

DRILLING LOG		DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 of 1
1. PROJECT CAPTIVA ISLAND SAND STUDY		10. SIZE AND TYPE OF BIT 3 5/8"		
2. LOCATION (Coordinates or Station) X=548220.87 Y=767180.96		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD		
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-00-37		13. TOT NO. OF OVERBURDEN SAMPLES TAKEN Disturbed: 0 Undisturbed: 0		
5. NAME OF DRILLER MAURIZIO ROSSI		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 8/12/00 Completed 7:43		
8. DEPTH DRILLED INTO ROCK N/A		17. ELEVATION TOP OF HOLE -36.0 FT		
9. TOTAL DEPTH OF HOLE 18.0 FT		18. TOTAL CORE RECOVERY FOR BORING 95.6%		
		19. SIGNATURE OF GEOLOGIST ID		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-36	0					
	1				1	Sample #1, Depth = 1.0' Mean (mm): 0.53, Phi Sorting: 1.43 Silt: 3.14% (SW)
	2					
	3					
	4				2	Sample #2, Depth = 4.0' Mean (mm): 0.42, Phi Sorting: 1.24 Silt: 1.50% (SW)
	5		SAND, fine grained, some shell hash/shell fragments, gray (5Y-5/1), (SP).			
	6				3	Sample #3, Depth = 6.0' Mean (mm): 0.41, Phi Sorting: 1.26 Silt: 1.16% (SW)
	7					
	8					
	9				4	Sample #4, Depth = 8.0' Mean (mm): 0.93, Phi Sorting: 1.87 Silt: 1.24% (SW)
-46	10					
	11		fine grained, little shell hash, gray (5Y-6/1), (SP).		5	Sample #5, Depth = 12.0' Mean (mm): 0.25, Phi Sorting: 1.11 Silt: 3.04% (SW)
-48.4	12					
	13					
	14		CARBONATE CLASTS, ranges from fine sand size to 2", predominantly calcareous sand, trace shell hash/shell fragments, gray (5Y-5/1), (GP).			
	15					
	16					
-53.2	17					
-54	18		No Recovery			
	19		End of Boring			
	20					
	21		Note: 1) Soils are field visually classified in accordance with the Unified Soil Classification System.			Note: This column contains laboratory data.
	22					
	23					
	24					

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-37#1
 Date: 1/1/2001
 By: ID



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

Elevation:	-37	Feet	Easting:	548220.87	State Plane	1983
Reference:	NGVD 29		Northing:	767180.96	FLA West	Feet

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

Dry Wt.	72.59	Percent Silt:	3.14
Wash Wt.	70.31		

Sieve Size	PHI Size	mm Size	Grams Retained	% Weight Retained	Cum. Grams Retained	C % Weight Retained
5/8	-4.000	16.000	0.000	0.000	0.000	0.000
5/16	-3.000	8.000	0.000	0.000	0.000	0.000
5	-2.000	4.000	1.480	2.039	1.480	2.039
7	-1.500	2.828	1.230	1.694	2.710	3.733
10	-1.000	2.000	2.510	3.458	5.220	7.191
14	-0.500	1.414	4.100	5.648	9.320	12.839
18	0.000	1.000	5.840	8.045	15.160	20.884
25	0.500	0.707	7.600	10.470	22.760	31.354
35	1.000	0.500	9.990	13.762	32.750	45.116
45	1.500	0.354	11.890	16.380	44.640	61.496
60	2.000	0.250	13.740	18.928	58.380	80.424
80	2.500	0.177	10.130	13.955	68.510	94.379
120	3.000	0.125	1.730	2.383	70.240	96.763
170	3.500	0.088	0.040	0.055	70.280	96.818
200	3.750	0.074	0.030	0.041	70.310	96.859
230	4.000	0.063	0.000	0.000	70.310	96.859
Pan	Pan	0.053	2.280	3.141	72.590	100.000

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-1.32	-0.30	0.20	1.15	1.86	2.13	2.63

Median phi:	1.15	Median mm:	0.45
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	0.86	0.55	1.21	-0.34	0.97
Moment	0.91	0.53	1.43	-0.30	1.53

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-37#2
 Date: 1/1/2001
 By: ID



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

Elevation:	-40	Feet	Easting:	548220.87	State Plane	1983
Reference:	NGVD 29		Northing:	767180.96	FLA West	Feet

