

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 = 542373.48 Y= 790078.73		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-00-21		13. TOT NO. OF OVERBURDEN SAMPLES TAKEN Disturbed: 0.0 Undisturbed: 0.0		
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 7:46		
8. DEPTH DRILLED INTO ROCK N/A		17. ELEVATION TOP OF HOLE -41.7 ft		
9. TOTAL DEPTH OF HOLE 19.4 ft		18. TOTAL CORE RECOVERY FOR BORING 91.7%		
		19. SIGNATURE OF GEOLOGIST ID		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-41.7	0					
-43.6	1		SAND, fine grained, some shell hash/shell fragments, gray (5Y-6/1), (SP).		1	Sample #1, Depth = 1.0' Mean (mm): 0.35, Phi Sorting: 1.10 Silt: 1.28% (SW)
-45.7	2		SAND, fine grained, some shell hash/ shell fragments, light gray (5Y-7/1), (SP).		2	Sample #2, Depth = 4.0' Mean (mm): 0.16, Phi Sorting:0.87 Silt: 6.94% (SW-SM)
-49.4	3		fine grained, trace shell hash, light gray (5Y-7/1), (SP).		3	Sample #3, Depth = 6.0' Mean (mm):0.16, Phi Sorting:0.95 Silt: 9.18% (SW-SM)
-53.3	4		CARBONATE CLASTS, from silt/clay size to 2.5" carbonate fragments, predominantly calcareous sand, light gray (5Y-7/1), (GM-GC).		4	Sample #4 , Depth = 12.5 Mean(mm): 0.21, Phi Sorting: 1.56 Silt : 15.73% (SM)
-55.4	5		CARBONATE CLASTS, predominantly silty sand (calcareous), light gray (5Y-7/1), (GM).			
-59.4	6		SAND, fine grained, calcareous, light gray (5Y-7/1), (SP).		5	Sample #5 , Depth = 14.0 Mean(mm) :0.40, Phi Sorting :1.90 Silt : 9.66% (SW-SM)
-61	7		No Recovery			
	8		End of Boring			
	9		Note: 1) Soils are field visually classified in accordance with the Unified Soil Classification System.			Note: This column contains laboratory data.
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Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-21#1
 Date: 1/1/2001
 By: ID



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

Elevation:	-42.7	Feet	Easting:	542373.48	State Plane	1983
Reference:	NGVD 29		Northing:	790078.73	FLA West	Feet

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

Dry Wt.	88.87	Percent Silt:	1.28
Wash Wt.	87.73		

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	0.079	0.070	0.079
7	-1.500	2.828	0.700	0.788	0.770	0.866
10	-1.000	2.000	0.840	0.945	1.610	1.812
14	-0.500	1.414	1.800	2.025	3.410	3.837
18	0.000	1.000	3.230	3.635	6.640	7.472
25	0.500	0.707	5.430	6.110	12.070	13.582
35	1.000	0.500	7.100	7.989	19.170	21.571
45	1.500	0.354	9.840	11.072	29.010	32.643
60	2.000	0.250	28.720	32.317	57.730	64.960
80	2.500	0.177	21.710	24.429	79.440	89.389
120	3.000	0.125	7.880	8.867	87.320	98.256
170	3.500	0.088	0.360	0.405	87.680	98.661
200	3.750	0.074	0.040	0.045	87.720	98.706
230	4.000	0.063	0.010	0.011	87.730	98.717
Pan	Pan	0.053	1.140	1.283	88.870	100.000

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.34	0.65	1.15	1.77	2.21	2.39	2.82

Median phi:	1.77	Median mm:	0.29
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.46	0.36	0.91	-0.56	1.23
Moment	1.52	0.35	1.10	-0.49	1.82

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-21#2
 Date: 1/1/2001
 By: ID



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

Elevation:	-45.7	Feet	Easting:	542373.48	State Plane	1983
Reference:	NGVD 29		Northing:	790078.73	FLA West	Feet

