

APPENDIX L

Scofield Island Native Beach Sediment Analysis

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Scofield Island Native Beach Sediment Analysis

1.0 INTRODUCTION

The Scofield Island Native Beach Sediment Analysis was completed in support of the Feasibility Study and Preliminary Design Phases for the Riverine Sand Mining / Scofield Island Restoration Project (Project). The Project is sponsored by the Louisiana Department of Natural Resources (LDNR) Office of Coastal Protection and Restoration (OCPR) and NOAA Fisheries. The Project design is funded and authorized in accordance with the provisions of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) (16 U.S.C.A., Sections 3951-3956) and has been approved by the Public Law 101-646 Task Force. The Project's CWPPRA designation is BA-40.

The purpose of the sediment analysis was to provide design data for the beach and dune restoration plan for Scofield Island as fully described in the Preliminary Design Main Report and Scofield Island Restoration Area Design Analysis (Appendix M). The scope of services included collecting twelve (12) native beach sediment samples along three transects on Scofield Island. Samples were taken by SJB Group, LLC. (SJB) and Coastal Engineering Consultants, Inc. (CEC) at four locations including the Near Shore (NS), Beach Face (FS), Dune (DN), and Overwash (OW). The samples were transferred to Coastal Technology Corporation's (CTC) Coastal Geology and Sediments Laboratory. CTC performed the gradation, composition, and color analysis, the results of which were reviewed by CEC.

2.0 PROJECT AREA AND LOCATION

Scofield Island is a 2.4 mile long barrier island located east of Pelican Island between Scofield Bayou and the merger of Bay Coquette and the Gulf of Mexico, Plaquemines Parish. The Project area and native beach sample locations are shown in Figure 1.

3.0 SEDIMENT ANALYSIS METHODOLOGY

The twelve native beach samples were analyzed using standard laboratory methods to characterize sediment texture. Gradation analysis of all sediment samples was conducted by sieve analysis and the results plotted using gINT software. This software generated a gradation curve identical to USACE ENG Form 2087. The software plotted both a cumulative frequency distribution curve and a frequency distribution histogram as one diagram. The sieve analysis was conducted at a minimum of ½ phi intervals, using a range of screen openings capable of accommodating all grain-size classes contained in each sample.



750 375 0 750 1,500 Feet

Legend

- Native soil sample locations
- Survey baseline
- Scofield Island Restoration Area



**Figure 1:
Scofield Island Native Sediment Sample Locations**

A total of 20 sieves were used ranging from -4.25 phi to +4 phi (-4.25φ, -4.00 φ, -3.50 φ, -3.00 φ, -2.50 φ, -2.25 φ, -2.00 φ, -1.50 φ, -1.00 φ, -0.50 φ, 0.00 φ, 0.50 φ, 1.00 φ, 1.50 φ, 2.00 φ, 2.50 φ, 3.00 φ, 3.50 φ, 3.75 φ, 4.00 φ). Each sample was also assigned a descriptive classification using USC terminology. This classification was automatically generated by the gINTTM software when the sample contained less than 5% fines. The classification of samples containing fines in excess of 5% was based on examination by a qualified coastal geologist. This table includes size-class information and descriptive statistics.

Additional testing was performed to determine the composition and Munsell color code of the sediment. Compositional analysis was performed through Loss on Ignition, which measured both the organic and carbonate fractions of the material. The Munsell color code was determined by comparing the moist (~15 wt% water) sediment to the Munsell Color charts against a 10% gray card in natural light.

These results revealed that the native beach sediment is characterized as fine grained (0.19mm) moderately sorted, grayish to light grayish brown quartz sand, with an average of less than 2% fines or gravel. The native beach sediment is composed of an average of less than 8% carbonate material and less than 1% organic material.

ANNEX L1

SEDIMENTOLOGIC SUMMARY TABLE

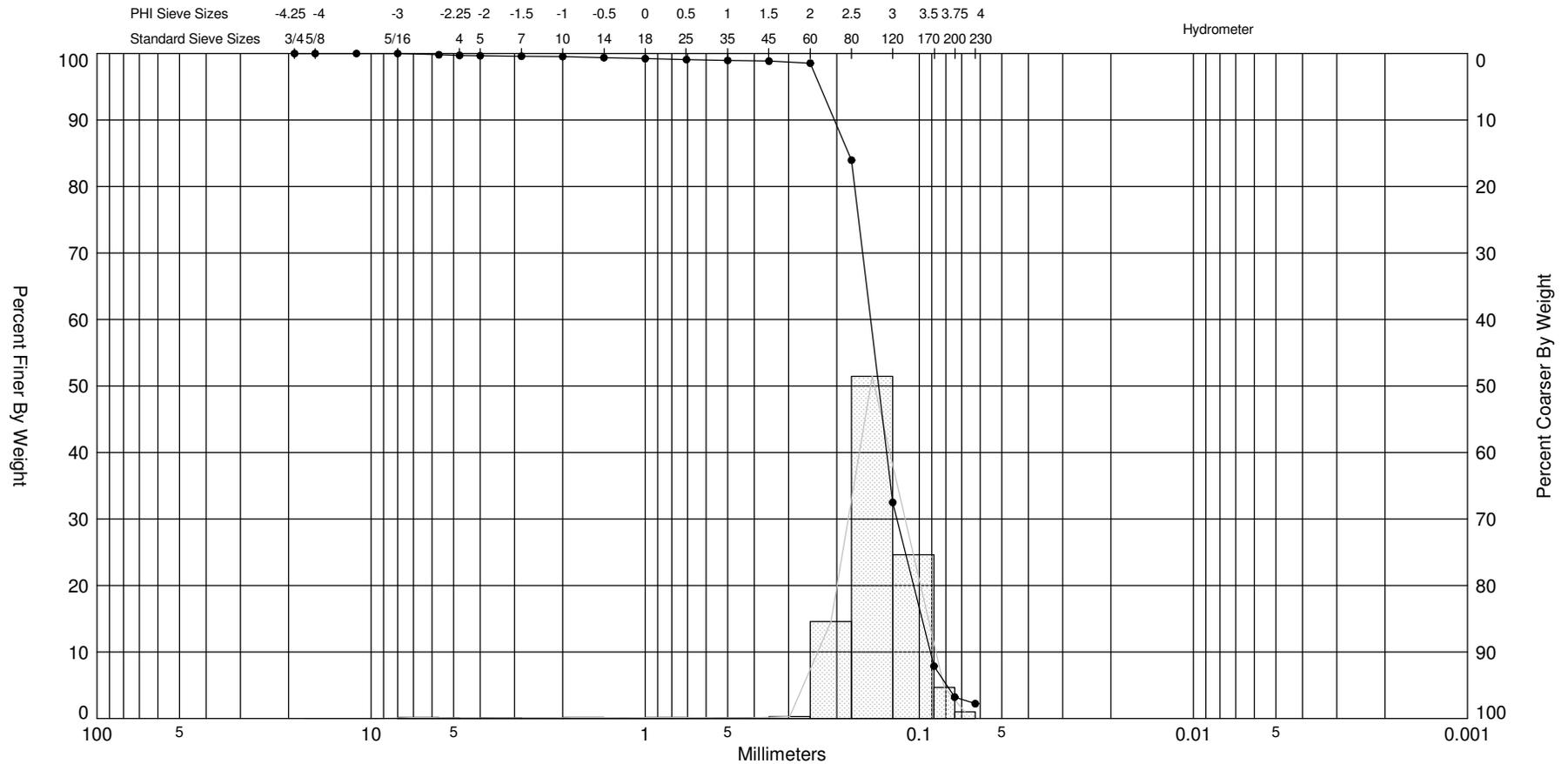
Sedimentological Summary

Sample	gINT Granularmetrics							USC	Composition (wt%)			Munsell Color	
	Size Class (wt%)				Descriptive Statistics				Organic	Carbonate	Siliciclastic	Verbal	Value
	Gravel	Sand	<#200	<#230	Mean (mm)	Verbal	Std. Dev.(phi)						
G035 BF	0.00	99.13	0.87	0.71	0.15	F	0.57	SP	0.9	4.71	94.39	gryish brn	10YR 5/2
G035 DN	0.00	99.52	0.48	0.30	0.15	F	0.30	SP	0.6	1.58	97.82	gryish brn	10YR 5/2
G035 NS	0.28	96.50	3.22	2.23	0.14	F	0.56	SP	1.0	3.63	95.37	brown	10YR 4/3
G035 OW	0.08	99.29	0.63	0.48	0.16	F	0.38	SP	0.7	1.66	97.64	gryish brn	10YR 5/2
G095 BF	6.18	92.44	1.38	1.21	0.28	F	1.94	SW	1.4	19.29	79.31	gryish brn	10YR 5/2
G095 DN	6.64	93.29	0.07	0.02	0.31	F	1.30	SW	0.6	16.03	83.37	gryish brn	10YR 5/2
G095 NS	0.12	95.67	4.21	2.06	0.12	F	0.60	SP	1.4	5.24	93.36	lt brnish gry	10YR 6/2
G095 OW	3.25	96.18	0.57	0.46	0.33	F	1.51	SW	1.0	27.23	71.77	lt brnish gry	10YR 6/2
G125 BF	0.00	98.49	1.51	1.38	0.16	F	0.53	SP	0.9	3.30	95.80	gryish brn	10YR 5/2
G125 DN	0.38	98.21	1.41	1.22	0.15	F	0.49	SP	1.1	2.12	96.78	lt brnish gry	10YR 6/2
G125 NS	0.00	97.47	2.53	1.59	0.12	F	0.36	SP	1.3	2.78	95.92	gryish brn	10YR 5/2
G125 OW	0.00	98.68	1.32	1.11	0.16	F	0.36	SP	0.9	2.13	96.97	gryish brn	10YR 5/2