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

Dry Wt.	80.06	Percent Silt:	1.50
Wash Wt.	78.86		

Sieve Size	PHI Size	mm Size	Grams Retained	% Weight Retained	Cum. Grams Retained	C % Weight Retained
5/8	-4.000	16.000	0.000	0.000	0.000	0.000
5/16	-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	0.860	1.074	0.860	1.074
10	-1.000	2.000	1.470	1.836	2.330	2.910
14	-0.500	1.414	2.980	3.722	5.310	6.633
18	0.000	1.000	4.060	5.071	9.370	11.704
25	0.500	0.707	7.620	9.518	16.990	21.222
35	1.000	0.500	10.020	12.516	27.010	33.737
45	1.500	0.354	12.070	15.076	39.080	48.813
60	2.000	0.250	19.440	24.282	58.520	73.095
80	2.500	0.177	15.770	19.698	74.290	92.793
120	3.000	0.125	4.290	5.358	78.580	98.151
170	3.500	0.088	0.220	0.275	78.800	98.426
200	3.750	0.074	0.050	0.062	78.850	98.489
230	4.000	0.063	0.010	0.012	78.860	98.501
Pan	Pan	0.053	1.200	1.499	80.060	100.000

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.72	0.23	0.65	1.52	2.05	2.28	2.71

Median phi:	1.52	Median mm:	0.35
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.20	0.43	1.03	-0.44	1.00
Moment	1.24	0.42	1.24	-0.36	1.58

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-37#3
 Date: 1/1/2001
 By: ID



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

Elevation:	-42	Feet	Easting:	548220.87	State Plane	1983
Reference:	NGVD 29		Northing:	767180.96	FLA West	Feet

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

Dry Wt.	82.69	Percent Silt:	1.16
Wash Wt.	81.74		

Sieve Size	PHI Size	mm Size	Grams Retained	% Weight Retained	Cum. Grams Retained	C % Weight Retained
5/8	-4.000	16.000	0.000	0.000	0.000	0.000
5/16	-3.000	8.000	0.000	0.000	0.000	0.000
5	-2.000	4.000	0.290	0.351	0.290	0.351
7	-1.500	2.828	0.740	0.895	1.030	1.246
10	-1.000	2.000	1.630	1.971	2.660	3.217
14	-0.500	1.414	3.030	3.664	5.690	6.881
18	0.000	1.000	4.550	5.502	10.240	12.384
25	0.500	0.707	6.340	7.667	16.580	20.051
35	1.000	0.500	9.350	11.307	25.930	31.358
45	1.500	0.354	12.950	15.661	38.880	47.019
60	2.000	0.250	18.700	22.615	57.580	69.634
80	2.500	0.177	18.820	22.760	76.400	92.393
120	3.000	0.125	4.930	5.962	81.330	98.355
170	3.500	0.088	0.320	0.387	81.650	98.742
200	3.750	0.074	0.040	0.048	81.690	98.791
230	4.000	0.063	0.020	0.024	81.710	98.815
Pan	Pan	0.053	0.960	1.161	82.670	99.976

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.76	0.24	0.72	1.57	2.12	2.32	2.72

Median phi:	1.57	Median mm:	0.34
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.22	0.43	1.05	-0.48	1.02
Moment	1.27	0.41	1.26	-0.41	1.62

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-37#4
 Date: 1/1/2001
 By: ID



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

Elevation:	-44	Feet	Easting:	548220.87	State Plane	1983
Reference:	NGVD 29		Northing:	767180.96	FLA West	Feet

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

Dry Wt.	71.15	Percent Silt:	1.24
Wash Wt.	70.27		

Sieve Size	PHI Size	mm Size	Grams Retained	% Weight Retained	Cum. Grams Retained	C % Weight Retained
5/8	-4.000	16.000	0.000	0.000	0.000	0.000
5/16	-3.000	8.000	0.520	0.731	0.520	0.731
5	-2.000	4.000	6.210	8.728	6.730	9.459
7	-1.500	2.828	5.200	7.309	11.930	16.767
10	-1.000	2.000	5.800	8.152	17.730	24.919
14	-0.500	1.414	7.900	11.103	25.630	36.022
18	0.000	1.000	8.070	11.342	33.700	47.365
25	0.500	0.707	7.510	10.555	41.210	57.920
35	1.000	0.500	7.070	9.937	48.280	67.857
45	1.500	0.354	6.430	9.037	54.710	76.894
60	2.000	0.250	7.180	10.091	61.890	86.985
80	2.500	0.177	6.420	9.023	68.310	96.008
120	3.000	0.125	1.830	2.572	70.140	98.580
170	3.500	0.088	0.110	0.155	70.250	98.735
200	3.750	0.074	0.010	0.014	70.260	98.749
230	4.000	0.063	0.010	0.014	70.270	98.763
Pan	Pan	0.053	0.880	1.237	71.150	100.000

