

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=544238.26 Y=789025.72		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-00-23		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 Completed 8/11/00 8:27		
8. DEPTH DRILLED INTO ROCK N/A		17. ELEVATION TOP OF HOLE -44.1 FT		
9. TOTAL DEPTH OF HOLE 19.1 FT		18. TOTAL CORE RECOVERY FOR BORING 100%		
		19. SIGNATURE OF GEOLOGIST ID		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-44.1	0					
	1		SAND, fine grained, some shell hash/shell fragments, gray (5Y-6/1), (SP).		1	Sample #1, Depth = 1.5' Mean (mm): 0.50, Phi Sorting: 1.32 Silt: 1.56% (SW)
-46.6	2					
	3		fine grained, little shell hash, gray (5Y-6/1), (SP).		2	Sample #2, Depth = 3.5' Mean (mm): 0.21, Phi Sorting: 1.10 Silt: 4.49% (SW)
-49.1	4					
-49.9	5		fine grained, trace shell hash, gray (5Y-6/1), (SP).			
	6					
	7		SAND, fine grained, some shell hash/fragments, gray (5Y-6/1), (SP).		3	Sample #3, Depth = 7.0' Mean (mm): 0.26, Phi Sorting: 2.06 Silt: 21.76% (SM)
-52.5	8					
	9					
	10		SILTY SAND, fine grained some shell hash/fragments, gray (5Y-5/1), (SM).		4	Sample #4, Depth = 10.2' Mean (mm): 0.22, Phi Sorting: 2.06 Silt: 19.82% (SM)
	11					
	12				5	Sample #5, Depth = 12.0' Mean (mm): 0.24, Phi Sorting: 2.16 Silt: 25.08% (SM)
-57.3	13					
	14					
	15					
	16		CLAY, dark gray (5Y-4/1), (CL).			
	17					
	18					
-63.2	19					
-64.2	20		Expansion			
	21		Note: End of Boring			Note: This column contains laboratory data.
	22		1) Soils are field visually classified in accordance with the Unified Soil Classification System.			
	23					
	24					

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-23#1
 Date: 1/1/2001
 By: ID



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

Elevation:	-45.6	Feet	Easting:	544238.26	State Plane	1983
Reference:	NGVD 29		Northing:	789025.72	FLA West	Feet

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

Dry Wt.	49.87	Percent Silt:	1.56
Wash Wt.	49.09		

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	0.630	1.263	0.630	1.263
7	-1.500	2.828	0.350	0.702	0.980	1.965
10	-1.000	2.000	0.840	1.684	1.820	3.649
14	-0.500	1.414	2.110	4.231	3.930	7.880
18	0.000	1.000	5.100	10.227	9.030	18.107
25	0.500	0.707	8.090	16.222	17.120	34.329
35	1.000	0.500	8.280	16.603	25.400	50.932
45	1.500	0.354	7.590	15.220	32.990	66.152
60	2.000	0.250	7.300	14.638	40.290	80.790
80	2.500	0.177	5.240	10.507	45.530	91.297
120	3.000	0.125	3.180	6.377	48.710	97.674
170	3.500	0.088	0.340	0.682	49.050	98.356
200	3.750	0.074	0.020	0.040	49.070	98.396
230	4.000	0.063	0.020	0.040	49.090	98.436
Pan	Pan	0.053	0.780	1.564	49.870	100.000

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.84	-0.10	0.21	0.97	1.80	2.15	2.79

Median phi:	0.97	Median mm:	0.51
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	0.99	0.50	1.11	0.03	0.94
Moment	1.00	0.50	1.32	-0.02	1.43

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-23#2
 Date: 1/1/2001
 By: ID



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

Elevation:	-47.6	Feet	Easting:	544238.26	State Plane	1983
Reference:	NGVD 29		Northing:	789025.72	FLA West	Feet

