D_{85} = 0.2847 mm	D_{30} = 0.0620 mm
D_{60} = 0.1826 mm	D_{15} = 0.0172 mm
D_{50} = 0.1575 mm	D_{10} = 0.0097 mm
C_u = 18.825	C_c = 2.170

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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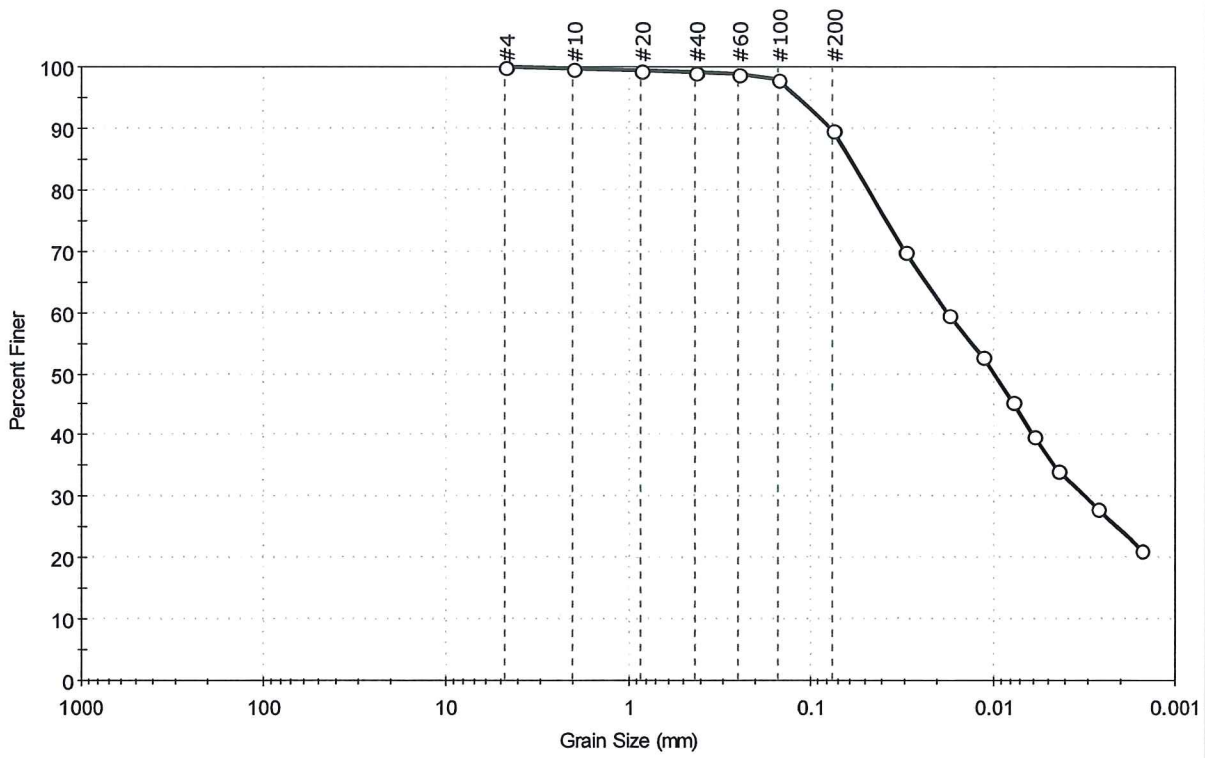
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED8CO1N	Test Date:	12/08/13	Checked By:	jdt
Depth :	---	Test Id:	283751		
Test Comment:	---				
Sample Description:	Wet, brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	10.3	89.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	99		
#100	0.15	98		
#200	0.075	90		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0302	70		
---	0.0177	59		
---	0.0114	53		
---	0.0078	45		
---	0.0060	40		
---	0.0043	34		
---	0.0026	28		
---	0.0015	21		

Coefficients

D_{85} = 0.0604 mm D_{30} = 0.0031 mm
D_{60} = 0.0182 mm D_{15} = N/A
D_{50} = 0.0098 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: 4 Sieve

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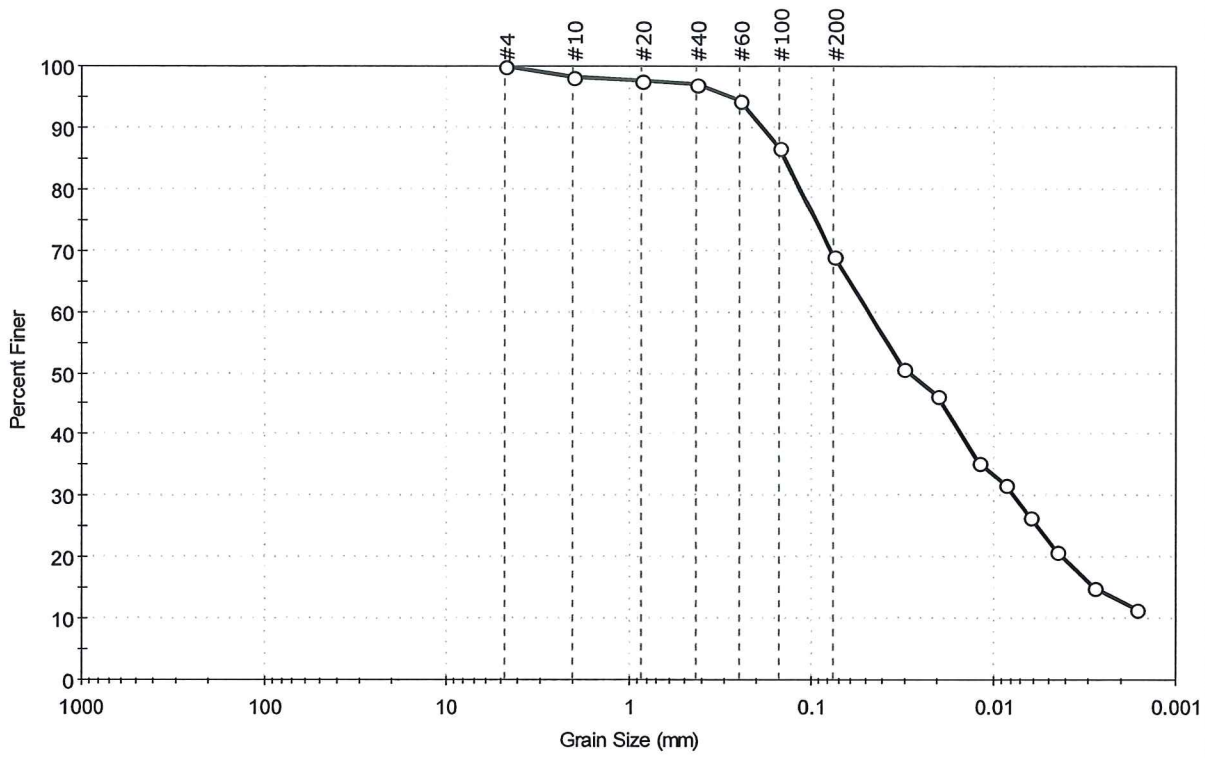
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED8COON	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283742		
Test Comment:	---				
Sample Description:	Wet, brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	31.0	69.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	98		
#20	0.85	98		
#40	0.42	97		
#60	0.25	94		
#100	0.15	87		
#200	0.075	69		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0313	51		
---	0.0203	46		
---	0.0120	35		
---	0.0086	32		
---	0.0062	26		
---	0.0045	21		
---	0.0028	15		
---	0.0016	11		

Coefficients

D_{85} =0.1404 mm	D_{30} =0.0077 mm
D_{60} =0.0486 mm	D_{15} =0.0027 mm
D_{50} =0.0288 mm	D_{10} =0.0013 mm
C_u =37.385	C_c =0.938

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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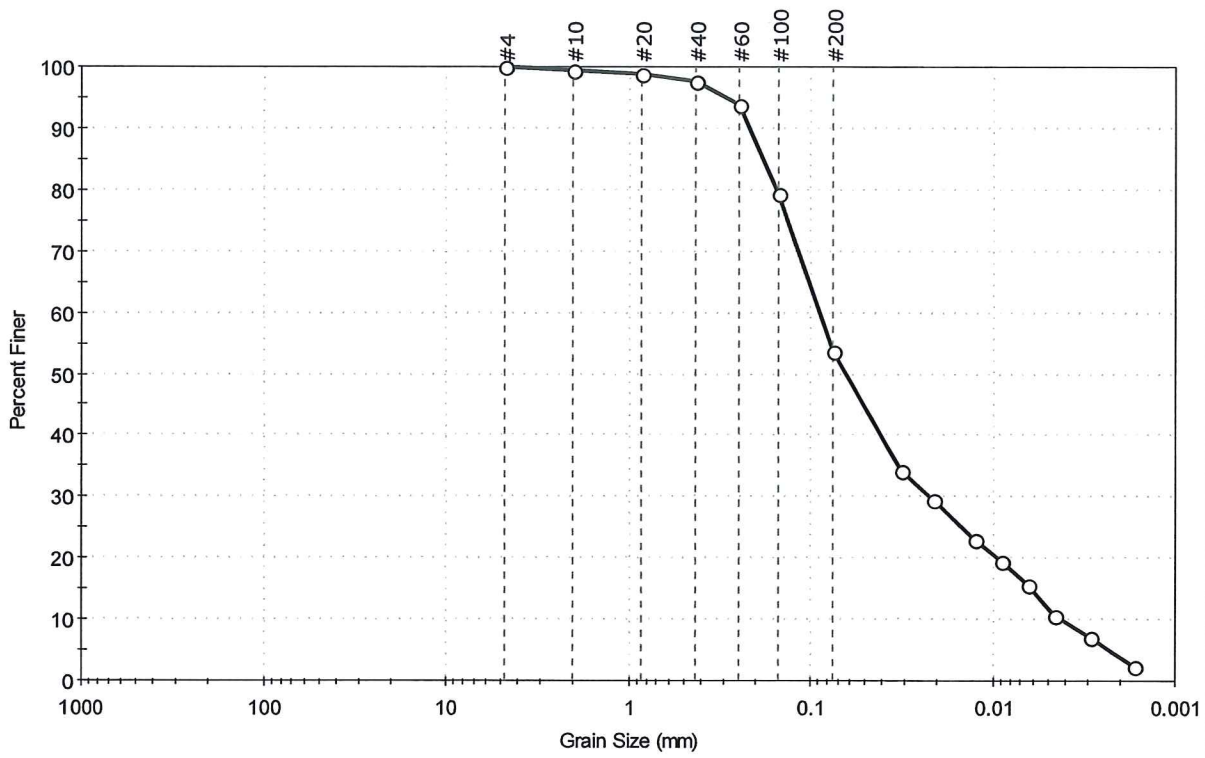
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SED8.5BOON	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283733		
Test Comment:	---				
Sample Description:	Wet, brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	46.4	53.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	98		
#60	0.25	94		
#100	0.15	79		
#200	0.075	54		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0320	34		
---	0.0213	30		
---	0.0125	23		
---	0.0090	19		
---	0.0065	16		
---	0.0046	11		
---	0.0029	7		
---	0.0017	2		

Coefficients

D_{85} = 0.1834 mm	D_{30} = 0.0222 mm
D_{60} = 0.0892 mm	D_{15} = 0.0061 mm
D_{50} = 0.0642 mm	D_{10} = 0.0042 mm
C_u = 21.238	C_c = 1.316

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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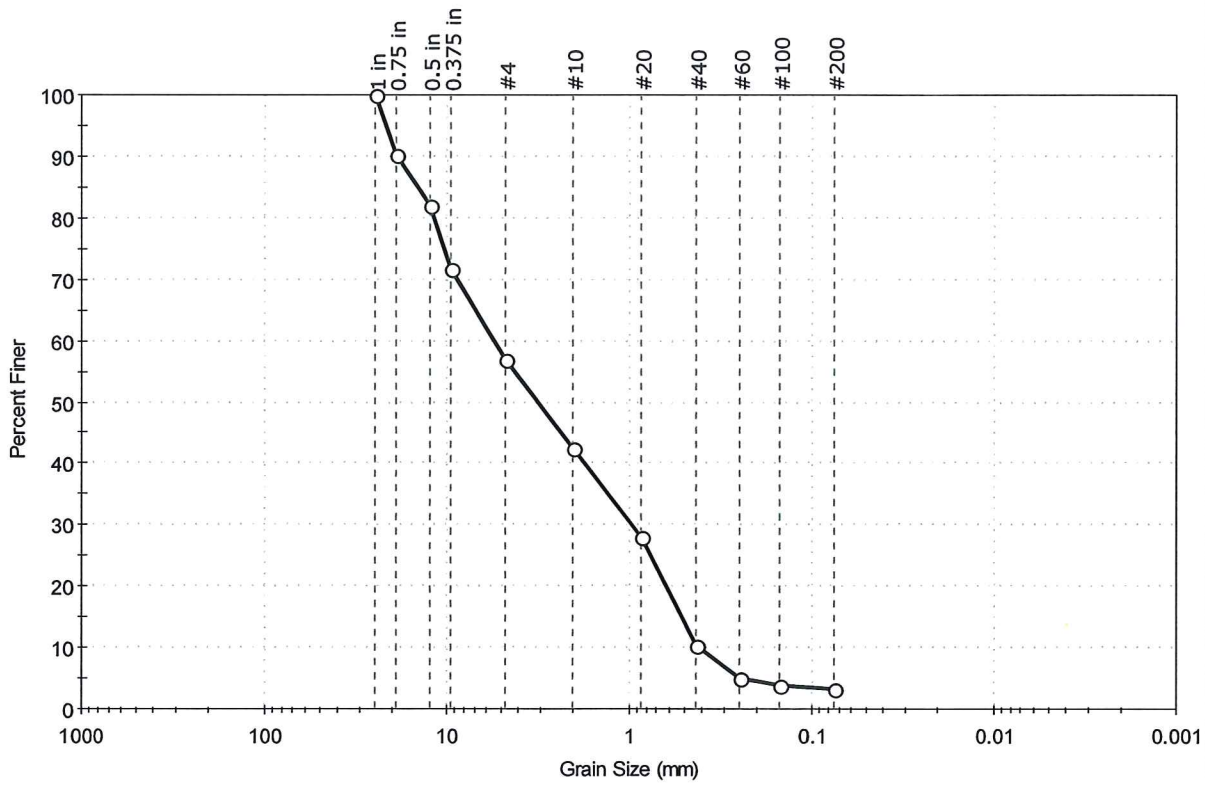
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SEDBACK1OON	Test Date:	12/18/13	Checked By:	jdt
Depth :	---	Test Id:	285064		
Test Comment:	Less than 5% fines, hydrometer not performed				
Sample Description:	Moist, brown sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	42.9	53.8	3.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	90		
0.5 in	12.50	82		
0.375 in	9.50	72		
#4	4.75	57		
#10	2.00	42		
#20	0.85	28		
#40	0.42	10		
#60	0.25	5		
#100	0.15	4		
#200	0.075	3		

Coefficients

D_{85} = 14.5002 mm	D_{30} = 0.9612 mm
D_{60} = 5.4635 mm	D_{15} = 0.5117 mm
D_{50} = 3.1374 mm	D_{10} = 0.4138 mm
C_u = 13.203	C_c = 0.409

Classification

ASTM — Poorly graded sand with gravel (SP)

AASHTO — Stone Fragments, Gravel and Sand (A-1-a (1))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

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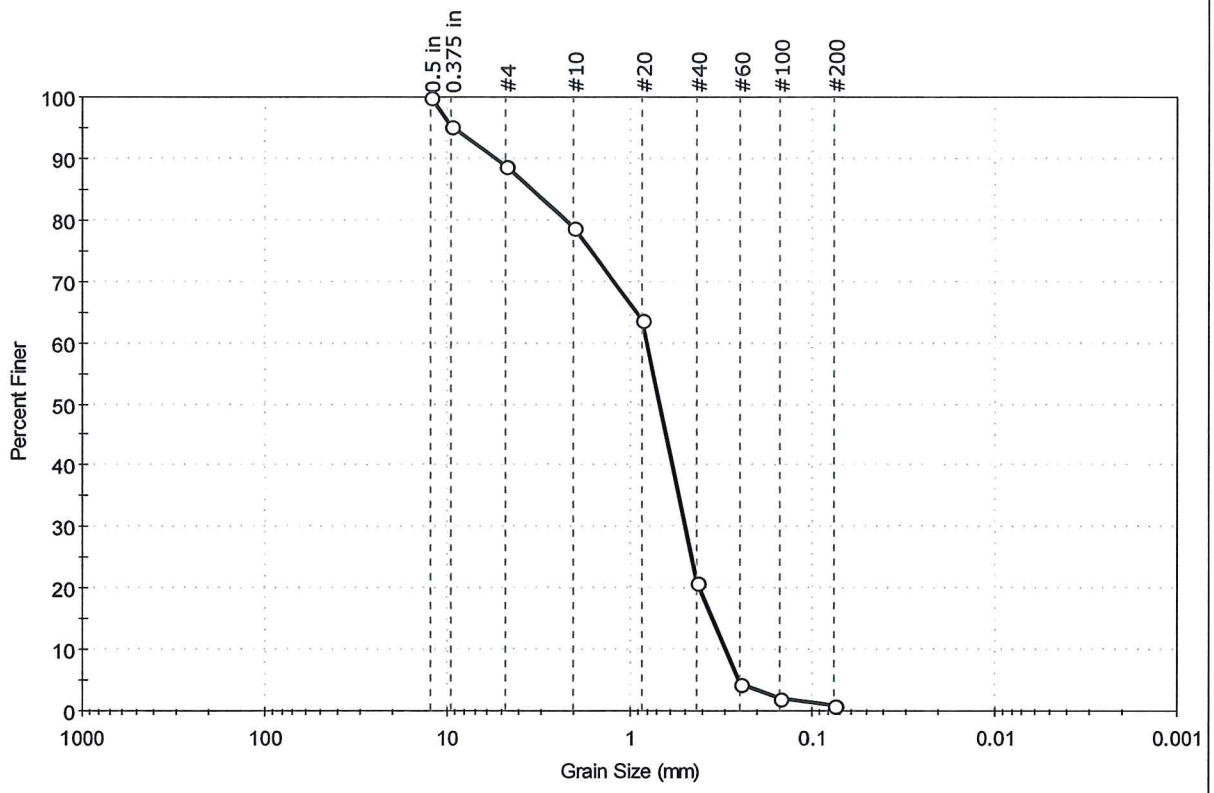
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SEDBACK2OON	Test Date:	12/18/13	Checked By:	jdt
Depth :	---	Test Id:	285065		
Test Comment:	Less than 5% fines, hydrometer not performed				
Sample Description:	Moist, grayish brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	11.3	87.7	1.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	95		
#4	4.75	89		
#10	2.00	79		
#20	0.85	64		
#40	0.42	21		
#60	0.25	4		
#100	0.15	2		
#200	0.075	1		

Coefficients

D_{85} =3.4417 mm	D_{30} =0.4916 mm
D_{60} =0.7987 mm	D_{15} =0.3508 mm
D_{50} =0.6794 mm	D_{10} =0.2990 mm
C_u =2.671	C_c =1.012

Classification

ASTM — Poorly graded sand (SP)

AASHTO — Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

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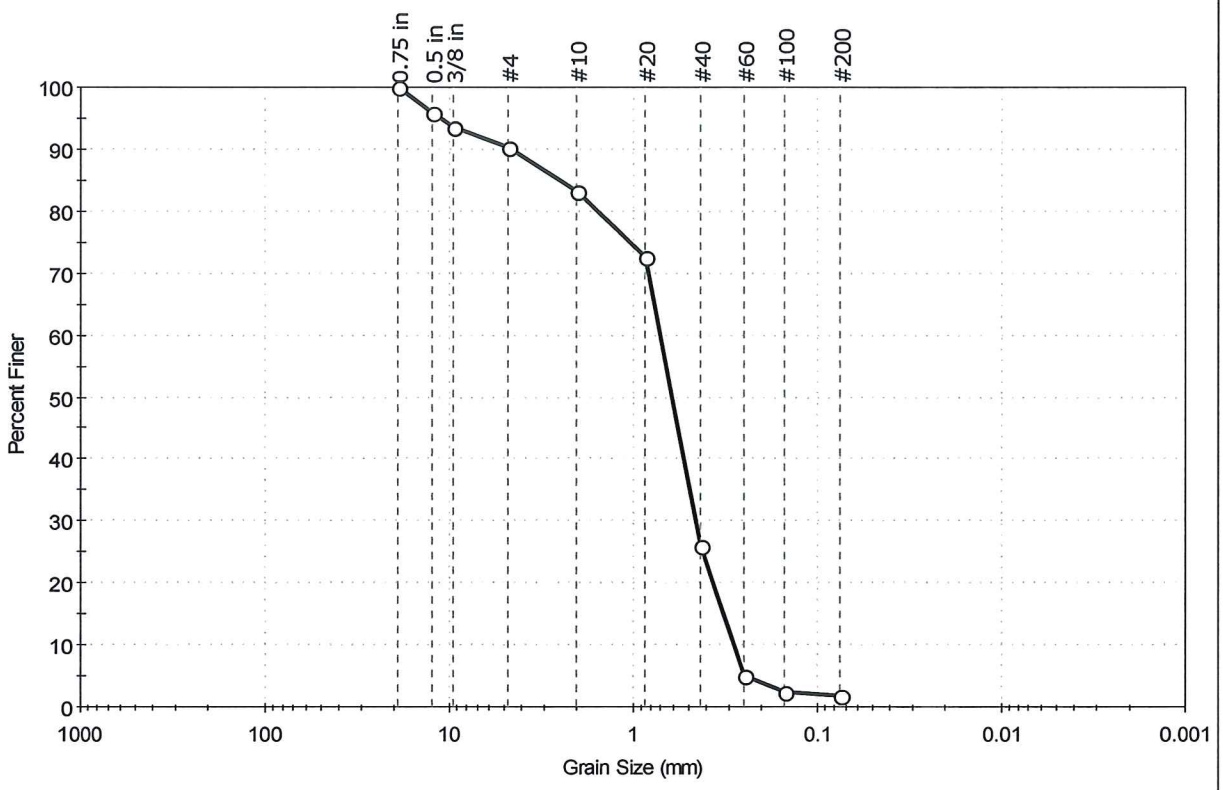
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SEDBACK3OON	Test Date:	12/08/13	Checked By:	jdt
Depth :	---	Test Id:	283746		
Test Comment:	Less than 5% fines, hydrometer not performed				
Sample Description:	Wet, brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	9.8	88.4	1.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	96		
3/8 in	9.50	94		
#4	4.75	90		
#10	2.00	83		
#20	0.85	73		
#40	0.42	26		
#60	0.25	5		
#100	0.15	2		
#200	0.075	2		

Coefficients

D_{85} = 2.5162 mm D_{30} = 0.4513 mm
D_{60} = 0.7043 mm D_{15} = 0.3214 mm
D_{50} = 0.6072 mm D_{10} = 0.2829 mm
C_u = 2.490 C_c = 1.022

Classification

ASTM: Poorly graded sand (SP)

AASHTO: Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

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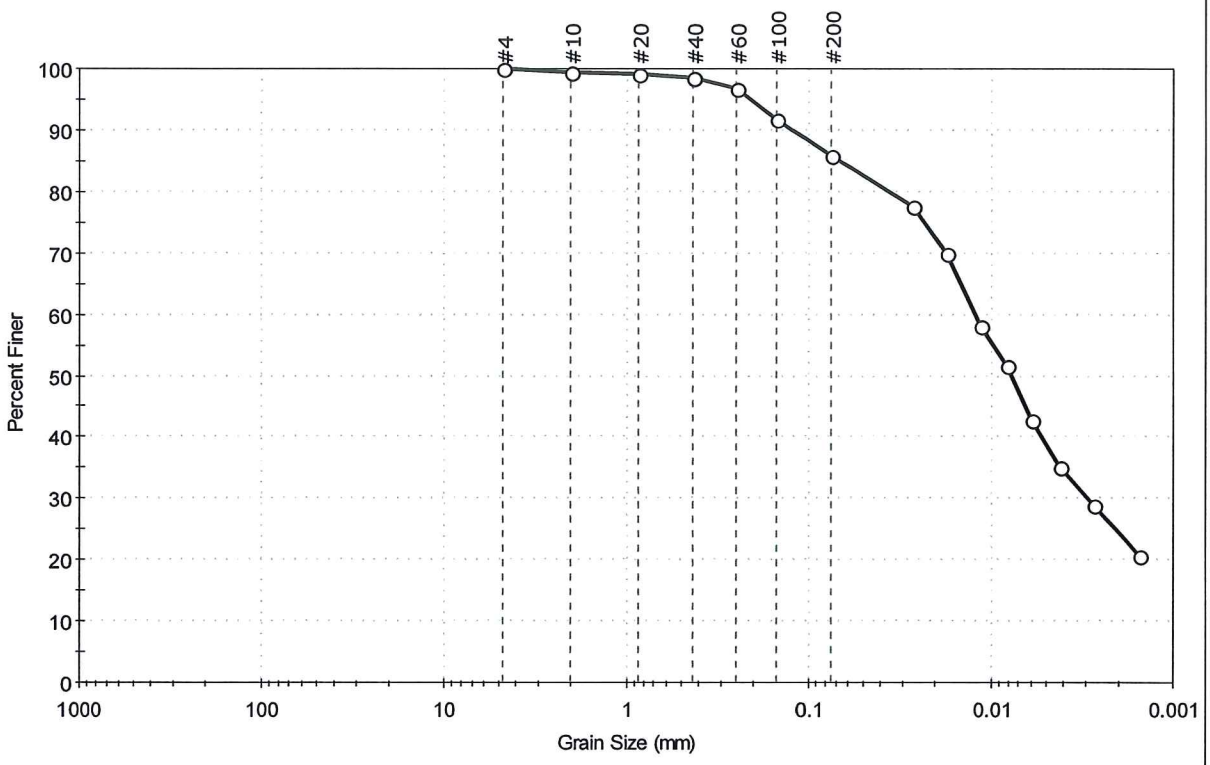
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SEDBACK4O1N	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283757		
Test Comment:	---				
Sample Description:	Wet, brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	14.2	85.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	99		
#60	0.25	97		
#100	0.15	92		
#200	0.075	86		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0271	77		
---	0.0176	70		
---	0.0113	58		
---	0.0082	52		
---	0.0059	43		
---	0.0042	35		
---	0.0027	29		
---	0.0015	21		

Coefficients

D_{85} = 0.0678 mm D_{30} = 0.0029 mm
D_{60} = 0.0121 mm D_{15} = N/A
D_{50} = 0.0077 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: 4 Sieve

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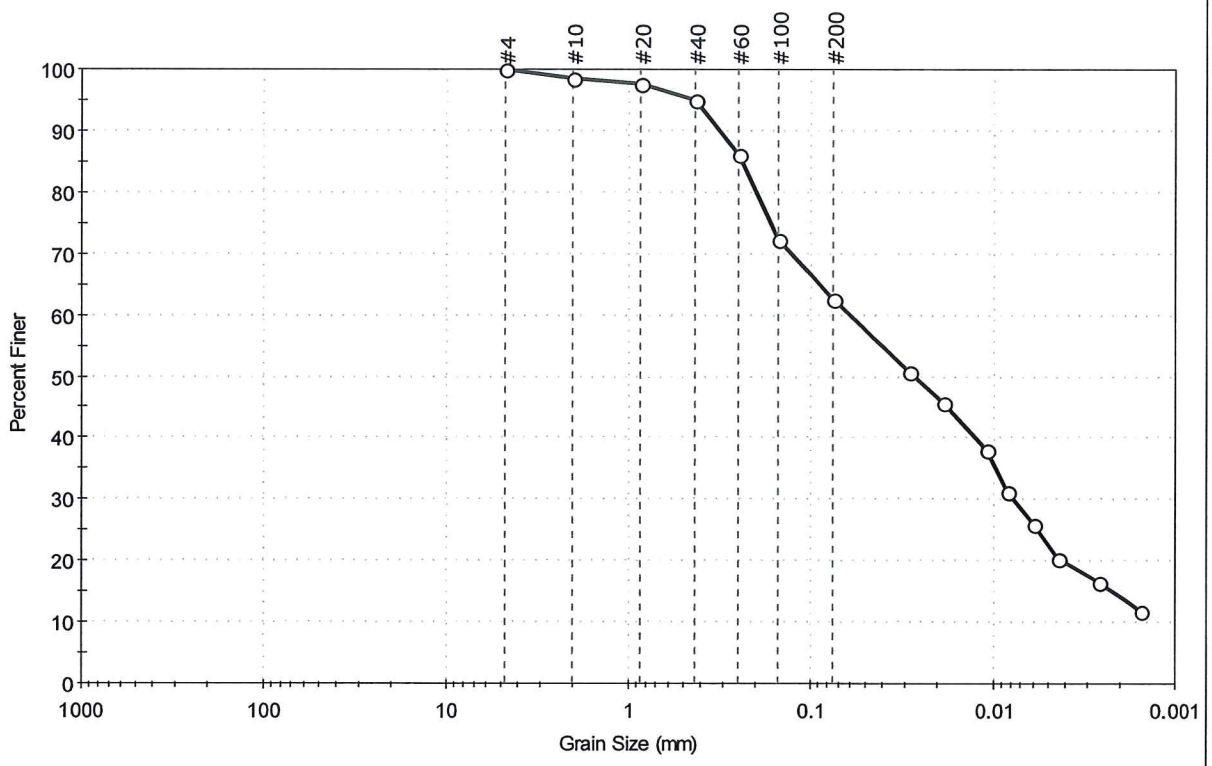
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SEDBACK4OON	Test Date:	12/05/13	Checked By:	jdt
Depth :	---	Test Id:	283740		
Test Comment:	---				
Sample Description:	Wet, brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	37.5	62.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	98		
#20	0.85	98		
#40	0.42	95		
#60	0.25	86		
#100	0.15	72		
#200	0.075	63		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0286	51		
---	0.0189	46		
---	0.0108	38		
---	0.0083	31		
---	0.0060	26		
---	0.0044	20		
---	0.0026	16		
---	0.0015	12		

Coefficients

D_{85} =0.2391 mm	D_{30} =0.0078 mm
D_{60} =0.0611 mm	D_{15} =0.0022 mm
D_{50} =0.0270 mm	D_{10} =0.0013 mm
C_u =47.000	C_c =0.766

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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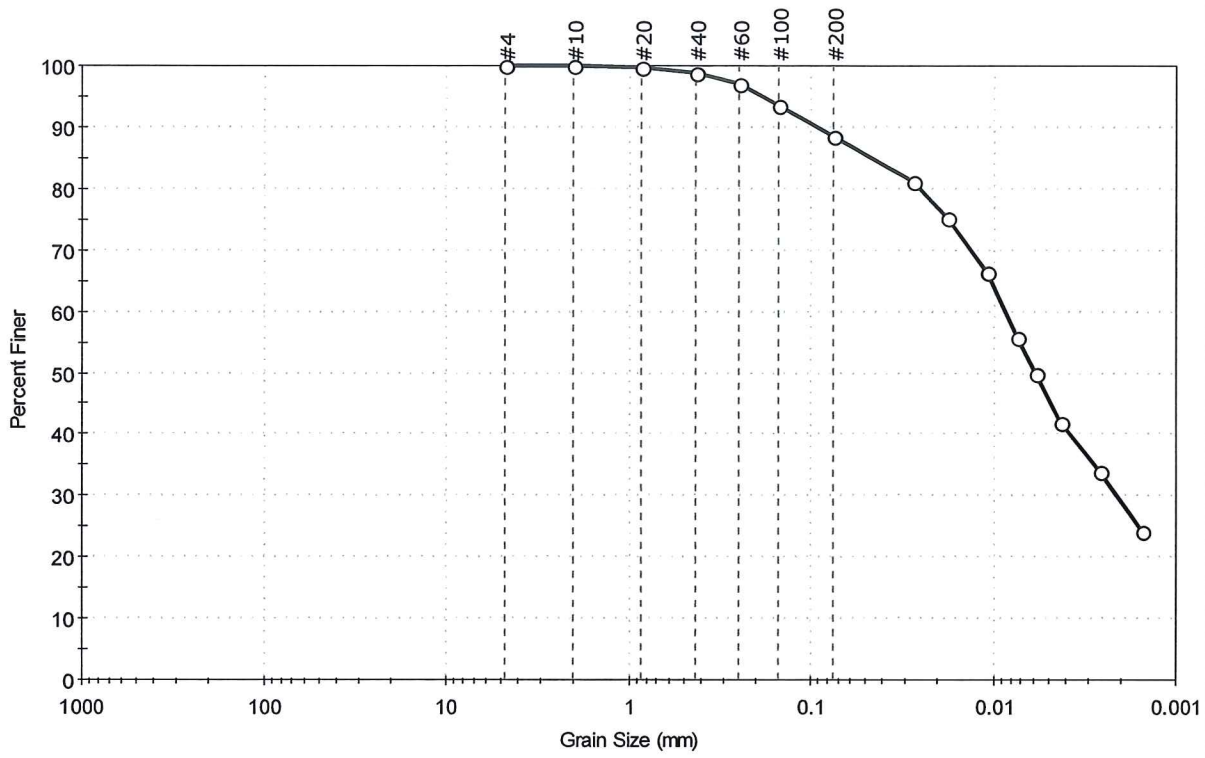
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SEDBACK5O1N	Test Date:	12/08/13	Checked By:	jdt
Depth :	---	Test Id:	283759		
Test Comment:	---				
Sample Description:	Wet, brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	11.5	88.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	97		
#100	0.15	94		
#200	0.075	88		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0278	81		
---	0.0180	75		
---	0.0108	66		
---	0.0074	56		
---	0.0058	50		
---	0.0042	42		
---	0.0026	34		
---	0.0015	24		

Coefficients

D_{85} = 0.0466 mm D_{30} = 0.0021 mm
D_{60} = 0.0086 mm D_{15} = N/A
D_{50} = 0.0059 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: 4 Sieve

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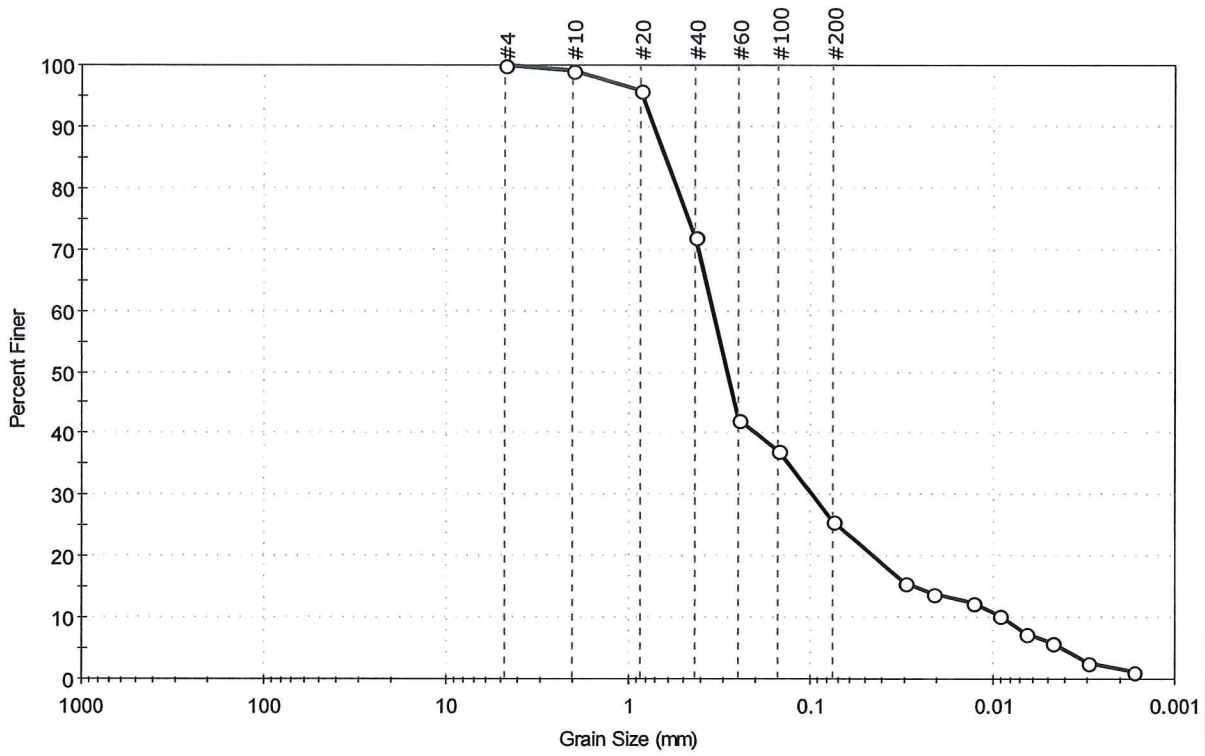
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SEDBACK5OON	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283741		
Test Comment:	---				
Sample Description:	Wet, brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	74.3	25.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	96		
#40	0.42	72		
#60	0.25	42		
#100	0.15	37		
#200	0.075	26		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0304	16		
---	0.0210	14		
---	0.0130	12		
---	0.0093	10		
---	0.0066	7		
---	0.0047	6		
---	0.0030	3		
---	0.0017	1		

Coefficients

D_{85} =0.6199 mm	D_{30} =0.0973 mm
D_{60} =0.3431 mm	D_{15} =0.0270 mm
D_{50} =0.2871 mm	D_{10} =0.0090 mm
C_u =38.122	C_c =3.066

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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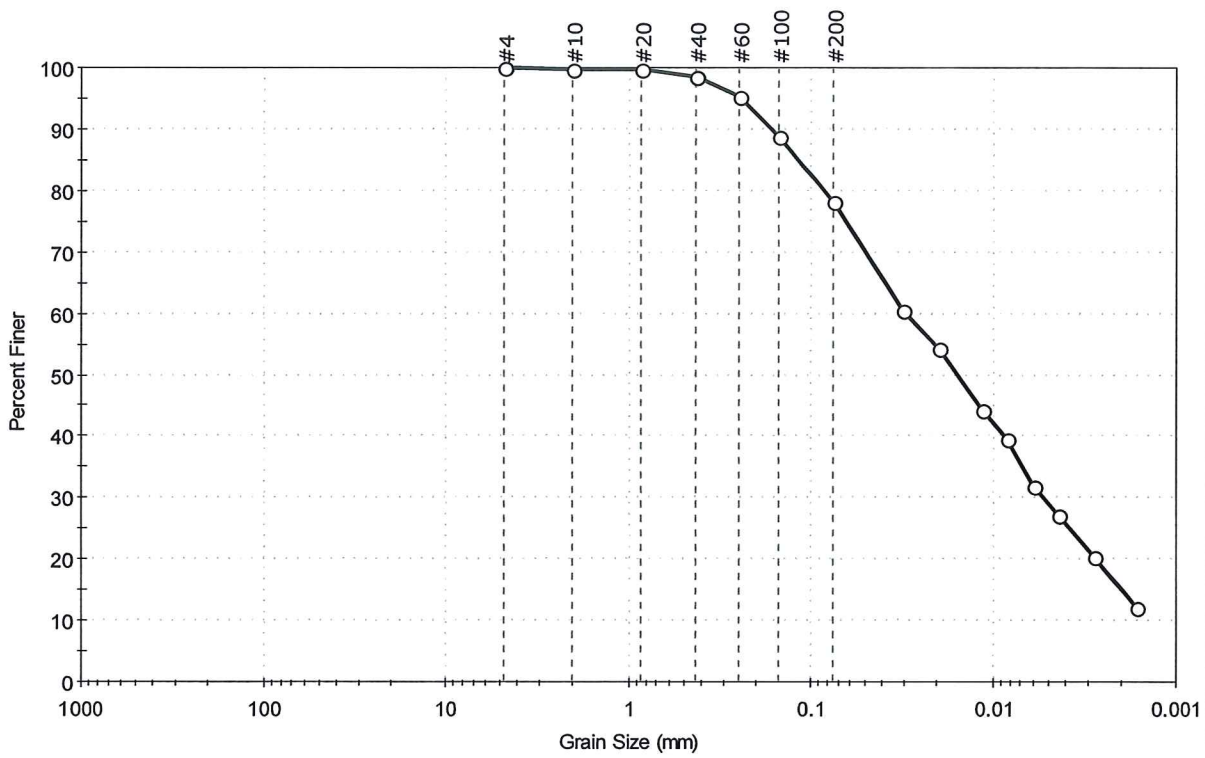
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SEDBACK6O1N	Test Date:	12/08/13	Checked By:	jdt
Depth :	---	Test Id:	283755		
Test Comment:	---				
Sample Description:	Wet, brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	21.9	78.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	95		
#100	0.15	89		
#200	0.075	78		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0308	61		
---	0.0196	54		
---	0.0114	44		
---	0.0084	39		
---	0.0060	32		
---	0.0044	27		
---	0.0028	20		
---	0.0016	12		

Coefficients

D_{85} =0.1171 mm	D_{30} =0.0053 mm
D_{60} =0.0295 mm	D_{15} =0.0020 mm
D_{50} =0.0155 mm	D_{10} =0.0014 mm
C_u =21.071	C_c =0.680

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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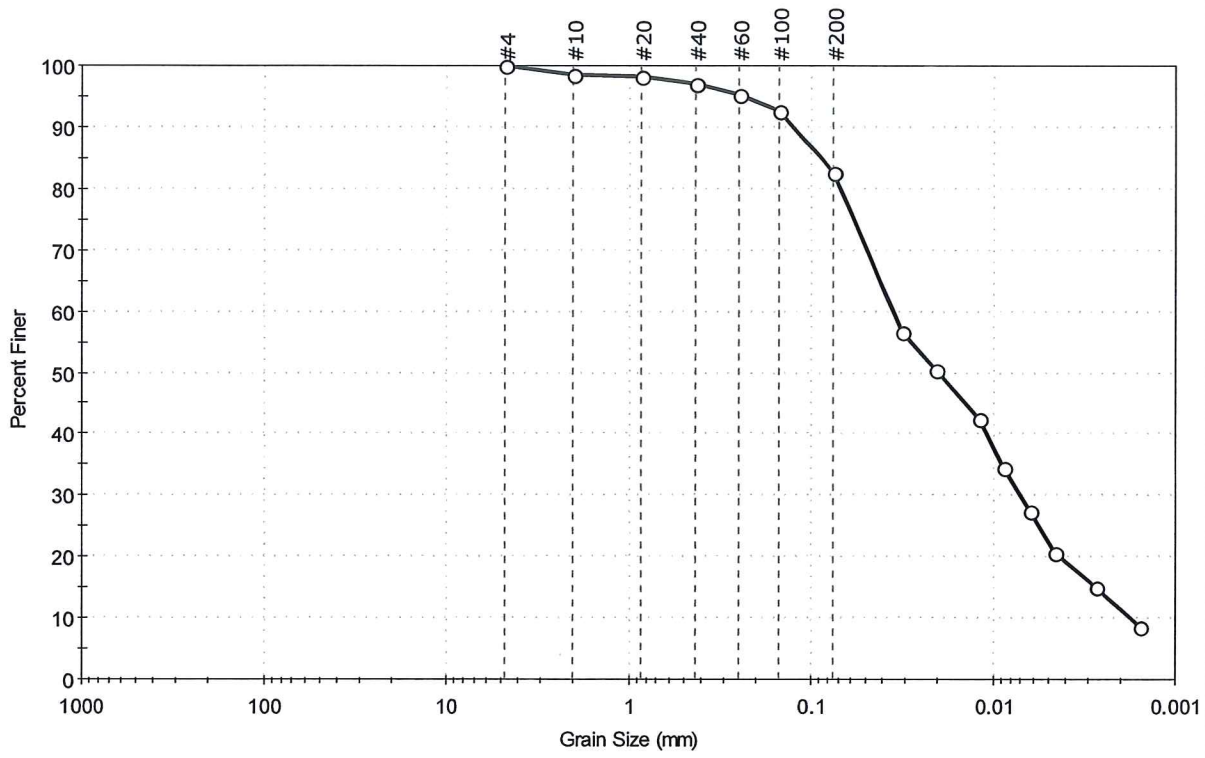
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SEDBACK6OON	Test Date:	12/08/13	Checked By:	jdt
Depth :	---	Test Id:	283747		
Test Comment:	---				
Sample Description:	Wet, brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	17.3	82.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	98		
#20	0.85	98		
#40	0.42	97		
#60	0.25	95		
#100	0.15	93		
#200	0.075	83		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0321	57		
---	0.0206	51		
---	0.0119	43		
---	0.0088	35		
---	0.0063	28		
---	0.0046	21		
---	0.0027	15		
---	0.0016	9		

Coefficients

D_{85} =0.0883 mm	D_{30} =0.0071 mm
D_{60} =0.0359 mm	D_{15} =0.0027 mm
D_{50} =0.0198 mm	D_{10} =0.0018 mm
C_u =19.944	C_c =0.780

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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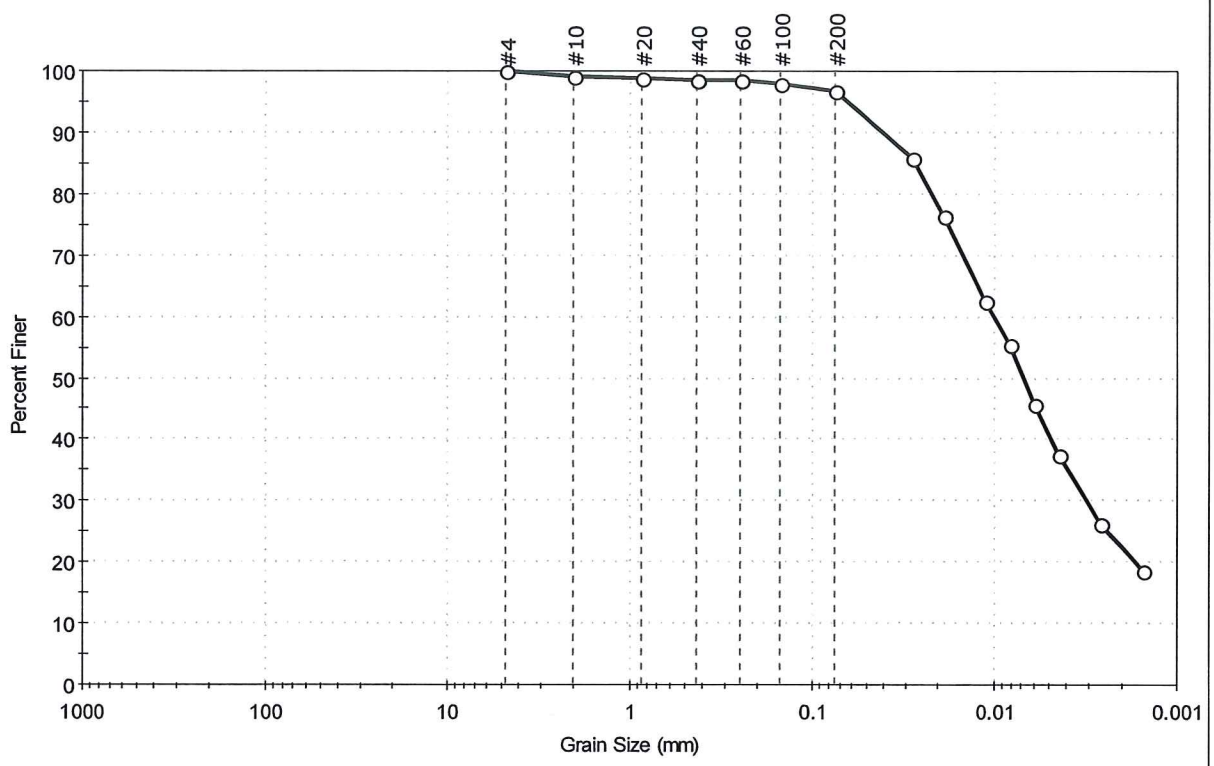
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SEDBACK11OON	Test Date:	12/05/13	Checked By:	jdt
Depth :	---	Test Id:	283748		
Test Comment:	---				
Sample Description:	Wet, brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	3.2	96.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	99		
#60	0.25	98		
#100	0.15	98		
#200	0.075	97		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0285	86		
---	0.0189	76		
---	0.0112	63		
---	0.0082	55		
---	0.0059	46		
---	0.0043	37		
---	0.0026	26		
---	0.0015	18		

Coefficients

D_{85} =0.0275 mm	D_{30} =0.0031 mm
D_{60} =0.0100 mm	D_{15} =N/A
D_{50} =0.0068 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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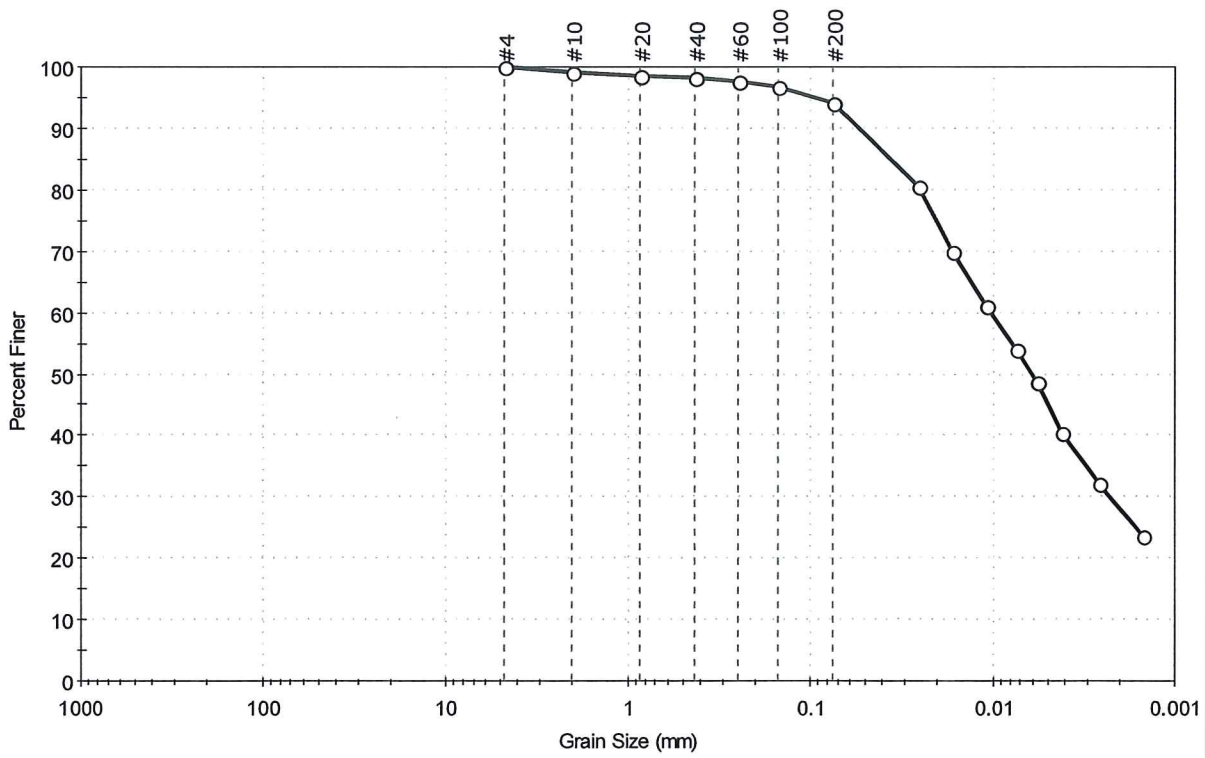
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SEDBACK12O1N	Test Date:	12/08/13	Checked By:	jdt
Depth :	---	Test Id:	283758		
Test Comment:	---				
Sample Description:	Wet, brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	5.8	94.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	98		
#60	0.25	98		
#100	0.15	97		
#200	0.075	94		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0258	81		
---	0.0168	70		
---	0.0108	61		
---	0.0074	54		
---	0.0057	49		
---	0.0042	41		
---	0.0026	32		
---	0.0015	24		

Coefficients

D_{85} = 0.0365 mm	D_{30} = 0.0023 mm
D_{60} = 0.0102 mm	D_{15} = N/A
D_{50} = 0.0061 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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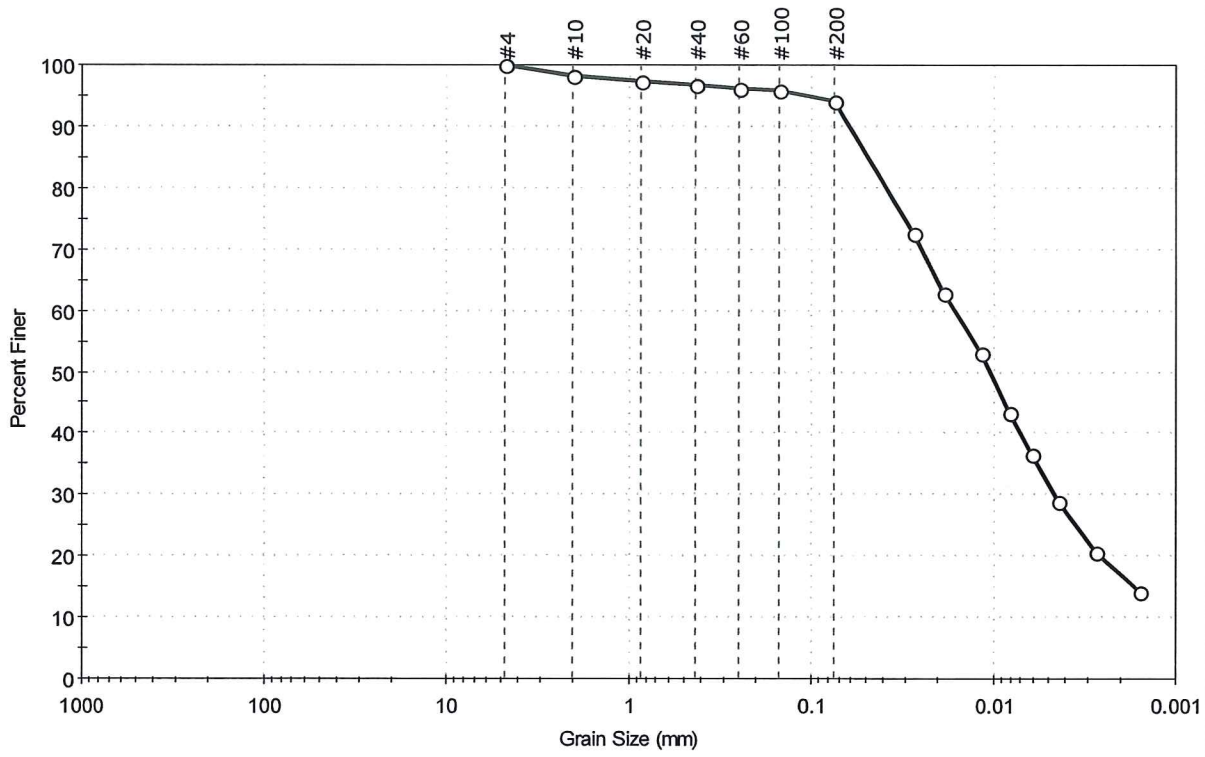
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SEDBACK12OON	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283745		
Test Comment:	---				
Sample Description:	Wet, brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	5.8	94.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	98		
#20	0.85	97		
#40	0.42	97		
#60	0.25	96		
#100	0.15	96		
#200	0.075	94		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0277	73		
---	0.0189	63		
---	0.0116	53		
---	0.0081	43		
---	0.0061	37		
---	0.0044	29		
---	0.0027	21		
---	0.0016	14		

