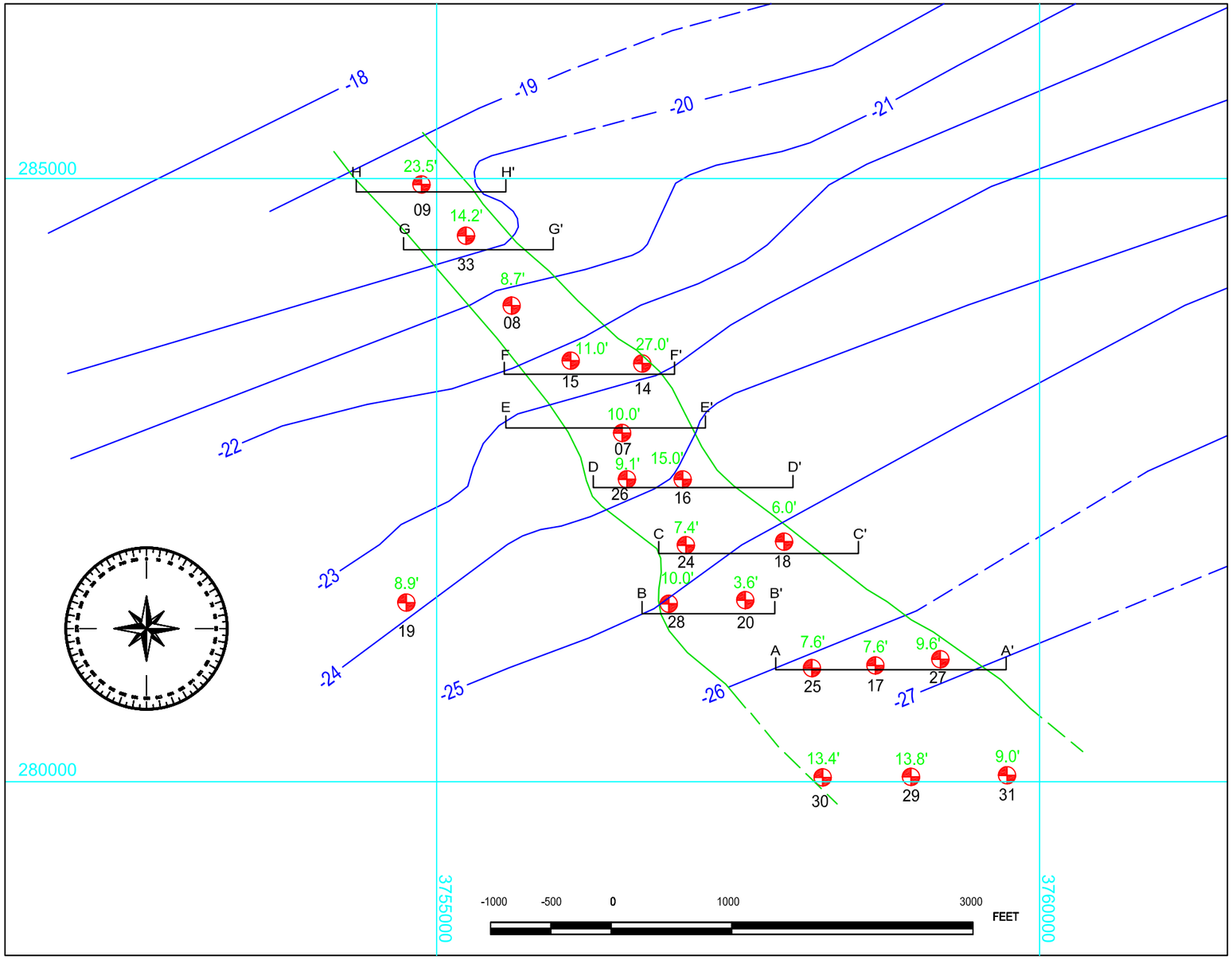
APPENDIX C

BORROW AREA GEOPHYSICAL

AND GEOTECHNICAL DATA



LEGEND

-29 — BATHYMETRIC CONTOUR
INTERVAL 1 FOOT
DATUM: MLLW BASED ON GRAND ISLE TIDE GAUGE.