ANNEX L2

GRANULARMETRIC CURVES

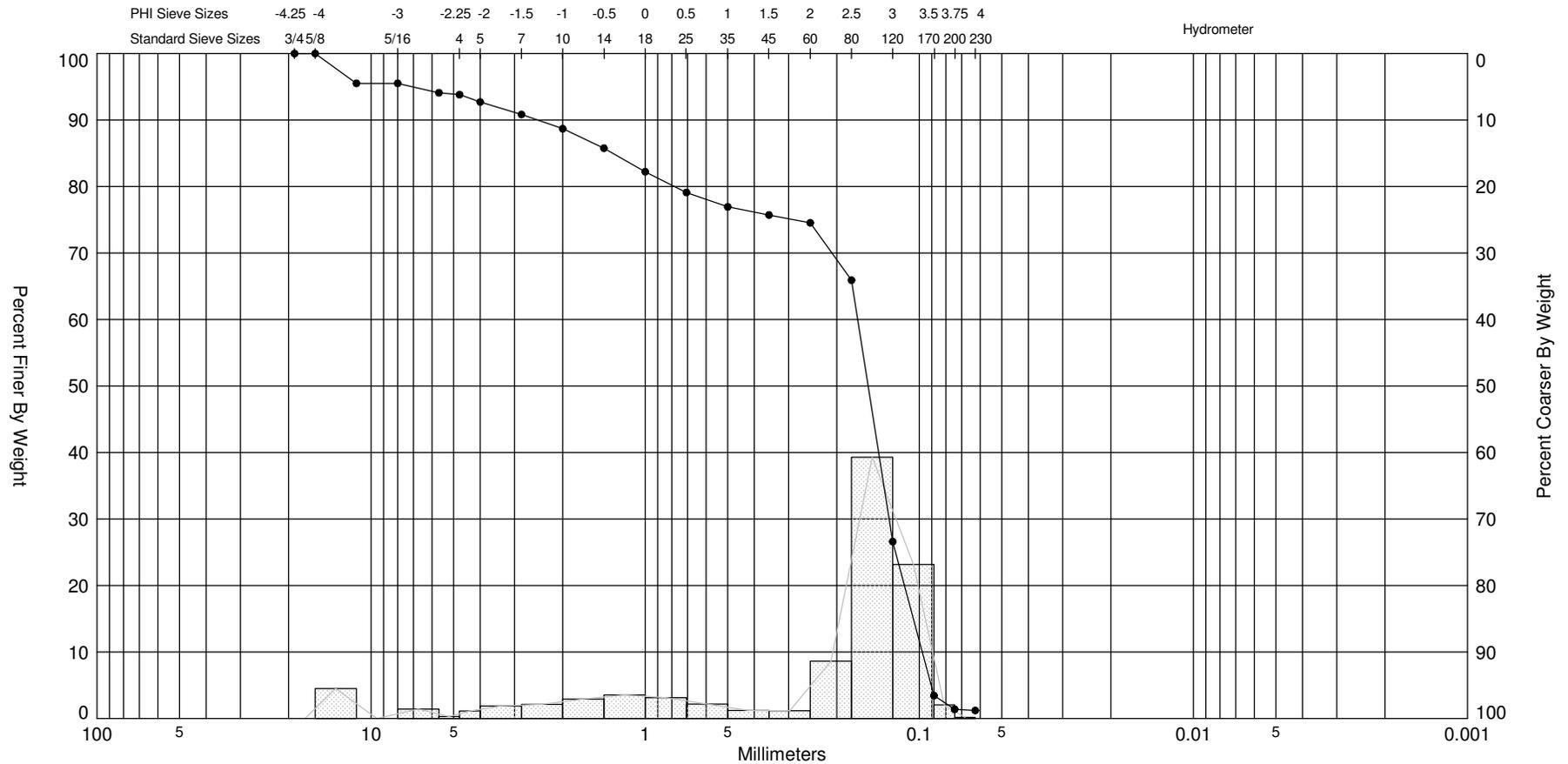
SIEVE ANALYSIS 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
G035 NS	—●—		SP	#200 - 3.22 #230 - 2.23	1.00	3.63	2.83	2.81	-4.21	37.73	0.56	Project Name:	Riverine / Scofield Is Restoration
Comments:												Analysis Date:	09-23-08
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	89.558
												Northing (Y, ft):	29.243
												Horizontal System:	NAD 1983
												Vertical System:	
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

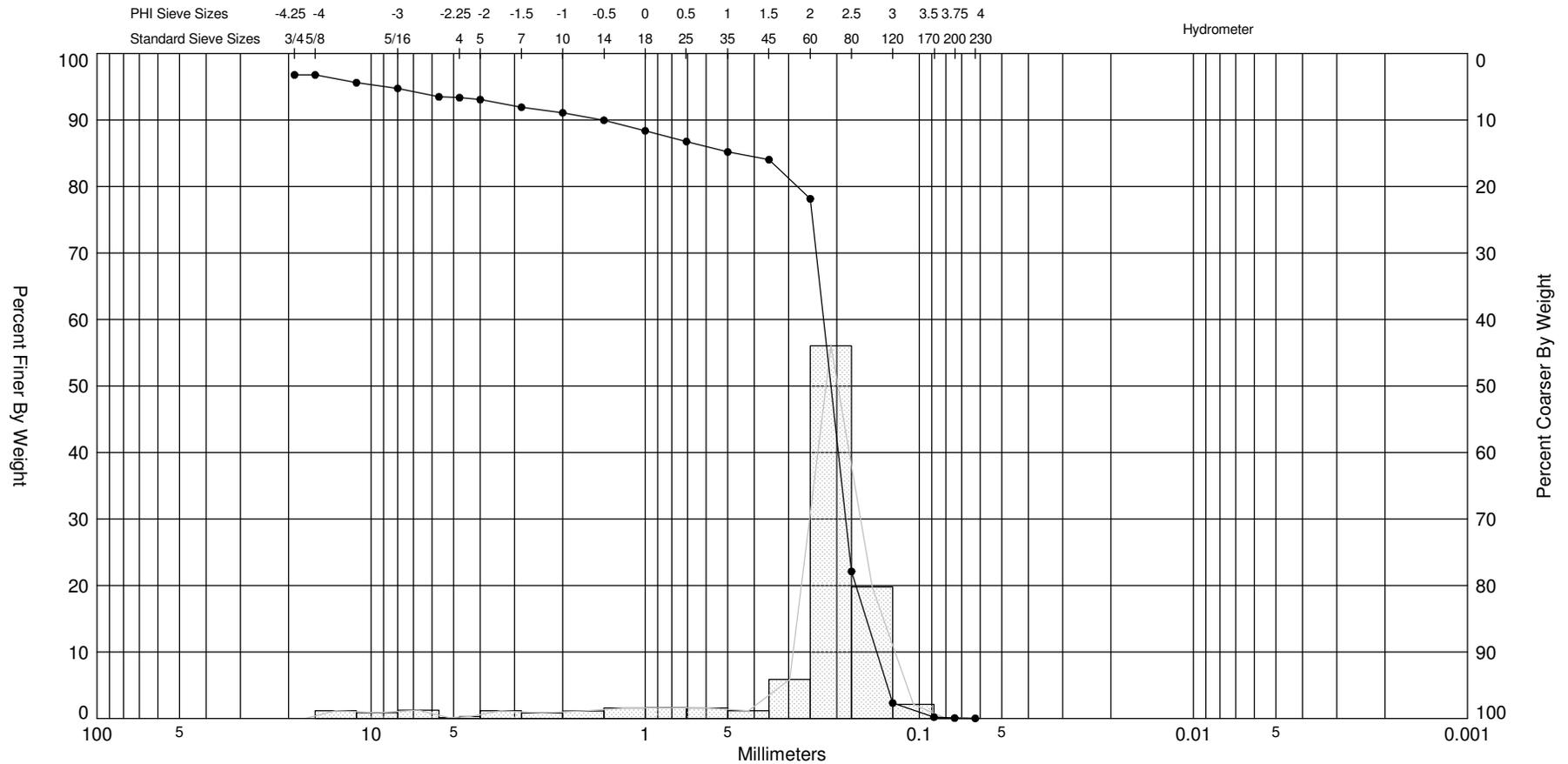
SIEVE ANALYSIS 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
G095 BF	—●—		SW	#200 - 1.38 #230 - 1.21	1.40	19.29	2.7	1.86	-1.64	4.58	1.94	Project Name:	Riverine / Scofield Is Restoration
Comments:												Analysis Date:	09-23-08
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	89.54
												Northing (Y, ft):	29.238
												Horizontal System:	NAD 1983
												Vertical System:	
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

