APPENDIX I VIBRACORE DESCRIPTIONS

Offshore

Vibracore Descriptions

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,301,991.8 E 150,944.6
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A01_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 3.13
8. Recovery, (m): 3.43
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/10/2016 COMPLETED 9/10/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -8.41
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-8.41 -8.59	0.00 0.18		light brown fine Sand	1 0.00 0.30	
			dark brown to light gray Silt	2 0.30 0.46	
-9.35	0.94			3 0.46 0.76	
			dark to light brown Silt with some fine Sand	4 0.76 1.07	
-9.78	1.37			5 1.07 1.52	
			light brown to dark gray fine Sand with Clay lens at 6'4"		
-10.49	2.08			6 2.13 2.44	
			dark to light gray fine Sand with black laminations and little coarse Sand		
				7 2.84 3.15	
-11.84	3.43				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,301,982.4 E 150,945.1
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A02_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 3.14
8. Recovery, (m): 3.14
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/10/2016 COMPLETED 9/10/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -8.20
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-8.20	0.00		light brown fine-medium Sand		
-8.81	0.61				
			gray-green fine Sand with little Silt, lens of brown Silt at 4'	1 0.61 0.91	
				2 0.91 1.22	
-9.57	1.37			3 1.22 1.52	
			light gray fine-medium Sand	4 1.52 1.83	
-10.64	2.44				
			gray-brown Silty fine Sand	5 2.44 2.74	
				6 2.74 3.05	
-11.34	3.14				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,301,972.8 E 150,948.1
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A03_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 3.14
8. Recovery, (m): 3.12
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/9/2016 COMPLETED 9/9/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -8.11
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-8.11	0.00		light brown fine-medium Sand with trace gravel and shell fragments	1 0.00 0.37	
-8.46	0.36				
			gray fine Sand with some Silt, slightly sticky	2 0.37 0.77	
-8.87	0.76				
			light brown with gray fine-medium Sand	3 0.76 2.83	
-10.93	2.82				
			gray fine Sand with some Silt		
-11.23	3.12				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,301,814.7 E 151,402.9
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A04_Physical
5. NAME OF DRILLER
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 3.09
8. Recovery, (m): 3.05
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED | DISTURBED | UNDISTURBED
14. TOTAL NUMBER CORE BOXES
15. DEPTH BELOW SEA SURFACE () (m)
16. DATE HOLE: STARTED 9/10/2016 COMPLETED 9/10/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -11.31
18. TOTAL CORE RECOVERY FOR BORING %
19. SIGNATURE OF INSPECTOR

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-11.46	0.15		brown to gray fine-medium Sand with trace Silt	1 0.00 0.15	
-11.92	0.61		dark brown Silt with Peat; significant organic content	2 0.15 0.61	
-12.37	1.07		Section sent to lab unopened	3 0.61 1.07	
-12.68	1.37		dark gray silty Clay; highly plastic	4 1.07 1.37	
-13.14	1.83		dark gray silty fine Sand with few thin plastic laminations	5 1.37 1.83	
-13.59	2.29		Section sent to lab unopened	6 1.83 2.35	
-13.75	2.44		dark gray silty Sand		
-14.05	2.74		gray fine-medium Sand	7 2.44 2.74	
-14.36	3.05		Section sent to lab unopened	8 2.74 3.05	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,301,575.2 E 151,831.5
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A05_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. Penetration, (m): 3.22
8. Recovery, (m): 3.05
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -12.50
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-12.50	0.00		gray fine-course Sand with trace fine Gravel	1 0.00 0.46	
-12.95	0.46				
-13.11	0.61		fine-medium Sand with trace 1/2" thick lenses of sticky Silt	2 0.46 0.61	
			gray fine-coarse Sand with trace 1/2" layers of dark gray sticky Silt	3 0.61 1.22	
-13.72	1.22				
			gray fine Sand with trace pieces of wood	4 1.22 1.52	
-14.02	1.52				
			Section sent to lab unopened	5 1.52 1.83	
-14.33	1.83				
-14.40	1.91		brown sticky Clay with some Silt and fine Sand	6 1.91 2.44	
			light gray-brown fine Sand with trace light gray Silt		
				7 2.44 3.05	
-15.54	3.05				

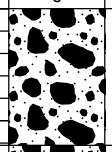
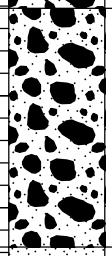
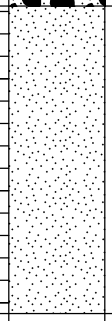
VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,301,342.6 E 152,261.1
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A06_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 3.34
8. Recovery, (m): 3.05
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -13.20
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-13.20	0.00		loose to very loose, light brown to gray sandy Gravel with trace shell fragments, well graded	1 0.00 0.61	
-13.81	0.61				
			loose to very loose, gray sandy Gravel	2 0.61 1.07	
				3 1.04 1.35	
				4 1.35 1.68	
-14.87	1.68				
			very loose, alternating 4-6" thick beds of poorly graded and well graded gray to light gray Sand with trace fine Gravel	5 1.68 2.13	
				6 2.13 2.74	
				7 2.74 3.05	
-16.25	3.05				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,301,162.4 E 152,595.9
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A07_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 4.69
8. Recovery, (m): 4.65
9. Total Recovery, (m):
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -12.89
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-12.89	0.00		medium brown fine-coarse Sand with trace fine Gravel	1 0.00 0.61	
-13.81	0.91			2 0.61 1.22	
-14.11	1.22		medium brown Gravel to sandy Gravel		
-15.48	2.59		tan to brown fine Sand with trace pieces of 1" Gravel and trace 1/2" Clay or Silt balls	3 1.22 1.83 4 1.83 2.59	
-15.99	3.10		red-brown fine-medium Sand with trace fine Gravel and trace gray Silt balls	5 2.59 3.05	
-16.60	3.71		light gray to white fine Sand; iron stained red-brown at +/-11'	6 3.05 3.35 7 3.35 3.72	
-16.93	4.04		gray fine-coarse Sand with trace fine Gravel	8 3.71 4.04	
-17.24	4.34		tan fine-coarse Sand with little fine-coarse Gravel	9 4.04 4.34	
-17.47	4.57		red-brown fine-medium Sand	10 4.34 4.57	
-17.54	4.65		fine-medium Sand with non-cohesive, gray-blue Silt balls 2" in diameter	11 4.57 4.65	

