

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"	
2. LOCATION	(Coordinates or Station) X=961498.27 Y=728432.17		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) 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-00-24			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 3/23/01 11:00	
8. DEPTH DRILLED INTO ROCK N/A			17. ELEVATION TOP OF HOLE -17.9 ft	
9. TOTAL DEPTH OF HOLE 20.0 FT			18. TOTAL CORE RECOVERY FOR BORING 100%	
			19. SIGNATURE OF GEOLOGIST TT/MW	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-17.9	0					
	1				1	Sample #1, Depth = 2.5' Mean (mm): 0.29, Phi Sorting: 0.75 Silt: 1.33% (SP)
	2					
	3					
	4		SAND, fine to medium grained, trace shell hash, gray (5Y-6/1), (SP).			
	5					
	6					
	7				2	Sample #2, Depth = 7.0' Mean (mm): 0.27, Phi Sorting: 0.75 Silt: 1.67% (SP)
	8					
-26.8	9					
	10					
	11		medium to fine grained, little shell hash, gray (5Y-5/1), (SP) from 8.9' to 15.2'. Coral fragments present in half of core, ranging in size from 0.5" to 2.5" from 9.2' to 9.4'. 1" coral fragment @ 10.3'.		3	Sample #3, Depth = 12.0' Mean (mm): 0.41, Phi Sorting: 0.76 Silt: 1.39% (SP)
	12					
	13					
-33.1	14					
	15					
	16		medium to fine grained, some shell hash, trace shell fragments, dark gray (5Y-4/1), (SP) from 15.2' to 18.1'. Trace of organic material from 16.9' to 17.3'. 1.5" shell @ 15.4', 1" shell @ 16.1', 2" coral @ 17.3'.		4	Sample #4, Depth = 16.0' Mean (mm): 0.53, Phi Sorting: 0.80 Silt: 1.31% (SP)
-36	17					
	18					
-37.3	19		medium to fine grained, little shell hash, dark gray (5Y-4/1), (SP) from 18.1' to 19.4'.		3	
	20		medium to fine grained, some shell hash, dark gray (5Y-4/1), (SP) from 19.4' to 20.4'. 2.5" rock @ 19.9', 2.5" rock @ 20.2'. Expansion from 20.0' to 20.4'.		4	
-38.3	21					
	22		End of Boring			Note: 1) This column contains laboratory data. 2) Samples are taken from a 3" section of the core, centered on the sample depth.
	23		Note: 1) Soils are field visually classified in accordance with the Unified Soil Classification System.			
	24					

PROJECT: Central Boca Sand Study

HOLE NUMBER:

Gradation Analysis Report

Proj Name: Central Boca
 Sample: CBVC-01-24#1
 Date: 4/3/01
 By: ID



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

Elevation: -20.40 Feet Easting: 961498.27 State Plane 1983
 Reference: NGVD Northing: 728432.12 FLA East Feet

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

Dry Wt. 69.75 Percent Silt: 1.33
 Wash Wt. 68.82

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	0.070	0.100	0.070	0.100
7	-1.500	2.828	0.040	0.057	0.110	0.158
10	-1.000	2.000	0.220	0.315	0.330	0.473
14	-0.500	1.414	0.230	0.330	0.560	0.803
18	0.000	1.000	0.450	0.645	1.010	1.448
25	0.500	0.707	1.420	2.036	2.430	3.484
35	1.000	0.500	4.540	6.509	6.970	9.993
45	1.500	0.354	10.350	14.839	17.320	24.832
60	2.000	0.250	25.430	36.459	42.750	61.290
80	2.500	0.177	20.180	28.932	62.930	90.222
120	3.000	0.125	5.460	7.828	68.390	98.050
170	3.500	0.088	0.400	0.573	68.790	98.624
200	3.750	0.074	0.010	0.014	68.800	98.638
230	4.000	0.063	0.000	0.000	68.800	98.638
Pan	Pan	0.053	0.930	1.333	69.730	99.971