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

Dry Wt.	95.84	Percent Silt:	6.94
Wash Wt.	89.24		

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	0.430	0.449	0.430	0.449
7	-1.500	2.828	0.130	0.136	0.560	0.584
10	-1.000	2.000	0.260	0.271	0.820	0.856
14	-0.500	1.414	0.550	0.574	1.370	1.429
18	0.000	1.000	0.620	0.647	1.990	2.076
25	0.500	0.707	0.760	0.793	2.750	2.869
35	1.000	0.500	0.990	1.033	3.740	3.902
45	1.500	0.354	1.780	1.857	5.520	5.760
60	2.000	0.250	5.550	5.791	11.070	11.551
80	2.500	0.177	21.170	22.089	32.240	33.639
120	3.000	0.125	45.650	47.631	77.890	81.271
170	3.500	0.088	9.720	10.142	87.610	91.413
200	3.750	0.074	1.280	1.336	88.890	92.748
230	4.000	0.063	0.290	0.303	89.180	93.051
Pan	Pan	0.053	6.650	6.939	95.830	99.990

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
1.30	2.10	2.30	2.67	2.93	3.13	4.07

Median phi:	2.67	Median mm:	0.16
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.65	0.16	0.68	-0.04	1.81
Moment	2.64	0.16	0.87	0.10	2.17

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-21#3
 Date: 1/1/2001
 By: ID



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

Elevation:	-47.7	Feet	Easting:	542373.48	State Plane	1983
Reference:	NGVD 29		Northing:	790078.73	FLA West	Feet

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

Dry Wt.	91.59	Percent Silt:	9.18
Wash Wt.	83.19		

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	0.131	0.120	0.131
7	-1.500	2.828	0.050	0.055	0.170	0.186
10	-1.000	2.000	0.220	0.240	0.390	0.426
14	-0.500	1.414	0.340	0.371	0.730	0.797
18	0.000	1.000	0.750	0.819	1.480	1.616
25	0.500	0.707	1.060	1.157	2.540	2.773
35	1.000	0.500	1.540	1.681	4.080	4.455
45	1.500	0.354	2.220	2.424	6.300	6.878
60	2.000	0.250	5.300	5.787	11.600	12.665
80	2.500	0.177	15.320	16.727	26.920	29.392
120	3.000	0.125	43.540	47.538	70.460	76.930
170	3.500	0.088	10.440	11.399	80.900	88.328
200	3.750	0.074	1.960	2.140	82.860	90.468
230	4.000	0.063	0.310	0.338	83.170	90.807
Pan	Pan	0.053	8.410	9.182	91.580	99.989

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
1.11	2.10	2.37	2.72	2.98	3.31	4.11

Median phi:	2.72	Median mm:	0.15
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.67	0.16	0.76	-0.15	2.01
Moment	2.67	0.16	0.95	-0.14	2.14

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-21#4
 Date: 1/1/2001
 By: ID



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

Elevation:	-54.2	Feet	Easting:	542373.48	State Plane	1983
Reference:	NGVD 29		Northing:	790078.73	FLA West	Feet

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

Dry Wt.	89.97	Percent Silt:	15.73
Wash Wt.	75.85		

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	1.280	1.423	1.280	1.423
7	-1.500	2.828	0.660	0.734	1.940	2.156
10	-1.000	2.000	0.550	0.611	2.490	2.768
14	-0.500	1.414	0.990	1.100	3.480	3.868
18	0.000	1.000	1.460	1.623	4.940	5.491
25	0.500	0.707	2.560	2.845	7.500	8.336
35	1.000	0.500	7.170	7.969	14.670	16.305
45	1.500	0.354	11.810	13.127	26.480	29.432
60	2.000	0.250	8.360	9.292	34.840	38.724
80	2.500	0.177	8.730	9.703	43.570	48.427
120	3.000	0.125	24.930	27.709	68.500	76.136
170	3.500	0.088	6.560	7.291	75.060	83.428
200	3.750	0.074	0.590	0.656	75.650	84.084
230	4.000	0.063	0.150	0.167	75.800	84.250
Pan	Pan	0.053	14.150	15.727	89.950	99.978

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.15	0.98	1.33	2.53	2.98	3.71	4.17

Median phi:	2.53	Median mm:	0.17
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.25	0.21	1.34	-0.32	1.07
Moment	2.22	0.21	1.56	-0.21	1.52