Hole No. A08_Physical

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,300,872.2 E 153,131.0
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A08_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. Penetration, (m): 4.42
8. Recovery, (m): 4.70
9. Total Recovery, (m):
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -14.90
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-14.90	0.00		loose, light brown fine-course Sand with trace shell fragments and trace Gravel	1 0.00 0.91	
				2 0.91 1.65	
-16.43	1.52		light brown fine-coarse Sand with some Gravel 1/2" in diameter	3 1.65 2.54	
-17.42	2.51		loose, light gray fine-medium Sand with trace 1/2" gray Silt balls and trace fine Gravel	4 2.51 3.05	
				5 3.05 4.05	
-18.94	4.04		gray fine-coarse Sand with some Gravel and trace 1/2" Silt balls; non-cohesive	6 4.05 4.36	
-19.25	4.34		light gray fine-coarse Sand with trace fine gravel and few dark gray laminations of heavy minerals in bottom foot	7 4.34 4.71	
-19.60	4.70				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,300,584.0 E 153,663.4
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A09_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 4.70
8. Recovery, (m): 4.67
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -17.71
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-17.71	0.00		light brown fine to coarse Sand with some Gravel 3/4" in diameter	1 0.00 1.04	
-18.75	1.04		Sandy Gravel	2 1.04 2.68	
-19.35	1.65		light gray to light brown fine-medium Sand with trace fine Gravel; grades with coarse Sand below 13'	3 1.65 2.74	
				4 2.74 3.78	
				5 3.78 4.66	
-22.37	4.66				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,300,296.8 E 154,198.2
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A10_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. Penetration, (m): 4.61
8. Recovery, (m): 4.57
9. Total Recovery, (m):
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED | DISTURBED | UNDISTURBED
14. TOTAL NUMBER CORE BOXES
15. DEPTH BELOW SEA SURFACE () (m)
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -18.99
18. TOTAL CORE RECOVERY FOR BORING %
19. SIGNATURE OF INSPECTOR

