

DRILLING LOG		DIVISION: South Atlantic		INSTALLATION: Jacksonville District		SHEET 1 of 1	
1. PROJECT		CENTRAL BOCA SAND STUDY		10. SIZE AND TYPE OF BIT 3 5/8"			
(Coordinates or Station)				11. DATUM FOR ELEVATION SHOWN (TBM or MSL)			
2. LOCATION		X=964027.79 Y=735449.64		MLW			
3. DRILLING AGENCY: Alpine Ocean Seismic Survey Inc.				12. MANUFACTURER'S DESIGNATION OF DRILL		ALPINE PNEUMATIC VIBRACORE	
4. HOLE NO. (As shown on drawing title and file number)		CIVC-00-10		13. TOT NO. OF OVERBURDEN SAMPLES TAKEN		Disturbed: 0 Undisturbed: 0	
5. NAME OF DRILLER		JAMES COLE		14. TOTAL NO. OF CORE BOXES			
6. DIRECTION OF HOLE		VERTICAL		15. ELEVATION GROUND WATER			
7. THICKNESS OF BURDEN 0.0 FT				16. DATE HOLE		Started Completed	
8. DEPTH DRILLED INTO ROCK N/A				3/22/01		12:29	
9. TOTAL DEPTH OF HOLE 19.9 FT				17. ELEVATION TOP OF HOLE -58.8 ft			
				18. TOTAL CORE RECOVERY FOR BORING 98%			
				19. SIGNATURE OF GEOLOGIST		MW/TT	

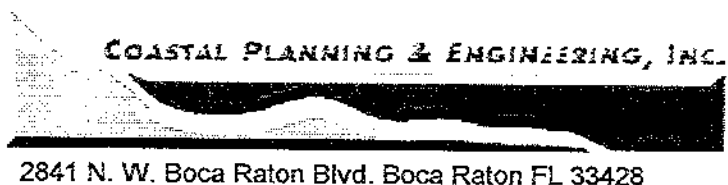
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-58.8	0					
-60.4	1		SAND, fine to medium grained, trace shell hash, gray (5Y-5/1), (SP).		2	
-61.3	2		SAND medium to fine grained, some shell hash, gray (5Y 5/1), (SP).		1	Sample #1, Depth = 2.0' Mean (mm): 0.41, Phi Sorting: 1.97 Silt: 3.4% (SW)
-65.9	3					
	4					
	5		SAND fine to medium grained, trace shell hash, gray (5Y 5/1), (SP).		2	Sample #2, Depth = 6.0' Mean (mm): 0.22, Phi Sorting: 0.83 Silt: 2.30% (SP)
	6					
	7					
	8					
	9					
	10					
	11				3	Sample #3, Depth = 13.0' Mean (mm): 0.20, Phi Sorting: 0.89 Silt: 2.71% (SP)
	12					
	13		fine to medium grained sand, trace shell hash, gray (5Y 5/1), (SP) from 7.1' to 19.0'. 1.5" coral @ 14.1', 1.5" coral @ 14.1', 1" shell, one 2" and two 1" coral fragments @ 15.2' to 15.4'.			
	14					
	15					
	16					
	17				4	Sample #4, Depth = 13.0' Mean (mm): 0.20, Phi Sorting: 0.89 Silt: 4.02% (SP)
	18					
-77.8	19					
-78.7	20		CORAL AND ROCK FRAGMENTS mixed with medium to fine grained sand, gray (5Y 5/1), (GP) from 19.0' to 19.4'.			
	21		No Recovery			
	22		End of Boring			
	23					
	24		Note: 1) Soils are field visually classified in accordance with the Unified Soil Classification System.			
	25					
	26					

PROJECT: Central Boca Sand Study	HOLE NUMBER:
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# Gradation Analysis Report

Proj Name: Central Boca  
Sample: CBVC-01-10#1  
Date: 3/30/01  
By: ID



Elevation:	-60.80	Feet	Easting:	964027.79	State Plane	1983
Reference:	NGVD		Northing:	735449.64	FLA East	Feet