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-21#5
 Date: 1/1/2001
 By: ID



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

Elevation:	-55.7	Feet	Easting:	542373.48	State Plane	1983
Reference:	NGVD 29		Northing:	790078.73	FLA West	Feet

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

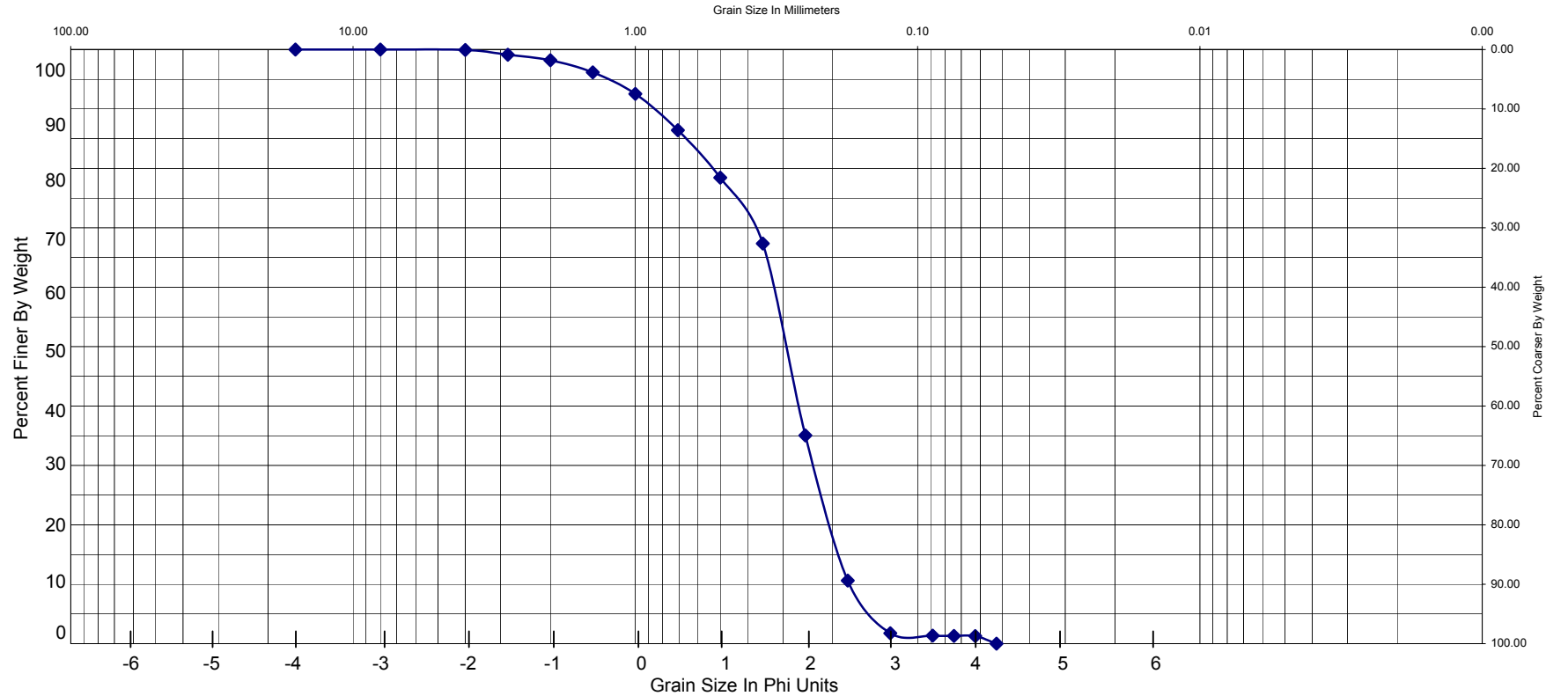
Dry Wt.	95.85	Percent Silt:	9.66
Wash Wt.	86.60		