PHI 5 PHI 16 PHI 25 PHI 50 PHI 75 PHI 84 PHI 95
 0.62 1.20 1.50 1.84 2.24 2.39 2.80

Median phi: 1.84 Median mm: 0.28

	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.77	0.29	0.63	-0.19	1.22
Moment	1.80	0.29	0.75	-0.23	1.70

Gradation Analysis Report

Proj Name: Central Boca
 Sample: CBVC-01-24#2
 Date: 4/3/01
 By: ID



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

Elevation: -24.90 Feet Easting: 961498.27 State Plane 1983
 Reference: NGVD Northing: 728432.12 FLA East Feet

USCS: SP Munsel Dry: 5Y 7/1 Munsel Wet: 5Y 6/1
 Comments: 0

Dry Wt. 79.58 Percent Silt: 1.67
 Wash Wt. 78.26

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	0.000	0.000	0.000	0.000
7	-1.500	2.828	0.170	0.214	0.170	0.214
10	-1.000	2.000	0.100	0.126	0.270	0.339
14	-0.500	1.414	0.210	0.264	0.480	0.603
18	0.000	1.000	0.410	0.515	0.890	1.118
25	0.500	0.707	1.440	1.809	2.330	2.928
35	1.000	0.500	4.380	5.504	6.710	8.432
45	1.500	0.354	10.490	13.182	17.200	21.613
60	2.000	0.250	25.650	32.232	42.850	53.845
80	2.500	0.177	27.270	34.267	70.120	88.113
120	3.000	0.125	7.630	9.588	77.750	97.700
170	3.500	0.088	0.470	0.591	78.220	98.291
200	3.750	0.074	0.030	0.038	78.250	98.329
230	4.000	0.063	0.000	0.000	78.250	98.329
Pan	Pan	0.053	1.330	1.671	79.580	100.000

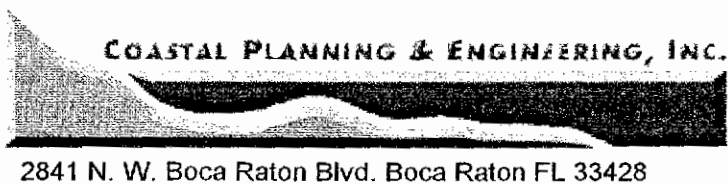
PHI 5 PHI 16 PHI 25 PHI 50 PHI 75 PHI 84 PHI 95
 0.69 1.29 1.55 1.94 2.31 2.44 2.86

Median phi: 1.94 Median mm: 0.26

	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.84	0.28	0.62	-0.25	1.18
Moment	1.87	0.27	0.75	-0.25	1.71

Gradation Analysis Report

Proj Name: Central Boca
 Sample: CBVC-01-24#3
 Date: 4/3/01
 By: ID



Elevation:	-29.90	Feet	Easting:	961498.27	State Plane	1983
Reference:	NGVD		Northing:	728432.12	FLA East	Feet

USCS:	SP	Munsel Dry:	5Y 7/1	Munsel Wet:	5Y 6/1
Comments:	0				

Dry Wt.	72.19	Percent Silt:	1.39
Wash Wt.	71.20		

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	0.000	0.000	0.000	0.000
7	-1.500	2.828	0.000	0.000	0.000	0.000
10	-1.000	2.000	0.070	0.097	0.070	0.097
14	-0.500	1.414	0.110	0.152	0.180	0.249
18	0.000	1.000	0.770	1.067	0.950	1.316
25	0.500	0.707	5.750	7.965	6.700	9.281
35	1.000	0.500	18.740	25.959	25.440	35.240
45	1.500	0.354	19.650	27.220	45.090	62.460
60	2.000	0.250	19.390	26.860	64.480	89.320
80	2.500	0.177	5.780	8.007	70.260	97.326
120	3.000	0.125	0.860	1.191	71.120	98.518
170	3.500	0.088	0.050	0.069	71.170	98.587
200	3.750	0.074	0.020	0.028	71.190	98.615
230	4.000	0.063	0.010	0.014	71.200	98.629
Pan	Pan	0.053	0.990	1.371	72.190	100.000

