

## **Appendix 1a**

### **Native Beach Sample Sedimentology**

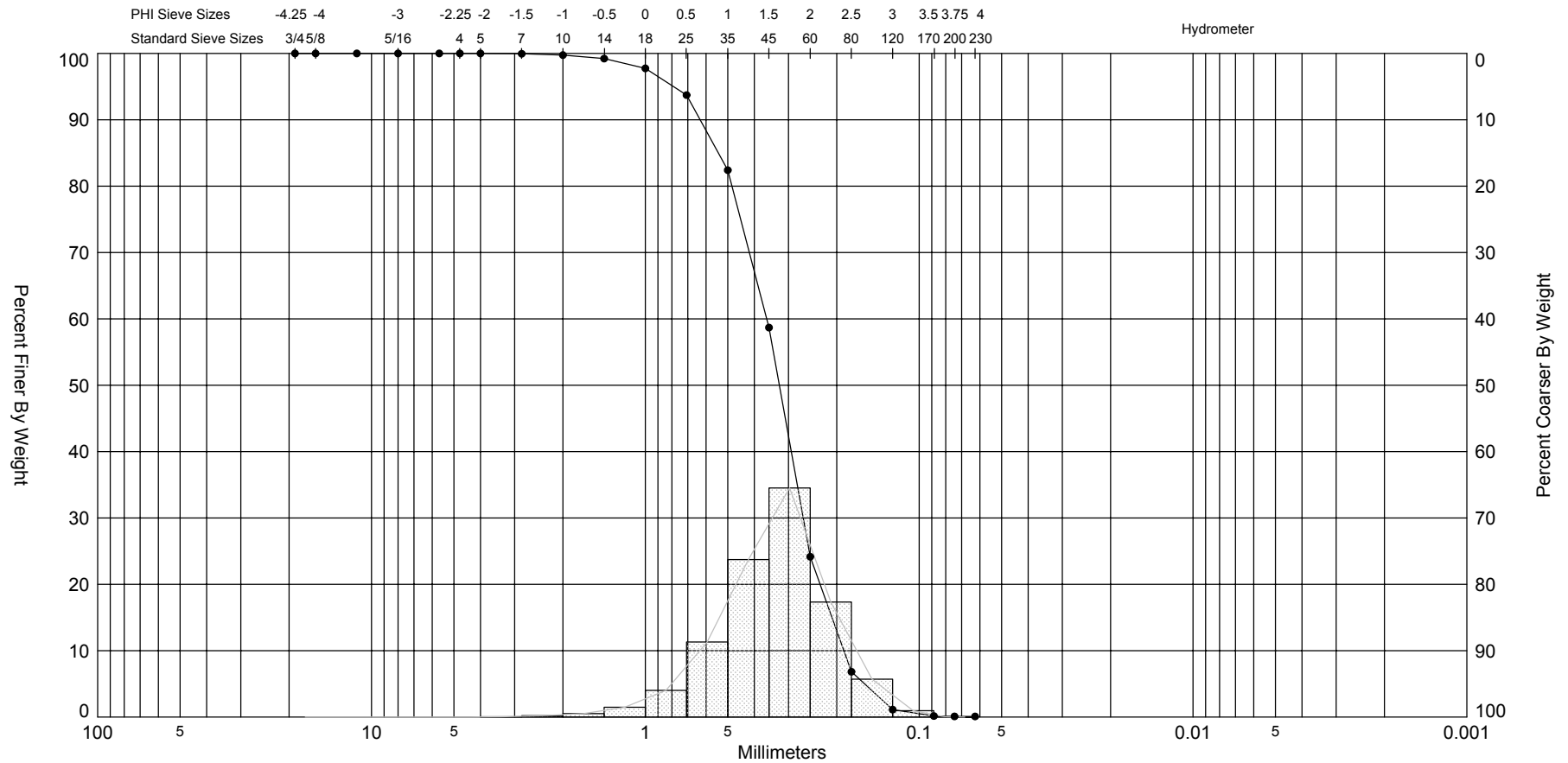
## Sedimentological Summary

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)						
R77 TOD	0.00	99.90	0.10	0.09	0.34	F	0.69	SP	0.80	39.00	60.20	v. pale brn	10YR 8/2
R77 MB	0.23	99.36	0.41	0.41	0.52	M	0.96	SW	1.20	60.00	38.80	lt. gray	10YR 7/2
R77 MHW	0.00	99.99	0.01	0.00	0.33	F	0.54	SP	0.80	34.00	65.20	lt. gray	10YR 7/2
R77 MLW	0.25	99.72	0.03	0.01	0.38	F	0.92	SW	1.20	46.00	52.80	lt. gray	10YR 7/2
R77 -5	1.81	98.11	0.08	0.04	0.51	M	1.22	SW	1.50	66.00	32.50	lt. gray	10YR 7/2
R80 TOD	3.16	96.68	0.16	0.15	0.80	M	1.35	SW	1.00	64.00	35.00	v. pale brn	10YR 8/2
R80 MB	0.59	99.11	0.30	0.29	0.35	F	0.83	SP	0.90	46.00	53.10	v. pale brn	10YR 8/2
R80 MHW	0.06	99.87	0.07	0.06	0.34	F	0.78	SP	0.90	42.00	57.10	lt. gray	10YR 7/2
R80 MLW	0.00	99.97	0.03	0.01	0.41	F	0.61	SP	1.00	40.00	59.00	v. pale brn	10YR 8/2
R80 -5	2.12	97.77	0.11	0.09	0.59	M	1.05	SW	1.40	64.00	34.60	lt. gray	10YR 7/2
R85 TOD	0.39	99.55	0.06	0.04	0.59	M	1.01	SW	1.20	62.00	36.80	v. pale brn	10YR 8/3
R85 MB	0.00	100.00	0.00	0.00	0.34	F	0.66	SP	0.70	36.50	62.80	v. pale brn	10YR 8/2
R85 MHW	0.00	99.66	0.34	0.33	0.31	F	0.53	SP	0.70	31.00	68.30	lt. gray	10YR 7/2
R85 MLW	1.17	98.81	0.02	0.01	0.47	M	1.12	SW	1.20	54.00	44.80	lt. gray	10YR 7/2
R85 -5	12.58	87.31	0.11	0.10	1.47	M	1.51	SW	1.50	86.00	12.50	v. pale brn	10YR 7/3
R90 TOD	0.77	97.42	1.81	1.00	0.31	F	1.29	SW	0.40	18.00	81.60	lt. gray	10YR 7/1
R90 MB	0.43	97.68	1.89	0.89	0.31	F	1.27	SW	0.50	19.00	80.50	lt. gray	10YR 7/1
R90 MHW	0.59	97.94	1.47	0.79	0.30	F	1.16	SW	0.60	21.00	78.40	lt. gray	10YR 7/1
R90 MLW	2.27	97.43	0.30	0.28	0.80	M	1.24	SW	1.30	67.00	31.70	v. pale brn	10YR 8/2
R90 -5	23.47	76.36	0.17	0.16	1.77	M	1.81	SW	1.70	79.00	19.30	lt. gray	10YR 7/2
R95 TOD	0.00	99.99	0.01	0.01	0.28	F	0.47	SP	0.60	31.00	68.40	v. pale brn	10YR 8/2
R95 MB	0.00	99.80	0.20	0.20	0.31	F	0.60	SP	0.80	35.00	64.20	lt. gray	10YR 7/2
R95 MHW	0.00	99.84	0.16	0.13	0.38	F	0.75	SP	1.00	44.00	55.00	lt. gray	10YR 7/2
R95 MLW	0.32	99.41	0.27	0.24	0.45	M	1.19	SW	1.30	57.00	41.70	v. pale brn	10YR 7/3
R95 -5	19.65	80.02	0.33	0.32	1.75	M	1.64	SW	1.30	76.00	22.70	lt. gray	10YR 7/2
R98 TOD	0.00	99.72	0.28	0.28	0.46	M	0.76	SP	1.00	51.80	47.20	lt. gray	10YR 7/2
R98 MB	0.00	99.72	0.28	0.27	0.56	M	0.67	SP	1.20	59.60	39.20	lt. gray	10YR 7/2
R98 MHW	0.24	99.47	0.29	0.29	0.47	M	0.87	SW	2.00	41.60	56.40	lt. gray	10YR 7/2
R98 MLW	0.00	99.82	0.18	0.15	0.41	F	0.96	SW	1.10	49.40	49.50	lt. gray	10YR 7/2
R98 -5	0.46	99.00	0.54	0.46	0.28	F	1.20	SW	1.20	49.00	49.80	lt. gray	10YR 7/2
R100 TOD	0.33	99.34	0.33	0.27	0.44	M	0.96	SW	0.90	44.10	55.00	lt. gray	10YR 7/2
R100 MB	0.03	99.73	0.24	0.23	0.39	F	0.72	SP	0.90	44.40	54.70	lt. gray	10YR 7/2
R100 MHW	0.38	99.04	0.58	0.57	0.41	F	0.76	SP	1.00	46.20	52.80	lt. gray	10YR 7/2
R100 MLW	0.14	99.84	0.02	0.02	0.38	F	0.67	SP	1.10	44.30	54.60	lt. gray	10YR 7/2
R100 -5	14.03	85.63	0.34	0.29	0.74	M	2.05	SW	1.30	66.00	32.70	lt. gray	10YR 7/2
R105 TOD	3.07	96.81	0.12	0.08	0.49	M	0.99	SW	1.00	48.80	50.20	lt. gray	10YR 7/2
R105 MB	1.21	98.72	0.07	0.06	0.63	M	1.13	SW	1.10	64.00	34.90	lt. gray	10YR 7/2
R105 MHW	0.00	99.99	0.01	0.00	0.63	M	0.98	SW	1.20	65.60	33.20	v. pale brn	10YR 7/3
R105 MLW	0.00	99.88	0.12	0.11	0.39	F	0.69	SP	1.10	46.90	52.00	lt. gray	10YR 7/2
R105 -5	4.58	95.19	0.23	0.23	1.16	M	1.18	SW	1.70	85.00	13.30	lt. gray	10YR 7/2
R110 TOD	0.00	99.74	0.26	0.25	0.55	M	0.82	SP	1.10	55.10	43.80	lt. gray	10YR 7/2
R110 MHW	0.00	99.99	0.01	0.00	0.35	F	0.60	SP	0.80	37.10	62.10	lt. gray	10YR 7/2
R110 MLW	0.00	99.85	0.15	0.14	0.40	F	0.77	SP	1.10	47.70	51.20	v. pale brn	10YR 7/3
R110 MB	0.04	99.90	0.06	0.04	0.44	M	0.80	SP	1.00	47.60	51.40	lt. gray	10YR 7/2
R110 -5	0.78	98.93	0.29	0.15	0.21	F	0.88	SW	1.00	39.00	60.00	lt. gray	10YR 7/2
R115 TOD	0.46	99.18	0.36	0.35	0.42	F	0.78	SP	0.90	44.80	54.30	lt. gray	10YR 7/2
R115 MB	0.40	99.15	0.45	0.44	0.55	M	0.83	SP	1.10	60.00	38.90	v. pale brn	10YR 7/3
R115 MHW	0.00	99.98	0.02	0.01	0.38	F	0.83	SP	1.00	49.80	49.20	lt. gray	10YR 7/2
R115 MLW	0.48	99.47	0.05	0.03	0.47	M	0.84	SP	1.10	49.50	49.40	lt. gray	10YR 7/2
R115 -5	11.33	87.72	0.95	0.93	1.00	M	1.69	SW	1.40	72.00	26.60	lt. gray	10YR 7/2


**Appendix 1b**

**Native Beach gINT Gradation Curves**

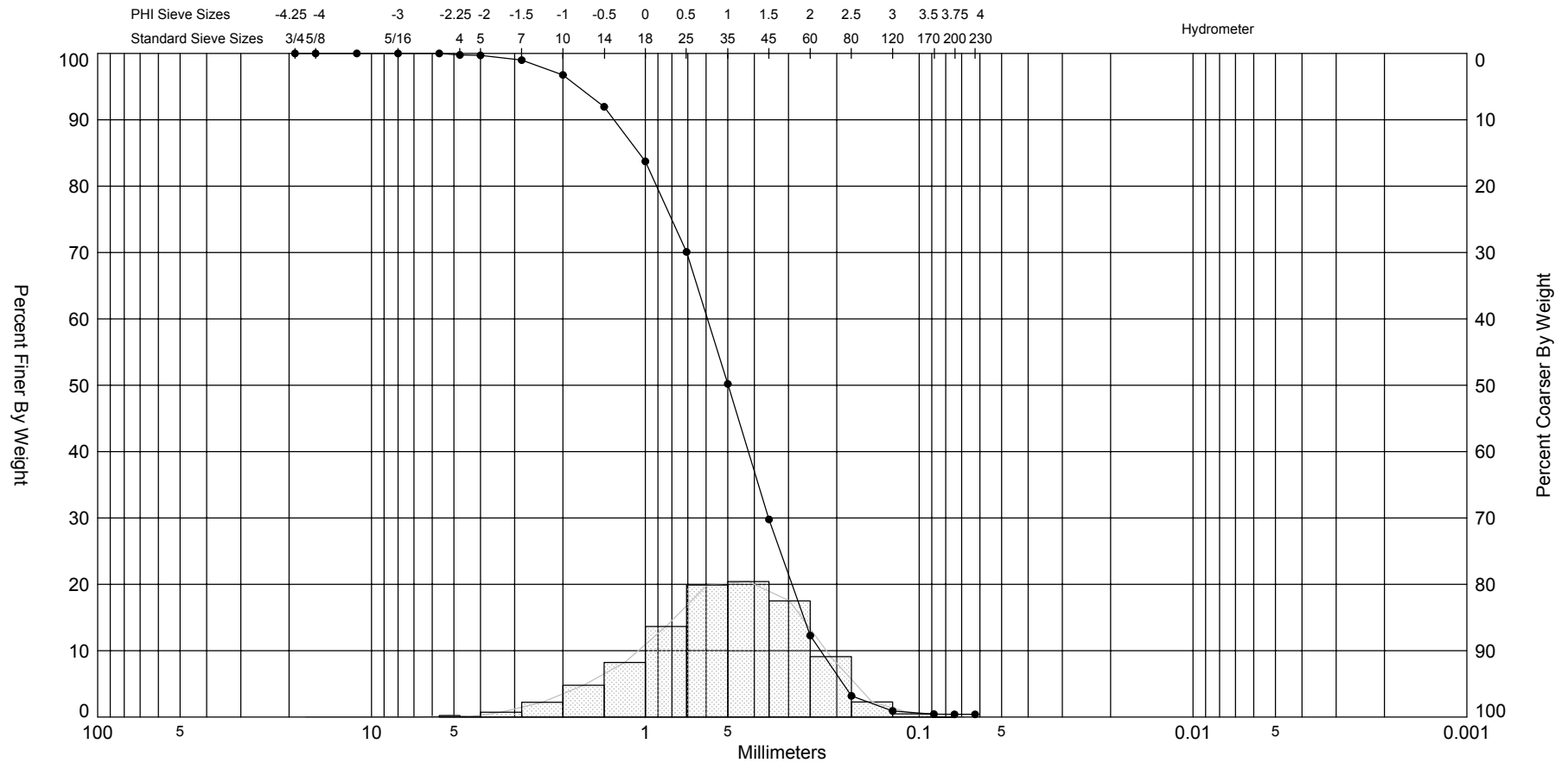
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Gravel		Sand			Silt and Clay	
Coarse	Fine	Coarse	Medium	Fine		

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R77 TOD	—●—		SP	#200 - 0.10 #230 - 0.09	0.80	39.00	1.63	1.57	-0.53	4.11	0.69	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

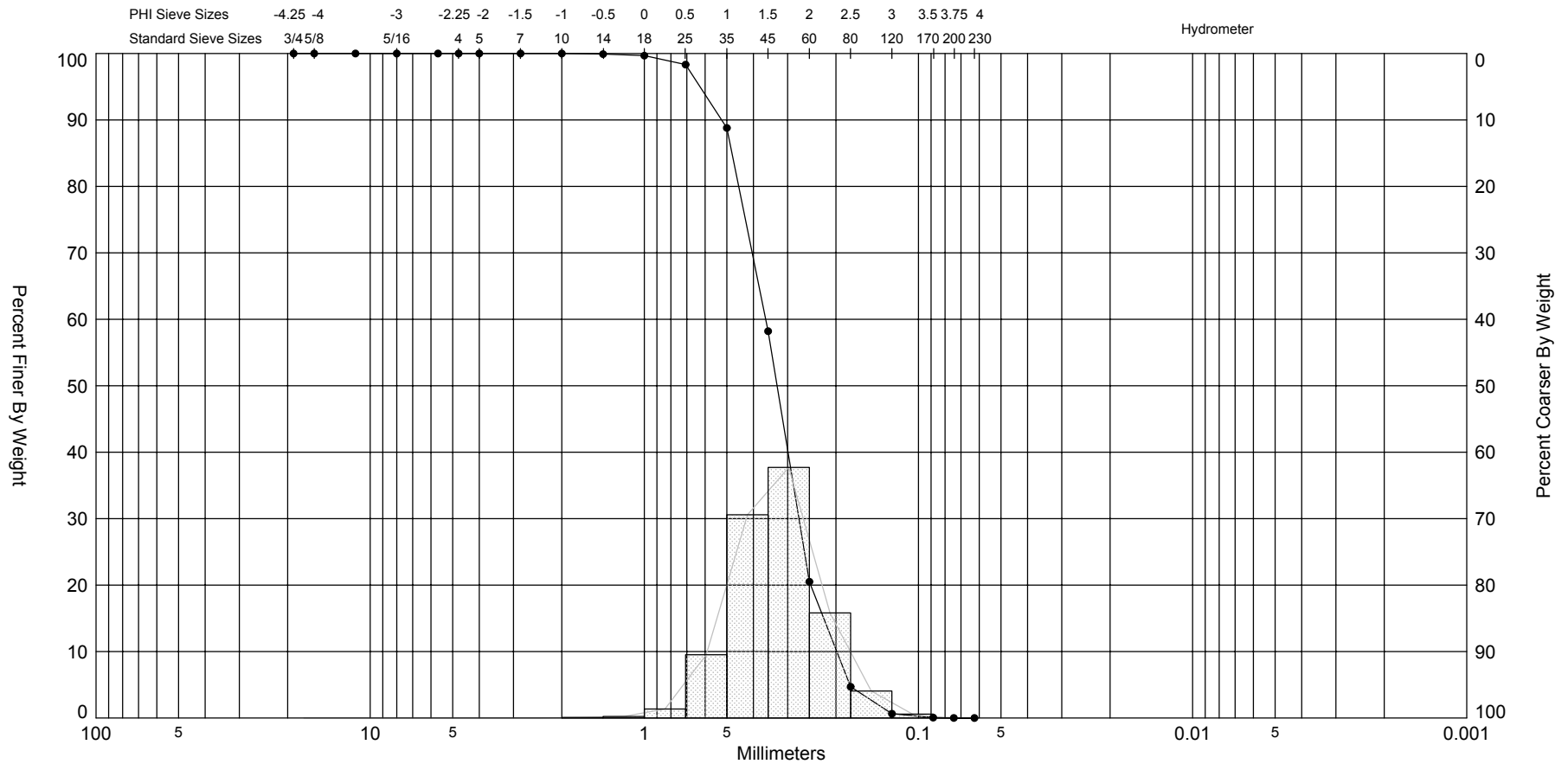
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Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R77 MB	—●—		SW	#200 - 0.41 #230 - 0.41	1.20	60.00	1	0.93	-0.41	3.06	0.96	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

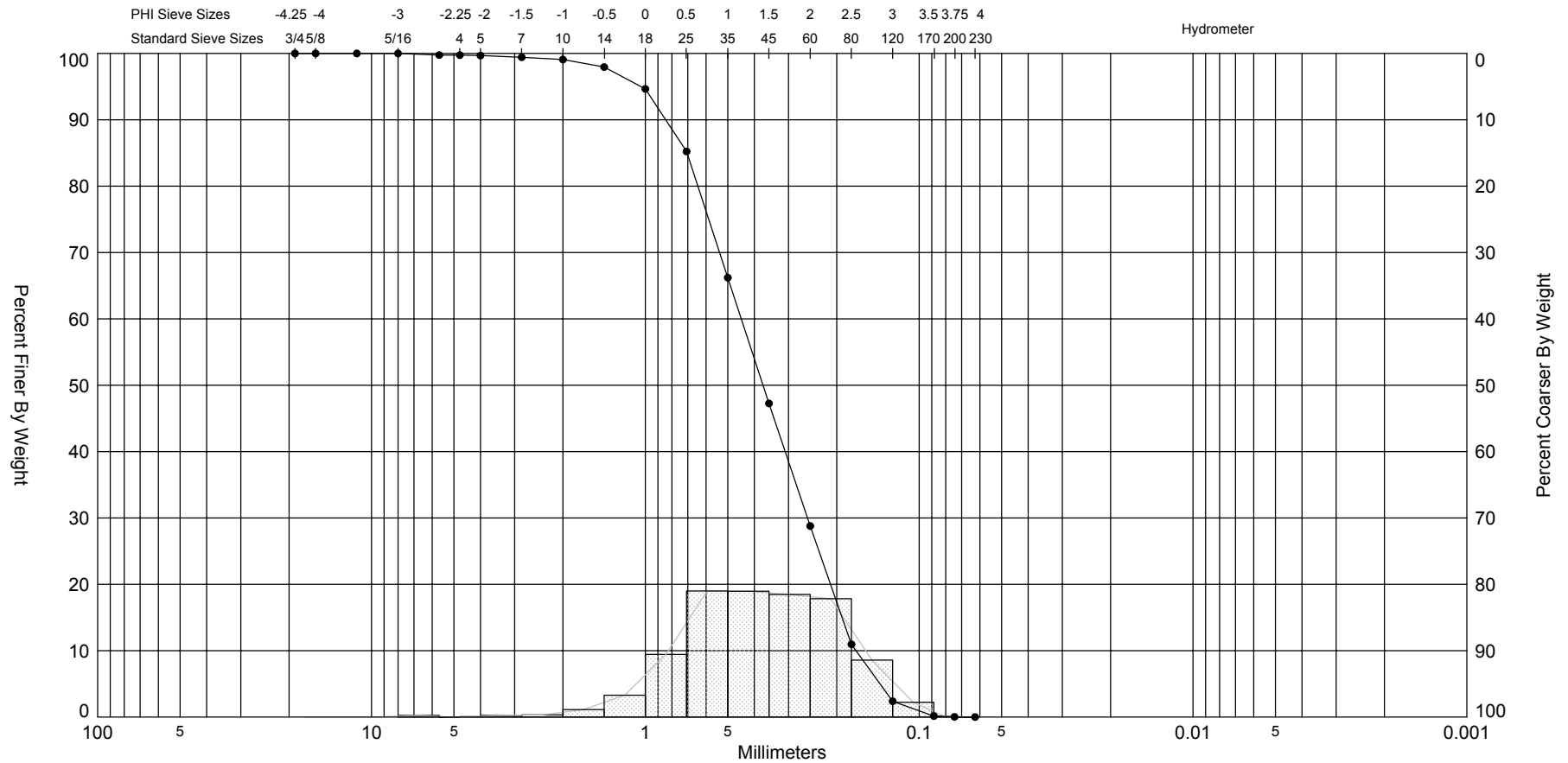
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Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R77 MHW	—●—		SP	#200 - 0.01 #230 - 0.00	0.80	34.00	1.61	1.6	0.02	3.61	0.54	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

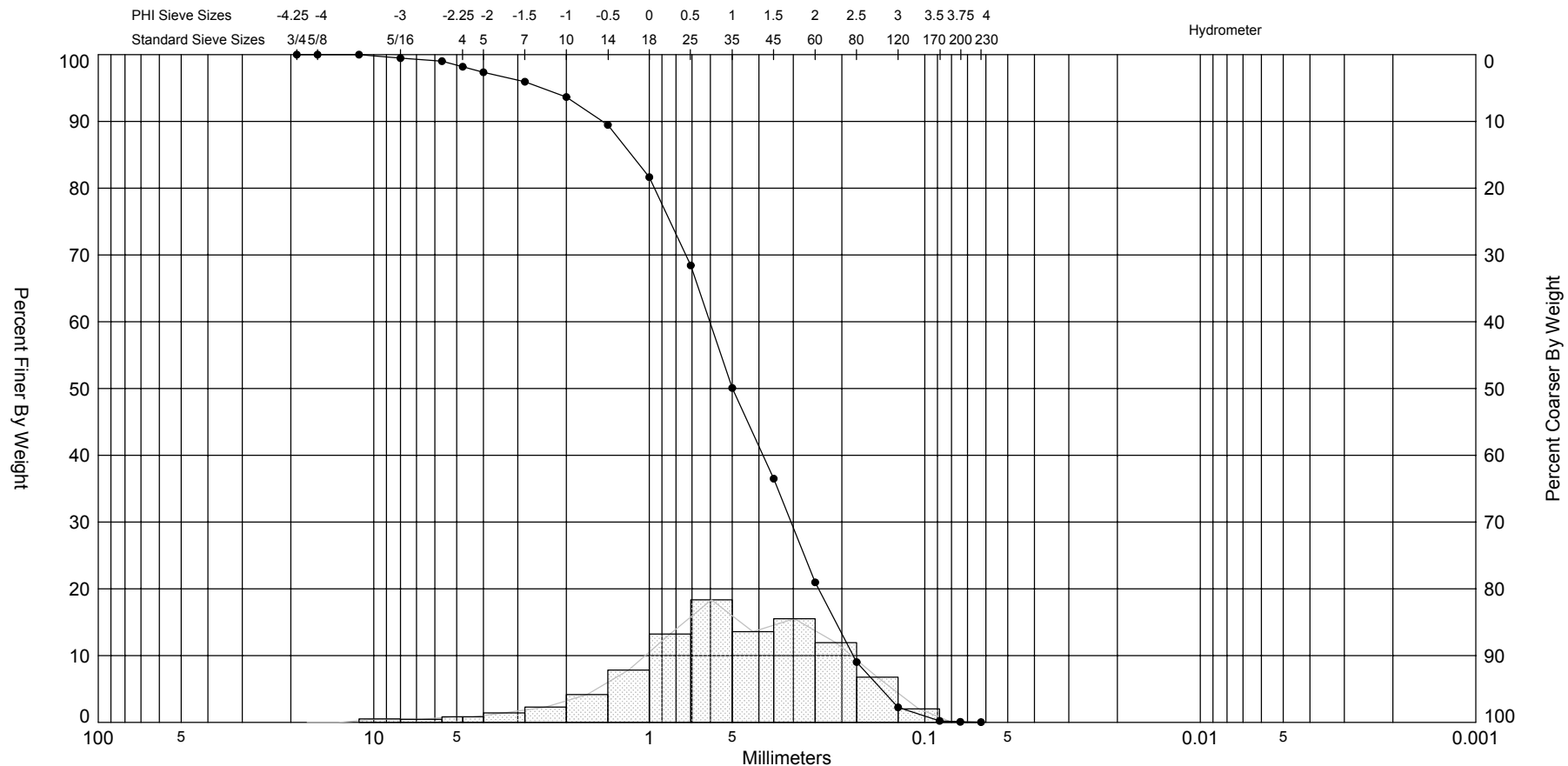
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Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R77 MLW	—●—		SW	#200 - 0.03 #230 - 0.01	1.20	46.00	1.43	1.41	-0.44	3.69	0.92	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
												Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	
715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343													

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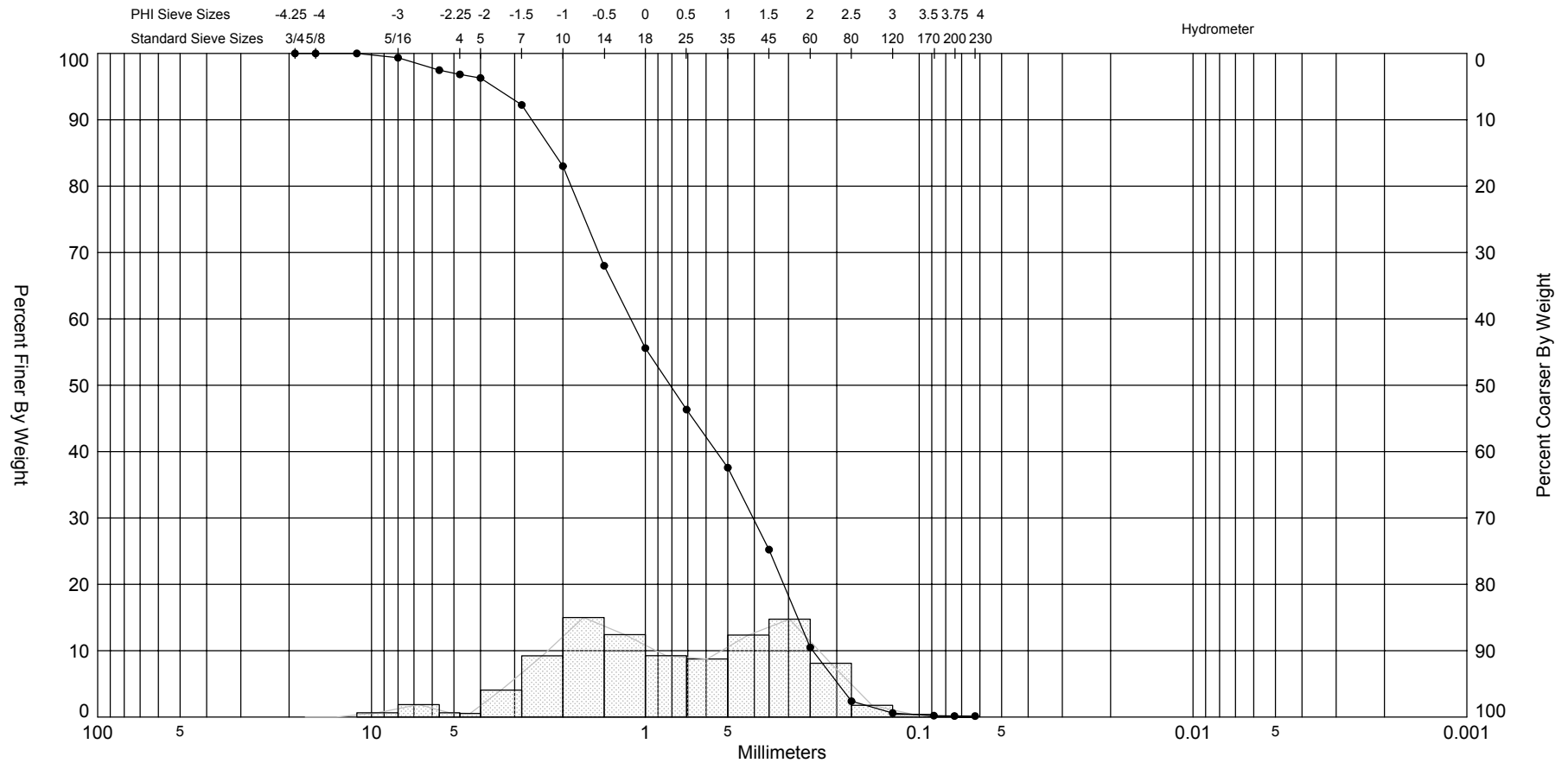


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R77 -5	—●—		SW	#200 - 0.08 #230 - 0.04	1.50	66.00	1	0.97	-0.62	3.54	1.22	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	



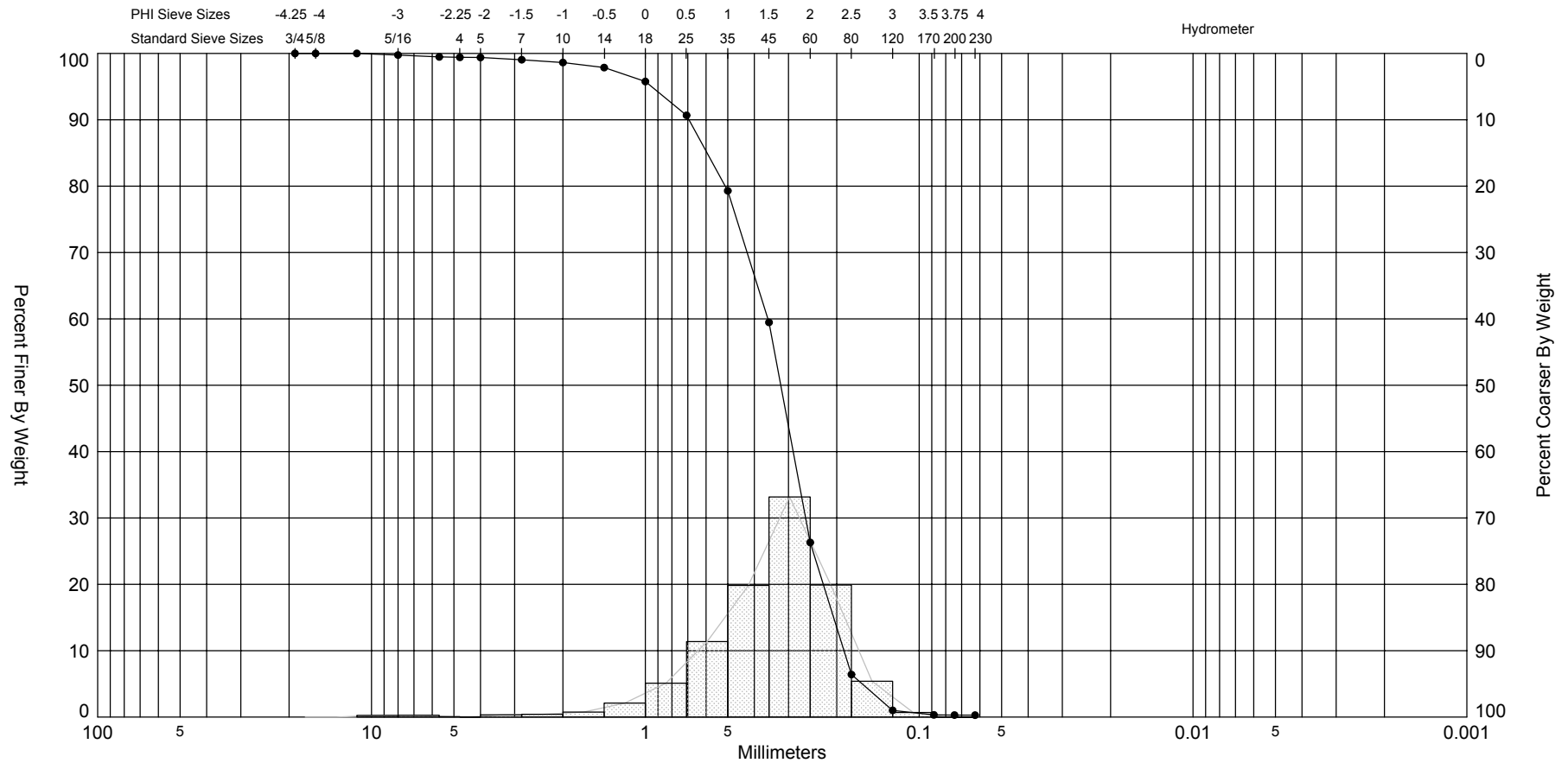
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Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R80 TOD	—●—		SW	#200 - 0.16 #230 - 0.15	1.00	64.00	0.3	0.32	-0.19	2.28	1.35	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

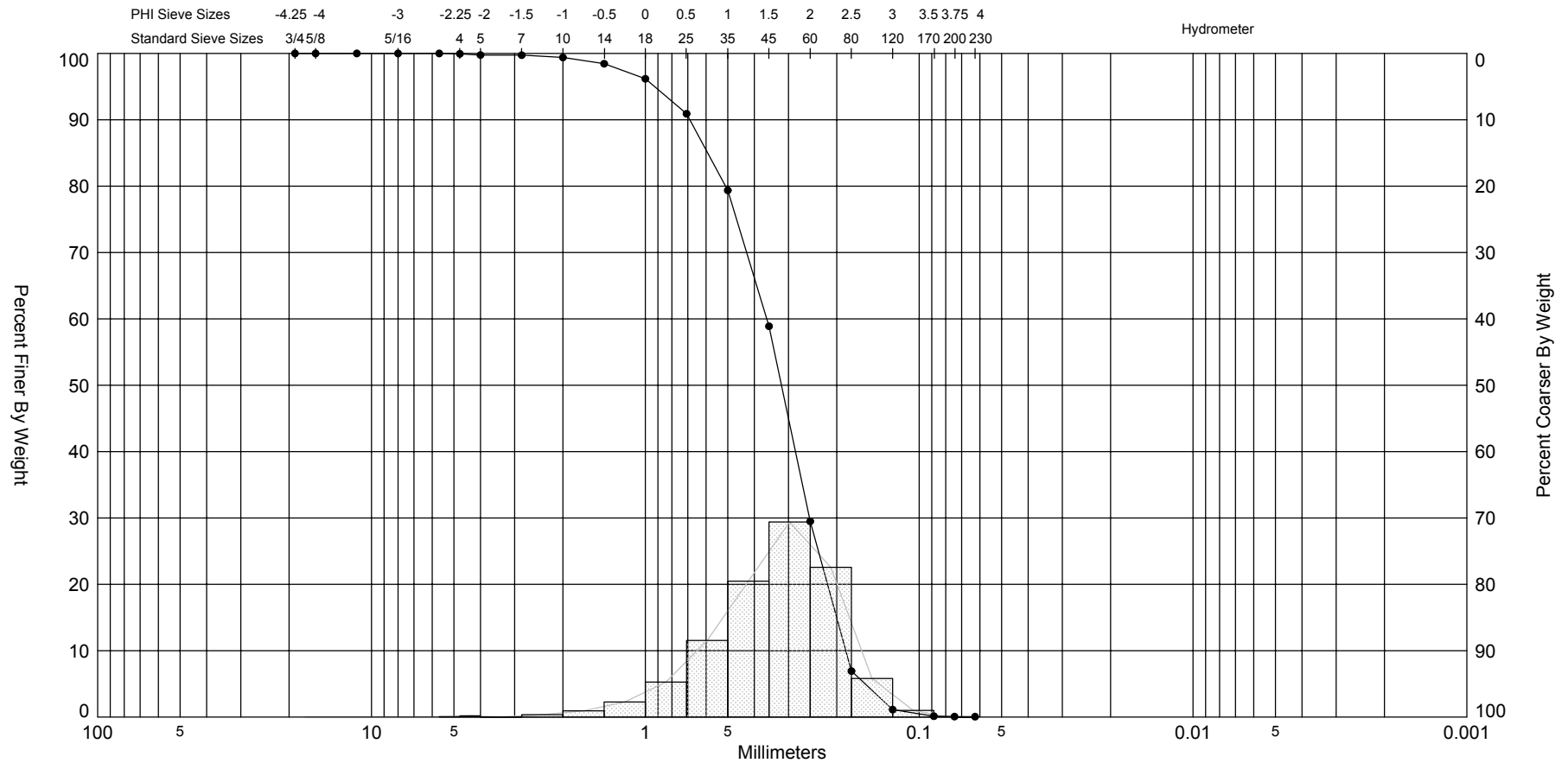
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Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R80 MB	—●—		SP	#200 - 0.30 #230 - 0.29	0.90	46.00	1.64	1.51	-1.52	8.1	0.83	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

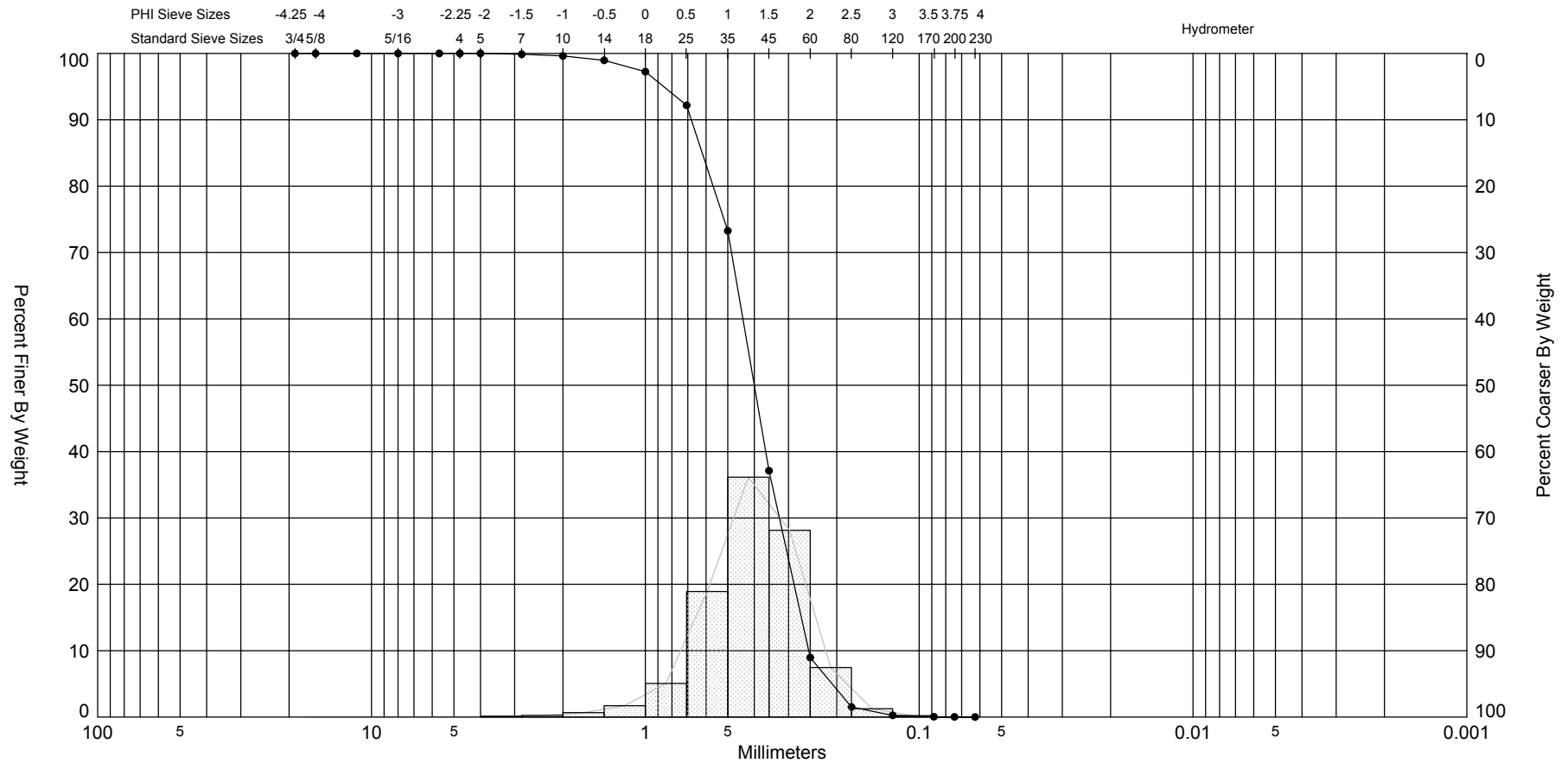
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Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R80 MHW	—●—		SP	#200 - 0.07 #230 - 0.06	0.90	42.00	1.65	1.55	-0.85	4.55	0.78	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

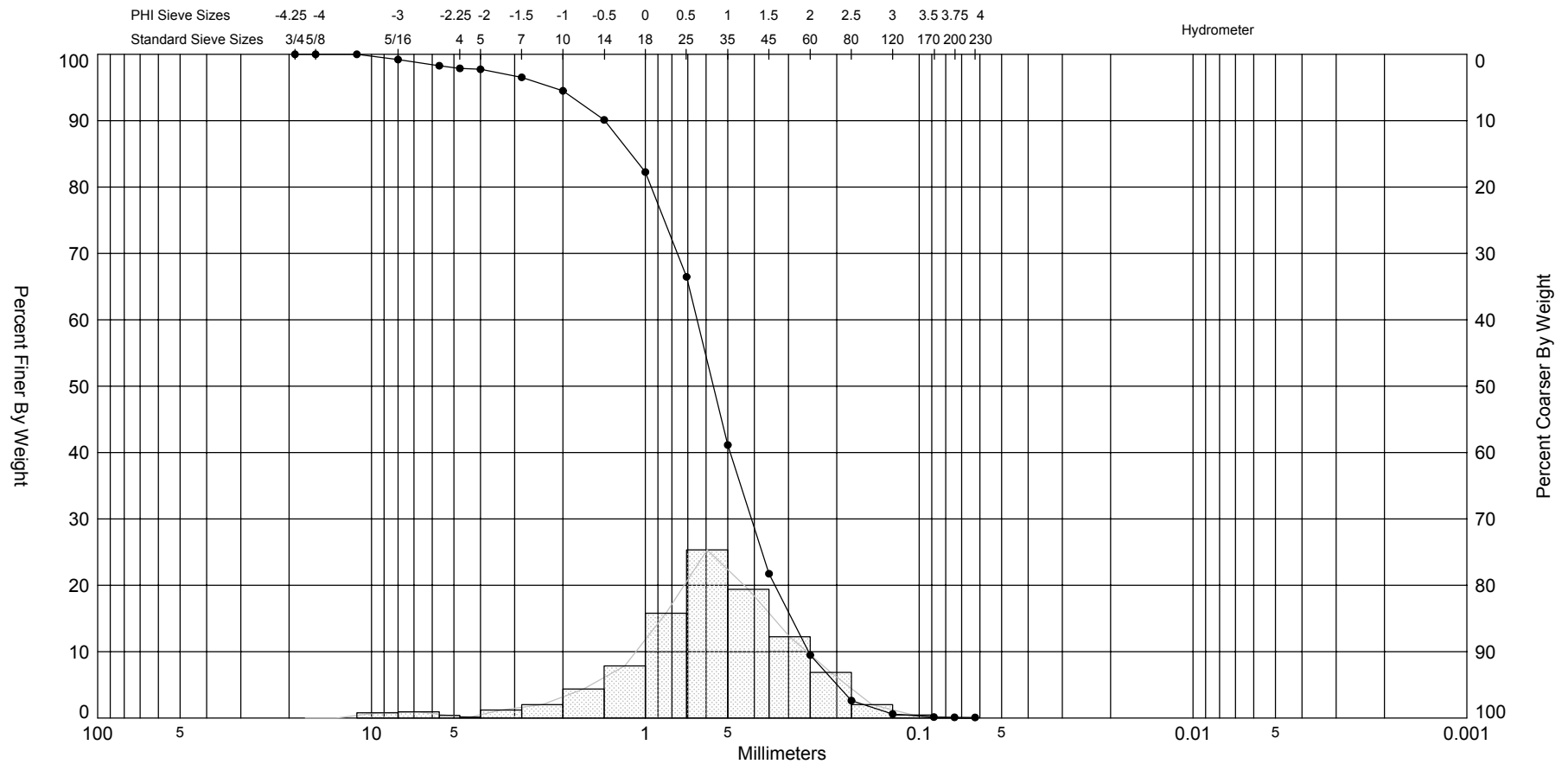
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Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R80 MLW	—●—		SP	#200 - 0.03 #230 - 0.01	1.00	40.00	1.32	1.3	-0.59	4.88	0.61	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

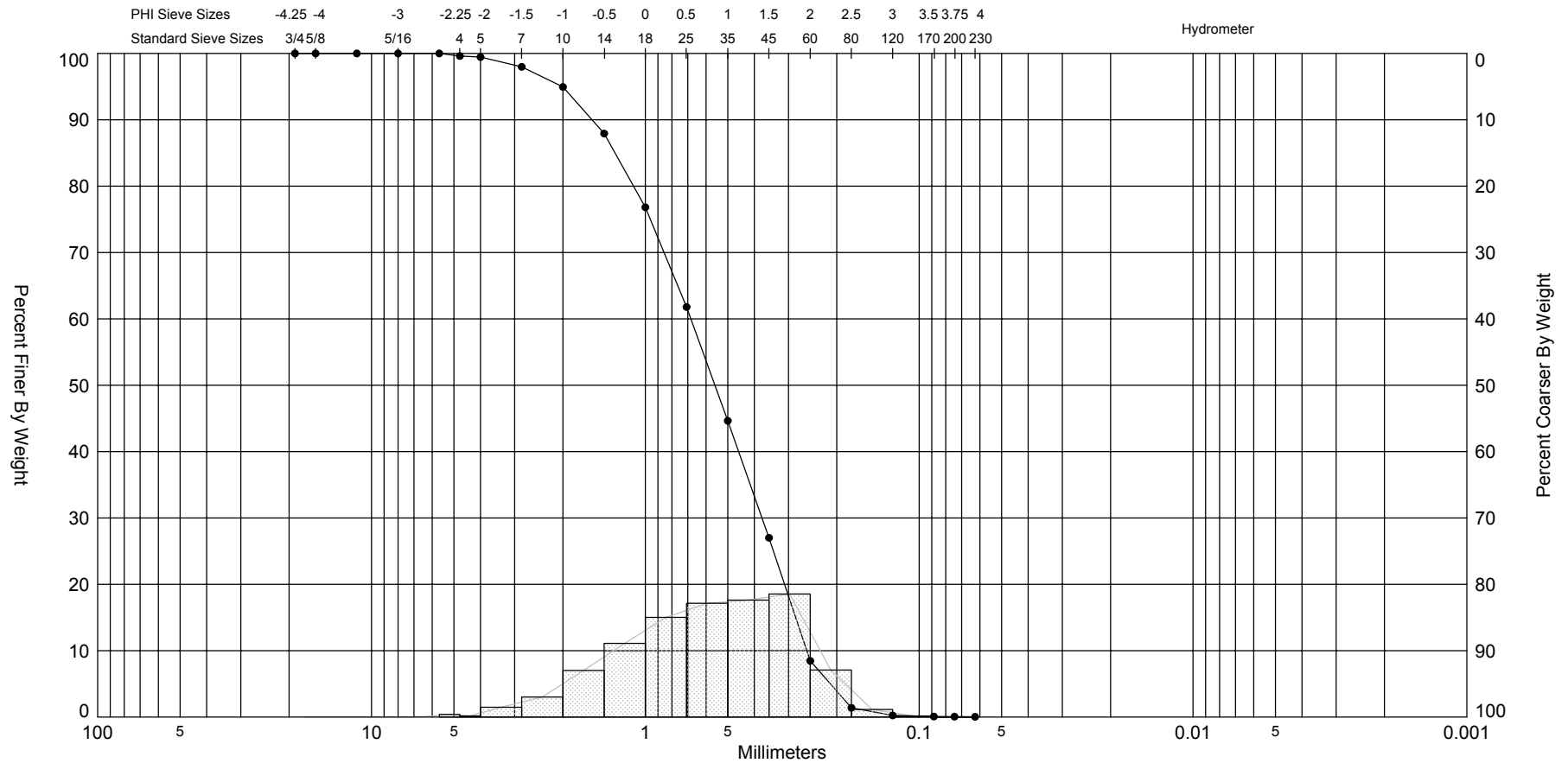
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Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R80 -5	—●—		SW	#200 - 0.11 #230 - 0.09	1.40	64.00	0.83	0.75	-0.89	4.94	1.05	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
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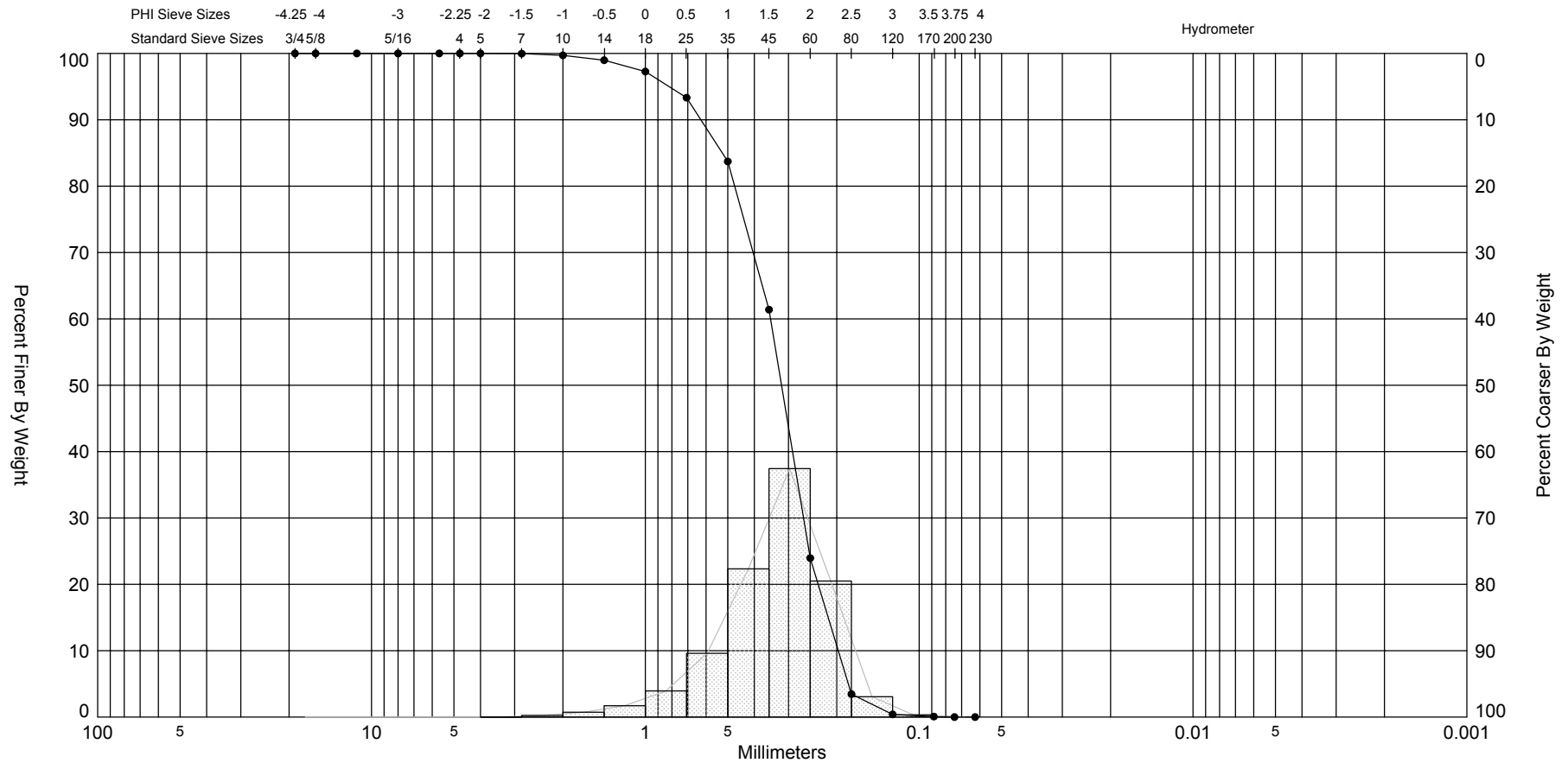
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Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R85 TOD	—●—		SW	#200 - 0.06 #230 - 0.04	1.20	62.00	0.84	0.75	-0.42	2.74	1.01	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

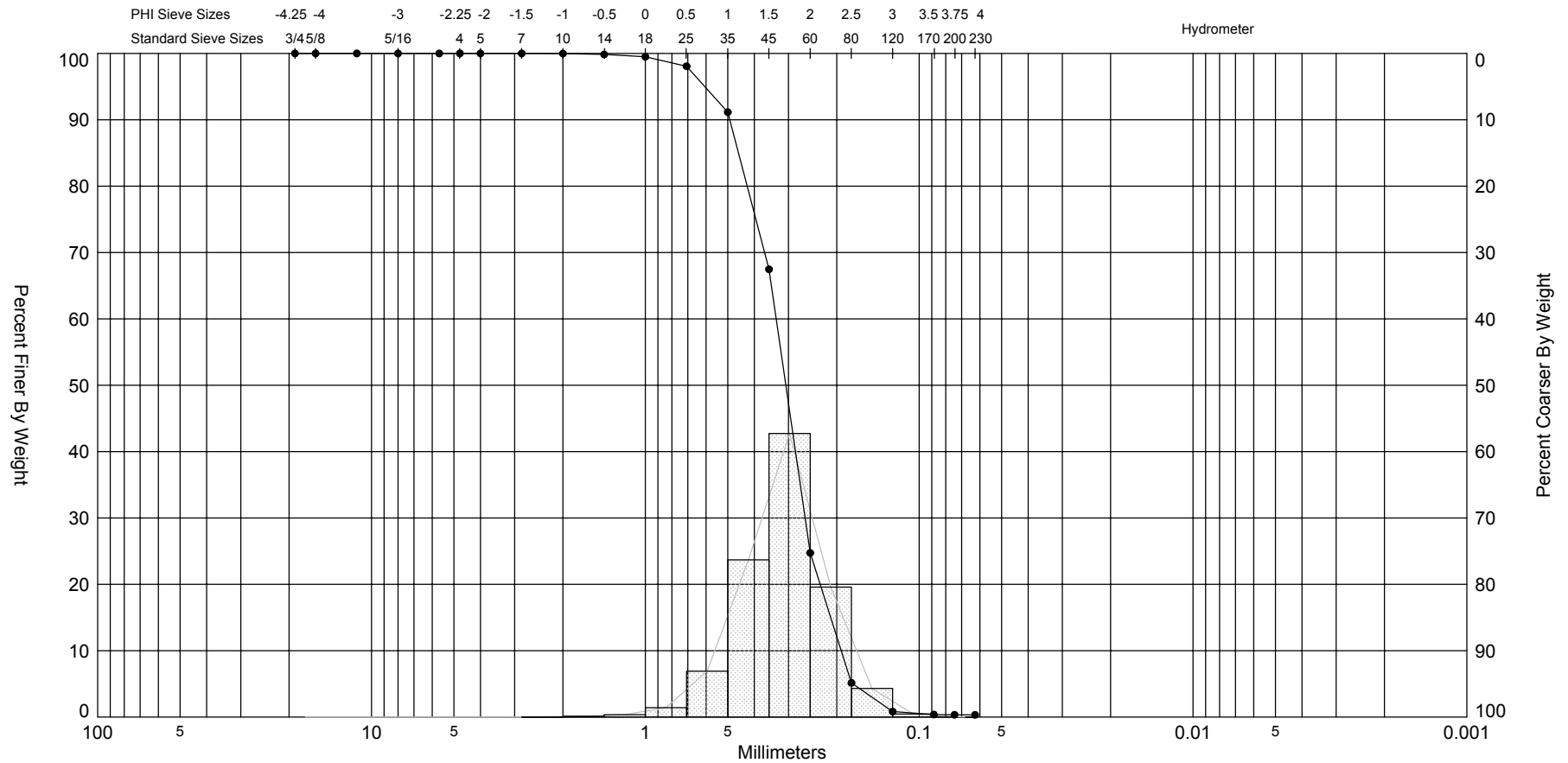
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Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R85 MB	—●—		SP	#200 - 0.00 #230 - 0.00	0.70	36.50	1.65	1.56	-0.91	4.67	0.66	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

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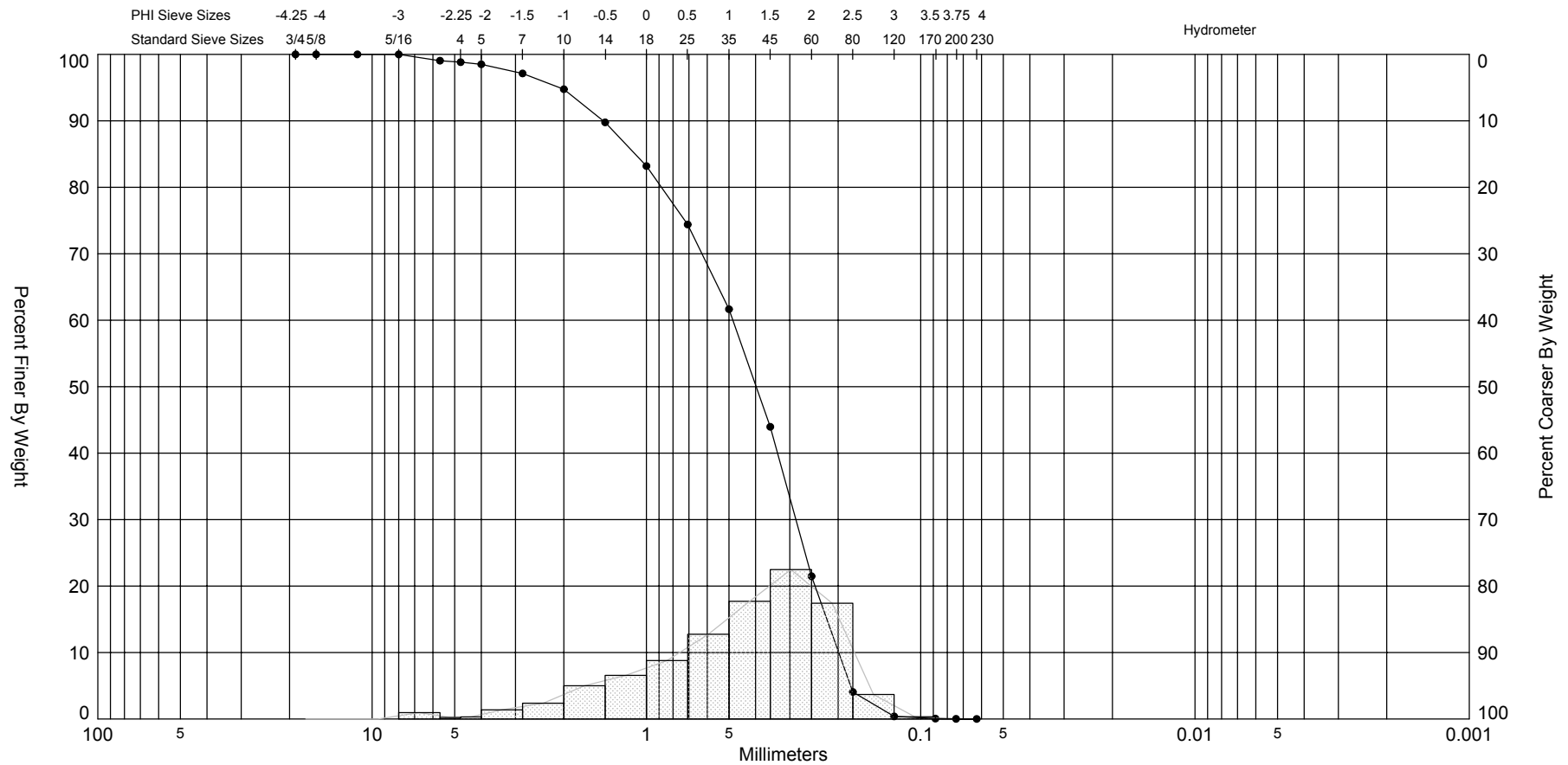


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R85 MHW	—●—		SP	#200 - 0.34 #230 - 0.33	0.70	31.00	1.7	1.68	-0.35	4.19	0.53	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	



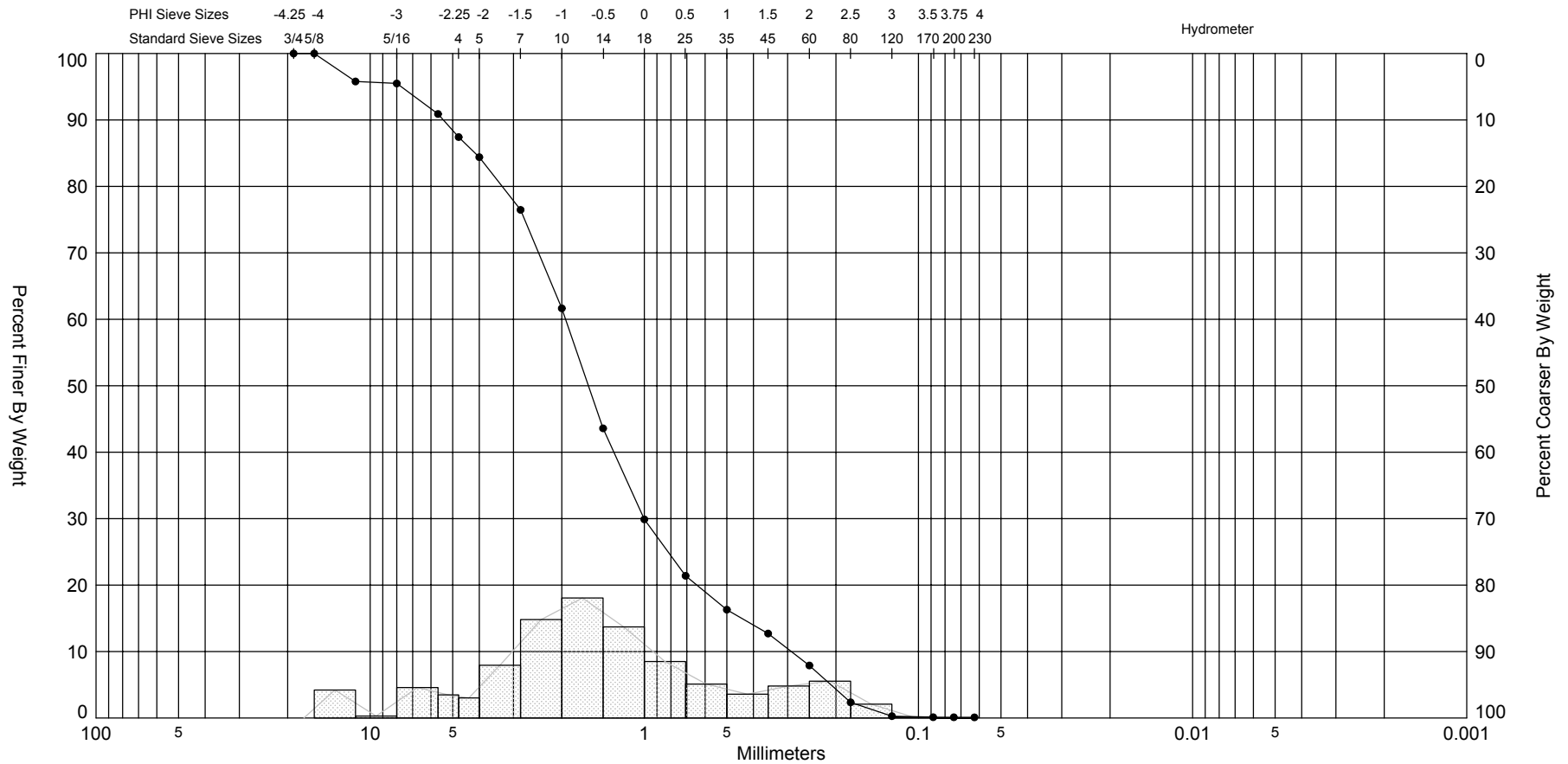
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Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R85 MLW	—●—		SW	#200 - 0.02 #230 - 0.01	1.20	54.00	1.33	1.09	-0.95	3.71	1.12	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

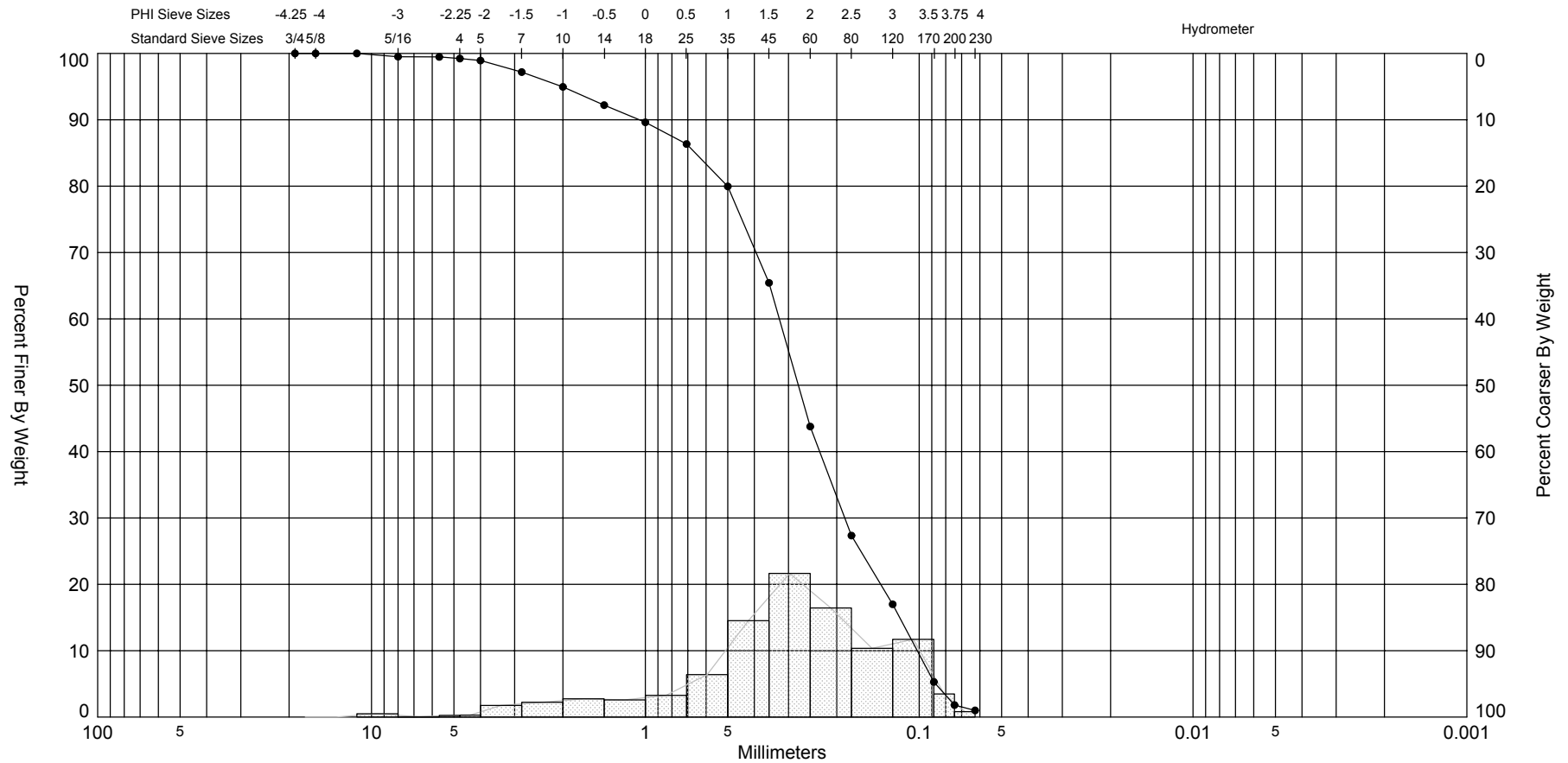
SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08



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	
R85 -5	—●—		SW	#200 - 0.11 #230 - 0.10	1.50	86.00		-0.56	0.19	2.83	1.51	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
												Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	
715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343													

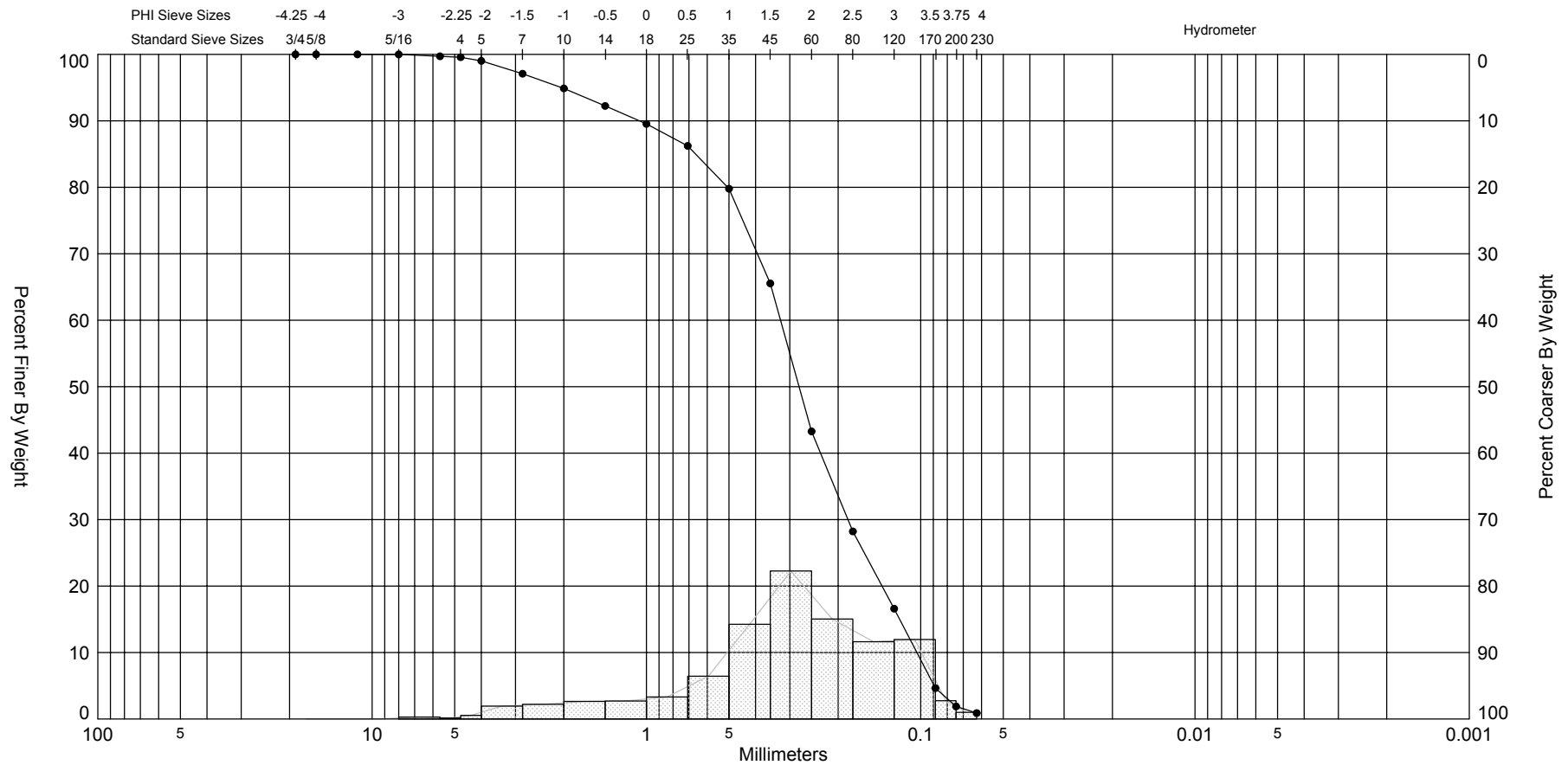
SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08



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	
R90 TOD	—●—		SW	#200 - 1.81 #230 - 1.00	0.40	18.00	1.86	1.71	-1.01	4.28	1.29	Project Name:	St. Lucie Co Native Bch
Comments: May contain fill material												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

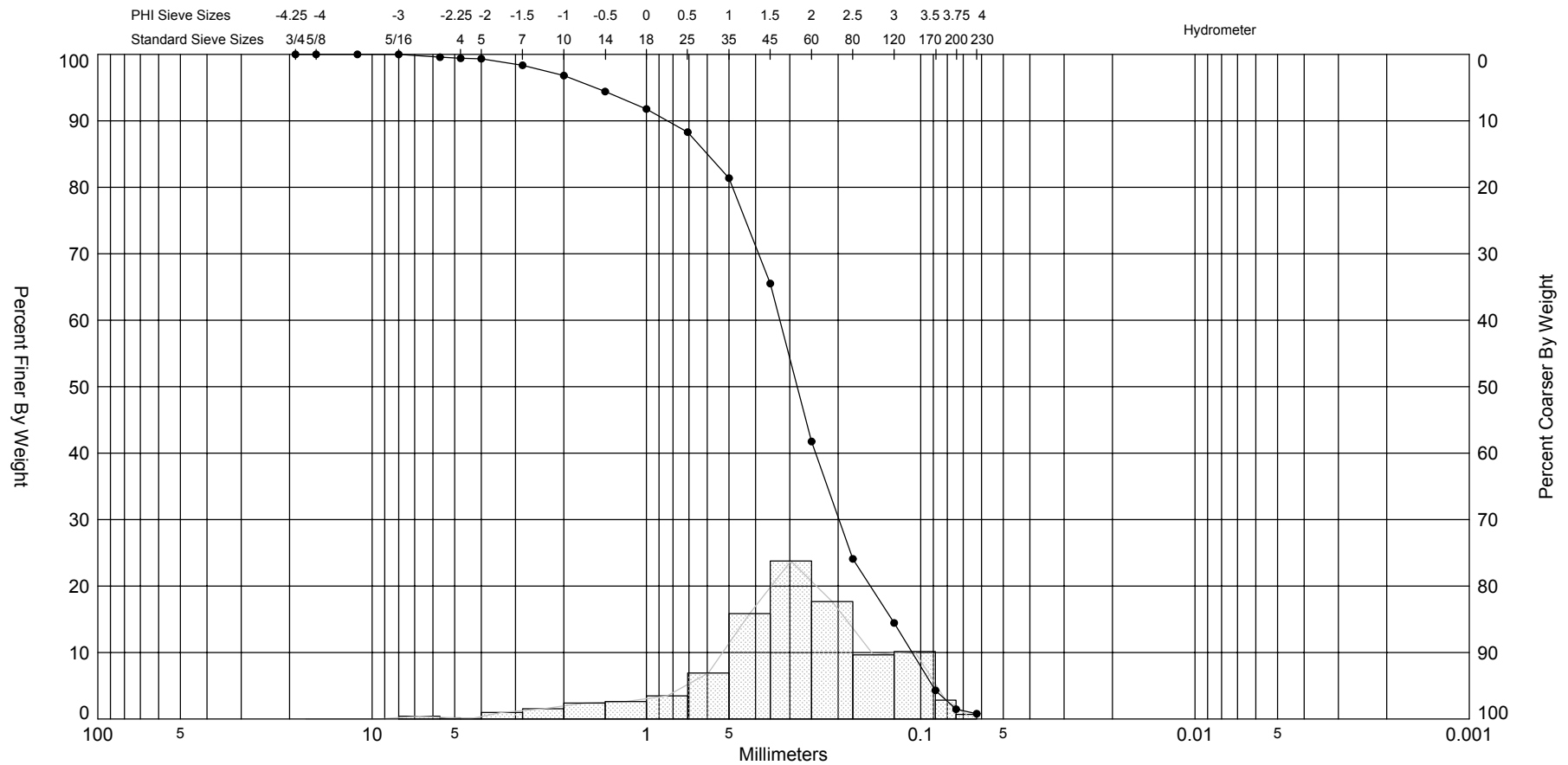
SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08




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	
R90MB	—●—		SW	#200 - 1.89 #230 - 0.89	0.50	19.00	1.85	1.71	-0.94	3.89	1.27	Project Name:	St. Lucie Co Native Bch
Comments: May contain fill material												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

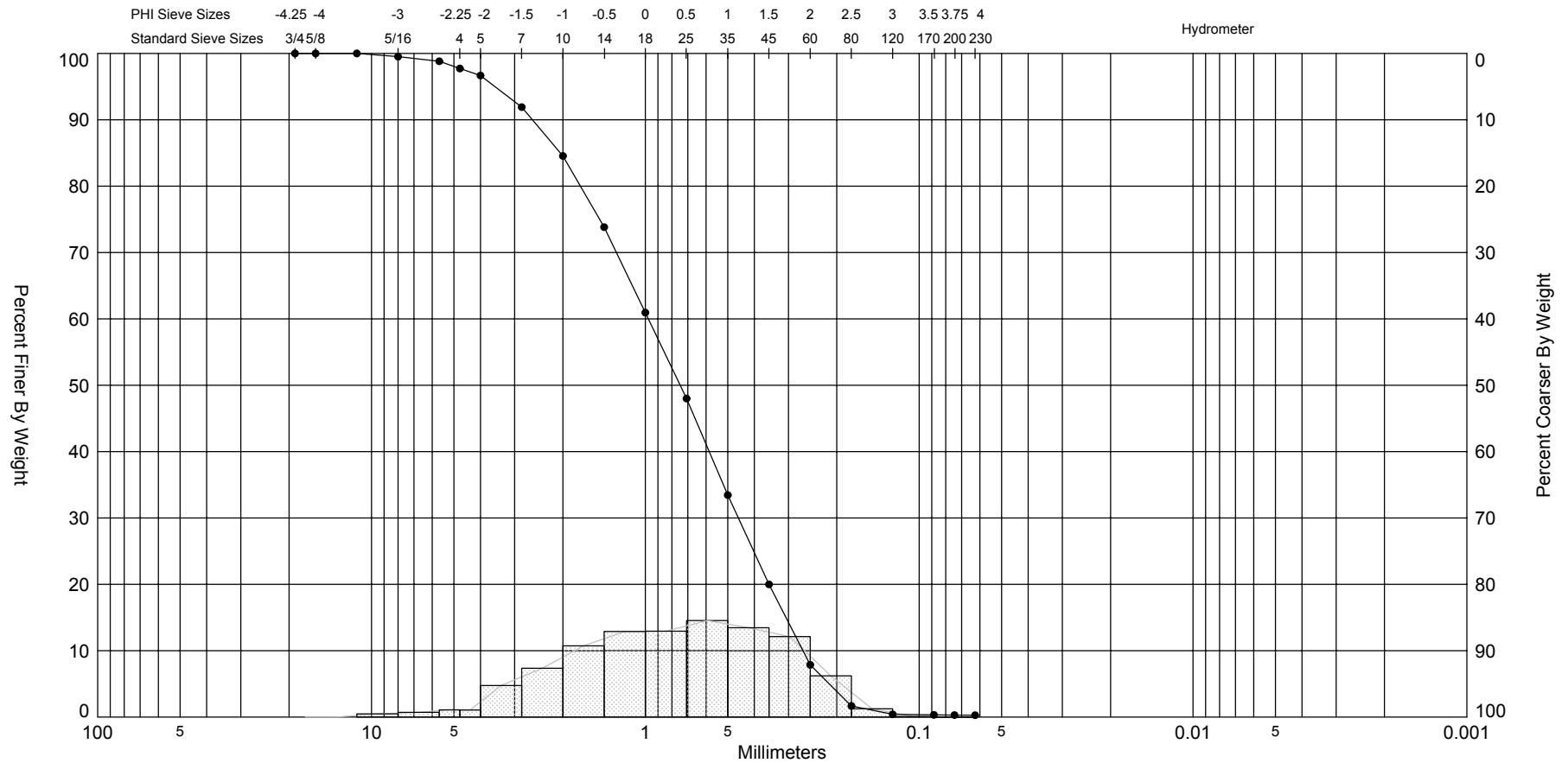
SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08




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	
R 90 MHW	—●—		SW	#200 - 1.47 #230 - 0.79	0.60	21.00	1.83	1.73	-0.91	4.37	1.16	Project Name:	St. Lucie Co Native Bch
Comments: May contain fill material												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

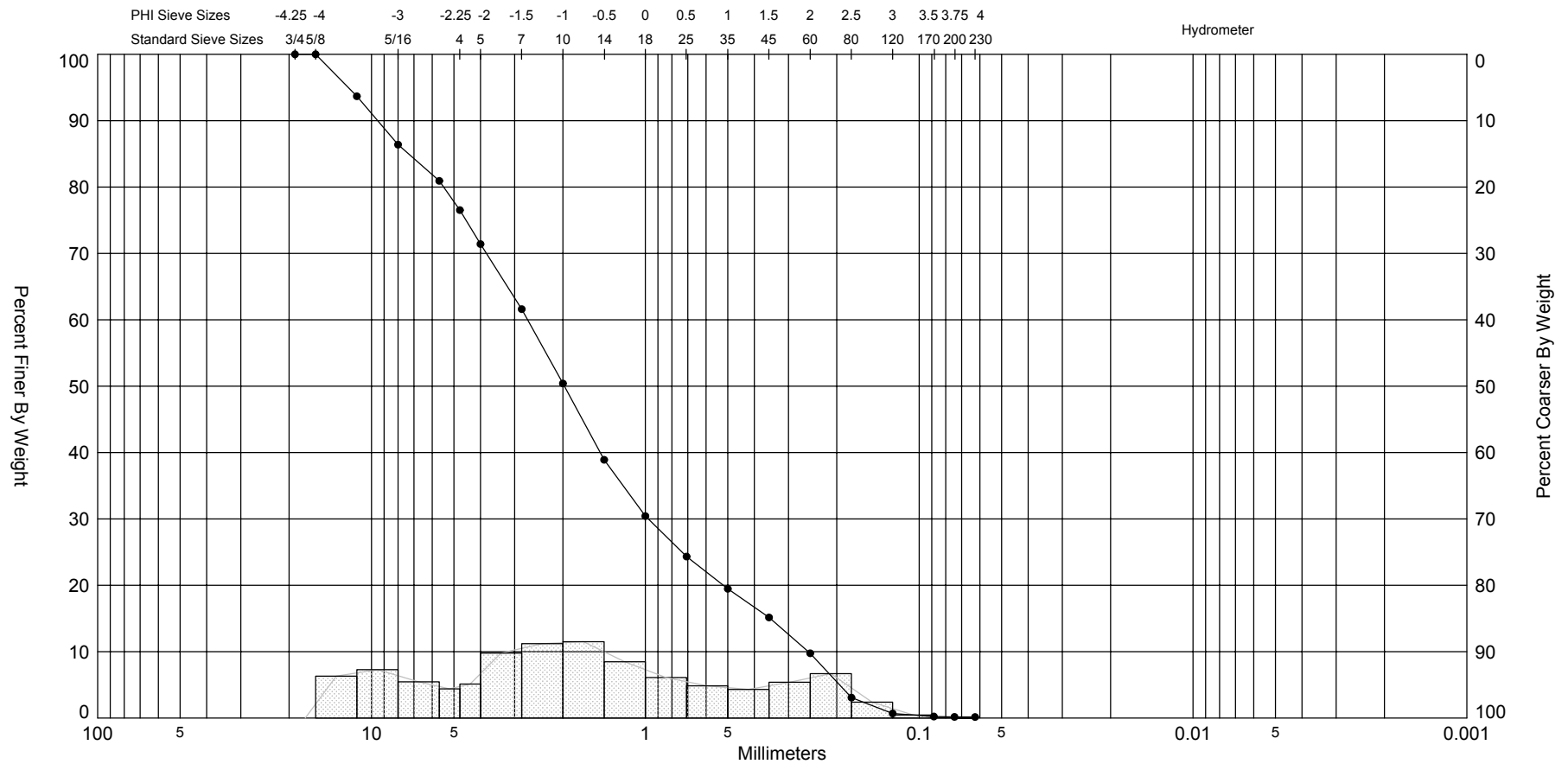
SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08