Coefficients

D_{85} = 0.0491 mm	D_{30} = 0.0047 mm
D_{60} = 0.0163 mm	D_{15} = 0.0017 mm
D_{50} = 0.0103 mm	D_{10} = 0.0011 mm
C_u = 14.818	C_c = 1.232

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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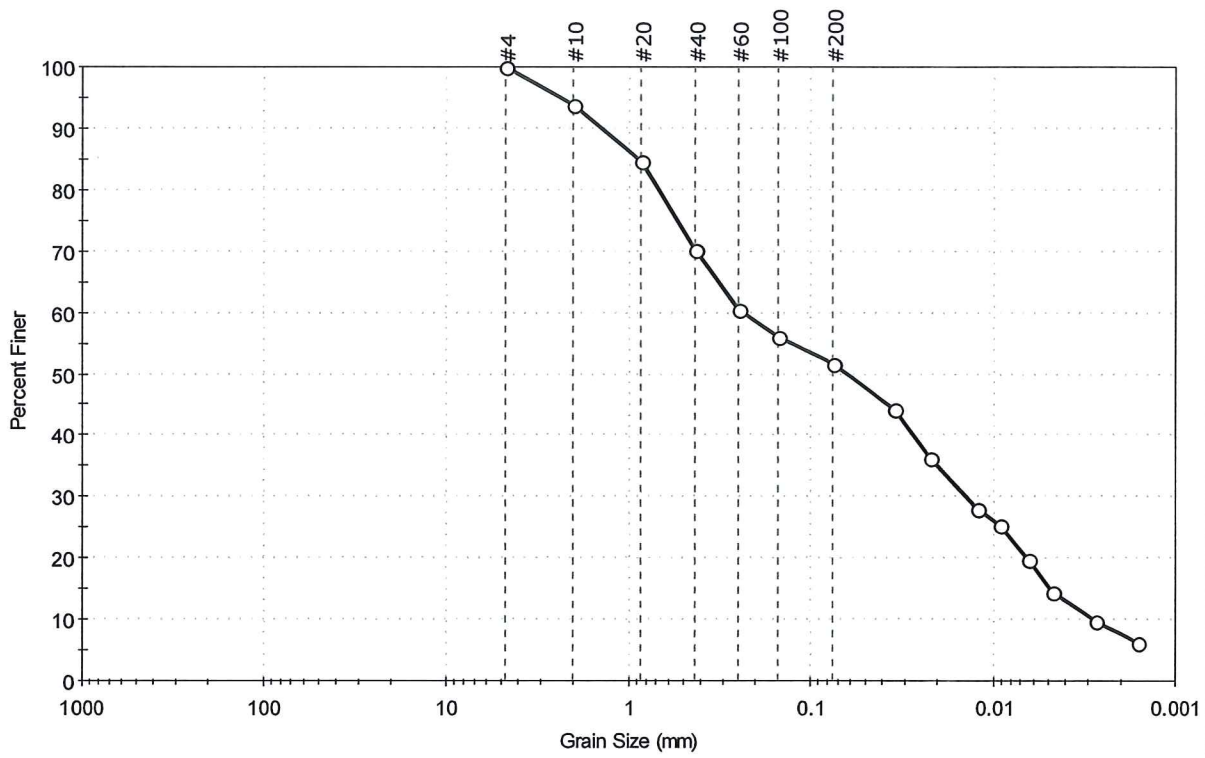
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	SEDBACK13OON	Test Date:	12/08/13	Checked By:	jdt
Depth :	---	Test Id:	283744		
Test Comment:	---				
Sample Description:	Wet, brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	48.2	51.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	94		
#20	0.85	85		
#40	0.42	70		
#60	0.25	60		
#100	0.15	56		
#200	0.075	52		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0352	44		
---	0.0221	36		
---	0.0124	28		
---	0.0091	25		
---	0.0065	20		
---	0.0047	14		
---	0.0027	10		
---	0.0016	6		

Coefficients

D_{85} = 0.8746 mm	D_{30} = 0.0142 mm
D_{60} = 0.2375 mm	D_{15} = 0.0048 mm
D_{50} = 0.0626 mm	D_{10} = 0.0029 mm
C_u = 81.897	C_c = 0.293

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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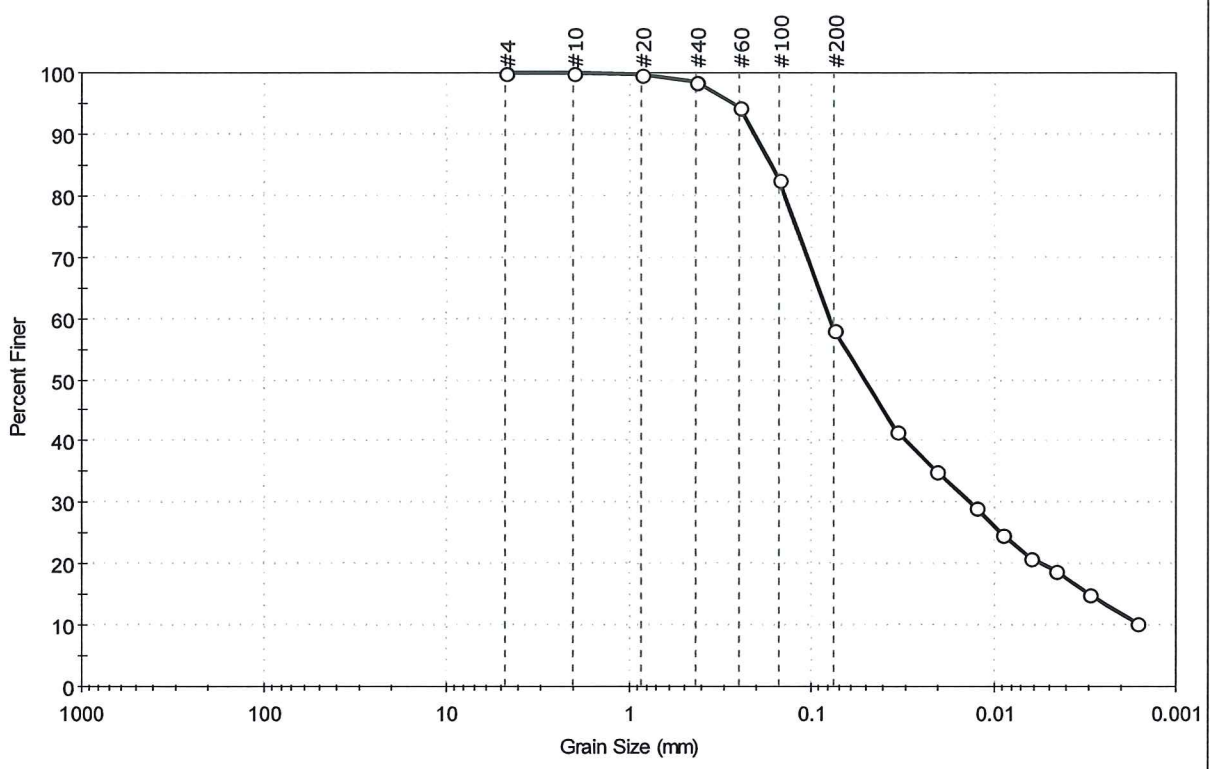
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	WSED1O1N	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283749		
Test Comment:	---				
Sample Description:	Wet, brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	41.9	58.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	94		
#100	0.15	83		
#200	0.075	58		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0338	42		
---	0.0208	35		
---	0.0125	29		
---	0.0089	25		
---	0.0062	21		
---	0.0046	19		
---	0.0030	15		
---	0.0017	10		

Coefficients

D_{85} =0.1662 mm	D_{30} =0.0133 mm
D_{60} =0.0792 mm	D_{15} =0.0030 mm
D_{50} =0.0508 mm	D_{10} =0.0016 mm
C_u =49.500	C_c =1.396

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

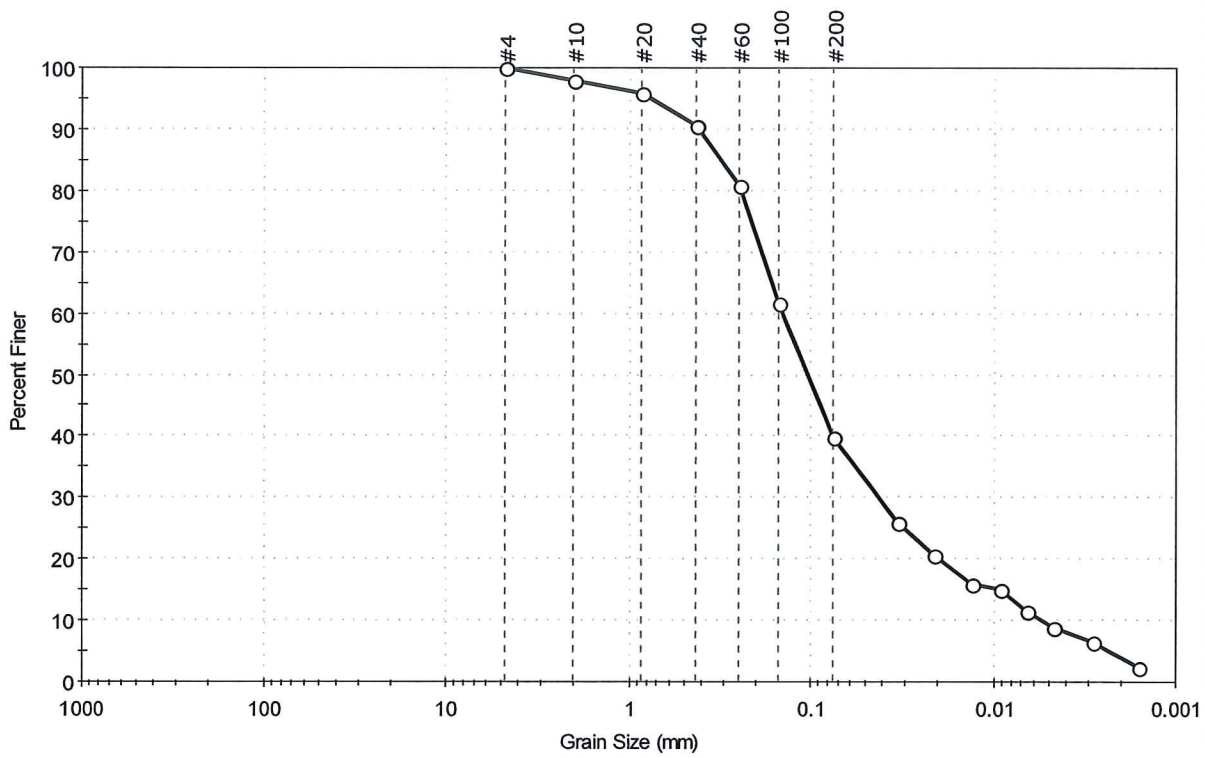
Separation of Sample: 4 Sieve

printed 12/9/2013 11:46:23 AM

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	WSED1OON	Test Date:	12/06/13	Checked By:	jdt
Depth :	---	Test Id:	283756		
Test Comment:	---				
Sample Description:	Wet, brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	60.2	39.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	98		
#20	0.85	96		
#40	0.42	91		
#60	0.25	81		
#100	0.15	62		
#200	0.075	40		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0334	26		
---	0.0213	21		
---	0.0131	16		
---	0.0093	15		
---	0.0066	11		
---	0.0047	9		
---	0.0029	6		
---	0.0016	2		

Coefficients

D_{85} = 0.3136 mm	D_{30} = 0.0422 mm
D_{60} = 0.1422 mm	D_{15} = 0.0092 mm
D_{50} = 0.1036 mm	D_{10} = 0.0055 mm
C_u = 25.855	C_c = 2.277

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

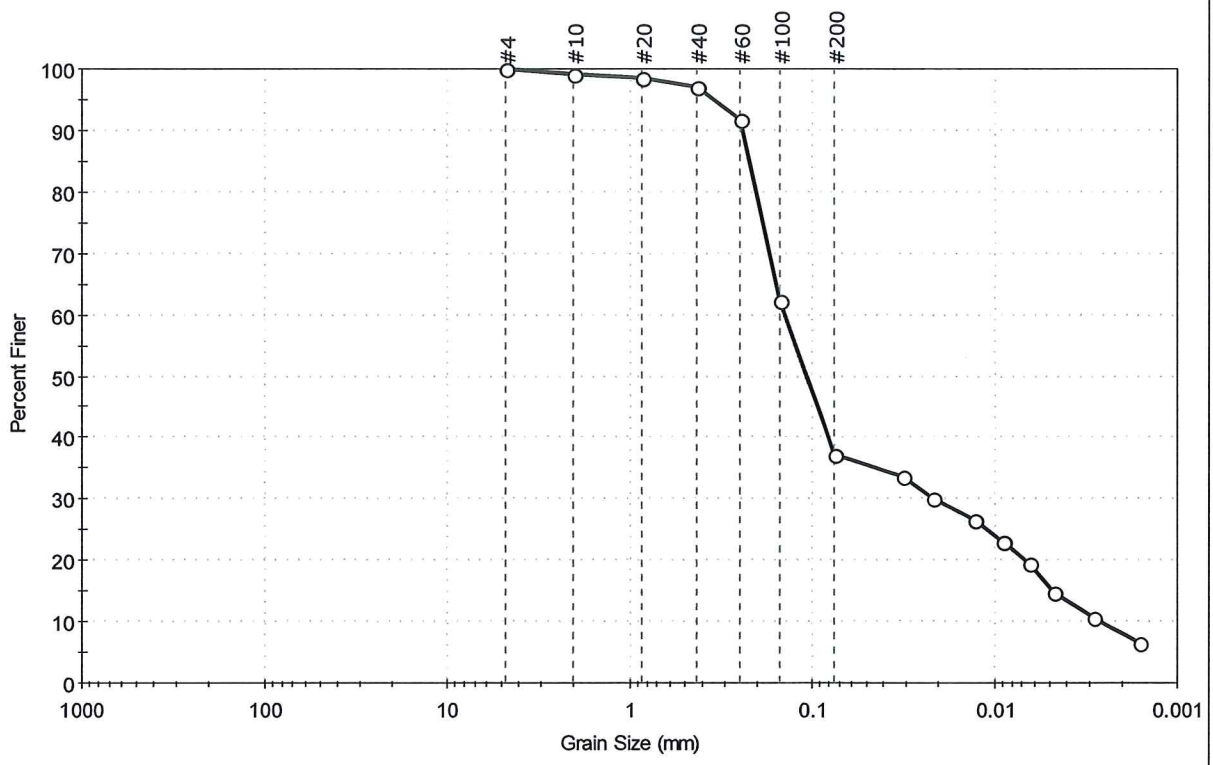
Separation of Sample: 4 Sieve

printed 12/9/2013 11:46:26 AM

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	WSED2O1N	Test Date:	12/08/13	Checked By:	jdt
Depth :	---	Test Id:	283750		
Test Comment:	---				
Sample Description:	Wet, brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	62.8	37.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	98		
#40	0.42	97		
#60	0.25	92		
#100	0.15	62		
#200	0.075	37		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0321	34		
---	0.0218	30		
---	0.0129	26		
---	0.0090	23		
---	0.0065	19		
---	0.0047	15		
---	0.0028	11		
---	0.0016	7		

Coefficients

D_{85} = 0.2220 mm D_{30} = 0.0217 mm
D_{60} = 0.1406 mm D_{15} = 0.0048 mm
D_{50} = 0.1067 mm D_{10} = 0.0026 mm
C_u = 54.077 C_c = 1.288

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

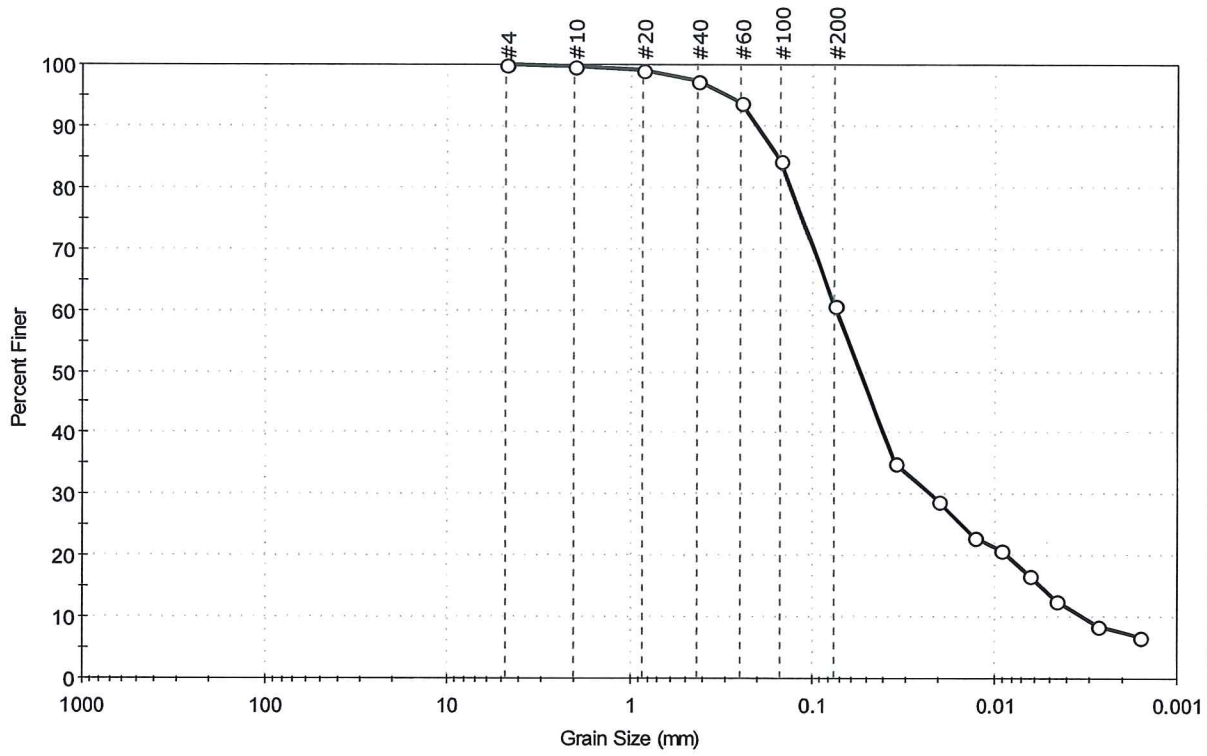
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: 4 Sieve

printed 12/9/2013 11:46:24 AM

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	GA
Sample ID:	WSED2OON	Test Date:	12/08/13	Checked By:	jdt
Depth :	---	Test Id:	283754		
Test Comment:	---				
Sample Description:	Wet, brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	39.3	60.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	97		
#60	0.25	94		
#100	0.15	84		
#200	0.075	61		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0346	35		
---	0.0204	29		
---	0.0128	23		
---	0.0091	21		
---	0.0064	17		
---	0.0046	13		
---	0.0027	9		
---	0.0016	7		

Coefficients

D_{85} =0.1556 mm	D_{30} =0.0223 mm
D_{60} =0.0735 mm	D_{15} =0.0055 mm
D_{50} =0.0544 mm	D_{10} =0.0032 mm
C_u =22.969	C_c =2.114

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: 4 Sieve

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GeoTesting EXPRESS

Technologies to manage risk for infrastructure

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Geotechnical Test Report

2/27/2014

GTX-300626
Pepco Benning Road Facility

Washington, DC

Client Project No.: 60287343.02

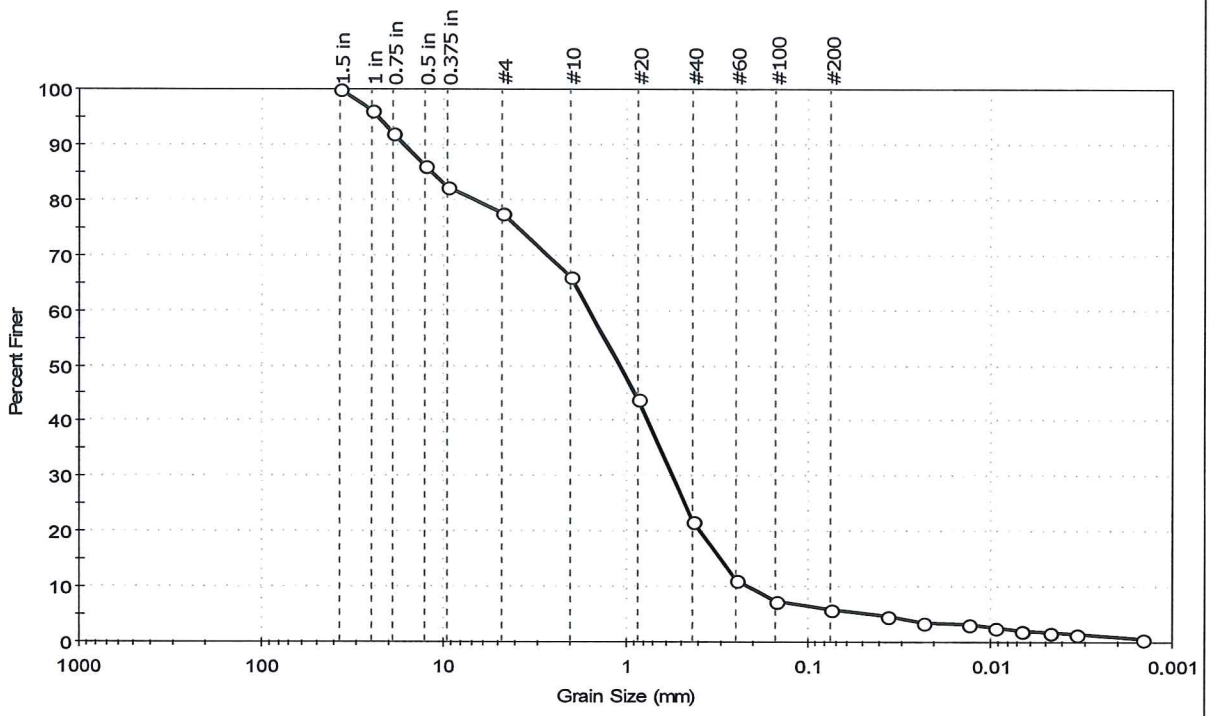
Prepared for:

AECOM

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED7G00N	Test Date:	02/10/14	Checked By:	jdt
Depth :	0-6 in	Test Id:	288508		
Test Comment:	---				
Sample Description:	Moist, grayish brown sand with silt and gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	22.4	71.8	5.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	96		
0.75 in	19.00	92		
0.5 in	12.70	86		
0.375 in	9.50	82		
#4	4.75	78		
#10	2.00	66		
#20	0.85	44		
#40	0.42	22		
#60	0.25	11		
#100	0.15	8		
#200	0.075	6		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0365	5		
---	0.0234	4		
---	0.0133	3		
---	0.0095	3		
---	0.0067	2		
---	0.0048	2		
---	0.0034	1		
---	0.0015	1		

Coefficients

D_{85} = 11.5580 mm	D_{30} = 0.5495 mm
D_{60} = 1.5771 mm	D_{15} = 0.3033 mm
D_{50} = 1.0742 mm	D_{10} = 0.2139 mm
C_u = 7.373	C_c = 0.895

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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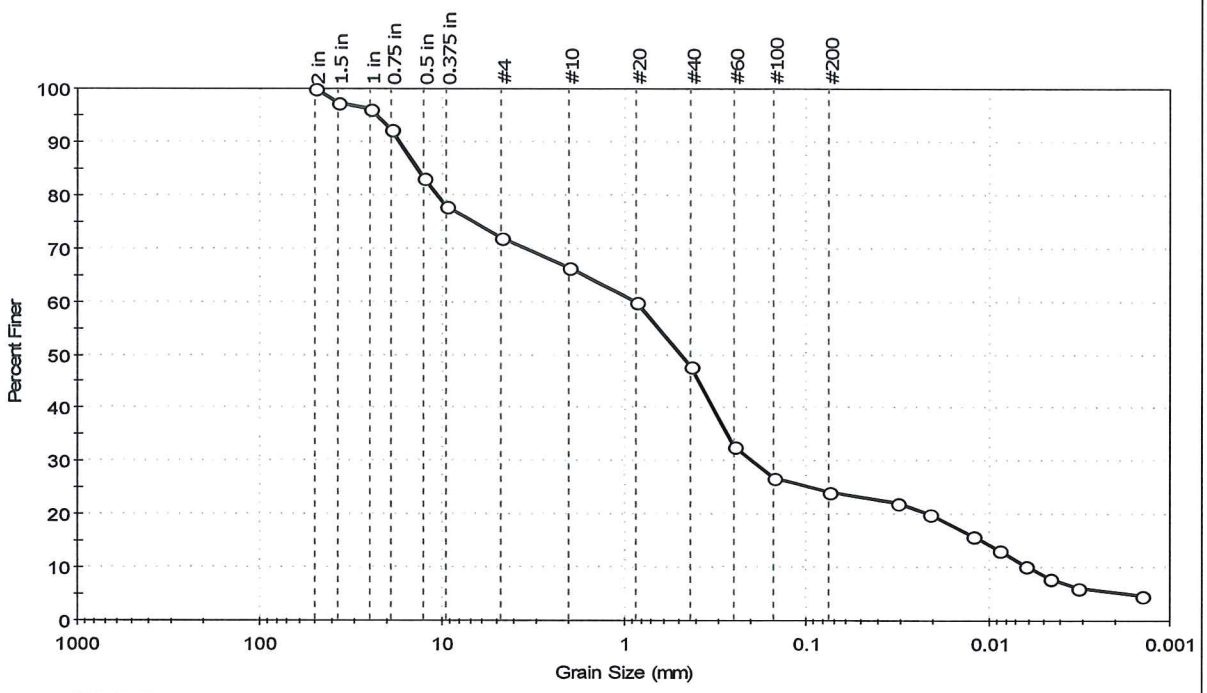
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SEDBACK201N	Test Date:	02/10/14	Checked By:	jdt
Depth :	1-3 ft.	Test Id:	288509		
Test Comment:	---				
Sample Description:	Moist, olive silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	27.9	48.0	24.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
2 in	50.00	100		
1.5 in	37.50	97		
1 in	25.00	96		
0.75 in	19.00	92		
0.5 in	12.70	83		
0.375 in	9.50	78		
#4	4.75	72		
#10	2.00	66		
#20	0.85	60		
#40	0.42	48		
#60	0.25	33		
#100	0.15	27		
#200	0.075	24		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0315	22		
---	0.0212	20		
---	0.0123	16		
---	0.0088	13		
---	0.0063	10		
---	0.0046	8		
---	0.0033	6		
---	0.0014	5		

Coefficients

D_{85} = 13.7958 mm	D_{30} = 0.1971 mm
D_{60} = 0.8567 mm	D_{15} = 0.0108 mm
D_{50} = 0.4811 mm	D_{10} = 0.0061 mm
C_u = 140.443	C_c = 7.434

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

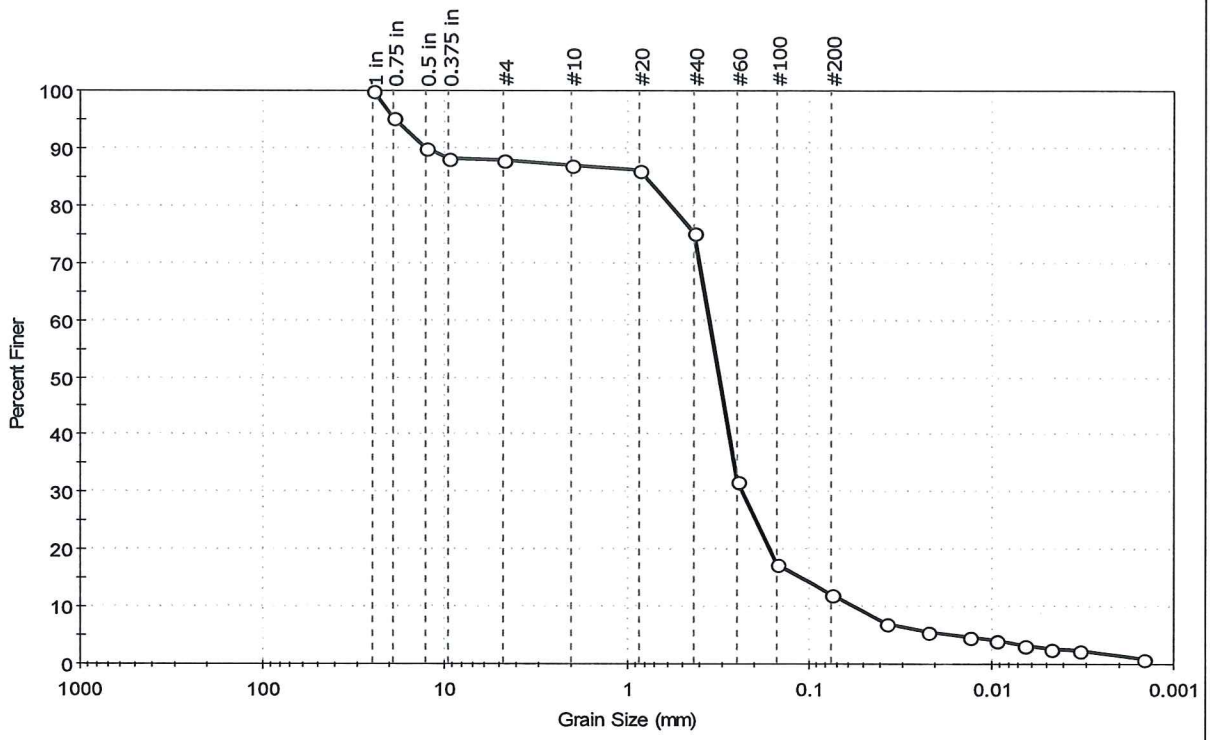
Separation of Sample: #200 Sieve

printed 2/12/2014 9:19:11 AM

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SEDBACK2 2.5'-3'	Test Date:	02/11/14	Checked By:	jdt
Depth :	2.5-3 ft.	Test Id:	288510		
Test Comment:	---				
Sample Description:	Moist, gray silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	12.0	75.8	12.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	95		
0.5 in	12.70	90		
0.375 in	9.50	88		
#4	4.75	88		
#10	2.00	87		
#20	0.85	86		
#40	0.42	75		
#60	0.25	32		
#100	0.15	17		
#200	0.075	12		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0377	7		
---	0.0222	6		
---	0.0131	5		
---	0.0093	4		
---	0.0067	3		
---	0.0048	3		
---	0.0033	2		
---	0.0015	1		

Coefficients

D_{85} = 0.7973 mm	D_{30} = 0.2341 mm
D_{60} = 0.3528 mm	D_{15} = 0.1087 mm
D_{50} = 0.3122 mm	D_{10} = 0.0556 mm
C_u = 6.345	C_c = 2.794

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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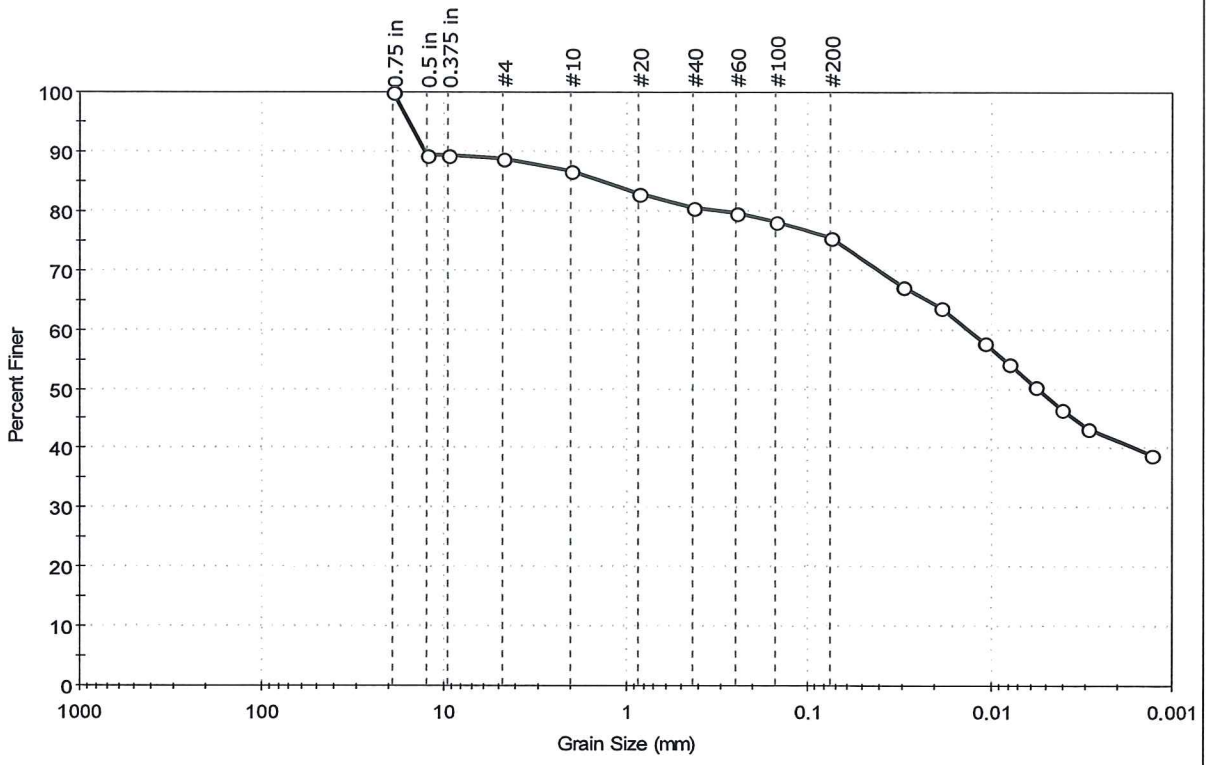
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SEDBACK3 4'-4.5'	Test Date:	02/10/14	Checked By:	jdt
Depth :	4-4.5 ft.	Test Id:	288511		
Test Comment:	---				
Sample Description:	Moist, brown clay with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	11.2	13.4	75.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	89		
0.375 in	9.50	89		
#4	4.75	89		
#10	2.00	87		
#20	0.85	83		
#40	0.42	80		
#60	0.25	80		
#100	0.15	78		
#200	0.075	75		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0300	67		
---	0.0187	64		
---	0.0110	58		
---	0.0080	54		
---	0.0057	50		
---	0.0041	47		
---	0.0029	43		
---	0.0013	39		

Coefficients

D_{85} =1.3737 mm	D_{30} =N/A
D_{60} =0.0133 mm	D_{15} =N/A
D_{50} =0.0056 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM fat clay with sand (CH)

AASHTO Clayey Soils (A-7-6 (28))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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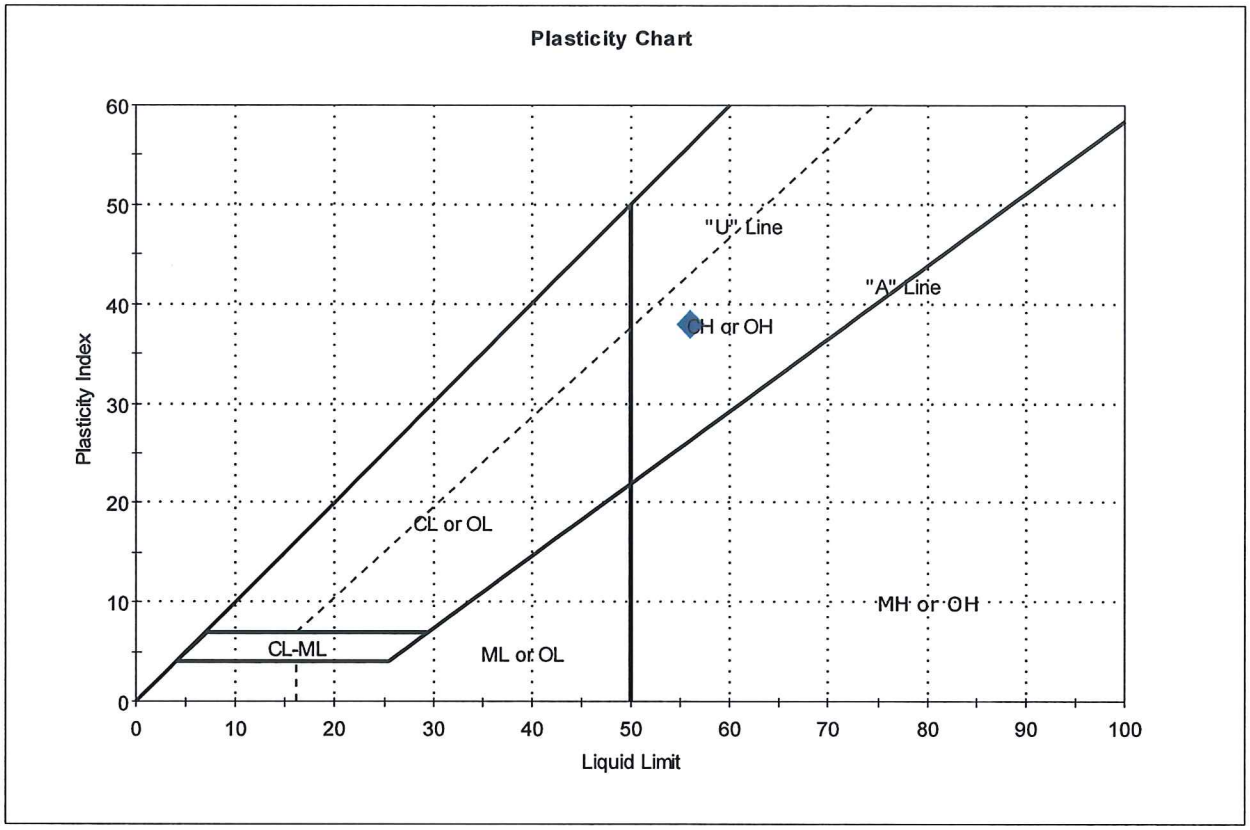
GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	cam
Sample ID:	SEDBACK3 4'-4.5'	Test Date:	02/10/14	Checked By:	jdt
Depth :	4-4.5 ft.	Test Id:	288512		
Test Comment:	---				
Sample Description:	Moist, brown clay with sand				
Sample Comment:	---				

Atterberg Limits - ASTM D4318



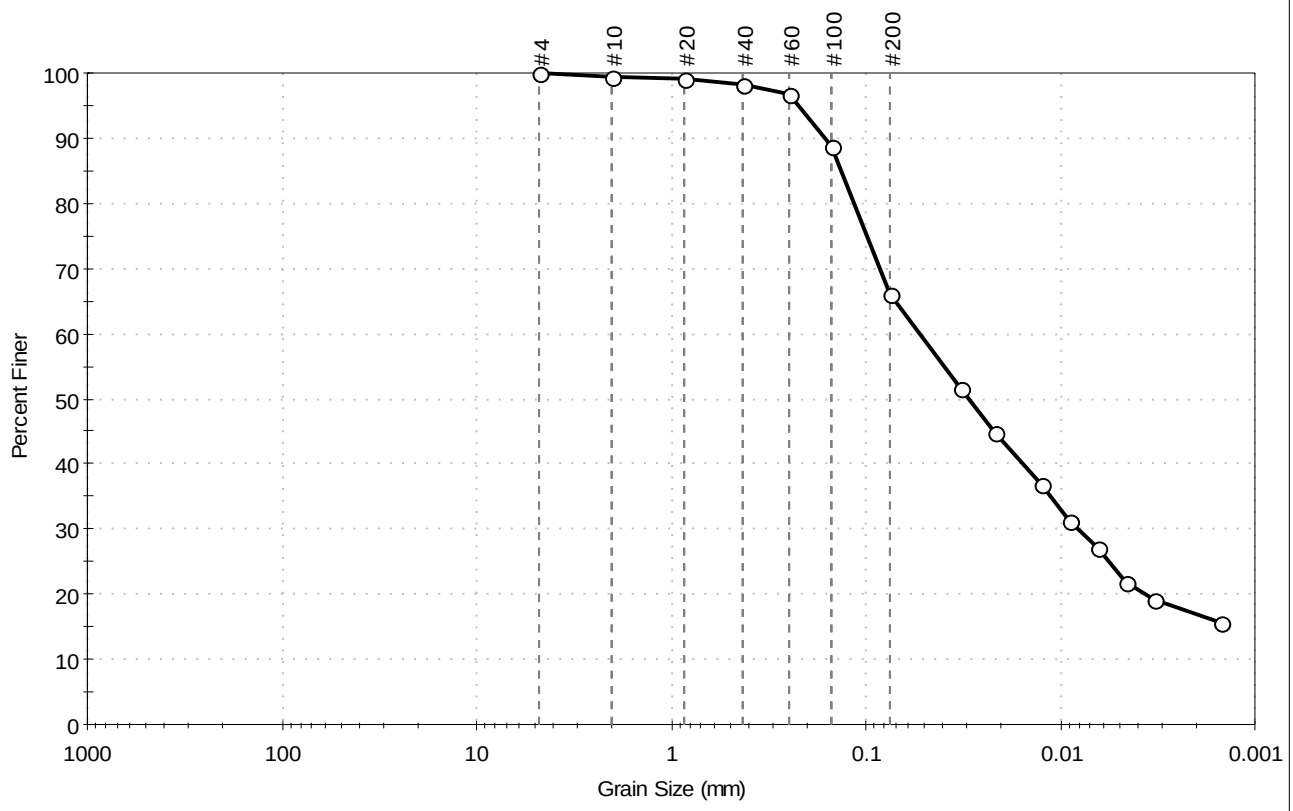
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	SEDBACK3 4'-4.5'	---	4-4.5 ft.	19	56	18	38	0	fat clay with sand (CH)

Sample Prepared using the WET method
20% Retained on #40 Sieve
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

printed 2/12/2014 9:15:46 AM

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED1.5BOON	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282167		
Test Comment:	---				
Sample Description:	Moist, very dark grayish brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	34.0	66.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	98		
#60	0.25	97		
#100	0.15	89		
#200	0.075	66		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0329	52		
---	0.0217	45		
---	0.0125	37		
---	0.0091	31		
---	0.0064	27		
---	0.0046	22		
---	0.0033	19		
---	0.0015	16		

Coefficients

D_{85} = 0.1335 mm	D_{30} = 0.0081 mm
D_{60} = 0.0530 mm	D_{15} = N/A
D_{50} = 0.0296 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

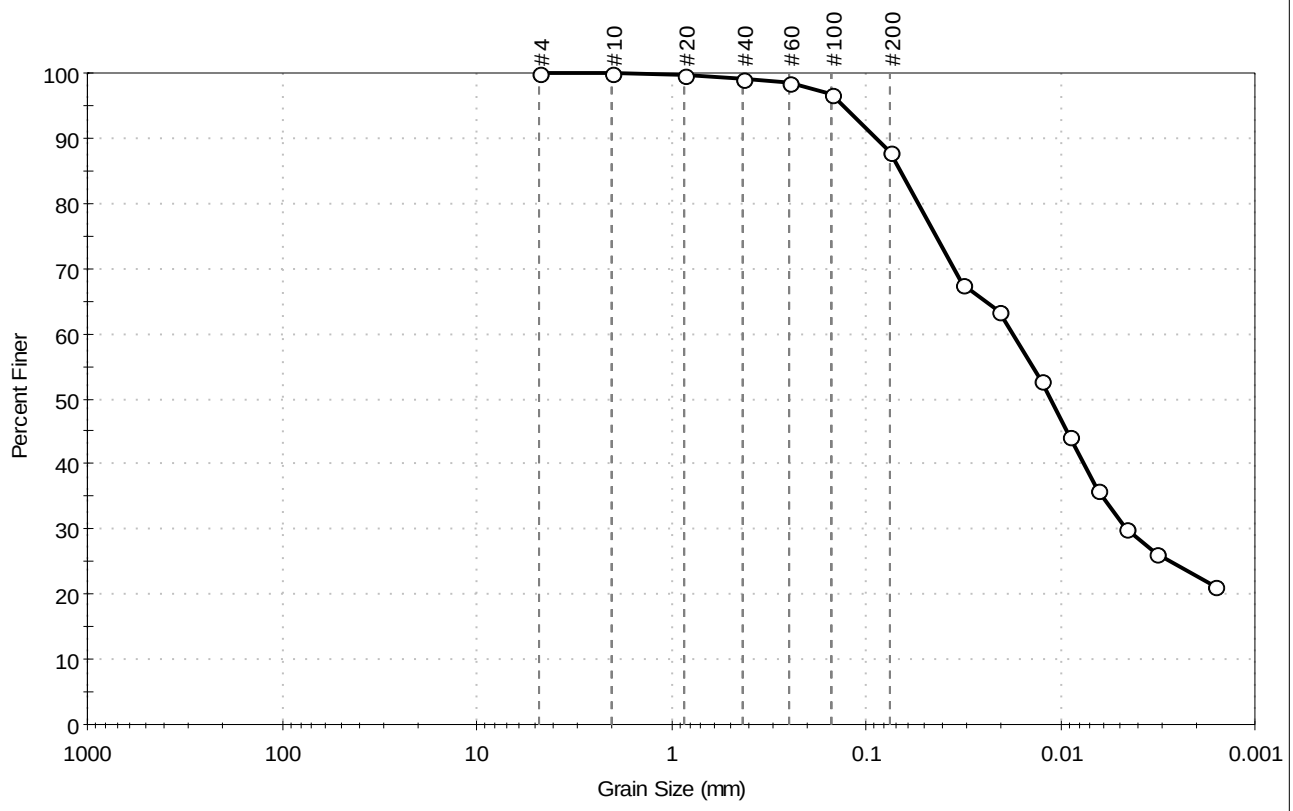
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED1AOON	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282168		
Test Comment:	---				
Sample Description:	Wet, dark olive brown clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	12.0	88.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	98		
#100	0.15	97		
#200	0.075	88		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0318	68		
---	0.0207	63		
---	0.0126	53		
---	0.0090	44		
---	0.0065	36		
---	0.0046	30		
---	0.0032	26		
---	0.0016	21		

Coefficients

D_{85} = 0.0662 mm
D_{30} = 0.0045 mm
D_{60} = 0.0177 mm
D_{15} = N/A
D_{50} = 0.0113 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

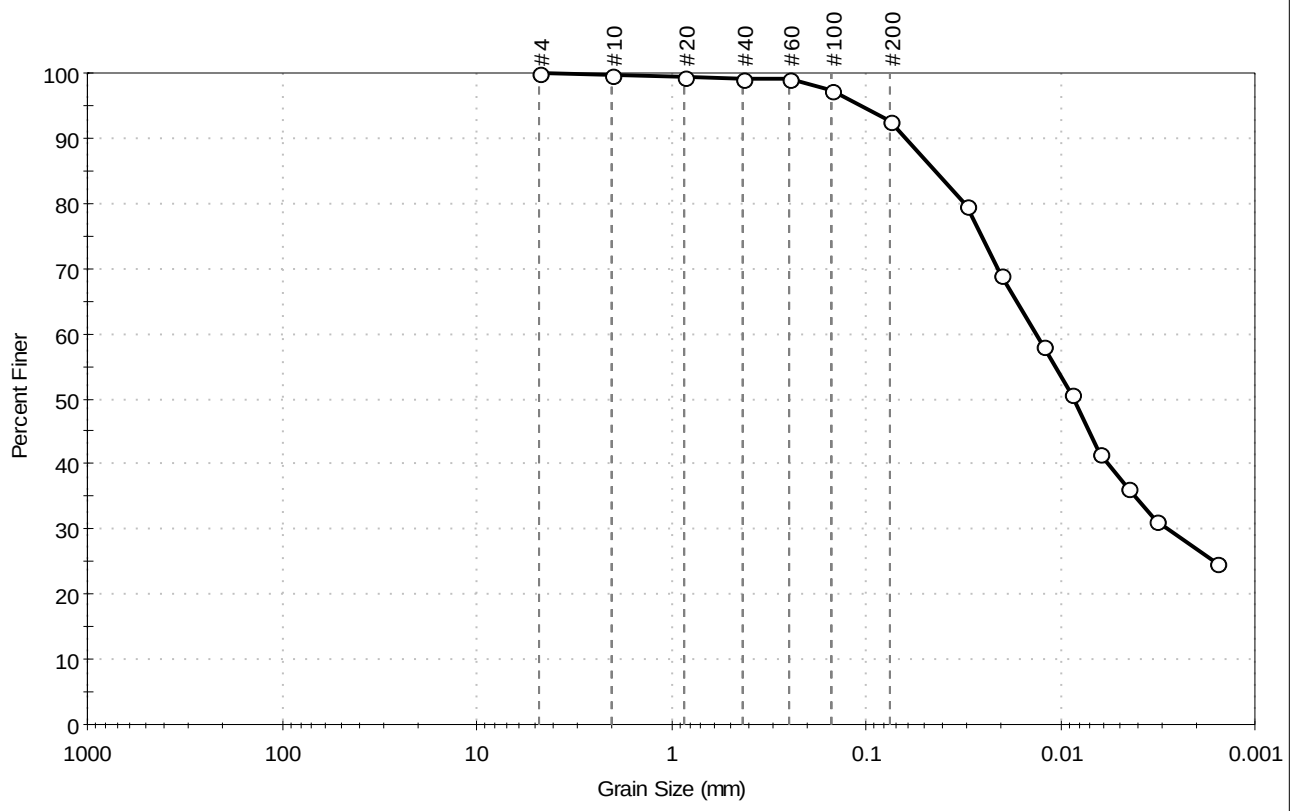
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED1BOON	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282169		
Test Comment:	---				
Sample Description:	Wet, olive brown clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	7.2	92.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	99		
#100	0.15	97		
#200	0.075	93		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0302	80		
---	0.0205	69		
---	0.0122	58		
---	0.0088	51		
---	0.0063	42		
---	0.0045	36		
---	0.0032	31		
---	0.0016	25		

Coefficients

D_{85} = 0.0435 mm	D_{30} = 0.0028 mm
D_{60} = 0.0134 mm	D_{15} = N/A
D_{50} = 0.0086 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

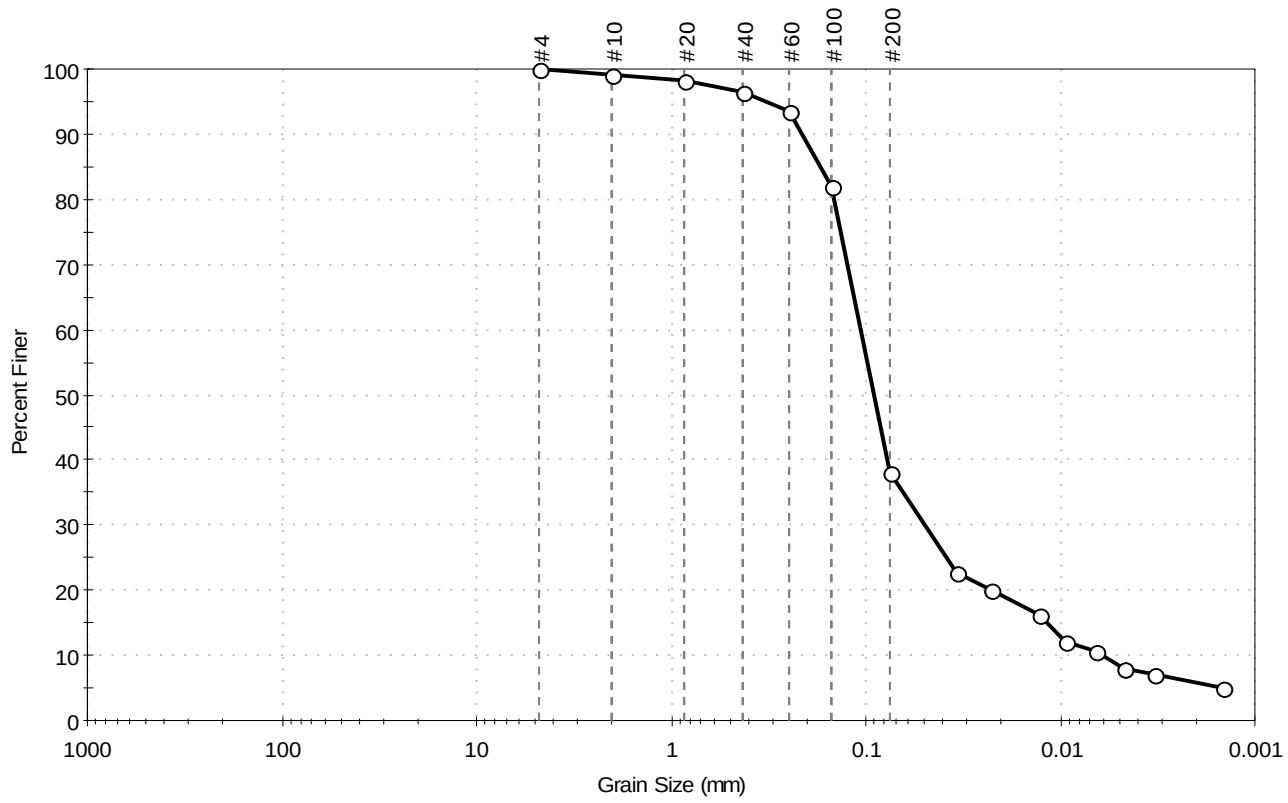
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED1COON	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282174		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	62.0	38.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	98		
#40	0.42	97		
#60	0.25	93		
#100	0.15	82		
#200	0.075	38		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0343	23		
---	0.0225	20		
---	0.0130	16		
---	0.0093	12		
---	0.0066	11		
---	0.0047	8		
---	0.0033	7		
---	0.0015	5		