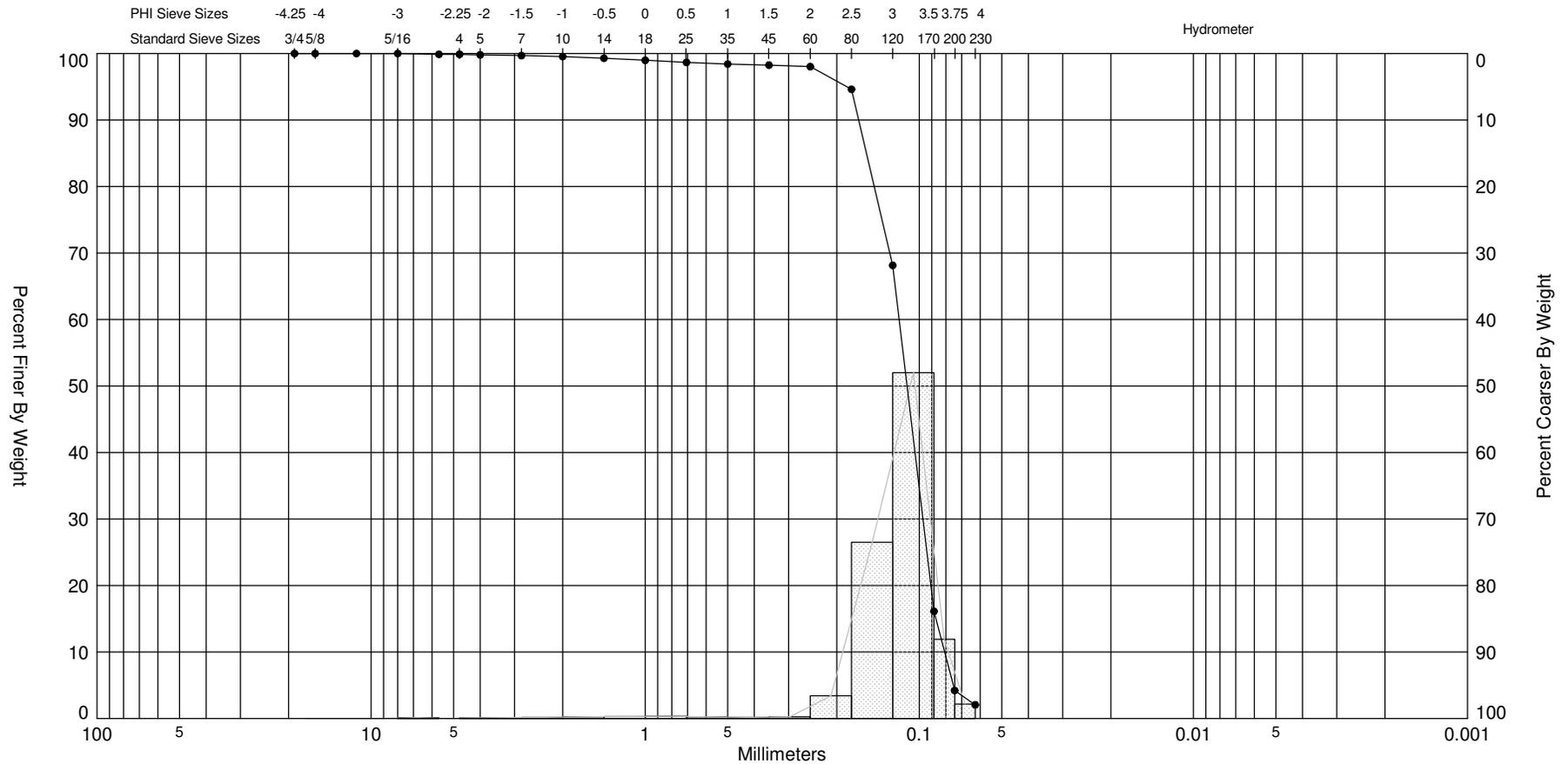
SIEVE ANALYSIS 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
G095 DN	—●—		SW	#200 - 0.07 #230 - 0.02	0.60	16.03	2.25	1.71	-2.25	8.69	1.3	Project Name:	Riverine / Scofield Is Restoration
Comments:												Analysis Date:	09-23-08
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	89.54
												Northing (Y, ft):	29.238
												Horizontal System:	NAD 1983
												Vertical System:	
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

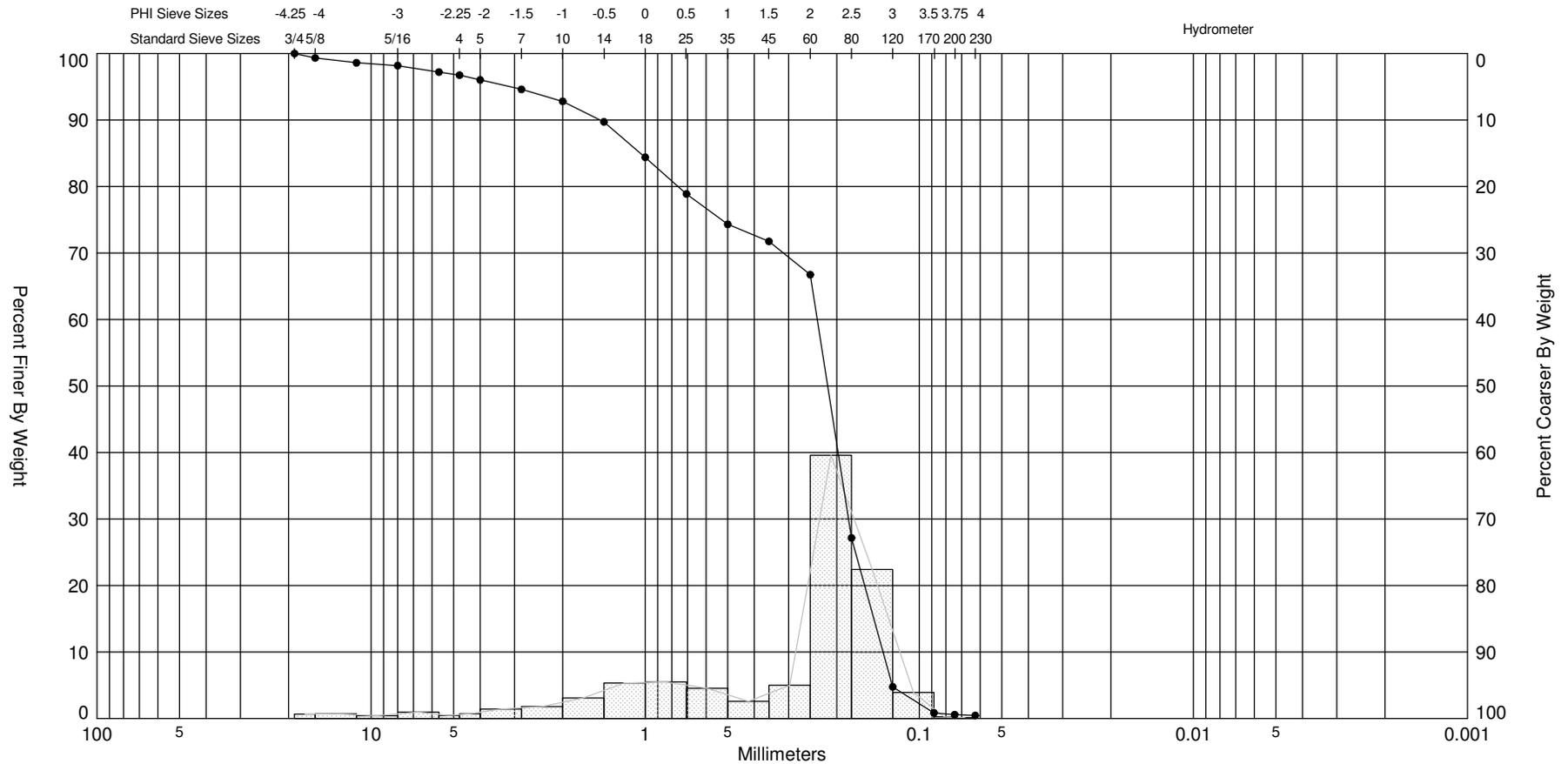
SIEVE ANALYSIS 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
G095 NS	—●—		SP	#200 - 4.21 #230 - 2.06	1.40	5.24	3.17	3.07	-4.53	34.18	0.6	Project Name:	Riverine / Scofield Is Restoration
Comments:												Analysis Date:	09-23-08
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	89.54
												Northing (Y, ft):	29.238
												Horizontal System:	NAD 1983
												Vertical System:	
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