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	
R90 MLW	—●—		SW	#200 - 0.30 #230 - 0.28	1.30	67.00	0.42	0.33	-0.29	2.51	1.24	Project Name:	St. Lucie Co Native Bch
Comments: May contain fill material												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
												Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	
												715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343	

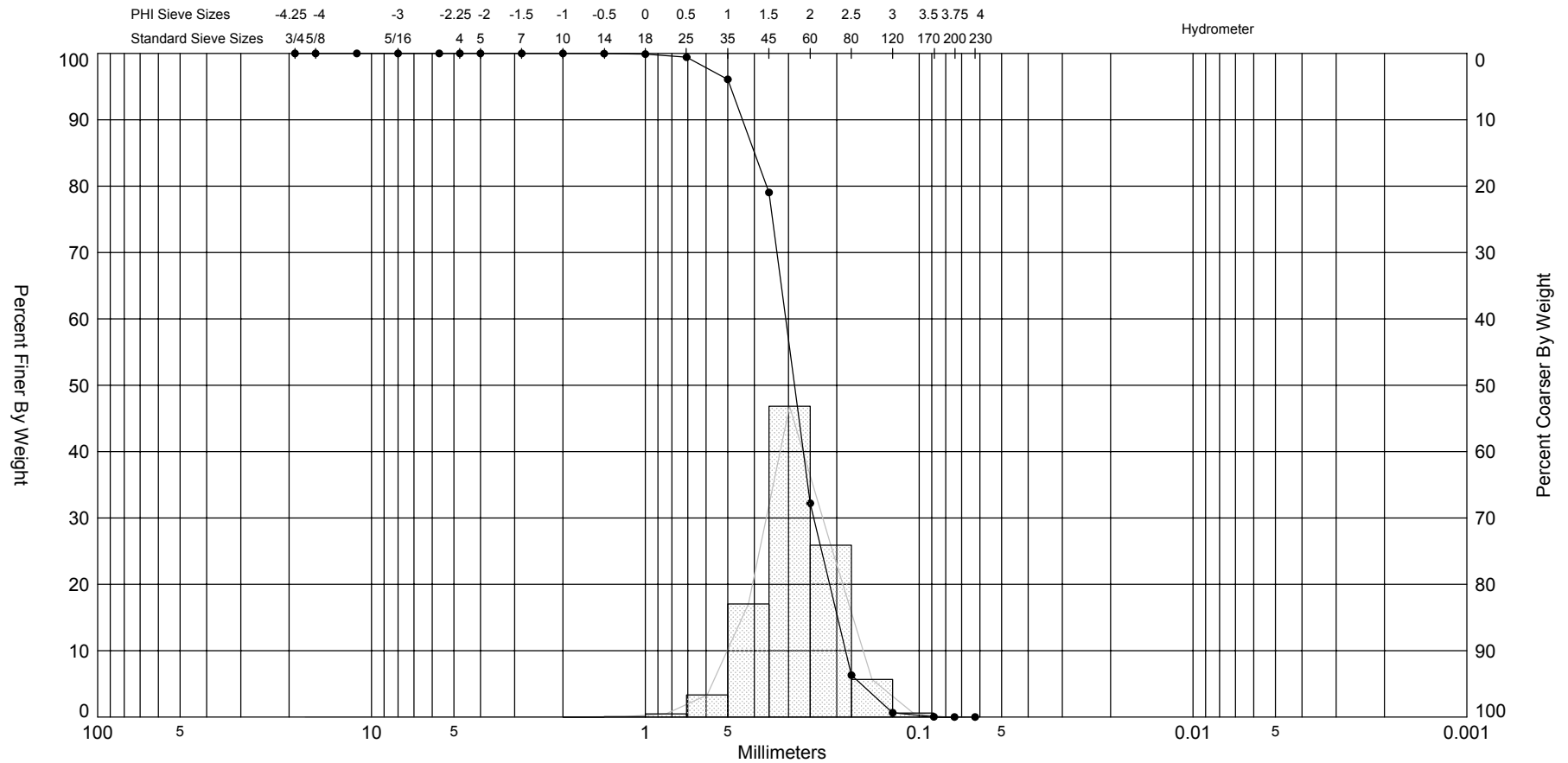
SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08




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	
R 90 -5	—●—		SW	#200 - 0.17 #230 - 0.16	1.70	79.00		-0.82	0.27	2.2	1.81	Project Name:	St. Lucie Co Native Bch
Comments: May contain fill material												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08

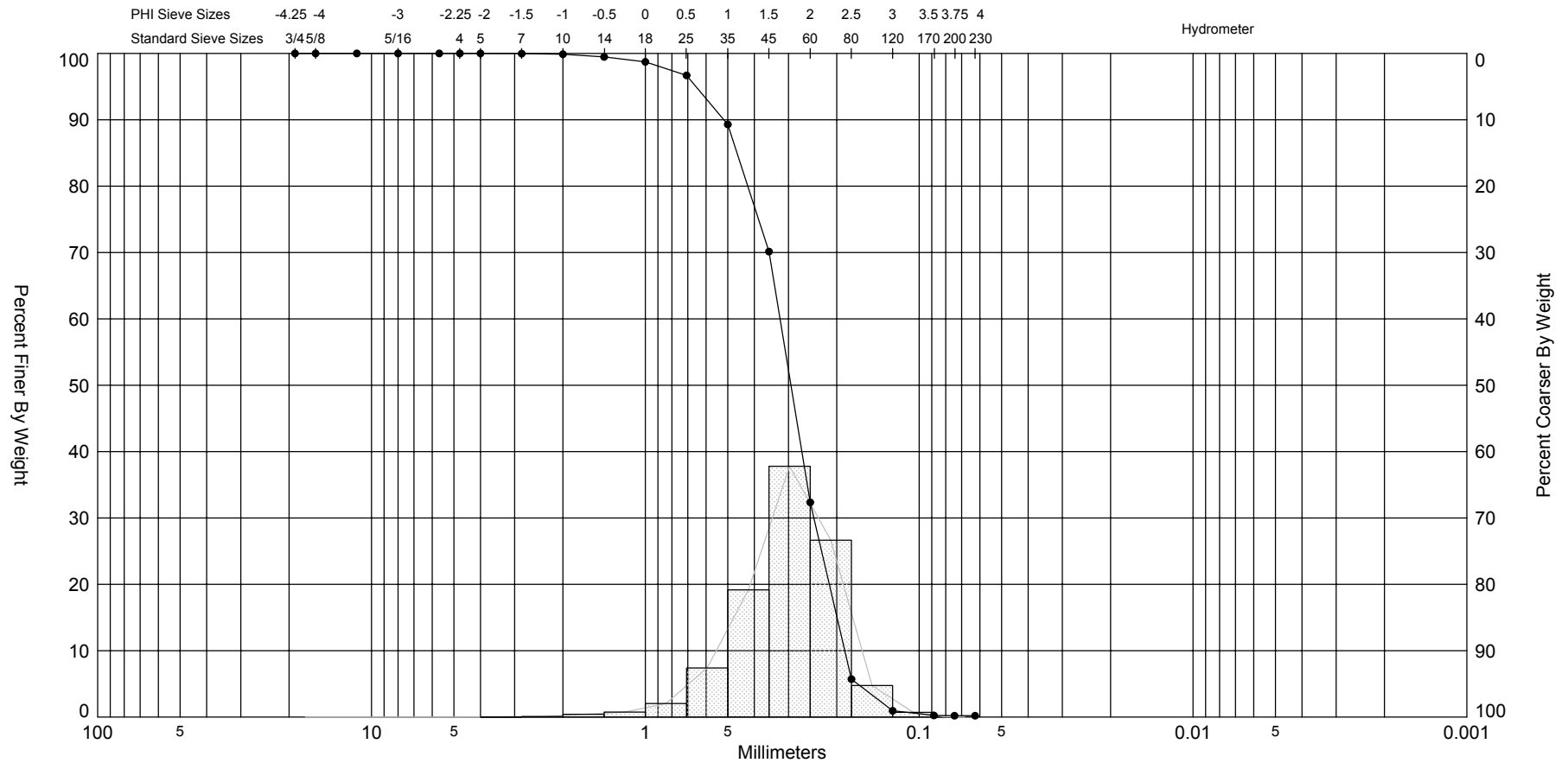


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R95 TOD	—●—		SP	#200 - 0.01 #230 - 0.01	0.60	31.00	1.81	1.82	-0.14	3.94	0.47	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	



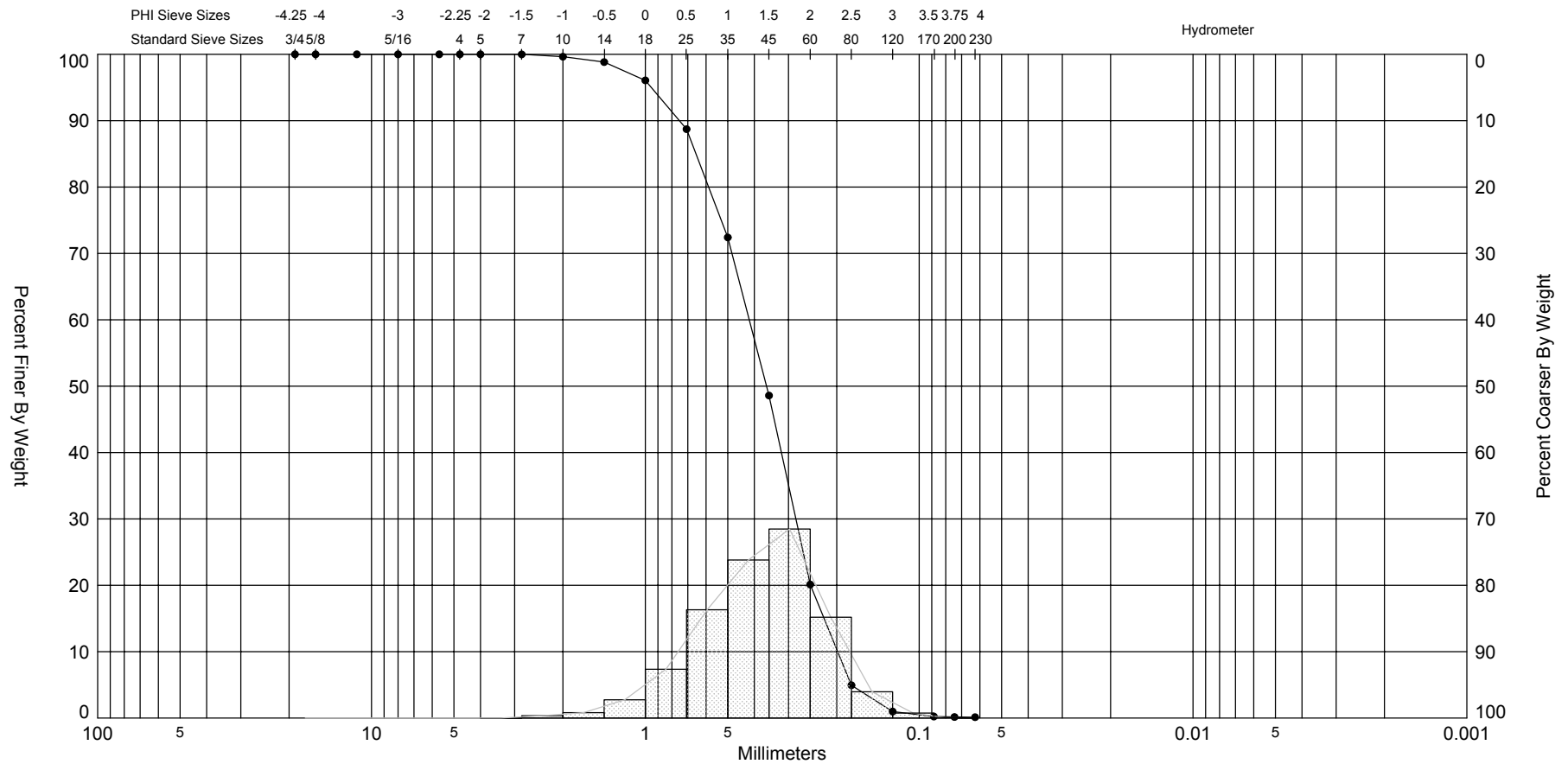
SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08




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	
R95 MB	—●—		SP	#200 - 0.20 #230 - 0.20	0.80	35.00	1.77	1.71	-0.81	4.93	0.6	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
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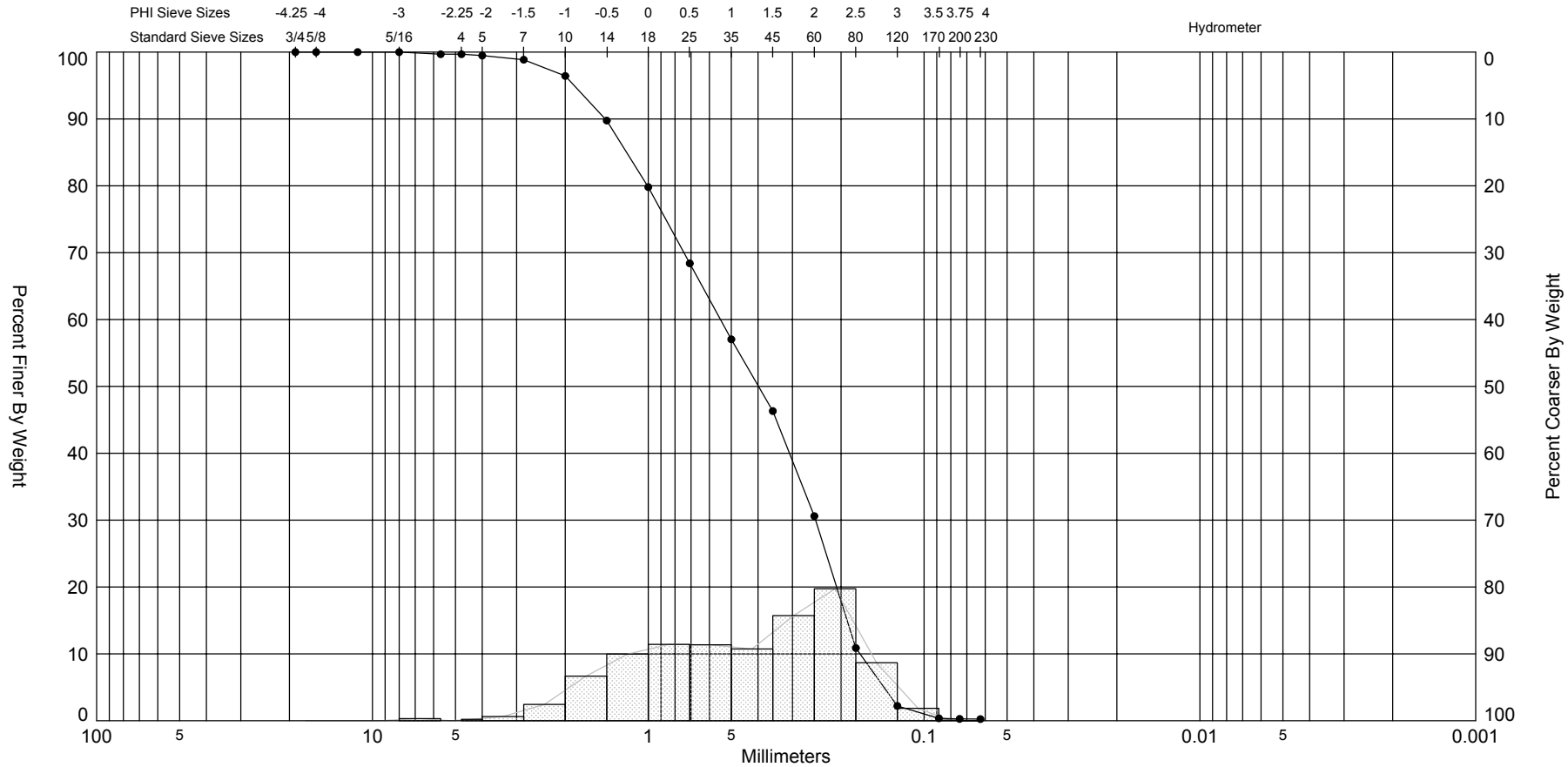
SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT 2/12/08



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	
R95 MHW	—●—		SP	#200 - 0.16 #230 - 0.13	1.00	44.00	1.47	1.4	-0.4	3.37	0.75	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

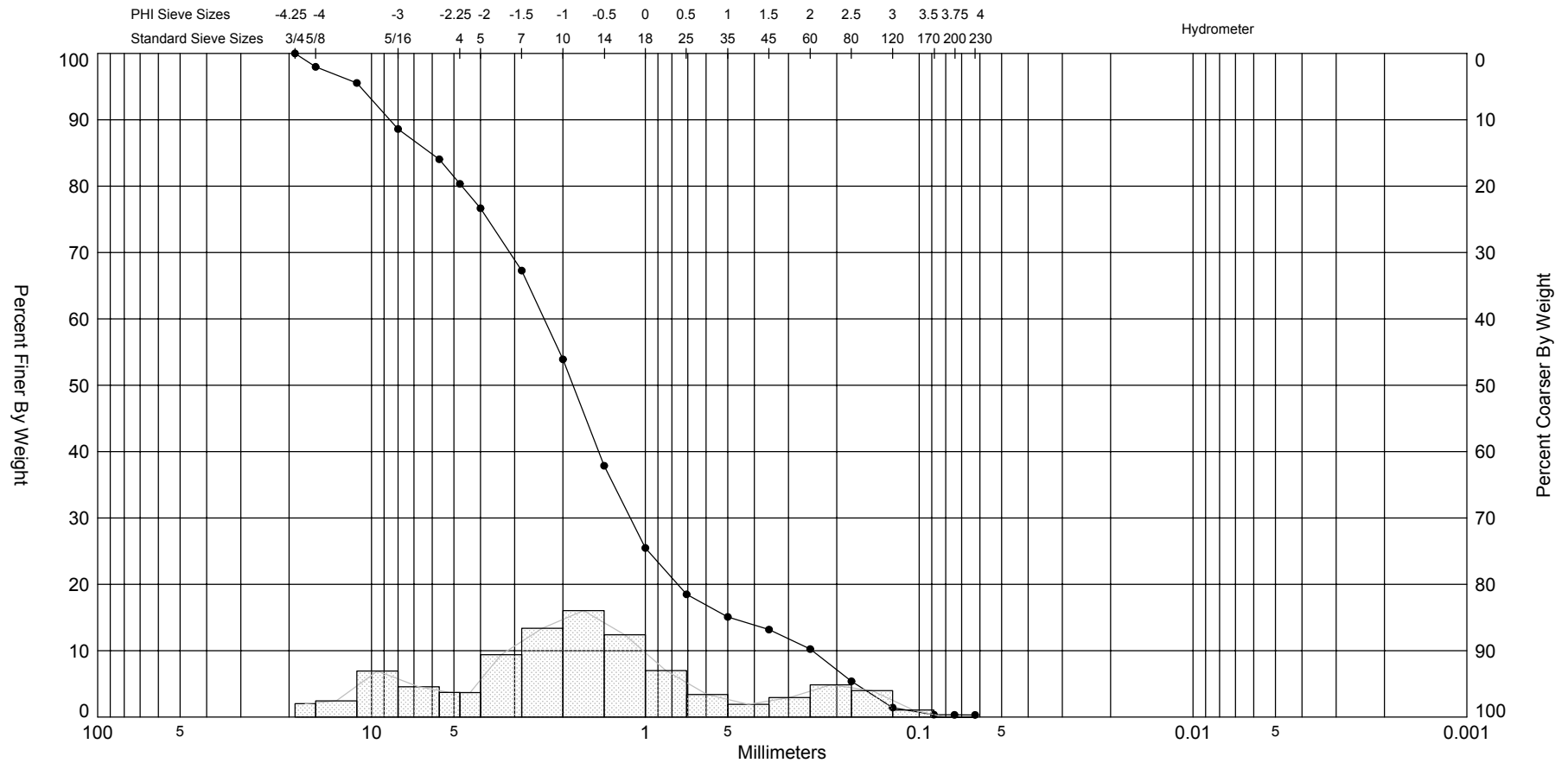
SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08



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	
R95 MLW	—●—		SW	#200 - 0.27 #230 - 0.24	1.30	57.00	1.33	1.14	-0.41	2.39	1.19	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
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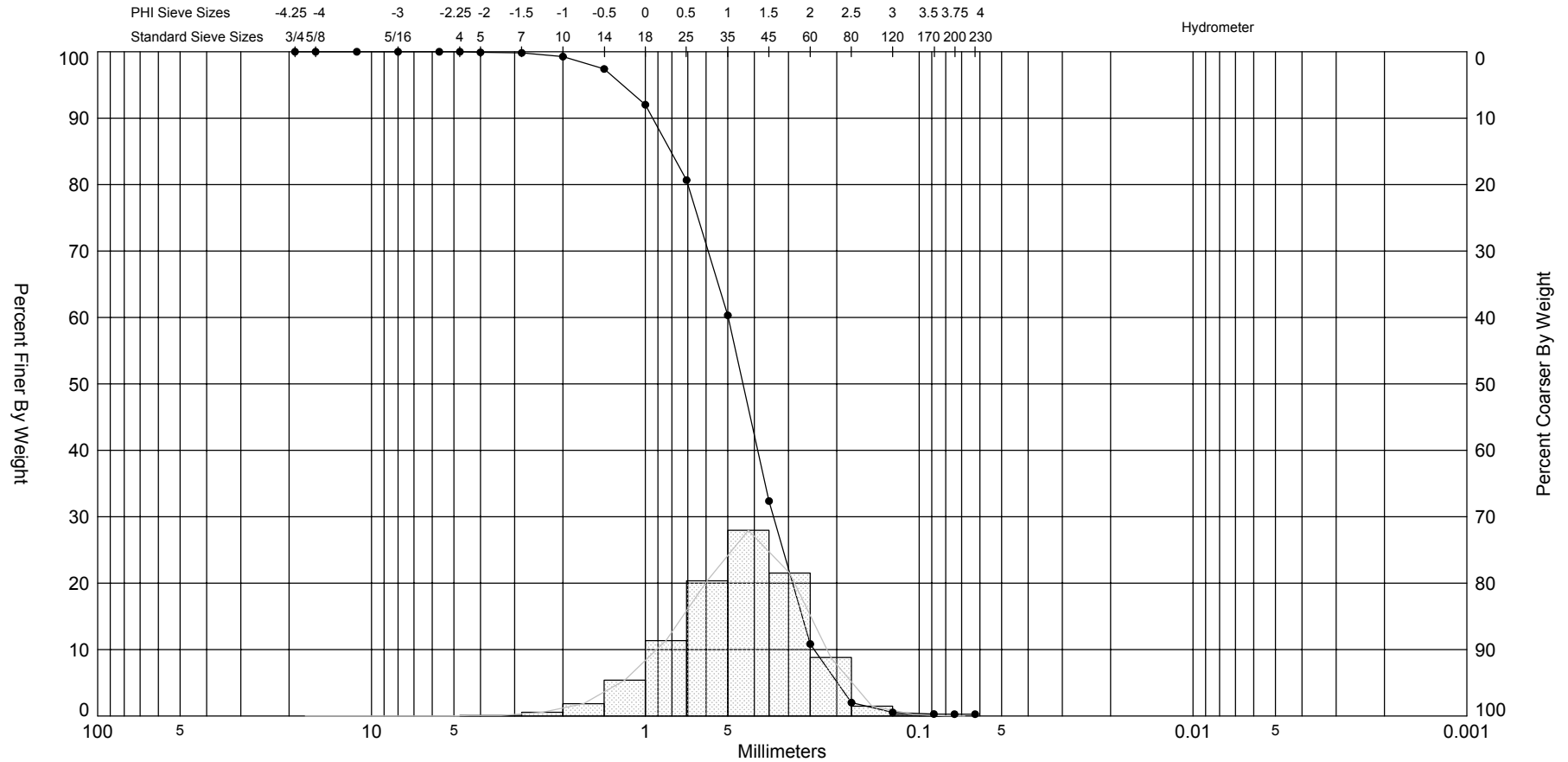
SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08



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	
R95 -5	—●—		SW	#200 - 0.33 #230 - 0.32	1.30	76.00		-0.8	0.36	2.77	1.7	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
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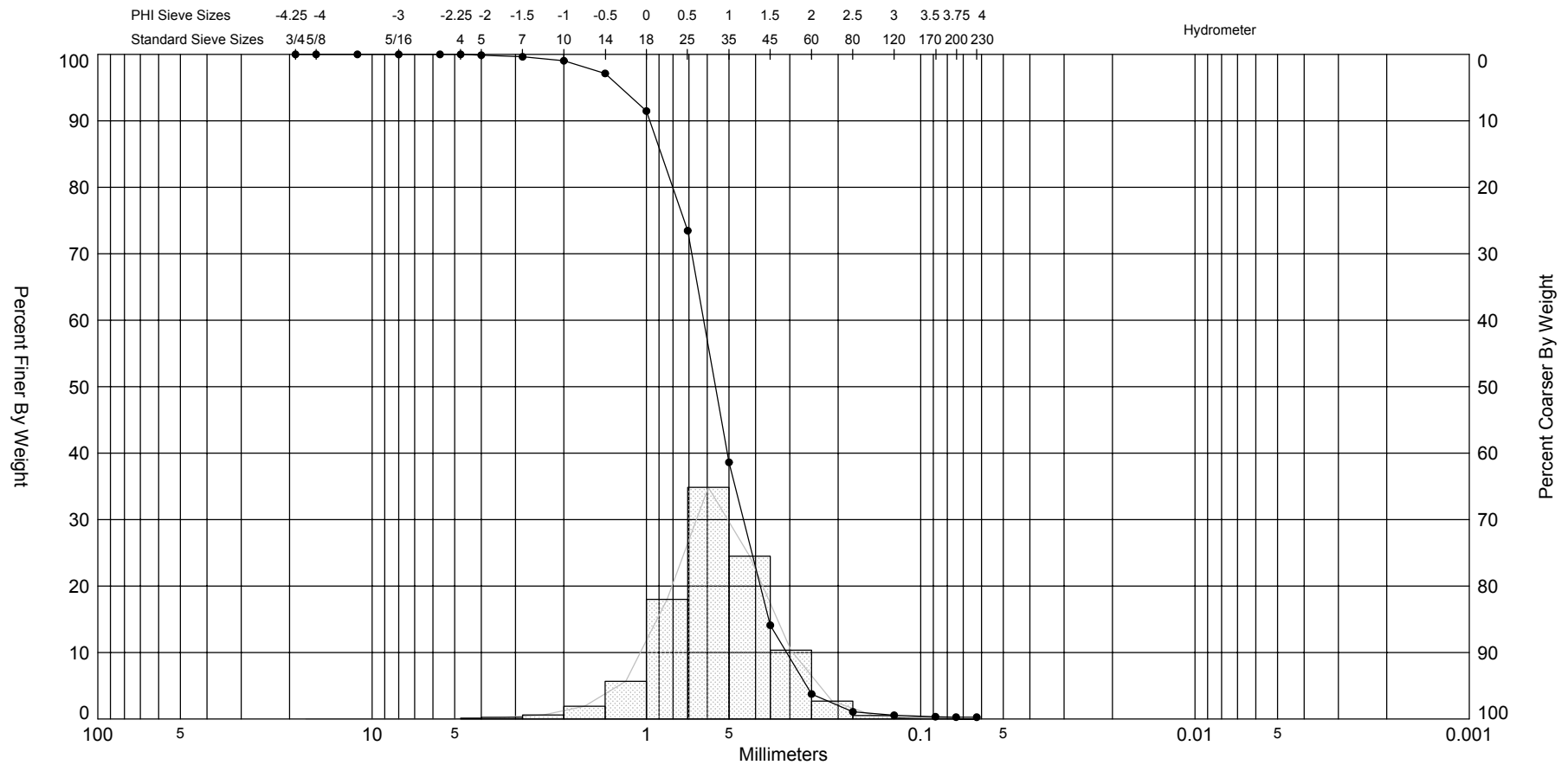
SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08



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	
R-98 TOD	—●—		SP	#200 - 0.28 #230 - 0.28	1.00	51.80	1.18	1.12	-0.45	3.41	0.76	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

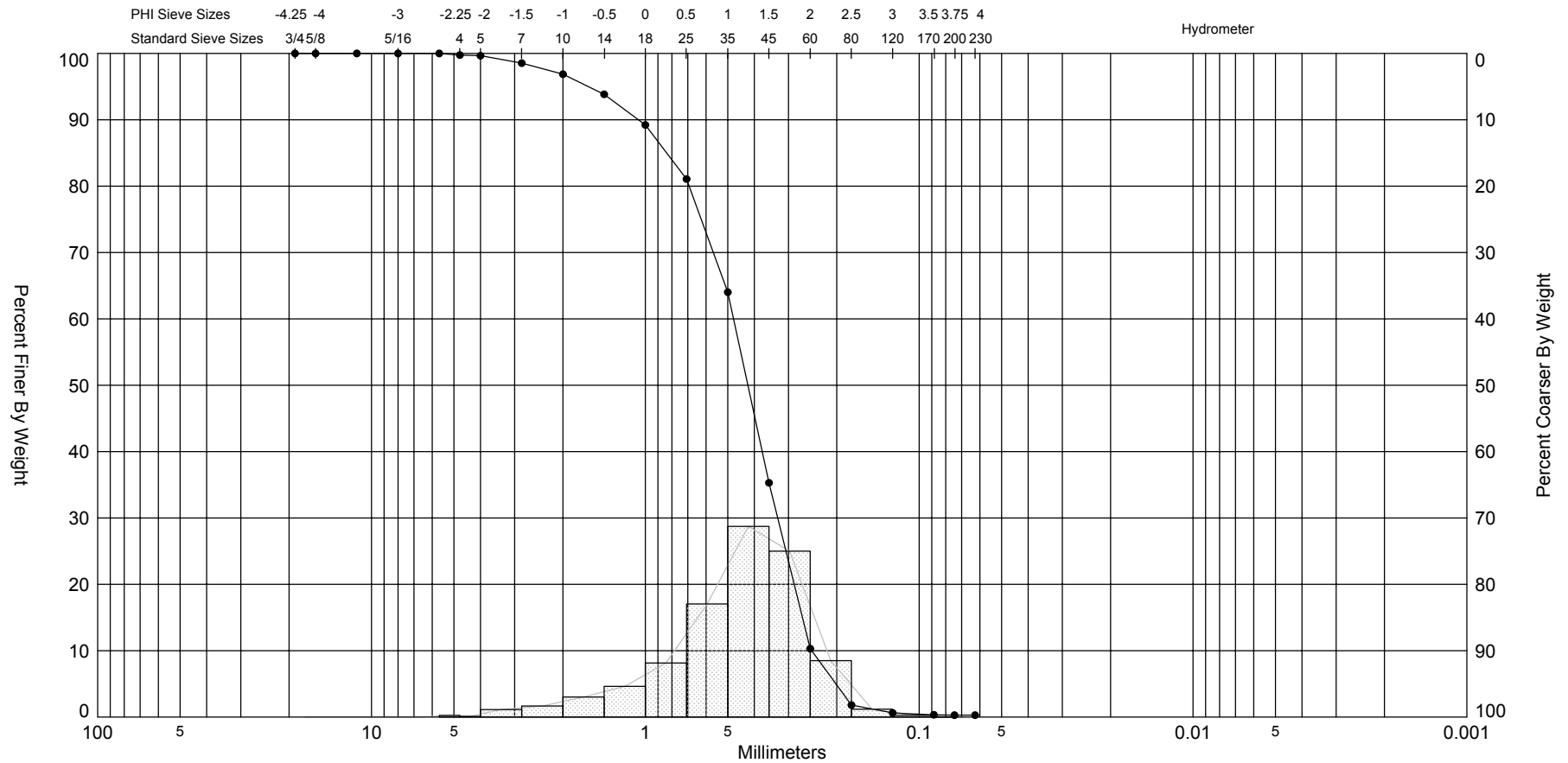
SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08



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	
R-98 MB	—●—		SP	#200 - 0.28 #230 - 0.27	1.20	59.60	0.84	0.84	-0.19	4.47	0.67	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
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												Horizontal System:	
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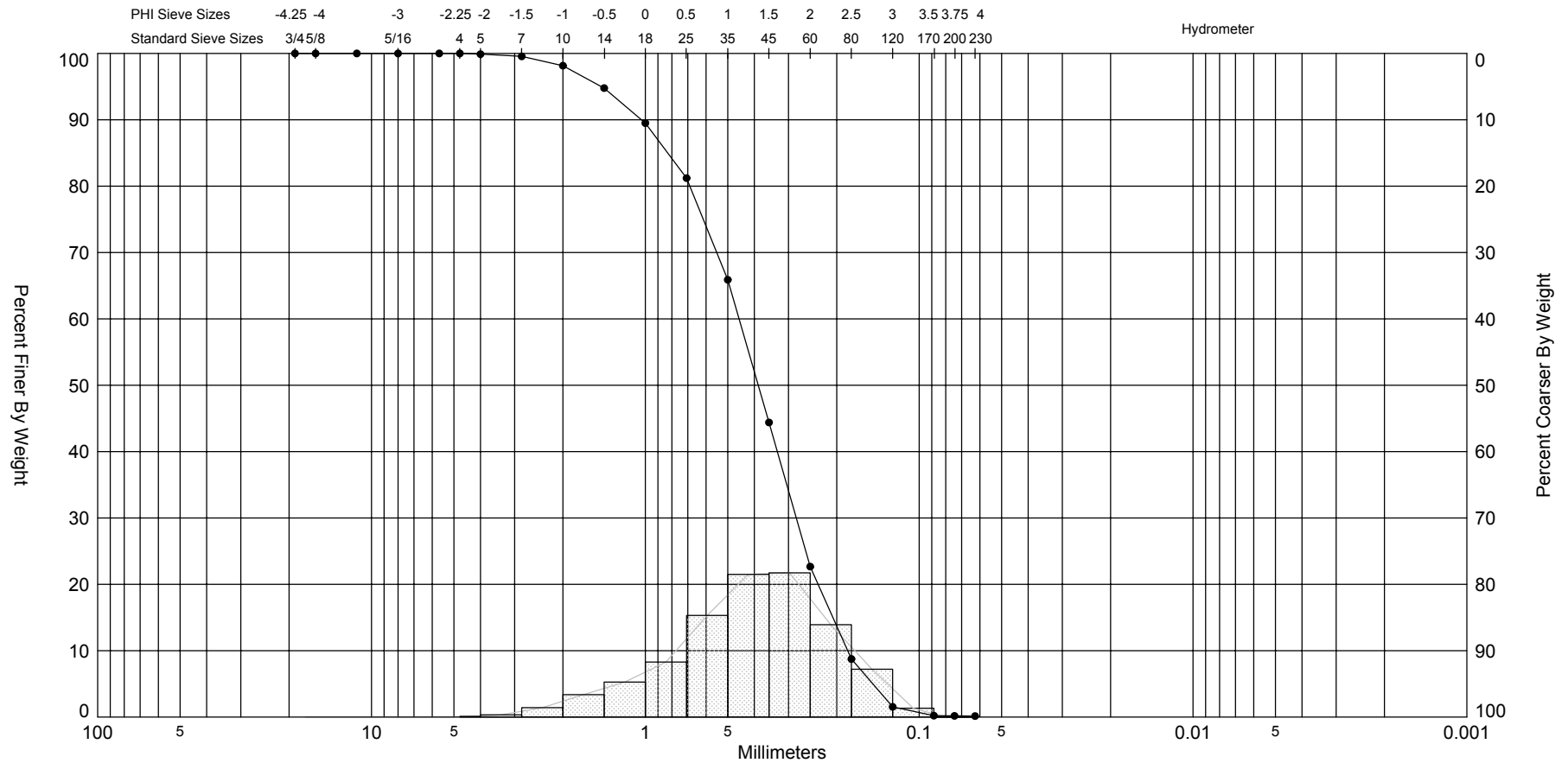
SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08




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	
R-98 MHW	—●—		SW	#200 - 0.29 #230 - 0.29	2.00	41.60	1.24	1.1	-1.03	4.48	0.87	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08

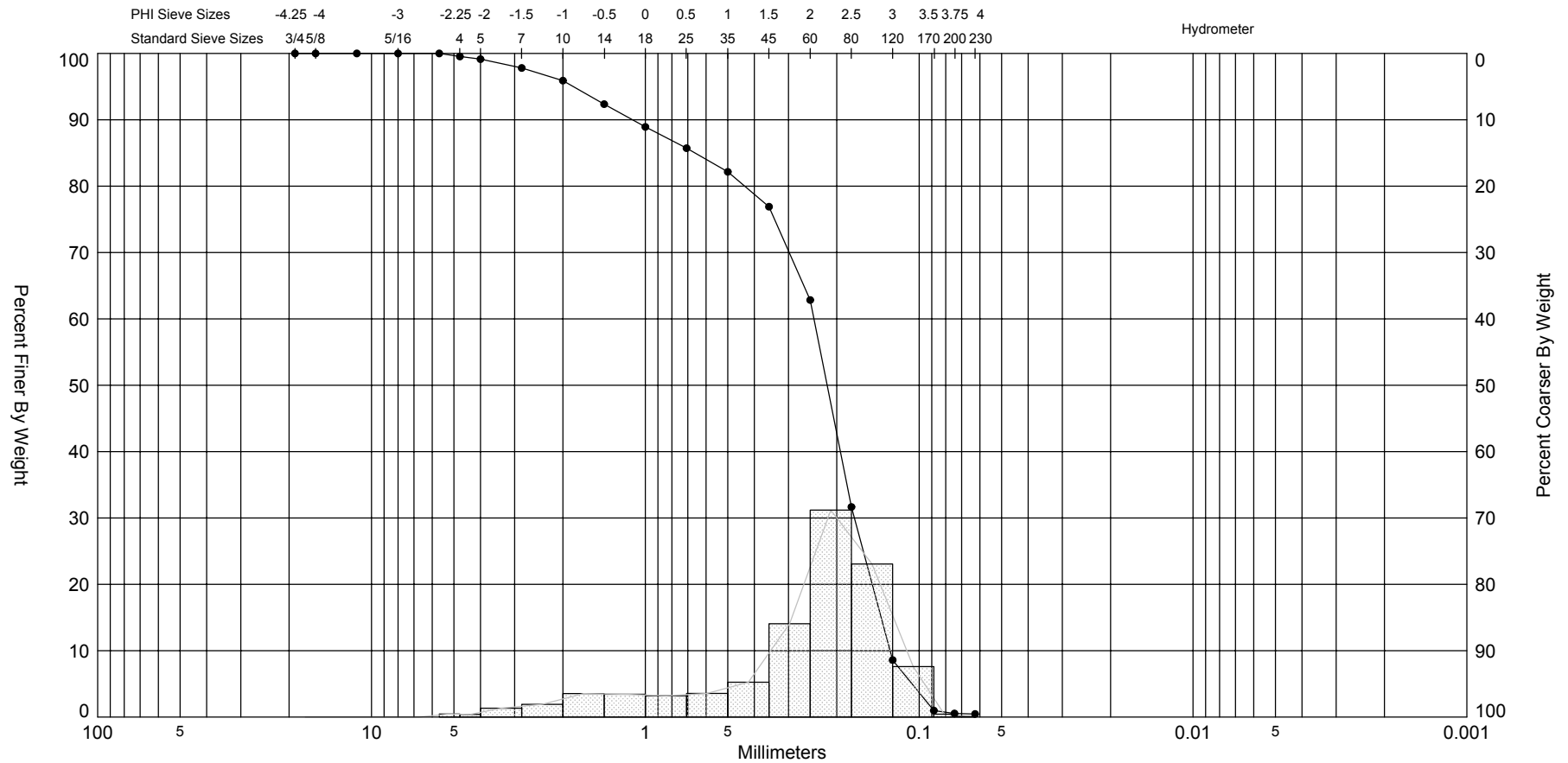


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

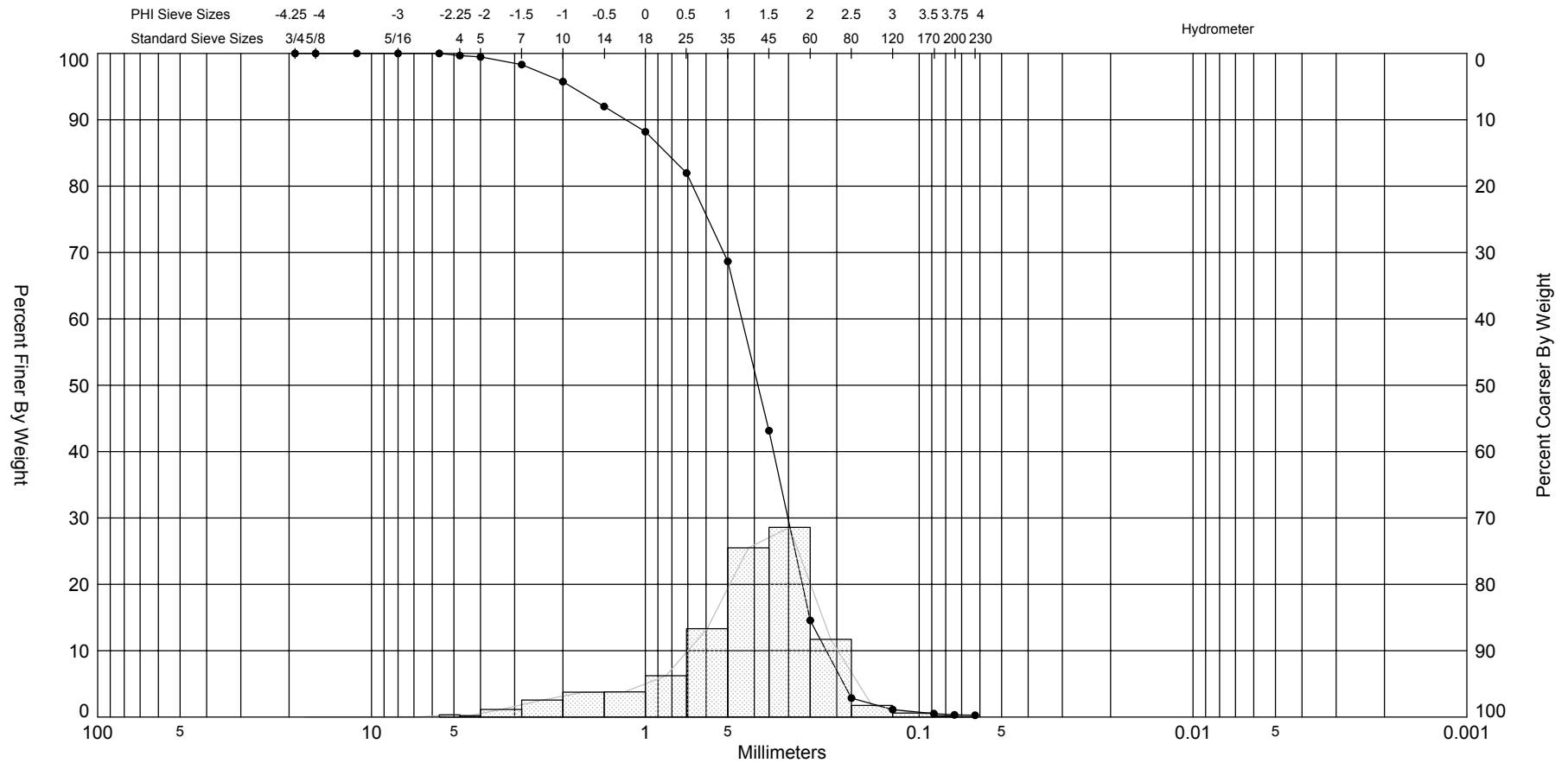
Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R-98 MLW	—●—		SW	#200 - 0.18 #230 - 0.15	1.10	49.40	1.37	1.28	-0.52	3.16	0.96	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	



SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08



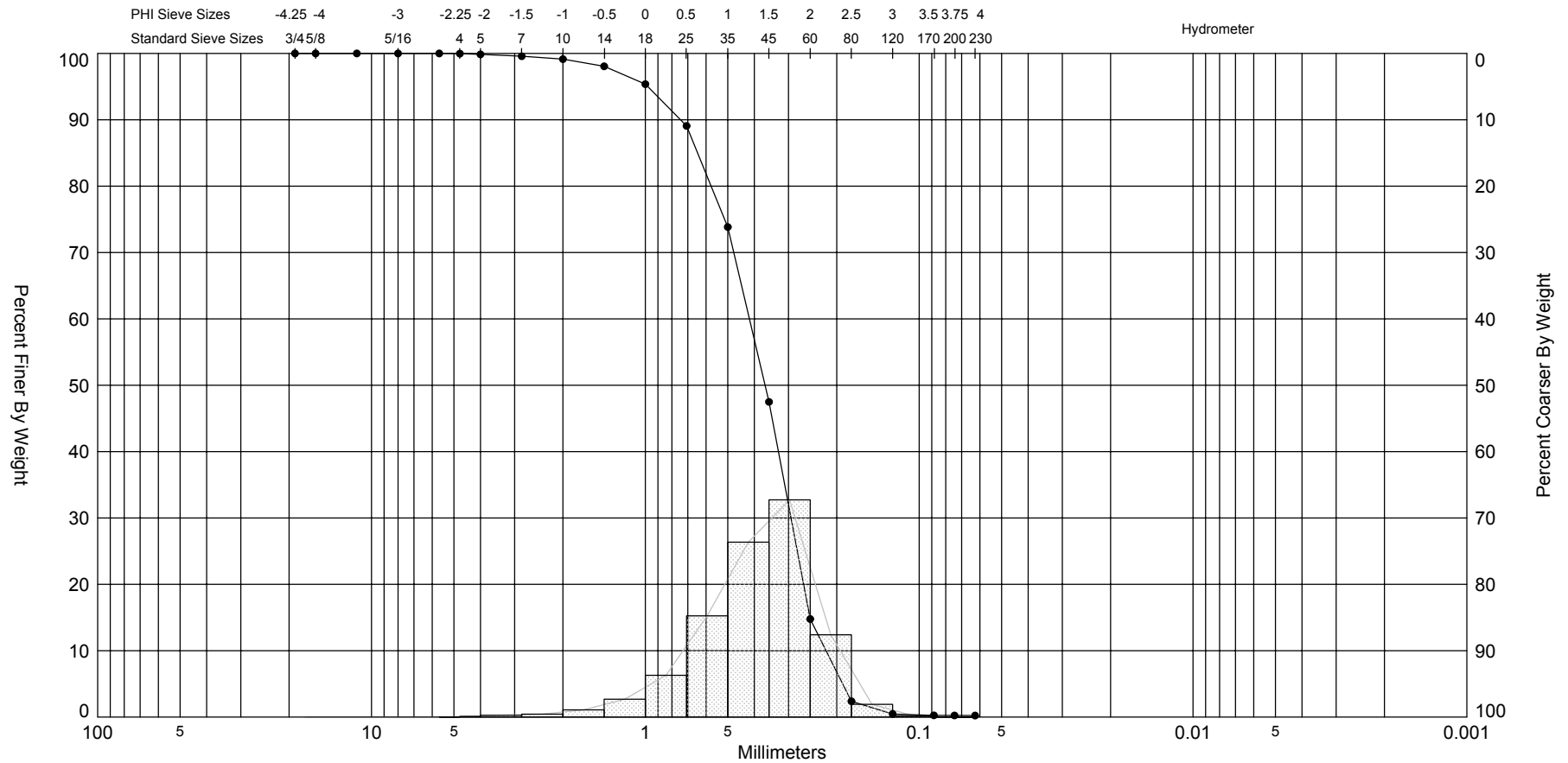
SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08



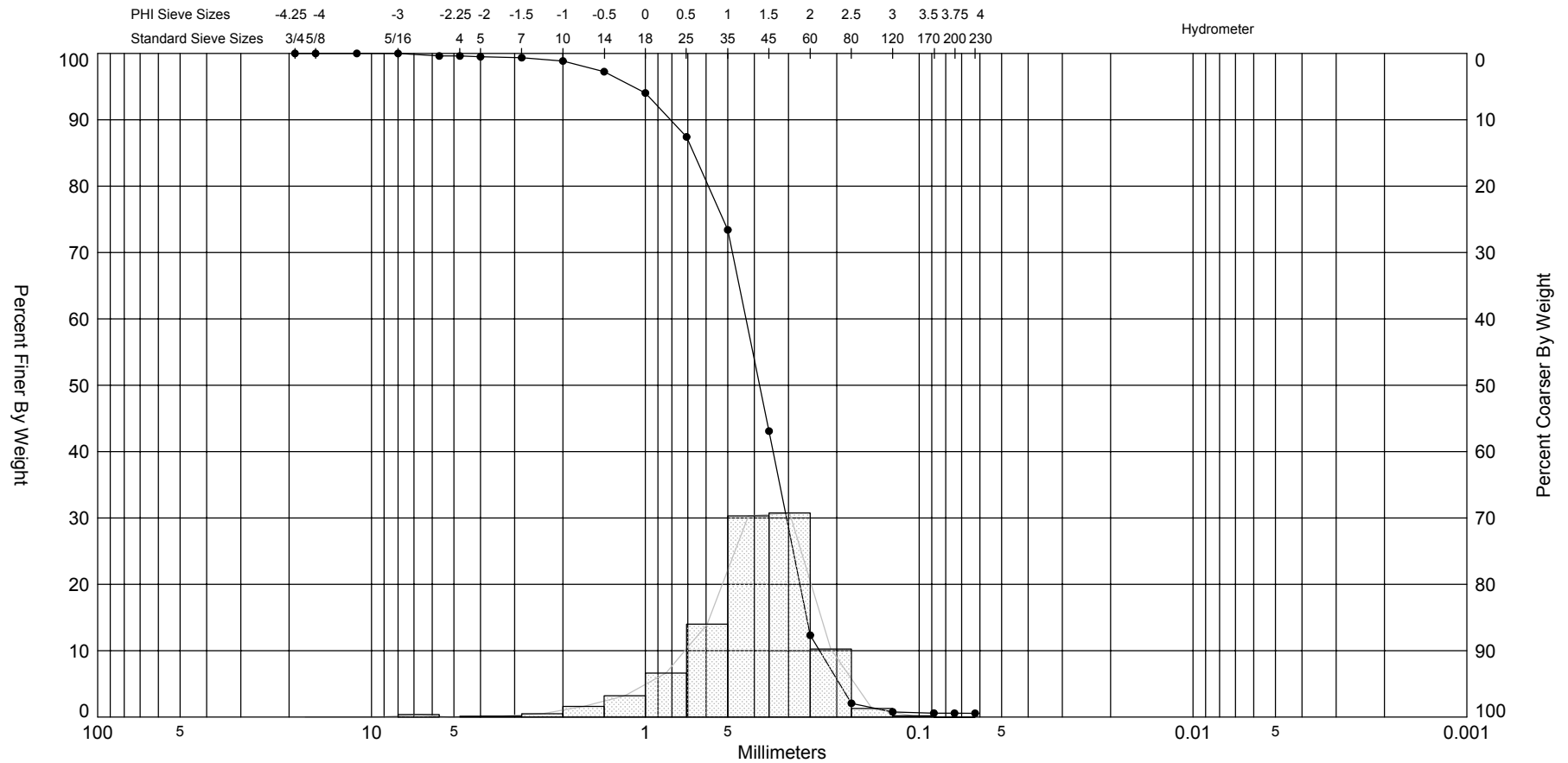
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R100 TOD	—●—		SW	#200 - 0.33 #230 - 0.27	0.90	44.10	1.37	1.18	-1.07	4.37	0.96	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
												Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	
715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343													


SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08



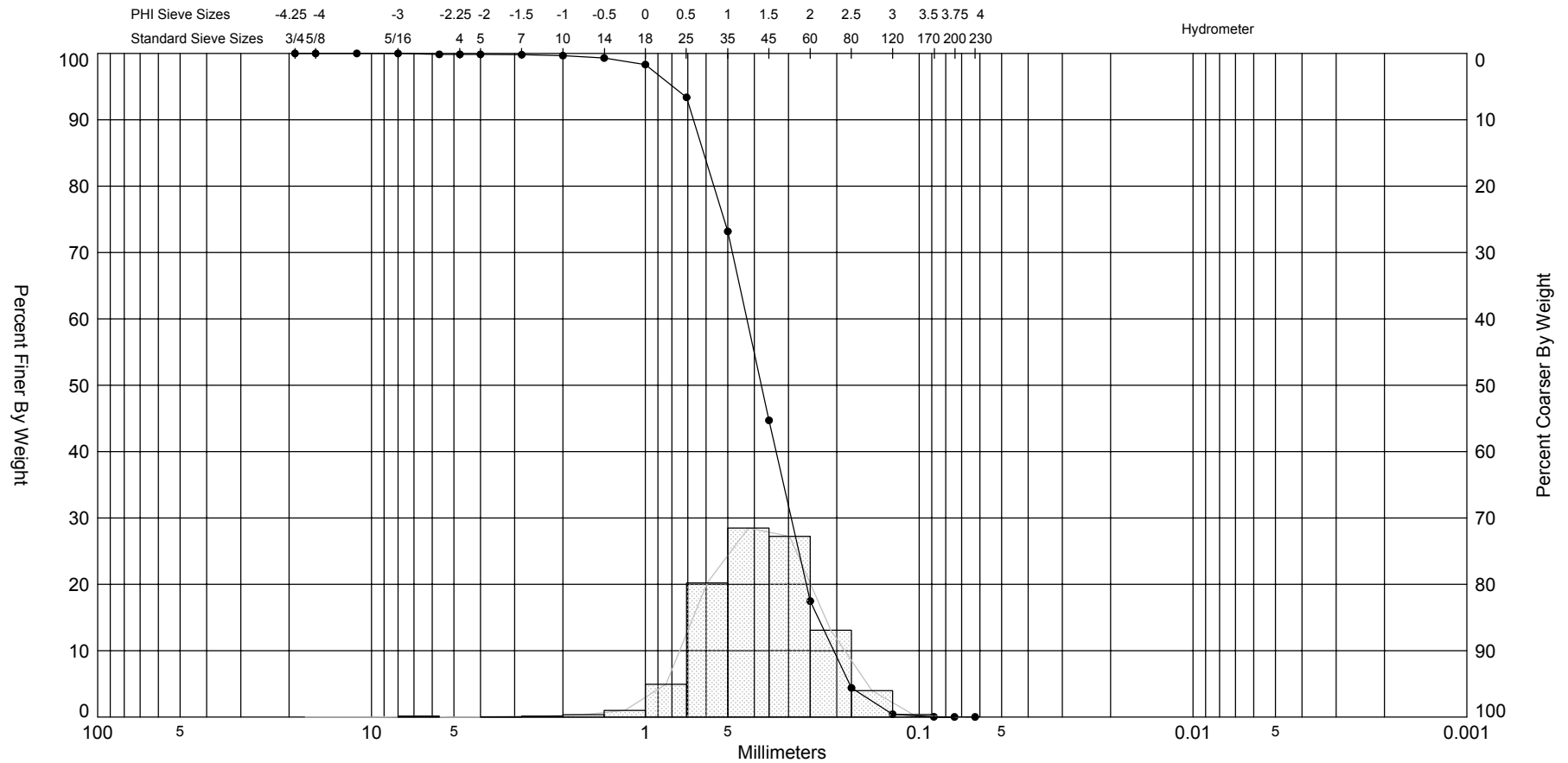
SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08



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	
R100 MHW	—●—		SP	#200 - 0.58 #230 - 0.57	1.00	46.20	1.39	1.28	-1.32	6.73	0.76	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
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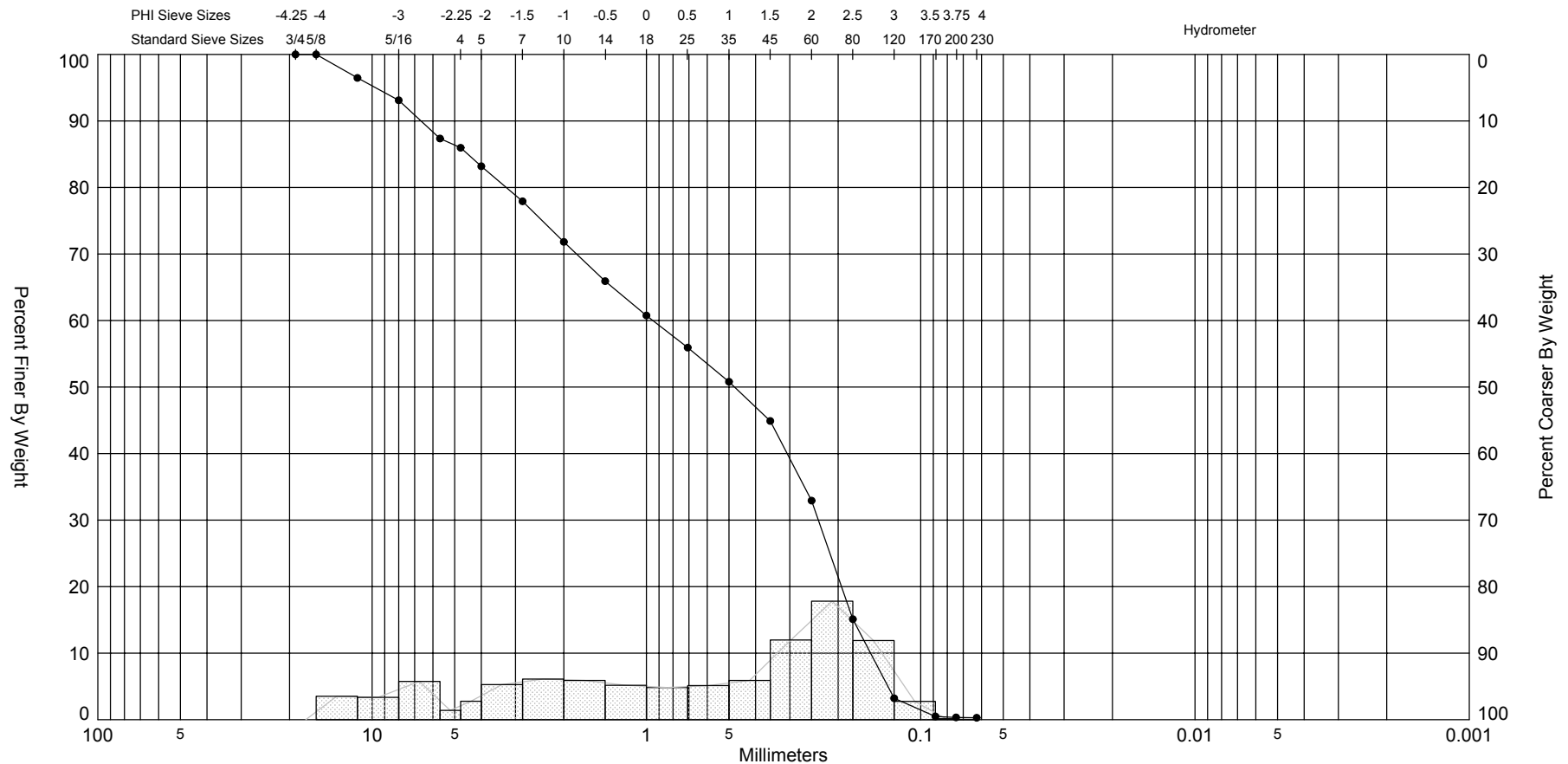
SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08




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	
R100 MLW	—●—		SP	#200 - 0.02 #230 - 0.02	1.10	44.30	1.41	1.4	-0.45	5.13	0.67	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
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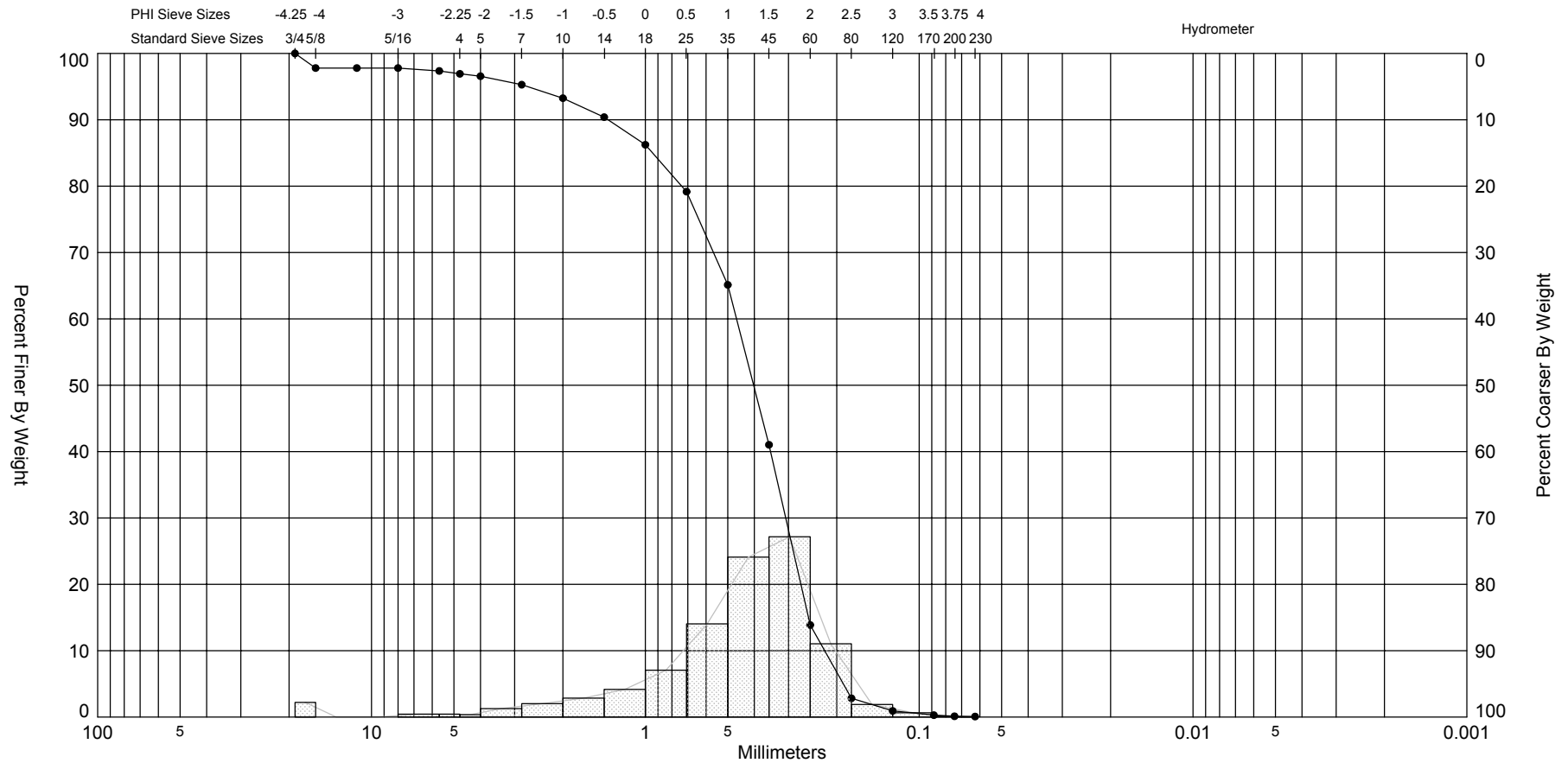
SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08




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	
R100 -5	—●—		SW	#200 - 0.34 #230 - 0.29	1.30	66.00	1.07	0.44	-0.51	1.96	2.05	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
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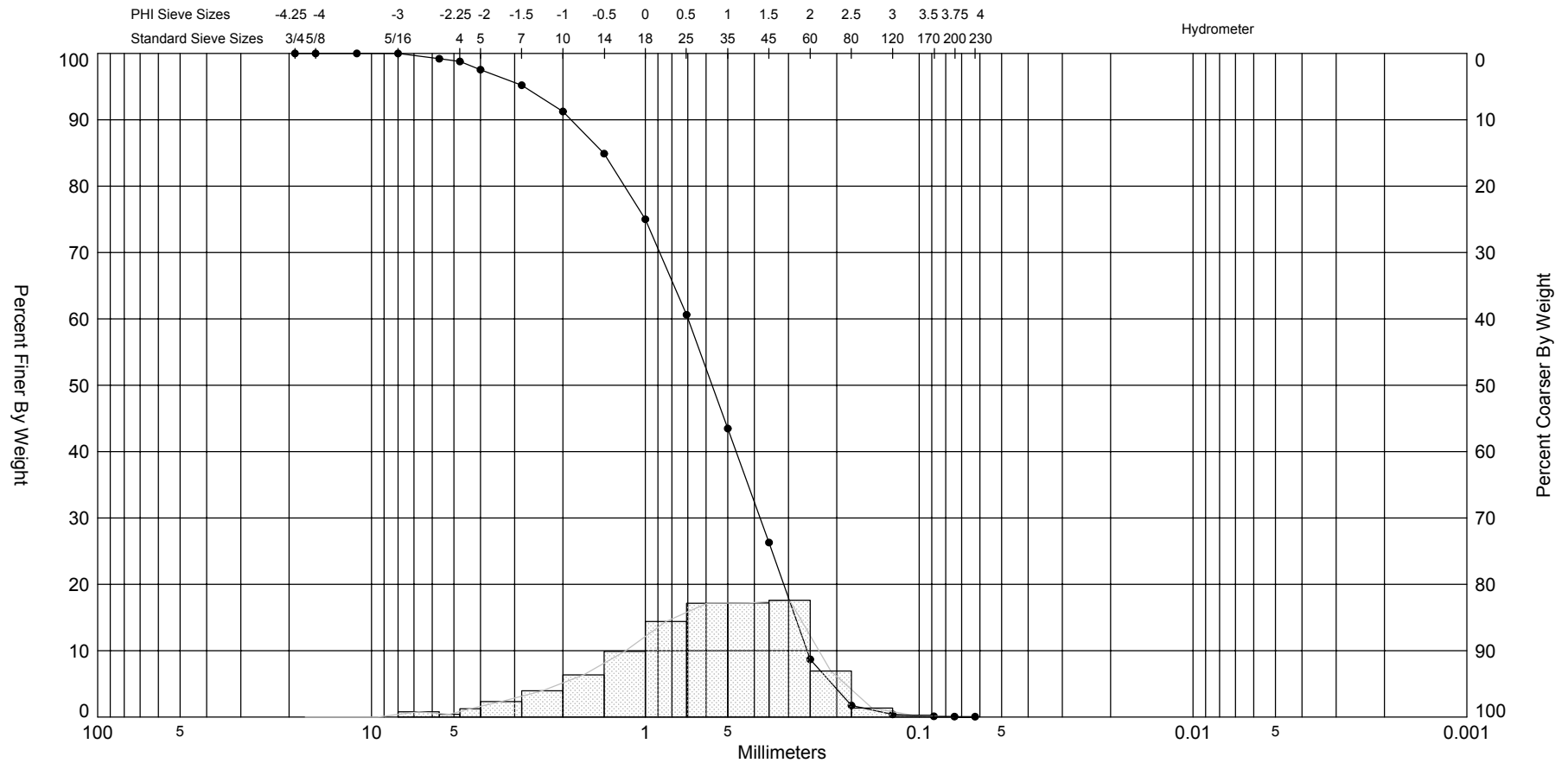
SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08




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	
R105 TOD	—●—		SW	#200 - 0.12 #230 - 0.08	1.00	48.80	1.31	1.03	-1.94	8.04	1.25	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
												Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	
715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343													

SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08

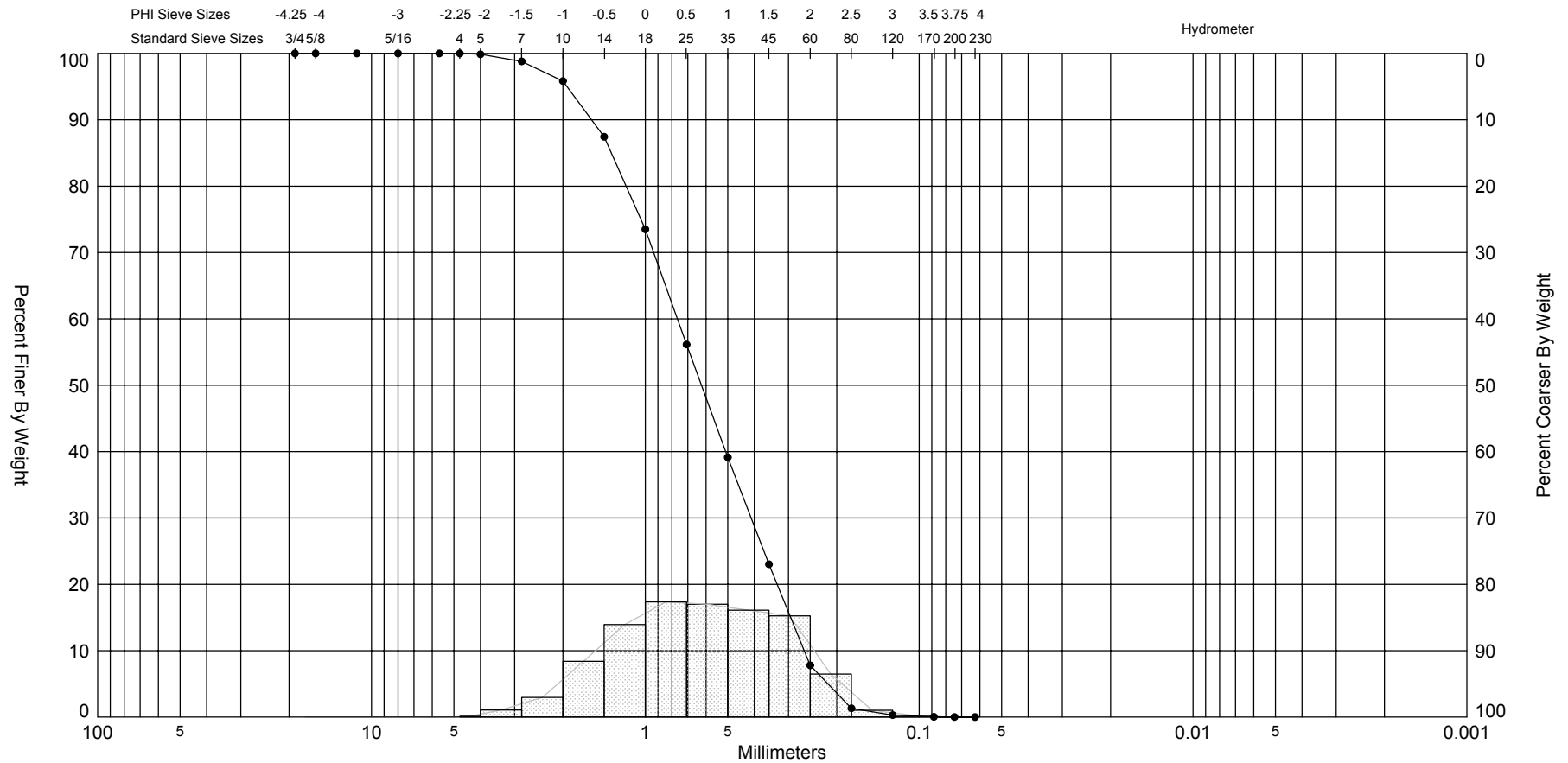


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R105 MB	—●—		SW	#200 - 0.07 #230 - 0.06	1.10	64.00	0.81	0.67	-0.62	3.1	1.13	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	



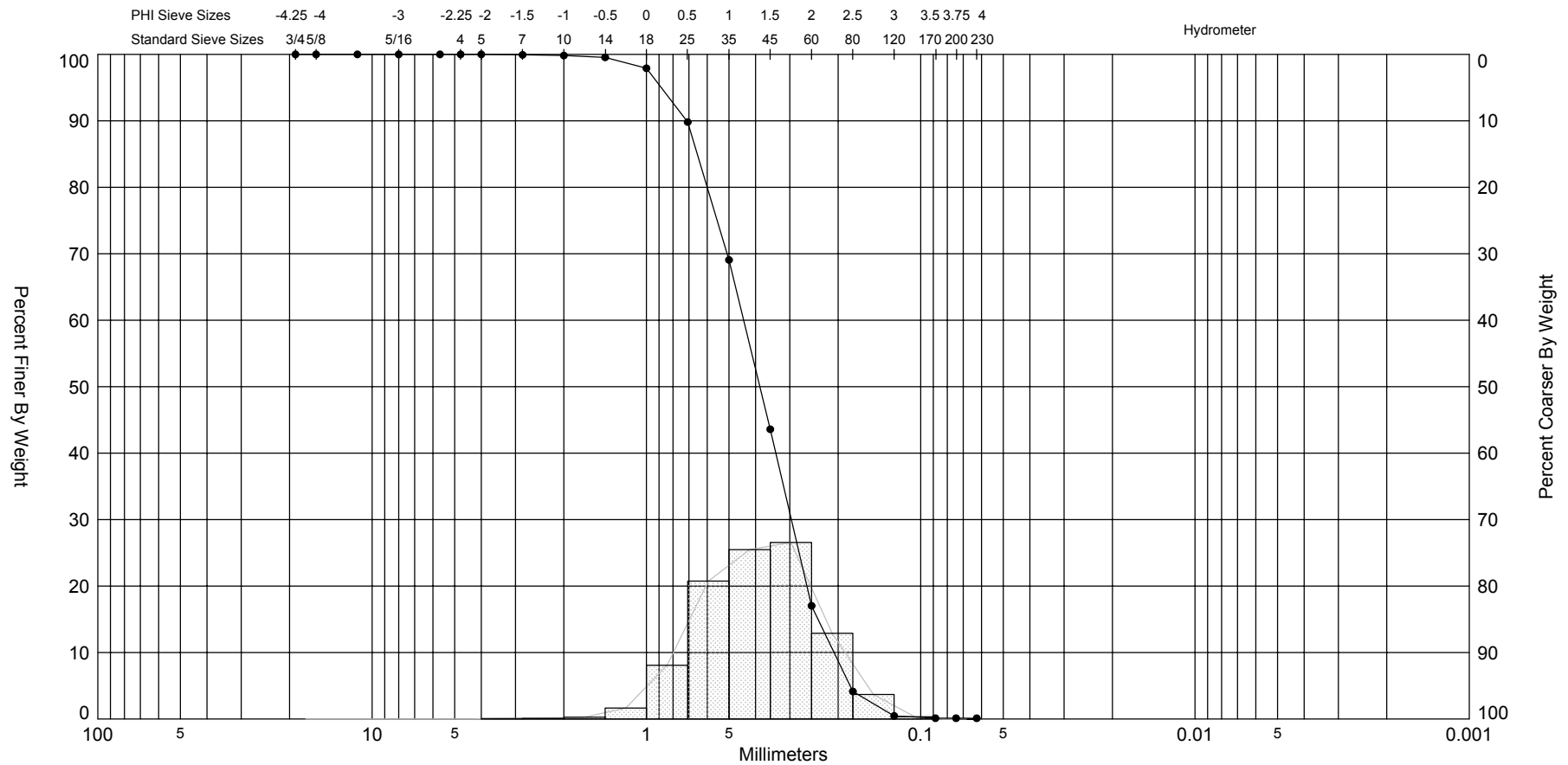
SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08



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	
R105 MHW	—●—		SW	#200 - 0.01 #230 - 0.00	1.20	65.60	0.68	0.67	-0.12	2.45	0.98	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

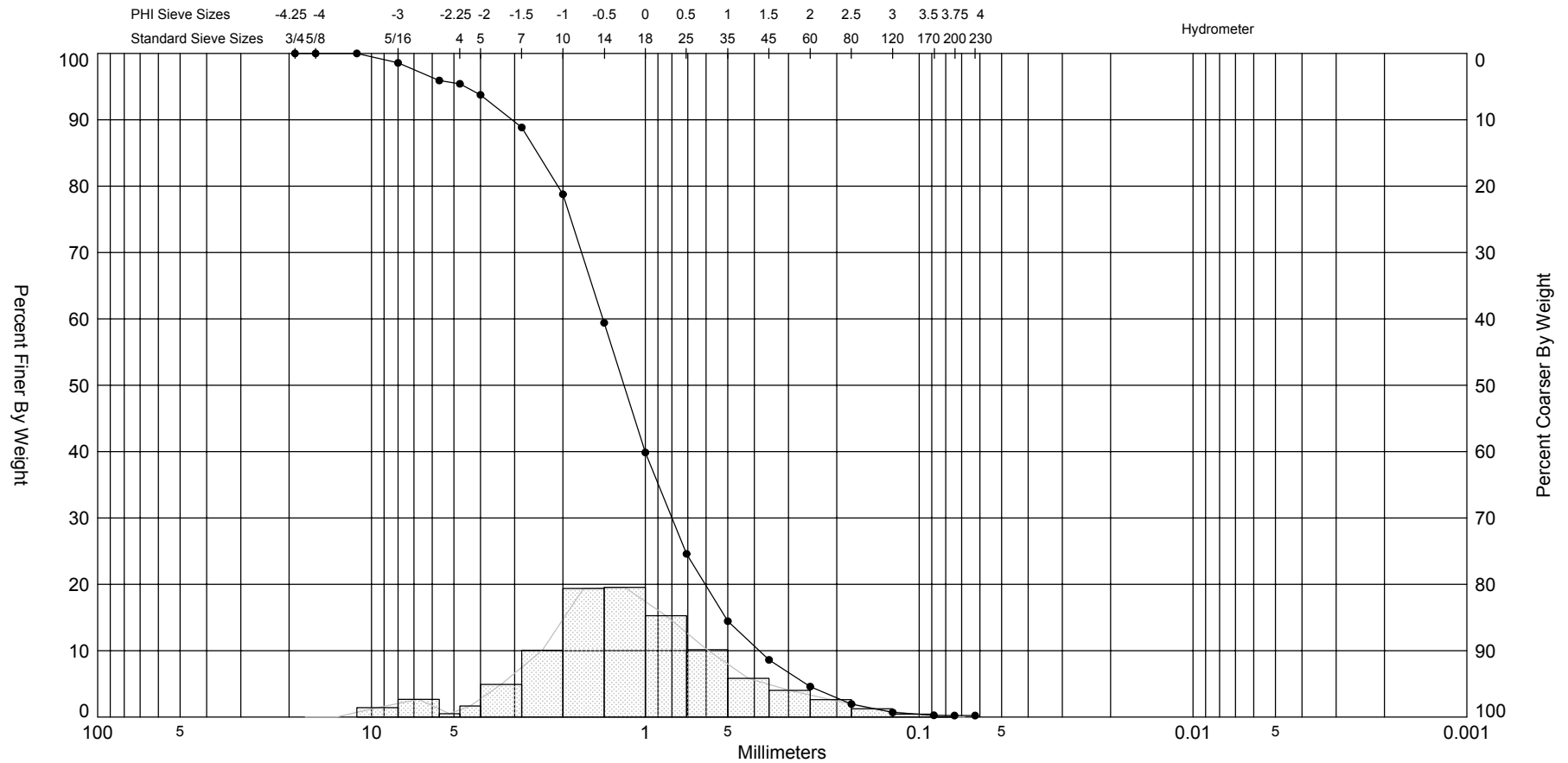
SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08




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	
R105 MLW	—●—		SP	#200 - 0.12 #230 - 0.11	1.10	46.90	1.37	1.35	-0.16	3.09	0.69	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08



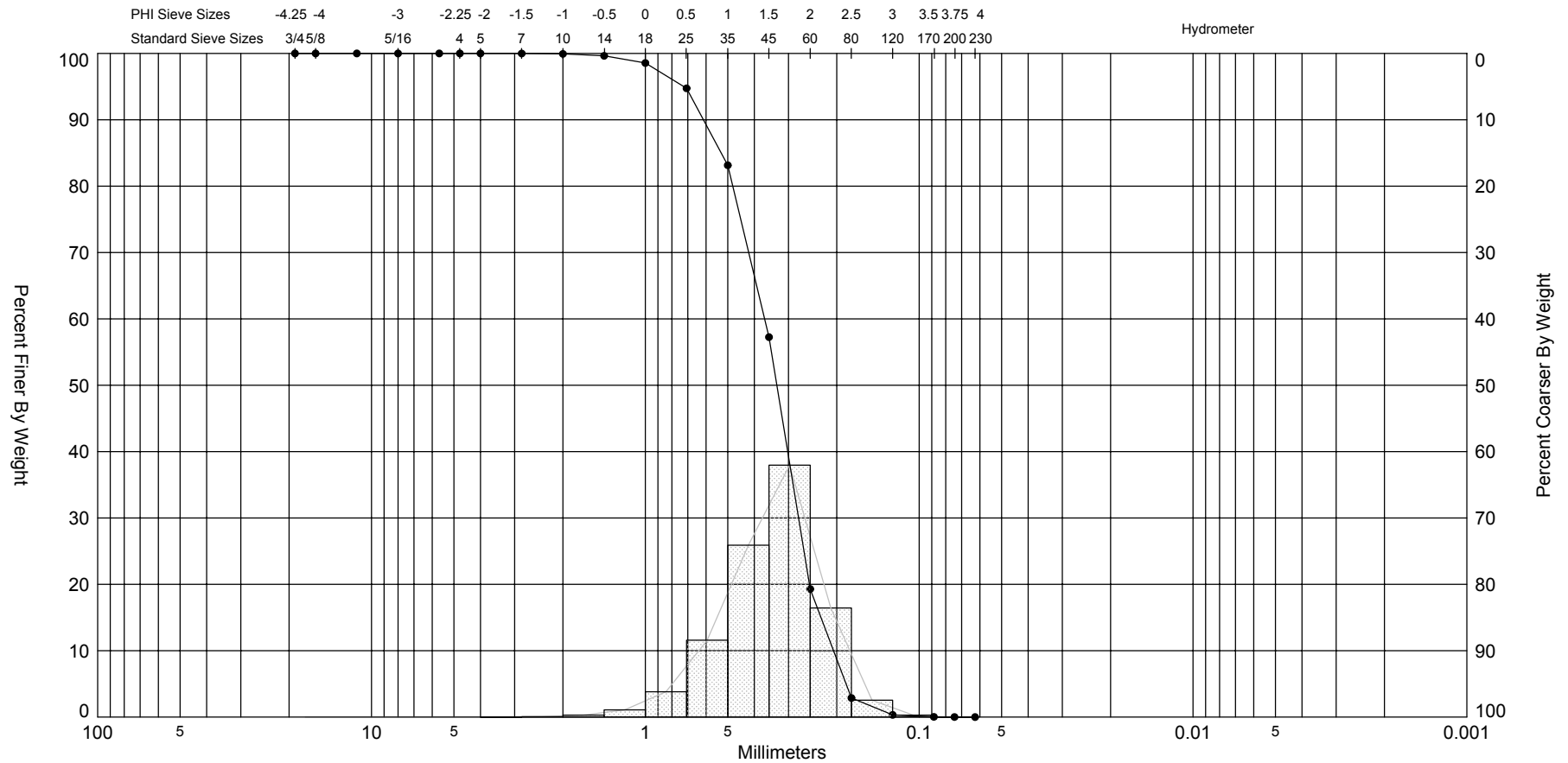
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R105 -5	—●—		SW	#200 - 0.23 #230 - 0.23	1.70	85.00		-0.21	0.1	3.38	1.18	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
												Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	
												715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343	