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-2.51	-1.55	-1.00	0.12	1.40	1.85	2.44

Median phi:	0.12	Median mm:	0.92
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	0.07	0.95	1.60	-0.05	0.85
Moment	0.11	0.93	1.87	-0.09	1.33

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-37#5
 Date: 1/1/2001
 By: ID



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

Elevation:	-48	Feet	Easting:	548220.87	State Plane	1983
Reference:	NGVD 29		Northing:	767180.96	FLA West	Feet

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

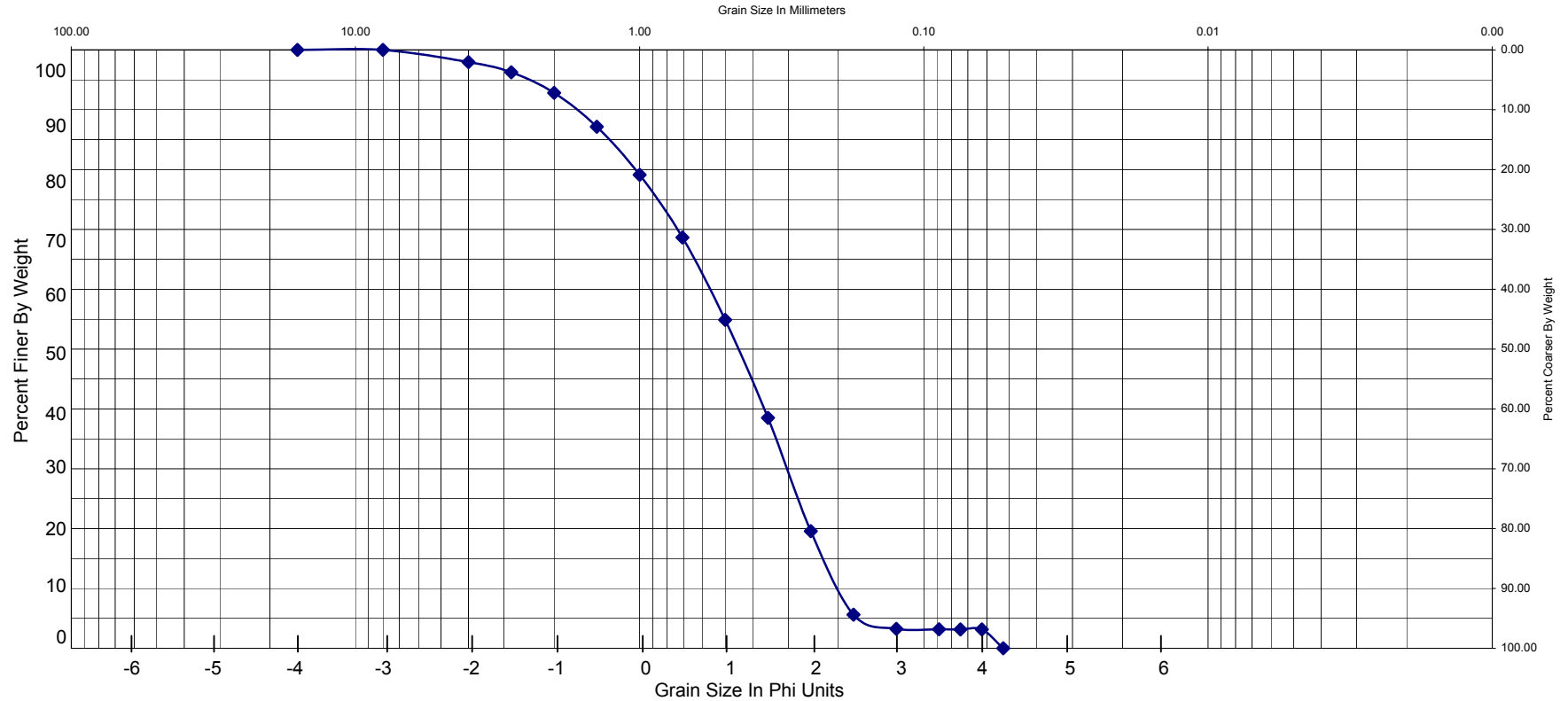
Dry Wt.	89.96	Percent Silt:	3.04
Wash Wt.	87.32		

