

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=542107.80 Y=791234.92		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-00-15		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 8/10/00 Completed 14:12		
8. DEPTH DRILLED INTO ROCK N/A		17. ELEVATION TOP OF HOLE -40.1 ft		
9. TOTAL DEPTH OF HOLE 19.2 FT		18. TOTAL CORE RECOVERY FOR BORING 96.3%		
		19. SIGNATURE OF GEOLOGIST SK/ID		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-40.1	0					
	1		SAND, fine grained, some shell hash/ shell fragments/whole shells, gray (5Y-5/1), (SP). 1.5" whole shell @ 1.4', 1" whole shell @ 1.7'.		1	Sample #1, Depth = 2.0' Mean (mm): 0.42, Phi Sorting: 1.24 Silt: 1.82% (SW)
-44.1	4		SAND, medium grained, little shell hash/fragments, gray (5Y-5/1), (SP).		2	Sample #2, Depth = 4.6' Mean (mm): 0.31, Phi Sorting: 0.97 Silt: 1.84% (SP)
-45.8	6		SHELLY SAND, (SP).			
	7		SAND, fine grained, trace shell hash/shell fragments, gray (5Y-6/1), (SP).		3	Sample #3, Depth = 7.0' Mean (mm): 0.22, Phi Sorting: 1.00 Silt: 4.18% (SP)
-48.1	8		SAND, fine grained, trace shell hash/shell fragments, gray (5Y-6/1), (SP).		4	Sample #4, Depth = 9.0' Mean (mm): 0.17, Phi Sorting: 1.1 Silt: 10.76% (SW-SM)
-49.7	10		SAND, fine grained, little silt/clay (calcareous), thin lenses of silt/clay between 9.6' & 10.0', gray (5Y-5/1), (SM).		5	Sample #5, Depth = 10.5' Mean (mm): 0.17, Phi Sorting: 1.76 Silt: 38.32% (SM)
-52	12		CARBONATE CLASTS, clast size range from fine to 4", gray (5Y-5/1), (GP).			
-55.9	16		SAND, medium grained, trace silt/clay, trace shell hash/ shell fragments, gray (5Y-5/1), (SP-SM). 3" shell fragment @16.5.		6	Sample #6, Depth = 17.0' Mean (mm): 0.29, Phi Sorting: 1.43 Silt: 6.40% (SW-SM)
-58.6	18		No Recovery			
-59.3	19		End of Boring			
	20		Note: 1) Soils are field visually classified in accordance with the Unified Soil Classification System.			Note: This column contains laboratory data.
	21					
	22					
	23					
	24					

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-15#1
 Date: 1/1/2001
 By: ID



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

Elevation:	-42.1	Feet	Easting:	542107.80	State Plane	1983
Reference:	NGVD 29		Northing:	791234.92	FLA West	Feet

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

Dry Wt.	52.25	Percent Silt:	1.82
Wash Wt.	51.31		

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	0.190	0.364	0.190	0.364
7	-1.500	2.828	0.470	0.900	0.660	1.263
10	-1.000	2.000	0.710	1.359	1.370	2.622
14	-0.500	1.414	1.550	2.967	2.920	5.589
18	0.000	1.000	3.340	6.392	6.260	11.981
25	0.500	0.707	4.880	9.340	11.140	21.321
35	1.000	0.500	6.400	12.249	17.540	33.569
45	1.500	0.354	8.730	16.708	26.270	50.278
60	2.000	0.250	15.760	30.163	42.030	80.440
80	2.500	0.177	7.510	14.373	49.540	94.813
120	3.000	0.125	0.070	0.134	49.610	94.947
170	3.500	0.088	1.640	3.139	51.250	98.086
200	3.750	0.074	0.040	0.077	51.290	98.163
230	4.000	0.063	0.010	0.019	51.300	98.182
Pan	Pan	0.053	0.950	1.818	52.250	100.000

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.60	0.22	0.65	1.49	1.91	2.12	3.01

Median phi:	1.49	Median mm:	0.36
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.25	0.42	1.02	-0.36	1.17
Moment	1.26	0.42	1.24	-0.13	1.66

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-15#2
 Date: 1/1/2001
 By: ID



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

Elevation:	-44.7	Feet	Easting:	542107.80	State Plane	1983
Reference:	NGVD 29		Northing:	791234.92	FLA West	Feet