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

Dry Wt.	49.06	Percent Silt:	4.49
Wash Wt.	46.87		

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	0.120	0.245	0.120	0.245
7	-1.500	2.828	0.200	0.408	0.320	0.652
10	-1.000	2.000	0.140	0.285	0.460	0.938
14	-0.500	1.414	0.450	0.917	0.910	1.855
18	0.000	1.000	0.720	1.468	1.630	3.322
25	0.500	0.707	1.320	2.691	2.950	6.013
35	1.000	0.500	2.050	4.179	5.000	10.192
45	1.500	0.354	2.740	5.585	7.740	15.777
60	2.000	0.250	4.960	10.110	12.700	25.887
80	2.500	0.177	9.990	20.363	22.690	46.249
120	3.000	0.125	20.150	41.072	42.840	87.322
170	3.500	0.088	3.540	7.216	46.380	94.537
200	3.750	0.074	0.380	0.775	46.760	95.312
230	4.000	0.063	0.090	0.183	46.850	95.495
Pan	Pan	0.053	2.200	4.484	49.050	99.980

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
0.31	1.51	1.96	2.55	2.85	2.96	3.64

Median phi:	2.55	Median mm:	0.17
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.19	0.22	0.87	-0.74	1.53
Moment	2.25	0.21	1.10	-0.56	2.11

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-23#3
 Date: 1/1/2001
 By: ID



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

Elevation:	-51.1	Feet	Easting:	544238.26	State Plane	1983
Reference:	NGVD 29		Northing:	789025.72	FLA West	Feet

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

Dry Wt.	52.87	Percent Silt:	21.76
Wash Wt.	41.41		

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	0.630	1.192	0.630	1.192
7	-1.500	2.828	0.800	1.513	1.430	2.705
10	-1.000	2.000	1.040	1.967	2.470	4.672
14	-0.500	1.414	2.110	3.991	4.580	8.663
18	0.000	1.000	3.470	6.563	8.050	15.226
25	0.500	0.707	4.150	7.849	12.200	23.075
35	1.000	0.500	4.350	8.228	16.550	31.303
45	1.500	0.354	3.650	6.904	20.200	38.207
60	2.000	0.250	3.980	7.528	24.180	45.735
80	2.500	0.177	5.590	10.573	29.770	56.308
120	3.000	0.125	7.460	14.110	37.230	70.418
170	3.500	0.088	2.910	5.504	40.140	75.922
200	3.750	0.074	0.960	1.816	41.100	77.738
230	4.000	0.063	0.260	0.492	41.360	78.230
Pan	Pan	0.053	11.500	21.751	52.860	99.981

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.96	0.05	0.62	2.20	3.41	4.07	4.19

Median phi:	2.20	Median mm:	0.22
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.91	0.27	1.78	-0.21	0.75
Moment	1.94	0.26	2.06	-0.17	1.26

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-23#4
 Date: 1/1/2001
 By: ID



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

Elevation:	-54.3	Feet	Easting:	544238.26	State Plane	1983
Reference:	NGVD 29		Northing:	789025.72	FLA West	Feet

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

Dry Wt.	57.37	Percent Silt:	19.82
Wash Wt.	46.04		

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	0.400	0.697	0.400	0.697
5	-2.000	4.000	1.170	2.039	1.570	2.737
7	-1.500	2.828	1.000	1.743	2.570	4.480
10	-1.000	2.000	1.010	1.761	3.580	6.240
14	-0.500	1.414	1.580	2.754	5.160	8.994
18	0.000	1.000	1.740	3.033	6.900	12.027
25	0.500	0.707	2.110	3.678	9.010	15.705
35	1.000	0.500	2.270	3.957	11.280	19.662
45	1.500	0.354	2.450	4.271	13.730	23.932
60	2.000	0.250	4.420	7.704	18.150	31.637
80	2.500	0.177	6.250	10.894	24.400	42.531
120	3.000	0.125	7.850	13.683	32.250	56.214
170	3.500	0.088	9.560	16.664	41.810	72.878
200	3.750	0.074	3.680	6.415	45.490	79.292
230	4.000	0.063	0.500	0.872	45.990	80.164
Pan	Pan	0.053	11.370	19.819	57.360	99.983

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-1.35	0.54	1.57	2.77	3.58	4.05	4.19

Median phi:	2.77	Median mm:	0.15
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.04	0.24	1.72	-0.69	1.13
Moment	2.19	0.22	2.06	-0.61	1.83

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-23#5
 Date: 1/1/2001
 By: ID



