

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-06-13 #1

Analysis Date: 06-09-06

Analyzed By: JG

Easting (ft):

931,104

Northing (ft):

1,073,010

Coordinate System:

Florida State Plane East

Elevation (ft):

-41.8 NAVD 88

USCS:

SW

Munsell:

Wet - 2.5Y-5/2

Dry - 2.5Y-5/2

Washed - 2.5Y-6/1

Comments:

Dry Weight (g):

80.88

Wash Weight (g):

79.14

Pan Retained (g):

0.01

Sieve Loss (%):

0.06

Fines (%):

#200 - 2.32

#230 - 2.23

Organics (%):

Carbonates (%):

Shell Hash (%):

10

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

1.12

1.38

1.12

1.38

5/16"

-3.00

8.00

1.16

1.43

2.28

2.81

3.5

-2.50

5.66

1.24

1.53

3.52

4.34

4

-2.25

4.76

1.11

1.37

4.63

5.71

5

-2.00

4.00

0.79

0.98

5.42

6.69

7

-1.50

2.83

3.56

4.40

8.98

11.09

10

-1.00

2.00

4.44

5.49

13.42

16.58

14

-0.50

1.41

6.51

8.05

19.93

24.63

18

0.00

1.00

8.43

10.42

28.36

35.05

25

0.50

0.71

12.60

15.58

40.96

50.63

35

1.00

0.50

13.35

16.51

54.31

67.14

45

1.50

0.35

10.95

13.54

65.26

80.68

60

2.00

0.25

9.18

11.35

74.44

92.03

80

2.50

0.18

3.33

4.12

77.77

96.15

120

3.00

0.13

0.78

0.96

78.55

97.11

170

3.50

0.09

0.33

0.41

78.88

97.52

200

3.75

0.07

0.13

0.16

79.01

97.68

230

4.00

0.06

0.07

0.09

79.08

97.77

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.36

1.65

1.29

0.48

-0.48

-1.05

-2.38

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

0.25

0.84

1.36

-0.69

3.39

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

Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering
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FL 33431
ph (561) 391-8102
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Project Name: St. Lucie Vibracores

Sample Name: SLVC-06-13 #2

Analysis Date: 05-26-06

Analyzed By: JF

Easting (ft):

931,104

Northing (ft):

1,073,010

Coordinate System:

Florida State Plane East

Elevation (ft):

-44.5 NAVD 88

USCS:

SP

Munsell:

Wet - 2.5Y-4/1
Dry - 5Y-6/2
Washed - 5Y-6/2

Comments:

Dry Weight (g):

81.28

Wash Weight (g):

80.28

Pan Retained (g):

0.02

Sieve Loss (%):

0.04

Fines (%):

#200 - 1.36
#230 - 1.29

Organics (%):

Carbonates (%):

Shell Hash (%):

1

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	0.25	0.31	0.25	0.31
3.5	-2.50	5.66	0.14	0.17	0.39	0.48
4	-2.25	4.76	0.11	0.14	0.50	0.62
5	-2.00	4.00	0.23	0.28	0.73	0.90
7	-1.50	2.83	0.33	0.41	1.06	1.31
10	-1.00	2.00	0.34	0.42	1.40	1.73
14	-0.50	1.41	0.52	0.64	1.92	2.37
18	0.00	1.00	0.79	0.97	2.71	3.34
25	0.50	0.71	2.13	2.62	4.84	5.96
35	1.00	0.50	6.03	7.42	10.87	13.38
45	1.50	0.35	14.67	18.05	25.54	31.43
60	2.00	0.25	34.55	42.51	60.09	73.94
80	2.50	0.18	16.20	19.93	76.29	93.87
120	3.00	0.13	3.09	3.80	79.38	97.67
170	3.50	0.09	0.69	0.85	80.07	98.52
200	3.75	0.07	0.10	0.12	80.17	98.64
230	4.00	0.06	0.06	0.07	80.23	98.71

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.65

2.25

2.03

1.72

1.32

1.07

0.32

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.6

0.33

0.79

-2.19

12.12

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-06-13 #3

Analysis Date: 06-09-06

Analyzed By: DA

Easting (ft):

931,104

Northing (ft):

1,073,010

Coordinate System:

Florida State Plane East

Elevation (ft):

-49.5 NAVD 88

USCS:

SW

Munsell:

Wet - 2.5Y-4/1

Dry - 2.5Y-5/2

Washed - 2.5Y-5/1

Comments:

Dry Weight (g):

83.66

Wash Weight (g):

82.07

Pan Retained (g):

0.02

Sieve Loss (%):

0.02

Fines (%):

#200 - 2.00
#230 - 1.95

Organics (%):

Carbonates (%):

Shell Hash (%):

10

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

1.08

1.29

1.08

1.29

3.5

-2.50

5.66

1.40

1.67

2.48

2.96

4

-2.25

4.76

1.33

1.59

3.81

4.55

5

-2.00

4.00

1.10

1.31

4.91

5.86

7

-1.50

2.83

3.53

4.22

8.44

10.08

10

-1.00

2.00

4.81

5.75

13.25

15.83

14

-0.50

1.41

6.53

7.81

19.78

23.64

18

0.00

1.00

7.07

8.45

26.85

32.09

25

0.50

0.71

11.29

13.50

38.14

45.59

35

1.00

0.50

13.73

16.41

51.87

62.00

45

1.50

0.35

13.62

16.28

65.49

78.28

60

2.00

0.25

10.27

12.28

75.76

90.56

80

2.50

0.18

4.29

5.13

80.05

95.69

120

3.00

0.13

1.39

1.66

81.44

97.35

170

3.50

0.09

0.43

0.51

81.87

97.86

200

3.75

0.07

0.12

0.14

81.99

98.00

230

4.00

0.06

0.04

0.05

82.03

98.05

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.43

1.73

1.40

0.63

-0.42

-0.99

-2.16

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

0.39

0.76

1.33

-0.58

2.95

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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Project Name: St. Lucie Vibracores

Sample Name: SLVC-06-13 #4

Analysis Date: 06-09-06

Analyzed By: JG

Easting (ft):

931,104

Northing (ft):

1,073,010

Coordinate System:

Florida State Plane East

Elevation (ft):

-54.5 NAVD 88

USCS:

SW

Munsell:

Wet - N-4/0

Dry - N-4/0

Washed - N-4/0

Comments:

Dry Weight (g):

83.04

Wash Weight (g):

80.87

Pan Retained (g):

0.04

Sieve Loss (%):

0.00

Fines (%):

#200 - 2.99

#230 - 2.66

Organics (%):

Carbonates (%):

Shell Hash (%):

2

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

0.00

0.00

0.00

0.00

3.5

-2.50

5.66

0.51

0.61

0.51

0.61

4

-2.25

4.76

0.46

0.55

0.97

1.16

5

-2.00

4.00

0.12

0.14

1.09

1.30

7

-1.50

2.83

0.61

0.73

1.70

2.03

10

-1.00

2.00

0.71

0.86

2.41

2.89

14

-0.50

1.41

1.12

1.35

3.53

4.24

18

0.00

1.00

1.70

2.05

5.23

6.29

25

0.50

0.71

3.93

4.73

9.16

11.02

35

1.00

0.50

8.13

9.79

17.29

20.81

45

1.50

0.35

12.96

15.61

30.25

36.42

60

2.00

0.25

19.88

23.94

50.13

60.36

80

2.50

0.18

19.48

23.46

69.61

83.82

120

3.00

0.13

7.67

9.24

77.28

93.06

170

3.50

0.09

2.42

2.91

79.70

95.97

200

3.75

0.07

0.86

1.04

80.56

97.01

230

4.00

0.06

0.27

0.33

80.83

97.34

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

3.33

2.51

2.31

1.78

1.13

0.75

-0.31

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.6

0.33

1.04

-1.28

5.94

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

Granularmetric Report

Depths and elevations based on measured values



Coastal Planning & Engineering
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FL 33431
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fax (561) 391-9116

Project Name: St. Lucie Vibracores

Sample Name: SLVC-06-13 #5

Analysis Date: 05-30-06

Analyzed By: JL

Easting (ft):

931,104

Northing (ft):

1,073,010

Coordinate System:

Florida State Plane East

Elevation (ft):

-56.0 NAVD 88

USCS:

SW-SM

Munsell:

Wet - N-4/0

Dry - 5Y-5/1

Washed - 5Y-5/1

Comments:

Dry Weight (g):

83.62

Wash Weight (g):

80.68

Pan Retained (g):

0.21

Sieve Loss (%):

0.07

Fines (%):

#200 - 5.17

#230 - 3.84

Organics (%):

Carbonates (%):

Shell Hash (%):

0

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	0.00	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	0.03	0.04	0.03	0.04
5	-2.00	4.00	0.16	0.19	0.19	0.23
7	-1.50	2.83	0.12	0.14	0.31	0.37
10	-1.00	2.00	0.43	0.51	0.74	0.88
14	-0.50	1.41	0.62	0.74	1.36	1.62
18	0.00	1.00	0.72	0.86	2.08	2.48
25	0.50	0.71	1.73	2.07	3.81	4.55
35	1.00	0.50	3.56	4.26	7.37	8.81
45	1.50	0.35	6.14	7.34	13.51	16.15
60	2.00	0.25	11.96	14.30	25.47	30.45
80	2.50	0.18	23.32	27.89	48.79	58.34
120	3.00	0.13	21.47	25.68	70.26	84.02
170	3.50	0.09	7.17	8.57	77.43	92.59
200	3.75	0.07	1.87	2.24	79.30	94.83
230	4.00	0.06	1.11	1.33	80.41	96.16

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

3.78

3.00

2.82

2.35

1.81

1.49

0.55

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

2.19

0.22

0.89

-1.27

5.97

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

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-06-13 #6

Analysis Date: 06-08-06

Analyzed By: DA

Easting (ft):

931,104

Northing (ft):

1,073,010

Coordinate System:

Florida State Plane East

Elevation (ft):

-58.5 NAVD 88

USCS:

SM-SC

Munsell:

Wet - 10Y-5/1
Dry - 5Y-5/1
Washed - 2.5Y-5/1

Comments:

Dry Weight (g):

89.85

Wash Weight (g):

72.98

Pan Retained (g):

1.08

Sieve Loss (%):

0.17

Fines (%):

#200 - 24.95
#230 - 20.16

Organics (%):

Carbonates (%):

Shell Hash (%):

1

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	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.13	0.14	0.13	0.14
4	-2.25	4.76	0.13	0.14	0.26	0.28
5	-2.00	4.00	0.21	0.23	0.47	0.51
7	-1.50	2.83	0.72	0.80	1.19	1.31
10	-1.00	2.00	0.95	1.06	2.14	2.37
14	-0.50	1.41	1.13	1.26	3.27	3.63
18	0.00	1.00	1.18	1.31	4.45	4.94
25	0.50	0.71	1.85	2.06	6.30	7.00
35	1.00	0.50	3.31	3.68	9.61	10.68
45	1.50	0.35	4.79	5.33	14.40	16.01
60	2.00	0.25	7.54	8.39	21.94	24.40
80	2.50	0.18	10.96	12.20	32.90	36.60
120	3.00	0.13	16.94	18.85	49.84	55.45
170	3.50	0.09	10.33	11.50	60.17	66.95
200	3.75	0.07	7.28	8.10	67.45	75.05
230	4.00	0.06	4.30	4.79	71.75	79.84