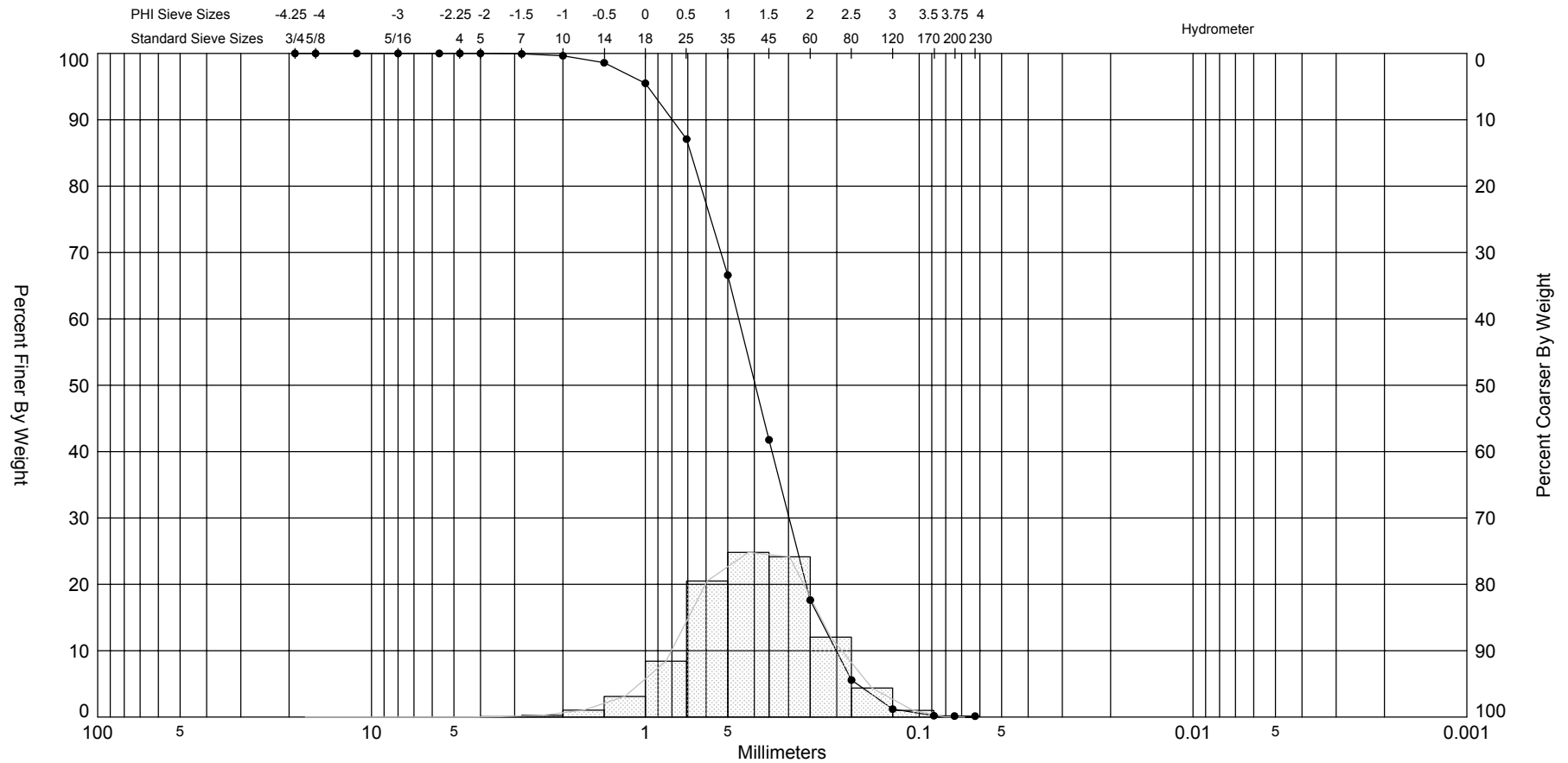




SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08



SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08



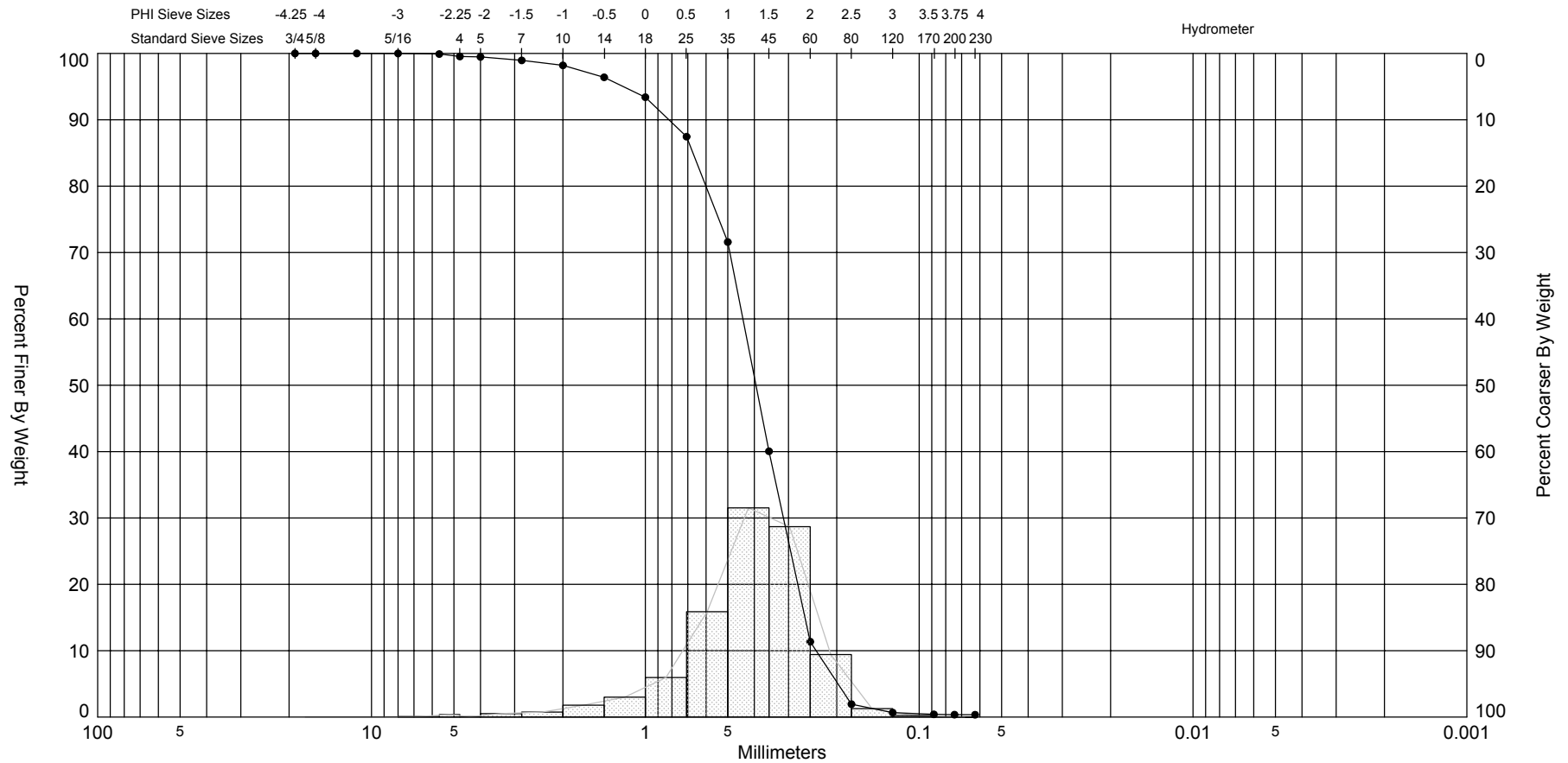
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R110 MLW	—●—		SP	#200 - 0.15 #230 - 0.14	1.10	47.70	1.33	1.32	-0.2	3.25	0.77	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	






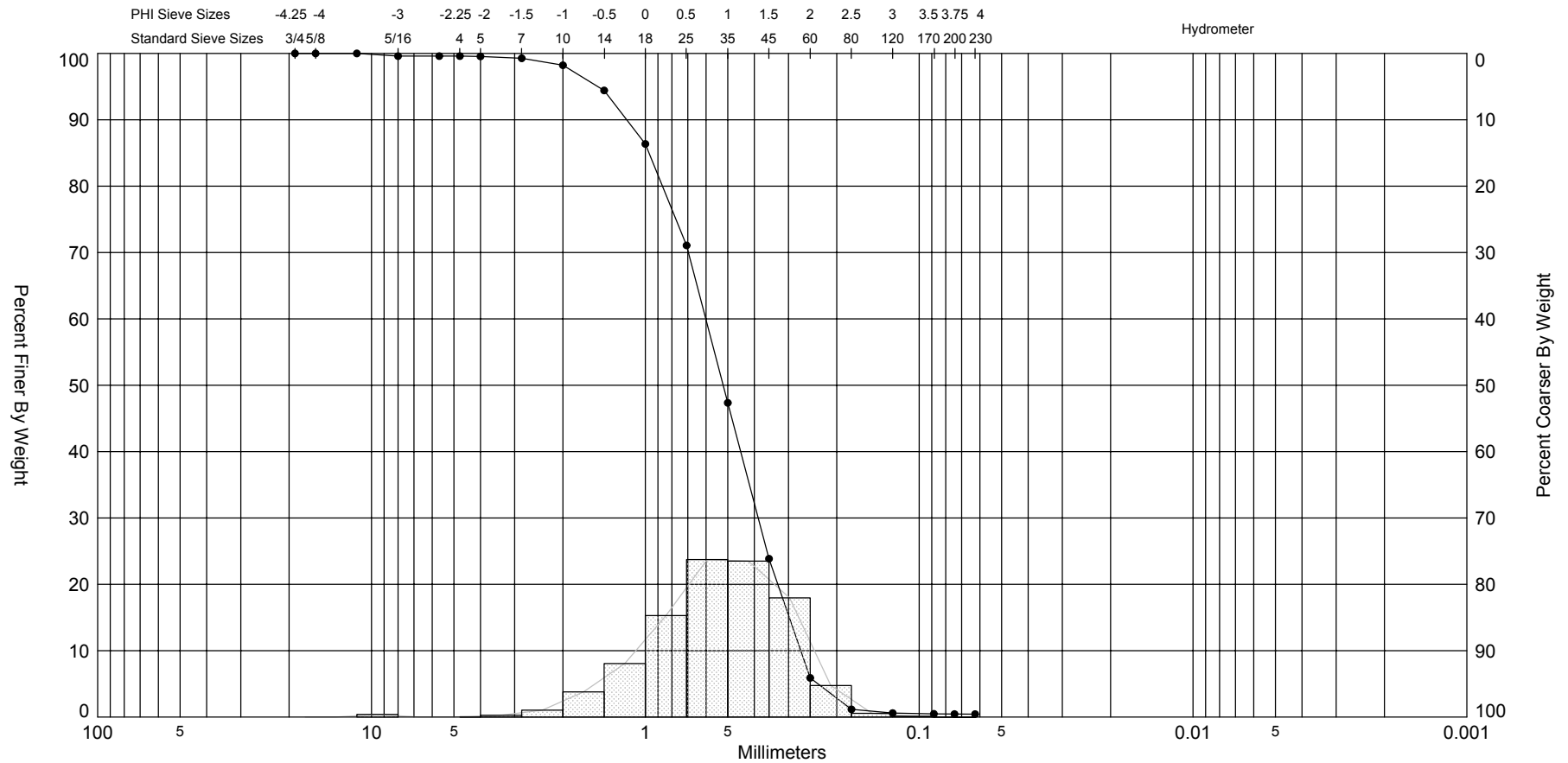
SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08




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	
R115 TOD	—●—		SP	#200 - 0.36 #230 - 0.35	0.90	44.80	1.34	1.24	-1.3	6.38	0.78	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

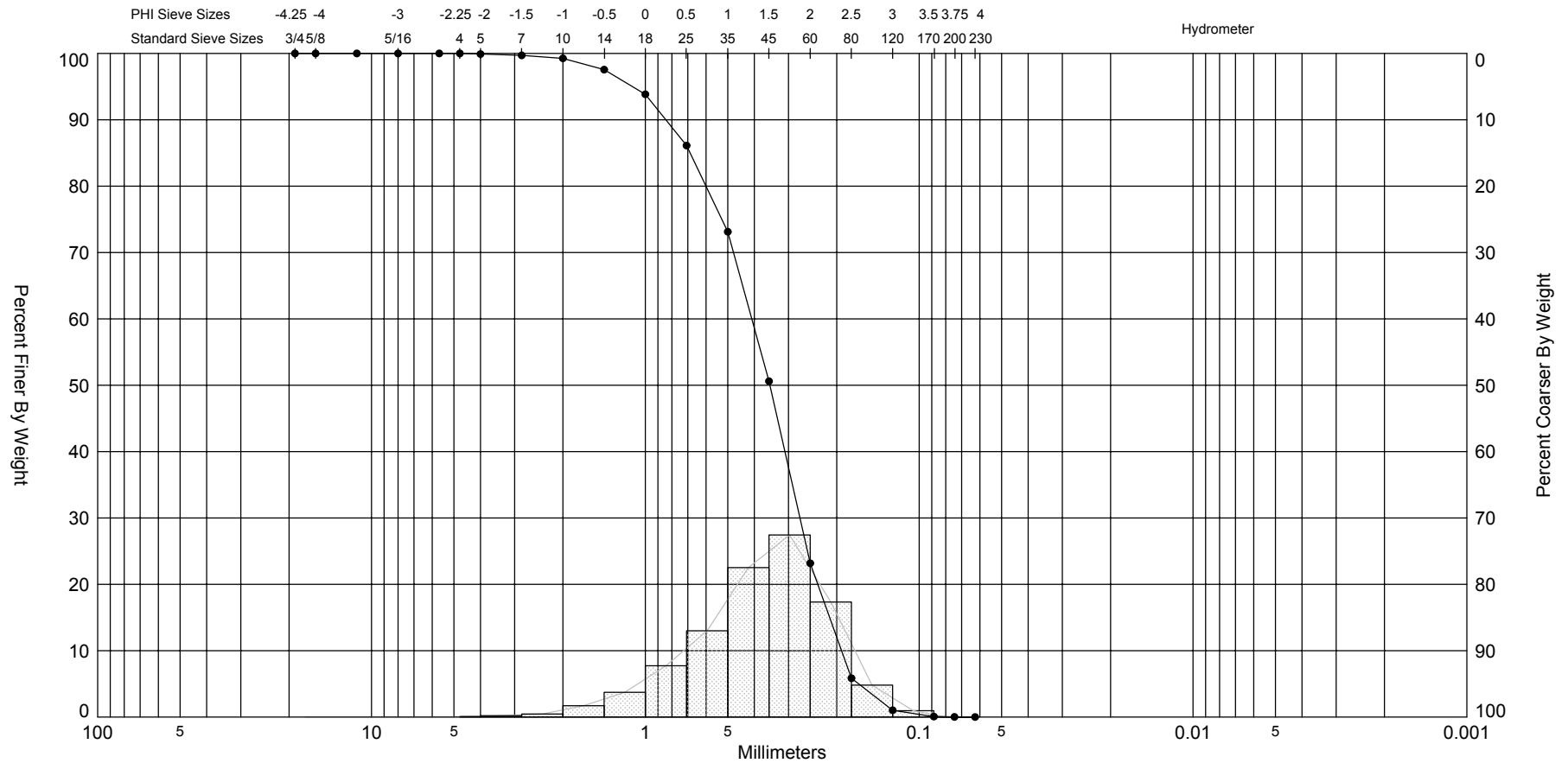
SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08



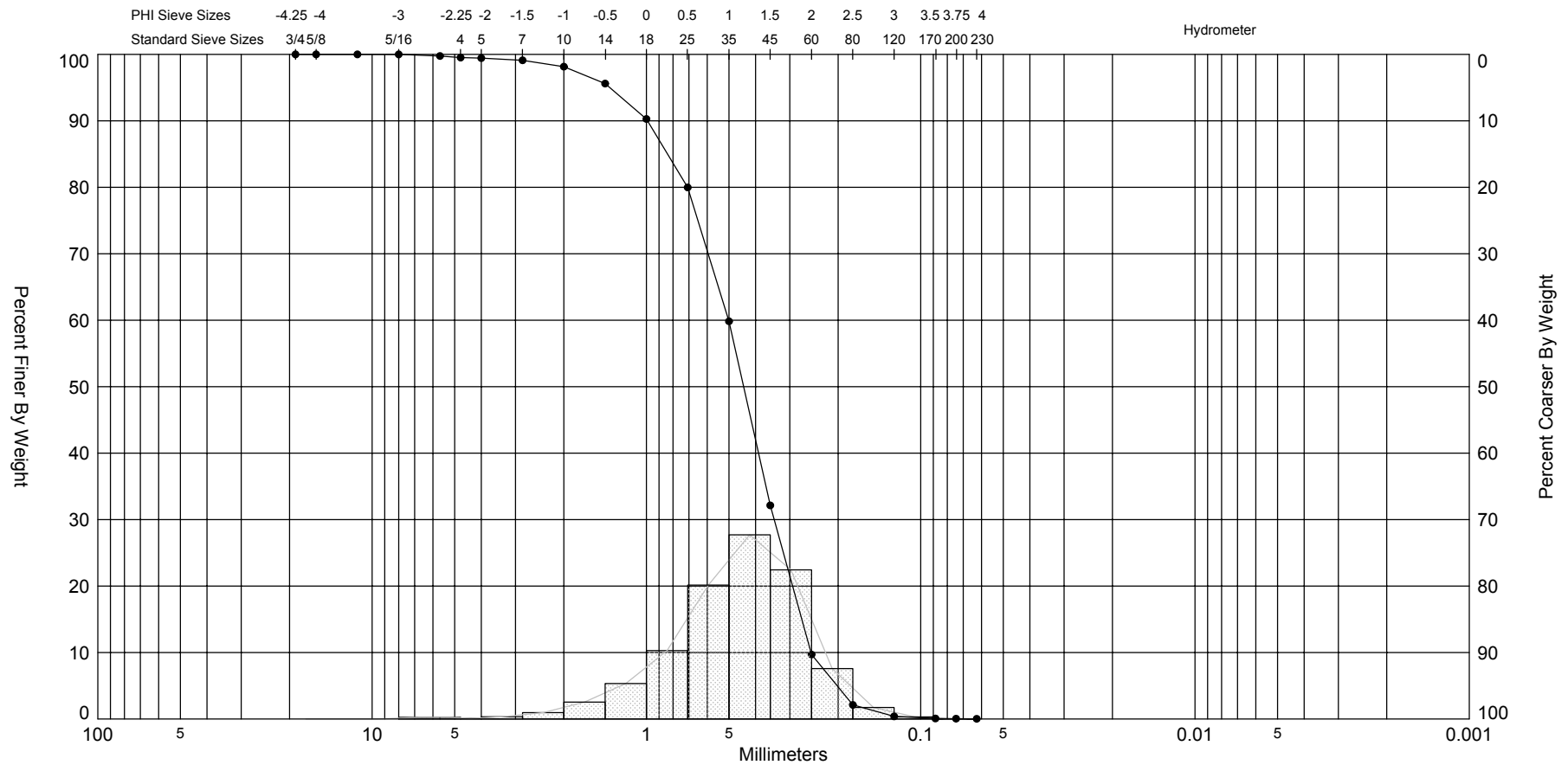
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
R115 MB	—●—		SP	#200 - 0.45 #230 - 0.44	1.10	60.00	0.94	0.87	-0.76	4.89	0.83	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	


SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08



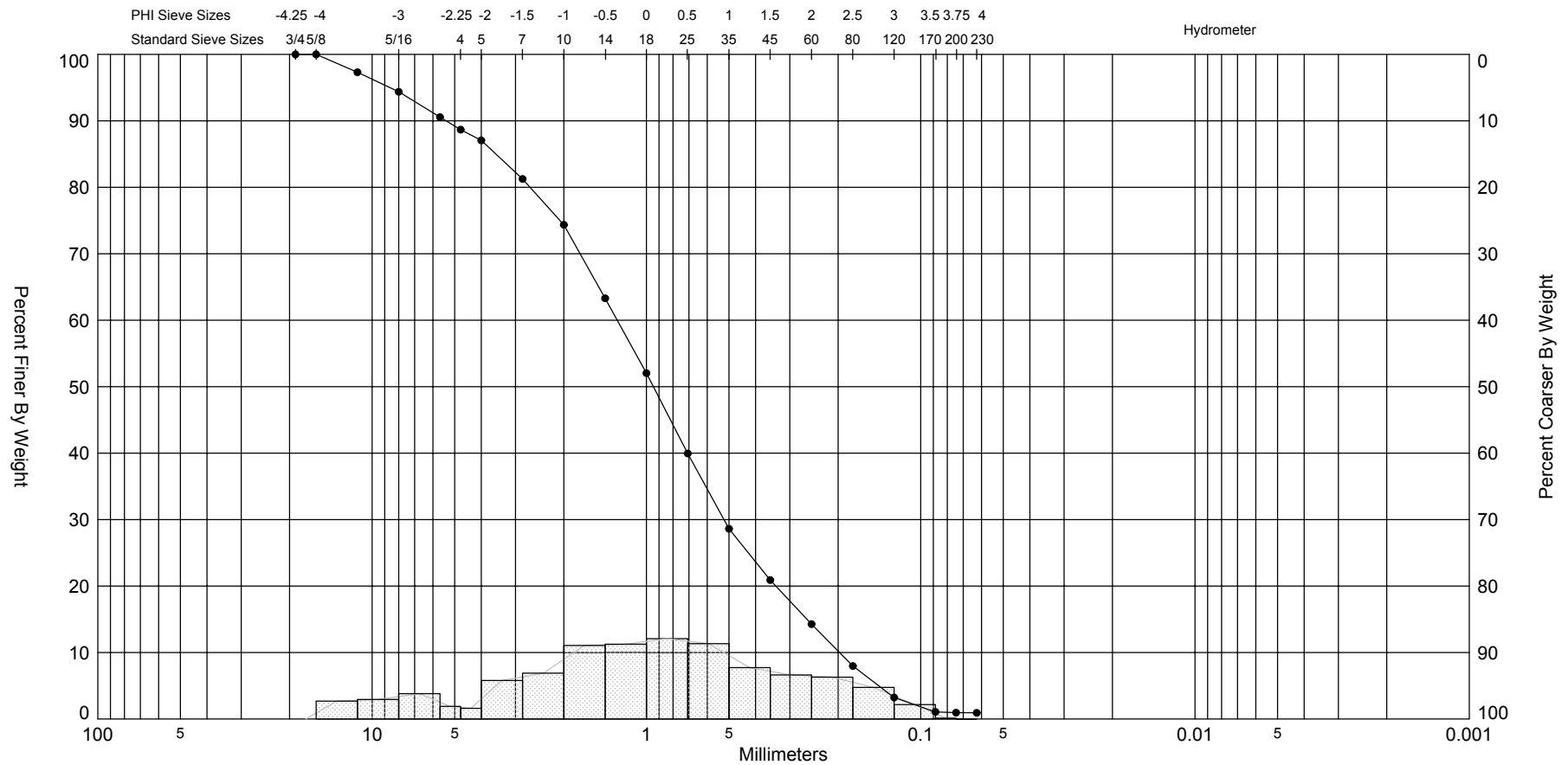
SIEVE ANALYSIS, ST. LUCIE OFFSHORE, GPJ, FL DEP ROSS, GDT, 2/12/08



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	
R115 MLW	—●—		SP	#200 - 0.05 #230 - 0.03	1.10	49.50	1.18	1.08	-0.85	4.8	0.84	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	03-28-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

SIEVE ANALYSIS, ST. LUCIE OFFSHORE.GPJ, FL DEP ROSS.GDT, 2/12/08



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	
R115 -5	—●—		SW	#200 - 0.95 #230 - 0.93	1.40	72.00	0.08	0	-0.21	2.51	1.69	Project Name:	St. Lucie Co Native Bch
Comments:												Analysis Date:	04-26-07
Depths and elevations based on measured values												Analyzed By:	JV
							715-E North Dr. Melbourne, FL 32934 Phone (321) 751-1135 Fax (321) 751-2343					Easting (X, ft):	
												Northing (Y, ft):	
												Horizontal System:	
												Vertical System:	

**Appendix 1c**

**Native Beach gINT Sample Granularmetrics**

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R100 -5

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g):

169.11

Wash Weight (g):

169.11

Pan Retained (g):

0.04

Sieve Loss (%):

0.28

Fines (%):

#200 - 0.34  
#230 - 0.29

Organics (%):

1.30

Carbonates (%):

66.00

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

5.97

3.53

5.97

3.53

5/16"

-3.00

8.00

5.69

3.36

11.66

6.89

3.5

-2.50

5.66

9.72

5.75

21.38

12.64

4

-2.25

4.76

2.35

1.39

23.73

14.03

5

-2.00

4.00

4.70

2.78

28.43

16.81

7

-1.50

2.83

8.91

5.27

37.34

22.08

10

-1.00

2.00

10.32

6.10

47.66

28.18

14

-0.50

1.41

9.97

5.90

57.63

34.08

18

0.00

1.00

8.73

5.16

66.36

39.24

25

0.50

0.71

8.17

4.83

74.53

44.07

35

1.00

0.50

8.68

5.13

83.21

49.20

45

1.50

0.35

9.97

5.90

93.18

55.10

60

2.00

0.25

20.24

11.97

113.42

67.07

80

2.50

0.18

30.13

17.82

143.55

84.89

120

3.00

0.13

20.10

11.89

163.65

96.78

170

3.50

0.09

4.63

2.74

168.28

99.52

200

3.75

0.07

0.24

0.14

168.52

99.66

230

4.00

0.06

0.08

0.05

168.60

99.71

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.93

2.48

2.22

1.07

-1.26

-2.07

-3.28

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

0.44

0.74

2.05

-0.51

1.96

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

**Granularmetric Report**  
Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch  
Sample Name: R100 TOD  
Analysis Date: 03-28-07  
Analyzed By: JV

Easting (ft):                      Northing (ft):                      Coordinate System:                      Elevation (ft):

USCS:                      Munsell:                      Comments:  
**SW**                      **Wet - 10YR-7/2**

Dry Weight (g): <b>164.70</b>	Wash Weight (g): <b>164.70</b>	Pan Retained (g): <b>0.18</b>	Sieve Loss (%): <b>0.15</b>	Fines (%): <b>#200 - 0.33</b> <b>#230 - 0.27</b>	Organics (%): <b>0.90</b>	Carbonates (%): <b>44.10</b>	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	0.55	0.33	0.55	0.33
5	-2.00	4.00	0.33	0.20	0.88	0.53
7	-1.50	2.83	1.89	1.15	2.77	1.68
10	-1.00	2.00	4.24	2.57	7.01	4.25
14	-0.50	1.41	6.18	3.75	13.19	8.00
18	0.00	1.00	6.26	3.80	19.45	11.80
25	0.50	0.71	10.25	6.22	29.70	18.02
35	1.00	0.50	21.94	13.32	51.64	31.34
45	1.50	0.35	42.02	25.51	93.66	56.85
60	2.00	0.25	47.08	28.59	140.74	85.44
80	2.50	0.18	19.27	11.70	160.01	97.14
120	3.00	0.13	2.86	1.74	162.87	98.88
170	3.50	0.09	0.98	0.60	163.85	99.48
200	3.75	0.07	0.32	0.19	164.17	99.67
230	4.00	0.06	0.10	0.06	164.27	99.73

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.41	1.97	1.82	1.37	0.76	0.34	-0.90
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.18	0.44	0.96	-1.07	4.37	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08



# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R100 MB

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft): Northing (ft):

Coordinate System:

Elevation (ft):

USCS: **SP** Munsell: **Wet - 10YR-7/2** Comments:

Dry Weight (g): **145.16** Wash Weight (g): **145.16** Pan Retained (g): **0.00** Sieve Loss (%): **0.24** Fines (%): **#200 - 0.24** **#230 - 0.23** Organics (%): **0.90** Carbonates (%): **44.40** 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	0.04	0.03	0.04	0.03
5	-2.00	4.00	0.16	0.11	0.20	0.14
7	-1.50	2.83	0.41	0.28	0.61	0.42
10	-1.00	2.00	0.64	0.44	1.25	0.86
14	-0.50	1.41	1.57	1.08	2.82	1.94
18	0.00	1.00	3.90	2.69	6.72	4.63
25	0.50	0.71	9.13	6.29	15.85	10.92
35	1.00	0.50	22.12	15.24	37.97	26.16
45	1.50	0.35	38.25	26.35	76.22	52.51
60	2.00	0.25	47.50	32.72	123.72	85.23
80	2.50	0.18	17.98	12.39	141.70	97.62
120	3.00	0.13	2.78	1.92	144.48	99.54
170	3.50	0.09	0.29	0.20	144.77	99.74
200	3.75	0.07	0.03	0.02	144.80	99.76
230	4.00	0.06	0.01	0.01	144.81	99.77

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.39	1.98	1.84	1.45	0.96	0.67	0.03

Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
	1.35	0.39	0.72	-0.95	4.98

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R100 MHW

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g): 172.93	Wash Weight (g): 172.93	Pan Retained (g): 0.00	Sieve Loss (%): 0.58	Fines (%): #200 - 0.58 #230 - 0.57	Organics (%): 1.00	Carbonates (%): 46.20	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	0.66	0.38	0.66	0.38
4	-2.25	4.76	0.00	0.00	0.66	0.38
5	-2.00	4.00	0.20	0.12	0.86	0.50
7	-1.50	2.83	0.25	0.14	1.11	0.64
10	-1.00	2.00	0.87	0.50	1.98	1.14
14	-0.50	1.41	2.79	1.61	4.77	2.75
18	0.00	1.00	5.55	3.21	10.32	5.96
25	0.50	0.71	11.44	6.62	21.76	12.58
35	1.00	0.50	24.22	14.01	45.98	26.59
45	1.50	0.35	52.43	30.32	98.41	56.91
60	2.00	0.25	53.19	30.76	151.60	87.67
80	2.50	0.18	17.75	10.26	169.35	97.93
120	3.00	0.13	2.23	1.29	171.58	99.22
170	3.50	0.09	0.32	0.19	171.90	99.41
200	3.75	0.07	0.01	0.01	171.91	99.42
230	4.00	0.06	0.01	0.01	171.92	99.43

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.36	1.94	1.79	1.39	0.94	0.62	-0.15
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.28	0.41	0.76	-1.32	6.73	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R100 MLW

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g):

174.61

Wash Weight (g):

174.61

Pan Retained (g):

0.00

Sieve Loss (%):

0.00

Fines (%):

#200 - 0.02  
#230 - 0.02

Organics (%):

1.10

Carbonates (%):

44.30

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

0.24

0.14

0.24

0.14

4

-2.25

4.76

0.00

0.00

0.24

0.14

5

-2.00

4.00

0.00

0.00

0.24

0.14

7

-1.50

2.83

0.09

0.05

0.33

0.19

10

-1.00

2.00

0.25

0.14

0.58

0.33

14

-0.50

1.41

0.63

0.36

1.21

0.69

18

0.00

1.00

1.73

0.99

2.94

1.68

25

0.50

0.71

8.62

4.94

11.56

6.62

35

1.00

0.50

35.27

20.20

46.83

26.82

45

1.50

0.35

49.72

28.47

96.55

55.29

60

2.00

0.25

47.55

27.23

144.10

82.52

80

2.50

0.18

22.86

13.09

166.96

95.61

120

3.00

0.13

6.94

3.97

173.90

99.58

170

3.50

0.09

0.67

0.38

174.57

99.96

200

3.75

0.07

0.04

0.02

174.61

99.98

230

4.00

0.06

0.00

0.00

174.61

99.98

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.48

2.06

1.86

1.41

0.95

0.73

0.34

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.4

0.38

0.67

-0.45

5.13

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R105 TOD

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g):

151.27

Wash Weight (g):

151.27

Pan Retained (g):

0.13

Sieve Loss (%):

0.00

Fines (%):

#200 - 0.12  
#230 - 0.08

Organics (%):

1.00

Carbonates (%):

48.80

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

3.33

2.20

3.33

2.20

11/16"

-3.50

11.31

0.00

0.00

3.33

2.20

5/16"

-3.00

8.00

0.00

0.00

3.33

2.20

3.5

-2.50

5.66

0.66

0.44

3.99

2.64

4

-2.25

4.76

0.65

0.43

4.64

3.07

5

-2.00

4.00

0.55

0.36

5.19

3.43

7

-1.50

2.83

1.94

1.28

7.13

4.71

10

-1.00

2.00

3.07

2.03

10.20

6.74

14

-0.50

1.41

4.33

2.86

14.53

9.60

18

0.00

1.00

6.29

4.16

20.82

13.76

25

0.50

0.71

10.70

7.07

31.52

20.83

35

1.00

0.50

21.24

14.04

52.76

34.87

45

1.50

0.35

36.45

24.10

89.21

58.97

60

2.00

0.25

41.08

27.16

130.29

86.13

80

2.50

0.18

16.70

11.04

146.99

97.17

120

3.00

0.13

2.87

1.90

149.86

99.07

170

3.50

0.09

0.97

0.64

150.83

99.71

200

3.75

0.07

0.25

0.17

151.08

99.88

230

4.00

0.06

0.06

0.04

151.14

99.92

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.40

1.96

1.80

1.31

0.65

0.16

-1.43

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.03

0.49

1.25

-1.94

8.04

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

**Granularmetric Report**  
 Depths and elevations based on measured values



715-E North Dr.  
 Melbourne, Fl. 32934  
 Phone (321) 751-1135  
 Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R105 MB

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):	Northing (ft):	Coordinate System:	Elevation (ft):
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USCS: <b>SW</b>	Munsell: Wet - 10YR-7/2	Comments:
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Dry Weight (g): <b>175.39</b>	Wash Weight (g): <b>175.39</b>	Pan Retained (g): <b>0.04</b>	Sieve Loss (%): <b>0.05</b>	Fines (%): #200 - 0.07 #230 - 0.06	Organics (%): <b>1.10</b>	Carbonates (%): <b>64.00</b>	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	1.41	0.80	1.41	0.80
4	-2.25	4.76	0.72	0.41	2.13	1.21
5	-2.00	4.00	2.17	1.24	4.30	2.45
7	-1.50	2.83	4.10	2.34	8.40	4.79
10	-1.00	2.00	6.95	3.96	15.35	8.75
14	-0.50	1.41	11.14	6.35	26.49	15.10
18	0.00	1.00	17.34	9.89	43.83	24.99
25	0.50	0.71	25.23	14.39	69.06	39.38
35	1.00	0.50	30.06	17.14	99.12	56.52
45	1.50	0.35	30.14	17.18	129.26	73.70
60	2.00	0.25	30.89	17.61	160.15	91.31
80	2.50	0.18	12.17	6.94	172.32	98.25
120	3.00	0.13	2.36	1.35	174.68	99.60
170	3.50	0.09	0.49	0.28	175.17	99.88
200	3.75	0.07	0.08	0.05	175.25	99.93
230	4.00	0.06	0.01	0.01	175.26	99.94

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.27	1.79	1.54	0.81	0.00	-0.45	-1.47
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.67	0.63	1.13	-0.62	3.1	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R105 MHW

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):                      Northing (ft):

Coordinate System:

Elevation (ft):

USCS:  <b>SW</b>	Munsell:  Wet - 10YR-7/3	Comments:
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Dry Weight (g): <b>156.78</b>	Wash Weight (g): <b>156.78</b>	Pan Retained (g): <b>0.01</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 0.01 #230 - 0.00	Organics (%): <b>1.20</b>	Carbonates (%): <b>65.60</b>	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.20	0.13	0.20	0.13
7	-1.50	2.83	1.67	1.07	1.87	1.20
10	-1.00	2.00	4.64	2.96	6.51	4.16
14	-0.50	1.41	13.17	8.40	19.68	12.56
18	0.00	1.00	21.86	13.94	41.54	26.50
25	0.50	0.71	27.21	17.36	68.75	43.86
35	1.00	0.50	26.65	17.00	95.40	60.86
45	1.50	0.35	25.26	16.11	120.66	76.97
60	2.00	0.25	23.89	15.24	144.55	92.21
80	2.50	0.18	10.15	6.47	154.70	98.68
120	3.00	0.13	1.60	1.02	156.30	99.70
170	3.50	0.09	0.41	0.26	156.71	99.96
200	3.75	0.07	0.05	0.03	156.76	99.99
230	4.00	0.06	0.01	0.01	156.77	100.00

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.22	1.73	1.44	0.68	-0.05	-0.38	-0.95
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.67	0.63	0.98	-0.12	2.45	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R105 MLW

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):	Northing (ft):	Coordinate System:	Elevation (ft):
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USCS: <b>SP</b>	Munsell: Wet - 10YR-7/2	Comments:
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Dry Weight (g): <b>222.72</b>	Wash Weight (g): <b>222.72</b>	Pan Retained (g): <b>0.24</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 0.12 #230 - 0.11	Organics (%): <b>1.10</b>	Carbonates (%): <b>46.90</b>	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.15	0.07	0.15	0.07
10	-1.00	2.00	0.22	0.10	0.37	0.17
14	-0.50	1.41	0.63	0.28	1.00	0.45
18	0.00	1.00	3.66	1.64	4.66	2.09
25	0.50	0.71	18.01	8.09	22.67	10.18
35	1.00	0.50	46.21	20.75	68.88	30.93
45	1.50	0.35	56.75	25.48	125.63	56.41
60	2.00	0.25	59.16	26.56	184.79	82.97
80	2.50	0.18	28.71	12.89	213.50	95.86
120	3.00	0.13	8.20	3.68	221.70	99.54
170	3.50	0.09	0.75	0.34	222.45	99.88
200	3.75	0.07	0.01	0.00	222.46	99.88
230	4.00	0.06	0.02	0.01	222.48	99.89

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.47	2.04	1.85	1.37	0.86	0.64	0.18
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.35	0.39	0.69	-0.16	3.09	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R105 -5

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g): 102.78	Wash Weight (g): 102.78	Pan Retained (g): 0.00	Sieve Loss (%): 0.24	Fines (%): #200 - 0.23 #230 - 0.23	Organics (%): 1.70	Carbonates (%): 85.00	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	1.46	1.42	1.46	1.42
3.5	-2.50	5.66	2.73	2.66	4.19	4.08
4	-2.25	4.76	0.51	0.50	4.70	4.58
5	-2.00	4.00	1.71	1.66	6.41	6.24
7	-1.50	2.83	5.05	4.91	11.46	11.15
10	-1.00	2.00	10.35	10.07	21.81	21.22
14	-0.50	1.41	19.91	19.37	41.72	40.59
18	0.00	1.00	20.08	19.54	61.80	60.13
25	0.50	0.71	15.70	15.28	77.50	75.41
35	1.00	0.50	10.42	10.14	87.92	85.55
45	1.50	0.35	5.99	5.83	93.91	91.38
60	2.00	0.25	4.14	4.03	98.05	95.41
80	2.50	0.18	2.70	2.63	100.75	98.04
120	3.00	0.13	1.30	1.26	102.05	99.30
170	3.50	0.09	0.44	0.43	102.49	99.73
200	3.75	0.07	0.04	0.04	102.53	99.77
230	4.00	0.06	0.00	0.00	102.53	99.77

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.95	0.92	0.49	-0.26	-0.90	-1.26	-2.19

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	-0.21	1.16	1.18	0.1	3.38

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08



# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R110 TOD

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g):

174.84

Wash Weight (g):

174.84

Pan Retained (g):

0.41

Sieve Loss (%):

0.00

Fines (%):

#200 - 0.26  
#230 - 0.25

Organics (%):

1.10

Carbonates (%):

55.10

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

0.21

0.12

0.21

0.12

7

-1.50

2.83

1.63

0.93

1.84

1.05

10

-1.00

2.00

2.63

1.50

4.47

2.55

14

-0.50

1.41

7.08

4.05

11.55

6.60

18

0.00

1.00

13.54

7.74

25.09

14.34

25

0.50

0.71

25.40

14.53

50.49

28.87

35

1.00

0.50

40.60

23.22

91.09

52.09

45

1.50

0.35

45.62

26.09

136.71

78.18

60

2.00

0.25

29.52

16.88

166.23

95.06

80

2.50

0.18

7.20

4.12

173.43

99.18

120

3.00

0.13

0.75

0.43

174.18

99.61

170

3.50

0.09

0.20

0.11

174.38

99.72

200

3.75

0.07

0.04

0.02

174.42

99.74

230

4.00

0.06

0.01

0.01

174.43

99.75

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.00

1.67

1.44

0.95

0.37

0.06

-0.70

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

0.86

0.55

0.82

-0.62

3.51

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R110 MB

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft): Northing (ft):

Coordinate System:

Elevation (ft):

USCS: **SP** Munsell: **Wet - 10YR-7/2** Comments:

Dry Weight (g): **168.52** Wash Weight (g): **168.52** Pan Retained (g): **0.08** Sieve Loss (%): **0.00** Fines (%): **#200 - 0.06** Organics (%): **1.00** Carbonates (%): **47.60** Shells (%): **#230 - 0.04**

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	0.07	0.04	0.07	0.04
5	-2.00	4.00	0.13	0.08	0.20	0.12
7	-1.50	2.83	0.58	0.34	0.78	0.46
10	-1.00	2.00	1.66	0.99	2.44	1.45
14	-0.50	1.41	3.96	2.35	6.40	3.80
18	0.00	1.00	7.77	4.61	14.17	8.41
25	0.50	0.71	14.54	8.63	28.71	17.04
35	1.00	0.50	28.08	16.66	56.79	33.70
45	1.50	0.35	45.03	26.72	101.82	60.42
60	2.00	0.25	47.16	27.98	148.98	88.40
80	2.50	0.18	15.94	9.46	164.92	97.86
120	3.00	0.13	3.06	1.82	167.98	99.68
170	3.50	0.09	0.40	0.24	168.38	99.92
200	3.75	0.07	0.03	0.02	168.41	99.94
230	4.00	0.06	0.03	0.02	168.44	99.96

Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
	2.35	1.92	1.76	1.31	0.74	0.44	-0.37
	1.19	0.44	0.8	-0.81	4.04		

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R110 MHW

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g):

195.94

Wash Weight (g):

195.94

Pan Retained (g):

0.00

Sieve Loss (%):

0.00

Fines (%):

#200 - 0.01  
#230 - 0.00

Organics (%):

0.80

Carbonates (%):

37.10

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

0.01

0.01

0.01

0.01

10

-1.00

2.00

0.11

0.06

0.12

0.07

14

-0.50

1.41

0.57

0.29

0.69

0.36

18

0.00

1.00

2.12

1.08

2.81

1.44

25

0.50

0.71

7.49

3.82

10.30

5.26

35

1.00

0.50

22.70

11.59

33.00

16.85

45

1.50

0.35

50.75

25.90

83.75

42.75

60

2.00

0.25

74.36

37.95

158.11

80.70

80

2.50

0.18

32.20

16.43

190.31

97.13

120

3.00

0.13

4.98

2.54

195.29

99.67

170

3.50

0.09

0.59

0.30

195.88

99.97

200

3.75

0.07

0.04

0.02

195.92

99.99

230

4.00

0.06

0.02

0.01

195.94

100.00

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.44

2.10

1.92

1.60

1.16

0.96

0.47

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.53

0.35

0.6

-0.55

3.93

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

**Granularmetric Report**  
Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R110 MLW

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):	Northing (ft):	Coordinate System:	Elevation (ft):
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USCS: <b>SP</b>	Munsell: Wet - 10YR-7/3	Comments:
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Dry Weight (g): 192.04	Wash Weight (g): 192.04	Pan Retained (g): 0.28	Sieve Loss (%): 0.00	Fines (%): #200 - 0.15 #230 - 0.14	Organics (%): 1.10	Carbonates (%): 47.70	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.13	0.07	0.13	0.07
10	-1.00	2.00	0.53	0.28	0.66	0.35
14	-0.50	1.41	2.02	1.05	2.68	1.40
18	0.00	1.00	5.96	3.10	8.64	4.50
25	0.50	0.71	16.15	8.41	24.79	12.91
35	1.00	0.50	39.37	20.50	64.16	33.41
45	1.50	0.35	47.66	24.82	111.82	58.23
60	2.00	0.25	46.35	24.14	158.17	82.37
80	2.50	0.18	23.14	12.05	181.31	94.42
120	3.00	0.13	8.42	4.38	189.73	98.80
170	3.50	0.09	1.92	1.00	191.65	99.80
200	3.75	0.07	0.09	0.05	191.74	99.85
230	4.00	0.06	0.02	0.01	191.76	99.86

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.57	2.07	1.85	1.33	0.79	0.58	0.03
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.32	0.40	0.77	-0.2	3.25	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R110 -5

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7.5/2

Comments:

Dry Weight (g): 97.90	Wash Weight (g): 97.90	Pan Retained (g): 0.05	Sieve Loss (%): 0.09	Fines (%): #200 - 0.29 #230 - 0.15	Organics (%): 1.00	Carbonates (%): 39.00	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	0.40	0.41	0.40	0.41
3.5	-2.50	5.66	0.09	0.09	0.49	0.50
4	-2.25	4.76	0.27	0.28	0.76	0.78
5	-2.00	4.00	0.22	0.22	0.98	1.00
7	-1.50	2.83	0.33	0.34	1.31	1.34
10	-1.00	2.00	0.39	0.40	1.70	1.74
14	-0.50	1.41	0.59	0.60	2.29	2.34
18	0.00	1.00	0.66	0.67	2.95	3.01
25	0.50	0.71	0.80	0.82	3.75	3.83
35	1.00	0.50	1.41	1.44	5.16	5.27
45	1.50	0.35	3.43	3.50	8.59	8.77
60	2.00	0.25	16.83	17.19	25.42	25.96
80	2.50	0.18	34.26	34.99	59.68	60.95
120	3.00	0.13	28.09	28.69	87.77	89.64
170	3.50	0.09	9.14	9.34	96.91	98.98
200	3.75	0.07	0.71	0.73	97.62	99.71
230	4.00	0.06	0.14	0.14	97.76	99.85

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.29	2.90	2.74	2.34	1.97	1.71	0.91
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.23	0.21	0.88	-2.76	14.78	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R115 TOD

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):                      Northing (ft):

Coordinate System:

Elevation (ft):

USCS: **SP**                      Munsell: **Wet - 10YR-7/2**                      Comments:

Dry Weight (g): <b>158.88</b>	Wash Weight (g): <b>158.88</b>	Pan Retained (g): <b>0.55</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 0.36 #230 - 0.35	Organics (%): <b>0.90</b>	Carbonates (%): <b>44.80</b>	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	0.15	0.09	0.15	0.09
4	-2.25	4.76	0.58	0.37	0.73	0.46
5	-2.00	4.00	0.09	0.06	0.82	0.52
7	-1.50	2.83	0.85	0.53	1.67	1.05
10	-1.00	2.00	1.19	0.75	2.86	1.80
14	-0.50	1.41	2.86	1.80	5.72	3.60
18	0.00	1.00	4.77	3.00	10.49	6.60
25	0.50	0.71	9.46	5.95	19.95	12.55
35	1.00	0.50	25.21	15.87	45.16	28.42
45	1.50	0.35	50.09	31.53	95.25	59.95
60	2.00	0.25	45.59	28.69	140.84	88.64
80	2.50	0.18	14.96	9.42	155.80	98.06
120	3.00	0.13	2.02	1.27	157.82	99.33
170	3.50	0.09	0.41	0.26	158.23	99.59
200	3.75	0.07	0.08	0.05	158.31	99.64
230	4.00	0.06	0.02	0.01	158.33	99.65

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.34	1.92	1.76	1.34	0.89	0.61	-0.27
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.24	0.42	0.78	-1.3	6.38	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R115 MB

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-7/3

Comments:

Dry Weight (g): 152.80	Wash Weight (g): 152.80	Pan Retained (g): 0.67	Sieve Loss (%): 0.00	Fines (%): #200 - 0.45 #230 - 0.44	Organics (%): 1.10	Carbonates (%): 60.00	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	0.61	0.40	0.61	0.40
3.5	-2.50	5.66	0.00	0.00	0.61	0.40
4	-2.25	4.76	0.00	0.00	0.61	0.40
5	-2.00	4.00	0.07	0.05	0.68	0.45
7	-1.50	2.83	0.43	0.28	1.11	0.73
10	-1.00	2.00	1.60	1.05	2.71	1.78
14	-0.50	1.41	5.80	3.80	8.51	5.58
18	0.00	1.00	12.32	8.06	20.83	13.64
25	0.50	0.71	23.37	15.29	44.20	28.93
35	1.00	0.50	36.25	23.72	80.45	52.65
45	1.50	0.35	35.89	23.49	116.34	76.14
60	2.00	0.25	27.44	17.96	143.78	94.10
80	2.50	0.18	7.25	4.74	151.03	98.84
120	3.00	0.13	0.86	0.56	151.89	99.40
170	3.50	0.09	0.19	0.12	152.08	99.52
200	3.75	0.07	0.04	0.03	152.12	99.55
230	4.00	0.06	0.01	0.01	152.13	99.56

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.09	1.72	1.48	0.94	0.37	0.08	-0.58
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.87	0.55	0.83	-0.76	4.89	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R115 MHW

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):                      Northing (ft):

Coordinate System:

Elevation (ft):

USCS: **SP**                      Munsell: **Wet - 10YR-7/2**                      Comments:

Dry Weight (g): <b>150.33</b>	Wash Weight (g): <b>150.33</b>	Pan Retained (g): <b>0.01</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 0.02 #230 - 0.01	Organics (%): <b>1.00</b>	Carbonates (%): <b>49.80</b>	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.13	0.09	0.13	0.09
7	-1.50	2.83	0.30	0.20	0.43	0.29
10	-1.00	2.00	0.67	0.45	1.10	0.74
14	-0.50	1.41	2.56	1.70	3.66	2.44
18	0.00	1.00	5.59	3.72	9.25	6.16
25	0.50	0.71	11.61	7.72	20.86	13.88
35	1.00	0.50	19.53	12.99	40.39	26.87
45	1.50	0.35	33.85	22.52	74.24	49.39
60	2.00	0.25	41.24	27.43	115.48	76.82
80	2.50	0.18	26.05	17.33	141.53	94.15
120	3.00	0.13	7.25	4.82	148.78	98.97
170	3.50	0.09	1.44	0.96	150.22	99.93
200	3.75	0.07	0.08	0.05	150.30	99.98
230	4.00	0.06	0.02	0.01	150.32	99.99

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.59	2.21	1.97	1.51	0.93	0.58	-0.16
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.4	0.38	0.83	-0.65	3.68	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08



**Granularmetric Report**  
 Depths and elevations based on measured values



715-E North Dr.  
 Melbourne, Fl. 32934  
 Phone (321) 751-1135  
 Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R115 MLW

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):	Northing (ft):	Coordinate System:	Elevation (ft):
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USCS: <b>SP</b>	Munsell: Wet - 10YR-7/2	Comments:
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Dry Weight (g): 185.17	Wash Weight (g): 185.17	Pan Retained (g): 0.05	Sieve Loss (%): 0.00	Fines (%): #200 - 0.05 #230 - 0.03	Organics (%): 1.10	Carbonates (%): 49.50	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	0.45	0.24	0.45	0.24
4	-2.25	4.76	0.45	0.24	0.90	0.48
5	-2.00	4.00	0.14	0.08	1.04	0.56
7	-1.50	2.83	0.62	0.33	1.66	0.89
10	-1.00	2.00	1.77	0.96	3.43	1.85
14	-0.50	1.41	4.71	2.54	8.14	4.39
18	0.00	1.00	9.87	5.33	18.01	9.72
25	0.50	0.71	19.07	10.30	37.08	20.02
35	1.00	0.50	37.30	20.14	74.38	40.16
45	1.50	0.35	51.29	27.70	125.67	67.86
60	2.00	0.25	41.55	22.44	167.22	90.30
80	2.50	0.18	14.03	7.58	181.25	97.88
120	3.00	0.13	3.20	1.73	184.45	99.61
170	3.50	0.09	0.58	0.31	185.03	99.92
200	3.75	0.07	0.06	0.03	185.09	99.95
230	4.00	0.06	0.03	0.02	185.12	99.97

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.31	1.86	1.66	1.18	0.62	0.30	-0.44
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.08	0.47	0.84	-0.85	4.8	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R115 -5

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g):

108.57

Wash Weight (g):

108.57

Pan Retained (g):

0.02

Sieve Loss (%):

0.90

Fines (%):

#200 - 0.95  
#230 - 0.93

Organics (%):

1.40

Carbonates (%):

72.00

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

2.92

2.69

2.92

2.69

5/16"

-3.00

8.00

3.19

2.94

6.11

5.63

3.5

-2.50

5.66

4.14

3.81

10.25

9.44

4

-2.25

4.76

2.05

1.89

12.30

11.33

5

-2.00

4.00

1.75

1.61

14.05

12.94

7

-1.50

2.83

6.30

5.80

20.35

18.74

10

-1.00

2.00

7.49

6.90

27.84

25.64

14

-0.50

1.41

12.01

11.06

39.85

36.70

18

0.00

1.00

12.22

11.26

52.07

47.96

25

0.50

0.71

13.13

12.09

65.20

60.05

35

1.00

0.50

12.30

11.33

77.50

71.38

45

1.50

0.35

8.38

7.72

85.88

79.10

60

2.00

0.25

7.20

6.63

93.08

85.73

80

2.50

0.18

6.84

6.30

99.92

92.03

120

3.00

0.13

5.15

4.74

105.07

96.77

170

3.50

0.09

2.35

2.16

107.42

98.93

200

3.75

0.07

0.13

0.12

107.55

99.05

230

4.00

0.06

0.02

0.02

107.57

99.07

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.81

1.87

1.23

0.08

-1.05

-1.74

-3.11

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

0

1.00

1.69

-0.21

2.51

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

**Granularmetric Report**  
 Depths and elevations based on measured values



715-E North Dr.  
 Melbourne, Fl. 32934  
 Phone (321) 751-1135  
 Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch  
 Sample Name: R77 TOD  
 Analysis Date: 04-26-07  
 Analyzed By: JV

Easting (ft):                      Northing (ft):                      Coordinate System:                      Elevation (ft):

USCS:                      Munsell:                      Comments:  
 SP                      Wet - 10YR-8/2

Dry Weight (g):      Wash Weight (g):      Pan Retained (g):      Sieve Loss (%):      Fines (%):      Organics (%):      Carbonates (%):      Shells (%):  
 172.27      172.27      0.01      0.08      #200 - 0.10      0.80      39.00        
    #230 - 0.09

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	0.08	0.05	0.08	0.05
10	-1.00	2.00	0.34	0.20	0.42	0.25
14	-0.50	1.41	0.91	0.53	1.33	0.78
18	0.00	1.00	2.53	1.47	3.86	2.25
25	0.50	0.71	6.95	4.03	10.81	6.28
35	1.00	0.50	19.48	11.31	30.29	17.59
45	1.50	0.35	40.87	23.72	71.16	41.31
60	2.00	0.25	59.48	34.53	130.64	75.84
80	2.50	0.18	29.86	17.33	160.50	93.17
120	3.00	0.13	9.84	5.71	170.34	98.88
170	3.50	0.09	1.65	0.96	171.99	99.84
200	3.75	0.07	0.11	0.06	172.10	99.90
230	4.00	0.06	0.02	0.01	172.12	99.91

Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
	2.66	1.99	1.63	0.93	0.34
	1.57	0.34	0.69	-0.53	4.11

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R77 MB

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g):

138.84

Wash Weight (g):

138.84

Pan Retained (g):

0.00

Sieve Loss (%):

0.41

Fines (%):

#200 - 0.41  
#230 - 0.41

Organics (%):

1.20

Carbonates (%):

60.00

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

0.32

0.23

0.32

0.23

5

-2.00

4.00

0.09

0.06

0.41

0.29

7

-1.50

2.83

1.00

0.72

1.41

1.01

10

-1.00

2.00

3.09

2.23

4.50

3.24

14

-0.50

1.41

6.67

4.80

11.17

8.04

18

0.00

1.00

11.43

8.23

22.60

16.27

25

0.50

0.71

18.94

13.64

41.54

29.91

35

1.00

0.50

27.61

19.89

69.15

49.80

45

1.50

0.35

28.35

20.42

97.50

70.22

60

2.00

0.25

24.28

17.49

121.78

87.71

80

2.50

0.18

12.64

9.10

134.42

96.81

120

3.00

0.13

3.15

2.27

137.57

99.08

170

3.50

0.09

0.66

0.48

138.23

99.56

200

3.75

0.07

0.04

0.03

138.27

99.59

230

4.00

0.06

0.00

0.00

138.27

99.59

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.40

1.89

1.64

1.00

0.32

-0.02

-0.82

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

0.93

0.52

0.96

-0.41

3.06

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R77 MHW

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g): 140.65	Wash Weight (g): 140.65	Pan Retained (g): 0.00	Sieve Loss (%): 0.00	Fines (%): #200 - 0.01 #230 - 0.00	Organics (%): 0.80	Carbonates (%): 34.00	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	0.00	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	0.00	0.00	0.00	0.00
14	-0.50	1.41	0.12	0.09	0.12	0.09
18	0.00	1.00	0.33	0.23	0.45	0.32
25	0.50	0.71	1.90	1.35	2.35	1.67
35	1.00	0.50	13.40	9.53	15.75	11.20
45	1.50	0.35	43.03	30.59	58.78	41.79
60	2.00	0.25	53.03	37.70	111.81	79.49
80	2.50	0.18	22.23	15.81	134.04	95.30
120	3.00	0.13	5.71	4.06	139.75	99.36
170	3.50	0.09	0.82	0.58	140.57	99.94
200	3.75	0.07	0.07	0.05	140.64	99.99
230	4.00	0.06	0.01	0.01	140.65	100.00

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.49	2.14	1.94	1.61	1.23	1.08	0.67
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.6	0.33	0.54	0.02	3.61	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R77 MLW

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7.5/2

Comments:

Dry Weight (g): 196.54	Wash Weight (g): 196.54	Pan Retained (g): 0.04	Sieve Loss (%): 0.00	Fines (%): #200 - 0.03 #230 - 0.01	Organics (%): 1.20	Carbonates (%): 46.00	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	0.47	0.24	0.47	0.24
4	-2.25	4.76	0.01	0.01	0.48	0.25
5	-2.00	4.00	0.13	0.07	0.61	0.32
7	-1.50	2.83	0.51	0.26	1.12	0.58
10	-1.00	2.00	0.66	0.34	1.78	0.92
14	-0.50	1.41	2.22	1.13	4.00	2.05
18	0.00	1.00	6.48	3.30	10.48	5.35
25	0.50	0.71	18.53	9.43	29.01	14.78
35	1.00	0.50	37.37	19.01	66.38	33.79
45	1.50	0.35	37.24	18.95	103.62	52.74
60	2.00	0.25	36.31	18.47	139.93	71.21
80	2.50	0.18	35.05	17.83	174.98	89.04
120	3.00	0.13	16.86	8.58	191.84	97.62
170	3.50	0.09	4.38	2.23	196.22	99.85
200	3.75	0.07	0.24	0.12	196.46	99.97
230	4.00	0.06	0.04	0.02	196.50	99.99

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.85	2.36	2.11	1.43	0.77	0.53	-0.05
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.41	0.38	0.92	-0.44	3.69	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R77 -5

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7.5/2

Comments:

Dry Weight (g): 149.73	Wash Weight (g): 149.73	Pan Retained (g): 0.04	Sieve Loss (%): 0.01	Fines (%): #200 - 0.08 #230 - 0.04	Organics (%): 1.50	Carbonates (%): 66.00	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	0.79	0.53	0.79	0.53
3.5	-2.50	5.66	0.67	0.45	1.46	0.98
4	-2.25	4.76	1.24	0.83	2.70	1.81
5	-2.00	4.00	1.24	0.83	3.94	2.64
7	-1.50	2.83	2.13	1.42	6.07	4.06
10	-1.00	2.00	3.43	2.29	9.50	6.35
14	-0.50	1.41	6.25	4.17	15.75	10.52
18	0.00	1.00	11.73	7.83	27.48	18.35
25	0.50	0.71	19.80	13.22	47.28	31.57
35	1.00	0.50	27.47	18.35	74.75	49.92
45	1.50	0.35	20.34	13.58	95.09	63.50
60	2.00	0.25	23.25	15.53	118.34	79.03
80	2.50	0.18	17.88	11.94	136.22	90.97
120	3.00	0.13	10.15	6.78	146.37	97.75
170	3.50	0.09	3.04	2.03	149.41	99.78
200	3.75	0.07	0.21	0.14	149.62	99.92
230	4.00	0.06	0.06	0.04	149.68	99.96

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.80	2.21	1.87	1.00	0.25	-0.15	-1.29

Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
	0.97	0.51	1.22	-0.62	3.54

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

**Granularmetric Report**  
Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R80 TOD

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):	Northing (ft):	Coordinate System:	Elevation (ft):
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USCS: <b>SW</b>	Munsell: Wet - 10YR-8/2	Comments:
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Dry Weight (g): 110.48	Wash Weight (g): 110.48	Pan Retained (g): 0.16	Sieve Loss (%): 0.00	Fines (%): #200 - 0.16 #230 - 0.15	Organics (%): 1.00	Carbonates (%): 64.00	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	0.72	0.65	0.72	0.65
3.5	-2.50	5.66	2.07	1.87	2.79	2.52
4	-2.25	4.76	0.71	0.64	3.50	3.16
5	-2.00	4.00	0.60	0.54	4.10	3.70
7	-1.50	2.83	4.49	4.06	8.59	7.76
10	-1.00	2.00	10.20	9.23	18.79	16.99
14	-0.50	1.41	16.57	15.00	35.36	31.99
18	0.00	1.00	13.72	12.42	49.08	44.41
25	0.50	0.71	10.23	9.26	59.31	53.67
35	1.00	0.50	9.67	8.75	68.98	62.42
45	1.50	0.35	13.64	12.35	82.62	74.77
60	2.00	0.25	16.28	14.74	98.90	89.51
80	2.50	0.18	8.95	8.10	107.85	97.61
120	3.00	0.13	1.97	1.78	109.82	99.39
170	3.50	0.09	0.44	0.40	110.26	99.79
200	3.75	0.07	0.05	0.05	110.31	99.84
230	4.00	0.06	0.01	0.01	110.32	99.85

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.34	1.81	1.51	0.30	-0.73	-1.05	-1.84
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.32	0.80	1.35	-0.19	2.28	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08



**Granularmetric Report**  
 Depths and elevations based on measured values



715-E North Dr.  
 Melbourne, Fl. 32934  
 Phone (321) 751-1135  
 Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R80 MB

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):	Northing (ft):	Coordinate System:	Elevation (ft):
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USCS: <b>SP</b>	Munsell: Wet - 10YR-8/2	Comments:
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Dry Weight (g): 139.01	Wash Weight (g): 139.01	Pan Retained (g): 0.00	Sieve Loss (%): 0.29	Fines (%): #200 - 0.30 #230 - 0.29	Organics (%): 0.90	Carbonates (%): 46.00	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	0.33	0.24	0.33	0.24
3.5	-2.50	5.66	0.39	0.28	0.72	0.52
4	-2.25	4.76	0.10	0.07	0.82	0.59
5	-2.00	4.00	0.03	0.02	0.85	0.61
7	-1.50	2.83	0.47	0.34	1.32	0.95
10	-1.00	2.00	0.58	0.42	1.90	1.37
14	-0.50	1.41	1.06	0.76	2.96	2.13
18	0.00	1.00	2.92	2.10	5.88	4.23
25	0.50	0.71	7.09	5.10	12.97	9.33
35	1.00	0.50	15.81	11.37	28.78	20.70
45	1.50	0.35	27.56	19.83	56.34	40.53
60	2.00	0.25	46.09	33.16	102.43	73.69
80	2.50	0.18	27.66	19.90	130.09	93.59
120	3.00	0.13	7.51	5.40	137.60	98.99
170	3.50	0.09	0.95	0.68	138.55	99.67
200	3.75	0.07	0.04	0.03	138.59	99.70
230	4.00	0.06	0.01	0.01	138.60	99.71

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.63	2.26	2.03	1.64	1.11	0.79	0.08
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.51	0.35	0.83	-1.52	8.1	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R80 MHW

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft): \_\_\_\_\_ Northing (ft): \_\_\_\_\_

Coordinate System: \_\_\_\_\_

Elevation (ft): \_\_\_\_\_

USCS: **SP**      Munsell: **Wet - 10YR-7/2**      Comments: \_\_\_\_\_

Dry Weight (g): <b>125.35</b>	Wash Weight (g): <b>125.35</b>	Pan Retained (g): <b>0.00</b>	Sieve Loss (%): <b>0.08</b>	Fines (%): #200 - 0.07 #230 - 0.06	Organics (%): <b>0.90</b>	Carbonates (%): <b>42.00</b>	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	0.07	0.06	0.07	0.06
5	-2.00	4.00	0.22	0.18	0.29	0.24
7	-1.50	2.83	0.02	0.02	0.31	0.26
10	-1.00	2.00	0.44	0.35	0.75	0.61
14	-0.50	1.41	1.18	0.94	1.93	1.55
18	0.00	1.00	2.85	2.27	4.78	3.82
25	0.50	0.71	6.60	5.27	11.38	9.09
35	1.00	0.50	14.46	11.54	25.84	20.63
45	1.50	0.35	25.67	20.48	51.51	41.11
60	2.00	0.25	36.85	29.40	88.36	70.51
80	2.50	0.18	28.28	22.56	116.64	93.07
120	3.00	0.13	7.28	5.81	123.92	98.88
170	3.50	0.09	1.24	0.99	125.16	99.87
200	3.75	0.07	0.08	0.06	125.24	99.93
230	4.00	0.06	0.01	0.01	125.25	99.94

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.67	2.30	2.10	1.65	1.11	0.80	0.11
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.55	0.34	0.78	-0.85	4.55	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

**Granularmetric Report**  
Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R80 MLW

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):	Northing (ft):	Coordinate System:	Elevation (ft):
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USCS: <b>SP</b>	Munsell: Wet - 10YR-8/2	Comments:
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Dry Weight (g): 119.17	Wash Weight (g): 119.17	Pan Retained (g): 0.01	Sieve Loss (%): 0.01	Fines (%): #200 - 0.03 #230 - 0.01	Organics (%): 1.00	Carbonates (%): 40.00	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.14	0.12	0.14	0.12
10	-1.00	2.00	0.31	0.26	0.45	0.38
14	-0.50	1.41	0.79	0.66	1.24	1.04
18	0.00	1.00	2.04	1.71	3.28	2.75
25	0.50	0.71	6.04	5.07	9.32	7.82
35	1.00	0.50	22.53	18.91	31.85	26.73
45	1.50	0.35	43.08	36.15	74.93	62.88
60	2.00	0.25	33.55	28.15	108.48	91.03
80	2.50	0.18	8.88	7.45	117.36	98.48
120	3.00	0.13	1.50	1.26	118.86	99.74
170	3.50	0.09	0.25	0.21	119.11	99.95
200	3.75	0.07	0.02	0.02	119.13	99.97
230	4.00	0.06	0.02	0.02	119.15	99.99

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.27	1.88	1.72	1.32	0.95	0.72	0.22
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.3	0.41	0.61	-0.59	4.88	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



**COASTAL TECH**  
Coastal Geology & Sediments Laboratory

715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R80 -5

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:  
**SW**

Munsell:  
Wet - 10YR-7/2

Comments:

Dry Weight (g): 148.41	Wash Weight (g): 148.41	Pan Retained (g): 0.02	Sieve Loss (%): 0.07	Fines (%): #200 - 0.11 #230 - 0.09	Organics (%): 1.40	Carbonates (%): 64.00	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	1.17	0.79	1.17	0.79
3.5	-2.50	5.66	1.38	0.93	2.55	1.72
4	-2.25	4.76	0.60	0.40	3.15	2.12
5	-2.00	4.00	0.21	0.14	3.36	2.26
7	-1.50	2.83	1.80	1.21	5.16	3.47
10	-1.00	2.00	3.01	2.03	8.17	5.50
14	-0.50	1.41	6.50	4.38	14.67	9.88
18	0.00	1.00	11.66	7.86	26.33	17.74
25	0.50	0.71	23.44	15.79	49.77	33.53
35	1.00	0.50	37.59	25.33	87.36	58.86
45	1.50	0.35	28.79	19.40	116.15	78.26
60	2.00	0.25	18.16	12.24	134.31	90.50
80	2.50	0.18	10.19	6.87	144.50	97.37
120	3.00	0.13	3.00	2.02	147.50	99.39
170	3.50	0.09	0.69	0.46	148.19	99.85
200	3.75	0.07	0.06	0.04	148.25	99.89
230	4.00	0.06	0.03	0.02	148.28	99.91

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.33	1.73	1.42	0.83	0.23	-0.11	-1.12
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.75	0.59	1.05	-0.89	4.94	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R85 TOD

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-8/3

Comments:

Dry Weight (g): 108.95	Wash Weight (g): 108.95	Pan Retained (g): 0.06	Sieve Loss (%): 0.00	Fines (%): #200 - 0.06 #230 - 0.04	Organics (%): 1.20	Carbonates (%): 62.00	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	0.43	0.39	0.43	0.39
5	-2.00	4.00	0.17	0.16	0.60	0.55
7	-1.50	2.83	1.60	1.47	2.20	2.02
10	-1.00	2.00	3.30	3.03	5.50	5.05
14	-0.50	1.41	7.65	7.02	13.15	12.07
18	0.00	1.00	12.10	11.11	25.25	23.18
25	0.50	0.71	16.38	15.03	41.63	38.21
35	1.00	0.50	18.68	17.15	60.31	55.36
45	1.50	0.35	19.21	17.63	79.52	72.99
60	2.00	0.25	20.20	18.54	99.72	91.53
80	2.50	0.18	7.71	7.08	107.43	98.61
120	3.00	0.13	1.25	1.15	108.68	99.76
170	3.50	0.09	0.17	0.16	108.85	99.92
200	3.75	0.07	0.02	0.02	108.87	99.94
230	4.00	0.06	0.02	0.02	108.89	99.96

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.25	1.80	1.55	0.84	0.06	-0.32	-1.01

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	0.75	0.59	1.01	-0.42	2.74

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

**Granularmetric Report**  
Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch  
Sample Name: R85 MB  
Analysis Date: 04-26-07  
Analyzed By: JV

Easting (ft):                      Northing (ft):                      Coordinate System:                      Elevation (ft):

USCS:                      Munsell:                      Comments:  
**SP**                      **Wet - 10YR-8/2**

Dry Weight (g): <b>113.07</b>	Wash Weight (g): <b>113.07</b>	Pan Retained (g): <b>0.00</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - <b>0.00</b> #230 - <b>0.00</b>	Organics (%): <b>0.70</b>	Carbonates (%): <b>36.50</b>	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.03	0.03	0.03	0.03
10	-1.00	2.00	0.29	0.26	0.32	0.29
14	-0.50	1.41	0.83	0.73	1.15	1.02
18	0.00	1.00	1.93	1.71	3.08	2.73
25	0.50	0.71	4.46	3.94	7.54	6.67
35	1.00	0.50	10.87	9.61	18.41	16.28
45	1.50	0.35	25.25	22.33	43.66	38.61
60	2.00	0.25	42.33	37.44	85.99	76.05
80	2.50	0.18	23.17	20.49	109.16	96.54
120	3.00	0.13	3.46	3.06	112.62	99.60
170	3.50	0.09	0.37	0.33	112.99	99.93
200	3.75	0.07	0.08	0.07	113.07	100.00
230	4.00	0.06	0.00	0.00	113.07	100.00

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.46	2.19	1.99	1.65	1.20	0.99	0.29
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.56	0.34	0.66	-0.91	4.67	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R85 MHW

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft): Northing (ft):

Coordinate System:

Elevation (ft):

USCS: **SP** Munsell: **Wet - 10YR-7/2** Comments:

Dry Weight (g): **125.35** Wash Weight (g): **125.35** Pan Retained (g): **0.02** Sieve Loss (%): **0.31** Fines (%): **#200 - 0.34** **#230 - 0.33** Organics (%): **0.70** Carbonates (%): **31.00** 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	0.02	0.02	0.02
14	-0.50	1.41	0.16	0.13	0.18	0.15
18	0.00	1.00	0.45	0.36	0.63	0.51
25	0.50	0.71	1.78	1.42	2.41	1.93
35	1.00	0.50	8.68	6.92	11.09	8.85
45	1.50	0.35	29.68	23.68	40.77	32.53
60	2.00	0.25	53.56	42.73	94.33	75.26
80	2.50	0.18	24.56	19.59	118.89	94.85
120	3.00	0.13	5.42	4.32	124.31	99.17
170	3.50	0.09	0.57	0.45	124.88	99.62
200	3.75	0.07	0.05	0.04	124.93	99.66
230	4.00	0.06	0.01	0.01	124.94	99.67

Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
	1.68	0.31	0.53	-0.35	4.19

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R85 MLW

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g): 156.85	Wash Weight (g): 156.85	Pan Retained (g): 0.01	Sieve Loss (%): 0.00	Fines (%): #200 - 0.02 #230 - 0.01	Organics (%): 1.20	Carbonates (%): 54.00	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	1.49	0.95	1.49	0.95
4	-2.25	4.76	0.35	0.22	1.84	1.17
5	-2.00	4.00	0.50	0.32	2.34	1.49
7	-1.50	2.83	2.17	1.38	4.51	2.87
10	-1.00	2.00	3.71	2.37	8.22	5.24
14	-0.50	1.41	7.83	4.99	16.05	10.23
18	0.00	1.00	10.31	6.57	26.36	16.80
25	0.50	0.71	13.81	8.80	40.17	25.60
35	1.00	0.50	19.99	12.74	60.16	38.34
45	1.50	0.35	27.76	17.70	87.92	56.04
60	2.00	0.25	35.26	22.48	123.18	78.52
80	2.50	0.18	27.30	17.41	150.48	95.93
120	3.00	0.13	5.77	3.68	156.25	99.61
170	3.50	0.09	0.51	0.33	156.76	99.94
200	3.75	0.07	0.06	0.04	156.82	99.98
230	4.00	0.06	0.02	0.01	156.84	99.99

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.47	2.16	1.92	1.33	0.47	-0.06	-1.05
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.09	0.47	1.12	-0.95	3.71	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08



**Granularmetric Report**  
Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R85 -5

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft): Northing (ft):

Coordinate System:

Elevation (ft):

USCS: SW Munsell: Wet - 10YR-7/3 Comments:

Dry Weight (g): 138.16 Wash Weight (g): 138.16 Pan Retained (g): 0.14 Sieve Loss (%): 0.00 Fines (%): #200 - 0.11 #230 - 0.10 Organics (%): 1.50 Carbonates (%): 86.00 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	5.81	4.21	5.81	4.21
5/16"	-3.00	8.00	0.42	0.30	6.23	4.51
3.5	-2.50	5.66	6.34	4.59	12.57	9.10
4	-2.25	4.76	4.81	3.48	17.38	12.58
5	-2.00	4.00	4.17	3.02	21.55	15.60
7	-1.50	2.83	10.95	7.93	32.50	23.53
10	-1.00	2.00	20.48	14.82	52.98	38.35
14	-0.50	1.41	24.95	18.06	77.93	56.41
18	0.00	1.00	18.93	13.70	96.86	70.11
25	0.50	0.71	11.73	8.49	108.59	78.60
35	1.00	0.50	7.05	5.10	115.64	83.70
45	1.50	0.35	4.96	3.59	120.60	87.29
60	2.00	0.25	6.64	4.81	127.24	92.10
80	2.50	0.18	7.65	5.54	134.89	97.64
120	3.00	0.13	2.88	2.08	137.77	99.72
170	3.50	0.09	0.22	0.16	137.99	99.88
200	3.75	0.07	0.02	0.01	138.01	99.89
230	4.00	0.06	0.01	0.01	138.02	99.90

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.26	1.04	0.29	-0.68	-1.45	-1.97	-2.95

Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
	-0.56	1.47	1.51	0.19	2.83

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

**Granularmetric Report**  
Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R90 TOD

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft): Northing (ft):

Coordinate System:

Elevation (ft):

USCS: **SW** Munsell: **Wet - 10YR-7/1** Comments: **May contain fill material**

Dry Weight (g): **142.02** Wash Weight (g): **142.02** Pan Retained (g): **1.21** Sieve Loss (%): **0.16** Fines (%): **#200 - 1.81**  
**#230 - 1.00** Organics (%): **0.40** Carbonates (%): **18.00** 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	0.69	0.49	0.69	0.49
3.5	-2.50	5.66	0.06	0.04	0.75	0.53
4	-2.25	4.76	0.34	0.24	1.09	0.77
5	-2.00	4.00	0.42	0.30	1.51	1.07
7	-1.50	2.83	2.47	1.74	3.98	2.81
10	-1.00	2.00	3.16	2.23	7.14	5.04
14	-0.50	1.41	3.91	2.75	11.05	7.79
18	0.00	1.00	3.68	2.59	14.73	10.38
25	0.50	0.71	4.64	3.27	19.37	13.65
35	1.00	0.50	9.08	6.39	28.45	20.04
45	1.50	0.35	20.63	14.53	49.08	34.57
60	2.00	0.25	30.75	21.65	79.83	56.22
80	2.50	0.18	23.33	16.43	103.16	72.65
120	3.00	0.13	14.72	10.36	117.88	83.01
170	3.50	0.09	16.61	11.70	134.49	94.71
200	3.75	0.07	4.94	3.48	139.43	98.19
230	4.00	0.06	1.15	0.81	140.58	99.00

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.52	3.04	2.61	1.86	1.17	0.68	-1.01

Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
	1.71	0.31	1.29	-1.01	4.28

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

**Granularmetric Report**  
Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R90MB

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft): Northing (ft):

Coordinate System:

Elevation (ft):

USCS: **SW** Munsell: **Wet - 10YR-7/1** Comments: **May contain fill material**

Dry Weight (g): **110.43** Wash Weight (g): **110.43** Pan Retained (g): **0.64** Sieve Loss (%): **0.31** Finest (%): **#200 - 1.89** **#230 - 0.89** Organics (%): **0.50** Carbonates (%): **19.00** 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	0.32	0.29	0.32	0.29
4	-2.25	4.76	0.15	0.14	0.47	0.43
5	-2.00	4.00	0.61	0.55	1.08	0.98
7	-1.50	2.83	2.13	1.93	3.21	2.91
10	-1.00	2.00	2.44	2.21	5.65	5.12
14	-0.50	1.41	2.92	2.64	8.57	7.76
18	0.00	1.00	2.98	2.70	11.55	10.46
25	0.50	0.71	3.66	3.31	15.21	13.77
35	1.00	0.50	7.11	6.44	22.32	20.21
45	1.50	0.35	15.74	14.25	38.06	34.46
60	2.00	0.25	24.59	22.27	62.65	56.73
80	2.50	0.18	16.62	15.05	79.27	71.78
120	3.00	0.13	12.83	11.62	92.10	83.40
170	3.50	0.09	13.21	11.96	105.31	95.36
200	3.75	0.07	3.04	2.75	108.35	98.11
230	4.00	0.06	1.10	1.00	109.45	99.11

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.48	3.03	2.64	1.85	1.17	0.67	-1.03

Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
	1.71	0.31	1.27	-0.94	3.89

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R 90 MHW

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7/1

Comments:

May contain fill material

Dry Weight (g): 120.28	Wash Weight (g): 120.28	Pan Retained (g): 0.84	Sieve Loss (%): 0.09	Fines (%): #200 - 1.47 #230 - 0.79	Organics (%): 0.60	Carbonates (%): 21.00	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	0.51	0.42	0.51	0.42
4	-2.25	4.76	0.21	0.17	0.72	0.59
5	-2.00	4.00	0.09	0.07	0.81	0.66
7	-1.50	2.83	1.18	0.98	1.99	1.64
10	-1.00	2.00	1.86	1.55	3.85	3.19
14	-0.50	1.41	2.89	2.40	6.74	5.59
18	0.00	1.00	3.16	2.63	9.90	8.22
25	0.50	0.71	4.18	3.48	14.08	11.70
35	1.00	0.50	8.32	6.92	22.40	18.62
45	1.50	0.35	19.08	15.86	41.48	34.48
60	2.00	0.25	28.59	23.77	70.07	58.25
80	2.50	0.18	21.24	17.66	91.31	75.91
120	3.00	0.13	11.59	9.64	102.90	85.55
170	3.50	0.09	12.21	10.15	115.11	95.70
200	3.75	0.07	3.40	2.83	118.51	98.53
230	4.00	0.06	0.82	0.68	119.33	99.21

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.47	2.92	2.47	1.83	1.20	0.81	-0.62
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.73	0.30	1.16	-0.91	4.37	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

**Granularmetric Report**  
 Depths and elevations based on measured values



715-E North Dr.  
 Melbourne, Fl. 32934  
 Phone (321) 751-1135  
 Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch  
 Sample Name: R90 MLW  
 Analysis Date: 04-26-07  
 Analyzed By: JV

Easting (ft): \_\_\_\_\_ Northing (ft): \_\_\_\_\_ Coordinate System: \_\_\_\_\_ Elevation (ft): \_\_\_\_\_

USCS: **SW** Munsell: **Wet - 10YR-8/2** Comments: **May contain fill material**

Dry Weight (g): **161.57** Wash Weight (g): **161.57** Pan Retained (g): **0.00** Sieve Loss (%): **0.28** Fines (%): **#200 - 0.30**  
**#230 - 0.28** Organics (%): **1.30** Carbonates (%): **67.00** 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	0.78	0.48	0.78	0.48
3.5	-2.50	5.66	1.13	0.70	1.91	1.18
4	-2.25	4.76	1.76	1.09	3.67	2.27
5	-2.00	4.00	1.71	1.06	5.38	3.33
7	-1.50	2.83	7.69	4.76	13.07	8.09
10	-1.00	2.00	11.89	7.36	24.96	15.45
14	-0.50	1.41	17.32	10.72	42.28	26.17
18	0.00	1.00	20.82	12.89	63.10	39.06
25	0.50	0.71	20.91	12.94	84.01	52.00
35	1.00	0.50	23.51	14.55	107.52	66.55
45	1.50	0.35	21.74	13.46	129.26	80.01
60	2.00	0.25	19.59	12.12	148.85	92.13
80	2.50	0.18	10.02	6.20	158.87	98.33
120	3.00	0.13	2.03	1.26	160.90	99.59
170	3.50	0.09	0.13	0.08	161.03	99.67
200	3.75	0.07	0.05	0.03	161.08	99.70
230	4.00	0.06	0.03	0.02	161.11	99.72

Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
	0.33	0.80	1.24	-0.29	2.51

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

**Granularmetric Report**  
 Depths and elevations based on measured values



715-E North Dr.  
 Melbourne, Fl. 32934  
 Phone (321) 751-1135  
 Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R 90 -5

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):	Northing (ft):	Coordinate System:	Elevation (ft):
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USCS: SW	Munsell: Wet - 10YR-7/2	Comments: May contain fill material
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Dry Weight (g): 160.05	Wash Weight (g): 160.05	Pan Retained (g): 0.01	Sieve Loss (%): 0.16	Fines (%): #200 - 0.17 #230 - 0.16	Organics (%): 1.70	Carbonates (%): 79.00	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	10.11	6.32	10.11	6.32
5/16"	-3.00	8.00	11.66	7.29	21.77	13.61
3.5	-2.50	5.66	8.74	5.46	30.51	19.07
4	-2.25	4.76	7.04	4.40	37.55	23.47
5	-2.00	4.00	8.19	5.12	45.74	28.59
7	-1.50	2.83	15.69	9.80	61.43	38.39
10	-1.00	2.00	17.93	11.20	79.36	49.59
14	-0.50	1.41	18.40	11.50	97.76	61.09
18	0.00	1.00	13.57	8.48	111.33	69.57
25	0.50	0.71	9.76	6.10	121.09	75.67
35	1.00	0.50	7.76	4.85	128.85	80.52
45	1.50	0.35	6.91	4.32	135.76	84.84
60	2.00	0.25	8.65	5.40	144.41	90.24
80	2.50	0.18	10.69	6.68	155.10	96.92
120	3.00	0.13	3.83	2.39	158.93	99.31
170	3.50	0.09	0.74	0.46	159.67	99.77
200	3.75	0.07	0.09	0.06	159.76	99.83
230	4.00	0.06	0.02	0.01	159.78	99.84

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.36	1.40	0.45	-0.98	-2.18	-2.78	-3.66
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	-0.82	1.77	1.81	0.27	2.2	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R95 TOD

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):	Northing (ft):	Coordinate System:	Elevation (ft):
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USCS: <b>SP</b>	Munsell: Wet - 10YR-8/2	Comments:
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Dry Weight (g): <b>135.75</b>	Wash Weight (g): <b>135.75</b>	Pan Retained (g): <b>0.02</b>	Sieve Loss (%): <b>0.00</b>	Fines (%): #200 - 0.01 #230 - 0.01	Organics (%): <b>0.60</b>	Carbonates (%): <b>31.00</b>	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	0.00	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	0.00	0.00	0.00	0.00
14	-0.50	1.41	0.04	0.03	0.04	0.03
18	0.00	1.00	0.09	0.07	0.13	0.10
25	0.50	0.71	0.64	0.47	0.77	0.57
35	1.00	0.50	4.54	3.34	5.31	3.91
45	1.50	0.35	23.13	17.04	28.44	20.95
60	2.00	0.25	63.58	46.84	92.02	67.79
80	2.50	0.18	35.16	25.90	127.18	93.69
120	3.00	0.13	7.68	5.66	134.86	99.35
170	3.50	0.09	0.83	0.61	135.69	99.96
200	3.75	0.07	0.04	0.03	135.73	99.99
230	4.00	0.06	0.00	0.00	135.73	99.99

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.62	2.31	2.14	1.81	1.54	1.35	1.03
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.82	0.28	0.47	-0.14	3.94	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R95 MB