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

Dry Wt.	62.89	Percent Silt:	1.84
Wash Wt.	61.73		

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	0.070	0.111	0.070	0.111
7	-1.500	2.828	0.070	0.111	0.140	0.223
10	-1.000	2.000	0.250	0.398	0.390	0.620
14	-0.500	1.414	0.740	1.177	1.130	1.797
18	0.000	1.000	1.520	2.417	2.650	4.214
25	0.500	0.707	3.450	5.486	6.100	9.699
35	1.000	0.500	4.590	7.298	10.690	16.998
45	1.500	0.354	6.110	9.715	16.800	26.713
60	2.000	0.250	20.200	32.120	37.000	58.833
80	2.500	0.177	18.060	28.717	55.060	87.550
120	3.000	0.125	6.080	9.668	61.140	97.217
170	3.500	0.088	0.440	0.700	61.580	97.917
200	3.750	0.074	0.130	0.207	61.710	98.124
230	4.000	0.063	0.010	0.016	61.720	98.140
Pan	Pan	0.053	1.160	1.844	62.880	99.984

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
0.07	0.93	1.41	1.86	2.28	2.44	2.88

Median phi:	1.86	Median mm:	0.28
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.64	0.32	0.80	-0.48	1.33
Moment	1.70	0.31	0.97	-0.45	1.84

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-15#3
 Date: 1/1/2001
 By: ID



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

Elevation:	-47.1	Feet	Easting:	542107.80	State Plane	1983
Reference:	NGVD 29		Northing:	791234.92	FLA West	Feet

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

Dry Wt.	67.66	Percent Silt:	4.18
Wash Wt.	64.84		

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	0.360	0.532	0.360	0.532
5	-2.000	4.000	0.160	0.236	0.520	0.769
7	-1.500	2.828	0.120	0.177	0.640	0.946
10	-1.000	2.000	0.170	0.251	0.810	1.197
14	-0.500	1.414	0.450	0.665	1.260	1.862
18	0.000	1.000	0.870	1.286	2.130	3.148
25	0.500	0.707	1.350	1.995	3.480	5.143
35	1.000	0.500	2.100	3.104	5.580	8.247
45	1.500	0.354	3.350	4.951	8.930	13.198
60	2.000	0.250	10.430	15.415	19.360	28.614
80	2.500	0.177	20.230	29.899	39.590	58.513
120	3.000	0.125	21.470	31.732	61.060	90.245
170	3.500	0.088	3.250	4.803	64.310	95.049
200	3.750	0.074	0.410	0.606	64.720	95.655
230	4.000	0.063	0.090	0.133	64.810	95.788
Pan	Pan	0.053	2.830	4.183	67.640	99.970

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
0.46	1.59	1.88	2.36	2.76	2.90	3.49

Median phi:	2.36	Median mm:	0.20
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.16	0.22	0.79	-0.44	1.42
Moment	2.21	0.22	1.00	-0.49	2.08

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-15#4
 Date: 1/1/2001
 By: ID



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

Elevation:	-49.1	Feet	Easting:	542107.80	State Plane	1983
Reference:	NGVD 29		Northing:	791234.92	FLA West	Feet

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

Dry Wt.	66.37	Percent Silt:	10.76
Wash Wt.	59.26		

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	0.300	0.452	0.300	0.452
10	-1.000	2.000	0.230	0.347	0.530	0.799
14	-0.500	1.414	0.490	0.738	1.020	1.537
18	0.000	1.000	0.720	1.085	1.740	2.622
25	0.500	0.707	0.960	1.446	2.700	4.068
35	1.000	0.500	1.330	2.004	4.030	6.072
45	1.500	0.354	1.980	2.983	6.010	9.055
60	2.000	0.250	5.580	8.407	11.590	17.463
80	2.500	0.177	13.640	20.551	25.230	38.014
120	3.000	0.125	24.340	36.673	49.570	74.687
170	3.500	0.088	7.540	11.361	57.110	86.048
200	3.750	0.074	1.720	2.592	58.830	88.639
230	4.000	0.063	0.380	0.573	59.210	89.212
Pan	Pan	0.053	7.140	10.758	66.350	99.970

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
0.73	1.91	2.18	2.66	3.01	3.41	4.13

