

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 = 543159.52 Y= 790732.28		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-00-22		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 8/11/00 Completed 8:07		
8. DEPTH DRILLED INTO ROCK N/A		17. ELEVATION TOP OF HOLE -45.0 FT		
9. TOTAL DEPTH OF HOLE 20.0 ft		18. TOTAL CORE RECOVERY FOR BORING 92%		
		19. SIGNATURE OF GEOLOGIST ID		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-45	0					
	1		SAND, fine-grained, trace shell hash, light gray (5Y-7/1), (SP).		1	Sample #1, Depth = 1.0' Mean (mm): 0.35, Phi Sorting: 1.36 Silt: 1.50% (SW)
-47.5	2					
	3		SAND, fine-grained, trace shell hash, light gray (5Y-7/1), (SP). Shell fragments from 2.6' to 2.8'.		2	Sample #2, Depth = 4.0' Mean (mm): 0.17, Phi Sorting: 1.54 Silt: 20.04% (SM)
-49.3	4					
	5		SAND, fine-grained, some shell hash, light gray (5Y-7/1), (SP).			
	6		CARBONATE CLASTS, silt size to 2.5" fragments, calcareous sand, shell fragments, (5Y-6/1), (GM).			
-52.6	7					
	8		predominantly sand (calcareous), clasts size range from silt/clay to 2.5" fragments, hard & compact, brownish yellow (10YR-6/6), (GM).			
-54.2	9					
	10		SAND, fine grained, calcareous, light gray (5Y-7/1), (SP).		3	Sample #3, Depth = 9.5' Mean (mm): 0.37, Phi Sorting: 2.03 Silt: 15.74% (SM)
-55.2	11					
	12		fine grained, calcareous, little shell hash, light gray (5Y-7/1), (SP).		4	Sample #4 , Depth = 12.0 Mean(mm) : 0.37, Phi Sorting : 2.27 Silt : 19.77% (SM)
-58.5	13					
	14					
	15					
	16		fine-grained, calcareous, brownish yellow (10YR-6/6), (SP).		5	Sample #5 , Depth = 14.5 Mean(mm) : 0.25, Phi Sorting : 1.70 Silt : 18.38% (SM)
-63.4	17					
	18					
	19		No Recovery			
-65	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-00-22#1
 Date: 1/1/2001
 By: ID



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

Elevation:	-46	Feet	Easting:	543159.52	State Plane	1983
Reference:	NGVD 29		Northing:	790732.28	FLA West	Feet

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

Dry Wt.	81.91	Percent Silt:	1.50
Wash Wt.	80.69		

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	0.740	0.903	0.740	0.903
7	-1.500	2.828	0.910	1.111	1.650	2.014
10	-1.000	2.000	1.420	1.734	3.070	3.748
14	-0.500	1.414	2.280	2.784	5.350	6.532
18	0.000	1.000	3.610	4.407	8.960	10.939
25	0.500	0.707	4.770	5.823	13.730	16.762
35	1.000	0.500	5.990	7.313	19.720	24.075
45	1.500	0.354	8.530	10.414	28.250	34.489
60	2.000	0.250	15.230	18.594	43.480	53.083
80	2.500	0.177	19.450	23.746	62.930	76.828
120	3.000	0.125	16.480	20.120	79.410	96.948
170	3.500	0.088	1.140	1.392	80.550	98.340
200	3.750	0.074	0.090	0.110	80.640	98.450
230	4.000	0.063	0.020	0.024	80.660	98.474
Pan	Pan	0.053	1.230	1.502	81.890	99.976

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.78	0.43	1.04	1.92	2.46	2.68	2.95

Median phi:	1.92	Median mm:	0.26
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.44	0.37	1.13	-0.64	1.08
Moment	1.53	0.35	1.36	-0.56	1.77

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-22#2
 Date: 1/1/2001
 By: ID



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

Elevation:	-49	Feet	Easting:	543159.52	State Plane	1983
Reference:	NGVD 29		Northing:	790732.28	FLA West	Feet

