

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=547009.26 Y=71550.93		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-00-31		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 13:09		
8. DEPTH DRILLED INTO ROCK N/A		17. ELEVATION TOP OF HOLE -36.0 FT		
9. TOTAL DEPTH OF HOLE 15.1 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
-36	0					
	1		SHELLY SAND, fine grained, gray (5Y-6/1), (SP).		1	Sample #1, Depth = 2.0' Mean (mm): 0.32, Phi Sorting: 1.19 Silt: 1.26% (SW)
-39.2	2					
	3		SHELLY SAND, fine grained, gray (5Y-6/1), (SP).		2	Sample #2, Depth = 4.5' Mean (mm): 0.38, Phi Sorting: 0.97 Silt: 1.36% (SP)
-41	4					
	5					
	6				3	Sample #3, Depth = 7.0' Mean (mm): 0.34, Phi Sorting: 0.91 Silt: 1.46% (SP)
	7					
	8		SAND, fine grained, some shell hash/fragments, gray (5Y-6/1), (SP).			
	9					
	10				4	Sample #4, Depth = 11.0' Mean (mm): 0.30, Phi Sorting: 1.04 Silt: 1.39% (SP)
-47	11					
	12					
	13		SAND, fine grained, trace shell hash/fragments, gray (5Y-6/1), (SP).		5	Sample #5, Depth = 14.0' Mean (mm): 0.38, Phi Sorting: 1.65 Silt: 2.51% (SW)
-51	14					
	15					
-52.8	16		CARBONATE CLASTS, size ranges from silt/clay to 2.5", fine grained sand (calcareous) predominant, gray (5Y-6/1), (GM). Expansion from 15.1'.			
	17		End of Boring			
	18					
	19					
	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-00-31#1
 Date: 1/1/2001
 By: ID



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

Elevation:	-38	Feet	Easting:	547009.26	State Plane	1983
Reference:	NGVD 29		Northing:	771550.93	FLA West	Feet

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

Dry Wt.	97.47	Percent Silt:	1.26
Wash Wt.	96.25		

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	0.123	0.120	0.123
7	-1.500	2.828	0.880	0.903	1.000	1.026
10	-1.000	2.000	1.060	1.088	2.060	2.113
14	-0.500	1.414	2.090	2.144	4.150	4.258
18	0.000	1.000	3.170	3.252	7.320	7.510
25	0.500	0.707	7.540	7.736	14.860	15.246
35	1.000	0.500	3.470	3.560	18.330	18.806
45	1.500	0.354	4.610	4.730	22.940	23.535
60	2.000	0.250	25.860	26.531	48.800	50.067
80	2.500	0.177	31.780	32.605	80.580	82.672
120	3.000	0.125	12.810	13.143	93.390	95.814
170	3.500	0.088	2.620	2.688	96.010	98.502
200	3.750	0.074	0.180	0.185	96.190	98.687
230	4.000	0.063	0.040	0.041	96.230	98.728
Pan	Pan	0.053	1.230	1.262	97.460	99.990

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.39	0.61	1.53	2.00	2.38	2.55	2.97

Median phi:	2.00	Median mm:	0.25
-------------	------	------------	------

	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.55	0.34	0.99	-0.89	1.61
Moment	1.66	0.32	1.19	-0.64	1.90

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-31#2
 Date: 1/1/2001
 By: ID



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

Elevation:	-40.5	Feet	Easting:	547009.26	State Plane	1983
Reference:	NGVD 29		Northing:	771550.93	FLA West	Feet

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

Dry Wt.	75.97	Percent Silt:	1.36
Wash Wt.	74.94		

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	0.260	0.342	0.260	0.342
7	-1.500	2.828	0.440	0.579	0.700	0.921
10	-1.000	2.000	0.700	0.921	1.400	1.843
14	-0.500	1.414	1.160	1.527	2.560	3.370
18	0.000	1.000	2.300	3.028	4.860	6.397
25	0.500	0.707	4.600	6.055	9.460	12.452
35	1.000	0.500	8.910	11.728	18.370	24.181
45	1.500	0.354	16.230	21.364	34.600	45.544
60	2.000	0.250	24.230	31.894	58.830	77.438
80	2.500	0.177	13.180	17.349	72.010	94.787
120	3.000	0.125	2.670	3.515	74.680	98.302
170	3.500	0.088	0.190	0.250	74.870	98.552
200	3.750	0.074	0.040	0.053	74.910	98.605
230	4.000	0.063	0.010	0.013	74.920	98.618
Pan	Pan	0.053	1.030	1.356	75.950	99.974