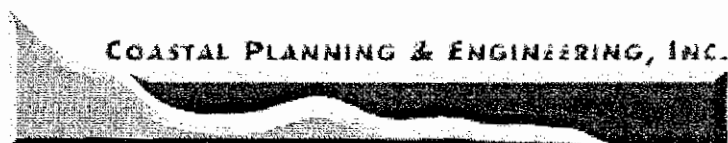
PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
0.23	0.63	0.80	1.27	1.73	1.90	2.35

Median phi:	1.27	Median mm:	0.41
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.28	0.41	0.64	0.01	0.94
Moment	1.27	0.41	0.76	0.03	1.46

Gradation Analysis Report

Proj Name: Central Boca
 Sample: CBVC-01-24#4
 Date: 4/3/01
 By: ID



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

Elevation: -33.90 Feet Easting: 961498.27 State Plane 1983
 Reference: NGVD Northing: 728432.12 FLA East Feet

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

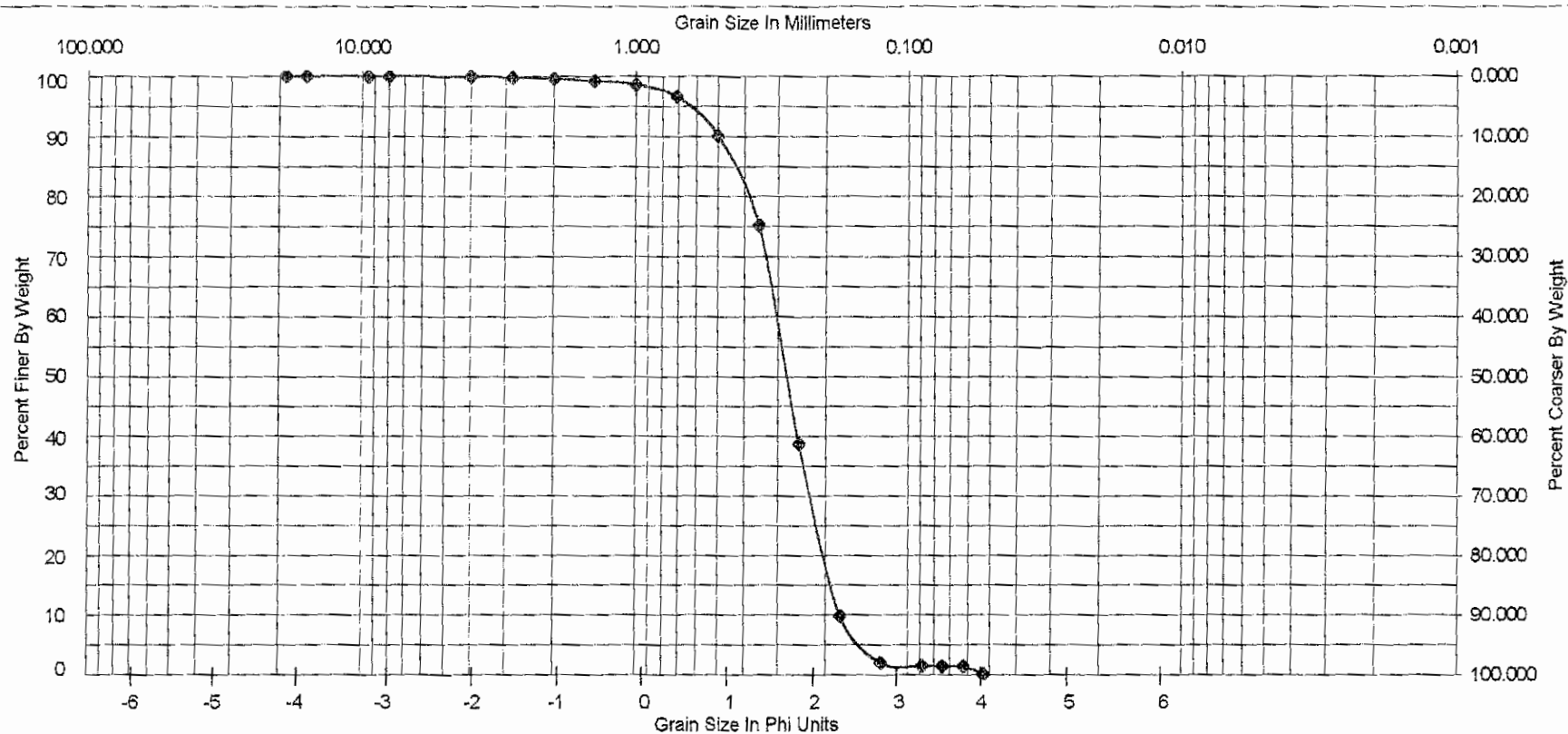
Dry Wt. 67.39 Percent Silt: 1.31
 Wash Wt. 66.51