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

3.75

2.86

2.02

1.50

0.01

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

2.3

0.20

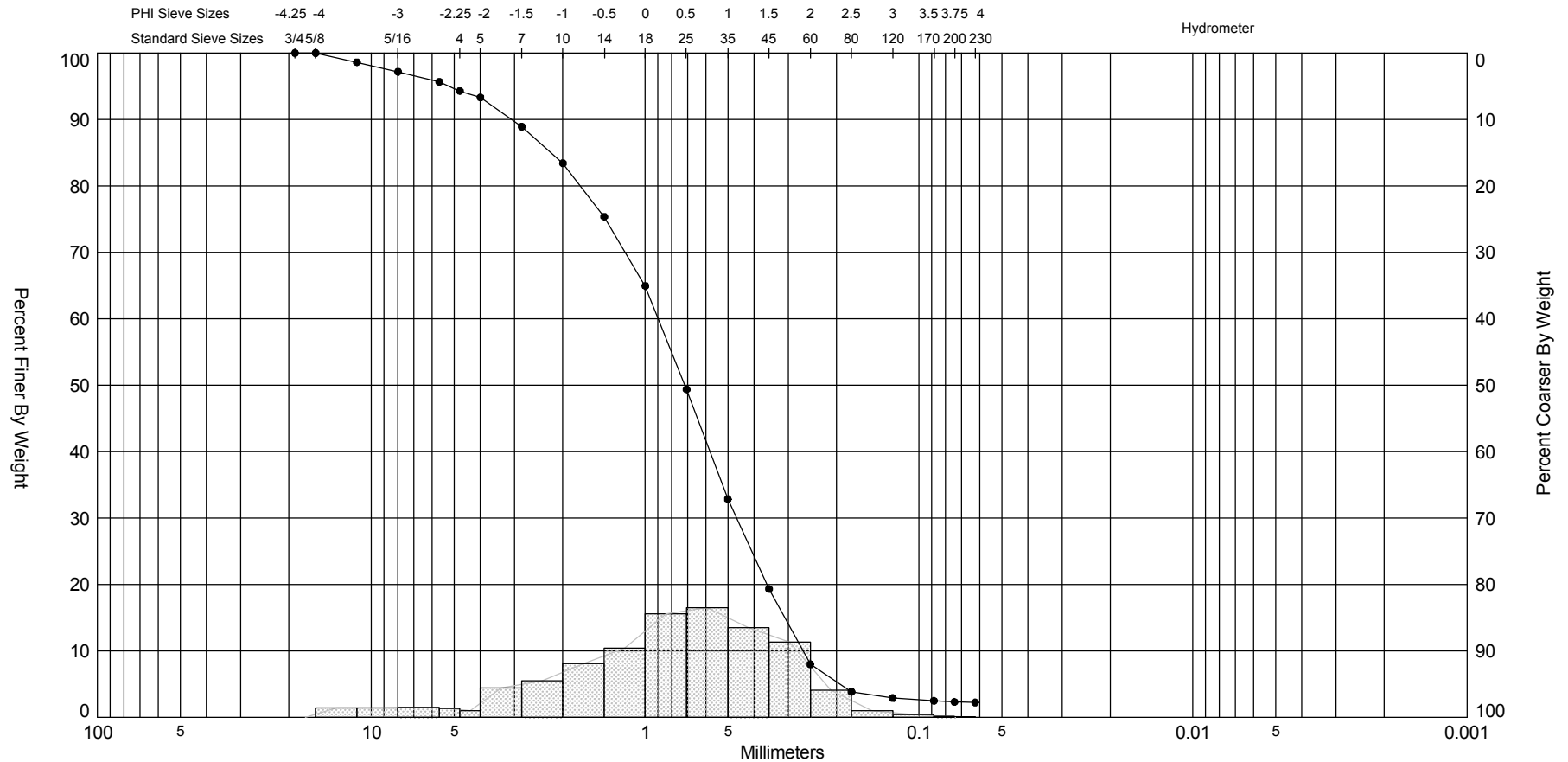
1.25

-1.31


4.82

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

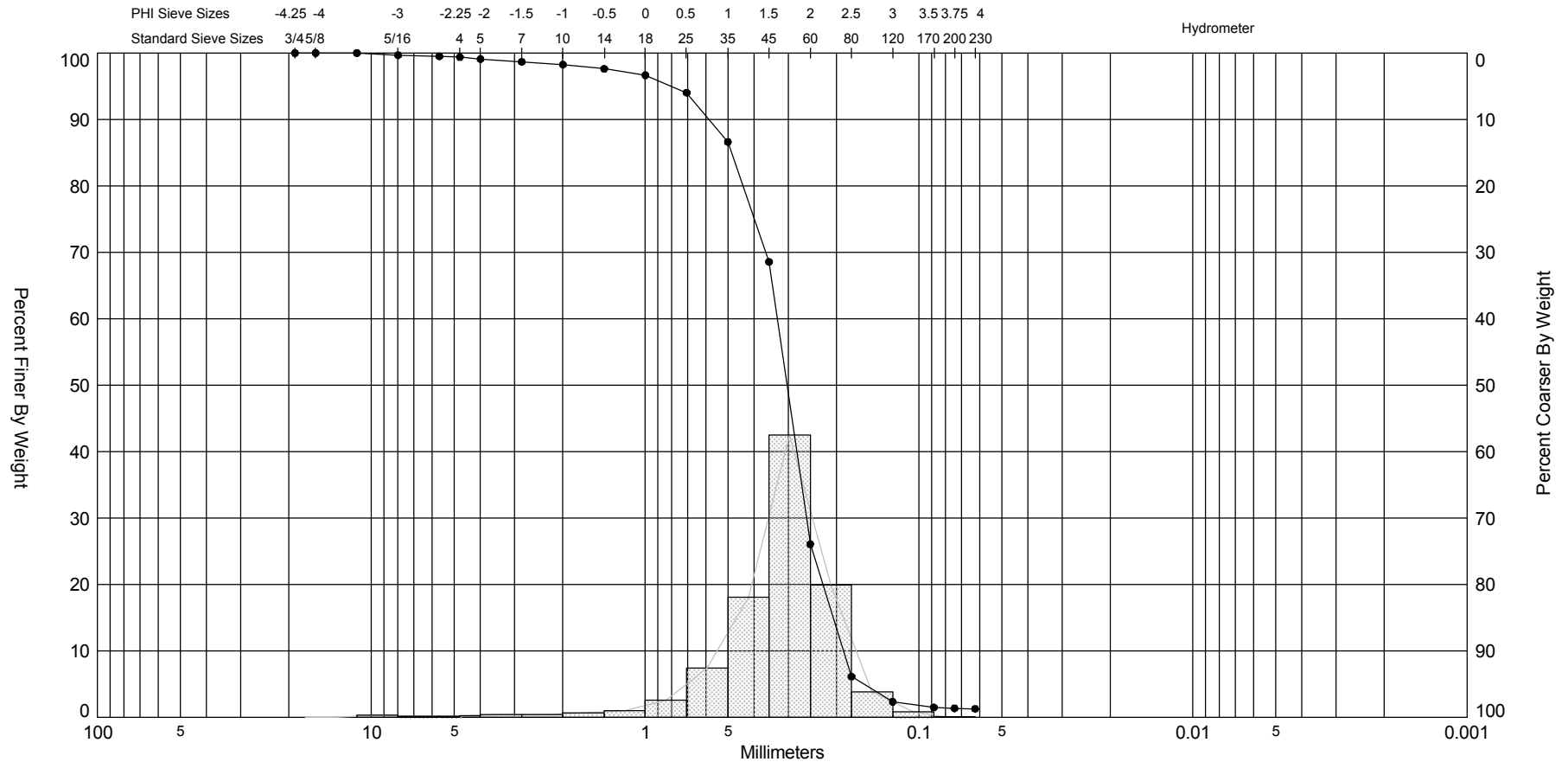
SIEVE ANALYSIS ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06




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-06-13 #1	—●—	-41.8	SW	#200 - 2.32 #230 - 2.23			0.48	0.25	-0.69	3.39	1.36	Project Name:	St. Lucie Vibracores
Comments:												Analysis Date:	06-09-06
Depths and elevations based on measured values												Analyzed By:	JG
						Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116						Easting (X, ft):	931,104
												Northing (Y, ft):	1,073,010
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