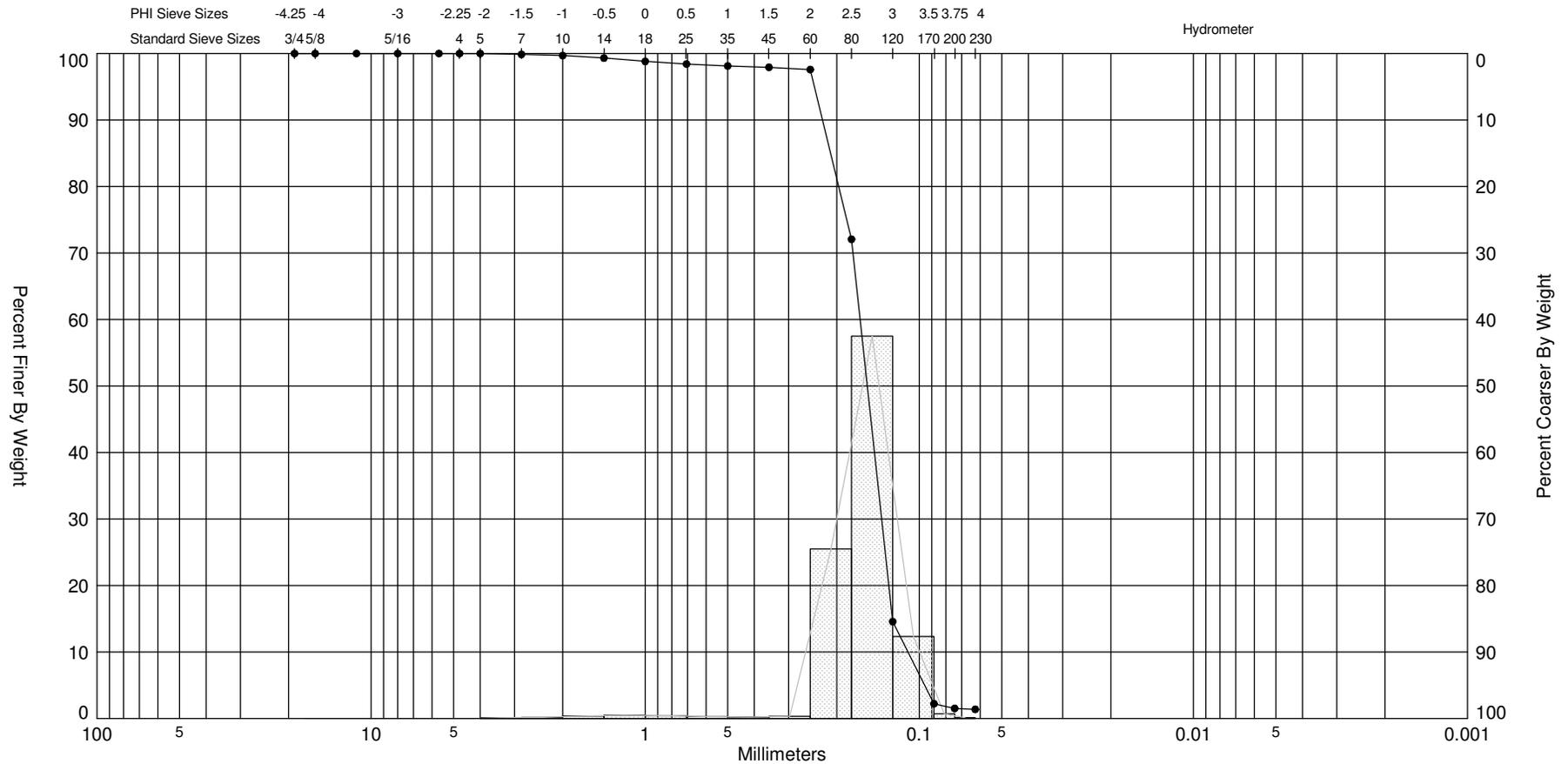
SIEVE ANALYSIS 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
G095 OW	—●—		SW	#200 - 0.57 #230 - 0.46	1.00	27.23	2.21	1.62	-1.65	5.33	1.51	Project Name:	Riverine / Scofield Is Restoration
Comments:												Analysis Date:	09-23-08
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	89.54
												Northing (Y, ft):	29.238
												Horizontal System:	NAD 1983
												Vertical System:	
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

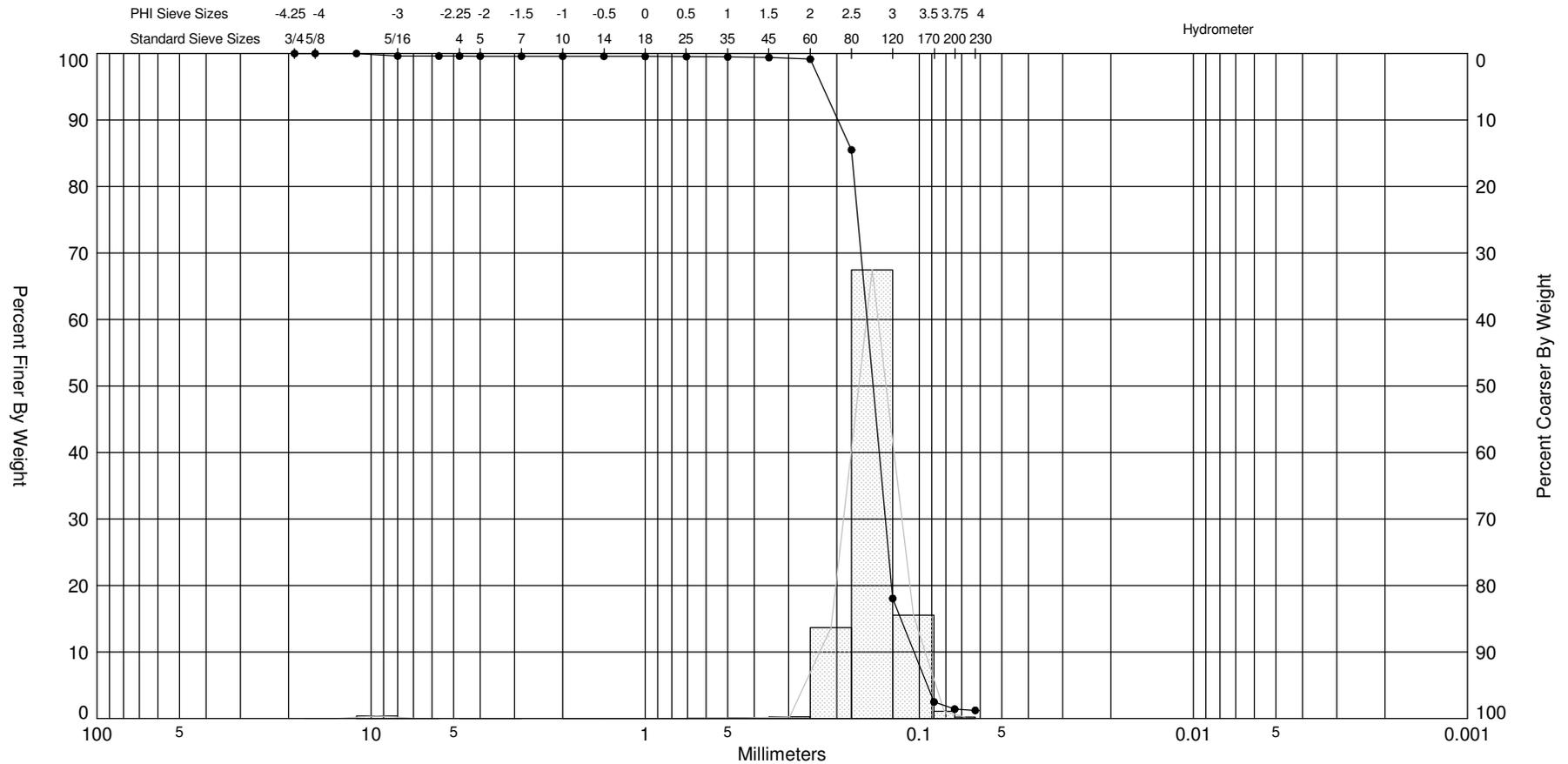
SIEVE ANALYSIS 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
G125 BF	—●—		SP	#200 - 1.51 #230 - 1.38	0.90	3.30	2.69	2.63	-3.6	24.66	0.53	Project Name:	Riverine / Scofield Is Restoration
Comments:												Analysis Date:	09-23-08
Depths and elevations based on measured values												Analyzed By:	LA
							715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax					Easting (X, ft):	89.532
												Northing (Y, ft):	29.236
												Horizontal System:	NAD 1983
												Vertical System:	