Coefficients

D_{85} = 0.1710 mm	D_{30} = 0.0496 mm
D_{60} = 0.1060 mm	D_{15} = 0.0119 mm
D_{50} = 0.0905 mm	D_{10} = 0.0060 mm
C_u = 17.667	C_c = 3.868

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

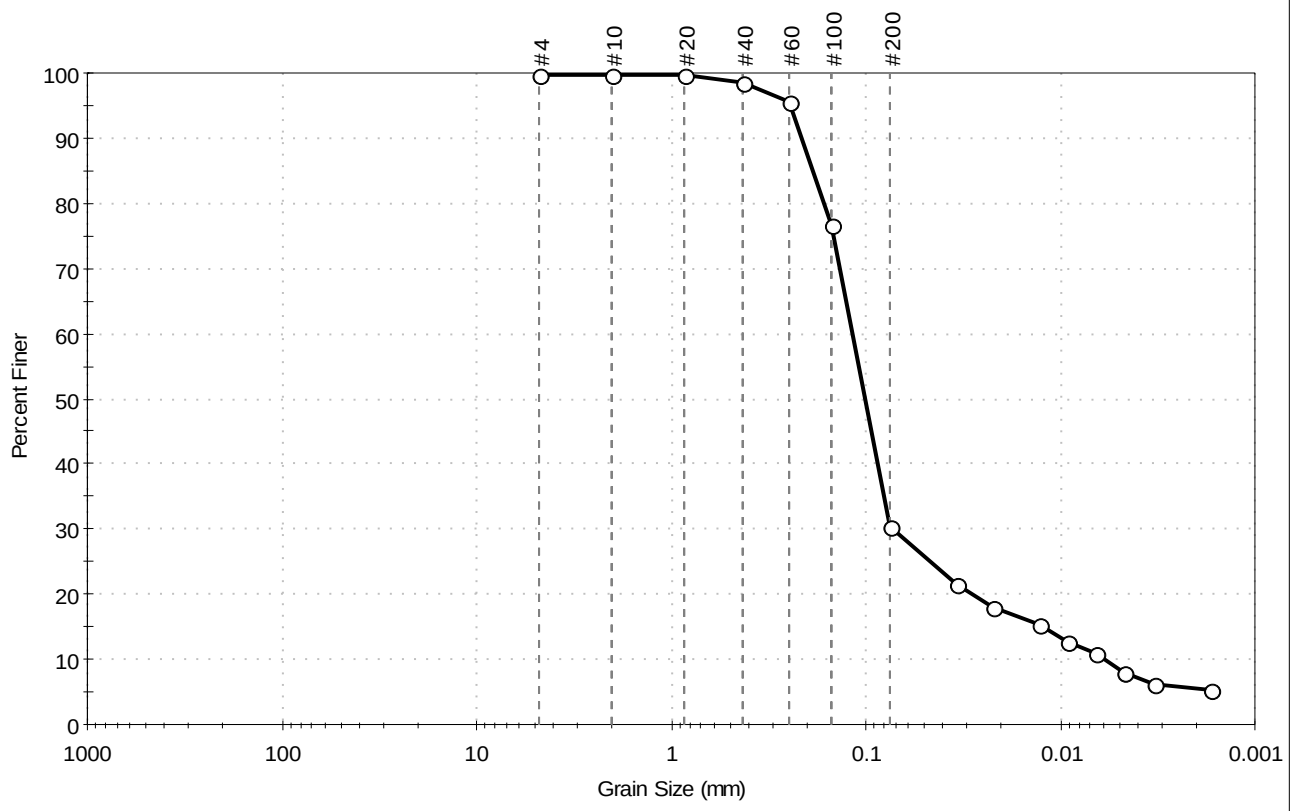
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED2.5BOON	Test Date:	11/24/13	Checked By:	jdt
Depth :	0-6	Test Id:	282175		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.2	69.5	30.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	95		
#100	0.15	77		
#200	0.075	30		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0340	22		
---	0.0224	18		
---	0.0129	15		
---	0.0092	13		
---	0.0066	11		
---	0.0047	8		
---	0.0033	6		
---	0.0017	5		

Coefficients

D_{85} = 0.1882 mm	D_{30} = 0.0730 mm
D_{60} = 0.1169 mm	D_{15} = 0.0124 mm
D_{50} = 0.1007 mm	D_{10} = 0.0060 mm
C_u = 19.483	C_c = 7.598

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

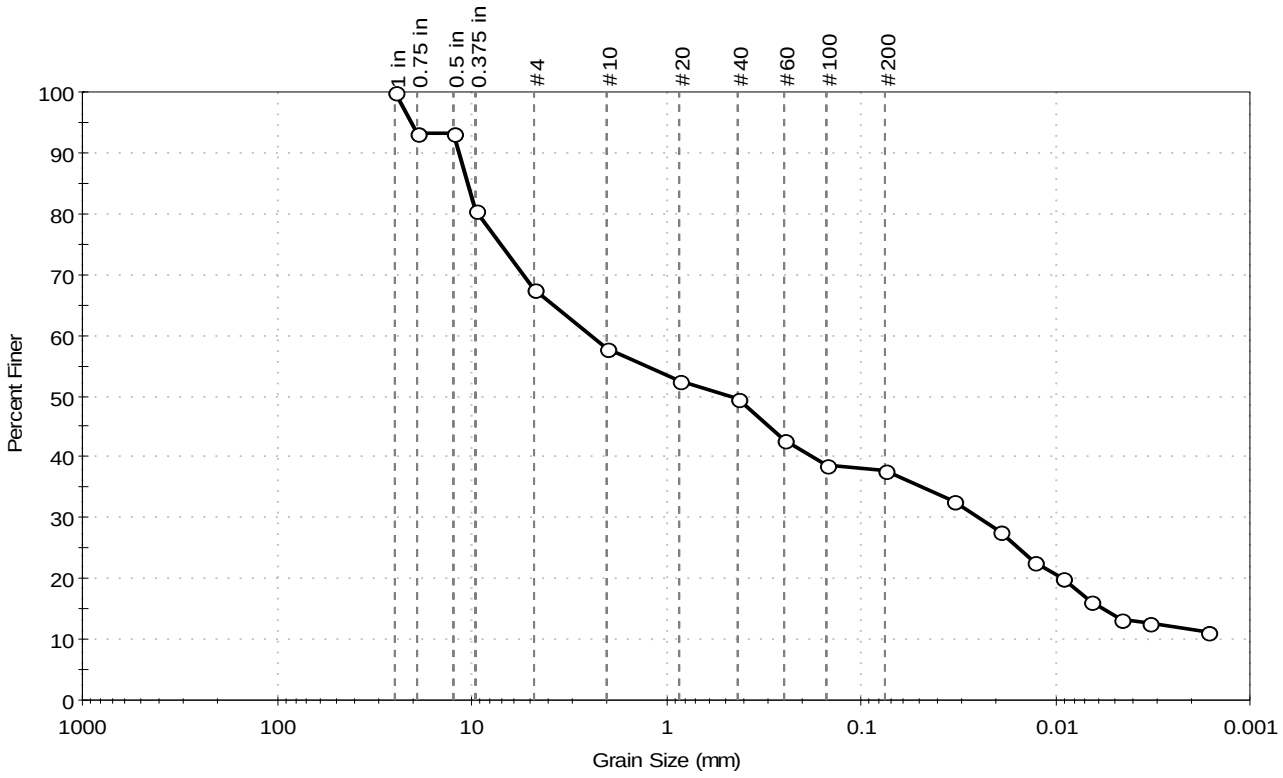
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED2AOON	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282164		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown silty gravel with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	32.5	29.7	37.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	93		
0.5 in	12.50	93		
0.375 in	9.50	81		
#4	4.75	68		
#10	2.00	58		
#20	0.85	53		
#40	0.42	49		
#60	0.25	43		
#100	0.15	39		
#200	0.075	38		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0335	33		
---	0.0192	28		
---	0.0130	23		
---	0.0092	20		
---	0.0065	16		
---	0.0047	13		
---	0.0033	13		
---	0.0016	11		

Coefficients

D_{85} = 10.4595 mm	D_{30} = 0.0248 mm
D_{60} = 2.4103 mm	D_{15} = 0.0056 mm
D_{50} = 0.4801 mm	D_{10} = 0.0008 mm
C_u = 3012.875	C_c = 0.319

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

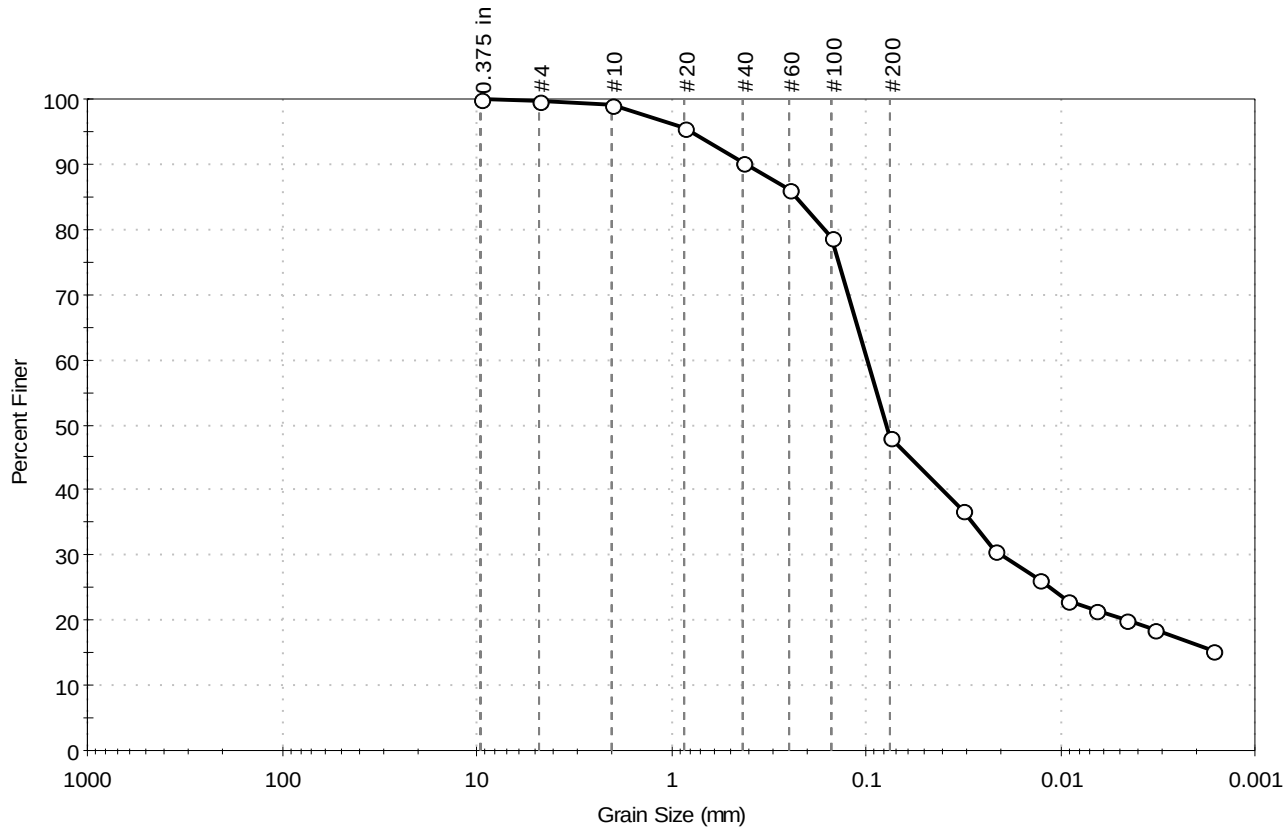
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED2BOON	Test Date:	11/24/13	Checked By:	jdt
Depth :	0-6	Test Id:	282165		
Test Comment:	---				
Sample Description:	Wet, very dark grayish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.4	51.4	48.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	99		
#20	0.85	95		
#40	0.42	90		
#60	0.25	86		
#100	0.15	79		
#200	0.075	48		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0315	37		
---	0.0218	31		
---	0.0128	26		
---	0.0092	23		
---	0.0065	22		
---	0.0046	20		
---	0.0033	18		
---	0.0016	15		

Coefficients

D_{85} = 0.2320 mm	D_{30} = 0.0200 mm
D_{60} = 0.0980 mm	D_{15} = N/A
D_{50} = 0.0781 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

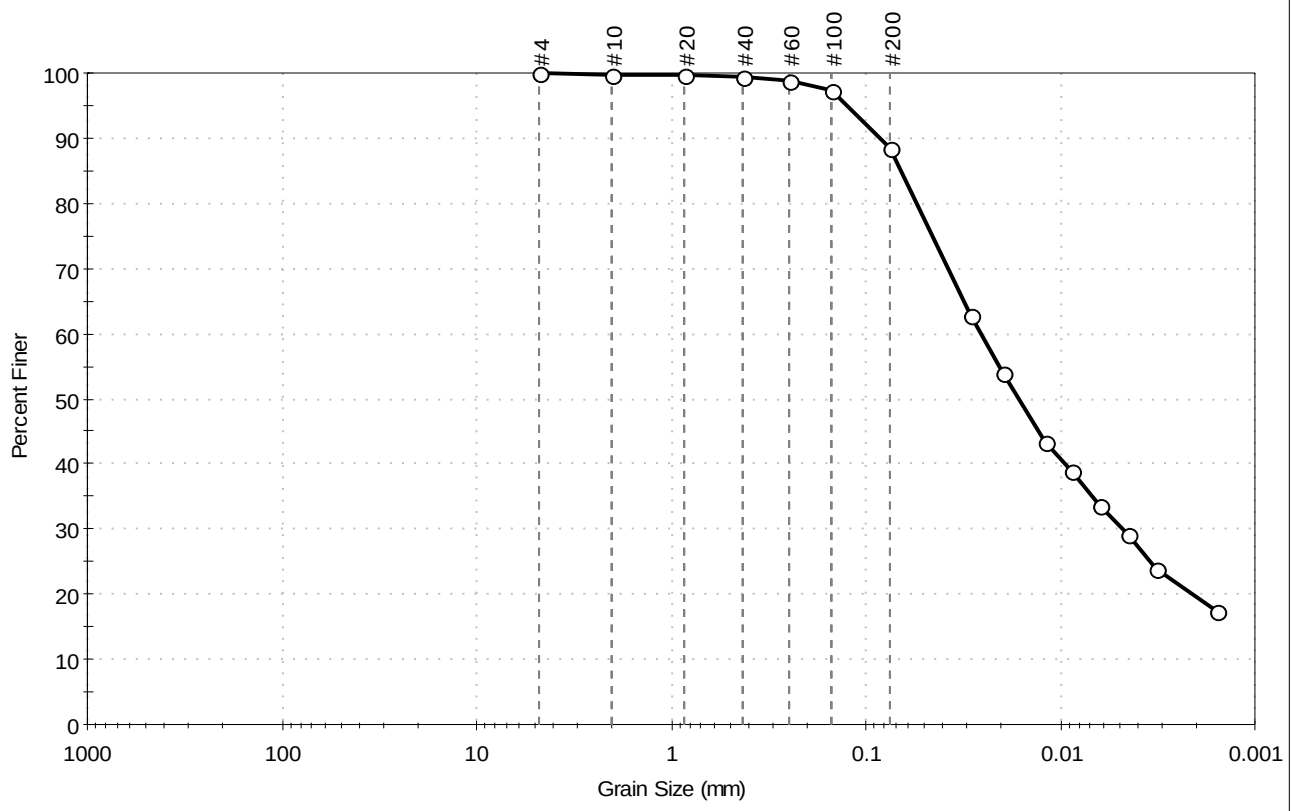
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED2C01N	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282289		
Test Comment:	---				
Sample Description:	Moist, olive brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	11.5	88.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	99		
#100	0.15	97		
#200	0.075	89		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0286	63		
---	0.0200	54		
---	0.0120	43		
---	0.0087	39		
---	0.0063	34		
---	0.0045	29		
---	0.0032	24		
---	0.0016	17		

Coefficients

D_{85} = 0.0657 mm	D_{30} = 0.0048 mm
D_{60} = 0.0256 mm	D_{15} = N/A
D_{50} = 0.0165 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

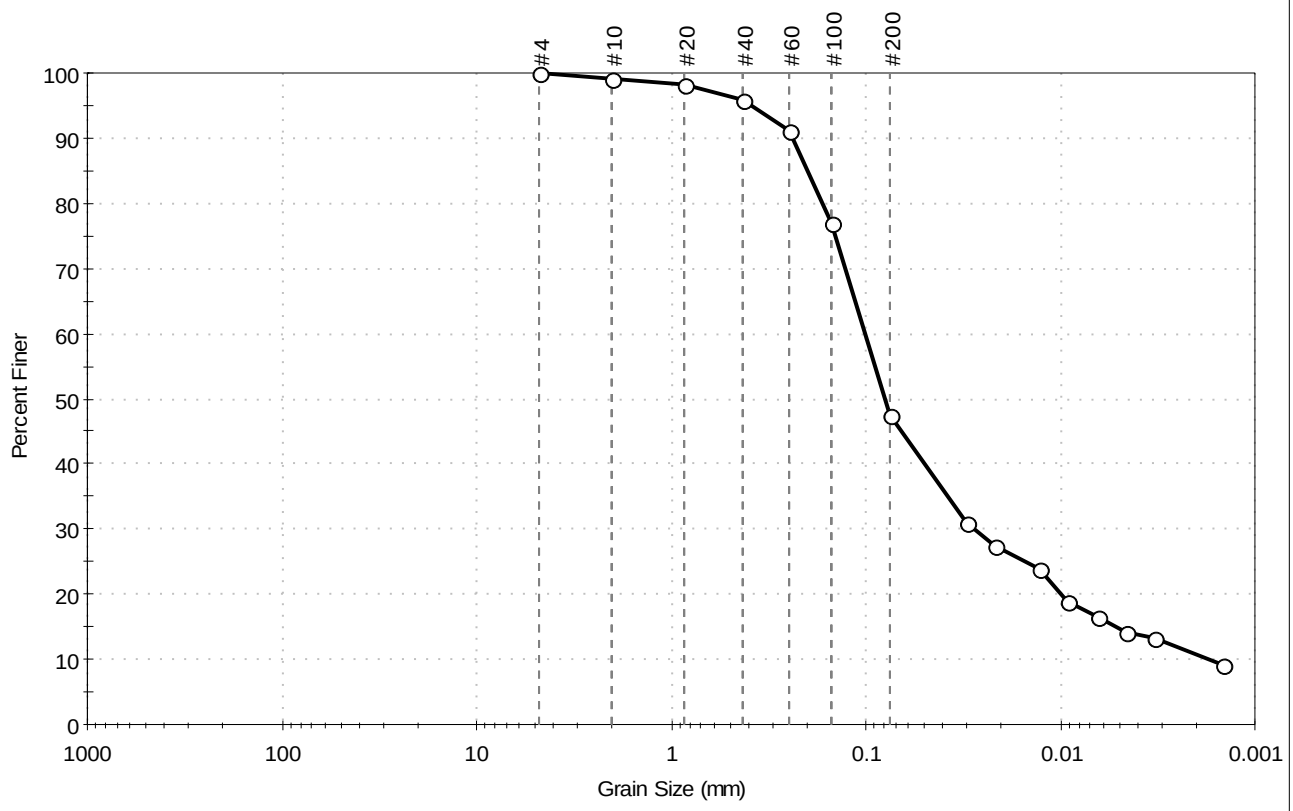
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED2COON	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282166		
Test Comment:	---				
Sample Description:	Wet, dark olive gray silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	52.6	47.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	98		
#40	0.42	96		
#60	0.25	91		
#100	0.15	77		
#200	0.075	47		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0303	31		
---	0.0219	27		
---	0.0128	24		
---	0.0091	19		
---	0.0065	17		
---	0.0046	14		
---	0.0033	13		
---	0.0015	9		

Coefficients

D_{85} = 0.2000 mm	D_{30} = 0.0280 mm
D_{60} = 0.1008 mm	D_{15} = 0.0052 mm
D_{50} = 0.0797 mm	D_{10} = 0.0017 mm
C_u = 59.294	C_c = 4.575

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

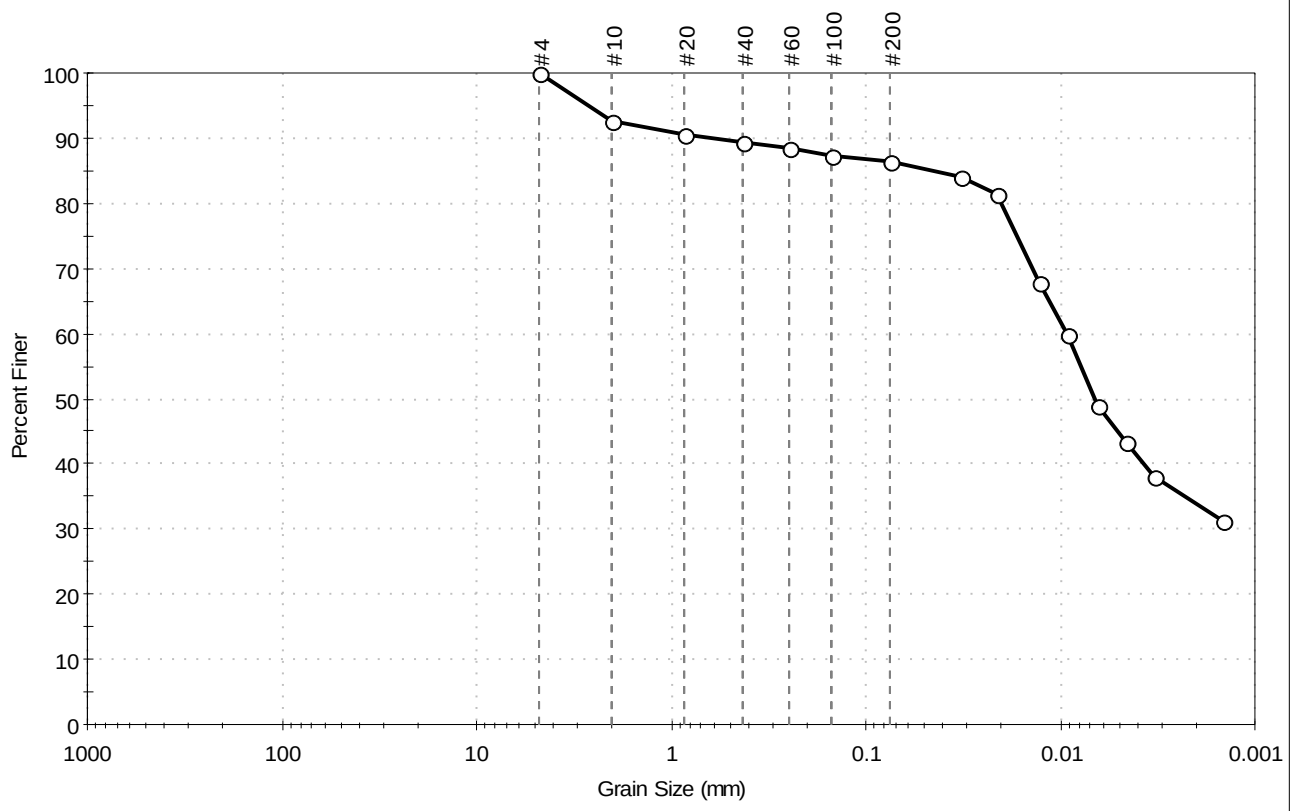
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED3AOON	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282177		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.1	13.6	86.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	92		
#20	0.85	90		
#40	0.42	89		
#60	0.25	89		
#100	0.15	87		
#200	0.075	86		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0325	84		
---	0.0211	81		
---	0.0128	68		
---	0.0091	60		
---	0.0064	49		
---	0.0046	43		
---	0.0033	38		
---	0.0015	31		

Coefficients

D_{85} = 0.0448 mm	D_{30} = N/A
D_{60} = 0.0092 mm	D_{15} = N/A
D_{50} = 0.0067 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

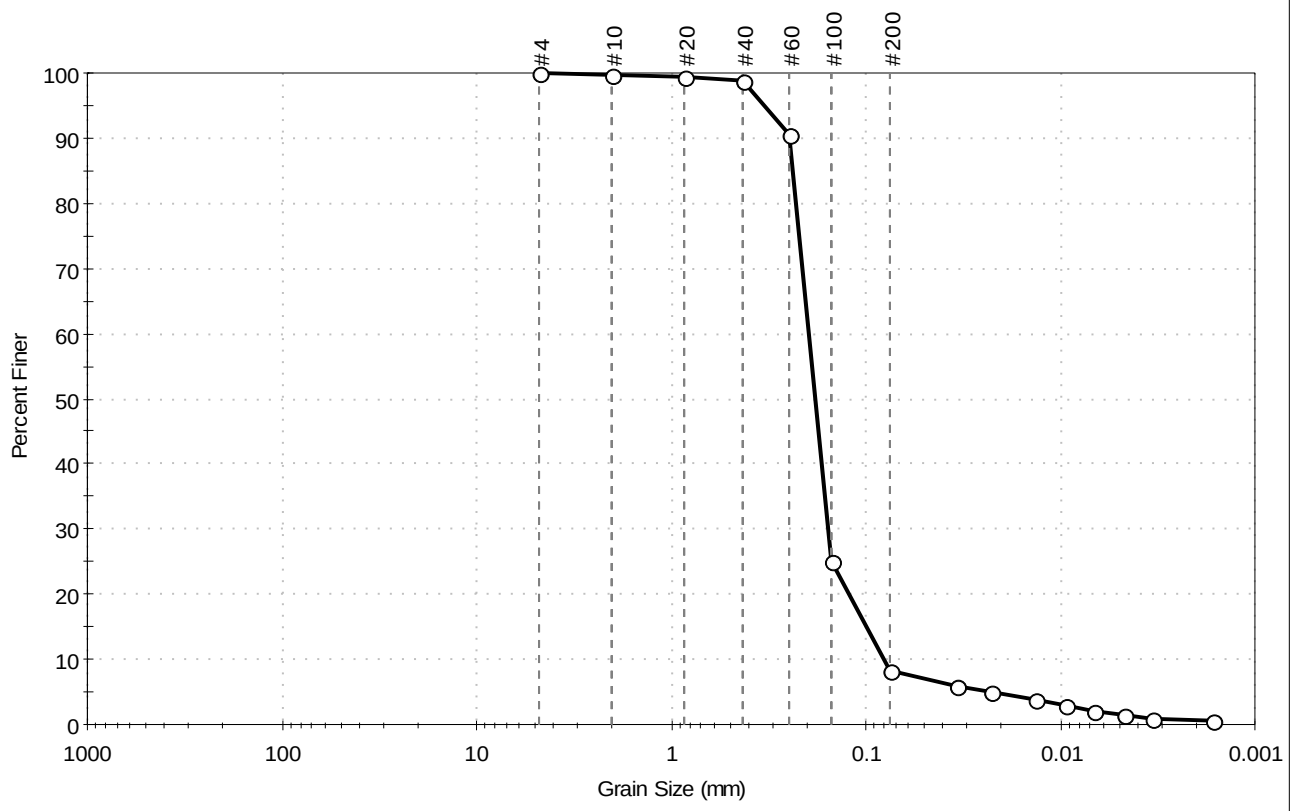
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED3BOON	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282170		
Test Comment:	---				
Sample Description:	Wet, grayish brown sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	91.8	8.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	91		
#100	0.15	25		
#200	0.075	8		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0340	6		
---	0.0225	5		
---	0.0135	4		
---	0.0095	3		
---	0.0067	2		
---	0.0048	1		
---	0.0034	1		
---	0.0016	1		

Coefficients

D_{85} = 0.2395 mm	D_{30} = 0.1557 mm
D_{60} = 0.1969 mm	D_{15} = 0.0990 mm
D_{50} = 0.1821 mm	D_{10} = 0.0807 mm
C_u = 2.440	C_c = 1.526

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

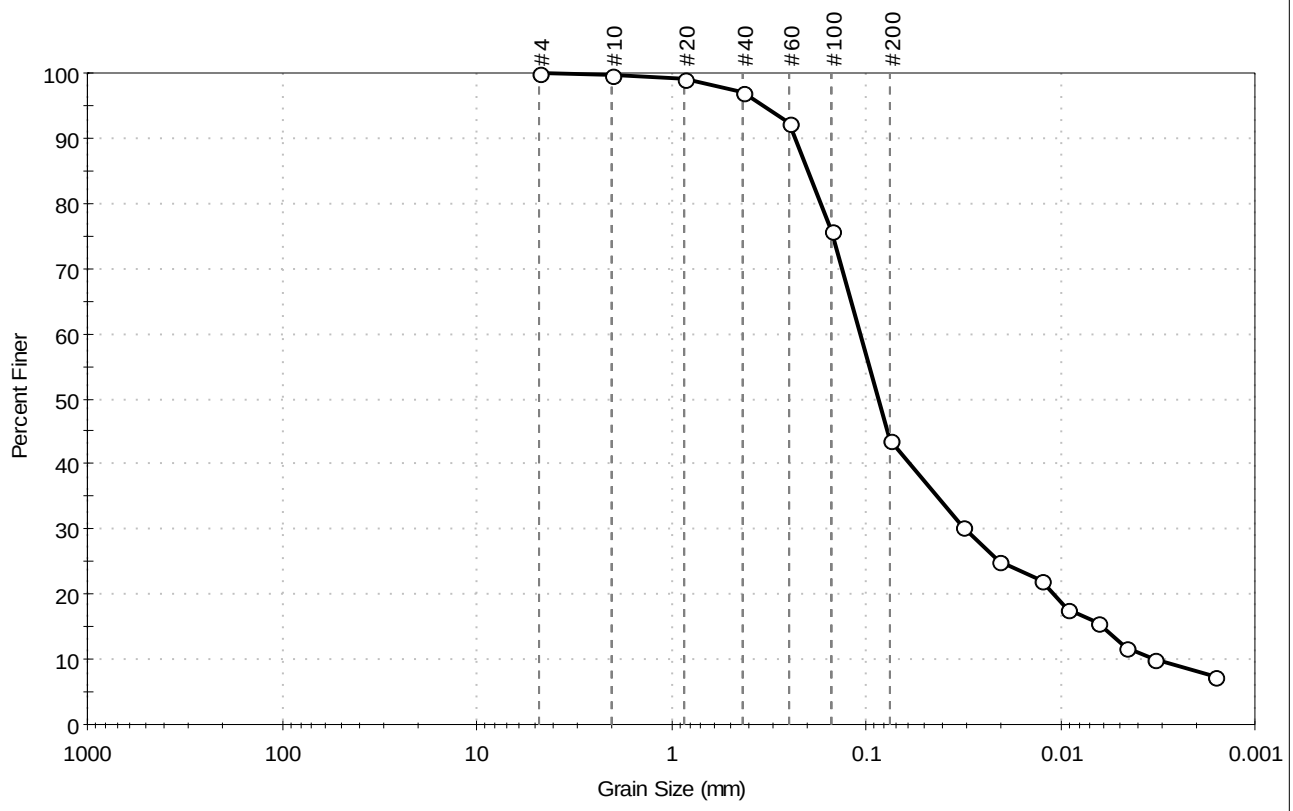
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED3C01N	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282288		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	56.2	43.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	97		
#60	0.25	92		
#100	0.15	76		
#200	0.075	44		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0318	30		
---	0.0208	25		
---	0.0126	22		
---	0.0091	18		
---	0.0065	16		
---	0.0046	12		
---	0.0033	10		
---	0.0016	7		

Coefficients

D_{85} = 0.1990 mm	D_{30} = 0.0307 mm
D_{60} = 0.1065 mm	D_{15} = 0.0061 mm
D_{50} = 0.0858 mm	D_{10} = 0.0033 mm
C_u = 32.273	C_c = 2.682

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

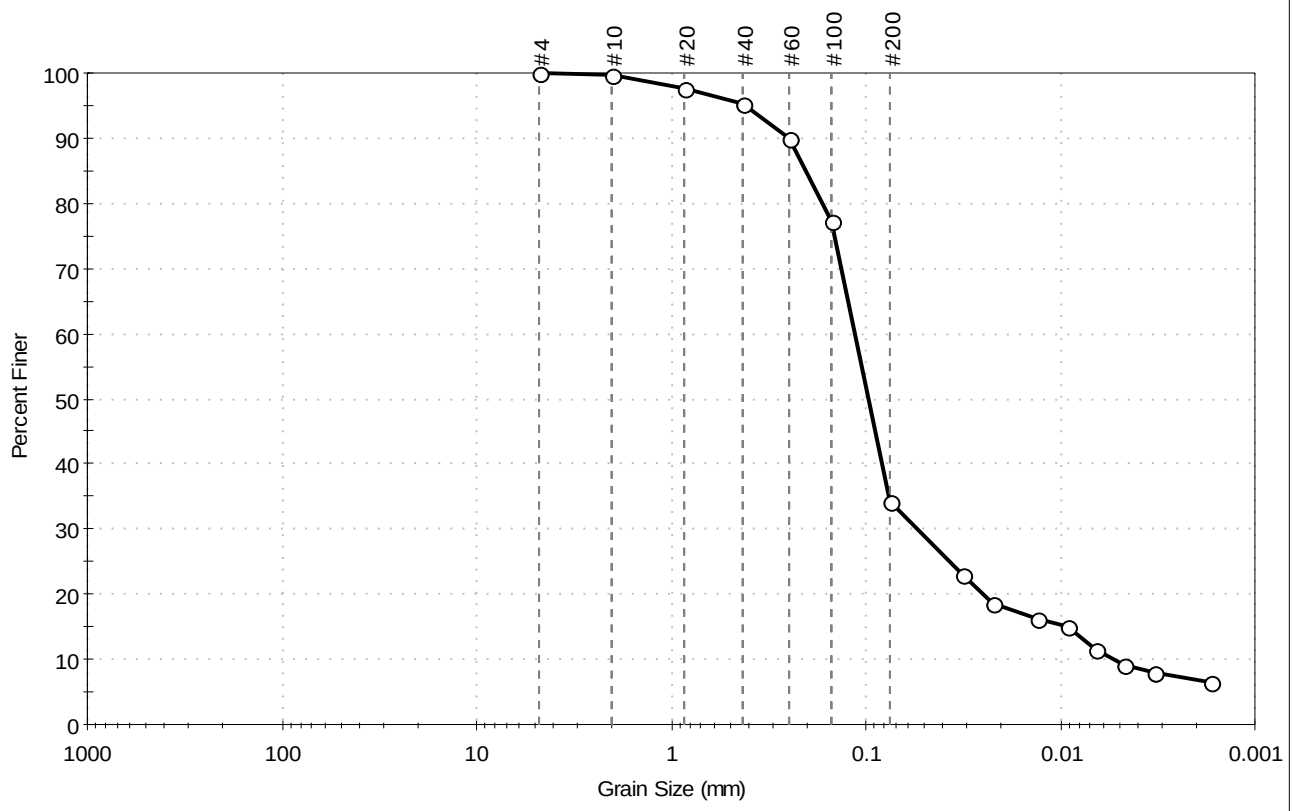
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED3COON	Test Date:	11/24/13	Checked By:	jdt
Depth :	0-6	Test Id:	282176		
Test Comment:	---				
Sample Description:	Wet, very dark grayish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	65.7	34.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	98		
#40	0.42	95		
#60	0.25	90		
#100	0.15	77		
#200	0.075	34		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0318	23		
---	0.0221	18		
---	0.0130	16		
---	0.0093	15		
---	0.0066	12		
---	0.0047	9		
---	0.0033	8		
---	0.0017	7		

Coefficients

D_{85} = 0.2048 mm	D_{30} = 0.0540 mm
D_{60} = 0.1135 mm	D_{15} = 0.0093 mm
D_{50} = 0.0966 mm	D_{10} = 0.0052 mm
C_u = 21.827	C_c = 4.941

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

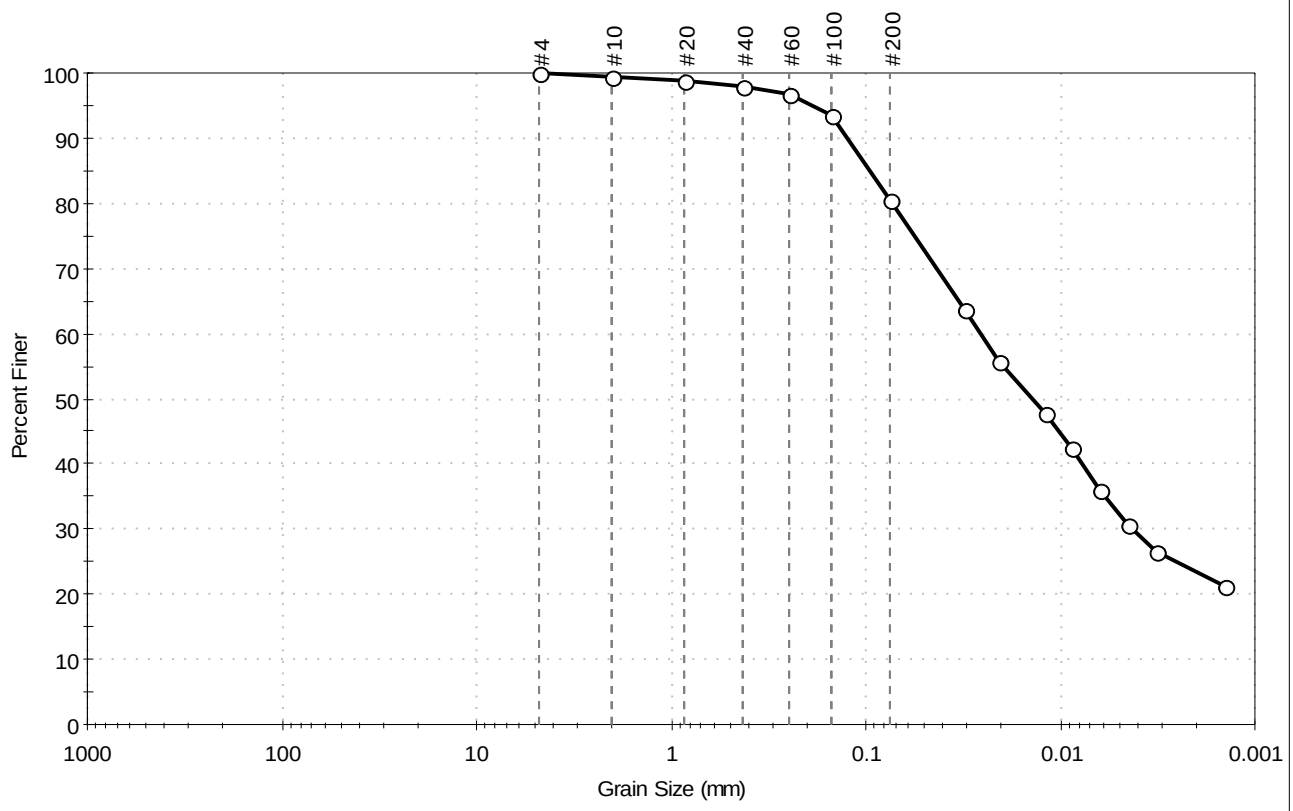
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED4.5BOON	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282171		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	19.4	80.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	98		
#60	0.25	97		
#100	0.15	93		
#200	0.075	81		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0313	64		
---	0.0206	56		
---	0.0120	48		
---	0.0087	43		
---	0.0063	36		
---	0.0045	31		
---	0.0032	27		
---	0.0014	21		

Coefficients

D_{85} = 0.0950 mm	D_{30} = 0.0042 mm
D_{60} = 0.0256 mm	D_{15} = N/A
D_{50} = 0.0139 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

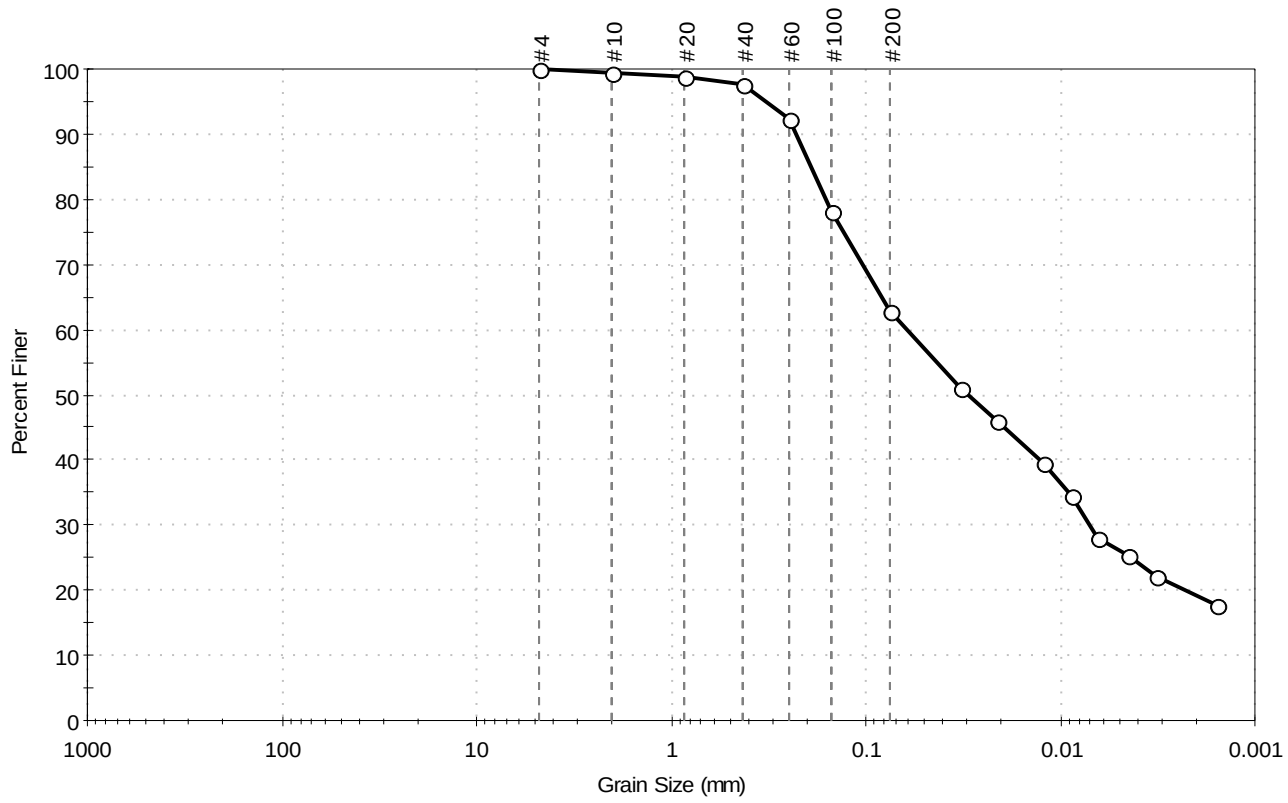
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED5AOON	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282172		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	37.0	63.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	98		
#60	0.25	92		
#100	0.15	78		
#200	0.075	63		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0323	51		
---	0.0212	46		
---	0.0123	40		
---	0.0088	34		
---	0.0064	28		
---	0.0045	25		
---	0.0032	22		
---	0.0016	18		

Coefficients

D_{85} = 0.1921 mm	D_{30} = 0.0070 mm
D_{60} = 0.0608 mm	D_{15} = N/A
D_{50} = 0.0297 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

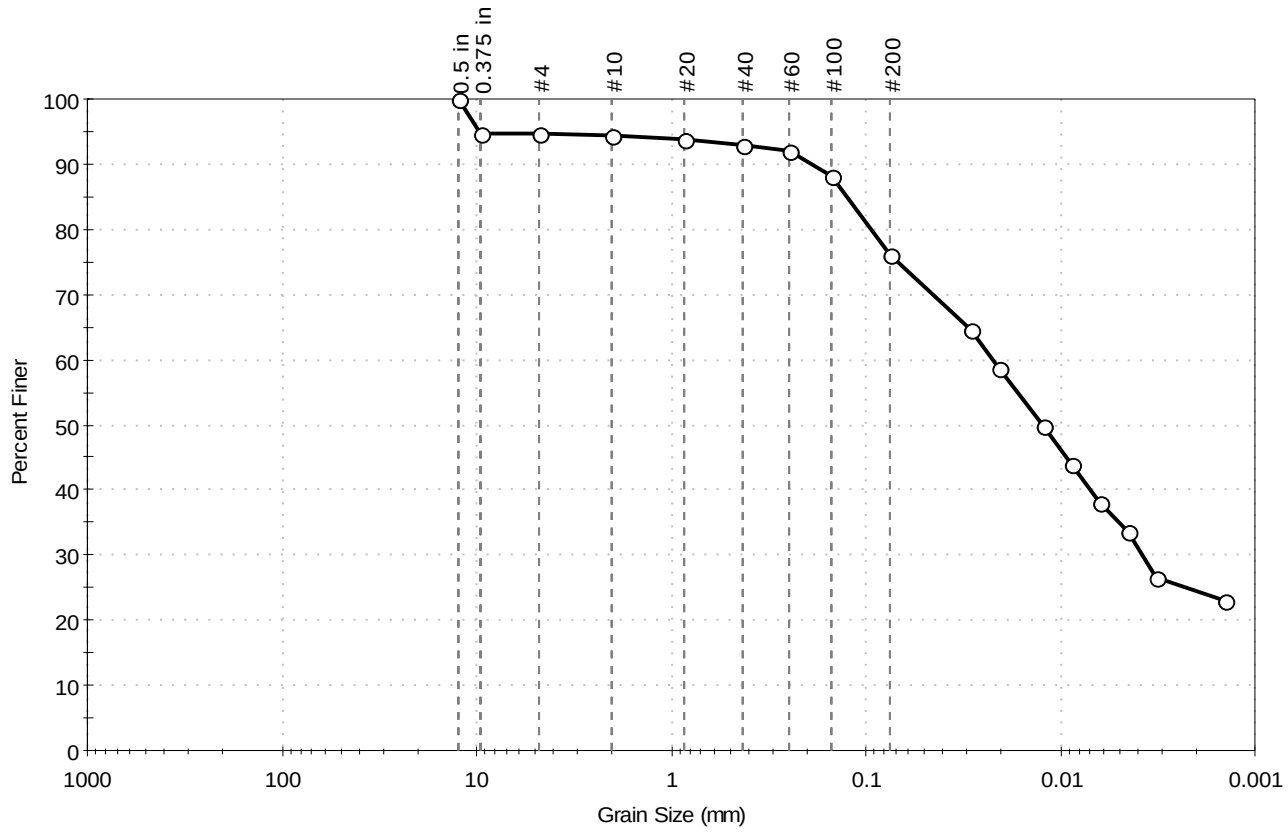
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED5BOON	Test Date:	11/22/13	Checked By:	jdt
Depth :	0-6	Test Id:	282173		
Test Comment:	---				
Sample Description:	Wet, grayish brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	5.2	18.7	76.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	95		
#4	4.75	95		
#10	2.00	94		
#20	0.85	94		
#40	0.42	93		
#60	0.25	92		
#100	0.15	88		
#200	0.075	76		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0286	65		
---	0.0205	59		
---	0.0122	50		
---	0.0087	44		
---	0.0063	38		
---	0.0045	34		
---	0.0032	26		
---	0.0014	23		

Coefficients

D_{85} = 0.1252 mm
D_{30} = 0.0038 mm
D_{60} = 0.0221 mm
D_{15} = N/A
D_{50} = 0.0122 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

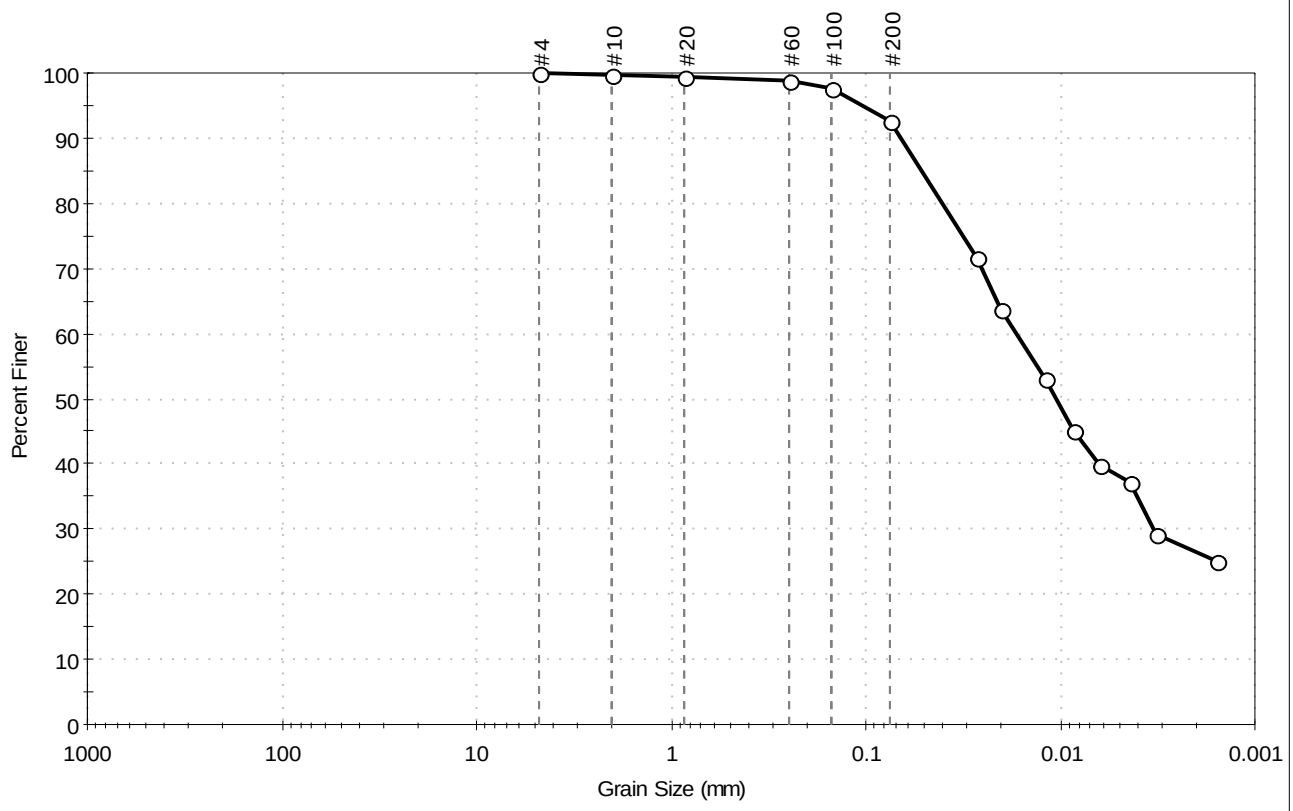
AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED5COON	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	282668		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	7.4	92.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#60	0.25	99		
#100	0.15	98		
#200	0.075	93		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0269	72		
---	0.0200	64		
---	0.0120	53		
---	0.0086	45		
---	0.0062	40		
---	0.0044	37		
---	0.0032	29		
---	0.0016	25		

Coefficients

D_{85} = 0.0518 mm	D_{30} = 0.0033 mm
D_{60} = 0.0168 mm	D_{15} = N/A
D_{50} = 0.0106 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

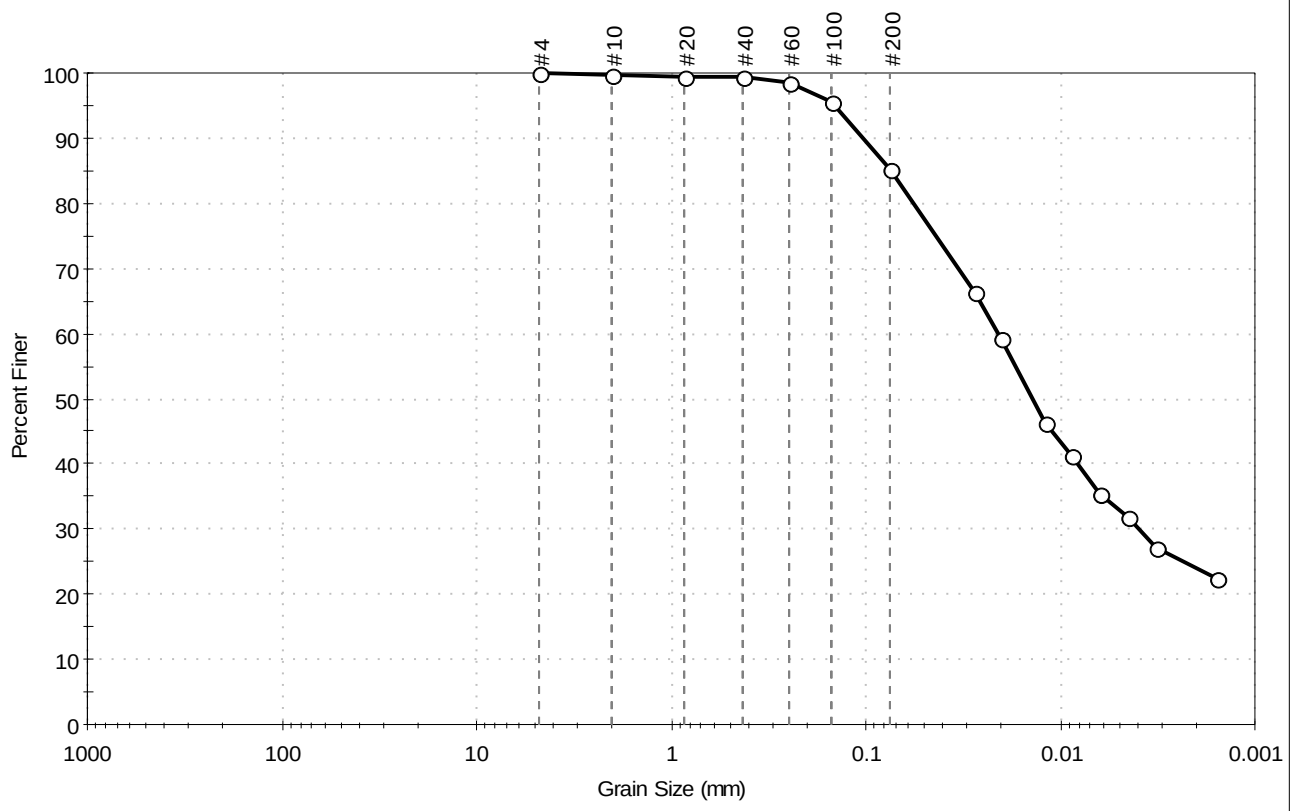
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED9AOON	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	282669		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	14.6	85.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	99		
#100	0.15	96		
#200	0.075	85		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0278	66		
---	0.0204	59		
---	0.0119	46		
---	0.0087	41		
---	0.0062	36		
---	0.0045	32		
---	0.0032	27		
---	0.0016	22		