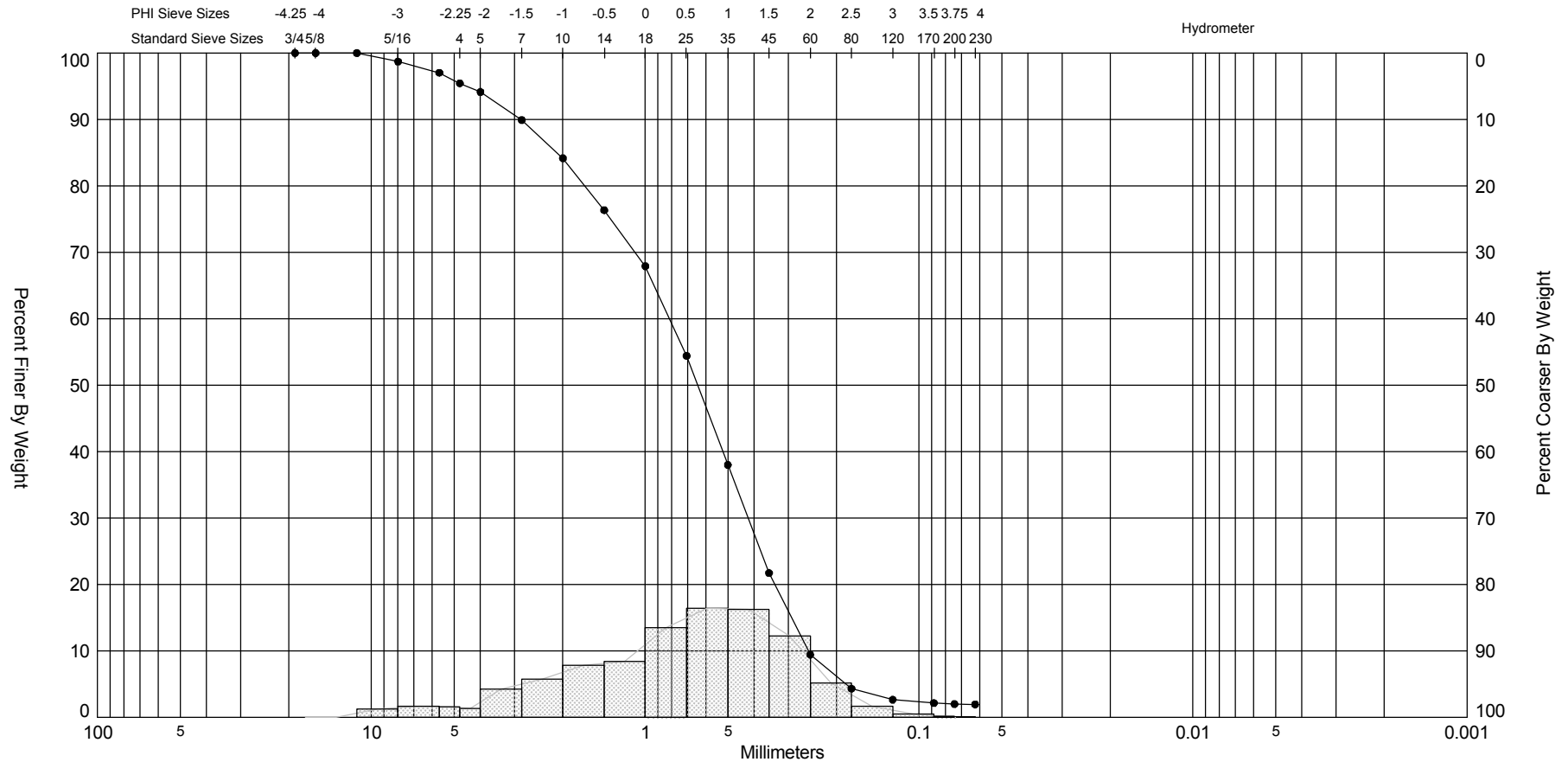
SIEVE ANALYSIS ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

