

# Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering  
2481 NW Boca Raton Blvd, Boca Raton  
FL 33431  
ph (561) 391-8102  
fax (561) 391-9116

Project Name: St. Lucie Vibracores

Sample Name: SLVC-06-24 #1

Analysis Date: 06-13-06

Analyzed By: DA

Easting (ft):

912,786

Northing (ft):

1,096,609

Coordinate System:

Florida State Plane East

Elevation (ft):

-39.1 NAVD 88

USCS:

SW

Munsell:

Wet - 2.5Y-4/2  
Dry - 5Y-5/2  
Washed - 5Y-5/1

Comments:

Dry Weight (g):

117.64

Wash Weight (g):

114.85

Pan Retained (g):

0.08

Sieve Loss (%):

0.11

Fines (%):

#200 - 2.87  
#230 - 2.55

Organics (%):

Carbonates (%):

Shell Hash (%):

7

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
7/16"	-3.50	11.31	0.69	0.59	0.69	0.59
5/16"	-3.00	8.00	1.83	1.56	2.52	2.15
3.5	-2.50	5.66	1.47	1.25	3.99	3.40
4	-2.25	4.76	0.78	0.66	4.77	4.06
5	-2.00	4.00	0.99	0.84	5.76	4.90
7	-1.50	2.83	2.32	1.97	8.08	6.87
10	-1.00	2.00	3.83	3.26	11.91	10.13
14	-0.50	1.41	6.27	5.33	18.18	15.46
18	0.00	1.00	7.21	6.13	25.39	21.59
25	0.50	0.71	12.93	10.99	38.32	32.58
35	1.00	0.50	20.38	17.32	58.70	49.90
45	1.50	0.35	24.63	20.94	83.33	70.84
60	2.00	0.25	21.12	17.95	104.45	88.79
80	2.50	0.18	6.64	5.64	111.09	94.43
120	3.00	0.13	1.80	1.53	112.89	95.96
170	3.50	0.09	0.87	0.74	113.76	96.70
200	3.75	0.07	0.50	0.43	114.26	97.13
230	4.00	0.06	0.38	0.32	114.64	97.45

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.69

1.87

1.62

1.00

0.16

-0.46

-1.97

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

0.7

0.62

1.3

-1.03

4.4

GRANULARMETRIC REPORT ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06

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Project Name: St. Lucie Vibracores

Sample Name: SLVC-06-24 #2

Analysis Date: 06-19-06

Analyzed By: DA

Easting (ft):

912,786

Northing (ft):

1,096,609

Coordinate System:

Florida State Plane East

Elevation (ft):

-42.1 NAVD 88

USCS:

SW

Munsell:

Wet - 2.5Y-4/1

Dry - 2.5Y-5/1

Washed - 2.5Y-6/1

Comments:

Dry Weight (g):

87.57

Wash Weight (g):

85.30

Pan Retained (g):

0.21

Sieve Loss (%):

0.16

Fines (%):

#200 - 4.18

#230 - 2.99

Organics (%):

Carbonates (%):

Shell Hash (%):

4

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

7/16"

-3.50

11.31

0.00

0.00

0.00

0.00

5/16"

-3.00

8.00

1.46

1.67

1.46

1.67

3.5

-2.50

5.66

0.63

0.72

2.09

2.39

4

-2.25

4.76

0.11

0.13

2.20

2.52

5

-2.00

4.00

0.30

0.34

2.50

2.86

7

-1.50

2.83

0.79

0.90

3.29

3.76

10

-1.00

2.00

1.07

1.22

4.36

4.98

14

-0.50

1.41

1.57

1.79

5.93

6.77

18

0.00

1.00

2.02

2.31

7.95

9.08

25

0.50

0.71

3.56

4.07

11.51

13.15

35

1.00

0.50

6.63

7.57

18.14

20.72

45

1.50

0.35

9.87

11.27

28.01

31.99

60

2.00

0.25

17.76

20.28

45.77

52.27

80

2.50

0.18

18.46

21.08

64.23

73.35

120

3.00

0.13

11.08

12.65

75.31

86.00

170

3.50

0.09

5.87

6.70

81.18

92.70

200

3.75

0.07

2.73

3.12

83.91

95.82

230

4.00

0.06

1.04

1.19

84.95

97.01

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

3.68

2.92

2.57

1.94

1.19

0.69

-0.99

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.68

0.31

1.34

-1.44

5.83

GRANULARMETRIC REPORT ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06

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Project Name: St. Lucie Vibracores

