

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=541894.59 Y=792358.07		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-00-19		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 15:44		
8. DEPTH DRILLED INTO ROCK N/A		17. ELEVATION TOP OF HOLE -44.5 ft		
9. TOTAL DEPTH OF HOLE 19.3 FT		18. TOTAL CORE RECOVERY FOR BORING 98.4 %		
		19. SIGNATURE OF GEOLOGIST ID		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-44.5	0					
	1		SAND, fine grained, some shell hash/shell fragments/whole shells, gray (5Y-6/1), (SP).		1	Sample #1, Depth = 1.5' Mean (mm): 0.49, Phi Sorting: 1.24 Silt: 1.89% (SW)
-47.8	2					
	3					
	4		SAND, medium grained, little shell hash/fragments, light gray (5Y-7/1), (SP).		2	Sample #2, Depth = 4.4' Mean (mm): 0.23, Phi Sorting: 1.44 Silt: 5.92% (SW-SM)
-50.9	5					
	6					
	7		SAND, medium grained, little shell hash/fragments, light gray (5Y-7/1), (SP).		3	Sample #3, Depth = 8.5' Mean (mm): 0.41, Phi Sorting: 2.47 Silt: 15.53% (SM)
-53.7	8					
	9					
-55.1	10		SAND, fine grained, little shell hash/ shell fragments, gray (5Y-5/1), (SP).			
-56	11		CARBONATE CLASTS, ranges from silt/clay size to 2.5" carbonate fragments, predominantly calcareous sand, gray (5Y-5/1), (GM-GC).		4	Sample #4, Depth = 12.0 Mean (mm): 0.35, Phi Sorting: 1.99 Silt: 10.72% (SW-SM)
-56.8	12		SAND, fine grained, calcareous, gray (5Y-5/1), (SP).		5	Sample #5, Depth = 14.5' Mean (mm): 0.32, Phi Sorting: 1.78 Silt: 7.41% (SW-SM)
	13					
	14					
	15		medium grained, calcareous, fragments (about 2.5") of carbonate clasts/rock @ 17.7-17.8, light gray (5Y-7/1), (SP).		6	Sample #6, Depth = 16.0' Mean (mm): 0.29, Phi Sorting: 1.48 Silt: 5.60% (SW-SM)
-63.5	16					
-63.8	17					
	18					
	19		No Recovery			
	20		End of Boring			
	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-00-19#1
 Date: 1/1/2001
 By: ID



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

Elevation:	-46	Feet	Easting:	541894.59	State Plane	1983
Reference:	NGVD 29		Northing:	792358.07	FLA West	Feet

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

Dry Wt.	85.33	Percent Silt:	1.89
Wash Wt.	83.72		

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	1.250	1.465	1.250	1.465
10	-1.000	2.000	1.880	2.203	3.130	3.668
14	-0.500	1.414	3.530	4.137	6.660	7.805
18	0.000	1.000	7.520	8.813	14.180	16.618
25	0.500	0.707	9.750	11.426	23.930	28.044
35	1.000	0.500	11.560	13.547	35.490	41.591
45	1.500	0.354	13.190	15.458	48.680	57.049
60	2.000	0.250	21.160	24.798	69.840	81.847
80	2.500	0.177	10.860	12.727	80.700	94.574
120	3.000	0.125	2.670	3.129	83.370	97.703
170	3.500	0.088	0.270	0.316	83.640	98.019
200	3.750	0.074	0.050	0.059	83.690	98.078
230	4.000	0.063	0.010	0.012	83.700	98.090
Pan	Pan	0.053	1.610	1.887	85.310	99.977

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.84	-0.04	0.37	1.27	1.86	2.08	2.56

Median phi:	1.27	Median mm:	0.41
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.01	0.50	1.05	-0.34	0.93
Moment	1.04	0.49	1.24	-0.25	1.47

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-19#2
 Date: 1/1/2001
 By: ID



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

Elevation:	-48.9	Feet	Easting:	541894.59	State Plane	1983
Reference:	NGVD 29		Northing:	792358.07	FLA West	Feet