A — A' — SEISMIC CROSS-SECTION
SEE FIGURES 16-23

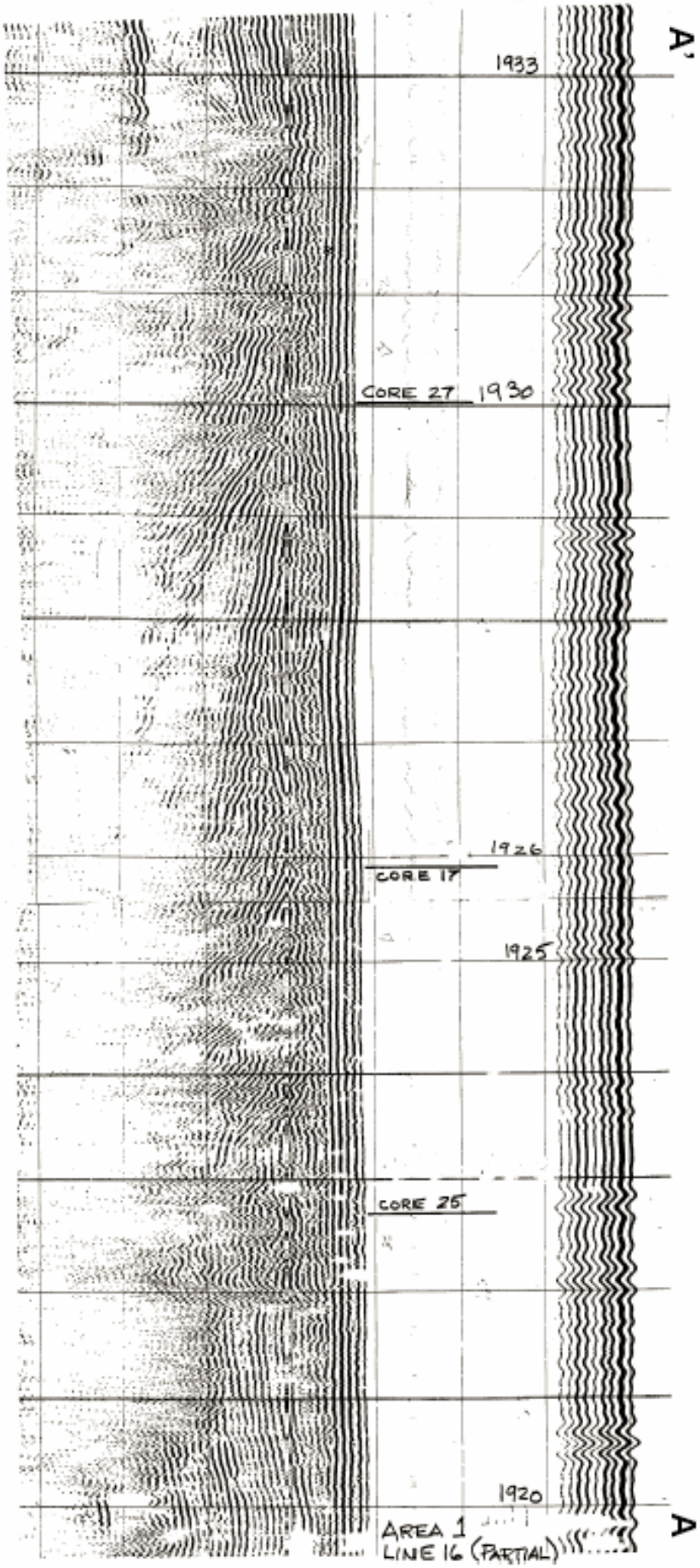
3.6' / 20 — CORE LOCATION
3.6' - DEPTH OF CLAY OVERBURDEN
20 - CORE NUMBER

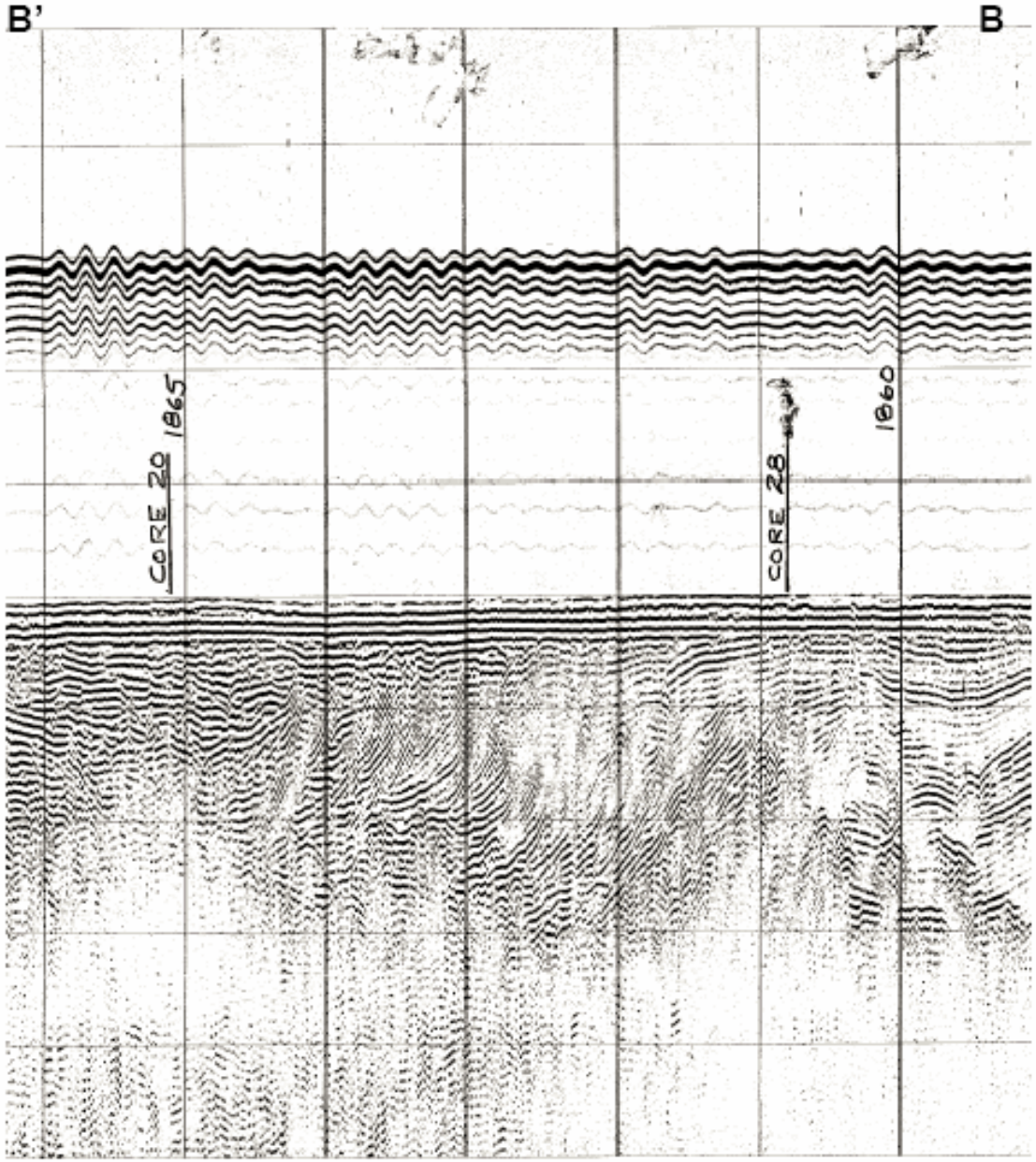
PROJECTION OF BURIED CHANNEL ON SURFACE

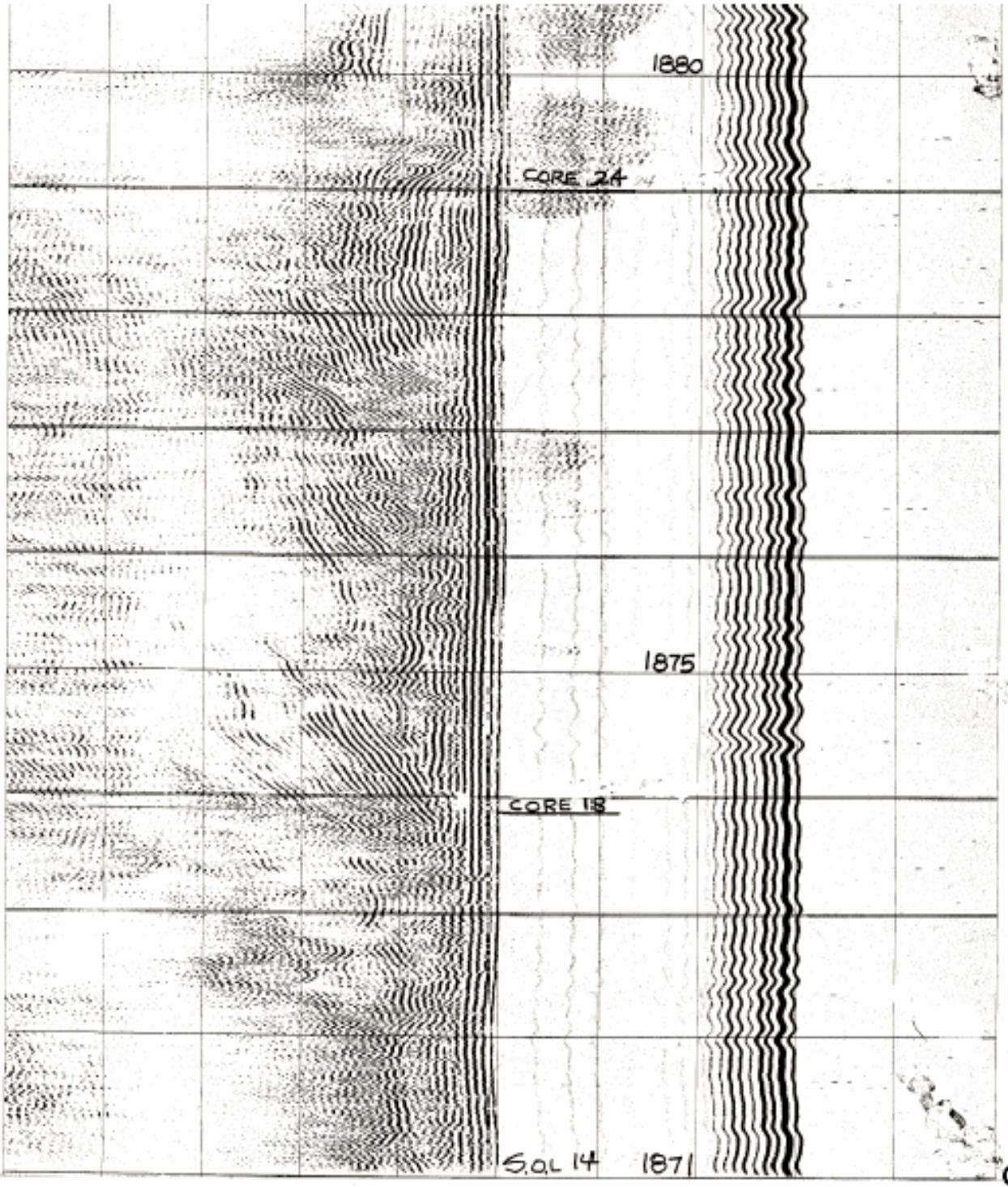
INTERPOLATED BATHYMETRIC CONTOUR TREND LINE

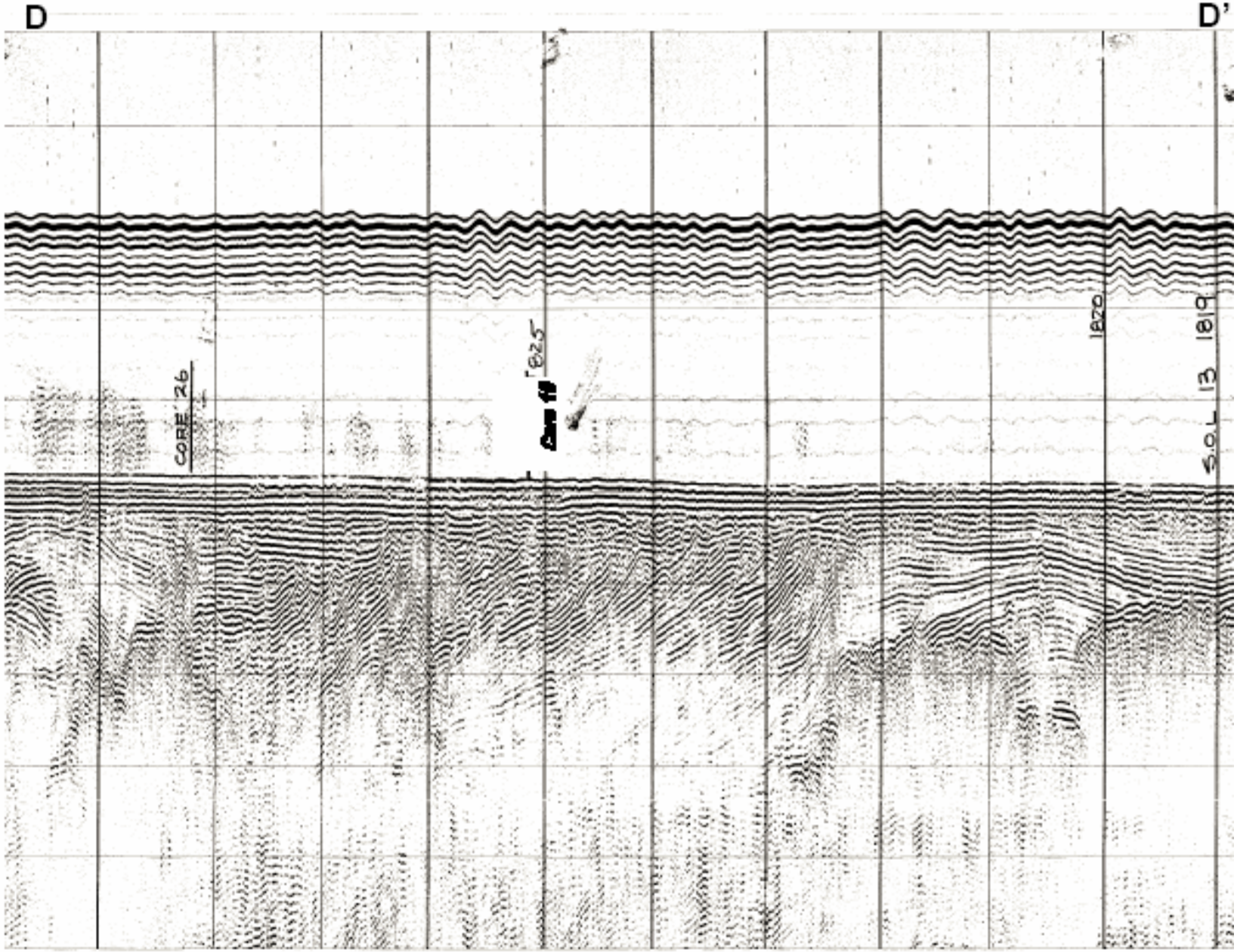
INTERPOLATED BURIED CHANNEL TREND LINE

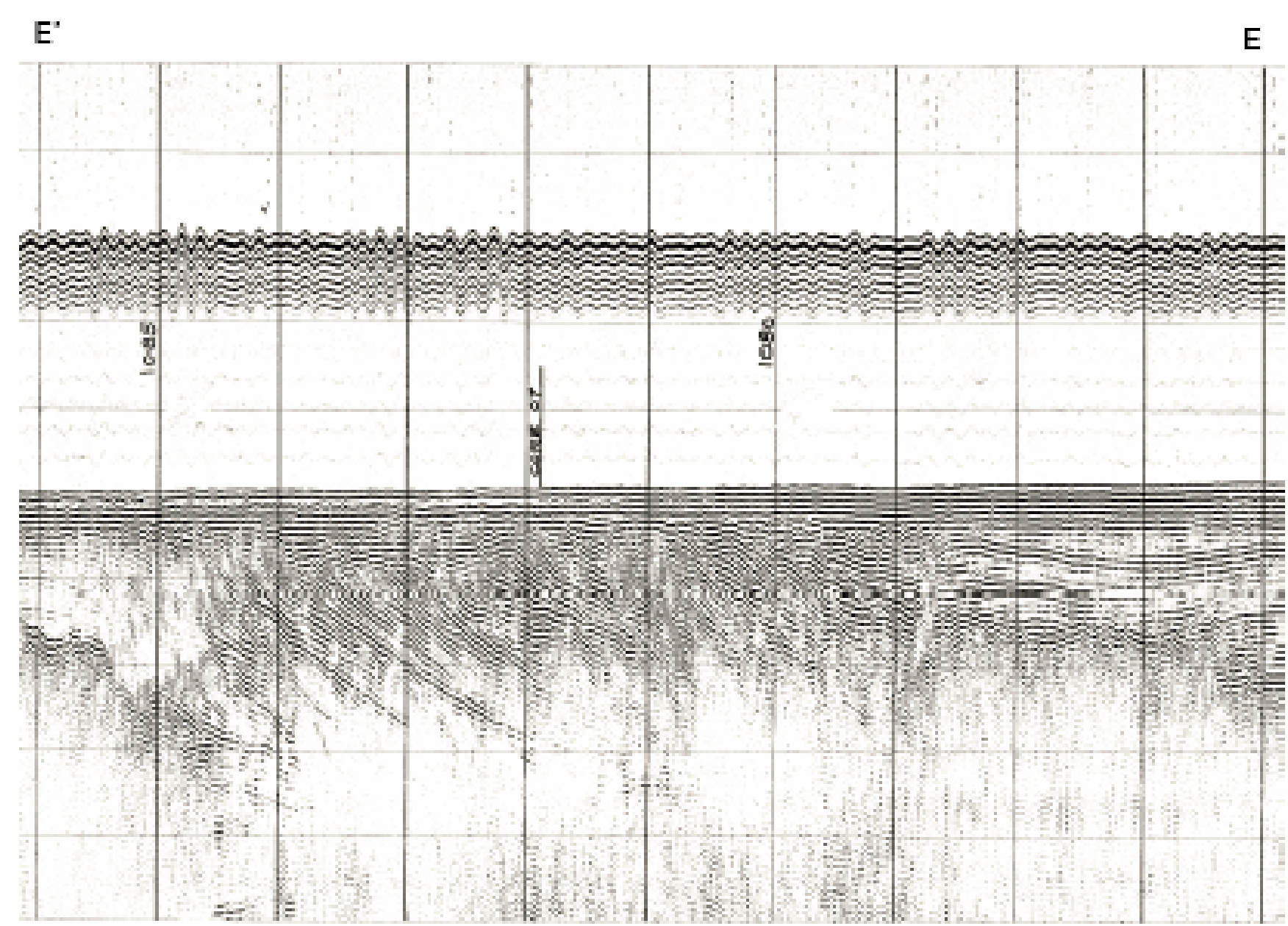
The following includes portions of subbottom profiles which cross the borrow area. The scales of these profiles have been expanded to show the extent of the buried channel, the details of the core locations, and the locations of a series of cross sections showing pertinent portions of the original subbottom seismic profiles. The horizontal fix distance is marked by a vertical line at a 150 foot interval. The vertical scale is marked by a horizontal line at 30 msec or approximately every 8.0 feet.

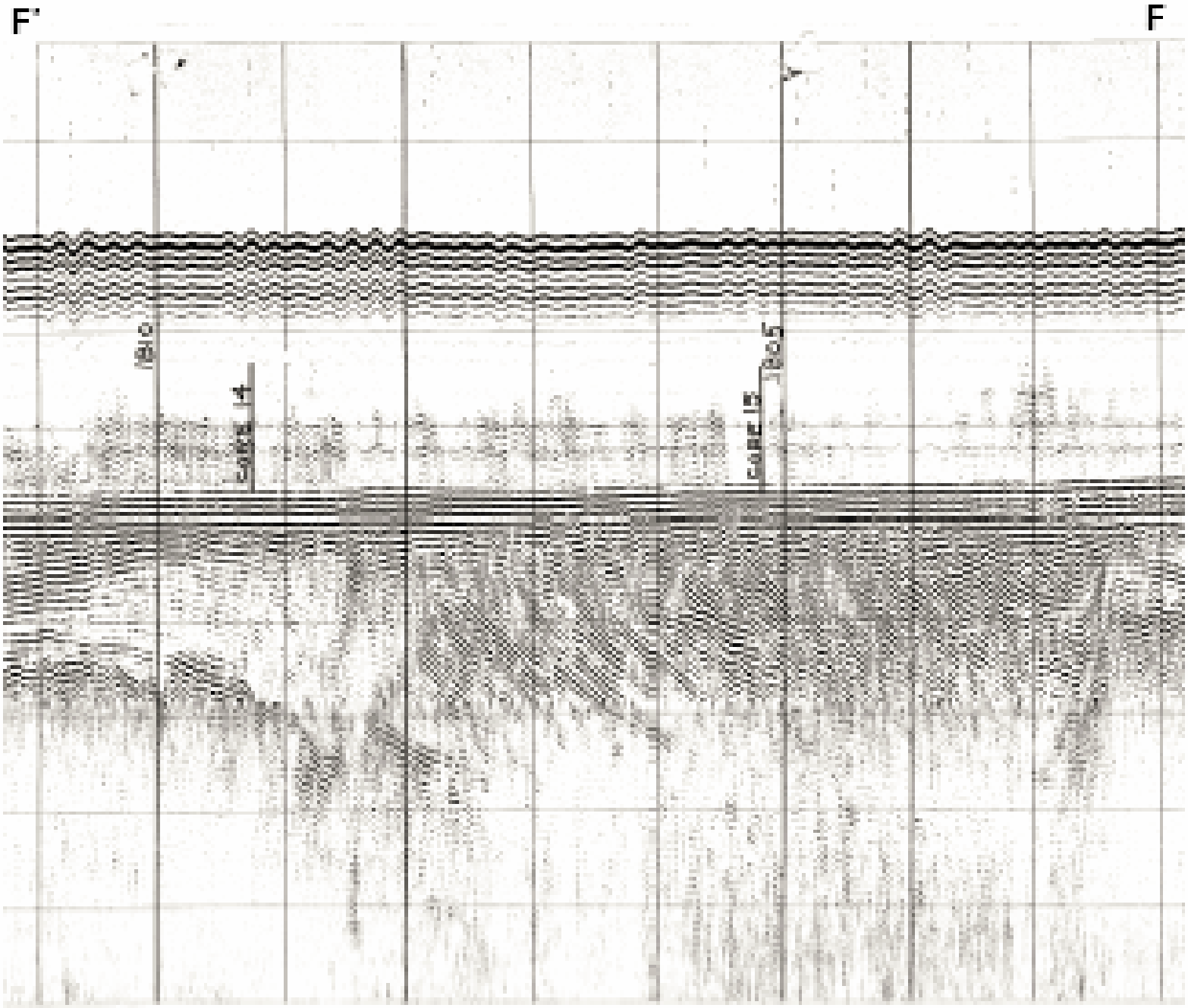

A'
1933
CORE 27
1930
1926
CORE 17
1925
CORE 25
1920
A
AREA 1
LINE 16 (PARTIAL)

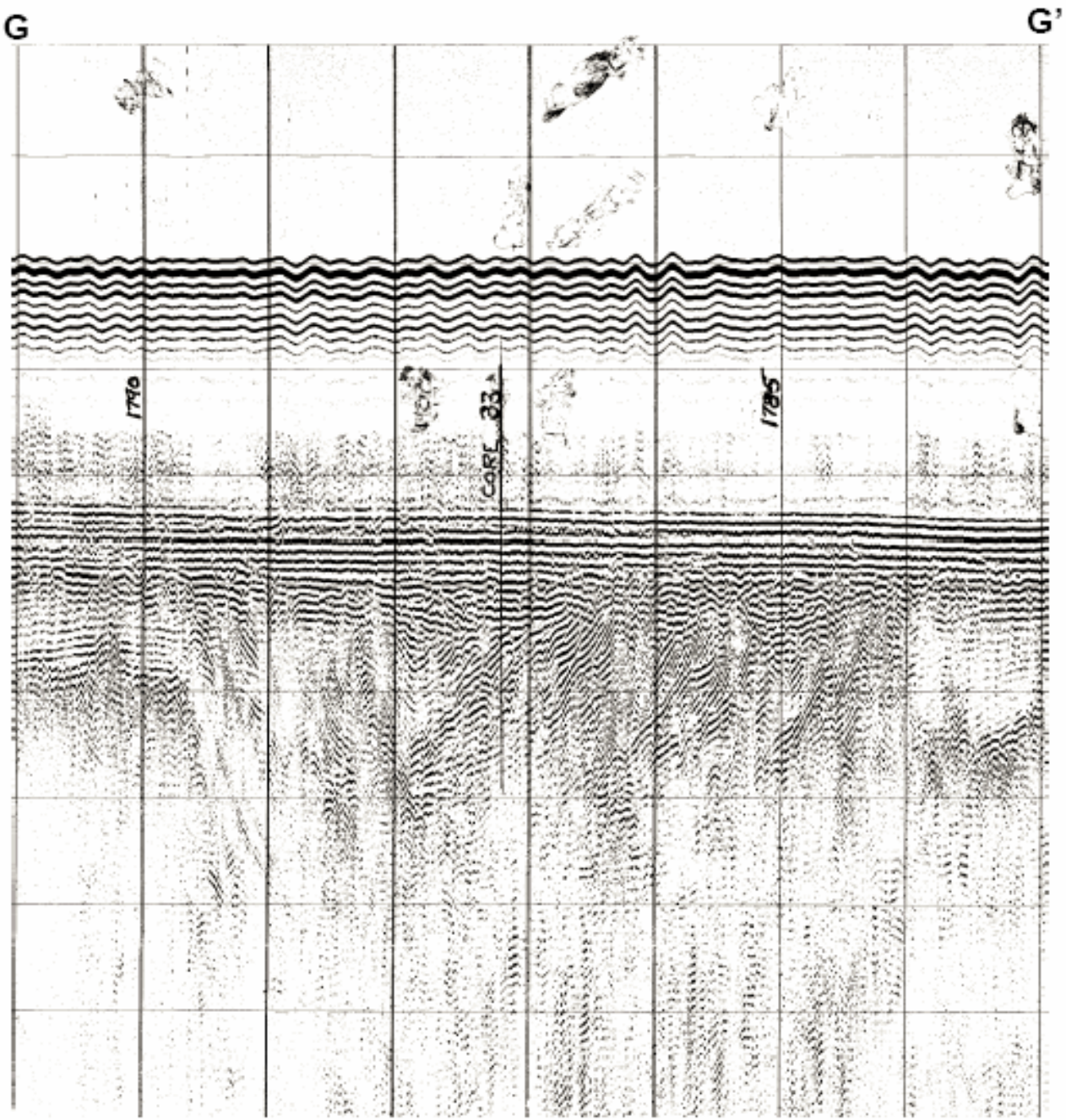

B'
B
CORE 20
1865
CORE 28
1860

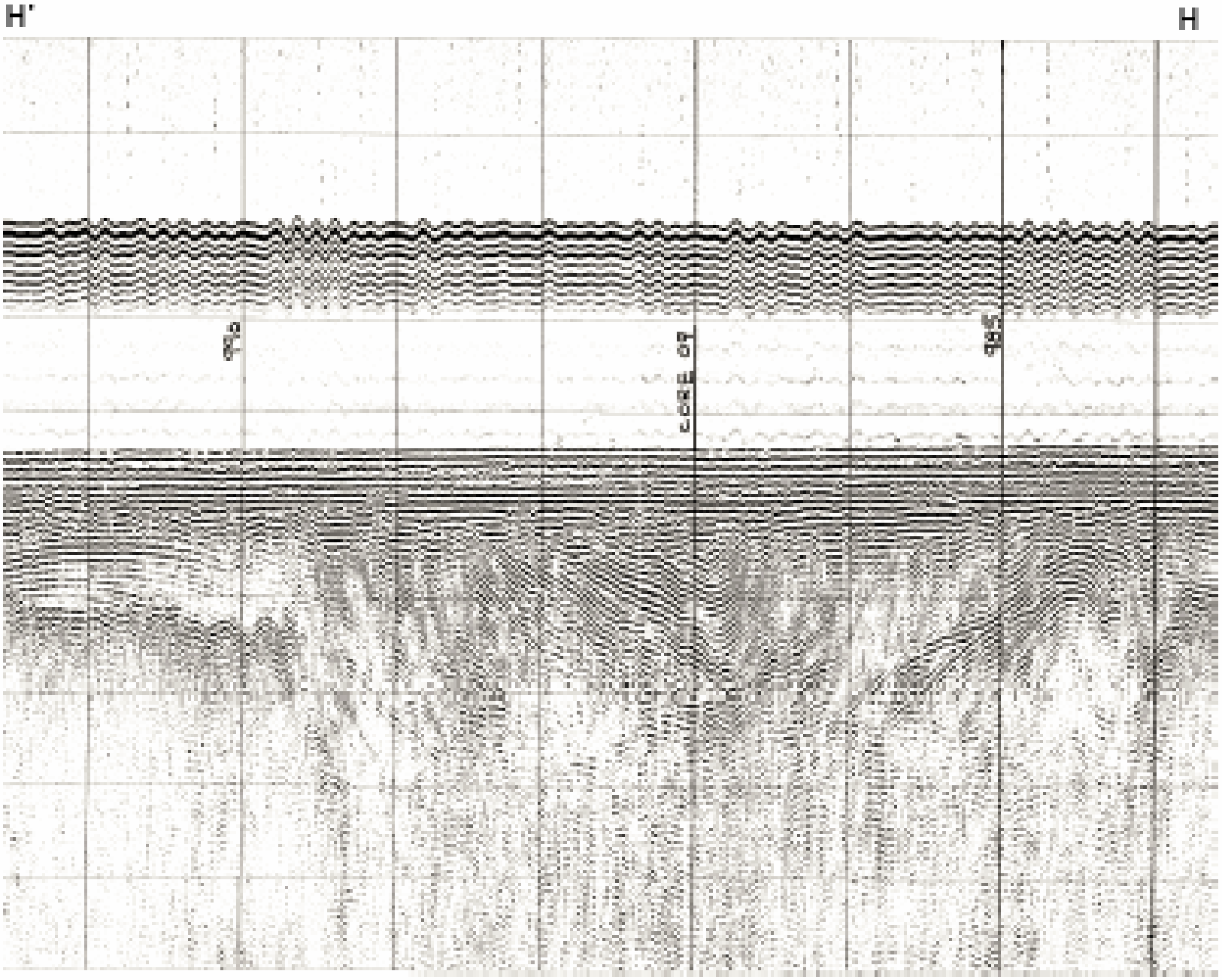

C
1880
CORE 24
1875
CORE 18
S.O.L 14
1871
C


D
D'
CORE 26
825
1820
1819
S.O.L 13


E'
E


F'
F
B10
CORE 14
CORE 15
B05


G
G'
1790
CORE 33
1795


H'
H
CORE 07

Hole No. VB-03-07

DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1 OF 1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 282,887.4 E 3,756,539.1
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. (As shown on drawing title and file number)	VB-03-07
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	26.1
8. RECOVERY (ft)	28.1
9. TOTAL CORE RECOVERY (%)	108.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 4 / COMPOSITE 1
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/25/03 / COMPLETED 8/25/03
17. ELEVATION TOP OF HOLE	-23.3
18. TOTAL CORE RECOVERY FOR BORING	108 %
19. GEOLOGIST	W. McGuinness

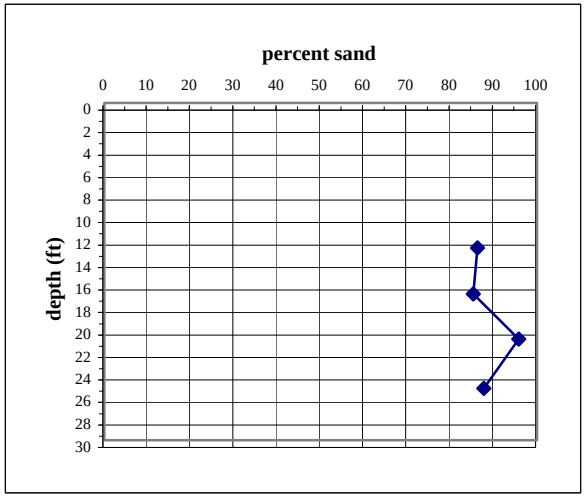
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-23.3	0.0		Dark gray Clay with a shell lens at 4.4-4.6'			Composite Sample: 10.8'-27.8' 84.2% Sand 9.7% Silt 6.0% Clay Mean: 0.119 mm (See Notes 1 and 2)
-34.1	10.8					
			Dark gray fine Sand, with a clay layer at 12.7'-12.8'		1 10.8 15.0	86.2% Sand 9.4% Silt 4.2% Clay Mean: 0.108 mm
-38.2	14.9					
-38.8	15.5		Dark gray Clay		2 15.0 19.0	85.3% Sand 8.5% Silt 6.3% Clay Mean: 0.124 mm
			Dark gray fine Sand with some silt			
-39.9	16.6					
-40.3	17.0		Dark gray Clay			
			Dark gray fine Sand, trace silt		3 19.0 23.0	95.8% Sand 2.5% Silt 1.8% Clay Mean: 0.176 mm
					4 23.0 27.8	87.7% Sand 9.6% Silt 2.7% Clay Mean: 0.139 mm
-50.8	27.5					
-51.0	27.7		Dark gray Clay lens			
-51.1	27.8		Dark gray fine Sand, trace silt			