USCS:	SW	Munsell Dry:	5Y 6/1	Munsell Wet:	5Y 6/1
Comments:	0				

Dry Wt.	66.57	Percent Silt:	3.40
Wash Wt.	64.34		

Sieve Size	PHI Size	mm Size	Grams Retained	% Weight Retained	Cum. Grams Retained	C % Weight Retained
3/4	-4.250	19.027	0.000	0.000	0.000	0.000
5/8	-4.000	16.000	0.000	0.000	0.000	0.000
5/16	-3.250	9.514	0.000	0.000	0.000	0.000
4	-3.000	8.000	0.730	1.097	0.730	1.097
5	-2.000	4.000	0.660	0.991	1.390	2.088
7	-1.500	2.828	3.200	4.807	4.590	6.895
10	-1.000	2.000	4.470	6.715	9.060	13.610
14	-0.500	1.414	3.640	5.468	12.700	19.078
18	0.000	1.000	2.320	3.485	15.020	22.563
25	0.500	0.707	2.220	3.335	17.240	25.898
35	1.000	0.500	2.160	3.245	19.400	29.142
45	1.500	0.354	2.580	3.876	21.980	33.018
60	2.000	0.250	6.630	9.959	28.610	42.977
80	2.500	0.177	14.600	21.932	43.210	64.909
120	3.000	0.125	18.200	27.340	61.410	92.249
170	3.500	0.088	2.780	4.176	64.190	96.425
200	3.750	0.074	0.110	0.165	64.300	96.590
230	4.000	0.063	0.020	0.030	64.320	96.620
Pan	Pan	0.053	2.240	3.365	66.560	99.985

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-1.70	-0.78	0.36	2.16	2.68	2.85	3.33

Median phi: 2.16      Median mm: 0.22

	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.17	0.44	1.67	-0.79	0.89
Moment	1.27	0.41	1.97	-0.42	1.37

# Gradation Analysis Report

Proj Name: Central Boca  
Sample: CBVC-01-10#2  
Date: 3/30/01  
By: ID

COASTAL PLANNING & ENGINEERING, INC.

2841 N. W. Boca Raton Blvd. Boca Raton FL 33428

Elevation: -64.80 Feet Easting: 964027.79 State Plane 1983  
Reference: NGVD Northing: 735449.64 FLA East Feet

USCS: SP Munsel Dry: 5Y 6/1 Munsel Wet: 5Y 5/1  
Comments: 0

Dry Wt. 87.68 Percent Silt: 2.30  
Wash Wt. 85.67

Sieve Size	PHI Size	mm Size	Grams Retained	% Weight Retained	Cum. Grams Retained	C % Weight Retained
3/4	-4.250	19.027	0.000	0.000	0.000	0.000
5/8	-4.000	16.000	0.000	0.000	0.000	0.000
5/16	-3.250	9.514	0.000	0.000	0.000	0.000
4	-3.000	8.000	0.000	0.000	0.000	0.000
5	-2.000	4.000	0.150	0.171	0.150	0.171
7	-1.500	2.828	0.330	0.376	0.480	0.547
10	-1.000	2.000	0.350	0.399	0.830	0.947
14	-0.500	1.414	0.410	0.468	1.240	1.414
18	0.000	1.000	0.750	0.855	1.990	2.270
25	0.500	0.707	1.150	1.312	3.140	3.581
35	1.000	0.500	2.230	2.543	5.370	6.125
45	1.500	0.354	4.510	5.144	9.880	11.268
60	2.000	0.250	14.000	15.967	23.880	27.235
80	2.500	0.177	28.390	32.379	52.270	59.615
120	3.000	0.125	29.360	33.485	81.630	93.100
170	3.500	0.088	3.960	4.516	85.590	97.616
200	3.750	0.074	0.070	0.080	85.660	97.696
230	4.000	0.063	0.010	0.011	85.670	97.708
Pan	Pan	0.053	2.010	2.292	87.680	100.000

PHI 5 PHI 16 PHI 25 PHI 50 PHI 75 PHI 84 PHI 95  
0.78 1.65 1.93 2.35 2.73 2.86 3.21

Median phi: 2.35 Median mm: 0.20

	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.17	0.22	0.67	-0.44	1.25
Moment	2.22	0.22	0.83	-0.51	1.94

# Gradation Analysis Report

Proj Name: Central Boca  
Sample: CBVC-01-10#3  
Date: 3/30/01  
By: ID

COASTAL PLANNING & ENGINEERING, INC.