Coefficients

D_{85} = 0.0736 mm	D_{30} = 0.0039 mm
D_{60} = 0.0211 mm	D_{15} = N/A
D_{50} = 0.0139 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

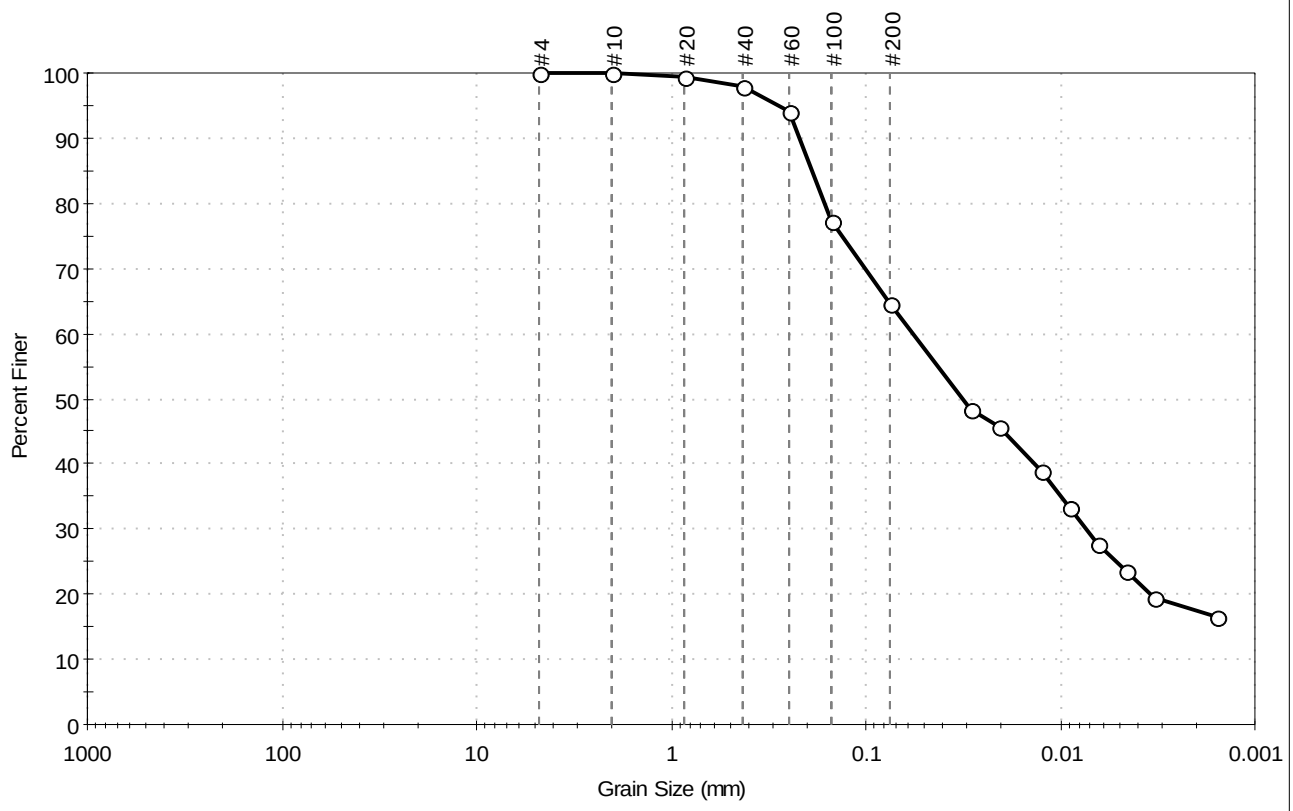
Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED9BOON	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	282670		

Test Comment: ---
Sample Description: Wet, dark grayish brown sandy silt
Sample Comment: ---

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	35.5	64.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	98		
#60	0.25	94		
#100	0.15	77		
#200	0.075	64		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0289	48		
---	0.0209	46		
---	0.0125	39		
---	0.0090	33		
---	0.0064	28		
---	0.0046	24		
---	0.0033	19		
---	0.0016	17		

Coefficients

D_{85} = 0.1893 mm	D_{30} = 0.0074 mm
D_{60} = 0.0575 mm	D_{15} = N/A
D_{50} = 0.0317 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

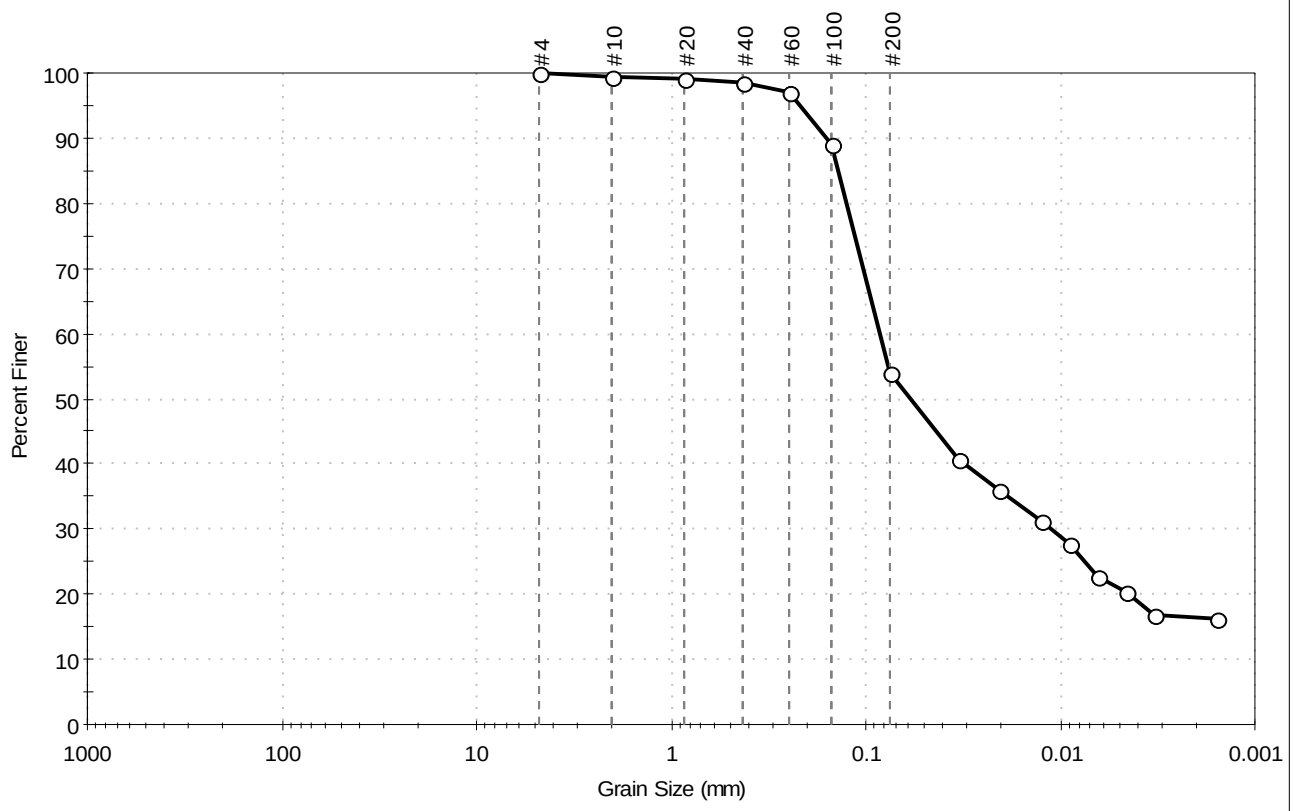
Sample / Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED9COON	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	282671		

Test Comment: ---
Sample Description: Wet, very dark grayish brown sandy silt
Sample Comment: ---

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	46.1	53.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	97		
#100	0.15	89		
#200	0.075	54		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0330	41		
---	0.0209	36		
---	0.0125	31		
---	0.0090	28		
---	0.0065	23		
---	0.0046	20		
---	0.0033	17		
---	0.0016	16		

Coefficients

D_{85} = 0.1385 mm	D_{30} = 0.0112 mm
D_{60} = 0.0846 mm	D_{15} = N/A
D_{50} = 0.0587 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

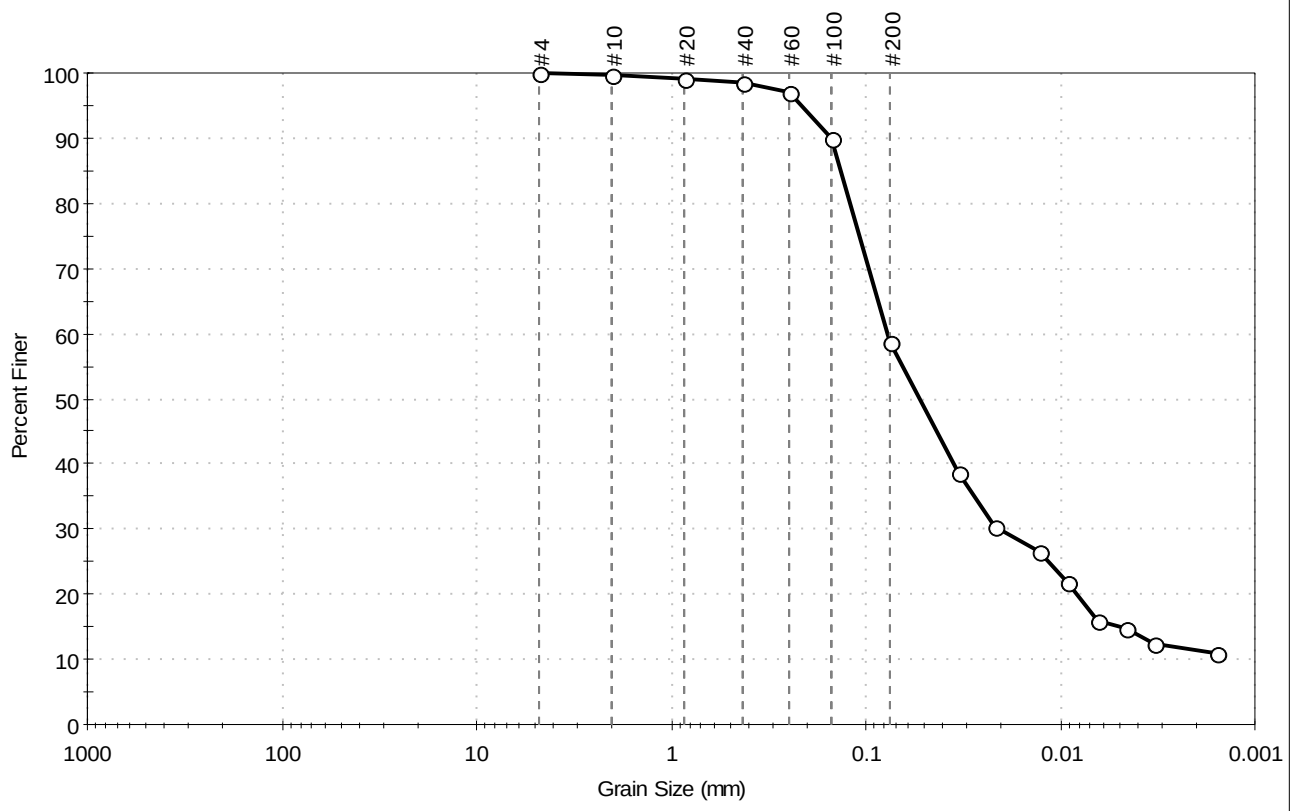
AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED9.5BOON	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	282672		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	41.2	58.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	97		
#100	0.15	90		
#200	0.075	59		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0337	39		
---	0.0218	30		
---	0.0127	27		
---	0.0091	22		
---	0.0065	16		
---	0.0046	15		
---	0.0033	12		
---	0.0016	11		

Coefficients

D_{85} = 0.1346 mm	D_{30} = 0.0210 mm
D_{60} = 0.0770 mm	D_{15} = 0.0048 mm
D_{50} = 0.0529 mm	D_{10} = 0.0010 mm
C_u = 77.000	C_c = 5.727

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

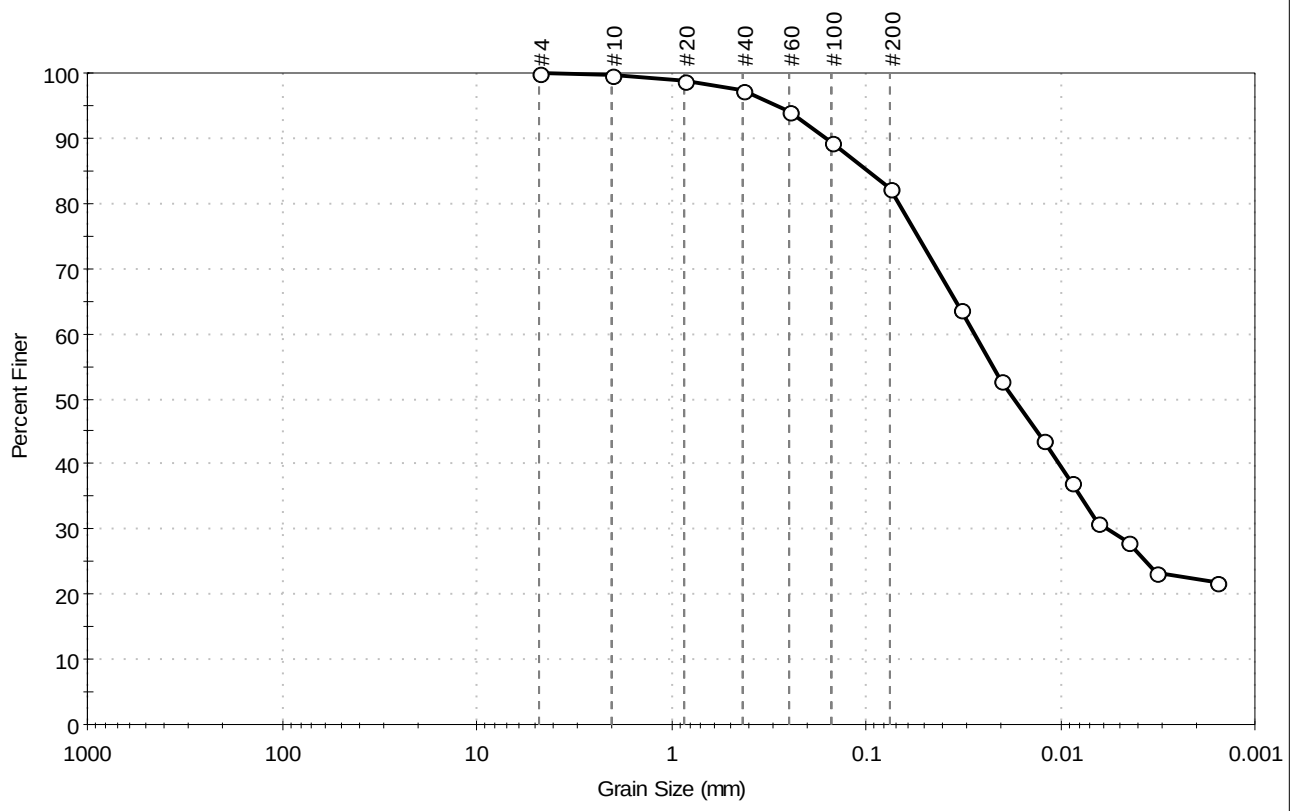
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED10AOON	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	282673		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	17.8	82.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	97		
#60	0.25	94		
#100	0.15	89		
#200	0.075	82		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0327	64		
---	0.0202	53		
---	0.0123	44		
---	0.0089	37		
---	0.0064	31		
---	0.0046	28		
---	0.0033	23		
---	0.0016	22		

Coefficients

D_{85} = 0.0988 mm	D_{30} = 0.0057 mm
D_{60} = 0.0278 mm	D_{15} = N/A
D_{50} = 0.0174 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

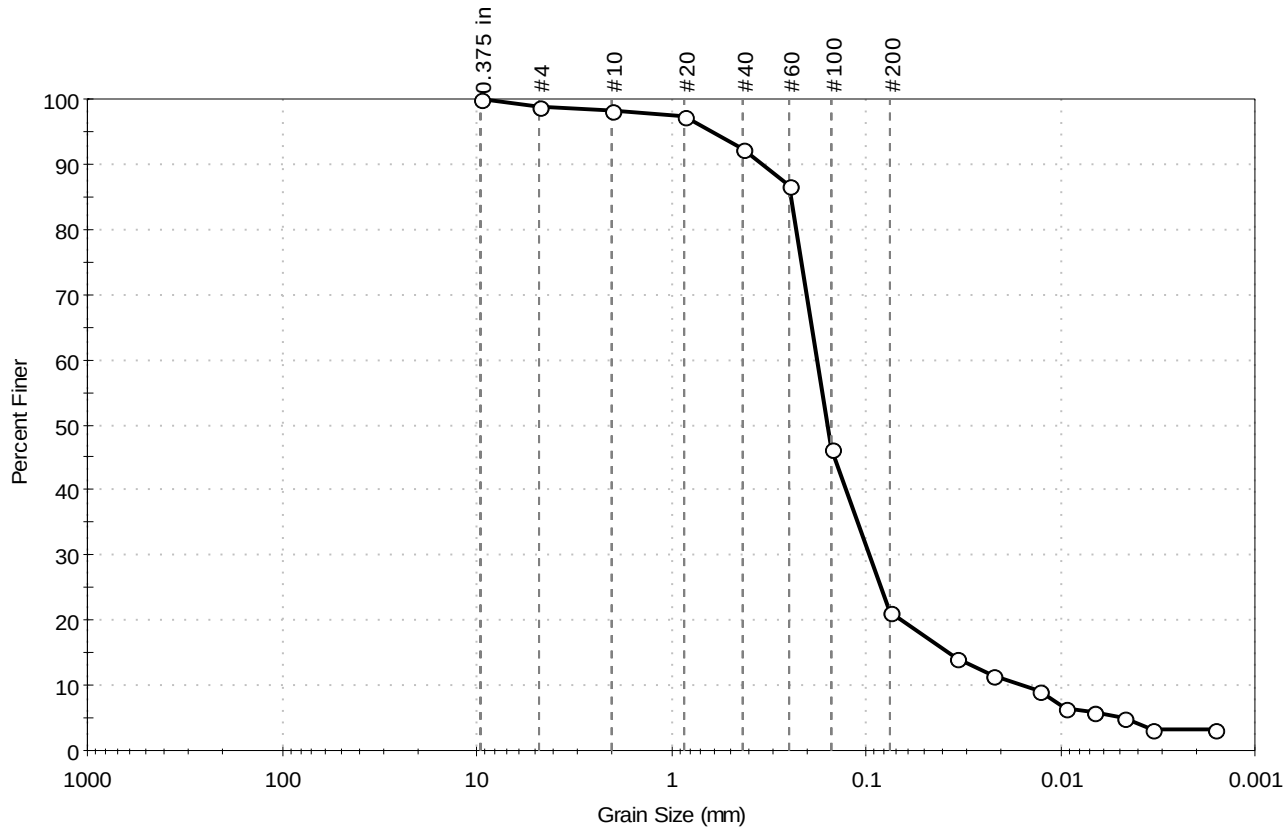
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED10BOON	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	282674		
Test Comment:	---				
Sample Description:	Moist, dark grayish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	1.2	77.6	21.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	98		
#20	0.85	97		
#40	0.42	92		
#60	0.25	87		
#100	0.15	46		
#200	0.075	21		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0343	14		
---	0.0225	12		
---	0.0128	9		
---	0.0094	7		
---	0.0067	6		
---	0.0047	5		
---	0.0034	3		
---	0.0016	3		

Coefficients

D_{85} = 0.2448 mm	D_{30} = 0.0955 mm
D_{60} = 0.1782 mm	D_{15} = 0.0381 mm
D_{50} = 0.1569 mm	D_{10} = 0.0158 mm
C_u = 11.278	C_c = 3.239

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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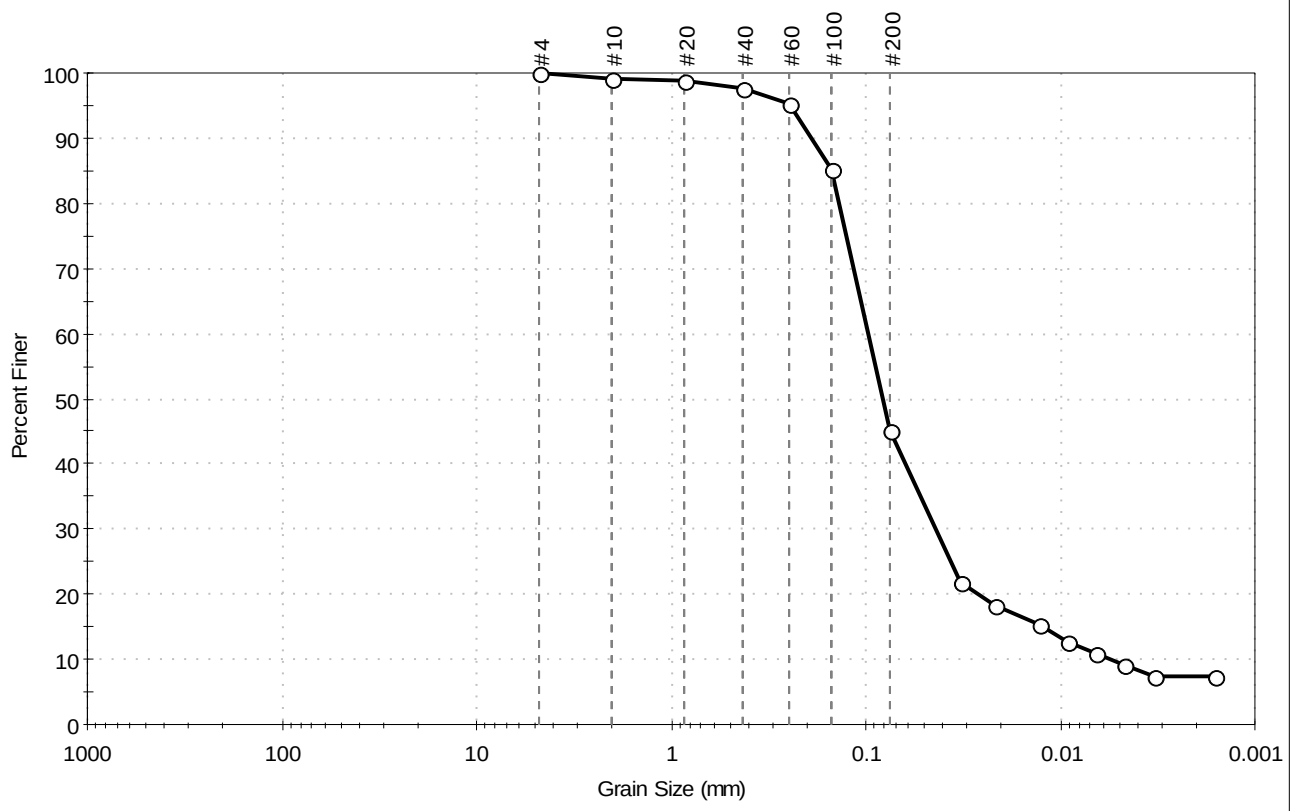
Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED10COON	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	282675		
Test Comment:	---				
Sample Description:	Moist, very dark grayish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	54.8	45.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	98		
#60	0.25	95		
#100	0.15	85		
#200	0.075	45		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0328	22		
---	0.0216	18		
---	0.0129	15		
---	0.0092	13		
---	0.0066	11		
---	0.0047	9		
---	0.0033	7		
---	0.0016	7		

Coefficients

D_{85} = 0.1494 mm	D_{30} = 0.0438 mm
D_{60} = 0.0969 mm	D_{15} = 0.0122 mm
D_{50} = 0.0815 mm	D_{10} = 0.0055 mm
C_u = 17.618	C_c = 3.600

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

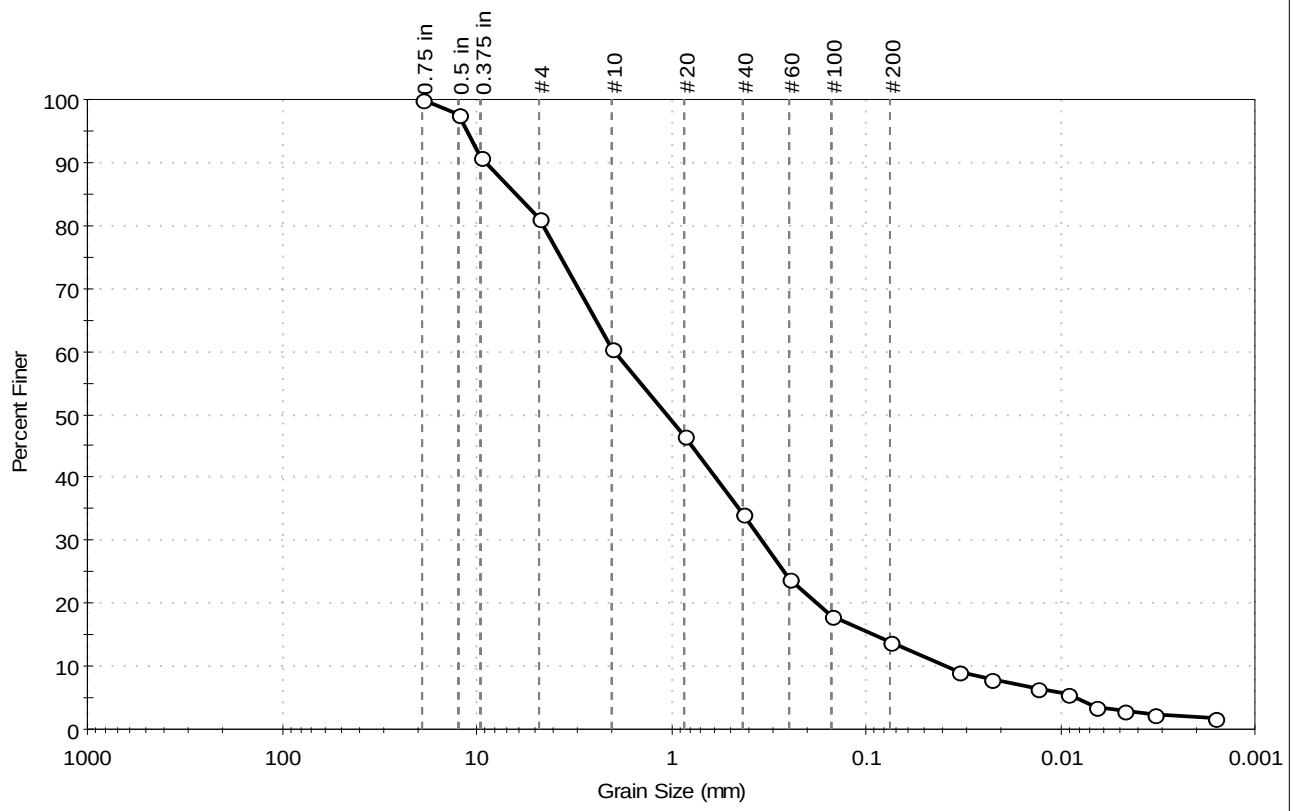
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SEDBACK15OON	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	282676		
Test Comment:	---				
Sample Description:	Moist, very dark brown silty sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	19.1	67.1	13.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	98		
0.375 in	9.50	91		
#4	4.75	81		
#10	2.00	60		
#20	0.85	47		
#40	0.42	34		
#60	0.25	24		
#100	0.15	18		
#200	0.075	14		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0335	9		
---	0.0227	8		
---	0.0133	6		
---	0.0093	6		
---	0.0067	4		
---	0.0047	3		
---	0.0033	2		
---	0.0016	2		

Coefficients

D_{85} = 6.3211 mm
D_{30} = 0.3410 mm
D_{60} = 1.9462 mm
D_{15} = 0.0910 mm
D_{50} = 1.0480 mm
D_{10} = 0.0382 mm
C_u = 50.948
C_c = 1.564

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample / Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

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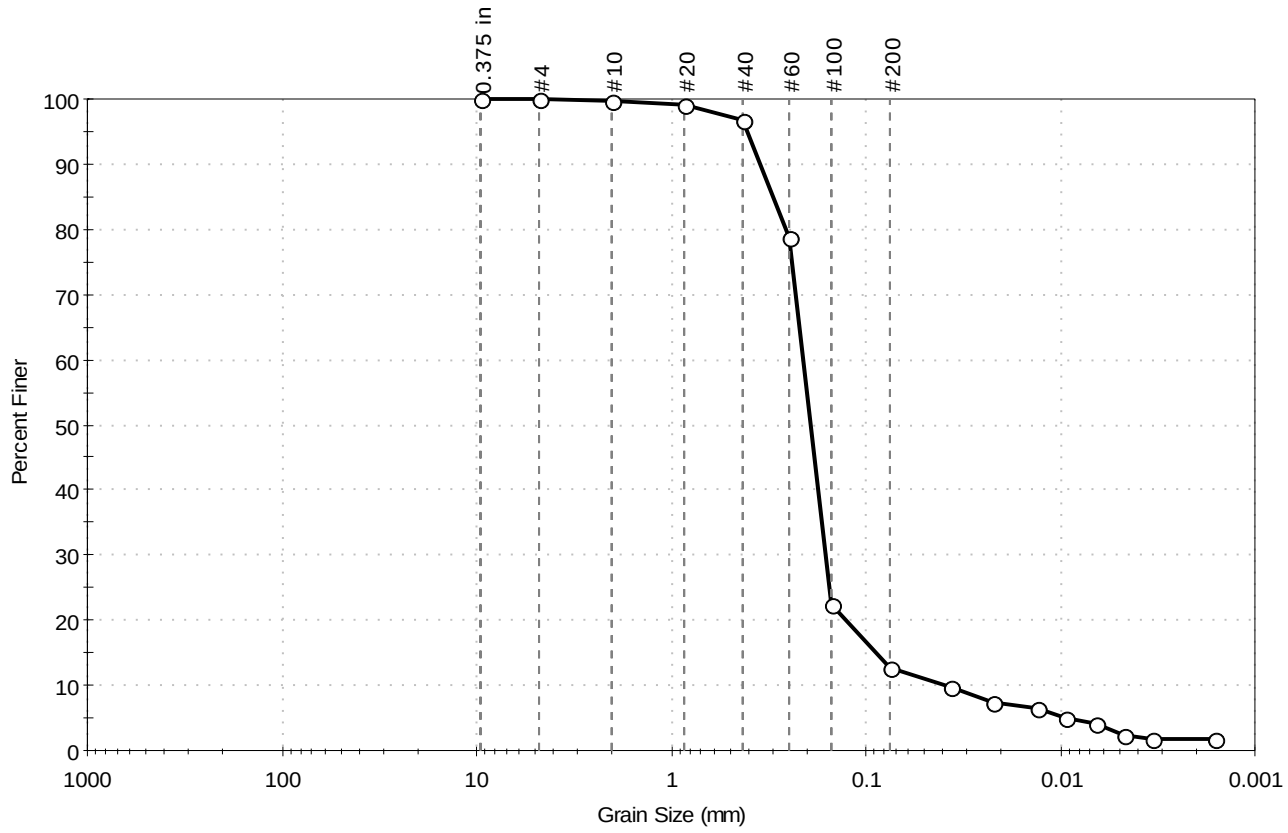
Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED3.5BOON	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	282677		
Test Comment:	---				
Sample Description:	Wet, very dark grayish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.1	87.1	12.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	97		
#60	0.25	79		
#100	0.15	22		
#200	0.075	13		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0365	10		
---	0.0223	7		
---	0.0133	7		
---	0.0094	5		
---	0.0067	4		
---	0.0048	2		
---	0.0034	2		
---	0.0016	2		

Coefficients

D_{85} = 0.3010 mm	D_{30} = 0.1608 mm
D_{60} = 0.2110 mm	D_{15} = 0.0882 mm
D_{50} = 0.1927 mm	D_{10} = 0.0382 mm
C_u = 5.524	C_c = 3.208

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

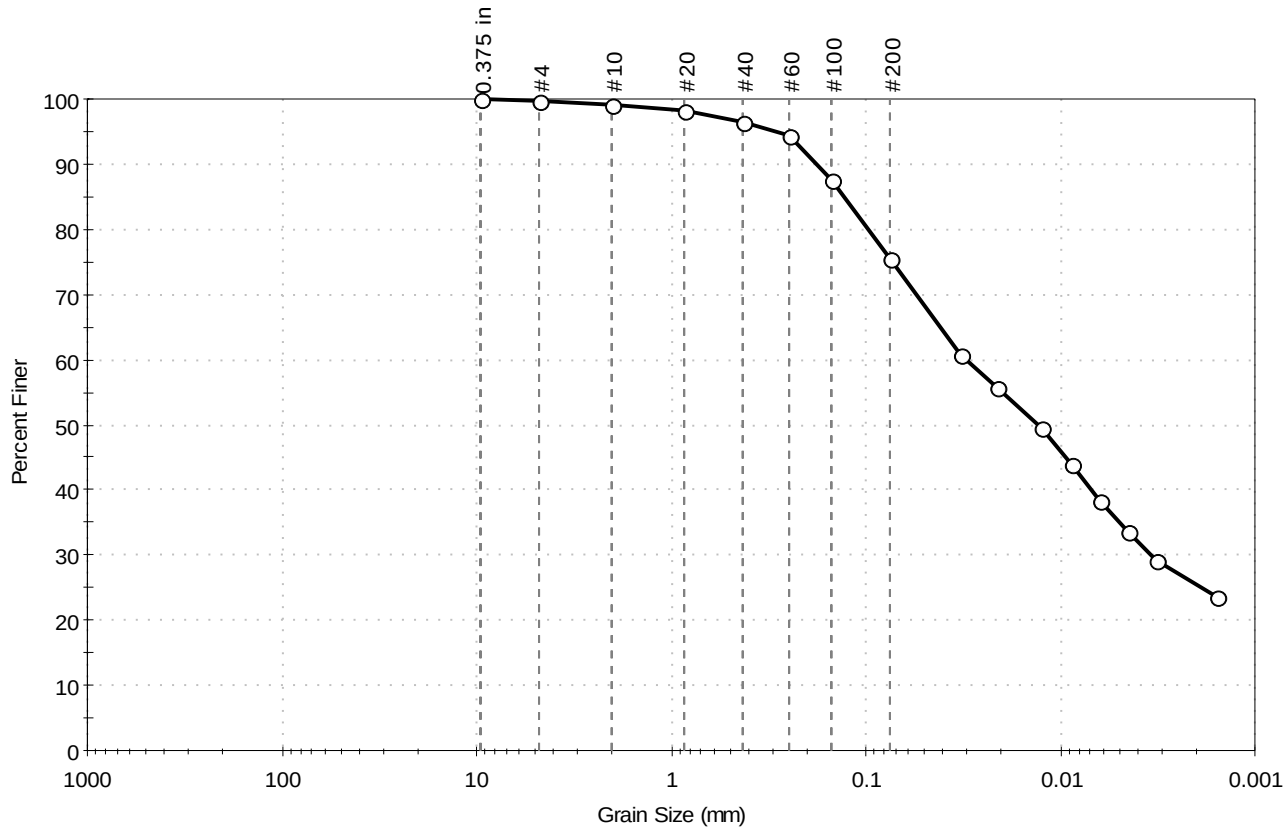
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED4AOON	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	282679		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.3	24.1	75.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	99		
#20	0.85	98		
#40	0.42	97		
#60	0.25	94		
#100	0.15	88		
#200	0.075	76		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0329	61		
---	0.0213	56		
---	0.0124	50		
---	0.0089	44		
---	0.0063	38		
---	0.0045	34		
---	0.0032	29		
---	0.0016	24		

Coefficients

D_{85} = 0.1284 mm	D_{30} = 0.0034 mm
D_{60} = 0.0308 mm	D_{15} = N/A
D_{50} = 0.0129 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Specific Gravity : 2.65

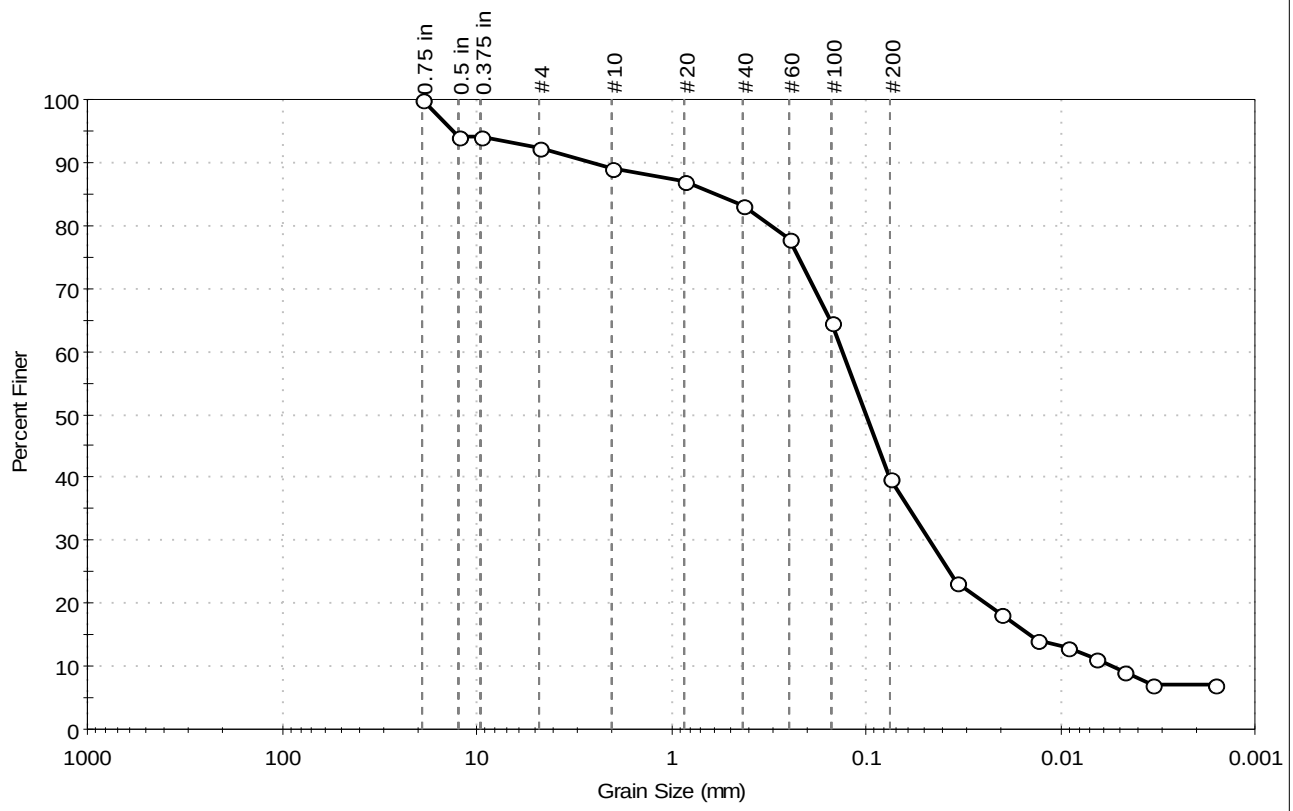
Separation of Sample: #200 Sieve

GeoTesting EXPRESS

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED4BOON	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	282680		

Test Comment: ---
Sample Description: Wet, dark grayish brown silty sand
Sample Comment: ---

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	7.7	52.5	39.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	94		
0.375 in	9.50	94		
#4	4.75	92		
#10	2.00	89		
#20	0.85	87		
#40	0.42	83		
#60	0.25	78		
#100	0.15	65		
#200	0.075	40		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0343	23		
---	0.0204	18		
---	0.0132	14		
---	0.0092	13		
---	0.0066	11		
---	0.0047	9		
---	0.0033	7		
---	0.0016	7		

Coefficients

D_{85} = 0.5913 mm
D_{30} = 0.0473 mm
D_{60} = 0.1319 mm
D_{15} = 0.0145 mm
D_{50} = 0.0998 mm
D_{10} = 0.0055 mm
C_u = 23.982
C_c = 3.084

Classification

ASTM N/A

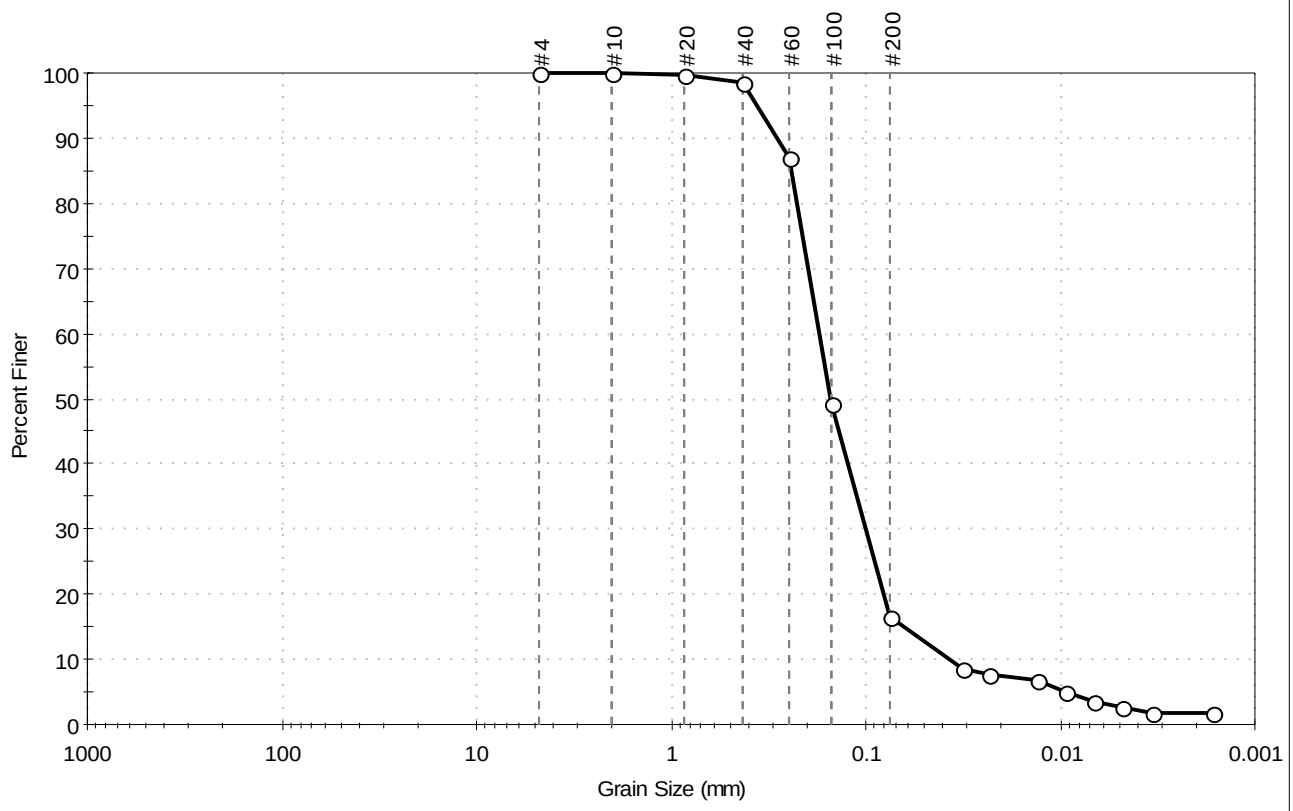
AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ANGULAR
Sand/Gravel Hardness : HARD
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED10B01N	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	283382		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	83.5	16.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	87		
#100	0.15	49		
#200	0.075	17		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0316	9		
---	0.0231	8		
---	0.0132	7		
---	0.0095	5		
---	0.0067	3		
---	0.0048	3		
---	0.0034	2		
---	0.0016	2		

Coefficients

D_{85} = 0.2431 mm	D_{30} = 0.0998 mm
D_{60} = 0.1736 mm	D_{15} = 0.0635 mm
D_{50} = 0.1517 mm	D_{10} = 0.0369 mm
C_u = 4.705	C_c = 1.555

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

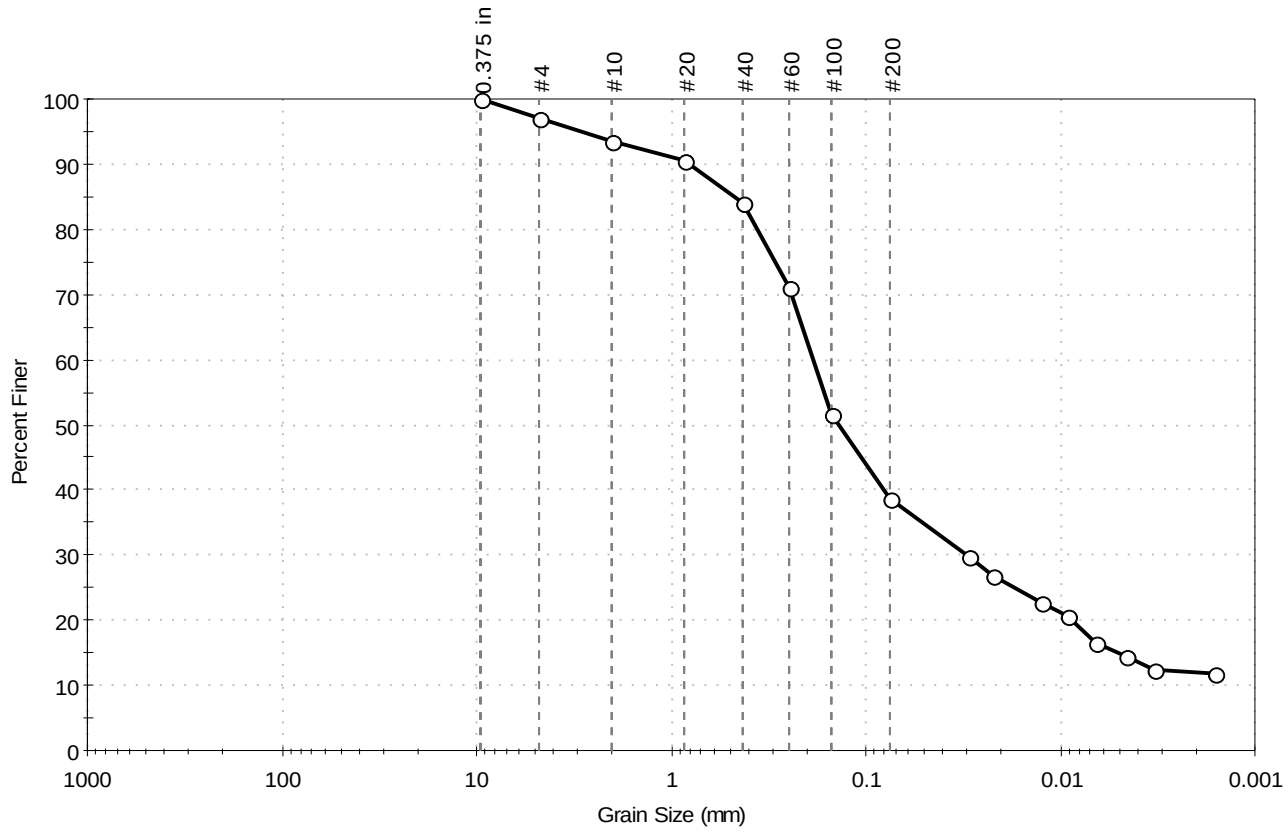
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SEDBACK1501N	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	283383		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	2.9	58.6	38.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	97		
#10	2.00	94		
#20	0.85	91		
#40	0.42	84		
#60	0.25	71		
#100	0.15	51		
#200	0.075	39		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0298	30		
---	0.0222	27		
---	0.0126	23		
---	0.0091	21		
---	0.0065	16		
---	0.0046	14		
---	0.0033	12		
---	0.0016	12		

Coefficients

D_{85} = 0.4687 mm	D_{30} = 0.0302 mm
D_{60} = 0.1870 mm	D_{15} = 0.0051 mm
D_{50} = 0.1386 mm	D_{10} = 0.0001 mm
C_u = 1870.000	C_c = 48.772

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

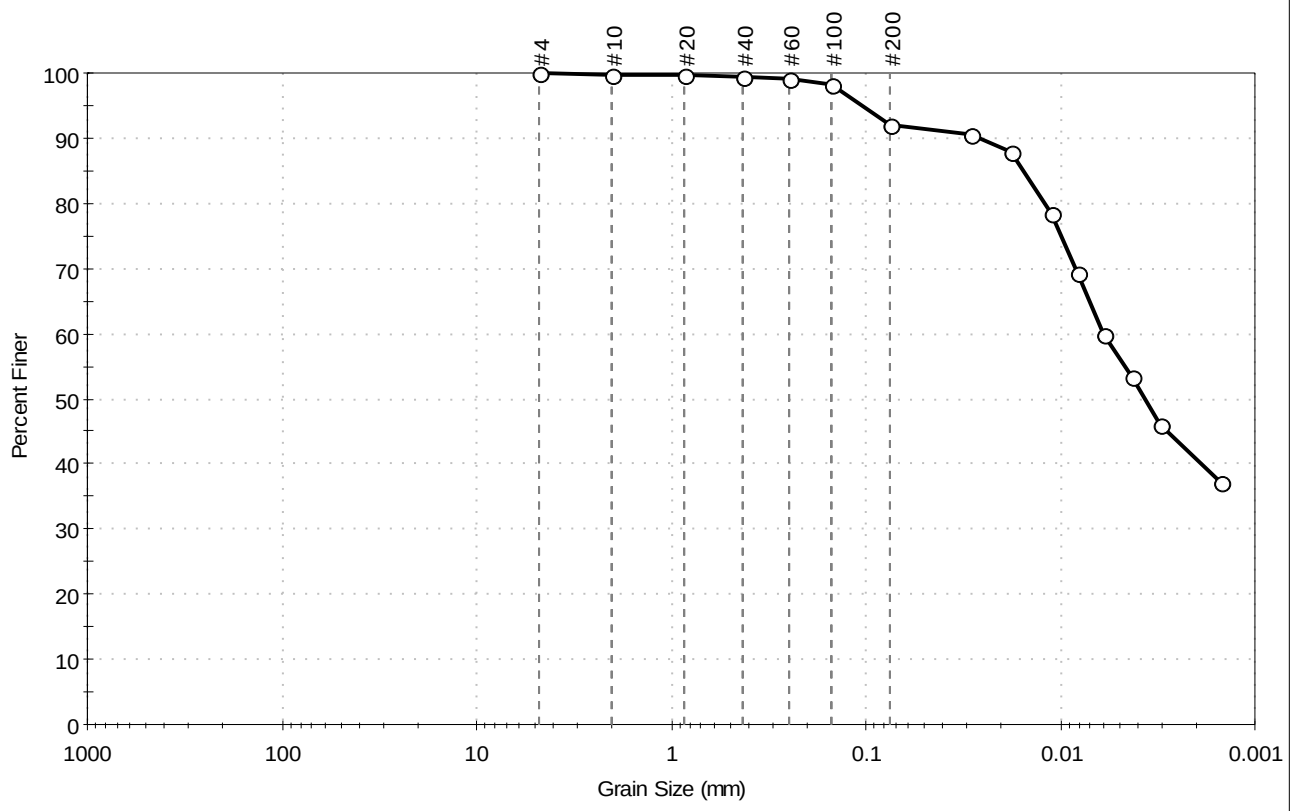
Dispersion Period : 1 minute

Specific Gravity : 2.65

Separation of Sample: #200 Sieve

Client:	AECOM				
Project:	Pepco Benning Road Facility				
Location:	Washington, DC			Project No:	GTX-300626
Boring ID:	---	Sample Type:	bag	Tested By:	jbr
Sample ID:	SED4B01N	Test Date:	11/26/13	Checked By:	jdt
Depth :	---	Test Id:	283384		
Test Comment:	---				
Sample Description:	Wet, dark grayish brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D422



%Cobble	%Gravel	%Sand	%Silt & Clay Size
---	0.0	7.9	92.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	99		
#100	0.15	98		
#200	0.075	92		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0287	91		
---	0.0181	88		
---	0.0111	79		
---	0.0081	69		
---	0.0059	60		
---	0.0043	53		
---	0.0031	46		
---	0.0015	37		

Coefficients

D_{85} = 0.0155 mm D_{30} = N/A
D_{60} = 0.0060 mm D_{15} = N/A
D_{50} = 0.0037 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample / Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Specific Gravity : 2.65
Separation of Sample: #200 Sieve

An Exelon Company

Phase II Waterside Investigation

Excerpts from Geotechnical Analysis Reports: TestAmerica Laboratories, Inc.