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g): 117.65	Wash Weight (g): 117.65	Pan Retained (g): 0.13	Sieve Loss (%): 0.09	Fines (%): #200 - 0.20 #230 - 0.20	Organics (%): 0.80	Carbonates (%): 35.00	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.03	0.03	0.03	0.03
10	-1.00	2.00	0.11	0.09	0.14	0.12
14	-0.50	1.41	0.48	0.41	0.62	0.53
18	0.00	1.00	0.87	0.74	1.49	1.27
25	0.50	0.71	2.40	2.04	3.89	3.31
35	1.00	0.50	8.70	7.39	12.59	10.70
45	1.50	0.35	22.54	19.16	35.13	29.86
60	2.00	0.25	44.46	37.79	79.59	67.65
80	2.50	0.18	31.34	26.64	110.93	94.29
120	3.00	0.13	5.60	4.76	116.53	99.05
170	3.50	0.09	0.83	0.71	117.36	99.76
200	3.75	0.07	0.05	0.04	117.41	99.80
230	4.00	0.06	0.00	0.00	117.41	99.80

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.57	2.31	2.14	1.77	1.37	1.14	0.61
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.71	0.31	0.6	-0.81	4.93	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08



# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R95 MHW

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SP

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g):

114.10

Wash Weight (g):

114.10

Pan Retained (g):

0.05

Sieve Loss (%):

0.09

Fines (%):

#200 - 0.16  
#230 - 0.13

Organics (%):

1.00

Carbonates (%):

44.00

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

0.01

0.01

0.01

0.01

10

-1.00

2.00

0.40

0.35

0.41

0.36

14

-0.50

1.41

0.92

0.81

1.33

1.17

18

0.00

1.00

3.15

2.76

4.48

3.93

25

0.50

0.71

8.39

7.35

12.87

11.28

35

1.00

0.50

18.61

16.31

31.48

27.59

45

1.50

0.35

27.18

23.82

58.66

51.41

60

2.00

0.25

32.48

28.47

91.14

79.88

80

2.50

0.18

17.32

15.18

108.46

95.06

120

3.00

0.13

4.52

3.96

112.98

99.02

170

3.50

0.09

0.86

0.75

113.84

99.77

200

3.75

0.07

0.08

0.07

113.92

99.84

230

4.00

0.06

0.03

0.03

113.95

99.87

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.50

2.14

1.91

1.47

0.92

0.64

0.07

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.4

0.38

0.75

-0.4

3.37

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granulometric Report

Depths and elevations based on measured values



**COASTAL TECH**  
Coastal Geology & Sediments Laboratory

715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R95 MLW

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft): \_\_\_\_\_ Northing (ft): \_\_\_\_\_

Coordinate System: \_\_\_\_\_

Elevation (ft): \_\_\_\_\_

USCS: **SW** Munsell: **Wet - 10YR-7/3** Comments: \_\_\_\_\_

Dry Weight (g): <b>117.01</b>	Wash Weight (g): <b>117.01</b>	Pan Retained (g): <b>0.19</b>	Sieve Loss (%): <b>0.09</b>	Fines (%): #200 - 0.27 #230 - 0.24	Organics (%): <b>1.30</b>	Carbonates (%): <b>57.00</b>	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	0.37	0.32	0.37	0.32
4	-2.25	4.76	0.00	0.00	0.37	0.32
5	-2.00	4.00	0.23	0.20	0.60	0.52
7	-1.50	2.83	0.72	0.62	1.32	1.14
10	-1.00	2.00	2.84	2.43	4.16	3.57
14	-0.50	1.41	7.81	6.67	11.97	10.24
18	0.00	1.00	11.64	9.95	23.61	20.19
25	0.50	0.71	13.35	11.41	36.96	31.60
35	1.00	0.50	13.29	11.36	50.25	42.96
45	1.50	0.35	12.55	10.73	62.80	53.69
60	2.00	0.25	18.38	15.71	81.18	69.40
80	2.50	0.18	23.09	19.73	104.27	89.13
120	3.00	0.13	10.13	8.66	114.40	97.79
170	3.50	0.09	2.16	1.85	116.56	99.64
200	3.75	0.07	0.11	0.09	116.67	99.73
230	4.00	0.06	0.04	0.03	116.71	99.76

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.84	2.37	2.14	1.33	0.21	-0.21	-0.89
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.14	0.45	1.19	-0.41	2.39	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R95 -5

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g):

112.30

Wash Weight (g):

112.30

Pan Retained (g):

0.37

Sieve Loss (%):

0.00

Fines (%):

#200 - 0.33  
#230 - 0.32

Organics (%):

1.30

Carbonates (%):

76.00

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

2.27

2.02

2.27

2.02

11/16"

-3.50

11.31

2.73

2.43

5.00

4.45

5/16"

-3.00

8.00

7.79

6.94

12.79

11.39

3.5

-2.50

5.66

5.12

4.56

17.91

15.95

4

-2.25

4.76

4.16

3.70

22.07

19.65

5

-2.00

4.00

4.13

3.68

26.20

23.33

7

-1.50

2.83

10.54

9.39

36.74

32.72

10

-1.00

2.00

15.02

13.37

51.76

46.09

14

-0.50

1.41

18.01

16.04

69.77

62.13

18

0.00

1.00

13.91

12.39

83.68

74.52

25

0.50

0.71

7.85

6.99

91.53

81.51

35

1.00

0.50

3.82

3.40

95.35

84.91

45

1.50

0.35

2.14

1.91

97.49

86.82

60

2.00

0.25

3.30

2.94

100.79

89.76

80

2.50

0.18

5.45

4.85

106.24

94.61

120

3.00

0.13

4.46

3.97

110.70

98.58

170

3.50

0.09

1.19

1.06

111.89

99.64

200

3.75

0.07

0.03

0.03

111.92

99.67

230

4.00

0.06

0.01

0.01

111.93

99.68

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.55

0.87

0.03

-0.88

-1.91

-2.50

-3.46

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

-0.8

1.74

1.7

0.36

2.77

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R-98 TOD

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):                      Northing (ft):

Coordinate System:

Elevation (ft):

USCS: **SP**                      Munsell: **Wet - 10YR-7/2**                      Comments:

Dry Weight (g): <b>145.70</b>	Wash Weight (g): <b>145.70</b>	Pan Retained (g): <b>0.01</b>	Sieve Loss (%): <b>0.27</b>	Fines (%): <b>#200 - 0.28</b> <b>#230 - 0.28</b>	Organics (%): <b>1.00</b>	Carbonates (%): <b>51.80</b>	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.13	0.09	0.13	0.09
7	-1.50	2.83	0.12	0.08	0.25	0.17
10	-1.00	2.00	0.82	0.56	1.07	0.73
14	-0.50	1.41	2.71	1.86	3.78	2.59
18	0.00	1.00	7.85	5.39	11.63	7.98
25	0.50	0.71	16.54	11.35	28.17	19.33
35	1.00	0.50	29.65	20.35	57.82	39.68
45	1.50	0.35	40.74	27.96	98.56	67.64
60	2.00	0.25	31.35	21.52	129.91	89.16
80	2.50	0.18	12.85	8.82	142.76	97.98
120	3.00	0.13	2.15	1.48	144.91	99.46
170	3.50	0.09	0.35	0.24	145.26	99.70
200	3.75	0.07	0.03	0.02	145.29	99.72
230	4.00	0.06	0.00	0.00	145.29	99.72

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.33	1.88	1.67	1.18	0.64	0.35	-0.28
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	1.12	0.46	0.76	-0.45	3.41	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R-98 MB

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):	Northing (ft):	Coordinate System:	Elevation (ft):
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USCS: <b>SP</b>	Munsell: Wet - 10YR-7/2	Comments:
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Dry Weight (g): 138.99	Wash Weight (g): 138.99	Pan Retained (g): 0.35	Sieve Loss (%): 0.00	Fines (%): #200 - 0.28 #230 - 0.27	Organics (%): 1.20	Carbonates (%): 59.60	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.17	0.12	0.17	0.12
7	-1.50	2.83	0.33	0.24	0.50	0.36
10	-1.00	2.00	0.84	0.60	1.34	0.96
14	-0.50	1.41	2.66	1.91	4.00	2.87
18	0.00	1.00	7.87	5.66	11.87	8.53
25	0.50	0.71	25.02	18.00	36.89	26.53
35	1.00	0.50	48.44	34.85	85.33	61.38
45	1.50	0.35	34.07	24.51	119.40	85.89
60	2.00	0.25	14.39	10.35	133.79	96.24
80	2.50	0.18	3.72	2.68	137.51	98.92
120	3.00	0.13	0.72	0.52	138.23	99.44
170	3.50	0.09	0.30	0.22	138.53	99.66
200	3.75	0.07	0.09	0.06	138.62	99.72
230	4.00	0.06	0.02	0.01	138.64	99.73

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.94	1.46	1.28	0.84	0.46	0.21	-0.31
Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
	0.84	0.56	0.67	-0.19	4.47	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R-98 MHW

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g): 101.73	Wash Weight (g): 101.73	Pan Retained (g): 0.30	Sieve Loss (%): 0.00	Fines (%): #200 - 0.29 #230 - 0.29	Organics (%): 2.00	Carbonates (%): 41.60	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	0.24	0.24	0.24	0.24
5	-2.00	4.00	0.10	0.10	0.34	0.34
7	-1.50	2.83	1.14	1.12	1.48	1.46
10	-1.00	2.00	1.70	1.67	3.18	3.13
14	-0.50	1.41	3.08	3.03	6.26	6.16
18	0.00	1.00	4.70	4.62	10.96	10.78
25	0.50	0.71	8.29	8.15	19.25	18.93
35	1.00	0.50	17.35	17.05	36.60	35.98
45	1.50	0.35	29.22	28.72	65.82	64.70
60	2.00	0.25	25.42	24.99	91.24	89.69
80	2.50	0.18	8.65	8.50	99.89	98.19
120	3.00	0.13	1.21	1.19	101.10	99.38
170	3.50	0.09	0.28	0.28	101.38	99.66
200	3.75	0.07	0.05	0.05	101.43	99.71
230	4.00	0.06	0.00	0.00	101.43	99.71

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.31	1.89	1.71	1.24	0.68	0.32	-0.69
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.1	0.47	0.87	-1.03	4.48	

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R-98 MLW

Analysis Date: 03-28-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g):

193.26

Wash Weight (g):

193.26

Pan Retained (g):

0.24

Sieve Loss (%):

0.00

Fines (%):

#200 - 0.18  
#230 - 0.15

Organics (%):

1.10

Carbonates (%):

49.40

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

0.22

0.11

0.22

0.11

7

-1.50

2.83

0.64

0.33

0.86

0.44

10

-1.00

2.00

2.73

1.41

3.59

1.85

14

-0.50

1.41

6.52

3.37

10.11

5.22

18

0.00

1.00

10.20

5.28

20.31

10.50

25

0.50

0.71

16.03

8.29

36.34

18.79

35

1.00

0.50

29.61

15.32

65.95

34.11

45

1.50

0.35

41.55

21.50

107.50

55.61

60

2.00

0.25

41.98

21.72

149.48

77.33

80

2.50

0.18

26.91

13.92

176.39

91.25

120

3.00

0.13

13.94

7.21

190.33

98.46

170

3.50

0.09

2.57

1.33

192.90

99.79

200

3.75

0.07

0.06

0.03

192.96

99.82

230

4.00

0.06

0.06

0.03

193.02

99.85

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.76

2.24

1.95

1.37

0.70

0.33

-0.53

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.28

0.41

0.96

-0.52

3.16

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08

# Granularmetric Report

Depths and elevations based on measured values



715-E North Dr.  
Melbourne, Fl. 32934  
Phone (321) 751-1135  
Fax (321) 751-2343

Project Name: St. Lucie Co Native Bch

Sample Name: R98 -5

Analysis Date: 04-26-07

Analyzed By: JV

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

USCS:

SW

Munsell:

Wet - 10YR-7/2

Comments:

Dry Weight (g):

132.13

Wash Weight (g):

132.13

Pan Retained (g):

0.09

Sieve Loss (%):

0.38

Fines (%):

#200 - 0.54  
#230 - 0.46

Organics (%):

1.20

Carbonates (%):

49.00

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

0.61

0.46

0.61

0.46

5

-2.00

4.00

0.53

0.40

1.14

0.86

7

-1.50

2.83

1.76

1.33

2.90

2.19

10

-1.00

2.00

2.53

1.91

5.43

4.10

14

-0.50

1.41

4.68

3.54

10.11

7.64

18

0.00

1.00

4.53

3.43

14.64

11.07

25

0.50

0.71

4.24

3.21

18.88

14.28

35

1.00

0.50

4.70

3.56

23.58

17.84

45

1.50

0.35

6.95

5.26

30.53

23.10

60

2.00

0.25

18.58

14.06

49.11

37.16

80

2.50

0.18

41.20

31.18

90.31

68.34

120

3.00

0.13

30.48

23.07

120.79

91.41

170

3.50

0.09

10.06

7.61

130.85

99.02

200

3.75

0.07

0.58

0.44

131.43

99.46

230

4.00

0.06

0.11

0.08

131.54

99.54

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

3.24

2.84

2.64

2.21

1.57

0.74

-0.87

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.86

0.28

1.2

-1.45

4.6

GRANULARMETRIC REPORT ST. LUCIE OFFSHORE.GPJ FL DEP ROSS.GDT 2/12/08



## **Appendix 2a**

### **Vibracore Sample Sedimentology**

Sample	gINT Granularmetrics							USC	Composition (wt%)			Munsell Color			
	Size Class (wt%)				Descriptive Statistics				Organic	Carbonate	Siliciclastic	Wet		Dry	
	Gravel	Sand	<#200	<#230	Mean (mm)	Verbal	Std. Dev.(phi)					Verbal	Value	Verbal	Value
PS-1: #1	0.05	99.86	0.09	0.07	0.38	F	0.80	SP	1.9	80.3	17.8	grayish brn	10YR 5/2	gray	10YR 6/1
PS-1: #2	3.10	96.57	0.33	0.22	0.57	M	1.16	SW	1.8	81.0	17.2	grayish brn	10YR 5/2	gray	10YR 6/1
PS-1: #3	1.24	98.05	0.71	0.58	0.49	M	1.01	SW	1.8	79.0	19.2	grayish brn	10YR 5/2	gray	10YR 6/1
PS-1: #4	0.20	94.01	5.79	5.25	0.40	F	0.91	SW-SM	1.9	77.0	21.1	grayish brn	10YR 5/2	gray	10YR 6/1
PS-1: #5	0.11	90.01	9.88	8.53	0.23	F	1.07	SW-SM	1.7	67.7	30.6	gray	10YR 5/1	gray	10YR 6/1
PS-1: #6	0.03	91.34	8.63	6.69	0.26	F	1.01	SW-SM	2.0	84.4	13.6	gray	10YR 5/1	gray	10YR 6/1
PS-2: #1	0.25	99.68	0.07	0.06	0.63	M	0.84	SP	2.0	84.4	13.6	grayish brn	10YR 5/2	gray	10YR 6/1
PS-2: #2	7.72	91.46	0.82	0.63	0.78	M	1.51	SW	1.9	86.2	11.9	grayish brn	10YR 5/2	gray	10YR 6/1
PS-2: #3	0.00	95.26	4.74	4.31	0.37	F	0.82	SP	1.8	75.1	23.1	grayish brn	10YR 5/2	gray	10YR 6/1
PS-2: #4	0.27	94.49	5.24	4.44	0.30	F	1.11	SW-SM	1.8	78.7	19.5	gray	10YR 5/1	gray	10YR 6/1
PS-2: #5	0.22	92.05	7.73	6.92	0.26	F	0.90	SW-SM	1.9	78.9	19.2	gray	10YR 5/1	gray	10YR 6/1
PS-2: #6	1.30	92.48	6.22	5.43	0.34	F	1.17	SW-SM	1.8	70.7	27.5	gray	10YR 5/1	gray	10YR 6/1
PS-3: #1	0.68	99.15	0.17	0.13	0.41	F	0.84	SP	1.9	75.6	22.5	grayish brn	10YR 5/2	gray	10YR 6/1
PS-3: #2	1.62	97.67	0.71	0.56	0.56	M	1.09	SW	1.9	80.3	17.8	grayish brn	10YR 5/2	gray	10YR 6/1
PS-3: #3	1.60	95.78	2.62	2.47	0.56	M	1.09	SW	1.9	79.1	19.0	grayish brn	10YR 5/2	gray	10YR 6/1
PS-3: #4	1.30	98.09	0.61	0.43	0.41	F	0.99	SW	2.0	76.4	21.6	grayish brn	10YR 5/2	gray	10YR 6/1
PS-3: #5	0.37	94.94	4.69	4.11	0.29	F	1.02	SW	2.0	69.9	28.1	gray	10YR 5/1	gray	10YR 6/1
PS-4: #1	0.81	99.03	0.16	0.15	0.44	M	0.85	SP	2.0	76.7	21.3	grayish brn	10YR 5/2	gray	10YR 6/1
PS-4: #2	13.39	84.66	1.95	1.82	1.06	M	1.77	SW w/ Gravel	2.0	87.7	10.3	lt. brnsh gry	10YR 6/2	lt. gray	2.5Y 7/1
PS-4: #3	1.14	93.89	4.97	4.20	0.33	F	1.11	SW	1.9	77.4	20.7	dark gray	10YR 4/1	gray	10YR 6/1
PS-4: #4	0.19	94.46	5.35	4.81	0.31	F	0.98	SW-SM	1.9	74.8	23.3	gray	10YR 5/1	gray	10YR 6/1
PS-4: #5	0.63	91.50	7.87	6.68	0.34	F	1.01	SW-SM	2.1	75.2	22.7	gray	10YR 5/1	gray	10YR 6/1
PS-5: #1	32.17	66.54	1.29	1.20	1.83	M	1.97	SW w/ Gravel	1.9	85.6	12.5	grayish brn	10YR 5/2	gray	10YR 6/1
PS-5: #2	2.23	95.98	1.79	1.04	0.32	F	1.24	SW	1.8	70.0	28.2	gray	10YR 5/1	gray	10YR 6/1
PS-5: #3	0.24	96.57	3.19	1.42	0.27	F	0.93	SW	1.7	66.6	31.7	gray	10YR 5/1	gray	10YR 6/1
PS-5: #4	21.59	77.62	0.79	0.51	0.95	M	1.83	GW	1.9	77.9	20.2	gray	10YR 5/1	gray	10YR 6/1
SLS-06: #1	0.69	97.55	1.76	1.71	0.64	M	0.89	SW	2.0	85.5	12.5	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-06: #2	0.00	97.22	2.78	2.65	0.35	F	0.63	SP	1.9	72.5	25.6	grayish brn	10YR 5/2	gray	10YR 6/1
SLS-06: #3	0.00	96.77	3.23	2.96	0.47	M	0.80	SP	2.0	83.2	14.8	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-06: #4	0.00	97.96	2.04	1.84	0.65	F	0.60	SP	1.8	73.8	24.4	grayish brn	10YR 5/2	gray	10YR 6/1
SLS-06: #5	0.21	94.68	5.11	4.52	0.40	F	1.02	SW-SM	1.8	80.6	17.6	lt. grayish brn	2.5Y 6/2	lt. gray	5Y 7/1
SLS-06: #6	1.13	92.24	6.63	6.04	0.42	F	1.05	SW-SM	1.9	82.4	15.7	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-07: #1	0.09	98.49	1.42	1.39	0.66	M	0.72	SP	2.0	87.4	10.6	brown	10YR 5/3	pale brown	10YR 6/3
SLS-07: #2	0.02	97.73	2.25	2.19	0.62	M	0.77	SP	2.0	86.1	11.9	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-07: #3	2.46	94.62	2.92	2.74	0.44	M	1.20	SW	1.9	80.3	17.8	lt. grayish brn	2.5Y 6/2	lt. gray	5Y 7/1
SLS-07: #4	0.20	96.27	3.53	3.22	0.42	F	0.77	SP	1.8	78.3	19.9	lt. grayish brn	2.5Y 6/2	lt. gray	5Y 7/1
SLS-07: #5	0.00	94.98	5.02	4.69	0.40	F	0.98	SW-SM	1.9	82.0	16.1	lt. grayish brn	2.5Y 6/2	lt. gray	5Y 7/1
SLS-07: #6	2.40	91.57	6.03	5.37	0.49	M	1.32	SW-SM	1.8	86.1	12.1	lt. gray	2.5Y 7/2	lt. gray	2.5Y 7/1
SLS-08: #1	0.04	99.03	0.93	0.90	0.56	M	0.77	SP	2.0	83.1	14.9	lt. grayish brn	2.5Y 6/2	ltl gray	5Y 7/1
SLS-08: #2	0.00	97.56	2.44	2.34	0.44	M	0.67	SP	1.9	79.8	18.3	grayish brn	10YR 5/2	gray	10YR 6/1
SLS-08: #3	0.14	94.97	4.89	4.37	0.56	M	1.13	SW	1.9	89.4	8.7	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-08: #4	1.49	94.04	4.47	4.03	0.43	F	0.99	SW	1.9	81.1	17.0	grayish brn	10YR 5/2	gray	10YR 6/1
SLS-08: #5	0.04	95.17	4.79	4.45	0.45	M	0.91	SW	1.9	84.2	13.9	grayish brn	2.5.Y 5/2	lt. grayish brn	2.5Y 6/2

Sample	gINT Granularmetrics							USC	Composition (wt%)			Munsell Color			
	Size Class (wt%)				Descriptive Statistics				Organic	Carbonate	Siliciclastic	Wet		Dry	
	Gravel	Sand	<#200	<#230	Mean (mm)	Verbal	Std. Dev.(phi)					Verbal	Value	Verbal	Value
SLS-08: #6	0.77	94.08	5.15	4.63	0.57	M	1.13	SW-SM	2.1	86.8	11.1	lt. grayish brn	2.5Y 6/2	lt. gray	5Y 7/1
SLS-09: #1	0.73	97.84	1.43	1.40	0.52	M	0.85	SP	2.2	81.8	16.0	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-09: #2	1.23	97.33	1.44	1.38	0.64	M	0.95	SW	2.2	85.2	12.6	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-09: #3	0.00	96.42	3.58	3.40	0.43	F	0.80	SP	2.2	81.6	16.2	grayish brn	10YR 5/2	gray	10YR 6/1
SLS-09: #4	1.00	96.48	2.52	2.31	0.50	M	1.09	SW	2.1	81.3	16.6	grayish brn	10YR 5/2	gray	10YR 6/1
SLS-09: #5	1.74	94.57	3.69	3.37	0.45	M	1.08	SW	1.9	78.7	19.4	grayish brn	10YR 5/2	gray	10YR 6/1
SLS-09: #6	0.00	97.35	2.65	2.37	0.30	F	0.82	SP	2.0	72.4	25.6	gray	10YR 5/1	gray	10YR 6/1
SLS-10: #1	0.19	98.88	0.93	0.92	0.53	M	0.71	SP	2.2	83.2	14.6	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-10: #2	0.00	98.99	1.01	1.00	0.54	M	0.67	SP	2.1	84.8	13.1	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-10: #3	0.00	98.73	1.27	1.23	0.46	M	0.65	SP	2.1	79.8	18.1	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-10: #4	0.00	96.99	3.01	2.81	0.43	F	0.76	SP	2.0	79.4	18.6	grayish brn	10YR 5/2	lt. gray	10YR 7/2
SLS-10: #5	0.00	95.90	4.10	3.74	0.47	M	0.93	SW	2.1	83.1	14.8	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-11: #1	0.00	99.01	0.99	0.98	0.47	M	0.61	SP	2.2	80.8	17.0	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-11: #2	0.41	98.05	1.54	1.51	0.66	M	1.00	SW	2.1	85.2	12.7	lt. grayish brn	2.5Y 6/2	ltl gray	5Y 7/1
SLS-11: #3	0.02	96.54	3.44	3.21	0.45	M	0.94	SW	2.1	87.7	10.2	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-11: #4	0.00	96.94	3.06	2.89	0.45	M	0.82	SP	2.2	83.4	14.4	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-11: #5	2.68	92.89	4.43	4.04	0.45	M	1.27	SW	2.1	83.3	14.6	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-12: #1	0.21	98.86	0.93	0.91	0.55	M	0.75	SP	2.1	82.1	15.8	lt. grayish brn	2.5Y 6/2	ltl gray	5Y 7/1
SLS-12: #2	0.00	98.59	1.41	1.39	0.46	M	0.72	SP	2.0	79.9	18.1	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-12: #3	4.86	92.29	2.85	2.66	0.64	M	1.47	SW	2.0	84.0	14.0	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-12: #4	0.00	96.94	3.06	2.75	0.30	F	0.69	SP	2.0	76.9	21.1	grayish brn	10YR 5/2	gray	10YR 6/1
SLS-12: #5	0.07	95.28	4.65	4.36	0.30	F	0.67	SP	2.0	76.8	21.2	grayish brn	10YR 5/2	gray	10YR 6/1
SLS-13: #1	0.43	98.65	0.92	0.89	0.49	M	0.89	SW	2.0	81.9	16.1	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-13: #2	0.00	98.67	1.33	1.25	0.32	F	0.71	SP	2.0	75.2	22.8	grayish brn	10YR 5/2	gray	10YR 6/1
SLS-13: #3	5.84	92.78	1.38	1.28	0.46	M	1.19	SW	2.0	78.7	19.3	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-13: #4	15.88	83.30	0.82	0.54	0.71	M	1.99	SW w/ Gravel	2.0	81.0	17.0	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-13: #5	0.85	98.13	1.02	0.70	0.34	F	0.90	SW	2.0	79.8	18.2	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-14: #1	0.21	98.81	0.98	0.94	0.39	F	0.74	SP	1.9	75.2	22.9	lt. grayish brn	2.5Y 6/2	ltl gray	5Y 7/1
SLS-14: #2	0.47	98.52	1.01	0.96	0.43	M	0.81	SP	1.5	77.3	21.2	lt. grayish brn	2.5Y 6/2	ltl gray	5Y 7/1
SLS-14: #3	25.46	71.91	2.63	2.42	1.53	M	1.93	SW w/ Gravel	1.9	89.4	8.7	lt. brnish gry	10YR 6/2	lt. gray	2.5Y 7/1
SLS-14: #4	0.04	98.77	1.19	0.86	0.41	F	0.93	SW	2.0	81.6	16.4	grayish brn	10YR 5/2	gray	10YR 6/1
SLS-14: #5	0.44	92.71	6.85	6.33	0.35	F	1.13	SW-SM	2.1	80.6	17.3	gray	10YR 5/1	gray	10YR 6/1
SLS-15: #1	1.50	96.99	1.51	1.42	0.40	F	1.18	SW	2.3	77.2	20.5	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-15: #2	27.59	70.25	2.16	2.00	1.66	M	1.93	SW w/ Gravel	2.0	76.9	21.1	lt. brnish gry	10YR 6/2		2.5Y 7/1
SLS-15: #3	0.00	99.11	0.89	0.66	0.34	F	0.86	SW	1.8	90.7	7.5	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-15: #4	1.16	95.92	2.92	2.27	0.24	F	1.02	SW	2.2	73.9	23.9	dark gray	10YR 4/1	gray	10YR 6/1
SLS-16: #1	0.11	98.72	1.17	1.15	0.40	F	0.74	SP	2.0	77.3	20.7	lt. olive brn	2.5Y 5/3	lt. yllwish brn	2.5Y 6/3
SLS-16: #2	0.70	97.62	1.68	1.58	0.44	M	0.96	SW	2.0	79.7	18.3	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-16: #3	0.42	97.98	1.60	1.53	0.50	M	0.97	SW	2.0	82.9	15.1	grayish brn	2.5Y 5/2	lt. grayish brn	2.5Y 6/2
SLS-16: #4	23.23	72.11	4.66	4.34	1.65	M	1.79	SW w/ Gravel	2.1	91.1	6.8	lt. brnish gry	10YR 6/2	lt. gray	2.5Y 7/1
SLS-16: #5	0.00	97.27	2.73	1.94	0.29	F	0.98	SW	1.9	80.1	18.0	dark gray	10YR 4/1	gray	10YR 6/1

**Appendix 2b**

**Vibracore Photographs**

Vibracore PS-1



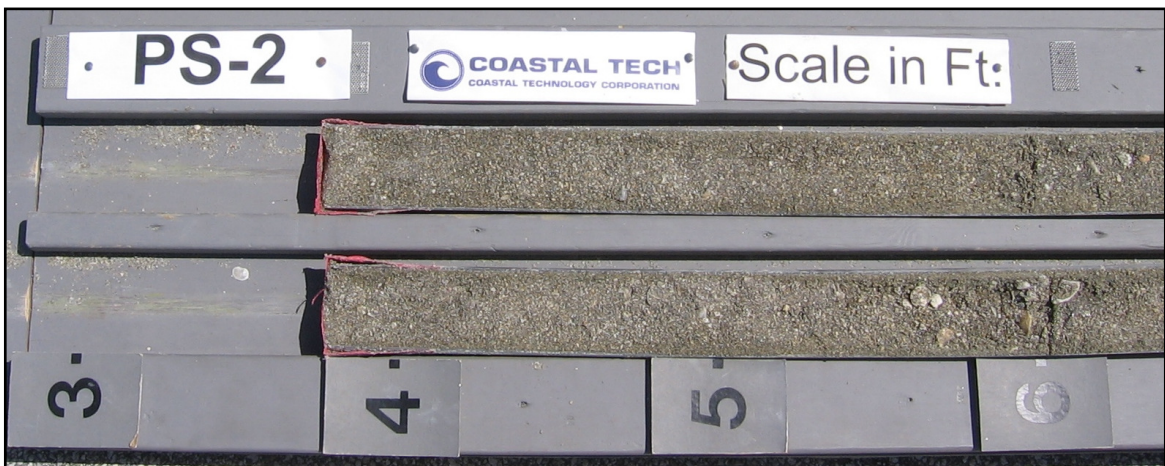
Vibracore PS-1



Vibracore PS-1

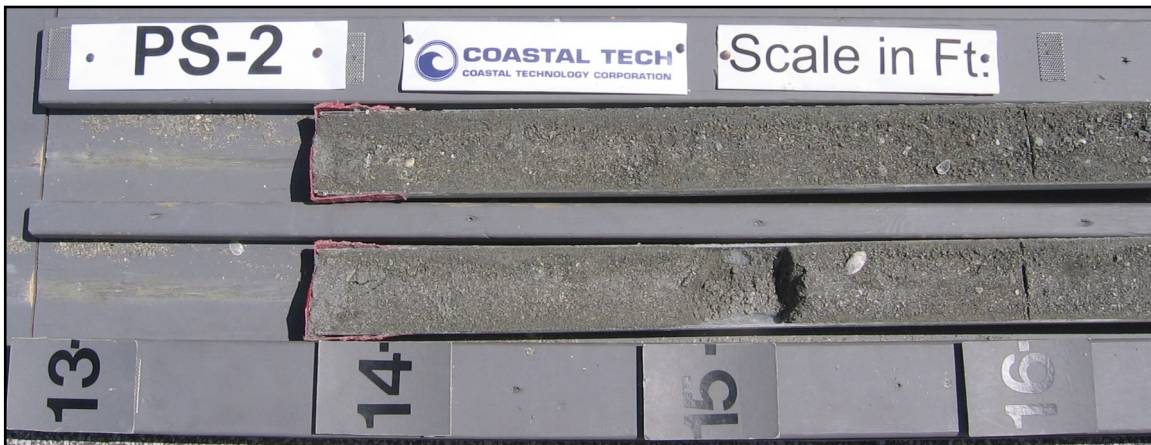
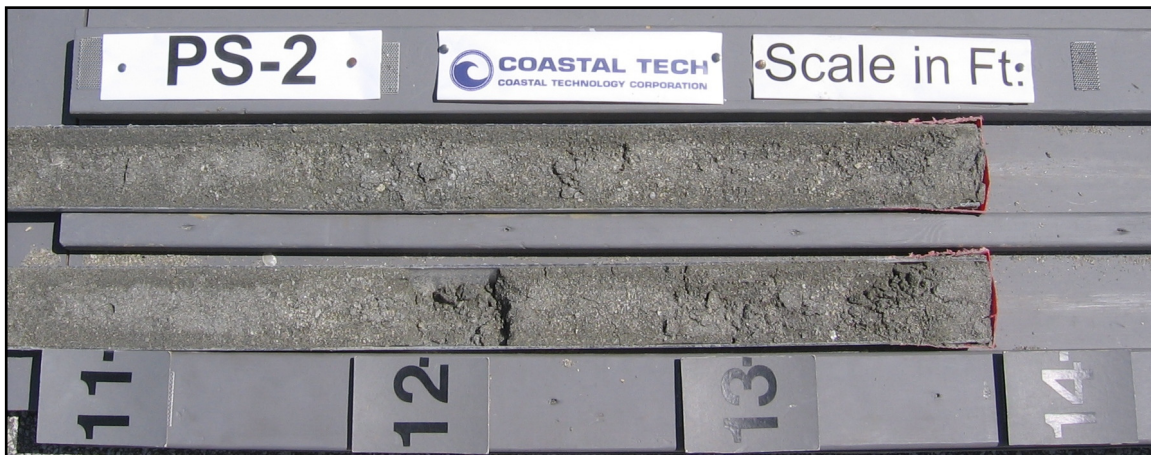


Vibracore PS-2





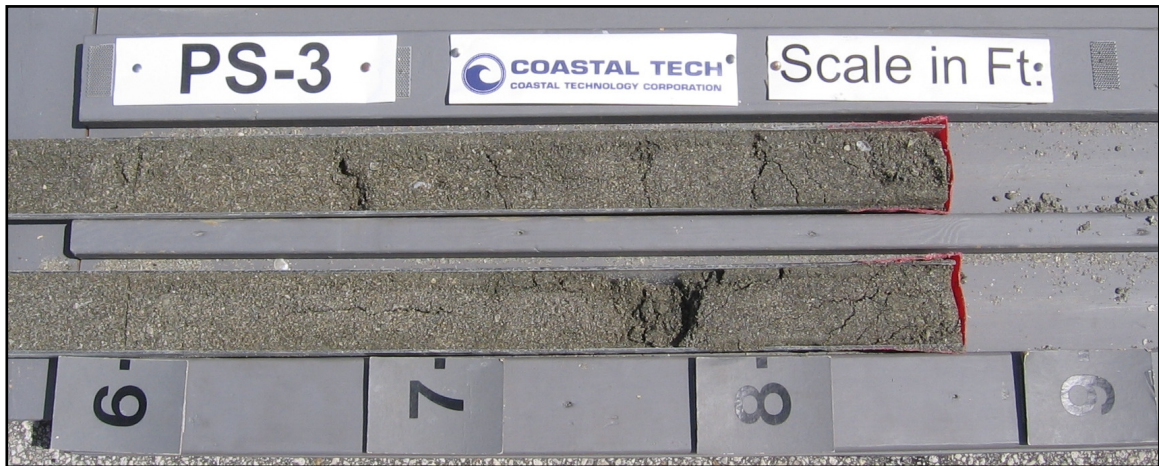
Vibracore PS-2



Vibracore PS-2



Vibracore PS-3



Vibracore PS-3



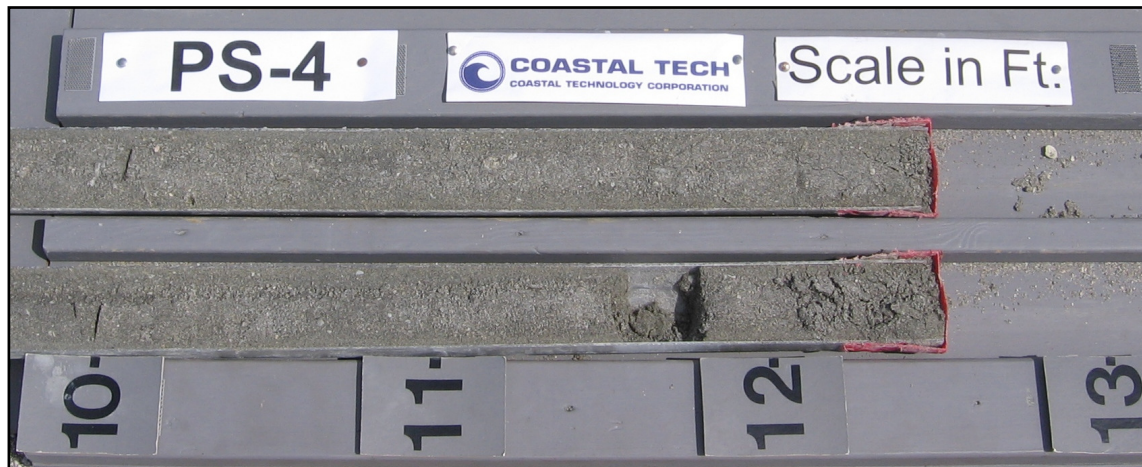
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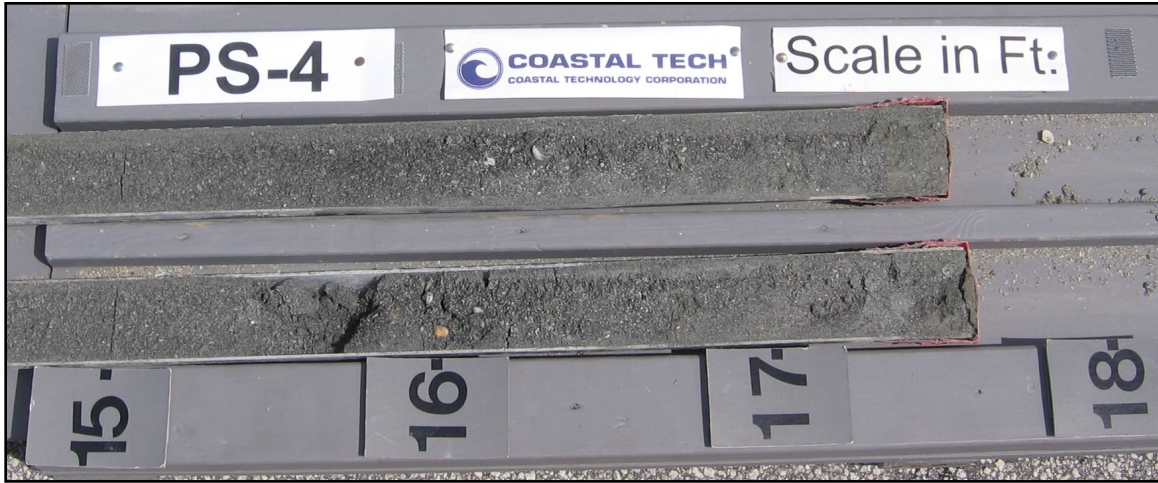
Vibracore PS-4



Vibracore PS-4

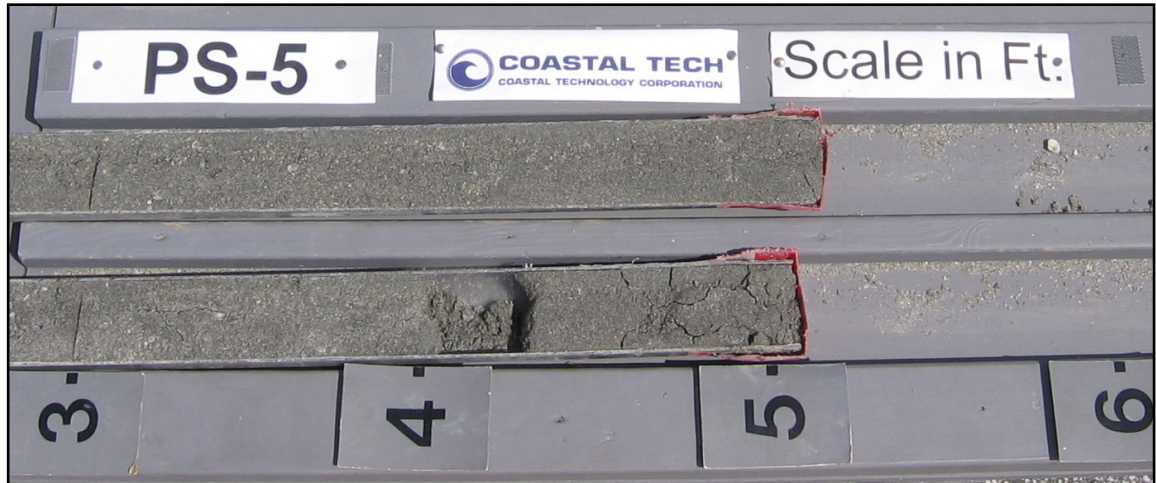


Vibracore PS-4

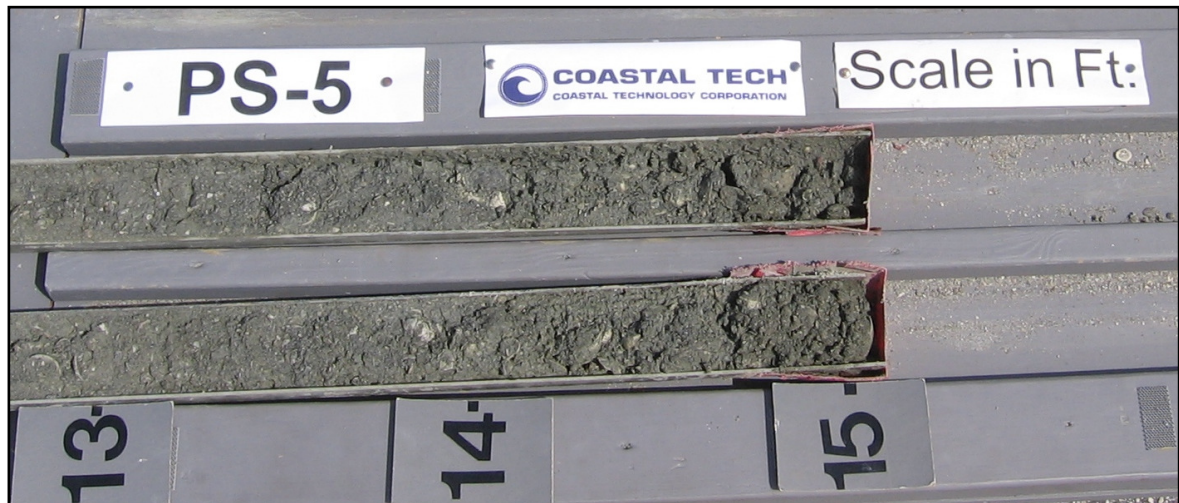
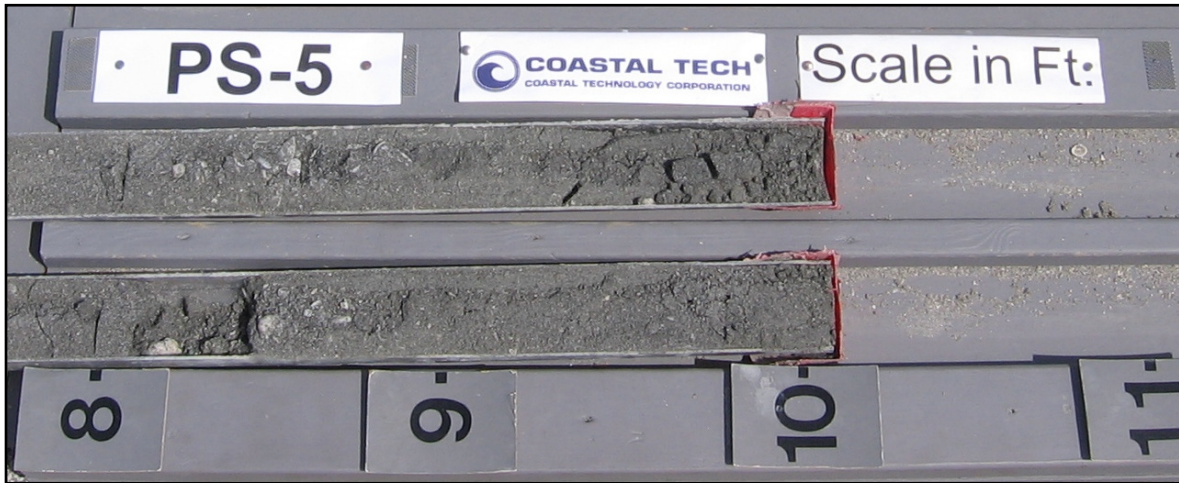




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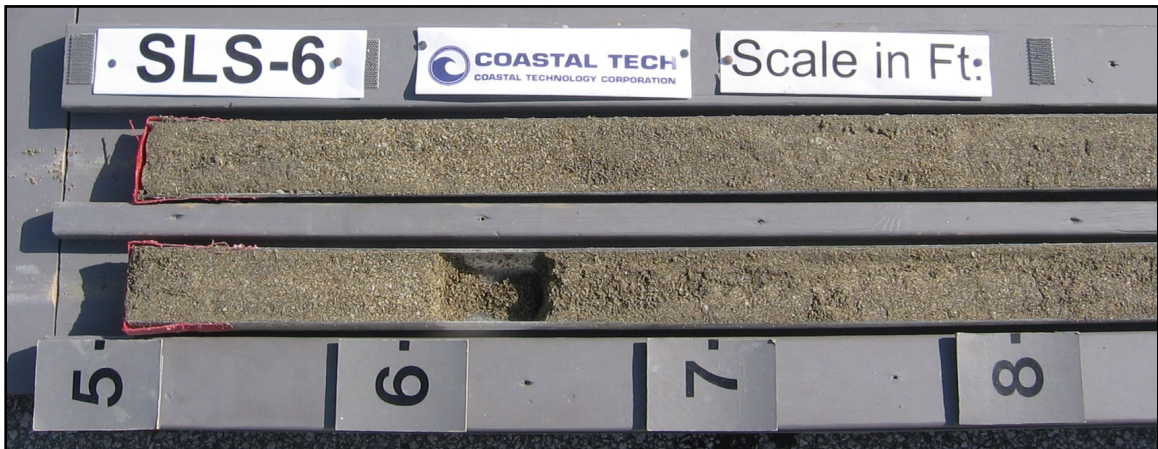
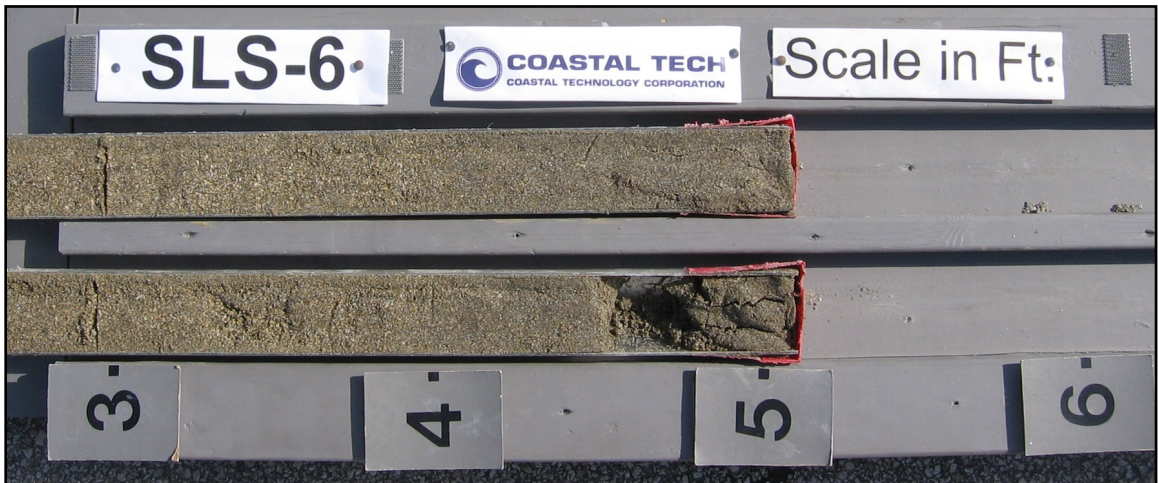
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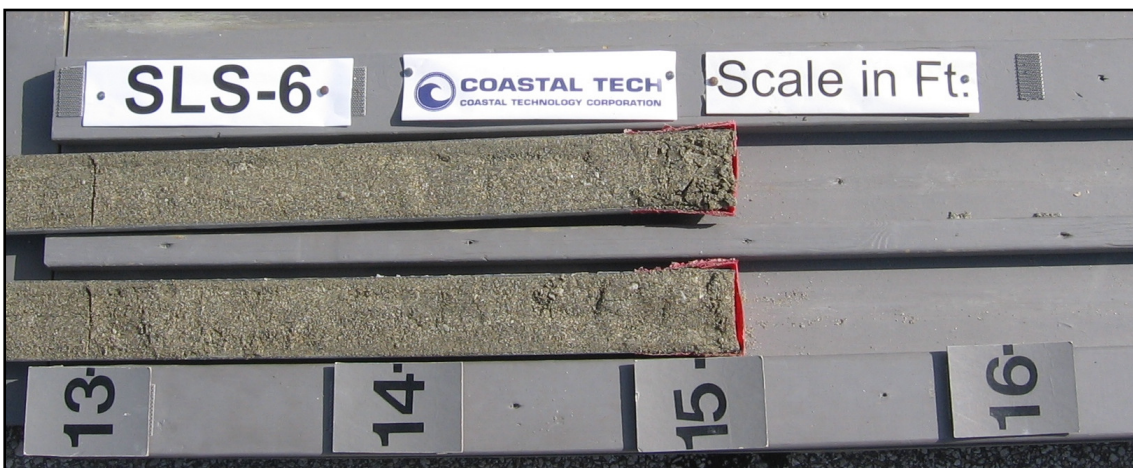
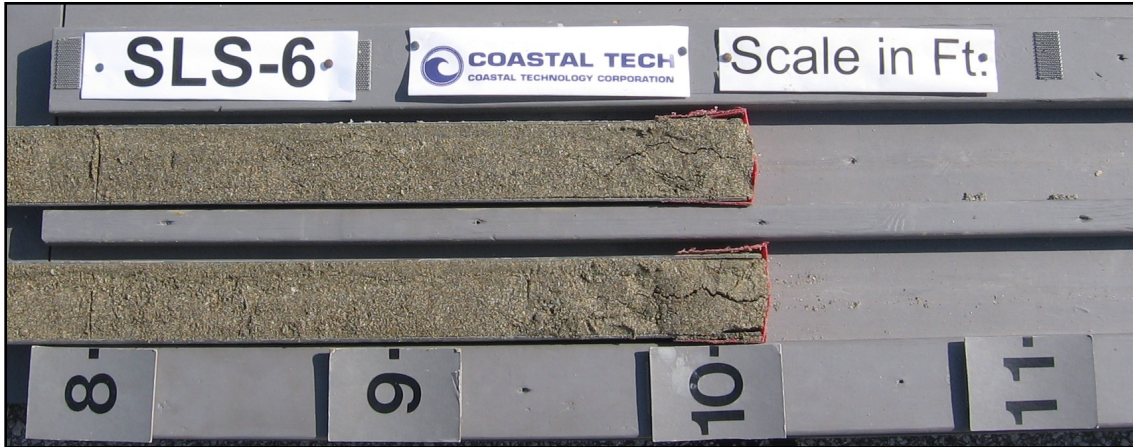
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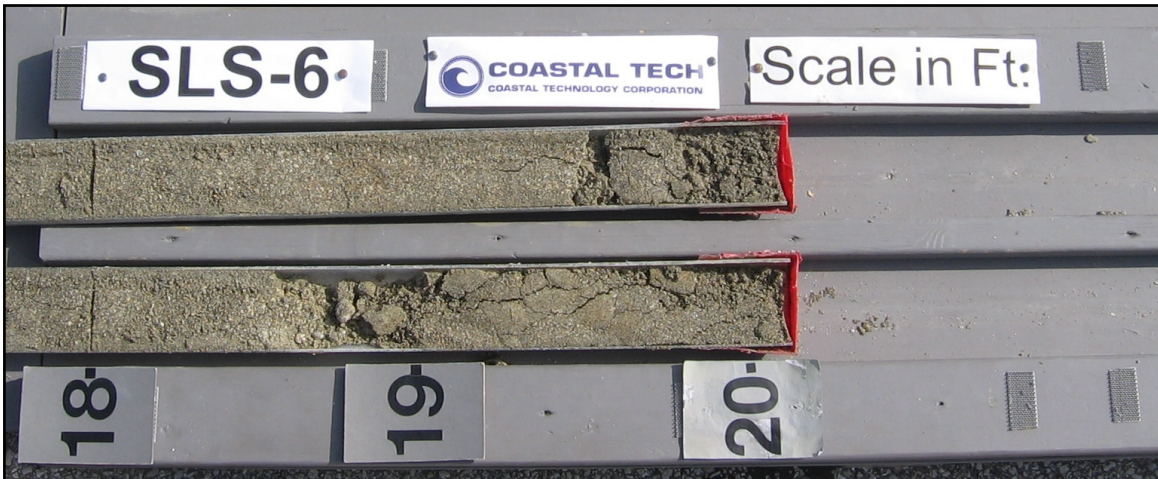
Vibracore SLS-6



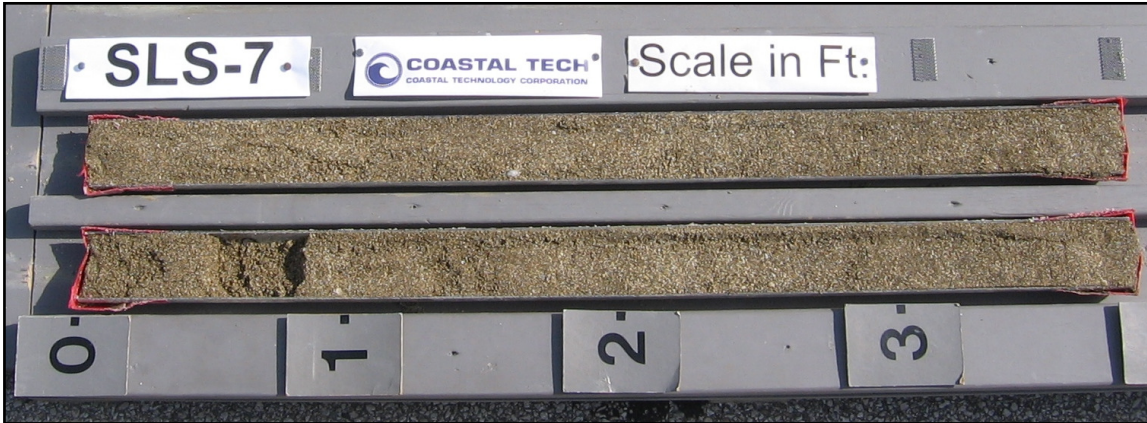
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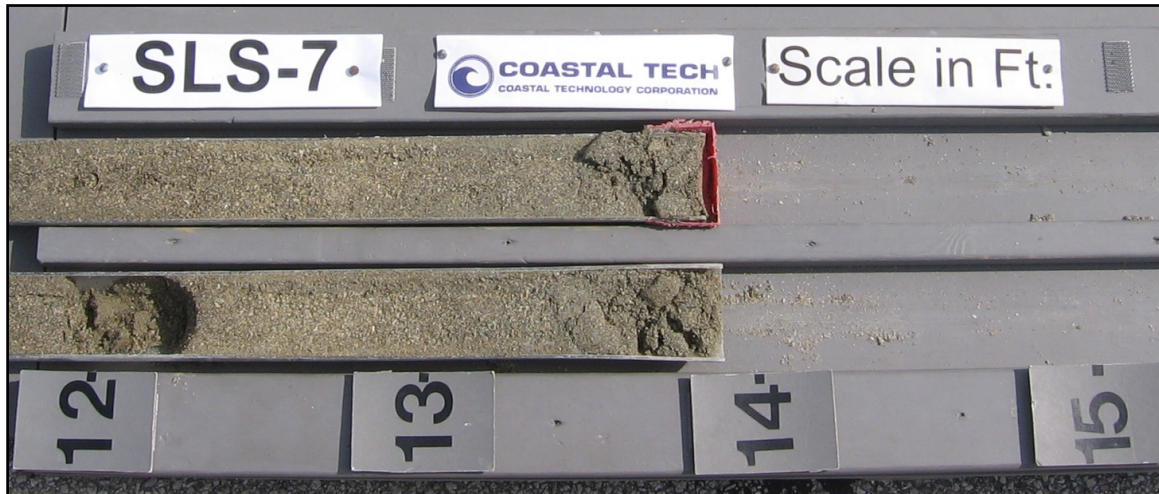
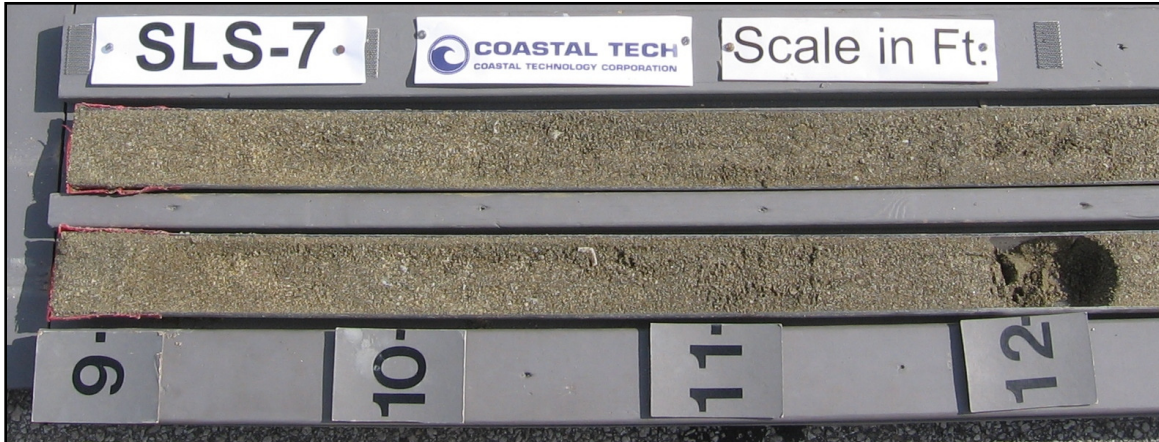
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Vibracore SLS-7

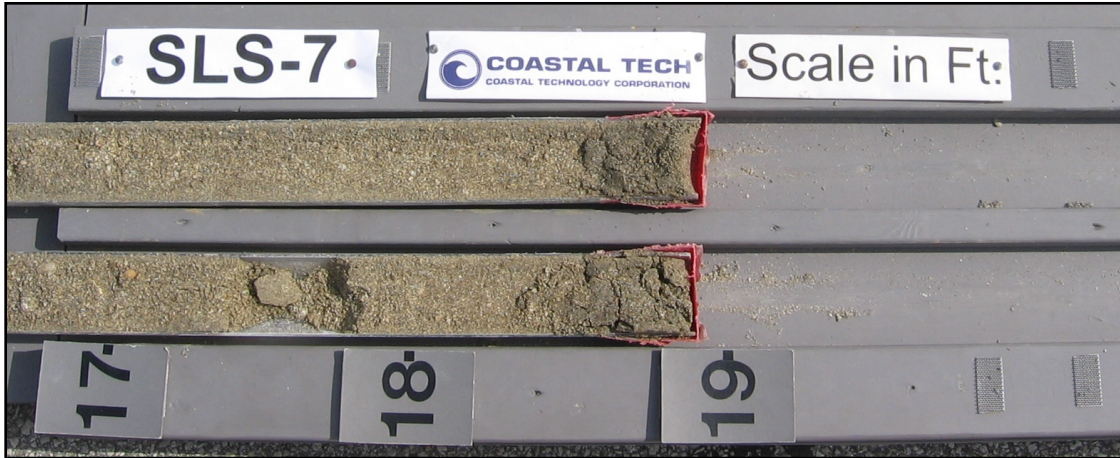


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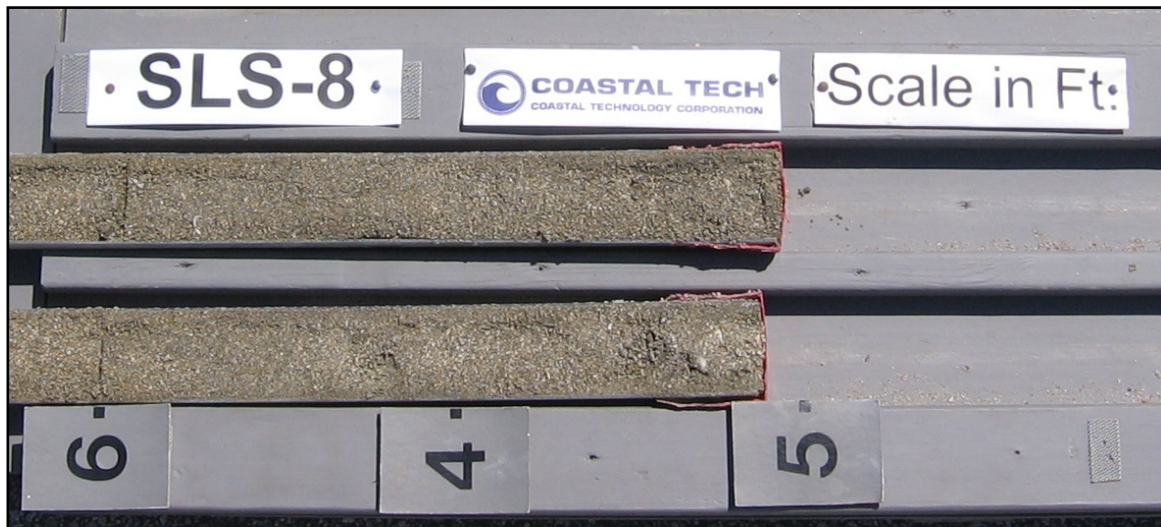




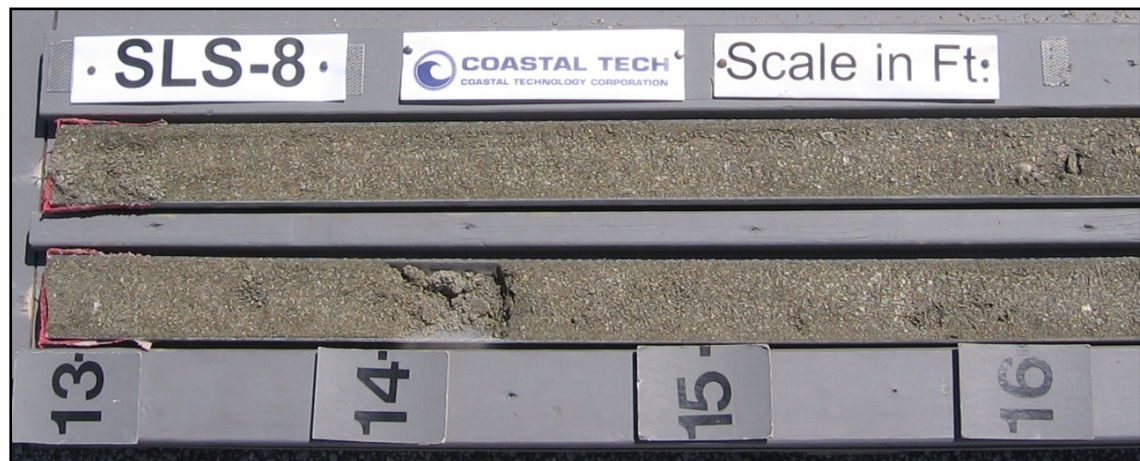
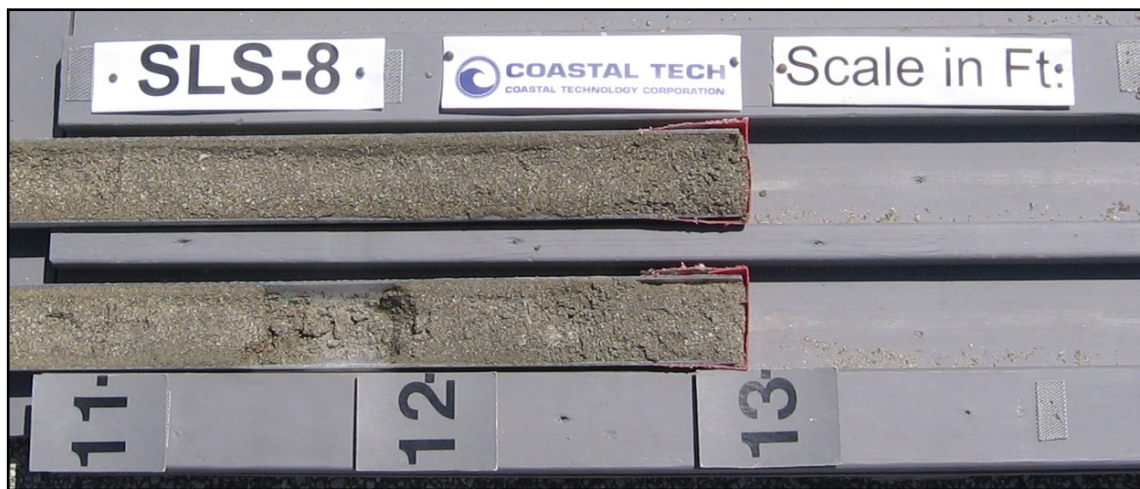
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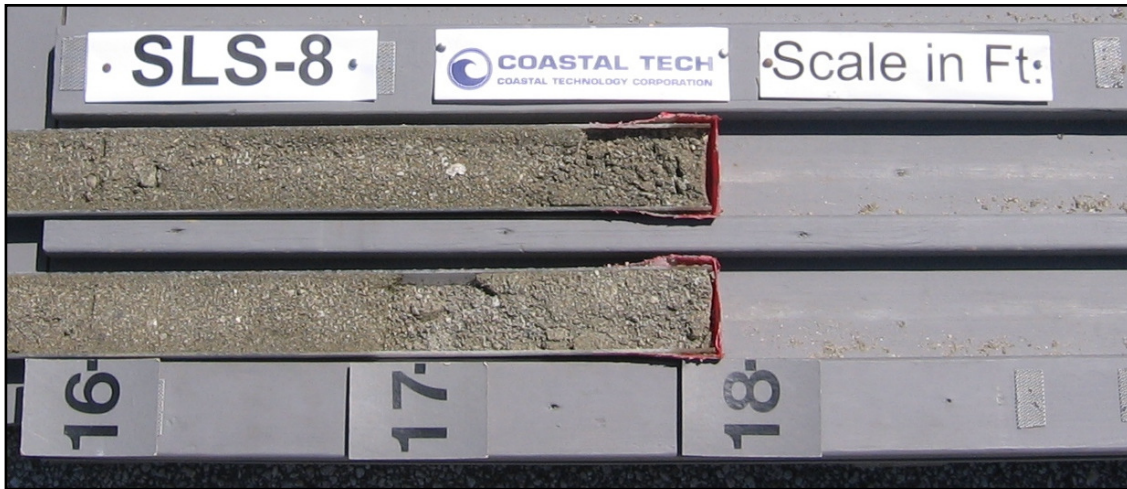
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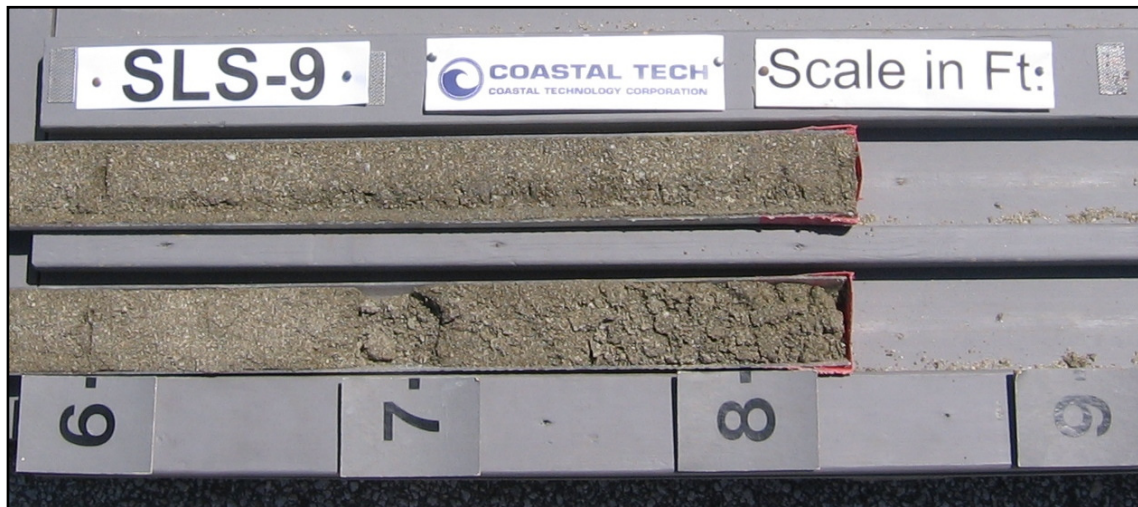
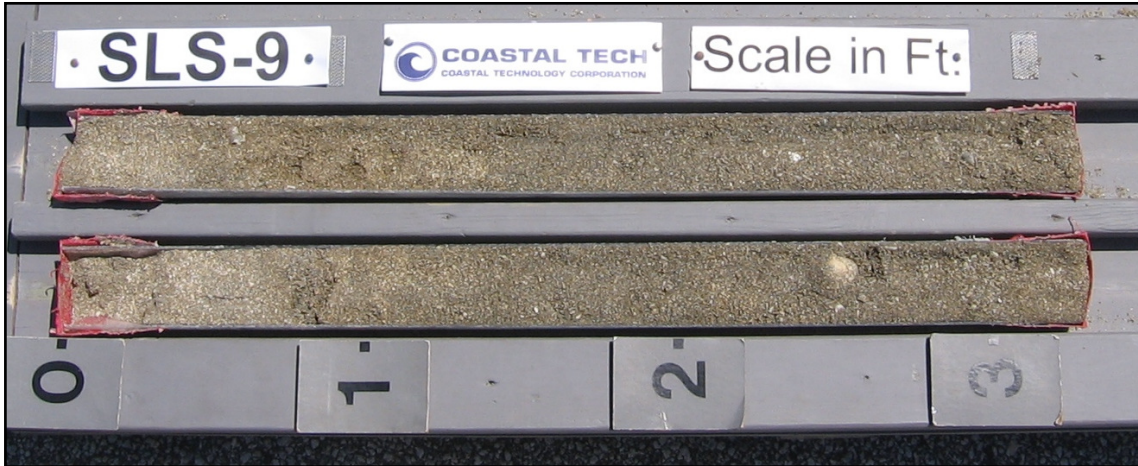
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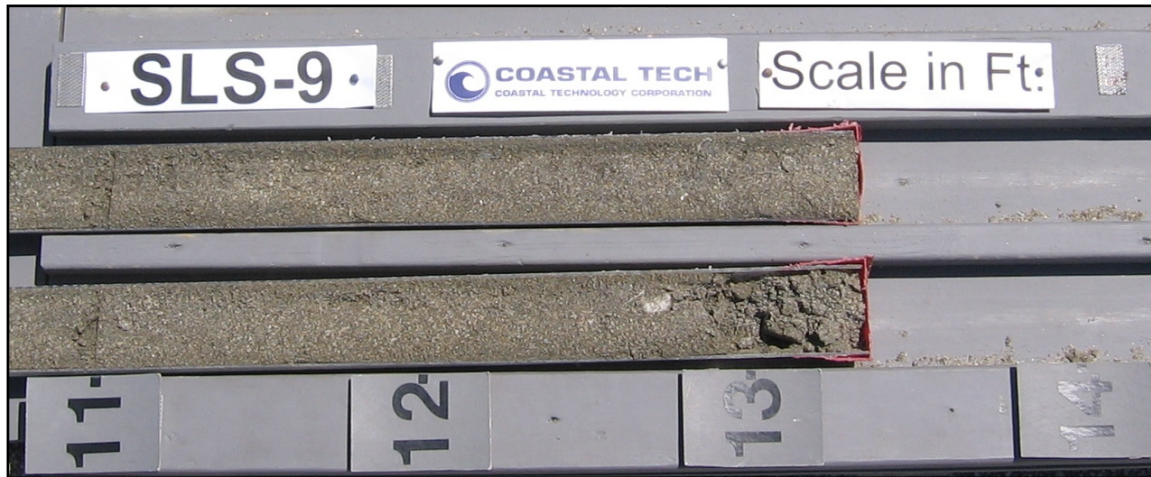
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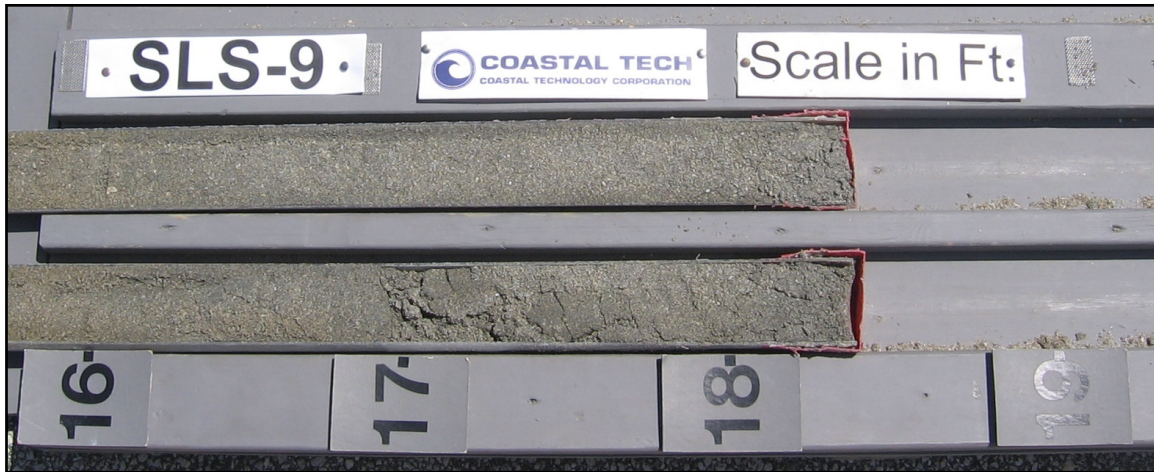
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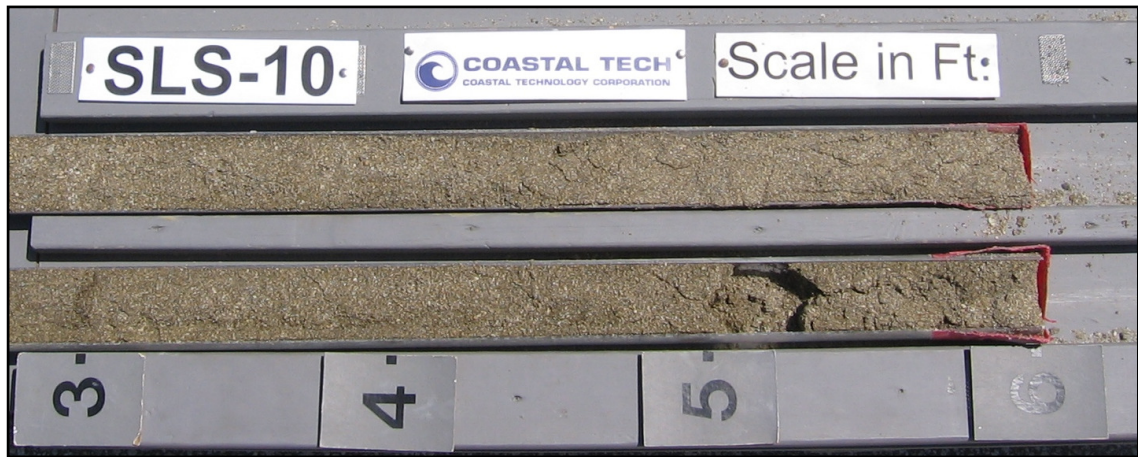
Vibracore SLS-9



Vibracores SLS-9

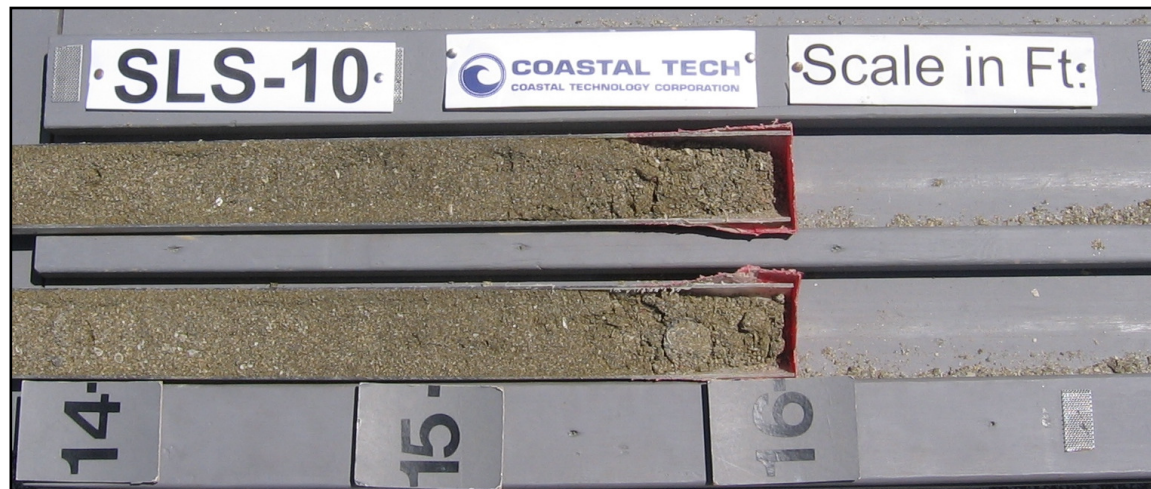
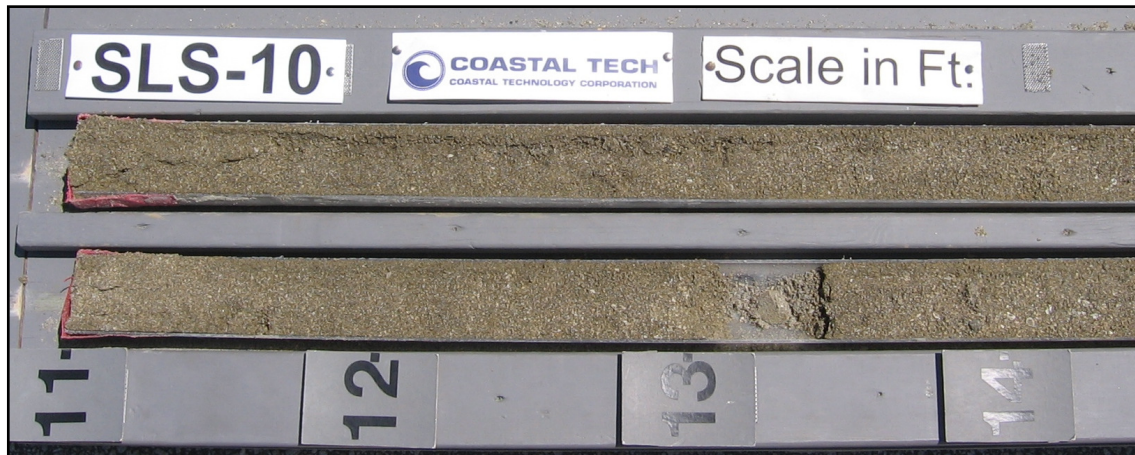
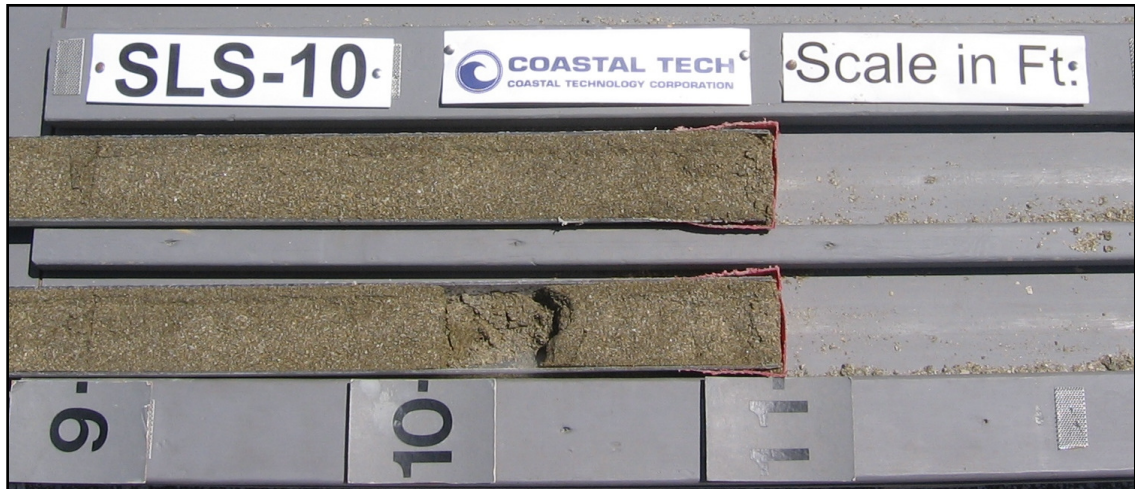


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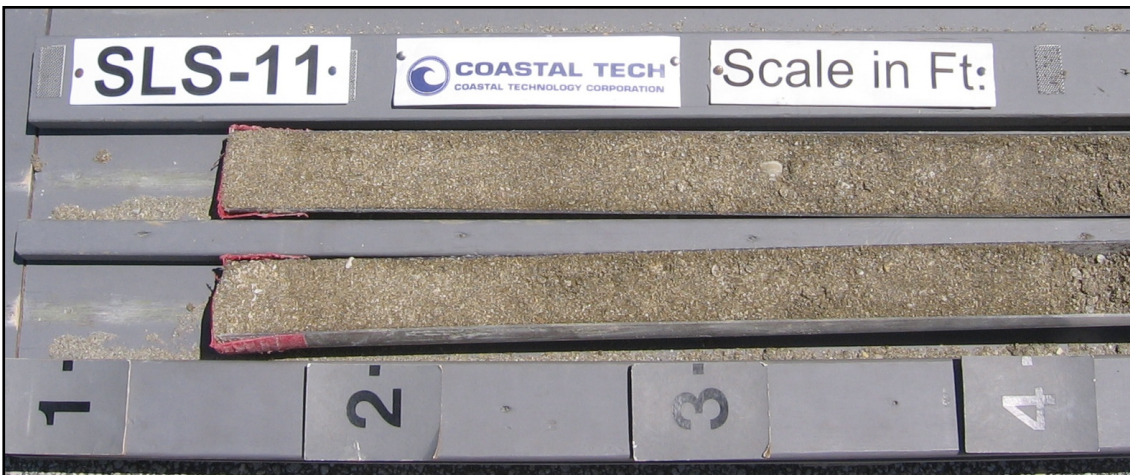