Sieve Size	PHI Size	mm Size	Grams Retained	% Weight Retained	Cum. Grams Retained	C % Weight Retained
5/8	-4.000	16.000	0.000	0.000	0.000	0.000
5/16	-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	0.360	0.400	0.360	0.400
10	-1.000	2.000	0.770	0.856	1.130	1.256
14	-0.500	1.414	1.180	1.312	2.310	2.568
18	0.000	1.000	1.680	1.867	3.990	4.435
25	0.500	0.707	3.090	3.435	7.080	7.870
35	1.000	0.500	4.520	5.024	11.600	12.895
45	1.500	0.354	6.280	6.981	17.880	19.876
60	2.000	0.250	15.800	17.563	33.680	37.439
80	2.500	0.177	26.720	29.702	60.400	67.141
120	3.000	0.125	22.870	25.422	83.270	92.563
170	3.500	0.088	3.030	3.368	86.300	95.932
200	3.750	0.074	0.700	0.778	87.000	96.710
230	4.000	0.063	0.220	0.245	87.220	96.954
Pan	Pan	0.053	2.730	3.035	89.950	99.989

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
0.08	1.22	1.65	2.21	2.65	2.83	3.36

Median phi:	2.21	Median mm:	0.22
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.94	0.26	0.90	-0.51	1.33
Moment	2.00	0.25	1.11	-0.51	1.96