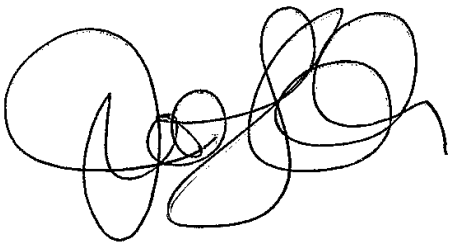
ANALYTICAL REPORT

Job Number: 180-67101-1

Job Description: Pepco Benning Road Facility

For:
AECOM, Inc.
250 Apollo Drive
Chelmsford, MA 01824

Attention: Mr. Robert Kennedy



Approved for release.
Jill L Colussy
Project Manager I
6/26/2017 3:19 PM

Jill L Colussy, Project Manager I
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2444
jill.colussy@testamericainc.com
06/26/2017

Method: D422 - Grain Size

Client Sample ID: SED6C00EN
Date Collected: 06/07/17 10:00
Date Received: 06/08/17 09:00

Lab Sample ID: 180-67101-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/12/17 20:25	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/12/17 20:25	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/12/17 20:25	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/12/17 20:25	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/12/17 20:25	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/12/17 20:25	1
Sieve Size #4 - Percent Finer	95.4				% Passing			06/12/17 20:25	1
Sieve Size #10 - Percent Finer	94.9				% Passing			06/12/17 20:25	1
Sieve Size #20 - Percent Finer	94.4				% Passing			06/12/17 20:25	1
Sieve Size #40 - Percent Finer	93.4				% Passing			06/12/17 20:25	1
Sieve Size #60 - Percent Finer	91.7				% Passing			06/12/17 20:25	1
Sieve Size #80 - Percent Finer	90.5				% Passing			06/12/17 20:25	1
Sieve Size #100 - Percent Finer	89.7				% Passing			06/12/17 20:25	1
Sieve Size #200 - Percent Finer	83.6				% Passing			06/12/17 20:25	1
Hydrometer Reading 1 - Percent Finer	56.7				% Passing			06/12/17 20:25	1
Hydrometer Reading 2 - Percent Finer	48.7				% Passing			06/12/17 20:25	1
Hydrometer Reading 3 - Percent Finer	38.6				% Passing			06/12/17 20:25	1
Hydrometer Reading 4 - Percent Finer	32.6				% Passing			06/12/17 20:25	1
Hydrometer Reading 5 - Percent Finer	28.6				% Passing			06/12/17 20:25	1
Hydrometer Reading 6 - Percent Finer	21.4				% Passing			06/12/17 20:25	1
Hydrometer Reading 7 - Percent Finer	16.4				% Passing			06/12/17 20:25	1

Method: D422 - Grain Size

Client Sample ID: SED8C00EN
Date Collected: 06/07/17 11:30
Date Received: 06/08/17 09:00

Lab Sample ID: 180-67101-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/12/17 20:28	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/12/17 20:28	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/12/17 20:28	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/12/17 20:28	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/12/17 20:28	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/12/17 20:28	1
Sieve Size #4 - Percent Finer	96.5				% Passing			06/12/17 20:28	1
Sieve Size #10 - Percent Finer	96.4				% Passing			06/12/17 20:28	1
Sieve Size #20 - Percent Finer	96.1				% Passing			06/12/17 20:28	1
Sieve Size #40 - Percent Finer	95.8				% Passing			06/12/17 20:28	1
Sieve Size #60 - Percent Finer	95.1				% Passing			06/12/17 20:28	1
Sieve Size #80 - Percent Finer	93.9				% Passing			06/12/17 20:28	1
Sieve Size #100 - Percent Finer	91.9				% Passing			06/12/17 20:28	1
Sieve Size #200 - Percent Finer	77.6				% Passing			06/12/17 20:28	1
Hydrometer Reading 1 - Percent Finer	43.0				% Passing			06/12/17 20:28	1
Hydrometer Reading 2 - Percent Finer	38.9				% Passing			06/12/17 20:28	1
Hydrometer Reading 3 - Percent Finer	30.8				% Passing			06/12/17 20:28	1
Hydrometer Reading 4 - Percent Finer	25.8				% Passing			06/12/17 20:28	1
Hydrometer Reading 5 - Percent Finer	21.7				% Passing			06/12/17 20:28	1
Hydrometer Reading 6 - Percent Finer	16.5				% Passing			06/12/17 20:28	1
Hydrometer Reading 7 - Percent Finer	12.5				% Passing			06/12/17 20:28	1

Method: D422 - Grain Size

Client Sample ID: SED7B00EN
Date Collected: 06/07/17 12:30
Date Received: 06/08/17 09:00

Lab Sample ID: 180-67101-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/12/17 20:31	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/12/17 20:31	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/12/17 20:31	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/12/17 20:31	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/12/17 20:31	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/12/17 20:31	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/12/17 20:31	1
Sieve Size #10 - Percent Finer	99.8				% Passing			06/12/17 20:31	1
Sieve Size #20 - Percent Finer	99.8				% Passing			06/12/17 20:31	1
Sieve Size #40 - Percent Finer	99.8				% Passing			06/12/17 20:31	1
Sieve Size #60 - Percent Finer	99.6				% Passing			06/12/17 20:31	1
Sieve Size #80 - Percent Finer	99.4				% Passing			06/12/17 20:31	1
Sieve Size #100 - Percent Finer	99.2				% Passing			06/12/17 20:31	1
Sieve Size #200 - Percent Finer	96.9				% Passing			06/12/17 20:31	1
Hydrometer Reading 1 - Percent Finer	66.6				% Passing			06/12/17 20:31	1
Hydrometer Reading 2 - Percent Finer	58.3				% Passing			06/12/17 20:31	1
Hydrometer Reading 3 - Percent Finer	50.1				% Passing			06/12/17 20:31	1
Hydrometer Reading 4 - Percent Finer	43.9				% Passing			06/12/17 20:31	1
Hydrometer Reading 5 - Percent Finer	37.7				% Passing			06/12/17 20:31	1
Hydrometer Reading 6 - Percent Finer	28.2				% Passing			06/12/17 20:31	1
Hydrometer Reading 7 - Percent Finer	18.9				% Passing			06/12/17 20:31	1

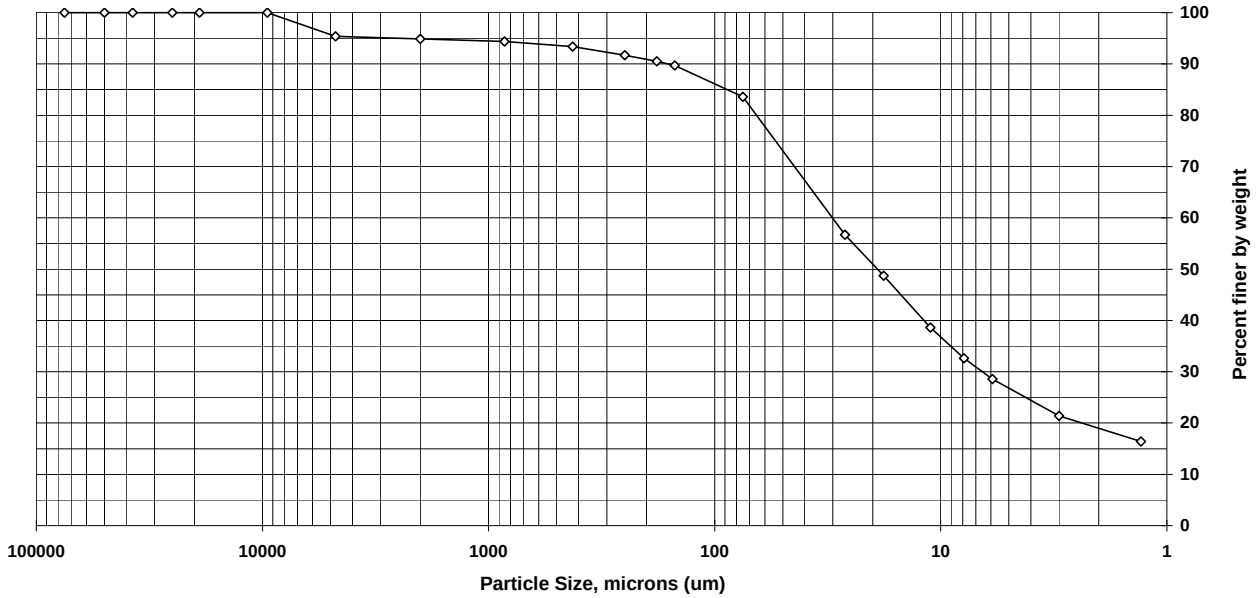
Particle Size of Soils by ASTM D422

				Date Received:	6/8/2017
Sample ID:	SED6C00EN	**Percent Solids:**	43.5%	**Start Date:**	6/12/2017
Lab ID:	180-67101-A-1	**Specific Gravity:**	2.650	**End Date:**	6/15/2017

Shape (> #10): na

Non-soil material: plant, shell

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	95.4	4.6
#10	2000	94.9	0.5
#20	850	94.4	0.5
#40	425	93.4	1.0
#60	250	91.7	1.7
#80	180	90.5	1.2
#100	150	89.7	0.8
#200	75	83.6	6.1
Hyd1	26.5	56.7	26.9
Hyd2	17.9	48.7	8.0
Hyd3	11.1	38.6	10.1
Hyd4	7.9	32.6	6.0
Hyd5	5.9	28.6	4.0
Hyd6	3	21.4	7.2
Hyd7	1.3	16.4	5.0

Soil Classification	Percent of sample
Gravel	4.6
Sand	11.8
Coarse Sand	0.5
Medium Sand	1.5
Fine Sand	9.8
Silt	55.0
Clay	28.6

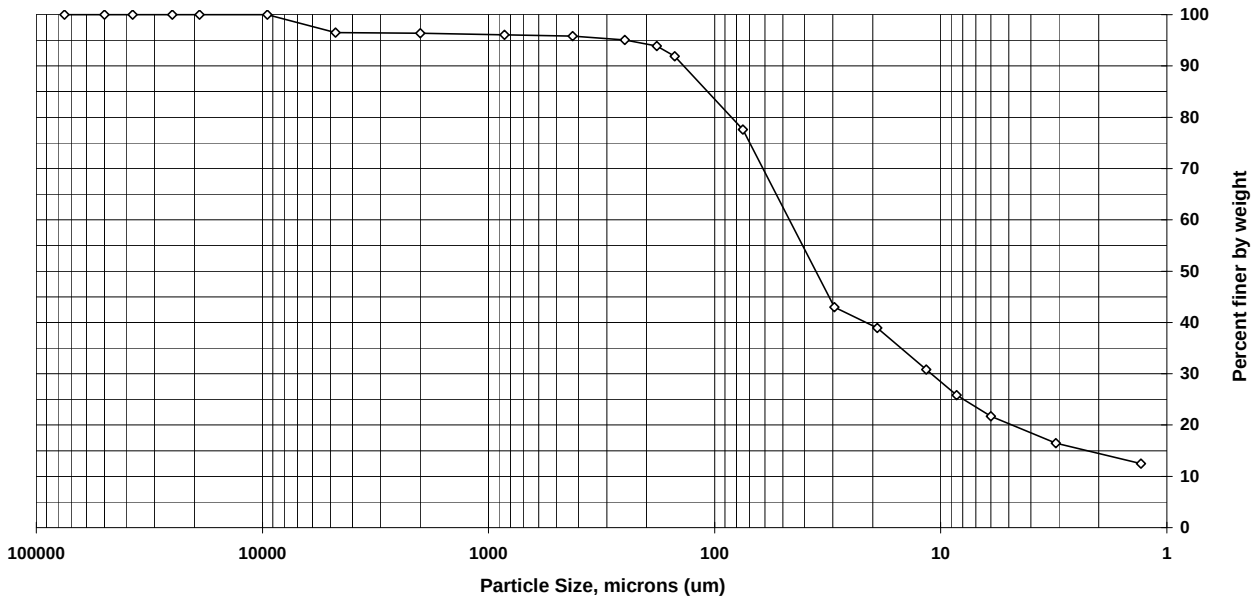
Particle Size of Soils by ASTM D422

				Date Received:	6/8/2017
Sample ID:	SED8C00EN	**Percent Solids:**	46.9%	**Start Date:**	6/12/2017
Lab ID:	180-67101-A-2	**Specific Gravity:**	2.650	**End Date:**	6/15/2017

Shape (> #10): na

Non-soil material: plant, shell

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	96.5	3.5
#10	2000	96.4	0.1
#20	850	96.1	0.3
#40	425	95.8	0.3
#60	250	95.1	0.7
#80	180	93.9	1.2
#100	150	91.9	2.0
#200	75	77.6	14.3
Hyd1	29.5	43.0	34.6
Hyd2	19.1	38.9	4.1
Hyd3	11.6	30.8	8.1
Hyd4	8.5	25.8	5.0
Hyd5	6	21.7	4.1
Hyd6	3.1	16.5	5.2
Hyd7	1.3	12.5	4.0

Soil Classification	Percent of sample
Gravel	3.5
Sand	18.9
Coarse Sand	0.1
Medium Sand	0.6
Fine Sand	18.2
Silt	55.9
Clay	21.7

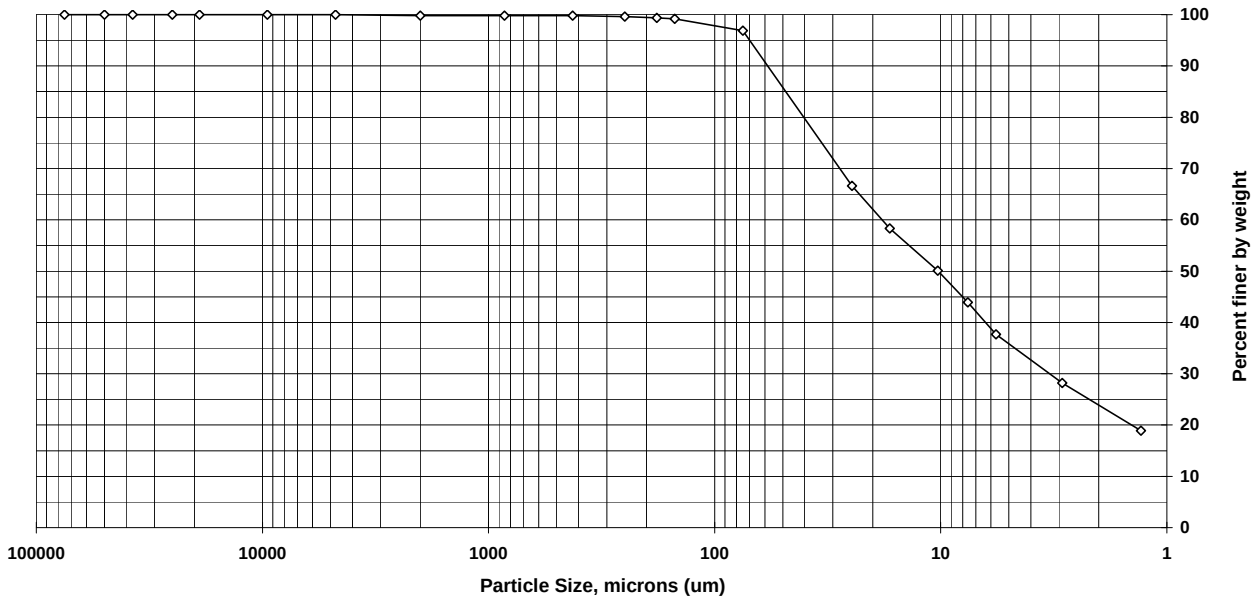
Particle Size of Soils by ASTM D422

				Date Received:	6/8/2017
Sample ID:	SED7B00EN	**Percent Solids:**	55.5%	**Start Date:**	6/12/2017
Lab ID:	180-67101-A-3	**Specific Gravity:**	2.650	**End Date:**	6/15/2017

Shape (> #10): na

Non-soil material: plant, shell

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.8	0.2
#20	850	99.8	0.0
#40	425	99.8	0.0
#60	250	99.6	0.2
#80	180	99.4	0.2
#100	150	99.2	0.2
#200	75	96.9	2.3
Hyd1	24.7	66.6	30.3
Hyd2	16.8	58.3	8.3
Hyd3	10.3	50.1	8.2
Hyd4	7.6	43.9	6.2
Hyd5	5.7	37.7	6.2
Hyd6	2.9	28.2	9.5
Hyd7	1.3	18.9	9.3

Soil Classification	Percent of sample
Gravel	0.0
Sand	3.1
Coarse Sand	0.2
Medium Sand	0.0
Fine Sand	2.9
Silt	59.2
Clay	37.7

Sediment Grain Size - D422

Client	
Client Sample ID	SED6C00EN
Lab Sample ID	180-67101-A-1

Date Received	6/8/2017
Start Date	06/12/2017 20:25
End Date	06/15/2017 11:17

Dry Weight Determination

Tin Weight	1.05	g
Wet Sample + Tin	20.29	g
Dry Sample + Tin	9.41	g
% Moisture	56.55	%

Non-soil material:	plant, shell
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/12/2017 20:27
Date/Time out of oven	06/13/2017 17:30

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.72	228.86	184.14
Sample Weight (Oven Dried)			80

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			4.08
Sample <#10			75.9
% Passing #10			41.2

Hydrometer Data

Serial Number	504381
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0045
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.007333333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.12	491.77	3.65	g	95.4	Gravel	
#10	2000	350.80	351.23	0.43	g	94.9	Sand	Coarse
#20	850	379.37	379.77	0.40	g	94.4	Sand	Medium
#40	425	352.83	353.66	0.83	g	93.4	Sand	Medium
#60	250	350.72	352.05	1.33	g	91.7	Sand	Fine
#80	180	337.78	338.73	0.95	g	90.5	Sand	Fine
#100	150	328.39	329.04	0.65	g	89.7	Sand	Fine
#200	75	323.15	328.00	4.85	g	83.6	Sand	Fine
				0.00	g	83.6		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	80

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0320	21.5	26.5	56.7	Silt	
5	5	1.0280	21.5	17.9	48.7	Silt	
15	15	1.0230	21.5	11.1	38.6	Silt	
30	32	1.0200	21.5	7.9	32.6	Silt	
60	60	1.0180	21.5	5.9	28.6	Silt	
250	259	1.0145	21.0	3	21.4	Clay	
1440	1406	1.0120	21.0	1.3	16.4	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SED8C00EN
Lab Sample ID	180-67101-A-2

Date Received	6/8/2017
Start Date	06/12/2017 20:28
End Date	06/15/2017 11:24

Dry Weight Determination

Tin Weight	1.03	g
Wet Sample + Tin	20.97	g
Dry Sample + Tin	10.39	g
% Moisture	53.06	%

Non-soil material:	plant, shell
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/12/2017 20:29
Date/Time out of oven	06/13/2017 17:31

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.88	214.00	169.12
Sample Weight (Oven Dried)			79.4

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			2.82
Sample <#10			76.6
% Passing #10			45.3

Hydrometer Data

Serial Number	504381
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0045
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.007333333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.12	490.88	2.76	g	96.5	Gravel	
#10	2000	350.80	350.86	0.06	g	96.4	Sand	Coarse
#20	850	388.29	388.49	0.20	g	96.1	Sand	Medium
#40	425	366.31	366.58	0.27	g	95.8	Sand	Medium
#60	250	348.08	348.65	0.57	g	95.1	Sand	Fine
#80	180	330.70	331.69	0.99	g	93.9	Sand	Fine
#100	150	330.05	331.61	1.56	g	91.9	Sand	Fine
#200	75	322.58	333.90	11.32	g	77.6	Sand	Fine
				0.00	g	77.6		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	79.4

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0250	21.5	29.5	43	Silt	
5	5	1.0230	21.5	19.1	38.9	Silt	
15	15	1.0190	21.5	11.6	30.8	Silt	
30	30	1.0165	21.5	8.5	25.8	Silt	
60	63	1.0145	21.5	6	21.7	Silt	
250	253	1.0120	21.0	3.1	16.5	Clay	
1440	1400	1.0100	21.0	1.3	12.5	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SED7B00EN
Lab Sample ID	180-67101-A-3

Date Received	6/8/2017
Start Date	06/12/2017 20:31
End Date	06/15/2017 11:41

Dry Weight Determination

Tin Weight	1.09	g
Wet Sample + Tin	23.31	g
Dry Sample + Tin	13.42	g
% Moisture	44.51	%

Non-soil material:	plant, shell
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/12/2017 20:33
Date/Time out of oven	06/13/2017 17:31

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.74	185.02	140.28
Sample Weight (Oven Dried)			77.8

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			0.18
Sample <#10			77.6
% Passing #10			55.3

Hydrometer Data

Serial Number	504381
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0045
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.007333333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	350.80	350.98	0.18	g	99.8	Sand	Coarse
#20	850	379.37	379.37	0.00	g	99.8	Sand	Medium
#40	425	352.83	352.83	0.00	g	99.8	Sand	Medium
#60	250	350.72	350.86	0.14	g	99.6	Sand	Fine
#80	180	337.78	337.94	0.16	g	99.4	Sand	Fine
#100	150	328.39	328.54	0.15	g	99.2	Sand	Fine
#200	75	323.15	324.91	1.76	g	96.9	Sand	Fine
				0.00	g	96.9		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	77.8

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0360	21.5	24.7	66.6	Silt	
5	5	1.0320	21.5	16.8	58.3	Silt	
15	15	1.0280	21.5	10.3	50.1	Silt	
30	30	1.0250	21.5	7.6	43.9	Silt	
60	57	1.0220	21.5	5.7	37.7	Silt	
250	247	1.0175	21.0	2.9	28.2	Clay	
1440	1394	1.0130	21.0	1.3	18.9	Clay	

TestAmerica
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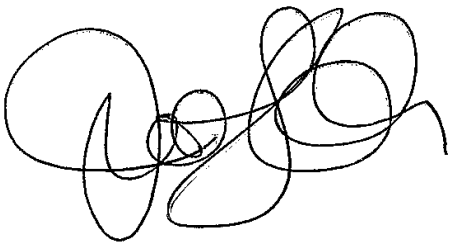
ANALYTICAL REPORT

Job Number: 180-67204-1

Job Description: Pepco Benning Road Facility

For:
AECOM, Inc.
250 Apollo Drive
Chelmsford, MA 01824

Attention: Mr. Robert Kennedy



Approved for release.
Jill L Colussy
Project Manager I
6/26/2017 4:22 PM

Jill L Colussy, Project Manager I
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2444
jill.colussy@testamericainc.com
06/26/2017

Method: D422 - Grain Size

Client Sample ID: SED7F00EN
Date Collected: 06/08/17 08:30
Date Received: 06/09/17 09:00

Lab Sample ID: 180-67204-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/14/17 15:52	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/14/17 15:52	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/14/17 15:52	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/14/17 15:52	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/14/17 15:52	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/14/17 15:52	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/14/17 15:52	1
Sieve Size #10 - Percent Finer	86.0				% Passing			06/14/17 15:52	1
Sieve Size #20 - Percent Finer	82.6				% Passing			06/14/17 15:52	1
Sieve Size #40 - Percent Finer	76.0				% Passing			06/14/17 15:52	1
Sieve Size #60 - Percent Finer	67.1				% Passing			06/14/17 15:52	1
Sieve Size #80 - Percent Finer	62.4				% Passing			06/14/17 15:52	1
Sieve Size #100 - Percent Finer	59.7				% Passing			06/14/17 15:52	1
Sieve Size #200 - Percent Finer	50.1				% Passing			06/14/17 15:52	1
Hydrometer Reading 1 - Percent Finer	24.8				% Passing			06/14/17 15:52	1
Hydrometer Reading 2 - Percent Finer	19.2				% Passing			06/14/17 15:52	1
Hydrometer Reading 3 - Percent Finer	14.4				% Passing			06/14/17 15:52	1
Hydrometer Reading 4 - Percent Finer	11.3				% Passing			06/14/17 15:52	1
Hydrometer Reading 5 - Percent Finer	8.9				% Passing			06/14/17 15:52	1
Hydrometer Reading 6 - Percent Finer	4.9				% Passing			06/14/17 15:52	1
Hydrometer Reading 7 - Percent Finer	3.3				% Passing			06/14/17 15:52	1

Method: D422 - Grain Size

Client Sample ID: SED7.5E00EN
Date Collected: 06/08/17 09:15
Date Received: 06/09/17 09:00

Lab Sample ID: 180-67204-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/14/17 15:56	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/14/17 15:56	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/14/17 15:56	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/14/17 15:56	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/14/17 15:56	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/14/17 15:56	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/14/17 15:56	1
Sieve Size #10 - Percent Finer	88.3				% Passing			06/14/17 15:56	1
Sieve Size #20 - Percent Finer	86.7				% Passing			06/14/17 15:56	1
Sieve Size #40 - Percent Finer	84.0				% Passing			06/14/17 15:56	1
Sieve Size #60 - Percent Finer	79.5				% Passing			06/14/17 15:56	1
Sieve Size #80 - Percent Finer	75.6				% Passing			06/14/17 15:56	1
Sieve Size #100 - Percent Finer	72.6				% Passing			06/14/17 15:56	1
Sieve Size #200 - Percent Finer	59.3				% Passing			06/14/17 15:56	1
Hydrometer Reading 1 - Percent Finer	35.5				% Passing			06/14/17 15:56	1
Hydrometer Reading 2 - Percent Finer	29.0				% Passing			06/14/17 15:56	1
Hydrometer Reading 3 - Percent Finer	19.4				% Passing			06/14/17 15:56	1
Hydrometer Reading 4 - Percent Finer	14.1				% Passing			06/14/17 15:56	1
Hydrometer Reading 5 - Percent Finer	10.9				% Passing			06/14/17 15:56	1
Hydrometer Reading 6 - Percent Finer	6.6				% Passing			06/14/17 15:56	1
Hydrometer Reading 7 - Percent Finer	4.5				% Passing			06/14/17 15:56	1

Method: D422 - Grain Size

Client Sample ID: SED6.5E00EN
Date Collected: 06/08/17 10:00
Date Received: 06/09/17 09:00

Lab Sample ID: 180-67204-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/14/17 16:05	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/14/17 16:05	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/14/17 16:05	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/14/17 16:05	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/14/17 16:05	1
Sieve Size 0.375 inch - Percent Finer	86.8				% Passing			06/14/17 16:05	1
Sieve Size #4 - Percent Finer	80.2				% Passing			06/14/17 16:05	1
Sieve Size #10 - Percent Finer	67.9				% Passing			06/14/17 16:05	1
Sieve Size #20 - Percent Finer	64.1				% Passing			06/14/17 16:05	1
Sieve Size #40 - Percent Finer	54.9				% Passing			06/14/17 16:05	1
Sieve Size #60 - Percent Finer	44.2				% Passing			06/14/17 16:05	1
Sieve Size #80 - Percent Finer	39.9				% Passing			06/14/17 16:05	1
Sieve Size #100 - Percent Finer	37.5				% Passing			06/14/17 16:05	1
Sieve Size #200 - Percent Finer	27.4				% Passing			06/14/17 16:05	1
Hydrometer Reading 1 - Percent Finer	24.0				% Passing			06/14/17 16:05	1
Hydrometer Reading 2 - Percent Finer	19.7				% Passing			06/14/17 16:05	1
Hydrometer Reading 3 - Percent Finer	15.3				% Passing			06/14/17 16:05	1
Hydrometer Reading 4 - Percent Finer	11.0				% Passing			06/14/17 16:05	1
Hydrometer Reading 5 - Percent Finer	9.5				% Passing			06/14/17 16:05	1
Hydrometer Reading 6 - Percent Finer	5.2				% Passing			06/14/17 16:05	1
Hydrometer Reading 7 - Percent Finer	3.7				% Passing			06/14/17 16:05	1

Method: D422 - Grain Size

Client Sample ID: SED7E00EN
Date Collected: 06/08/17 10:30
Date Received: 06/09/17 09:00

Lab Sample ID: 180-67204-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/14/17 16:07	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/14/17 16:07	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/14/17 16:07	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/14/17 16:07	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/14/17 16:07	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/14/17 16:07	1
Sieve Size #4 - Percent Finer	95.4				% Passing			06/14/17 16:07	1
Sieve Size #10 - Percent Finer	88.4				% Passing			06/14/17 16:07	1
Sieve Size #20 - Percent Finer	82.9				% Passing			06/14/17 16:07	1
Sieve Size #40 - Percent Finer	67.6				% Passing			06/14/17 16:07	1
Sieve Size #60 - Percent Finer	49.4				% Passing			06/14/17 16:07	1
Sieve Size #80 - Percent Finer	42.2				% Passing			06/14/17 16:07	1
Sieve Size #100 - Percent Finer	38.9				% Passing			06/14/17 16:07	1
Sieve Size #200 - Percent Finer	31.2				% Passing			06/14/17 16:07	1
Hydrometer Reading 1 - Percent Finer	17.4				% Passing			06/14/17 16:07	1
Hydrometer Reading 2 - Percent Finer	14.0				% Passing			06/14/17 16:07	1
Hydrometer Reading 3 - Percent Finer	9.6				% Passing			06/14/17 16:07	1
Hydrometer Reading 4 - Percent Finer	7.9				% Passing			06/14/17 16:07	1
Hydrometer Reading 5 - Percent Finer	5.7				% Passing			06/14/17 16:07	1
Hydrometer Reading 6 - Percent Finer	4.0				% Passing			06/14/17 16:07	1
Hydrometer Reading 7 - Percent Finer	1.8				% Passing			06/14/17 16:07	1

Method: D422 - Grain Size

Client Sample ID: SED6B00EN
Date Collected: 06/08/17 12:30
Date Received: 06/09/17 09:00

Lab Sample ID: 180-67204-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/14/17 16:10	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/14/17 16:10	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/14/17 16:10	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/14/17 16:10	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/14/17 16:10	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/14/17 16:10	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/14/17 16:10	1
Sieve Size #10 - Percent Finer	95.0				% Passing			06/14/17 16:10	1
Sieve Size #20 - Percent Finer	94.2				% Passing			06/14/17 16:10	1
Sieve Size #40 - Percent Finer	93.0				% Passing			06/14/17 16:10	1
Sieve Size #60 - Percent Finer	89.9				% Passing			06/14/17 16:10	1
Sieve Size #80 - Percent Finer	84.6				% Passing			06/14/17 16:10	1
Sieve Size #100 - Percent Finer	76.6				% Passing			06/14/17 16:10	1
Sieve Size #200 - Percent Finer	41.0				% Passing			06/14/17 16:10	1
Hydrometer Reading 1 - Percent Finer	23.0				% Passing			06/14/17 16:10	1
Hydrometer Reading 2 - Percent Finer	18.6				% Passing			06/14/17 16:10	1
Hydrometer Reading 3 - Percent Finer	14.8				% Passing			06/14/17 16:10	1
Hydrometer Reading 4 - Percent Finer	13.5				% Passing			06/14/17 16:10	1
Hydrometer Reading 5 - Percent Finer	10.9				% Passing			06/14/17 16:10	1
Hydrometer Reading 6 - Percent Finer	8.4				% Passing			06/14/17 16:10	1
Hydrometer Reading 7 - Percent Finer	5.8				% Passing			06/14/17 16:10	1

Method: D422 - Grain Size

Client Sample ID: SED6A00EN
Date Collected: 06/08/17 13:15
Date Received: 06/09/17 09:00

Lab Sample ID: 180-67204-6
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/14/17 16:13	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/14/17 16:13	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/14/17 16:13	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/14/17 16:13	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/14/17 16:13	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/14/17 16:13	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/14/17 16:13	1
Sieve Size #10 - Percent Finer	78.4				% Passing			06/14/17 16:13	1
Sieve Size #20 - Percent Finer	77.7				% Passing			06/14/17 16:13	1
Sieve Size #40 - Percent Finer	76.7				% Passing			06/14/17 16:13	1
Sieve Size #60 - Percent Finer	75.5				% Passing			06/14/17 16:13	1
Sieve Size #80 - Percent Finer	74.0				% Passing			06/14/17 16:13	1
Sieve Size #100 - Percent Finer	71.6				% Passing			06/14/17 16:13	1
Sieve Size #200 - Percent Finer	55.3				% Passing			06/14/17 16:13	1
Hydrometer Reading 1 - Percent Finer	35.5				% Passing			06/14/17 16:13	1
Hydrometer Reading 2 - Percent Finer	30.0				% Passing			06/14/17 16:13	1
Hydrometer Reading 3 - Percent Finer	24.6				% Passing			06/14/17 16:13	1
Hydrometer Reading 4 - Percent Finer	21.9				% Passing			06/14/17 16:13	1
Hydrometer Reading 5 - Percent Finer	17.4				% Passing			06/14/17 16:13	1
Hydrometer Reading 6 - Percent Finer	11.9				% Passing			06/14/17 16:13	1
Hydrometer Reading 7 - Percent Finer	7.4				% Passing			06/14/17 16:13	1

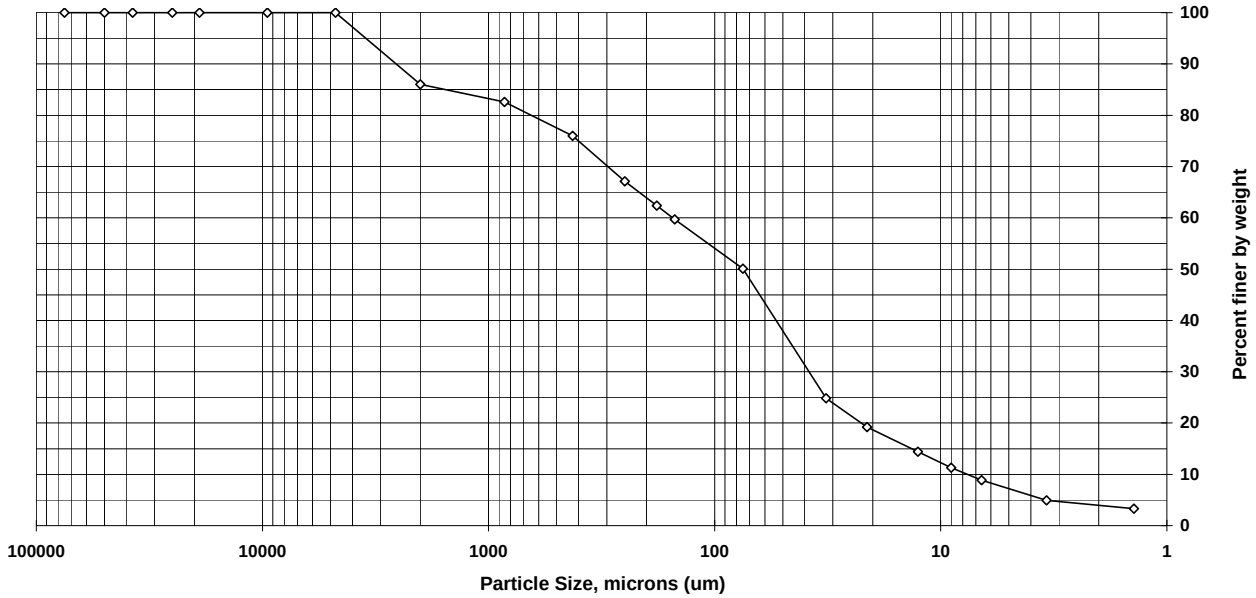
Particle Size of Soils by ASTM D422

				Date Received:	6/9/2017
Sample ID:	SED7F00EN	**Percent Solids:**	44.2%	**Start Date:**	6/14/2017
Lab ID:	180-67204-A-1	**Specific Gravity:**	2.650	**End Date:**	6/19/2017

Shape (> #10): subangular

Non-soil material: plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	86.0	14.0
#20	850	82.6	3.4
#40	425	76.0	6.6
#60	250	67.1	8.9
#80	180	62.4	4.7
#100	150	59.7	2.7
#200	75	50.1	9.6
Hyd1	32.2	24.8	25.3
Hyd2	21.2	19.2	5.6
Hyd3	12.6	14.4	4.8
Hyd4	9	11.3	3.1
Hyd5	6.6	8.9	2.4
Hyd6	3.4	4.9	4.0
Hyd7	1.4	3.3	1.6

Soil Classification	Percent of sample
Gravel	0.0
Sand	49.9
Coarse Sand	14.0
Medium Sand	10.0
Fine Sand	25.9
Silt	41.2
Clay	8.9

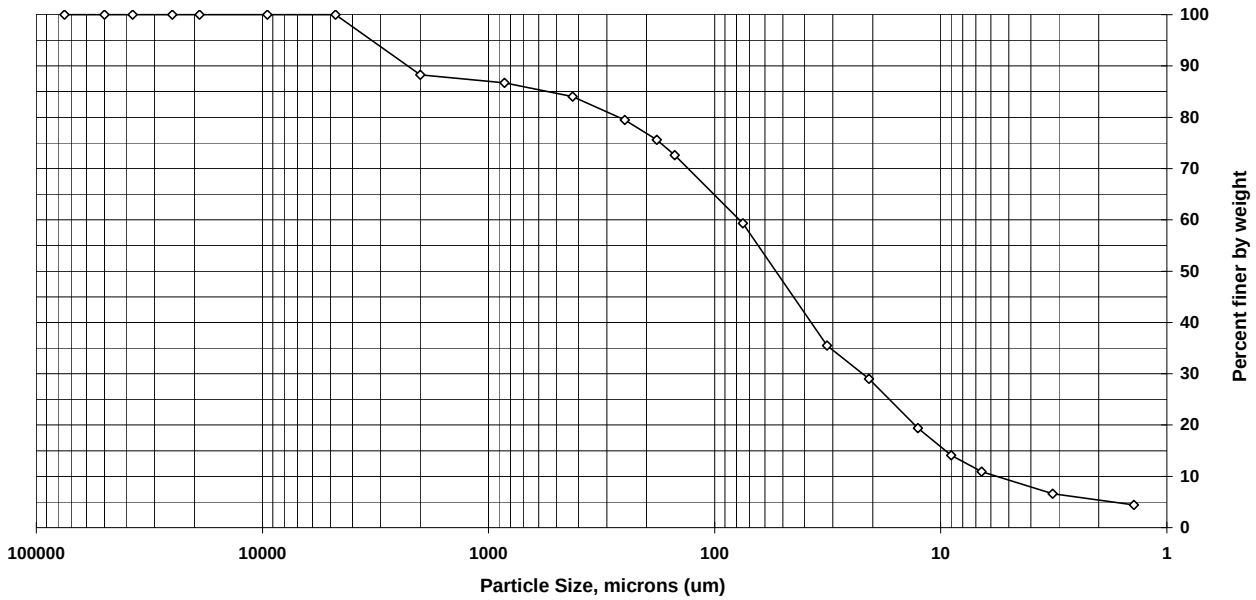
Particle Size of Soils by ASTM D422

				Date Received:	6/9/2017
Sample ID:	SED7.5E00EN	**Percent Solids:**	36.2%	**Start Date:**	6/14/2017
Lab ID:	180-67204-A-2	**Specific Gravity:**	2.650	**End Date:**	6/19/2017

Shape (> #10): na

Non-soil material: plant

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	88.3	11.7
#20	850	86.7	1.6
#40	425	84.0	2.7
#60	250	79.5	4.5
#80	180	75.6	3.9
#100	150	72.6	3.0
#200	75	59.3	13.3
Hyd1	31.8	35.5	23.8
Hyd2	20.8	29.0	6.5
Hyd3	12.6	19.4	9.6
Hyd4	9	14.1	5.3
Hyd5	6.6	10.9	3.2
Hyd6	3.2	6.6	4.3
Hyd7	1.4	4.5	2.1

Soil Classification	Percent of sample
Gravel	0.0
Sand	40.7
Coarse Sand	11.7
Medium Sand	4.3
Fine Sand	24.7
Silt	48.4
Clay	10.9

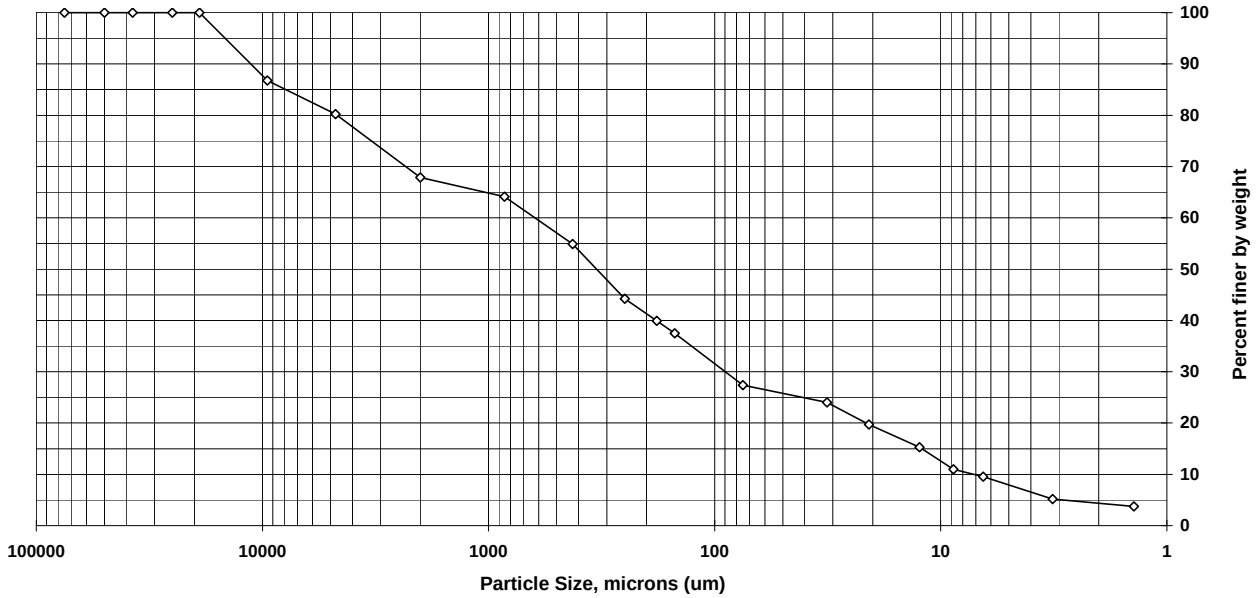
Particle Size of Soils by ASTM D422

				Date Received:	6/9/2017
Sample ID:	SED6.5E00EN	**Percent Solids:**	44.3%	**Start Date:**	6/14/2017
Lab ID:	180-67204-A-3	**Specific Gravity:**	2.650	**End Date:**	6/19/2017

Shape (> #10): subangular

Non-soil material: plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	86.8	13.2
#4	4750	80.2	6.6
#10	2000	67.9	12.3
#20	850	64.1	3.8
#40	425	54.9	9.2
#60	250	44.2	10.7
#80	180	39.9	4.3
#100	150	37.5	2.4
#200	75	27.4	10.1
Hyd1	31.8	24.0	3.4
Hyd2	20.8	19.7	4.3
Hyd3	12.4	15.3	4.4
Hyd4	8.8	11.0	4.3
Hyd5	6.5	9.5	1.5
Hyd6	3.2	5.2	4.3
Hyd7	1.4	3.7	1.4

Soil Classification	Percent of sample
Gravel	19.8
Sand	52.8
Coarse Sand	12.3
Medium Sand	13.0
Fine Sand	27.5
Silt	17.9
Clay	9.5

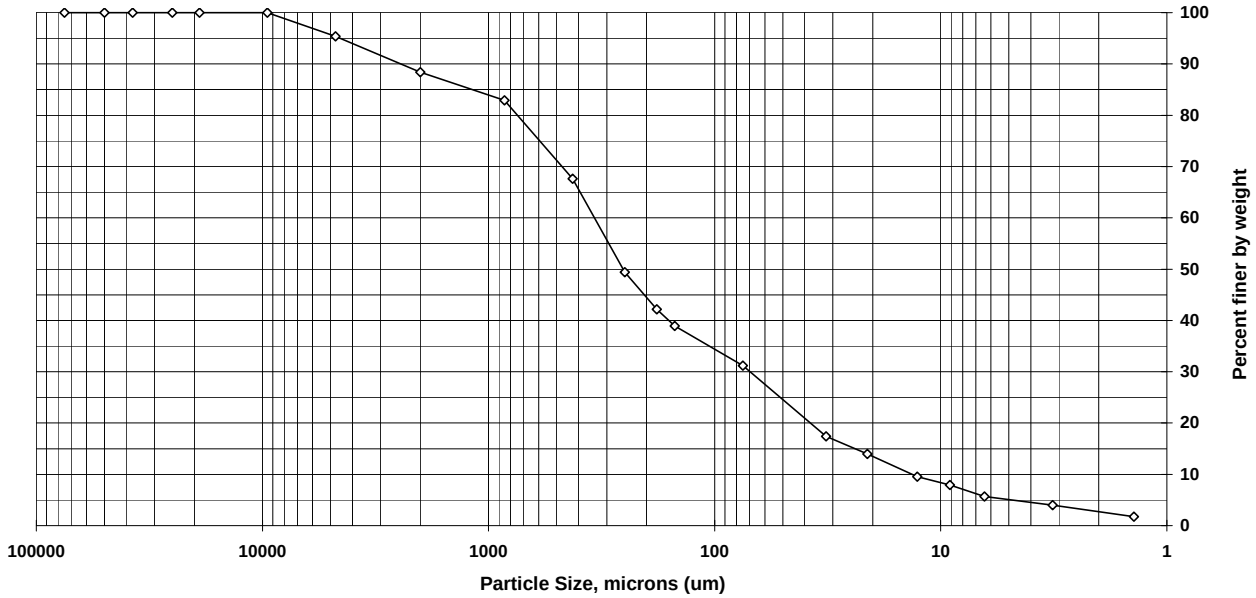
Particle Size of Soils by ASTM D422

				Date Received:	6/9/2017
Sample ID:	SED7E00EN	**Percent Solids:**	62.7%	**Start Date:**	6/14/2017
Lab ID:	180-67204-A-4	**Specific Gravity:**	2.650	**End Date:**	6/19/2017

Shape (> #10): subangular

Non-soil material: plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	95.4	4.6
#10	2000	88.4	7.0
#20	850	82.9	5.5
#40	425	67.6	15.3
#60	250	49.4	18.2
#80	180	42.2	7.2
#100	150	38.9	3.3
#200	75	31.2	7.7
Hyd1	32.2	17.4	13.8
Hyd2	21.1	14.0	3.4
Hyd3	12.7	9.6	4.4
Hyd4	9.1	7.9	1.7
Hyd5	6.4	5.7	2.2
Hyd6	3.2	4.0	1.7
Hyd7	1.4	1.8	2.2

Soil Classification	Percent of sample
Gravel	4.6
Sand	64.2
Coarse Sand	7.0
Medium Sand	20.8
Fine Sand	36.4
Silt	25.5
Clay	5.7

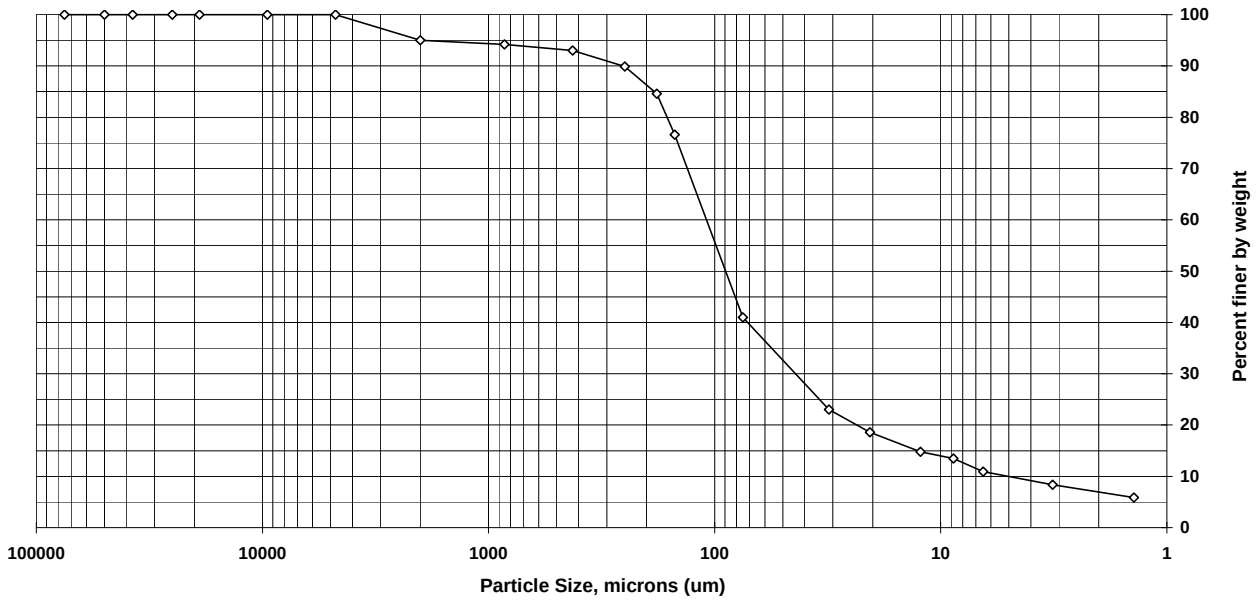
Particle Size of Soils by ASTM D422

				Date Received:	6/9/2017
Sample ID:	SED6B00EN	**Percent Solids:**	57.8%	**Start Date:**	6/14/2017
Lab ID:	180-67204-A-5	**Specific Gravity:**	2.650	**End Date:**	6/19/2017

Shape (> #10): na

Non-soil material: shell, plant

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	95.0	5.0
#20	850	94.2	0.8
#40	425	93.0	1.2
#60	250	89.9	3.1
#80	180	84.6	5.3
#100	150	76.6	8.0
#200	75	41.0	35.6
Hyd1	31.2	23.0	18.0
Hyd2	20.6	18.6	4.4
Hyd3	12.3	14.8	3.8
Hyd4	8.8	13.5	1.3
Hyd5	6.5	10.9	2.6
Hyd6	3.2	8.4	2.5
Hyd7	1.4	5.8	2.6

Soil Classification	Percent of sample
Gravel	0.0
Sand	59.0
Coarse Sand	5.0
Medium Sand	2.0
Fine Sand	52.0
Silt	30.1
Clay	10.9

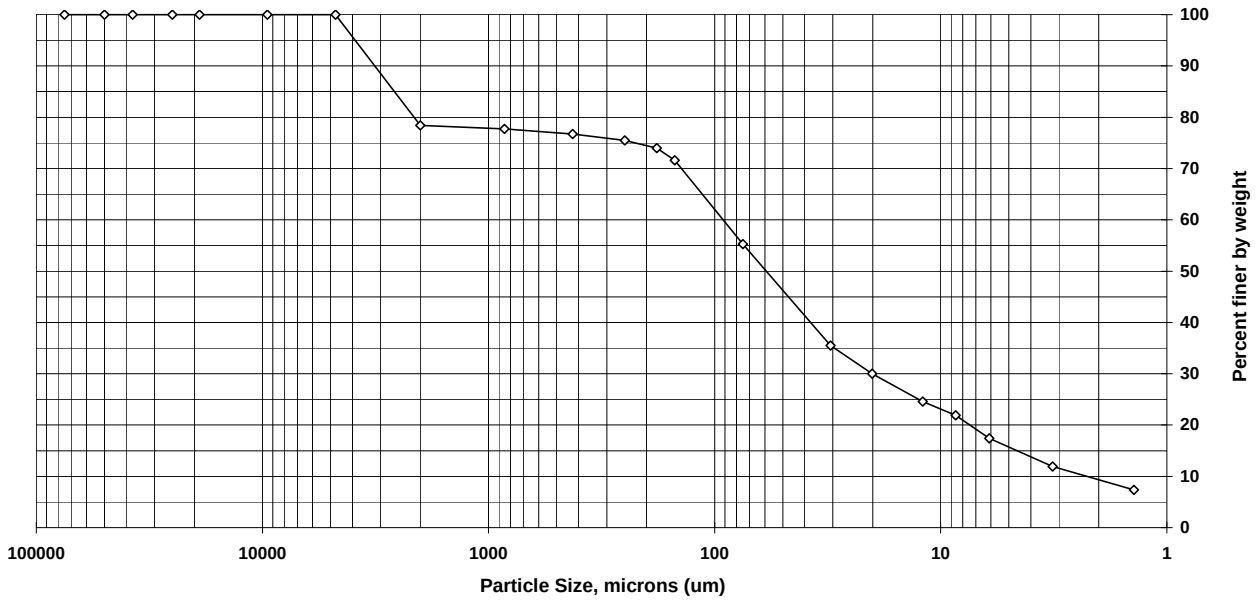
Particle Size of Soils by ASTM D422

				Date Received:	6/9/2017
Sample ID:	SED6A00EN	**Percent Solids:**	36.4%	**Start Date:**	6/14/2017
Lab ID:	180-67204-A-6	**Specific Gravity:**	2.650	**End Date:**	6/19/2017

Shape (> #10): na

Non-soil material: shell, plant

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	78.4	21.6
#20	850	77.7	0.7
#40	425	76.7	1.0
#60	250	75.5	1.2
#80	180	74.0	1.5
#100	150	71.6	2.4
#200	75	55.3	16.3
Hyd1	30.7	35.5	19.8
Hyd2	20.1	30.0	5.5
Hyd3	12	24.6	5.4
Hyd4	8.6	21.9	2.7
Hyd5	6.1	17.4	4.5
Hyd6	3.2	11.9	5.5
Hyd7	1.4	7.4	4.5

Soil Classification	Percent of sample
Gravel	0.0
Sand	44.7
Coarse Sand	21.6
Medium Sand	1.7
Fine Sand	21.4
Silt	37.9
Clay	17.4

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	SED7F00EN
Lab Sample ID	180-67204-A-1

Date Received	6/9/2017
Start Date	06/14/2017 15:52
End Date	06/19/2017 14:41

Dry Weight Determination

Tin Weight	1.08	g
Wet Sample + Tin	16.94	g
Dry Sample + Tin	8.09	g
% Moisture	55.80	%

Non-soil material:	plant
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	06/14/2017 15:55
Date/Time out of oven	06/15/2017 17:28

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.68	274.19	229.51
Sample Weight (Oven Dried)			101

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			14.1
Sample <#10			86.9
% Passing #10			37.9

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	350.81	364.91	14.10	g	86.0	Sand	Coarse
#20	850	388.27	391.73	3.46	g	82.6	Sand	Medium
#40	425	366.17	372.82	6.65	g	76.0	Sand	Medium
#60	250	348.01	357.01	9.00	g	67.1	Sand	Fine
#80	180	330.78	335.55	4.77	g	62.4	Sand	Fine
#100	150	330.16	332.92	2.76	g	59.7	Sand	Fine
#200	75	322.67	332.36	9.69	g	50.1	Sand	Fine
				0.00	g	50.1		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	101

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0190	20.5	32.2	24.8	Silt	
5	5	1.0155	20.5	21.2	19.2	Silt	
15	15	1.0125	20.5	12.6	14.4	Silt	
30	31	1.0105	20.5	9	11.3	Silt	
60	59	1.0090	20.5	6.6	8.88	Silt	
250	234	1.0065	20.5	3.4	4.9	Clay	
1440	1418	1.0055	20.5	1.4	3.31	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	SED7.5E00EN
Lab Sample ID	180-67204-A-2