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

Elevation:	-56.1	Feet	Easting:	544238.26	State Plane	1983
Reference:	NGVD 29		Northing:	789025.72	FLA West	Feet

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

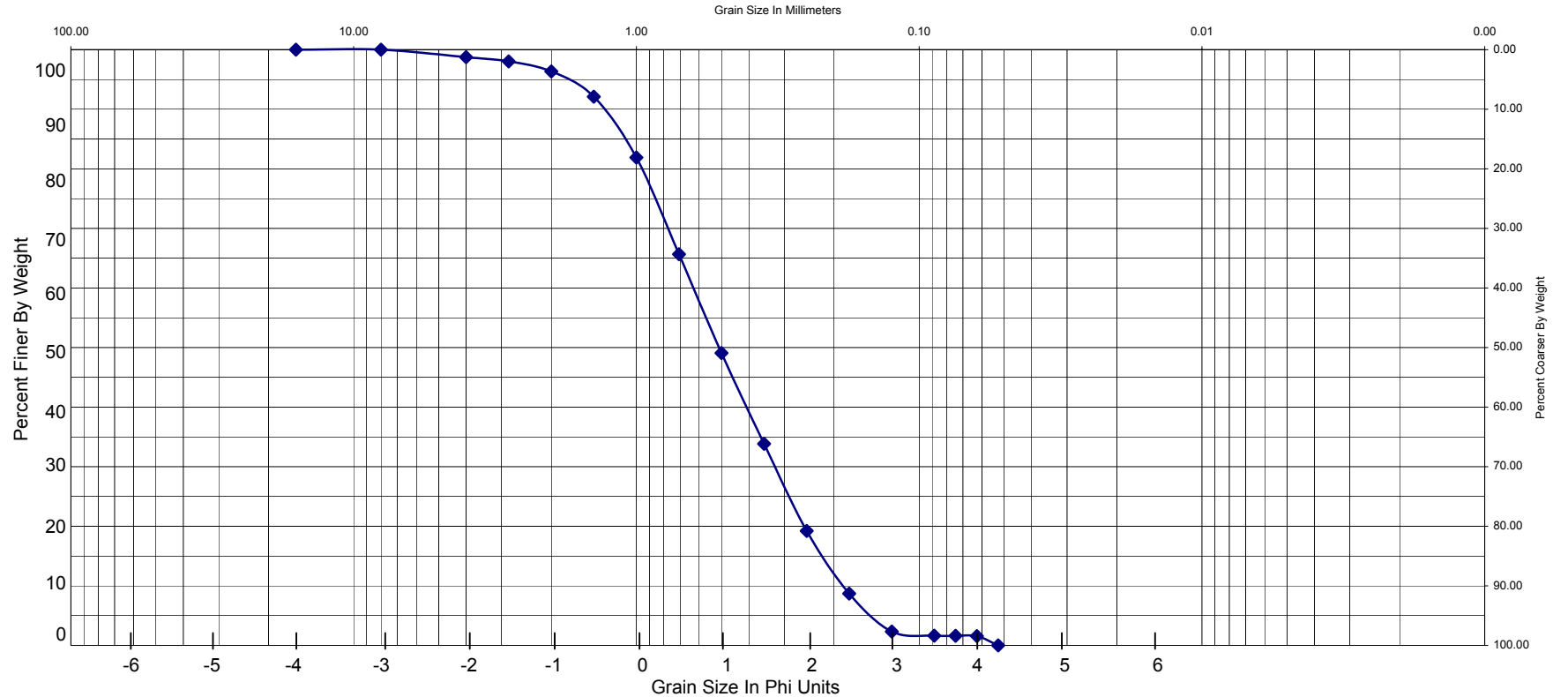
Dry Wt.	46.67	Percent Silt:	25.08
Wash Wt.	35.02		