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	2.230	2.327	2.230	2.327
7	-1.500	2.828	2.530	2.640	4.760	4.966
10	-1.000	2.000	2.500	2.608	7.260	7.574
14	-0.500	1.414	5.440	5.676	12.700	13.250
18	0.000	1.000	5.390	5.623	18.090	18.873
25	0.500	0.707	6.720	7.011	24.810	25.884
35	1.000	0.500	8.230	8.586	33.040	34.471
45	1.500	0.354	11.050	11.528	44.090	45.999
60	2.000	0.250	19.350	20.188	63.440	66.187
80	2.500	0.177	15.360	16.025	78.800	82.212
120	3.000	0.125	5.840	6.093	84.640	88.305
170	3.500	0.088	1.590	1.659	86.230	89.963
200	3.750	0.074	0.310	0.323	86.540	90.287
230	4.000	0.063	0.040	0.042	86.580	90.329
Pan	Pan	0.053	9.260	9.661	95.840	99.990

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-1.49	-0.26	0.44	1.60	2.27	2.65	4.12

Median phi:	1.60	Median mm:	0.33
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.32	0.40	1.58	-0.27	1.25
Moment	1.33	0.40	1.90	-0.06	1.71

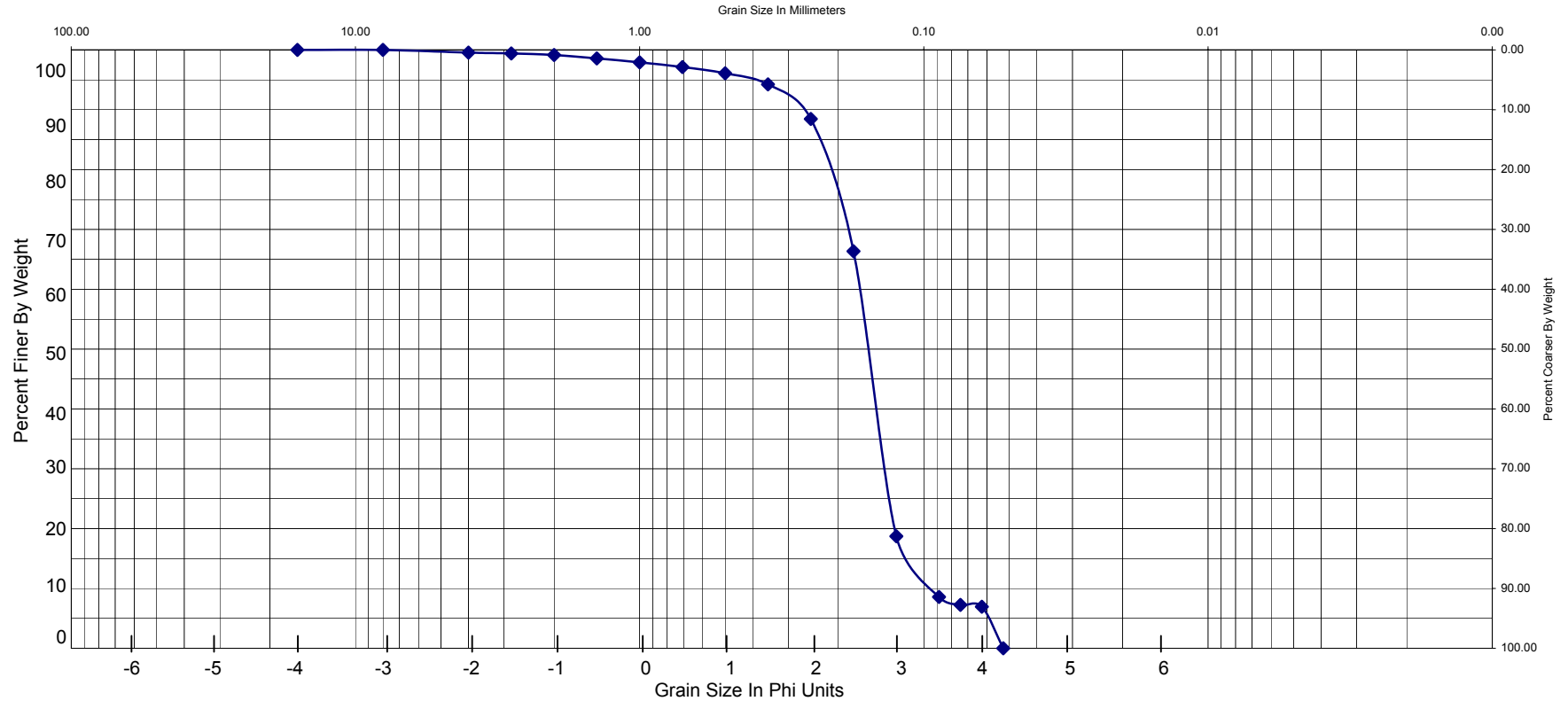


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-21#1	1.0		SW	1.28	0.29	0.35	-0.49	1.82	1.1	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 542373.48 Feet
													Northing (Y): 790078.73 Feet
													Sample Elevation: -42.7 NGVD 29
													Coord. System: State Plane 1983 FLA West



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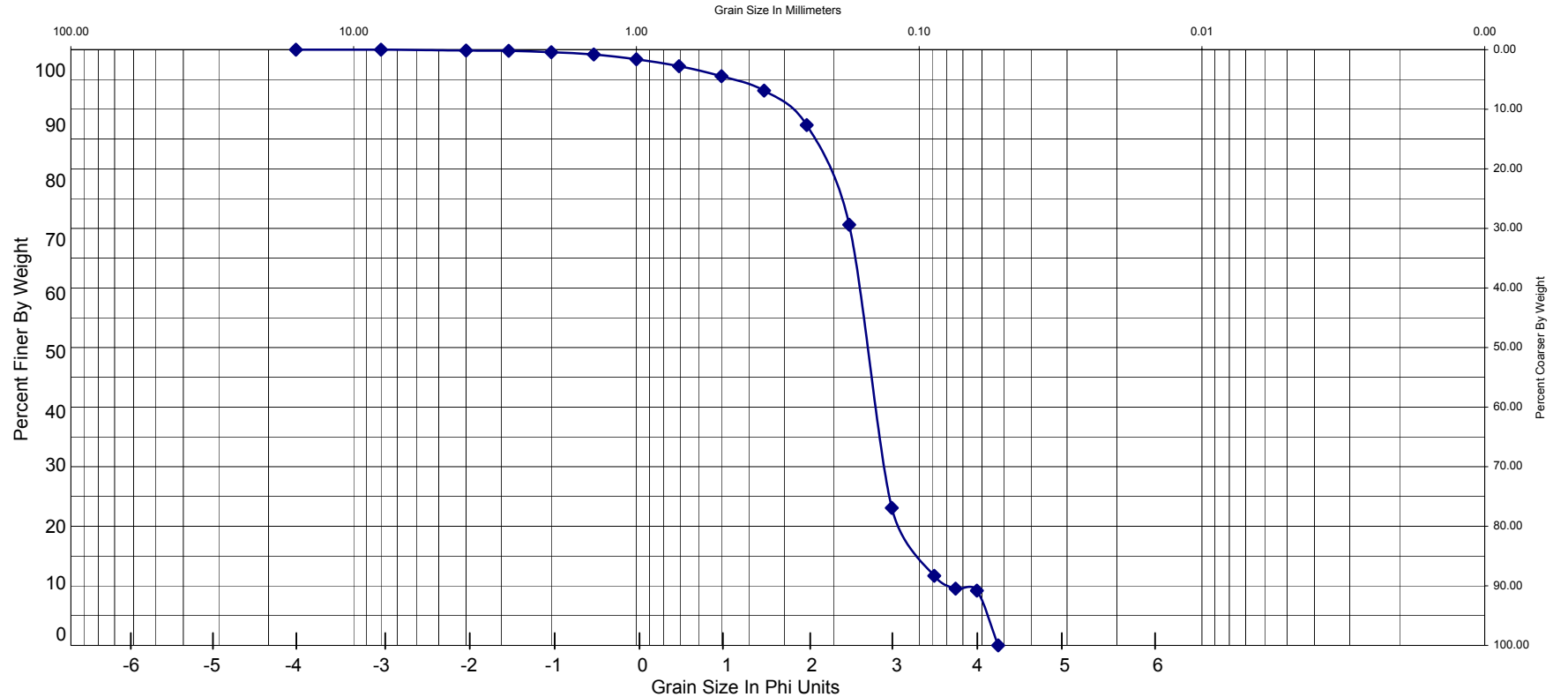