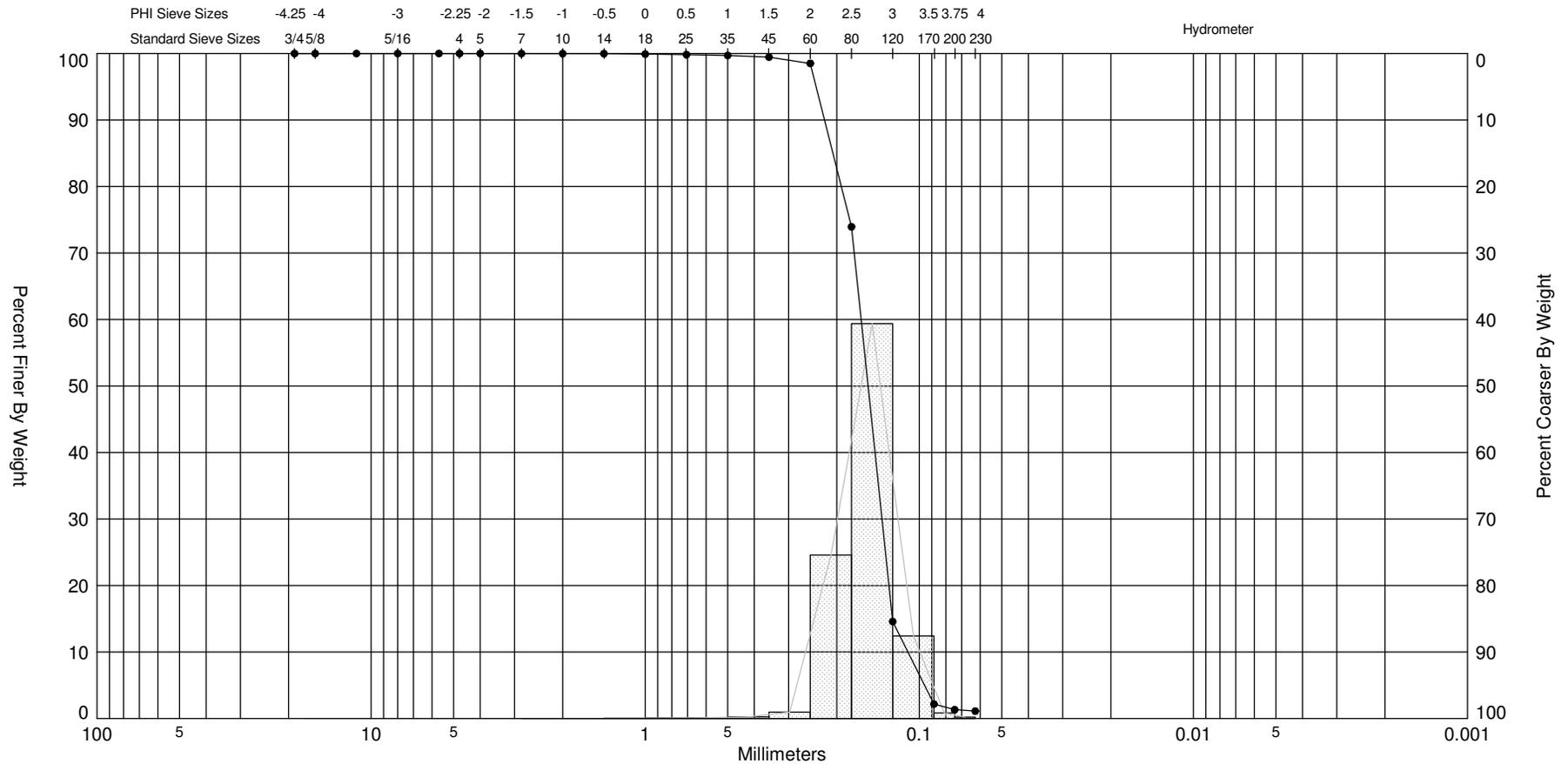
SIEVE ANALYSIS 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
G125 DN	—●—		SP	#200 - 1.41 #230 - 1.22	1.10	2.12	2.76	2.74	-7.31	88.95	0.49	Project Name:	Riverine / Scofield Is Restoration
Comments:												Analysis Date:	09-23-08
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	89.531
												Northing (Y, ft):	29.236
												Horizontal System:	NAD 1983
												Vertical System:	
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

SIEVE ANALYSIS 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
G125 OW	—●—		SP	#200 - 1.32 #230 - 1.11	0.90	2.13	2.7	2.68	-0.99	10.57	0.36	Project Name:	Riverine / Scofield Is Restoration
Comments:												Analysis Date:	09-23-08
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	89.531
												Northing (Y, ft):	29.237
												Horizontal System:	NAD 1983
												Vertical System:	
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

ANNEX L3

GRANULARMETRIC TABLES

Granularmetric Report

Depths and elevations based on measured values



COASTAL TECH
Coastal Geology & Sediments Laboratory

715 North Drive Suite E
Melbourne, Florida 32934
Phone 321-751-1135 x 206
Fax

Project Name: Riverine / Scofield Is Restoration

Sample Name: G035 BF

Analysis Date: 09-23-08

Analyzed By: LA

Easting (ft): 89.558	Northing (ft): 29.243	Coordinate System: Geographic (Latitude/Longitude)	Elevation (ft):
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USCS: SP	Munsell: Wet - 10YR-5/2	Comments:
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Dry Weight (g): 208.49	Wash Weight (g): 207.19	Pan Retained (g): 0.18	Sieve Loss (%): 0.00	Fines (%): #200 - 0.87 #230 - 0.71	Organics (%): 0.90	Carbonates (%): 4.71	Shells (%):
----------------------------------	-----------------------------------	----------------------------------	--------------------------------	--	------------------------------	--------------------------------	-------------

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
11/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.16	0.08	0.16	0.08
10	-1.00	2.00	0.18	0.09	0.34	0.17
14	-0.50	1.41	0.74	0.35	1.08	0.52
18	0.00	1.00	1.43	0.69	2.51	1.21
25	0.50	0.71	1.62	0.78	4.13	1.99
35	1.00	0.50	1.24	0.59	5.37	2.58
45	1.50	0.35	0.69	0.33	6.06	2.91
60	2.00	0.25	1.52	0.73	7.58	3.64
80	2.50	0.18	27.00	12.95	34.58	16.59
120	3.00	0.13	124.14	59.54	158.72	76.13
170	3.50	0.09	45.64	21.89	204.36	98.02
200	3.75	0.07	2.32	1.11	206.68	99.13
230	4.00	0.06	0.33	0.16	207.01	99.29

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.43	3.18	2.99	2.78	2.57	2.48	2.05
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.72	0.15	0.57	-3.34	19.67	