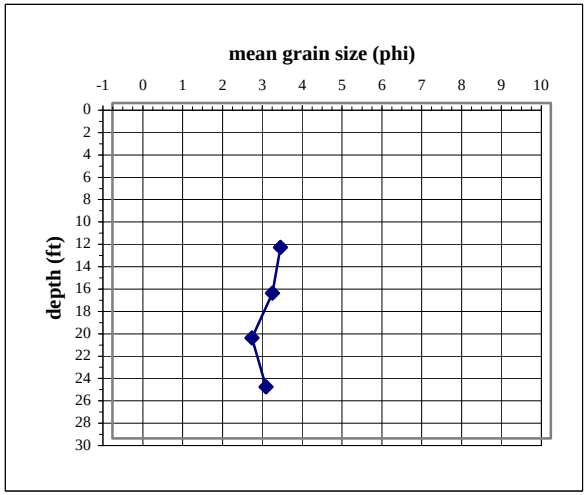
Grainsize Data Table

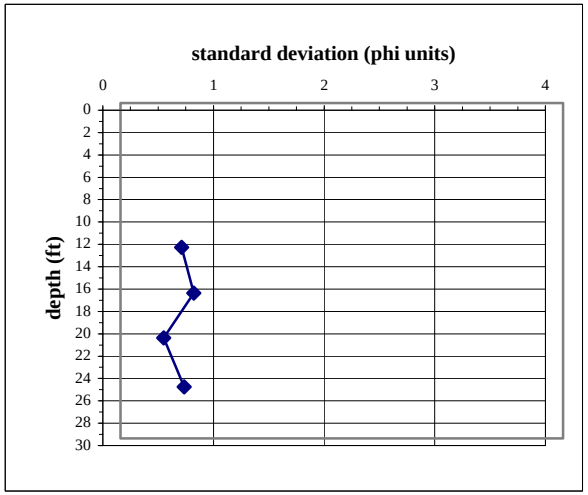
Core ID **VB-07**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-07_108-150	12.9	mm	0.006	0.034	0.074	0.094	0.123	0.148	0.158	0.166	0.174	0.108		86.2	9.4	4.2
		phi	7.4	4.9	3.8	3.4	3.0	2.8	2.7	2.6	2.5	3.2	0.6			
VB-07_150-190	17.0	mm	0.003	0.013	0.078	0.123	0.163	0.187	0.196	0.203	0.210	0.124		85.3	8.5	6.3
		phi	8.4	6.2	3.7	3.0	2.6	2.4	2.4	2.3	2.3	3.0	0.7			
VB-07_190-230	21.0	mm	0.076	0.118	0.135	0.150	0.182	0.215	0.231	0.246	0.262	0.176		95.8	2.5	1.8
		phi	3.7	3.1	2.9	2.7	2.5	2.2	2.1	2.0	1.9	2.5	0.4			
VB-07_230-278	25.4	mm	0.013	0.044	0.093	0.123	0.161	0.193	0.207	0.218	0.230	0.139		87.7	9.6	2.7
		phi	6.2	4.5	3.4	3.0	2.6	2.4	2.3	2.2	2.1	2.9	0.6			
Composite Sample																
VB-07_CO_108-278	19.3	mm	0.019	0.085	0.108	0.127	0.161	0.193	0.208	0.221	0.234	0.150		92.4	4.8	2.8
		phi	5.7	3.6	3.2	3.0	2.6	2.4	2.3	2.2	2.1	2.7	0.5			







Hole No. VB-03-08

DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1 OF 1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 283,943.6 E 3,755,622.9
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. *(As shown on drawing title and file number)*	VB-03-08
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	29.1
8. RECOVERY (ft)	30.0
9. TOTAL CORE RECOVERY (%)	103.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)*	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 5 / COMPOSITE 2
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/25/03 / COMPLETED 8/25/03
17. ELEVATION TOP OF HOLE	-21.4
18. TOTAL CORE RECOVERY FOR BORING	103 %
19. GEOLOGIST	W. McGuinness

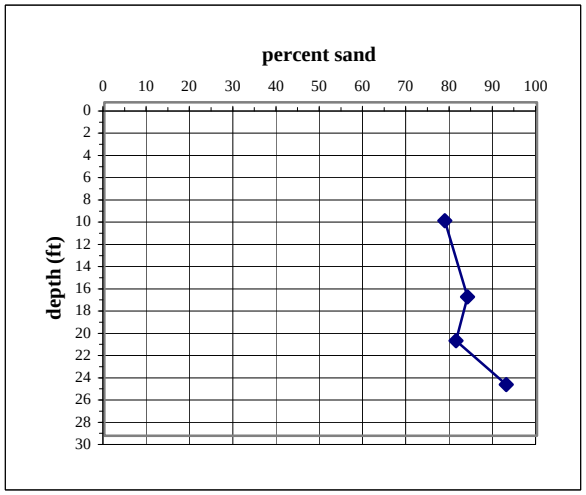
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-21.4	0.0		Dark gray Clay			Composite 1: 8.7'-21' 80.2% Sand 12.1% Silt 7.1% Clay Mean: 0.090 mm
-26.9	5.5					Composite 2: 21.0'-30.0' 66.4% Sand 19.0% Silt 14.5% Clay Mean: 0.032 mm
-27.1	5.7		Light brown clay lens			
			Dark gray Clay			
-29.6	8.2					
-29.7	8.3		Dark gray fine Sand			
-30.2	8.8		Dark gray Clay		1	78.7% Sand
-30.6	9.2		Dark gray fine Sand		8.7	14.2% Silt
-30.7	9.3		Dark gray Clay lens		12.6	7.1% Clay
			Dark gray fine Sand			Mean: 0.065 mm
-32.8	11.4					
			Dark gray Clay with thin sandy laminae			
-34.1	12.7					
-34.7	13.3		Dark gray Clay			
-34.9	13.5		Dark gray fine Sand			
			Dark gray Clay with a sand lens at 13.7-13.8'			
-36.9	15.5					
			Dark gray fine Sand with black organics between 16.4' and 16.8' and a clay lens at 18.4'-18.7'		2 15.5 19.5	84.0% Sand 8.8% Silt 7.2% Clay Mean: 0.119 mm
-40.9	19.5					
-41.2	19.8		Dark gray Clay lens		3	81.3% Sand
			Dark gray fine Sand		19.5	11.7% Silt
-42.4	21.0				23.4	7.6% Clay
			Dark gray fine Sand with clay layers to 0.2' thick			Mean: 0.086 mm
-44.8	23.4					
			Dark gray fine Sand		4 23.4 27.4	92.9% Sand 4.8% Silt 2.3% Clay Mean: 0.163 mm
-49.1	27.7					
-49.6	28.2		Dark gray Clay		5	90.5% Sand
			Dark gray fine Sand with clay lenses to 0.2' thick		27.4 30.0	6.8% Silt 2.6% Clay Mean: 0.146 mm
-51.4	30.0					

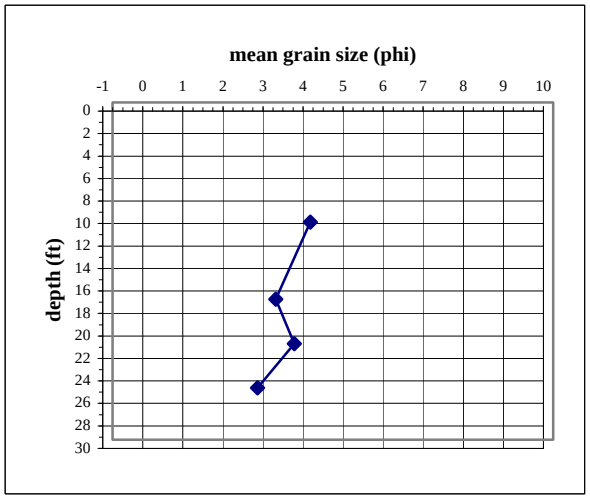
Grainsize Data Table

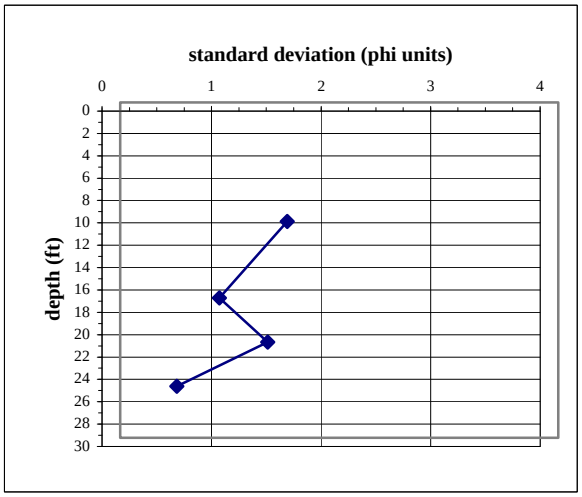
Core ID **VB-08**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-08_087-126	10.7	mm	0.003	0.008	0.023	0.091	0.145	0.178	0.188	0.196	0.204	0.065		78.7	14.2	7.1
		phi	8.5	7.1	5.5	3.5	2.8	2.5	2.4	2.4	2.3	3.9	1.5			
VB-08_155-195	17.5	mm	0.003	0.008	0.063	0.132	0.176	0.209	0.223	0.231	0.243	0.119		84.0	8.8	7.2
		phi	8.5	6.9	4.0	2.9	2.5	2.3	2.2	2.1	2.0	3.1	0.9			
VB-08_195-234	21.5	mm	0.002	0.006	0.034	0.114	0.171	0.205	0.219	0.229	0.242	0.086		81.3	11.1	7.6
		phi	8.7	7.3	4.9	3.1	2.6	2.3	2.2	2.1	2.0	3.5	1.3			
VB-08_234-274	25.4	mm	0.029	0.089	0.114	0.137	0.179	0.217	0.233	0.248	0.264	0.163		92.9	4.8	2.3
		phi	5.1	3.5	3.1	2.9	2.5	2.2	2.1	2.0	1.9	2.6	0.5			
Composite Samples																
VB-08_CO_087-210	14.9	mm	0.003	0.008	0.041	0.098	0.160	0.188	0.199	0.207	0.215	0.090		80.2	12.7	7.1
		phi	8.6	7.0	4.6	3.4	2.6	2.4	2.3	2.3	2.2	3.5	1.1			
VB-08_CO_210-306	25.8	mm	0.001	0.002	0.005	0.014	0.156	0.205	0.226	0.245	0.268	0.032		66.4	19.0	14.5
		phi	9.6	8.7	7.8	6.2	2.7	2.3	2.1	2.0	1.9	5.0	2.8			
VB-08_CO_274-306	29.0	mm	0.017	0.068	0.102	0.126	0.164	0.195	0.208	0.219	0.231	0.146		90.5	6.8	2.6
		phi	5.9	3.9	3.3	3.0	2.6	2.4	2.3	2.2	2.1	2.8	0.5			







Hole No. VB-03-09

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration (BA-35)	10. SIZE AND TYPE OF BIT
2. LOCATION (Coordinates or Station): N 284,947.4 E 3,754,875.0	11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)*: MLLW
3. DRILLING AGENCY: Alpine Ocean Seismic Survey	12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
4. HOLE NO. *(As shown on drawing title and file number)*: VB-03-09	13. TOTAL NO. OF SAMPLES TAKEN — INTERVAL: 1 — COMPOSITE: 0
5. NAME OF DRILLER: J. Cole	14. TOTAL NUMBER CORE BOXES: 0
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.	15. ELEVATION GROUND WATER
7. PENETRATION (ft): 26.1	16. DATE HOLE — STARTED: 8/25/03 — COMPLETED: 8/25/03
8. RECOVERY (ft): 10.0	17. ELEVATION TOP OF HOLE: -19.6
9. TOTAL CORE RECOVERY (%): 38.0	18. TOTAL CORE RECOVERY FOR BORING: 38 %
	19. GEOLOGIST: W. McGuinness

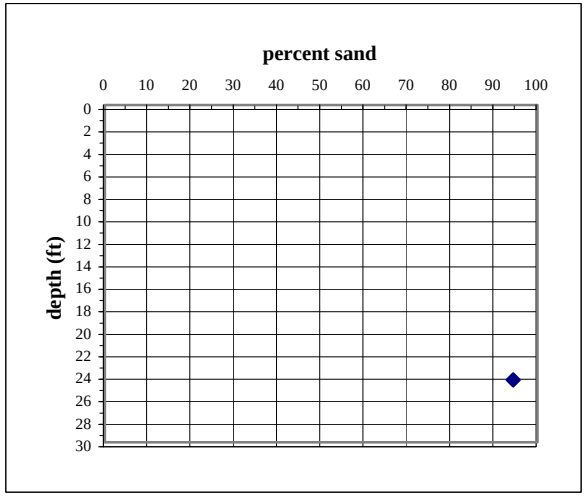
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS *(Drilling time, water loss, depth weathering, etc., if significant)* g
-19.6	0.0		Sample lost -washed out			
-35.6	16.0		Dark gray Clay			
-43.1	23.5		Dark gray fine Sand		1 23.5 25.4	94.4% Sand 3.7% Silt 1.9% Clay Mean: 0.148 mm
-45.0	25.4					
-45.7	26.1		Dark gray Clay			

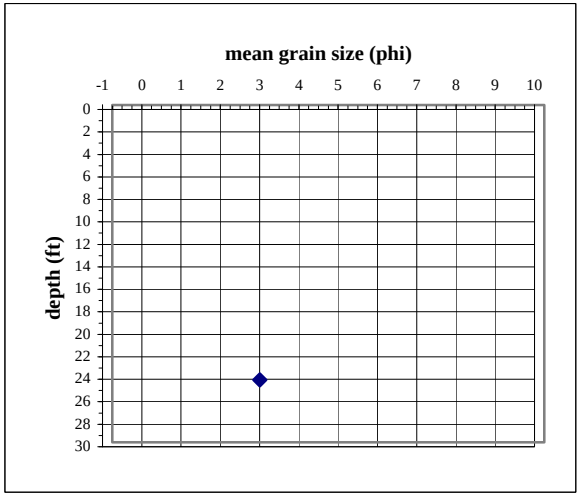
Grainsize Data Table

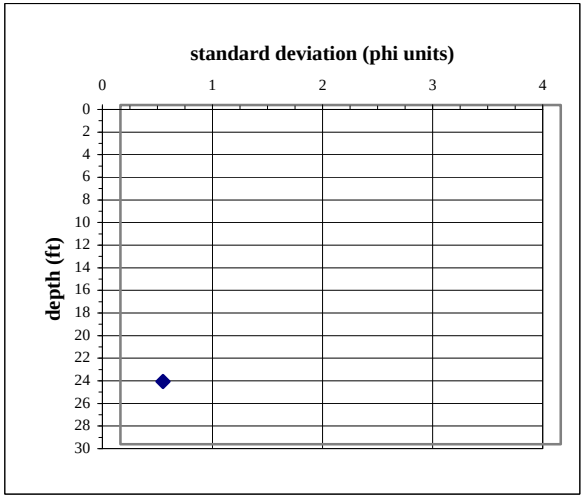
Core ID **VB-09**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-09_235-254	24.5	mm	0.053	0.097	0.113	0.127	0.154	0.181	0.194	0.206	0.219	0.148		94.4	3.7	1.9
		phi	4.2	3.4	3.1	3.0	2.7	2.5	2.4	2.3	2.2	2.8	0.4			







Hole No. VB-03-14

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration (BA-35)	10. SIZE AND TYPE OF BIT
2. LOCATION (Coordinates or Station): N 283,463.2 E 3,756,705.8	11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)*: MLLW
3. DRILLING AGENCY: Alpine Ocean Seismic Survey	12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
4. HOLE NO. *(As shown on drawing title and file number)*: VB-03-14	13. TOTAL NO. OF SAMPLES TAKEN — INTERVAL: 2 — COMPOSITE: 1
5. NAME OF DRILLER: J. Cole	14. TOTAL NUMBER CORE BOXES: 0
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.	15. ELEVATION GROUND WATER
7. PENETRATION (ft): 29.4	16. DATE HOLE — STARTED: 8/27/03 — COMPLETED: 8/27/03
8. RECOVERY (ft): 29.0	17. ELEVATION TOP OF HOLE: -22.6
9. TOTAL CORE RECOVERY (%): 99.0	18. TOTAL CORE RECOVERY FOR BORING: 99 %
	19. GEOLOGIST: W. McGuinness

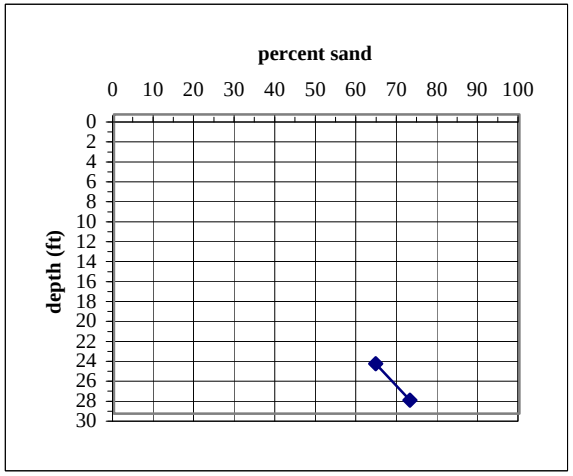
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS *(Drilling time, water loss, depth weathering, etc., if significant)* g
-22.6	0.0		Dark gray CLAY			Composite Sample 1: 23'-30' 79.5% Sand 13.3% Silt 7.2% Clay Mean: 0.076 mm
-27.6	5.0					
-27.8	5.2		Dark gray SILT			
			Dark gray SILTY CLAY			
-44.6	22.0					
-45.0	22.4		Dark gray silty FINE SAND			
-45.6	23.0		Dark gray CLAY			
			Dark gray silty FINE SAND		1 23.0 27.0	64.5% Sand 23.4% Silt 12.0% Clay Mean: 0.032 mm
-47.7	25.1					
-48.1	25.5		Dark gray CLAY			
			Dark gray silty SAND, with a clay lens at 26.1-26.3'			
					2 27.0 30.0	73.0% Sand 18.3% Silt 8.6% Clay Mean: 0.043 mm
-52.6	30.0					