2841 N. W. Boca Raton Blvd. Boca Raton FL 33428

Elevation: -70.80 Feet Easting: 964027.79 State Plane 1983  
Reference: NGVD Northing: 735449.64 FLA East Feet

USCS: SP Munsel Dry: 5Y 6/1 Munsel Wet: 5Y 5/1  
Comments: 0

Dry Wt. 69.47 Percent Silt: 2.71  
Wash Wt. 67.64

Sieve Size	Phi Size	mm Size	Grams Retained	% Weight Retained	Cum. Grams Retained	C % Weight Retained
3/4	-4.250	19.027	0.000	0.000	0.000	0.000
5/8	-4.000	16.000	0.000	0.000	0.000	0.000
5/16	-3.250	9.514	0.000	0.000	0.000	0.000
4	-3.000	8.000	0.200	0.288	0.200	0.288
5	-2.000	4.000	0.080	0.115	0.280	0.403
7	-1.500	2.828	0.160	0.230	0.440	0.633
10	-1.000	2.000	0.140	0.202	0.580	0.835
14	-0.500	1.414	0.330	0.475	0.910	1.310
18	0.000	1.000	0.580	0.835	1.490	2.145
25	0.500	0.707	1.180	1.699	2.670	3.843
35	1.000	0.500	1.880	2.706	4.550	6.550
45	1.500	0.354	2.760	3.973	7.310	10.523
60	2.000	0.250	6.950	10.004	14.260	20.527
80	2.500	0.177	18.610	26.789	32.870	47.315
120	3.000	0.125	29.330	42.220	62.200	89.535
170	3.500	0.088	5.200	7.485	67.400	97.020
200	3.750	0.074	0.190	0.273	67.590	97.294
230	4.000	0.063	0.040	0.058	67.630	97.351
Pan	Pan	0.053	1.840	2.649	69.470	100.000

Phi 5 0.71 Phi 16 1.77 Phi 25 2.08 Phi 50 2.53 Phi 75 2.83 Phi 84 2.93 Phi 95 3.37

Median phi: 2.53 Median mm: 0.17

	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.26	0.21	0.69	-0.70	1.46
Moment	2.32	0.20	0.89	-0.67	2.20

# Gradation Analysis Report

Proj Name: Central Boca  
Sample: CBVC-01-10#4  
Date: 3/30/01  
By: ID

COASTAL PLANNING & ENGINEERING, INC.

2841 N. W. Boca Raton Blvd. Boca Raton FL 33428

Elevation: -75.80 Feet Easting: 964027.79 State Plane 1983  
Reference: NGVD Northing: 735449.64 FLA East Feet