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

Dry Wt.	89.31	Percent Silt:	5.92
Wash Wt.	84.03		

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	1.390	1.556	1.390	1.556
10	-1.000	2.000	1.050	1.176	2.440	2.732
14	-0.500	1.414	1.780	1.993	4.220	4.725
18	0.000	1.000	2.000	2.239	6.220	6.965
25	0.500	0.707	2.800	3.135	9.020	10.100
35	1.000	0.500	3.360	3.762	12.380	13.862
45	1.500	0.354	4.310	4.826	16.690	18.688
60	2.000	0.250	12.350	13.828	29.040	32.516
80	2.500	0.177	20.910	23.413	49.950	55.929
120	3.000	0.125	28.840	32.292	78.790	88.221
170	3.500	0.088	4.280	4.792	83.070	93.013
200	3.750	0.074	0.830	0.929	83.900	93.942
230	4.000	0.063	0.100	0.112	84.000	94.054
Pan	Pan	0.053	5.290	5.923	89.290	99.978

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.44	1.22	1.73	2.37	2.80	2.93	4.04

Median phi:	2.37	Median mm:	0.19
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.03	0.25	1.11	-0.61	1.72
Moment	2.09	0.23	1.44	-0.48	2.23

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-19#3
 Date: 1/1/2001
 By: ID



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

Elevation:	-53	Feet	Easting:	541894.59	State Plane	1983
Reference:	NGVD 29		Northing:	792358.07	FLA West	Feet

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

Dry Wt.	88.08	Percent Silt:	15.53
Wash Wt.	74.41		

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	7.390	8.390	7.390	8.390
7	-1.500	2.828	2.750	3.122	10.140	11.512
10	-1.000	2.000	2.570	2.918	12.710	14.430
14	-0.500	1.414	4.030	4.575	16.740	19.005
18	0.000	1.000	6.020	6.835	22.760	25.840
25	0.500	0.707	5.600	6.358	28.360	32.198
35	1.000	0.500	6.680	7.584	35.040	39.782
45	1.500	0.354	7.300	8.288	42.340	48.070
60	2.000	0.250	6.930	7.868	49.270	55.938
80	2.500	0.177	8.780	9.968	58.050	65.906
120	3.000	0.125	11.040	12.534	69.090	78.440
170	3.500	0.088	4.220	4.791	73.310	83.231
200	3.750	0.074	0.960	1.090	74.270	84.321
230	4.000	0.063	0.110	0.125	74.380	84.446
Pan	Pan	0.053	13.680	15.531	88.060	99.977

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-2.40	-0.83	-0.06	1.62	2.86	3.67	4.17

Median phi:	1.62	Median mm:	0.32
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.25	0.42	2.12	-0.25	0.92
Moment	1.29	0.41	2.47	-0.23	1.43

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-19#4
 Date: 1/1/2001
 By: ID



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

Elevation:	-56.5	Feet	Easting:	541894.59	State Plane	1983
Reference:	NGVD 29		Northing:	792358.07	FLA West	Feet

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

Dry Wt.	80.63	Percent Silt:	10.72
Wash Wt.	72.00		

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	4.210	5.221	4.210	5.221
7	-1.500	2.828	0.730	0.905	4.940	6.127
10	-1.000	2.000	1.200	1.488	6.140	7.615
14	-0.500	1.414	1.650	2.046	7.790	9.661
18	0.000	1.000	2.290	2.840	10.080	12.502
25	0.500	0.707	3.340	4.142	13.420	16.644
35	1.000	0.500	6.110	7.578	19.530	24.222
45	1.500	0.354	9.350	11.596	28.880	35.818
60	2.000	0.250	18.450	22.882	47.330	58.700
80	2.500	0.177	14.880	18.455	62.210	77.155
120	3.000	0.125	7.220	8.954	69.430	86.109
170	3.500	0.088	2.000	2.480	71.430	88.590
200	3.750	0.074	0.490	0.608	71.920	89.198
230	4.000	0.063	0.060	0.074	71.980	89.272
Pan	Pan	0.053	8.640	10.716	80.620	99.988

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-2.04	0.42	1.03	1.81	2.44	2.88	4.13

Median phi:	1.81	Median mm:	0.29
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.44	0.37	1.55	-0.51	1.80
Moment	1.53	0.35	1.99	-0.55	2.28

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-19#5
 Date: 1/1/2001
 By: ID



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

Elevation:	-59	Feet	Easting:	541894.59	State Plane	1983
Reference:	NGVD 29		Northing:	792358.07	FLA West	Feet