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	0.250	0.371	0.250	0.371
5	-2.000	4.000	0.160	0.237	0.410	0.608
7	-1.500	2.828	0.280	0.415	0.690	1.024
10	-1.000	2.000	0.840	1.246	1.530	2.270
14	-0.500	1.414	1.630	2.419	3.160	4.689
18	0.000	1.000	3.500	5.194	6.660	9.883
25	0.500	0.707	6.570	9.749	13.230	19.632
35	1.000	0.500	10.390	15.418	23.620	35.050
45	1.500	0.354	35.410	52.545	59.030	87.595
60	2.000	0.250	6.770	10.046	65.800	97.641
80	2.500	0.177	0.680	1.009	66.480	98.650
120	3.000	0.125	0.010	0.015	66.490	98.664
170	3.500	0.088	0.010	0.015	66.500	98.679
200	3.750	0.074	0.010	0.015	66.510	98.694
230	4.000	0.063	0.000	0.000	66.510	98.694
Pan	Pan	0.053	0.880	1.306	67.390	100.000

PHI 5 PHI 16 PHI 25 PHI 50 PHI 75 PHI 84 PHI 95
 -0.47 0.31 0.67 1.14 1.38 1.47 1.87

Median phi: 1.14 Median mm: 0.45

	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	0.86	0.55	0.64	-0.73	1.36
Moment	0.91	0.53	0.80	-0.56	1.96