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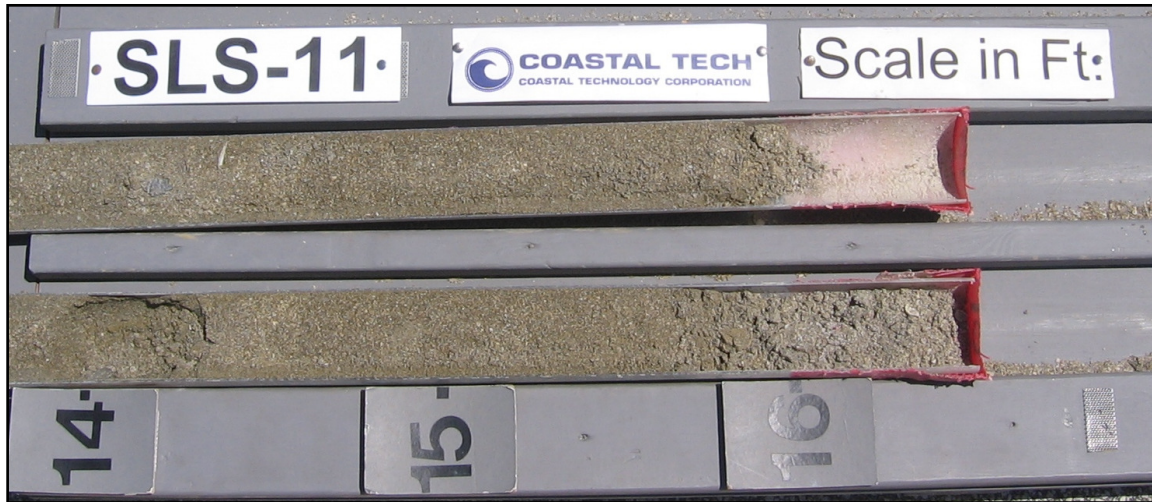
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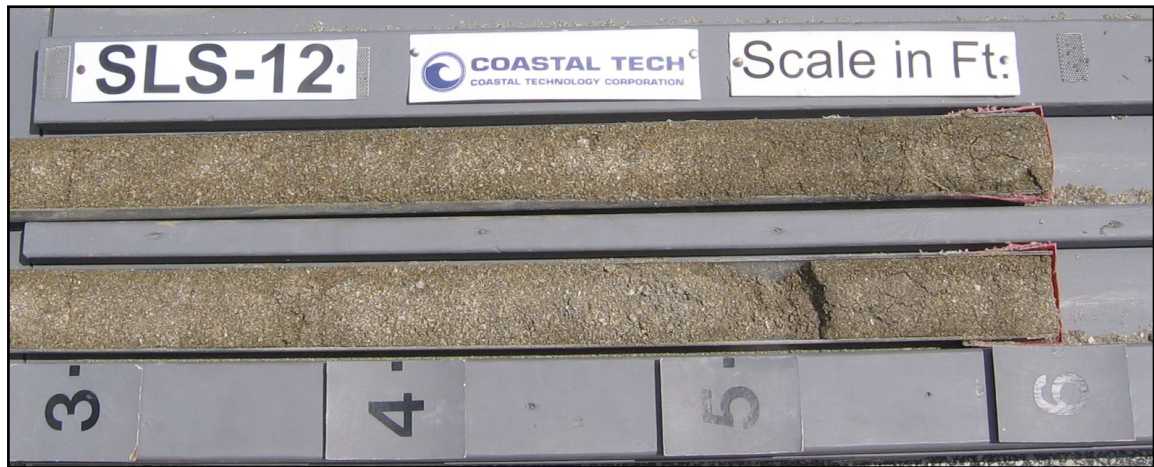
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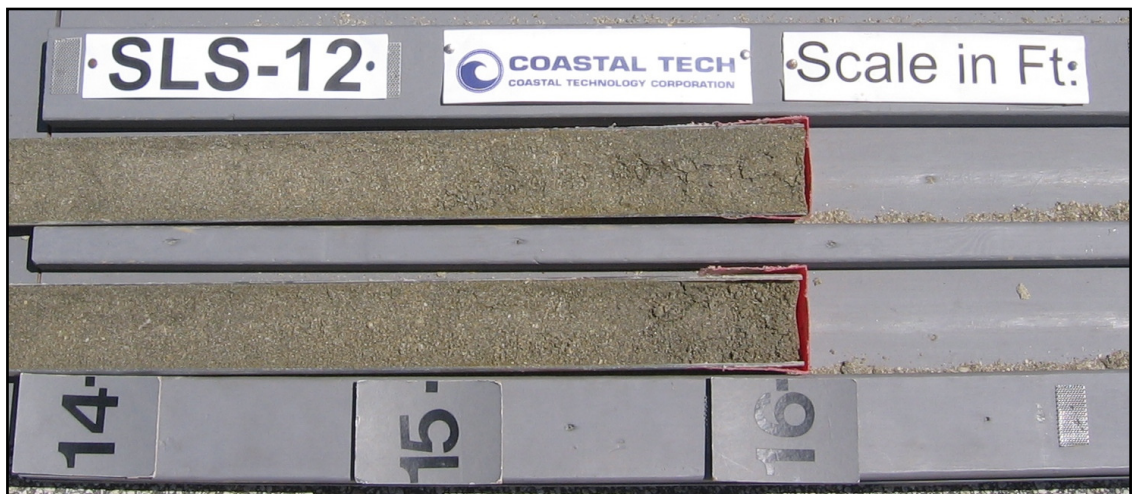
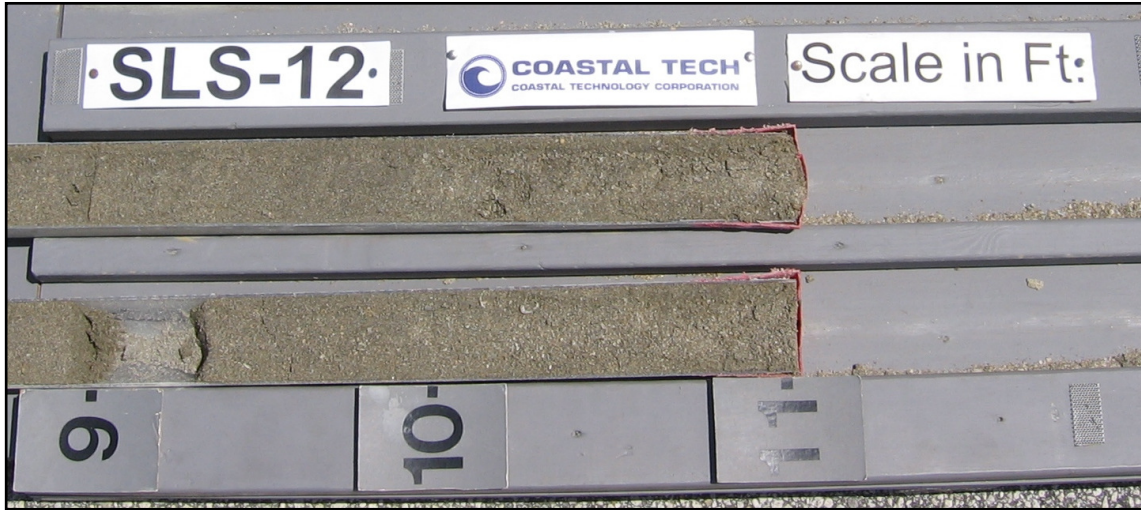
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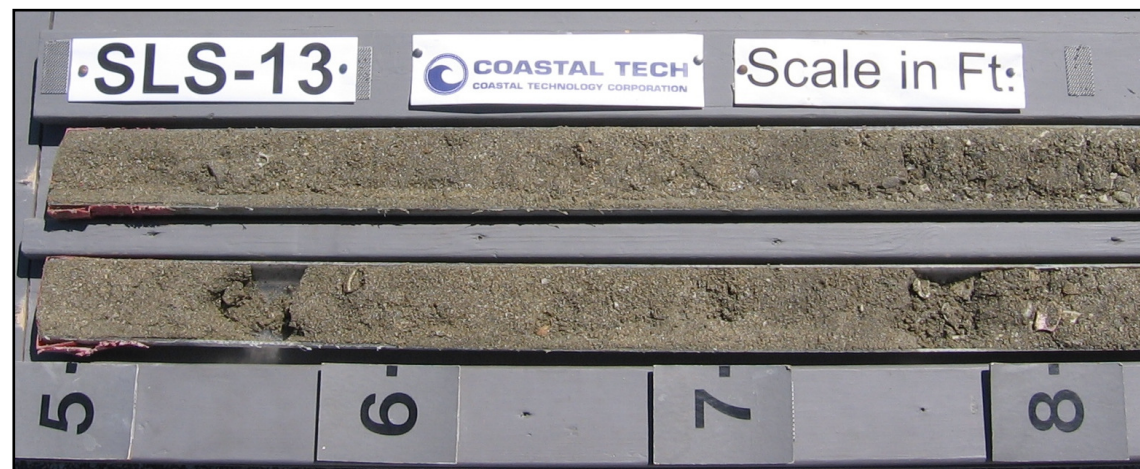
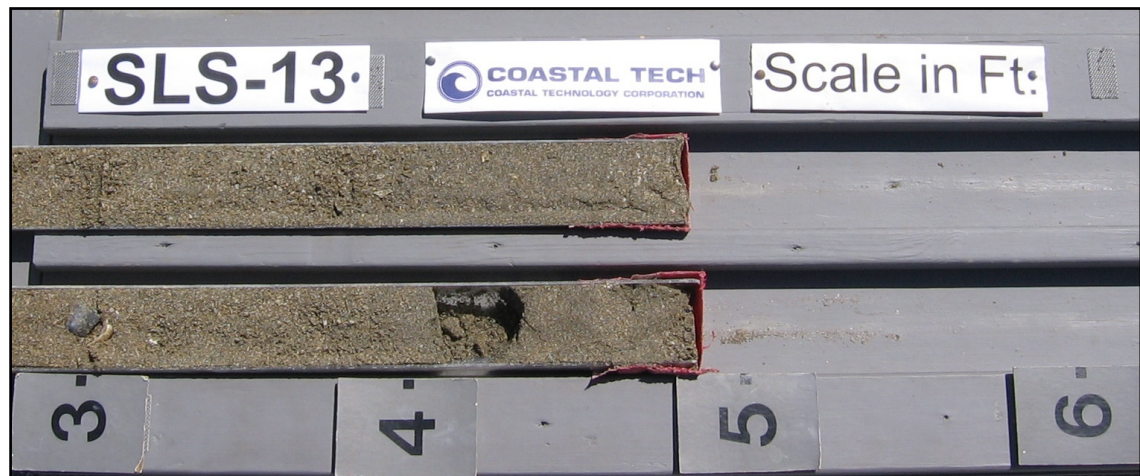
Vibracore SLS-12



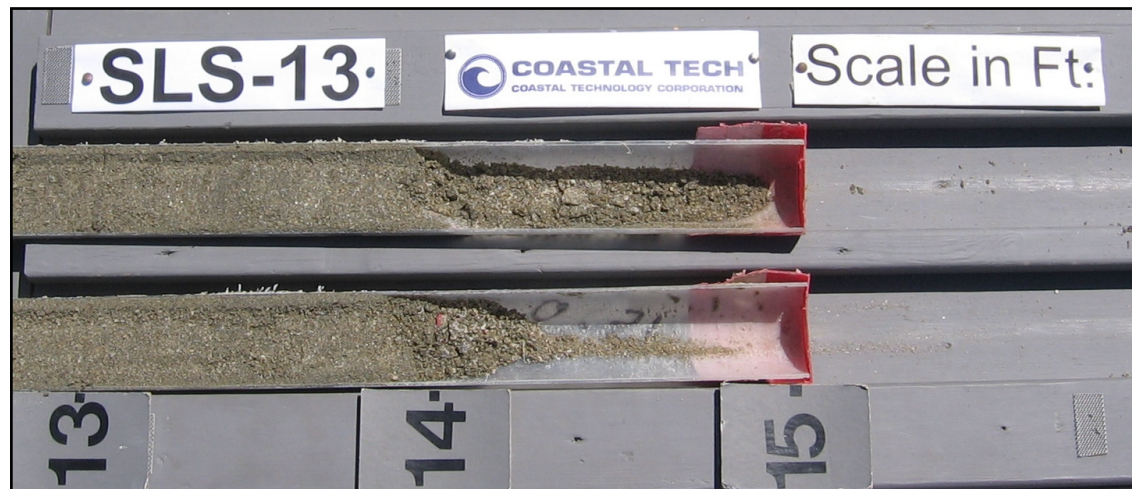
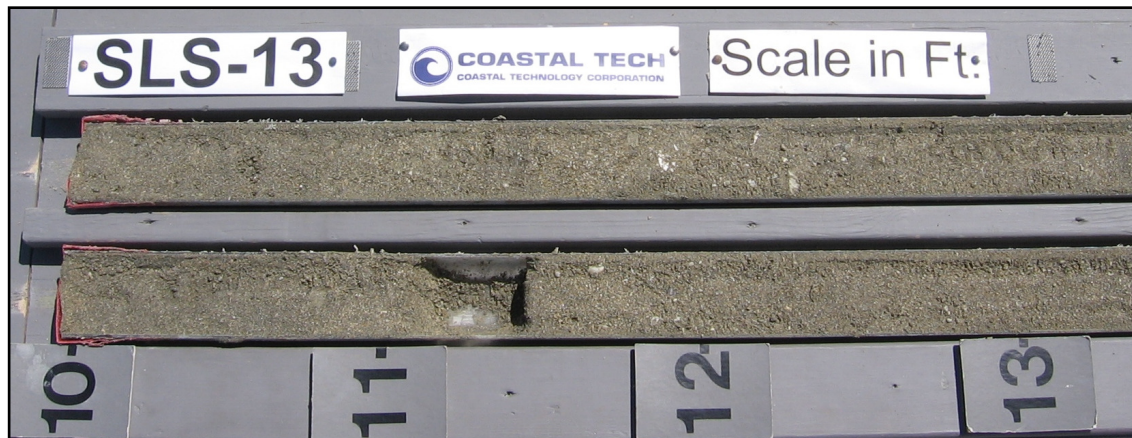
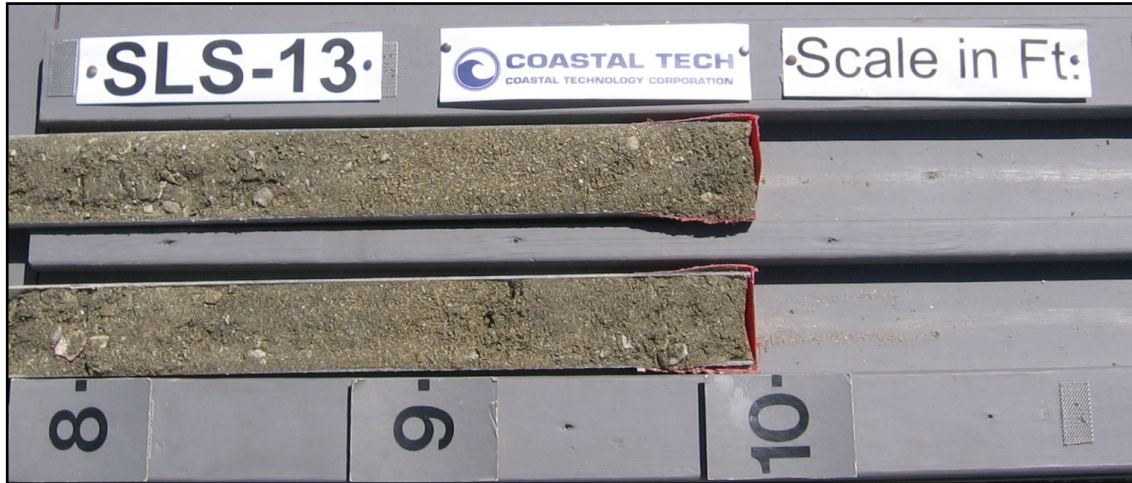
Vibracore SLS-12



Vibracore SLS-13

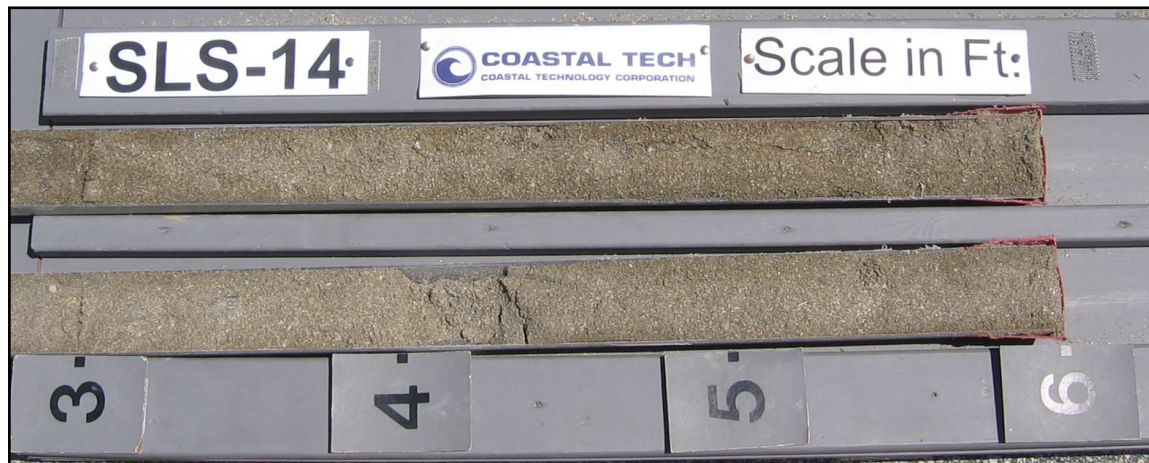
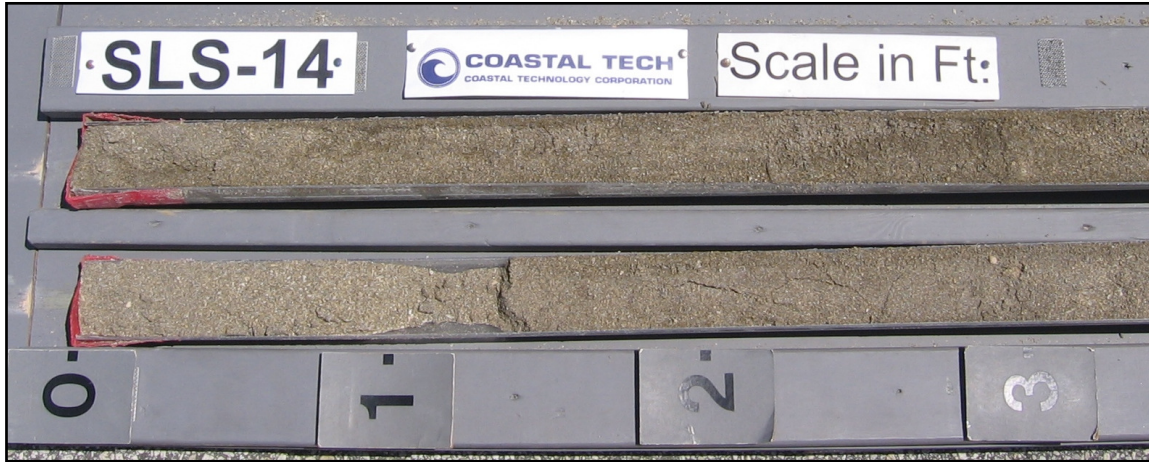


Vibracore SLS-13





Vibracore SLS-14



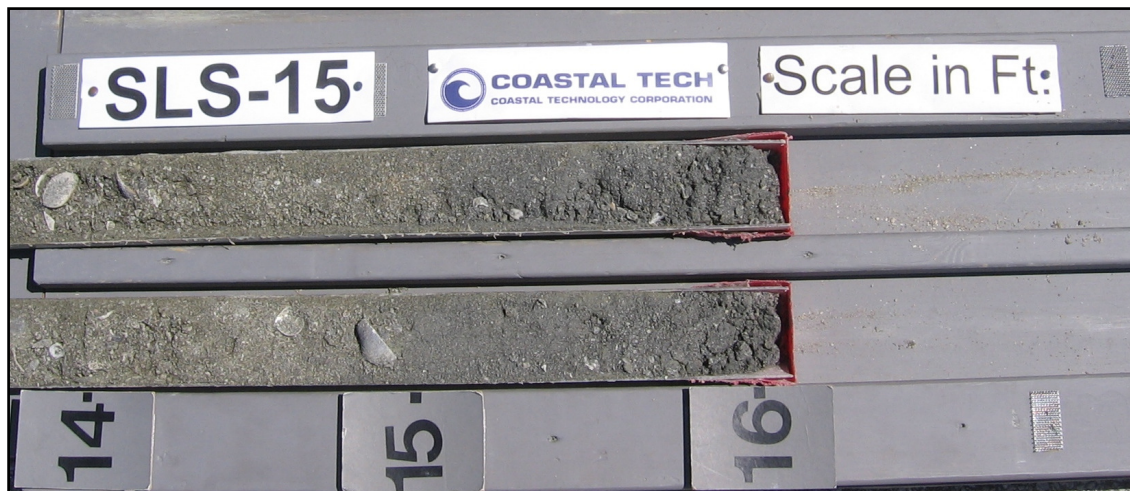
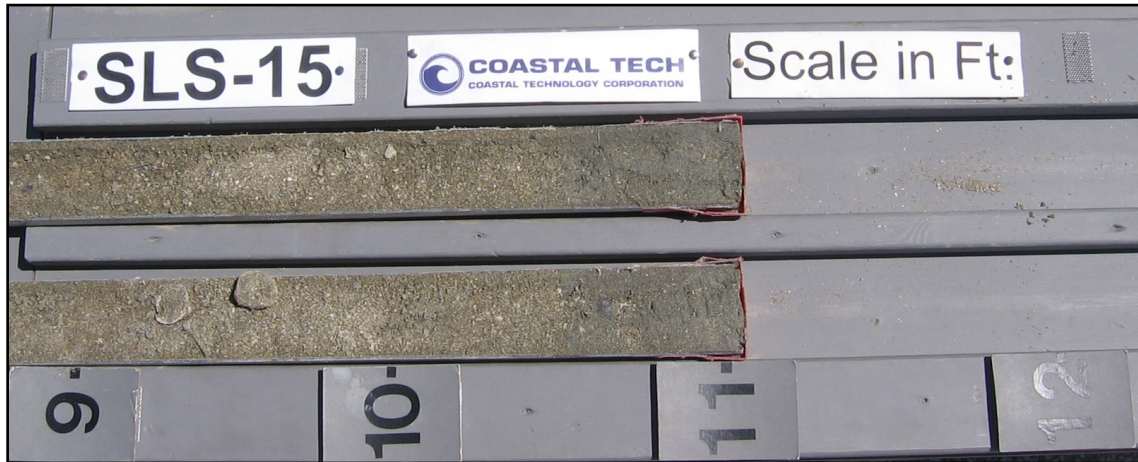
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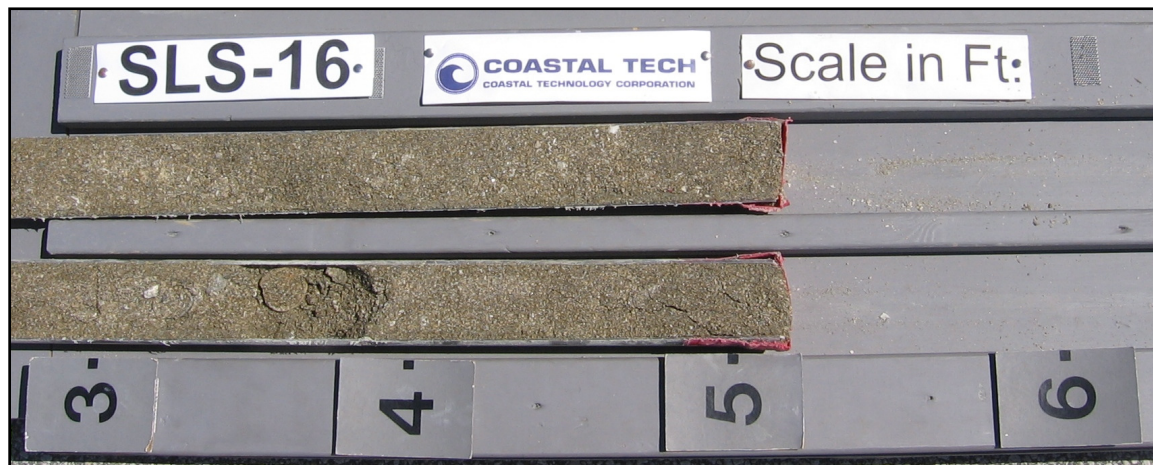
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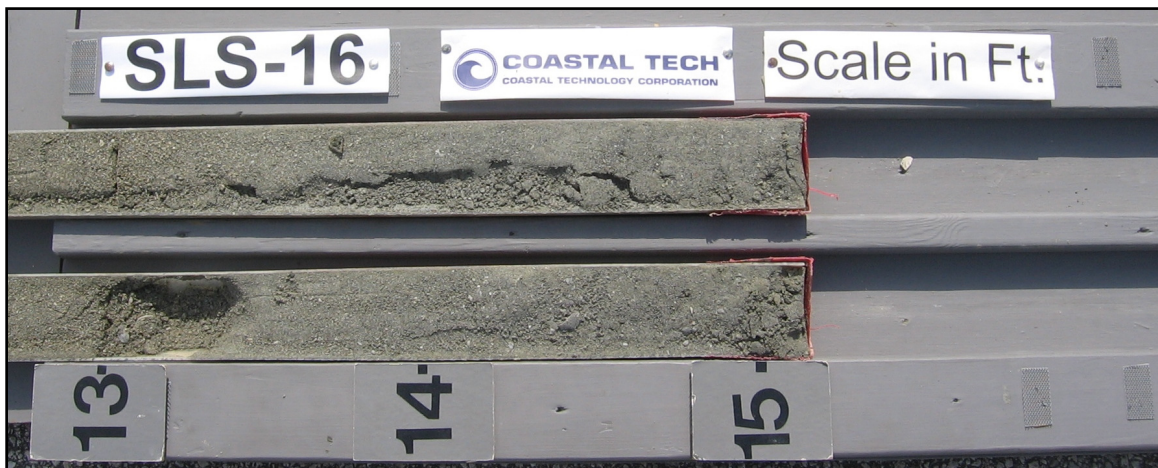
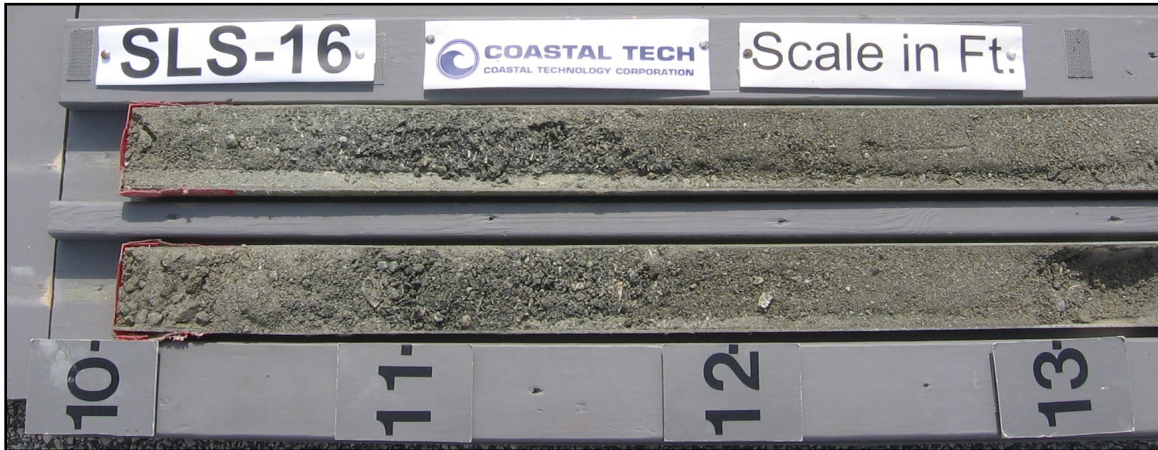
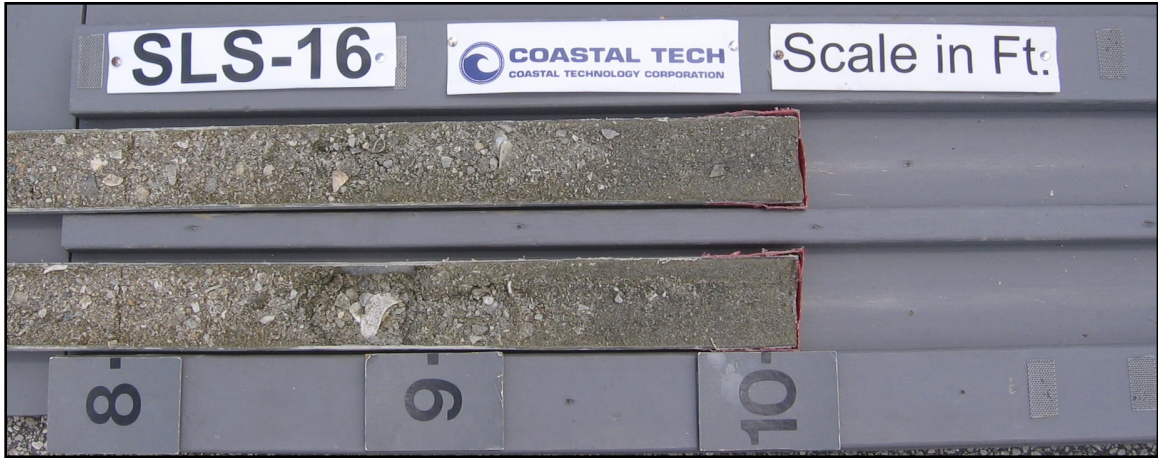
Vibracore SLS-15



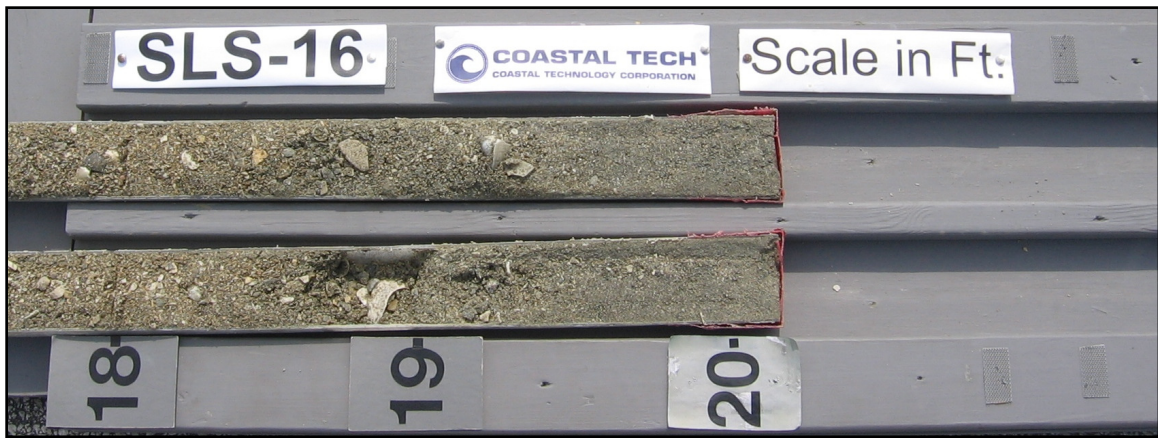
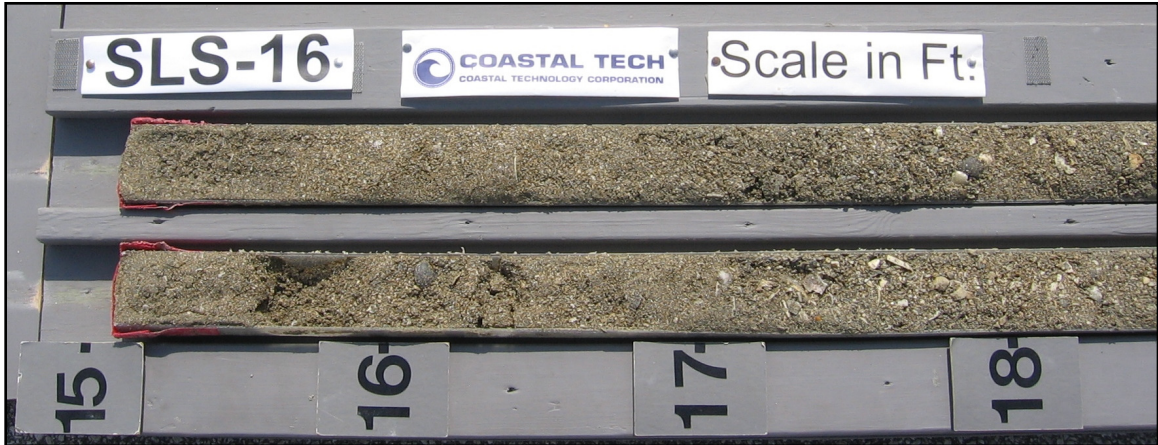
Vibracore SLS-16



Vibracore SLS-16



Vibracore SLS-16



**Appendix 2c**

**Vibracore gINT Core Logs**



Boring Designation PS-1

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.		9. SIZE AND TYPE OF BIT		
2. BORING DESIGNATION PS-1		10. COORDINATE SYSTEM/DATUM Florida State Plane East      HORIZONTAL: NAD 1983      VERTICAL: NAVD 88		
3. DRILLING AGENCY American Vibracore Services		11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore <input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER		
4. NAME OF DRILLER AVS		12. TOTAL SAMPLES      DISTURBED      UNDISTURBED (UD)		
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		
6. THICKNESS OF OVERBURDEN      0.0 Ft.		14. ELEVATION GROUND WATER		
7. DEPTH DRILLED INTO ROCK      0.0 Ft.		15. DATE BORING      STARTED      COMPLETED 12-04-08      12-04-08		
8. TOTAL DEPTH OF BORING      20.1 Ft.		16. ELEVATION TOP OF BORING      -25.9 Ft.		
		17. TOTAL RECOVERY FOR BORING      17.5 Ft.		
		18. SIGNATURE AND TITLE OF INSPECTOR LA		

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-25.9	0.0					
					1	Sample #1, Depth = 0.5' - 0.8'
			Fine grained quartz sand with abundant fine to medium grained shell fragments. Trace gravel-sized shells to 1". Gradational contact, grayish brown (10YR-5/2), (SW).		2	Sample #2, Depth = 3.5' - 3.8'
					3	Sample #3, Depth = 7.0' - 7.3'
-36.4	10.5				4	Sample #4, Depth = 10.5' - 10.8'
			Fine grained quartz sand with abundant fine grained blackened shell fragments. Trace silt. Gradational contact, gray (10YR-5/1), (SW-SM).		5	Sample #5, Depth = 13.5' - 13.8'
-42.2	16.3				6	Sample #6, Depth = 15.5' - 15.8'
-43.4	17.5		Fine to medium grained quartz sand with abundant medium grained blackened shell fragments, dark gray (2.5Y-4/1), (SW).			
			End of Boring			

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 11/02/09

Boring Designation PS-2

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.			9. SIZE AND TYPE OF BIT	
2. BORING DESIGNATION PS-2		LOCATION COORDINATES X = 913,501.56 Y = 1,101,606.78		10. COORDINATE SYSTEM/DATUM Florida State Plane East
3. DRILLING AGENCY American Vibracore Services		CONTRACTOR FILE NO.		HORIZONTAL NAD 1983
4. NAME OF DRILLER AVS		11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore		VERTICAL NAVD 88
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL		BEARING
6. THICKNESS OF OVERBURDEN 0.0 Ft.		12. TOTAL SAMPLES		DISTURBED
7. DEPTH DRILLED INTO ROCK 0.0 Ft.		13. TOTAL NUMBER CORE BOXES		UNDISTURBED (UD)
8. TOTAL DEPTH OF BORING 20.2 Ft.		14. ELEVATION GROUND WATER		
		15. DATE BORING		STARTED 12-04-08
		16. ELEVATION TOP OF BORING -23.1 Ft.		COMPLETED 12-04-08
		17. TOTAL RECOVERY FOR BORING 18.8 Ft.		
		18. SIGNATURE AND TITLE OF INSPECTOR LA		

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-23.1	0.0					
-26.1	3.0		Fine to medium grained quartz sand with abundant medium grained shell fragments. Gradational contact, grayish brown (10YR-5/2), (SP).		1	Sample #1, Depth = 0.5' - 0.8'
-29.6	6.5		Fine to medium grained quartz sand with abundant medium to coarse grained shell fragments. Layers with some gravels sized shells to 1". Gradational contact, grayish brown (10YR-5/2), (SW WITH GRAVEL).		2	Sample #2, Depth = 3.0' - 3.3'
-31.9	8.8		Fine to medium grained quartz sand with abundant medium grained shell fragments. Contact obscured by cut, grayish brown (10YR-5/2), (SP).		3	Sample #3, Depth = 7.5' - 7.8'
-39.6	16.5		Fine grained quartz sand with abundant fine to medium grained shell fragments - some blackened. Gradational contact, gray (10YR-5/1), (SW-SM).		4	Sample #4, Depth = 12.0' - 12.3'
-41.9	18.8		Fine grained quartz sand with abundant medium to coarse grained blackened shell fragments. Few gravel-sized shell fragments, gray (10YR-5/1), (SW-SM).		5	Sample #5, Depth = 15.0' - 15.3'
			End of Boring		6	Sample #6, Depth = 18.0' - 18.3'

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 11/02/09

Boring Designation PS-3

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.			9. SIZE AND TYPE OF BIT	
2. BORING DESIGNATION PS-3			10. COORDINATE SYSTEM/DATUM Florida State Plane East	
3. DRILLING AGENCY American Vibracore Services			11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore	
4. NAME OF DRILLER AVS			12. TOTAL SAMPLES	
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			13. TOTAL NUMBER CORE BOXES	
6. THICKNESS OF OVERBURDEN 0.0 Ft.			14. ELEVATION GROUND WATER	
7. DEPTH DRILLED INTO ROCK 0.0 Ft.			15. DATE BORING	
8. TOTAL DEPTH OF BORING 20.1 Ft.			16. ELEVATION TOP OF BORING -26.6 Ft.	
			17. TOTAL RECOVERY FOR BORING 18.5 Ft.	
			18. SIGNATURE AND TITLE OF INSPECTOR LA	

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-26.6	0.0					
					1	Sample #1, Depth = 1.0' - 1.3'
					2	Sample #2, Depth = 4.0' - 4.3'
			Fine to medium grained quartz-rich skeletal sand. Trace gravel-sized shell fragments. Gradational contact, grayish brown (10YR-5/2), (SW).		3	Sample #3, Depth = 7.5' - 7.8'
					4	Sample #4, Depth = 9.0' - 9.3'
-38.2	11.6				5	Sample #5, Depth = 14.0' - 14.3'
			Fine grained quartz sand with abundant fine to medium grained blackened shell fragments. Few gravel-sized shell fragments. Trace silt. Gradational contact, gray (10YR-5/1), (SW).			
-43.6	17.0					
-44.4	17.8					
-45.1	18.5		Fine grained quartz sand with abundant medium to coarse grained blackened shell fragments and some gravel-sized shell fragments. Gradational contact, dark gray (2.5Y-4/1), (SW WITH GRAVEL).			
			Fine grained quartz sand with abundant fine grained blackened shell fragments. Trace silt, gray (2.5Y-5/1), (SP).			
			End of Boring			

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 11/02/09

Boring Designation PS-4

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.			9. SIZE AND TYPE OF BIT	
2. BORING DESIGNATION PS-4		LOCATION COORDINATES X = 912,707.73 Y = 1,105,643.32		10. COORDINATE SYSTEM/DATUM Florida State Plane East
3. DRILLING AGENCY American Vibracore Services		CONTRACTOR FILE NO.		HORIZONTAL NAD 1983
4. NAME OF DRILLER AVS		11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore		VERTICAL NAVD 88
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL		BEARING
6. THICKNESS OF OVERBURDEN 0.0 Ft.		12. TOTAL SAMPLES		DISTURBED
7. DEPTH DRILLED INTO ROCK 0.0 Ft.		13. TOTAL NUMBER CORE BOXES		UNDISTURBED (UD)
8. TOTAL DEPTH OF BORING 20.3 Ft.		14. ELEVATION GROUND WATER		
		15. DATE BORING		STARTED 12-04-08
		16. ELEVATION TOP OF BORING -28.1 Ft.		COMPLETED 12-04-08
		17. TOTAL RECOVERY FOR BORING 17.5 Ft.		
		18. SIGNATURE AND TITLE OF INSPECTOR LA		

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-28.1	0.0					
			Fine to medium grained quartz-rich skeletal sand. Cobble-size bivalves at 2' and 3.7'. Gradational contact, grayish brown (10YR-5/2), (SP).		1	Sample #1, Depth = 0.5' - 0.8'
-32.7	4.6					
			Fine to medium grained quartz-rich skeletal sand with abundant coarse to gravel-sized shell fragments. Gradational contact, light brownish gray (10YR-6/2), (SW WITH GRAVEL).		2	Sample #2, Depth = 5.0' - 5.3'
-34.5	6.4					
			Fine grained quartz sand with abundant fine to medium shell fragments. Trace gravel-sized shell fragments. Abrupt contact, dark gray (10YR 4/1) to, gray (10YR-5/1), (SW-SM).		3	Sample #3, Depth = 8.0' - 8.3'
-42.6	14.5					
			Fine grained quartz sand with abundant fine to medium grained blackened shell fragments. Trace silt, gray (10YR-5/1), (SW-SM).		4	Sample #4, Depth = 11.5' - 11.8'
-45.6	17.5					
			End of Boring		5	Sample #5, Depth = 15.5' - 15.8'

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 11/02/09

Boring Designation PS-5

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.			9. SIZE AND TYPE OF BIT	
2. BORING DESIGNATION PS-5		LOCATION COORDINATES X = 912,381.37 Y = 1,107,634.78		10. COORDINATE SYSTEM/DATUM Florida State Plane East
3. DRILLING AGENCY American Vibracore Services		CONTRACTOR FILE NO.		HORIZONTAL NAD 1983
4. NAME OF DRILLER AVS				VERTICAL NAVD 88
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL		BEARING
6. THICKNESS OF OVERBURDEN 0.0 Ft.				11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore
7. DEPTH DRILLED INTO ROCK 0.0 Ft.				<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
8. TOTAL DEPTH OF BORING 20.0 Ft.				12. TOTAL SAMPLES DISTURBED UNDISTURBED (UD)
				13. TOTAL NUMBER CORE BOXES
				14. ELEVATION GROUND WATER
				15. DATE BORING STARTED 12-04-08 COMPLETED 12-04-08
				16. ELEVATION TOP OF BORING -34.7 Ft.
				17. TOTAL RECOVERY FOR BORING 20 Ft.
				18. SIGNATURE AND TITLE OF INSPECTOR LA

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-34.7	0.0					
-36.4	1.7		Medium grained skeletal sand with some fine grained quartz sand and abundant gravel-sized shell fragments to 1". 3" sand dollar fragment at 1.5'. Gradational contact, grayish brown (10YR-5/2), (SW WITH GRAVEL).		1	Sample #1, Depth = 0.5' - 0.8'
			Fine grained quartz sand with abundant fine blackened shell fragments. Gradational contact, gray (10YR-5/1), (SW).		2	Sample #2, Depth = 4.0' - 4.3'
-42.6	7.9		Fine grained quartz sand with abundant fine blackened shell fragments and some gravel-sized shell fragments to 1". Gradational contact, gray (10YR-5/1), (SW WITH GRAVEL).		3	Sample #3, Depth = 6.5' - 6.8'
-43.5	8.8		Fine grained quartz sand with abundant fine blackened shell fragments and some gravel-sized shell fragments to 1". Gradational contact, gray (10YR-5/1), (SW WITH GRAVEL).		4	Sample #4, Depth = 8.0' - 8.3'
-45.3	10.6		Fine grained quartz sand with abundant fine grained blackened shell fragments. Some medium grained shell fragments. Gradational contact, gray (2.5Y-5/1), (SW).			
-46.5	11.8		Fine grained quartz sand with abundant fine grained blackened shell fragments and abundant gravel-sized shell fragments to 1". Gradational contact, gray (2.5Y-5/1), (SW WITH GRAVEL).			
			Silty fine grained quartz sand with abundant gravel-sized bivalve shell fragments and whole shells to 1.5". Possibly estuarine, gray (2.5Y-5/1), (GC).			
-54.7	20.0		End of Boring			

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 11/02/09

Boring Designation SLS-06

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.			9. SIZE AND TYPE OF BIT	
2. BORING DESIGNATION SLS-06		LOCATION COORDINATES X = 932,194.1 Y = 1,078,461.91		10. COORDINATE SYSTEM/DATUM Florida State Plane East
3. DRILLING AGENCY American Vibracore Services		CONTRACTOR FILE NO.		HORIZONTAL NAD 1983
4. NAME OF DRILLER AVS		11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore		VERTICAL NAVD 88
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL	BEARING	<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
6. THICKNESS OF OVERBURDEN 0.0 Ft.		12. TOTAL SAMPLES		DISTURBED UNDISTURBED (UD)
7. DEPTH DRILLED INTO ROCK 0.0 Ft.		13. TOTAL NUMBER CORE BOXES		14. ELEVATION GROUND WATER
8. TOTAL DEPTH OF BORING 20.0 Ft.		15. DATE BORING		STARTED 12-04-08
		16. ELEVATION TOP OF BORING -25.8 Ft.		COMPLETED 12-04-08
		17. TOTAL RECOVERY FOR BORING 20 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR LA

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-25.8	0.0					
-29.8	4.0		Medium grained skeletal sand with little fine grained quartz sand content. Abrupt contact, grayish brown (2.5Y-5/2), (SW).		1	Sample #1, Depth = 0.5' - 0.8'
-41.3	15.5		Fine to medium grained skeletal sand with little fine grained quartz sand fraction. Sections of finer and coarser shell fragments. Fining with depth. Gradational contact. grayish brown (2.5Y 5/2) to, grayish brown (10YR-5/2), (SP).		2 3 4	Sample #2, Depth = 4.5' - 4.8' Sample #3, Depth = 6.0' - 6.3' Sample #4, Depth = 11.0' - 11.3'
-45.8	20.0		Silty fine to medium grained skeletal sand with little fine grained quartz sand fraction. Few gravel-sized shells (to 1") at 17' Sections of finer and coarser shell fragments present, grayish brown (2.5Y 5/2) to, grayish brown (10YR-5/2), (SW-SM).		5 6	Sample #5, Depth = 16.0' - 16.3' Sample #6, Depth = 18.5' - 18.8'
			End of Boring			

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

Boring Designation SLS-07

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.		9. SIZE AND TYPE OF BIT		
2. BORING DESIGNATION SLS-07		10. COORDINATE SYSTEM/DATUM Florida State Plane East		
3. DRILLING AGENCY American Vibracore Services		11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore		
4. NAME OF DRILLER AVS		12. TOTAL SAMPLES		
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		
6. THICKNESS OF OVERBURDEN 0.0 Ft.		14. ELEVATION GROUND WATER		
7. DEPTH DRILLED INTO ROCK 0.0 Ft.		15. DATE BORING		
8. TOTAL DEPTH OF BORING 18.6 Ft.		16. ELEVATION TOP OF BORING -20.0 Ft.		
		17. TOTAL RECOVERY FOR BORING 18.8 Ft.		
		18. SIGNATURE AND TITLE OF INSPECTOR LA		

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-20.0	0.0					
			Medium grained skeletal sand with little fine grained quartz sand fraction. Gradational contact, brown (10YR 5/3) to, grayish brown (2.5Y-5/2), (SP).		1	Sample #1, Depth = 0.5' - 0.8'
					2	Sample #2, Depth = 5.0' - 5.3'
-27.5	7.5				3	Sample #3, Depth = 8.0' - 8.3'
			Fine to medium grained skeletal sand with little fine grained quartz sand fraction. Some shell fragments are blackened. Increasing fines with depth. Gradational contact, light brownish gray (2.5Y-6/2), (SW).		4	Sample #4, Depth = 12.0' - 12.3'
-35.0	15.0				5	Sample #5, Depth = 15.5' - 15.8'
-36.5	16.5		Fine to medium grained skeletal sand. Gravel-sized shell is present at 16.5'. Gradational contact, light brownish gray (2.5Y-6/2), (SW-SM).		6	Sample #6, Depth = 17.5' - 17.8'
-38.8	18.8		Medium to coarse grained skeletal sand with little fine grained quartz sand content. Possibly coquina related, light gray (2.5Y-7/2), (SW-SM).			
			End of Boring			

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

Boring Designation SLS-08

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.			9. SIZE AND TYPE OF BIT	
2. BORING DESIGNATION SLS-08		LOCATION COORDINATES X = 932,104.69 Y = 1,084,441.91		10. COORDINATE SYSTEM/DATUM Florida State Plane East
3. DRILLING AGENCY American Vibracore Services		CONTRACTOR FILE NO.		HORIZONTAL NAD 1983
4. NAME OF DRILLER AVS		11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore		VERTICAL NAVD 88
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL		BEARING
6. THICKNESS OF OVERBURDEN 0.0 Ft.		12. TOTAL SAMPLES		DISTURBED
7. DEPTH DRILLED INTO ROCK 0.0 Ft.		13. TOTAL NUMBER CORE BOXES		UNDISTURBED (UD)
8. TOTAL DEPTH OF BORING 18.9 Ft.		14. ELEVATION GROUND WATER		
		15. DATE BORING		STARTED 12-04-08
		16. ELEVATION TOP OF BORING -27.6 Ft.		COMPLETED 12-04-08
		17. TOTAL RECOVERY FOR BORING 17.8 Ft.		
		18. SIGNATURE AND TITLE OF INSPECTOR LA		

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-27.6	0.0					
			Medium grained skeletal sand with little quartz fraction. Increasing fines w/ depth. No distinct layering. Trace gravel-sized shell fragments to 1.5". Gradational contact. Top 1' is light brnsh gr (2.5Y 6/2), remainder, grayish brown (2.5Y-5/2), (SP).		1	Sample #1, Depth = 0.5' - 0.8'
					2	Sample #2, Depth = 4.5' - 4.8'
-35.6	8.0				3	Sample #3, Depth = 8.5' - 8.8'
			Medium grained skeletal sand with little quartz fraction. Increasing fines with depth. Trace gravel-sized shell fragments to 1.5", grayish brown (2.5Y-5/2), (SW).		4	Sample #4, Depth = 11.5' - 11.8'
					5	Sample #5, Depth = 14.0' - 14.3'
-44.6	17.0				6	Sample #6, Depth = 17.0' - 17.3'
-45.4	17.8		Medium grained skeletal sand with little quartz fraction. Few fines, grayish brown (2.5Y-5/2), (SW-SM).			
			End of Boring			

FLORIDA DEP ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 10/06/09



Boring Designation SLS-09

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.			9. SIZE AND TYPE OF BIT	
2. BORING DESIGNATION SLS-09		LOCATION COORDINATES X = 932,026.26 Y = 1,086,422.79		10. COORDINATE SYSTEM/DATUM Florida State Plane East
3. DRILLING AGENCY American Vibracore Services		CONTRACTOR FILE NO.		HORIZONTAL NAD 1983
4. NAME OF DRILLER AVS		11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore		VERTICAL NAVD 88
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL	BEARING	<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
6. THICKNESS OF OVERBURDEN 0.0 Ft.		12. TOTAL SAMPLES		DISTURBED UNDISTURBED (UD)
7. DEPTH DRILLED INTO ROCK 0.0 Ft.		13. TOTAL NUMBER CORE BOXES		14. ELEVATION GROUND WATER
8. TOTAL DEPTH OF BORING 19.2 Ft.		15. DATE BORING		STARTED 12-04-08
		16. ELEVATION TOP OF BORING -35.4 Ft.		COMPLETED 12-04-08
		17. TOTAL RECOVERY FOR BORING 18.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR LA

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-35.4	0.0					
-36.8	1.4		Medium grained skeletal sand with little fine grained quartz sand fraction. Abrupt contact, grayish brown (2.5Y-5/2), (SP).		1	Sample #1, Depth = 0.5' - 0.8'
					2	Sample #2, Depth = 4.0' - 4.3'
			Medium grained skeletal sand with little fine grained quartz sand fraction. Thin (~0.2') layers of coarse shell hash throughout. Trace whole shells to 1". Gradational contact, grayish brown (10YR 5/2) to, grayish brown (2.5Y-5/2), (SW).		3	Sample #3, Depth = 7.0' - 7.3'
					4	Sample #4, Depth = 9.5' - 9.8'
					5	Sample #5, Depth = 13.0' - 13.3'
-51.3	15.9		Fine grained quartz sand with abundant fine to medium grained shell fragmetns, gray (10YR-5/1), (SP).		6	Sample #6, Depth = 17.0' - 17.3'
-53.8	18.4		End of Boring			

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

Boring Designation SLS-10

<b>DRILLING LOG</b>		DIVISION		INSTALLATION		SHEET 1 OF 1 SHEETS	
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.				9. SIZE AND TYPE OF BIT			
2. BORING DESIGNATION SLS-10		LOCATION COORDINATES X = 935,921.12 Y = 1,101,579.87		10. COORDINATE SYSTEM/DATUM Florida State Plane East		HORIZONTAL NAD 1983	VERTICAL NAVD 88
3. DRILLING AGENCY American Vibracore Services		CONTRACTOR FILE NO.		11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore		<input type="checkbox"/> AUTO HAMMER	<input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER AVS				12. TOTAL SAMPLES		DISTURBED	UNDISTURBED (UD)
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED				DEG. FROM VERTICAL	BEARING	13. TOTAL NUMBER CORE BOXES	
6. THICKNESS OF OVERBURDEN 0.0 Ft.				14. ELEVATION GROUND WATER		15. DATE BORING	
7. DEPTH DRILLED INTO ROCK 0.0 Ft.				16. ELEVATION TOP OF BORING -27.2 Ft.		STARTED 12-04-08	COMPLETED 12-04-08
8. TOTAL DEPTH OF BORING 17.6 Ft.				17. TOTAL RECOVERY FOR BORING 16 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR LA	

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-27.2	0.0					
			Medium grained skeletal sand with little fine grained quartz sand fraction. Trace whole shells to 1". Increasing fines with depth, grayish brown (2.5Y-5/2), (SP).		1	Sample #1, Depth = 0.5' - 0.8'
					2	Sample #2, Depth = 5.0' - 5.3'
					3	Sample #3, Depth = 7.0' - 7.3'
					4	Sample #4, Depth = 10.0' - 10.3'
					5	Sample #5, Depth = 13.0' - 13.3'
-43.2	16.0		End of Boring			

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

Boring Designation SLS-11

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.			9. SIZE AND TYPE OF BIT	
2. BORING DESIGNATION SLS-11		LOCATION COORDINATES X = 935,799.27 Y = 1,103,554.41		10. COORDINATE SYSTEM/DATUM Florida State Plane East
3. DRILLING AGENCY American Vibracore Services		CONTRACTOR FILE NO.		HORIZONTAL NAD 1983
4. NAME OF DRILLER AVS		11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore		VERTICAL NAVD 88
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL	BEARING	<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
6. THICKNESS OF OVERBURDEN 0.0 Ft.		12. TOTAL SAMPLES		DISTURBED UNDISTURBED (UD)
7. DEPTH DRILLED INTO ROCK 0.0 Ft.		13. TOTAL NUMBER CORE BOXES		14. ELEVATION GROUND WATER
8. TOTAL DEPTH OF BORING 17.7 Ft.		15. DATE BORING		STARTED 12-04-08
		16. ELEVATION TOP OF BORING -29.0 Ft.		COMPLETED 12-04-08
		17. TOTAL RECOVERY FOR BORING 17.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR LA

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-29.0	0.0					
			Medium grained skeletal sand with little fine grained quartz sand fraction. Trace gravel-sized shell fragments. Fining with depth. Gradational contact, light brownish gray (2.5Y 6/2) to, grayish brown (2.5Y-5/2), (SW).		1	Sample #1, Depth = 0.5' - 0.8'
					2	Sample #2, Depth = 4.0' - 4.3'
					3	Sample #3, Depth = 7.0' - 7.3'
					4	Sample #4, Depth = 10.0' - 10.3'
					5	Sample #5, Depth = 14.0' - 14.3'
-39.9	10.9		Fine to medium grained quartz-rich skeletal sand, grayish brown (2.5Y-5/2), (SW).			
-44.7	15.7					
			End of Boring			

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

Boring Designation SLS-12

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.			9. SIZE AND TYPE OF BIT	
2. BORING DESIGNATION SLS-12		LOCATION COORDINATES X = 935,898.87 Y = 1,105,578.95		10. COORDINATE SYSTEM/DATUM Florida State Plane East
3. DRILLING AGENCY American Vibracore Services		CONTRACTOR FILE NO.		HORIZONTAL NAD 1983
4. NAME OF DRILLER AVS		11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore		VERTICAL NAVD 88
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL		BEARING
6. THICKNESS OF OVERBURDEN 0.0 Ft.		12. TOTAL SAMPLES		DISTURBED
7. DEPTH DRILLED INTO ROCK 0.0 Ft.		13. TOTAL NUMBER CORE BOXES		UNDISTURBED (UD)
8. TOTAL DEPTH OF BORING 17.1 Ft.		14. ELEVATION GROUND WATER		
		15. DATE BORING		STARTED 12-04-08
		16. ELEVATION TOP OF BORING -28.0 Ft.		COMPLETED 12-04-08
		17. TOTAL RECOVERY FOR BORING 16 Ft.		
		18. SIGNATURE AND TITLE OF INSPECTOR LA		

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-28.0	0.0					
		•••••	Medium grained skeletal sand with little fine grained quartz sand fraction. Some coarse shell hash from 4' to 5'. Gradational contact, light brownish gray (2.5Y 6/2) to, grayish brown (2.5Y-5/2), (SP).		1	Sample #1, Depth = 1.0' - 1.3'
		•••••			2	Sample #2, Depth = 5.0' - 5.3'
-35.6	7.6	•••••			3	Sample #3, Depth = 7.6' - 7.9'
-36.3	8.3	•••••	Medium grained skeletal sand with some coarse to gravel-sized shell fragments. Little fine grained quartz sand fraction. Gradational contact, grayish brown (2.5Y-5/2), (SW).		4	Sample #4, Depth = 9.0' - 9.3'
		•••••	Medium grained skeletal sand with some fine grained quartz sand fraction, grayish brown (10YR-5/2), (SP).		5	Sample #5, Depth = 13.0' - 13.3'
-44.0	16.0		End of Boring			

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

Boring Designation SLS-13

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.			9. SIZE AND TYPE OF BIT	
2. BORING DESIGNATION SLS-13		LOCATION COORDINATES X = 936,296.22 Y = 1,107,569.2		10. COORDINATE SYSTEM/DATUM Florida State Plane East
3. DRILLING AGENCY American Vibracore Services		CONTRACTOR FILE NO.		HORIZONTAL NAD 1983
4. NAME OF DRILLER AVS				VERTICAL NAVD 88
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL	BEARING	11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore
6. THICKNESS OF OVERBURDEN 0.0 Ft.				<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
7. DEPTH DRILLED INTO ROCK 0.0 Ft.				12. TOTAL SAMPLES DISTURBED UNDISTURBED (UD)
8. TOTAL DEPTH OF BORING 18.3 Ft.				13. TOTAL NUMBER CORE BOXES
				14. ELEVATION GROUND WATER
				15. DATE BORING STARTED 12-04-08 COMPLETED 12-04-08
				16. ELEVATION TOP OF BORING -35.2 Ft.
				17. TOTAL RECOVERY FOR BORING 14.8 Ft.
				18. SIGNATURE AND TITLE OF INSPECTOR LA

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-35.2	0.0					
			Medium grained skeletal sand with little fine grained quartz sand fraction. Gradational contact, grayish brown (2.5Y-5/2), (SW).		1	Sample #1, Depth = 1.0' - 1.3'
-39.2	4.0		Fine to medium grained skeletal sand with some fine grained quartz sand content. Gradational contact, grayish brown (10YR 5/2) to, grayish brown (2.5Y-5/2), (SW).		2	Sample #2, Depth = 4.0' - 4.3'
-42.7	7.5				3	Sample #3, Depth = 5.5' - 5.8'
-43.5	8.3		Medium grained skeletal sand with little fine grained quartz sand content and abundant coarse to gravel-sized shell fragments. Gradational contact, grayish brown (2.5Y-5/2), (SW WITH GRAVEL).		4	Sample #4, Depth = 7.5' - 7.8'
-50.0	14.8		Medium grained skeletal sand with little fine grained quartz sand content, grayish brown (2.5Y-5/2), (SW).		5	Sample #5, Depth = 11.0' - 11.3'
			End of Boring			

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

Boring Designation SLS-14

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.		9. SIZE AND TYPE OF BIT		
2. BORING DESIGNATION SLS-14		LOCATION COORDINATES X = 929,576.55 Y = 1,108,559.37		10. COORDINATE SYSTEM/DATUM Florida State Plane East
3. DRILLING AGENCY American Vibracore Services		CONTRACTOR FILE NO.		HORIZONTAL NAD 1983
4. NAME OF DRILLER AVS		11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore		VERTICAL NAVD 88
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL		BEARING
6. THICKNESS OF OVERBURDEN 0.0 Ft.		12. TOTAL SAMPLES		DISTURBED
7. DEPTH DRILLED INTO ROCK 0.0 Ft.		13. TOTAL NUMBER CORE BOXES		UNDISTURBED (UD)
8. TOTAL DEPTH OF BORING 18.8 Ft.		14. ELEVATION GROUND WATER		
		15. DATE BORING		STARTED 12-04-08
		16. ELEVATION TOP OF BORING -34.6 Ft.		COMPLETED 12-04-08
		17. TOTAL RECOVERY FOR BORING 16 Ft.		
		18. SIGNATURE AND TITLE OF INSPECTOR LA		

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-34.6	0.0					
			Medium grained quartz-rich skeletal sand. Quartz fraction is fine grained. Abrupt contact, light brownish gray (2.5Y-6/2), (SP).		1	Sample #1, Depth = 1.0' - 1.3'
					2	Sample #2, Depth = 4.0' - 4.3'
-43.1	8.5		Medium grained quartz-rich skeletal sand with abundant gravel-sized shell fragments. Whole bivalves to 1". Gradational contact, light brownish gray (10YR-6/2), (SW WITH GRAVEL).		3	Sample #3, Depth = 9.0' - 9.3'
-44.3	9.7		Medium grained skeletal sand with little fine grained quartz sand fraction. Travel gravel-sized shell fragments to 1". Gradational contact, grayish brown (10YR-5/2), (SW).		4	Sample #4, Depth = 11.5' - 11.8'
-47.3	12.7		Fine grained quartz sand with abundant fine to medium grained shell fragments. Burrow filled with above layer from 14.6' to 15', gray (10YR-5/1), (SW-SM).		5	Sample #5, Depth = 14.0' - 14.3'
-50.6	16.0					
			End of Boring			

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

Boring Designation SLS-15

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.			9. SIZE AND TYPE OF BIT	
2. BORING DESIGNATION SLS-15			10. COORDINATE SYSTEM/DATUM Florida State Plane East	
3. DRILLING AGENCY American Vibracore Services			11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore	
4. NAME OF DRILLER AVS			12. TOTAL SAMPLES	
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED			13. TOTAL NUMBER CORE BOXES	
6. THICKNESS OF OVERBURDEN 0.0 Ft.			14. ELEVATION GROUND WATER	
7. DEPTH DRILLED INTO ROCK 0.0 Ft.			15. DATE BORING	
8. TOTAL DEPTH OF BORING 18.0 Ft.			16. ELEVATION TOP OF BORING -36.3 Ft.	
			17. TOTAL RECOVERY FOR BORING 16 Ft.	
			18. SIGNATURE AND TITLE OF INSPECTOR LA	

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-36.3	0.0					
-40.2	3.9		Fine to medium grained skeletal sand with little quartz fraction. Coarsening with depth. Trace whole shells to 1". Gradational contact, grayish brown (2.5Y-5/2), (SW).		1	Sample #1, Depth = 1.0' - 1.3'
-43.0	6.7		Fine grained skeletal sand with abundant coarse to gravel sized shell fragments. Abrupt contact, light brownish gray (10YR-6/2), (SW WITH GRAVEL).		2	Sample #2, Depth = 5.0' - 5.3'
-46.8	10.5		Fine to medium grained skeletal sand with little fine grained quartz fraction and trace whole shells to 1.5". Abrupt contact, grayish brown (2.5Y-5/2), (SW).		3	Sample #3, Depth = 7.5' - 7.8'
-49.7	13.4		Fine grained quartz sand with abundant medium grained blackened shell fragments. Abrupt contact, dark gray (10YR-4/1), (SW).		4	Sample #4, Depth = 11.5' - 11.8'
-51.3	15.0		Abundant gravel-sized shell fragments in a fine to medium grained skeletal sand matrix. Gradational contact, gray (2.5Y-5/1), (GW).			
-52.3	16.0		Fine grained quartz sand with abundant medium to coarse grained blackened shell fragments, dark gray (2.5Y-4/1), (SW).			
			End of Boring			

FLORIDA DEP. ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

Boring Designation SLS-16

<b>DRILLING LOG</b>		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT South SLC Offshore Sand Search South St. Lucie Co.			9. SIZE AND TYPE OF BIT	
2. BORING DESIGNATION SLS-16		LOCATION COORDINATES X = 929,036.75 Y = 1,111,597.55		10. COORDINATE SYSTEM/DATUM Florida State Plane East
3. DRILLING AGENCY American Vibracore Services		CONTRACTOR FILE NO.		HORIZONTAL NAD 1983
4. NAME OF DRILLER AVS		11. MANUFACTURER'S DESIGNATION OF DRILL pneumatic vibracore		VERTICAL NAVD 88
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL		BEARING
6. THICKNESS OF OVERBURDEN 0.0 Ft.		12. TOTAL SAMPLES		DISTURBED UNDISTURBED (UD)
7. DEPTH DRILLED INTO ROCK 0.0 Ft.		13. TOTAL NUMBER CORE BOXES		14. ELEVATION GROUND WATER
8. TOTAL DEPTH OF BORING 17.3 Ft.		15. DATE BORING		STARTED 12-04-08
		16. ELEVATION TOP OF BORING -35.3 Ft.		COMPLETED 12-04-08
		17. TOTAL RECOVERY FOR BORING 15 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR LA

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-35.3	0.0					
			Fine to medium grained skeletal sand with little quartz fraction. Gradational contact, light olive brown (2.5Y-5/3), (SP).		1	Sample #1, Depth = 1.0' - 1.3'
-38.1	2.8		Medium grained skeletal sand with some fine grained quartz fraction and some gravel-sized shells to 1". Gradational contact, grayish brown (2.5Y-5/2), (SW).		2	Sample #2, Depth = 3.5' - 3.8'
-39.3	4.0		Medium grained skeletal sand with trace gravel sized shell fragments to 1". Gradational contact, grayish brown (2.5Y-5/2), (SW).		3	Sample #3, Depth = 5.5' - 5.8'
-42.2	6.9		Abundant gravel-sized shells in a medium grained skeletal sand matrix. Little fine grained quartz content. Shell fragments to 2". Gradational contact, light gray (2.5Y-7/1) to, light brownish gray (10YR-6/2), (SW WITH GRAVEL).		4	Sample #4, Depth = 8.5' - 8.8'
-44.6	9.3		Fine grained quartz sand with abundant fine to medium grained blackened shell fragments. Gradational Contact, gray (2.5Y-5/1), (SW).			
-46.0	10.7		Coarse to gravel-sized blackened shell fragments in a very fine quartz sand / silt and medium grained blackened shell hash matrix. Gradational contact, gray (2.5Y-5/1), (GW).			
-47.0	11.7		Medium grained skeletal sand with little quartz fraction. Fining with depth, dark gray (10YR-4/1), (SW).		5	Sample #5, Depth = 13.0' - 13.3'
-50.3	15.0					
			End of Boring			

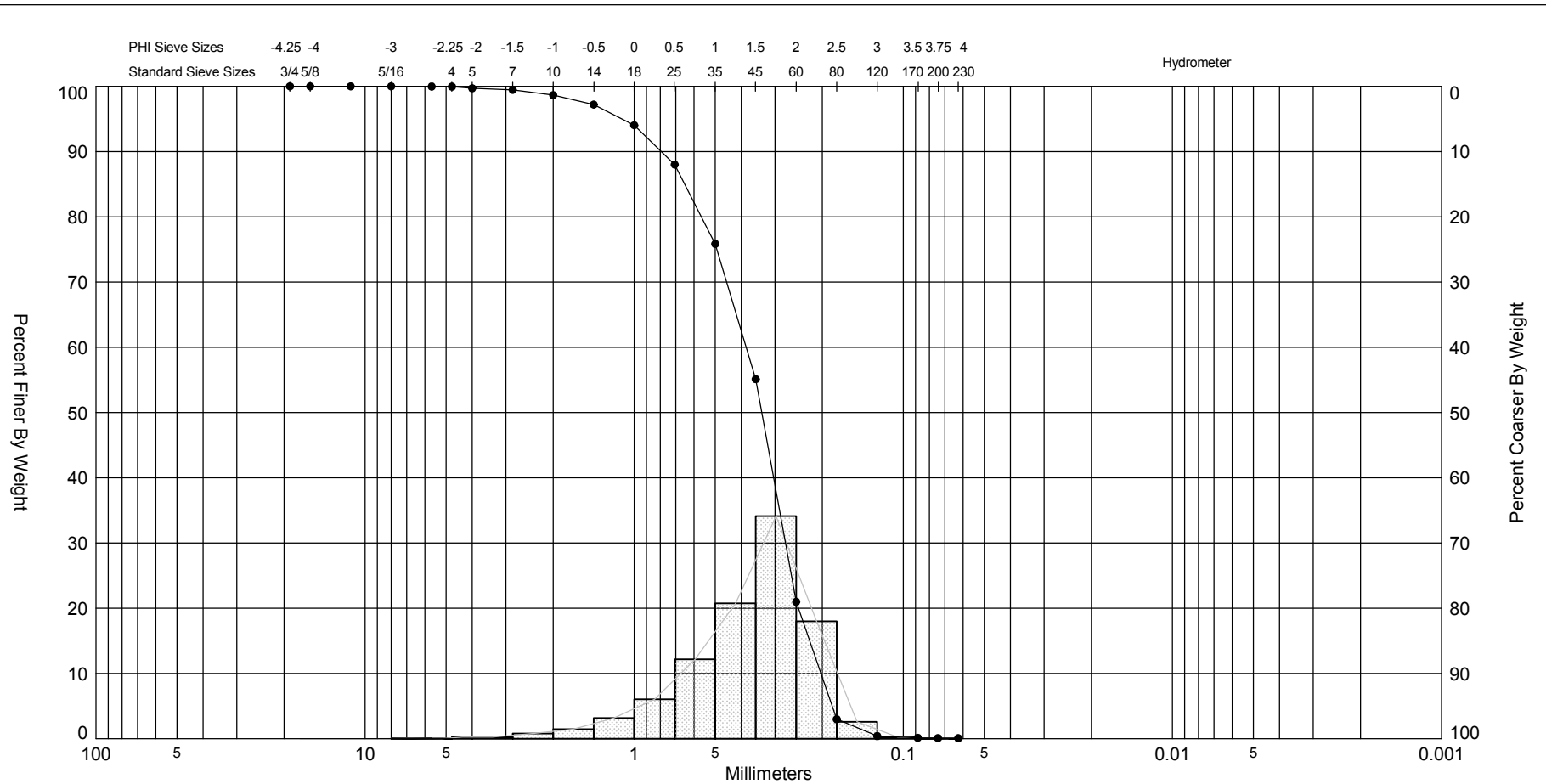
FLORIDA DEP ROSS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



## **Appendix 2d**

### **Vibracore gINT Sample Gradation Curves**

SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



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	
PS-1 #1	—●—	-26.4	SP	#200 - 0.09 #230 - 0.07	1.90	80.30	1.58	1.41	-1.15	5.11	0.8	Project Name:	South SLC Offshore Sand Search

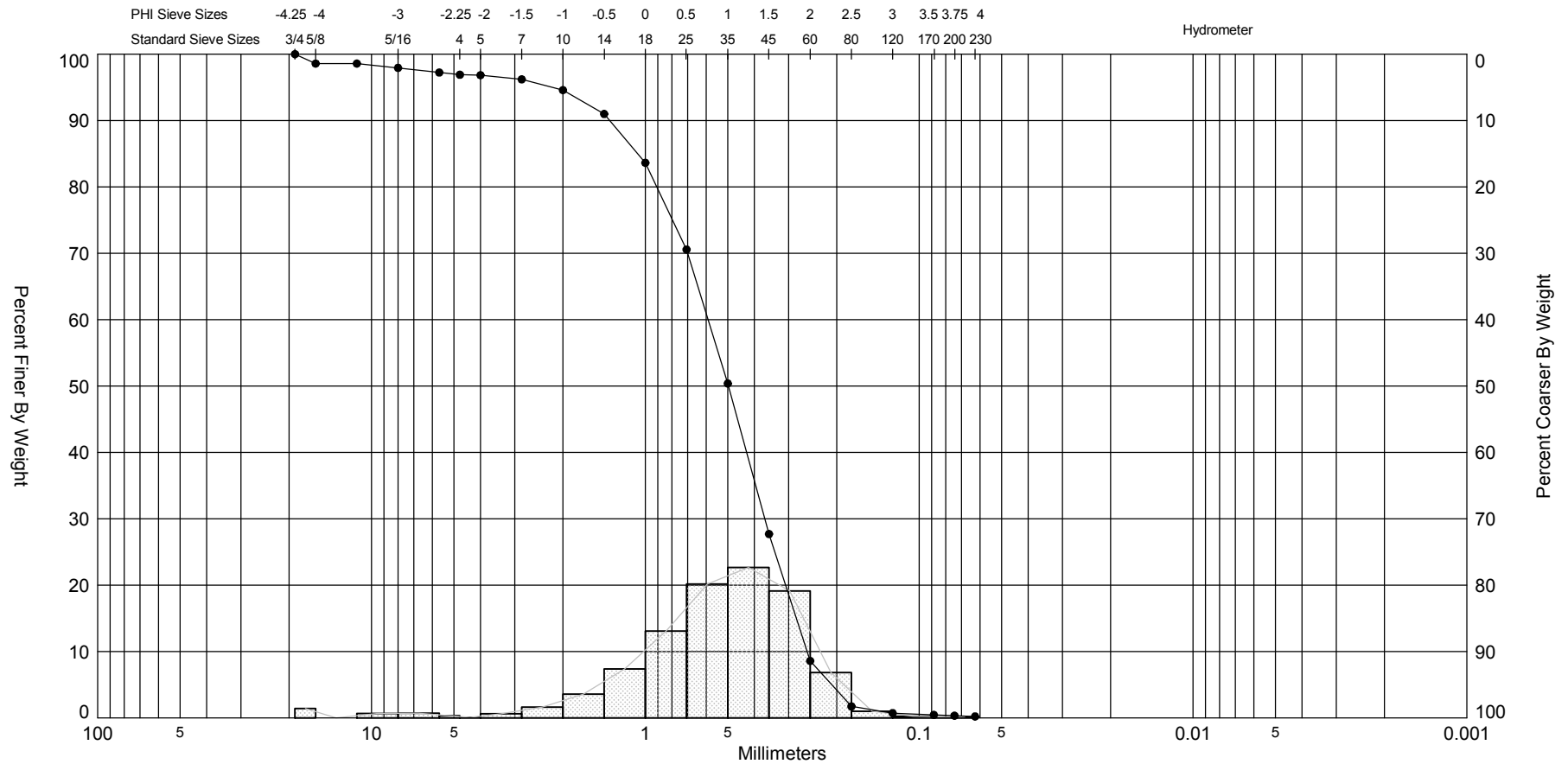
Comments: Depths and elevations based on measured values	Analysis Date: 02-20-09 Analyzed By: MO
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715 North Drive Suite E  
Melbourne, Florida 32934  
Phone 321-751-1135 x 206 Fax

Easting (X, ft):	913,519.38
Northing (Y, ft):	1,099,655.79
Horizontal System:	NAD 1983
Vertical System:	NAVD 88

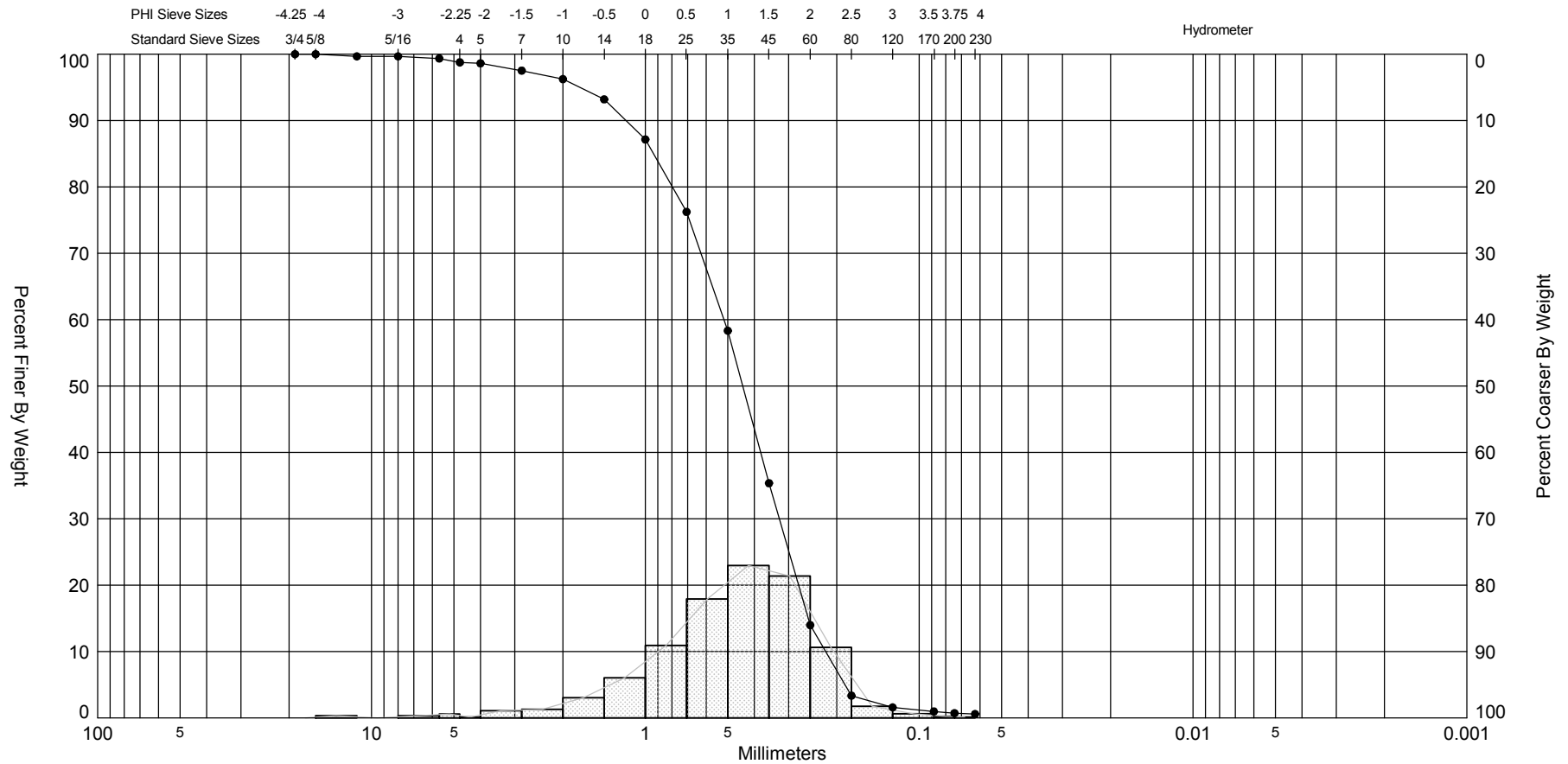
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

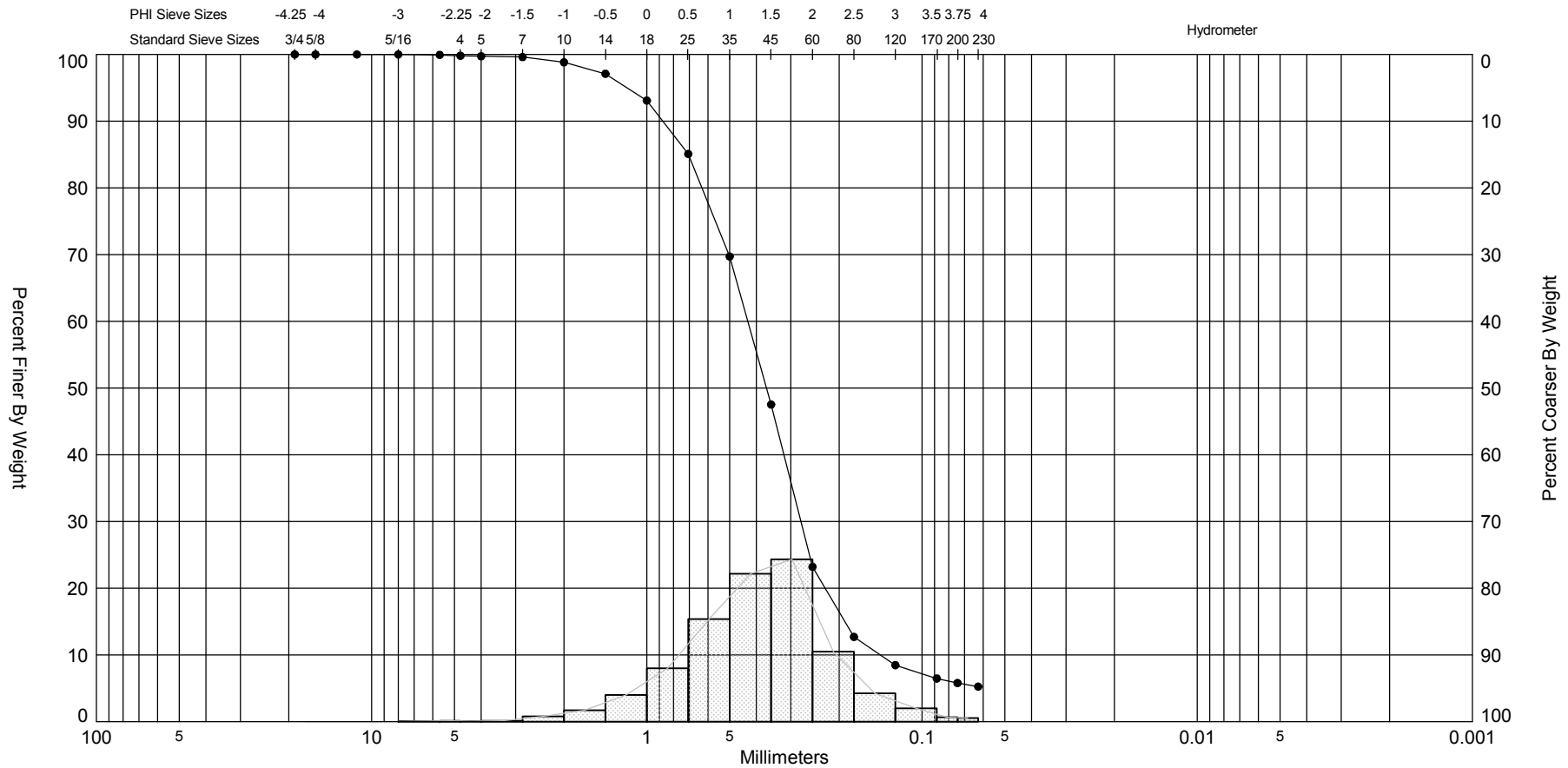
Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
PS-1 #2	—●—	-29.4	SW	#200 - 0.33 #230 - 0.22	1.80	81.00	1.01	0.82	-1.66	7.61	1.16	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	02-20-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,519.38
												Northing (Y, ft):	1,099,655.79
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

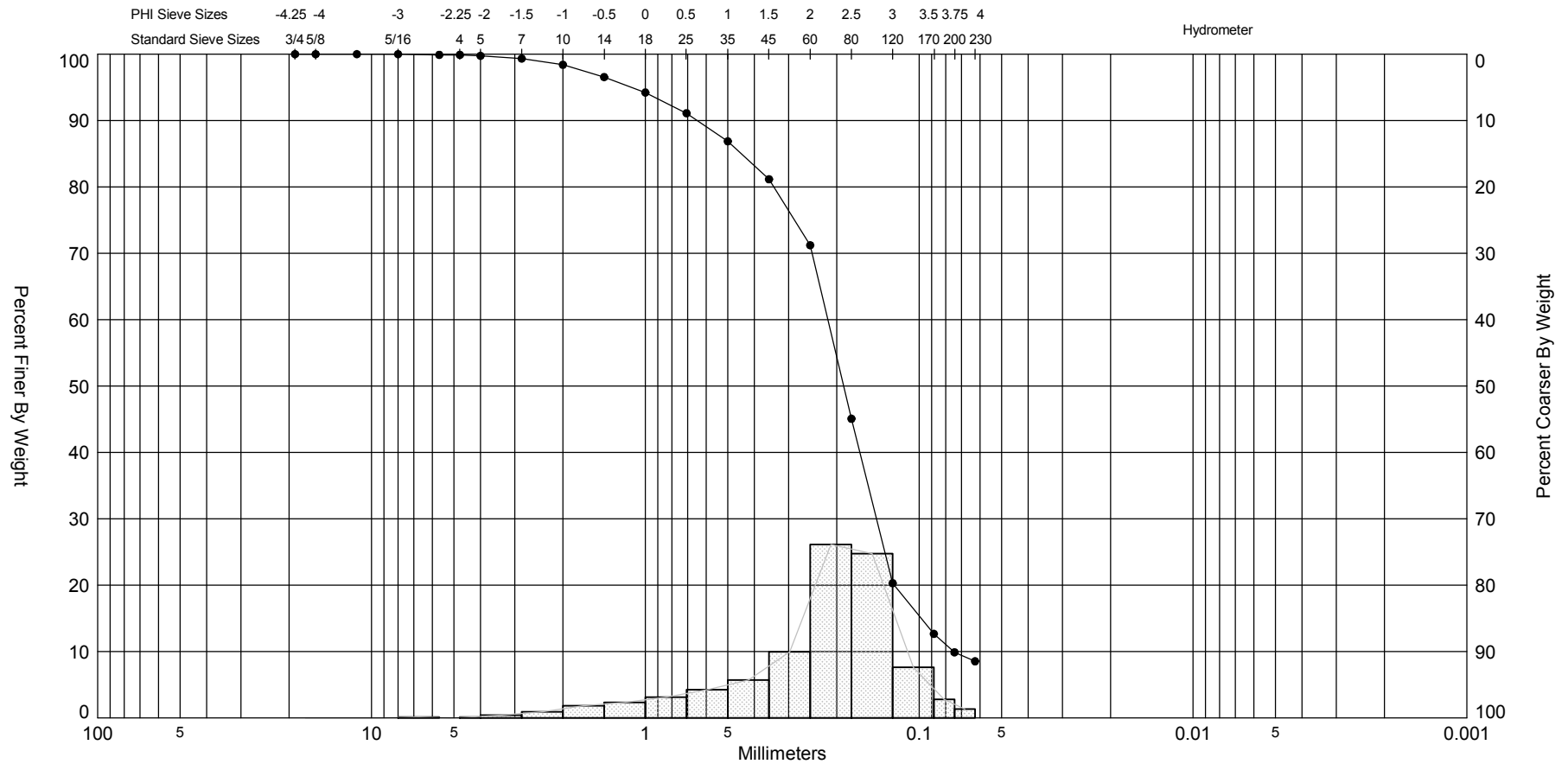
Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
PS-1 #3	—●—	-32.9	SW	#200 - 0.71 #230 - 0.58	1.80	79.00	1.18	1.04	-1.04	5.4	1.01	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	02-20-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,519.38
												Northing (Y, ft):	1,099,655.79
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													