Sample Name: SLVC-06-24 #3

Analysis Date: 06-14-06

Analyzed By: DA

Easting (ft):

912,786

Northing (ft):

1,096,609

Coordinate System:

Florida State Plane East

Elevation (ft):

-43.0 NAVD 88

USCS:

SW

Munsell:

Wet - N-4/0

Dry - N-5/0

Washed - N-5/0

Comments:

Dry Weight (g):

131.20

Wash Weight (g):

128.02

Pan Retained (g):

0.10

Sieve Loss (%):

0.11

Fines (%):

#200 - 2.96

#230 - 2.62

Organics (%):

Carbonates (%):

Shell Hash (%):

39

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
7/16"	-3.50	11.31	4.99	3.80	4.99	3.80
5/16"	-3.00	8.00	5.66	4.31	10.65	8.11
3.5	-2.50	5.66	18.63	14.20	29.28	22.31
4	-2.25	4.76	4.45	3.39	33.73	25.70
5	-2.00	4.00	7.45	5.68	41.18	31.38
7	-1.50	2.83	11.23	8.56	52.41	39.94
10	-1.00	2.00	10.35	7.89	62.76	47.83
14	-0.50	1.41	7.61	5.80	70.37	53.63
18	0.00	1.00	4.79	3.65	75.16	57.28
25	0.50	0.71	7.01	5.34	82.17	62.62
35	1.00	0.50	10.96	8.35	93.13	70.97
45	1.50	0.35	11.99	9.14	105.12	80.11
60	2.00	0.25	11.35	8.65	116.47	88.76
80	2.50	0.18	5.72	4.36	122.19	93.12
120	3.00	0.13	2.75	2.10	124.94	95.22
170	3.50	0.09	1.62	1.23	126.56	96.45
200	3.75	0.07	0.77	0.59	127.33	97.04
230	4.00	0.06	0.44	0.34	127.77	97.38

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.95

1.72

1.22

-0.81

-2.30

-2.72

-3.36

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

-0.62

1.54

1.94

0.21

1.84

GRANULARMETRIC REPORT ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06

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Coastal Planning & Engineering  
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Project Name: St. Lucie Vibracores

Sample Name: SLVC-06-24 #4

Analysis Date: 06-19-06

Analyzed By: DA

Easting (ft):

912,786

Northing (ft):

1,096,609

Coordinate System:

Florida State Plane East

Elevation (ft):

-43.6 NAVD 88

USCS:

SW-SM

Munsell:

Wet - N-4/0

Dry - N-5/0

Washed - N-5/0

Comments:

Dry Weight (g):

98.70

Wash Weight (g):

94.30

Pan Retained (g):

0.85

Sieve Loss (%):

0.09

Fines (%):

#200 - 7.89

#230 - 5.41

Organics (%):

Carbonates (%):

Shell Hash (%):

4

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

7/16"

-3.50

11.31

0.00

0.00

0.00

0.00

5/16"

-3.00

8.00

0.94

0.95

0.94

0.95

3.5

-2.50

5.66

0.67

0.68

1.61

1.63

4

-2.25

4.76

0.67

0.68

2.28

2.31

5

-2.00

4.00

0.89

0.90

3.17

3.21

7

-1.50

2.83

0.87

0.88

4.04

4.09

10

-1.00

2.00

1.97

2.00

6.01

6.09

14

-0.50

1.41

3.10

3.14

9.11

9.23

18

0.00

1.00

4.30

4.36

13.41

13.59

25

0.50

0.71

7.14

7.23

20.55

20.82

35

1.00

0.50

8.27

8.38

28.82

29.20

45

1.50

0.35

8.81

8.93

37.63

38.13

60

2.00

0.25

12.75

12.92

50.38

51.05

80

2.50

0.18

13.20

13.37

63.58

64.42

120

3.00

0.13

8.31

8.42

71.89

72.84

170

3.50

0.09

10.85

10.99

82.74

83.83

200

3.75

0.07

8.17

8.28

90.91

92.11

230

4.00

0.06

2.45

2.48

93.36

94.59

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

3.51

3.10

1.96

0.75

0.17

-1.27

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.63

0.32

1.56

-0.79

3.32

GRANULARMETRIC REPORT ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06

# Granularmetric Report

Depths and elevations based on measured values



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FL 33431  
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fax (561) 391-9116