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

Dry Wt.	83.38	Percent Silt:	7.41
Wash Wt.	77.22		

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	0.950	1.139	0.950	1.139
7	-1.500	2.828	3.310	3.970	4.260	5.109
10	-1.000	2.000	1.280	1.535	5.540	6.644
14	-0.500	1.414	1.210	1.451	6.750	8.095
18	0.000	1.000	1.650	1.979	8.400	10.074
25	0.500	0.707	1.980	2.375	10.380	12.449
35	1.000	0.500	8.090	9.703	18.470	22.152
45	1.500	0.354	8.920	10.698	27.390	32.850
60	2.000	0.250	18.800	22.547	46.190	55.397
80	2.500	0.177	19.730	23.663	65.920	79.060
120	3.000	0.125	8.460	10.146	74.380	89.206
170	3.500	0.088	2.310	2.770	76.690	91.976
200	3.750	0.074	0.350	0.420	77.040	92.396
230	4.000	0.063	0.080	0.096	77.120	92.492
Pan	Pan	0.053	6.170	7.400	83.290	99.892

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-1.51	0.68	1.13	1.88	2.41	2.74	4.08

Median phi:	1.88	Median mm:	0.27
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.57	0.34	1.36	-0.46	1.79
Moment	1.63	0.32	1.78	-0.46	2.28

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-19#6
 Date: 1/1/2001
 By: ID



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

Elevation:	-60.5	Feet	Easting:	541894.59	State Plane	1983
Reference:	NGVD 29		Northing:	792358.07	FLA West	Feet

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

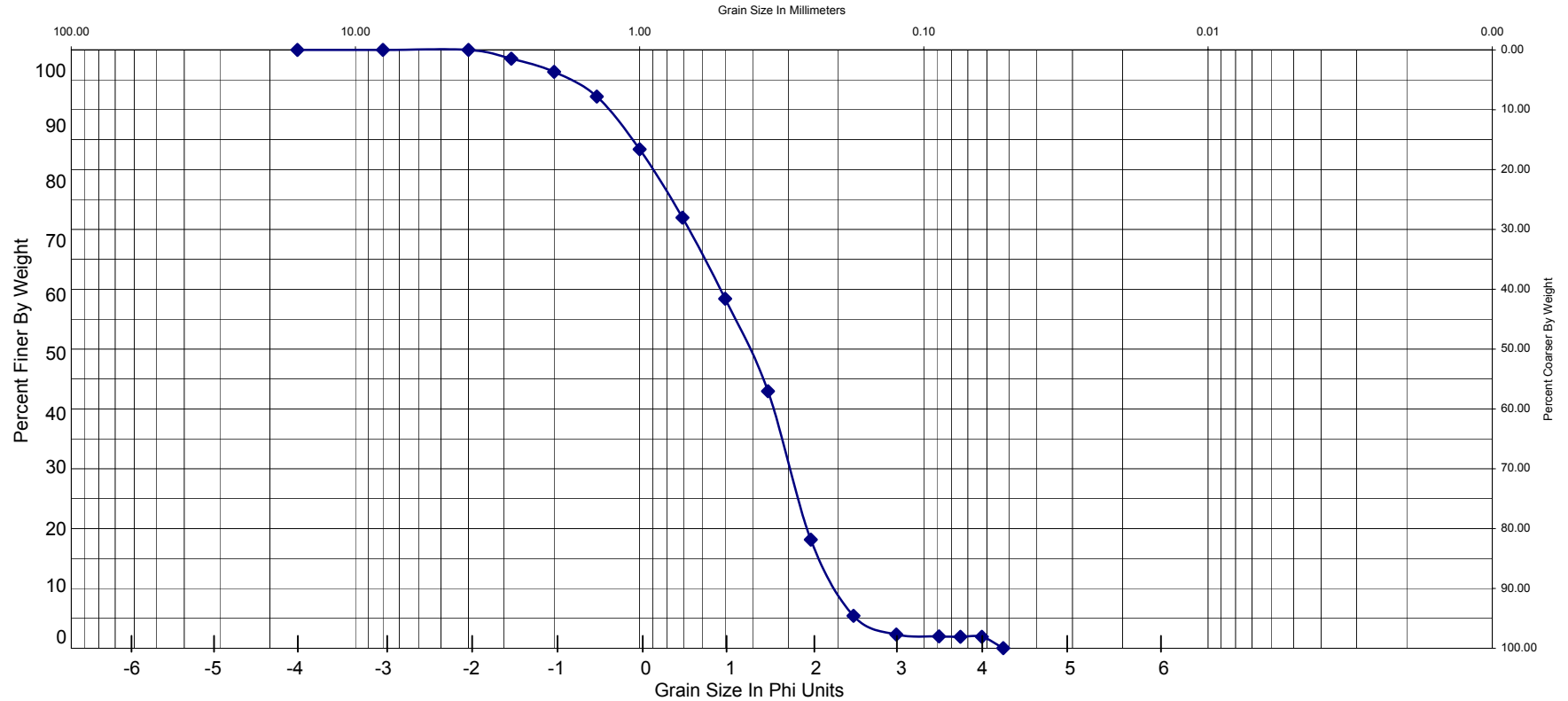
Dry Wt.	77.34	Percent Silt:	5.60
Wash Wt.	73.02		