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	
PS-1 #4		-36.4	SW-SM	#200 - 5.79 #230 - 5.25	1.90	77.00	1.44	1.33	-0.32	4.06	0.91	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,519.38
												Northing (Y, ft):	1,099,655.79
												Horizontal System:	NAD 1983
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<p>715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax</p>													

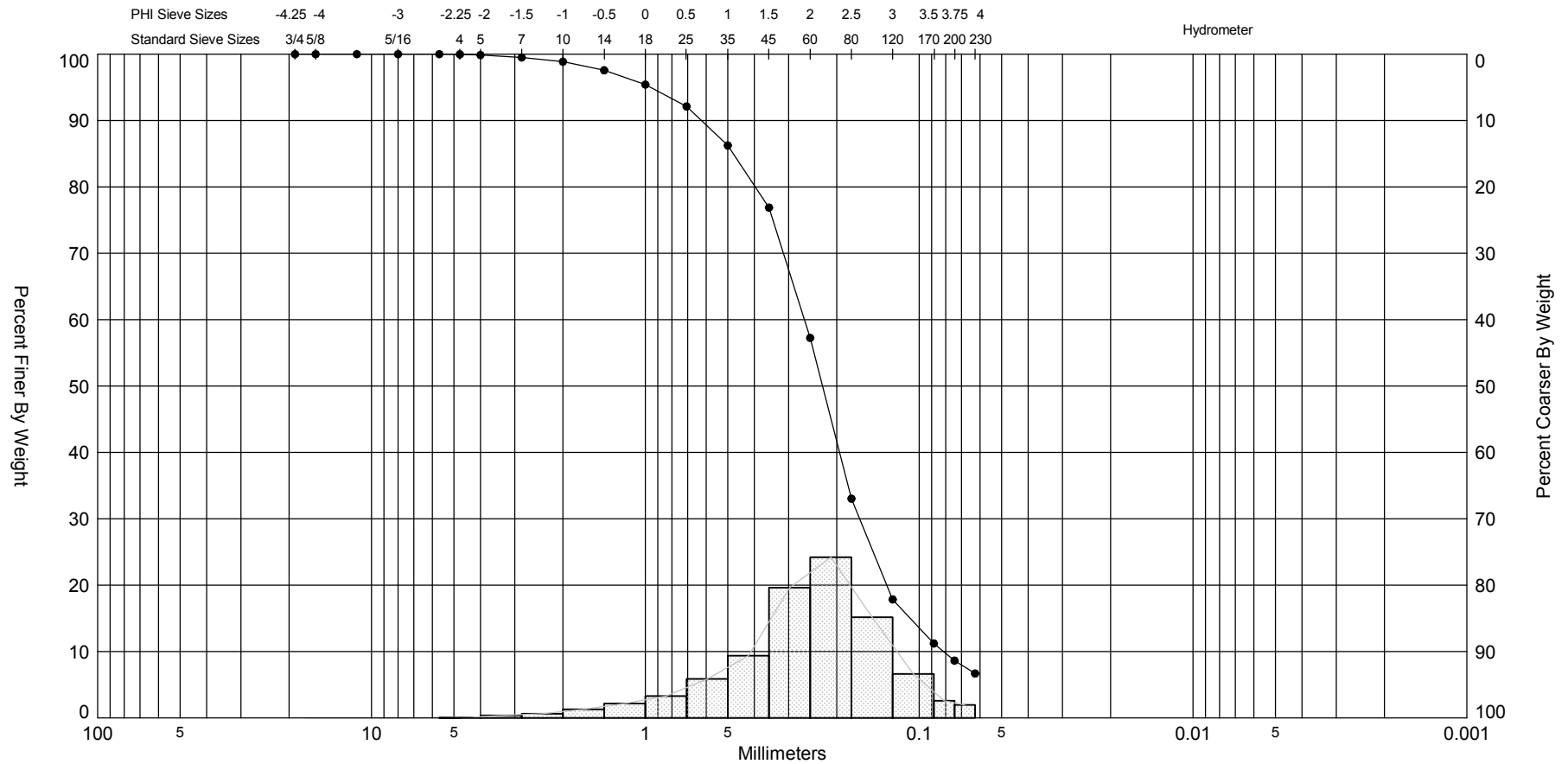
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-1 #5	—●—	-39.4	SW-SM	#200 - 9.88 #230 - 8.53	1.70	67.70	2.41	2.09	-1.33	4.97	1.07	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,519.38
												Northing (Y, ft):	1,099,655.79
												Horizontal System:	NAD 1983
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715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

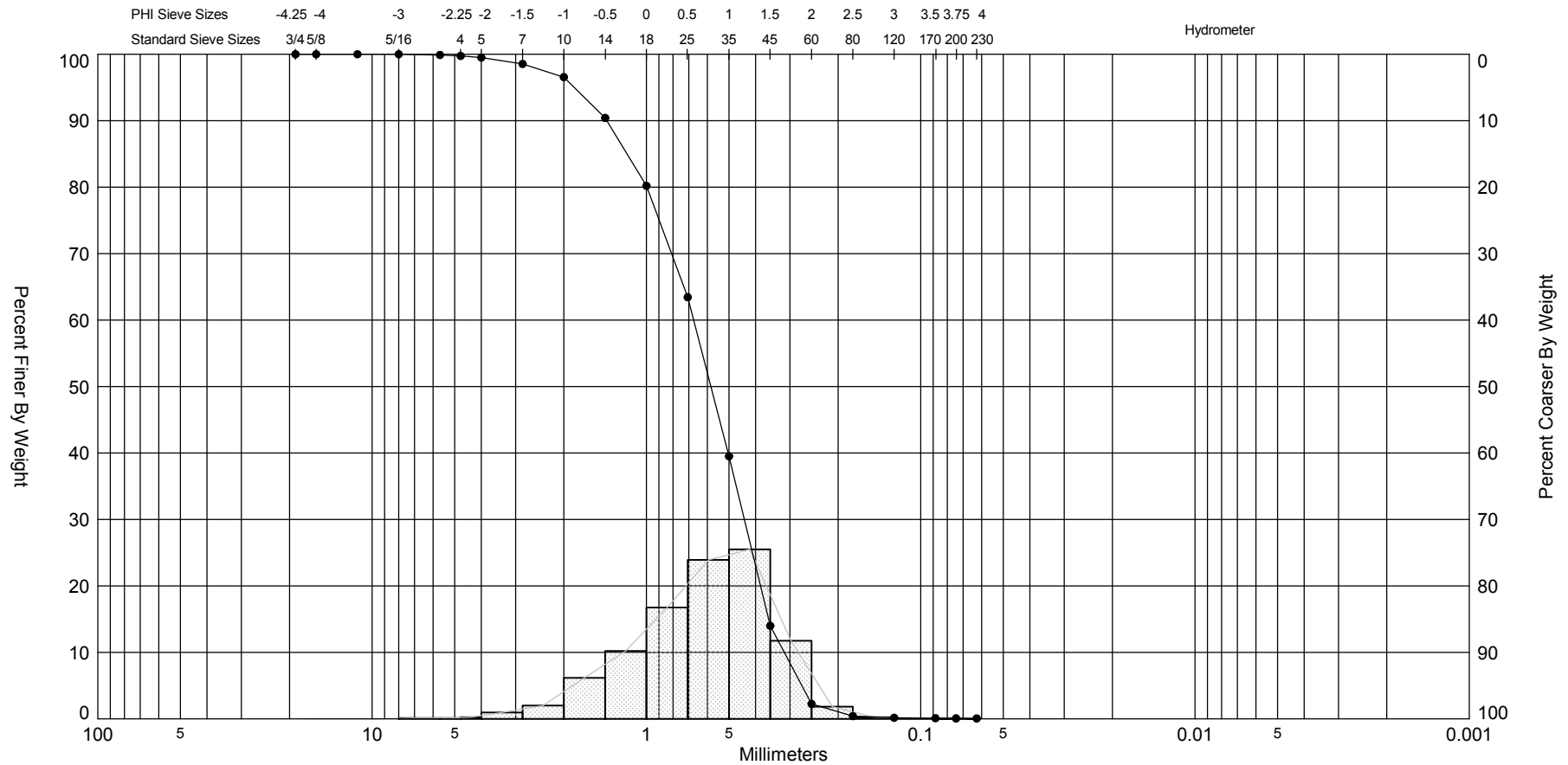
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-1 #6	—●—	-41.4	SW-SM	#200 - 8.63 #230 - 6.69	2.00	84.40	2.15	1.96	-0.85	4.29	1.01	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,519.38
												Northing (Y, ft):	1,099,655.79
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09

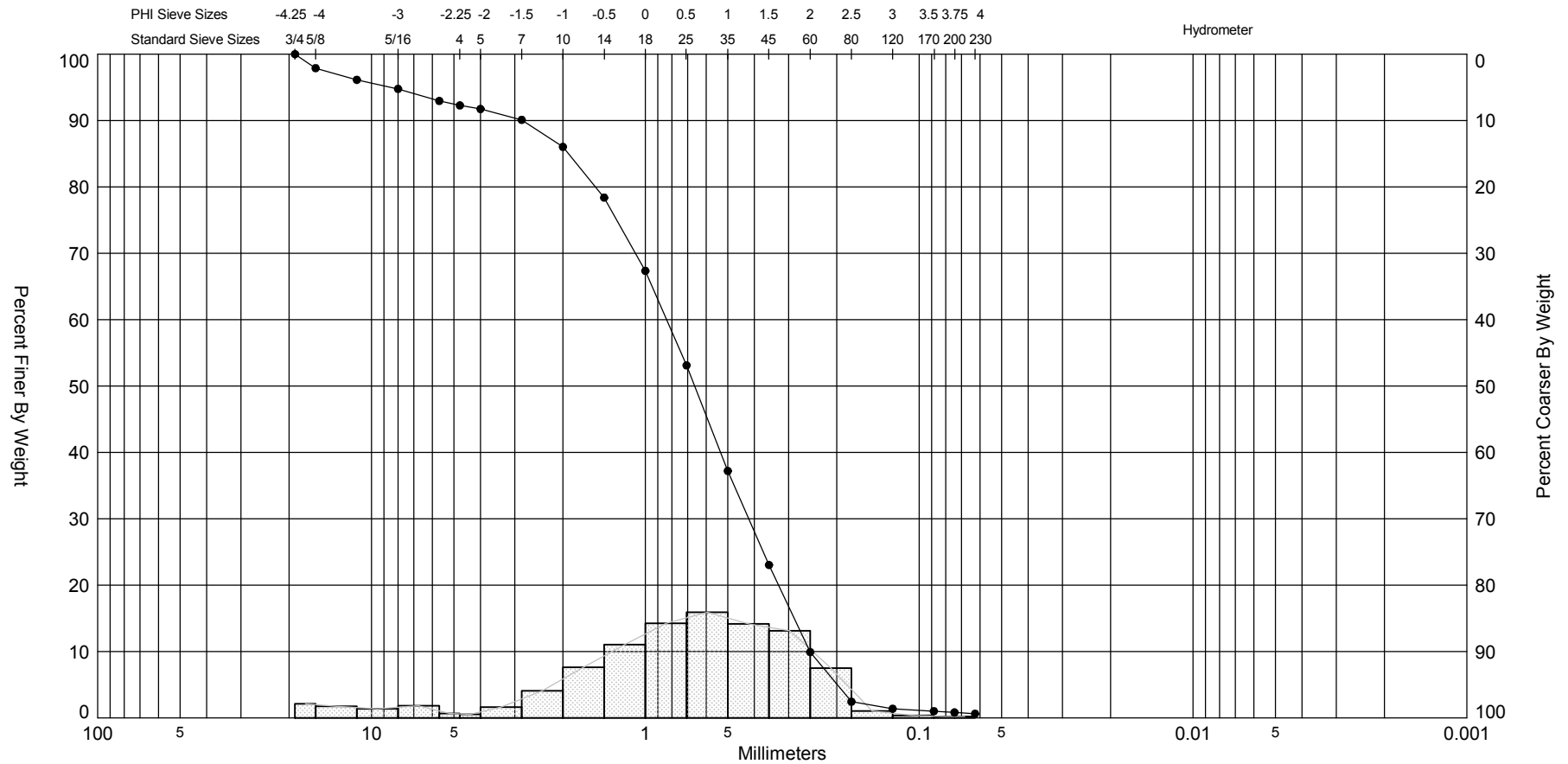


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
PS-2 #1	—●—	-23.6	SP	#200 - 0.07 #230 - 0.06	2.00	84.40	0.78	0.67	-0.64	3.56	0.84	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	02-20-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,501.56
												Northing (Y, ft):	1,101,606.78
												Horizontal System:	NAD 1983
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715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													



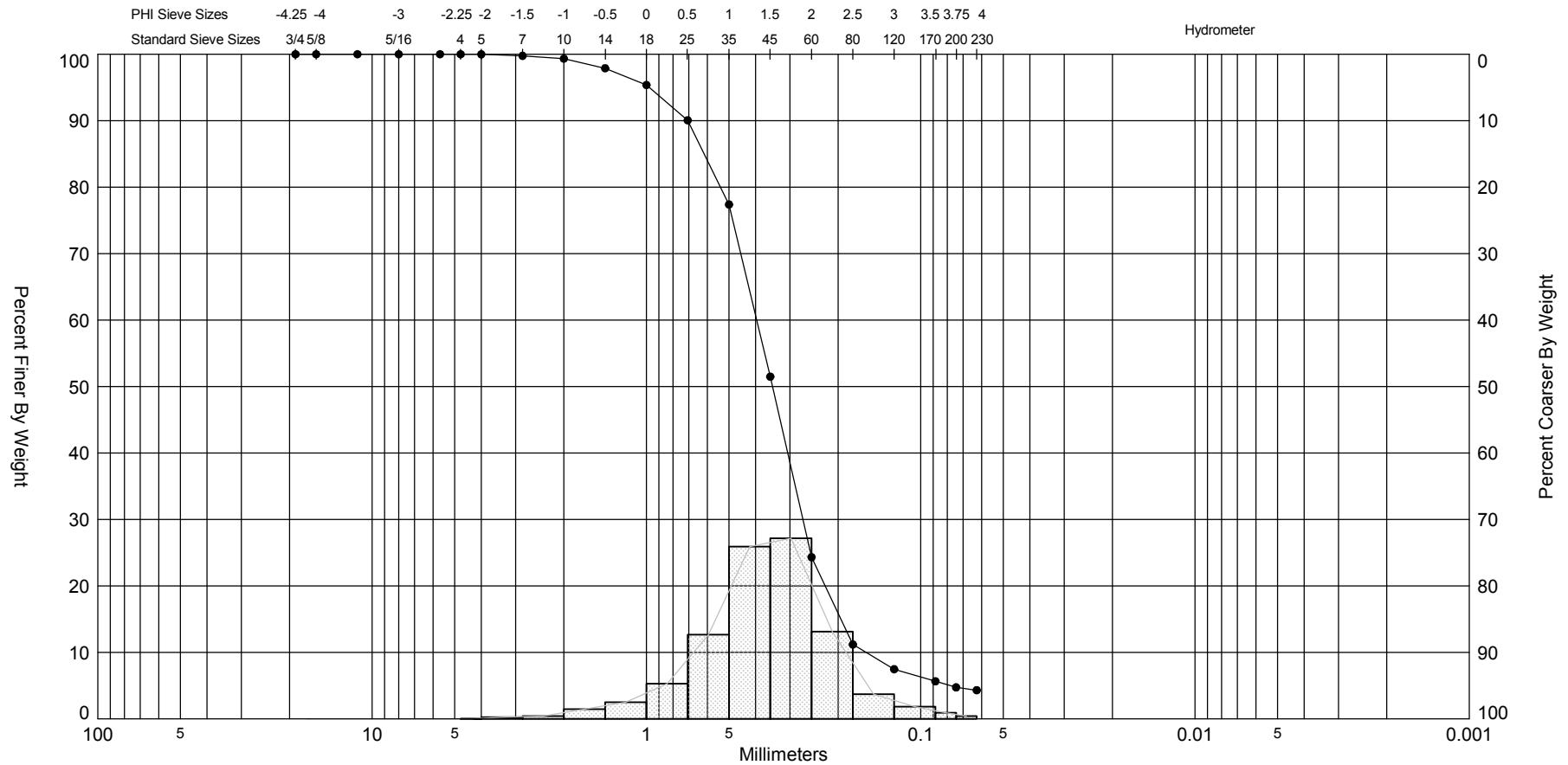
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09



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	
PS-2 #2	—●—	-26.1	SW	#200 - 0.82 #230 - 0.63	1.90	86.20	0.6	0.35	-1.04	4.13	1.51	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	02-20-09
Depths and elevations based on measured values												Analyzed By:	MO
							715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax					Easting (X, ft):	913,501.56
												Northing (Y, ft):	1,101,606.78
												Horizontal System:	NAD 1983
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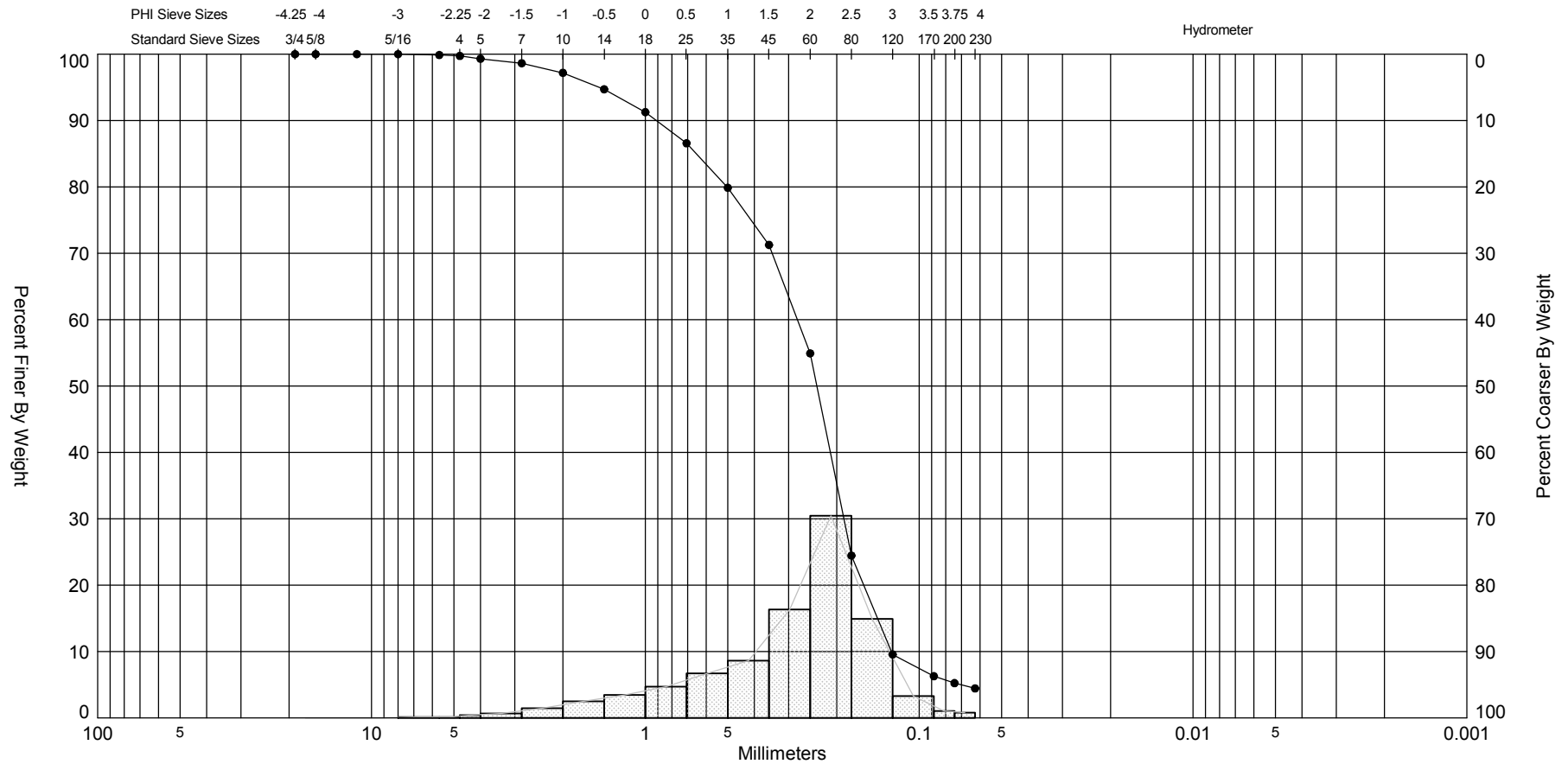
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-2 #3	—●—	-30.6	SP	#200 - 4.74 #230 - 4.31	1.80	75.10	1.53	1.45	-0.3	4.3	0.82	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,501.56
												Northing (Y, ft):	1,101,606.78
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

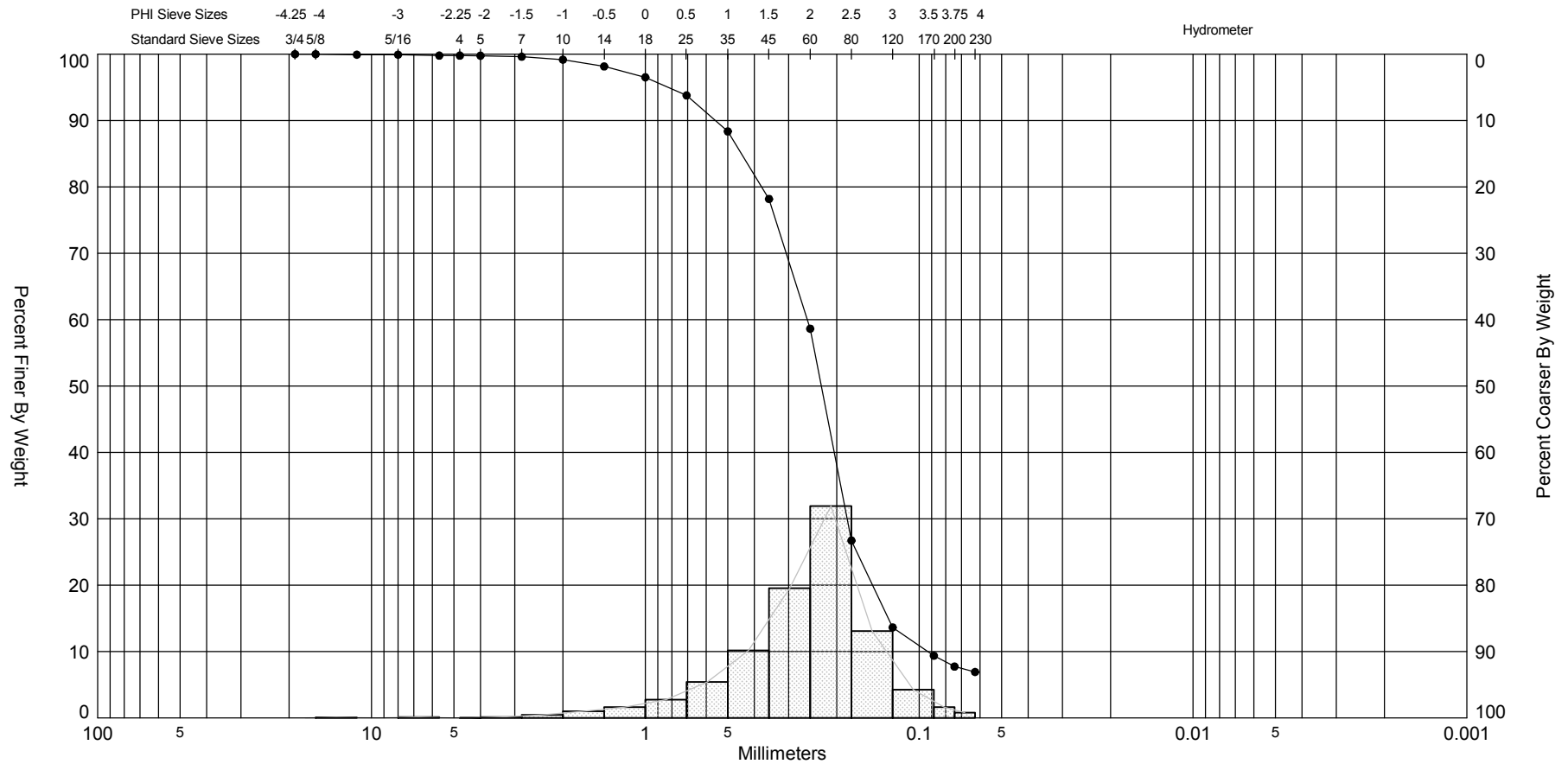
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-2 #4	—●—	-35.1	SW-SM	#200 - 5.24 #230 - 4.44	1.80	78.70	2.08	1.73	-1.16	4.37	1.11	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,501.56
												Northing (Y, ft):	1,101,606.78
												Horizontal System:	NAD 1983
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715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

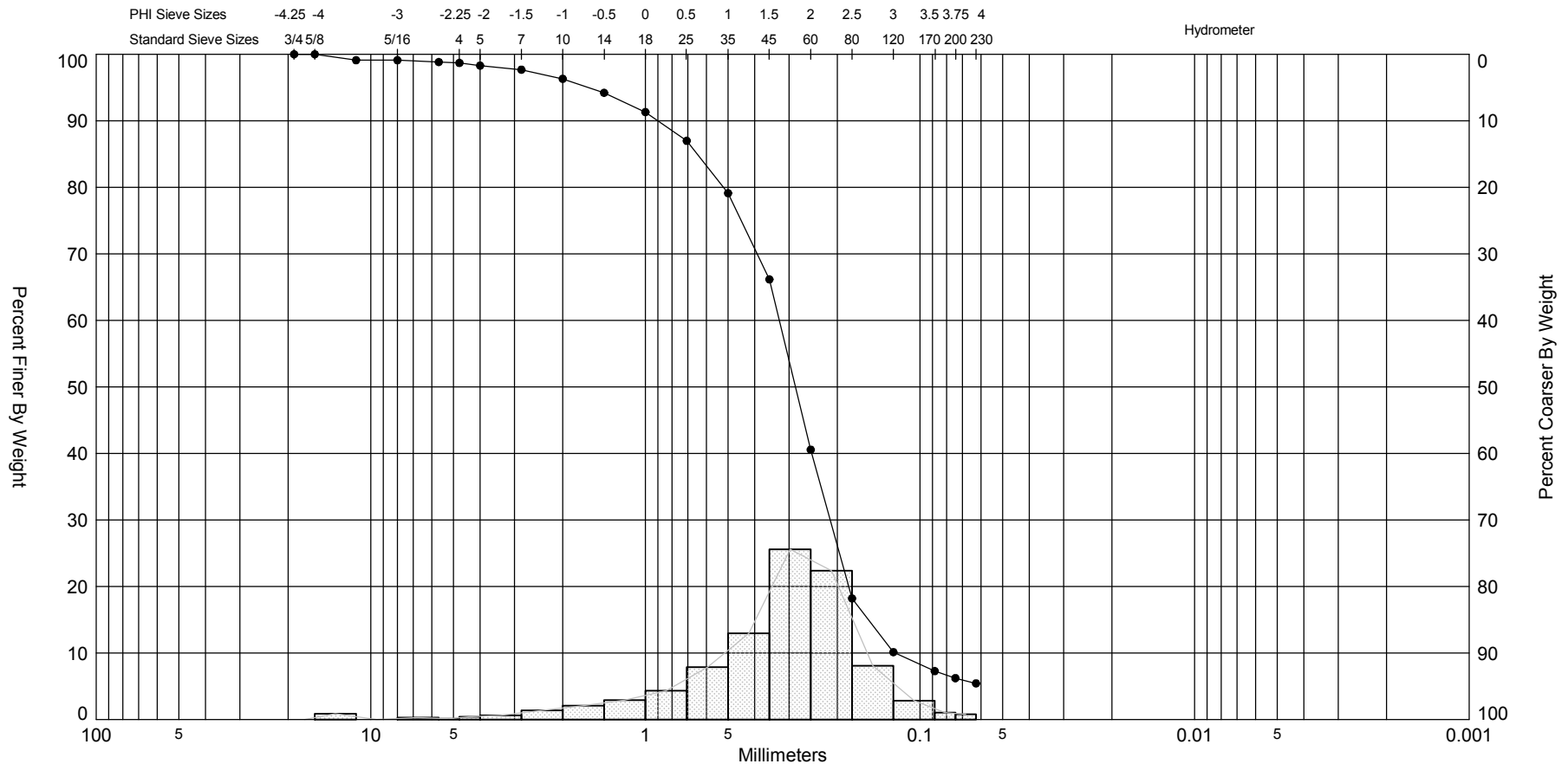
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-2 #5	—●—	-38.1	SW-SM	#200 - 7.73 #230 - 6.92	1.90	78.90	2.14	1.93	-1.21	6.54	0.9	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,501.56
												Northing (Y, ft):	1,101,606.78
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

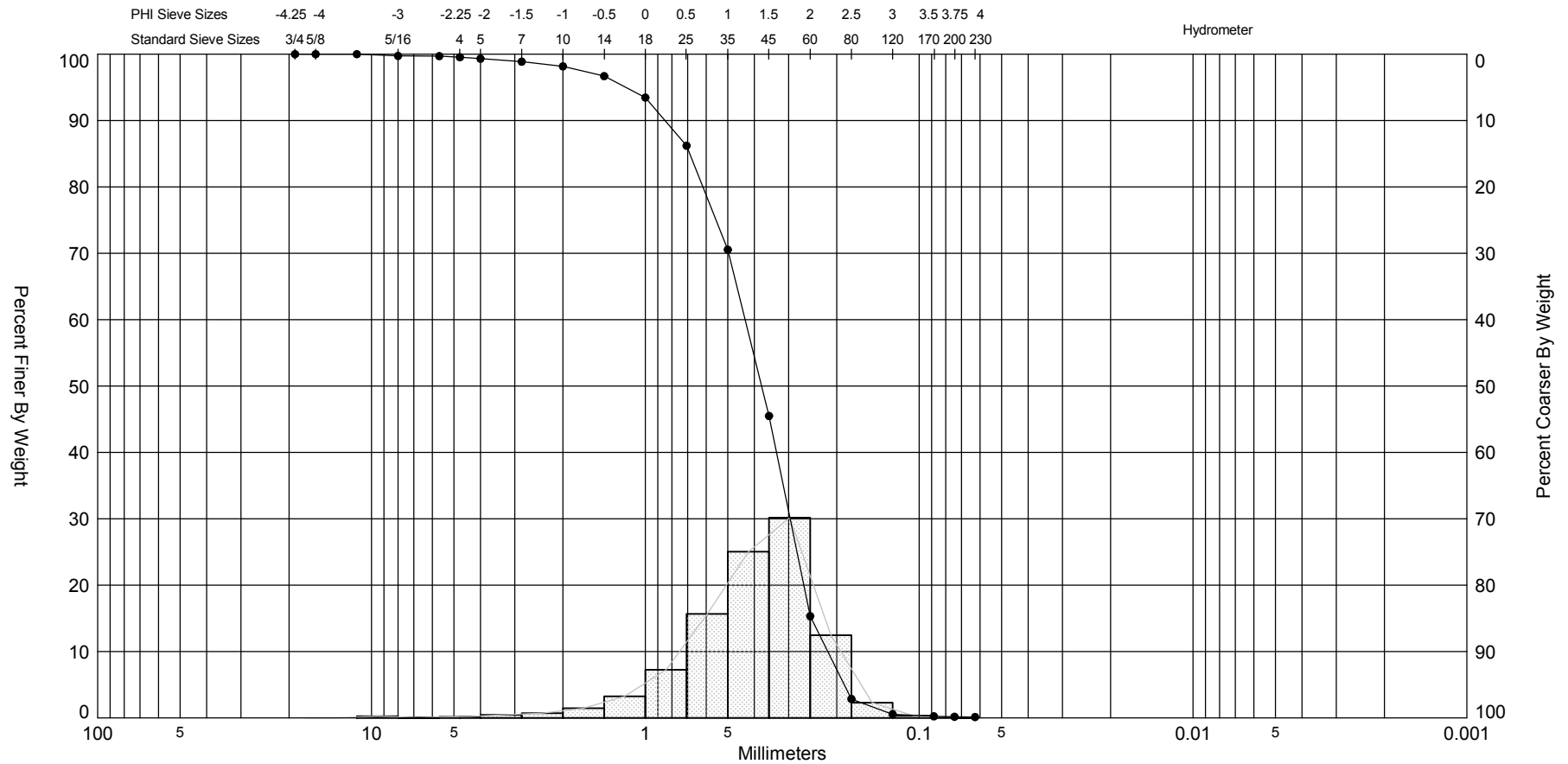
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09




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	
PS-2 #6	—●—	-41.1	SW-SM	#200 - 6.22 #230 - 5.43	1.80	70.70	1.82	1.55	-1.54	7.02	1.17	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,501.56
												Northing (Y, ft):	1,101,606.78
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715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

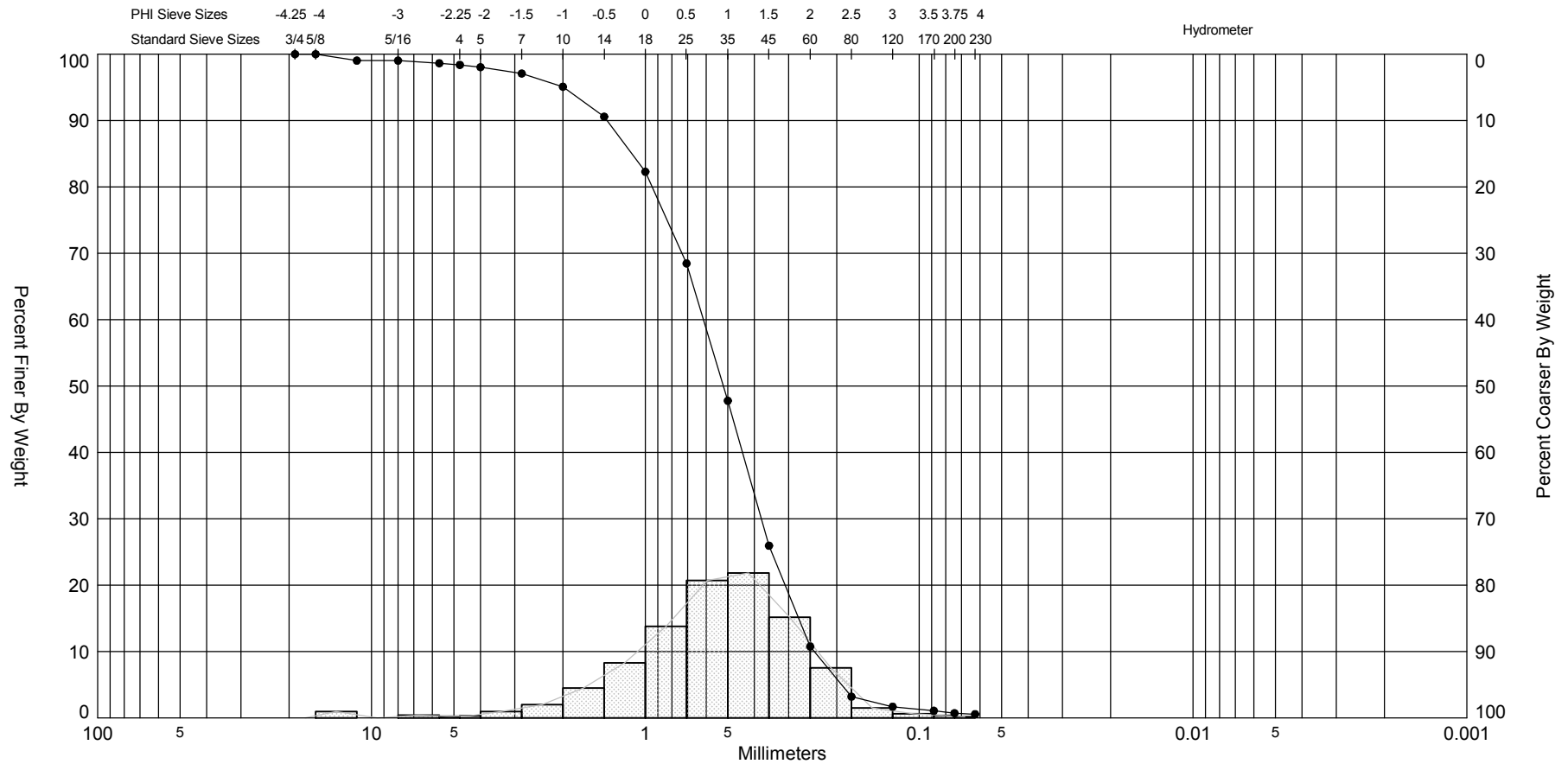
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-3 #1	—●—	-27.6	SP	#200 - 0.17 #230 - 0.13	1.90	75.60	1.41	1.28	-1.29	6.69	0.84	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
							715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax					Easting (X, ft):	913,570.06
												Northing (Y, ft):	1,103,594.69
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

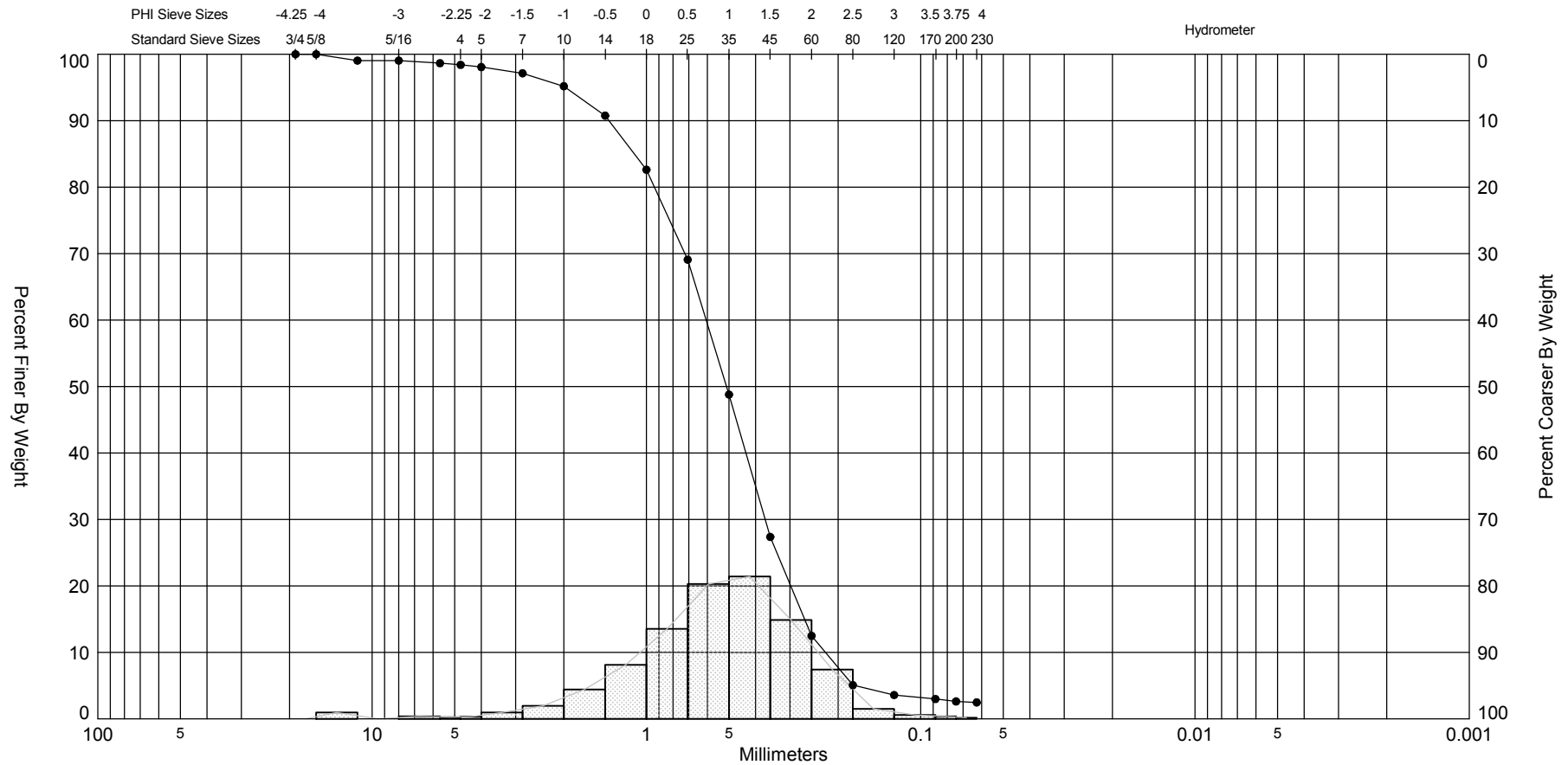
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-3 #2	—●—	-30.6	SW	#200 - 0.71 #230 - 0.56	1.90	80.30	0.95	0.83	-0.99	5.68	1.09	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,570.06
												Northing (Y, ft):	1,103,594.69
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

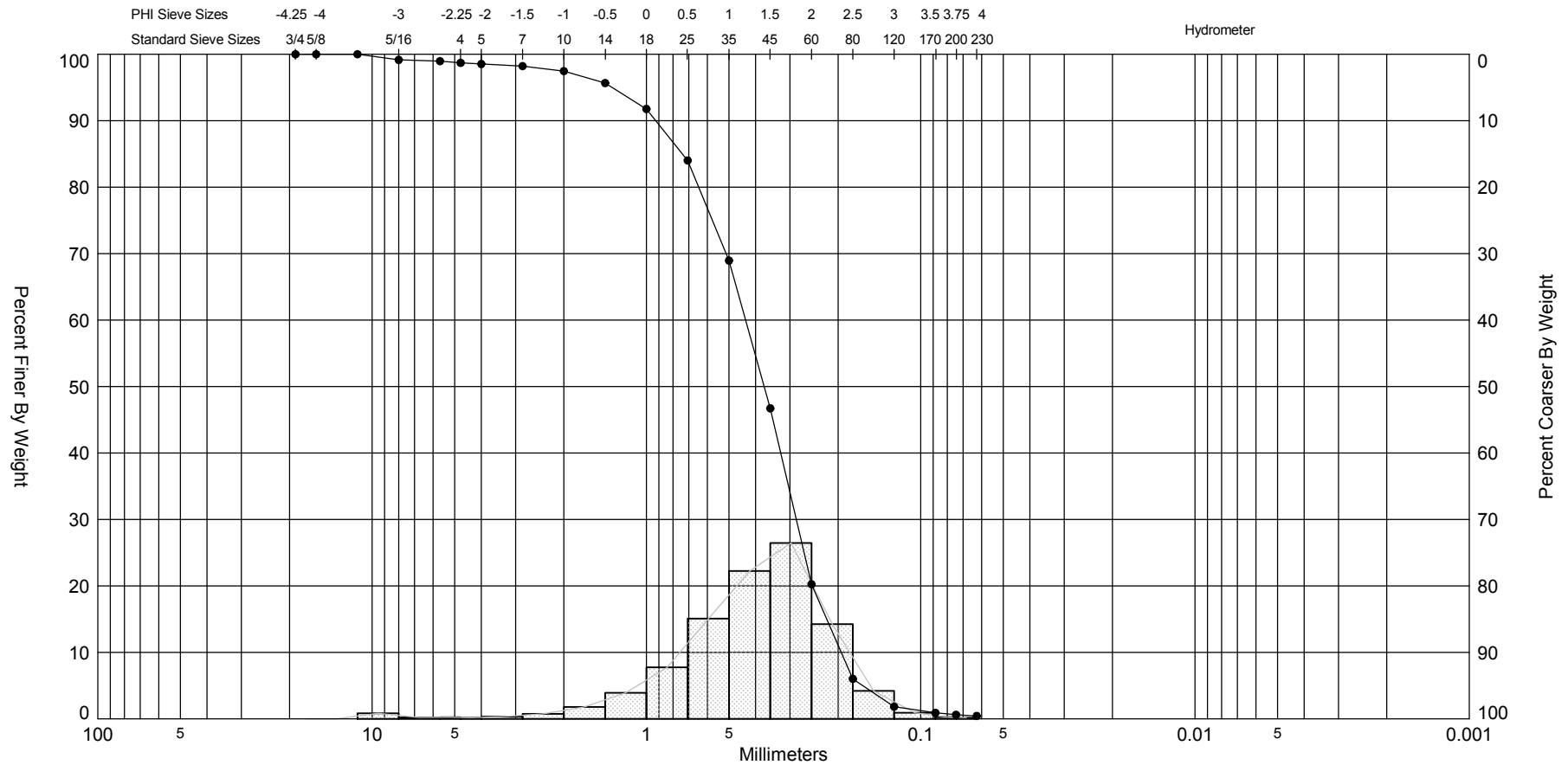


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
PS-3 #3	—●—	-34.1	SW	#200 - 2.62 #230 - 2.47	1.90	79.10	0.97	0.83	-0.99	5.68	1.09	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
							715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax					Easting (X, ft):	913,570.06
												Northing (Y, ft):	1,103,594.69
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88



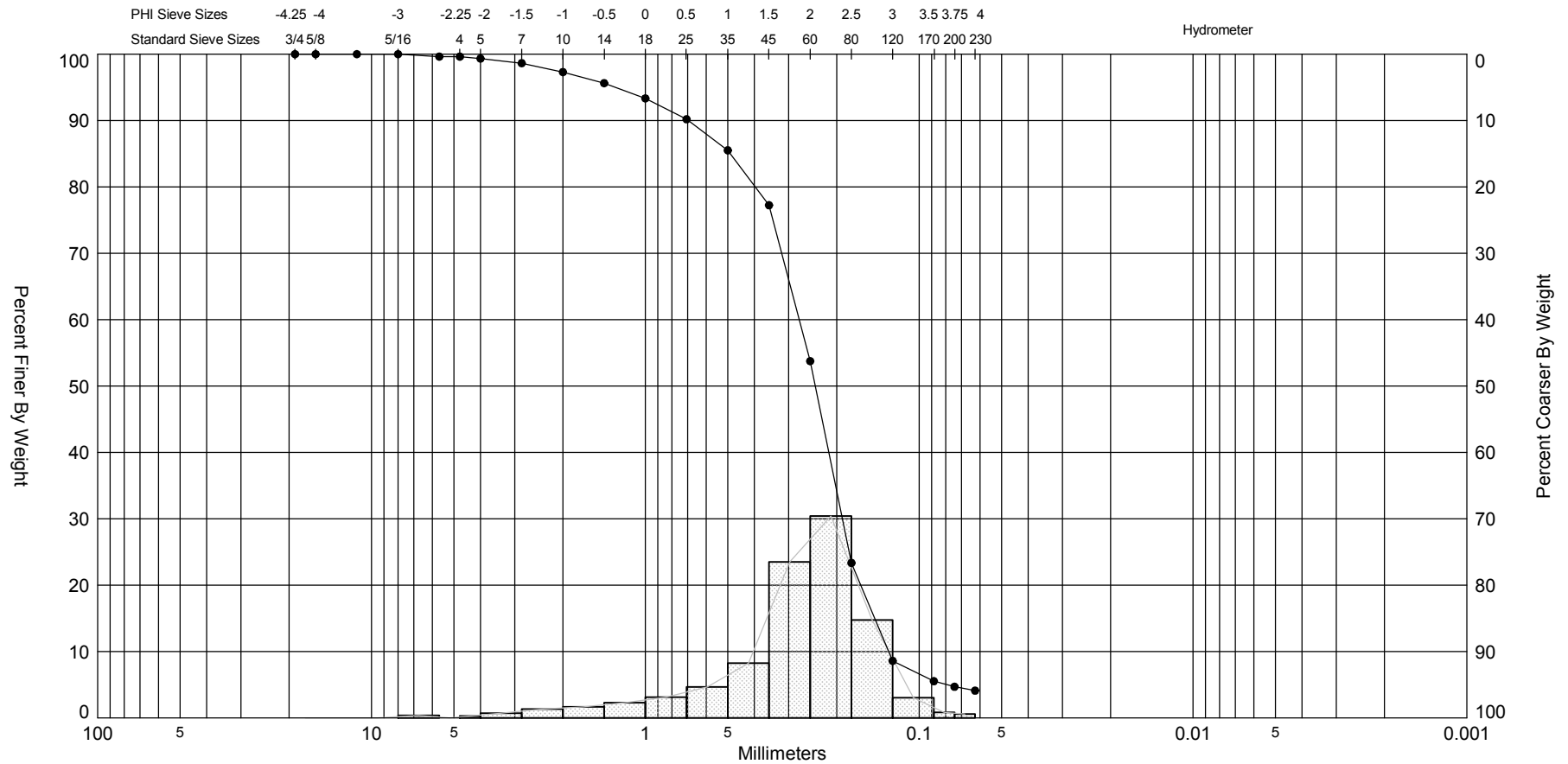
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-3 #4	—●—	-35.6	SW	#200 - 0.61 #230 - 0.43	2.00	76.40	1.43	1.28	-1.34	6.94	0.99	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,570.06
												Northing (Y, ft):	1,103,594.69
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09

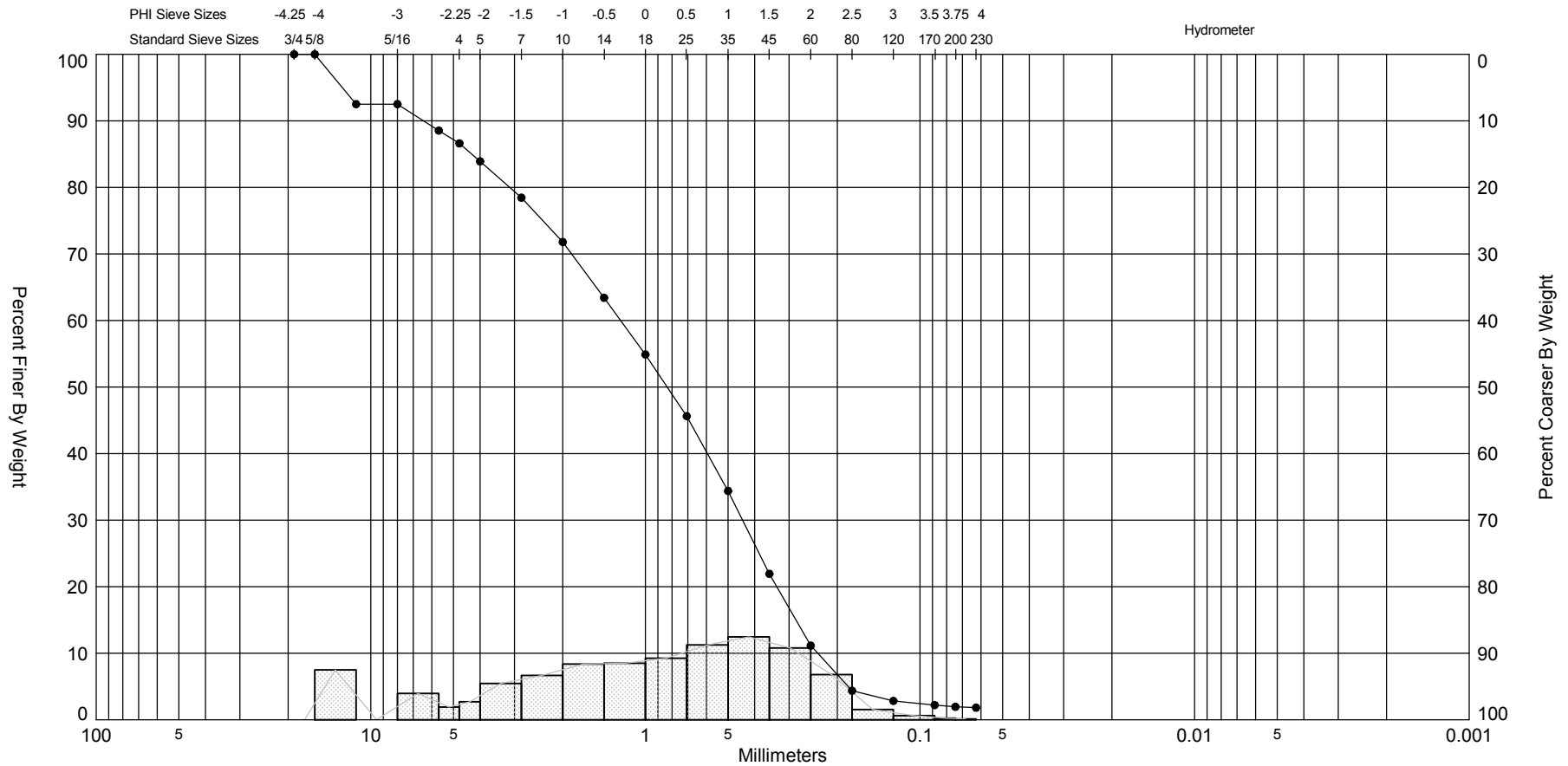


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
PS-3 #5	—●—	-40.6	SW	#200 - 4.69 #230 - 4.11	2.00	69.90	2.06	1.81	-1.52	6.13	1.02	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	913,570.06
												Northing (Y, ft):	1,103,594.69
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	



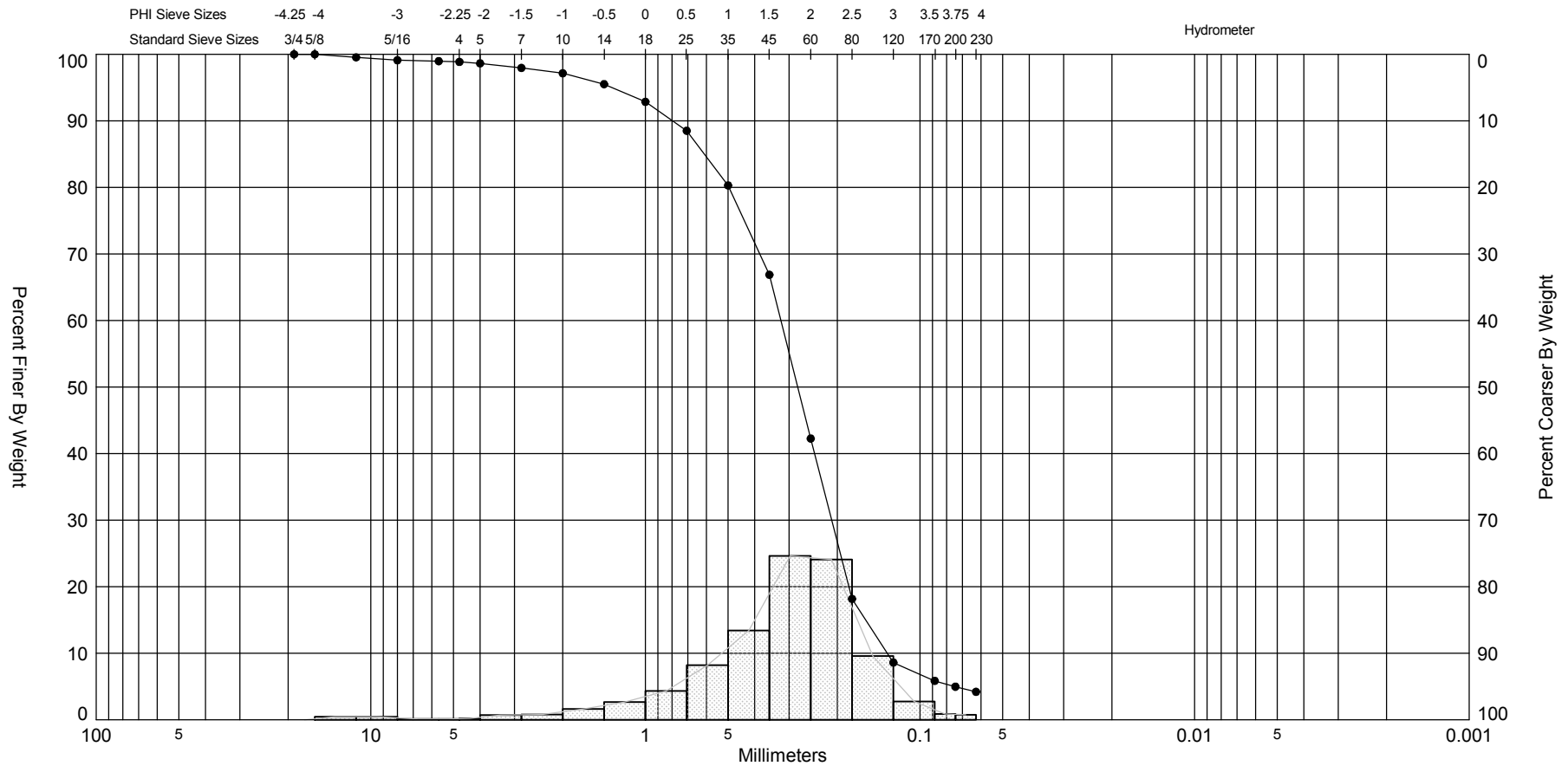
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-4 #2	—●—	-33.1	SW	#200 - 1.95 #230 - 1.82	2.00	87.70	0.26	-0.08	-0.49	2.43	1.77	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	912,707.73
												Northing (Y, ft):	1,105,643.32
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

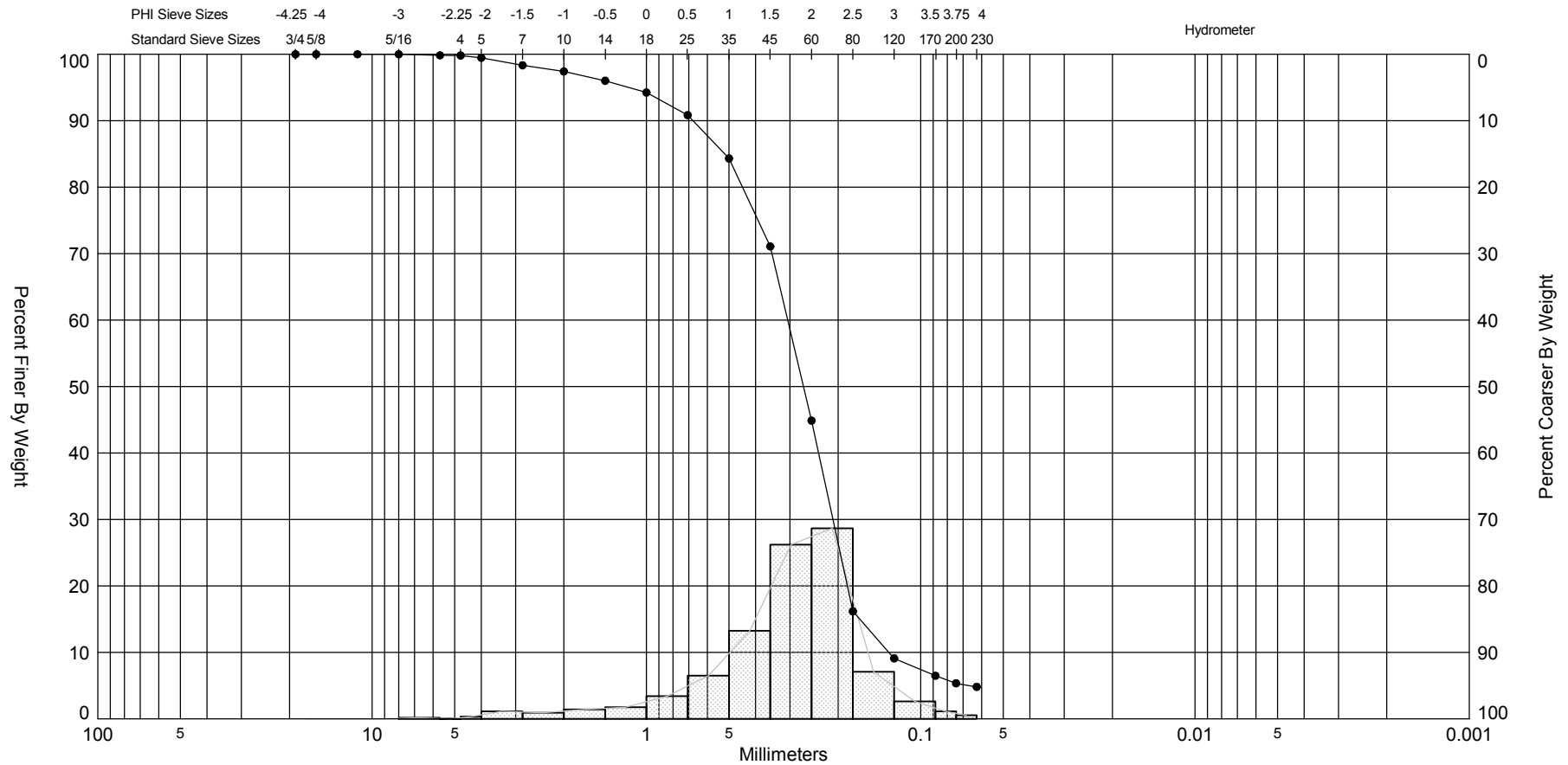
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-4 #3	—●—	-36.1	SW	#200 - 4.97 #230 - 4.20	1.90	77.40	1.84	1.61	-1.56	7.4	1.11	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	912,707.73
												Northing (Y, ft):	1,105,643.32
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

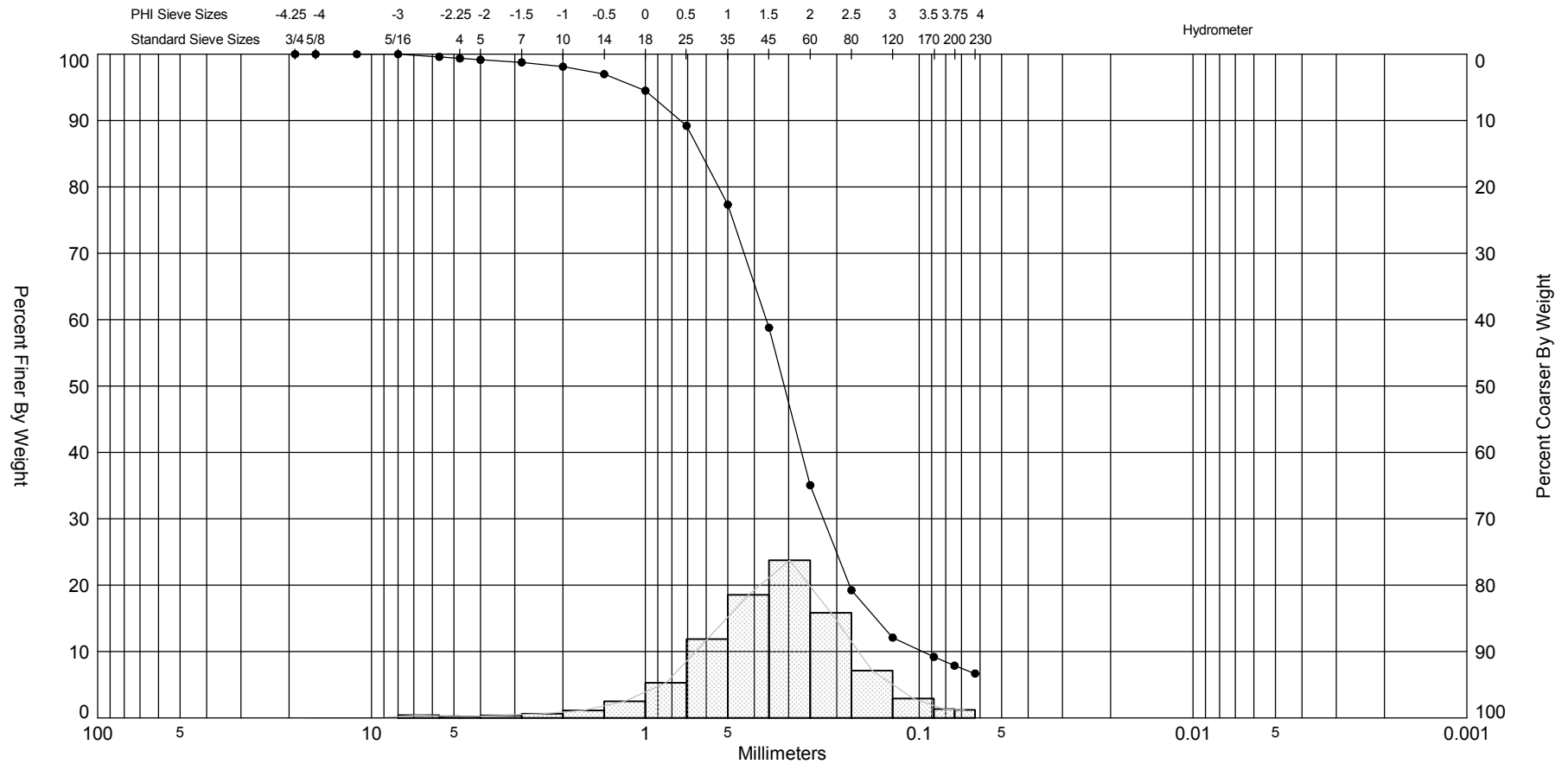
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-4 #4	—●—	-39.6	SW-SM	#200 - 5.35 #230 - 4.81	1.90	74.80	1.9	1.69	-1.33	6.05	0.98	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	912,707.73
												Northing (Y, ft):	1,105,643.32
												Horizontal System:	NAD 1983
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715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

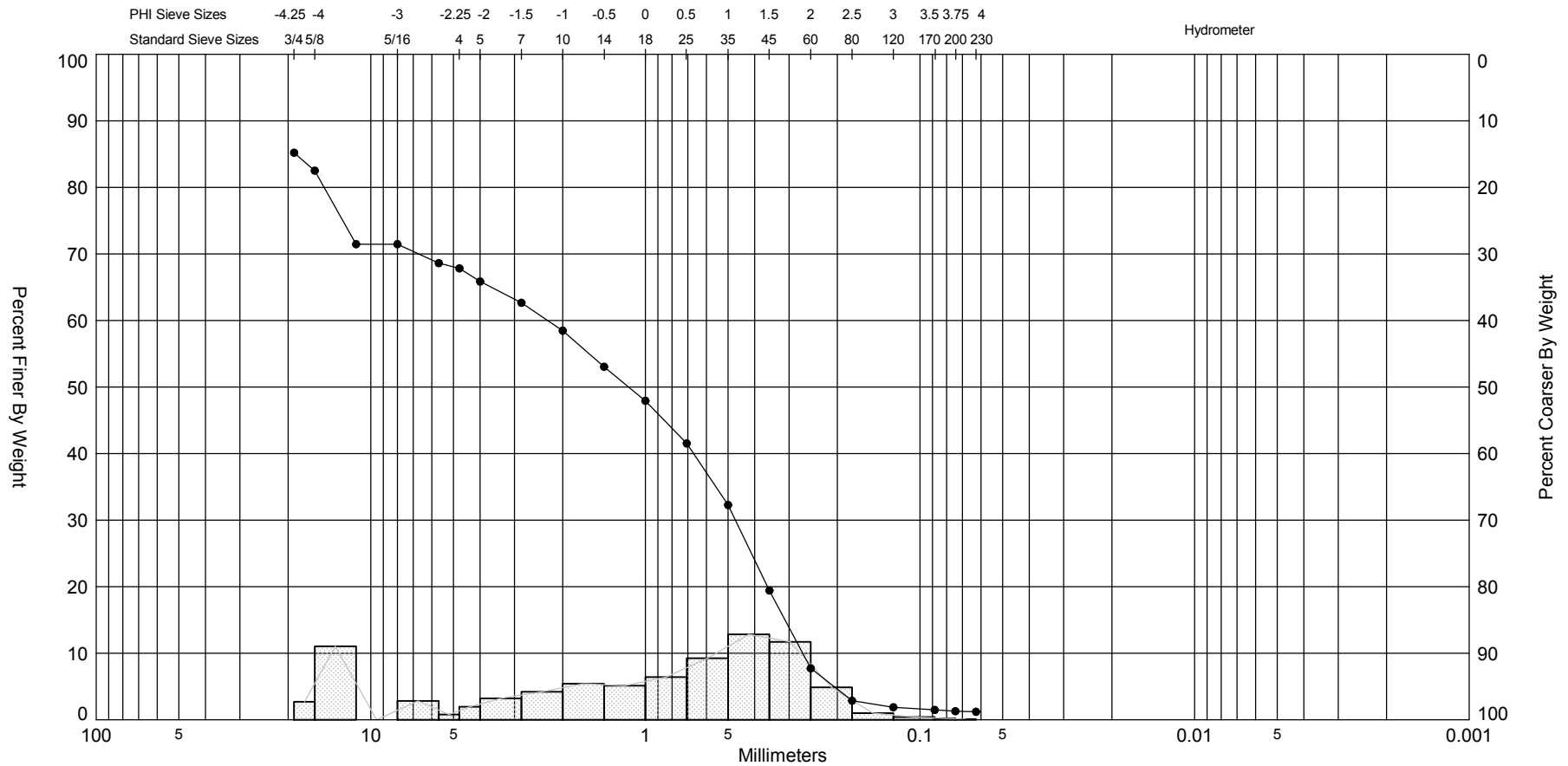
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-4 #5	—●—	-43.6	SW-SM	#200 - 7.87 #230 - 6.68	2.10	75.20	1.69	1.54	-0.73	5.13	1.01	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	912,707.73
												Northing (Y, ft):	1,105,643.32
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

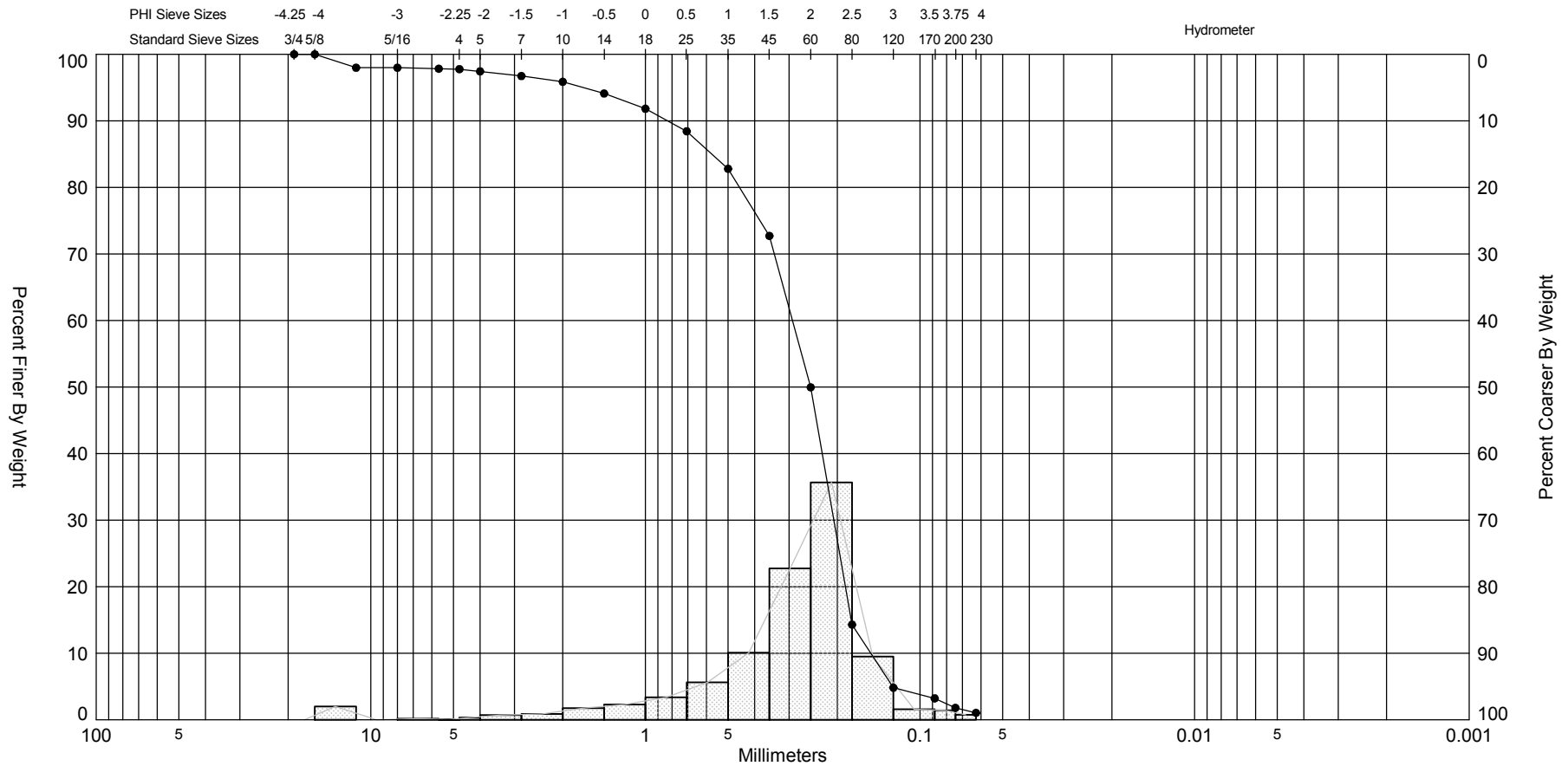


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
PS-5 #1	—●—	35.2	SW WITH GRAVEL	#200 1.29 #230 1.20	1.90	85.60		-0.87	0.33	1.92	1.97	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
							715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax					Easting (X, ft):	912,381.37
												Northing (Y, ft):	1,107,634.78
												Horizontal System:	NAD 1983
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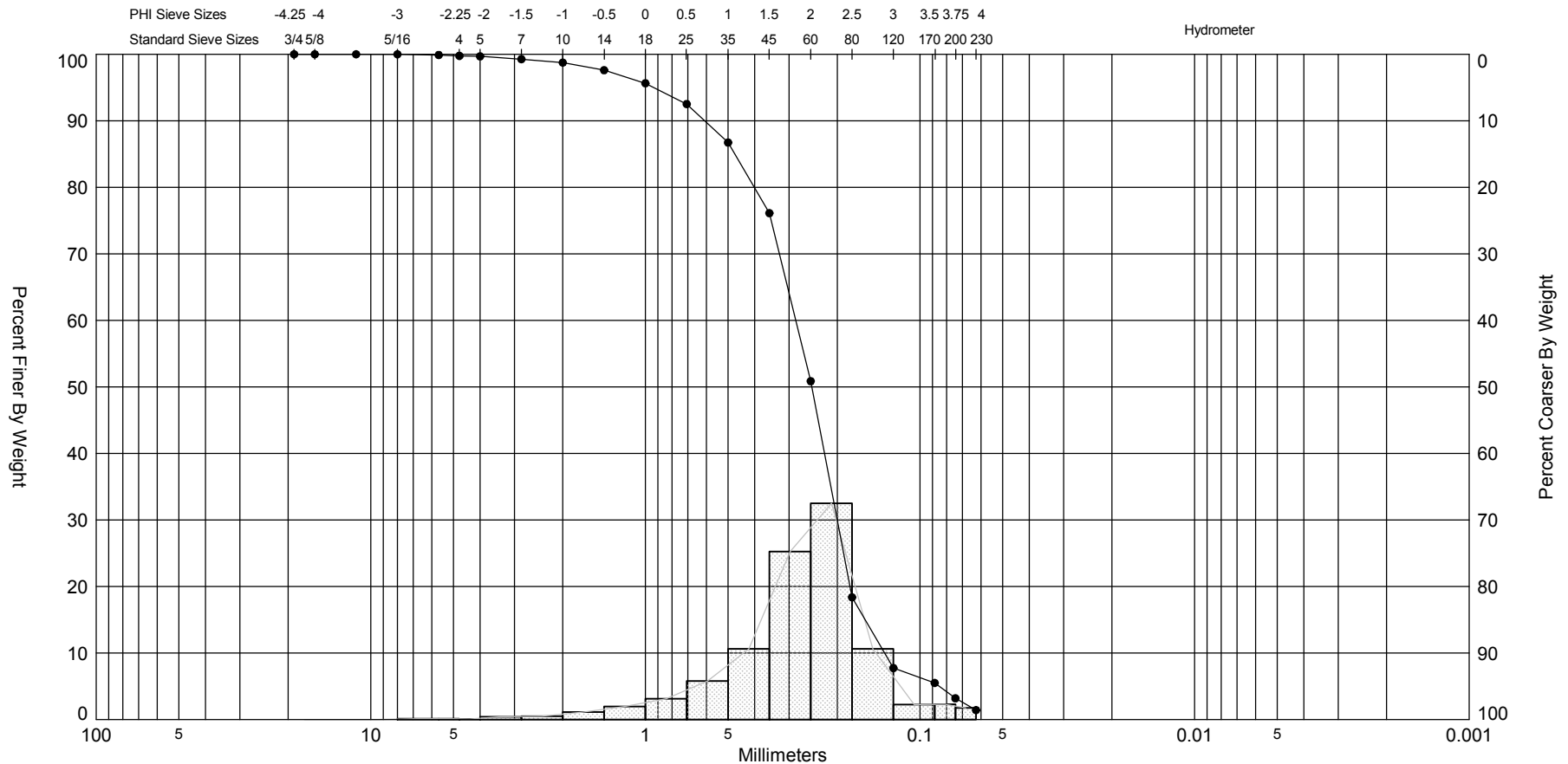
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-5 #2	—●—	-38.7	SW	#200 - 1.79 #230 - 1.04	1.80	70.00	2	1.66	-2.19	9.42	1.24	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	912,381.37
												Northing (Y, ft):	1,107,634.78
												Horizontal System:	NAD 1983
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												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

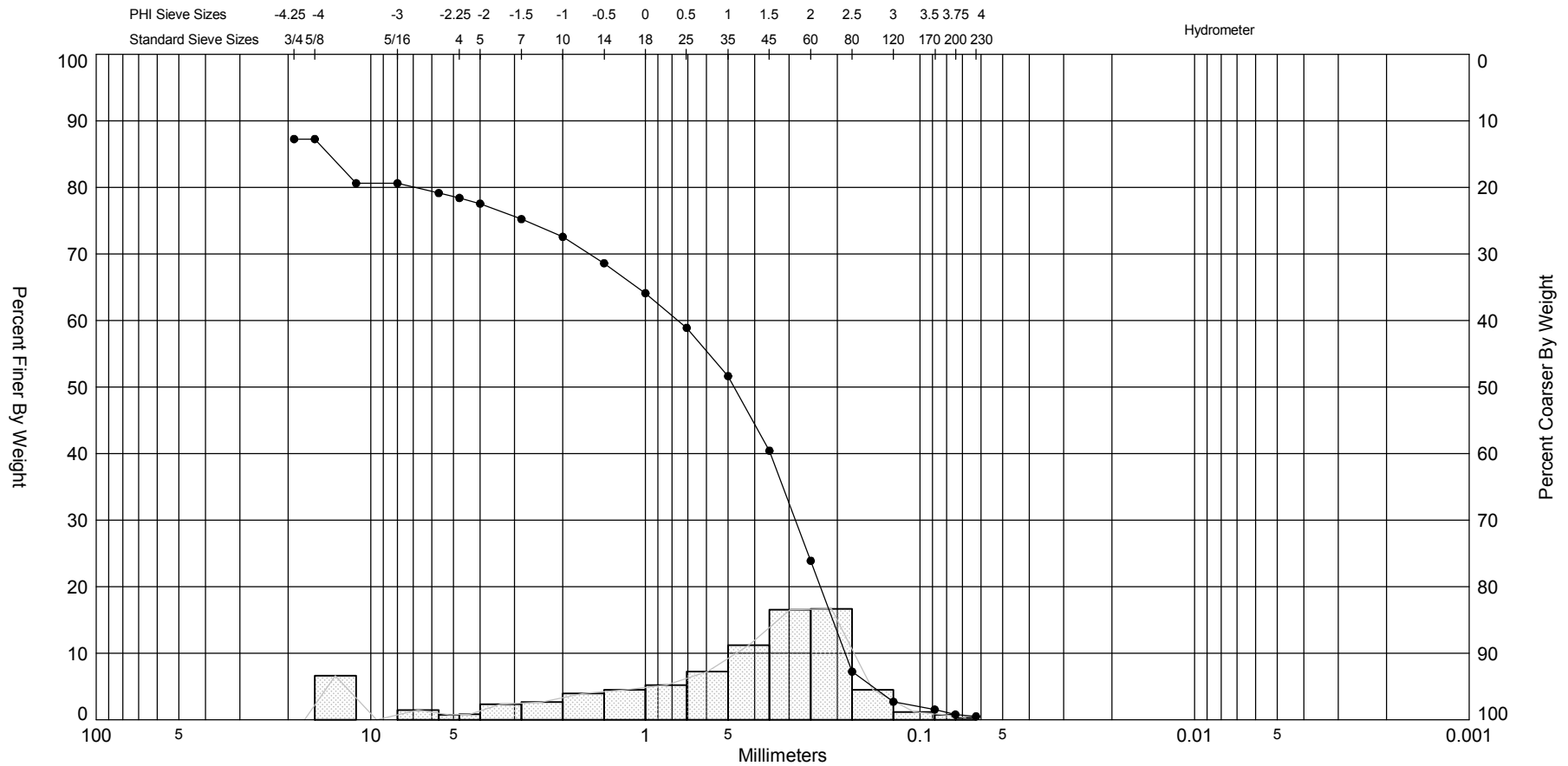
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



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	
PS-5 #3	—●—	-41.2	SW	#200 - 3.19 #230 - 1.42	1.70	66.60	2.01	1.87	-1.05	5.84	0.93	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	912,381.37
												Northing (Y, ft):	1,107,634.78
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