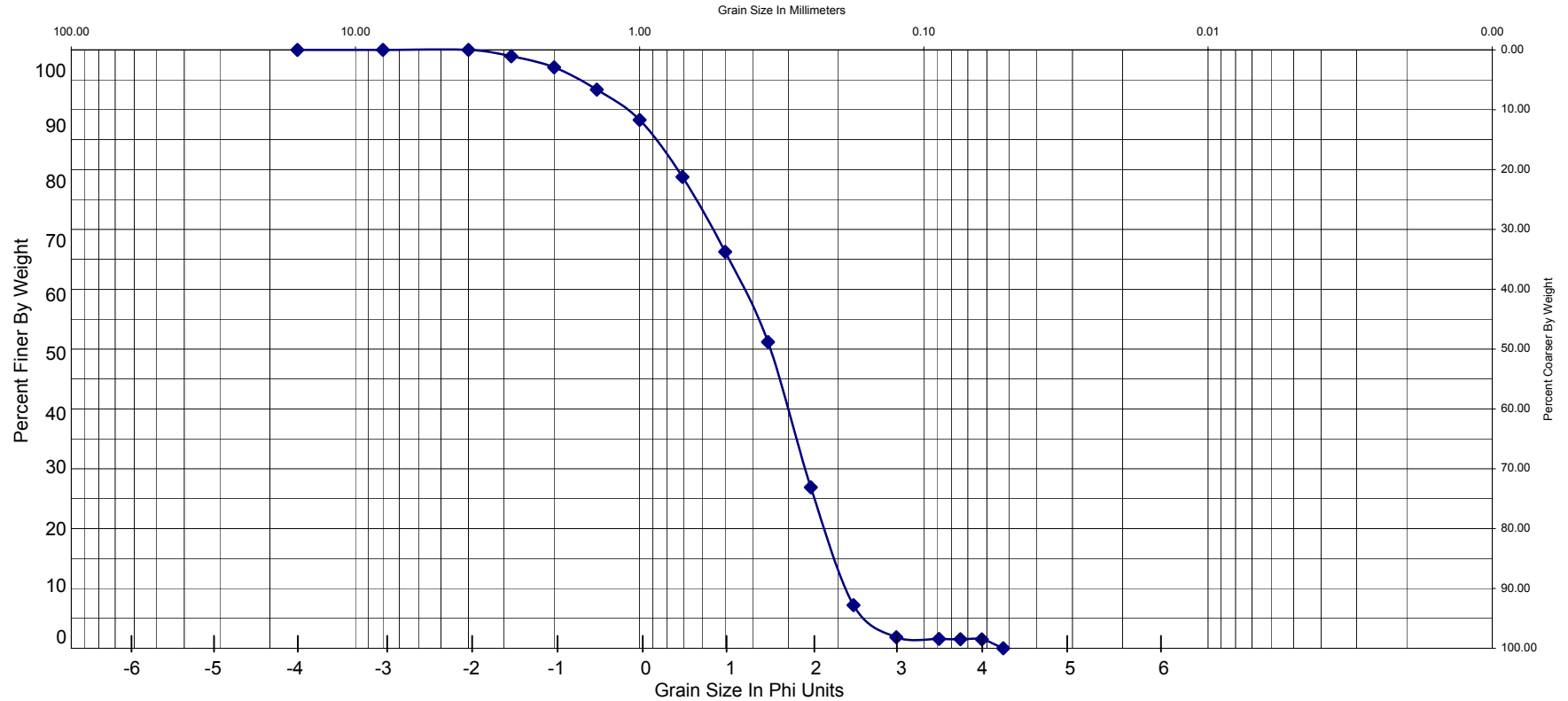


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-37#1	1.0		SW	3.14	0.45	0.53	-0.3	1.53	1.43	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 548220.87 Feet
													Northing (Y): 767180.96 Feet
													Sample Elevation:-37 NGVD 29
													Coord. System: State Plane 1983 FLA West