Project Name: St. Lucie Vibracores

Sample Name: SLVC-06-24 #5

Analysis Date: 06-13-06

Analyzed By: RS

Easting (ft):	Northing (ft):	Coordinate System:	Elevation (ft):
912,786	1,096,609	Florida State Plane East	-44.2 NAVD 88

USCS:	Munsell:	Wet - 5Y-4/1 Dry - 5Y-6/1 Washed - 5Y-6/1	Comments:
SM			

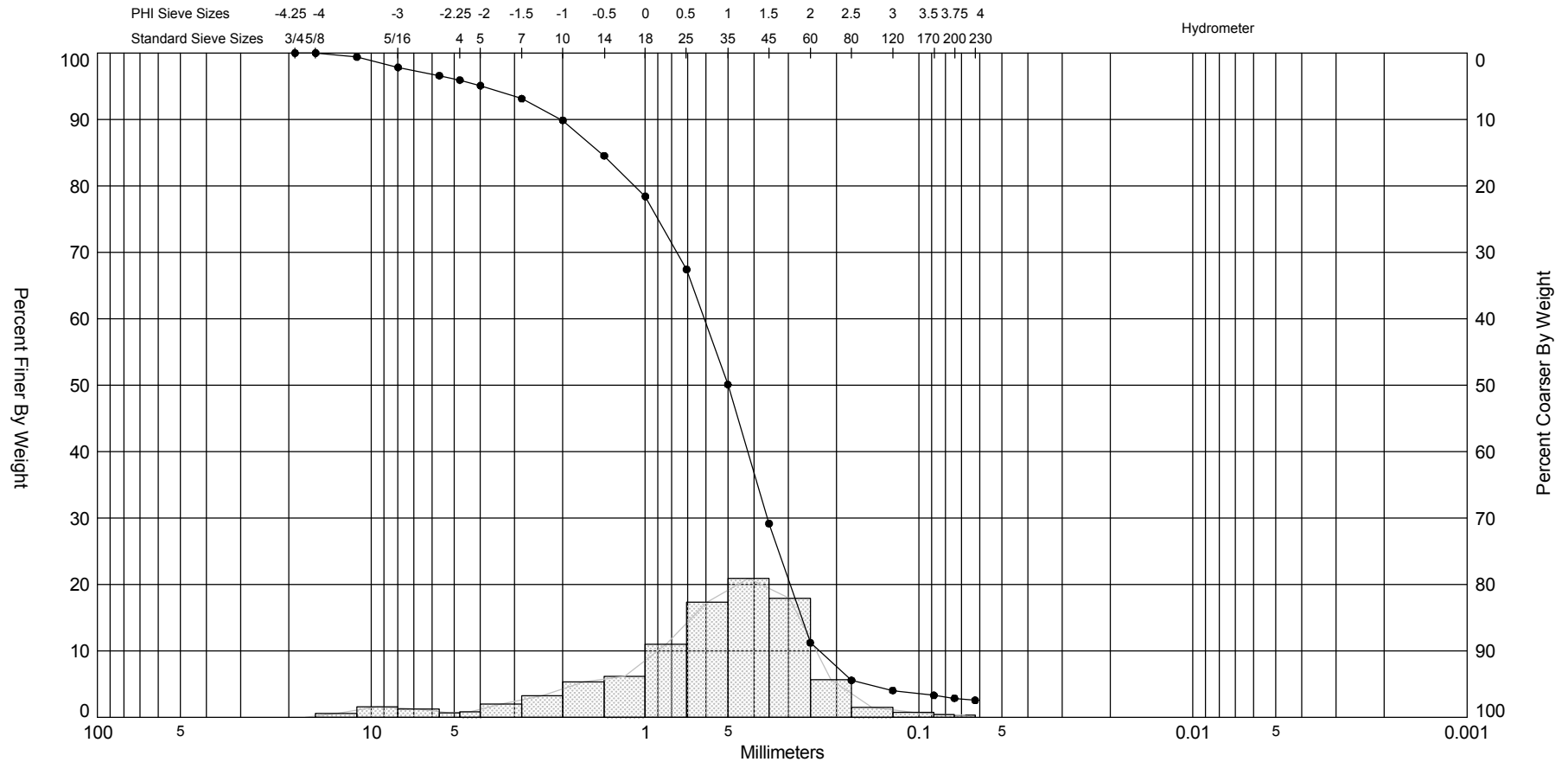
Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
131.64	118.43	0.86	0.20	#200 - 14.94 #230 - 10.88			9