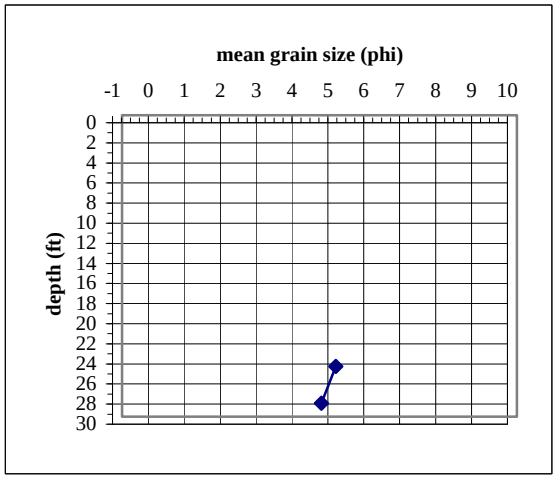
Grainsize Data Table

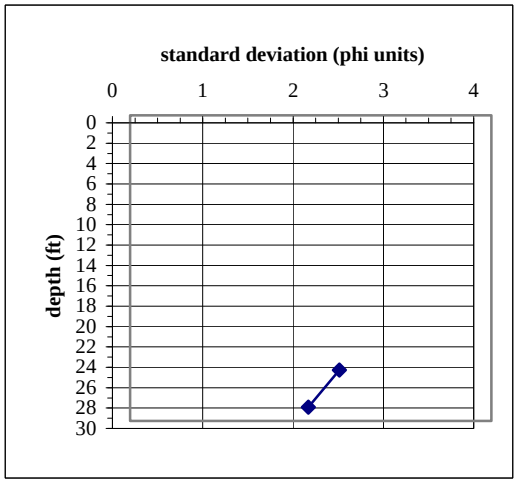
Core ID **VB-14**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample depth in core(ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VBb-14-230-270	25.0	mm	0.002	0.003	0.006	0.023	0.102	0.143	0.161	0.182	0.218	0.032		64.5	23.4	12.0
		phi	9.4	8.4	7.3	5.5	3.3	2.8	2.6	2.5	2.2	5.0	2.3			
VB-14_270-303	28.7	mm	0.002	0.005	0.011	0.050	0.122	0.156	0.168	0.176	0.187	0.043		73.0	18.3	8.6
		phi	8.7	7.7	6.5	4.3	3.0	2.7	2.6	2.5	2.4	4.5	2.0			
Composite Sample																
VB-14_CO_230-303	26.7	mm	0.003	0.008	0.035	0.080	0.121	0.150	0.161	0.169	0.176	0.076		79.5	13.3	7.2
		phi	8.5	7.0	4.8	3.6	3.0	2.7	2.6	2.6	2.5	3.7	1.1			







Hole No. VB-03-15

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration (BA-35)	10. SIZE AND TYPE OF BIT
2. LOCATION (Coordinates or Station): N 280,032.6 E 3,758,201.9	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLLW
3. DRILLING AGENCY: Alpine Ocean Seismic Survey	12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
4. HOLE NO. (As shown on drawing title and file number): VB-03-15	13. TOTAL NO. OF SAMPLES TAKEN — INTERVAL: 5 — COMPOSITE: 1
5. NAME OF DRILLER: J. Cole	14. TOTAL NUMBER CORE BOXES: 0
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.	15. ELEVATION GROUND WATER
7. PENETRATION (ft): 28.8	16. DATE HOLE — STARTED: 8/27/03 — COMPLETED: 8/27/03
8. RECOVERY (ft): 29.7	17. ELEVATION TOP OF HOLE: -22.5
9. TOTAL CORE RECOVERY (%): 107.0	18. TOTAL CORE RECOVERY FOR BORING: 107 %
	19. GEOLOGIST: W. McGuinness

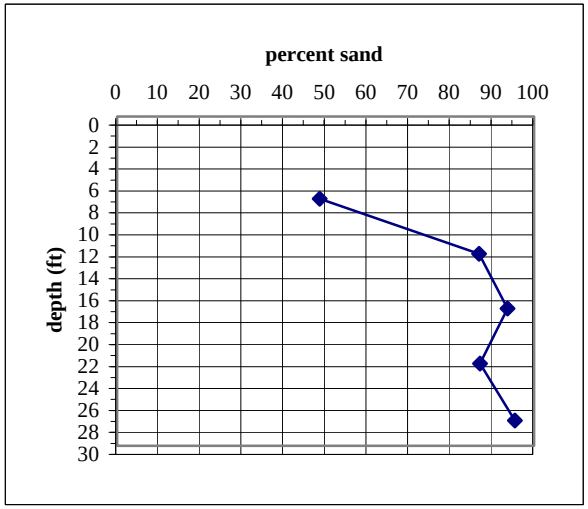
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-22.5	0.0		Dark gray firm CLAY			Composite Sample 1: 5'-30' 50.4% Sand 28.6% Silt 21.0% Clay Mean: 0.022 mm (See Notes 1 and 2)
-28.4	5.9				1 5.0 10.0	48.6% Sand 32.6% Silt 18.9% Clay Mean: 0.023 mm
-28.7	6.2		Dark gray silty CLAY			
-29.4	6.9		Dark gray silty FINE SAND			
-30.1	7.6		Dark gray silty CLAY			
-30.9	8.4		Dark gray CLAY			
-32.1	9.6		Dark gray silty FINE SAND			
-33.5	11.0		Dark gray CLAY		2 10.0 15.0	86.8% Sand 8.0% Silt 5.3% Clay Mean: 0.122 mm
-36.9	14.4		Dark gray fine to medium SAND			
-37.2	14.7		Dark gray silty FINE SAND			
-39.8	17.3		Dark gray fine to medium SAND		3 15.0 20.0	93.7% Sand 4.1% Silt 2.3% Clay Mean: 0.135 mm
-40.1	17.6		Dark gray CLAY			
-44.6	22.1		Dark gray FINE SAND		4 20.0 25.0	87.7% Sand 7.8% Silt 5.2% Clay Mean: 0.114 mm
-47.5	25.0		Dark gray to red CLAY with silt lenses			
-52.5	30.0		Dark gray fine to medium SAND		5 25.0 30.0	95.4% Sand 3.1% Silt 1.6% Clay Mean: 0.173 mm

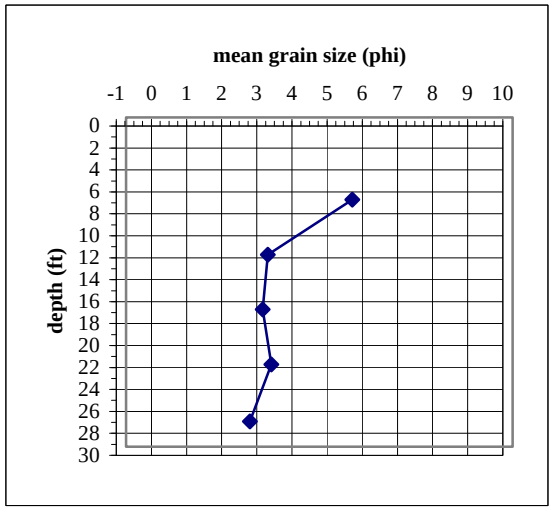
Grainsize Data Table

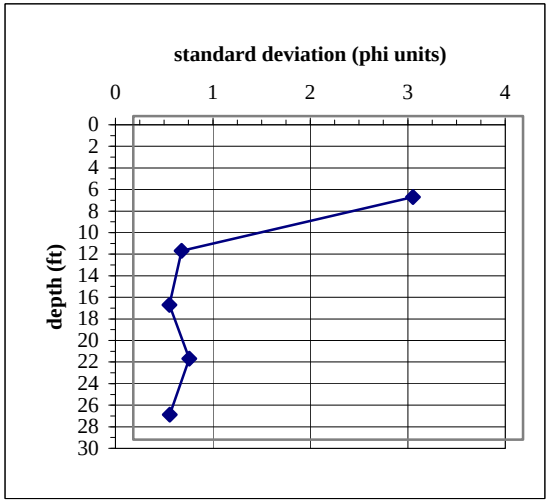
Core ID **VB-15**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample depth in core(ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VBb-15-050-100	7.5	mm	0.001	0.002	0.003	0.006	0.055	0.146	0.169	0.187	0.209	0.023		48.6	32.6	18.9
		phi	9.9	9.0	8.3	7.3	4.2	2.8	2.6	2.4	2.3	5.4	2.9			
VB-15_100-150	12.5	mm	0.004	0.023	0.086	0.113	0.142	0.164	0.172	0.177	0.185	0.129		86.8	8.0	5.3
		phi	8.1	5.5	3.5	3.2	2.8	2.6	2.5	2.5	2.4	3.0	0.5			
VB-15_150-200	17.5	mm	0.042	0.086	0.105	0.119	0.144	0.166	0.175	0.184	0.192	0.140		93.7	4.1	2.3
		phi	4.6	3.5	3.3	3.1	2.8	2.6	2.5	2.4	2.4	2.9	0.4			
VB-15_200-250	22.5	mm	0.004	0.039	0.076	0.099	0.133	0.160	0.169	0.175	0.184	0.123		87.0	7.8	5.2
		phi	8.1	4.7	3.7	3.3	2.9	2.6	2.6	2.5	2.4	3.1	0.6			
VB-15_250-304	27.7	mm	0.068	0.113	0.134	0.151	0.182	0.211	0.225	0.234	0.249	0.179		95.4	3.1	1.6
		phi	3.9	3.2	2.9	2.7	2.5	2.2	2.2	2.1	2.0	2.5	0.4			
Composite Sample																
VB-15_CO_050-304	17.7	mm	0.012	0.074	0.108	0.132	0.171	0.204	0.218	0.229	0.243	0.153		91.1	6.0	2.9
		phi	6.4	3.7	3.2	2.9	2.5	2.3	2.2	2.1	2.0	2.7	0.5			







Hole No. VB-03-16

DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1 OF 1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 282,502.8 E 3,757,041.4
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. *(As shown on drawing title and file number)*	VB-03-16
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	29.0
8. RECOVERY (ft)	29.7
9. TOTAL CORE RECOVERY (%)	102.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)*	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 5 / COMPOSITE 1
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/27/03 / COMPLETED 8/27/03
17. ELEVATION TOP OF HOLE	-24.0
18. TOTAL CORE RECOVERY FOR BORING	102 %
19. GEOLOGIST	W. McGuinness

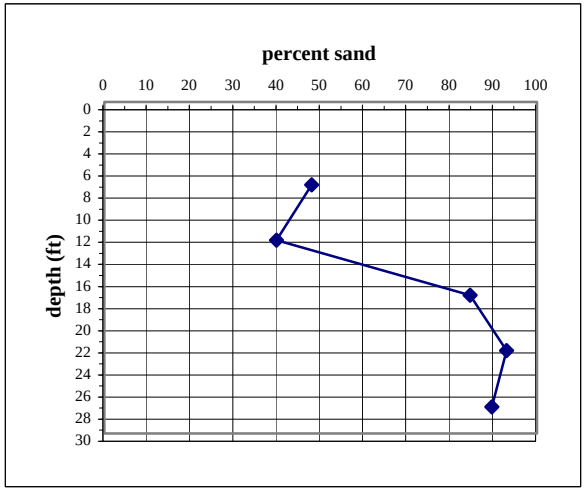
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-24.0	0.0		Dark gray CLAY with one shell at 1.7'			Composite Sample 1: 5'-30' 72.4% Sand 18.6% Silt 9.1% Clay Mean: 0.052 mm (See Notes 1 and 2)
-28.3	4.3					
-28.9	4.9		Dark gray clayey SILT with fine Sand			
-30.5	6.5		Dark gray silty CLAY with nodules of light gray clay and silt laminae		1 5.0 10.0	48.0% Sand 41.0% Silt 10.5% Clay Mean: 0.031 mm
-32.0	8.0		Dark gray sandy SILT			
-33.0	9.0		Dark gray CLAY			
-34.2	10.2		Dark gray silty SAND			
-35.0	11.0		Dark gray CLAY		2 10.0 15.0	39.8% Sand 39.6% Silt 20.7% Clay Mean: 0.018 mm
-35.5	11.5		Dark gray silty SAND			
-36.0	12.0		Dark gray CLAY			
			Dark gray silty SAND			
-39.8	15.8				3 15.0 20.0	84.6% Sand 10.0% Silt 5.5% Clay Mean: 0.111 mm
-40.0	16.0		Dark gray CLAY			
			Dark gray silty SAND with black organic silt streaks at 18.8', 19.6', and 26.2-30'			
					4 20.0 25.0	93.0% Sand 4.4% Silt 2.5% Clay Mean: 0.153 mm (See Notes 1 and 2)
					5 25.0 30.0	89.6% Sand 7.9% Silt 2.5% Clay Mean: 0.141 mm
-54.0	30.0					

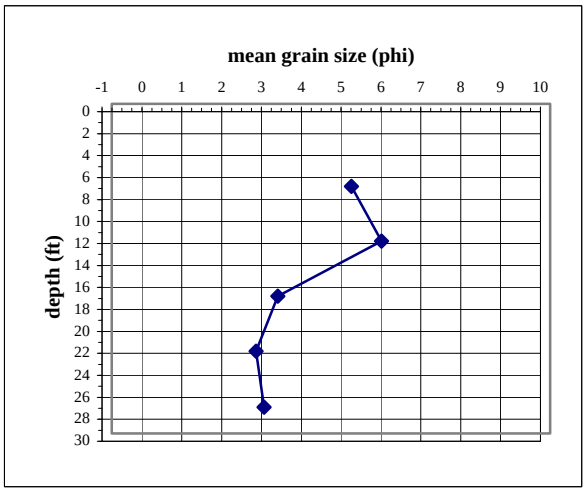
Grainsize Data Table

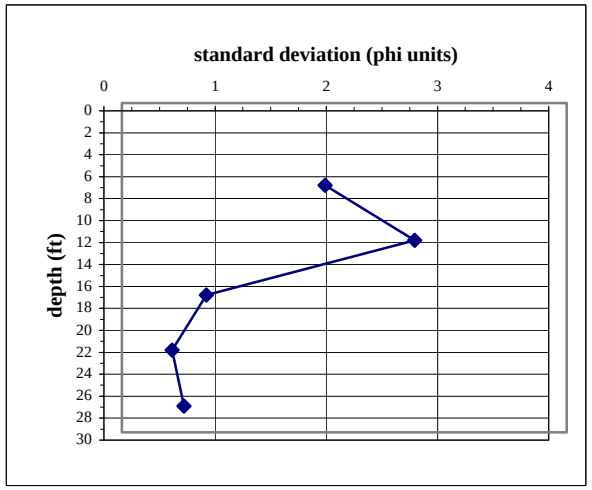
Core ID **VB-16**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-16_050-100	7.5	mm	0.002	0.004	0.009	0.024	0.060	0.095	0.110	0.122	0.137	0.031		48.0	41.5	10.5
		phi	9.3	8.1	6.8	5.4	4.1	3.4	3.2	3.0	2.9	5.0	1.8			
VB-16_100-150	12.5	mm	0.001	0.002	0.003	0.006	0.038	0.095	0.114	0.128	0.140	0.018		39.8	39.6	20.7
		phi	10.2	9.1	8.4	7.5	4.7	3.4	3.1	3.0	2.8	5.8	2.6			
VB-16_150-200	17.5	mm	0.003	0.016	0.066	0.101	0.142	0.175	0.189	0.200	0.210	0.111		84.6	10.0	5.5
		phi	8.2	5.9	3.9	3.3	2.8	2.5	2.4	2.3	2.3	3.2	0.8			
VB-16_200-250	22.5	mm	0.022	0.093	0.119	0.139	0.175	0.207	0.222	0.233	0.248	0.162		93.0	4.4	2.5
		phi	5.5	3.4	3.1	2.8	2.5	2.3	2.2	2.1	2.0	2.6	0.5			
VB-16_250-302	27.6	mm	0.009	0.058	0.096	0.119	0.156	0.192	0.208	0.221	0.233	0.141		89.6	7.9	2.5
		phi	6.8	4.1	3.4	3.1	2.7	2.4	2.3	2.2	2.1	2.8	0.6			
Composite Sample																
VB-16_CO_050-302	17.6	mm	0.001	0.003	0.006	0.019	0.057	0.096	0.116	0.131	0.145	0.027		45.9	41.8	12.2
		phi	9.5	8.3	7.3	5.7	4.1	3.4	3.1	2.9	2.8	5.2	2.1			







Hole No. VB-03-17

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS

1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 280,960.4 E 3,758,639.2
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. *(As shown on drawing title and file number)*	VB-03-17
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	28.1
8. RECOVERY (ft)	30.0
9. TOTAL CORE RECOVERY (%)	104.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)*	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 5 / COMPOSITE 1
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/27/03 / COMPLETED 8/27/03
17. ELEVATION TOP OF HOLE	-26.4
18. TOTAL CORE RECOVERY FOR BORING	104 %
19. GEOLOGIST	W. McGuinness

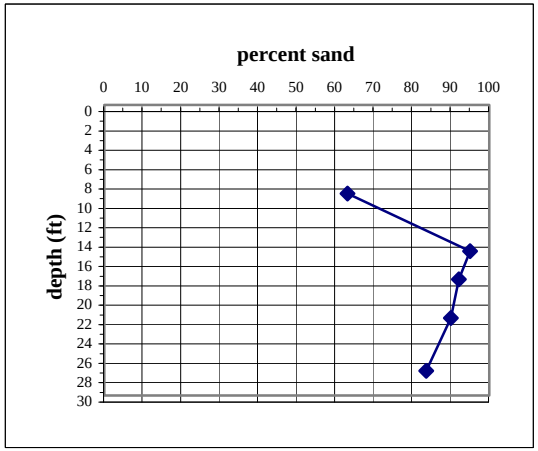
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS *(Drilling time, water loss, depth weathering, etc., if significant)* g
-26.4	0.0		Dark gray CLAY, with shells at 2.3-2.4'			Composite Sample 1: 7.6'-30' 51.2% Sand 26.9% Silt 22.0% Clay Mean: 0.020 mm (See Notes 1 and 2)
-31.9	5.5					
-32.4	6.0		Dark gray silty CLAY			
-33.6	7.2		Dark gray silty FINE SAND			
-33.9	7.5		Dark gray CLAY			
-36.1	9.7		Dark gray soft silty FINE SAND		1 7.6 10.5	63.2% Sand 23.9% Silt 12.9% Clay Mean: 0.032 mm
-37.2	10.8		Dark gray stiff silty FINE SAND			
-39.6	13.2		Dark gray CLAY with silt laminae and nodules below 12'			
-45.4	19.0		Dark gray FINE SAND with rare nodules or streaks of silt and clay		2 13.2 17.0	95% Sand 3.1% Silt 1.9% Clay Mean: 0.151 mm (See Notes 1 and 2)
					3 17.0 19.0	92.1% Sand 5.0% Silt 2.8% Clay Mean: 0.149 mm
-45.9	19.5		Dark gray CLAY			
			Dark gray FINE SAND with rare nodules or streaks of silt and clay		4 19.5 24.5	90.1% Sand 7.6% Silt 2.3% Clay Mean: 0.123 mm
-56.4	30.0				5 24.5 30.0	83.6% Sand 12.1% Silt 4.3% Clay Mean: 0.117 mm