GRANULARMETRIC REPORT 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08

Granularmetric Report

Depths and elevations based on measured values



COASTAL TECH
Coastal Geology & Sediments Laboratory

715 North Drive Suite E
Melbourne, Florida 32934
Phone 321-751-1135 x 206
Fax

Project Name: Riverine / Scofield Is Restoration

Sample Name: G035 DN

Analysis Date: 09-23-08

Analyzed By: LA

Easting (ft): 89.557	Northing (ft): 29.244	Coordinate System: Geographic (Latitude/Longitude)	Elevation (ft):
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USCS: SP	Munsell: Wet - 10YR-5/2	Comments:
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Dry Weight (g): 190.04	Wash Weight (g): 189.54	Pan Retained (g): 0.06	Sieve Loss (%): 0.00	Fines (%): #200 - 0.48 #230 - 0.30	Organics (%): 0.60	Carbonates (%): 1.58	Shells (%):
----------------------------------	-----------------------------------	----------------------------------	--------------------------------	--	------------------------------	--------------------------------	-------------

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
11/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.00	0.00	0.00	0.00
10	-1.00	2.00	0.02	0.01	0.02	0.01
14	-0.50	1.41	0.02	0.01	0.04	0.02
18	0.00	1.00	0.02	0.01	0.06	0.03
25	0.50	0.71	0.05	0.03	0.11	0.06
35	1.00	0.50	0.02	0.01	0.13	0.07
45	1.50	0.35	0.03	0.02	0.16	0.09
60	2.00	0.25	0.27	0.14	0.43	0.23
80	2.50	0.18	36.21	19.05	36.64	19.28
120	3.00	0.13	130.62	68.73	167.26	88.01
170	3.50	0.09	20.81	10.95	188.07	98.96
200	3.75	0.07	1.06	0.56	189.13	99.52
230	4.00	0.06	0.35	0.18	189.48	99.70

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.32	2.97	2.91	2.72	2.54	2.41	2.13
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.71	0.15	0.3	-0.57	11.26	

GRANULARMETRIC REPORT 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08

Granularmetric Report

Depths and elevations based on measured values



COASTAL TECH
Coastal Geology & Sediments Laboratory

715 North Drive Suite E
Melbourne, Florida 32934
Phone 321-751-1135 x 206
Fax

Project Name: Riverine / Scofield Is Restoration

Sample Name: G035 NS

Analysis Date: 09-23-08

Analyzed By: LA

Easting (ft):

89.558

Northing (ft):

29.243

Coordinate System:

Geographic (Latitude/Longitude)

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-4/3

Comments:

Dry Weight (g):

202.80

Wash Weight (g):

199.14

Pan Retained (g):

0.88

Sieve Loss (%):

0.00

Fines (%):

#200 - 3.22
#230 - 2.23

Organics (%):

1.00

Carbonates (%):

3.63

Shells (%):

Sieve Number

Sieve Size (Phi)

Sieve Size (Millimeters)

Grams Retained

% Weight Retained

Cum. Grams Retained

C. % Weight Retained

3/4"

-4.25

19.03

0.00

0.00

0.00

0.00

5/8"

-4.00

16.00

0.00

0.00

0.00

0.00

11/16"

-3.50

11.31

0.00

0.00

0.00

0.00

5/16"

-3.00

8.00

0.00

0.00

0.00

0.00

3.5

-2.50

5.66

0.36

0.18

0.36

0.18

4

-2.25

4.76

0.21

0.10

0.57

0.28

5

-2.00

4.00

0.10

0.05

0.67

0.33

7

-1.50

2.83

0.14

0.07

0.81

0.40

10

-1.00

2.00

0.12

0.06

0.93

0.46

14

-0.50

1.41

0.32

0.16

1.25

0.62

18

0.00

1.00

0.29

0.14

1.54

0.76

25

0.50

0.71

0.32

0.16

1.86

0.92

35

1.00

0.50

0.24

0.12

2.10

1.04

45

1.50

0.35

0.21

0.10

2.31

1.14

60

2.00

0.25

0.62

0.31

2.93

1.45

80

2.50

0.18

29.58

14.59

32.51

16.04

120

3.00

0.13

104.39

51.47

136.90

67.51

170

3.50

0.09

49.92

24.62

186.82

92.13

200

3.75

0.07

9.44

4.65

196.26

96.78

230

4.00

0.06

2.00

0.99

198.26

97.77

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

3.65

3.33

3.15

2.83

2.59

2.50

2.12

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

2.81

0.14

0.56

-4.21

37.73

GRANULARMETRIC REPORT 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08

Granularmetric Report

Depths and elevations based on measured values



COASTAL TECH
Coastal Geology & Sediments Laboratory

715 North Drive Suite E
Melbourne, Florida 32934
Phone 321-751-1135 x 206
Fax

Project Name: Riverine / Scofield Is Restoration

Sample Name: G035 OW

Analysis Date: 09-23-08

Analyzed By: LA

Easting (ft): 89.558	Northing (ft): 29.244	Coordinate System: Geographic (Latitude/Longitude)	Elevation (ft):
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USCS: SP	Munsell: Wet - 10YR-5/2	Comments:
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Dry Weight (g): 247.09	Wash Weight (g): 245.94	Pan Retained (g): 0.08	Sieve Loss (%): 0.00	Fines (%): #200 - 0.63 #230 - 0.48	Organics (%): 0.70	Carbonates (%): 1.66	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
11/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.19	0.08	0.19	0.08
5	-2.00	4.00	0.00	0.00	0.19	0.08
7	-1.50	2.83	0.09	0.04	0.28	0.12
10	-1.00	2.00	0.07	0.03	0.35	0.15
14	-0.50	1.41	0.09	0.04	0.44	0.19
18	0.00	1.00	0.12	0.05	0.56	0.24
25	0.50	0.71	0.14	0.06	0.70	0.30
35	1.00	0.50	0.14	0.06	0.84	0.36
45	1.50	0.35	0.14	0.06	0.98	0.42
60	2.00	0.25	1.27	0.51	2.25	0.93
80	2.50	0.18	69.74	28.22	71.99	29.15
120	3.00	0.13	149.95	60.69	221.94	89.84
170	3.50	0.09	22.28	9.02	244.22	98.86
200	3.75	0.07	1.26	0.51	245.48	99.37
230	4.00	0.06	0.38	0.15	245.86	99.52

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.29	2.95	2.88	2.67	2.43	2.27	2.07
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.64	0.16	0.38	-3.33	41.79	

GRANULARMETRIC REPORT 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08

Granularmetric Report

Depths and elevations based on measured values



COASTAL TECH
Coastal Geology & Sediments Laboratory

715 North Drive Suite E
Melbourne, Florida 32934
Phone 321-751-1135 x 206
Fax

Project Name: Riverine / Scofield Is Restoration

Sample Name: G095 BF

Analysis Date: 09-23-08

Analyzed By: LA

Easting (ft):

89.54

Northing (ft):

29.238

Coordinate System:

Geographic (Latitude/Longitude)

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-5/2

Comments:

Dry Weight (g):

235.47

Wash Weight (g):

232.89

Pan Retained (g):

0.26

Sieve Loss (%):

0.00

Fines (%):

#200 - 1.38
#230 - 1.21

Organics (%):

1.40

Carbonates (%):

19.29

Shells (%):

Sieve Number

Sieve Size (Phi)

Sieve Size (Millimeters)

Grams Retained

% Weight Retained

Cum. Grams Retained

C. % Weight Retained

3/4"

-4.25

19.03

0.00

0.00

0.00

0.00

5/8"

-4.00

16.00

0.00

0.00

0.00

0.00

11/16"

-3.50

11.31

10.56

4.48

10.56

4.48

5/16"

-3.00

8.00

0.00

0.00

10.56

4.48

3.5

-2.50

5.66

3.34

1.42

13.90

5.90

4

-2.25

4.76

0.67

0.28

14.57

6.18

5

-2.00

4.00

2.62

1.11

17.19

7.29

7

-1.50

2.83

4.43

1.88

21.62

9.17

10

-1.00

2.00

5.03

2.14

26.65

11.31

14

-0.50

1.41

6.89

2.93

33.54

14.24

18

0.00

1.00

8.34

3.54

41.88

17.78

25

0.50

0.71

7.34

3.12

49.22

20.90

35

1.00

0.50

5.08

2.16

54.30

23.06

45

1.50

0.35

2.87

1.22

57.17

24.28

60

2.00

0.25

2.77

1.18

59.94

25.46

80

2.50

0.18

20.32

8.63

80.26

34.09

120

3.00

0.13

92.56

39.31

172.82

73.40

170

3.50

0.09

54.54

23.16

227.36

96.56

200

3.75

0.07

4.86

2.06

232.22

98.62

230

4.00

0.06

0.41

0.17

232.63

98.79

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

3.47

3.23

3.03

2.70

1.81

-0.25

-3.13

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.86

0.28

1.94

-1.64

4.58

GRANULARMETRIC REPORT 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08

Granularmetric Report

Depths and elevations based on measured values



COASTAL TECH
Coastal Geology & Sediments Laboratory

715 North Drive Suite E
Melbourne, Florida 32934
Phone 321-751-1135 x 206
Fax

Project Name: Riverine / Scofield Is Restoration

Sample Name: G095 DN

Analysis Date: 09-23-08

Analyzed By: LA

Easting (ft):