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	1.080	2.314	1.080	2.314
7	-1.500	2.828	0.610	1.307	1.690	3.621
10	-1.000	2.000	0.970	2.078	2.660	5.700
14	-0.500	1.414	1.710	3.664	4.370	9.364
18	0.000	1.000	2.410	5.164	6.780	14.528
25	0.500	0.707	2.670	5.721	9.450	20.249
35	1.000	0.500	3.130	6.707	12.580	26.955
45	1.500	0.354	3.450	7.392	16.030	34.348
60	2.000	0.250	4.680	10.028	20.710	44.375
80	2.500	0.177	5.180	11.099	25.890	55.475
120	3.000	0.125	4.640	9.942	30.530	65.417
170	3.500	0.088	3.070	6.578	33.600	71.995
200	3.750	0.074	1.180	2.528	34.780	74.523
230	4.000	0.063	0.170	0.364	34.950	74.888
Pan	Pan	0.053	11.700	25.070	46.650	99.957

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-1.17	0.13	0.85	2.25	4.00	4.09	4.20

Median phi:	2.25	Median mm:	0.21
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.90	0.27	1.80	-0.23	0.70
Moment	2.05	0.24	2.16	-0.27	1.34

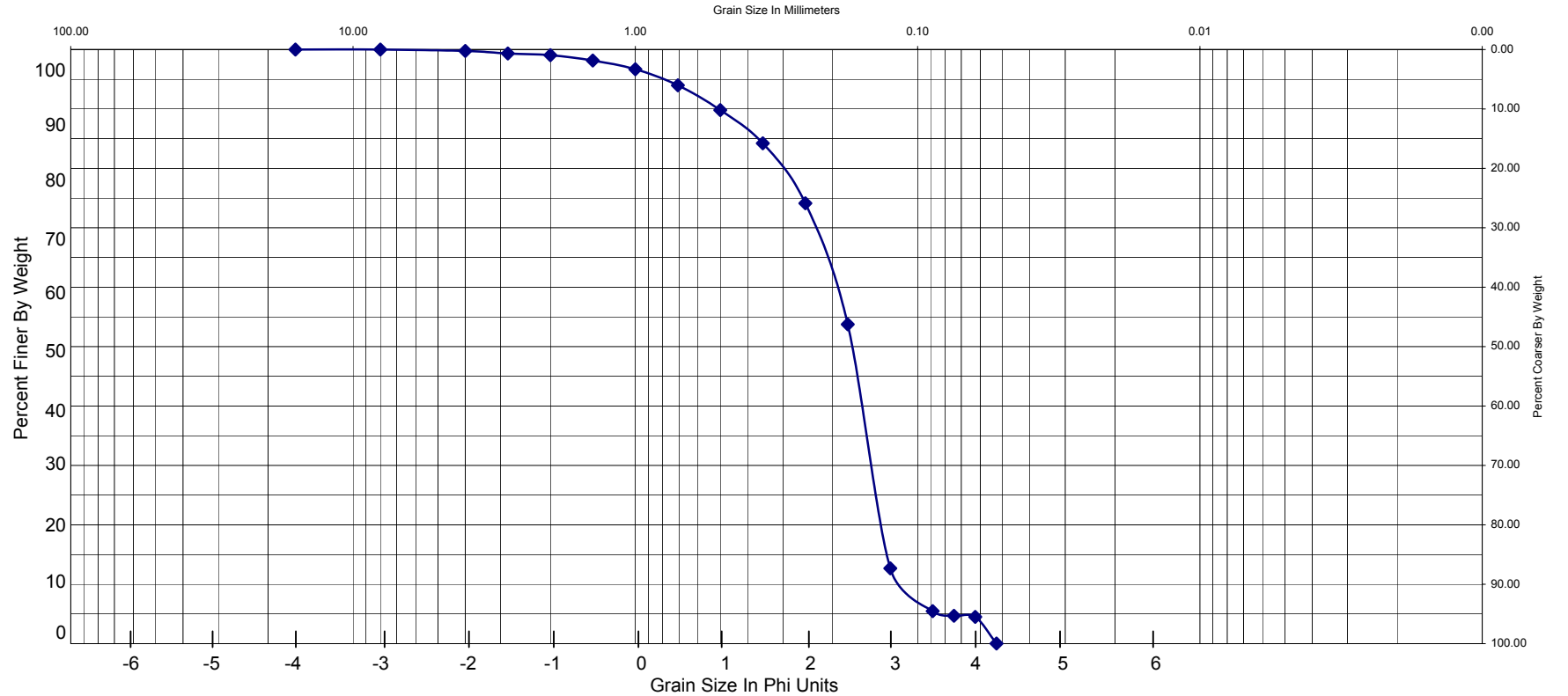


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-23#1	1.5		SW	1.56	0.51	0.5	-0.02	1.43	1.32	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 544238.26 Feet
													Northing (Y): 789025.72 Feet
													Sample Elevation: -45.6 NGVD 29
													Coord. System: State Plane 1983 FLA West