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	1.140	1.474	1.140	1.474
7	-1.500	2.828	1.070	1.384	2.210	2.858
10	-1.000	2.000	0.580	0.750	2.790	3.607
14	-0.500	1.414	1.310	1.694	4.100	5.301
18	0.000	1.000	1.680	2.172	5.780	7.473
25	0.500	0.707	2.800	3.620	8.580	11.094
35	1.000	0.500	5.770	7.461	14.350	18.554
45	1.500	0.354	9.680	12.516	24.030	31.071
60	2.000	0.250	19.440	25.136	43.470	56.206
80	2.500	0.177	17.880	23.119	61.350	79.325
120	3.000	0.125	8.780	11.352	70.130	90.678
170	3.500	0.088	2.350	3.039	72.480	93.716
200	3.750	0.074	0.490	0.634	72.970	94.350
230	4.000	0.063	0.030	0.039	73.000	94.388
Pan	Pan	0.053	4.330	5.599	77.330	99.987

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.59	0.83	1.26	1.88	2.41	2.71	4.03

Median phi:	1.88	Median mm:	0.27
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.77	0.29	1.17	-0.17	1.65
Moment	1.79	0.29	1.48	-0.11	2.06

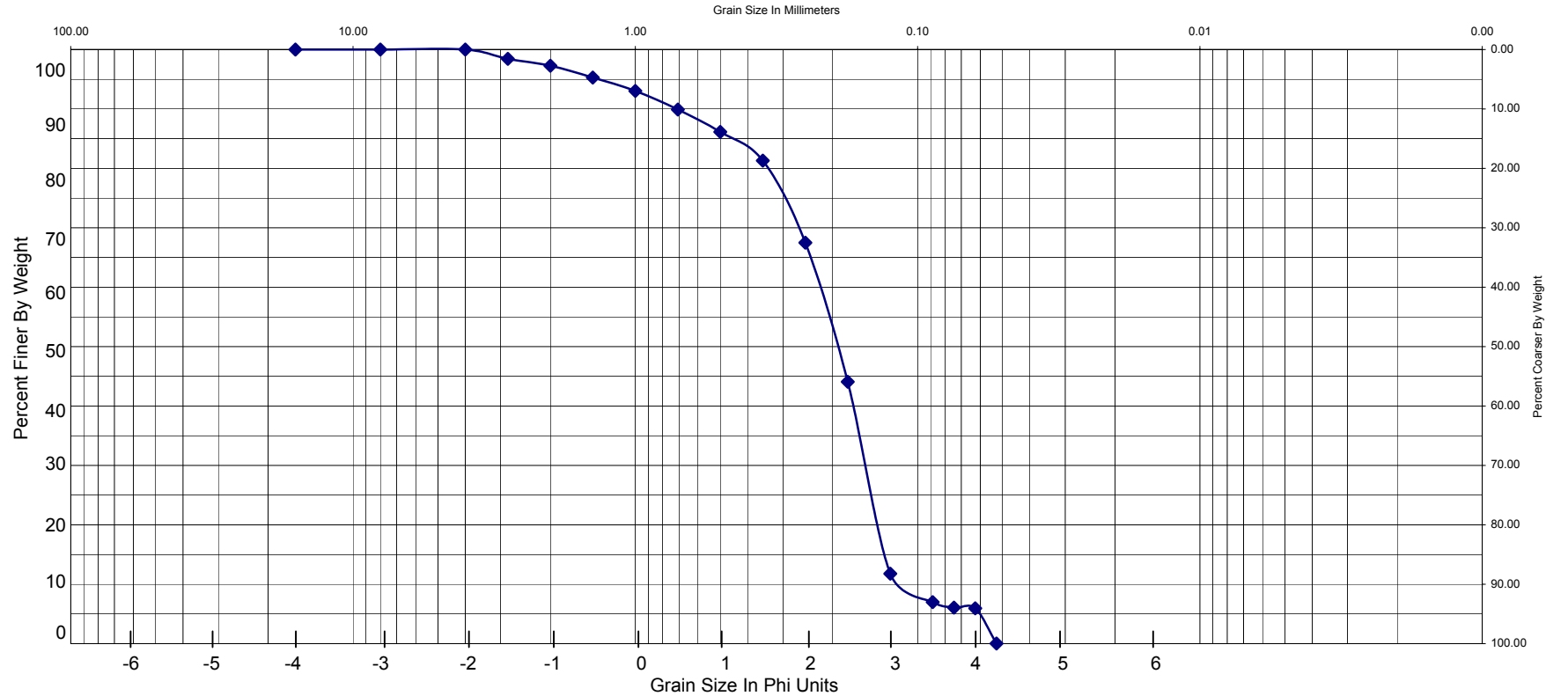


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-19#1	1.5		SW	1.89	0.41	0.49	-0.25	1.47	1.24	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 541894.59 Feet
													Northing (Y): 792358.07 Feet
													Sample Elevation: -46 NGVD 29
													Coord. System: State Plane 1983 FLA West



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BOCA RATON, FLORIDA 33431



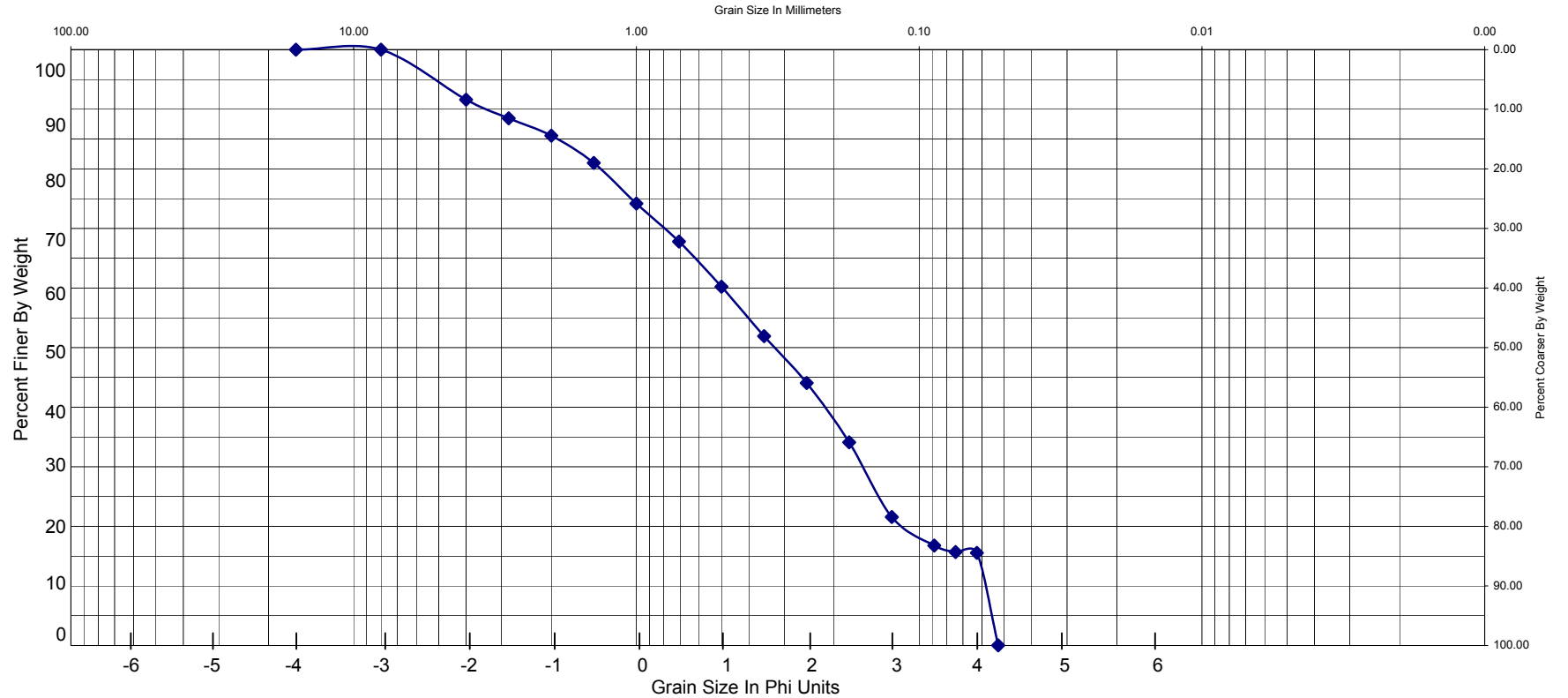
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-19#2	4.4		SW-SM	5.92	0.19	0.23	-0.48	2.23	1.44	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):	541894.59 Feet
Northing (Y):	792358.07 Feet
Sample Elevation:	-48.9 NGVD 29
Coord. System:	State Plane 1983 FLA West