89.54

Northing (ft):

29.238

Coordinate System:

Geographic (Latitude/Longitude)

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-5/2

Comments:

Dry Weight (g):

219.88

Wash Weight (g):

219.88

Pan Retained (g):

0.02

Sieve Loss (%):

0.00

Fines (%):

#200 - 0.07
#230 - 0.02

Organics (%):

0.60

Carbonates (%):

16.03

Shells (%):

Sieve Number

Sieve Size (Phi)

Sieve Size (Millimeters)

Grams Retained

% Weight Retained

Cum. Grams Retained

C. % Weight Retained

3/4"

-4.25

19.03

7.08

3.22

7.08

3.22

5/8"

-4.00

16.00

0.00

0.00

7.08

3.22

11/16"

-3.50

11.31

2.58

1.17

9.66

4.39

5/16"

-3.00

8.00

1.90

0.86

11.56

5.25

3.5

-2.50

5.66

2.79

1.27

14.35

6.52

4

-2.25

4.76

0.26

0.12

14.61

6.64

5

-2.00

4.00

0.64

0.29

15.25

6.93

7

-1.50

2.83

2.53

1.15

17.78

8.08

10

-1.00

2.00

1.85

0.84

19.63

8.92

14

-0.50

1.41

2.47

1.12

22.10

10.04

18

0.00

1.00

3.49

1.59

25.59

11.63

25

0.50

0.71

3.54

1.61

29.13

13.24

35

1.00

0.50

3.45

1.57

32.58

14.81

45

1.50

0.35

2.56

1.16

35.14

15.97

60

2.00

0.25

12.93

5.88

48.07

21.85

80

2.50

0.18

123.19

56.03

171.26

77.88

120

3.00

0.13

43.53

19.80

214.79

97.68

170

3.50

0.09

4.67

2.12

219.46

99.80

200

3.75

0.07

0.28

0.13

219.74

99.93

230

4.00

0.06

0.12

0.05

219.86

99.98

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.93

2.65

2.47

2.25

2.03

1.50

-3.15

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.71

0.31

1.3

-2.25

8.69

GRANULARMETRIC REPORT 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08

Granularmetric Report

Depths and elevations based on measured values



COASTAL TECH
Coastal Geology & Sediments Laboratory

715 North Drive Suite E
Melbourne, Florida 32934
Phone 321-751-1135 x 206
Fax

Project Name: Riverine / Scofield Is Restoration

Sample Name: G095 NS

Analysis Date: 09-23-08

Analyzed By: LA

Easting (ft): 89.54	Northing (ft): 29.238	Coordinate System: Geographic (Latitude/Longitude)	Elevation (ft):
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USCS: SP	Munsell: Wet - 10YR-6/2	Comments:
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Dry Weight (g): 188.41	Wash Weight (g): 185.75	Pan Retained (g): 1.21	Sieve Loss (%): 0.00	Fines (%): #200 - 4.21 #230 - 2.06	Organics (%): 1.40	Carbonates (%): 5.24	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
11/16"	-3.50	11.31	0.00	0.00	0.00	0.00
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.22	0.12	0.22	0.12
4	-2.25	4.76	0.00	0.00	0.22	0.12
5	-2.00	4.00	0.15	0.08	0.37	0.20
7	-1.50	2.83	0.21	0.11	0.58	0.31
10	-1.00	2.00	0.28	0.15	0.86	0.46
14	-0.50	1.41	0.47	0.25	1.33	0.71
18	0.00	1.00	0.59	0.31	1.92	1.02
25	0.50	0.71	0.60	0.32	2.52	1.34
35	1.00	0.50	0.45	0.24	2.97	1.58
45	1.50	0.35	0.30	0.16	3.27	1.74
60	2.00	0.25	0.43	0.23	3.70	1.97
80	2.50	0.18	6.43	3.41	10.13	5.38
120	3.00	0.13	49.90	26.48	60.03	31.86
170	3.50	0.09	98.01	52.02	158.04	83.88
200	3.75	0.07	22.44	11.91	180.48	95.79
230	4.00	0.06	4.06	2.15	184.54	97.94

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.73	3.50	3.41	3.17	2.87	2.70	2.44
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	3.07	0.12	0.6	-4.53	34.18	

GRANULARMETRIC REPORT 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08

Granularmetric Report

Depths and elevations based on measured values



COASTAL TECH
Coastal Geology & Sediments Laboratory

715 North Drive Suite E
Melbourne, Florida 32934
Phone 321-751-1135 x 206
Fax

Project Name: Riverine / Scofield Is Restoration

Sample Name: G095 OW

Analysis Date: 09-23-08

Analyzed By: LA

Easting (ft): 89.54	Northing (ft): 29.238	Coordinate System: Geographic (Latitude/Longitude)	Elevation (ft):
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USCS: SW	Munsell: Wet - 10YR-6/2	Comments:
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Dry Weight (g): 217.62	Wash Weight (g): 216.70	Pan Retained (g): 0.07	Sieve Loss (%): 0.00	Fines (%): #200 - 0.57 #230 - 0.46	Organics (%): 1.00	Carbonates (%): 27.23	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	1.46	0.67	1.46	0.67
11/16"	-3.50	11.31	1.56	0.72	3.02	1.39
5/16"	-3.00	8.00	0.94	0.43	3.96	1.82
3.5	-2.50	5.66	2.11	0.97	6.07	2.79
4	-2.25	4.76	1.00	0.46	7.07	3.25
5	-2.00	4.00	1.56	0.72	8.63	3.97
7	-1.50	2.83	3.08	1.42	11.71	5.39
10	-1.00	2.00	3.91	1.80	15.62	7.19
14	-0.50	1.41	6.73	3.09	22.35	10.28
18	0.00	1.00	11.60	5.33	33.95	15.61
25	0.50	0.71	12.00	5.51	45.95	21.12
35	1.00	0.50	9.92	4.56	55.87	25.68
45	1.50	0.35	5.60	2.57	61.47	28.25
60	2.00	0.25	10.91	5.01	72.38	33.26
80	2.50	0.18	86.14	39.58	158.52	72.84
120	3.00	0.13	48.75	22.40	207.27	95.24
170	3.50	0.09	8.54	3.92	215.81	99.16
200	3.75	0.07	0.59	0.27	216.40	99.43
230	4.00	0.06	0.23	0.11	216.63	99.54

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.99	2.75	2.55	2.21	0.93	0.04	-1.64
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.62	0.33	1.51	-1.65	5.33	

GRANULARMETRIC REPORT 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08

Granularmetric Report

Depths and elevations based on measured values



COASTAL TECH
Coastal Geology & Sediments Laboratory

715 North Drive Suite E
Melbourne, Florida 32934
Phone 321-751-1135 x 206
Fax

Project Name: Riverine / Scofield Is Restoration

Sample Name: G125 BF

Analysis Date: 09-23-08

Analyzed By: LA

Easting (ft):

89.532

Northing (ft):

29.236

Coordinate System:

Geographic (Latitude/Longitude)

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-5/2

Comments:

Dry Weight (g):

171.05

Wash Weight (g):

168.75

Pan Retained (g):

0.07

Sieve Loss (%):

0.00

Fines (%):

#200 - 1.51
#230 - 1.38

Organics (%):

0.90

Carbonates (%):

3.30

Shells (%):

Sieve Number

Sieve Size (Phi)

Sieve Size (Millimeters)

Grams Retained

% Weight Retained

Cum. Grams Retained

C. % Weight Retained

3/4"

-4.25

19.03

0.00

0.00

0.00

0.00

5/8"

-4.00

16.00

0.00

0.00

0.00

0.00

11/16"

-3.50

11.31

0.00

0.00

0.00

0.00

5/16"