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

Dry Wt.	78.75	Percent Silt:	20.04
Wash Wt.	62.98		

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	0.200	0.254	0.200	0.254
7	-1.500	2.828	0.440	0.559	0.640	0.813
10	-1.000	2.000	0.520	0.660	1.160	1.473
14	-0.500	1.414	1.380	1.752	2.540	3.225
18	0.000	1.000	1.810	2.298	4.350	5.524
25	0.500	0.707	2.270	2.883	6.620	8.406
35	1.000	0.500	2.490	3.162	9.110	11.568
45	1.500	0.354	2.880	3.657	11.990	15.225
60	2.000	0.250	6.170	7.835	18.160	23.060
80	2.500	0.177	11.450	14.540	29.610	37.600
120	3.000	0.125	21.210	26.933	50.820	64.533
170	3.500	0.088	8.430	10.705	59.250	75.238
200	3.750	0.074	3.250	4.127	62.500	79.365
230	4.000	0.063	0.460	0.584	62.960	79.949
Pan	Pan	0.053	15.780	20.038	78.740	99.987

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.11	1.55	2.07	2.73	3.49	4.05	4.19

Median phi:	2.73	Median mm:	0.15
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.48	0.18	1.28	-0.37	1.24
Moment	2.57	0.17	1.54	-0.55	1.95

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-22#3
 Date: 1/1/2001
 By: ID



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

Elevation:	-54.5	Feet	Easting:	543159.52	State Plane	1983
Reference:	NGVD 29		Northing:	790732.28	FLA West	Feet

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

Dry Wt.	79.16	Percent Silt:	15.74
Wash Wt.	66.71		

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	1.180	1.491	1.180	1.491
7	-1.500	2.828	1.600	2.021	2.780	3.512
10	-1.000	2.000	2.920	3.689	5.700	7.201
14	-0.500	1.414	5.080	6.417	10.780	13.618
18	0.000	1.000	6.090	7.693	16.870	21.311
25	0.500	0.707	6.090	7.693	22.960	29.005
35	1.000	0.500	7.100	8.969	30.060	37.974
45	1.500	0.354	11.500	14.528	41.560	52.501
60	2.000	0.250	13.350	16.865	54.910	69.366
80	2.500	0.177	6.650	8.401	61.560	77.767
120	3.000	0.125	3.460	4.371	65.020	82.137
170	3.500	0.088	1.480	1.870	66.500	84.007
200	3.750	0.074	0.170	0.215	66.670	84.222
230	4.000	0.063	0.030	0.038	66.700	84.260
Pan	Pan	0.053	12.460	15.740	79.160	100.000

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-1.30	-0.35	0.24	1.41	2.34	3.50	4.17

Median phi:	1.41	Median mm:	0.38
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.49	0.36	1.79	0.05	1.07
Moment	1.43	0.37	2.03	0.05	1.41

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-22#4
 Date: 1/1/2001
 By: ID



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

Elevation:	-57	Feet	Easting:	543159.52	State Plane	1983
Reference:	NGVD 29		Northing:	790732.28	FLA West	Feet

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

Dry Wt.	76.63	Percent Silt:	19.77
Wash Wt.	61.48		

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	1.630	2.127	1.630	2.127
7	-1.500	2.828	2.920	3.811	4.550	5.938
10	-1.000	2.000	3.240	4.228	7.790	10.166
14	-0.500	1.414	5.780	7.543	13.570	17.708
18	0.000	1.000	5.330	6.956	18.900	24.664
25	0.500	0.707	5.780	7.543	24.680	32.207
35	1.000	0.500	5.690	7.425	30.370	39.632
45	1.500	0.354	7.320	9.552	37.690	49.184
60	2.000	0.250	12.820	16.730	50.510	65.914
80	2.500	0.177	7.260	9.474	57.770	75.388
120	3.000	0.125	2.410	3.145	60.180	78.533
170	3.500	0.088	1.070	1.396	61.250	79.930
200	3.750	0.074	0.190	0.248	61.440	80.177
230	4.000	0.063	0.030	0.039	61.470	80.217
Pan	Pan	0.053	15.150	19.770	76.620	99.987

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-1.62	-0.61	0.02	1.52	2.48	4.05	4.19

Median phi:	1.52	Median mm:	0.35
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	1.50	0.35	2.05	-0.04	0.97
Moment	1.43	0.37	2.27	0.00	1.33