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-18.99	0.00		brown fine-medium Sand with trace shell hash	1 0.00 0.23	
-19.22	0.23				
-19.42	0.43		soft, dark gray silty fine Sand with trace shell hash	2 0.23 0.63	
-19.62	0.63		soft, dark gray silty Clay		
			light brown medium-coarse Sand with some fine-medium Gravel	3 0.63 1.52	
				4 1.52 2.44	
-21.43	2.44				
			light brown fine-coarse Sand with trace gray Silt balls	5 2.44 2.90	
-21.88	2.90				
			gray to dark gray fine-coarse Sand with some fine Gravel	6 2.90 3.96	
-22.95	3.96				
			light brown fine-coarse Sand with some fine Gravel	7 3.96 4.57	
-23.56	4.57				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,300,008.9 E 154,734.5
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A11_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ---- DEG. FROM VERT.
7. Penetration, (m): 4.70
8. Recovery, (m): 4.67
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -18.50
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-18.50	0.00		light brown fine-medium Sand with trace shell fragments and coarse Sand/fine Gravel; more gravel in bottom 0.5'	1 0.00 0.61	
				2 0.61 0.91	
				3 0.91 1.22	
-19.72	1.22				
-20.03	1.52		loose, soft, dark gray sandy, silty Gravel; no shear strength	4 1.22 1.52	
			gray coarse Sand with trace fine-coarse Gravel	5 1.52 1.83	
				6 1.83 2.44	
-20.94	2.44				
-21.24	2.74		gray fine Sand with trace Silt	7 2.44 2.74	
			gray to light brown fine-medium Sand	8 2.74 3.20	
				9 3.20 3.66	
				10 3.66 4.11	
-22.90	4.40			11 4.11 4.42	
-23.17	4.67		gray medium-coarse Sand	12 4.42 4.66	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,299,719.4 E 155,270.5
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A12_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. Penetration, (m): 4.75
8. Recovery, (m): 4.34
9. Total Recovery, (m):
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -18.11
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-18.11	0.00		light brown fine-medium Sand with trace small shell fragments	1 0.00 0.30	
-18.87	0.76			2 0.30 0.61	
-18.89	0.79		soft, sticky dark gray Silt	3 0.61 0.91	
-19.17	1.07		gray to dark gray silty fine Sand; non-cohesive	4 0.91 1.07	
-19.63	1.52		dark gray silty fine Sand to sandy Silt; non-cohesive	5 1.07 1.52	
-20.85	2.74		gray fine Sand with trace Silt; dark gray non-cohesive Silt lens from 8'1"-8'3"	6 1.52 1.83 7 1.83 2.13 8 2.13 2.44	
-21.15	3.05		Section sent to lab unopened	9 2.44 2.74	
-21.51	3.40		dark gray silty fine Sand	10 2.74 3.05	
-21.79	3.68		dark gray-green Silt; non-cohesive	11 3.05 3.41	
-21.84	3.73		light gray fine-medium Sand with trace small gravel	12 3.40 3.66	
-22.45	4.34		dark gray-green sticky silty Clay, thinly laminated	13 3.68 3.73 14 3.73 4.04 15 4.04 4.34	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,299,428.6 E 155,806.8
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A13_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ---- DEG. FROM VERT.
7. Penetration, (m): 4.52
8. Recovery, (m): 4.52
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -18.59
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-18.59	0.00		light brown fine-medium Sand with trace shells	1 0.00 0.52	
-19.11	0.52		light brown fine-medium Sand with some fine-coarse Gravel	2 0.52 1.07	
-19.66	1.07		light brown fine-medium Sand with trace fine gravel and trace shell fragments	3 1.07 1.83	
-21.03	2.44		light gray to tan fine-medium Sand with trace shell fragments	4 2.44 3.35	
-23.10	4.51			5 3.35 4.51	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,299,139.8 E 156,343.1
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A14_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ---- DEG. FROM VERT.
7. Penetration, (m): 3.73
8. Recovery, (m): 3.73
9. Total Recovery, (m):
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -20.09
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-20.09	0.00		dark-light brown medium-coarse Sand with trace Gravel and shell hash	1 0.00 0.30 2 0.30 0.61 3 0.61 0.91	
-21.10	1.01		light brown medium-coarse Sand with trace shell hash and Gravel up to 1" in diameter	4 0.91 1.01 5 1.01 1.47 6 1.47 1.83 7 1.83 2.13	
-22.52	2.44		light brown medium-coarse Sand	8 2.13 2.44 9 2.44 2.74	
-23.13	3.05		brown coarse Sand	10 2.74 3.05 11 3.05 3.35 12 3.35 3.73	
-23.82	3.73				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,298,923.8 E 156,742.0
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A15_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 4.63
8. Recovery, (m): 4.65
9. Total Recovery, (m):
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -23.20
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-23.25	0.05		one piece of 2" gravel with dark gray coarse Sand		
			dark gray sticky Clay	1 0.30 0.61	
-23.96	0.76				
			dark gray-green fine Sand		
-24.41	1.22				
			dark gray Silt with trace fine Sand, sticky	2 1.22 1.52	
-24.72	1.52				
			gray fine-medium Sand with trace shell fragments	3 2.13 2.44	
				4 2.74 3.05	
-26.40	3.20				
-26.47	3.28		3" boulder in red Sand	5 3.05 3.35	
			gray Silt with some shell fragments	6 3.35 3.66	
-27.01	3.81				
			dark gray fine Sand with some shell fragments	7 3.96 4.27	
-27.31	4.11				
			gray coarse-fine Sand with gravel up to 2" in diameter		
-27.84	4.65				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,298,317.4 E 156,696.8
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A16_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ---- DEG. FROM VERT.
7. Penetration, (m): 4.61
8. Recovery, (m): 4.62
9. Total Recovery, (m):
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/14/2016 COMPLETED 9/14/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -23.20
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-23.32	0.13		brown fine-medium Sand with Shells	1 0.00 0.12	
-23.58	0.38		dark gray fine Sand with trace thin beds of silt	2 0.13 0.37	
-23.80	0.61		dark sticky Clay with silty Clay towards end	3 0.38 0.46	
-24.11	0.91		Section sent to lab unopened	4 0.61 0.91	
-24.29	1.09		dark gray silty Clay with trace coarse Sand	5 0.91 1.09	
-24.44	1.24		dark gray coarse Sand with trace shell hash	6 1.09 1.24	
-25.29	2.09		dark gray fine-medium Sand with with trace shell hash and area of dense shell hash from 5'4"-5'10"	7 1.24 1.52	
-27.33	4.14		dark gray fine Sand with trace shell hash and silty Clay lens from 10'5"-10'8"	8 1.52 1.83 9 1.85 2.16 10 2.16 2.44 11 2.44 2.74 12 2.80 3.10 13 3.10 3.51	
-27.82	4.62		dark brown silty Sand with trace shell hash; lens of coarse Sand and shells from 14'3"-14'7"	14 3.51 3.81 15 3.81 4.11 16 4.14 4.62	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,297,725.4 E 156,652.1
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A17_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 4.61
8. Recovery, (m): 4.65
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/14/2016 COMPLETED 9/14/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -23.10
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-23.10	0.00		interbedded layers 1/4"-1" thick of dark gray silt and fine-medium Sand	1 0.30 0.61	
-23.77	0.66				
			dark gray Silt, soft	2 0.91 1.22	
-24.80	1.70			3 1.52 1.83	
			dark gray-green silty fine Sand with some shell fragments	4 1.98 2.29	
-25.54	2.44				
			dark green-gray silty fine Sand with some shell fragments	5 2.74 3.05	
-26.76	3.66			6 3.35 3.35	
			light gray medium Sand	7 3.66 3.81	
				8 3.81 4.27	
-27.75	4.65			9 4.27 4.57	
				10 4.57 4.88	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,298,514.8 E 157,455.2
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A18_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ---- DEG. FROM VERT.
7. Penetration, (m): 4.65
8. Recovery, (m): 4.65
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -24.99
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-25.12	0.13		green-brown fine-medium Sand with some fine-coarse Gravel	1 0.00 0.13	
-25.20	0.20		soft, dark gray silty Clay; plastic		
			light brown sandy coarse Gravel	2 0.13 0.20	
-26.06	1.07			3 0.20 1.07	
-26.37	1.37		dark gray silty fine Sand; non-plastic	4 1.07 1.37	
-27.68	2.69		gray fine Sand	5 1.37 2.69	
-28.50	3.51		gray fine-coarse Sand with trace fine Gravel	6 2.69 3.51	
-29.26	4.27		dark gray fine Sand layers 2-8" thick interbedded with soft dark gray silty Clay layers 2-6" thick	7 3.51 4.27	
-29.64	4.65		gray fine-medium Sand with trace Silt; non-cohesive	8 4.27 4.65	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,297,913.2 E 157,481.4
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A19_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. Penetration, (m): 4.72
8. Recovery, (m): 4.60
9. Total Recovery, (m):
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/14/2016 COMPLETED 9/14/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -23.71
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-23.71	0.00		brown medium-coarse Sand with trace Gravel and shell hash	1 0.00 0.23	
-23.94	0.23		dark brown fine-medium Sand with trace shell hash and lens of coarse Sand from 1'4"-1'6"	2 0.23 0.61	
				3 0.61 0.91	
				4 0.91 1.32	
-25.03	1.32		light-dark brown fine Sand with trace shell hash and Clay lens from 4'5"-4'6"	5 1.32 1.65	
-25.75	2.03		dark gray fine Sand with trace shell hash and Clay lens from 6'9"-6'10"	6 1.88 2.19	
-26.23	2.51		dark gray silty Sand with Clay lens from 8'3"-8'5" and coarse Sand lens from 8'5"-8'7"	7 2.19 2.51	
-26.53	2.82		Section sent to lab unopened	8 2.51 2.82	
-26.84	3.12		light gray fine Sand with shell hash and dense shell lens from 11'5"-11'8"	9 2.82 3.12	
				10 3.12 3.58	
-27.80	4.09		dark brown silty Sand with shell hash	11 3.58 4.09	
-28.31	4.60			12 4.09 4.60	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,298,172.9 E 157,887.6
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A20_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ---- DEG. FROM VERT.
7. Penetration, (m): 4.61
8. Recovery, (m): 4.60
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/14/2016 COMPLETED 9/14/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -24.69
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-24.69	0.00		light green-brown fine Sand	1 0.00 0.66	
-25.35	0.66		gray to light brown fine Sand	2 0.66 2.90	
-27.58	2.90				
-27.76	3.07		light brown-green fine-medium Sand with some shells and trace fine Gravel	3 2.90 3.07	
			gray silty fine Sand with one piece of gravel at 12'	4 3.07 4.60	
-29.29	4.60				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,297,765.8 E 158,342.8
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A21_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ---- DEG. FROM VERT.
7. Penetration, (m): 4.70
8. Recovery, (m): 4.69
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/14/2016 COMPLETED 9/14/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -27.10
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-27.10	0.00		light brown medium-coarse Sand with some shells	1 0.00 0.34	
-27.43	0.33				
-27.71	0.61		gray-green silty fine Sand with very fine shell hash	2 0.34 0.61	
-28.01	0.91		Section sent to lab unopened	3 0.61 1.52	
-28.22	1.12		gray medium-coarse Sand with some shells	4 0.91 2.03	
			light brown-gray very fine-fine Sand with some Silt and shells in lenses 2-3" thick	5 1.12 1.47	
				6 1.47 1.83	
				7 1.83 2.13	
				8 2.13 2.44	
				9 2.54 2.84	
				10 2.84 3.15	
				11 3.15 3.45	
				12 3.45 3.76	
				13 3.76 4.06	
				14 4.06 4.37	
-31.79	4.69			15 4.37 4.67	