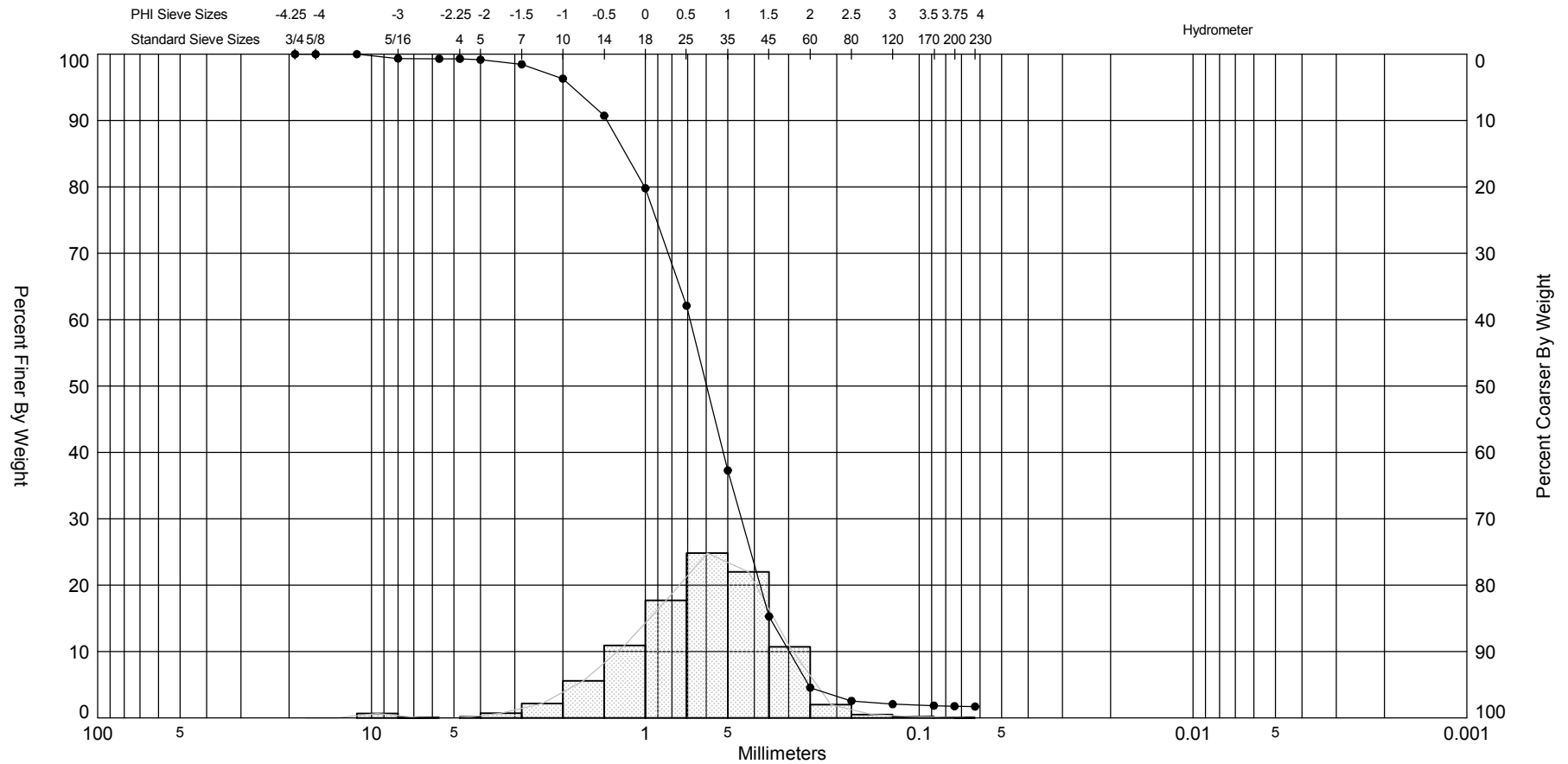
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
PS-5 #4	—●—	4.27	GW WITH GRAVEL	#200 0.79 #230 0.51	1.90	77.90	1.07	0.07	-0.01	2.35	1.83	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
							715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax					Easting (X, ft):	912,381.37
												Northing (Y, ft):	1,107,634.78
												Horizontal System:	NAD 1983
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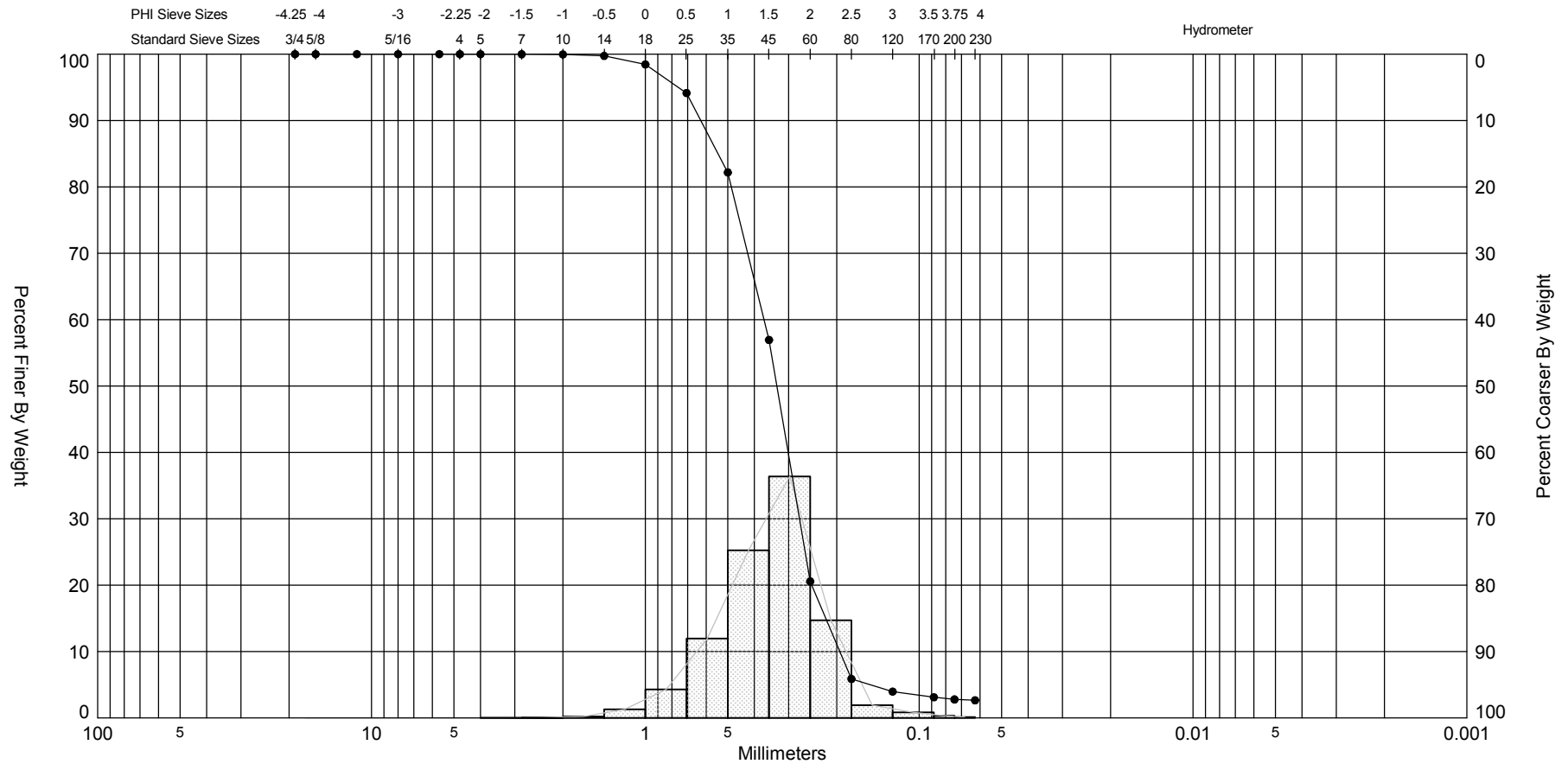
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09




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	
SLS-06 #1	—●—	-26.3	SW	#200 - 1.76 #230 - 1.71	2.00	85.50	0.74	0.64	-0.74	5.07	0.89	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	932,194.1
												Northing (Y, ft):	1,078,461.91
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

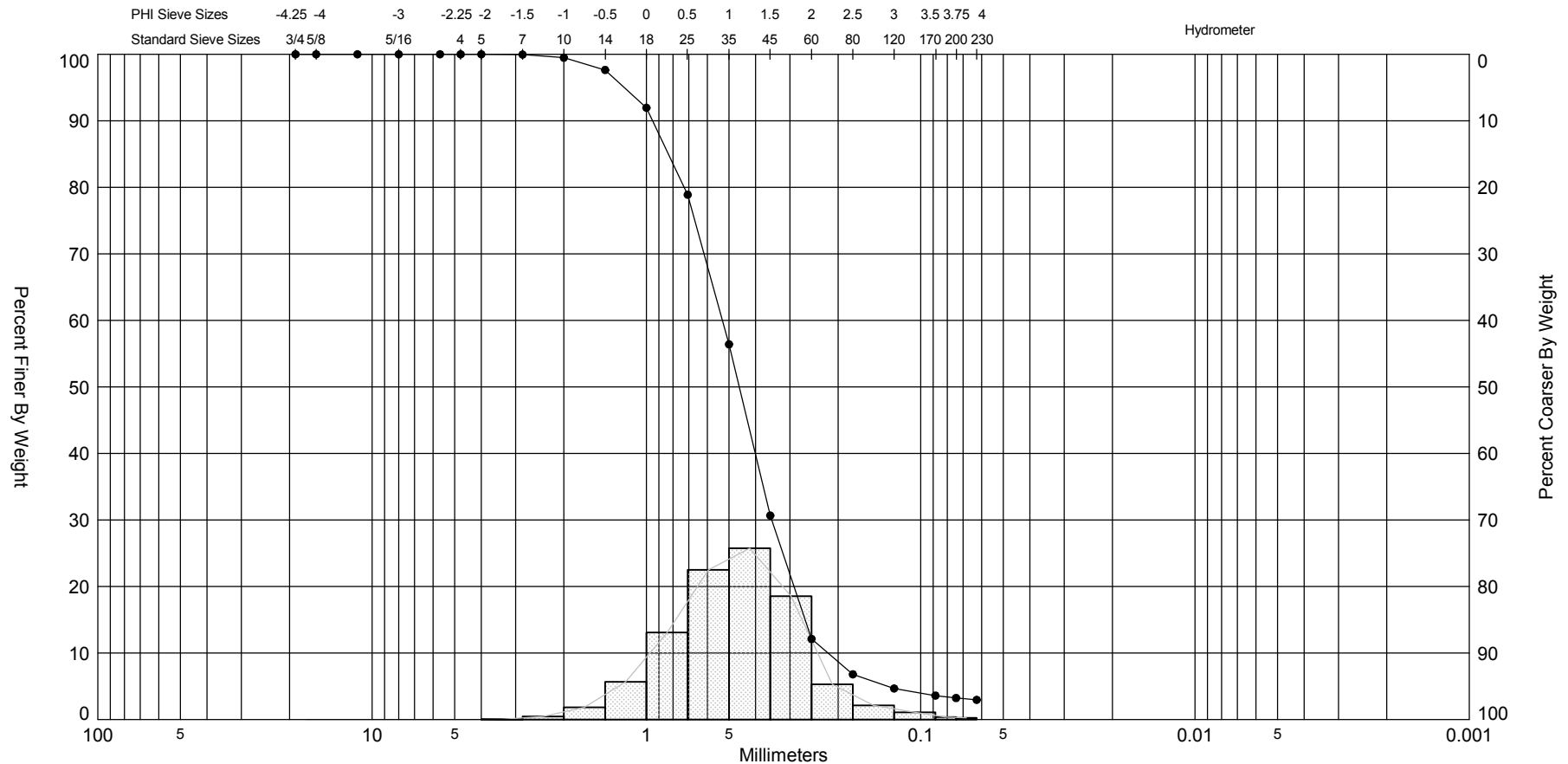
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-06 #2	—●—	-30.3	SP	#200 - 2.78 #230 - 2.65	1.90	72.50	1.6	1.52	-0.25	4.13	0.63	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	932,194.1
												Northing (Y, ft):	1,078,461.91
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

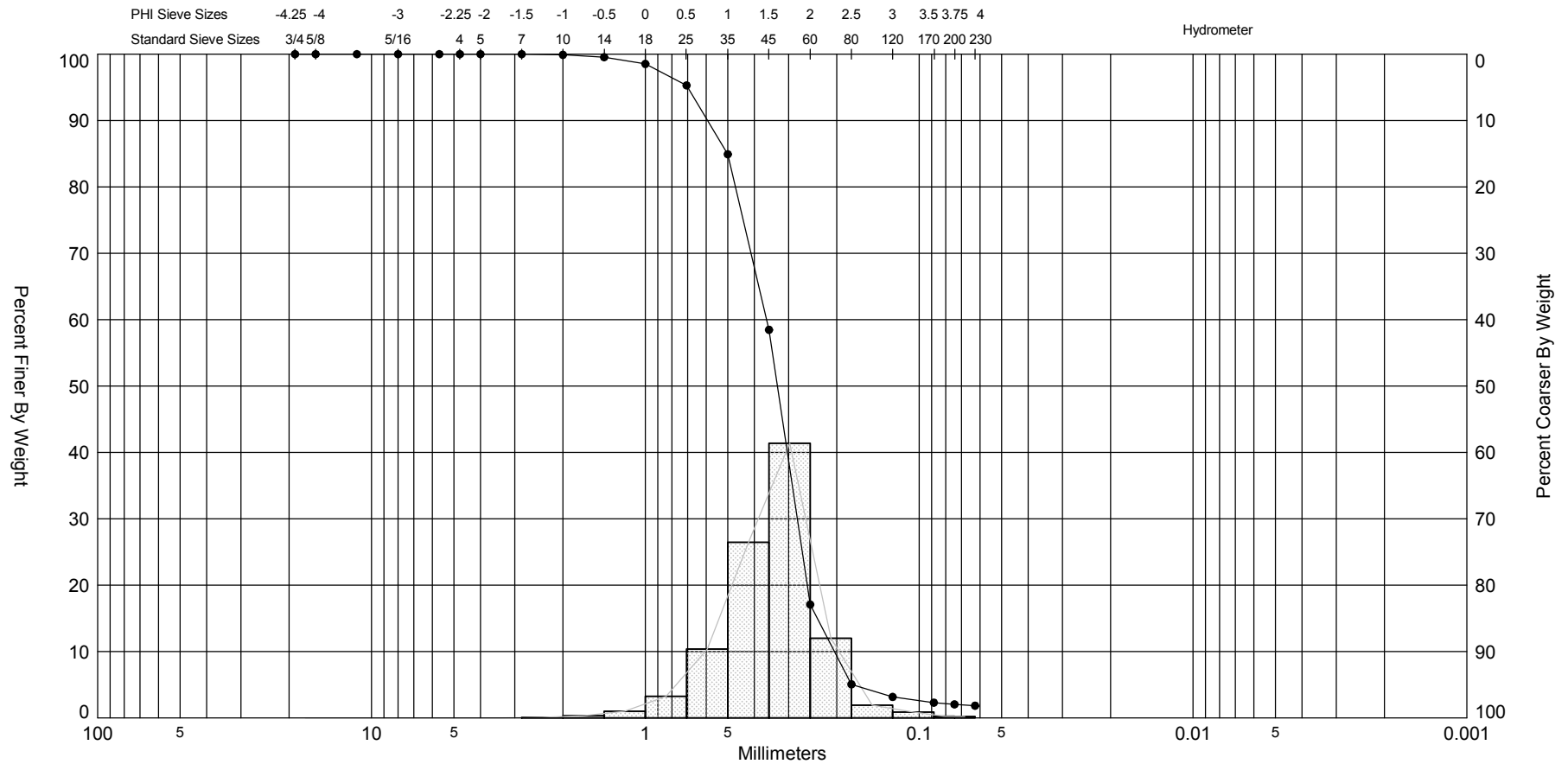
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-06 #3	—●—	-31.8	SP	#200 - 3.23 #230 - 2.96	2.00	83.20	1.12	1.08	0.14	3.68	0.8	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	932,194.1
												Northing (Y, ft):	1,078,461.91
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

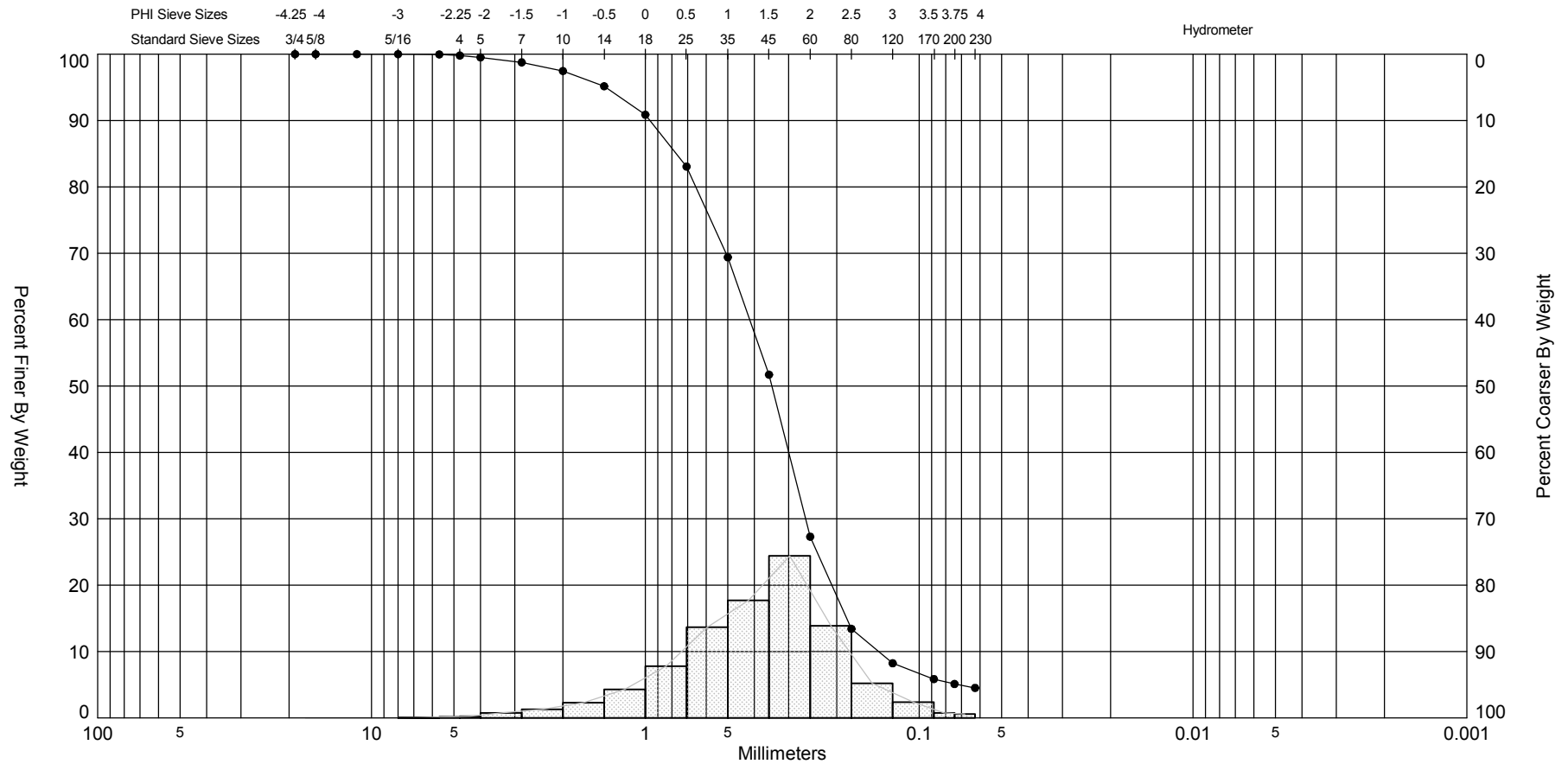
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-06 #4	—●—	-36.8	SP	#200 - 2.04 #230 - 1.84	1.80	73.80	1.6	1.53	-0.32	5.07	0.6	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
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):	932,194.1
												Northing (Y, ft):	1,078,461.91
												Horizontal System:	NAD 1983
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SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

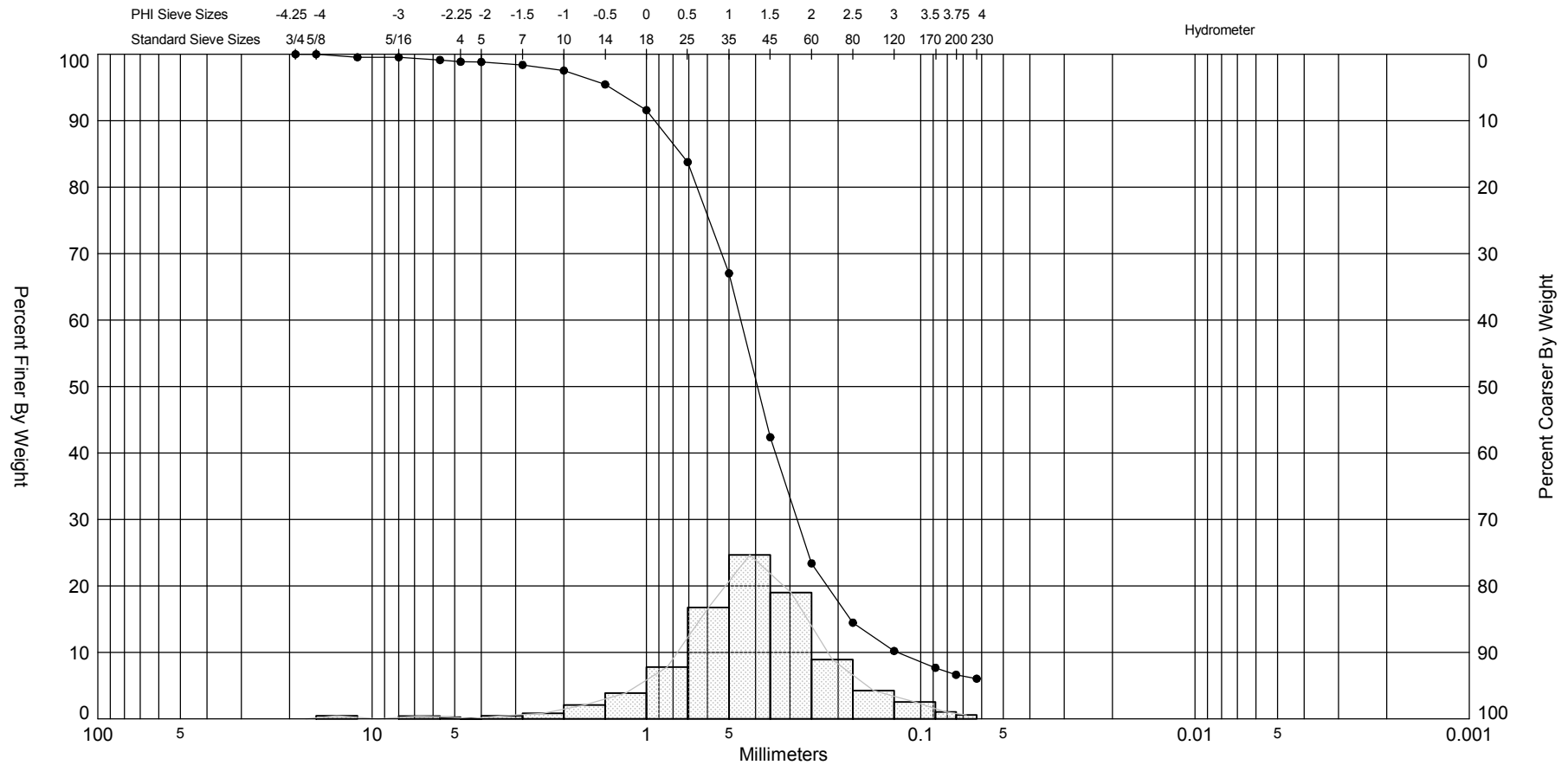


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLS-06 #5	—●—	-41.8	SW-SM	#200 - 5.11 #230 - 4.52	1.80	80.60	1.54	1.34	-0.58	3.88	1.02	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	932,194.1
												Northing (Y, ft):	1,078,461.91
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	



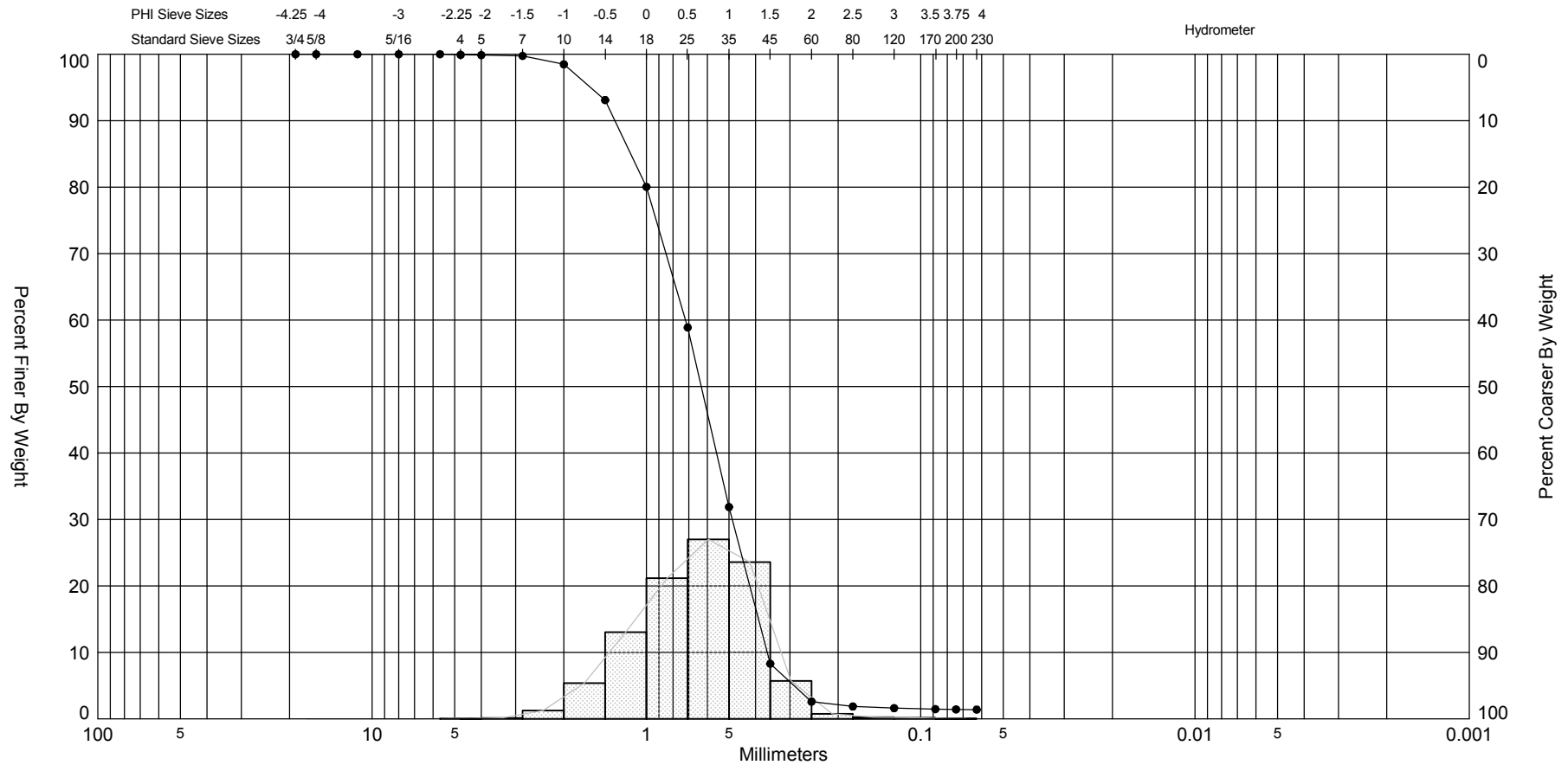
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-06 #6	—●—	-44.3	SW-SM	#200 - 6.63 #230 - 6.04	1.90	82.40	1.35	1.24	-0.82	6.16	1.05	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	932,194.1
												Northing (Y, ft):	1,078,461.91
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

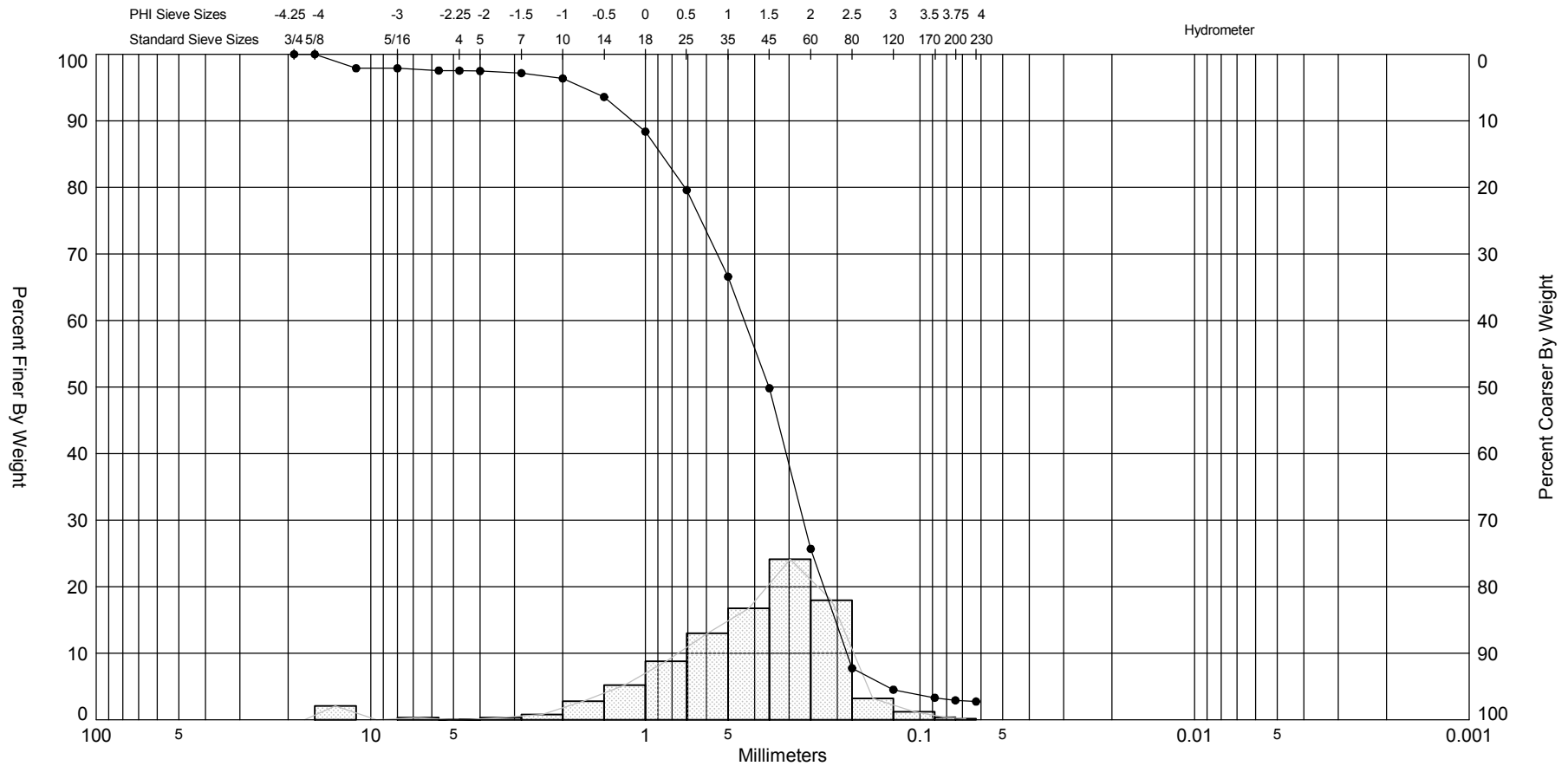


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLS-07 #1	—●—	-20.5	SP	#200 - 1.42 #230 - 1.39	2.00	87.40	0.66	0.6	-0.23	3.47	0.72	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	06-22-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	932,507.91
												Northing (Y, ft):	1,082,457.18
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	



SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09

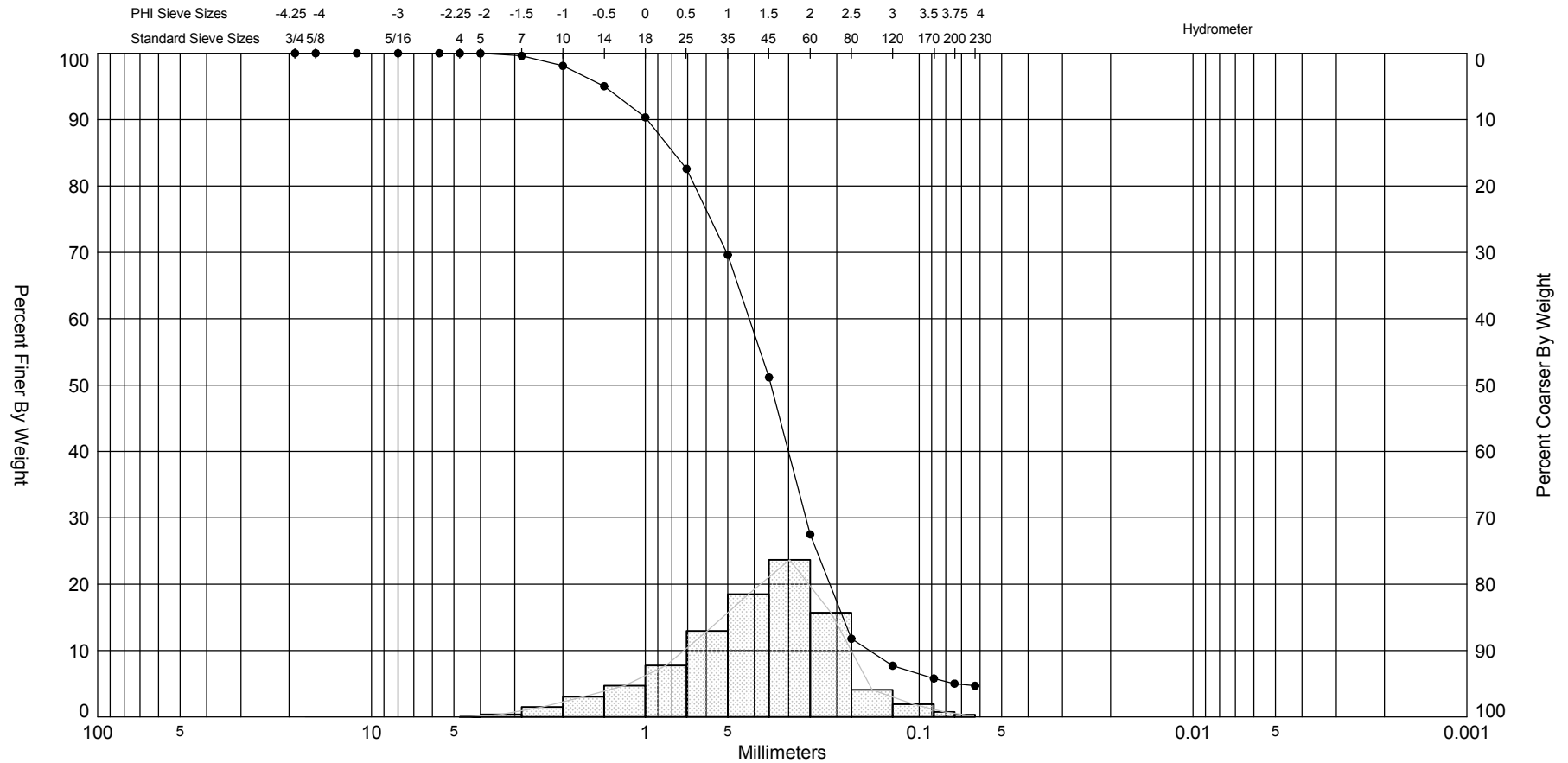


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

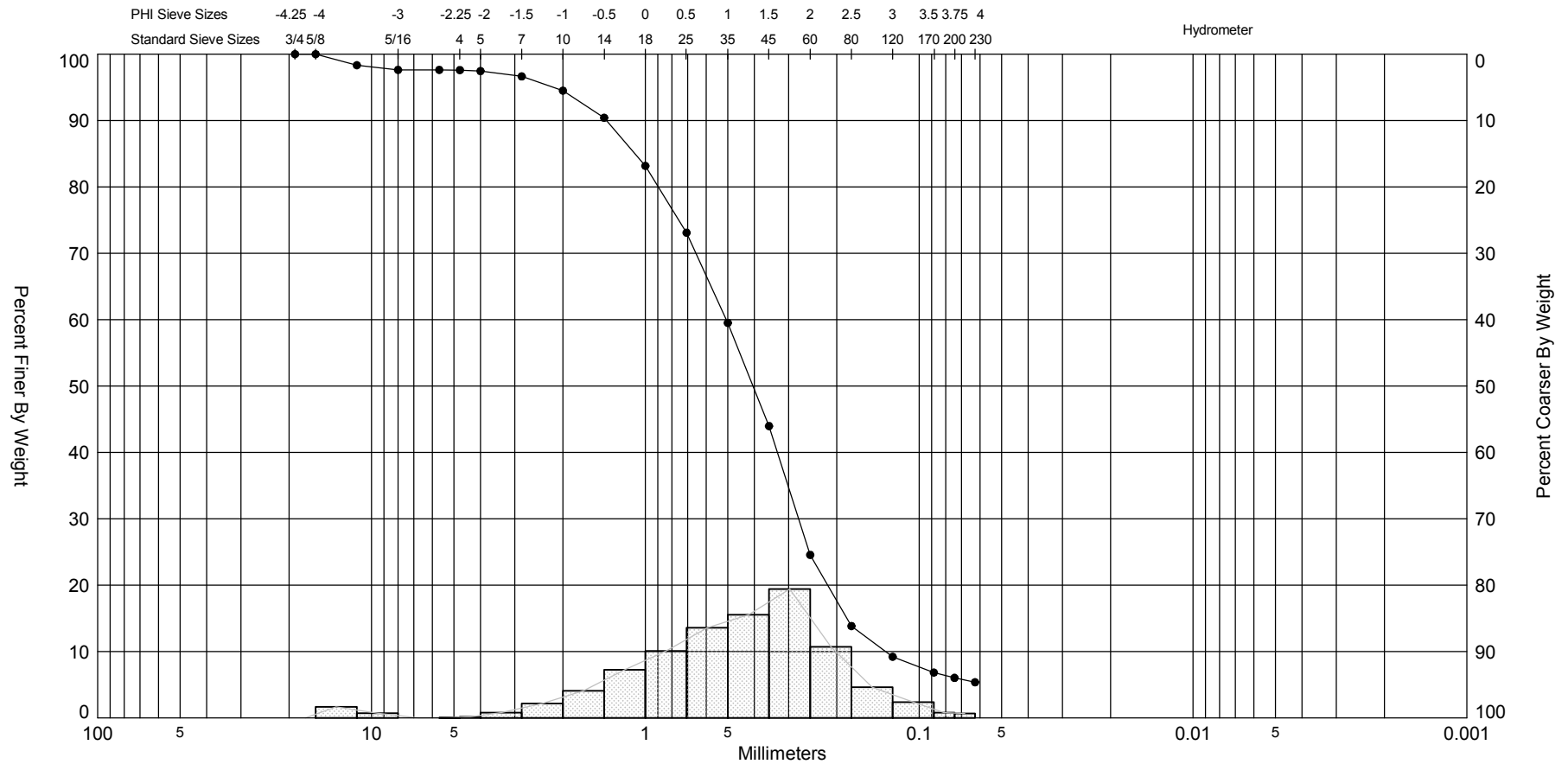
Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLS-07 #3	—●—	-28.0	SW	#200 - 2.92 #230 - 2.74	1.90	80.30	1.49	1.2	-1.69	7.66	1.2	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	06-22-09
Depths and elevations 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):	932,507.91
												Northing (Y, ft):	1,082,457.18
												Horizontal System:	NAD 1983
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SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



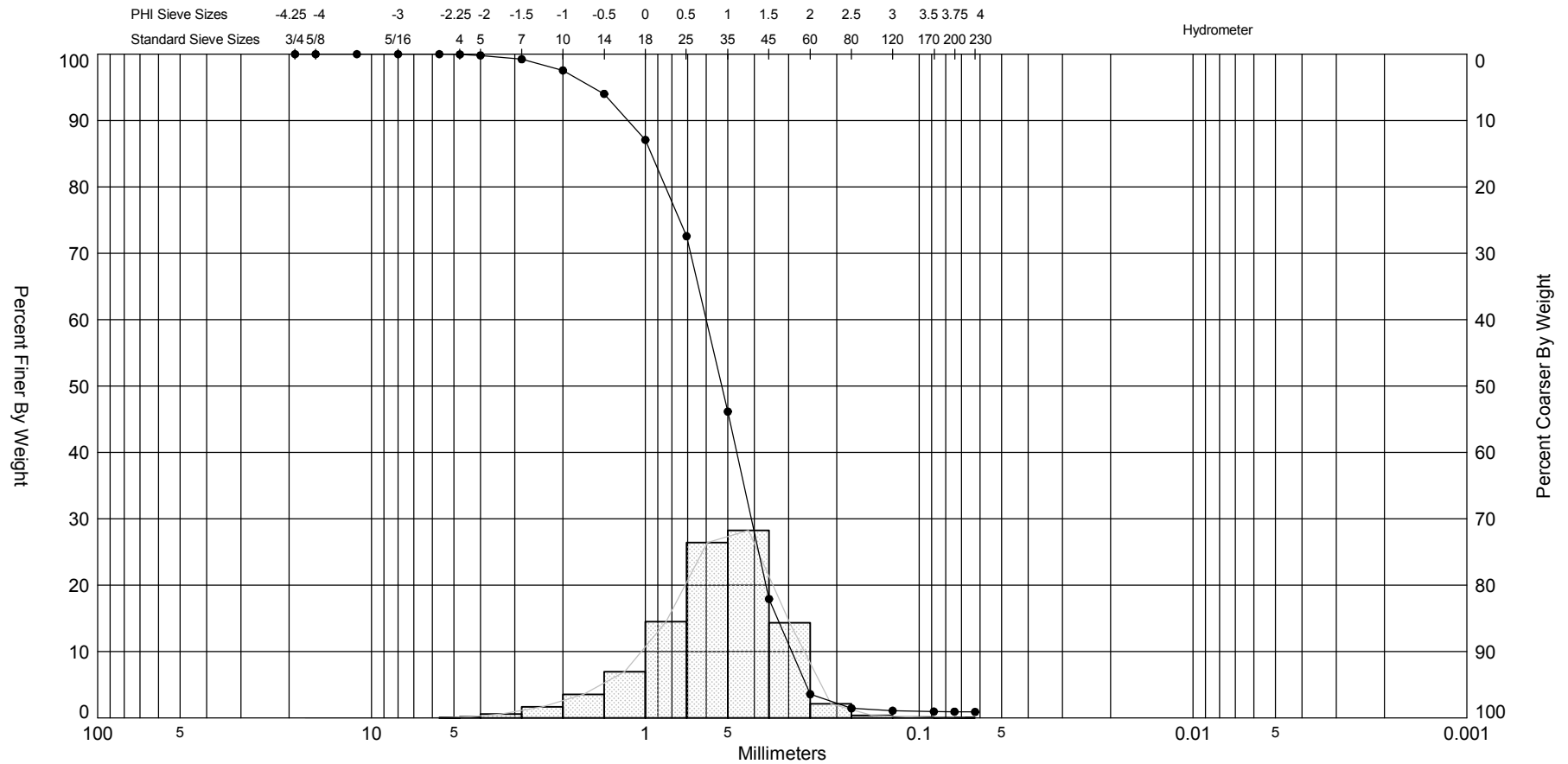
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-07 #6	—●—	-37.5	SW-SM	#200 - 6.03 #230 - 5.37	1.80	86.10	1.31	1.04	-1.05	5.24	1.32	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	06-22-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	932,507.91
												Northing (Y, ft):	1,082,457.18
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

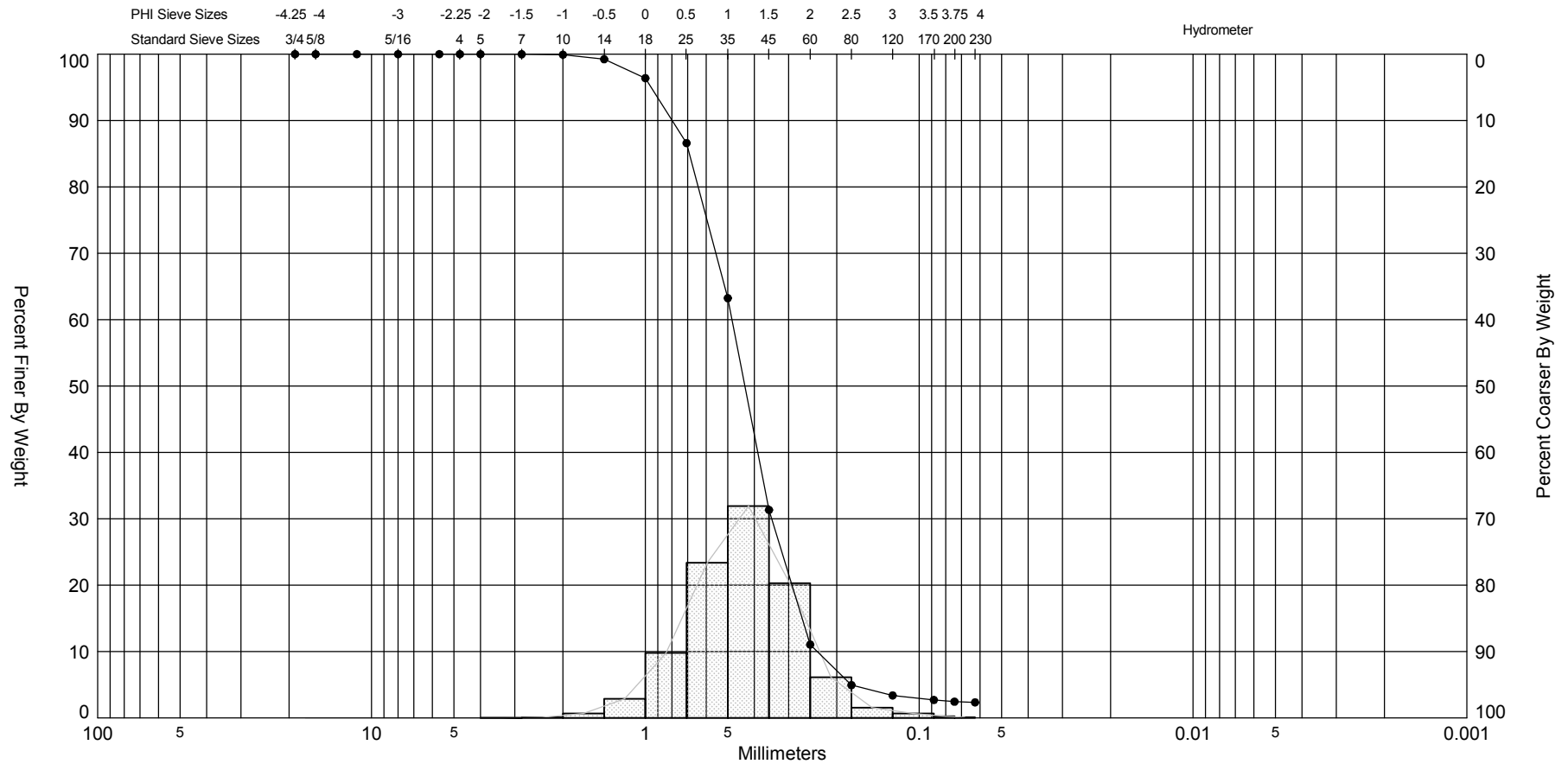


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLS-08 #1	—●—	-28.1	SP	#200 - 0.93 #230 - 0.90	2.00	83.10	0.93	0.83	-0.68	3.99	0.77	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	06-04-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	932,104.69
												Northing (Y, ft):	1,084,441.91
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													



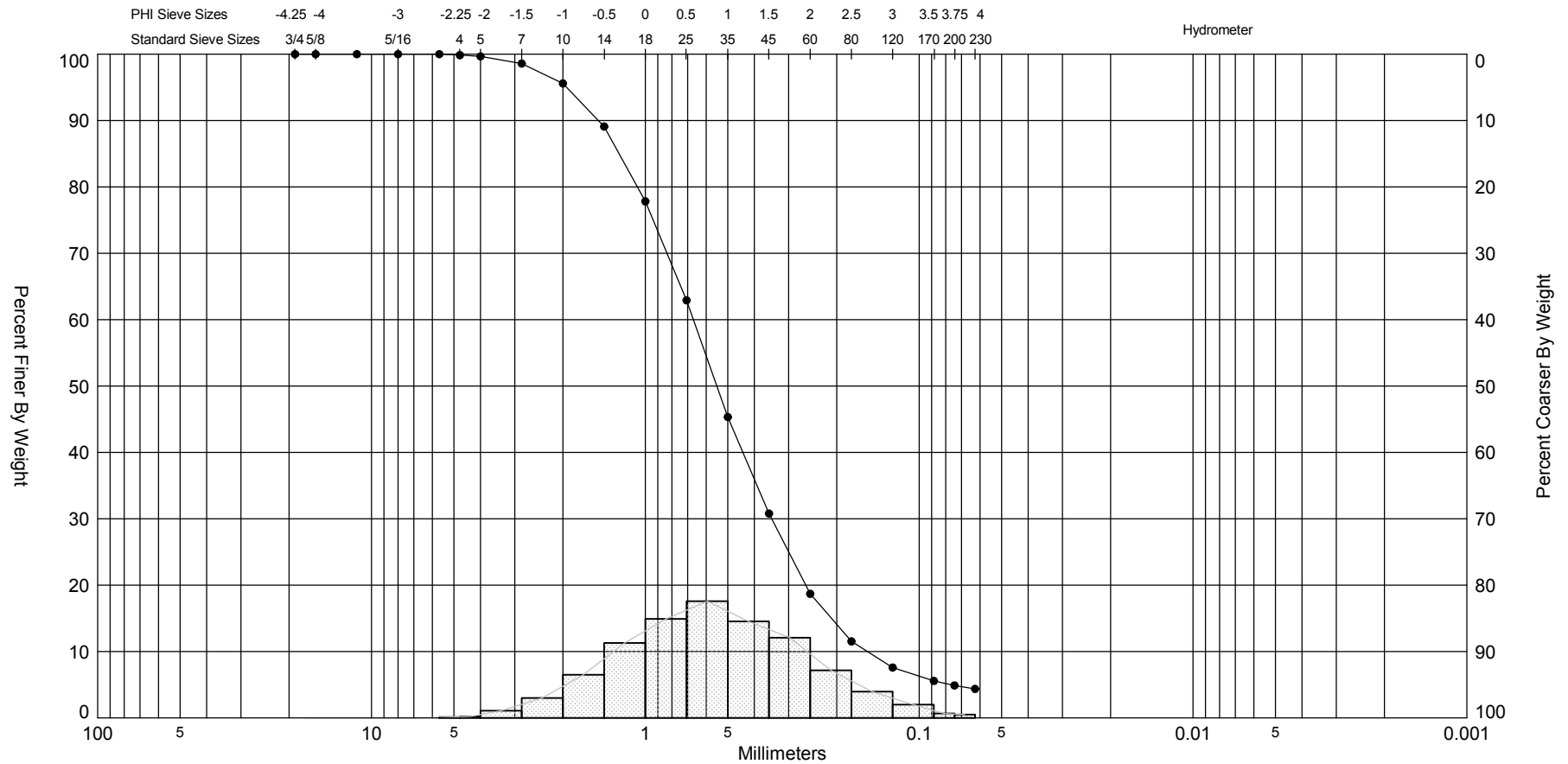
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09




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	
SLS-08 #2	—●—	-32.1	SP	#200 - 2.44 #230 - 2.34	1.90	79.80	1.21	1.18	0.15	3.93	0.67	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	06-04-09
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):	932,104.69
												Northing (Y, ft):	1,084,441.91
												Horizontal System:	NAD 1983
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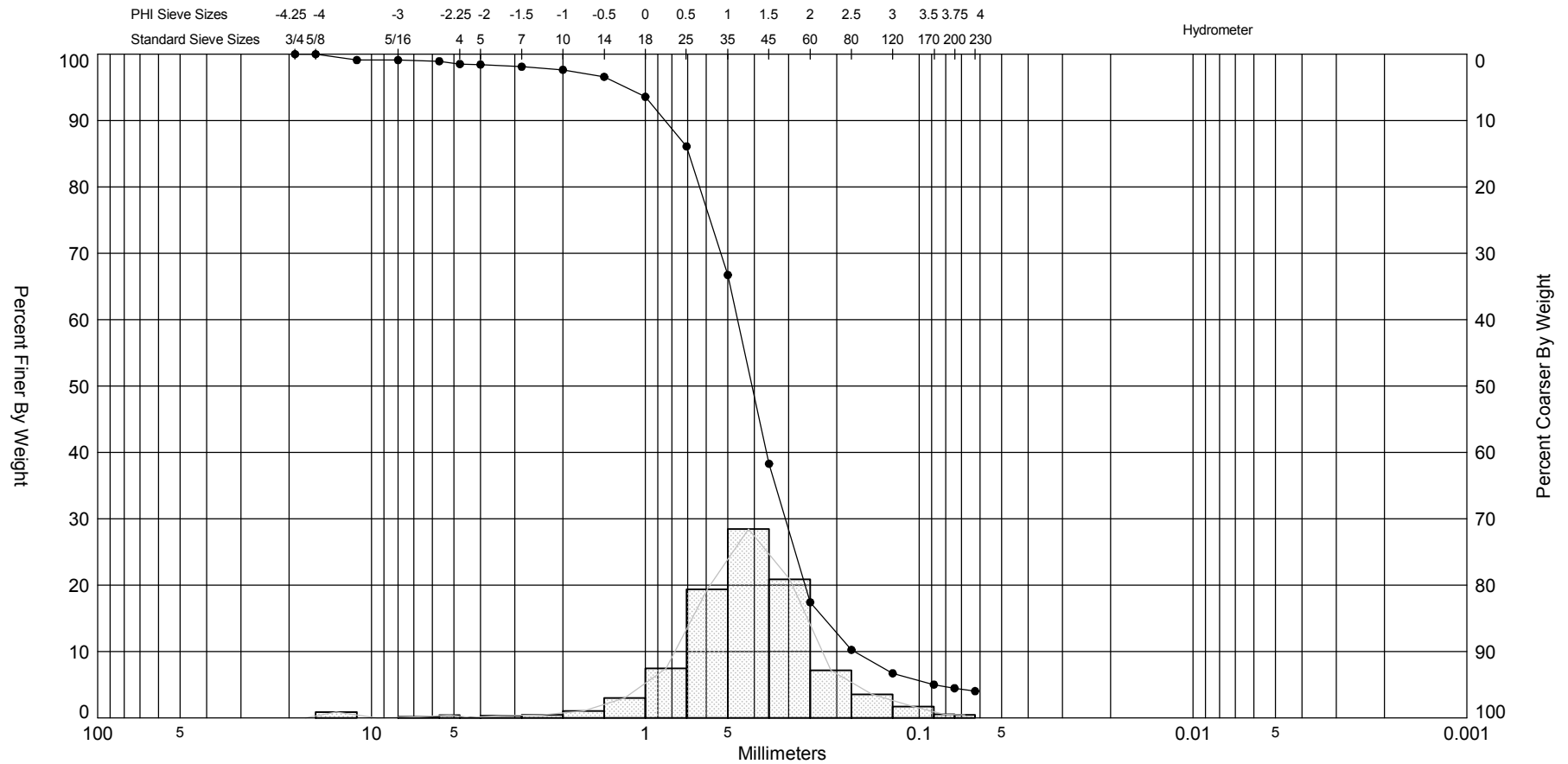
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09




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	
SLS-08 #3	—●—	-36.1	SW	#200 - 4.89 #230 - 4.37	1.90	89.40	0.87	0.84	0.12	2.84	1.13	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	01-12-09
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):	932,104.69
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												Horizontal System:	NAD 1983
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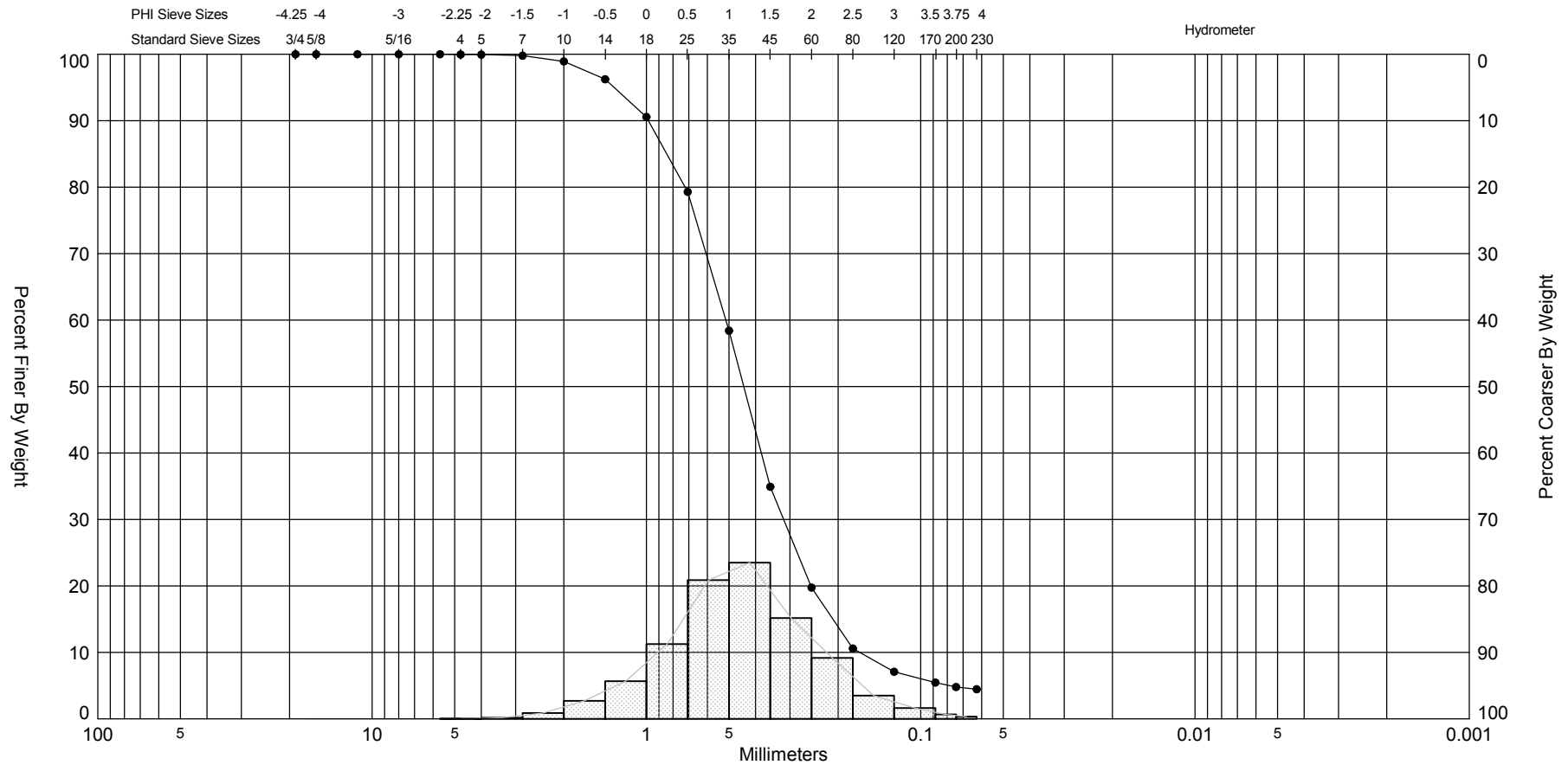
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-08 #4	—●—	-39.1	SW	#200 - 4.47 #230 - 4.03	1.90	81.10	1.29	1.21	-1.38	9.16	0.99	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	01-12-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	932,104.69
												Northing (Y, ft):	1,084,441.91
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09

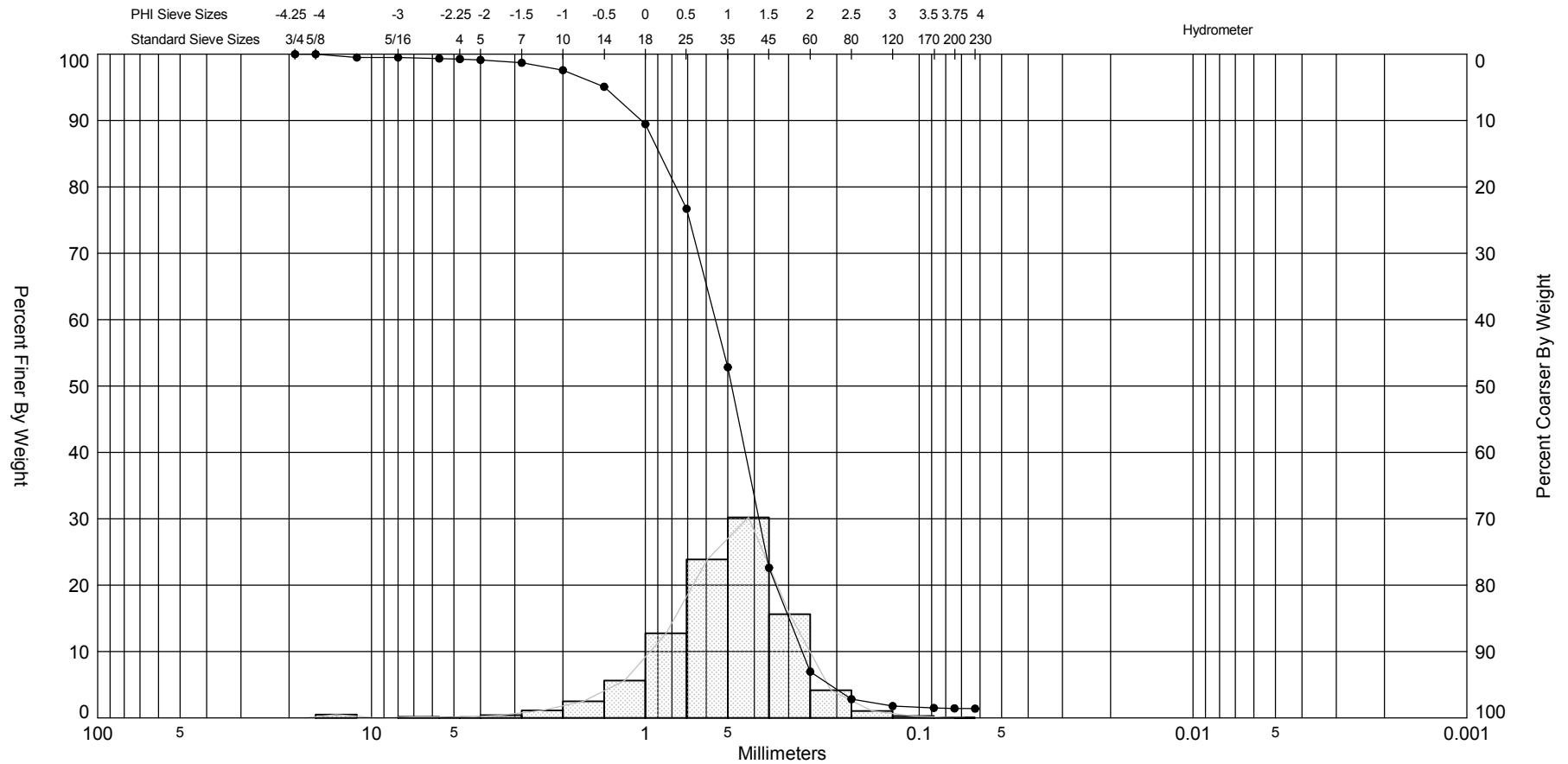


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLS-08 #5	—●—	-41.6	SW	#200 - 4.75 #230 - 4.45	1.90	84.20	1.18	1.14	0.04	3.41	0.91	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	01-12-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	932,104.69
												Northing (Y, ft):	1,084,441.91
												Horizontal System:	NAD 1983
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715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													



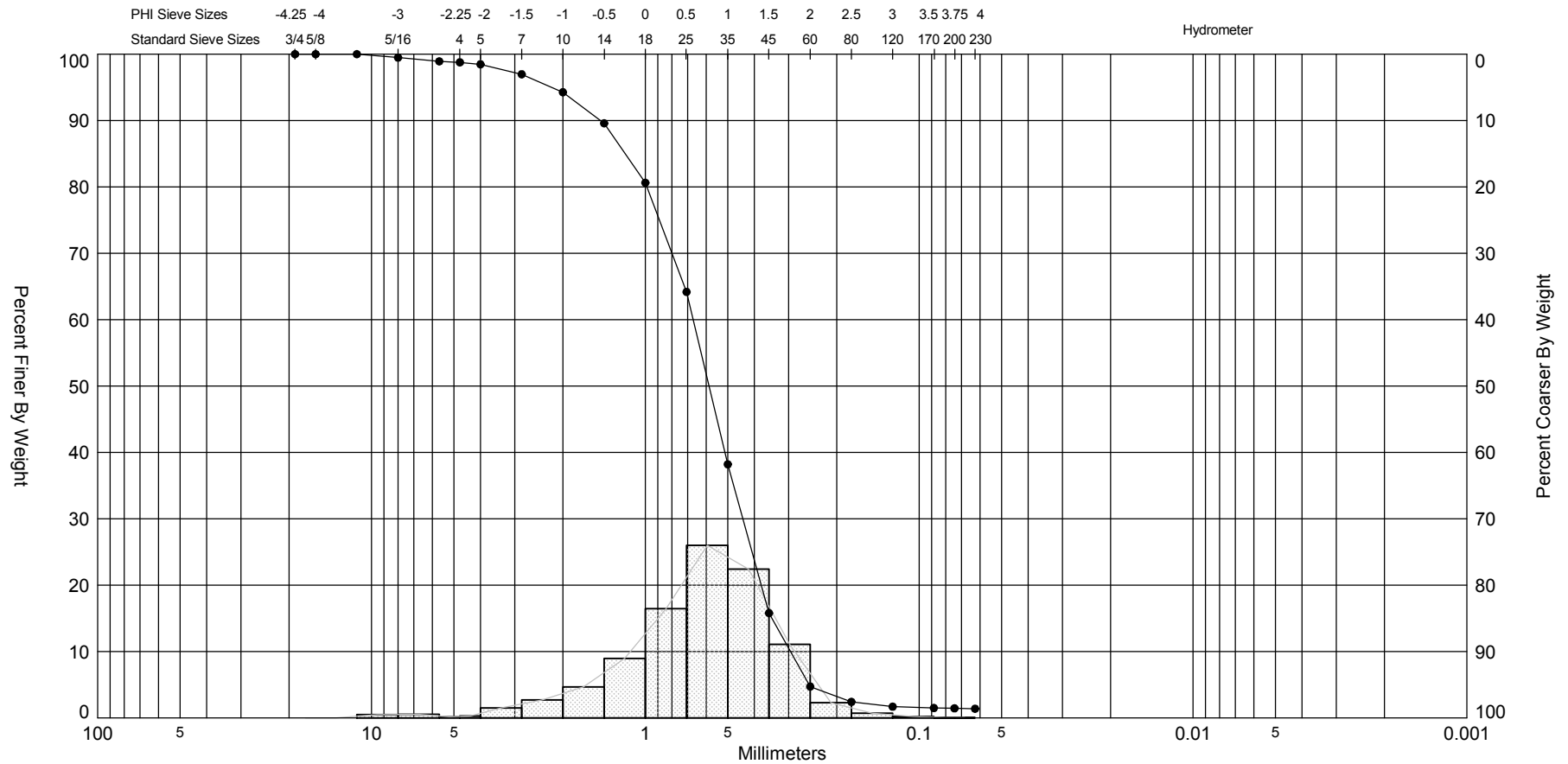
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-09 #1	—●—	-35.9	SP	#200 - 1.43 #230 - 1.40	2.20	81.80	1.05	0.93	-1.29	7.96	0.85	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	06-22-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	932,026.26
												Northing (Y, ft):	1,086,422.79
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

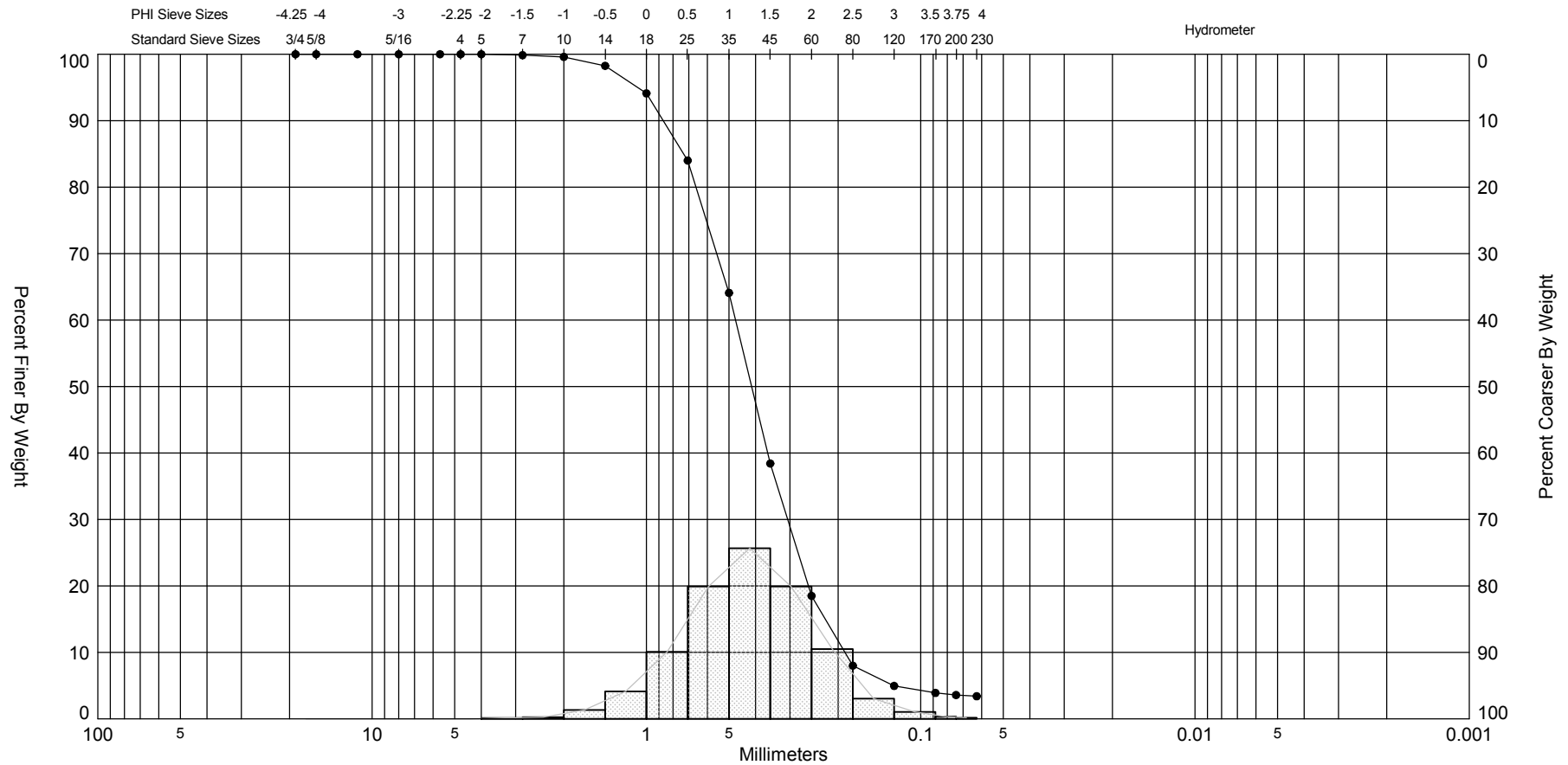
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-09 #2	—●—	-39.4	SW	#200 - 1.44 #230 - 1.38	2.20	85.20	0.77	0.64	-0.93	5.01	0.95	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	06-22-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	932,026.26
												Northing (Y, ft):	1,086,422.79
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

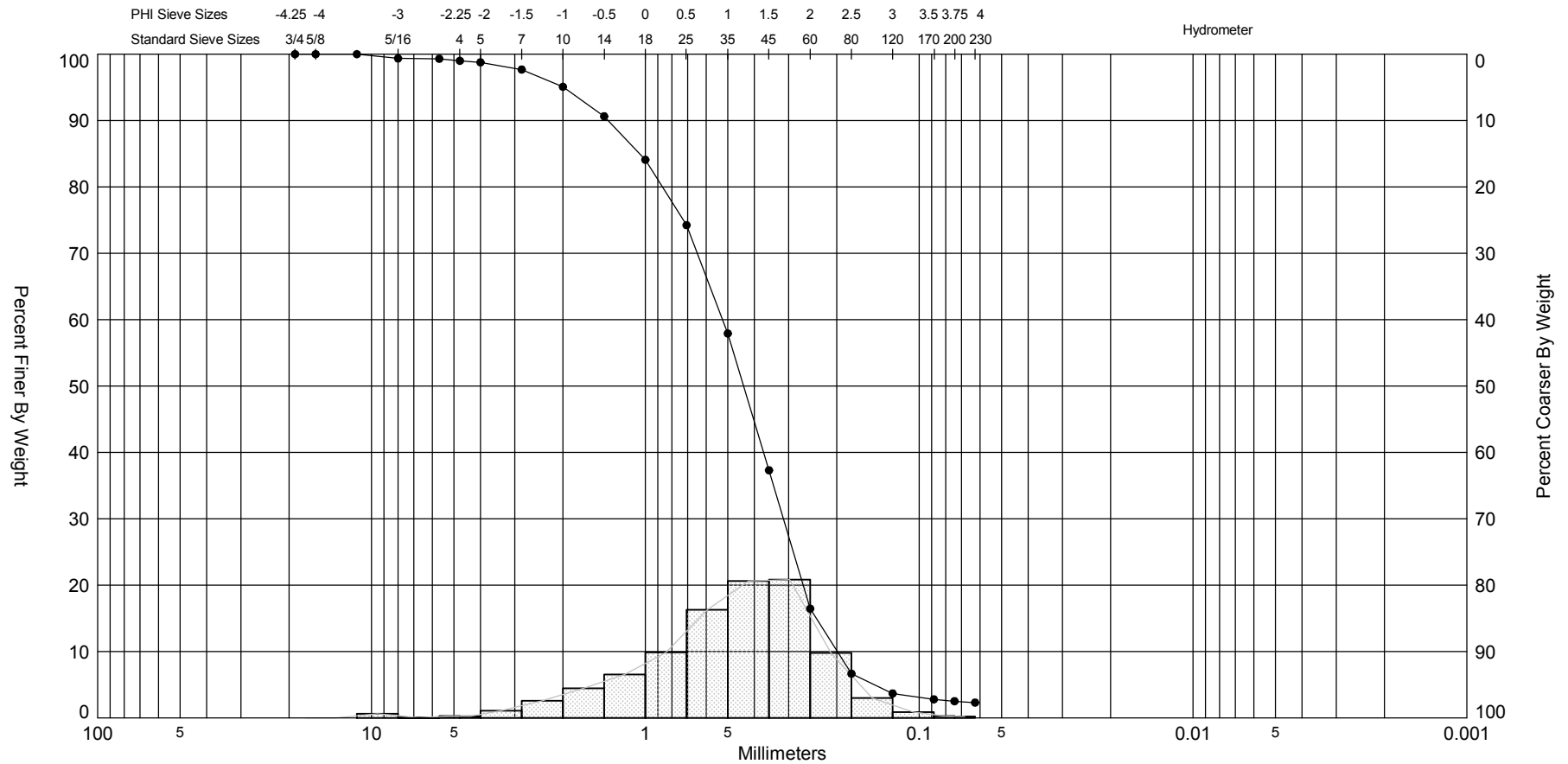


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLS-09 #3	—●—	-42.4	SP	#200 - 3.58 #230 - 3.40	2.20	81.60	1.27	1.23	-0.05	3.43	0.8	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	932,026.26
												Northing (Y, ft):	1,086,422.79
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													



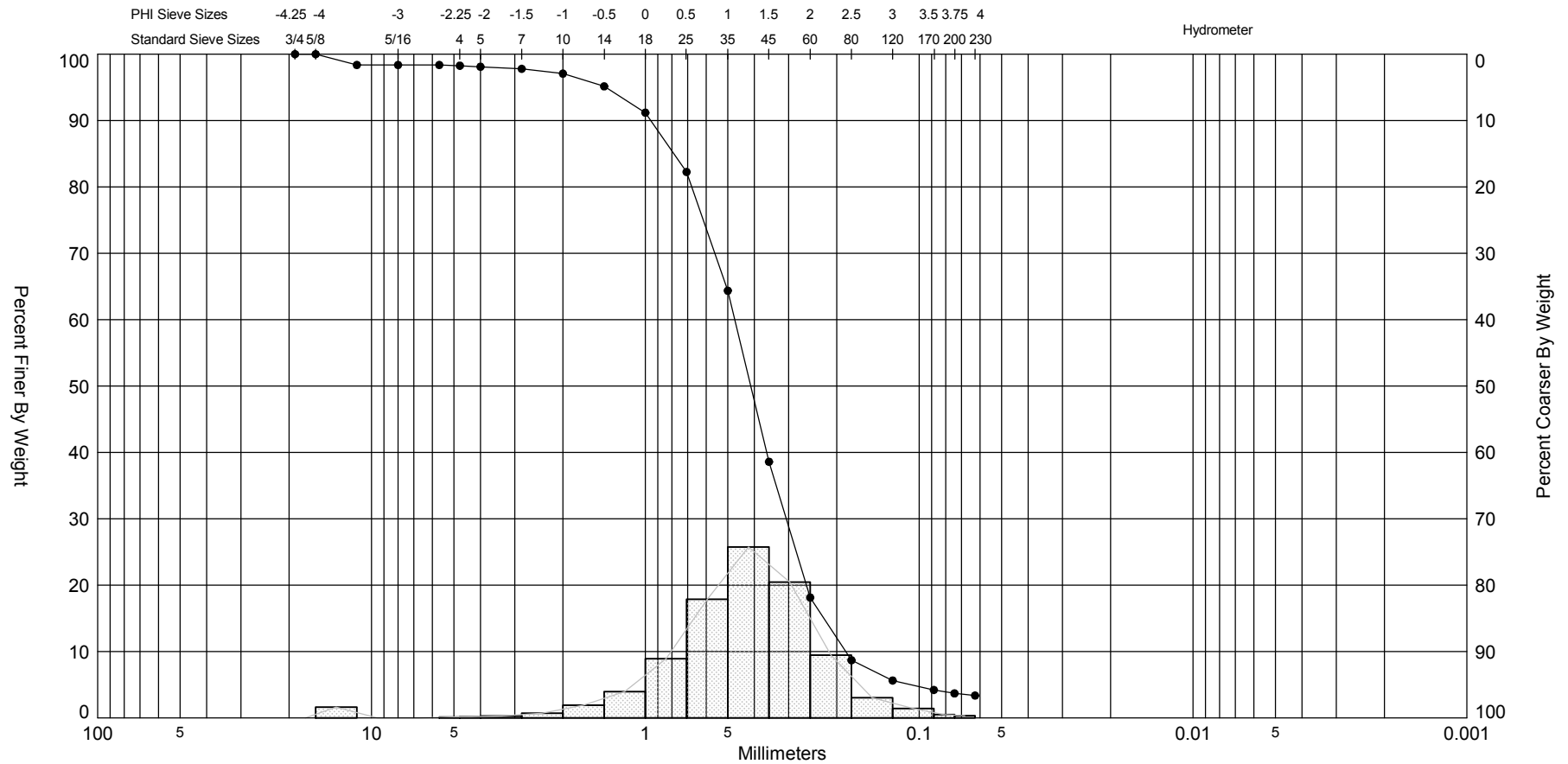
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-09 #4	—●—	-44.9	SW	#200 - 2.52 #230 - 2.31	2.10	81.30	1.19	1.01	-0.81	4.26	1.09	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
							715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax					Easting (X, ft):	932,026.26
												Northing (Y, ft):	1,086,422.79
												Horizontal System:	NAD 1983
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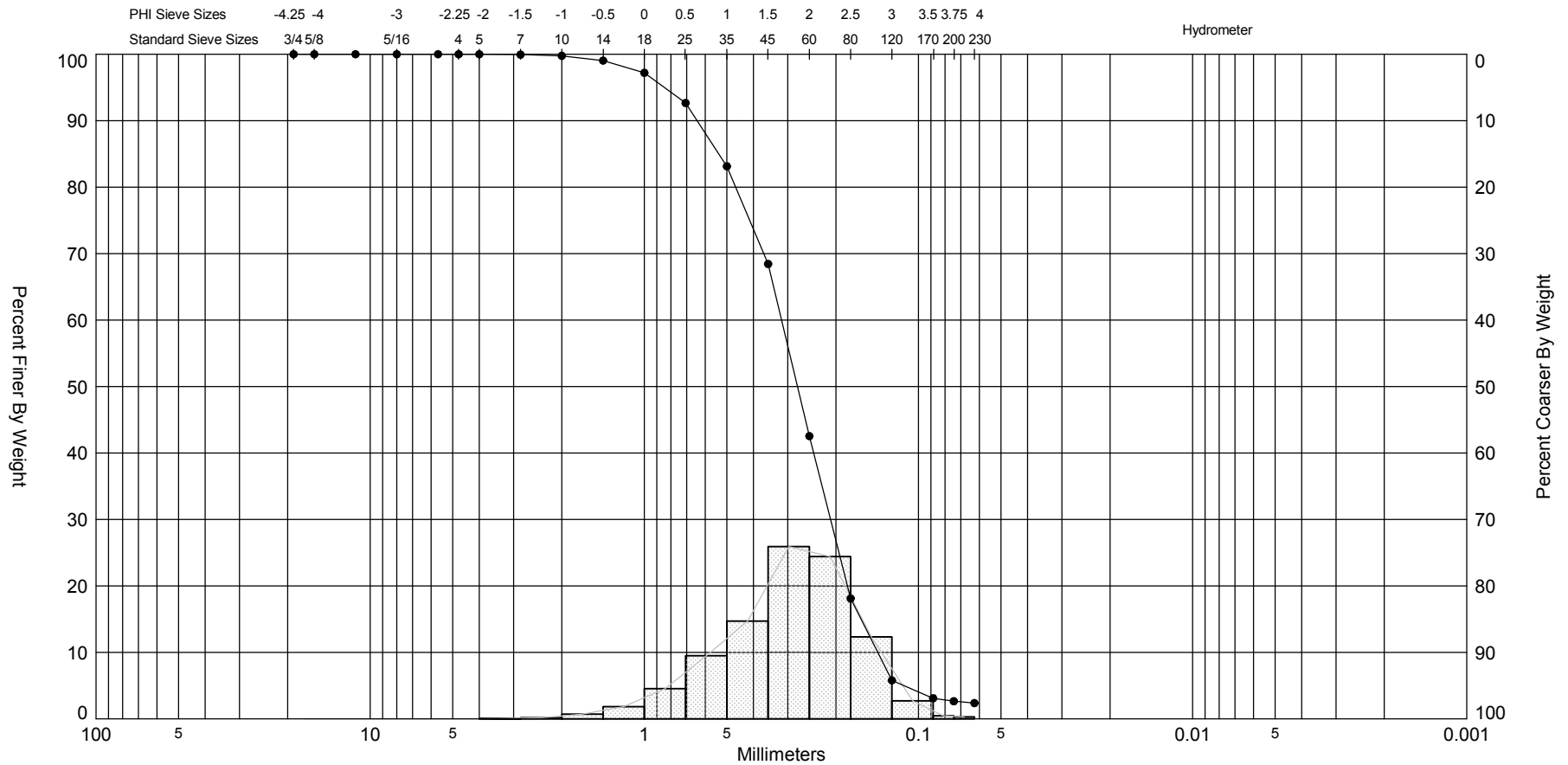
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-09 #5	—●—	-48.4	SW	#200 - 3.69 #230 - 3.37	1.90	78.70	1.28	1.14	-1.58	8.89	1.08	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
							715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax					Easting (X, ft):	932,026.26
												Northing (Y, ft):	1,086,422.79
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