USCS: SP Munsel Dry: 5Y 6/1 Munsel Wet: 5Y 5/1  
Comments: 0

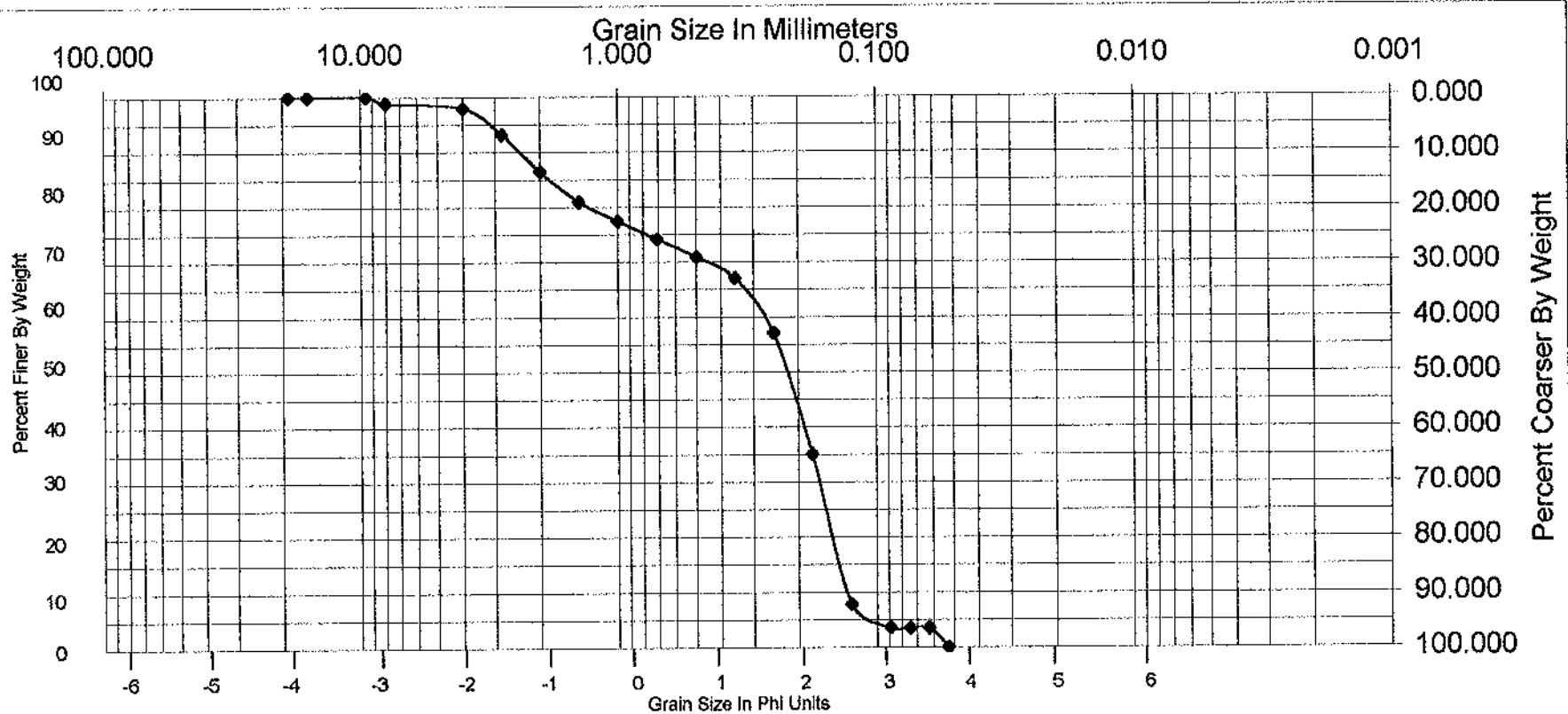
Dry Wt. 83.83 Percent Silt: 4.02  
Wash Wt. 80.64

Sieve Size	Phi Size	mm Size	Grams Retained	% Weight Retained	Cum. Grams Retained	C % Weight Retained
3/4	-4.250	19.027	0.000	0.000	0.000	0.000
5/8	-4.000	16.000	0.000	0.000	0.000	0.000
5/16	-3.250	9.514	0.000	0.000	0.000	0.000
4	-3.000	8.000	0.000	0.000	0.000	0.000
5	-2.000	4.000	0.330	0.394	0.330	0.394
7	-1.500	2.828	0.080	0.095	0.410	0.489
10	-1.000	2.000	0.270	0.322	0.680	0.811
14	-0.500	1.414	0.380	0.453	1.060	1.264
18	0.000	1.000	0.660	0.787	1.720	2.052
25	0.500	0.707	1.340	1.598	3.060	3.650
35	1.000	0.500	2.140	2.553	5.200	6.203
45	1.500	0.354	3.020	3.603	8.220	9.806
60	2.000	0.250	8.920	10.641	17.140	20.446
80	2.500	0.177	22.050	26.303	39.190	46.749
120	3.000	0.125	34.650	41.334	73.840	88.083
170	3.500	0.088	6.110	7.289	79.950	95.372
200	3.750	0.074	0.500	0.596	80.450	95.968
230	4.000	0.063	0.160	0.191	80.610	96.159
Pan	Pan	0.053	3.210	3.829	83.820	99.988

Phi 5 0.76 Phi 16 1.79 Phi 25 2.09 Phi 50 2.54 Phi 75 2.84 Phi 84 2.95 Phi 95 3.47

Median phi: 2.54 Median mm: 0.17

	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.30	0.20	0.70	-0.60	1.47
Moment	2.35	0.20	0.89	-0.56	2.14