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	3.64	2.77	3.64	2.77
7/16"	-3.50	11.31	0.36	0.27	4.00	3.04
5/16"	-3.00	8.00	0.85	0.65	4.85	3.69
3.5	-2.50	5.66	2.56	1.94	7.41	5.63
4	-2.25	4.76	1.31	1.00	8.72	6.63
5	-2.00	4.00	0.93	0.71	9.65	7.34
7	-1.50	2.83	2.71	2.06	12.36	9.40
10	-1.00	2.00	2.60	1.98	14.96	11.38
14	-0.50	1.41	3.90	2.96	18.86	14.34
18	0.00	1.00	3.44	2.61	22.30	16.95
25	0.50	0.71	4.56	3.46	26.86	20.41
35	1.00	0.50	4.63	3.52	31.49	23.93
45	1.50	0.35	5.20	3.95	36.69	27.88
60	2.00	0.25	7.17	5.45	43.86	33.33
80	2.50	0.18	9.98	7.58	53.84	40.91
120	3.00	0.13	11.60	8.81	65.44	49.72
170	3.50	0.09	24.74	18.79	90.18	68.51
200	3.75	0.07	21.78	16.55	111.96	85.06
230	4.00	0.06	5.35	4.06	117.31	89.12


Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	3.73	3.60	3.01	1.14	-0.18	-2.66
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.83	0.28	2.12	-1.27	3.66	