Hole No. A22_Physical

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,297,274.1 E 158,699.7
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A22_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. Penetration, (m): 4.59
8. Recovery, (m): 4.59
9. Total Recovery, (m):
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/14/2016 COMPLETED 9/14/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -27.49
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-27.49	0.00		light brown fine Sand, Silt lens at 0.5'	1 0.30 0.61	
-27.95	0.46		light brown- light gray fine-medium Sand with trace 2" layers of shell hash, 2"x2" pebble at 1.7'	2 0.91 1.22 3 1.22 1.52	
-29.53	2.03		wet, dark gray Silt, low plasticity	4 2.13 2.44 5 2.44 2.74 6 2.74 3.05 7 3.05 3.35 8 3.35 3.66 9 3.96 4.27	
-32.08	4.59				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,296,781.8 E 159,055.2
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A23_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 4.83
8. Recovery, (m): 2.69
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/14/2016 COMPLETED 9/14/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -28.71
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-28.71	0.00		light brown to dark gray fine-medium Sand with clay lens from 2'9"-2'10" and shell lens from 3'3"-3'5"	1 0.00 0.30	
				2 0.30 0.61	
				3 0.61 0.91	
				4 0.91 1.22	
-30.24	1.52			5 1.22 1.52	
			unsplit	6 1.52 1.83	
-30.54	1.83				
			dark brown Silt with trace fine Sand and shell lens from 6'7"-6'10"	7 1.83 2.29	
-31.00	2.29				
			dark gray silty Sand with trace shell hash	8 2.29 2.39	
-31.40	2.69			9 2.39 2.69	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,296,290.1 E 159,414.6
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: A24_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. Penetration, (m): 4.66
8. Recovery, (m): 4.57
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/14/2016 COMPLETED 9/14/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -30.69
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-30.69	0.00		light brown-brown gray fine-medium Sand with trace fine gravel in top few inches	1 0.15 0.25	
				2 0.61 0.91	
-31.61	0.91		gray sandy Silt	3 0.91 1.22	
				4 1.80 2.10	
				5 2.29 2.59	
				6 3.02 3.32	
				7 3.54 3.81	
				8 3.81 4.08	
				9 4.08 4.39	
-35.27	4.57				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,301,832.9 E 151,367.3
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: P01_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 3.11
8. Recovery, (m): 4.65
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED | DISTURBED | UNDISTURBED
14. TOTAL NUMBER CORE BOXES
15. DEPTH BELOW SEA SURFACE () (m)
16. DATE HOLE: STARTED 9/10/2016 COMPLETED 9/10/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -10.61
18. TOTAL CORE RECOVERY FOR BORING %
19. SIGNATURE OF INSPECTOR

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-10.61	0.00		light brown coarse-fine Sand with trace fine Gravel	1 0.00 0.30	
-11.22	0.61			2 0.30 0.61	
-11.45	0.84		black fine-medium Sand with some organic Silt	3 0.61 0.91	
-11.95	1.35		light brown to gray coarse-fine Sand	4 1.22 1.52	
-12.05	1.45		dark gray Clay lens		
-12.28	1.68		gray fine Sand	5 1.68 1.98	
-12.51	1.91		medium-dark brown fine Sandy Silt		
-12.97	2.36		medium-dark brown silty fine Sand	6 2.13 2.44	
-13.12	2.51		very dense, light brown clayey fine Sand	7 2.44 2.74	
-13.35	2.74		gray to light brown silty Clay, high plasticity	8 2.74 3.05	
-13.66	3.05		Section sent to lab unopened		
-13.96	3.35		green-gray Clay		
-14.47	3.86		dark gray Clay with some fine Sand	9 3.51 3.81	
-14.85	4.24		Silty Clay with trace fine Sand	10 3.96 4.27	
-15.26	4.65		coarse-fine silty Sand with trace fine gravel	11 4.42 4.65	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,301,536.0 E 151,914.2
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: P02_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. Penetration, (m): 4.71
8. Recovery, (m): 3.99
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -13.50
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-13.50	0.00		gray to brown silty Clay with trace lenses of medium Sand; low plasticity	1 0.00 0.30	
-14.11	0.61		Section sent to lab unopened	2 0.30 0.61	
-14.42	0.91		dark gray-brown Silt with trace fine Sand	3 0.61 0.91	
-14.72	1.22		dark gray-brown fine-medium Sand with 1" clay lens at 4'9"	4 0.91 1.22	
-15.03	1.52		Section sent to lab unopened	5 1.22 1.52	
-15.33	1.83		dark gray-brown fine-medium Sand with 1" clay lens 6'1"	6 1.52 1.83	
~~-15.38~~	~~1.88~~		tan fine-coarse Sand with trace fine-coarse Gravel and dark gray Silt balls	7 1.83 2.13	
				8 2.13 2.44	
				9 2.44 2.59	
				10 2.59 2.90	
				11 2.90 3.20	
-17.49	3.99			12 3.20 3.51	
				13 3.51 3.81	
				14 3.81 3.99	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,300,377.0 E 154,046.9
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: P03_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. Penetration, (m): 3.35
8. Recovery, (m): 3.25
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -17.31
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-17.31	0.00		silty coarse-fine Sand with trace coarse-fine Gravel	1 0.15 0.46	
-18.13	0.81		coarse-fine gravely Clay with some coarse-fine Sand	2 0.91 1.22	
-18.53	1.22		gray silty Clay	3 1.22 1.52	
-19.37	2.06		gray silty Clay	4 1.83 2.13	
				5 2.44 2.74	
				6 2.74 3.05	
-20.49	3.18			7 3.05 3.18	
-20.56	3.25		Peat	8 3.18 3.25	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,300,177.2 E 154,420.7
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: P04_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 3.29
8. Recovery, (m): 3.18
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -19.99
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-19.99	0.00		Clay with coarse-fine Sand and some coarse-fine Gravel, 2 large cobbles	1 0.15 0.30	
-20.30	0.30		gray Clay	2 0.30 0.61	
				3 0.91 1.22	
				4 1.52 1.83	
				5 2.13 2.44	
				6 2.44 2.74	
-22.94	2.95			7 2.74 3.05	
-23.17	3.18		organic Clay with inter-bedding of peat	8 3.05 3.17	

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,298,481.5 E 157,497.2
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: P05_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 4.68
8. Recovery, (m): 4.68
9. Total Recovery, (m):

10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED | DISTURBED | UNDISTURBED
14. TOTAL NUMBER CORE BOXES
15. DEPTH BELOW SEA SURFACE () (m)
16. DATE HOLE: STARTED 9/13/2016 | COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -25.91
18. TOTAL CORE RECOVERY FOR BORING %
19. SIGNATURE OF INSPECTOR