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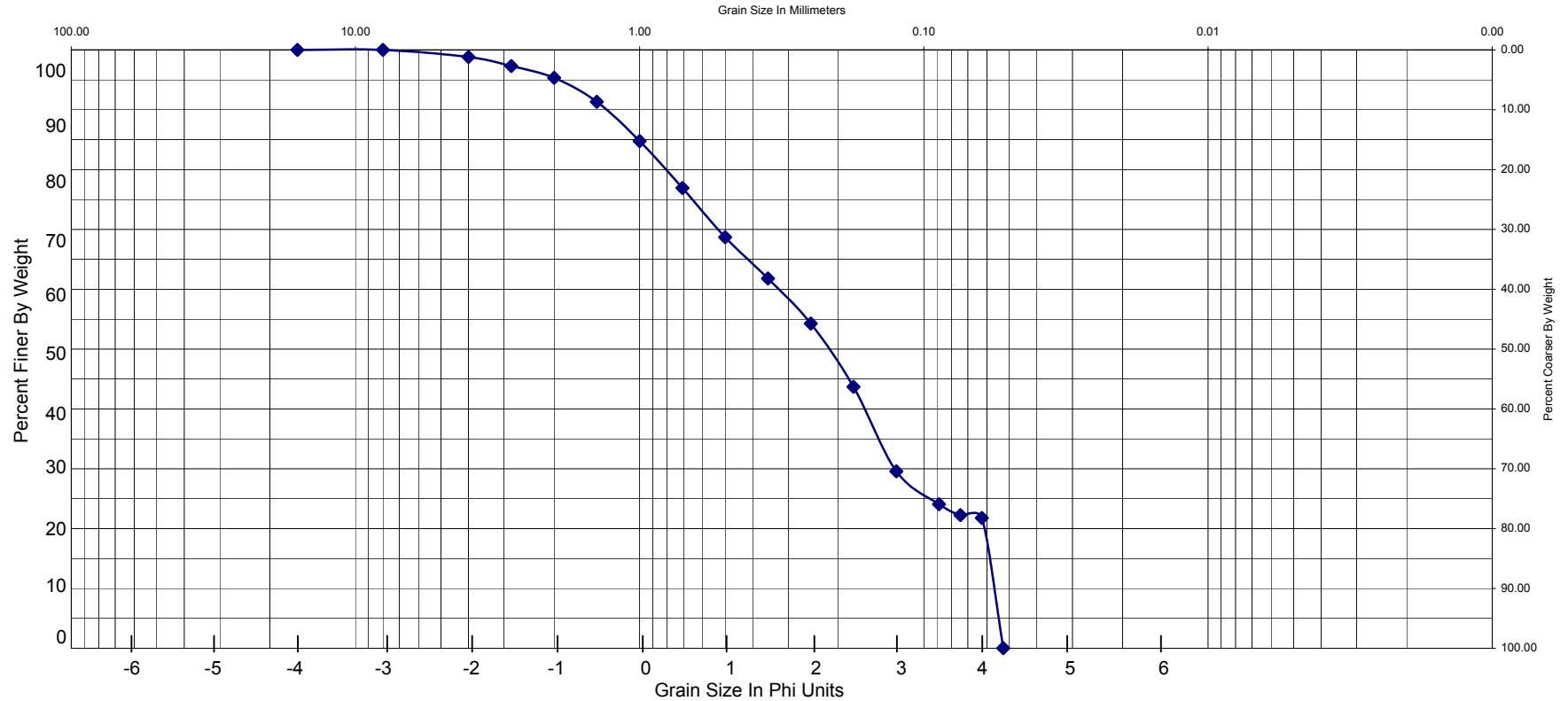