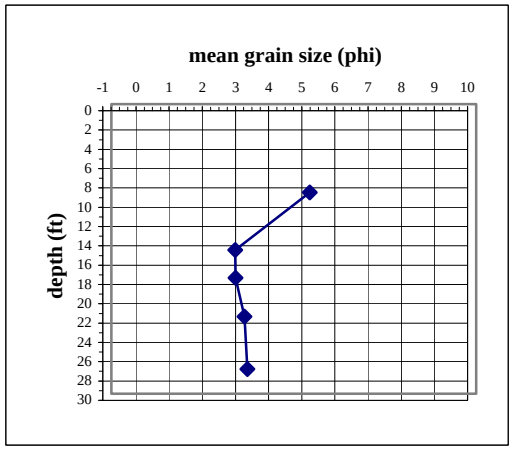
Grainsize Data Table

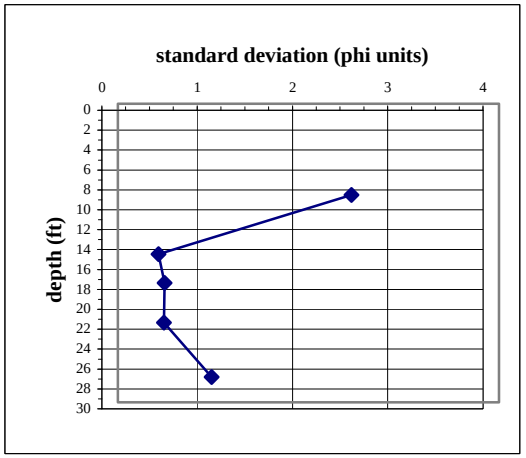
Core ID **VB-17**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-17_076-107	9.2	mm	0.001	0.003	0.006	0.016	0.128	0.165	0.174	0.182	0.190	0.032		63.2	23.9	12.9
		phi	9.6	8.5	7.4	6.0	3.0	2.6	2.5	2.5	2.4	5.0	2.5			
VB-17_132-170	15.1	mm	0.063	0.098	0.112	0.125	0.154	0.186	0.202	0.215	0.231	0.150		95.0	3.1	1.9
		phi	4.0	3.4	3.2	3.0	2.7	2.4	2.3	2.2	2.1	2.7	0.4			
VB-17_170-190	18.0	mm	0.013	0.086	0.106	0.123	0.155	0.191	0.210	0.228	0.250	0.149		92.1	5.0	2.8
		phi	6.3	3.5	3.2	3.0	2.7	2.4	2.3	2.1	2.0	2.7	0.5			
VB-17_195-245	22.0	mm	0.013	0.063	0.088	0.105	0.133	0.160	0.173	0.182	0.192	0.123		90.1	7.6	2.3
		phi	6.3	4.0	3.5	3.3	2.9	2.6	2.5	2.5	2.4	3.0	0.5			
VB-17_245-304	27.5	mm	0.005	0.017	0.059	0.116	0.167	0.210	0.231	0.251	0.275	0.117		83.6	12.1	4.3
		phi	7.7	5.9	4.1	3.1	2.6	2.3	2.1	2.0	1.9	3.1	1.0			
Composite Sample																
VBb-17_CO-076-304	19.0	mm	0.002	0.003	0.008	0.040	0.139	0.187	0.211	0.234	0.271	0.040		72.3	16.5	11.2
		phi	9.3	8.2	7.0	4.6	2.8	2.4	2.2	2.1	1.9	4.6	2.4			







DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1 OF 1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 281,986.8 E 3,757,882.1
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. (As shown on drawing title and file number)	VB-03-18
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	29.5
8. RECOVERY (ft)	29.7
9. TOTAL CORE RECOVERY (%)	100.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 5 / COMPOSITE 1
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/27/03 / COMPLETED 8/27/03
17. ELEVATION TOP OF HOLE	-25.4
18. TOTAL CORE RECOVERY FOR BORING	100 %
19. GEOLOGIST	W. McGuinness

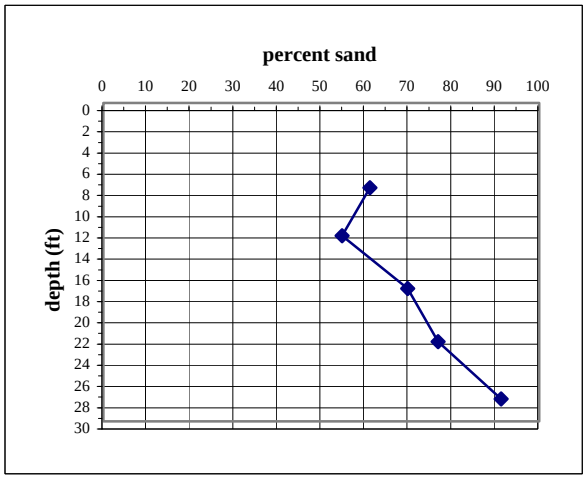
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-25.4	0.0		Dark gray slightly silty CLAY			Composite Sample 1: 6'-30' 60.5% Sand 29.1% Silt 10.5% Clay Mean: 0.034 mm (See Notes 1 and 2)
-29.2	3.8					
-31.4	6.0		Dark gray silty CLAY			
-32.8	7.4		Dark gray silty FINE SAND		1 6.0 10.0	61.1% Sand 27.5% Silt 11.4% Clay Mean: 0.045 mm
-33.4	8.0		Dark gray silty CLAY			
-34.7	9.3		Dark gray CLAY			
-35.2	9.8		Dark gray slightly silty CLAY			
			Dark gray silty FINE SAND, trace clay; with brown organic streaks and clay laminae below 26'		2 10.0 15.0	54.8% Sand 34.9% Silt 10.4% Clay Mean: 0.033 mm
					3 15.0 20.0	69.9% Sand 21.5% Silt 8.5% Clay Mean: 0.056 mm (See Notes 1 and 2)
					4 20.0 25.0	74.7% Sand 19.1% Silt 6.2% Clay Mean: 0.085 mm (See Notes 1 and 2)
					5 25.0 30.0	91.2% Sand 7.3% Silt 1.5% Clay Mean: 0.123 mm
-55.4	30.0					

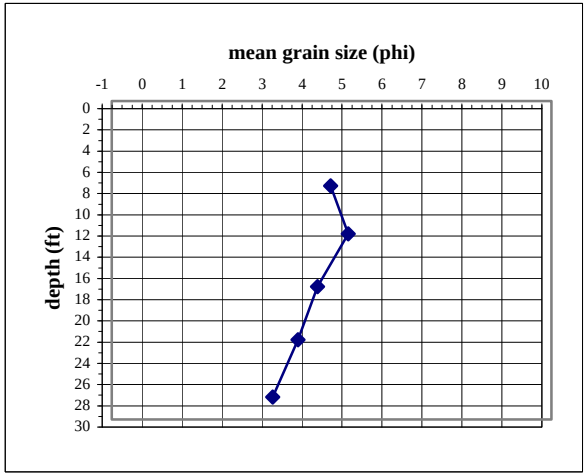
Grainsize Data Table

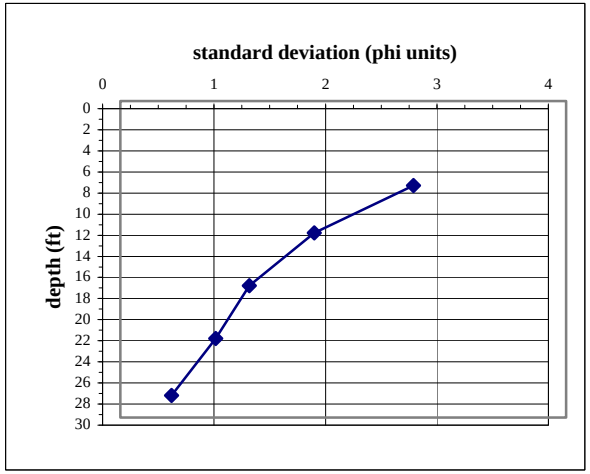
Core ID **VB-18**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-18_060-100	8.0	mm	0.002	0.003	0.007	0.028	0.084	0.162	0.279	0.340	0.402	0.045		61.1	27.5	11.4
		phi	9.3	8.2	7.1	5.2	3.6	2.6	1.8	1.6	1.3	4.5	2.6			
VB-18_100-150	12.5	mm	0.002	0.004	0.010	0.030	0.068	0.100	0.111	0.118	0.126	0.033		54.8	34.9	10.4
		phi	9.2	8.1	6.7	5.1	3.9	3.3	3.2	3.1	3.0	4.9	1.7			
VB-18_150-200	17.5	mm	0.003	0.008	0.025	0.052	0.090	0.117	0.126	0.131	0.138	0.056		69.8	23.5	6.7
		phi	8.3	6.9	5.3	4.3	3.5	3.1	3.0	2.9	2.9	4.1	1.2			
VB-18_200-250	22.5	mm	0.004	0.017	0.044	0.066	0.100	0.131	0.143	0.152	0.159	0.079		76.8	18.4	4.9
		phi	8.0	5.9	4.5	3.9	3.3	2.9	2.8	2.7	2.7	3.7	0.9			
VB-18_250-308	27.9	mm	0.030	0.069	0.089	0.106	0.134	0.160	0.169	0.175	0.184	0.123		91.2	7.3	1.5
		phi	5.1	3.9	3.5	3.2	2.9	2.6	2.6	2.5	2.4	3.0	0.5			
Composite Sample																
VB-18_CO_060-308	18.4	mm	0.002	0.004	0.009	0.026	0.064	0.097	0.114	0.127	0.139	0.032		51.0	39.0	10.1
		phi	9.0	8.0	6.8	5.2	4.0	3.4	3.1	3.0	2.8	5.0	1.8			







Hole No. VB-03-19

DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1 OF 1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 281,481.7 E 3,754,749.7
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. (As shown on drawing title and file number)	VB-03-19
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	29.0
8. RECOVERY (ft)	30.0
9. TOTAL CORE RECOVERY (%)	103.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 5 / COMPOSITE 1
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/28/03 / COMPLETED 8/28/03
17. ELEVATION TOP OF HOLE	-24.3
18. TOTAL CORE RECOVERY FOR BORING	103 %
19. GEOLOGIST	W. McGuinness

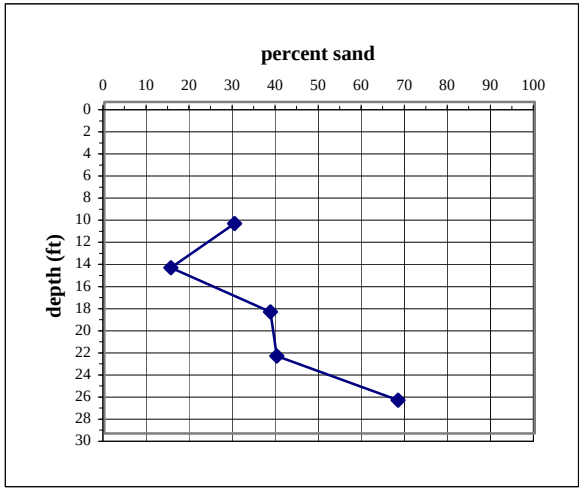
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-24.3	0.0		Dark gray CLAY, with shell layer at 6.4-6.5', and light brown clay lenses at 7.6' and 8.8'			Composite Sample 1: 9.0' - 29' 42.6% Sand 43.4% Silt 14.0% Clay Mean: 0.028 mm
-33.2	8.9					
			Dark gray sandy SILT, trace clay in laminae at 15.3-15.4' and 17.4-17.5'		1 9.0 13.0	30.3% Sand 45.5% Silt 24.2% Clay Mean: 0.016 mm
					2 13.0 17.0	15.5% Sand 67.5% Silt 17.0% Clay Mean: 0.015 mm
					3 17.0 21.0	38.6% Sand 47.2% Silt 14.2% Clay Mean: 0.025 mm
					4 21.0 23.7	40.1% Sand 41.2% Silt 18.8% Clay Mean: 0.024 mm
-47.7	23.4					
-48.0	23.7		Dark gray clayey SILT			
			Gray FINE SAND		5 23.7 28.5	68.3% Sand 23.9% Silt 8.8% Clay Mean: 0.053 mm
-50.8	26.5					
			Dark gray silty FINE SAND			
-52.8	28.5					
-53.3	29.0		Dark gray CLAY			
-54.3	30.0		Dark gray silty CLAY			

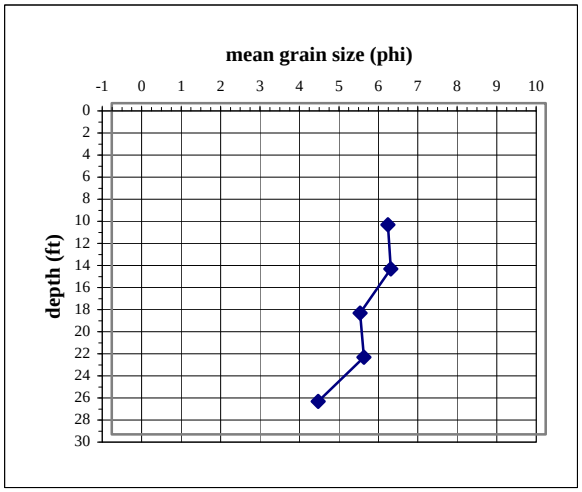
Grainsize Data Table

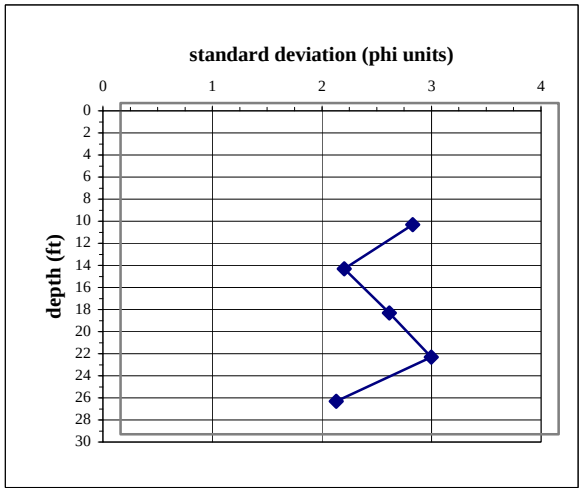
Core ID **VB-19**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-19_090-130	11.0	mm	0.001	0.001	0.002	0.004	0.024	0.076	0.099	0.118	0.132	0.016		30.3	45.5	24.3
		phi	10.4	9.6	8.7	7.9	5.4	3.7	3.3	3.1	2.9	6.0	2.7			
VB-19_130-170	15.0	mm	0.001	0.002	0.004	0.008	0.025	0.047	0.061	0.081	0.108	0.015		15.5	67.5	17.0
		phi	9.9	8.8	8.1	7.0	5.3	4.4	4.0	3.6	3.2	6.1	2.0			
VB-19_170-210	19.0	mm	0.001	0.003	0.005	0.011	0.042	0.109	0.140	0.154	0.167	0.025		38.6	47.2	14.2
		phi	9.7	8.5	7.8	6.5	4.6	3.2	2.8	2.7	2.6	5.3	2.5			
VB-19_210-250	23.0	mm	0.001	0.002	0.003	0.006	0.036	0.142	0.170	0.181	0.191	0.024		40.1	41.2	18.8
		phi	9.9	8.8	8.2	7.4	4.8	2.8	2.6	2.5	2.4	5.4	2.8			
VB-19_250-290	27.0	mm	0.002	0.005	0.014	0.042	0.133	0.195	0.208	0.219	0.230	0.053		68.3	22.9	8.8
		phi	8.9	7.7	6.2	4.6	2.9	2.4	2.3	2.2	2.1	4.2	2.0			
Composite Sample																
VB-19_CO_090-290	19.0	mm	0.001	0.003	0.005	0.013	0.049	0.122	0.160	0.176	0.189	0.028		42.6	43.4	14.0
		phi	9.7	8.5	7.7	6.2	4.4	3.0	2.6	2.5	2.4	5.2	2.5			







Hole No. VB-03-20

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration (BA-35)	10. SIZE AND TYPE OF BIT
2. LOCATION (Coordinates or Station): N 281,501.9 E 3,757,560.3	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLLW
3. DRILLING AGENCY: Alpine Ocean Seismic Survey	12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
4. HOLE NO. (As shown on drawing title and file number): VB-03-20	13. TOTAL NO. OF SAMPLES TAKEN — INTERVAL: 5 — COMPOSITE: 1
5. NAME OF DRILLER: J. Cole	14. TOTAL NUMBER CORE BOXES: 0
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.	15. ELEVATION GROUND WATER
7. PENETRATION (ft): 28.6	16. DATE HOLE — STARTED: 8/28/03 — COMPLETED: 8/28/03
8. RECOVERY (ft): 28.2	17. ELEVATION TOP OF HOLE: -25.7
9. TOTAL CORE RECOVERY (%): 99.0	18. TOTAL CORE RECOVERY FOR BORING: 99 %
	19. GEOLOGIST: W. McGuinness

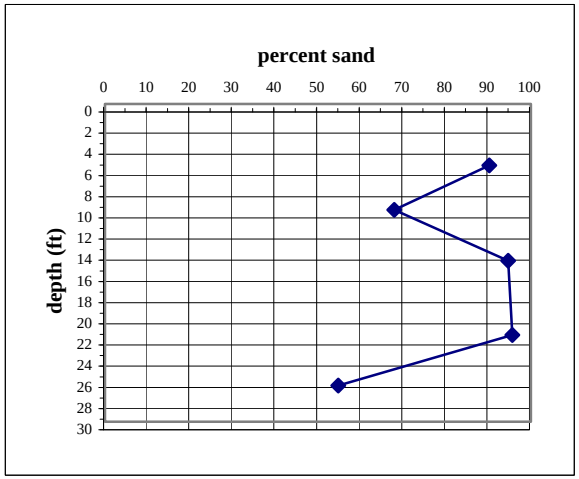
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-25.7	0.0		Dark gray Clay with scattered shells in upper 0.5 foot			Composite Sample 1: 3.6'-28.5' 64.6% Sand 20.0% Silt 15.4% Clay Mean: 0.029 mm
-29.3	3.6		Dark gray silty FINE SAND		1 3.6 8.0	90.2% Sand 7.4% Silt 2.5% Clay Mean: 0.149 mm
-33.0	7.3					
-33.1	7.4		Dark gray CLAY			
-35.2	9.5		Dark gray silty FINE SAND		2 8.0 12.0	68.0% Sand 17.0% Silt 15.0% Clay Mean: 0.027 mm
-35.9	10.2		Dark gray SILT			
-36.2	10.5		Dark gray CLAY			
-37.0	11.3		Dark gray laminated SILT and CLAY			
-41.2	15.5		Dark gray fine to medium SAND		3 12.0 17.6	94.6% Sand 3.6% Silt 1.8% Clay Mean: 0.171 mm
-43.3	17.6		Dark gray silty SAND with clay laminae			
-45.2	19.5		Dark gray CLAY with silt nodules			
-46.2	20.5		Dark gray-brown organic PEAT layer			
-49.3	23.6		Dark gray silty FINE SAND		4 20.0 23.6	95.6% Sand 2.7% Silt 1.8% Clay Mean: 0.212 mm
-50.4	24.7		Dark gray CLAY			
-51.9	26.2		Dark gray silty FINE SAND		5 24.7 28.5	54.8% Sand 37.1% Silt 8.2% Clay Mean: 0.051 mm
-54.2	28.5		Gray fine SAND with light brown silt and clay laminae			