Gradation Analysis Report

Proj Name: Captiva Island
 Sample: CIVC-00-22#5
 Date: 1/1/2001
 By: ID



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

Elevation:	-59	Feet	Easting:	543159.52	State Plane	1983
Reference:	NGVD 29		Northing:	790732.28	FLA West	Feet

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

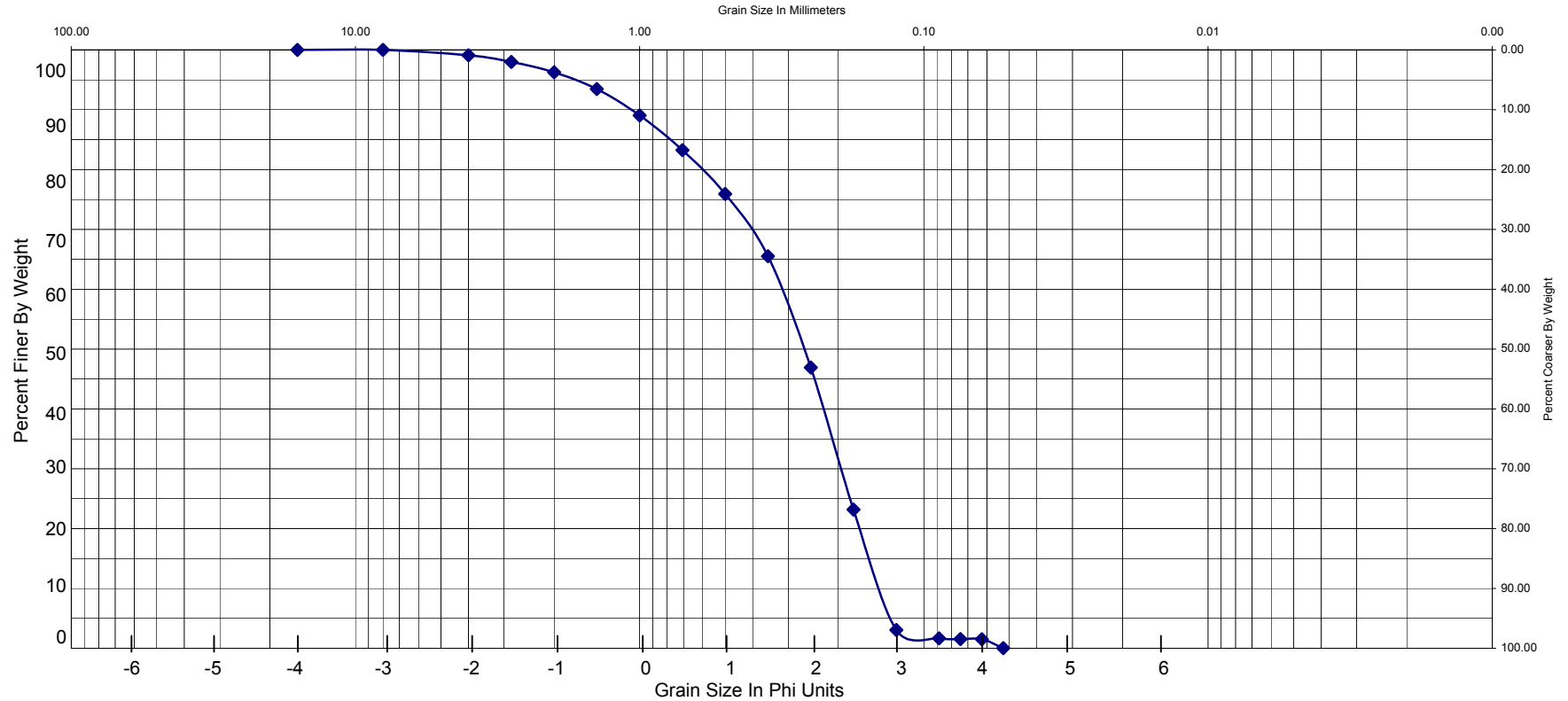
Dry Wt.	72.86	Percent Silt:	18.38
Wash Wt.	59.48		