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-23#2	3.5		SW	4.49	0.17	0.21	-0.56	2.11	1.1	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 544238.26 Feet
													Northing (Y): 789025.72 Feet
													Sample Elevation: -47.6 NGVD 29
													Coord. System: State Plane 1983 FLA West



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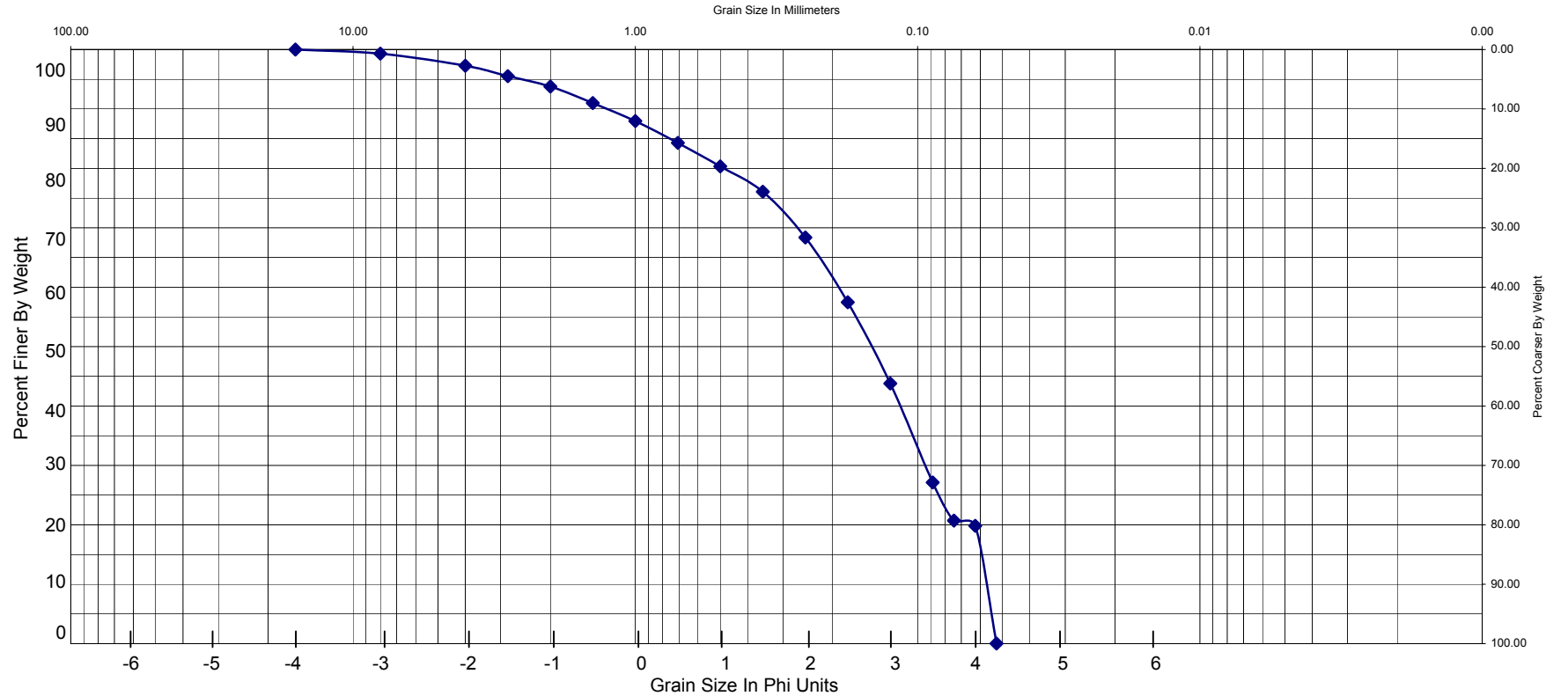
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-23#3	7.0		SM	21.76	0.22	0.26	-0.17	1.26	2.06	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID



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Easting (X):	544238.26 Feet
Northing (Y):	789025.72 Feet
Sample Elevation:	-51.1 NGVD 29
Coord. System:	State Plane 1983 FLA West