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.23	0.65	1.02	1.57	1.96	2.19	2.53

Median phi:	1.57	Median mm:	0.34
-------------	------	------------	------

	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.34	0.39	0.80	-0.46	1.20
Moment	1.38	0.38	0.97	-0.45	1.79

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-31#3
 Date: 1/1/2001
 By: ID



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

Elevation:	-43	Feet	Easting:	547009.26	State Plane	1983
Reference:	NGVD 29		Northing:	771550.93	FLA West	Feet

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

Dry Wt.	86.57	Percent Silt:	1.46
Wash Wt.	85.32		

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	0.350	0.404	0.350	0.404
10	-1.000	2.000	0.600	0.693	0.950	1.097
14	-0.500	1.414	1.160	1.340	2.110	2.437
18	0.000	1.000	1.710	1.975	3.820	4.413
25	0.500	0.707	4.110	4.748	7.930	9.160
35	1.000	0.500	8.190	9.461	16.120	18.621
45	1.500	0.354	14.540	16.796	30.660	35.416
60	2.000	0.250	31.750	36.676	62.410	72.092
80	2.500	0.177	18.110	20.919	80.520	93.011
120	3.000	0.125	4.410	5.094	84.930	98.106
170	3.500	0.088	0.300	0.347	85.230	98.452
200	3.750	0.074	0.060	0.069	85.290	98.521
230	4.000	0.063	0.010	0.012	85.300	98.533
Pan	Pan	0.053	1.260	1.455	86.560	99.988

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
0.06	0.86	1.19	1.70	2.07	2.28	2.69

Median phi:	1.70	Median mm:	0.31
-------------	------	------------	------

	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.52	0.35	0.75	-0.39	1.23
Moment	1.55	0.34	0.91	-0.37	1.76

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-31#4
 Date: 1/1/2001
 By: ID



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

Elevation:	-47	Feet	Easting:	547009.26	State Plane	1983
Reference:	NGVD 29		Northing:	771550.93	FLA West	Feet

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

Dry Wt.	73.93	Percent Silt:	1.39
Wash Wt.	72.92		

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	0.280	0.379	0.280	0.379
7	-1.500	2.828	0.650	0.879	0.930	1.258
10	-1.000	2.000	0.750	1.014	1.680	2.272
14	-0.500	1.414	1.140	1.542	2.820	3.814
18	0.000	1.000	1.330	1.799	4.150	5.613
25	0.500	0.707	2.730	3.693	6.880	9.306
35	1.000	0.500	4.620	6.249	11.500	15.555
45	1.500	0.354	7.210	9.752	18.710	25.308
60	2.000	0.250	19.440	26.295	38.150	51.603
80	2.500	0.177	24.820	33.572	62.970	85.175
120	3.000	0.125	9.220	12.471	72.190	97.646
170	3.500	0.088	0.550	0.744	72.740	98.390
200	3.750	0.074	0.120	0.162	72.860	98.553
230	4.000	0.063	0.010	0.014	72.870	98.566
Pan	Pan	0.053	1.030	1.393	73.900	99.959

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.17	1.02	1.48	1.97	2.35	2.48	2.89

Median phi:	1.97	Median mm:	0.26
-------------	------	------------	------

	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.64	0.32	0.83	-0.73	1.45
Moment	1.72	0.30	1.04	-0.70	2.16

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-31#5
 Date: 1/1/2001
 By: ID



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

Elevation:	-50	Feet	Easting:	547009.26	State Plane	1983
Reference:	NGVD 29		Northing:	771550.93	FLA West	Feet