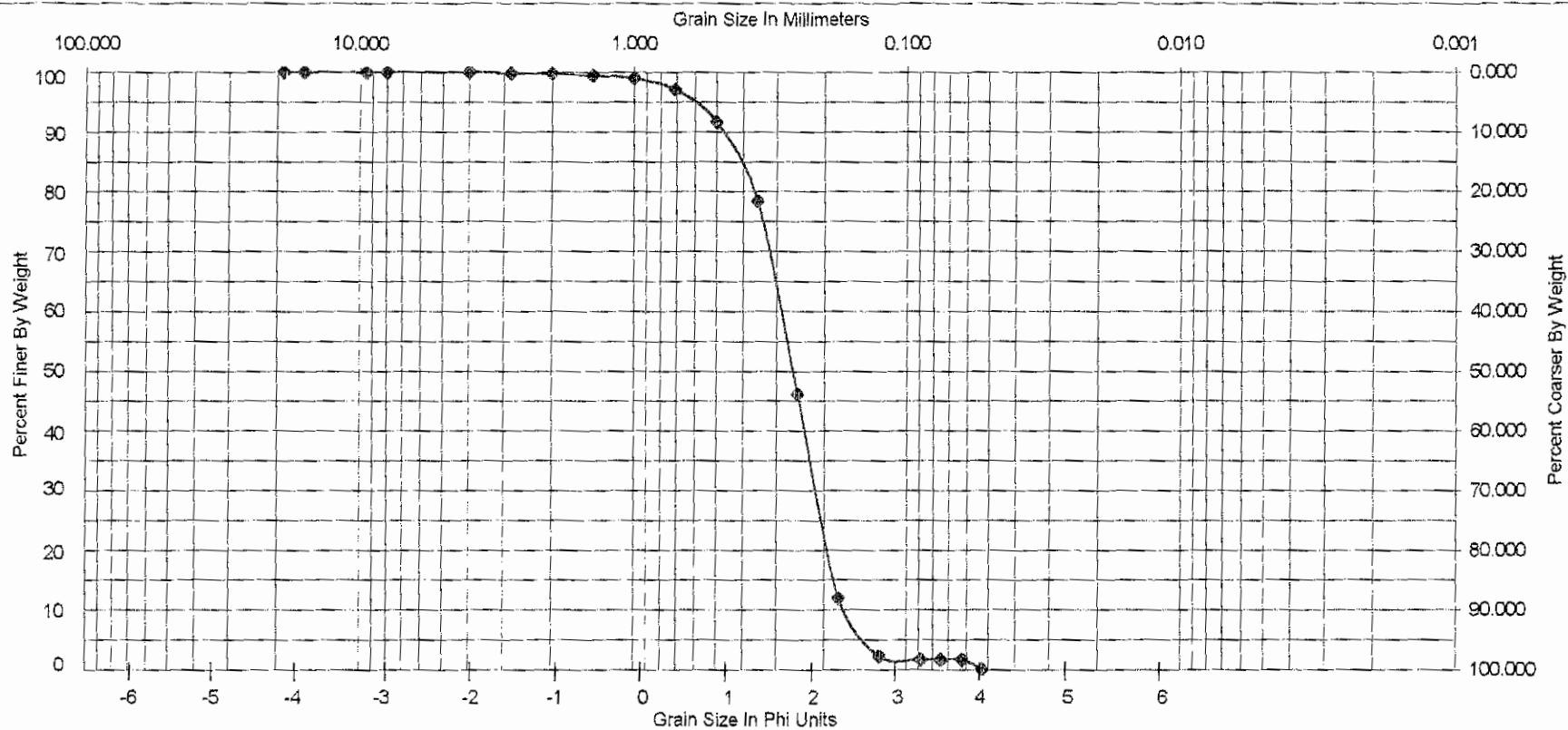


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
CBVC-01-24#1	2.5		SP	1.33	0.28	0.29	-0.23	1.7	0.75	NA	NA	NA	Project Name: Central Boca
													Sample Type: VibraCores
													Collection Date: 4/3/01
													Analysis By: ID
													Easting (X): 961498.27 Feet
													Northing (Y): 728432.12 Feet
													Sample Elevation: -20.4 NGVD
													Coord. System: State Plane 1983 FLA East