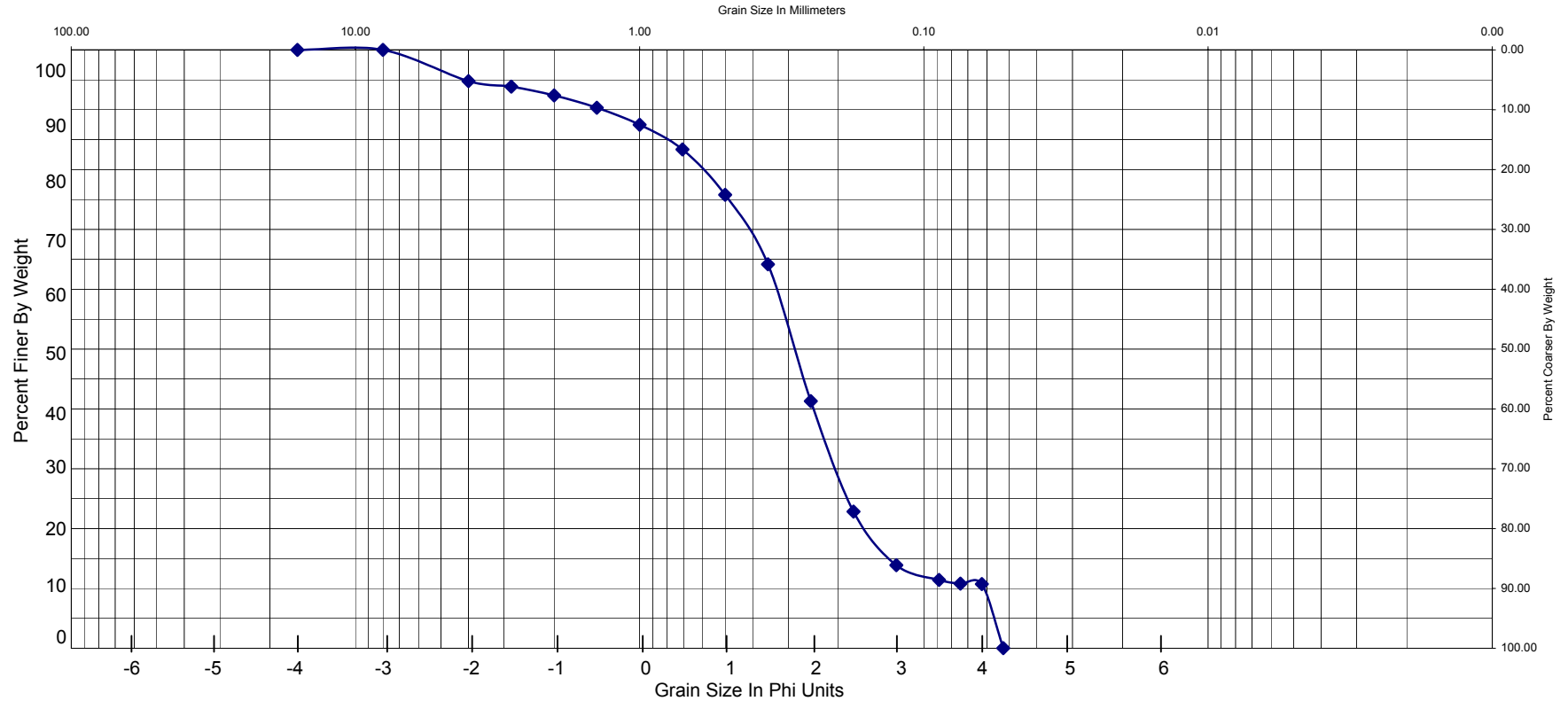
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-19#3	8.5		SM	15.53	0.33	0.41	-0.23	1.43	2.47	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):	541894.59 Feet
Northing (Y):	792358.07 Feet
Sample Elevation:	-53 NGVD 29
Coord. System:	State Plane 1983 FLA West