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

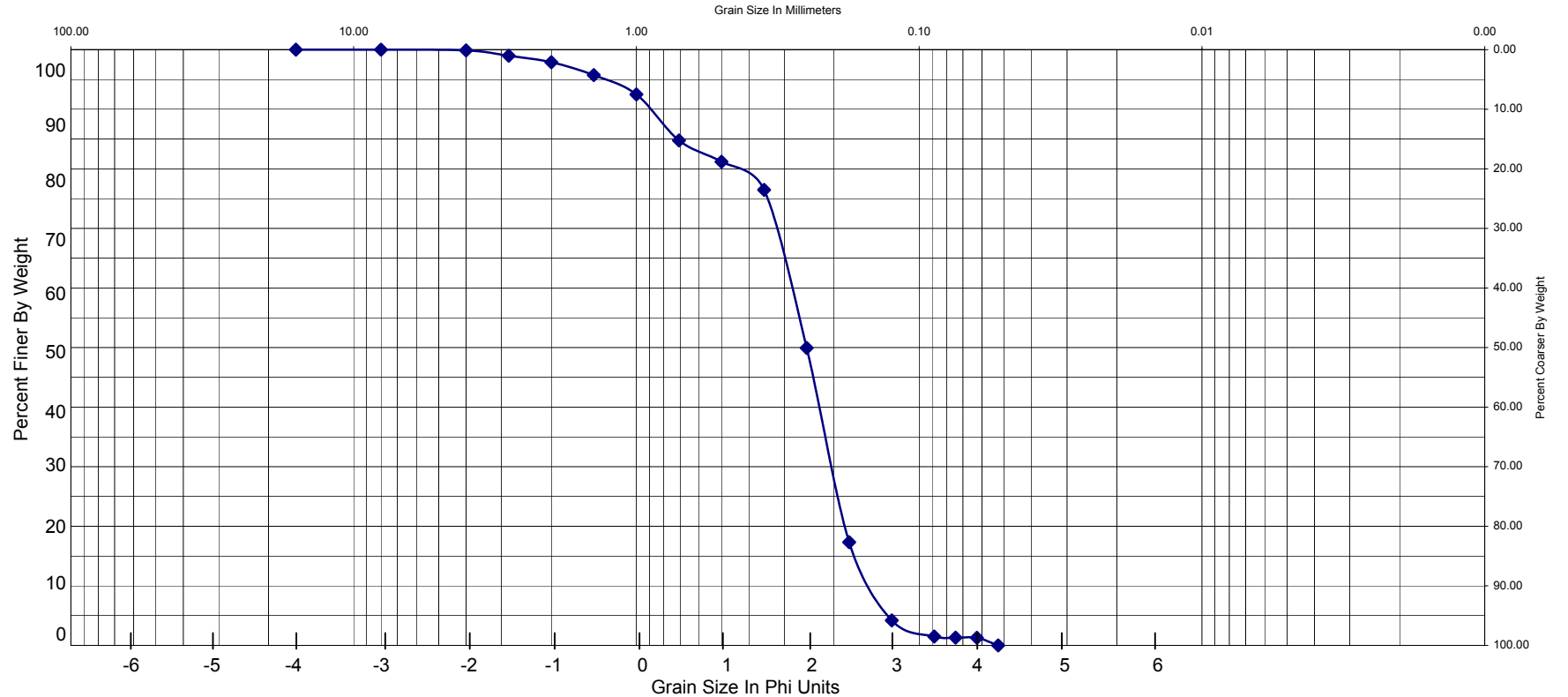
Dry Wt.	83.64	Percent Silt:	2.51
Wash Wt.	81.57		

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	0.960	1.148	0.960	1.148
5	-2.000	4.000	2.100	2.511	3.060	3.659
7	-1.500	2.828	1.790	2.140	4.850	5.799
10	-1.000	2.000	1.680	2.009	6.530	7.807
14	-0.500	1.414	1.910	2.284	8.440	10.091
18	0.000	1.000	2.330	2.786	10.770	12.877
25	0.500	0.707	4.010	4.794	14.780	17.671
35	1.000	0.500	5.840	6.982	20.620	24.653
45	1.500	0.354	6.150	7.353	26.770	32.006
60	2.000	0.250	13.950	16.679	40.720	48.685
80	2.500	0.177	25.690	30.715	66.410	79.400
120	3.000	0.125	13.640	16.308	80.050	95.708
170	3.500	0.088	1.160	1.387	81.210	97.095
200	3.750	0.074	0.250	0.299	81.460	97.394
230	4.000	0.063	0.080	0.096	81.540	97.489
Pan	Pan	0.053	2.100	2.511	83.640	100.000