-3.00

8.00

0.00

0.00

0.00

0.00

3.5

-2.50

5.66

0.00

0.00

0.00

0.00

4

-2.25

4.76

0.00

0.00

0.00

0.00

5

-2.00

4.00

0.00

0.00

0.00

0.00

7

-1.50

2.83

0.22

0.13

0.22

0.13

10

-1.00

2.00

0.30

0.18

0.52

0.31

14

-0.50

1.41

0.63

0.37

1.15

0.68

18

0.00

1.00

0.85

0.50

2.00

1.18

25

0.50

0.71

0.68

0.40

2.68

1.58

35

1.00

0.50

0.49

0.29

3.17

1.87

45

1.50

0.35

0.35

0.20

3.52

2.07

60

2.00

0.25

0.59

0.34

4.11

2.41

80

2.50

0.18

43.66

25.52

47.77

27.93

120

3.00

0.13

98.35

57.50

146.12

85.43

170

3.50

0.09

21.12

12.35

167.24

97.78

200

3.75

0.07

1.22

0.71

168.46

98.49

230

4.00

0.06

0.22

0.13

168.68

98.62

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

3.39

2.99

2.91

2.69

2.44

2.27

2.05

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

2.63

0.16

0.53

-3.6

24.66

GRANULARMETRIC REPORT 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08

Granularmetric Report

Depths and elevations based on measured values



COASTAL TECH
Coastal Geology & Sediments Laboratory

715 North Drive Suite E
Melbourne, Florida 32934
Phone 321-751-1135 x 206
Fax

Project Name: Riverine / Scofield Is Restoration

Sample Name: G125 DN

Analysis Date: 09-23-08

Analyzed By: LA

Easting (ft):

89.531

Northing (ft):

29.236

Coordinate System:

Geographic (Latitude/Longitude)

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-6/2

Comments:

Dry Weight (g):

161.56

Wash Weight (g):

159.67

Pan Retained (g):

0.05

Sieve Loss (%):

0.00

Fines (%):

#200 - 1.41
#230 - 1.22

Organics (%):

1.10

Carbonates (%):

2.12

Shells (%):

Sieve Number

Sieve Size (Phi)

Sieve Size (Millimeters)

Grams Retained

% Weight Retained

Cum. Grams Retained

C. % Weight Retained

3/4"

-4.25

19.03

0.00

0.00

0.00

0.00

5/8"

-4.00

16.00

0.00

0.00

0.00

0.00

11/16"

-3.50

11.31

0.00

0.00

0.00

0.00

5/16"

-3.00

8.00

0.60

0.37

0.60

0.37

3.5

-2.50

5.66

0.01

0.01

0.61

0.38

4

-2.25

4.76

0.00

0.00

0.61

0.38

5

-2.00

4.00

0.04

0.02

0.65

0.40

7

-1.50

2.83

0.02

0.01

0.67

0.41

10

-1.00

2.00

0.00

0.00

0.67

0.41

14

-0.50

1.41

0.02

0.01

0.69

0.42

18

0.00

1.00

0.01

0.01

0.70

0.43

25

0.50

0.71

0.04

0.02

0.74

0.45

35

1.00

0.50

0.09

0.06

0.83

0.51

45

1.50

0.35

0.15

0.09

0.98

0.60

60

2.00

0.25

0.41

0.25

1.39

0.85

80

2.50

0.18

22.06

13.65

23.45

14.50

120

3.00

0.13

108.97

67.45

132.42

81.95

170

3.50

0.09

25.14

15.56

157.56

97.51

200

3.75

0.07

1.75

1.08

159.31

98.59

230

4.00

0.06

0.31

0.19

159.62

98.78

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

3.42

3.07

2.95

2.76

2.58

2.51

2.15

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

2.74

0.15

0.49

-7.31

88.95

GRANULARMETRIC REPORT 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08

Granularmetric Report

Depths and elevations based on measured values



COASTAL TECH
Coastal Geology & Sediments Laboratory

715 North Drive Suite E
Melbourne, Florida 32934
Phone 321-751-1135 x 206
Fax

Project Name: Riverine / Scofield Is Restoration

Sample Name: G125 NS

Analysis Date: 09-23-08

Analyzed By: LA

Easting (ft):

89.532

Northing (ft):

29.235

Coordinate System:

Geographic (Latitude/Longitude)

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-5/2

Comments:

Dry Weight (g):

193.44

Wash Weight (g):

190.89

Pan Retained (g):

0.56

Sieve Loss (%):

0.00

Fines (%):

#200 - 2.53
#230 - 1.59

Organics (%):

1.30

Carbonates (%):

2.78

Shells (%):

Sieve Number

Sieve Size (Phi)

Sieve Size (Millimeters)

Grams Retained

% Weight Retained

Cum. Grams Retained

C. % Weight Retained

3/4"

-4.25

19.03

0.00

0.00

0.00

0.00

5/8"

-4.00

16.00

0.00

0.00

0.00

0.00

11/16"

-3.50

11.31

0.00

0.00

0.00

0.00

5/16"

-3.00

8.00

0.00

0.00

0.00

0.00

3.5

-2.50

5.66

0.00

0.00

0.00

0.00

4

-2.25

4.76

0.00

0.00

0.00

0.00

5

-2.00

4.00

0.00

0.00

0.00

0.00

7

-1.50

2.83

0.02

0.01

0.02

0.01

10

-1.00

2.00

0.05

0.03

0.07

0.04

14

-0.50

1.41

0.09

0.05

0.16

0.09

18

0.00

1.00

0.13

0.07

0.29

0.16

25

0.50

0.71

0.14

0.07

0.43

0.23

35

1.00

0.50

0.13

0.07

0.56

0.30

45

1.50

0.35

0.11

0.06

0.67

0.36

60

2.00

0.25

0.14

0.07

0.81

0.43

80

2.50

0.18

1.88

0.97

2.69

1.40

120

3.00

0.13

73.14

37.81

75.83

39.21

170

3.50

0.09

98.32

50.83

174.15

90.04

200

3.75

0.07

14.37

7.43

188.52

97.47

230

4.00

0.06

1.81

0.94

190.33

98.41

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

3.67

3.44

3.35

3.11

2.81

2.69

2.55

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

3.07

0.12

0.36

-2.48

26.62

GRANULARMETRIC REPORT 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08

Granularmetric Report

Depths and elevations based on measured values



COASTAL TECH
Coastal Geology & Sediments Laboratory

715 North Drive Suite E
Melbourne, Florida 32934
Phone 321-751-1135 x 206
Fax

Project Name: Riverine / Scofield Is Restoration

Sample Name: G125 OW

Analysis Date: 09-23-08

Analyzed By: LA

Easting (ft):

89.531

Northing (ft):

29.237

Coordinate System:

Geographic (Latitude/Longitude)

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-5/2

Comments:

Dry Weight (g):

214.73

Wash Weight (g):

213.23

Pan Retained (g):

0.09

Sieve Loss (%):

0.36

Fines (%):

#200 - 1.32
#230 - 1.11

Organics (%):

0.90

Carbonates (%):

2.13

Shells (%):

Sieve Number

Sieve Size (Phi)

Sieve Size (Millimeters)

Grams Retained

% Weight Retained

Cum. Grams Retained

C. % Weight Retained

3/4"

-4.25

19.03

0.00

0.00

0.00

0.00

5/8"

-4.00

16.00

0.00

0.00

0.00

0.00

11/16"

-3.50

11.31

0.00

0.00

0.00

0.00

5/16"

-3.00

8.00

0.00

0.00

0.00

0.00

3.5

-2.50

5.66

0.00

0.00

0.00

0.00

4

-2.25

4.76

0.00

0.00

0.00

0.00

5

-2.00

4.00

0.00

0.00

0.00

0.00

7

-1.50

2.83

0.00

0.00

0.00

0.00

10

-1.00

2.00

0.02

0.01

0.02

0.01

14

-0.50

1.41

0.03

0.01

0.05

0.02

18

0.00

1.00

0.13

0.06

0.18

0.08

25

0.50

0.71

0.17

0.08

0.35

0.16

35

1.00

0.50

0.28

0.13

0.63

0.29

45

1.50

0.35

0.52

0.24

1.15

0.53

60

2.00

0.25

2.04

0.95

3.19

1.48

80

2.50

0.18

52.78

24.58

55.97

26.06

120

3.00

0.13

127.47

59.36

183.44

85.42

170

3.50

0.09

26.64

12.41

210.08

97.83

200

3.75

0.07

1.83

0.85

211.91

98.68

230

4.00

0.06

0.45

0.21

212.36

98.89

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

3.39

2.99

2.91

2.70

2.48

2.30

2.07

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

2.68

0.16

0.36

-0.99

10.57

GRANULARMETRIC REPORT 2008-9-23 RIVERINE.GPJ FL DEP ROSS.GDT 09/30/08