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-25.91	0.00		dark brown to dark gray sandy Silt with numerous laminations 1/8-3/4" thick and some shell fragments	1 0.00 0.30 2 0.30 0.61 3 0.61 0.91 4 0.91 1.22 5 1.22 1.52 6 1.52 1.83 7 1.83 2.13 8 2.13 2.44 9 2.44 2.74 10 2.74 3.05 11 3.05 3.35 12 3.30 3.67 13 3.66 4.11 14 4.11 4.68	
-29.16	3.25		dark gray fine-medium Sand with little Silt and trace shell fragments; non-cohesive		
-30.59	4.68				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,298,318.8 E 157,697.0
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: P06_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 3.71
8. Recovery, (m): 3.68
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/14/2016 COMPLETED 9/14/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -27.01
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-27.01	0.00		gray-brown fine Sand with few shell fragments	1 0.00 0.33	
-27.33	0.33				
			dark gray silty fine Sand; non-cohesive	2 0.33 0.71	
-27.72	0.71				
			gray fine-medium Sand with some shell fragments and trace thin Silt lenses	3 0.71 1.34	
-28.35	1.35				
-28.55	1.55		dark gray sandy Silt with few shell fragments	4 1.34 1.55	
			Section sent to lab unopened	5 1.55 1.83	
-28.83	1.83				
			dark gray fine Sand with trace Silt and trace sticky silt lenses 1.5" wide	6 1.83 2.10	
-29.75	2.74				
			gray fine-medium Sand with some shells and shell hash	7 2.74 3.18	
-30.18	3.18				
			dark gray silty fine Sand with trace 1/4" Silt lenses; grades into sandy Silt at 11'	8 3.18 3.68	
-30.69	3.68				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,298,141.9 E 157,913.0
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: P07_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 4.90
8. Recovery, (m): 3.86
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED | DISTURBED | UNDISTURBED
14. TOTAL NUMBER CORE BOXES
15. DEPTH BELOW SEA SURFACE () (m)
16. DATE HOLE: STARTED 9/14/2016 COMPLETED 9/14/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -27.19
18. TOTAL CORE RECOVERY FOR BORING %
19. SIGNATURE OF INSPECTOR

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-27.19	0.00		gray fine Sand with trace shell fragments in few lenses	1 0.00 0.46	
				2 0.46 0.91	
				4 0.91 1.37	
				5 1.37 1.83	
				6 1.83 2.29	
				7 2.29 2.74	
				8 2.74 3.20	
-30.39	3.20		dark gray-green silty fine Sand with some shell fragments; non-cohesive	9 3.20 3.66	
-31.05	3.86				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,297,588.8 E 158,469.4
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: P08_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. Penetration, (m): 4.63
8. Recovery, (m): 4.11
9. Total Recovery, (m): _
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/14/2016 COMPLETED 9/14/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -26.70
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-26.70	0.00		tan to gray fine-medium Sand with trace shell fragments and sticky Silt lens from 7'5"-7'6"	1 0.00 0.30	
				2 0.30 0.61	
				3 0.61 0.91	
				4 0.91 1.22	
				5 1.22 1.52	
				6 1.52 1.83	
				7 1.83 2.13	
-29.22	2.51			8 2.26 2.51	
			Section sent to lab unopened	9 2.51 2.92	
-29.62	2.92				
-29.67	2.97		soft, sticky dark gray-green Silt	10 2.97 3.35	
			gray silty fine Sand with trace shells and shell fragments	11 3.35 3.66	
				12 3.66 4.11	
-30.82	4.11				

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,300,685.3 E 153,481.3
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: P09_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ___ DEG. FROM VERT.
7. Penetration, (m): 4.50
8. Recovery, (m): 4.50
9. Total Recovery, (m):
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/13/2016 COMPLETED 9/13/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -16.40
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-16.40	0.00		loose, light brown fine-medium Sand with trace fine-coarse Gravel	1 0.00 0.46	
				2 0.46 0.91	
				3 0.91 1.37	
-17.92	1.52			4 1.37 1.83	
			gray to red-brown fine Sand with trace Silt balls	5 1.83 2.29	
-18.91	2.51			6 2.29 2.51	
			dark gray-green silty Clay; low plasticity	7 2.51 3.05	
				8 3.05 3.35	
				9 3.35 3.66	
				10 3.66 3.96	
				11 3.96 4.27	
-20.89	4.50			12 4.27 4.50	

Hole No. P10_Physical

VIBRACORE LOG

DIVISION

INSTALLATION

SHEET 1 OF 1 SHEETS

1. PROJECT: Export Cable Survey
2. LOCATION (Coordinates or Station): Delaware & Maryland N 1,296,053.1 E 159,452.6
3. DRILLING AGENCY: Alpine Ocean Seismic
4. HOLE NO. *(As shown on drawing title and file number)*: P10_Physical
5. NAME OF DRILLER:
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. Penetration, (m): 4.61
8. Recovery, (m): 4.65
9. Total Recovery, (m):
10. SIZE AND TYPE OF CUTTER: 3.5 INCH
11. DATUM FOR ELEVATION SHOWN: MLLW
12. MANUFACTURER'S DESIGNATION OF CORER: Vibracore
13. TOTAL NO. OF SAMPLES COLLECTED: DISTURBED: UNDISTURBED:
14. TOTAL NUMBER CORE BOXES:
15. DEPTH BELOW SEA SURFACE () (m):
16. DATE HOLE: STARTED 9/14/2016 COMPLETED 9/14/2016
17. MLLW ELEVATION AT TOP OF CORE () (m): -28.71
18. TOTAL CORE RECOVERY FOR BORING: %
19. SIGNATURE OF INSPECTOR:

ELEVATION (m) a	DEPTH (m) b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SAMPLE NO. SAMPLE DEPTH f	SAMPLE DESCRIPTIONS AND SOIL STRENGTH CHARACTERIZATION *(T/SQ FT = KG/SQ CM)* g
-28.71	0.00		dark gray-green fine silty Sand grading down to sandy Silt; non-plastic, slightly cohesive	1 0.00 0.30	
-29.32	0.61		Section sent to lab unopened	2 0.30 0.61	
-29.63	0.91		dark gray-green fine silty Sand grading down to sandy Silt; non-plastic, slightly cohesive	3 0.61 0.91	
-29.80	1.09		dark green-gray silty fine Sand with some shells and shell fragments	4 0.91 1.07	
-30.54	1.83		Section sent to lab unopened	5 1.07 1.37	
-30.85	2.13		soft, sticky dark green-gray fine sandy Silt	6 1.37 1.68	
-31.23	2.51		dark gray fine silty Sand with numerous shell fragments; non-cohesive	7 1.68 1.83	
-31.46	2.74		Section sent to lab unopened	8 1.83 2.13	
-31.76	3.05		tan to gray fine-medium Sand with little shell fragments	9 2.13 2.51	
-32.60	3.89		gray to dark gray Sand with shell fragments; cohesive	10 2.51 2.74	
-32.98	4.27		dark gray sandy Silt with shells	11 2.74 3.05	
-33.36	4.65			12 3.05 3.35	
				13 3.35 3.66	
				14 3.89 4.27	
				15 4.27 4.57	