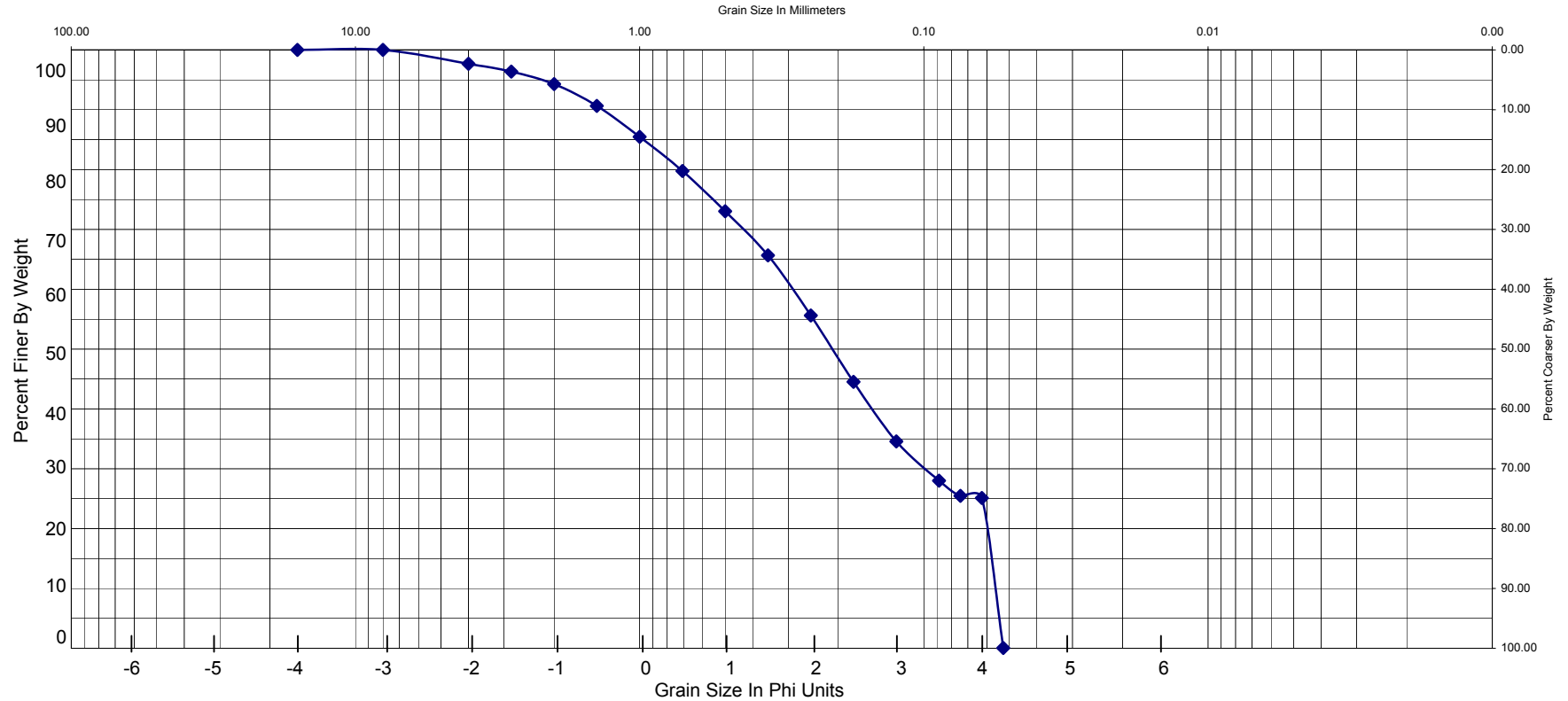
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-23#4	10.2		SM	19.82	0.15	0.22	-0.61	1.83	2.06	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID



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BOCA RATON, FLORIDA 33431

Easting (X):	544238.26 Feet
Northing (Y):	789025.72 Feet
Sample Elevation:	-54.3 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-00-23#5	12.0		SM	25.08	0.21	0.24	-0.27	1.34	2.16	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID



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2481 N. W. BOCA RATON BLVD.
BOCA RATON, FLORIDA 33431

Easting (X):	544238.26 Feet
Northing (Y):	789025.72 Feet
Sample Elevation:	-56.1 NGVD 29
Coord. System:	State Plane 1983 FLA West