GRANULARMETRIC REPORT ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06

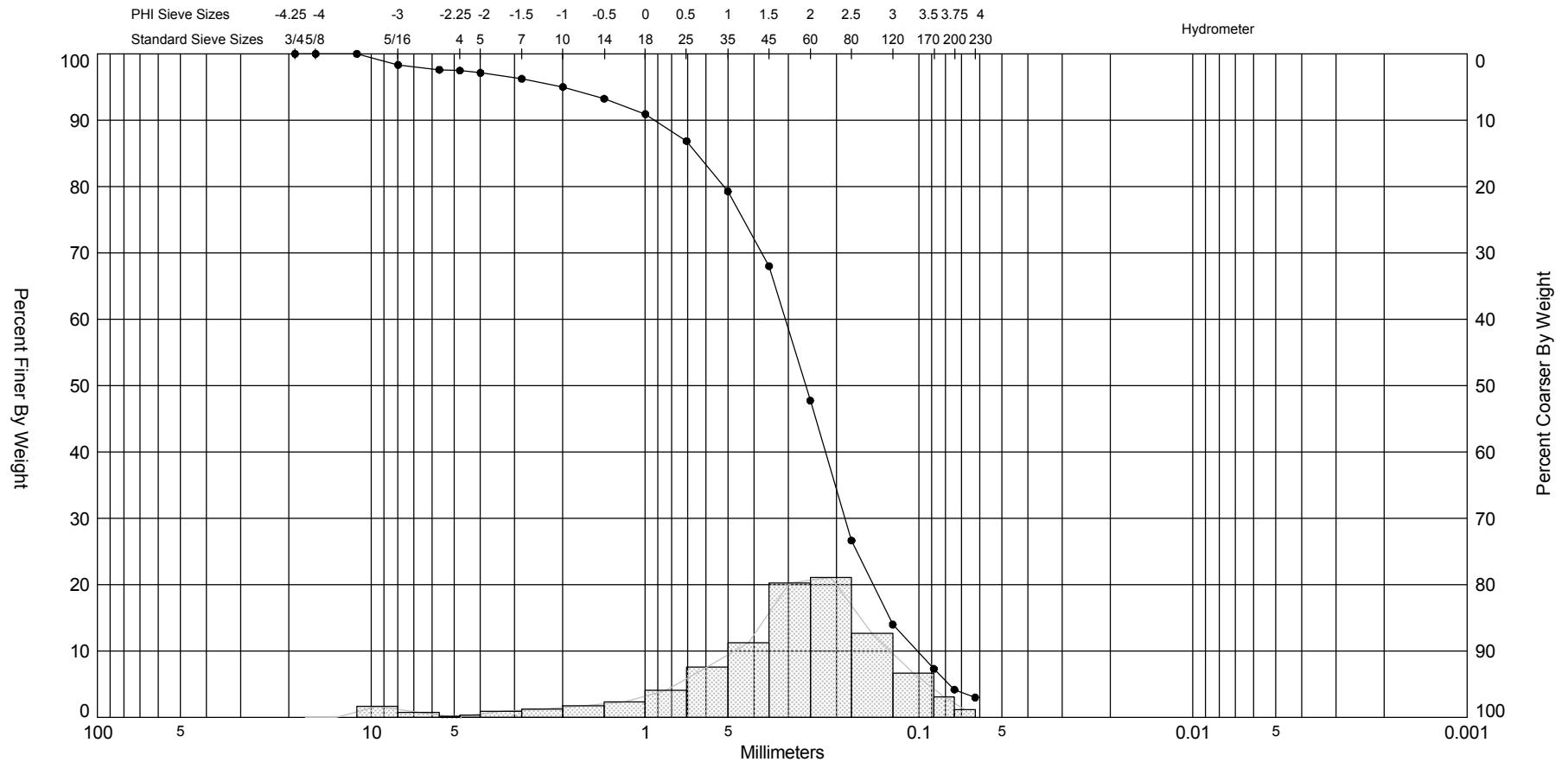
SIEVE ANALYSIS ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06




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	
SLVC-06-24 #1	—●—	-39.1	SW	#200 - 2.87 #230 - 2.55			1	0.7	-1.03	4.4	1.3	Project Name:	St. Lucie Vibracores
Comments:												Analysis Date:	06-13-06
Depths and elevations based on measured values												Analyzed By:	DA
							Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116					Easting (X, ft):	912,786
												Northing (Y, ft):	1,096,609
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