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-1.69	0.33	1.02	2.02	2.43	2.64	2.98

Median phi:	2.02	Median mm:	0.25
-------------	------	------------	------

	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.26	0.42	1.29	-1.03	1.36
Moment	1.39	0.38	1.65	-0.86	2.28

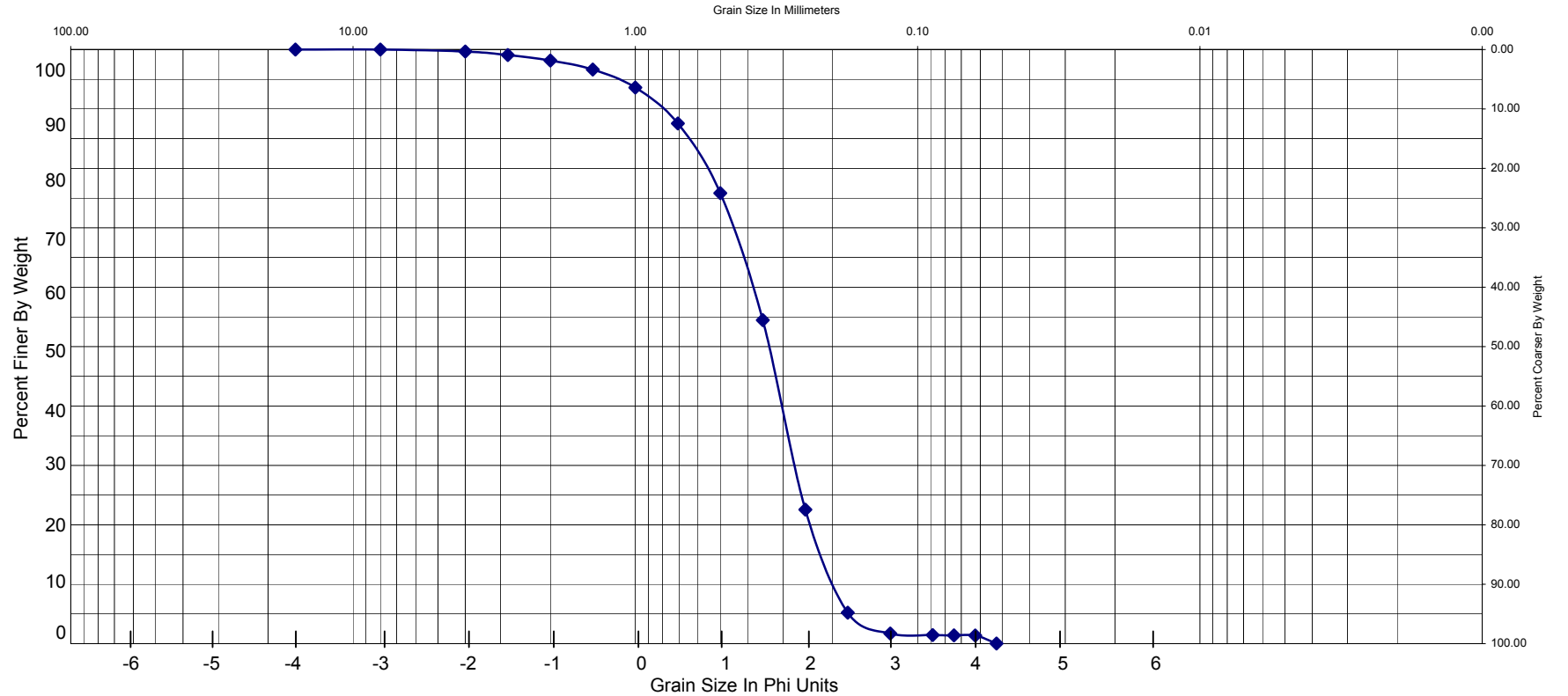


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-31#1	2.0		SW	1.26	0.25	0.32	-0.64	1.9	1.19	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 547009.26 Feet
													Northing (Y): 771550.93 Feet
													Sample Elevation: -38 NGVD 29
													Coord. System: State Plane 1983 FLA West