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-21#2	4.0		SW-SM	6.94	0.16	0.16	0.1	2.17	0.87	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 542373.48 Feet
													Northing (Y): 790078.73 Feet
													Sample Elevation: -45.7 NGVD 29
													Coord. System: State Plane 1983 FLA West



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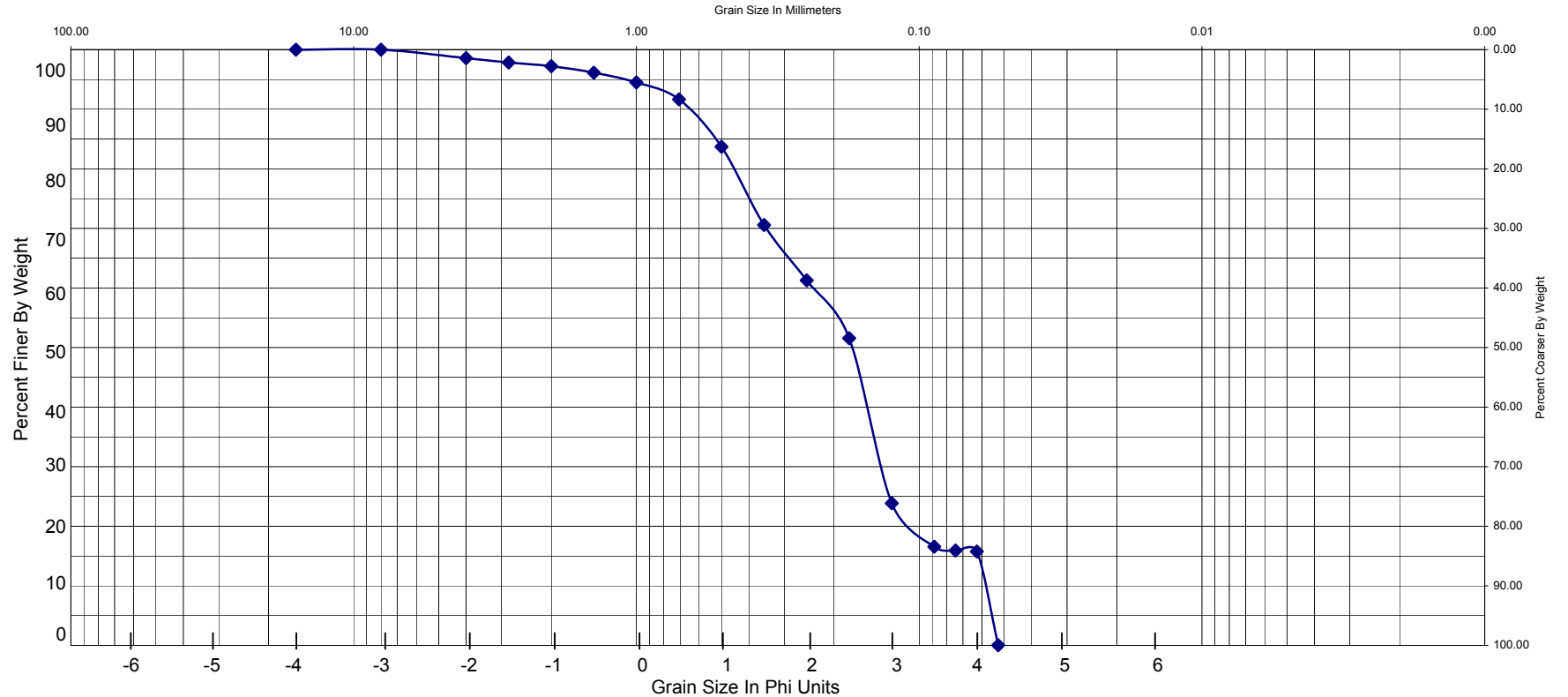


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-21#3	6.0		SW-SM	9.18	0.15	0.16	-0.14	2.14	0.95	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 542373.48 Feet
													Northing (Y): 790078.73 Feet
													Sample Elevation: -47.7 NGVD 29
													Coord. System: State Plane 1983 FLA West