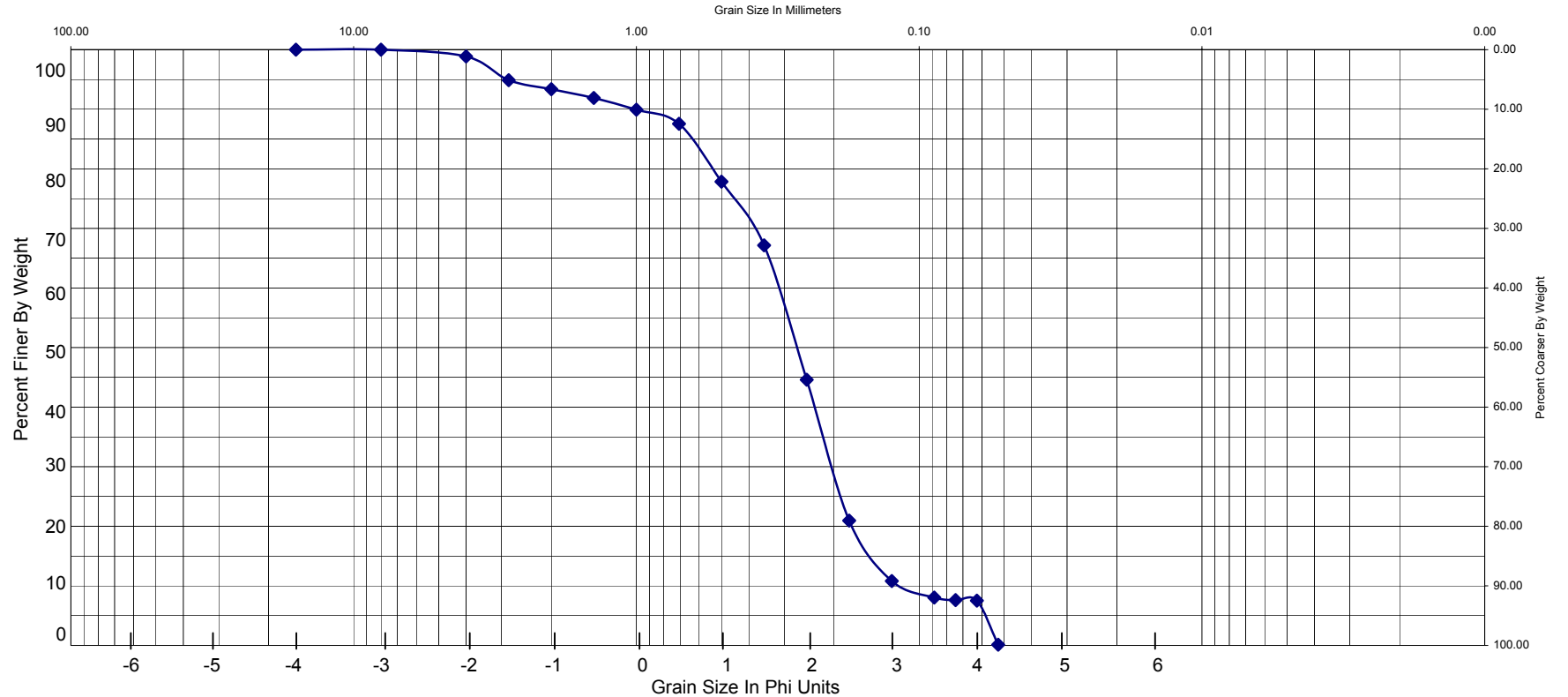
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-19#4	12.0		SW-SM	10.72	0.29	0.35	-0.55	2.28	1.99	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID