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



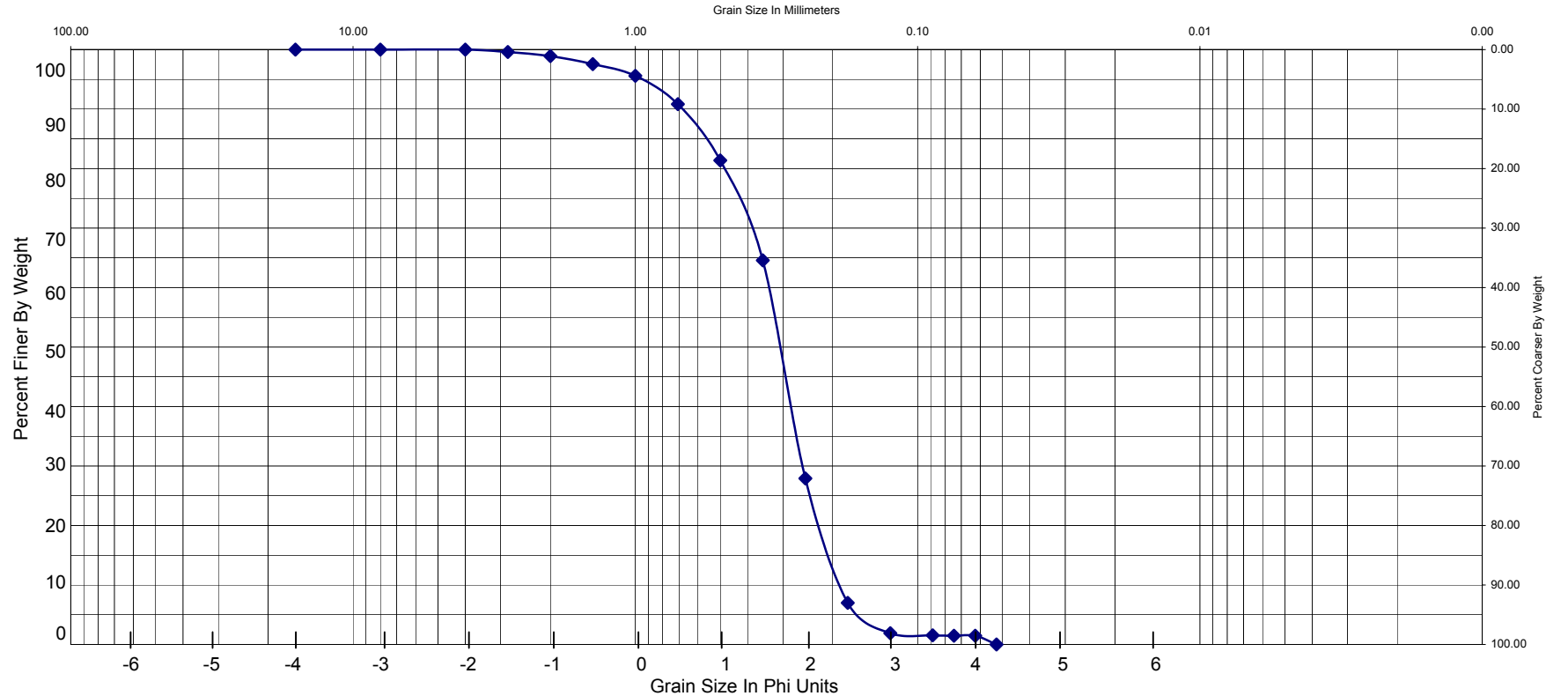
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-31#2	4.5		SP	1.36	0.34	0.38	-0.45	1.79	0.97	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):	547009.26 Feet
Northing (Y):	771550.93 Feet
Sample Elevation:	-40.5 NGVD 29
Coord. System:	State Plane 1983 FLA West