Inshore

Vibracore Descriptions

BORING NUMBER VC-IRB-01-ALT

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/7/17 **COMPLETED** 10/7/17
WATER DEPTH 3.2 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 2.50 meters
DRILLING METHOD Vibracore
CORE RECOVERY 1.77 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:479360.02 Y:4271065.12
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)	▲SECONDS PER SAMPLE▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐FINES CONTENT (%)☐ 20 40 60 80
0.5		(CL) Soft, wet, black Clay with organic odor, non-cohesive, non-plastic		N/A	N/A					
1.0		(CL) Soft, wet, dark gray Clay with organic odor, non-cohesive, non-plastic	1 2	N/A	0.03					
1.5			3	N/A	0.05					
				N/A	0.07					
2.0		(SP) Loose, moist, dark gray fine Sand		N/A	0.08					
2.5		Bottom of borehole at 2.50 meters.								

BORING NUMBER VC-IRB-02-ALT

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/7/17 **COMPLETED** 10/7/17
WATER DEPTH 1.8 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.35 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.56 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:479364 Y:4271033.18
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)	▲SECONDS PER SAMPLE▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐FINES CONTENT (%)☐ 20 40 60 80
		(CL) Very soft, wet, dark gray-green Clay, non-cohesive, non-plastic		N/A	0.01					
0.5			1	N/A	0.01					
			2							
		(CL) Soft, wet, gray-green Clay with thin bed of Peat at 1.98 m, non-cohesive, non-plastic		N/A	0.015					
1.0				N/A	0.03					
			3							
1.5				N/A	0.05					
			4	N/A	0.05					
2.0				N/A	0.07					
			5							
		(CL) Soft, moist, dark brown Silty Clay with Peat	6	N/A	0.06					
2.5										
3.0										

Bottom of borehole at 3.35 meters.

BORING NUMBER VC-IRB-03-ALT

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/7/17 **COMPLETED** 10/7/17
WATER DEPTH 2 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.05 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.21 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:479426.66 Y:4271003.99
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)
		(CL) Soft, moist, dark gray Clay with thin bed of fine Sand from 0.15-0.20 m, cohesive, non-plastic	1						
		(SP) Loose, moist, gray fine-medium Sand with trace lenses of Clay	2	0.25	0.02				
0.5		(CL) Soft, moist, brown Clay with trace fine Sand, cohesive, non-plastic	3	N/A	0.04				
			4						
1.0		(CL) Soft, wet, dark brown Clay with Peat with trace fine Sand and thin beds of dense Peat, cohesive, non-plastic		0.1	0.04				
				N/A	0.01				
1.5			5	0.1	0.07				
				N/A	0.055				
2.0			6						
				N/A	0.07				
		(CL-ML) Soft, moist, light gray Silty Clay with large piece of tree root							
2.5									
3.0									

▲ SECONDS PER SAMPLE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 3.05 meters.

US WIND 1783_USWIND_IRB.GPJ 1783_USWIND_IRB.GDT 1/12/18

BORING NUMBER VC-IRB-04

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/6/17 **COMPLETED** 10/6/17
WATER DEPTH 5.6 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.05 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.74 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:480905.7 Y:4271289.16
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)	▲SECONDS PER SAMPLE▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐FINES CONTENT (%)☐ 20 40 60 80
0.5		(CL) Soft, moist, brownish-gray Sandy Clay with little Peat, cohesive, non-plastic	1	N/A	0.075					
			2	N/A	0.04					
1.0		(CL) Soft, moist, gray Clay with trace Peat, cohesive, non-plastic		N/A	0.09					
				0.1	0.05					
1.5			3	0.1	0.12					
				N/A	0.12					
2.0				0.1	0.09					
2.5			4	N/A	0.04					
				N/A	0.095					
3.0										

Bottom of borehole at 3.05 meters.

US WIND 1783_USWIND_IRB.GPJ 1783_USWIND_IRB.GDT 1/12/18

BORING NUMBER VC-IRB-05

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/6/17 **COMPLETED** 10/6/17
WATER DEPTH 1.6 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.35 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.12 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:482447.38 Y:4271418.94
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)	▲SECONDS PER SAMPLE▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐FINES CONTENT (%)☐ 20 40 60 80
0.5		(CL) Very soft, moist, gray Clay with trace fine shell fragments, non-cohesive, non-plastic	1	N/A	0.15					
			2	N/A	0.02					
1.0		(CL) Soft, moist, gray Clay with trace fine shell fragments and thin bed of Peat from 1.58-1.62 m, non-cohesive, non-plastic		N/A	0.04					
			3	N/A	0.06					
1.5			4	N/A	0.065					
2.0		Soft, moist, dark brown Peat	6 5	N/A	0.05					
2.5										
3.0										

Bottom of borehole at 3.35 meters.

BORING NUMBER VC-IRB-06

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/6/17 **COMPLETED** 10/6/17
WATER DEPTH 1.6 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.35 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.83 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:484030.71 Y:4271394.1
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)	▲SECONDS PER SAMPLE▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐FINES CONTENT (%)☐ 20 40 60 80
		(CL) Soft, wet, gray Clay with shell at 0.50 m, non-cohesive, non-plastic		N/A	0.025					
0.5			1	N/A	0.015					
			2	N/A	0.05					
1.0		(CL) Medium, moist, dark brown Clay with trace organics, cohesive, low plasticity		N/A	0.028					
1.5				N/A	0.045					
			3	N/A	0.05					
2.0			4	N/A	0.07					
			5	N/A	0.045					
2.5				N/A	0.055					
3.0		Bottom of borehole at 3.35 meters.								