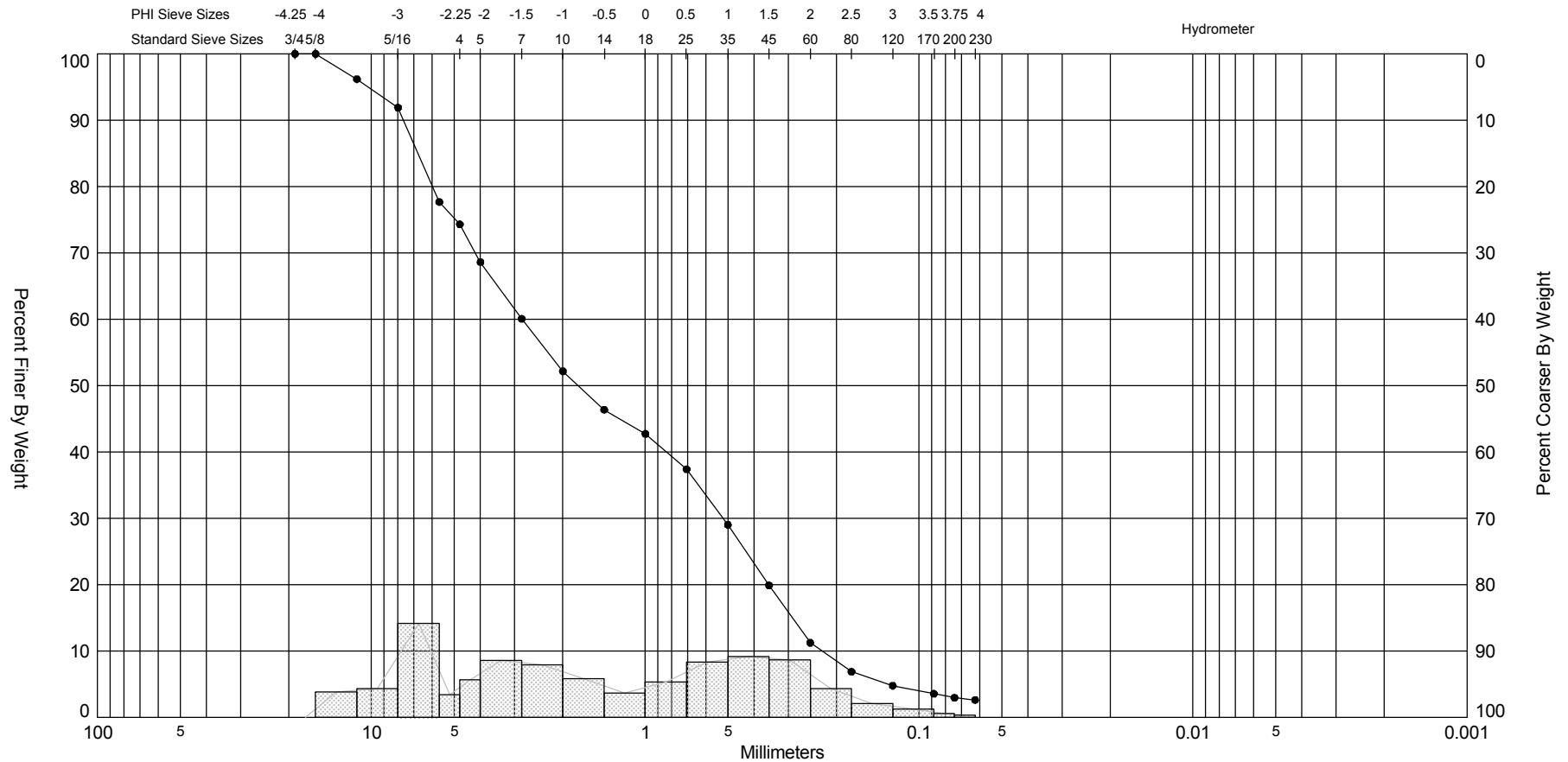
SIEVE ANALYSIS ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06




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	
SLVC-06-24 #2	—●—	-42.1	SW	#200 - 4.18 #230 - 2.99			1.94	1.68	-1.44	5.83	1.34	Project Name:	St. Lucie Vibracores
Comments:												Analysis Date:	06-19-06
Depths and elevations based on measured values												Analyzed By:	DA
						Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116						Easting (X, ft):	912,786
												Northing (Y, ft):	1,096,609
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