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

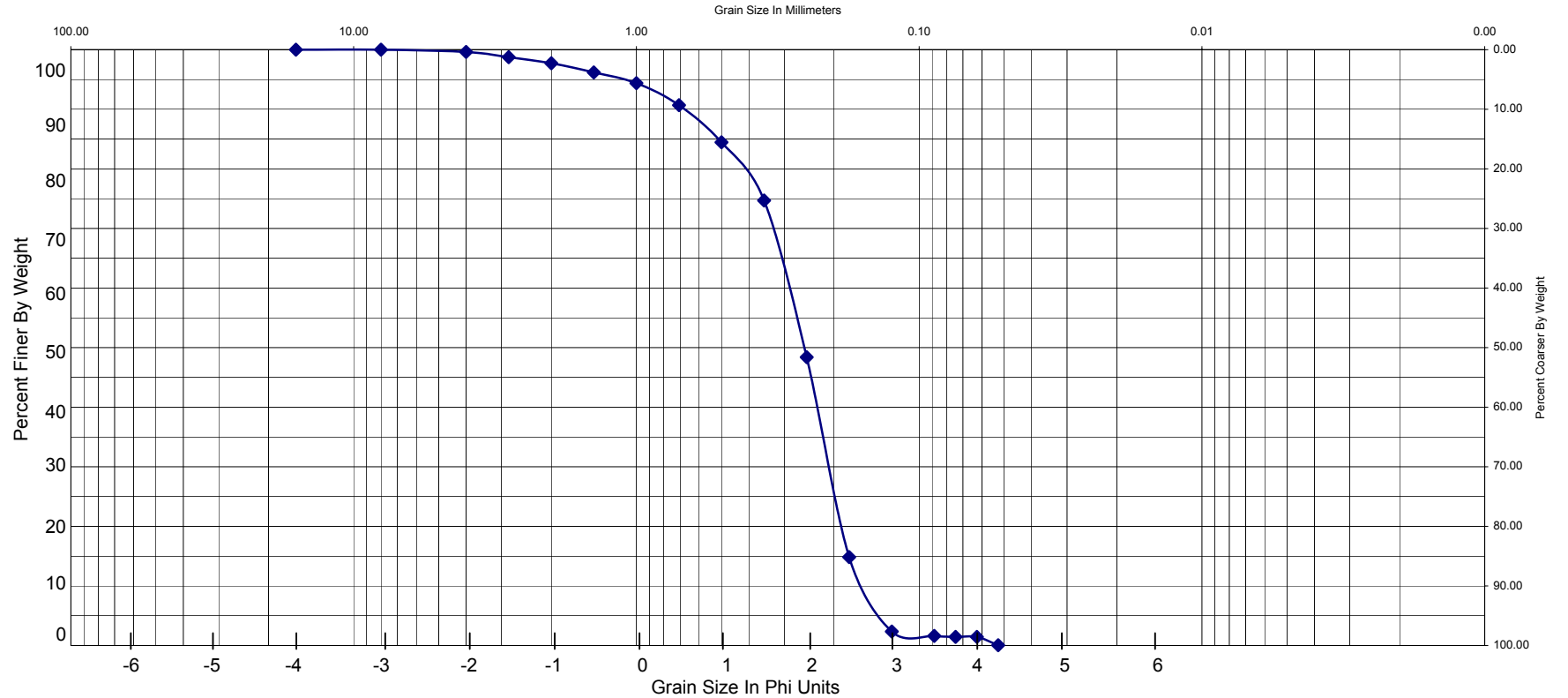
Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-31#3	7.0		SP	1.46	0.31	0.34	-0.37	1.76	0.91	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID



COASTAL PLANNING & ENGINEERING, INC.