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	0.310	0.425	0.310	0.425
7	-1.500	2.828	0.440	0.604	0.750	1.029
10	-1.000	2.000	0.610	0.837	1.360	1.867
14	-0.500	1.414	1.490	2.045	2.850	3.912
18	0.000	1.000	2.800	3.843	5.650	7.755
25	0.500	0.707	3.970	5.449	9.620	13.203
35	1.000	0.500	5.530	7.590	15.150	20.793
45	1.500	0.354	9.710	13.327	24.860	34.120
60	2.000	0.250	15.740	21.603	40.600	55.723
80	2.500	0.177	13.090	17.966	53.690	73.689
120	3.000	0.125	4.160	5.710	57.850	79.399
170	3.500	0.088	1.430	1.963	59.280	81.362
200	3.750	0.074	0.150	0.206	59.430	81.567
230	4.000	0.063	0.030	0.041	59.460	81.609
Pan	Pan	0.053	13.390	18.378	72.850	99.986

PHI 5	PHI 16	PHI 25	PHI 50	PHI 75	PHI 84	PHI 95
-0.36	0.68	1.16	1.87	2.61	4.03	4.18

Median phi:	1.87	Median mm:	0.27
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	Mean phi	Mean mm	Sorting	Skewness	Kurtosis
Graphic	2.08	0.24	1.53	0.17	1.28
Moment	2.03	0.25	1.70	0.06	1.49