Date Received	6/9/2017
Start Date	06/14/2017 15:56
End Date	06/19/2017 12:15

Dry Weight Determination

Tin Weight	1.08	g
Wet Sample + Tin	26.96	g
Dry Sample + Tin	10.45	g
% Moisture	63.79	%

Non-soil material:	plant
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/14/2017 15:58
Date/Time out of oven	06/15/2017 17:29

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	45.18	252.71	207.53
Sample Weight (Oven Dried)			75.1

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			8.82
Sample <#10			66.3
% Passing #10			31.9

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	350.81	359.63	8.82	g	88.3	Sand	Coarse
#20	850	379.17	380.40	1.23	g	86.7	Sand	Medium
#40	425	352.73	354.76	2.03	g	84.0	Sand	Medium
#60	250	350.65	354.01	3.36	g	79.5	Sand	Fine
#80	180	337.76	340.66	2.90	g	75.6	Sand	Fine
#100	150	328.40	330.67	2.27	g	72.6	Sand	Fine
#200	75	323.21	333.18	9.97	g	59.3	Sand	Fine
				0.00	g	59.3		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	75.1

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0200	20.5	31.8	35.5	Silt	
5	5	1.0170	20.5	20.8	29	Silt	
15	15	1.0125	20.5	12.6	19.4	Silt	
30	31	1.0100	20.5	9	14.1	Silt	
60	59	1.0085	20.5	6.6	10.9	Silt	
250	265	1.0065	20.5	3.2	6.59	Clay	
1440	1412	1.0055	20.5	1.4	4.46	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	SED6.5E00EN
Lab Sample ID	180-67204-A-3

Date Received	6/9/2017
Start Date	06/14/2017 16:05
End Date	06/19/2017 14:03

Dry Weight Determination

Tin Weight	1.06	g
Wet Sample + Tin	36.56	g
Dry Sample + Tin	16.78	g
% Moisture	55.72	%

Non-soil material:	plant
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	06/14/2017 16:06
Date/Time out of oven	06/15/2017 17:29

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.76	294.60	249.84
Sample Weight (Oven Dried)			111

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			35.6
Sample <#10			75.4
% Passing #10			30.2

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500	447.35	462.02	14.67	g	86.8	Gravel	
#4	4750	488.14	495.46	7.32	g	80.2	Gravel	
#10	2000	350.81	364.41	13.60	g	67.9	Sand	Coarse
#20	850	379.17	383.40	4.23	g	64.1	Sand	Medium
#40	425	352.73	362.94	10.21	g	54.9	Sand	Medium
#60	250	350.65	362.56	11.91	g	44.2	Sand	Fine
#80	180	337.76	342.55	4.79	g	39.9	Sand	Fine
#100	150	328.40	331.11	2.71	g	37.5	Sand	Fine
#200	75	323.21	334.41	11.20	g	27.4	Sand	Fine
				0.00	g	27.4		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	111

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0200	20.5	31.8	24	Silt	
5	5	1.0170	20.5	20.8	19.7	Silt	
15	15	1.0140	20.5	12.4	15.3	Silt	
30	32	1.0110	20.5	8.8	11	Silt	
60	60	1.0100	20.5	6.5	9.53	Silt	
250	259	1.0070	20.5	3.2	5.18	Clay	
1440	1406	1.0060	20.5	1.4	3.74	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SED7E00EN
Lab Sample ID	180-67204-A-4

Date Received	6/9/2017
Start Date	06/14/2017 16:07
End Date	06/19/2017 14:38

Dry Weight Determination

Tin Weight	1.11	g
Wet Sample + Tin	31.19	g
Dry Sample + Tin	19.98	g
% Moisture	37.27	%

Non-soil material:	plant
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	06/14/2017 16:09
Date/Time out of oven	06/15/2017 17:29

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.75	274.23	229.48
Sample Weight (Oven Dried)			144

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			16.6
Sample <#10			127
% Passing #10			55.3

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	494.73	6.59	g	95.4	Gravel	
#10	2000	350.81	360.85	10.04	g	88.4	Sand	Coarse
#20	850	379.17	387.12	7.95	g	82.9	Sand	Medium
#40	425	352.73	374.74	22.01	g	67.6	Sand	Medium
#60	250	350.65	376.82	26.17	g	49.4	Sand	Fine
#80	180	337.76	348.09	10.33	g	42.2	Sand	Fine
#100	150	328.40	333.15	4.75	g	38.9	Sand	Fine
#200	75	323.21	334.30	11.09	g	31.2	Sand	Fine
				0.00	g	31.2		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	144

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0190	20.5	32.2	17.4	Silt	
5	5	1.0160	20.5	21.1	14	Silt	
15	15	1.0120	20.5	12.7	9.57	Silt	
30	30	1.0105	20.5	9.1	7.9	Silt	
60	63	1.0085	20.5	6.4	5.67	Silt	
250	253	1.0070	20.5	3.2	4	Clay	
1440	1400	1.0050	20.5	1.4	1.77	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SED6B00EN
Lab Sample ID	180-67204-A-5

Date Received	6/9/2017
Start Date	06/14/2017 16:10
End Date	06/19/2017 14:52

Dry Weight Determination

Tin Weight	1.10	g
Wet Sample + Tin	37.19	g
Dry Sample + Tin	21.95	g
% Moisture	42.23	%

Non-soil material:	shell, plant
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/14/2017 16:12
Date/Time out of oven	06/15/2017 17:30

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.67	263.42	218.75
Sample Weight (Oven Dried)			126

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			6.34
Sample <#10			120
% Passing #10			54.9

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	350.81	357.15	6.34	g	95.0	Sand	Coarse
#20	850	379.17	380.14	0.97	g	94.2	Sand	Medium
#40	425	352.73	354.19	1.46	g	93.0	Sand	Medium
#60	250	350.65	354.55	3.90	g	89.9	Sand	Fine
#80	180	337.76	344.45	6.69	g	84.6	Sand	Fine
#100	150	328.40	338.53	10.13	g	76.6	Sand	Fine
#200	75	323.21	368.03	44.82	g	41.0	Sand	Fine
				0.00	g	41.0		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	126

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0215	20.5	31.2	23	Silt	
5	5	1.0180	20.5	20.6	18.6	Silt	
15	15	1.0150	20.5	12.3	14.8	Silt	
30	30	1.0140	20.5	8.8	13.5	Silt	
60	57	1.0120	20.5	6.5	10.9	Silt	
250	247	1.0100	20.5	3.2	8.39	Clay	
1440	1394	1.0080	20.5	1.4	5.84	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SED6A00EN
Lab Sample ID	180-67204-A-6

Date Received	6/9/2017
Start Date	06/14/2017 16:13
End Date	06/19/2017 14:55

Dry Weight Determination

Tin Weight	1.09	g
Wet Sample + Tin	22.42	g
Dry Sample + Tin	8.85	g
% Moisture	63.62	%

Non-soil material:	shell, plant
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/14/2017 16:15
Date/Time out of oven	06/15/2017 17:30

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.74	288.55	243.81
Sample Weight (Oven Dried)			88.7

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			19.2
Sample <#10			69.5
% Passing #10			28.5

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	350.81	370.01	19.20	g	78.4	Sand	Coarse
#20	850	388.27	388.89	0.62	g	77.7	Sand	Medium
#40	425	366.17	367.06	0.89	g	76.7	Sand	Medium
#60	250	348.01	349.09	1.08	g	75.5	Sand	Fine
#80	180	330.78	332.14	1.36	g	74.0	Sand	Fine
#100	150	330.16	332.32	2.16	g	71.6	Sand	Fine
#200	75	322.67	337.09	14.42	g	55.3	Sand	Fine
				0.00	g	55.3		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	88.7

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0230	20.5	30.7	35.5	Silt	
5	5	1.0200	20.5	20.1	30	Silt	
15	15	1.0170	20.5	12	24.6	Silt	
30	30	1.0155	20.5	8.6	21.9	Silt	
60	63	1.0130	20.5	6.1	17.4	Silt	
250	241	1.0100	20.5	3.2	11.9	Clay	
1440	1388	1.0075	20.5	1.4	7.39	Clay	

TestAmerica
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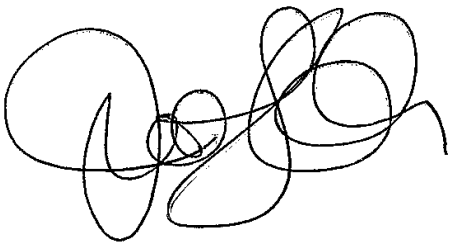
ANALYTICAL REPORT

Job Number: 180-67247-1

Job Description: Pepco Benning Road Facility

For:
AECOM, Inc.
250 Apollo Drive
Chelmsford, MA 01824

Attention: Mr. Robert Kennedy



Approved for release.
Jill L Colussy
Project Manager I
6/27/2017 2:20 PM

Jill L Colussy, Project Manager I
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2444
jill.colussy@testamericainc.com
06/27/2017

Method: D422 - Grain Size

Client Sample ID: SED7.5D00EN
Date Collected: 06/09/17 08:15
Date Received: 06/10/17 09:10

Lab Sample ID: 180-67247-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/14/17 22:22	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/14/17 22:22	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/14/17 22:22	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/14/17 22:22	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/14/17 22:22	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/14/17 22:22	1
Sieve Size #4 - Percent Finer	99.0				% Passing			06/14/17 22:22	1
Sieve Size #10 - Percent Finer	96.8				% Passing			06/14/17 22:22	1
Sieve Size #20 - Percent Finer	95.7				% Passing			06/14/17 22:22	1
Sieve Size #40 - Percent Finer	93.4				% Passing			06/14/17 22:22	1
Sieve Size #60 - Percent Finer	90.2				% Passing			06/14/17 22:22	1
Sieve Size #80 - Percent Finer	88.1				% Passing			06/14/17 22:22	1
Sieve Size #100 - Percent Finer	86.6				% Passing			06/14/17 22:22	1
Sieve Size #200 - Percent Finer	80.1				% Passing			06/14/17 22:22	1
Hydrometer Reading 1 - Percent Finer	56.8				% Passing			06/14/17 22:22	1
Hydrometer Reading 2 - Percent Finer	47.3				% Passing			06/14/17 22:22	1
Hydrometer Reading 3 - Percent Finer	34.7				% Passing			06/14/17 22:22	1
Hydrometer Reading 4 - Percent Finer	30.0				% Passing			06/14/17 22:22	1
Hydrometer Reading 5 - Percent Finer	23.7				% Passing			06/14/17 22:22	1
Hydrometer Reading 6 - Percent Finer	15.8				% Passing			06/14/17 22:22	1
Hydrometer Reading 7 - Percent Finer	12.6				% Passing			06/14/17 22:22	1

Method: D422 - Grain Size

Client Sample ID: SED7D00EN
Date Collected: 06/09/17 09:15
Date Received: 06/10/17 09:10

Lab Sample ID: 180-67247-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/14/17 22:24	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/14/17 22:24	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/14/17 22:24	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/14/17 22:24	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/14/17 22:24	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/14/17 22:24	1
Sieve Size #4 - Percent Finer	99.7				% Passing			06/14/17 22:24	1
Sieve Size #10 - Percent Finer	98.5				% Passing			06/14/17 22:24	1
Sieve Size #20 - Percent Finer	98.3				% Passing			06/14/17 22:24	1
Sieve Size #40 - Percent Finer	97.6				% Passing			06/14/17 22:24	1
Sieve Size #60 - Percent Finer	96.5				% Passing			06/14/17 22:24	1
Sieve Size #80 - Percent Finer	95.3				% Passing			06/14/17 22:24	1
Sieve Size #100 - Percent Finer	93.9				% Passing			06/14/17 22:24	1
Sieve Size #200 - Percent Finer	81.7				% Passing			06/14/17 22:24	1
Hydrometer Reading 1 - Percent Finer	42.0				% Passing			06/14/17 22:24	1
Hydrometer Reading 2 - Percent Finer	35.7				% Passing			06/14/17 22:24	1
Hydrometer Reading 3 - Percent Finer	27.3				% Passing			06/14/17 22:24	1
Hydrometer Reading 4 - Percent Finer	23.1				% Passing			06/14/17 22:24	1
Hydrometer Reading 5 - Percent Finer	18.9				% Passing			06/14/17 22:24	1
Hydrometer Reading 6 - Percent Finer	12.6				% Passing			06/14/17 22:24	1
Hydrometer Reading 7 - Percent Finer	9.5				% Passing			06/14/17 22:24	1

Method: D422 - Grain Size

Client Sample ID: SED6.5D00EN
Date Collected: 06/09/17 09:45
Date Received: 06/10/17 09:10

Lab Sample ID: 180-67247-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/14/17 22:26	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/14/17 22:26	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/14/17 22:26	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/14/17 22:26	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/14/17 22:26	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/14/17 22:26	1
Sieve Size #4 - Percent Finer	94.8				% Passing			06/14/17 22:26	1
Sieve Size #10 - Percent Finer	86.1				% Passing			06/14/17 22:26	1
Sieve Size #20 - Percent Finer	83.2				% Passing			06/14/17 22:26	1
Sieve Size #40 - Percent Finer	74.6				% Passing			06/14/17 22:26	1
Sieve Size #60 - Percent Finer	62.9				% Passing			06/14/17 22:26	1
Sieve Size #80 - Percent Finer	54.4				% Passing			06/14/17 22:26	1
Sieve Size #100 - Percent Finer	49.4				% Passing			06/14/17 22:26	1
Sieve Size #200 - Percent Finer	37.6				% Passing			06/14/17 22:26	1
Hydrometer Reading 1 - Percent Finer	21.7				% Passing			06/14/17 22:26	1
Hydrometer Reading 2 - Percent Finer	18.4				% Passing			06/14/17 22:26	1
Hydrometer Reading 3 - Percent Finer	15.1				% Passing			06/14/17 22:26	1
Hydrometer Reading 4 - Percent Finer	13.2				% Passing			06/14/17 22:26	1
Hydrometer Reading 5 - Percent Finer	9.9				% Passing			06/14/17 22:26	1
Hydrometer Reading 6 - Percent Finer	7.2				% Passing			06/14/17 22:26	1
Hydrometer Reading 7 - Percent Finer	4.6				% Passing			06/14/17 22:26	1

Method: D422 - Grain Size

Client Sample ID: SED8A00EN
Date Collected: 06/09/17 10:30
Date Received: 06/10/17 09:10

Lab Sample ID: 180-67247-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/14/17 22:29	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/14/17 22:29	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/14/17 22:29	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/14/17 22:29	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/14/17 22:29	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/14/17 22:29	1
Sieve Size #4 - Percent Finer	98.3				% Passing			06/14/17 22:29	1
Sieve Size #10 - Percent Finer	98.1				% Passing			06/14/17 22:29	1
Sieve Size #20 - Percent Finer	98.0				% Passing			06/14/17 22:29	1
Sieve Size #40 - Percent Finer	97.9				% Passing			06/14/17 22:29	1
Sieve Size #60 - Percent Finer	97.7				% Passing			06/14/17 22:29	1
Sieve Size #80 - Percent Finer	97.3				% Passing			06/14/17 22:29	1
Sieve Size #100 - Percent Finer	96.8				% Passing			06/14/17 22:29	1
Sieve Size #200 - Percent Finer	90.0				% Passing			06/14/17 22:29	1
Hydrometer Reading 1 - Percent Finer	58.7				% Passing			06/14/17 22:29	1
Hydrometer Reading 2 - Percent Finer	49.5				% Passing			06/14/17 22:29	1
Hydrometer Reading 3 - Percent Finer	41.7				% Passing			06/14/17 22:29	1
Hydrometer Reading 4 - Percent Finer	36.5				% Passing			06/14/17 22:29	1
Hydrometer Reading 5 - Percent Finer	28.7				% Passing			06/14/17 22:29	1
Hydrometer Reading 6 - Percent Finer	20.9				% Passing			06/14/17 22:29	1
Hydrometer Reading 7 - Percent Finer	15.6				% Passing			06/14/17 22:29	1

Method: D422 - Grain Size

Client Sample ID: SED7A00EN
Date Collected: 06/09/17 11:15
Date Received: 06/10/17 09:10

Lab Sample ID: 180-67247-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/14/17 22:32	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/14/17 22:32	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/14/17 22:32	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/14/17 22:32	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/14/17 22:32	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/14/17 22:32	1
Sieve Size #4 - Percent Finer	97.5				% Passing			06/14/17 22:32	1
Sieve Size #10 - Percent Finer	96.7				% Passing			06/14/17 22:32	1
Sieve Size #20 - Percent Finer	96.6				% Passing			06/14/17 22:32	1
Sieve Size #40 - Percent Finer	96.2				% Passing			06/14/17 22:32	1
Sieve Size #60 - Percent Finer	95.6				% Passing			06/14/17 22:32	1
Sieve Size #80 - Percent Finer	94.3				% Passing			06/14/17 22:32	1
Sieve Size #100 - Percent Finer	91.8				% Passing			06/14/17 22:32	1
Sieve Size #200 - Percent Finer	79.2				% Passing			06/14/17 22:32	1
Hydrometer Reading 1 - Percent Finer	53.2				% Passing			06/14/17 22:32	1
Hydrometer Reading 2 - Percent Finer	46.0				% Passing			06/14/17 22:32	1
Hydrometer Reading 3 - Percent Finer	38.7				% Passing			06/14/17 22:32	1
Hydrometer Reading 4 - Percent Finer	33.9				% Passing			06/14/17 22:32	1
Hydrometer Reading 5 - Percent Finer	27.8				% Passing			06/14/17 22:32	1
Hydrometer Reading 6 - Percent Finer	19.4				% Passing			06/14/17 22:32	1
Hydrometer Reading 7 - Percent Finer	14.5				% Passing			06/14/17 22:32	1

Method: D422 - Grain Size

Client Sample ID: SED8B00EN
Date Collected: 06/09/17 12:00
Date Received: 06/10/17 09:10

Lab Sample ID: 180-67247-6
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/14/17 22:36	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/14/17 22:36	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/14/17 22:36	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/14/17 22:36	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/14/17 22:36	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/14/17 22:36	1
Sieve Size #4 - Percent Finer	94.0				% Passing			06/14/17 22:36	1
Sieve Size #10 - Percent Finer	92.3				% Passing			06/14/17 22:36	1
Sieve Size #20 - Percent Finer	91.8				% Passing			06/14/17 22:36	1
Sieve Size #40 - Percent Finer	90.3				% Passing			06/14/17 22:36	1
Sieve Size #60 - Percent Finer	83.3				% Passing			06/14/17 22:36	1
Sieve Size #80 - Percent Finer	67.9				% Passing			06/14/17 22:36	1
Sieve Size #100 - Percent Finer	55.2				% Passing			06/14/17 22:36	1
Sieve Size #200 - Percent Finer	34.3				% Passing			06/14/17 22:36	1
Hydrometer Reading 1 - Percent Finer	24.2				% Passing			06/14/17 22:36	1
Hydrometer Reading 2 - Percent Finer	21.1				% Passing			06/14/17 22:36	1
Hydrometer Reading 3 - Percent Finer	18.1				% Passing			06/14/17 22:36	1
Hydrometer Reading 4 - Percent Finer	15.6				% Passing			06/14/17 22:36	1
Hydrometer Reading 5 - Percent Finer	13.3				% Passing			06/14/17 22:36	1
Hydrometer Reading 6 - Percent Finer	9.4				% Passing			06/14/17 22:36	1
Hydrometer Reading 7 - Percent Finer	7.0				% Passing			06/14/17 22:36	1

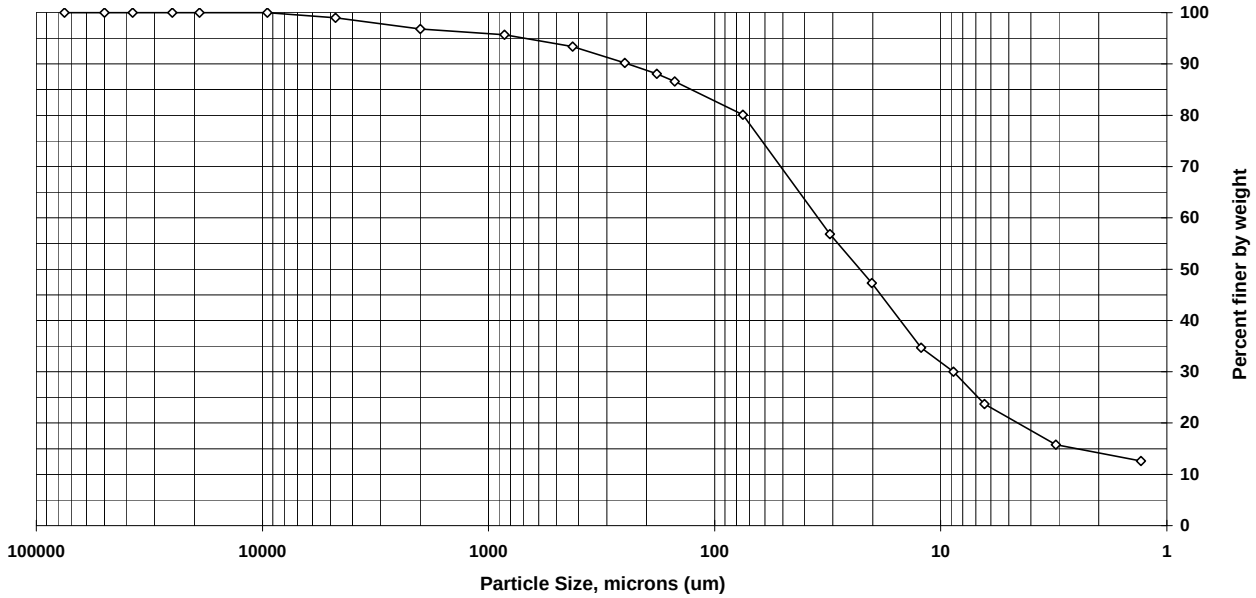
Particle Size of Soils by ASTM D422

				Date Received:	6/10/2017
Sample ID:	SED7.5D00EN	**Percent Solids:**	47.3%	**Start Date:**	6/14/2017
Lab ID:	180-67247-A-1	**Specific Gravity:**	2.650	**End Date:**	6/21/2017

Shape (> #10): subrounded

Non-soil material: plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.0	1.0
#10	2000	96.8	2.2
#20	850	95.7	1.1
#40	425	93.4	2.3
#60	250	90.2	3.2
#80	180	88.1	2.1
#100	150	86.6	1.5
#200	75	80.1	6.5
Hyd1	30.9	56.8	23.3
Hyd2	20.2	47.3	9.5
Hyd3	12.2	34.7	12.6
Hyd4	8.8	30.0	4.7
Hyd5	6.4	23.7	6.3
Hyd6	3.1	15.8	7.9
Hyd7	1.3	12.6	3.2

Soil Classification	Percent of sample
Gravel	1.0
Sand	18.9
Coarse Sand	2.2
Medium Sand	3.4
Fine Sand	13.3
Silt	56.4
Clay	23.7

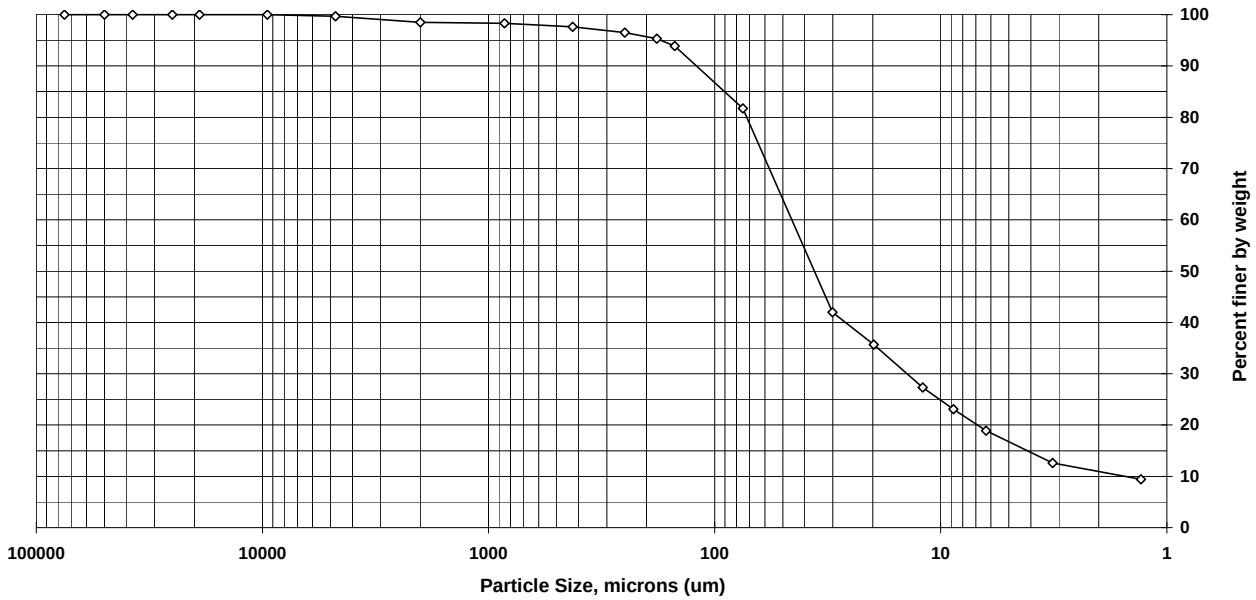
Particle Size of Soils by ASTM D422

				Date Received:	6/10/2017
Sample ID:	SED7D00EN	**Percent Solids:**	47.9%	**Start Date:**	6/14/2017
Lab ID:	180-67247-A-2	**Specific Gravity:**	2.650	**End Date:**	6/21/2017

Shape (> #10): n/a

Non-soil material: plant

Hardness (> #10): n/a



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.7	0.3
#10	2000	98.5	1.2
#20	850	98.3	0.2
#40	425	97.6	0.7
#60	250	96.5	1.1
#80	180	95.3	1.2
#100	150	93.9	1.4
#200	75	81.7	12.2
Hyd1	30.1	42.0	39.7
Hyd2	19.8	35.7	6.3
Hyd3	12	27.3	8.4
Hyd4	8.8	23.1	4.2
Hyd5	6.3	18.9	4.2
Hyd6	3.2	12.6	6.3
Hyd7	1.3	9.5	3.1

Soil Classification	Percent of sample
Gravel	0.3
Sand	18.0
Coarse Sand	1.2
Medium Sand	0.9
Fine Sand	15.9
Silt	62.8
Clay	18.9

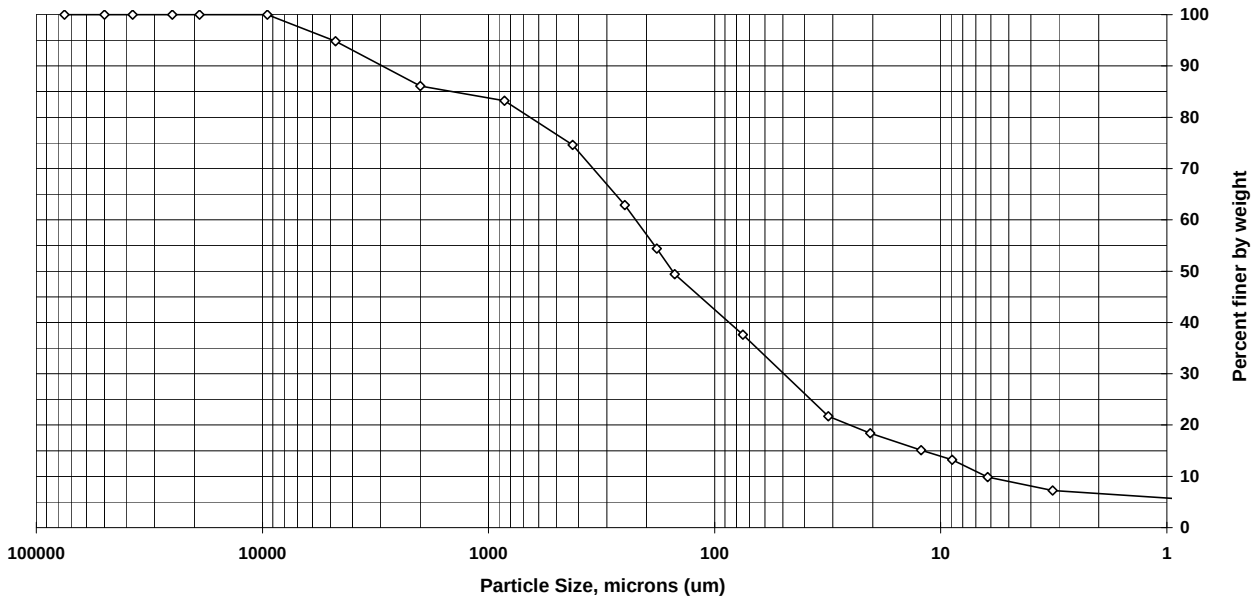
Particle Size of Soils by ASTM D422

				Date Received:	6/10/2017
Sample ID:	SED6.5D00EN	**Percent Solids:**	55.4%	**Start Date:**	6/14/2017
Lab ID:	180-67247-A-3	**Specific Gravity:**	2.650	**End Date:**	6/21/2017

Shape (> #10): subangular

Non-soil material: plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	94.8	5.2
#10	2000	86.1	8.7
#20	850	83.2	2.9
#40	425	74.6	8.6
#60	250	62.9	11.7
#80	180	54.4	8.5
#100	150	49.4	5.0
#200	75	37.6	11.8
Hyd1	31.4	21.7	15.9
Hyd2	20.5	18.4	3.3
Hyd3	12.2	15.1	3.3
Hyd4	8.9	13.2	1.9
Hyd5	6.2	9.9	3.3
Hyd6	3.2	7.2	2.6
Hyd7	0.4	4.6	2.6

Soil Classification	Percent of sample
Gravel	5.2
Sand	57.2
Coarse Sand	8.7
Medium Sand	11.5
Fine Sand	37.0
Silt	27.7
Clay	9.9

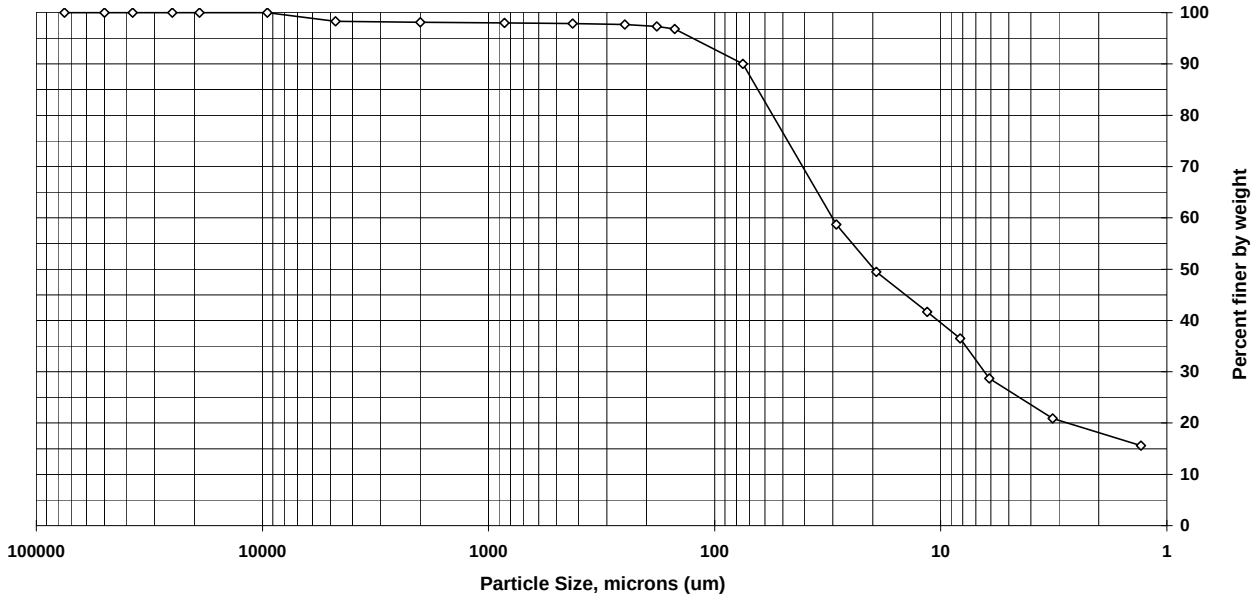
Particle Size of Soils by ASTM D422

				Date Received:	6/10/2017
Sample ID:	SED8A00EN	**Percent Solids:**	43.9%	**Start Date:**	6/14/2017
Lab ID:	180-67247-A-4	**Specific Gravity:**	2.650	**End Date:**	6/21/2017

Shape (> #10): n/a

Non-soil material: shell, plant

Hardness (> #10): n/a



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	98.3	1.7
#10	2000	98.1	0.2
#20	850	98.0	0.1
#40	425	97.9	0.1
#60	250	97.7	0.2
#80	180	97.3	0.4
#100	150	96.8	0.5
#200	75	90.0	6.8
Hyd1	29	58.7	31.3
Hyd2	19.3	49.5	9.2
Hyd3	11.5	41.7	7.8
Hyd4	8.2	36.5	5.2
Hyd5	6.1	28.7	7.8
Hyd6	3.2	20.9	7.8
Hyd7	1.3	15.6	5.3

Soil Classification	Percent of sample
Gravel	1.7
Sand	8.3
Coarse Sand	0.2
Medium Sand	0.2
Fine Sand	7.9
Silt	61.3
Clay	28.7

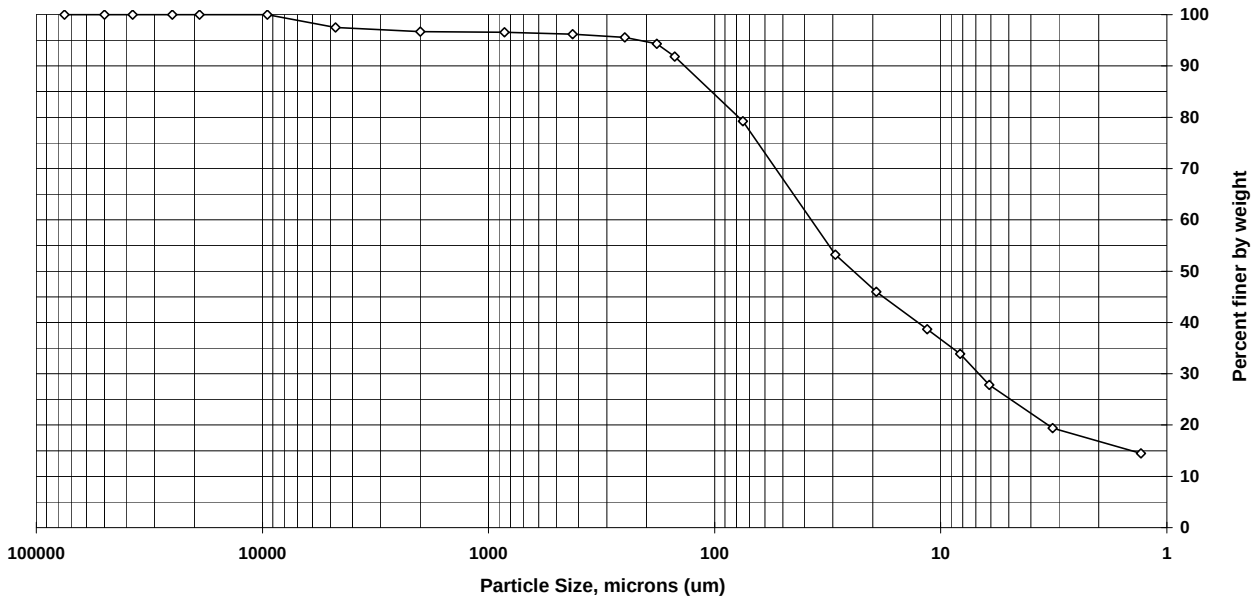
Particle Size of Soils by ASTM D422

				Date Received:	6/10/2017
Sample ID:	SED7A00EN	**Percent Solids:**	39.3%	**Start Date:**	6/14/2017
Lab ID:	180-67247-A-5	**Specific Gravity:**	2.650	**End Date:**	6/21/2017

Shape (> #10): n/a

Non-soil material: shell, plant

Hardness (> #10): n/a



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	97.5	2.5
#10	2000	96.7	0.8
#20	850	96.6	0.1
#40	425	96.2	0.4
#60	250	95.6	0.6
#80	180	94.3	1.3
#100	150	91.8	2.5
#200	75	79.2	12.6
Hyd1	29.3	53.2	26.0
Hyd2	19.3	46.0	7.2
Hyd3	11.5	38.7	7.3
Hyd4	8.2	33.9	4.8
Hyd5	6.1	27.8	6.1
Hyd6	3.2	19.4	8.4
Hyd7	1.3	14.5	4.9

Soil Classification	Percent of sample
Gravel	2.5
Sand	18.3
Coarse Sand	0.8
Medium Sand	0.5
Fine Sand	17.0
Silt	51.4
Clay	27.8

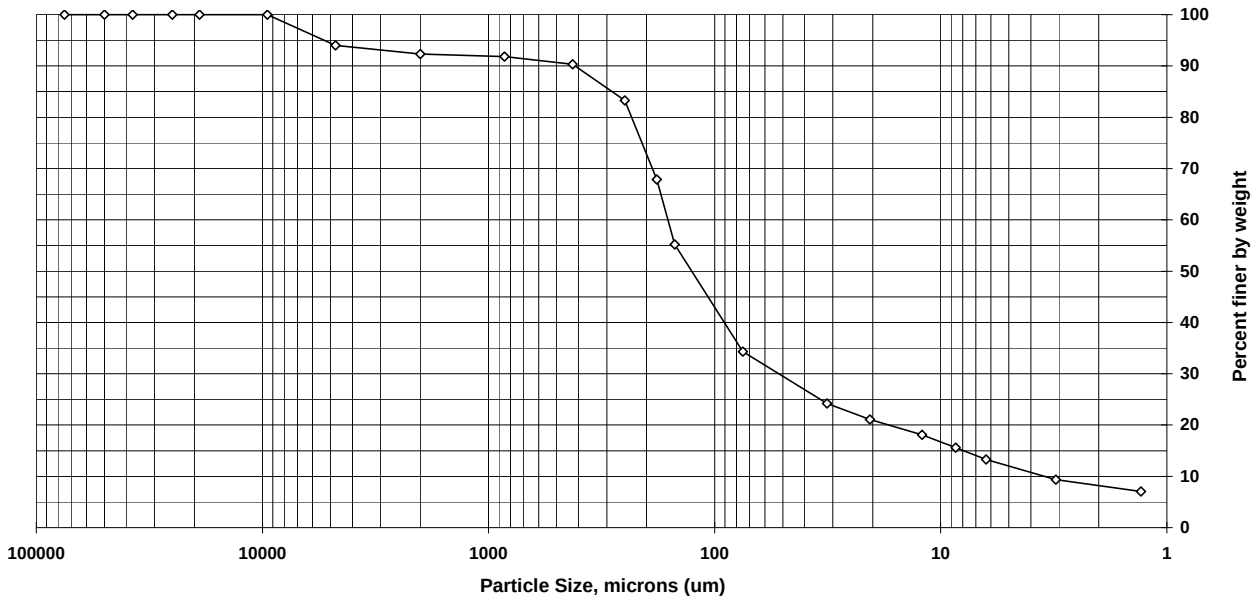
Particle Size of Soils by ASTM D422

				Date Received:	6/10/2017
Sample ID:	SED8B00EN	**Percent Solids:**	56.7%	**Start Date:**	6/14/2017
Lab ID:	180-67247-A-6	**Specific Gravity:**	2.650	**End Date:**	6/21/2017

Shape (> #10): n/a

Non-soil material: shell, plant

Hardness (> #10): n/a



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	94.0	6.0
#10	2000	92.3	1.7
#20	850	91.8	0.5
#40	425	90.3	1.5
#60	250	83.3	7.0
#80	180	67.9	15.4
#100	150	55.2	12.7
#200	75	34.3	20.9
Hyd1	31.8	24.2	10.1
Hyd2	20.6	21.1	3.1
Hyd3	12.1	18.1	3.0
Hyd4	8.6	15.6	2.5
Hyd5	6.3	13.3	2.3
Hyd6	3.1	9.4	3.9
Hyd7	1.3	7.0	2.3

Soil Classification	Percent of sample
Gravel	6.0
Sand	59.7
Coarse Sand	1.7
Medium Sand	2.0
Fine Sand	56.0
Silt	21.0
Clay	13.3

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	SED7.5D00EN
Lab Sample ID	180-67247-A-1

Date Received	6/10/2017
Start Date	06/14/2017 22:22
End Date	06/21/2017 13:17

Dry Weight Determination

Tin Weight	1.08	g
Wet Sample + Tin	13.94	g
Dry Sample + Tin	7.16	g
% Moisture	52.72	%

Non-soil material:	plant
Shape (> #10):	subrounded
Hardness (> #10):	hard

Date/Time in oven	06/14/2017 22:23
Date/Time out of oven	06/15/2017 18:22

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.94	152.58	107.64
Sample Weight (Oven Dried)			50.9

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			1.62
Sample <#10			49.3
% Passing #10			45.8

Hydrometer Data

Serial Number	504359
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	488.64	0.50	g	99.0	Gravel	
#10	2000	462.71	463.83	1.12	g	96.8	Sand	Coarse
#20	850	388.43	388.98	0.55	g	95.7	Sand	Medium
#40	425	366.38	367.53	1.15	g	93.4	Sand	Medium
#60	250	348.14	349.76	1.62	g	90.2	Sand	Fine
#80	180	330.82	331.88	1.06	g	88.1	Sand	Fine
#100	150	330.17	330.93	0.76	g	86.6	Sand	Fine
#200	75	322.77	326.09	3.32	g	80.1	Sand	Fine
				0.00	g	80.1		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	50.9

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0220	21.0	30.9	56.8	Silt	
5	5	1.0190	21.0	20.2	47.3	Silt	
15	15	1.0150	21.0	12.2	34.7	Silt	
30	30	1.0135	21.0	8.8	30	Silt	
60	58	1.0115	21.0	6.4	23.7	Silt	
250	256	1.0090	21.0	3.1	15.8	Clay	
1440	1440	1.0080	21.0	1.3	12.6	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SED7D00EN
Lab Sample ID	180-67247-A-2

Date Received	6/10/2017
Start Date	06/14/2017 22:24
End Date	06/21/2017 13:51

Dry Weight Determination

Tin Weight	1.11	g
Wet Sample + Tin	30.93	g
Dry Sample + Tin	15.38	g
% Moisture	52.15	%

Non-soil material:	plant
Shape (> #10):	n/a
Hardness (> #10):	n/a

Date/Time in oven	06/14/2017 22:26
Date/Time out of oven	06/15/2017 18:22

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.64	204.60	159.96
Sample Weight (Oven Dried)			76.5

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			1.11
Sample <#10			75.4
% Passing #10			47.1

Hydrometer Data

Serial Number	504359
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	488.37	0.23	g	99.7	Gravel	
#10	2000	462.71	463.59	0.88	g	98.5	Sand	Coarse
#20	850	388.43	388.62	0.19	g	98.3	Sand	Medium
#40	425	366.38	366.88	0.50	g	97.6	Sand	Medium
#60	250	348.14	349.00	0.86	g	96.5	Sand	Fine
#80	180	330.82	331.74	0.92	g	95.3	Sand	Fine
#100	150	330.17	331.24	1.07	g	93.9	Sand	Fine
#200	75	322.77	332.14	9.37	g	81.7	Sand	Fine
				0.00	g	81.7		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	76.5

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0240	21.0	30.1	42	Silt	
5	5	1.0210	21.0	19.8	35.7	Silt	
15	15	1.0170	21.0	12	27.3	Silt	
30	29	1.0150	21.0	8.8	23.1	Silt	
60	58	1.0130	21.0	6.3	18.9	Silt	
250	250	1.0100	21.0	3.2	12.6	Clay	
1440	1434	1.0085	21.0	1.3	9.45	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SED6.5D00EN
Lab Sample ID	180-67247-A-3

Date Received	6/10/2017
Start Date	06/14/2017 22:26
End Date	06/21/2017 14:11

Dry Weight Determination

Tin Weight	1.04	g
Wet Sample + Tin	38.35	g
Dry Sample + Tin	21.71	g
% Moisture	44.60	%

Non-soil material:	plant
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	06/14/2017 22:28
Date/Time out of oven	06/15/2017 18:22

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.69	264.26	219.57
Sample Weight (Oven Dried)			122

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			17
Sample <#10			105
% Passing #10			47.8

Hydrometer Data

Serial Number	504359
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	494.51	6.37	g	94.8	Gravel	
#10	2000	462.71	473.35	10.64	g	86.1	Sand	Coarse
#20	850	388.43	391.92	3.49	g	83.2	Sand	Medium
#40	425	366.38	376.90	10.52	g	74.6	Sand	Medium
#60	250	348.14	362.43	14.29	g	62.9	Sand	Fine
#80	180	330.82	341.24	10.42	g	54.4	Sand	Fine
#100	150	330.17	336.33	6.16	g	49.4	Sand	Fine
#200	75	322.77	337.15	14.38	g	37.6	Sand	Fine
				0.00	g	37.6		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	122

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0205	21.0	31.4	21.7	Silt	
5	5	1.0180	21.0	20.5	18.4	Silt	
15	15	1.0155	21.0	12.2	15.1	Silt	
30	29	1.0140	21.0	8.9	13.2	Silt	
60	63	1.0115	21.0	6.2	9.87	Silt	
250	250	1.0095	21.0	3.2	7.24	Clay	
1440	14343	1.0075	21.0	0.4	4.61	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SED8A00EN
Lab Sample ID	180-67247-A-4

Date Received	6/10/2017
Start Date	06/14/2017 22:29
End Date	06/21/2017 14:36

Dry Weight Determination

Tin Weight	1.07	g
Wet Sample + Tin	31.42	g
Dry Sample + Tin	14.38	g
% Moisture	56.14	%

Non-soil material:	shell, plant
Shape (> #10):	n/a
Hardness (> #10):	n/a

Date/Time in oven	06/14/2017 22:31
Date/Time out of oven	06/15/2017 18:23

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.68	185.04	140.36
Sample Weight (Oven Dried)			61.6

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			1.14
Sample <#10			60.5
% Passing #10			43.1

Hydrometer Data

Serial Number	504359
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	489.17	1.03	g	98.3	Gravel	
#10	2000	462.71	462.82	0.11	g	98.1	Sand	Coarse
#20	850	388.43	388.49	0.06	g	98.0	Sand	Medium
#40	425	366.38	366.47	0.09	g	97.9	Sand	Medium
#60	250	348.14	348.28	0.14	g	97.7	Sand	Fine
#80	180	330.82	331.04	0.22	g	97.3	Sand	Fine
#100	150	330.17	330.49	0.32	g	96.8	Sand	Fine
#200	75	322.77	326.94	4.17	g	90.0	Sand	Fine
				0.00	g	90.0		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	61.6

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0265	21.0	29	58.7	Silt	
5	5	1.0230	21.0	19.3	49.5	Silt	
15	15	1.0200	21.0	11.5	41.7	Silt	
30	31	1.0180	21.0	8.2	36.5	Silt	
60	60	1.0150	21.0	6.1	28.7	Silt	
250	240	1.0120	21.0	3.2	20.9	Clay	
1440	1424	1.0100	21.0	1.3	15.6	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SED7A00EN
Lab Sample ID	180-67247-A-5

Date Received	6/10/2017
Start Date	06/14/2017 22:32
End Date	06/21/2017 15:05

Dry Weight Determination

Tin Weight	1.11	g
Wet Sample + Tin	20.16	g
Dry Sample + Tin	8.60	g
% Moisture	60.68	%

Non-soil material:	shell, plant
Shape (> #10):	n/a
Hardness (> #10):	n/a

Date/Time in oven	06/14/2017 22:34
Date/Time out of oven	06/15/2017 18:23

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	45.53	214.51	168.98
Sample Weight (Oven Dried)			66.4

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			2.2
Sample <#10			64.2
% Passing #10			38

Hydrometer Data

Serial Number	504359
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	489.82	1.68	g	97.5	Gravel	
#10	2000	462.71	463.23	0.52	g	96.7	Sand	Coarse
#20	850	388.43	388.49	0.06	g	96.6	Sand	Medium
#40	425	366.38	366.62	0.24	g	96.2	Sand	Medium
#60	250	348.14	348.53	0.39	g	95.6	Sand	Fine
#80	180	330.82	331.70	0.88	g	94.3	Sand	Fine
#100	150	330.17	331.86	1.69	g	91.8	Sand	Fine
#200	75	322.77	331.13	8.36	g	79.2	Sand	Fine
				0.00	g	79.2		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	66.4

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0260	21.0	29.3	53.2	Silt	
5	5	1.0230	21.0	19.3	46	Silt	
15	15	1.0200	21.0	11.5	38.7	Silt	
30	31	1.0180	21.0	8.2	33.9	Silt	
60	59	1.0155	21.0	6.1	27.8	Silt	
250	234	1.0120	21.0	3.2	19.4	Clay	
1440	1418	1.0100	21.0	1.3	14.5	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SED8B00EN
Lab Sample ID	180-67247-A-6

Date Received	6/10/2017
Start Date	06/14/2017 22:36
End Date	06/21/2017 12:10

Dry Weight Determination

Tin Weight	1.06	g
Wet Sample + Tin	24.37	g
Dry Sample + Tin	14.27	g
% Moisture	43.33	%

Non-soil material:	shell, plant
Shape (> #10):	n/a
Hardness (> #10):	n/a

Date/Time in oven	06/14/2017 22:38
Date/Time out of oven	06/15/2017 18:23

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	45.17	226.35	181.18
Sample Weight (Oven Dried)			103

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			7.94
Sample <#10			95.1
% Passing #10			52.5

Hydrometer Data

Serial Number	504359
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	494.36	6.22	g	94.0	Gravel	
#10	2000	462.71	464.43	1.72	g	92.3	Sand	Coarse
#20	850	379.48	379.99	0.51	g	91.8	Sand	Medium
#40	425	352.97	354.55	1.58	g	90.3	Sand	Medium
#60	250	350.80	358.00	7.20	g	83.3	Sand	Fine
#80	180	337.82	353.69	15.87	g	67.9	Sand	Fine
#100	150	328.44	341.57	13.13	g	55.2	Sand	Fine
#200	75	323.34	344.87	21.53	g	34.3	Sand	Fine
				0.00	g	34.3		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	103

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0195	21.0	31.8	24.2	Silt	
5	5	1.0175	21.0	20.6	21.1	Silt	
15	15	1.0156	21.0	12.1	18.1	Silt	
30	31	1.0140	21.0	8.6	15.6	Silt	
60	59	1.0125	21.0	6.3	13.3	Silt	
250	265	1.0100	21.0	3.1	9.36	Clay	
1440	1412	1.0085	21.0	1.3	7.02	Clay	

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THE LEADER IN ENVIRONMENTAL TESTING

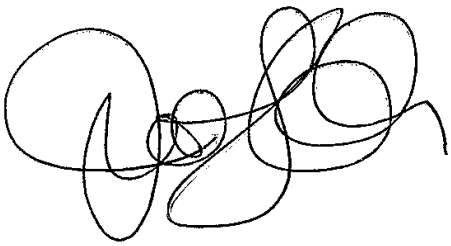
ANALYTICAL REPORT

Job Number: 180-67413-1

Job Description: Pepco Benning Road Facility

For:
AECOM, Inc.
250 Apollo Drive
Chelmsford, MA 01824

Attention: Mr. Robert Kennedy



Approved for release.
Jill L Colussy
Project Manager I
7/3/2017 12:04 PM

Jill L Colussy, Project Manager I
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2444
jill.colussy@testamericainc.com
07/03/2017

Method: D422 - Grain Size

Client Sample ID: SEDBACK2101N
Date Collected: 06/14/17 10:00
Date Received: 06/15/17 09:30

Lab Sample ID: 180-67413-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/19/17 15:57	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/19/17 15:57	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/19/17 15:57	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/19/17 15:57	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/19/17 15:57	1
Sieve Size 0.375 inch - Percent Finer	83.7				% Passing			06/19/17 15:57	1
Sieve Size #4 - Percent Finer	79.7				% Passing			06/19/17 15:57	1
Sieve Size #10 - Percent Finer	75.6				% Passing			06/19/17 15:57	1
Sieve Size #20 - Percent Finer	72.3				% Passing			06/19/17 15:57	1
Sieve Size #40 - Percent Finer	64.0				% Passing			06/19/17 15:57	1
Sieve Size #60 - Percent Finer	48.8				% Passing			06/19/17 15:57	1
Sieve Size #80 - Percent Finer	33.9				% Passing			06/19/17 15:57	1
Sieve Size #100 - Percent Finer	24.9				% Passing			06/19/17 15:57	1
Sieve Size #200 - Percent Finer	17.8				% Passing			06/19/17 15:57	1
Hydrometer Reading 1 - Percent Finer	16.5				% Passing			06/19/17 15:57	1
Hydrometer Reading 2 - Percent Finer	14.6				% Passing			06/19/17 15:57	1
Hydrometer Reading 3 - Percent Finer	12.7				% Passing			06/19/17 15:57	1
Hydrometer Reading 4 - Percent Finer	10.7				% Passing			06/19/17 15:57	1
Hydrometer Reading 5 - Percent Finer	9.3				% Passing			06/19/17 15:57	1
Hydrometer Reading 6 - Percent Finer	6.8				% Passing			06/19/17 15:57	1
Hydrometer Reading 7 - Percent Finer	4.9				% Passing			06/19/17 15:57	1

Method: D422 - Grain Size

Client Sample ID: SEDBACK2103N
Date Collected: 06/14/17 10:05
Date Received: 06/15/17 09:30