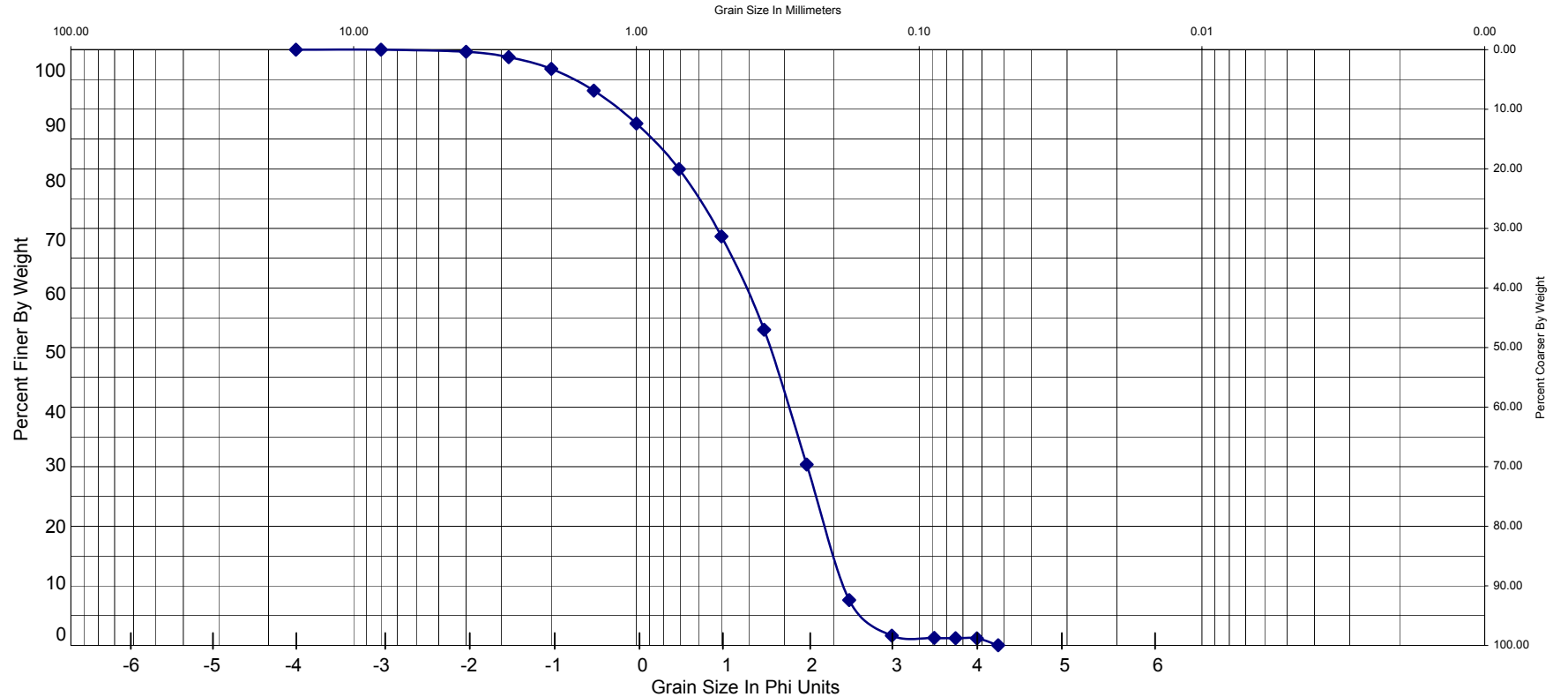


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BOCA RATON, FLORIDA 33431



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
◆ CIVC-00-37#2	4.0		SW	1.50	0.35	0.42	-0.36	1.58	1.24	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
 <div> COASTAL PLANNING & ENGINEERING, INC. 2481 N. W. BOCA RATON BLVD. BOCA RATON, FLORIDA 33431 </div>													Easting (X): 548220.87 Feet
													Northing (Y): 767180.96 Feet
													Sample Elevation: -40 NGVD 29
													Coord. System: State Plane 1983 FLA West

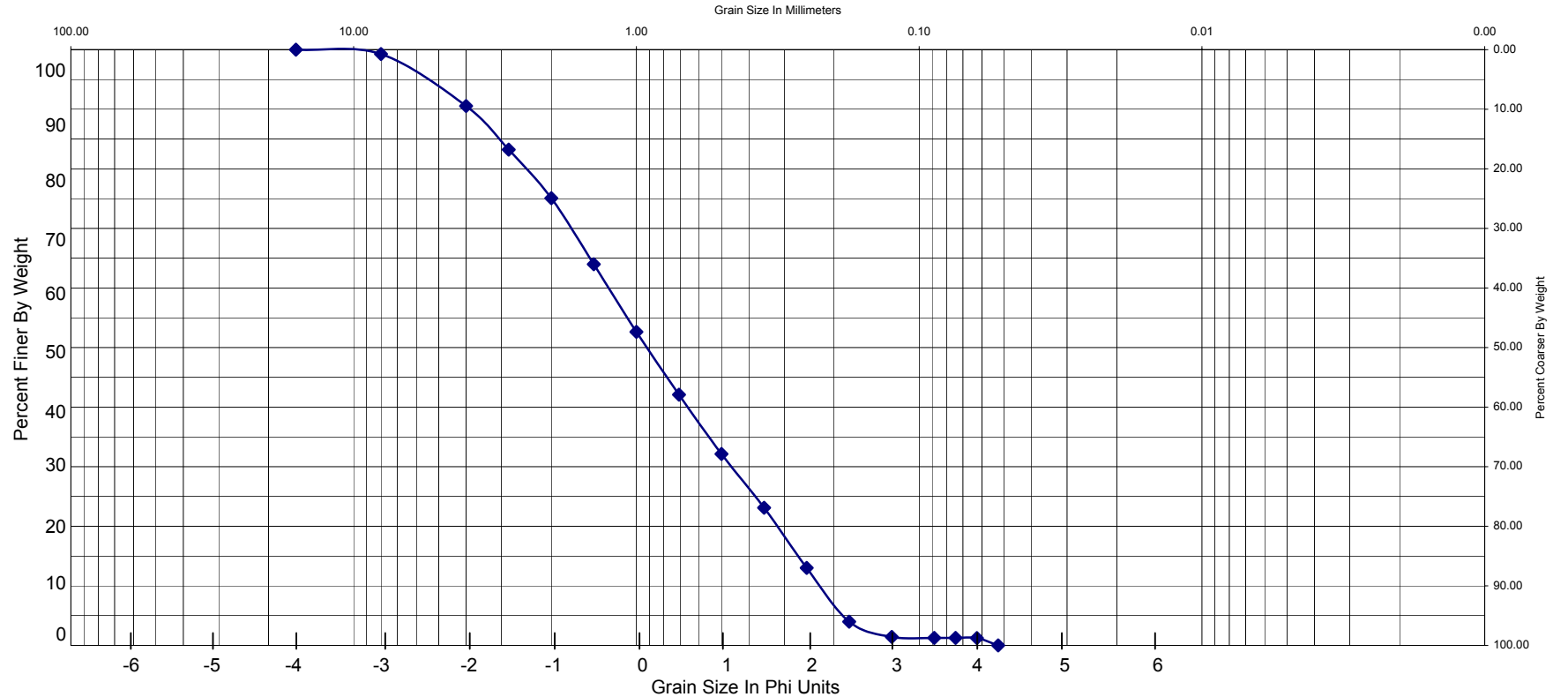


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-37#3	6.0		SW	1.16	0.34	0.41	-0.41	1.62	1.26	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 548220.87 Feet
													Northing (Y): 767180.96 Feet
													Sample Elevation: -42 NGVD 29
													Coord. System: State Plane 1983 FLA West