US WIND 1783_USWIND_IRB.GPJ 1783_USWIND_IRB.GDT 1/12/18

BORING NUMBER VC-IRB-07-ALT

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/7/17 **COMPLETED** 10/7/17
WATER DEPTH 2.7 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 2.44 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.18 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:485960.43 Y:4271859.4
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)	▲SECONDS PER SAMPLE▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐FINES CONTENT (%)☐ 20 40 60 80
0.5		(CL-ML) Very soft, wet, gray Silty Clay, non-cohesive, non-plastic	1 2	N/A	0.025					
		Very soft, wet, dark brown Peat	3	N/A	0.03					
1.0			4	N/A	0.025					
		(SP) Medium dense, moist, dark gray-brown fine-medium Sand	6 5	0.75						
1.5		(SP) Dense, moist, light gray-brown fine-medium Sand with piece of Gravel at 1.52 m	7	1.4						
2.0		(CL) Medium dense, moist, light gray Sandy Clay with roots at 1.92 m, cohesive, low plasticity	8	2.75	0.15					
		(SW) Medium dense, moist, light gray-brown fine Sand with trace Gravel and roots	9	0.7						

Bottom of borehole at 2.44 meters.

BORING NUMBER VC-IRB-08-ALT

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/8/17 **COMPLETED** 10/8/17
WATER DEPTH 2.3 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.05 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.70 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:486667.35 Y:4272031.93
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)
0.5	(CL) Very soft, wet, gray Clay, non-cohesive, non-plastic	1 2	N/A	0.025
	(OL) Very soft, wet, interbedded gray Clay and Peat	3	N/A	0.018
1.0	Very soft, wet, dark brown Peat		N/A	0.04
		4 5	N/A	0.05
1.5	Void due to settling of sediment		N/A	0.052
	Very soft, wet, dark brown Peat			
	(SP) Loose, wet, dark brown medium Sand with trace organic matter	6	0.25	
2.0	(SP) Dense, moist, gray medium Sand			
		7	1.25	
2.5		8	1.60	
3.0				

Bottom of borehole at 3.05 meters.

TOTAL UNIT WET WEIGHT (pcf) | SPECIFIC GRAVITY | ELECTRICAL RES (ohms-cm) | THERMAL COND. (W/m-K)

▲ SECONDS PER SAMPLE ▲ 20 40 60 80

PL MC LL 20 40 60 80

☐ FINES CONTENT (%) ☐ 20 40 60 80

US WIND 1783_USWIND_IRB.GPJ 1783_USWIND_IRB.GDT 1/12/18

BORING NUMBER VC-IRB-09-ALT

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/8/17 **COMPLETED** 10/8/17
WATER DEPTH 3.2 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.35 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.94 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:489062.77 Y:4272436.45
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)	▲SECONDS PER SAMPLE▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐FINES CONTENT (%)☐ 20 40 60 80
0		(CL-ML) Very soft, moist, gray Silty Clay with thin bed of shell hash at 0.91 m and organic odor, non-cohesive, non-plastic	1	N/A	0.05					
0.5			2	N/A	0.045					
1.0				N/A	0.068					
		Soft, moist, dark brown Peat	4	N/A	0.098					
1.5			3							
		(CL-ML) Very soft, moist, gray Silty Clay with trace organics and organic odor, non-plastic, non-cohesive		N/A	0.076					
		Void due to settling of sediment								
		(CL-ML) Very soft, moist, gray Silty Clay with trace organics up to 1.83 m and organic odor, non-plastic, non-cohesive		N/A	0.062					
2.0			5	N/A	0.06					
2.5			6	N/A	0.058					
				0.1	0.1					
3.0										

Bottom of borehole at 3.35 meters.

US WIND 1783_USWIND_IRB.GPJ 1783_USWIND_IRB.GDT 1/12/18

BORING NUMBER VC-IRB-10-ALT

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/7/17 **COMPLETED** 10/7/17
WATER DEPTH 2.6 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.35 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.93 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:490397.23 Y:4272635.29
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)	▲SECONDS PER SAMPLE▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐FINES CONTENT (%)☐ 20 40 60 80
		(CL-ML) Very soft, moist, gray Silty Clay with trace Peat and black laminations, non-cohesive, non-plastic		N/A	0.04					
0.5				N/A	0.048					
1.0				N/A	0.038					
				N/A	0.058					
1.5		Void due to settling of sediment		0.1	0.08					
		(CL-ML) Very soft, moist, gray Silty Clay with trace Peat and black laminations, non-cohesive, non-plastic		0.1	0.108					
2.0			1	N/A	0.075					
2.5			2	N/A	0.038					
				N/A	0.065					
3.0										

Bottom of borehole at 3.35 meters.

BORING NUMBER VC-IRB-11-ALT

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/10/17 **COMPLETED** 10/10/17
WATER DEPTH 4.8 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.20 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.97 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:492078.71 Y:4272359.79
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)
0.5	(SP) Dense, moist, light brown medium Sand with bed of gray Sand from 0.08-0.11 m and trace fine shell fragments							
	(SP) Dense, moist, dark gray medium Sand with trace shell fragments	1	1.75					
			2.1					
1.0	(SP) Medium dense, moist, gray medium to coarse Sand with little shell fragments	2	0.8					
	(CL) Soft, moist, dark gray Sandy Clay with trace shell fragments, cohesive, non-plastic							
1.5	(CL-ML) Soft, moist, dark gray Silty Clay with trace shell fragments, cohesive, low plasticity	3	N/A	0.1				
		4	0.1	0.052				
			0.1	0.068				
2.0	(CL-ML) Soft, moist, dark gray Silty Clay with some Peat and organic odor, dense layers of Peat from 1.97-2.13 m and 2.47-2.80 m, cohesive, low plasticity							
		5	0.1	0.06				
2.5		6	N/A	0.06				
		7	0.25	0.082				
3.0								

▲ SECONDS PER SAMPLE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

Bottom of borehole at 3.20 meters.

US WIND 1783_USWIND_IRB.GPJ 1783_USWIND_IRB.GDT 1/12/18

BORING NUMBER VC-IRB-12

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/6/17 **COMPLETED** 10/6/17
WATER DEPTH 3.2 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.05 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.65 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:493269.45 Y:4272066.42
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)
0	(SP) Very dense, moist, light gray fine Sand with thin bed of dark gray Silt at 0.09 m and thin bed of Gravel at 0.21 m	1	1.4					
0.5	(SM) Soft, moist, dark gray Silty Sand with trace Peat	2	1.25	0.13				
	(ML) Soft, moist, dark gray Clayey Silt with trace fine shell fragments, cohesive, non-plastic	3	N/A	0.115				
1.0		4	0.1	0.096				
1.5	(CL-ML) Soft, moist, dark gray Silty Clay with trace fine shell fragments and trace Peat, non-cohesive, non-plastic	5	N/A	0.108				
			N/A	0.108				
2.0		6	N/A	0.13				
			N/A	0.13				
2.5		7	N/A	0.146				
3.0								

▲ SECONDS PER SAMPLE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

Bottom of borehole at 3.05 meters.