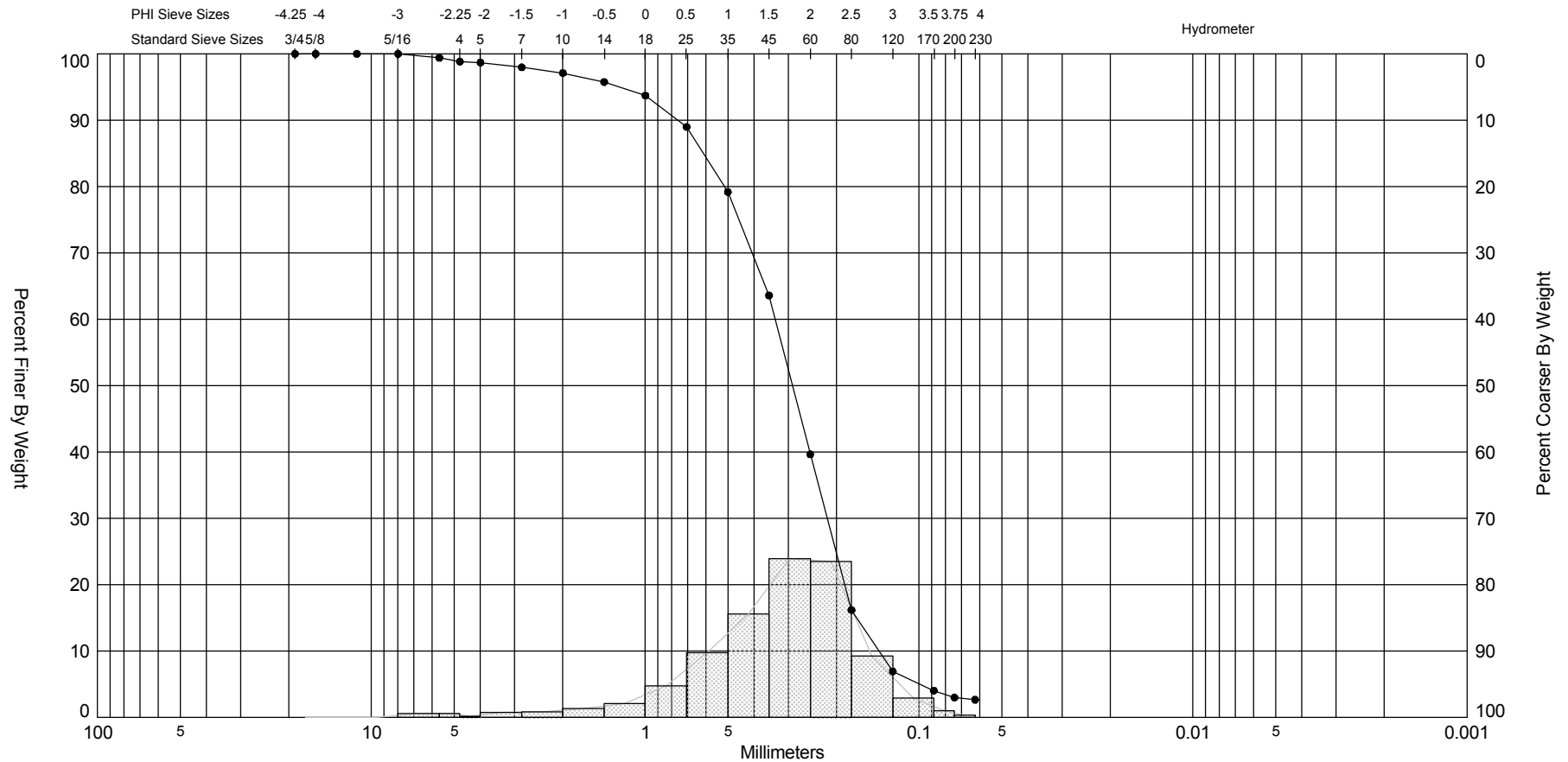
Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLVC-06-13 #2	—●—	-44.5	SP	#200 - 1.36 #230 - 1.29			1.72	1.6	-2.19	12.12	0.79	Project Name:	St. Lucie Vibracores
Comments:												Analysis Date:	05-26-06
Depths and elevations based on measured values												Analyzed By:	JF
						Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116						Easting (X, ft):	931,104
												Northing (Y, ft):	1,073,010
												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-06-13 #3	—●—	-49.5	SW	#200 - 2.00 #230 - 1.95			0.63	0.39	-0.58	2.95	1.33	Project Name:	St. Lucie Vibracores
Comments:												Analysis Date:	06-09-06
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):	931,104
												Northing (Y, ft):	1,073,010
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