Median phi:	2.66	Median mm:	0.16
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.57	0.17	0.89	-0.23	1.68
Moment	2.58	0.17	1.10	-0.28	2.04

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-15#5
 Date: 1/1/2001
 By: ID



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

Elevation:	-50.6	Feet	Easting:	542107.80	State Plane	1983
Reference:	NGVD 29		Northing:	791234.92	FLA West	Feet

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

Dry Wt.	74.02	Percent Silt:	38.32
Wash Wt.	45.76		

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	0.300	0.405	0.300	0.405
7	-1.500	2.828	0.390	0.527	0.690	0.932
10	-1.000	2.000	0.470	0.635	1.160	1.567
14	-0.500	1.414	1.230	1.662	2.390	3.229
18	0.000	1.000	2.260	3.053	4.650	6.282
25	0.500	0.707	2.840	3.837	7.490	10.119
35	1.000	0.500	4.070	5.499	11.560	15.617
45	1.500	0.354	5.420	7.322	16.980	22.940
60	2.000	0.250	6.150	8.309	23.130	31.248
80	2.500	0.177	7.390	9.984	30.520	41.232
120	3.000	0.125	9.120	12.321	39.640	53.553
170	3.500	0.088	3.820	5.161	43.460	58.714
200	3.750	0.074	1.490	2.013	44.950	60.727
230	4.000	0.063	0.690	0.932	45.640	61.659
Pan	Pan	0.053	28.360	38.314	74.000	99.973

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.21	1.03	1.62	2.86	4.09	4.15	4.22

Median phi:	2.86	Median mm:	0.14
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.41	0.19	1.45	-0.37	0.74
Moment	2.53	0.17	1.76	-0.37	1.45

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-15#6
 Date: 1/1/2001
 By: ID



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

Elevation:	-57.1	Feet	Easting:	542107.80	State Plane	1983
Reference:	NGVD 29		Northing:	791234.92	FLA West	Feet

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

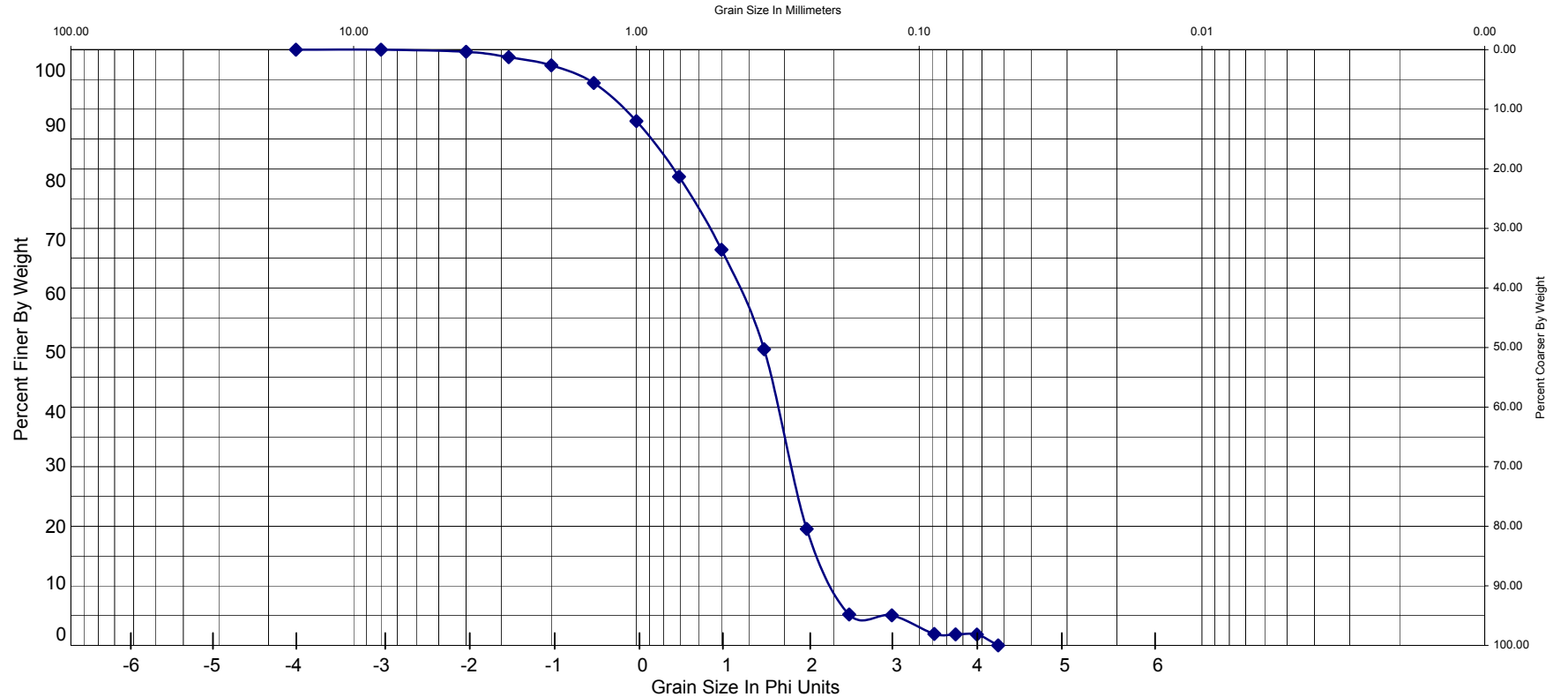
Dry Wt.	76.38	Percent Silt:	6.40
Wash Wt.	71.50		