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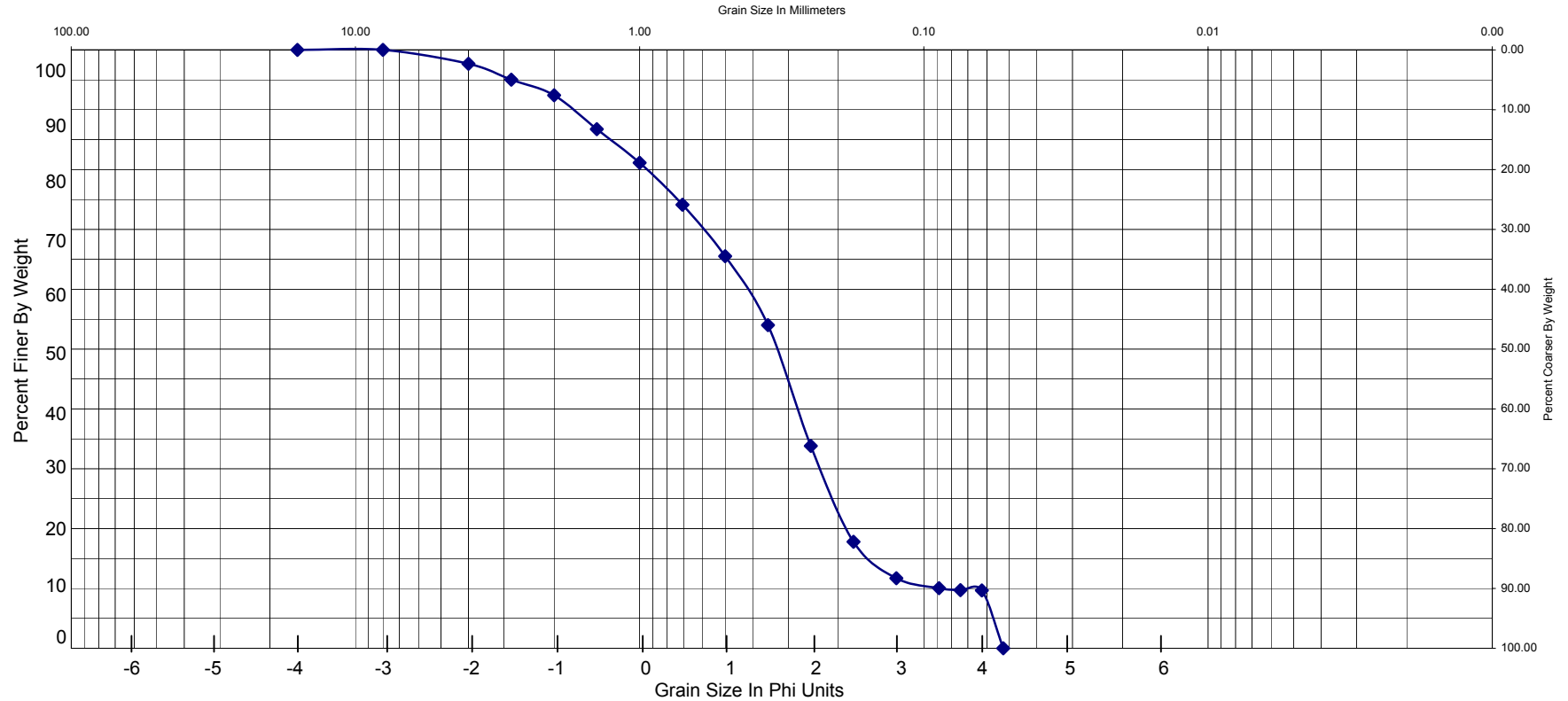


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-21#4	12.5		SM	15.73	0.17	0.21	-0.21	1.52	1.56	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 542373.48 Feet
													Northing (Y): 790078.73 Feet
													Sample Elevation: -54.2 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-00-21#5	14.0		SW-SM	9.66	0.33	0.4	-0.06	1.71	1.9	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 542373.48 Feet
													Northing (Y): 790078.73 Feet
													Sample Elevation:-55.7 NGVD 29
													Coord. System: State Plane 1983 FLA West



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