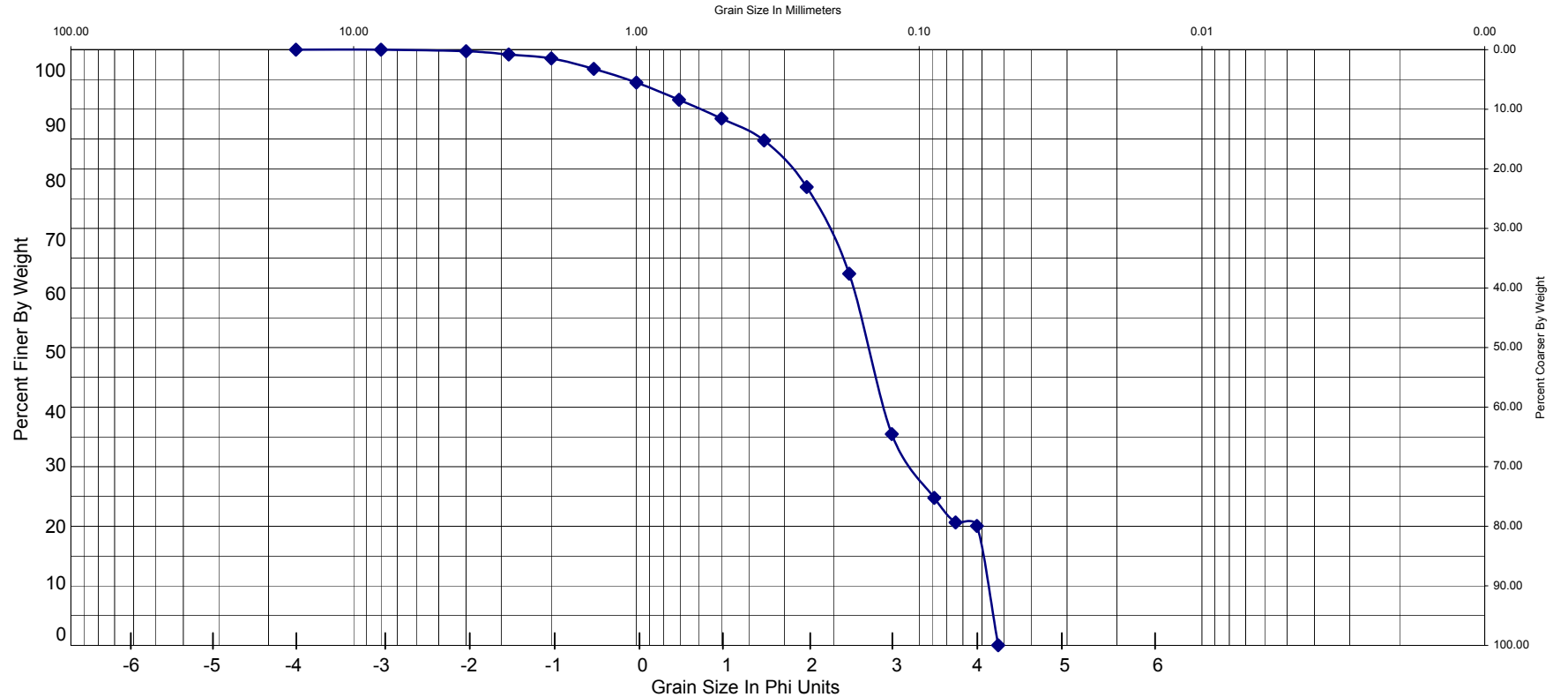


Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-22#1	1.0		SW	1.50	0.26	0.35	-0.56	1.77	1.36	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 543159.52 Feet
													Northing (Y): 790732.28 Feet
													Sample Elevation: -46 NGVD 29
													Coord. System: State Plane 1983 FLA West




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BOCA RATON, FLORIDA 33431



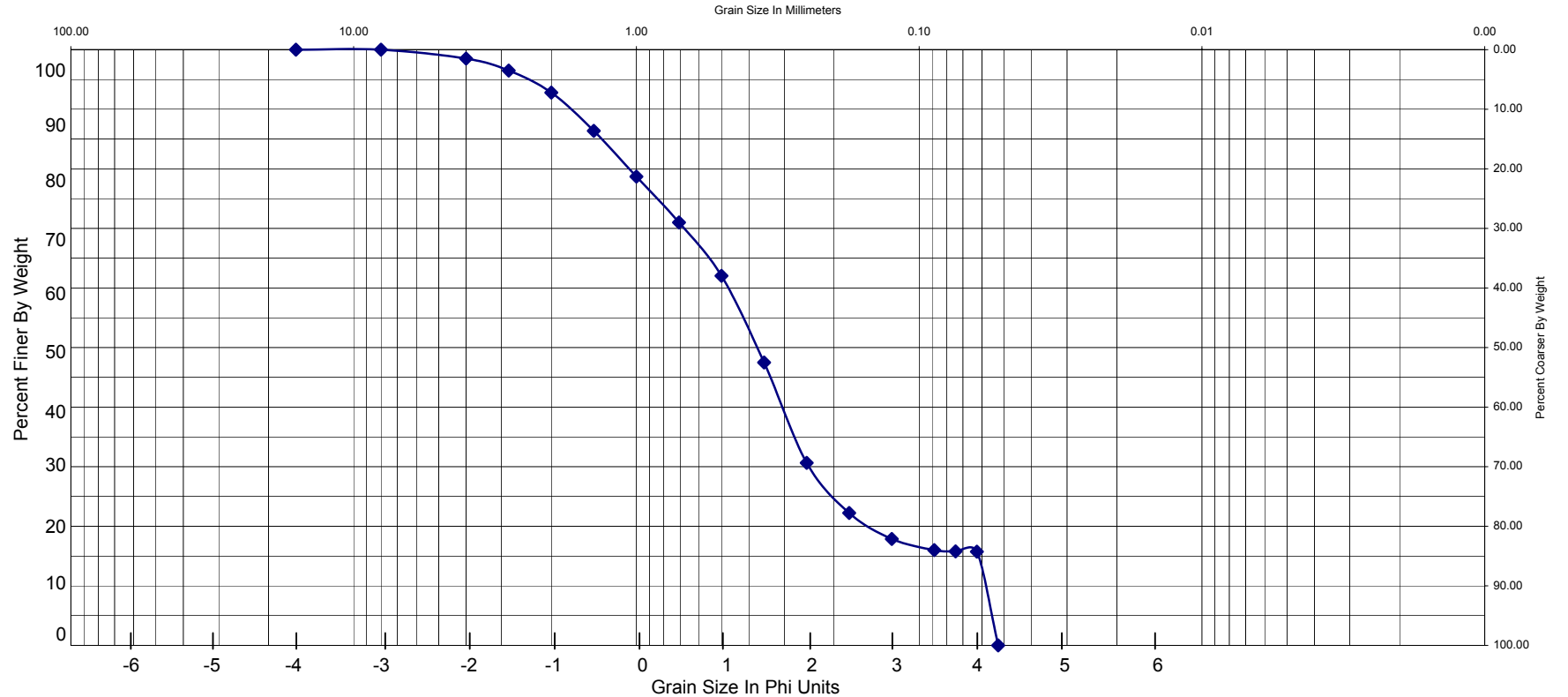
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-22#2	4.0		SM	20.04	0.15	0.17	-0.55	1.95	1.54	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID