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	0.400	0.524	0.400	0.524
10	-1.000	2.000	0.930	1.218	1.330	1.741
14	-0.500	1.414	1.960	2.566	3.290	4.307
18	0.000	1.000	2.250	2.946	5.540	7.253
25	0.500	0.707	3.680	4.818	9.220	12.071
35	1.000	0.500	5.580	7.306	14.800	19.377
45	1.500	0.354	9.040	11.836	23.840	31.212
60	2.000	0.250	19.920	26.080	43.760	57.292
80	2.500	0.177	18.370	24.051	62.130	81.343
120	3.000	0.125	7.100	9.296	69.230	90.639
170	3.500	0.088	1.900	2.488	71.130	93.126
200	3.750	0.074	0.320	0.419	71.450	93.545
230	4.000	0.063	0.030	0.039	71.480	93.585
Pan	Pan	0.053	4.890	6.402	76.370	99.987

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.38	0.77	1.24	1.86	2.37	2.64	4.05

Median phi:	1.86	Median mm:	0.28
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.79	0.29	1.14	-0.10	1.61
Moment	1.79	0.29	1.43	0.05	2.01

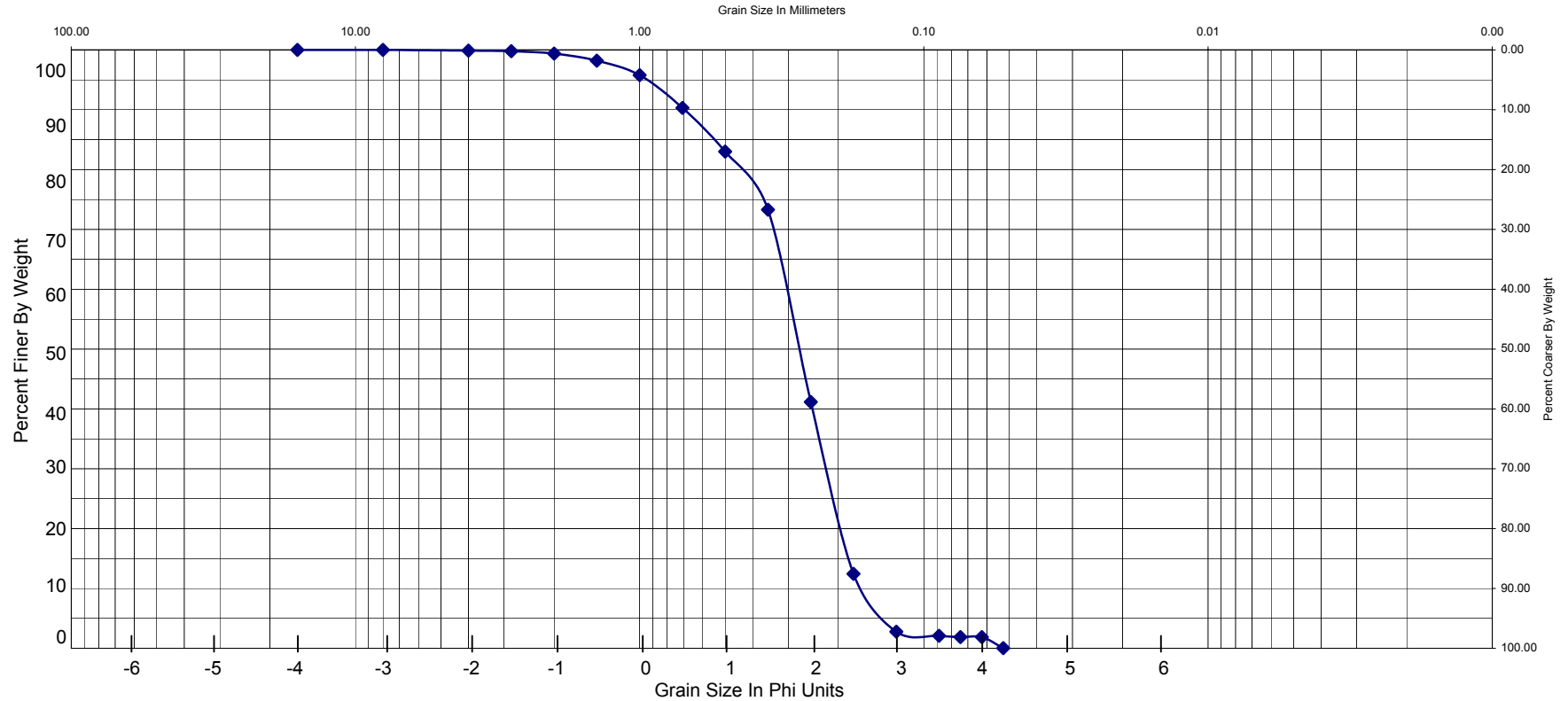


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-15#1	2.0		SW	1.82	0.36	0.42	-0.13	1.66	1.24	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 542107.80 Feet
													Northing (Y): 791234.92 Feet
													Sample Elevation: -42.1 NGVD 29
													Coord. System: State Plane 1983 FLA West



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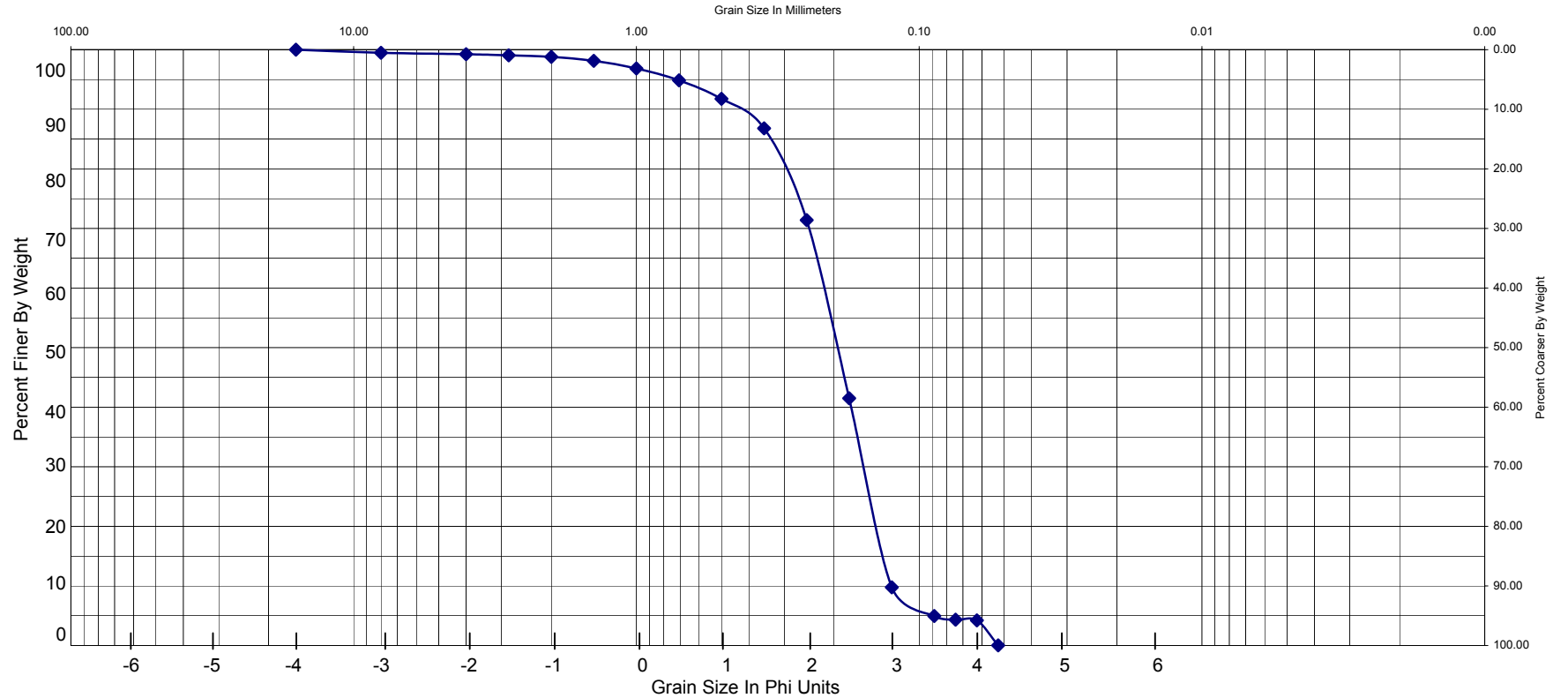