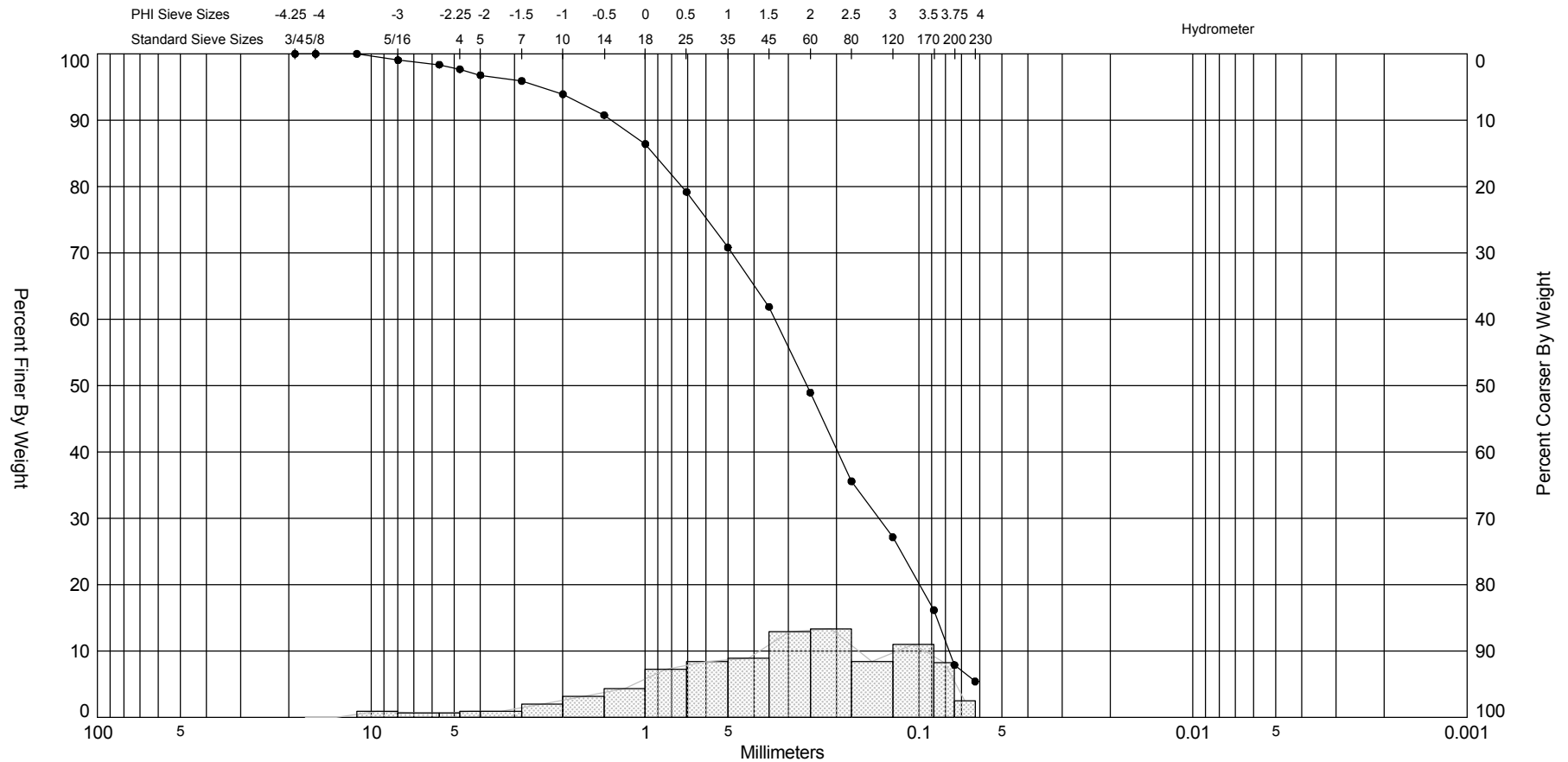
SIEVE ANALYSIS ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06




Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLVC-06-24 #3	—●—	-43.0	SW	#200 - 2.96 #230 - 2.62				-0.62	0.21	1.84	1.94	Project Name:	St. Lucie Vibracores
Comments:												Analysis Date:	06-14-06
Depths and elevations based on measured values												Analyzed By:	DA
 <div> Coastal Planning &amp; Engineering  2481 NW Boca Raton Blvd, Boca Raton  FL 33431  ph (561) 391-8102  fax (561) 391-9116 </div>							Easting (X, ft):		912,786				
							Northing (Y, ft):		1,096,609				
							Horizontal System:		NAD 1983				
							Vertical System:		NAVD 88				