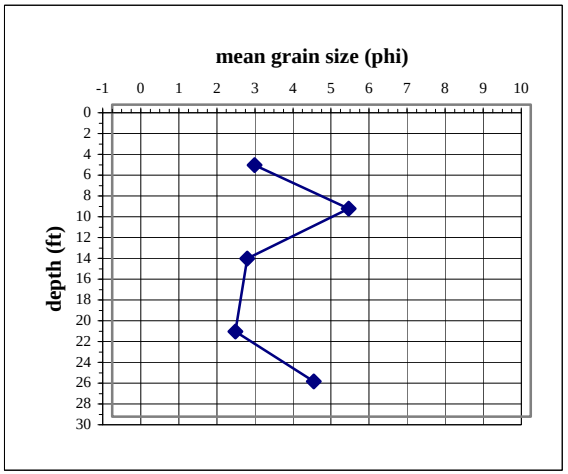
Grainsize Data Table

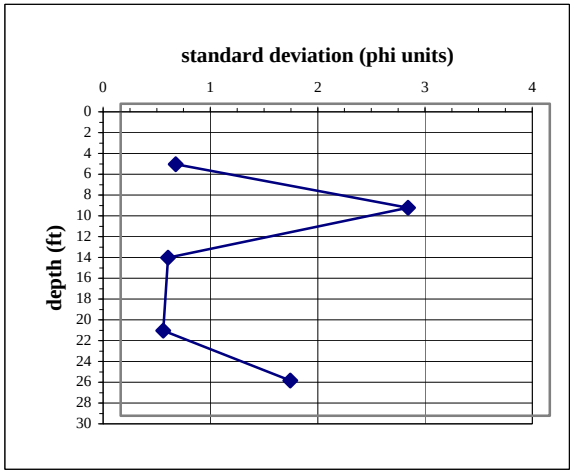
Core ID **VB-20**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-20_036-080	5.8	mm	0.011	0.065	0.105	0.126	0.162	0.196	0.213	0.227	0.243	0.149		90.2	7.4	2.5
		phi	6.5	3.9	3.3	3.0	2.6	2.4	2.2	2.1	2.0	2.7	0.5			
VB-20_080-120	10.0	mm	0.001	0.003	0.004	0.014	0.136	0.165	0.172	0.178	0.186	0.027		68.0	17.0	15.0
		phi	9.6	8.5	7.9	6.2	2.9	2.6	2.5	2.5	2.4	5.2	2.7			
VB-20_120-176	14.8	mm	0.054	0.107	0.126	0.144	0.179	0.216	0.233	0.248	0.266	0.171		94.6	3.6	1.8
		phi	4.2	3.2	3.0	2.8	2.5	2.2	2.1	2.0	1.9	2.5	0.4			
VB-20_200-236	21.8	mm	0.083	0.141	0.161	0.180	0.219	0.260	0.279	0.298	0.318	0.212		95.6	2.7	1.8
		phi	3.6	2.8	2.6	2.5	2.2	1.9	1.8	1.7	1.7	2.2	0.4			
VB-20_247-285	26.6	mm	0.002	0.006	0.017	0.034	0.070	0.127	0.152	0.166	0.178	0.051		54.8	37.1	8.2
		phi	8.8	7.5	5.9	4.9	3.8	3.0	2.7	2.6	2.5	4.3	1.6			
Composite Sample																
VBb-20_CO-036-285	16.1	mm	0.001	0.002	0.004	0.011	0.139	0.188	0.209	0.228	0.251	0.029		64.6	20.0	15.4
		phi	9.7	8.8	7.9	6.5	2.9	2.4	2.3	2.1	2.0	5.1	2.8			







Hole No. VB-03-24

DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1 OF 1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 281,957.5 E 3,757,067.5
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. *(As shown on drawing title and file number)*	VB-03-24
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	29.3
8. RECOVERY (ft)	30.0
9. TOTAL CORE RECOVERY (%)	102.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)*	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 4 / COMPOSITE 2
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/28/03 / COMPLETED 8/28/03
17. ELEVATION TOP OF HOLE	-25.0
18. TOTAL CORE RECOVERY FOR BORING	102 %
19. GEOLOGIST	W. McGuinness

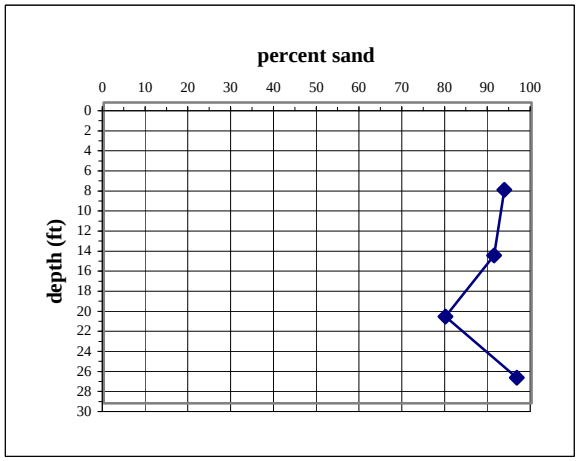
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-25.0	0.0		Dark gray CLAY			Composite Sample 1: 0'-15' 65.3% Sand 18.7% Silt 16.0% Clay Mean : 0.031 mm (See Notes 1 and) Composite Sample 2: 15'-30' 76.6% Sand 12.7% Silt 10.7% Clay Mean: 0.051 mm (See Notes 1 and 2)
-32.4	7.4					
			Dark gray silty FINE SAND		1 7.4 10.0	93.7% Sand 4.0% Silt 2.3% Clay Mean: .0177 mm
-35.0	10.0					
			Dark gray CLAY			
-35.9	10.9					
-36.4	11.4		Dark gray FINE SAND			
			Dark gray CLAY			
-37.7	12.7					
			Dark gray silty FINE SAND		2 12.7 17.6	86.9% Sand 7.7% Silt 5.5% Clay Mean 0.164 mm (See Notes 1 and 2)
					3 17.8 24.9	79.9% Sand 11.0% Silt 9.1% Clay Mean: 0.064 mm
-44.8	19.8					
			Dark gray CLAY			
-46.2	21.2					
-46.9	21.9		Dark gray silty FINE SAND			
-47.2	22.2		Dark gray CLAY			
-47.4	22.4		Dark gray silty FINE SAND			
-48.0	23.0		Dark gray CLAY			
			Dark gray silty FINE SAND			
					4 24.9 30.0	96.6% Sand 2.0% Silt 1.4% Clay Mean: 0.208 mm
-54.2	29.2					

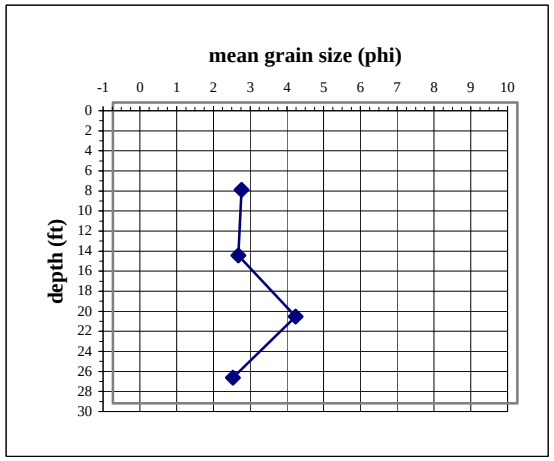
Grainsize Data Table

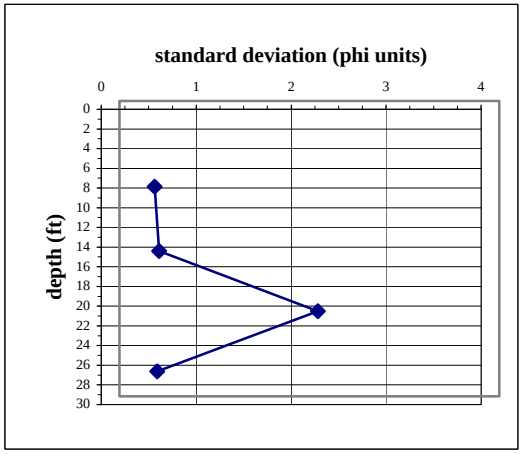
Core ID **VB-24**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-24_074-100	8.7	mm	0.031	0.114	0.137	0.154	0.185	0.215	0.229	0.240	0.253	0.177		93.7	4.0	2.3
		phi	5.0	3.1	2.9	2.7	2.4	2.2	2.1	2.1	2.0	2.5	0.4			
VB-24_127-178	15.3	mm	0.009	0.092	0.141	0.164	0.201	0.235	0.252	0.266	0.280	0.188		91.2	5.4	3.4
		phi	6.9	3.4	2.8	2.6	2.3	2.1	2.0	1.9	1.8	2.4	0.4			
VB-24_178-249	21.4	mm	0.002	0.005	0.015	0.134	0.205	0.252	0.271	0.286	0.304	0.064		79.9	11.0	9.1
		phi	9.0	7.8	6.1	2.9	2.3	2.0	1.9	1.8	1.7	4.0	2.1			
VB-24_249-300	27.5	mm	0.100	0.141	0.158	0.175	0.213	0.254	0.274	0.292	0.313	0.208		96.6	2.0	1.4
		phi	3.3	2.8	2.7	2.5	2.2	2.0	1.9	1.8	1.7	2.3	0.4			
Composite Sample																
VBb-24_CO-000-150	7.5	mm	0.001	0.002	0.004	0.009	0.152	0.211	0.235	0.256	0.282	0.029		63.8	19.3	16.9
		phi	9.8	8.9	8.1	6.8	2.7	2.2	2.1	2.0	1.8	5.1	3.0			
VB-24_CO_150-300	22.5	mm	0.003	0.014	0.123	0.161	0.209	0.253	0.274	0.292	0.311	0.183		87.5	6.4	6.1
		phi	8.4	6.1	3.0	2.6	2.3	2.0	1.9	1.8	1.7	2.4	0.6			







Hole No. VB-03-25

DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1 OF 1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 280,938.3 E 3,758,113.2
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. *(As shown on drawing title and file number)*	VB-03-25
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	28.6
8. RECOVERY (ft)	30.0
9. TOTAL CORE RECOVERY (%)	105.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)*	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 4 / COMPOSITE 1
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/28/03 / COMPLETED 8/28/03
17. ELEVATION TOP OF HOLE	-26.5
18. TOTAL CORE RECOVERY FOR BORING	105 %
19. GEOLOGIST	W. McGuinness

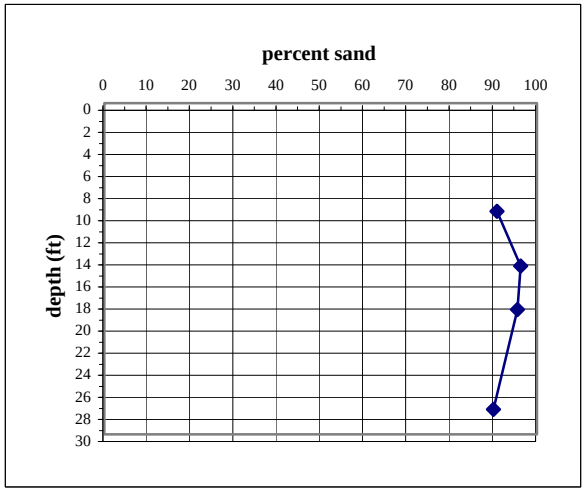
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-26.5	0.0		Dark gray CLAY			Composite Sample 1: 7.6'-19.9' 70.3% Sand 15.3% Silt 14.5% Clay Mean: 0.031 mm
-34.1	7.6					
			Dark gray silty SAND		1 7.6 12.0	90.7% Sand 7.0% Silt 2.3% Clay Mean: 0.165 mm
-39.2	12.7				2 12.0 17.5	96.2% Sand 2.4% Silt 1.4% Clay Mean: 0.196 mm
-39.7	13.2		Dark gray CLAY			
-40.0	13.5		Dark gray silty SAND			
-40.5	14.0		Dark gray CLAY			
			Dark gray silty SAND			
-42.2	15.7					
-42.5	16.0		Dark gray CLAY			
			Dark gray silty SAND			
-44.0	17.5					
-44.3	17.8		Dark gray CLAY		3 17.5 19.9	95.5% Sand 2.9% Silt 1.7% Clay Mean: 0.192 mm
			Dark gray silty SAND			
-46.4	19.9					
			Dark gray CLAY			
-47.5	21.0					
-47.7	21.2		Dark gray silty SAND			
			Dark gray CLAY with shell fragments			
-51.6	25.1					
			Dark gray silty SAND		4 25.1 28.6	90.0% Sand 7.6% Silt 2.4% Clay Mean: 0.164 mm
-55.1	28.6					

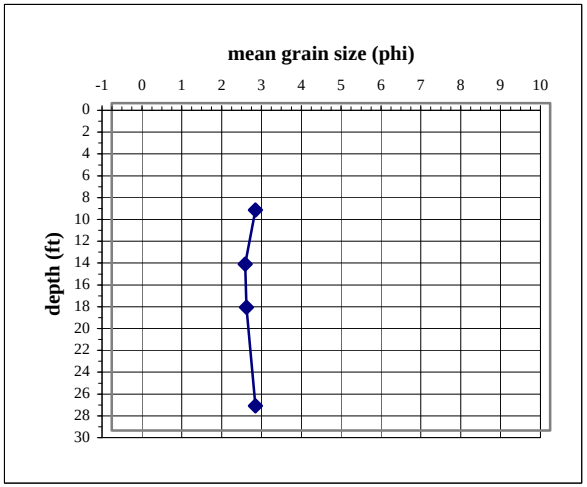
Grainsize Data Table

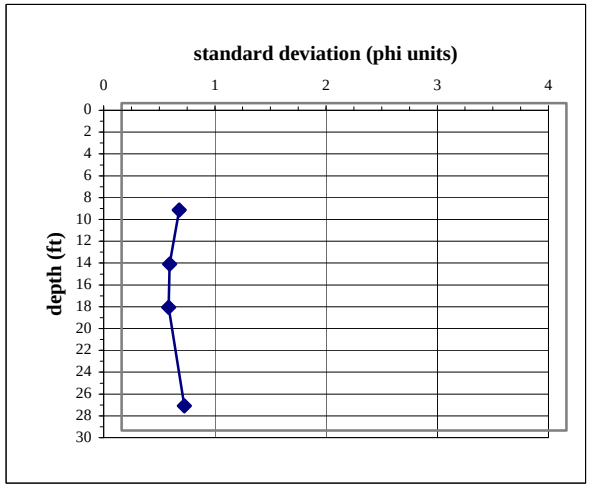
Core ID **VB-25**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-25_076-120	9.8	mm	0.012	0.074	0.115	0.140	0.186	0.223	0.236	0.246	0.255	0.165		90.7	7.0	2.3
		phi	6.4	3.8	3.1	2.8	2.4	2.2	2.1	2.0	2.0	2.6	0.5			
VB-25_120-175	14.8	mm	0.092	0.127	0.145	0.164	0.203	0.244	0.264	0.281	0.303	0.196		96.2	2.4	1.4
		phi	3.4	3.0	2.8	2.6	2.3	2.0	1.9	1.8	1.7	2.4	0.4			
VB-25_175-199	18.7	mm	0.070	0.121	0.143	0.163	0.202	0.240	0.257	0.273	0.291	0.192		95.5	2.9	1.7
		phi	3.8	3.0	2.8	2.6	2.3	2.1	2.0	1.9	1.8	2.4	0.4			
VB-25_251-304	27.8	mm	0.022	0.063	0.111	0.139	0.185	0.225	0.243	0.256	0.273	0.164		90.0	7.6	2.4
		phi	5.5	4.0	3.2	2.8	2.4	2.2	2.0	2.0	1.9	2.6	0.6			
Composite Sample																
VB-25_CO_076-199	13.8	mm	0.001	0.003	0.005	0.017	0.164	0.201	0.212	0.222	0.231	0.031		70.3	15.3	14.5
		phi	9.8	8.6	7.8	5.9	2.6	2.3	2.2	2.2	2.1	5.0	2.8			







DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1 OF 1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 282,503.5 E 3,756,579.0
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. (As shown on drawing title and file number)	VB-03-26
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	29.6
8. RECOVERY (ft)	30.0
9. TOTAL CORE RECOVERY (%)	101.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 4 / COMPOSITE 1
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/29/03 / COMPLETED 8/29/03
17. ELEVATION TOP OF HOLE	-24.1
18. TOTAL CORE RECOVERY FOR BORING	101 %
19. GEOLOGIST	W. McGuinness

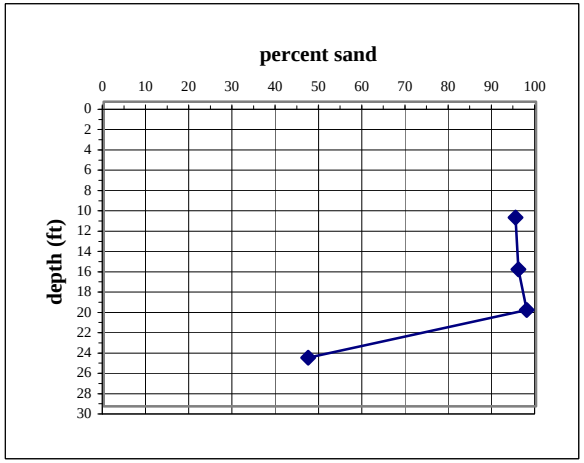
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-24.1	0.0		Sample Washed Out, assumed to be CLAY			Composite Sample 1: 9.8'-29.6' 75.8% Sand 14.1% Silt 10.0% Clay Mean: 0.051 mm
-33.9	9.8					
-36.1	12.0		Dark gray silty SAND		1 9.8 13.0	95.3% Sand 3.3% Silt 1.4% Clay Mean: 0.164 mm
-38.1	14.0		Dark gray CLAY			
-46.2	22.1		Dark gray silty fine SAND, with trace clay in thin lenses		2 14.0 19.0	95.9% Sand 2.7% Silt 1.3% Clay Mean: 0.199 mm
-48.1	24.0		Dark gray CLAY		3 19.0 24.0	97.9% Sand 1.2% Silt 0.8% Clay Mean: 0.212 mm
-50.2	26.1		Dark gray silty FINE SAND		4 24.0 29.6	47.3% Sand 40.6% Silt 12.1% Clay Mean: 0.036 mm
-50.5	26.4		Dark gray-brown PEAT			
-53.7	29.6		Dark gray silty FINE SAND			