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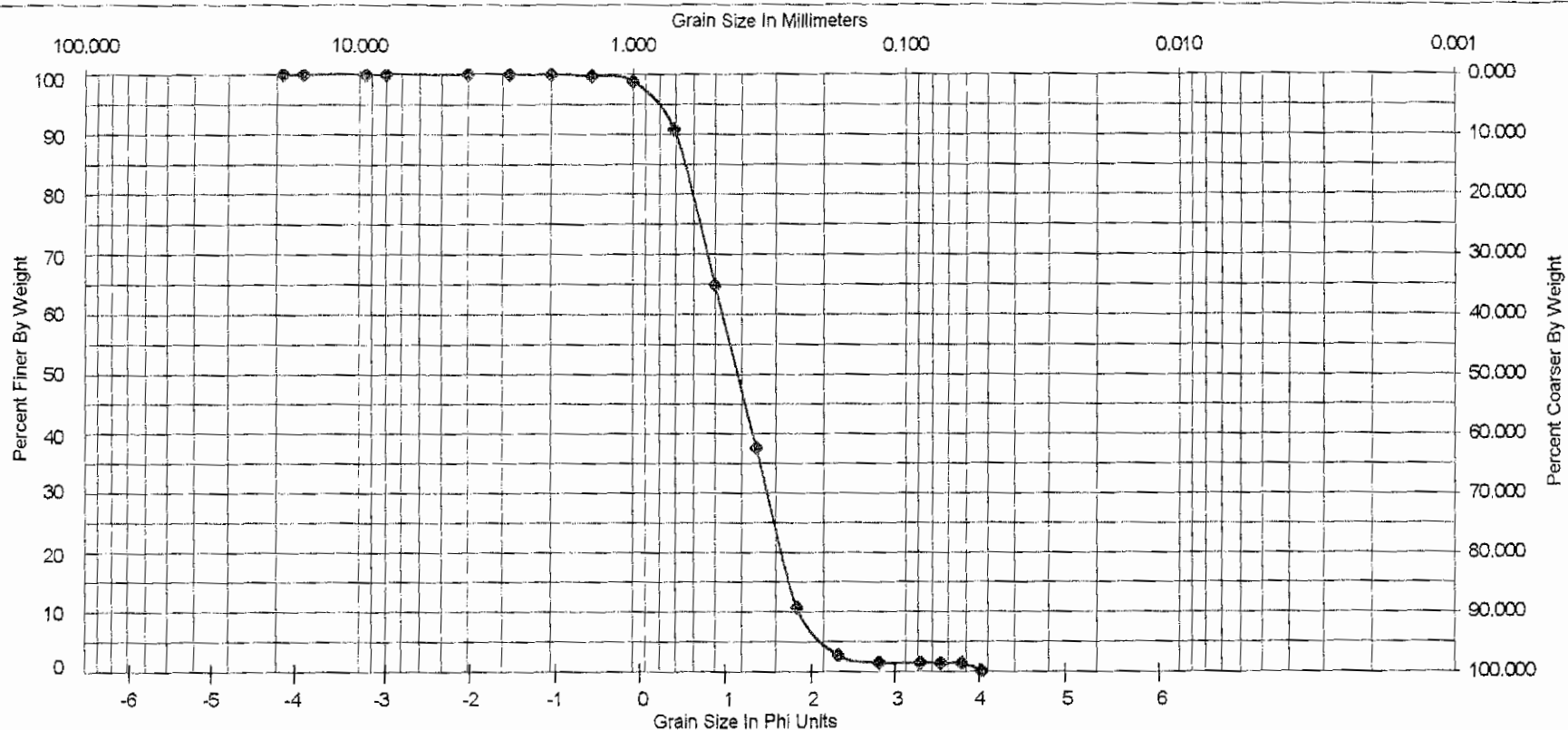


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information	
CBVC-01-24#2	7		SP	1.67	0.26	0.27	-0.25	1.71	0.75	NA	NA	NA	Project Name:	Central Boca
													Sample Type:	VibraCores
													Collection Date:	4/3/01
													Analysis By:	ID
													Easting (X):	961498.27 Feet
													Northing (Y):	728432.12 Feet
													Sample Elevation:	-24.9 NGVD
													Coord. System:	State Plane 1983 FLA East