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-15#2	4.6		SP	1.84	0.28	0.31	-0.45	1.84	0.97	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 542107.80 Feet
													Northing (Y): 791234.92 Feet
													Sample Elevation: -44.7 NGVD 29
													Coord. System: State Plane 1983 FLA West



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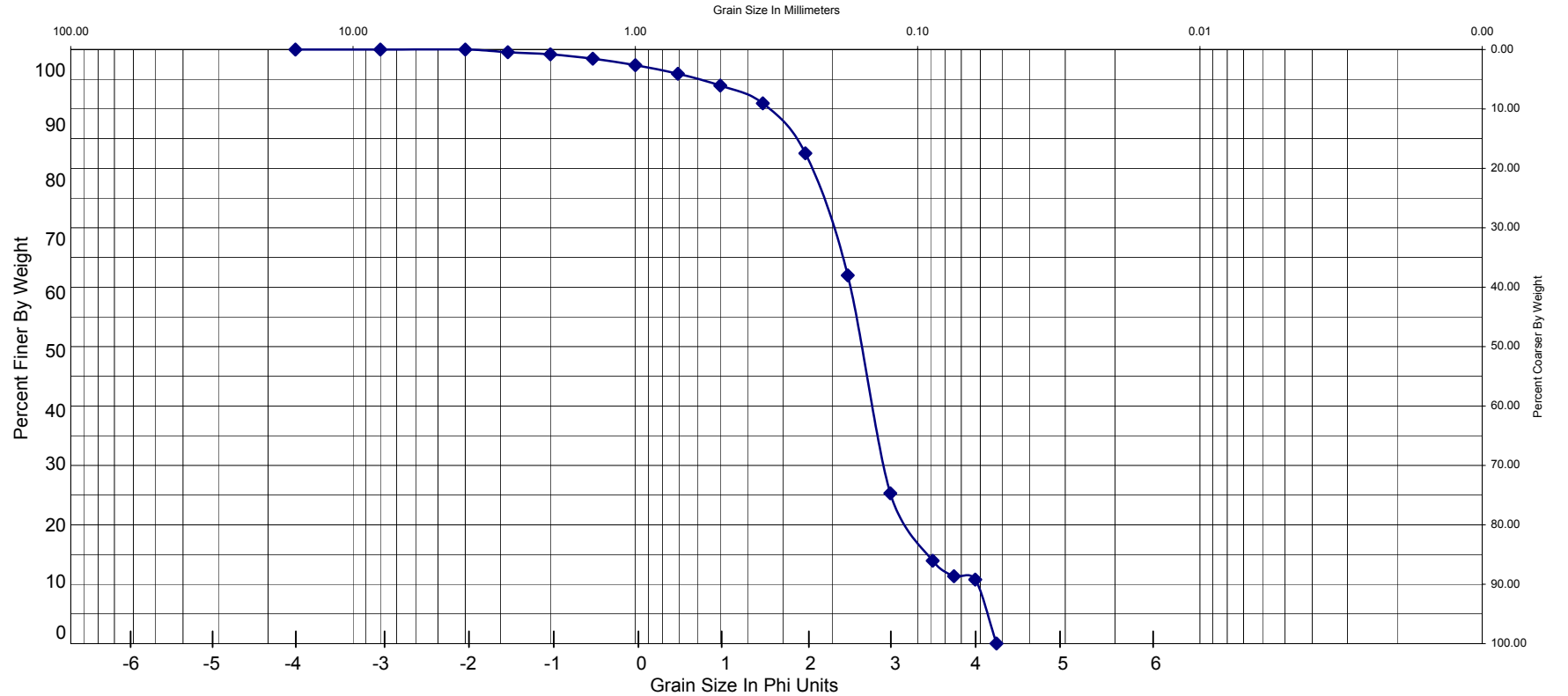