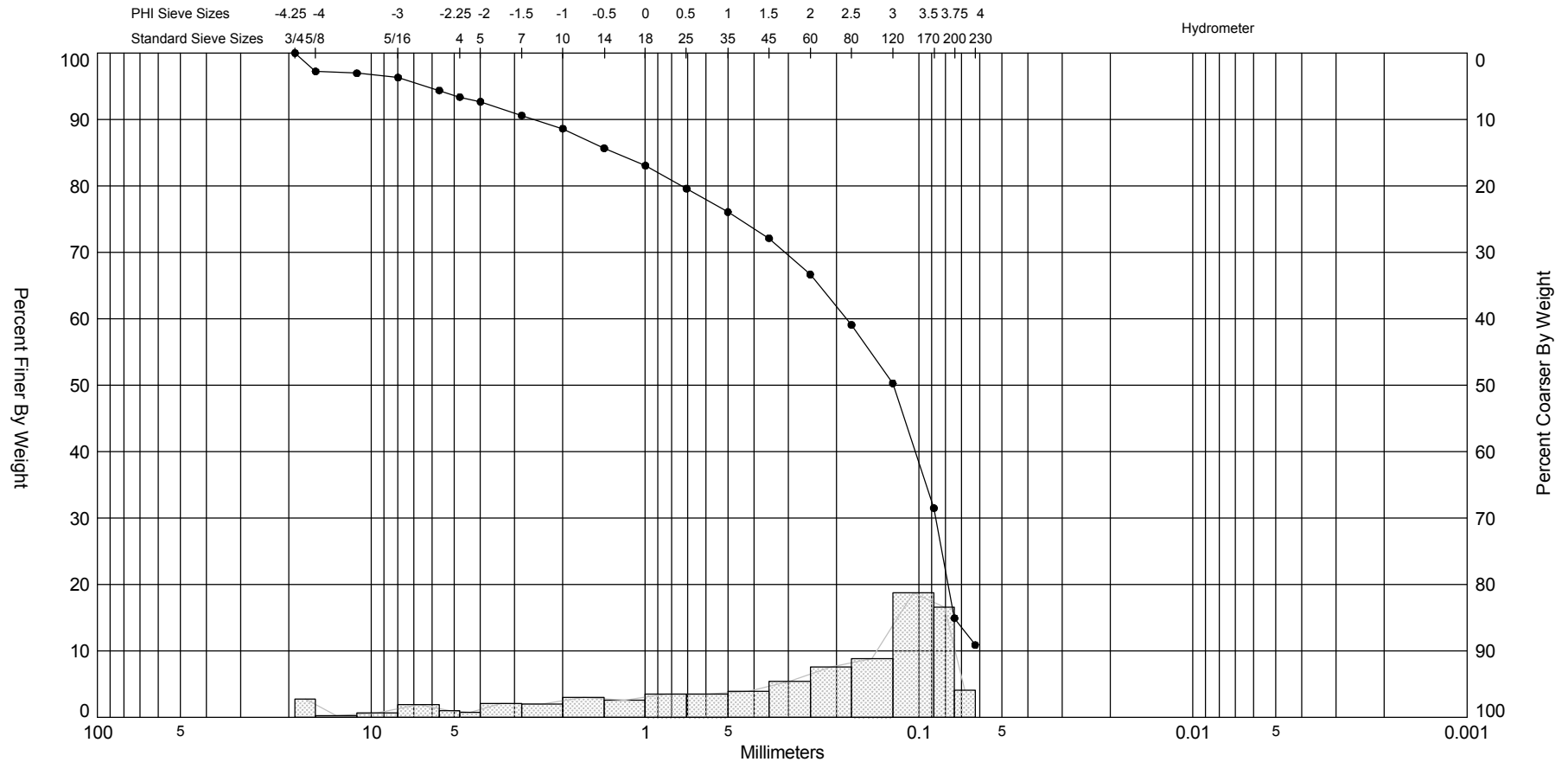
SIEVE ANALYSIS ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06




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	
SLVC-06-24 #4	—●—	-43.6	SW-SM	#200 - 7.89 #230 - 5.41			1.96	1.63	-0.79	3.32	1.56	Project Name:	St. Lucie Vibracores
Comments:												Analysis Date:	06-19-06
Depths and elevations based on measured values												Analyzed By:	DA
						Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116						Easting (X, ft):	912,786
												Northing (Y, ft):	1,096,609
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

SIEVE ANALYSIS ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06



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	
SLVC-06-24 #5	—●—	-44.2	SM	#200 - 14.94 #230 - 10.88			3.01	1.83	-1.27	3.66	2.12	Project Name:	St. Lucie Vibracores
Comments:												Analysis Date:	06-13-06
Depths and elevations based on measured values												Analyzed By:	RS
						Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116						Easting (X, ft):	912,786
												Northing (Y, ft):	1,096,609
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88