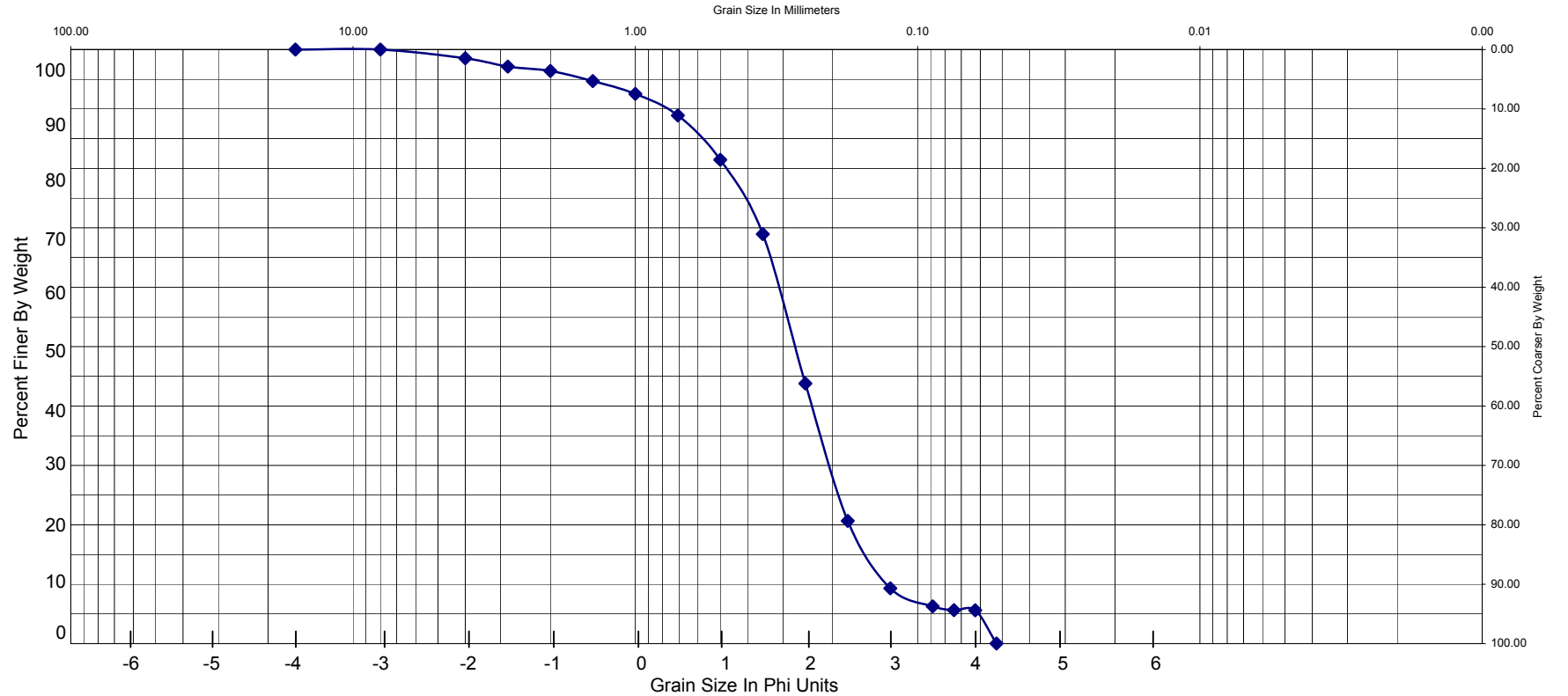
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BOCA RATON, FLORIDA 33431

Easting (X):	541894.59 Feet
Northing (Y):	792358.07 Feet
Sample Elevation:-56.5 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-00-19#5	14.5		SW-SM	7.41	0.27	0.32	-0.46	2.28	1.78	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 541894.59 Feet
													Northing (Y): 792358.07 Feet
													Sample Elevation: -59 NGVD 29
COASTAL PLANNING & ENGINEERING, INC. 2481 N. W. BOCA RATON BLVD. BOCA RATON, FLORIDA 33431													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-00-19#6	16.0		SW-SM	5.60	0.27	0.29	-0.11	2.06	1.48	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID



COASTAL PLANNING & ENGINEERING, INC.
2481 N. W. BOCA RATON BLVD.
BOCA RATON, FLORIDA 33431

Easting (X):	541894.59 Feet
Northing (Y):	792358.07 Feet
Sample Elevation:	-60.5 NGVD 29
Coord. System:	State Plane 1983 FLA West