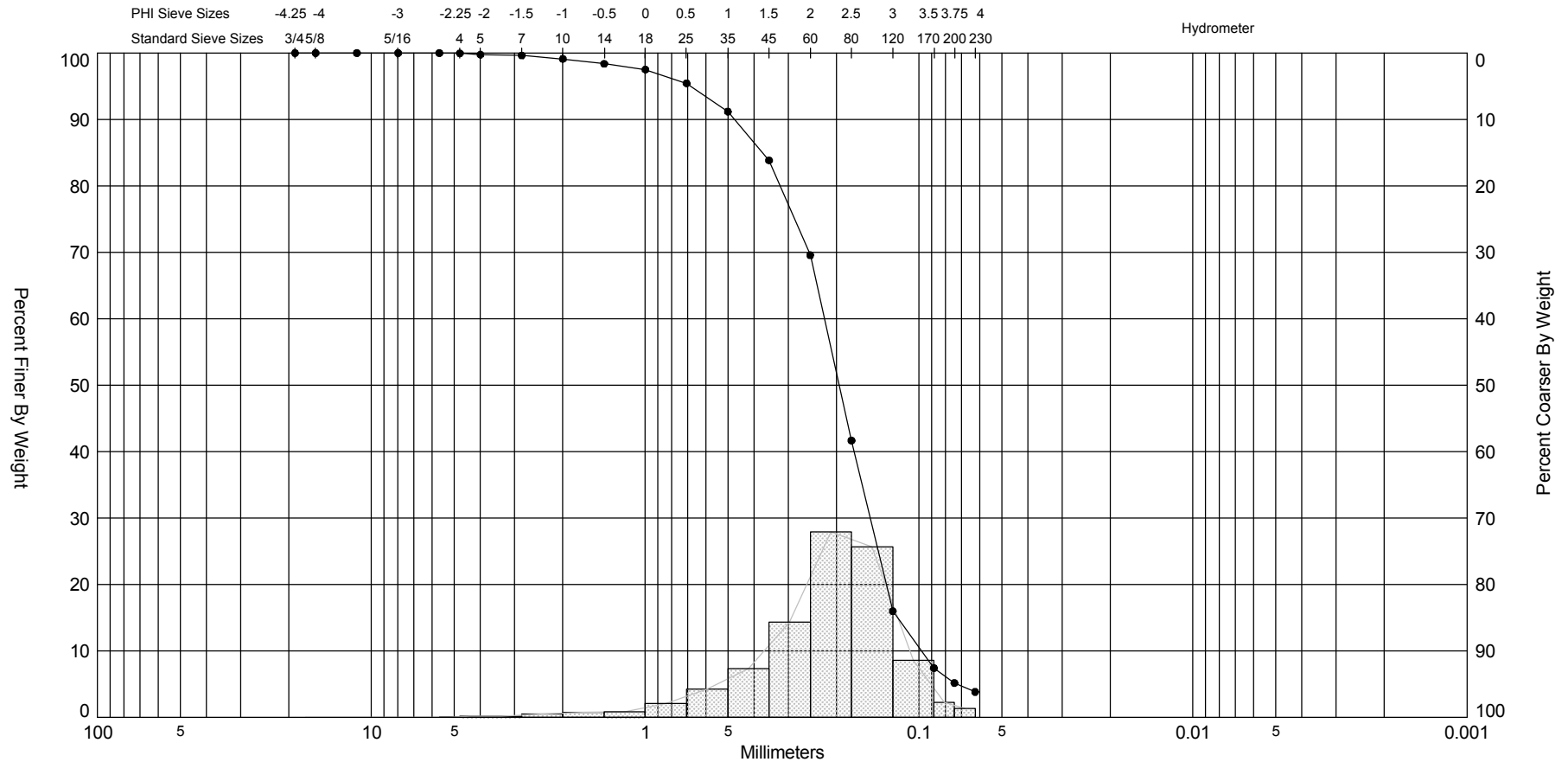
SIEVE ANALYSIS ST LUCIE VC.GPJ FL DEP ROSS.GDT 6/28/06




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-06-13 #4	—●—	-54.5	SW	#200 - 2.99 #230 - 2.66			1.78	1.6	-1.28	5.94	1.04	Project Name:	St. Lucie Vibracores
Comments:												Analysis Date:	06-09-06
Depths and elevations based on measured values												Analyzed By:	JG
						Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116						Easting (X, ft):	931,104
												Northing (Y, ft):	1,073,010
												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-06-13 #5	—●—	-56.0	SW-SM	#200 - 5.17 #230 - 3.84			2.35	2.19	-1.27	5.97	0.89	Project Name:	St. Lucie Vibracores
Comments:												Analysis Date:	05-30-06
Depths and elevations based on measured values												Analyzed By:	JL
						Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116						Easting (X, ft):	931,104
												Northing (Y, ft):	1,073,010
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

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