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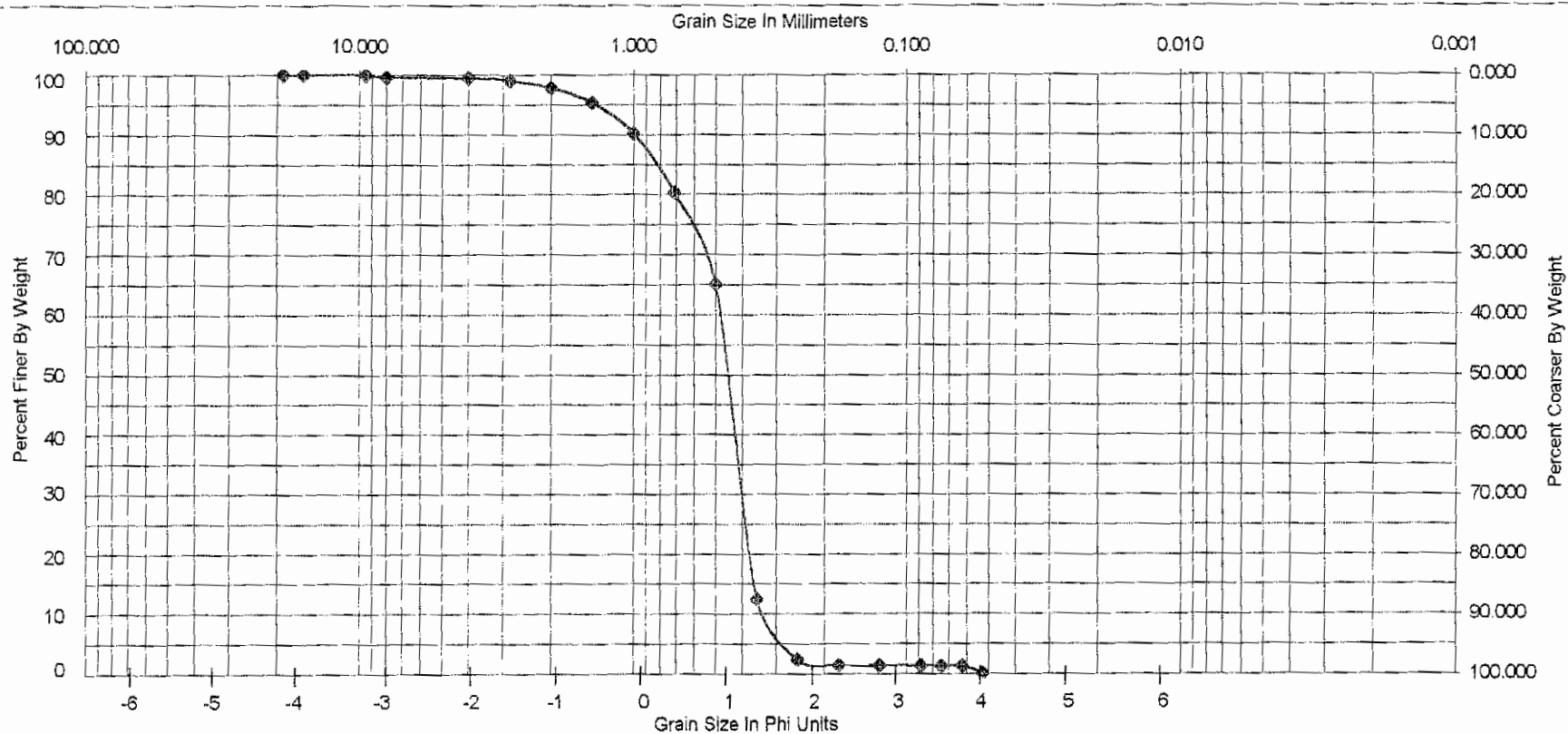


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information	
CBVC-01-24#3	12		SP	1.39	0.41	0.41	0.03	1.46	0.76	NA	NA	NA	Project Name:	Central Boca
													Sample Type:	VibraCores
													Collection Date:	4/3/01
													Analysis By:	ID
													Easting (X):	961498.27 Feet
													Northing (Y):	728432.12 Feet
													Sample Elevation:	-29.9 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-01-24#4	16		SP	1.31	0.45	0.53	-0.56	1.96	0.8	NA	NA	NA	Project Name:	Central Boca
													Sample Type:	VibraCores
													Collection Date:	4/3/01
													Analysis By:	ID

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 BOCA RATON, FLORIDA 33431

Easting (X): 961496.27 Feet
 Northing (Y): 728432.12 Feet
 Sample Elevation: -33.9 NGVD
 Coord. System: State Plane 1983 FLA East