Lab Sample ID: 180-67413-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/19/17 16:00	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/19/17 16:00	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/19/17 16:00	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/19/17 16:00	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/19/17 16:00	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/19/17 16:00	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/19/17 16:00	1
Sieve Size #10 - Percent Finer	98.5				% Passing			06/19/17 16:00	1
Sieve Size #20 - Percent Finer	96.0				% Passing			06/19/17 16:00	1
Sieve Size #40 - Percent Finer	84.3				% Passing			06/19/17 16:00	1
Sieve Size #60 - Percent Finer	59.6				% Passing			06/19/17 16:00	1
Sieve Size #80 - Percent Finer	48.2				% Passing			06/19/17 16:00	1
Sieve Size #100 - Percent Finer	44.3				% Passing			06/19/17 16:00	1
Sieve Size #200 - Percent Finer	34.1				% Passing			06/19/17 16:00	1
Hydrometer Reading 1 - Percent Finer	29.3				% Passing			06/19/17 16:00	1
Hydrometer Reading 2 - Percent Finer	24.4				% Passing			06/19/17 16:00	1
Hydrometer Reading 3 - Percent Finer	20.7				% Passing			06/19/17 16:00	1
Hydrometer Reading 4 - Percent Finer	17.1				% Passing			06/19/17 16:00	1
Hydrometer Reading 5 - Percent Finer	14.6				% Passing			06/19/17 16:00	1
Hydrometer Reading 6 - Percent Finer	12.2				% Passing			06/19/17 16:00	1
Hydrometer Reading 7 - Percent Finer	9.8				% Passing			06/19/17 16:00	1

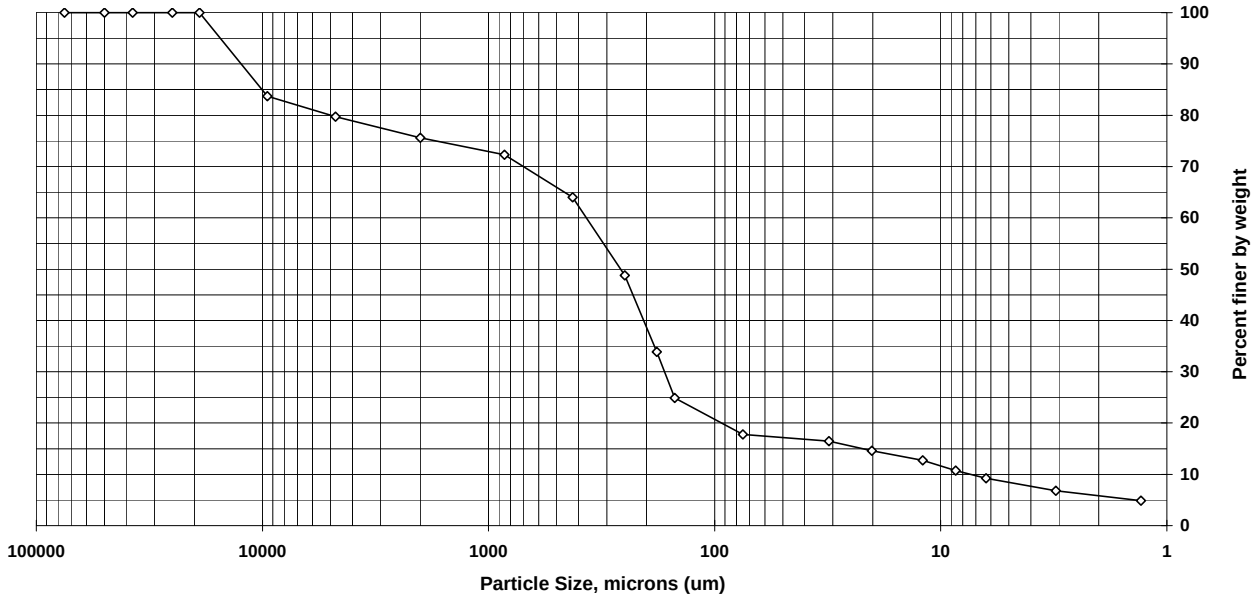
Particle Size of Soils by ASTM D422

				Date Received:	6/15/2017
Sample ID:	SEDBACK2101N	**Percent Solids:**	77.3%	**Start Date:**	6/19/2017
Lab ID:	180-67413-J-1	**Specific Gravity:**	2.650	**End Date:**	6/23/2017

Shape (> #10): subangular

Non-soil material: shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	83.7	16.3
#4	4750	79.7	4.0
#10	2000	75.6	4.1
#20	850	72.3	3.3
#40	425	64.0	8.3
#60	250	48.8	15.2
#80	180	33.9	14.9
#100	150	24.9	9.0
#200	75	17.8	7.1
Hyd1	31.2	16.5	1.3
Hyd2	20.2	14.6	1.9
Hyd3	12	12.7	1.9
Hyd4	8.6	10.7	2.0
Hyd5	6.3	9.3	1.5
Hyd6	3.1	6.8	2.4
Hyd7	1.3	4.9	1.9

Soil Classification	Percent of sample
Gravel	20.3
Sand	61.9
Coarse Sand	4.1
Medium Sand	11.6
Fine Sand	46.2
Silt	8.6
Clay	9.3

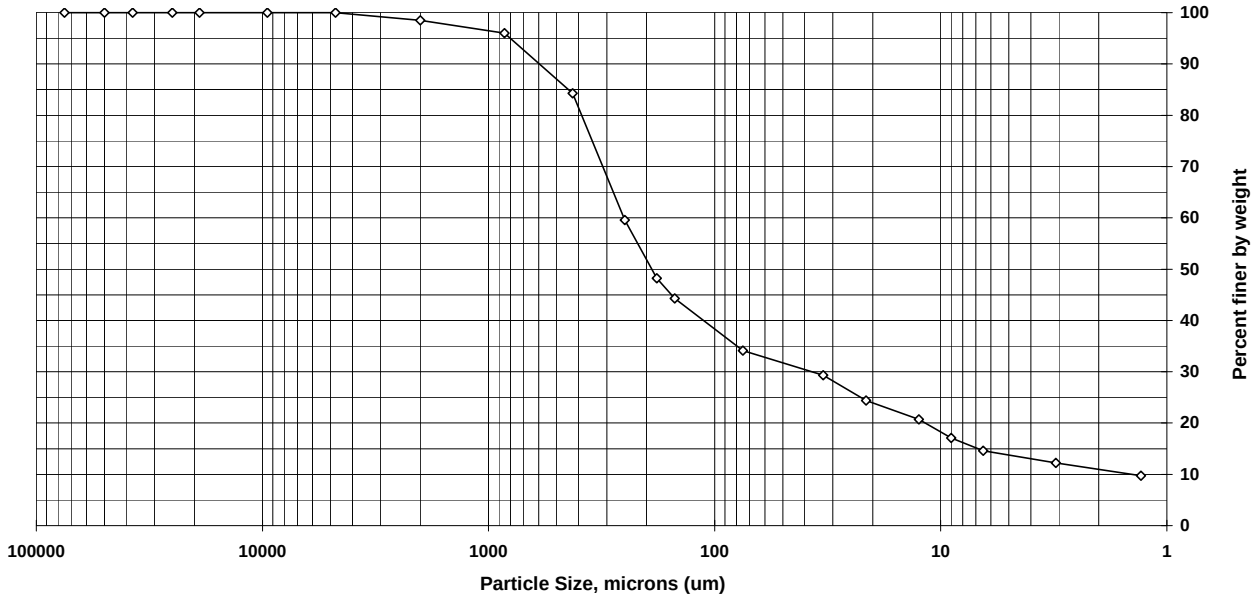
Particle Size of Soils by ASTM D422

				Date Received:	6/15/2017
Sample ID:	SEDBACK2103N	**Percent Solids:**	75.1%	**Start Date:**	6/19/2017
Lab ID:	180-67413-J-2	**Specific Gravity:**	2.650	**End Date:**	6/23/2017

Shape (> #10): subangular

Non-soil material: na

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	98.5	1.5
#20	850	96.0	2.5
#40	425	84.3	11.7
#60	250	59.6	24.7
#80	180	48.2	11.4
#100	150	44.3	3.9
#200	75	34.1	10.2
Hyd1	33.1	29.3	4.8
Hyd2	21.4	24.4	4.9
Hyd3	12.5	20.7	3.7
Hyd4	9	17.1	3.6
Hyd5	6.5	14.6	2.5
Hyd6	3.1	12.2	2.4
Hyd7	1.3	9.8	2.4

Soil Classification	Percent of sample
Gravel	0.0
Sand	65.9
Coarse Sand	1.5
Medium Sand	14.2
Fine Sand	50.2
Silt	19.5
Clay	14.6

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK2101N
Lab Sample ID	180-67413-J-1

Date Received	6/15/2017
Start Date	06/19/2017 15:57
End Date	06/23/2017 13:47

Dry Weight Determination

Tin Weight	1.08	g
Wet Sample + Tin	27.51	g
Dry Sample + Tin	21.52	g
% Moisture	22.66	%

Non-soil material:	shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	06/19/2017 15:59
Date/Time out of oven	06/20/2017 19:24

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.74	257.65	212.91
Sample Weight (Oven Dried)			165

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			40.3
Sample <#10			125
% Passing #10			58.7

Hydrometer Data	
Serial Number	504359
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500	447.35	474.24	26.89	g	83.7	Gravel	
#4	4750	488.14	494.81	6.67	g	79.7	Gravel	
#10	2000	350.81	357.56	6.75	g	75.6	Sand	Coarse
#20	850	388.27	393.72	5.45	g	72.3	Sand	Medium
#40	425	366.17	379.91	13.74	g	64.0	Sand	Medium
#60	250	348.01	373.03	25.02	g	48.8	Sand	Fine
#80	180	330.78	355.40	24.62	g	33.9	Sand	Fine
#100	150	330.16	344.98	14.82	g	24.9	Sand	Fine
#200	75	322.67	334.34	11.67	g	17.8	Sand	Fine
				0.00	g	17.8		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	165

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0210	21.0	31.2	16.5	Silt	
5	5	1.0190	21.0	20.2	14.6	Silt	
15	15	1.0170	21.0	12	12.7	Silt	
30	30	1.0150	21.0	8.6	10.7	Silt	
60	59	1.0135	21.0	6.3	9.25	Silt	
250	256	1.0110	21.0	3.1	6.81	Clay	
1440	1440	1.0090	21.0	1.3	4.87	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK2103N
Lab Sample ID	180-67413-J-2

Date Received	6/15/2017
Start Date	06/19/2017 16:00
End Date	06/23/2017 13:50

Dry Weight Determination

Tin Weight	1.06	g
Wet Sample + Tin	13.36	g
Dry Sample + Tin	10.30	g
% Moisture	24.88	%

Non-soil material:	na
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	06/19/2017 16:02
Date/Time out of oven	06/20/2017 19:24

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.72	132.34	87.62
Sample Weight (Oven Dried)			65.8

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			0.97
Sample <#10			64.8
% Passing #10			74

Hydrometer Data

Serial Number	504359
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	350.81	351.78	0.97	g	98.5	Sand	Coarse
#20	850	379.17	380.79	1.62	g	96.0	Sand	Medium
#40	425	352.73	360.45	7.72	g	84.3	Sand	Medium
#60	250	350.65	366.90	16.25	g	59.6	Sand	Fine
#80	180	337.76	345.23	7.47	g	48.2	Sand	Fine
#100	150	328.40	330.98	2.58	g	44.3	Sand	Fine
#200	75	323.21	329.92	6.71	g	34.1	Sand	Fine
				0.00	g	34.1		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	65.8

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0160	21.0	33.1	29.3	Silt	
5	5	1.0140	21.0	21.4	24.4	Silt	
15	15	1.0125	21.0	12.5	20.7	Silt	
30	30	1.0110	21.0	9	17.1	Silt	
60	58	1.0100	21.0	6.5	14.6	Silt	
250	256	1.0090	21.0	3.1	12.2	Clay	
1440	1440	1.0080	21.0	1.3	9.76	Clay	

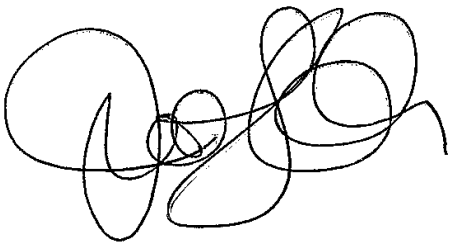
ANALYTICAL REPORT

Job Number: 180-67338-1

Job Description: Pepco Benning Road Facility

For:
AECOM, Inc.
250 Apollo Drive
Chelmsford, MA 01824

Attention: Mr. Robert Kennedy



Approved for release.
Jill L Colussy
Project Manager I
7/7/2017 8:41 AM

Jill L Colussy, Project Manager I
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2444
jill.colussy@testamericainc.com
07/07/2017

Method: D422 - Grain Size

Client Sample ID: SEDBACK1900N
Date Collected: 06/13/17 08:00
Date Received: 06/14/17 09:30

Lab Sample ID: 180-67338-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/23/17 17:49	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/23/17 17:49	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/23/17 17:49	1
Sieve Size 1 inch - Percent Finer	60.1				% Passing			06/23/17 17:49	1
Sieve Size 0.75 inch - Percent Finer	53.8				% Passing			06/23/17 17:49	1
Sieve Size 0.375 inch - Percent Finer	36.4				% Passing			06/23/17 17:49	1
Sieve Size #4 - Percent Finer	28.1				% Passing			06/23/17 17:49	1
Sieve Size #10 - Percent Finer	24.5				% Passing			06/23/17 17:49	1
Sieve Size #20 - Percent Finer	22.3				% Passing			06/23/17 17:49	1
Sieve Size #40 - Percent Finer	18.1				% Passing			06/23/17 17:49	1
Sieve Size #60 - Percent Finer	12.7				% Passing			06/23/17 17:49	1
Sieve Size #80 - Percent Finer	10.6				% Passing			06/23/17 17:49	1
Sieve Size #100 - Percent Finer	9.6				% Passing			06/23/17 17:49	1
Sieve Size #200 - Percent Finer	7.4				% Passing			06/23/17 17:49	1
Hydrometer Reading 1 - Percent Finer	3.3				% Passing			06/23/17 17:49	1
Hydrometer Reading 2 - Percent Finer	3.0				% Passing			06/23/17 17:49	1
Hydrometer Reading 3 - Percent Finer	2.5				% Passing			06/23/17 17:49	1
Hydrometer Reading 4 - Percent Finer	1.9				% Passing			06/23/17 17:49	1
Hydrometer Reading 5 - Percent Finer	1.9				% Passing			06/23/17 17:49	1
Hydrometer Reading 6 - Percent Finer	1.4				% Passing			06/23/17 17:49	1
Hydrometer Reading 7 - Percent Finer	0.9				% Passing			06/23/17 17:49	1

Method: D422 - Grain Size

Client Sample ID: SEDBACK2000N
Date Collected: 06/13/17 09:45
Date Received: 06/14/17 09:30

Lab Sample ID: 180-67338-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/23/17 18:34	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/23/17 18:34	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/23/17 18:34	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/23/17 18:34	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/23/17 18:34	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/23/17 18:34	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/23/17 18:34	1
Sieve Size #10 - Percent Finer	94.8				% Passing			06/23/17 18:34	1
Sieve Size #20 - Percent Finer	94.5				% Passing			06/23/17 18:34	1
Sieve Size #40 - Percent Finer	93.0				% Passing			06/23/17 18:34	1
Sieve Size #60 - Percent Finer	66.9				% Passing			06/23/17 18:34	1
Sieve Size #80 - Percent Finer	45.7				% Passing			06/23/17 18:34	1
Sieve Size #100 - Percent Finer	35.0				% Passing			06/23/17 18:34	1
Sieve Size #200 - Percent Finer	17.3				% Passing			06/23/17 18:34	1
Hydrometer Reading 1 - Percent Finer	13.2				% Passing			06/23/17 18:34	1
Hydrometer Reading 2 - Percent Finer	11.1				% Passing			06/23/17 18:34	1
Hydrometer Reading 3 - Percent Finer	9.5				% Passing			06/23/17 18:34	1
Hydrometer Reading 4 - Percent Finer	8.4				% Passing			06/23/17 18:34	1
Hydrometer Reading 5 - Percent Finer	6.9				% Passing			06/23/17 18:34	1
Hydrometer Reading 6 - Percent Finer	5.3				% Passing			06/23/17 18:34	1
Hydrometer Reading 7 - Percent Finer	3.6				% Passing			06/23/17 18:34	1

Method: D422 - Grain Size

Client Sample ID: SEDBACK2100N
Date Collected: 06/13/17 12:00
Date Received: 06/14/17 09:30

Lab Sample ID: 180-67338-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/23/17 18:37	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/23/17 18:37	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/23/17 18:37	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/23/17 18:37	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/23/17 18:37	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/23/17 18:37	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/23/17 18:37	1
Sieve Size #10 - Percent Finer	96.4				% Passing			06/23/17 18:37	1
Sieve Size #20 - Percent Finer	96.2				% Passing			06/23/17 18:37	1
Sieve Size #40 - Percent Finer	95.4				% Passing			06/23/17 18:37	1
Sieve Size #60 - Percent Finer	79.5				% Passing			06/23/17 18:37	1
Sieve Size #80 - Percent Finer	60.3				% Passing			06/23/17 18:37	1
Sieve Size #100 - Percent Finer	51.3				% Passing			06/23/17 18:37	1
Sieve Size #200 - Percent Finer	29.2				% Passing			06/23/17 18:37	1
Hydrometer Reading 1 - Percent Finer	20.9				% Passing			06/23/17 18:37	1
Hydrometer Reading 2 - Percent Finer	18.3				% Passing			06/23/17 18:37	1
Hydrometer Reading 3 - Percent Finer	15.1				% Passing			06/23/17 18:37	1
Hydrometer Reading 4 - Percent Finer	12.4				% Passing			06/23/17 18:37	1
Hydrometer Reading 5 - Percent Finer	11.1				% Passing			06/23/17 18:37	1
Hydrometer Reading 6 - Percent Finer	8.6				% Passing			06/23/17 18:37	1
Hydrometer Reading 7 - Percent Finer	5.8				% Passing			06/23/17 18:37	1

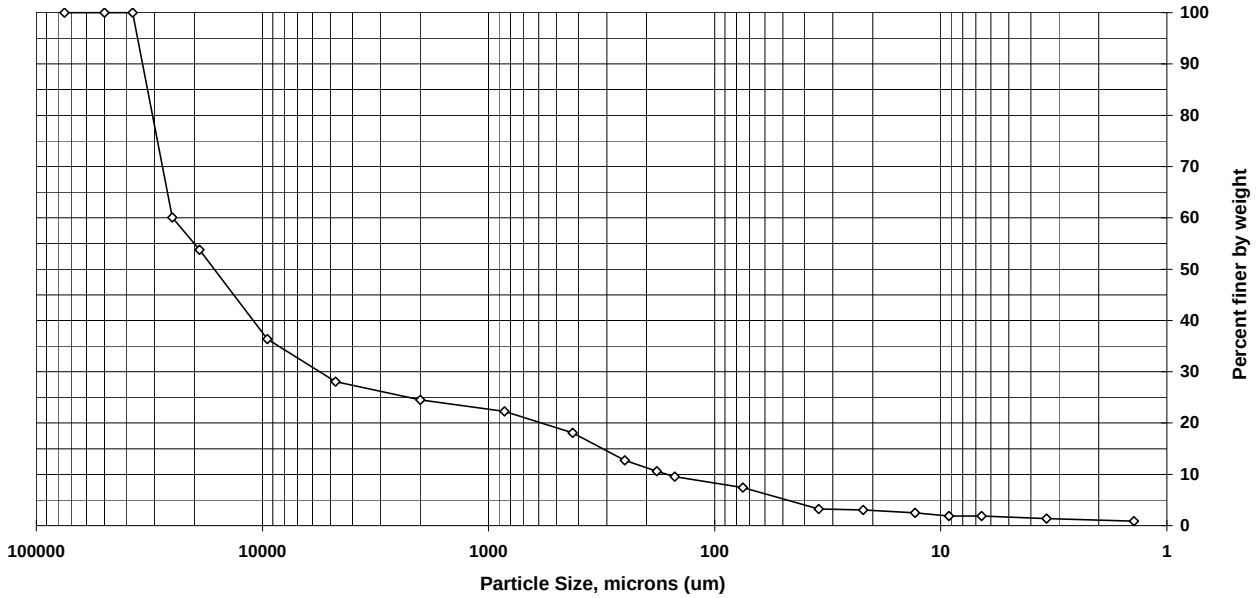
Particle Size of Soils by ASTM D422

				Date Received:	6/14/2017
Sample ID:	SEDBACK1900N	**Percent Solids:**	86.1%	**Start Date:**	6/23/2017
Lab ID:	180-67338-A-1	**Specific Gravity:**	2.650	**End Date:**	6/30/2017

Shape (> #10): subangular

Non-soil material: plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	60.1	39.9
3/4 inch	19000	53.8	6.3
3/8 inch	9500	36.4	17.4
#4	4750	28.1	8.3
#10	2000	24.5	3.6
#20	850	22.3	2.2
#40	425	18.1	4.2
#60	250	12.7	5.4
#80	180	10.6	2.1
#100	150	9.6	1.0
#200	75	7.4	2.1
Hyd1	34.6	3.3	4.2
Hyd2	22	3.0	0.2
Hyd3	13	2.5	0.5
Hyd4	9.2	1.9	0.7
Hyd5	6.6	1.9	0.0
Hyd6	3.4	1.4	0.4
Hyd7	1.4	0.9	0.5

Soil Classification	Percent of sample
Gravel	71.9
Sand	20.7
Coarse Sand	3.6
Medium Sand	6.4
Fine Sand	10.7
Silt	5.6
Clay	1.8

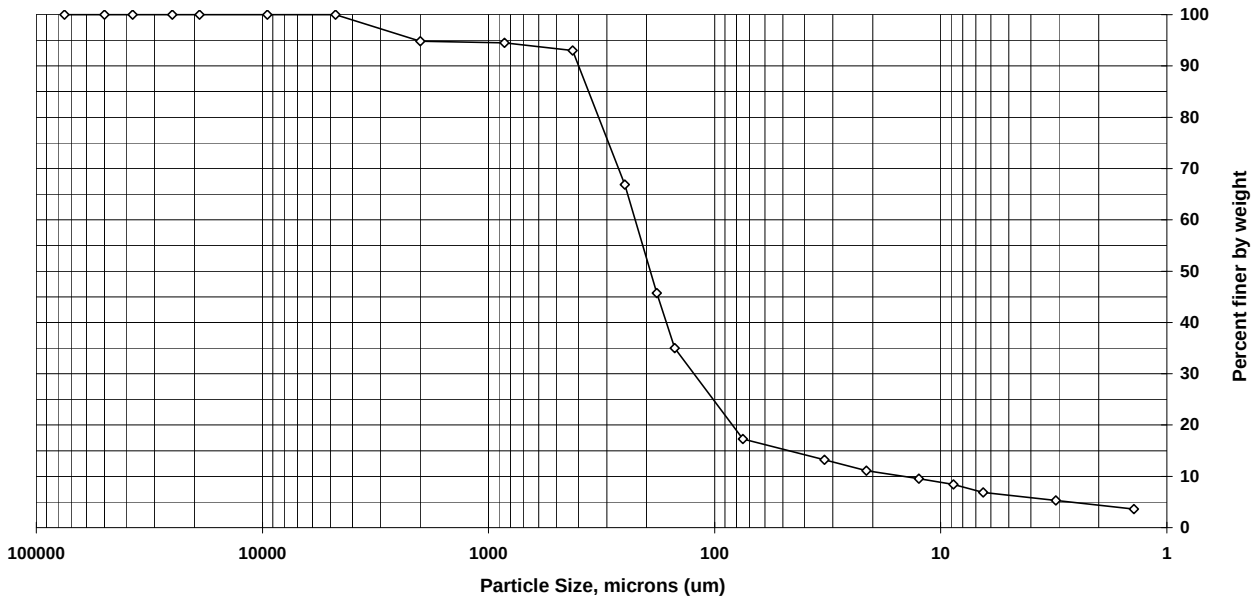
Particle Size of Soils by ASTM D422

				Date Received:	6/14/2017
Sample ID:	SEDBACK2000N	**Percent Solids:**	62.2%	**Start Date:**	6/23/2017
Lab ID:	180-67338-A-3	**Specific Gravity:**	2.650	**End Date:**	6/30/2017

Shape (> #10): na

Non-soil material: shell, plant

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	94.8	5.2
#20	850	94.5	0.3
#40	425	93.0	1.5
#60	250	66.9	26.1
#80	180	45.7	21.2
#100	150	35.0	10.7
#200	75	17.3	17.7
Hyd1	32.7	13.2	4.1
Hyd2	21.3	11.1	2.1
Hyd3	12.5	9.5	1.6
Hyd4	8.8	8.4	1.1
Hyd5	6.5	6.9	1.6
Hyd6	3.1	5.3	1.5
Hyd7	1.4	3.6	1.7

Soil Classification	Percent of sample
Gravel	0.0
Sand	82.7
Coarse Sand	5.2
Medium Sand	1.8
Fine Sand	75.7
Silt	10.4
Clay	6.9

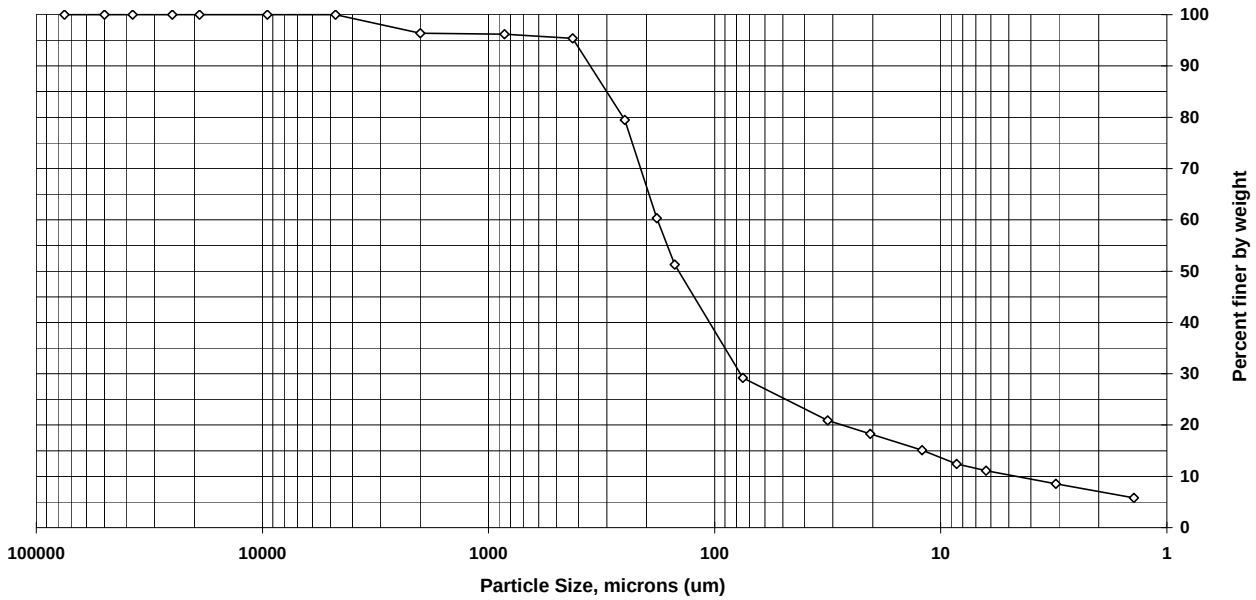
Particle Size of Soils by ASTM D422

				Date Received:	6/14/2017
Sample ID:	SEDBACK2100N	**Percent Solids:**	62.3%	**Start Date:**	6/23/2017
Lab ID:	180-67338-A-5	**Specific Gravity:**	2.650	**End Date:**	6/30/2017

Shape (> #10): na

Non-soil material: shell, plant

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	96.4	3.6
#20	850	96.2	0.2
#40	425	95.4	0.8
#60	250	79.5	15.9
#80	180	60.3	19.2
#100	150	51.3	9.0
#200	75	29.2	22.1
Hyd1	31.6	20.9	8.3
Hyd2	20.5	18.3	2.6
Hyd3	12.1	15.1	3.2
Hyd4	8.5	12.4	2.7
Hyd5	6.3	11.1	1.3
Hyd6	3.1	8.6	2.5
Hyd7	1.4	5.8	2.8

Soil Classification	Percent of sample
Gravel	0.0
Sand	70.8
Coarse Sand	3.6
Medium Sand	1.0
Fine Sand	66.2
Silt	18.1
Clay	11.1

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK1900N
Lab Sample ID	180-67338-A-1

Date Received	6/14/2017
Start Date	06/23/2017 17:49
End Date	06/30/2017 13:18

Dry Weight Determination

Tin Weight	1.04	g
Wet Sample + Tin	29.68	g
Dry Sample + Tin	25.69	g
% Moisture	13.93	%

Non-soil material:	plant
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	06/23/2017 17:51
Date/Time out of oven	06/26/2017 19:18

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.77	465.38	420.61
Sample Weight (Oven Dried)			362

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			274
Sample <#10			88
% Passing #10			20.9

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000	466.53	611.05	144.52	g	60.1	Gravel	
3/4 inch	19000	457.82	480.74	22.92	g	53.8	Gravel	
3/8 inch	9500	447.35	510.47	63.12	g	36.4	Gravel	
#4	4750	488.14	518.23	30.09	g	28.1	Gravel	
#10	2000	350.81	363.93	13.12	g	24.5	Sand	Coarse
#20	850	379.06	387.20	8.14	g	22.3	Sand	Medium
#40	425	352.88	368.04	15.16	g	18.1	Sand	Medium
#60	250	351.13	370.64	19.51	g	12.7	Sand	Fine
#80	180	338.09	345.56	7.47	g	10.6	Sand	Fine
#100	150	328.47	332.25	3.78	g	9.6	Sand	Fine
#200	75	323.23	330.96	7.73	g	7.4	Sand	Fine
				0.00	g	7.4		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	362

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0105	22.0	34.6	3.25	Silt	
5	5	1.0100	22.0	22	3.03	Silt	
15	15	1.0090	21.0	13	2.51	Silt	
30	31	1.0075	21.0	9.2	1.85	Silt	
60	59	1.0075	21.0	6.6	1.85	Silt	
250	234	1.0065	21.0	3.4	1.4	Clay	
1440	1418	1.0055	20.0	1.4	0.887	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK2000N
Lab Sample ID	180-67338-A-3

Date Received	6/14/2017
Start Date	06/23/2017 18:34
End Date	06/30/2017 13:46

Dry Weight Determination

Tin Weight	1.08	g
Wet Sample + Tin	50.02	g
Dry Sample + Tin	31.50	g
% Moisture	37.84	%

Non-soil material:	shell, plant
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/23/2017 18:36
Date/Time out of oven	06/26/2017 19:18

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.76	296.20	251.44
Sample Weight (Oven Dried)			156

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			8.07
Sample <#10			148
% Passing #10			58.9

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	350.81	358.88	8.07	g	94.8	Sand	Coarse
#20	850	388.16	388.58	0.42	g	94.5	Sand	Medium
#40	425	366.12	368.43	2.31	g	93.0	Sand	Medium
#60	250	348.21	389.00	40.79	g	66.9	Sand	Fine
#80	180	331.00	364.15	33.15	g	45.7	Sand	Fine
#100	150	330.34	347.08	16.74	g	35.0	Sand	Fine
#200	75	322.65	350.25	27.60	g	17.3	Sand	Fine
				0.00	g	17.3		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	156

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0160	22.0	32.7	13.2	Silt	
5	5	1.0140	21.5	21.3	11.1	Silt	
15	15	1.0125	21.5	12.5	9.52	Silt	
30	31	1.0115	21.0	8.8	8.41	Silt	
60	59	1.0100	21.0	6.5	6.86	Silt	
250	265	1.0085	21.0	3.1	5.32	Clay	
1440	1412	1.0070	20.0	1.4	3.6	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK2100N
Lab Sample ID	180-67338-A-5

Date Received	6/14/2017
Start Date	06/23/2017 18:37
End Date	06/30/2017 14:17

Dry Weight Determination

Tin Weight	1.11	g
Wet Sample + Tin	26.44	g
Dry Sample + Tin	16.89	g
% Moisture	37.70	%

Non-soil material:	shell, plant
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/23/2017 18:39
Date/Time out of oven	06/26/2017 19:18

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	45.00	246.42	201.42
Sample Weight (Oven Dried)			125

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			4.5
Sample <#10			121
% Passing #10			60.1

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	350.81	355.31	4.50	g	96.4	Sand	Coarse
#20	850	379.06	379.36	0.30	g	96.2	Sand	Medium
#40	425	352.88	353.90	1.02	g	95.4	Sand	Medium
#60	250	351.13	371.05	19.92	g	79.5	Sand	Fine
#80	180	338.09	362.05	23.96	g	60.3	Sand	Fine
#100	150	328.47	339.77	11.30	g	51.3	Sand	Fine
#200	75	323.23	350.83	27.60	g	29.2	Sand	Fine
				0.00	g	29.2		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	125

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0195	21.5	31.6	20.9	Silt	
5	5	1.0175	21.5	20.5	18.3	Silt	
15	15	1.0150	21.5	12.1	15.1	Silt	
30	32	1.0130	21.0	8.5	12.4	Silt	
60	60	1.0120	21.0	6.3	11.1	Silt	
250	259	1.0100	21.0	3.1	8.57	Clay	
1440	1406	1.0080	20.0	1.4	5.78	Clay	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

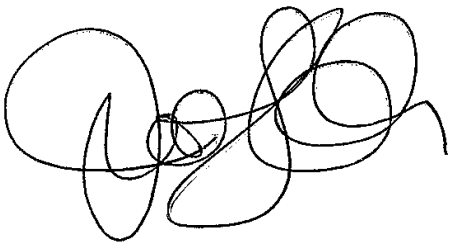
ANALYTICAL REPORT

Job Number: 180-67275-1

Job Description: Pepco Benning Road Facility

For:
AECOM, Inc.
250 Apollo Drive
Chelmsford, MA 01824

Attention: Mr. Robert Kennedy



Approved for release.
Jill L Colussy
Project Manager I
7/12/2017 10:35 AM

Jill L Colussy, Project Manager I
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2444
jill.colussy@testamericainc.com
07/12/2017
Revision: 1

Method: D422 - Grain Size

Client Sample ID: SEDBACK1600N
Date Collected: 06/12/17 10:15
Date Received: 06/13/17 09:25

Lab Sample ID: 180-67275-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/19/17 19:12	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/19/17 19:12	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/19/17 19:12	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/19/17 19:12	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/19/17 19:12	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/19/17 19:12	1
Sieve Size #4 - Percent Finer	87.9				% Passing			06/19/17 19:12	1
Sieve Size #10 - Percent Finer	79.8				% Passing			06/19/17 19:12	1
Sieve Size #20 - Percent Finer	78.9				% Passing			06/19/17 19:12	1
Sieve Size #40 - Percent Finer	77.0				% Passing			06/19/17 19:12	1
Sieve Size #60 - Percent Finer	72.3				% Passing			06/19/17 19:12	1
Sieve Size #80 - Percent Finer	63.9				% Passing			06/19/17 19:12	1
Sieve Size #100 - Percent Finer	56.1				% Passing			06/19/17 19:12	1
Sieve Size #200 - Percent Finer	40.4				% Passing			06/19/17 19:12	1
Hydrometer Reading 1 - Percent Finer	23.8				% Passing			06/19/17 19:12	1
Hydrometer Reading 2 - Percent Finer	21.4				% Passing			06/19/17 19:12	1
Hydrometer Reading 3 - Percent Finer	17.9				% Passing			06/19/17 19:12	1
Hydrometer Reading 4 - Percent Finer	16.8				% Passing			06/19/17 19:12	1
Hydrometer Reading 5 - Percent Finer	13.2				% Passing			06/19/17 19:12	1
Hydrometer Reading 6 - Percent Finer	9.6				% Passing			06/19/17 19:12	1
Hydrometer Reading 7 - Percent Finer	7.4				% Passing			06/19/17 19:12	1

Method: D422 - Grain Size

Client Sample ID: SEDBACK1700N
Date Collected: 06/12/17 12:00
Date Received: 06/13/17 09:25

Lab Sample ID: 180-67275-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/19/17 19:18	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/19/17 19:18	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/19/17 19:18	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/19/17 19:18	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/19/17 19:18	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/19/17 19:18	1
Sieve Size #4 - Percent Finer	81.8				% Passing			06/19/17 19:18	1
Sieve Size #10 - Percent Finer	75.3				% Passing			06/19/17 19:18	1
Sieve Size #20 - Percent Finer	74.7				% Passing			06/19/17 19:18	1
Sieve Size #40 - Percent Finer	73.5				% Passing			06/19/17 19:18	1
Sieve Size #60 - Percent Finer	71.4				% Passing			06/19/17 19:18	1
Sieve Size #80 - Percent Finer	69.1				% Passing			06/19/17 19:18	1
Sieve Size #100 - Percent Finer	66.8				% Passing			06/19/17 19:18	1
Sieve Size #200 - Percent Finer	49.7				% Passing			06/19/17 19:18	1
Hydrometer Reading 1 - Percent Finer	21.7				% Passing			06/19/17 19:18	1
Hydrometer Reading 2 - Percent Finer	18.6				% Passing			06/19/17 19:18	1
Hydrometer Reading 3 - Percent Finer	14.6				% Passing			06/19/17 19:18	1
Hydrometer Reading 4 - Percent Finer	13.0				% Passing			06/19/17 19:18	1
Hydrometer Reading 5 - Percent Finer	10.6				% Passing			06/19/17 19:18	1
Hydrometer Reading 6 - Percent Finer	5.7				% Passing			06/19/17 19:18	1
Hydrometer Reading 7 - Percent Finer	4.2				% Passing			06/19/17 19:18	1

Method: D422 - Grain Size

Client Sample ID: SEDBACK1800N
Date Collected: 06/12/17 13:15
Date Received: 06/13/17 09:25

Lab Sample ID: 180-67275-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/19/17 19:31	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/19/17 19:31	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/19/17 19:31	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/19/17 19:31	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/19/17 19:31	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/19/17 19:31	1
Sieve Size #4 - Percent Finer	88.3				% Passing			06/19/17 19:31	1
Sieve Size #10 - Percent Finer	85.4				% Passing			06/19/17 19:31	1
Sieve Size #20 - Percent Finer	84.5				% Passing			06/19/17 19:31	1
Sieve Size #40 - Percent Finer	77.1				% Passing			06/19/17 19:31	1
Sieve Size #60 - Percent Finer	57.4				% Passing			06/19/17 19:31	1
Sieve Size #80 - Percent Finer	49.6				% Passing			06/19/17 19:31	1
Sieve Size #100 - Percent Finer	46.7				% Passing			06/19/17 19:31	1
Sieve Size #200 - Percent Finer	36.8				% Passing			06/19/17 19:31	1
Hydrometer Reading 1 - Percent Finer	13.8				% Passing			06/19/17 19:31	1
Hydrometer Reading 2 - Percent Finer	11.6				% Passing			06/19/17 19:31	1
Hydrometer Reading 3 - Percent Finer	9.3				% Passing			06/19/17 19:31	1
Hydrometer Reading 4 - Percent Finer	8.4				% Passing			06/19/17 19:31	1
Hydrometer Reading 5 - Percent Finer	6.5				% Passing			06/19/17 19:31	1
Hydrometer Reading 6 - Percent Finer	4.2				% Passing			06/19/17 19:31	1
Hydrometer Reading 7 - Percent Finer	3.4				% Passing			06/19/17 19:31	1

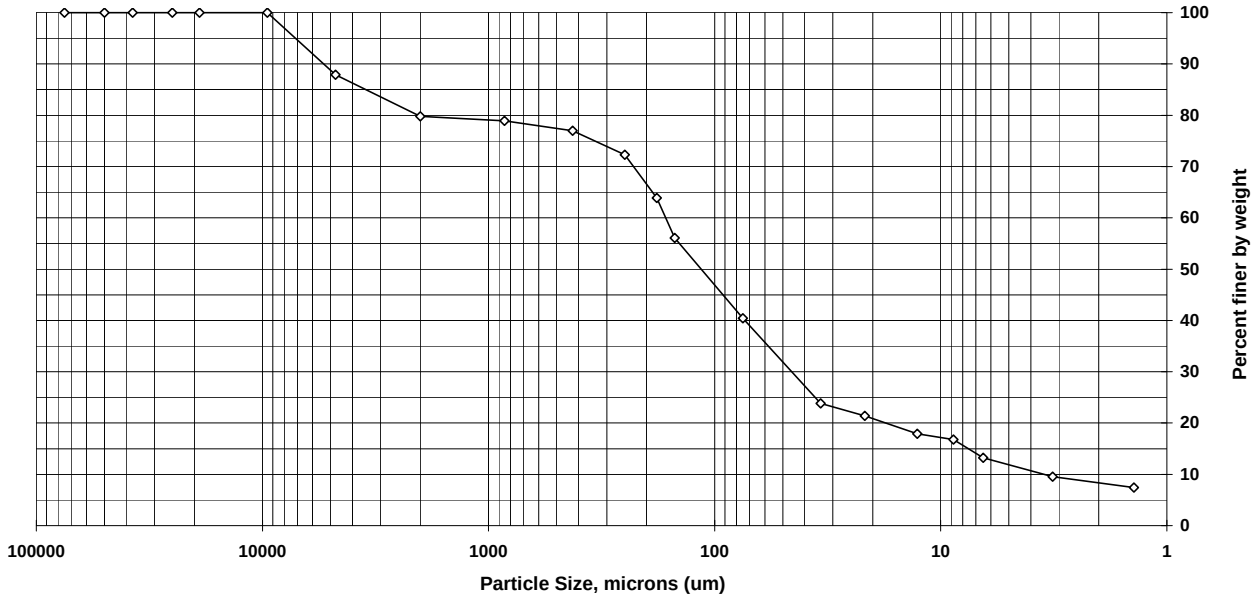
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2017
Sample ID:	SEDBACK1600N	**Percent Solids:**	36.9%	**Start Date:**	6/19/2017
Lab ID:	180-67275-A-1	**Specific Gravity:**	2.650	**End Date:**	6/26/2017

Shape (> #10): na

Non-soil material: plant

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	87.9	12.1
#10	2000	79.8	8.1
#20	850	78.9	0.9
#40	425	77.0	1.9
#60	250	72.3	4.7
#80	180	63.9	8.4
#100	150	56.1	7.8
#200	75	40.4	15.7
Hyd1	34	23.8	16.6
Hyd2	21.7	21.4	2.4
Hyd3	12.7	17.9	3.5
Hyd4	8.8	16.8	1.1
Hyd5	6.5	13.2	3.6
Hyd6	3.2	9.6	3.7
Hyd7	1.4	7.4	2.1

Soil Classification	Percent of sample
Gravel	12.1
Sand	47.5
Coarse Sand	8.1
Medium Sand	2.8
Fine Sand	36.6
Silt	27.2
Clay	13.2

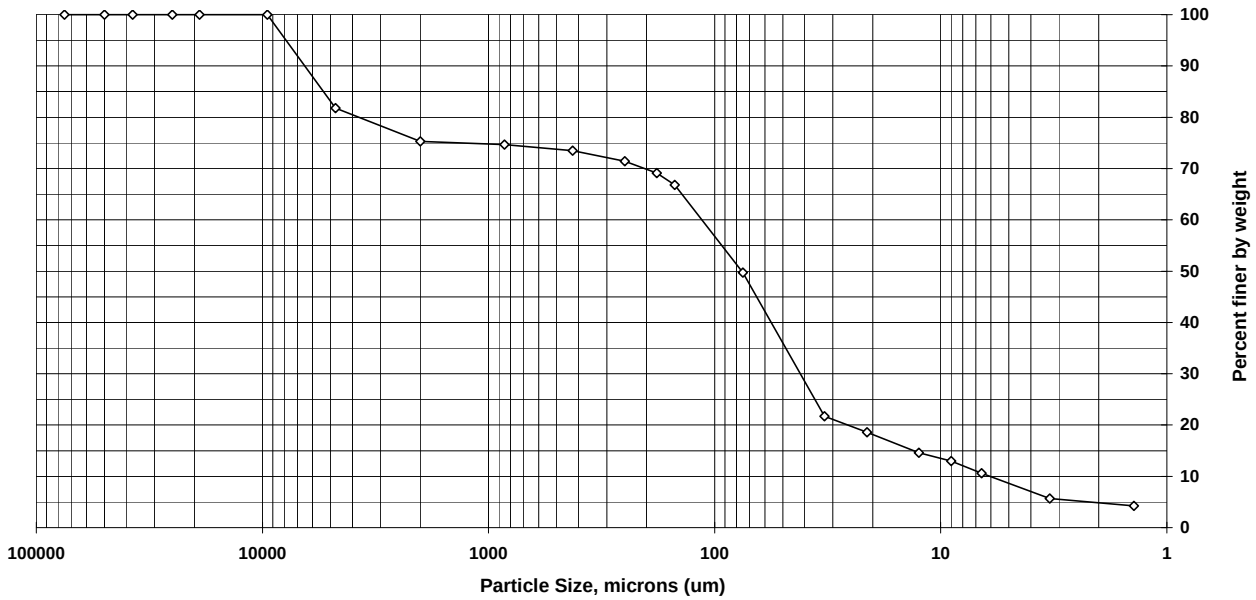
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2017
Sample ID:	SEDBACK1700N	**Percent Solids:**	36.3%	**Start Date:**	6/19/2017
Lab ID:	180-67275-A-2	**Specific Gravity:**	2.650	**End Date:**	6/26/2017

Shape (> #10): na

Non-soil material: plant

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	81.8	18.2
#10	2000	75.3	6.5
#20	850	74.7	0.6
#40	425	73.5	1.2
#60	250	71.4	2.1
#80	180	69.1	2.3
#100	150	66.8	2.3
#200	75	49.7	17.1
Hyd1	32.7	21.7	28.0
Hyd2	21.2	18.6	3.1
Hyd3	12.5	14.6	4.0
Hyd4	9	13.0	1.6
Hyd5	6.6	10.6	2.4
Hyd6	3.3	5.7	4.9
Hyd7	1.4	4.2	1.5

Soil Classification	Percent of sample
Gravel	18.2
Sand	32.1
Coarse Sand	6.5
Medium Sand	1.8
Fine Sand	23.8
Silt	39.1
Clay	10.6

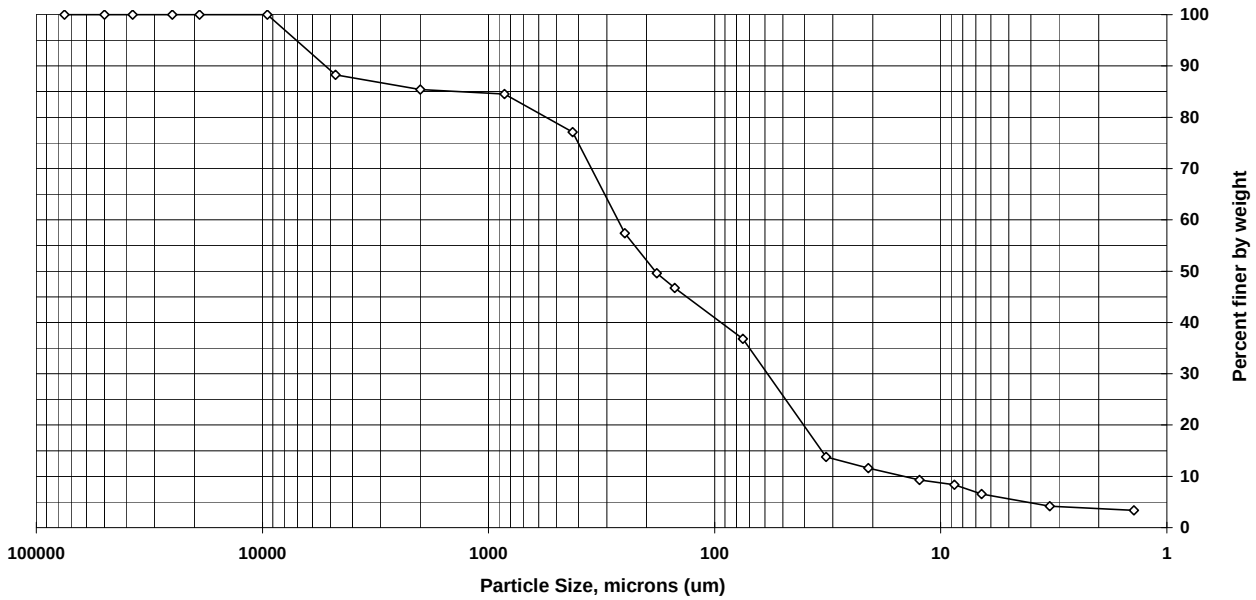
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2017
Sample ID:	SEDBACK1800N	**Percent Solids:**	51.8%	**Start Date:**	6/19/2017
Lab ID:	180-67275-A-3	**Specific Gravity:**	2.650	**End Date:**	6/26/2017

Shape (> #10): na

Non-soil material: plant

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	88.3	11.7
#10	2000	85.4	2.9
#20	850	84.5	0.9
#40	425	77.1	7.4
#60	250	57.4	19.7
#80	180	49.6	7.8
#100	150	46.7	2.9
#200	75	36.8	9.9
Hyd1	32.2	13.8	23.0
Hyd2	20.9	11.6	2.2
Hyd3	12.4	9.3	2.3
Hyd4	8.7	8.4	0.9
Hyd5	6.6	6.5	1.8
Hyd6	3.3	4.2	2.4
Hyd7	1.4	3.4	0.8

Soil Classification	Percent of sample
Gravel	11.7
Sand	51.5
Coarse Sand	2.9
Medium Sand	8.3
Fine Sand	40.3
Silt	30.3
Clay	6.5

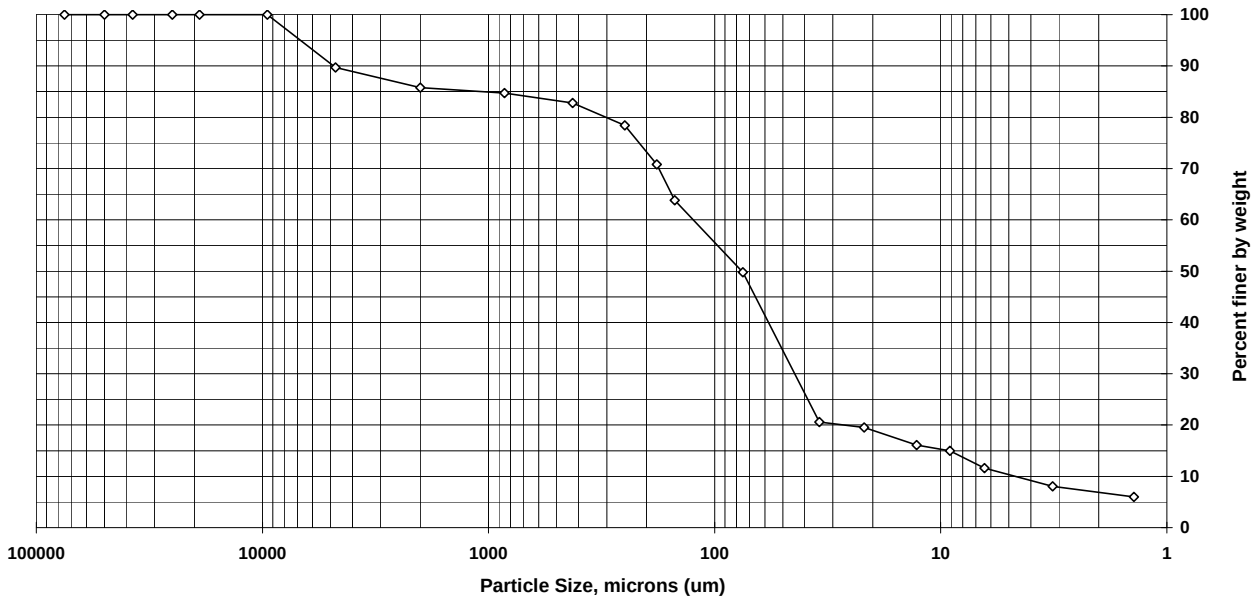
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2017
Sample ID:	SEDBACK1600N	**Percent Solids:**	42.4%	**Start Date:**	6/19/2017
Lab ID:	180-67275-A-1 DU	**Specific Gravity:**	2.650	**End Date:**	6/26/2017

Shape (> #10): na

Non-soil material: plant

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	89.7	10.3
#10	2000	85.8	3.9
#20	850	84.7	1.1
#40	425	82.8	1.9
#60	250	78.4	4.4
#80	180	70.8	7.6
#100	150	63.8	7.0
#200	75	49.8	14.0
Hyd1	34.4	20.6	29.2
Hyd2	21.8	19.5	1.1
Hyd3	12.8	16.1	3.4
Hyd4	9.1	15.0	1.1
Hyd5	6.4	11.6	3.4
Hyd6	3.2	8.1	3.6
Hyd7	1.4	6.0	2.1

Soil Classification	Percent of sample
Gravel	10.3
Sand	39.9
Coarse Sand	3.9
Medium Sand	3.0
Fine Sand	33.0
Silt	38.2
Clay	11.6

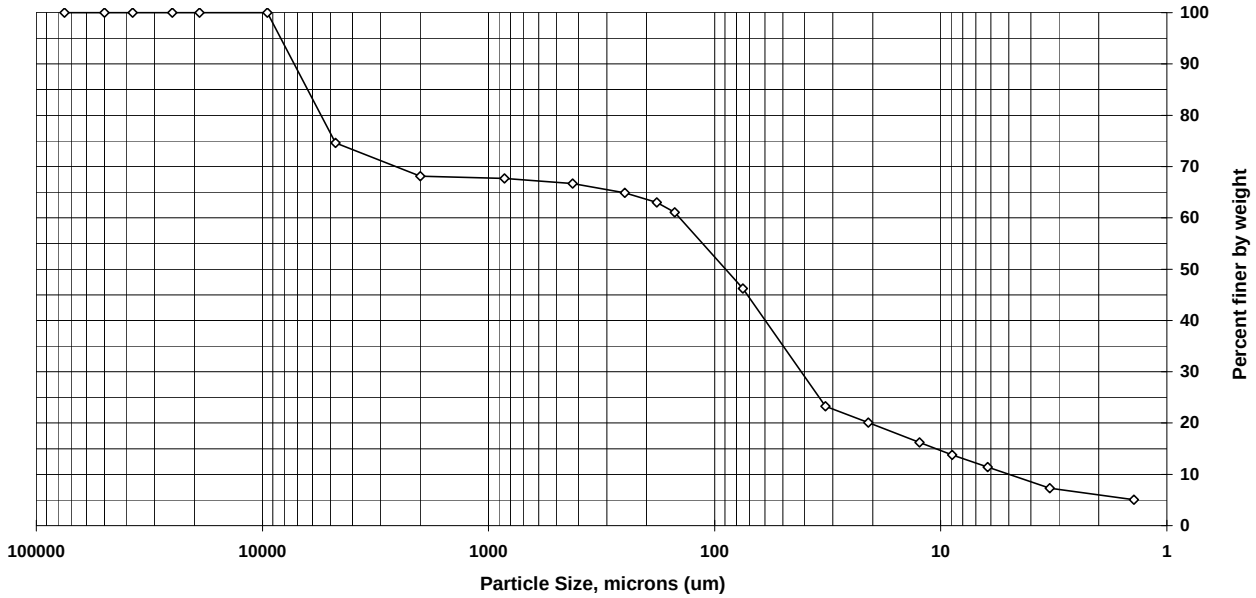
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2017
Sample ID:	SEDBACK1700N	**Percent Solids:**	34.7%	**Start Date:**	6/19/2017
Lab ID:	180-67275-A-2 DU	**Specific Gravity:**	2.650	**End Date:**	6/26/2017