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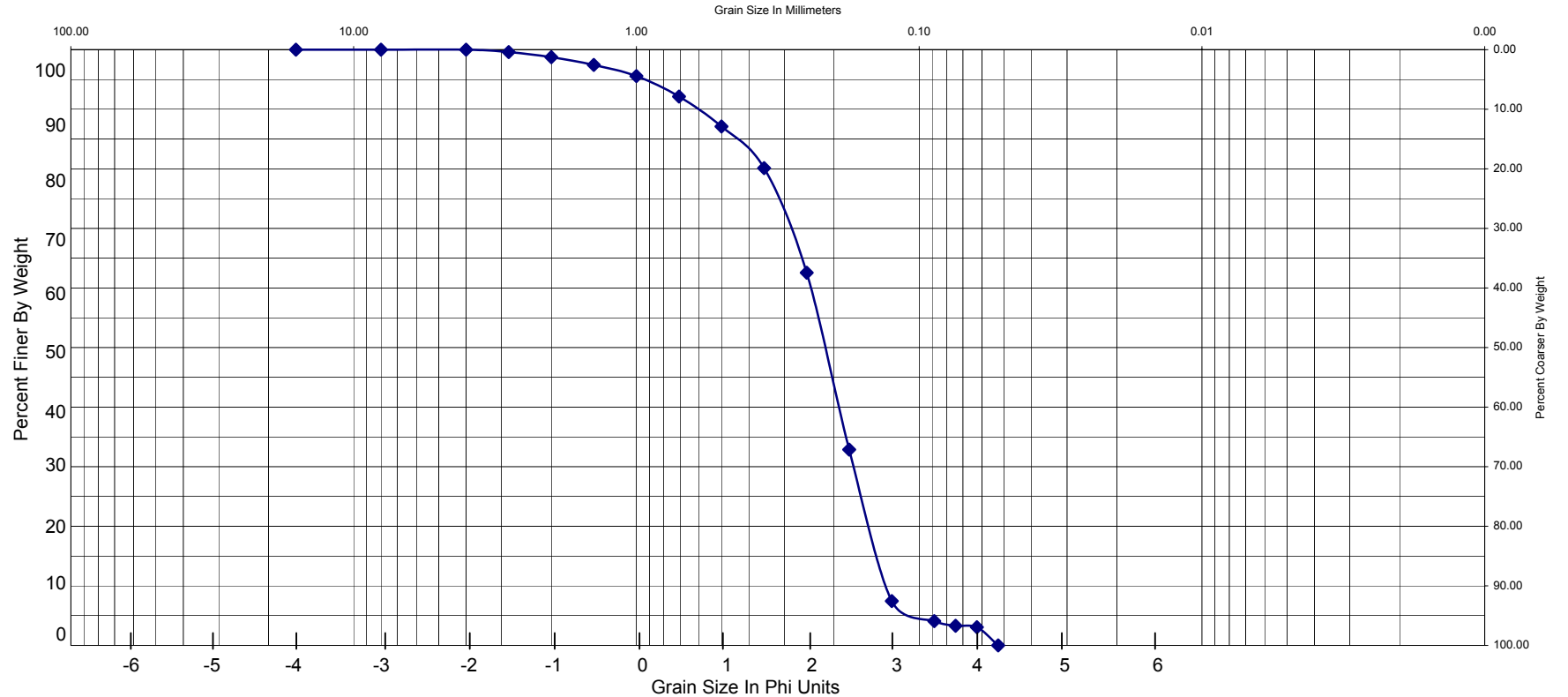


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-37#4	8.0		SW	1.24	0.92	0.93	-0.09	1.33	1.87	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 548220.87 Feet
													Northing (Y): 767180.96 Feet
													Sample Elevation: -44 NGVD 29
													Coord. System: State Plane 1983 FLA West



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BOCA RATON, FLORIDA 33431



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
◆ CIVC-00-37#5	12.0		SW	3.04	0.22	0.25	-0.51	1.96	1.11	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 548220.87 Feet
													Northing (Y): 767180.96 Feet
													Sample Elevation: -48 NGVD 29
													Coord. System: State Plane 1983 FLA West



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