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

Easting (X):	547009.26 Feet
Northing (Y):	771550.93 Feet
Sample Elevation:	-43 NGVD 29
Coord. System:	State Plane 1983 FLA West

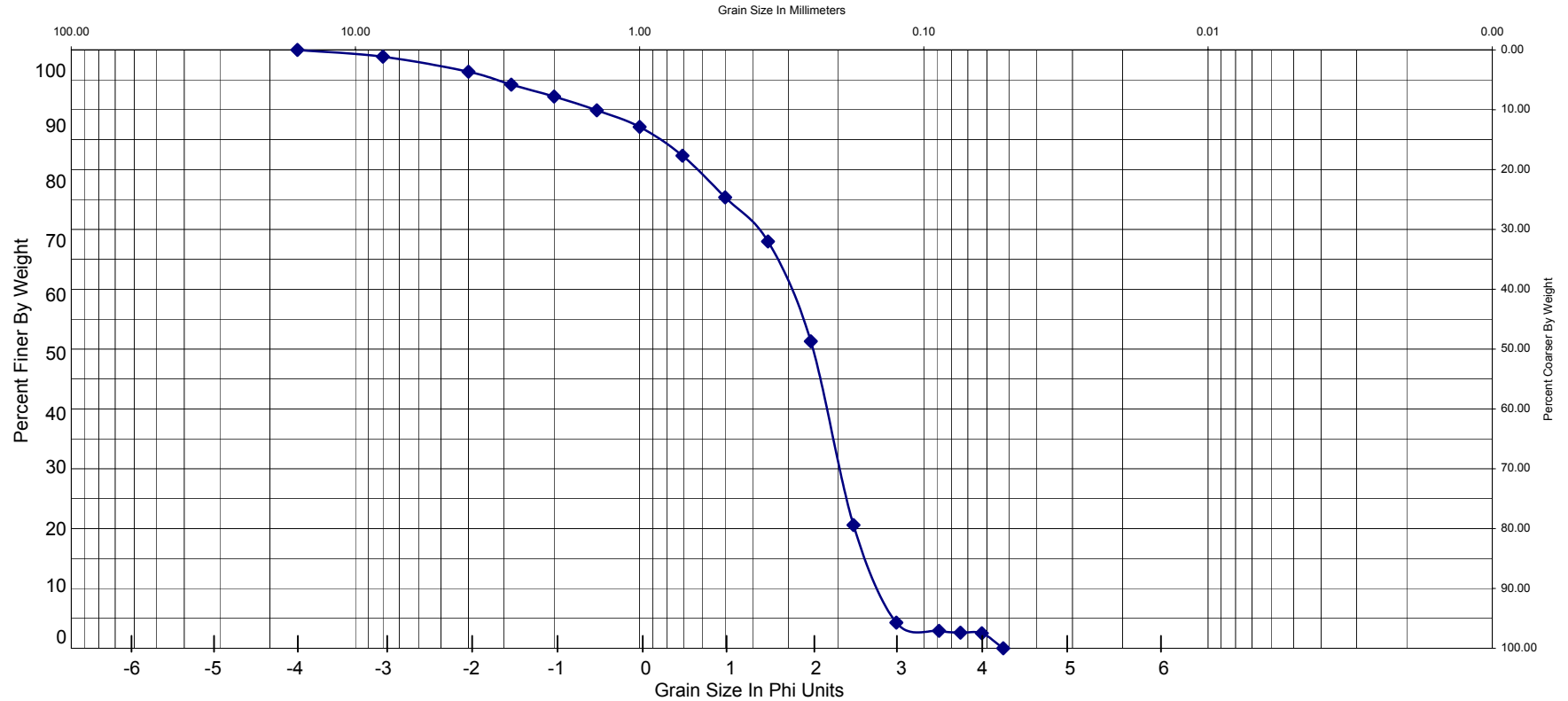


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-31#4	11.0		SP	1.39	0.26	0.3	-0.7	2.16	1.04	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 547009.26 Feet
													Northing (Y): 771550.93 Feet
													Sample Elevation: -47 NGVD 29
													Coord. System: State Plane 1983 FLA West



COASTAL PLANNING & ENGINEERING, INC.
2481 N. W. BOCA RATON BLVD.
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-00-31#5	14.0		SW	2.51	0.25	0.38	-0.86	2.28	1.65	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 547009.26 Feet
													Northing (Y): 771550.93 Feet
													Sample Elevation: -50 NGVD 29
													Coord. System: State Plane 1983 FLA West



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