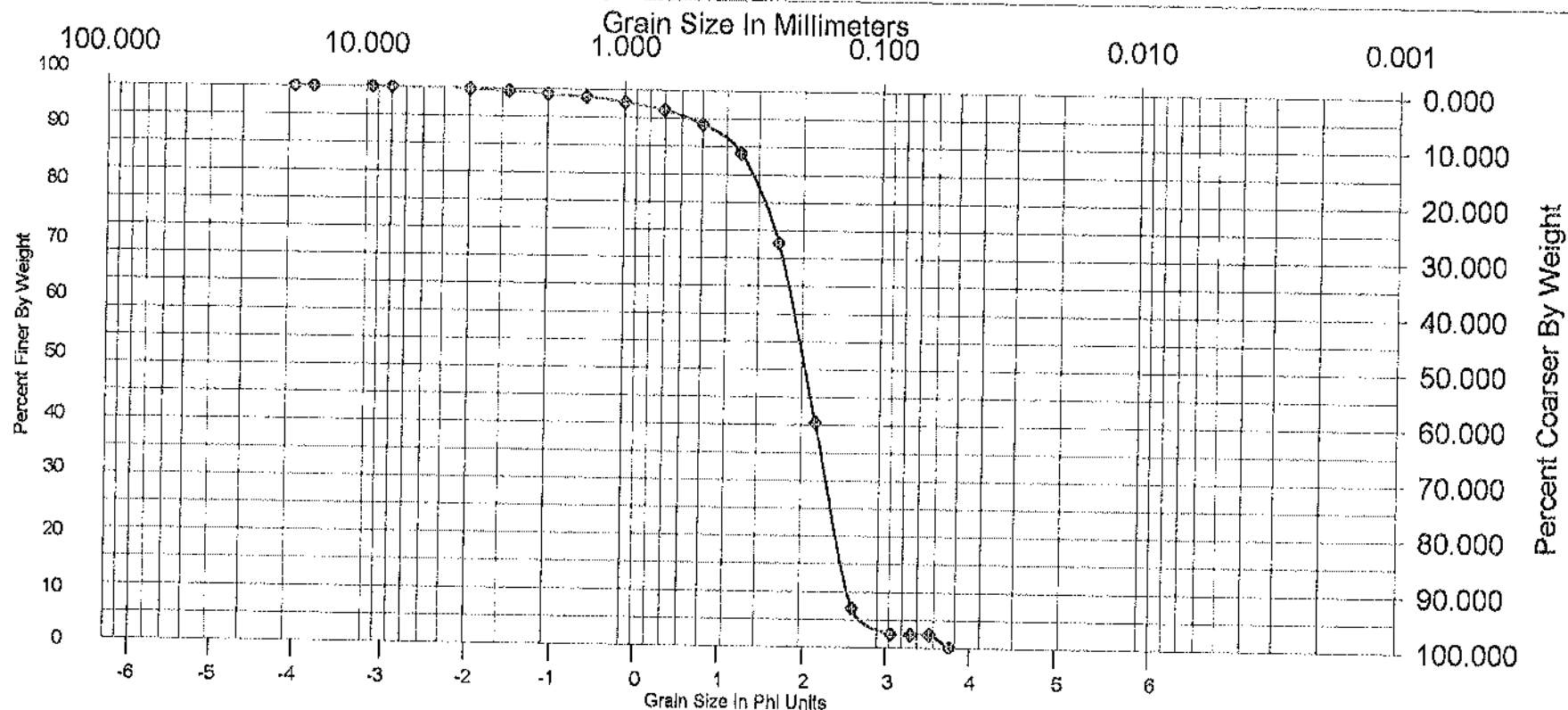


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information	
◆ CBVC-01-10#1	2.0		SW	3.40	0.22	0.41	-0.42	1.37	1.97	NA	NA	NA	Project Name:	Central Boca
													Sample Type:	VibraCores
													Collection Date:	3/30/01
													Analysis By:	ID
													Easting (X):	964027.79 Feet
													Northing (Y):	735449.64 Feet
													Sample Elevation:	-60.8 NGVD
													Coord. System:	State Plane 1983 FLA East