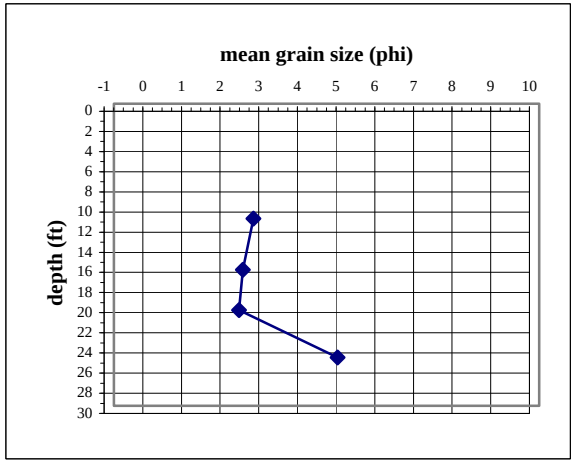
Grainsize Data Table

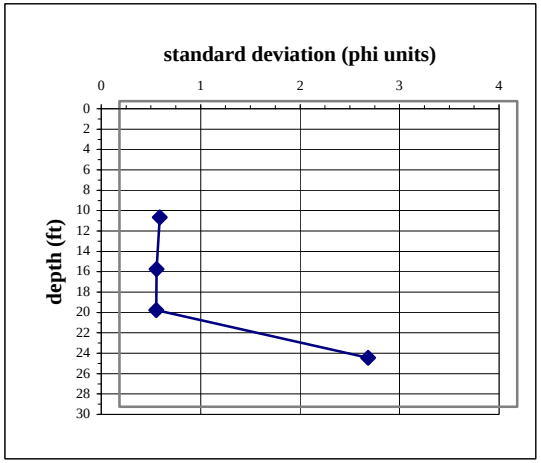
Core ID **VB-26**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-26_098-130	11.4	mm	0.067	0.107	0.124	0.139	0.170	0.202	0.217	0.231	0.248	0.164		95.3	3.3	1.4
		phi	3.9	3.2	3.0	2.8	2.6	2.3	2.2	2.1	2.0	2.6	0.4			
VB-26_140-190	16.5	mm	0.085	0.136	0.153	0.170	0.205	0.241	0.257	0.273	0.292	0.199		95.9	2.7	1.3
		phi	3.6	2.9	2.7	2.6	2.3	2.1	2.0	1.9	1.8	2.3	0.4			
VB-26_190-220	20.5	mm	0.134	0.151	0.164	0.180	0.215	0.254	0.275	0.293	0.314	0.212		97.9	1.2	0.8
		phi	2.9	2.7	2.6	2.5	2.2	2.0	1.9	1.8	1.7	2.2	0.4			
VB-26_240-264	25.2	mm	0.001	0.003	0.006	0.015	0.055	0.191	0.206	0.216	0.228	0.036		47.3	40.6	12.1
		phi	9.5	8.3	7.3	6.0	4.2	2.4	2.3	2.2	2.1	4.8	2.5			
Composite Sample																
VBb-26_CO-098-264.$	17.9	mm	0.002	0.004	0.010	0.085	0.178	0.228	0.253	0.277	0.313	0.051		75.8	14.1	10.0
		phi	9.1	8.0	6.6	3.6	2.5	2.1	2.0	1.9	1.7	4.3	2.3			







DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1
OF	1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 281,012.0 E 3,759,177.7
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. (As shown on drawing title and file number)	VB-03-27
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	24.5
8. RECOVERY (ft)	24.7
9. TOTAL CORE RECOVERY (%)	101.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 4 / COMPOSITE 1
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/30/03 / COMPLETED 8/30/03
17. ELEVATION TOP OF HOLE	-25.7
18. TOTAL CORE RECOVERY FOR BORING	101 %
19. GEOLOGIST	W. McGuinness

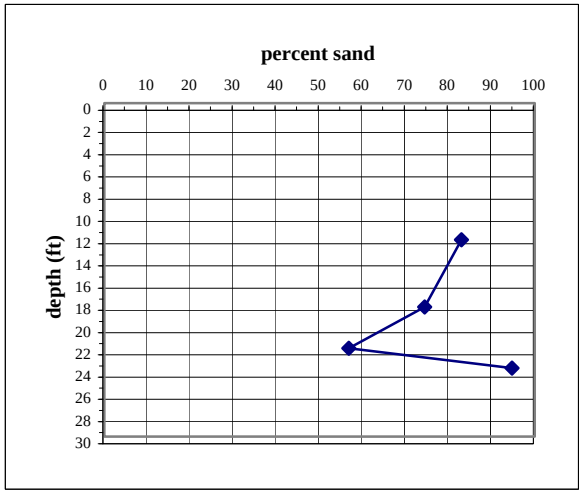
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-25.7	0.0		Dark gray CLAY			Composite Sample 1: 9.6'-24.5' 93.4% Sand 4.4% Silt 2.2% Clay Mean: 0.163 mm
-29.2	3.5					
-30.0	4.3		Dark gray silty CLAY, some fine Sand			
-31.3	5.6		Dark gray CLAY			
-31.8	6.1		Dark gray silty CLAY, some fine Sand			
-33.5	7.8		Dark gray CLAY			
-34.4	8.7		Dark gray silty FINE SAND			
-34.7	9.0		Dark gray CLAY			
-34.9	9.2		Dark gray silty FINE SAND			
-35.3	9.6		Dark gray CLAY Dark gray silty FINE SAND		1 9.6 15.0	83.0% Sand 10.7% Silt 6.3% Clay Mean: 0.095 mm
-47.4	21.7				2 15.0 21.7	74.4% Sand 16.1% Silt 9.5% Clay Mean: 0.039 mm
-48.1	22.4		Dark brown PEAT layer		3 21.7 22.4	56.8% Sand 29.8% Silt 13.4% Clay Mean: 0.031 mm
-50.2	24.5		Dark gray silty fine SAND		4 22.4 24.5	94.7% Sand 3.3% Silt 1.9% Clay Mean: 0.170 mm

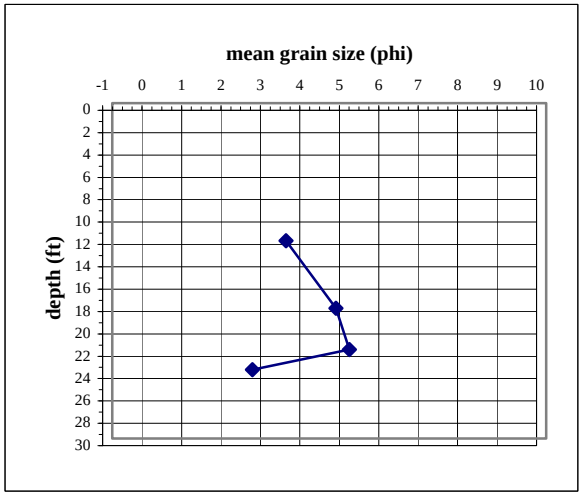
Grainsize Data Table

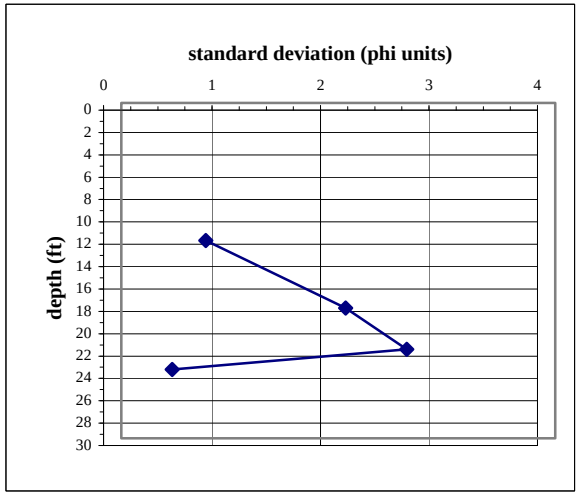
Core ID **VB-27**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-27_096-150	12.3	mm	0.003	0.010	0.055	0.092	0.124	0.151	0.162	0.171	0.179	0.095		83.0	10.7	6.2
		phi	8.3	6.7	4.2	3.4	3.0	2.7	2.6	2.6	2.5	3.4	0.8			
VB-27_150-217	18.4	mm	0.002	0.004	0.009	0.058	0.125	0.154	0.164	0.172	0.179	0.039		74.4	16.1	9.5
		phi	8.9	7.9	6.7	4.1	3.0	2.7	2.6	2.5	2.5	4.7	2.1			
VB-27_217-224	22.1	mm	0.002	0.003	0.005	0.012	0.096	0.171	0.192	0.205	0.217	0.031		56.8	29.8	13.4
		phi	9.4	8.4	7.6	6.4	3.4	2.5	2.4	2.3	2.2	5.0	2.6			
VB-27_224-253	23.9	mm	0.057	0.103	0.123	0.141	0.179	0.218	0.235	0.252	0.271	0.170		94.7	3.3	1.9
		phi	4.1	3.3	3.0	2.8	2.5	2.2	2.1	2.0	1.9	2.6	0.5			
Composite Sample																
VB-27_CO_096-253	17.5	mm	0.007	0.064	0.104	0.125	0.163	0.200	0.218	0.233	0.253	0.150		90.1	6.3	3.5
		phi	7.1	4.0	3.3	3.0	2.6	2.3	2.2	2.1	2.0	2.7	0.5			







Hole No. VB-03-28

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration (BA-35)	10. SIZE AND TYPE OF BIT
2. LOCATION (Coordinates or Station): N 281,471.9 E 3,756,926.0	11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)*: MLLW
3. DRILLING AGENCY: Alpine Ocean Seismic Survey	12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
4. HOLE NO. *(As shown on drawing title and file number)*: VB-03-28	13. TOTAL NO. OF SAMPLES TAKEN — INTERVAL: 3 — COMPOSITE: 1
5. NAME OF DRILLER: J. Cole	14. TOTAL NUMBER CORE BOXES: 0
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.	15. ELEVATION GROUND WATER
7. PENETRATION (ft): 29.9	16. DATE HOLE — STARTED: 8/29/03 — COMPLETED: 8/29/03
8. RECOVERY (ft): 26.4	17. ELEVATION TOP OF HOLE: -24.9
9. TOTAL CORE RECOVERY (%): 88.0	18. TOTAL CORE RECOVERY FOR BORING: 88 %
	19. GEOLOGIST: W. McGuinness

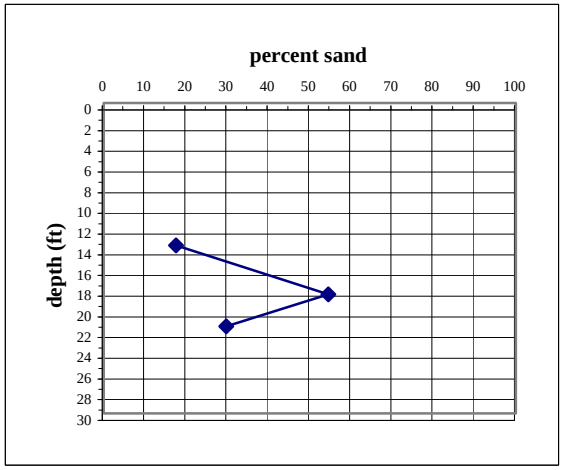
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS *(Drilling time, water loss, depth weathering, etc., if significant)* g
-24.9	0.0		Dark gray CLAY			Composite 1: 10'-23.7' 50.7% Sand 38.8% Silt 10.5% Clay Mean: 0.035 mm
-33.4	8.5		Dark gray silty CLAY			
-34.9	10.0		Dark gray clayey SILT, some fine sand		1 10.0 17.5	17.5% Sand 60.1% Silt 22.3% Clay Mean: 0.013 mm
-42.4	17.5		Dark gray silty SAND		2 17.5 19.5	54.5% Sand 35.2% Silt 10.3% Clay Mean: 0.033 mm
-44.4	19.5		Dark gray sandy SILT		3 19.5 23.7	29.8% Sand 54.2% Silt 16.0% Clay Mean: 0.018 mm
-48.6	23.7		Dark gray silty CLAY			
-51.3	26.4					

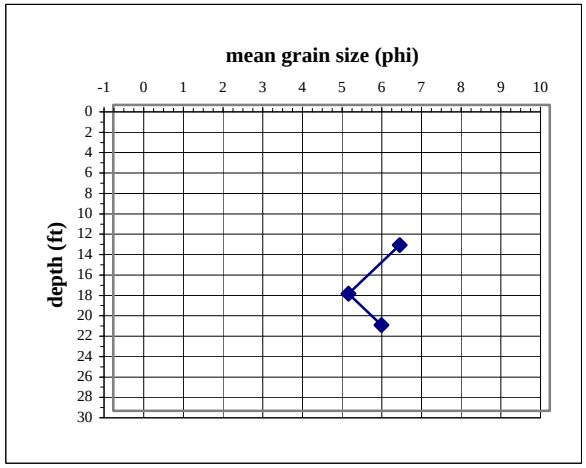
Grainsize Data Table

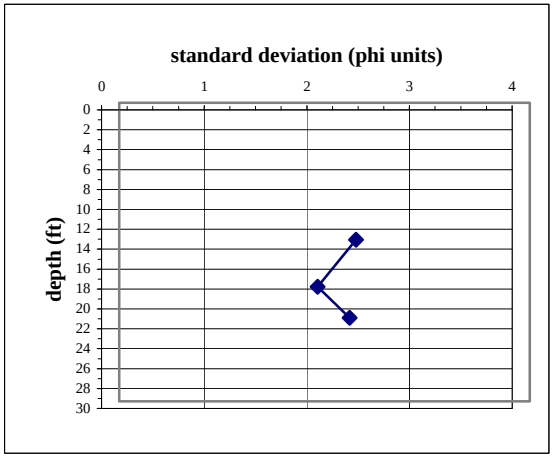
Core ID **VB-28**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-28_100-175	13.8	mm	0.001	0.002	0.003	0.005	0.020	0.049	0.066	0.087	0.114	0.013		17.5	60.1	22.3
		phi	10.2	9.3	8.5	7.7	5.6	4.4	3.9	3.5	3.1	6.2	2.3			
VB-28_175-195	18.5	mm	0.002	0.004	0.009	0.024	0.069	0.106	0.125	0.142	0.157	0.033		54.5	35.2	10.3
		phi	9.1	8.0	6.9	5.4	3.8	3.2	3.0	2.8	2.7	4.9	1.9			
VB-28_195-237	21.6	mm	0.001	0.002	0.004	0.009	0.037	0.070	0.087	0.103	0.119	0.018		29.8	54.2	16.0
		phi	9.8	8.7	8.0	6.9	4.7	3.8	3.5	3.3	3.1	5.8	2.2			
Composite Sample																
VBb-28_CO-100-237	16.9	mm	0.002	0.004	0.009	0.025	0.064	0.113	0.137	0.161	0.196	0.035		50.7	38.8	10.5
		phi	9.2	8.1	6.8	5.3	4.0	3.1	2.9	2.6	2.4	4.8	2.0			







Hole No. VB-03-29

DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1 OF 1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 280,036.9 E 3,758,934.3
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. *(As shown on drawing title and file number)*	VB-03-29
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	29.7
8. RECOVERY (ft)	24.1
9. TOTAL CORE RECOVERY (%)	81.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)*	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 4 / COMPOSITE 1
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/23/03 / COMPLETED 8/23/03
17. ELEVATION TOP OF HOLE	-29.6
18. TOTAL CORE RECOVERY FOR BORING	81 %
19. GEOLOGIST	W. McGuinness

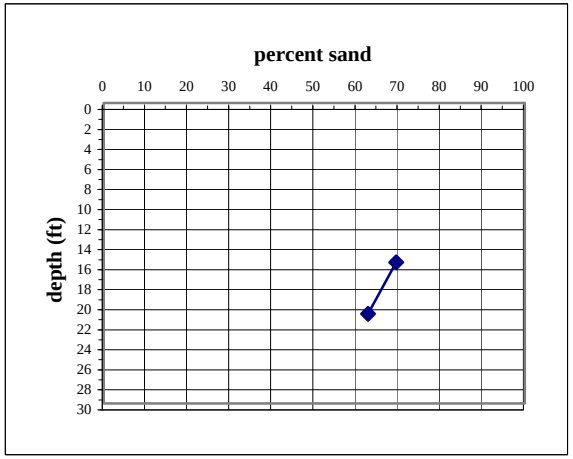
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS *(Drilling time, water loss, depth weathering, etc., if significant)* g
-29.6	0.0		Dark gray CLAY			Composite Sample 1: 13.8'-24.1' 79.4% Sand 16.6% Silt 4.1% Clay Mean: 0.102 mm
-43.4	13.8		Dark gray silty SAND		1 13.8 18.1	69.5% Sand 21.5% Silt 9.0% Clay Mean: 0.041 mm
-53.7	24.1				2 18.1 24.1	62.7% Sand 27.1% Silt 10.2% Clay Mean: 0.039 mm

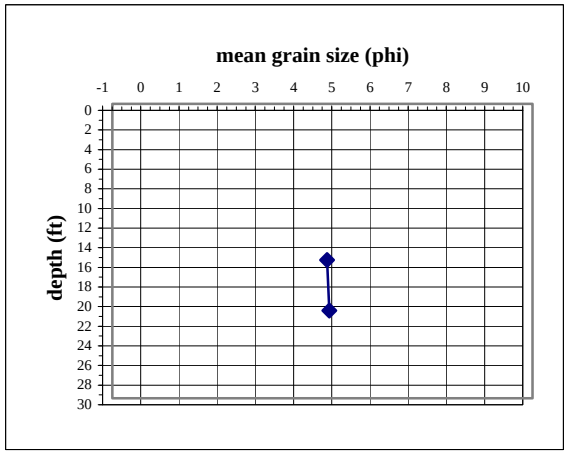
Grainsize Data Table

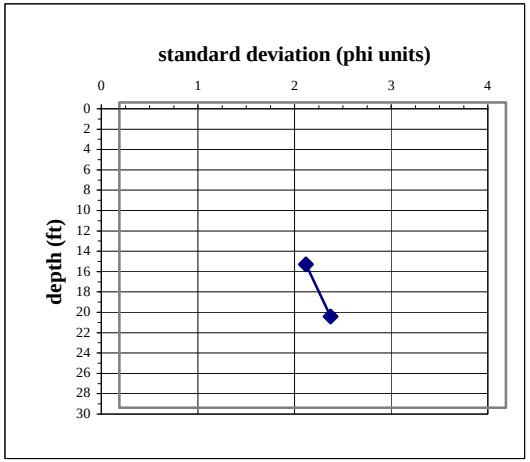
Core ID **VB-29**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-29_138-180	15.9	mm	0.002	0.004	0.011	0.040	0.106	0.141	0.155	0.167	0.182	0.041		69.5	21.5	9.0
		phi	8.9	7.8	6.5	4.6	3.2	2.8	2.7	2.6	2.5	4.6	1.9			
VB-29_180-241	21.1	mm	0.002	0.004	0.009	0.028	0.106	0.161	0.178	0.192	0.208	0.039		62.7	27.1	10.2
		phi	9.1	8.0	6.9	5.2	3.2	2.6	2.5	2.4	2.3	4.7	2.2			
Composite Sample																
VBb-29_CO-138-241	19.0	mm	0.006	0.029	0.049	0.074	0.126	0.181	0.211	0.242	0.289	0.102		79.4	16.6	4.1
		phi	7.5	5.1	4.3	3.8	3.0	2.5	2.2	2.0	1.8	3.3	1.0			