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-15#3	7.0		SP	4.18	0.19	0.22	-0.49	2.08	1	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 542107.80 Feet
													Northing (Y): 791234.92 Feet
													Sample Elevation: -47.1 NGVD 29
													Coord. System: State Plane 1983 FLA West



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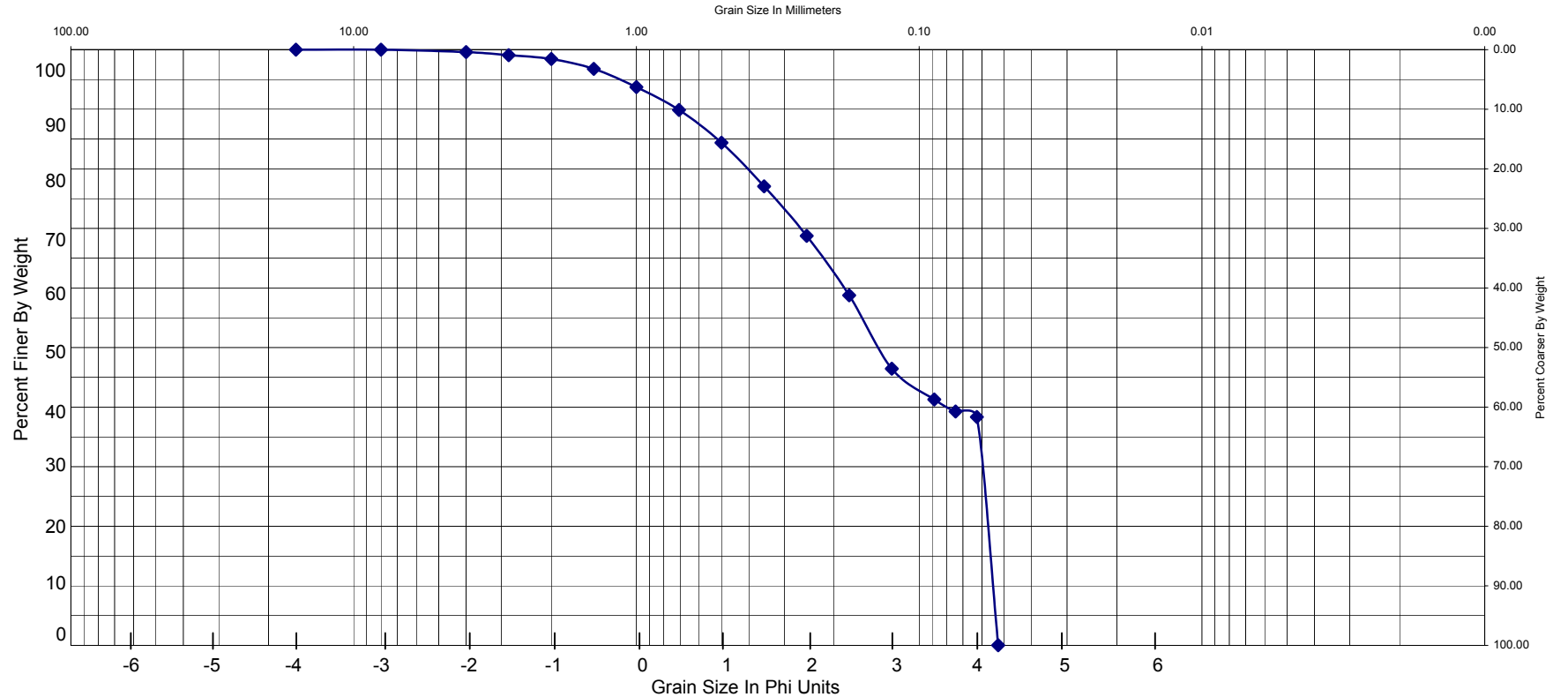