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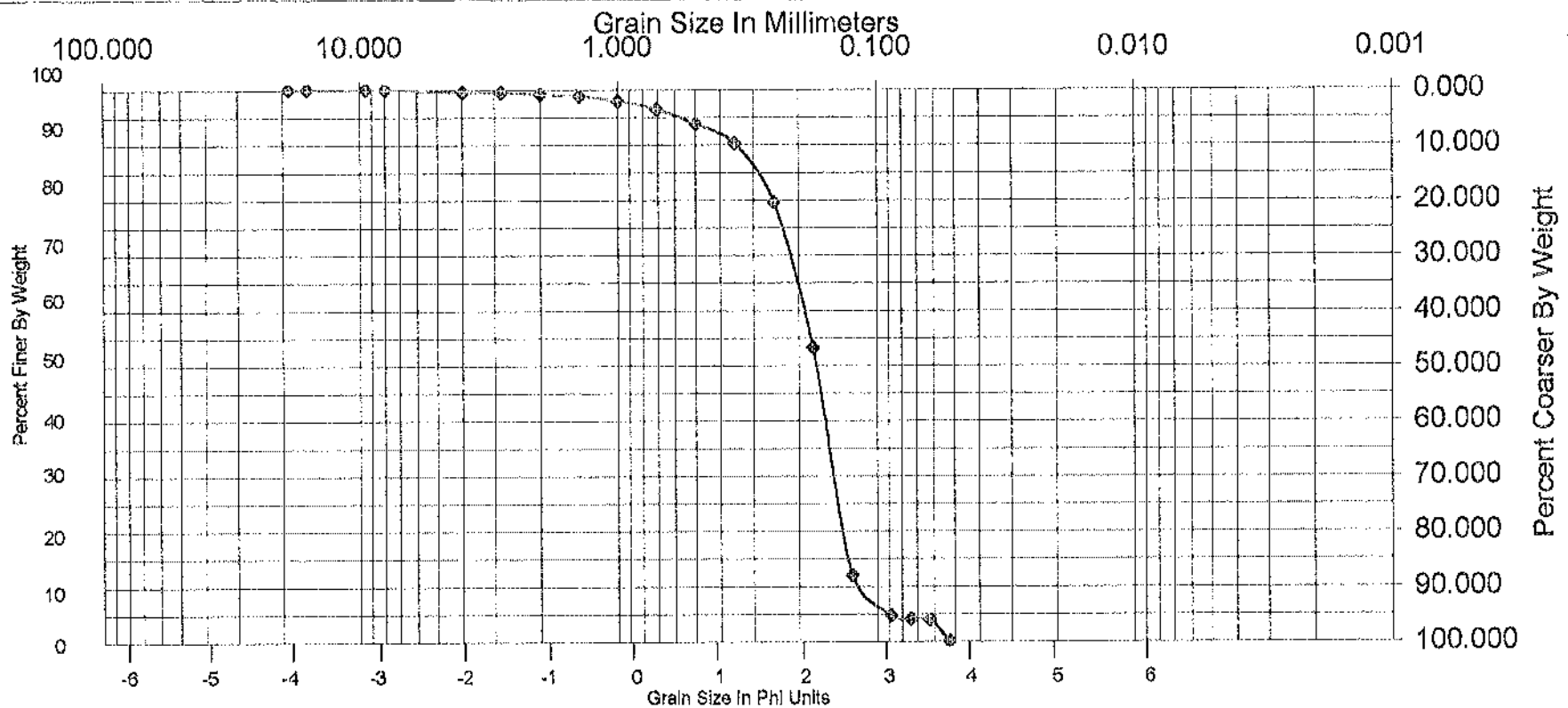


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information	
◆ CBVC-01-10#2	6.0		SP	2.30	0.2	0.21	-0.51	1.94	0.83	NA	NA	NA	Project Name:	Central Boca
													Sample Type:	VibraCores
													Collection Date:	3/30/01
													Analysis By:	ID
													Easting (X):	964027.79 Feet
													Northing (Y):	735449.64 Feet
													Sample Elevation:	-64.8 NGVD
													Coord. System:	State Plane 1983 FLA East

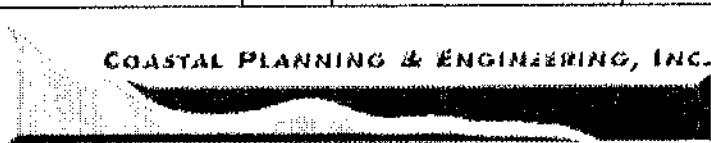
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Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