Hole No. VB-03-30

DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1 OF 1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 280,032.6 E 3,758,201.9
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. *(As shown on drawing title and file number)*	VB-03-30
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	28.8
8. RECOVERY (ft)	30.0
9. TOTAL CORE RECOVERY (%)	107.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)*	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 4 / COMPOSITE 1
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/23/03 / COMPLETED 8/23/03
17. ELEVATION TOP OF HOLE	-29.6
18. TOTAL CORE RECOVERY FOR BORING	107 %
19. GEOLOGIST	W. McGuinness

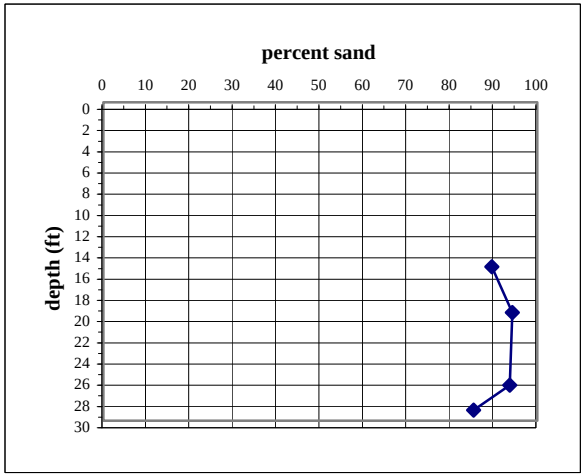
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS *(Drilling time, water loss, depth weathering, etc., if significant)* g
-29.6	0.0		Soft dark gray silty CLAY			Composite 13.4'-28.2' 67.4% Sand 25.2% Silt 17.7% Clay Mean: 0.070 mm (See Notes 1 and 2)
-43.0	13.4					
-43.8	14.2		Dark gray fine SAND		1 13.4 17.6	89.5% Sand 8.4% Silt 2.2% Clay Mean: 0.128 mm
-44.6	15.0		Dark gray sandy SILT			
			Dark gray fine SAND		2 17.6 22.0	94.3% Sand 3.8% Silt 1.8% Clay Mean: 0.156 mm
-52.7	23.1					
-54.7	25.1		Dark gray sandy SILT			
-57.8	28.2		Dark gray fine SAND		3 25.1 28.2	93.7% Sand 5.0% Silt 1.4% Clay Mean: 0.179 mm
-59.6	30.0		Dark gray silty SAND		4 28.2 30.0	85.3% Sand 11.3% Silt 3.4% Clay Mean: 0.123 mm

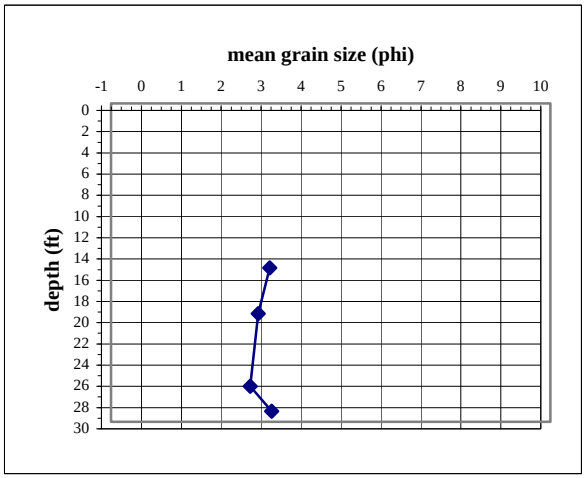
Grainsize Data Table

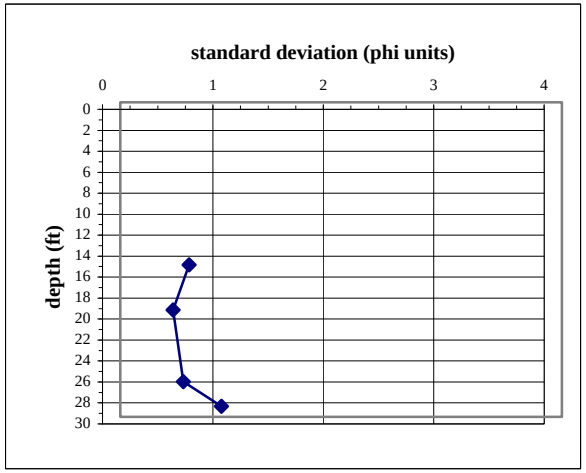
Core ID **VB-30**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-30_134-176	15.5	mm	0.013	0.059	0.083	0.102	0.139	0.179	0.197	0.209	0.223	0.128		89.5	8.4	2.2
		phi	6.2	4.1	3.6	3.3	2.8	2.5	2.3	2.3	2.2	3.0	0.6			
VB-30_176-220	19.8	mm	0.052	0.094	0.112	0.129	0.165	0.201	0.217	0.231	0.247	0.156		94.3	3.8	1.8
		phi	4.3	3.4	3.2	3.0	2.6	2.3	2.2	2.1	2.0	2.7	0.5			
VB-30_251-282	26.7	mm	0.042	0.098	0.120	0.142	0.190	0.242	0.266	0.285	0.308	0.179		93.7	5.0	1.4
		phi	4.6	3.4	3.1	2.8	2.4	2.0	1.9	1.8	1.7	2.5	0.6			
VB-30_280-300	29.0	mm	0.007	0.047	0.065	0.079	0.122	0.196	0.232	0.262	0.297	0.123		85.3	11.3	3.4
		phi	7.1	4.4	3.9	3.7	3.0	2.4	2.1	1.9	1.8	3.0	0.9			
Composite Sample																
VB-30_CO_134-282	20.8	mm	0.012	0.059	0.088	0.112	0.157	0.201	0.220	0.235	0.252	0.139		89.3	7.8	2.8
		phi	6.4	4.1	3.5	3.2	2.7	2.3	2.2	2.1	2.0	2.8	0.7			







Hole No. VB-03-31

DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1 OF 1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 280,049.9 E 3,759,730.9
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. (As shown on drawing title and file number)	VB-03-31
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	27.4
8. RECOVERY (ft)	29.2
9. TOTAL CORE RECOVERY (%)	106.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 5 / COMPOSITE 1
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/29/03 / COMPLETED 8/29/03
17. ELEVATION TOP OF HOLE	-28.2
18. TOTAL CORE RECOVERY FOR BORING	106 %
19. GEOLOGIST	W. McGuinness

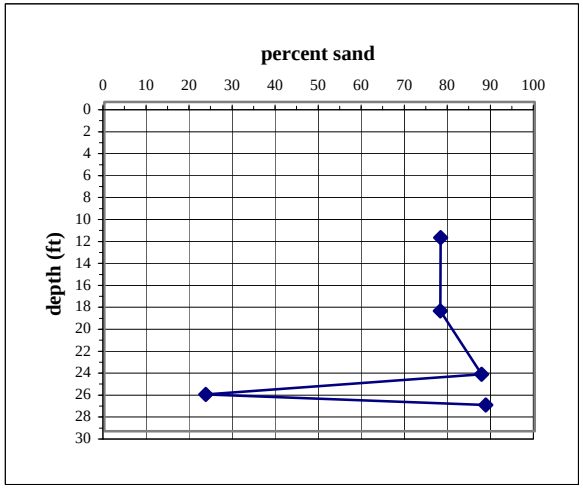
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-28.2	0.0		Soft dark gray clay			Composite sample 9'-28.4' 67.6% Sand 19.1% Silt 13.4% Clay Mean: 0.034 mm
-37.2	9.0					
-38.2	10.0		Dark gray fine Sand		1 9.0 15.7	78.1% Sand 12.7% Silt 9.3% Clay Mean: 0.052 mm
-39.0	10.8		Lens of dark gray Clay			
-40.3	12.1		Dark gray fine Sand			
-41.1	12.9		Lens of dark gray Clay			
-43.9	15.7		Dark gray fine Sand			
-44.5	16.3		Lens of dark gray Clay			
-50.0	21.8		Dark gray fine Sand		2 16.3 21.8	78.1% Sand 11.7% Silt 10.2% Clay Mean: 0.048 mm
-51.3	23.1		Dark gray Clay			
-54.7	26.5		Dark gray fine Sand		3 23.1 26.5	87.7% Sand 9.2% Silt 3.1% Clay Mean: 0.175 mm
-55.0	26.8		Dark brown Peat layer		4 26.5 26.8	23.6% Sand 52.2% Silt 3.1% Clay Mean: 0.016 mm
-56.6	28.4		Dark gray fine Sand		5 26.8 28.4	88.6% Sand 7.4% Silt 4.0% Clay Mean: 0.148 mm

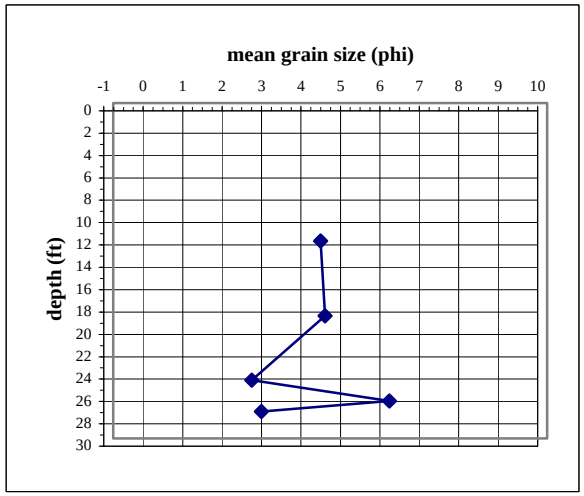
Grainsize Data Table

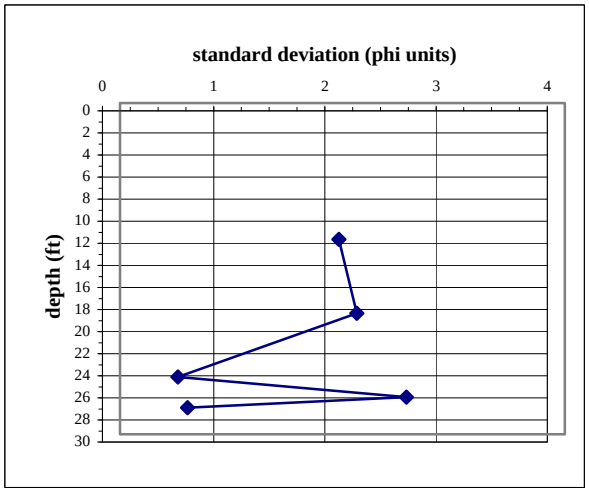
Core ID **VB-31**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-31_090-157	12.4	mm	0.002	0.004	0.013	0.107	0.169	0.195	0.204	0.211	0.221	0.052		78.1	12.7	9.3
		phi	9.0	7.8	6.2	3.2	2.6	2.4	2.3	2.2	2.2	4.3	2.0			
VB-31_163-218	19.1	mm	0.002	0.004	0.011	0.104	0.176	0.202	0.212	0.221	0.230	0.048		78.1	11.7	10.2
		phi	9.2	8.0	6.5	3.3	2.5	2.3	2.2	2.2	2.1	4.4	2.1			
VB-31_231-265	24.8	mm	0.007	0.032	0.122	0.157	0.200	0.237	0.252	0.264	0.277	0.175		87.7	9.2	3.1
		phi	7.1	5.0	3.0	2.7	2.3	2.1	2.0	1.9	1.9	2.5	0.5			
VB-31_265-268	26.7	mm	0.001	0.002	0.003	0.004	0.016	0.058	0.093	0.123	0.142	0.016		23.6	52.2	24.2
		phi	10.2	9.3	8.6	7.9	5.9	4.1	3.4	3.0	2.8	6.0	2.6			
VB-31_268-284	27.6	mm	0.006	0.044	0.097	0.122	0.163	0.205	0.225	0.242	0.260	0.148		88.6	7.4	4.0
		phi	7.5	4.5	3.4	3.0	2.6	2.3	2.2	2.0	1.9	2.8	0.6			
Composite Sample																
VB-31_CO_090-284	18.7	mm	0.001	0.003	0.005	0.017	0.163	0.205	0.217	0.227	0.235	0.034		67.6	19.1	13.4
		phi	9.5	8.5	7.6	5.9	2.6	2.3	2.2	2.1	2.1	4.9	2.7			







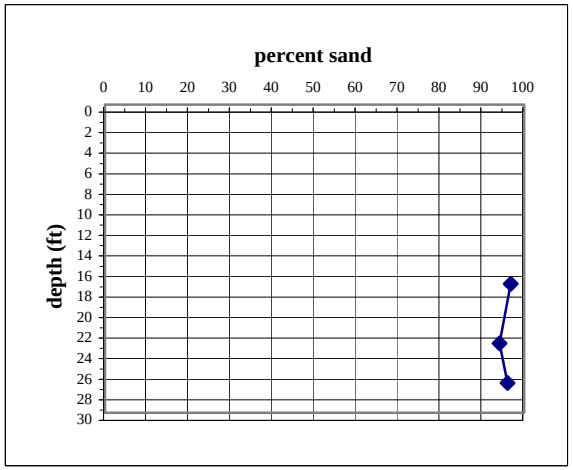
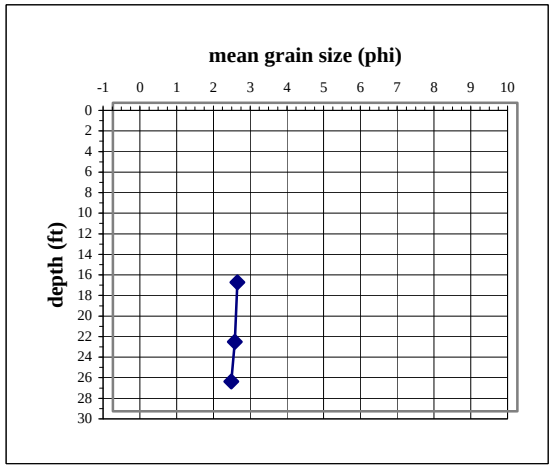
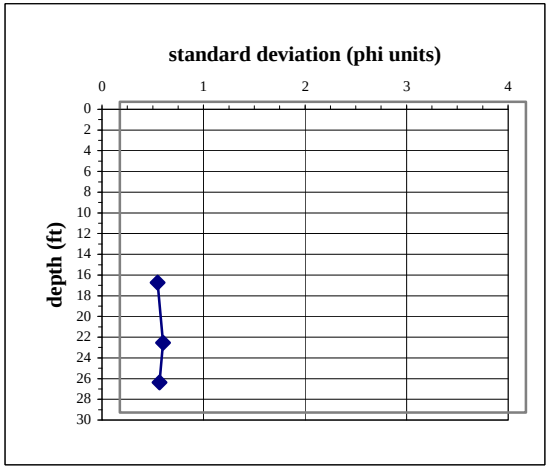
DRILLING LOG

DIVISION	
INSTALLATION	
SHEET	1 OF 1 SHEETS
1. PROJECT	Barrier Island Restoration (BA-35)
2. LOCATION (Coordinates or Station)	N 284,522.4 E 3,755,244.6
3. DRILLING AGENCY	Alpine Ocean Seismic Survey
4. HOLE NO. (As shown on drawing title and file number)	VB-03-33
5. NAME OF DRILLER	J. Cole
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. PENETRATION (ft)	26.4
8. RECOVERY (ft)	29.2
9. TOTAL CORE RECOVERY (%)	111.0
10. SIZE AND TYPE OF BIT	
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Vibracore
13. TOTAL NO. OF SAMPLES TAKEN	INTERVAL 3 / COMPOSITE 2
14. TOTAL NUMBER CORE BOXES	0
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 8/29/03 / COMPLETED 8/29/03
17. ELEVATION TOP OF HOLE	-19.8
18. TOTAL CORE RECOVERY FOR BORING	111 %
19. GEOLOGIST	W. McGuinness

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	Sample No. Depth Interval, ft. f	REMARKS (Drilling time, water loss, depth weathering, etc., if significant) g
-19.8	0.0		Dark gray Clay			Composite 1, 5'-15' 59.3% Sand 24.1% Silt 16.6% Clay Mean: 0.027 mm (See Notes 1 and 2) Composite 2, 15'-29.2' 82.6% Sand 8.9% Silt 8.7% Clay Mean: 0.086 mm (See Notes 1 and 2)
-24.6	4.8					
-25.5	5.7		Very soft Dark gray Clay			
-27.1	7.3		Dark gray Clay			
-27.5	7.7		Dark gray silty Sand			
-27.9	8.1		Dark gray Clay			
-29.6	9.8		Dark gray fine Sand with Silt			
-30.1	10.3		Dark gray Clay			
-30.7	10.9		Dark gray fine Sand			
-31.1	11.3		Dark gray Clay			
-31.9	12.1		Dark gray fine Sand			
-32.0	12.2		Dark gray Clay			
-32.5	12.7		Dark gray fine Sand			
-34.0	14.2		Dark gray Clay			
-40.5	20.7		Dark gray fine Sand		1 14.2 20.7	96.8% Sand 2.3% Silt 0.9% Clay Mean: 0.191 mm
-41.3	21.5		Dark gray Clay			
-49.0	29.2		Dark gray fine Sand		2 21.5 25.0	94.1% Sand 3.6% Silt 2.4% Clay Mean: 0.201 mm
					3 25.0 29.2	96.0% Sand 2.5% Silt 1.5% Clay Mean: 0.215 mm

Grainsize Data Table

Core ID **VB-33**

Alpine Ocean Seismic Survey /UNO Coastal Research Laboratory

Sample I.D.	Sample mdpt depth (ft)	Units	5% sample finer than	10% sample finer than	16% sample finer than	25% sample finer than	50% sample finer than	75% sample finer than	84% sample finer than	90% sample finer than	95% sample finer than	Sample Mean	Standard Deviation	%Sand	%Silt	%Clay
VB-33_142-207	17.5	mm	0.101	0.134	0.148	0.163	0.195	0.230	0.247	0.262	0.279	0.191		96.8	2.3	0.9
		phi	3.3	2.9	2.8	2.6	2.4	2.1	2.0	1.9	1.8	2.4	0.4			
VB-33_215-250	23.3	mm	0.039	0.122	0.149	0.171	0.211	0.251	0.270	0.285	0.304	0.201		94.1	3.6	2.4
		phi	4.7	3.0	2.7	2.6	2.2	2.0	1.9	1.8	1.7	2.3	0.4			
VB-33_250-292	27.1	mm	0.088	0.143	0.164	0.183	0.222	0.263	0.281	0.300	0.320	0.215		96.0	2.5	1.5
		phi	3.5	2.8	2.6	2.5	2.2	1.9	1.8	1.7	1.6	2.2	0.4			
Composite Sample																
VBb-33_CO-050-150	10.0	mm	0.001	0.002	0.003	0.007	0.131	0.187	0.209	0.228	0.251	0.026		59.3	22.7	18.0
		phi	9.8	9.0	8.2	7.2	2.9	2.4	2.3	2.1	2.0	5.2	3.0			
VBb-33_CO-150-293	22.2	mm	0.024	0.125	0.152	0.174	0.216	0.262	0.287	0.310	0.350	0.209		93.9	3.5	2.7
		phi	5.4	3.0	2.7	2.5	2.2	1.9	1.8	1.7	1.5	2.3	0.5