Shape (> #10): na

Non-soil material: plant

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	74.6	25.4
#10	2000	68.1	6.5
#20	850	67.7	0.4
#40	425	66.7	1.0
#60	250	64.9	1.8
#80	180	63.0	1.9
#100	150	61.1	1.9
#200	75	46.2	14.9
Hyd1	32.4	23.3	22.9
Hyd2	20.9	20.1	3.2
Hyd3	12.4	16.2	3.9
Hyd4	8.9	13.8	2.4
Hyd5	6.2	11.4	2.4
Hyd6	3.3	7.3	4.1
Hyd7	1.4	5.0	2.3

Soil Classification	Percent of sample
Gravel	25.4
Sand	28.4
Coarse Sand	6.5
Medium Sand	1.4
Fine Sand	20.5
Silt	34.8
Clay	11.4

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK1600N
Lab Sample ID	180-67275-A-1

Date Received	6/13/2017
Start Date	06/19/2017 19:12
End Date	06/26/2017 12:07

Dry Weight Determination

Tin Weight	1.07	g
Wet Sample + Tin	18.96	g
Dry Sample + Tin	7.67	g
% Moisture	63.11	%

Non-soil material:	plant
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/19/2017 19:14
Date/Time out of oven	06/20/2017 19:31

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.72	231.00	186.28
Sample Weight (Oven Dried)			68.7

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			13.8
Sample <#10			54.9
% Passing #10			29.5

Hydrometer Data	
Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	496.44	8.30	g	87.9	Gravel	
#10	2000	350.81	356.35	5.54	g	79.8	Sand	Coarse
#20	850	379.17	379.82	0.65	g	78.9	Sand	Medium
#40	425	352.73	354.03	1.30	g	77.0	Sand	Medium
#60	250	350.65	353.86	3.21	g	72.3	Sand	Fine
#80	180	337.76	343.56	5.80	g	63.9	Sand	Fine
#100	150	328.40	333.75	5.35	g	56.1	Sand	Fine
#200	75	323.21	334.02	10.81	g	40.4	Sand	Fine
				0.00	g	40.4		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	68.7

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0135	21.0	34	23.8	Silt	
5	5	1.0125	21.0	21.7	21.4	Silt	
15	15	1.0110	21.0	12.7	17.9	Silt	
30	32	1.0105	21.0	8.8	16.8	Silt	
60	60	1.0090	21.0	6.5	13.2	Silt	
250	259	1.0075	20.5	3.2	9.55	Clay	
1440	1406	1.0065	21.0	1.4	7.4	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK1700N
Lab Sample ID	180-67275-A-2

Date Received	6/13/2017
Start Date	06/19/2017 19:18
End Date	06/26/2017 12:32

Dry Weight Determination

Tin Weight	1.14	g
Wet Sample + Tin	24.80	g
Dry Sample + Tin	9.72	g
% Moisture	63.74	%

Non-soil material:	plant
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/19/2017 19:20
Date/Time out of oven	06/20/2017 19:32

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.88	324.04	279.16
Sample Weight (Oven Dried)			101

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			24.9
Sample <#10			76.1
% Passing #10			27.3

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	506.52	18.38	g	81.8	Gravel	
#10	2000	350.81	357.34	6.53	g	75.3	Sand	Coarse
#20	850	379.17	379.74	0.57	g	74.7	Sand	Medium
#40	425	352.73	353.94	1.21	g	73.5	Sand	Medium
#60	250	350.65	352.77	2.12	g	71.4	Sand	Fine
#80	180	337.76	340.08	2.32	g	69.1	Sand	Fine
#100	150	328.40	330.75	2.35	g	66.8	Sand	Fine
#200	75	323.21	340.52	17.31	g	49.7	Sand	Fine
				0.00	g	49.7		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	101

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0170	21.0	32.7	21.7	Silt	
5	5	1.0150	21.0	21.2	18.6	Silt	
15	15	1.0125	21.0	12.5	14.6	Silt	
30	30	1.0115	21.0	9	13	Silt	
60	57	1.0100	21.0	6.6	10.6	Silt	
250	247	1.0070	20.5	3.3	5.7	Clay	
1440	1394	1.0060	21.0	1.4	4.24	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK1800N
Lab Sample ID	180-67275-A-3

Date Received	6/13/2017
Start Date	06/19/2017 19:31
End Date	06/26/2017 13:52

Dry Weight Determination

Tin Weight	1.08	g
Wet Sample + Tin	50.98	g
Dry Sample + Tin	26.93	g
% Moisture	48.20	%

Non-soil material:	plant
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/19/2017 19:33
Date/Time out of oven	06/20/2017 19:33

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	47.79	387.82	340.03
Sample Weight (Oven Dried)			176

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			25.7
Sample <#10			150
% Passing #10			44.1

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	508.67	20.53	g	88.3	Gravel	
#10	2000	350.81	355.98	5.17	g	85.4	Sand	Coarse
#20	850	379.17	380.75	1.58	g	84.5	Sand	Medium
#40	425	352.73	365.79	13.06	g	77.1	Sand	Medium
#60	250	350.65	385.28	34.63	g	57.4	Sand	Fine
#80	180	337.76	351.56	13.80	g	49.6	Sand	Fine
#100	150	328.40	333.48	5.08	g	46.7	Sand	Fine
#200	75	323.21	340.71	17.50	g	36.8	Sand	Fine
				0.00	g	36.8		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	176

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0185	21.0	32.2	13.8	Silt	
5	5	1.0160	21.0	20.9	11.6	Silt	
15	15	1.0135	21.0	12.4	9.28	Silt	
30	31	1.0125	21.0	8.7	8.36	Silt	
60	57	1.0105	21.0	6.6	6.54	Silt	
250	235	1.0080	20.5	3.3	4.18	Clay	
1440	1382	1.0070	21.0	1.4	3.35	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK1600N
Lab Sample ID	180-67275-A-1 DU

Date Received	6/13/2017
Start Date	06/19/2017 19:15
End Date	06/26/2017 12:20

Dry Weight Determination

Tin Weight	1.05	g
Wet Sample + Tin	32.31	g
Dry Sample + Tin	14.31	g
% Moisture	57.58	%

Non-soil material:	plant
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/19/2017 19:16
Date/Time out of oven	06/20/2017 19:32

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	50.66	219.24	168.58
Sample Weight (Oven Dried)			71.5

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			10.2
Sample <#10			61.3
% Passing #10			36.4

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	495.52	7.38	g	89.7	Gravel	
#10	2000	350.81	353.61	2.80	g	85.8	Sand	Coarse
#20	850	379.17	379.93	0.76	g	84.7	Sand	Medium
#40	425	352.73	354.11	1.38	g	82.8	Sand	Medium
#60	250	350.65	353.83	3.18	g	78.4	Sand	Fine
#80	180	337.76	343.19	5.43	g	70.8	Sand	Fine
#100	150	328.40	333.44	5.04	g	63.8	Sand	Fine
#200	75	323.21	333.20	9.99	g	49.8	Sand	Fine
				0.00	g	49.8		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	71.5

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0125	21.0	34.4	20.6	Silt	
5	5	1.0120	21.0	21.8	19.5	Silt	
15	15	1.0105	21.0	12.8	16.1	Silt	
30	30	1.0100	21.0	9.1	15	Silt	
60	63	1.0085	21.0	6.4	11.6	Silt	
250	253	1.0070	20.5	3.2	8.05	Clay	
1440	1400	1.0060	21.0	1.4	5.99	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK1700N
Lab Sample ID	180-67275-A-2 DU

Date Received	6/13/2017
Start Date	06/19/2017 19:28
End Date	06/26/2017 13:31

Dry Weight Determination

Tin Weight	1.08	g
Wet Sample + Tin	36.06	g
Dry Sample + Tin	13.20	g
% Moisture	65.35	%

Non-soil material:	plant
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/19/2017 19:30
Date/Time out of oven	06/20/2017 19:32

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.68	336.16	291.48
Sample Weight (Oven Dried)			101

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			32.2
Sample <#10			68.8
% Passing #10			23.6

Hydrometer Data

Serial Number	503315
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	513.76	25.62	g	74.6	Gravel	
#10	2000	350.81	357.40	6.59	g	68.1	Sand	Coarse
#20	850	379.17	379.61	0.44	g	67.7	Sand	Medium
#40	425	352.73	353.72	0.99	g	66.7	Sand	Medium
#60	250	350.65	352.44	1.79	g	64.9	Sand	Fine
#80	180	337.76	339.66	1.90	g	63.0	Sand	Fine
#100	150	328.40	330.32	1.92	g	61.1	Sand	Fine
#200	75	323.21	338.29	15.08	g	46.2	Sand	Fine
				0.00	g	46.2		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	101

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0180	21.0	32.4	23.3	Silt	
5	5	1.0160	21.0	20.9	20.1	Silt	
15	15	1.0135	21.0	12.4	16.2	Silt	
30	30	1.0120	21.0	8.9	13.8	Silt	
60	63	1.0105	21.0	6.2	11.4	Silt	
250	241	1.0080	20.5	3.3	7.29	Clay	
1440	1388	1.0065	21.0	1.4	5.04	Clay	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

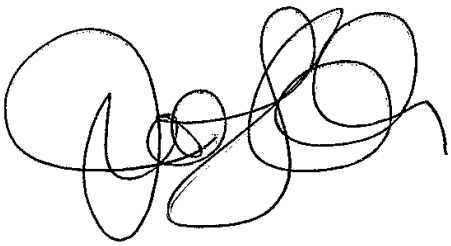
ANALYTICAL REPORT

Job Number: 180-67572-1

Job Description: Pepco Benning Road Facility

For:
AECOM, Inc.
250 Apollo Drive
Chelmsford, MA 01824

Attention: Mr. Robert Kennedy



Approved for release.
Jill L Colussy
Project Manager I
7/20/2017 12:24 PM

Jill L Colussy, Project Manager I
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2444
jill.colussy@testamericainc.com
07/20/2017

Method: D422 - Grain Size

Client Sample ID: SEDBACK2001N
Date Collected: 06/20/17 11:00
Date Received: 06/21/17 09:00

Lab Sample ID: 180-67572-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/23/17 21:26	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/23/17 21:26	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/23/17 21:26	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/23/17 21:26	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/23/17 21:26	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/23/17 21:26	1
Sieve Size #4 - Percent Finer	98.5				% Passing			06/23/17 21:26	1
Sieve Size #10 - Percent Finer	91.8				% Passing			06/23/17 21:26	1
Sieve Size #20 - Percent Finer	90.7				% Passing			06/23/17 21:26	1
Sieve Size #40 - Percent Finer	81.2				% Passing			06/23/17 21:26	1
Sieve Size #60 - Percent Finer	39.6				% Passing			06/23/17 21:26	1
Sieve Size #80 - Percent Finer	24.9				% Passing			06/23/17 21:26	1
Sieve Size #100 - Percent Finer	19.8				% Passing			06/23/17 21:26	1
Sieve Size #200 - Percent Finer	11.9				% Passing			06/23/17 21:26	1
Hydrometer Reading 1 - Percent Finer	10.4				% Passing			06/23/17 21:26	1
Hydrometer Reading 2 - Percent Finer	9.2				% Passing			06/23/17 21:26	1
Hydrometer Reading 3 - Percent Finer	8.0				% Passing			06/23/17 21:26	1
Hydrometer Reading 4 - Percent Finer	6.8				% Passing			06/23/17 21:26	1
Hydrometer Reading 5 - Percent Finer	5.7				% Passing			06/23/17 21:26	1
Hydrometer Reading 6 - Percent Finer	3.3				% Passing			06/23/17 21:26	1
Hydrometer Reading 7 - Percent Finer	2.1				% Passing			06/23/17 21:26	1

Method: D422 - Grain Size

Client Sample ID: SEDBACK2003N
Date Collected: 06/20/17 11:05
Date Received: 06/21/17 09:00

Lab Sample ID: 180-67572-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/23/17 21:28	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/23/17 21:28	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/23/17 21:28	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/23/17 21:28	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/23/17 21:28	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/23/17 21:28	1
Sieve Size #4 - Percent Finer	97.9				% Passing			06/23/17 21:28	1
Sieve Size #10 - Percent Finer	96.9				% Passing			06/23/17 21:28	1
Sieve Size #20 - Percent Finer	96.3				% Passing			06/23/17 21:28	1
Sieve Size #40 - Percent Finer	93.5				% Passing			06/23/17 21:28	1
Sieve Size #60 - Percent Finer	68.0				% Passing			06/23/17 21:28	1
Sieve Size #80 - Percent Finer	40.6				% Passing			06/23/17 21:28	1
Sieve Size #100 - Percent Finer	30.2				% Passing			06/23/17 21:28	1
Sieve Size #200 - Percent Finer	14.8				% Passing			06/23/17 21:28	1
Hydrometer Reading 1 - Percent Finer	3.5				% Passing			06/23/17 21:28	1
Hydrometer Reading 2 - Percent Finer	3.5				% Passing			06/23/17 21:28	1
Hydrometer Reading 3 - Percent Finer	2.7				% Passing			06/23/17 21:28	1
Hydrometer Reading 4 - Percent Finer	2.7				% Passing			06/23/17 21:28	1
Hydrometer Reading 5 - Percent Finer	1.2				% Passing			06/23/17 21:28	1
Hydrometer Reading 6 - Percent Finer	1.2				% Passing			06/23/17 21:28	1
Hydrometer Reading 7 - Percent Finer	1.2				% Passing			06/23/17 21:28	1

Method: D422 - Grain Size

Client Sample ID: SEDBACK1901N
Date Collected: 06/20/17 13:00
Date Received: 06/21/17 09:00

Lab Sample ID: 180-67572-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/23/17 21:31	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/23/17 21:31	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/23/17 21:31	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/23/17 21:31	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/23/17 21:31	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/23/17 21:31	1
Sieve Size #4 - Percent Finer	88.9				% Passing			06/23/17 21:31	1
Sieve Size #10 - Percent Finer	76.3				% Passing			06/23/17 21:31	1
Sieve Size #20 - Percent Finer	68.3				% Passing			06/23/17 21:31	1
Sieve Size #40 - Percent Finer	48.5				% Passing			06/23/17 21:31	1
Sieve Size #60 - Percent Finer	25.9				% Passing			06/23/17 21:31	1
Sieve Size #80 - Percent Finer	18.9				% Passing			06/23/17 21:31	1
Sieve Size #100 - Percent Finer	15.0				% Passing			06/23/17 21:31	1
Sieve Size #200 - Percent Finer	10.6				% Passing			06/23/17 21:31	1
Hydrometer Reading 1 - Percent Finer	5.1				% Passing			06/23/17 21:31	1
Hydrometer Reading 2 - Percent Finer	4.2				% Passing			06/23/17 21:31	1
Hydrometer Reading 3 - Percent Finer	3.7				% Passing			06/23/17 21:31	1
Hydrometer Reading 4 - Percent Finer	3.3				% Passing			06/23/17 21:31	1
Hydrometer Reading 5 - Percent Finer	2.9				% Passing			06/23/17 21:31	1
Hydrometer Reading 6 - Percent Finer	2.4				% Passing			06/23/17 21:31	1
Hydrometer Reading 7 - Percent Finer	1.5				% Passing			06/23/17 21:31	1

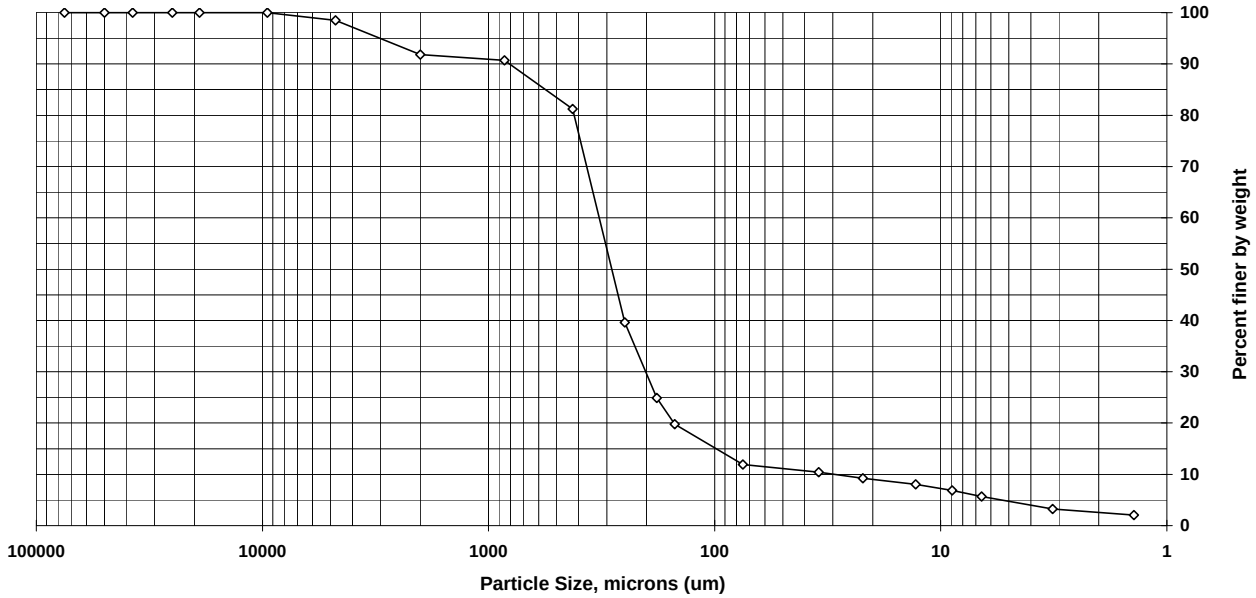
Particle Size of Soils by ASTM D422

				Date Received:	6/21/2017
Sample ID:	SEDBACK2001N	**Percent Solids:**	60.9%	**Start Date:**	6/23/2017
Lab ID:	180-67572-J-1	**Specific Gravity:**	2.650	**End Date:**	7/3/2017

Shape (> #10): na

Non-soil material: plant,wood

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	98.5	1.5
#10	2000	91.8	6.7
#20	850	90.7	1.1
#40	425	81.2	9.5
#60	250	39.6	41.6
#80	180	24.9	14.7
#100	150	19.8	5.1
#200	75	11.9	7.9
Hyd1	34.6	10.4	1.5
Hyd2	22.1	9.2	1.2
Hyd3	12.9	8.0	1.2
Hyd4	8.9	6.8	1.2
Hyd5	6.6	5.7	1.2
Hyd6	3.2	3.3	2.4
Hyd7	1.4	2.1	1.2

Soil Classification	Percent of sample
Gravel	1.5
Sand	86.6
Coarse Sand	6.7
Medium Sand	10.6
Fine Sand	69.3
Silt	6.3
Clay	5.7

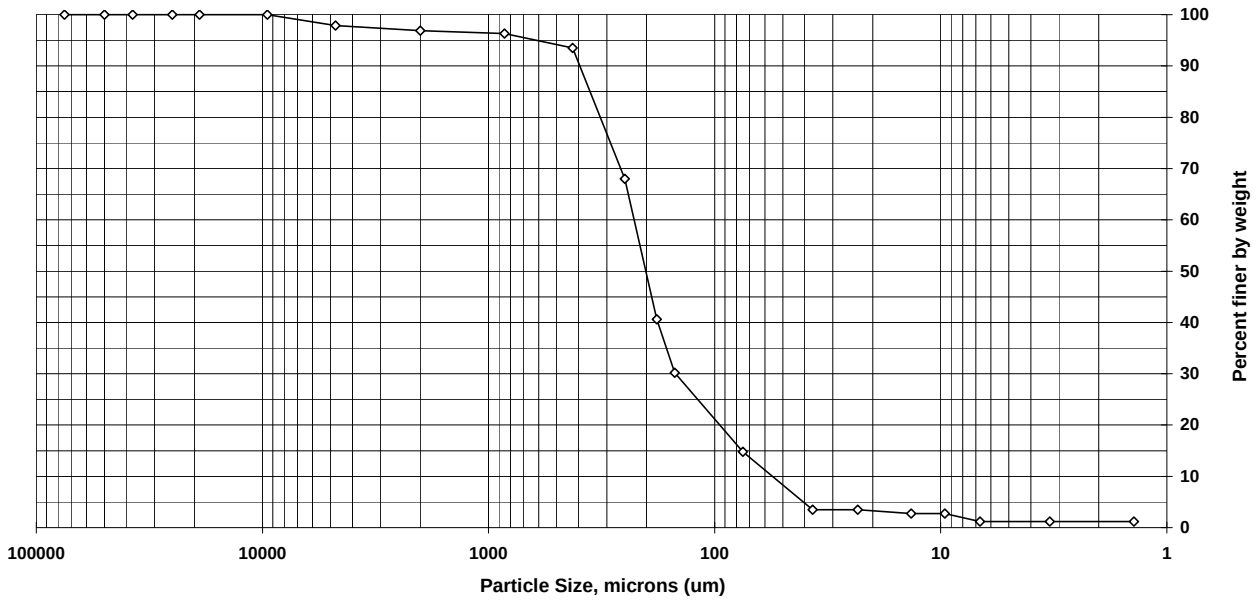
Particle Size of Soils by ASTM D422

				Date Received:	6/21/2017
Sample ID:	SEDBACK2003N	**Percent Solids:**	66.8%	**Start Date:**	6/23/2017
Lab ID:	180-67572-J-3	**Specific Gravity:**	2.650	**End Date:**	7/3/2017

Shape (> #10): na

Non-soil material: plant,wood

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	97.9	2.1
#10	2000	96.9	1.0
#20	850	96.3	0.6
#40	425	93.5	2.8
#60	250	68.0	25.5
#80	180	40.6	27.4
#100	150	30.2	10.4
#200	75	14.8	15.4
Hyd1	36.9	3.5	11.3
Hyd2	23.3	3.5	0.0
Hyd3	13.5	2.7	0.8
Hyd4	9.6	2.7	0.0
Hyd5	6.7	1.2	1.6
Hyd6	3.3	1.2	0.0
Hyd7	1.4	1.2	0.0

Soil Classification	Percent of sample
Gravel	2.1
Sand	83.1
Coarse Sand	1.0
Medium Sand	3.4
Fine Sand	78.7
Silt	13.6
Clay	1.2

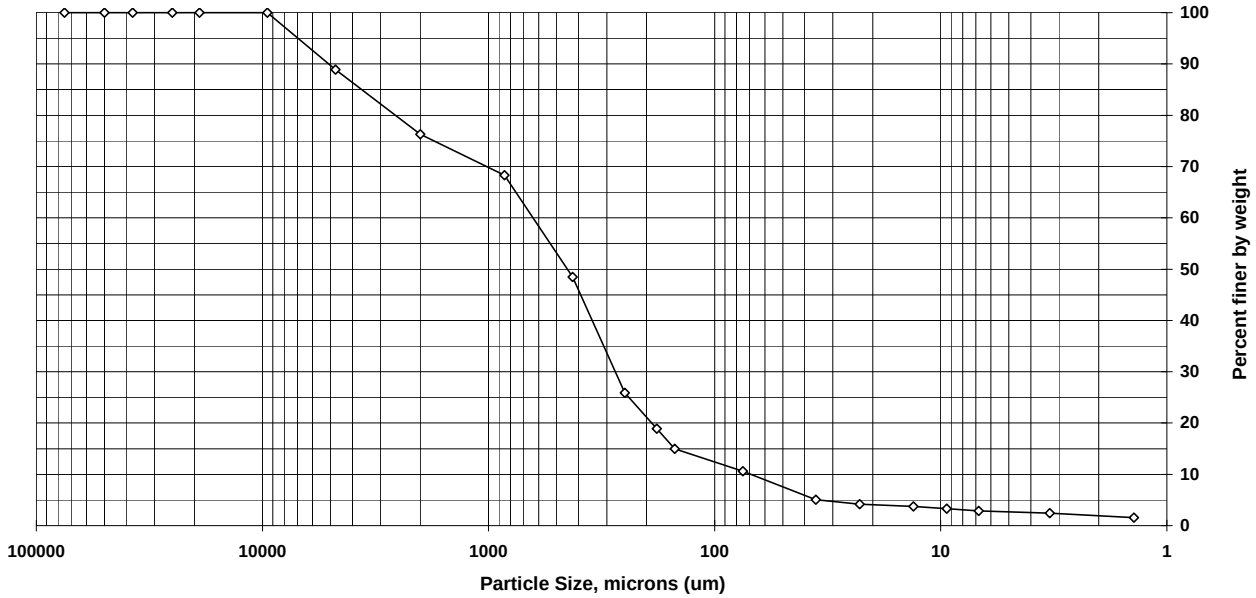
Particle Size of Soils by ASTM D422

				Date Received:	6/21/2017
Sample ID:	SEDBACK1901N	**Percent Solids:**	79.6%	**Start Date:**	6/23/2017
Lab ID:	180-67572-J-4	**Specific Gravity:**	2.650	**End Date:**	7/3/2017

Shape (> #10): subrounded

Non-soil material: plant,wood

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	88.9	11.1
#10	2000	76.3	12.6
#20	850	68.3	8.0
#40	425	48.5	19.8
#60	250	25.9	22.6
#80	180	18.9	7.0
#100	150	15.0	3.9
#200	75	10.6	4.4
Hyd1	35.7	5.1	5.6
Hyd2	22.8	4.2	0.9
Hyd3	13.2	3.7	0.4
Hyd4	9.4	3.3	0.4
Hyd5	6.8	2.9	0.4
Hyd6	3.3	2.4	0.4
Hyd7	1.4	1.5	0.9

Soil Classification	Percent of sample
Gravel	11.1
Sand	78.3
Coarse Sand	12.6
Medium Sand	27.8
Fine Sand	37.9
Silt	7.8
Clay	2.8

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK2001N
Lab Sample ID	180-67572-J-1

Date Received	6/21/2017
Start Date	06/23/2017 21:26
End Date	07/03/2017 16:26

Dry Weight Determination

Tin Weight	1.04	g
Wet Sample + Tin	33.65	g
Dry Sample + Tin	20.90	g
% Moisture	39.10	%

Non-soil material:	plant,wood
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/23/2017 21:28
Date/Time out of oven	06/26/2017 19:32

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.66	266.03	221.37
Sample Weight (Oven Dried)			135

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			11.1
Sample <#10			124
% Passing #10			56

Hydrometer Data	
Serial Number	410848
Calib. Date (mm/dd/yyyy)	06/28/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.11	490.14	2.03	g	98.5	Gravel	
#10	2000	462.68	471.73	9.05	g	91.8	Sand	Coarse
#20	850	388.29	389.72	1.43	g	90.7	Sand	Medium
#40	425	366.25	379.03	12.78	g	81.2	Sand	Medium
#60	250	348.24	404.45	56.21	g	39.6	Sand	Fine
#80	180	330.93	350.81	19.88	g	24.9	Sand	Fine
#100	150	330.24	337.17	6.93	g	19.8	Sand	Fine
#200	75	322.72	333.41	10.69	g	11.9	Sand	Fine
				0.00	g	11.9		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	135

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0130	20.0	34.6	10.4	Silt	
5	5	1.0120	20.0	22.1	9.22	Silt	
15	15	1.0110	20.0	12.9	8.03	Silt	
30	32	1.0100	20.0	8.9	6.84	Silt	
60	60	1.0090	20.0	6.6	5.65	Silt	
250	259	1.0070	20.0	3.2	3.27	Clay	
1440	1406	1.0060	20.0	1.4	2.08	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK2003N
Lab Sample ID	180-67572-J-3

Date Received	6/21/2017
Start Date	06/23/2017 21:28
End Date	07/03/2017 16:38

Dry Weight Determination

Tin Weight	1.07	g
Wet Sample + Tin	16.78	g
Dry Sample + Tin	11.57	g
% Moisture	33.16	%

Non-soil material:	plant,wood
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/23/2017 21:30
Date/Time out of oven	06/26/2017 19:32

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.72	198.49	153.77
Sample Weight (Oven Dried)			103

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			3.26
Sample <#10			99.7
% Passing #10			64.8

Hydrometer Data

Serial Number	410848
Calib. Date (mm/dd/yyyy)	06/28/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.11	490.30	2.19	g	97.9	Gravel	
#10	2000	462.68	463.75	1.07	g	96.9	Sand	Coarse
#20	850	388.29	388.92	0.63	g	96.3	Sand	Medium
#40	425	366.25	369.16	2.91	g	93.5	Sand	Medium
#60	250	348.24	374.48	26.24	g	68.0	Sand	Fine
#80	180	330.93	359.15	28.22	g	40.6	Sand	Fine
#100	150	330.24	340.91	10.67	g	30.2	Sand	Fine
#200	75	322.72	338.59	15.87	g	14.8	Sand	Fine
				0.00	g	14.8		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	103

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0065	20.0	36.9	3.51	Silt	
5	5	1.0065	20.0	23.3	3.51	Silt	
15	15	1.0060	20.0	13.5	2.73	Silt	
30	30	1.0060	20.0	9.6	2.73	Silt	
60	63	1.0050	20.0	6.7	1.17	Silt	
250	253	1.0050	20.0	3.3	1.17	Clay	
1440	1400	1.0050	20.0	1.4	1.17	Clay	

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK1901N
Lab Sample ID	180-67572-J-4

Date Received	6/21/2017
Start Date	06/23/2017 21:31
End Date	07/03/2017 16:21

Dry Weight Determination

Tin Weight	1.10	g
Wet Sample + Tin	21.93	g
Dry Sample + Tin	17.68	g
% Moisture	20.40	%

Non-soil material:	plant,wood
Shape (> #10):	subrounded
Hardness (> #10):	hard

Date/Time in oven	06/23/2017 21:32
Date/Time out of oven	06/26/2017 19:33

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.73	275.13	230.4
Sample Weight (Oven Dried)			183

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			43.4
Sample <#10			140
% Passing #10			60.8

Hydrometer Data

Serial Number	410848
Calib. Date (mm/dd/yyyy)	06/28/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.11	508.36	20.25	g	88.9	Gravel	
#10	2000	462.68	485.79	23.11	g	76.3	Sand	Coarse
#20	850	379.16	393.72	14.56	g	68.3	Sand	Medium
#40	425	352.78	388.99	36.21	g	48.5	Sand	Medium
#60	250	351.08	392.52	41.44	g	25.9	Sand	Fine
#80	180	337.94	350.84	12.90	g	18.9	Sand	Fine
#100	150	328.56	335.70	7.14	g	15.0	Sand	Fine
#200	75	323.28	331.36	8.08	g	10.6	Sand	Fine
				0.00	g	10.6		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	183

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0100	20.0	35.7	5.05	Silt	
5	5	1.0090	20.0	22.8	4.17	Silt	
15	15	1.0085	20.0	13.2	3.73	Silt	
30	30	1.0080	20.0	9.4	3.29	Silt	
60	57	1.0075	20.0	6.8	2.85	Silt	
250	247	1.0070	20.0	3.3	2.41	Clay	
1440	1394	1.0060	20.0	1.4	1.54	Clay	

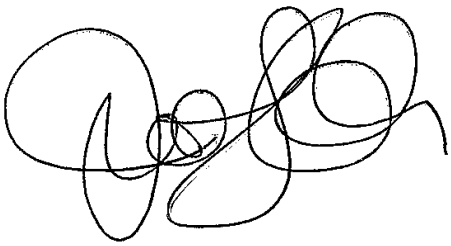
ANALYTICAL REPORT

Job Number: 180-67645-1

Job Description: Pepco Benning Road Facility

For:
AECOM, Inc.
250 Apollo Drive
Chelmsford, MA 01824

Attention: Mr. Robert Kennedy



Approved for release.
Jill L Colussy
Project Manager I
7/20/2017 4:33 PM

Jill L Colussy, Project Manager I
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2444
jill.colussy@testamericainc.com
07/20/2017

Method: D422 - Grain Size

Client Sample ID: SEDBACK1801N
Date Collected: 06/21/17 07:40
Date Received: 06/22/17 09:00

Lab Sample ID: 180-67645-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/28/17 16:15	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/28/17 16:15	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/28/17 16:15	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/28/17 16:15	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/28/17 16:15	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/28/17 16:15	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/28/17 16:15	1
Sieve Size #10 - Percent Finer	100.0				% Passing			06/28/17 16:15	1
Sieve Size #20 - Percent Finer	96.5				% Passing			06/28/17 16:15	1
Sieve Size #40 - Percent Finer	83.4				% Passing			06/28/17 16:15	1
Sieve Size #60 - Percent Finer	62.2				% Passing			06/28/17 16:15	1
Sieve Size #80 - Percent Finer	57.0				% Passing			06/28/17 16:15	1
Sieve Size #100 - Percent Finer	55.8				% Passing			06/28/17 16:15	1
Sieve Size #200 - Percent Finer	52.0				% Passing			06/28/17 16:15	1
Hydrometer Reading 1 - Percent Finer	41.7				% Passing			06/28/17 16:15	1
Hydrometer Reading 2 - Percent Finer	36.7				% Passing			06/28/17 16:15	1
Hydrometer Reading 3 - Percent Finer	31.7				% Passing			06/28/17 16:15	1
Hydrometer Reading 4 - Percent Finer	26.6				% Passing			06/28/17 16:15	1
Hydrometer Reading 5 - Percent Finer	24.1				% Passing			06/28/17 16:15	1
Hydrometer Reading 6 - Percent Finer	16.4				% Passing			06/28/17 16:15	1
Hydrometer Reading 7 - Percent Finer	12.6				% Passing			06/28/17 16:15	1

Method: D422 - Grain Size

Client Sample ID: SEDBACK1701N
Date Collected: 06/21/17 13:40
Date Received: 06/22/17 09:00

Lab Sample ID: 180-67645-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/28/17 16:17	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/28/17 16:17	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/28/17 16:17	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/28/17 16:17	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/28/17 16:17	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/28/17 16:17	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/28/17 16:17	1
Sieve Size #10 - Percent Finer	100.0				% Passing			06/28/17 16:17	1
Sieve Size #20 - Percent Finer	99.9				% Passing			06/28/17 16:17	1
Sieve Size #40 - Percent Finer	99.5				% Passing			06/28/17 16:17	1
Sieve Size #60 - Percent Finer	94.6				% Passing			06/28/17 16:17	1
Sieve Size #80 - Percent Finer	86.8				% Passing			06/28/17 16:17	1
Sieve Size #100 - Percent Finer	82.6				% Passing			06/28/17 16:17	1
Sieve Size #200 - Percent Finer	71.6				% Passing			06/28/17 16:17	1
Hydrometer Reading 1 - Percent Finer	42.9				% Passing			06/28/17 16:17	1
Hydrometer Reading 2 - Percent Finer	39.8				% Passing			06/28/17 16:17	1
Hydrometer Reading 3 - Percent Finer	31.9				% Passing			06/28/17 16:17	1
Hydrometer Reading 4 - Percent Finer	27.1				% Passing			06/28/17 16:17	1
Hydrometer Reading 5 - Percent Finer	22.4				% Passing			06/28/17 16:17	1
Hydrometer Reading 6 - Percent Finer	14.2				% Passing			06/28/17 16:17	1
Hydrometer Reading 7 - Percent Finer	11.1				% Passing			06/28/17 16:17	1

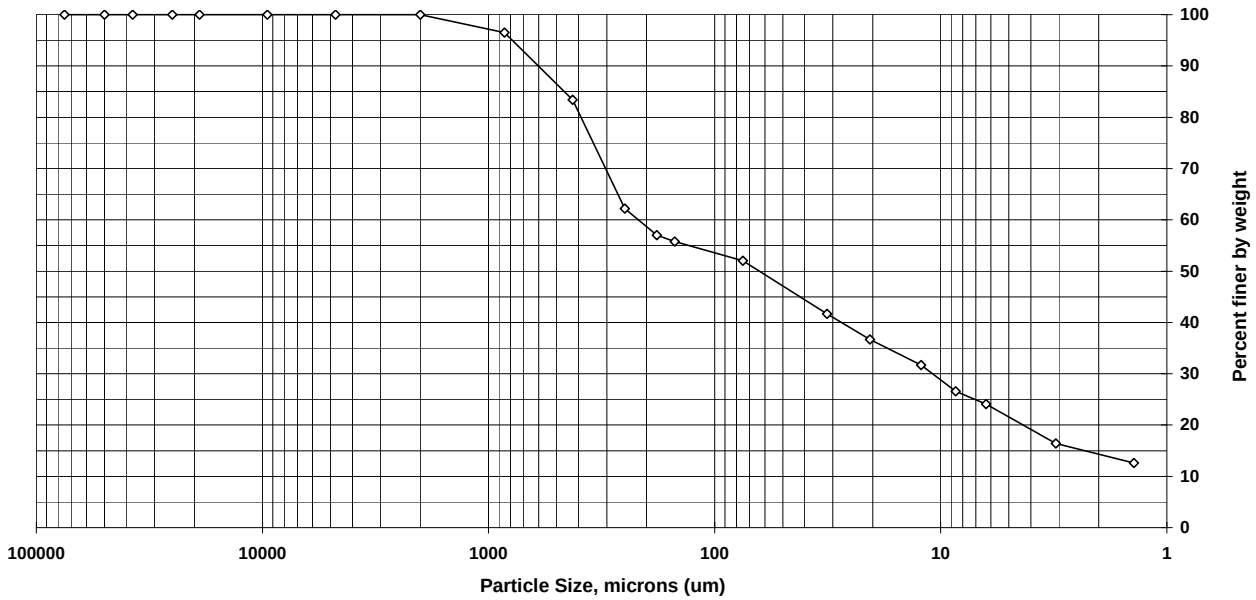
Particle Size of Soils by ASTM D422

				Date Received:	6/22/2017
Sample ID:	SEDBACK1801N	**Percent Solids:**	68.0%	**Start Date:**	6/28/2017
Lab ID:	180-67645-K-1	**Specific Gravity:**	2.650	**End Date:**	7/5/2017

Shape (> #10): na

Non-soil material: na

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	96.5	3.5
#40	425	83.4	13.1
#60	250	62.2	21.2
#80	180	57.0	5.2
#100	150	55.8	1.2
#200	75	52.0	3.8
Hyd1	31.8	41.7	10.3
Hyd2	20.6	36.7	5.0
Hyd3	12.2	31.7	5.0
Hyd4	8.6	26.6	5.1
Hyd5	6.3	24.1	2.5
Hyd6	3.1	16.4	7.7
Hyd7	1.4	12.6	3.8

Soil Classification	Percent of sample
Gravel	0.0
Sand	48.0
Coarse Sand	0.0
Medium Sand	16.6
Fine Sand	31.4
Silt	27.9
Clay	24.1

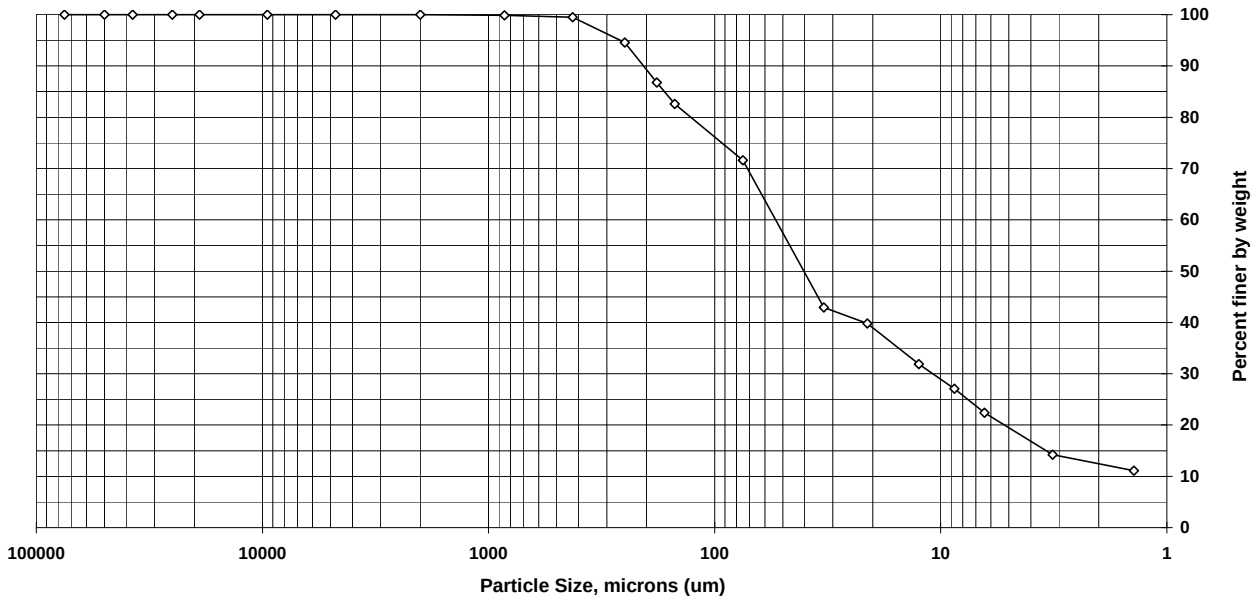
Particle Size of Soils by ASTM D422

				Date Received:	6/22/2017
Sample ID:	SEDBACK1701N	**Percent Solids:**	64.8%	**Start Date:**	6/28/2017
Lab ID:	180-67645-K-2	**Specific Gravity:**	2.650	**End Date:**	7/5/2017

Shape (> #10): na

Non-soil material: na

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.9	0.1
#40	425	99.5	0.4
#60	250	94.6	4.9
#80	180	86.8	7.8
#100	150	82.6	4.2
#200	75	71.6	11.0
Hyd1	32.9	42.9	28.7
Hyd2	21.1	39.8	3.1
Hyd3	12.5	31.9	7.9
Hyd4	8.7	27.1	4.8
Hyd5	6.4	22.4	4.7
Hyd6	3.2	14.2	8.2
Hyd7	1.4	11.1	3.1

Soil Classification	Percent of sample
Gravel	0.0
Sand	28.4
Coarse Sand	0.0
Medium Sand	0.5
Fine Sand	27.9
Silt	49.2
Clay	22.4

TestAmerica Burlington

Sediment Grain Size - D422

Client		Date Received	6/22/2017
Client Sample ID	SEDBACK1801N	Start Date	06/28/2017 16:15
Lab Sample ID	180-67645-K-1	End Date	07/05/2017 13:04

Dry Weight Determination

Tin Weight	1.02	g	Non-soil material:	na
Wet Sample + Tin	27.65	g	Shape (> #10):	na
Dry Sample + Tin	19.12	g	Hardness (> #10):	na
% Moisture	32.03	%		
			Date/Time in oven	06/28/2017 16:15
			Date/Time out of oven	06/30/2017 16:13

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.72	138.58	93.86
Sample Weight (Oven Dried)			63.8

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			0
Sample <#10			63.8
% Passing #10			68

Hydrometer Data

Serial Number	503310
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000			0.00	g	100.0	Sand	Coarse
#20	850	388.14	390.40	2.26	g	96.5	Sand	Medium
#40	425	366.12	374.48	8.36	g	83.4	Sand	Medium
#60	250	348.27	361.80	13.53	g	62.2	Sand	Fine
#80	180	330.86	334.17	3.31	g	57.0	Sand	Fine
#100	150	330.22	331.01	0.79	g	55.8	Sand	Fine
#200	75	322.71	325.15	2.44	g	52.0	Sand	Fine
				0.00	g	52.0		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	63.8

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0200	20.5	31.8	41.7	Silt	
5	5	1.0180	20.5	20.6	36.7	Silt	
15	15	1.0160	20.5	12.2	31.7	Silt	
30	31	1.0140	20.5	8.6	26.6	Silt	
60	59	1.0130	20.5	6.3	24.1	Silt	
250	265	1.0100	20.0	3.1	16.4	Clay	
1440	1412	1.0085	20.0	1.4	12.6	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK1701N
Lab Sample ID	180-67645-K-2

Date Received	6/22/2017
Start Date	06/28/2017 16:17
End Date	07/05/2017 13:10

Dry Weight Determination

Tin Weight	1.02	g
Wet Sample + Tin	27.76	g
Dry Sample + Tin	18.35	g
% Moisture	35.19	%

Non-soil material:	na
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	06/28/2017 16:17
Date/Time out of oven	06/30/2017 16:13

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.78	123.14	78.36
Sample Weight (Oven Dried)			50.8

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			0
Sample <#10			50.8
% Passing #10			64.8

Hydrometer Data

Serial Number	503310
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000			0.00	g	100.0	Sand	Coarse
#20	850	379.06	379.13	0.07	g	99.9	Sand	Medium
#40	425	352.83	353.05	0.22	g	99.5	Sand	Medium
#60	250	350.89	353.36	2.47	g	94.6	Sand	Fine
#80	180	337.92	341.86	3.94	g	86.8	Sand	Fine
#100	150	328.50	330.65	2.15	g	82.6	Sand	Fine
#200	75	323.23	328.81	5.58	g	71.6	Sand	Fine
				0.00	g	71.6		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	50.8

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0170	20.5	32.9	42.9	Silt	
5	5	1.0160	20.5	21.1	39.8	Silt	
15	15	1.0135	20.5	12.5	31.9	Silt	
30	32	1.0120	20.5	8.7	27.1	Silt	
60	60	1.0105	20.5	6.4	22.4	Silt	
250	259	1.0080	20.0	3.2	14.2	Clay	
1440	1406	1.0070	20.0	1.4	11.1	Clay	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

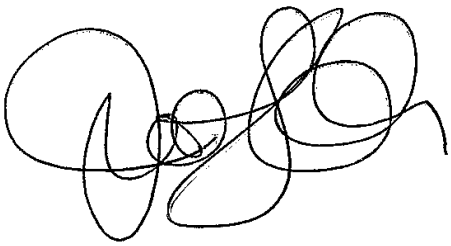
ANALYTICAL REPORT

Job Number: 180-67682-1

Job Description: Pepco Benning Road Facility

For:
AECOM, Inc.
250 Apollo Drive
Chelmsford, MA 01824

Attention: Mr. Robert Kennedy



Approved for release.
Jill L Colussy
Project Manager I
7/24/2017 12:42 PM

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07/24/2017

Method: D422 - Grain Size

Client Sample ID: SEDBACK1601N
Date Collected: 06/22/17 07:30
Date Received: 06/23/17 09:20

Lab Sample ID: 180-67682-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/27/17 17:13	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/27/17 17:13	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/27/17 17:13	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/27/17 17:13	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/27/17 17:13	1
Sieve Size 0.375 inch - Percent Finer	98.9				% Passing			06/27/17 17:13	1
Sieve Size #4 - Percent Finer	97.3				% Passing			06/27/17 17:13	1
Sieve Size #10 - Percent Finer	96.0				% Passing			06/27/17 17:13	1
Sieve Size #20 - Percent Finer	95.0				% Passing			06/27/17 17:13	1
Sieve Size #40 - Percent Finer	91.8				% Passing			06/27/17 17:13	1
Sieve Size #60 - Percent Finer	73.5				% Passing			06/27/17 17:13	1
Sieve Size #80 - Percent Finer	53.7				% Passing			06/27/17 17:13	1
Sieve Size #100 - Percent Finer	44.6				% Passing			06/27/17 17:13	1
Sieve Size #200 - Percent Finer	33.1				% Passing			06/27/17 17:13	1
Hydrometer Reading 1 - Percent Finer	18.8				% Passing			06/27/17 17:13	1
Hydrometer Reading 2 - Percent Finer	16.4				% Passing			06/27/17 17:13	1
Hydrometer Reading 3 - Percent Finer	14.0				% Passing			06/27/17 17:13	1
Hydrometer Reading 4 - Percent Finer	10.9				% Passing			06/27/17 17:13	1
Hydrometer Reading 5 - Percent Finer	9.3				% Passing			06/27/17 17:13	1
Hydrometer Reading 6 - Percent Finer	5.8				% Passing			06/27/17 17:13	1
Hydrometer Reading 7 - Percent Finer	3.4				% Passing			06/27/17 17:13	1

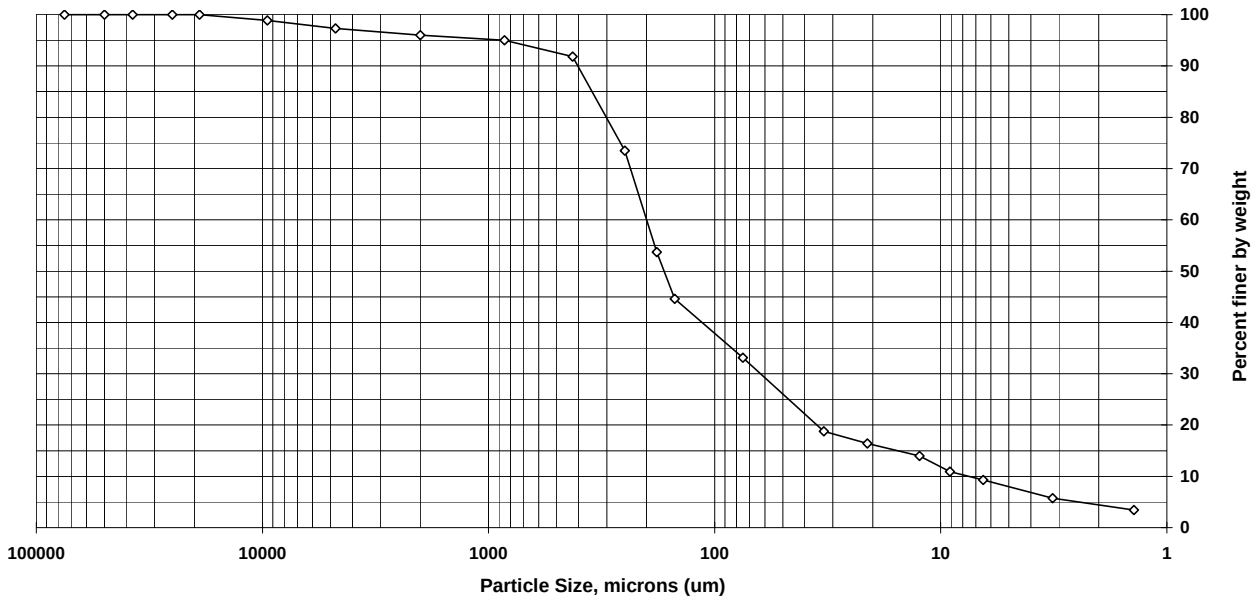
Particle Size of Soils by ASTM D422

				Date Received:	6/23/2017
Sample ID:	SEDBACK1601N	**Percent Solids:**	60.6%	**Start Date:**	6/27/2017
Lab ID:	180-67682-R-1	**Specific Gravity:**	2.650	**End Date:**	6/30/2017

Shape (> #10): n/a

Non-soil material: leaves

Hardness (> #10): n/a



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	98.9	1.1
#4	4750	97.3	1.6
#10	2000	96.0	1.3
#20	850	95.0	1.0
#40	425	91.8	3.2
#60	250	73.5	18.3
#80	180	53.7	19.8
#100	150	44.6	9.1
#200	75	33.1	11.5
Hyd1	32.9	18.8	14.3
Hyd2	21.1	16.4	2.4
Hyd3	12.4	14.0	2.4
Hyd4	9.1	10.9	3.1
Hyd5	6.5	9.3	1.6
Hyd6	3.2	5.8	3.6
Hyd7	1.4	3.4	2.4

Soil Classification	Percent of sample
Gravel	2.7
Sand	64.2
Coarse Sand	1.3
Medium Sand	4.2
Fine Sand	58.7
Silt	23.8
Clay	9.3

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	SEDBACK1601N
Lab Sample ID	180-67682-R-1

Date Received	6/23/2017
Start Date	06/27/2017 17:13
End Date	06/30/2017 21:04

Dry Weight Determination

Tin Weight	1.02	g
Wet Sample + Tin	19.39	g
Dry Sample + Tin	12.15	g
% Moisture	39.41	%

Non-soil material:	leaves
Shape (> #10):	n/a
Hardness (> #10):	n/a

Date/Time in oven	06/27/2017 17:15
Date/Time out of oven	06/28/2017 19:49

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	44.76	213.73	168.97
Sample Weight (Oven Dried)			102

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			4.05
Sample <#10			98
% Passing #10			58

Hydrometer Data

Serial Number	503310
Calib. Date (mm/dd/yyyy)	07/18/2016
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500	447.37	448.46	1.09	g	98.9	Gravel	
#4	4750	488.14	489.80	1.66	g	97.3	Gravel	
#10	2000	462.69	463.99	1.30	g	96.0	Sand	Coarse
#20	850	388.17	389.18	1.01	g	95.0	Sand	Medium
#40	425	366.17	369.43	3.26	g	91.8	Sand	Medium
#60	250	348.26	366.89	18.63	g	73.5	Sand	Fine
#80	180	330.96	351.18	20.22	g	53.7	Sand	Fine
#100	150	330.35	339.65	9.30	g	44.6	Sand	Fine
#200	75	322.71	334.45	11.74	g	33.1	Sand	Fine
				0.00	g	33.1		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	102

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0150	22.5	32.9	18.8	Silt	
5	5	1.0135	22.5	21.1	16.4	Silt	
15	15	1.0120	22.5	12.4	14	Silt	
30	29	1.0100	22.5	9.1	10.9	Silt	
60	58	1.0090	22.5	6.5	9.32	Silt	
250	250	1.0070	21.0	3.2	5.77	Clay	
1440	1434	1.0055	21.0	1.4	3.41	Clay	