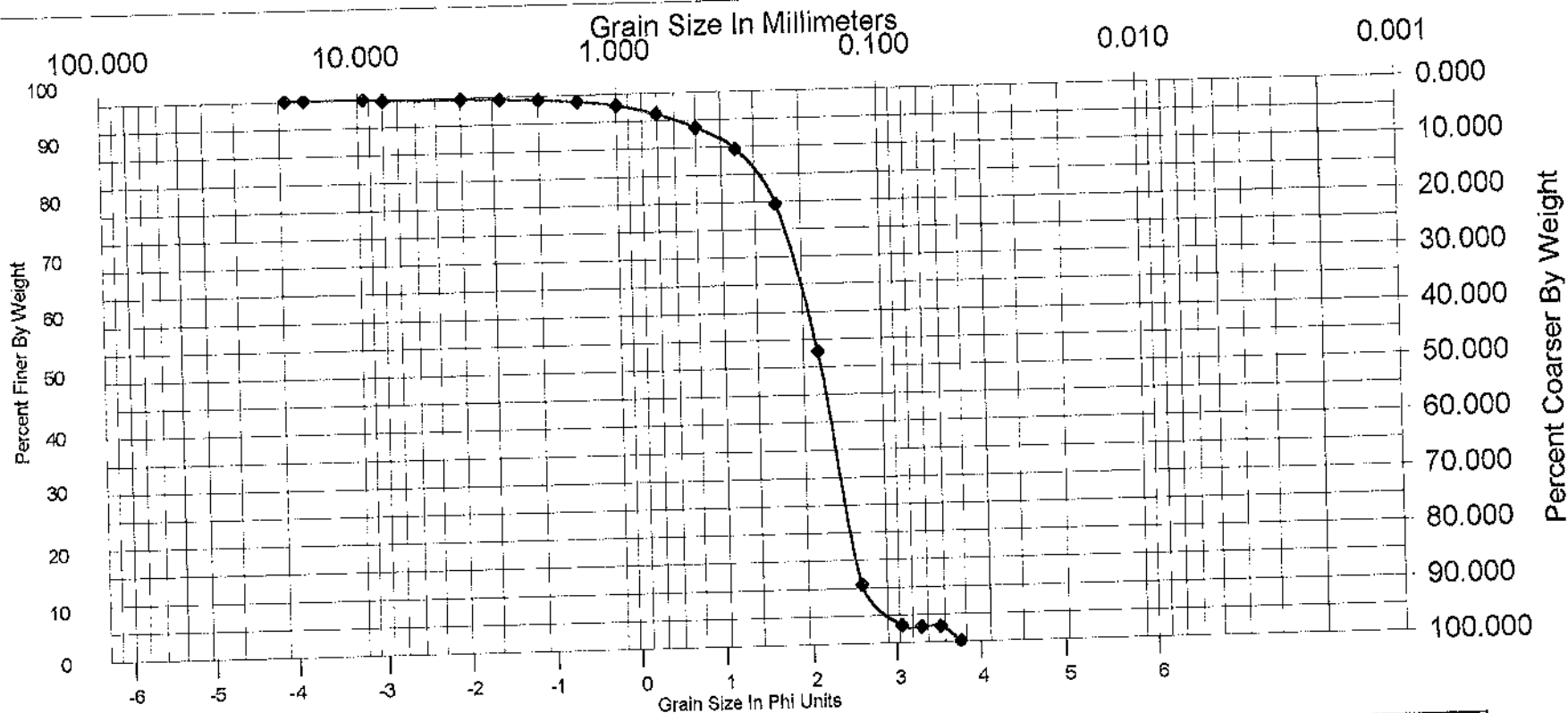
Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information	
◆ CBVC-01-10#4	17.0		SP	4.02	0.17	0.2	-0.56	2.14	0.89	NA	NA	NA	Project Name:	Central Boca
													Sample Type:	VibraCores
													Collection Date:	3/30/01
													Analysis By:	ID



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 BOCA RATON, FLORIDA 33431

Easting (X):	964027.79 Feet
Northing (Y):	735449.64 Feet
Sample Elevation:	-75.8 NGVD
Coord. System:	State Plane 1983 FLA East





Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information	
● CBVC-01-10#3	12.0		SP	2.71	0.17	0.2	-0.67	2.2	0.89	NA	NA	NA	Project Name:	Central Boca
													Sample Type:	VibraCores
													Collection Date:	3/30/01
													Analysis By:	ID
													Easting (X):	964027.79 Feet
													Northing (Y):	735449.64 Feet
													Sample Elevation:	-70.8 NGVD
													Coord. System:	State Plane 1983 FLA East

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