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Easting (X):	543159.52 Feet
Northing (Y):	790732.28 Feet
Sample Elevation:	-49 NGVD 29
Coord. System:	State Plane 1983 FLA West

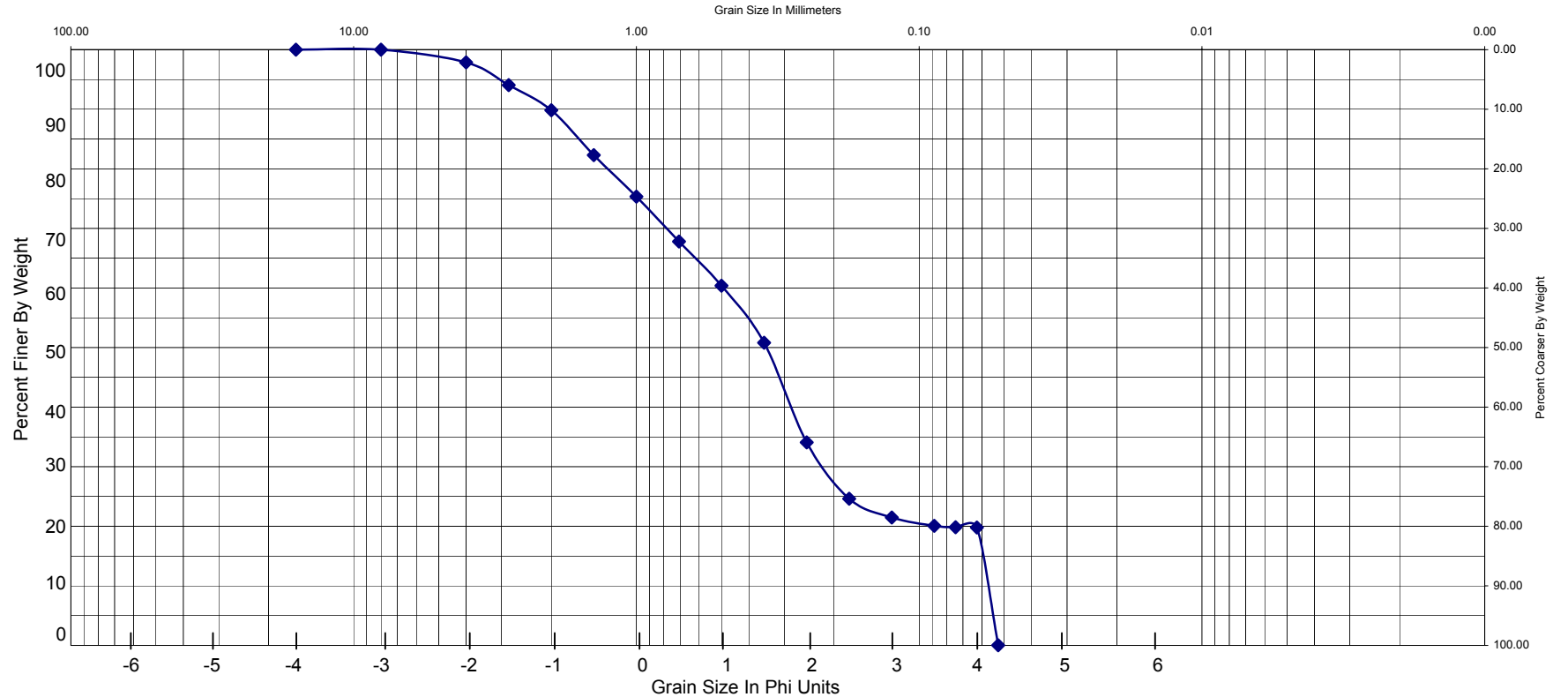


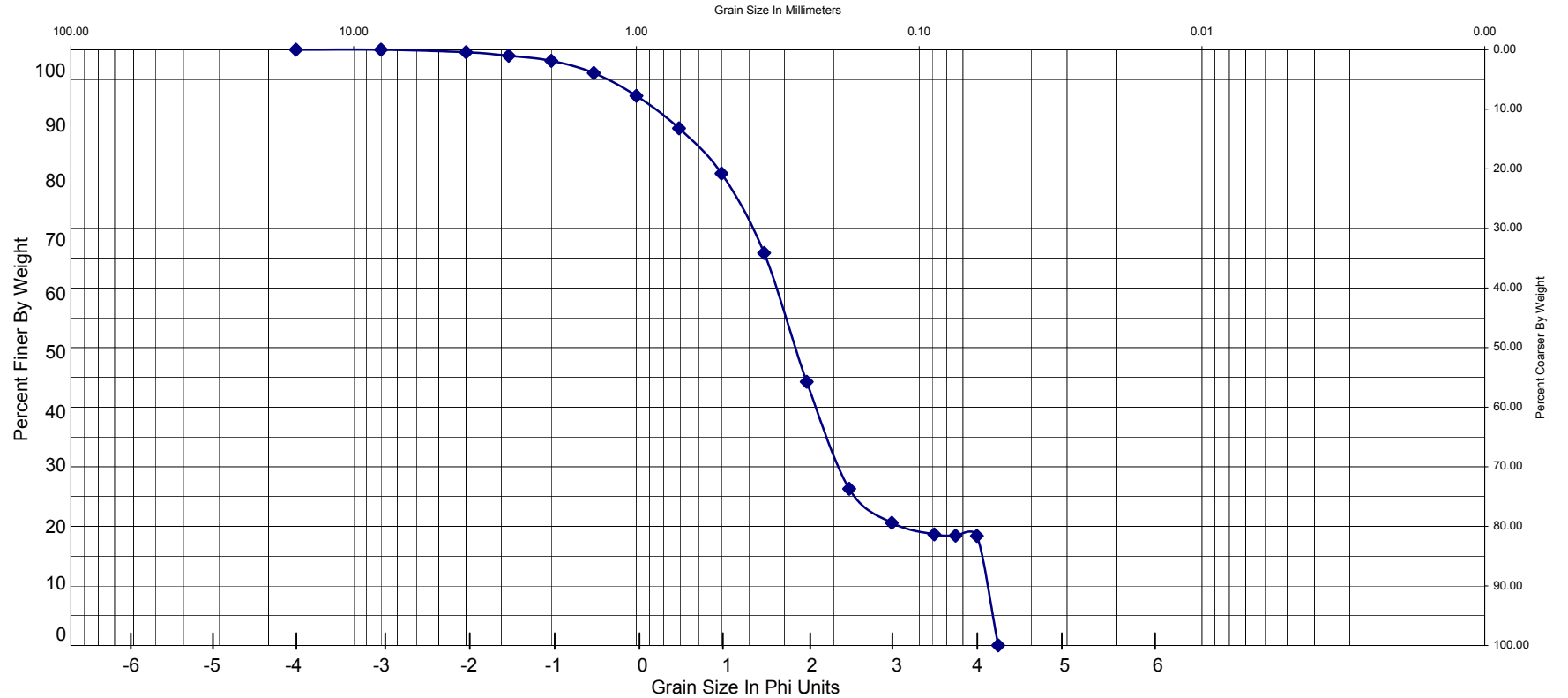
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample No.	Depth	Description	USCS	% Silt	Median	Mean	Skew	Kurt	Sort	PL	LL	PI	Sample Information
◆ CIVC-00-22#3	9.5		SM	15.74	0.38	0.37	0.05	1.41	2.03	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 543159.52 Feet
													Northing (Y): 790732.28 Feet
													Sample Elevation: -54.5 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-00-22#5	14.0		SM	18.38	0.27	0.24	0.06	1.49	1.7	NA	NA	NA	Project Name: Captiva Island
													Sample Type: Vibracores
													Collection Date: 1/1/2001
													Analysis By: ID
													Easting (X): 543159.52 Feet
													Northing (Y): 790732.28 Feet
													Sample Elevation: -59 NGVD 29
													Coord. System: State Plane 1983 FLA West



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