US WIND 1783_USWIND_IRB.GPJ 1783_USWIND_IRB.GDT 1/12/18

BORING NUMBER VC-IRB-13-ALT

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/10/17 **COMPLETED** 10/10/17
WATER DEPTH 1 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.35 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.82 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:494001.96 Y:4271737.14
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)	▲ SECONDS PER SAMPLE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0.0		(SP) Very dense, moist, light gray fine Sand with trace dark gray Sand								
		(SP) Very dense, moist, gray fine Sand with beds of dark gray Silt from 0.96-1.01 m and 1.04-1.07 m	1	4.25						
0.5				3.75						
1.0				3.7						
		(CL-ML) Soft, moist, dark gray Silty Clay with organic odor, non-cohesive, non-plastic	2	0.1	0.95					
1.5		Void due to settling of sediment		0.1	0.7					
		(CL-ML) Soft, moist, dark gray Silty Clay with Silt bed from 2.70-2.73 m, organic odor, non-cohesive, non-plastic	3	N/A	0.1					
2.0			4	N/A	0.084					
2.5			5	N/A	0.08					
				0.1	0.062					
3.0										

Bottom of borehole at 3.35 meters.

BORING NUMBER VC-IRB-14-ALT

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/10/17 **COMPLETED** 10/10/17
WATER DEPTH 1 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.35 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.32 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:493997.53 Y:4271709.54
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)	▲SECONDS PER SAMPLE▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐FINES CONTENT (%)☐ 20 40 60 80
0.0		(SP) Very dense, moist, dark gray fine Sand with some light brown Sand from 0-0.06 m		3.5						
0.5			1	3.7						
1.0				3.3						
				2.2						
1.5		(SM) Medium, wet, dark gray Silty Sand	2	N/A	0.146					
		(ML) Soft, wet, dark gray Sandy Silt with trace shell fragments	3							
		(CL-ML) Soft, moist, dark gray Silty Clay, cohesive, non-plastic		N/A	0.1					
2.0			4							
			5	N/A	0.098					
2.5			6							
3.0		Bottom of borehole at 3.35 meters.								

BORING NUMBER VC-IRB-15-ALT

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/9/17 **COMPLETED** 10/9/17
WATER DEPTH 1.1 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.05 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.42 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:493994.55 Y:4271676.3
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)
0.0		(SP) Very dense, moist, light brown fine Sand with dark brown Sandy Silt and trace shell fragments							
0.5		(SP) Very dense, moist, gray fine Sand with trace dark gray laminations	1	3.5					
1.0				3.0					
1.5		(CL-ML) Soft, moist, dark gray Silty Clay with very trace shell fragments, cohesive, non-plastice		2.6					
2.0			2	0.1	0.08				
2.5			3	N/A	0.085				
3.0			4	0.1	0.06				
				N/A	0.082				

▲ SECONDS PER SAMPLE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

Bottom of borehole at 3.05 meters.

BORING NUMBER VC-IRB-16

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/9/17 **COMPLETED** 10/9/17
WATER DEPTH 0.9 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 0.8 meters
DRILLING METHOD Vibracore
CORE RECOVERY 0.52 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:493860.37 Y:4271722.82
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)	▲SECONDS PER SAMPLE▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐FINES CONTENT (%)☐ 20 40 60 80
		Void due to settling of sediment								
		(SM) Silty fine Sand, dark gray, medium dense, trace shell fragments throughout subsection 0.6-3.0 cm in size, strong organic odor, sharp contact, Silt vaneer 0.3 cm thick at 0.46 m	1	1.25	0.05					
0.5		(SP) Fine Sand, olive gray, medium dense		1.1 0.5	0.05					

Bottom of borehole at 0.80 meters.

BORING NUMBER VC-IRB-17

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/7/17 **COMPLETED** 10/7/17
WATER DEPTH 3.2 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.4 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.79 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:479990.62 Y:4271056.46
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)
		(ML) Clayey Silt, dark gray, soft, organics including plant matter at 0.06 m, articulated bivalve 4.6 cm in size at 0.27 m, wood at 0.67 m and 0.76 m, strong organic odor, sharp contact	1	N/A	0.03				
0.5			2	N/A	0.02				
				N/A	0.03				
		(ML) Silt, dark gray, soft, articulated bivalve 9.1 cm in size at 0.84 m, gradational contact	3						
1.0				N/A	0.05				
				N/A	0.07				
1.5		(CH) Clay, dark gray, medium dense, sharp contact	4						
			5	N/A	0.1				
2.0			6	0.1	0.1				
		(SM) Silty fine Sand, dark gray, loose, light brown staining at bottom contact, sharp contact							
		Void due to settling of sediment, light brown staining of core liner							
		(SP) Fine Sand with trace gravel, olive gray, medium dense, organics at 2.41 m, gradational contact		0.5					
2.5			7						
				0.75					
		(SM) Silty fine Sand, dark gray, medium dense, organics and plant matter at 2.53 m and from 2.68-2.77 m		0.6					
3.0									

▲SECONDS PER SAMPLE▲ 20 40 60 80
PL MC LL 20 40 60 80
☐FINES CONTENT (%)☐ 20 40 60 80

Bottom of borehole at 3.40 meters.

BORING NUMBER VC-IRB-24

CLIENT US Wind
PROJECT NAME Export Cable Survey
PROJECT NUMBER 1783
PROJECT LOCATION Indian River Bay, DE
DATE STARTED 10/10/17 **COMPLETED** 10/10/17
WATER DEPTH 2.7 m **HOLE SIZE** 8.018 cm
DRILLING CONTRACTOR Alpine Ocean Seismic
CORE PENETRATION 3.20 meters
DRILLING METHOD Vibracore
CORE RECOVERY 2.93 meters
LOGGED BY MK **CHECKED BY**
CORE LOCATION X:487980.47 Y:4272285.22
NOTES
NAD 83, UTM Zone 18 North, meters

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	POCKET PEN. (tsf)	TORVANE (tsf)	TOTAL UNIT WET WEIGHT (pcf)	SPECIFIC GRAVITY	ELECTRICAL RES (ohms-cm)	THERMAL COND. (W/m-K)
0.5		(CL) Soft, wet, gray Clay, non-cohesive, non-plastic	1	N/A	0.042				
				N/A	0.058				
1.0				N/A	0.04				
		(CL) Soft, wet, gray Clay with trace Peat, non-cohesive, non-plastic	2	N/A	0.05				
1.5		(CL) Soft, moist, thinly interbedded gray Clay and brown Peat with few laminations of black organic matter, cohesive, low plasticity		N/A	0.07				
2.0			3	N/A	0.04				
				N/A	0.04				
2.5			4	N/A	0.086				
				N/A	0.075				
3.0									

▲ SECONDS PER SAMPLE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

Bottom of borehole at 3.20 meters.

US WIND 1783_USWIND_IRB.GPJ 1783_USWIND_IRB.GDT 1/12/18