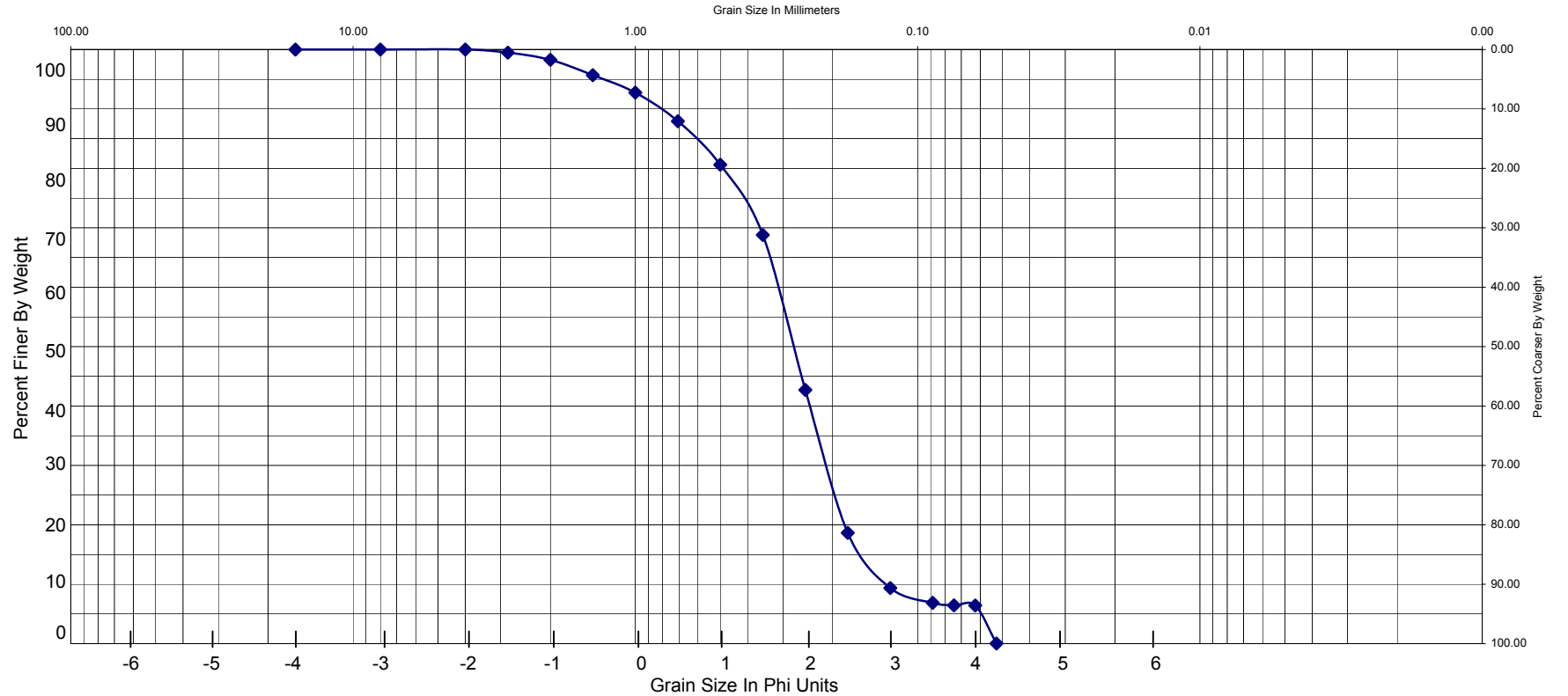
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-15#4	9.0		SW-SM	10.76	0.16	0.17	-0.28	2.04	1.1	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 542107.80 Feet
													Northing (Y): 791234.92 Feet
													Sample Elevation: -49.1 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-00-15#6	17.0		SW-SM	6.40	0.28	0.29	0.05	2.01	1.43	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):	542107.80 Feet
Northing (Y):	791234.92 Feet
Sample Elevation:	-57.1 NGVD 29
Coord. System:	State Plane 1983 FLA West