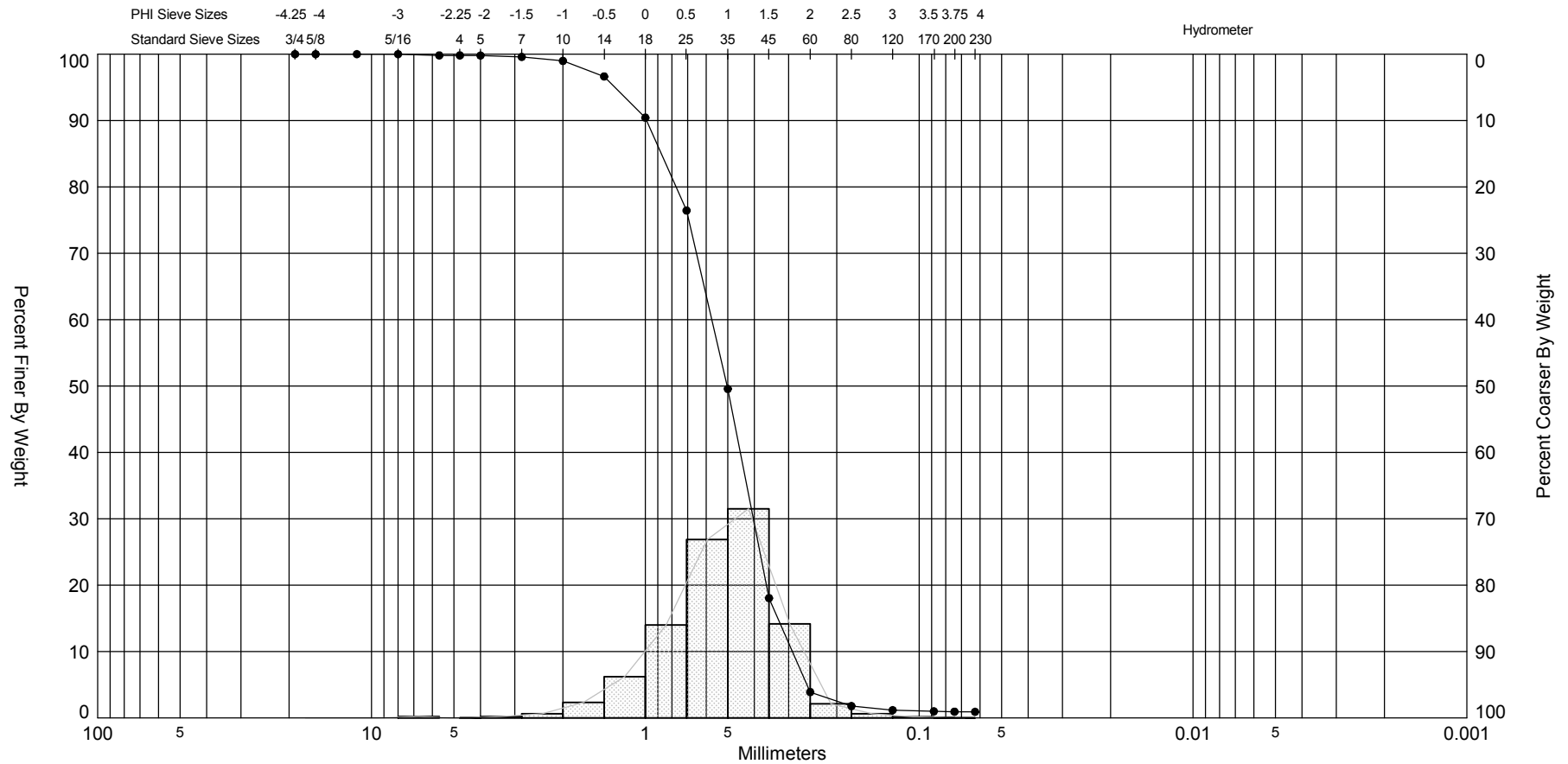
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-09 #6	—●—	-52.4	SP	#200 - 2.65 #230 - 2.37	2.00	72.40	1.86	1.75	-0.57	3.55	0.82	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
 <div style="display: inline-block; vertical-align: top; margin-left: 100px;">           715 North Drive Suite E            Melbourne, Florida 32934            Phone 321-751-1135 x 206 Fax         </div>												Easting (X, ft):	932,026.26
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												Horizontal System:	NAD 1983
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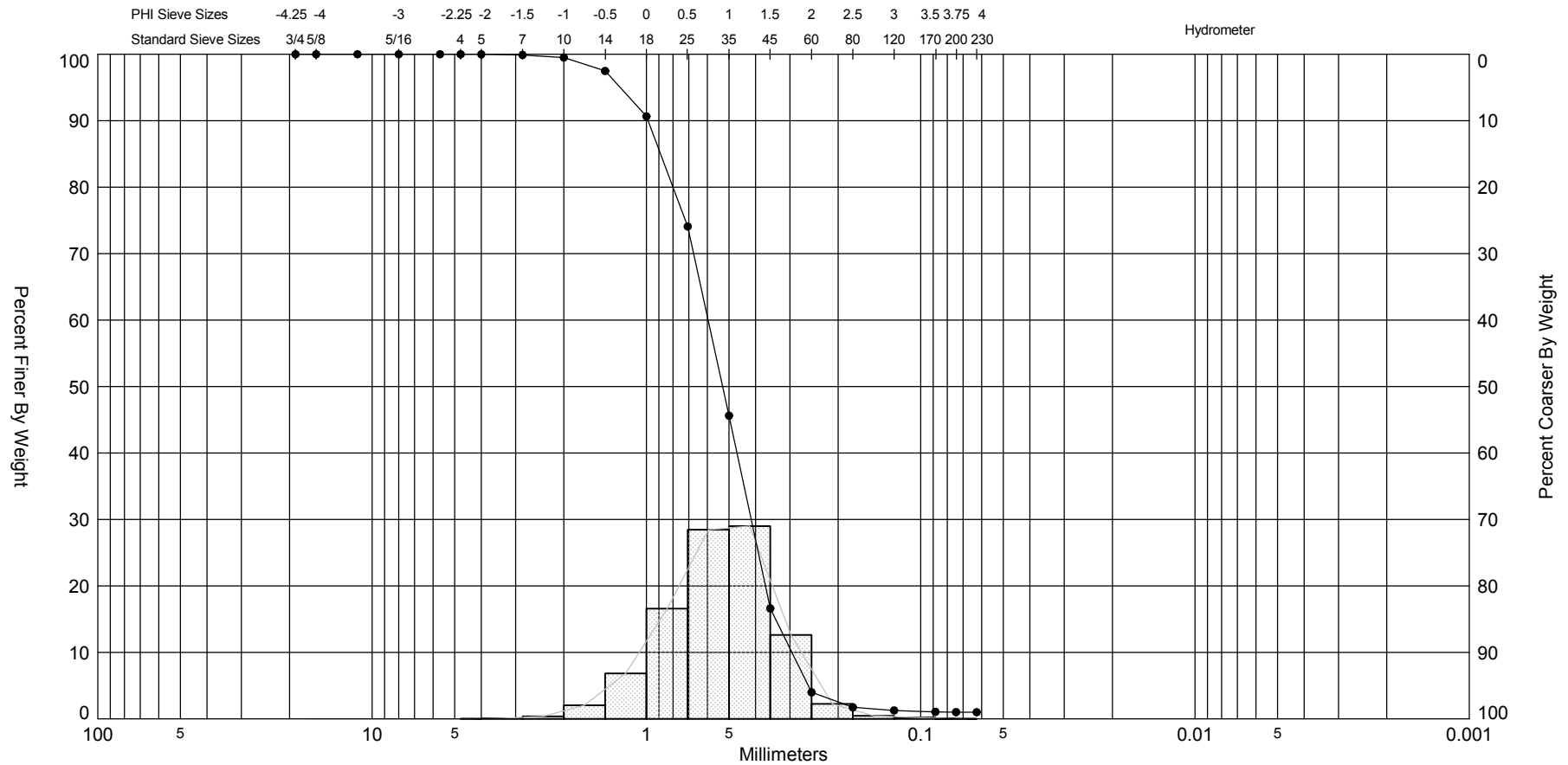
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09




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	
SLS-10 #1	—●—	-27.7	SP	#200 - 0.93 #230 - 0.92	2.20	83.20	0.99	0.91	-0.63	4.92	0.71	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	935,921.12
												Northing (Y, ft):	1,101,579.87
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

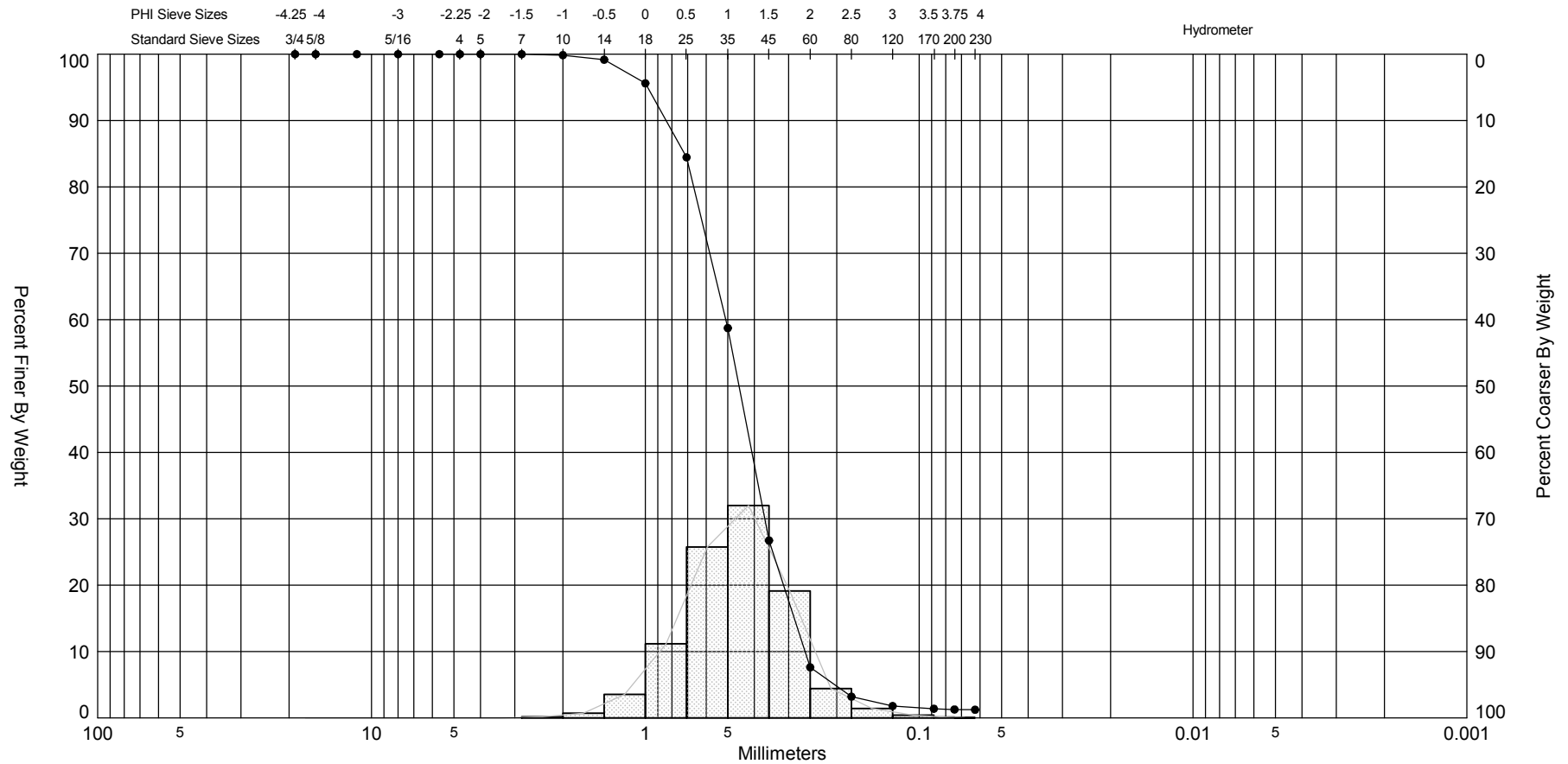
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-10 #2	—●—	-32.2	SP	#200 - 1.01 #230 - 1.00	2.10	84.80	0.92	0.88	-0.2	3.61	0.67	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	935,921.12
												Northing (Y, ft):	1,101,579.87
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

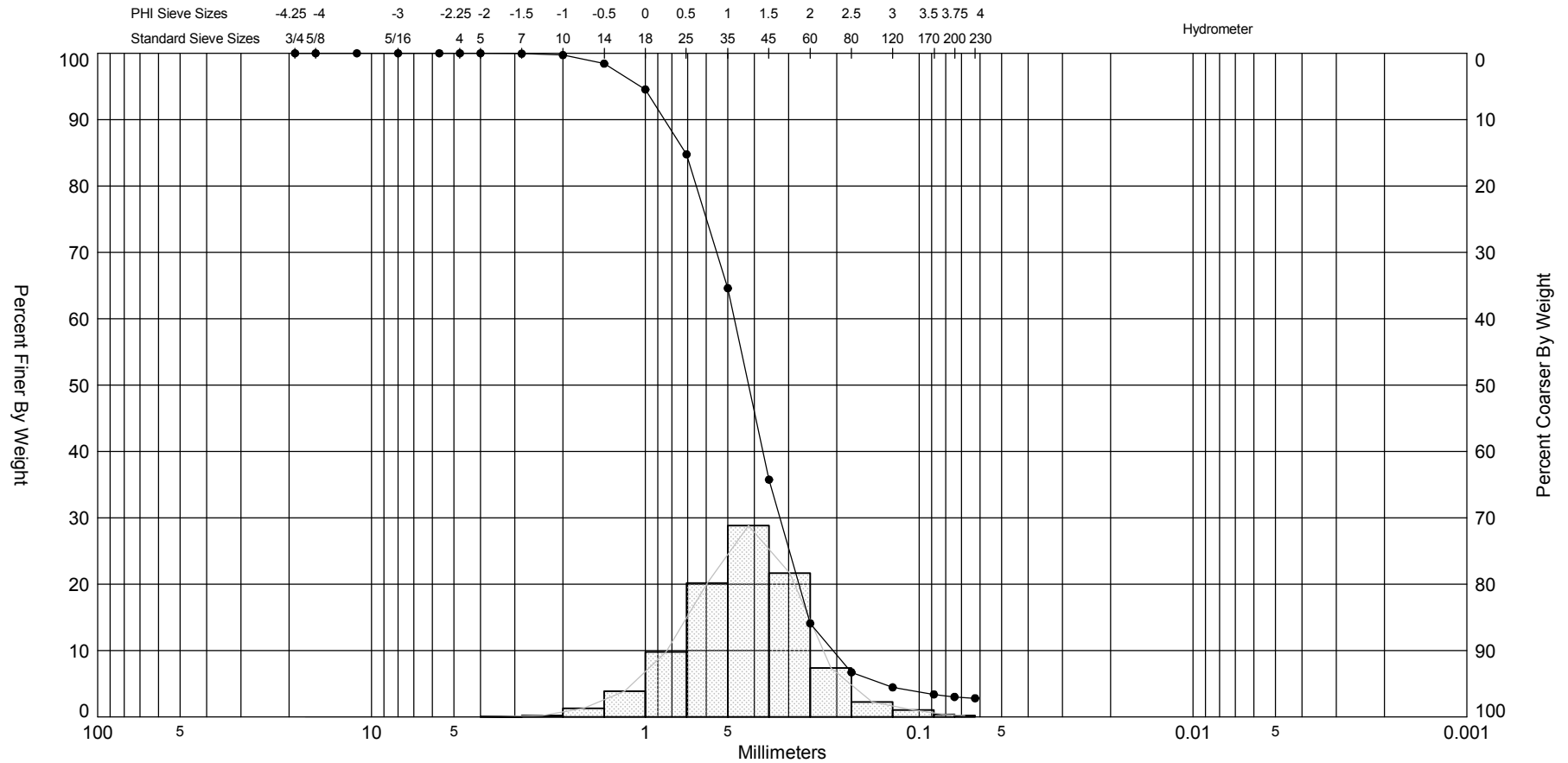
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09



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	
SLS-10 #3	—●—	-34.2	SP	#200 - 1.27 #230 - 1.23	2.10	79.80	1.14	1.11	0.03	3.75	0.65	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	935,921.12
												Northing (Y, ft):	1,101,579.87
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

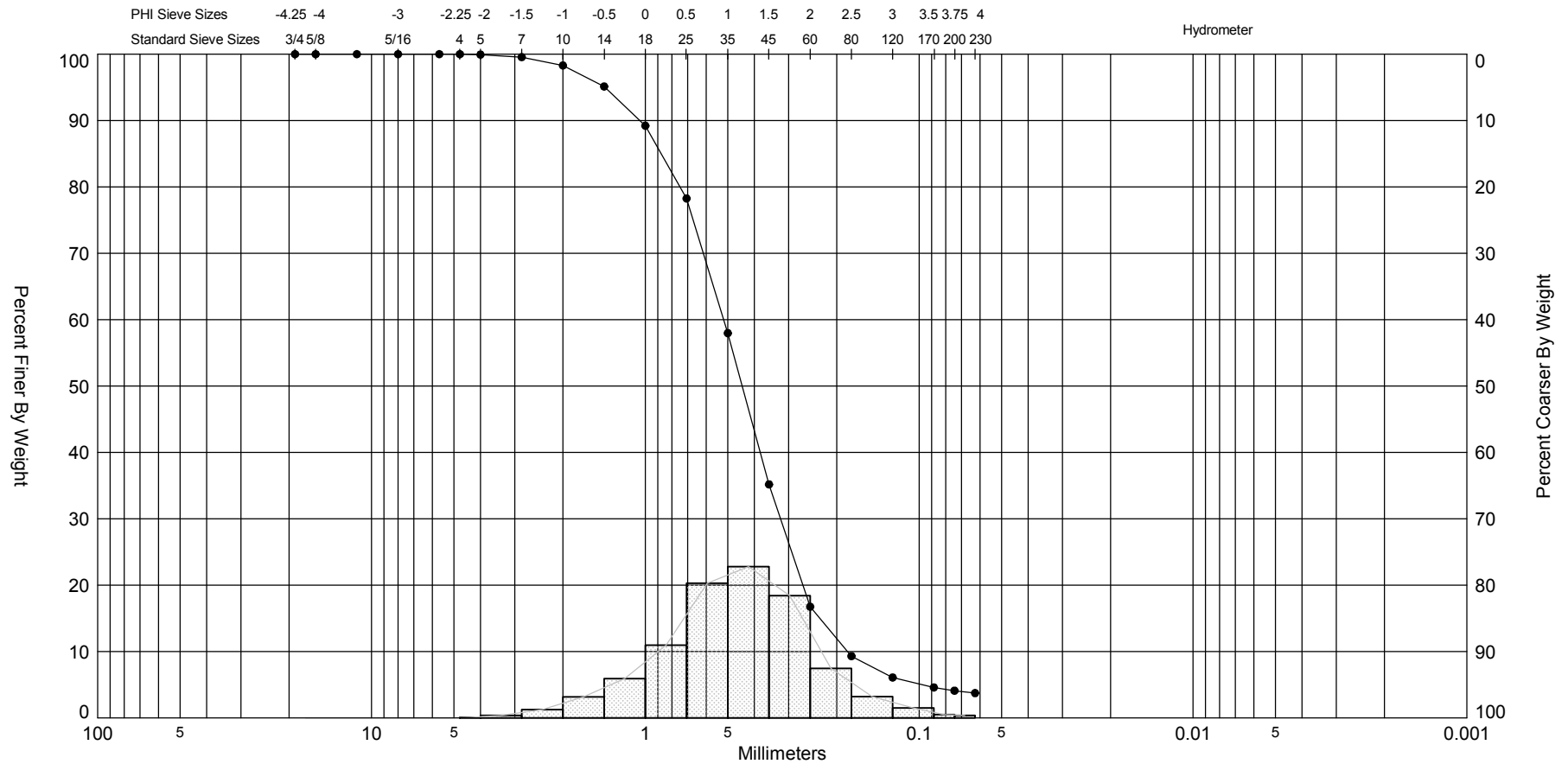
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-10 #4	—●—	-37.2	SP	#200 - 3.01 #230 - 2.81	2.00	79.40	1.25	1.21	0.02	3.8	0.76	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	935,921.12
												Northing (Y, ft):	1,101,579.87
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

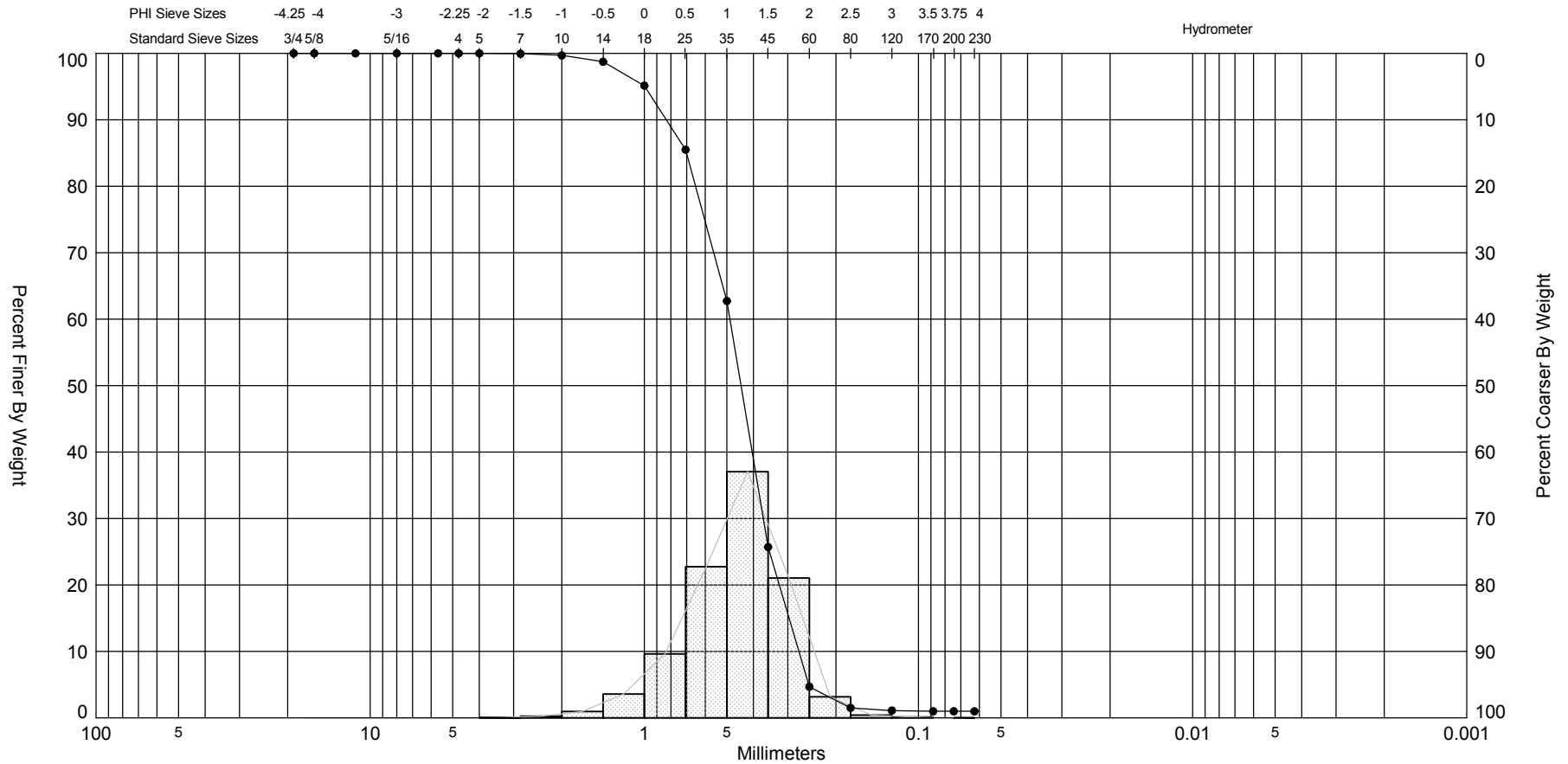


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLS-10 #5	—●—	-40.2	SW	#200 - 4.10 #230 - 3.74	2.10	83.10	1.17	1.1	-0.11	3.5	0.93	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	935,921.12
												Northing (Y, ft):	1,101,579.87
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	



SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



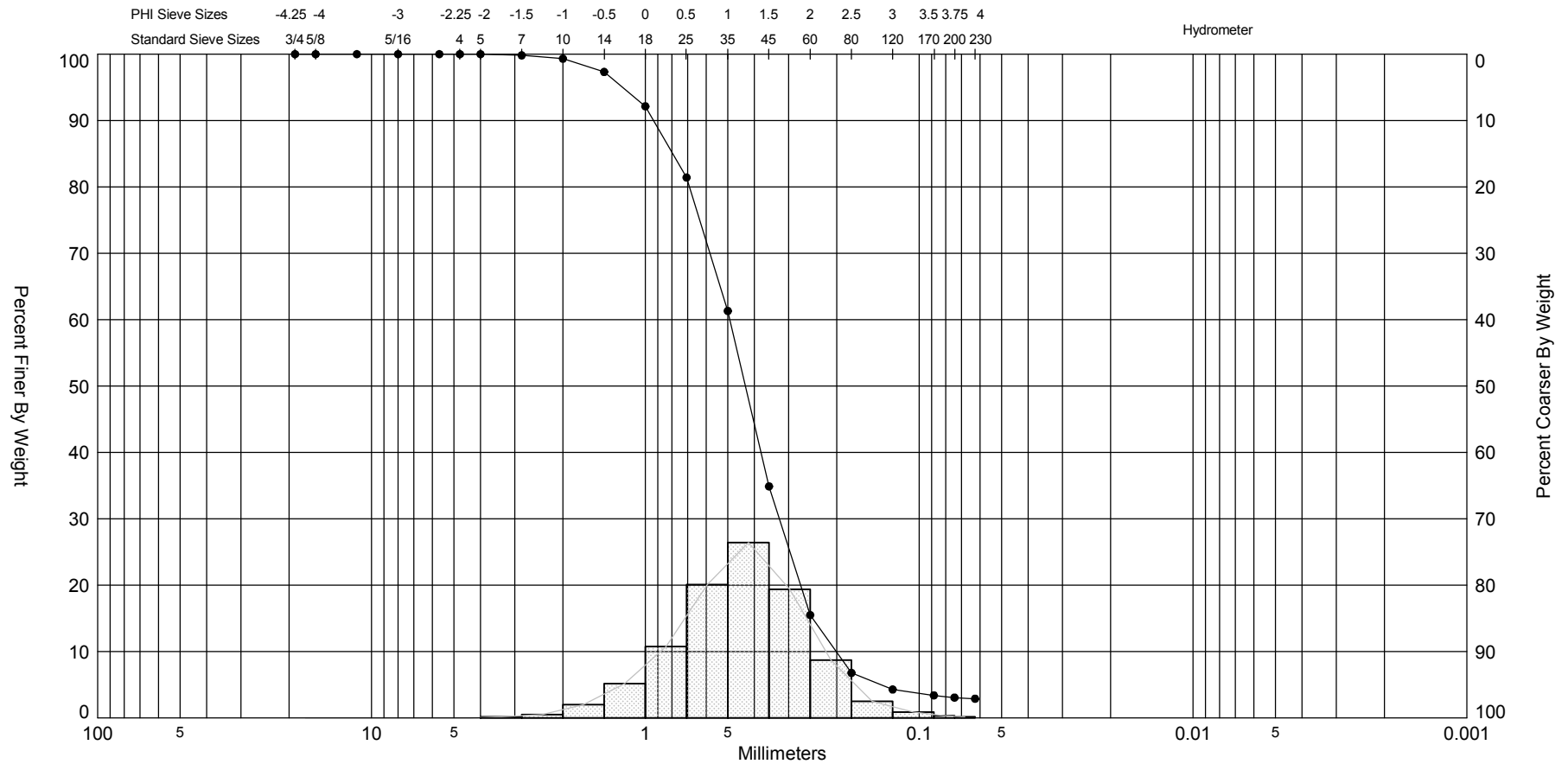
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLS-11 #1	—●—	-29.5	SP	#200 - 0.99 #230 - 0.98	2.20	80.80	1.17	1.1	-0.57	4.02	0.61	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	935,799.27
												Northing (Y, ft):	1,103,554.41
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	






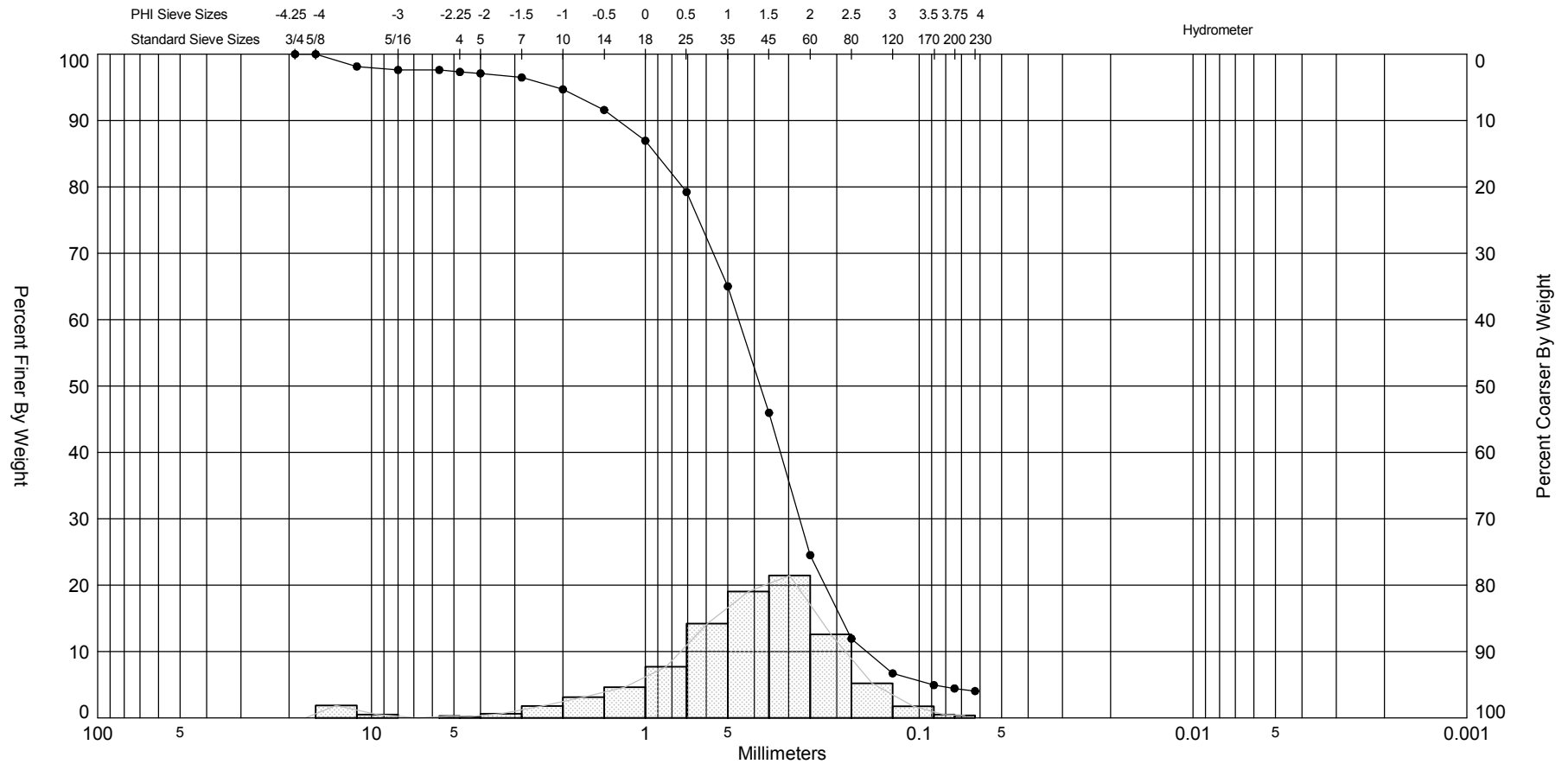
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-11 #4	—●—	-39.0	SP	#200 - 3.06 #230 - 2.89	2.20	83.40	1.21	1.16	-0.13	3.53	0.82	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
							715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax					Easting (X, ft):	935,799.27
												Northing (Y, ft):	1,103,554.41
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

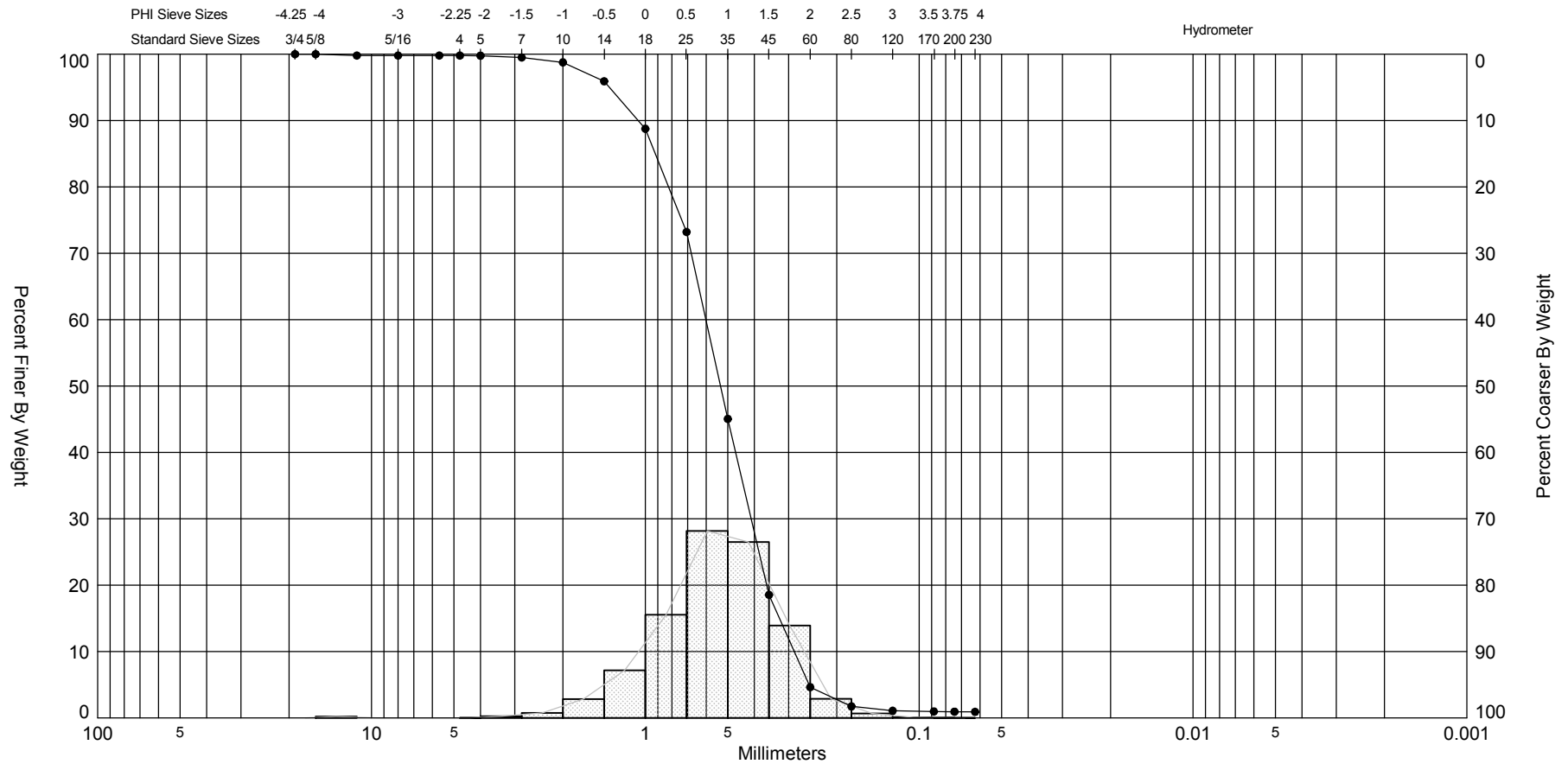
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



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	
SLS-11 #5	—●—	-43.0	SW	#200 - 4.43 #230 - 4.04	2.10	83.30	1.39	1.14	-1.43	6.44	1.27	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	03-23-09
Depths and elevations based on measured values												Analyzed By:	MO
												Easting (X, ft):	935,799.27
												Northing (Y, ft):	1,103,554.41
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

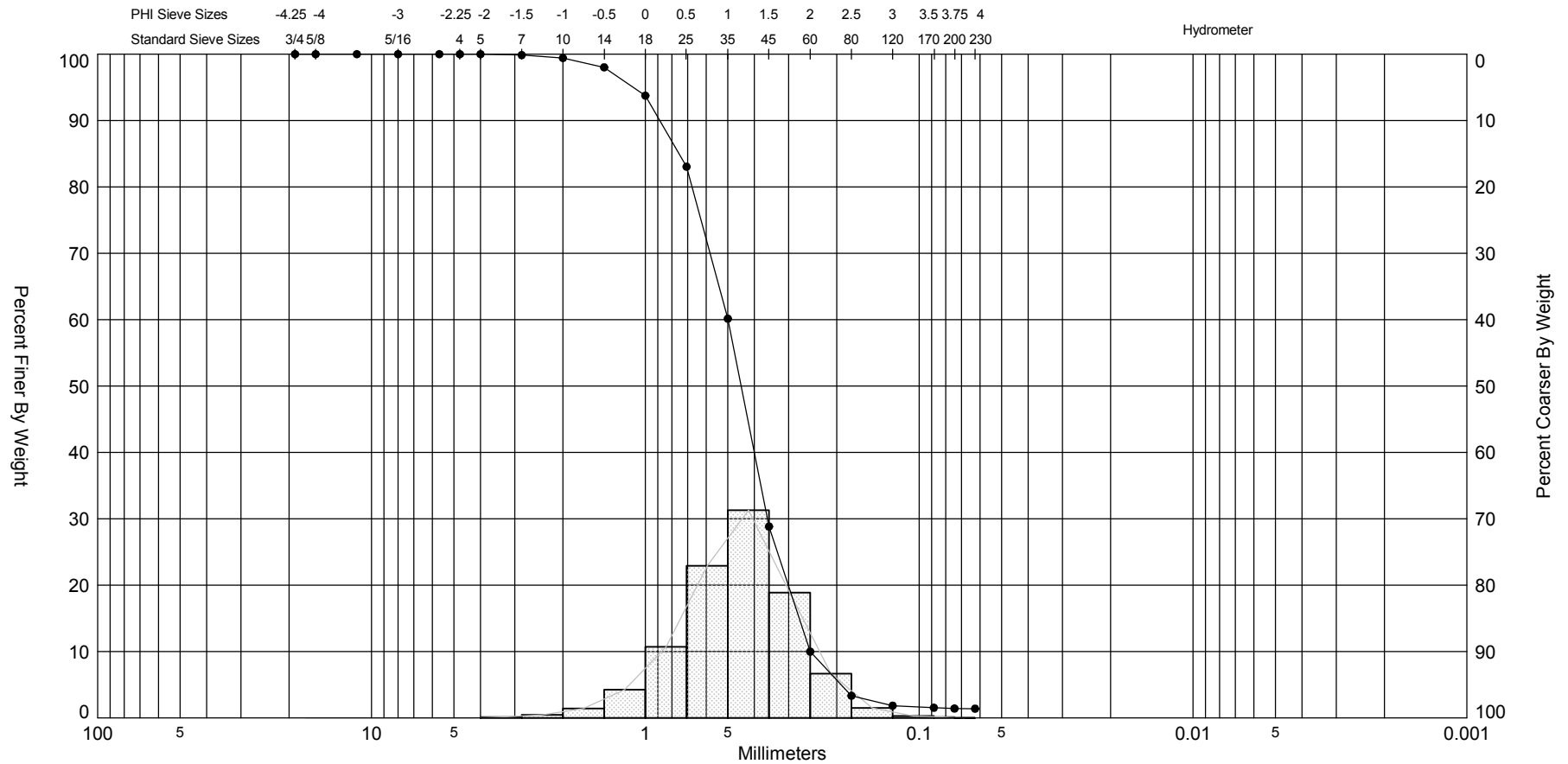
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09




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	
SLS-12 #1	—●—	-29.0	SP	#200 - 0.93 #230 - 0.91	2.10	82.10	0.91	0.86	-0.76	6.04	0.75	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	935,898.87
												Northing (Y, ft):	1,105,578.95
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

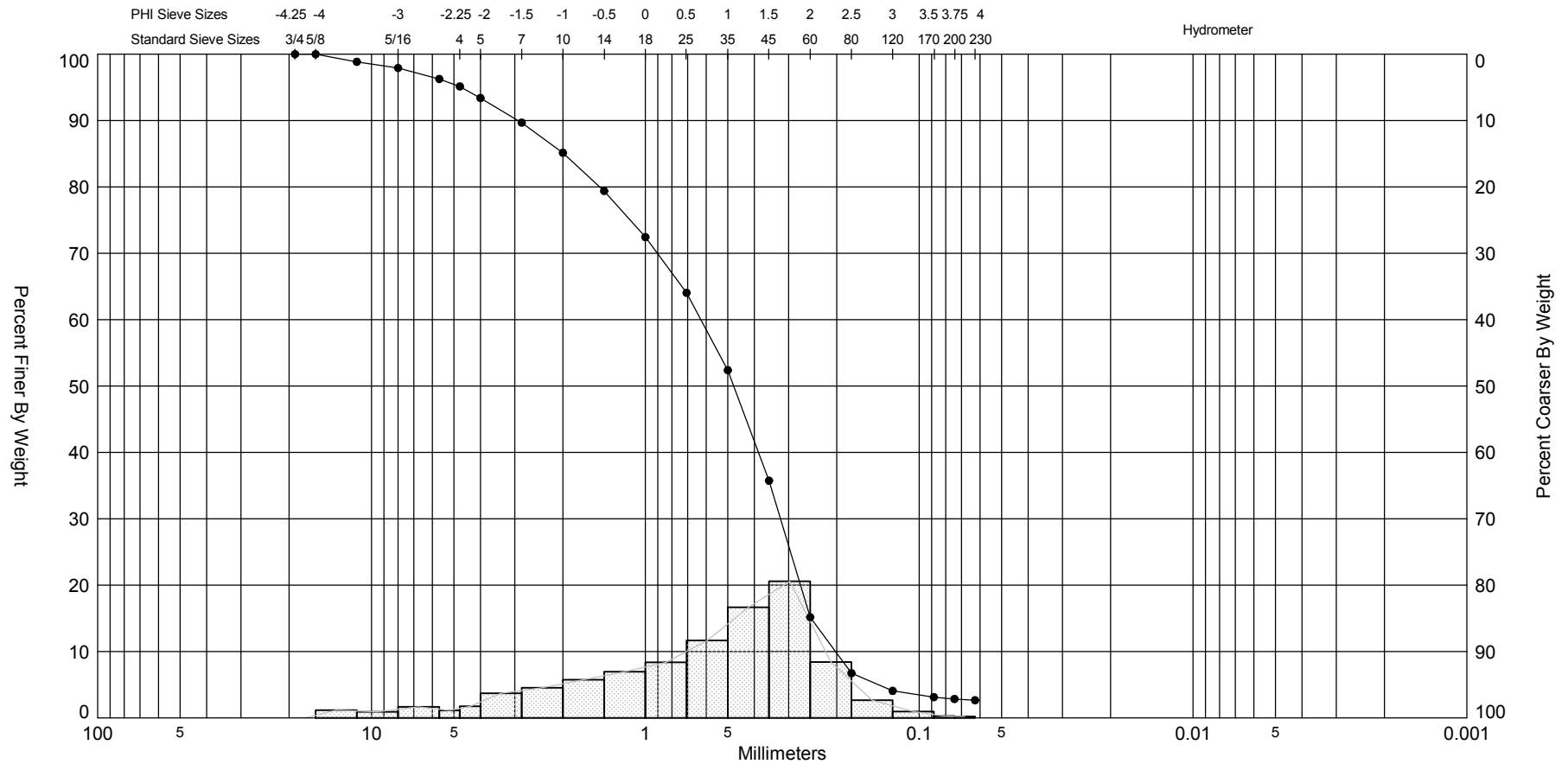
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-12 #2	—●—	-33.0	SP	#200 - 1.41 #230 - 1.39	2.00	79.90	1.16	1.11	-0.29	3.79	0.72	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	935,898.87
												Northing (Y, ft):	1,105,578.95
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

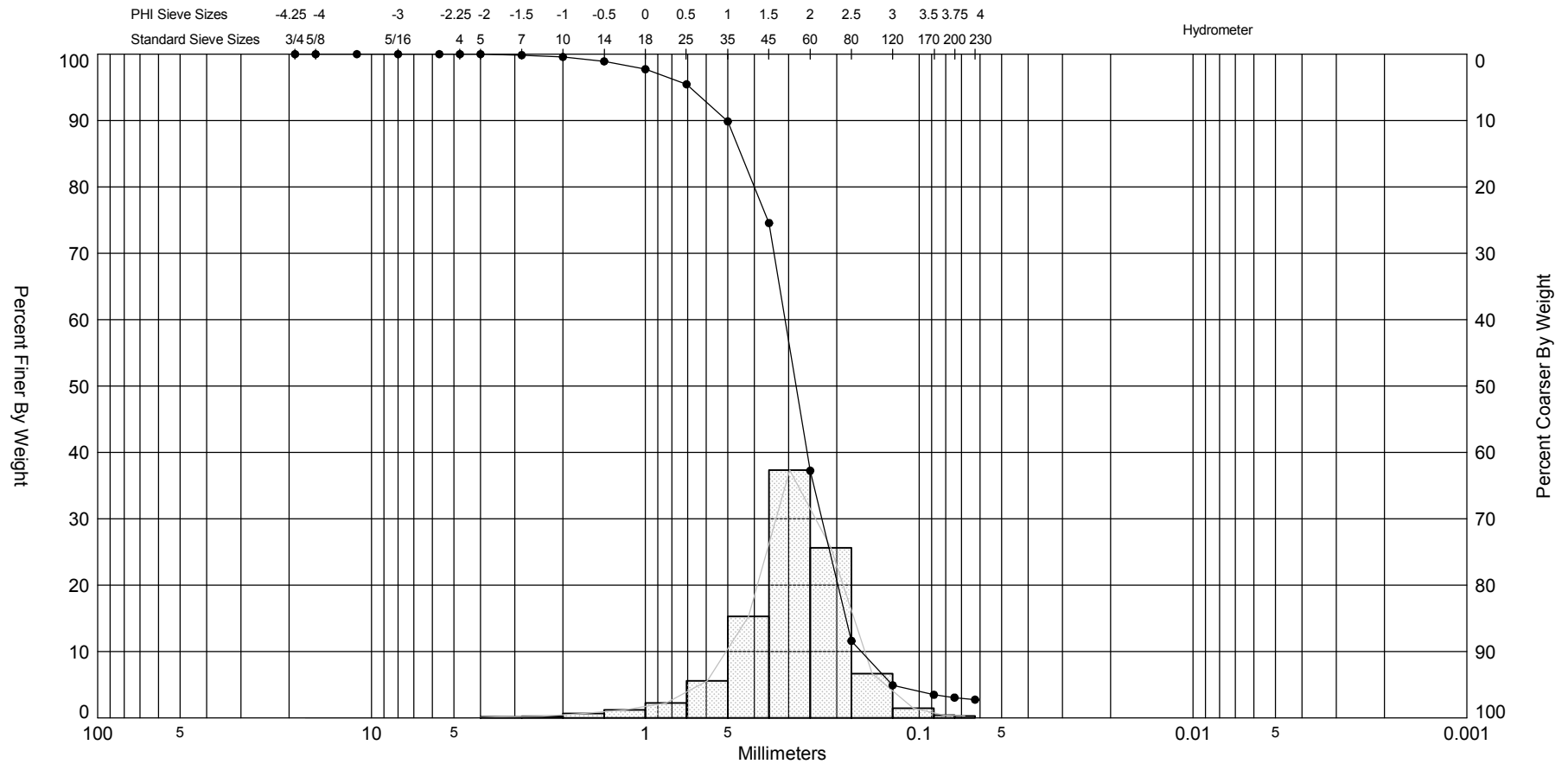


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLS-12 #3	—●—	-35.6	SW	#200 - 2.85 #230 - 2.66	2.00	84.00	1.07	0.64	-0.85	3.27	1.47	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	935,898.87
												Northing (Y, ft):	1,105,578.95
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	



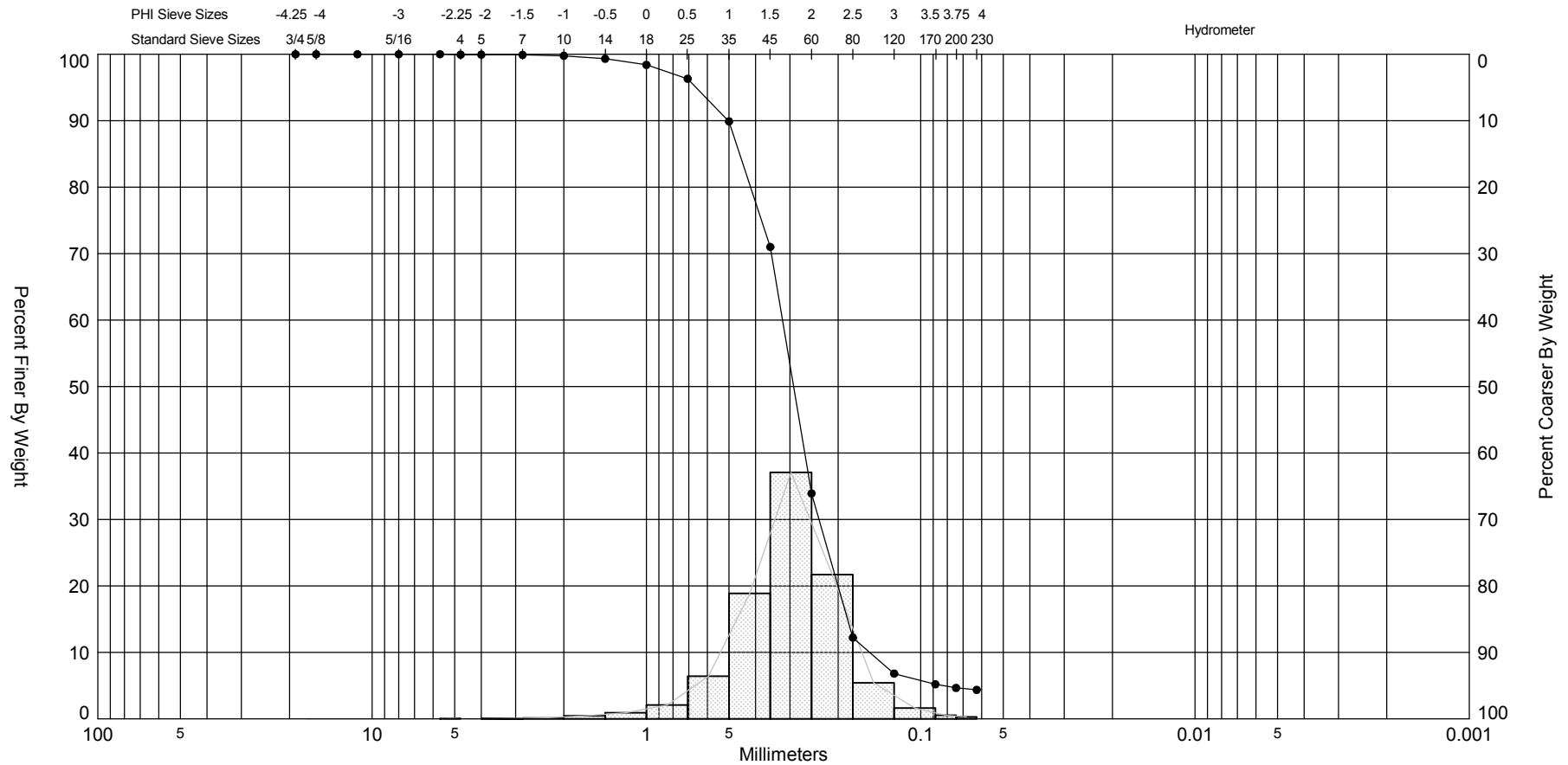
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-12 #4	—●—	-37.0	SP	#200 - 3.06 #230 - 2.75	2.00	76.90	1.83	1.76	-0.91	6	0.69	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	02-20-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	935,898.87
												Northing (Y, ft):	1,105,578.95
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

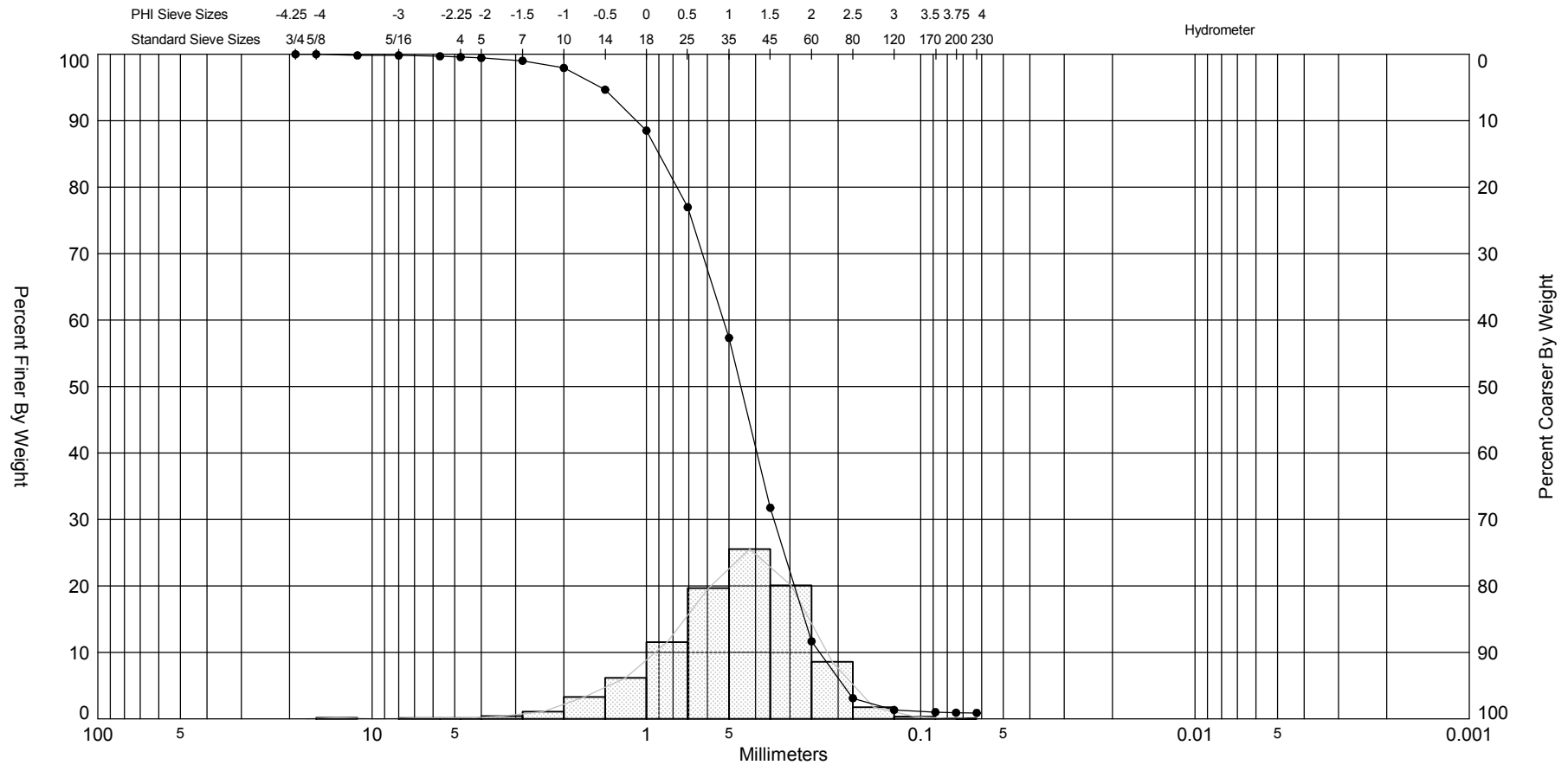
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-12 #5	—●—	-41.0	SP	#200 - 4.65 #230 - 4.36	2.00	76.80	1.78	1.72	-0.6	5.91	0.67	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	02-20-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	935,898.87
												Northing (Y, ft):	1,105,578.95
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

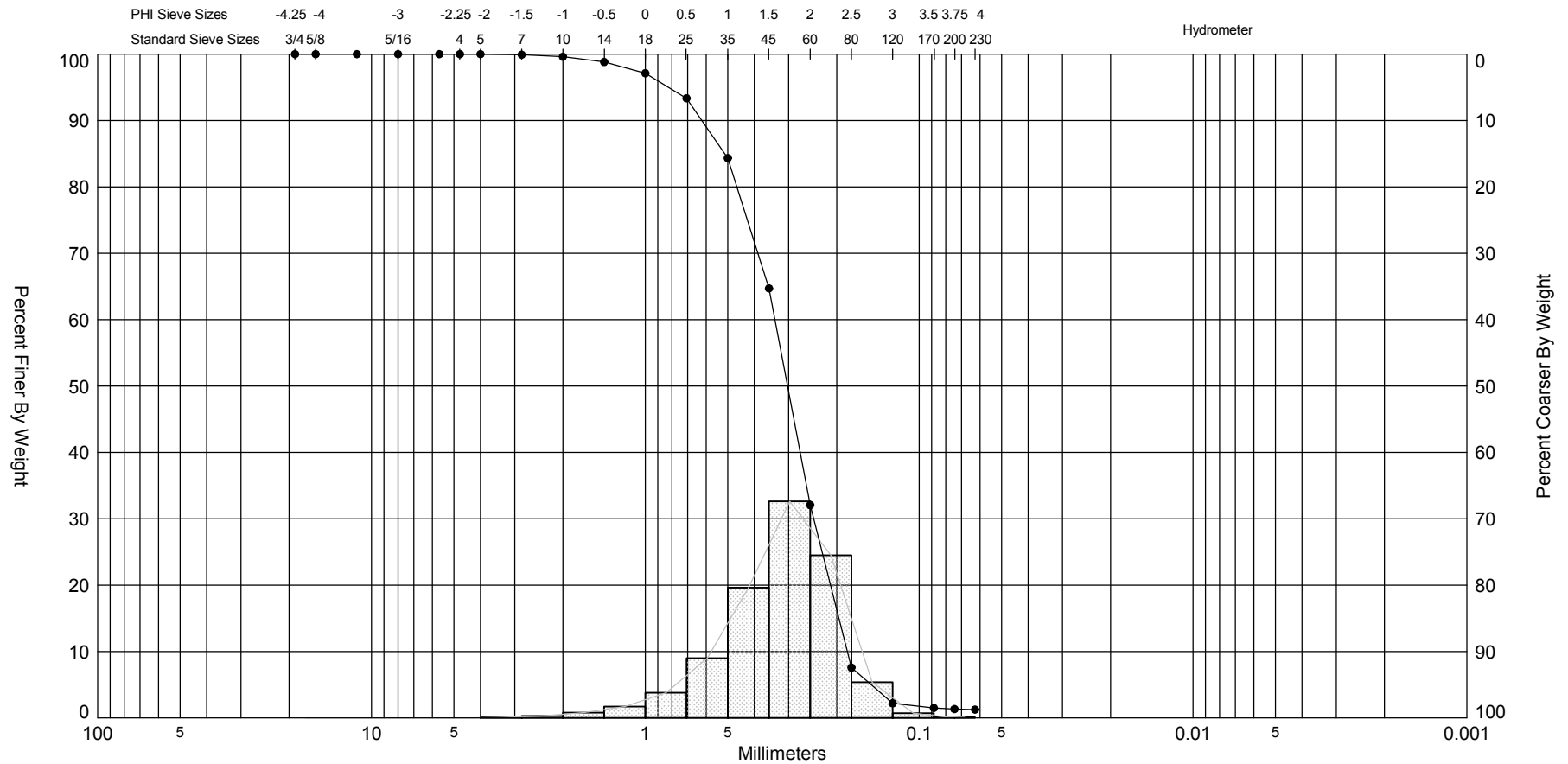
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-13 #1	—●—	-36.2	SW	#200 - 0.92 #230 - 0.89	2.00	81.90	1.14	1.04	-0.83	5.02	0.89	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	936,296.22
												Northing (Y, ft):	1,107,569.2
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

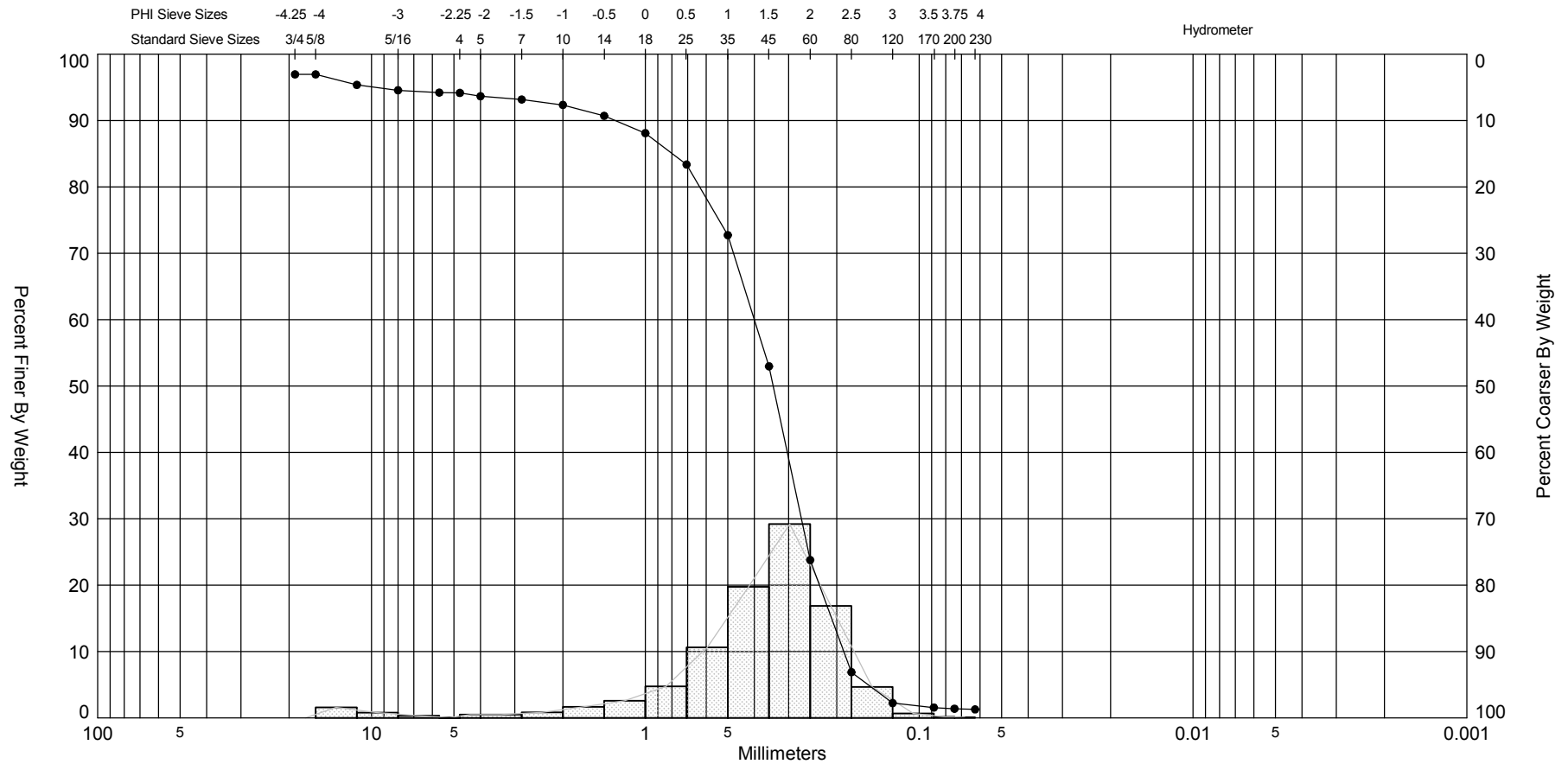
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09




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	
SLS-13 #2	—●—	-39.2	SP	#200 - 1.33 #230 - 1.25	2.00	75.20	1.73	1.63	-0.85	4.61	0.71	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	936,296.22
												Northing (Y, ft):	1,107,569.2
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

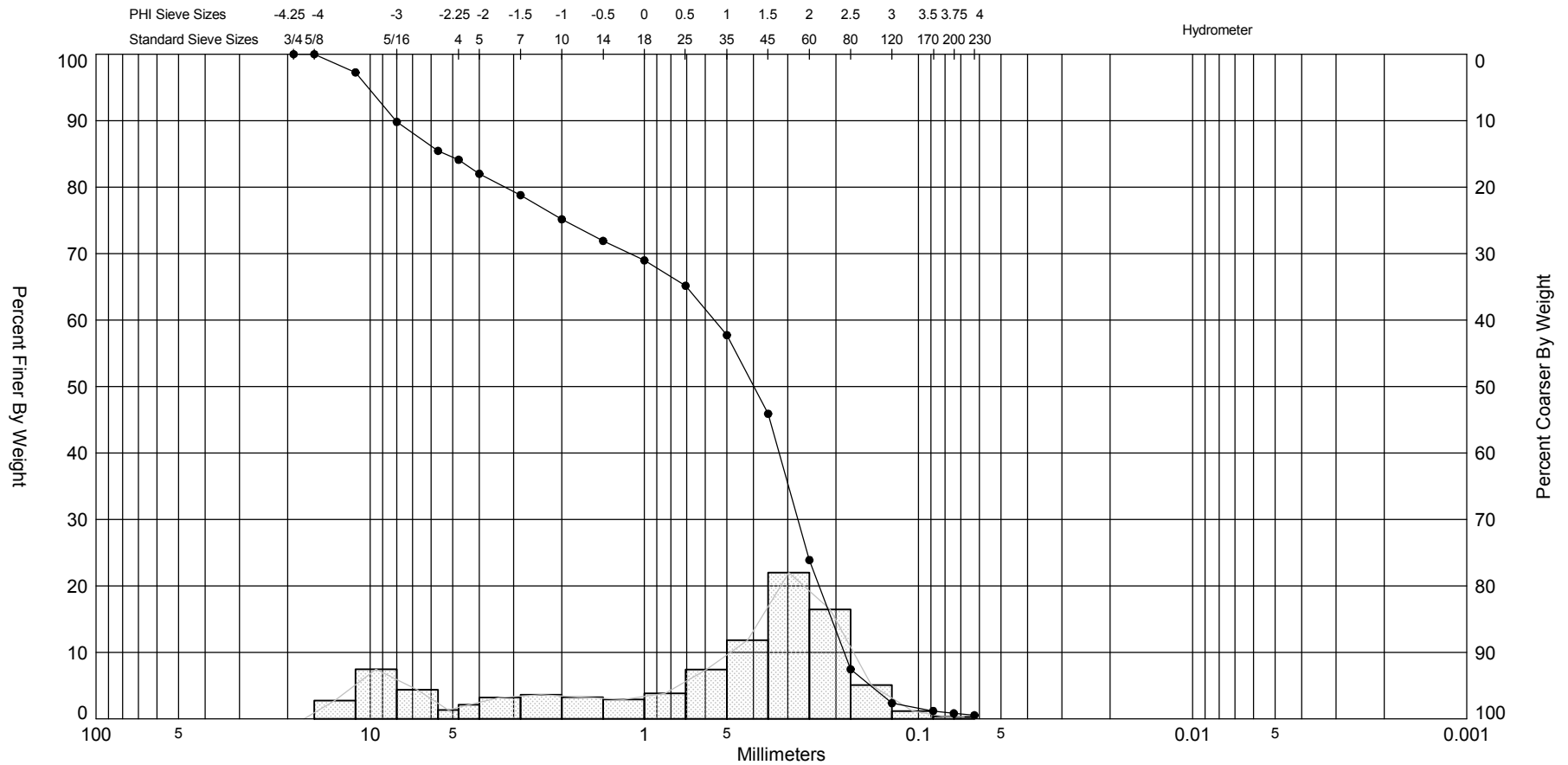
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09




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	
SLS-13 #3	—●—	-40.7		#200 - 1.38 #230 - 1.28	2.00	78.70	1.55	1.13	-1.65	7.74	1.19	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	936,296.22
												Northing (Y, ft):	1,107,569.2
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

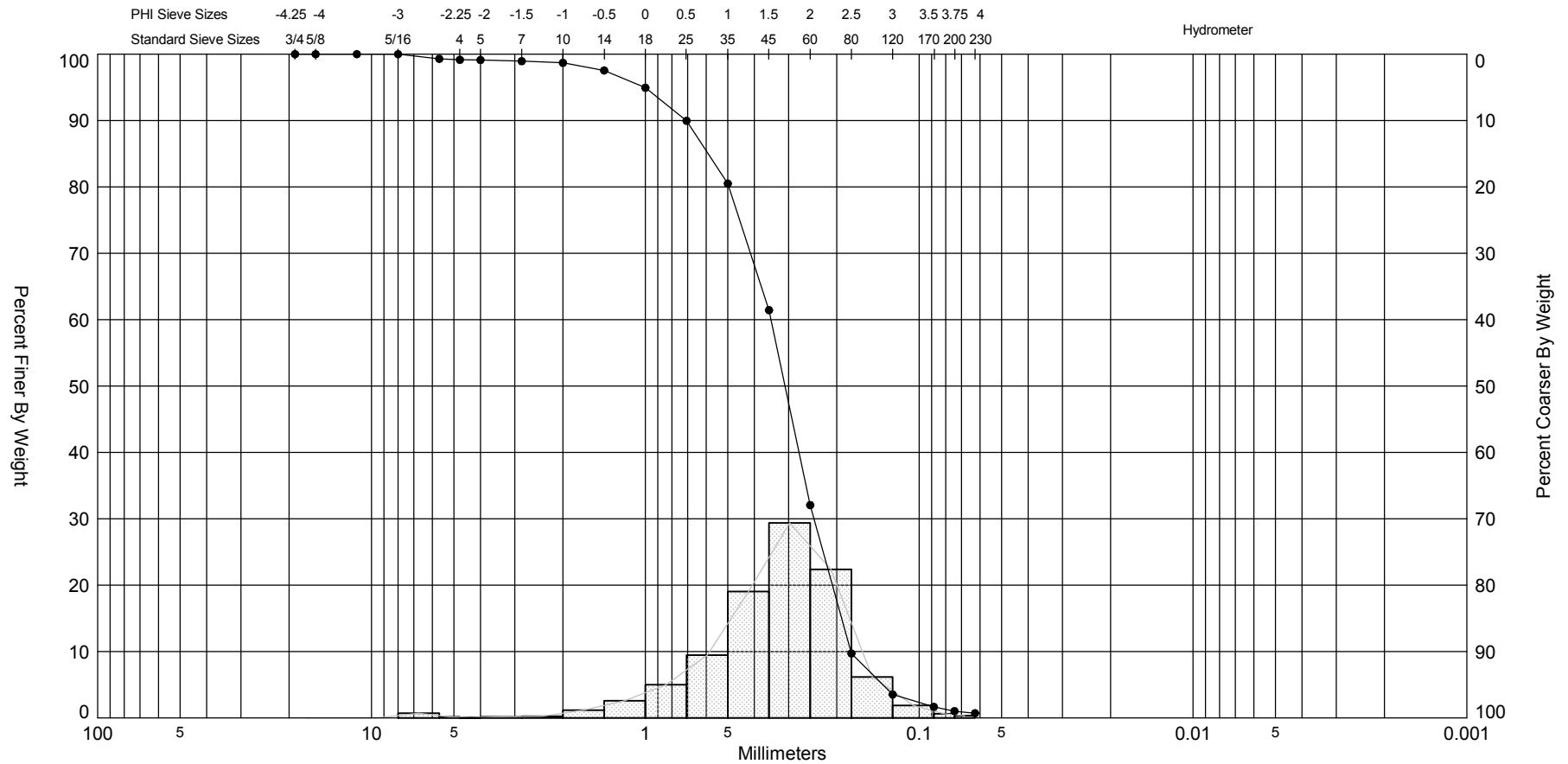
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09




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	
SLS-13 #4	—●—	-42.7	SW	#200 - 0.82 #230 - 0.54	2.00	81.00	1.33	0.5	-0.82	2.34	1.99	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	01-12-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	936,296.22
												Northing (Y, ft):	1,107,569.2
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

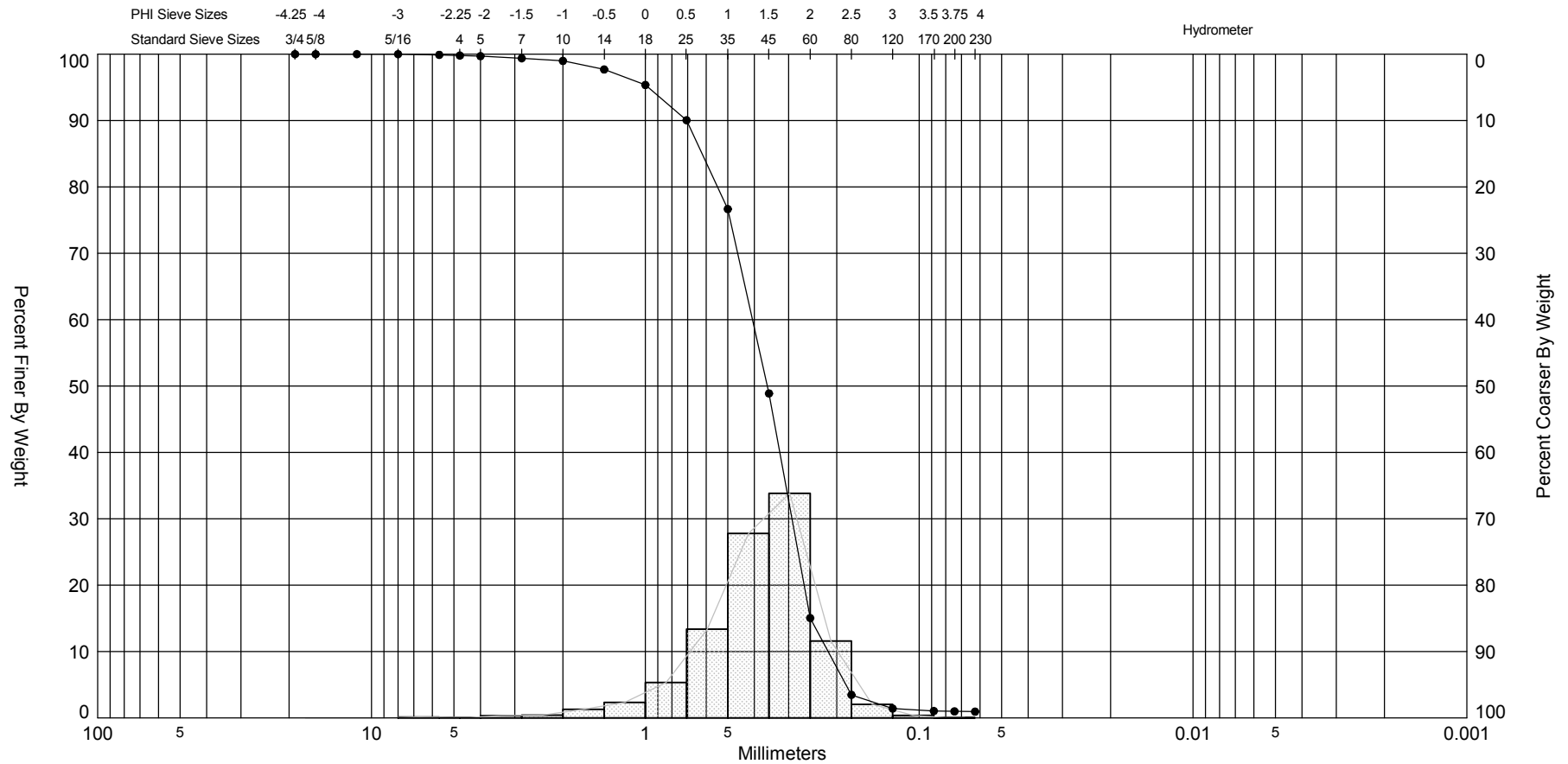
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-13 #5	—●—	-46.2	SW	#200 - 1.02 #230 - 0.70	2.00	79.80	1.69	1.57	-1.25	6.91	0.9	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	01-12-09
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):	936,296.22
												Northing (Y, ft):	1,107,569.2
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

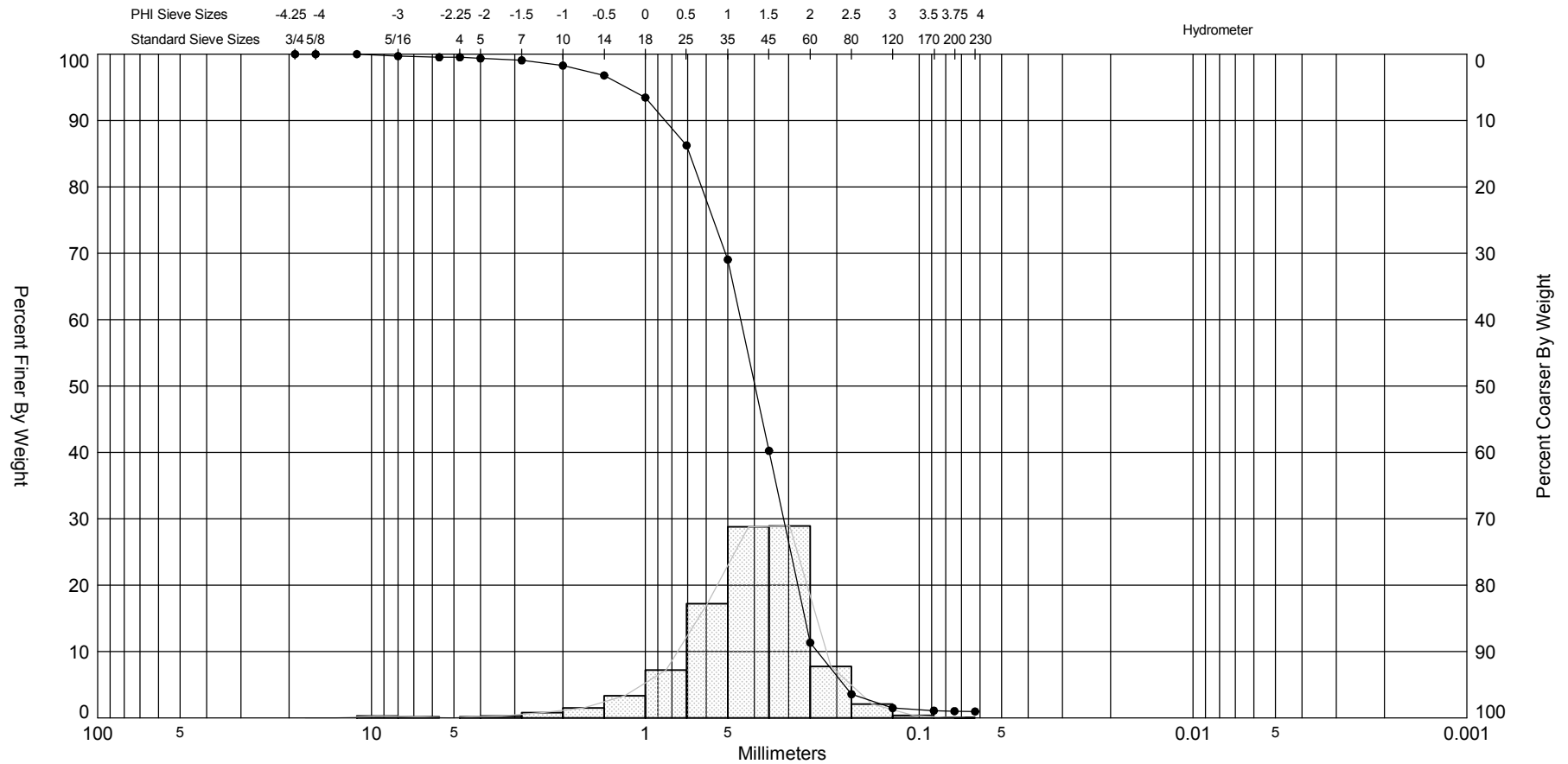


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLS-14 #1	—●—	-35.6	SP	#200 - 0.98 #230 - 0.94	1.90	75.20	1.48	1.36	-1.18	6.43	0.74	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	929,576.55
												Northing (Y, ft):	1,108,559.37
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	



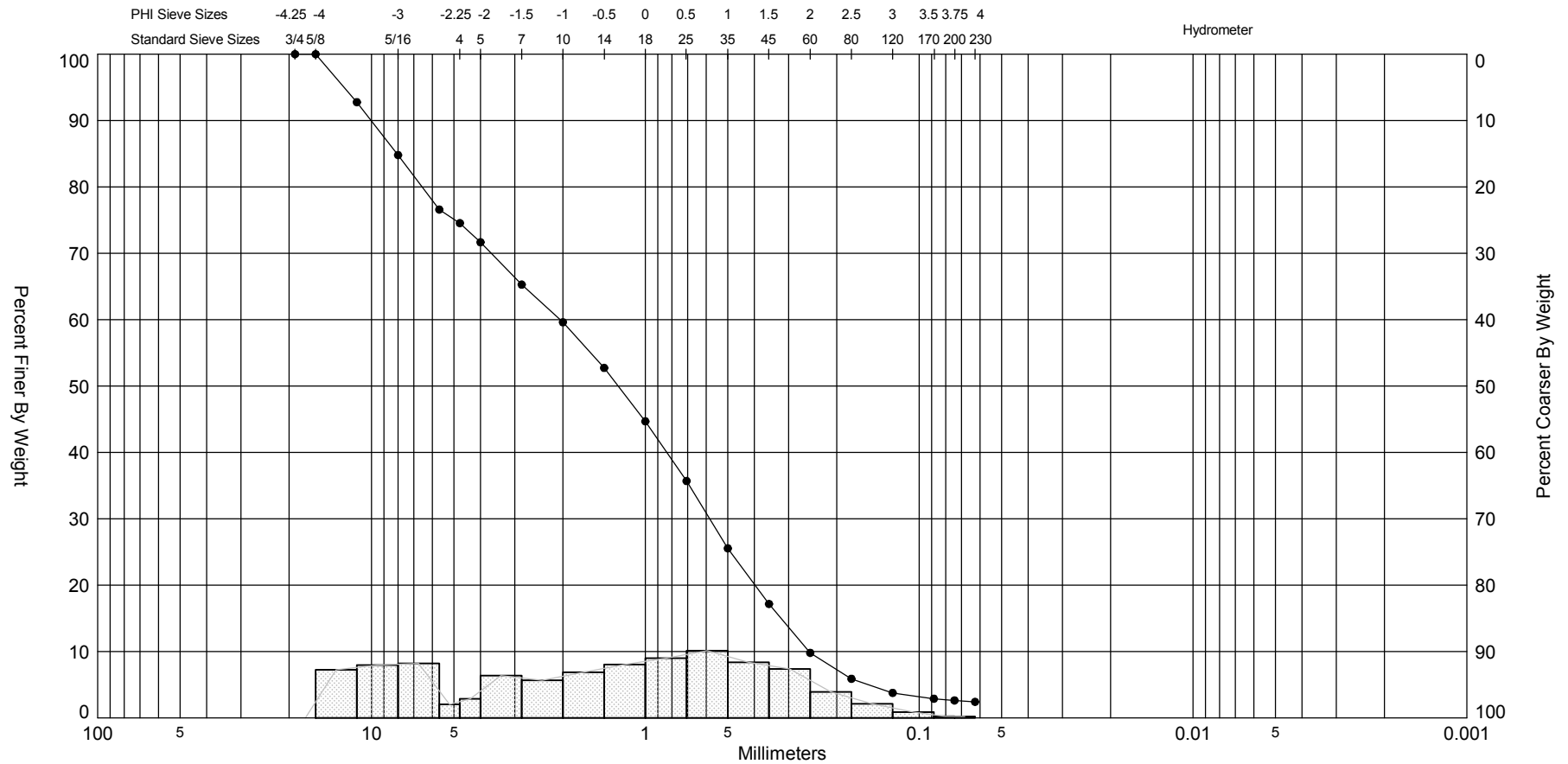
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



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	
SLS-14 #2	—●—	-38.6	SP	#200 - 1.01 #230 - 0.96	1.50	77.30	1.33	1.22	-1.29	7.33	0.81	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
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):	929,576.55
												Northing (Y, ft):	1,108,559.37
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



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	
SLS-14 #3	—●—	-43.6	SW	#200 - 2.63 #230 - 2.42	1.90	89.40		-0.61	-0.06	1.91	1.93	Project Name:	South SLC Offshore Sand Search

Comments:	Analysis Date:	02-20-09
Depths and elevations based on measured values	Analyzed By:	MO

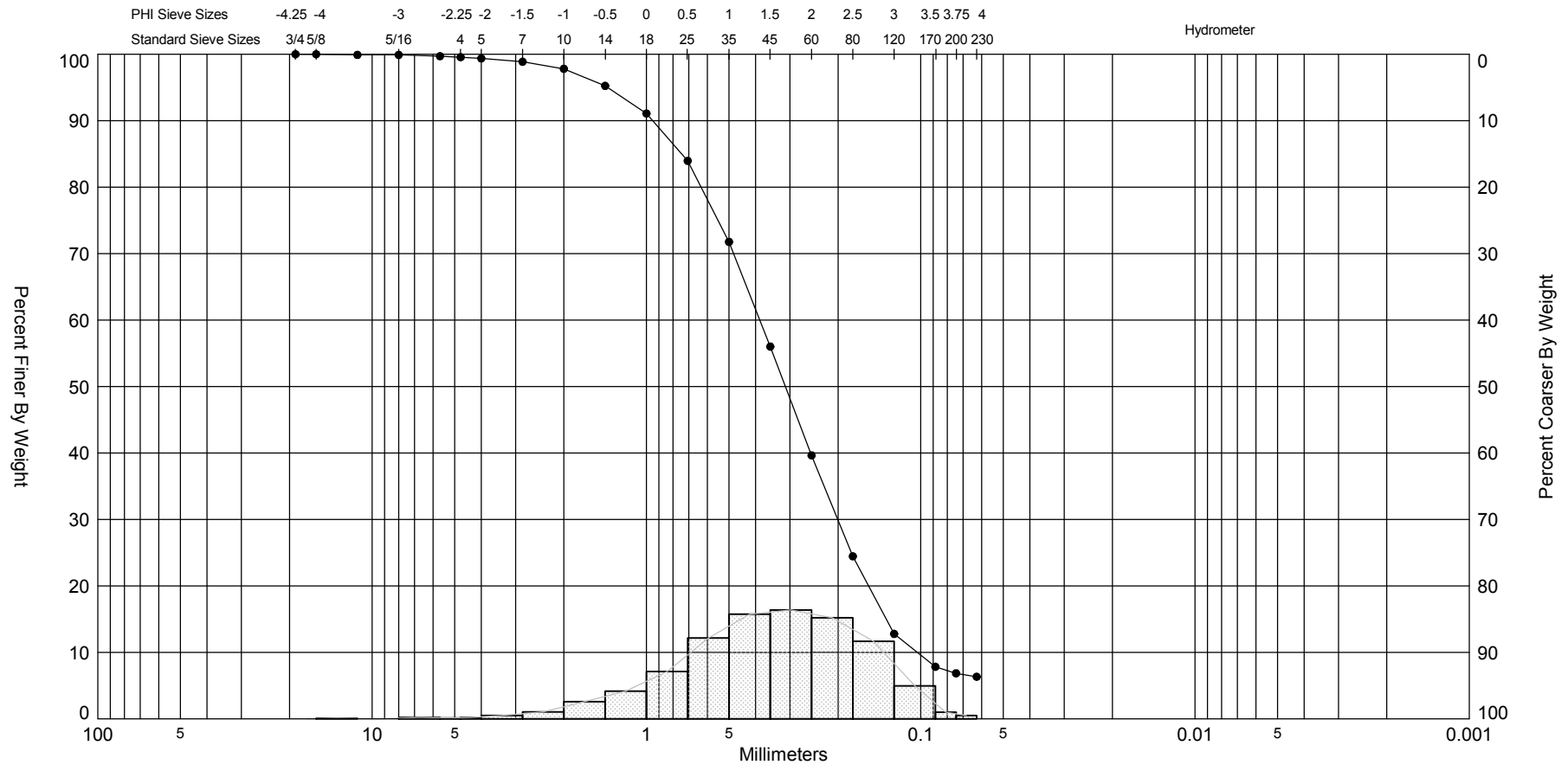


715 North Drive Suite E  
Melbourne, Florida 32934  
Phone 321-751-1135 x 206 Fax

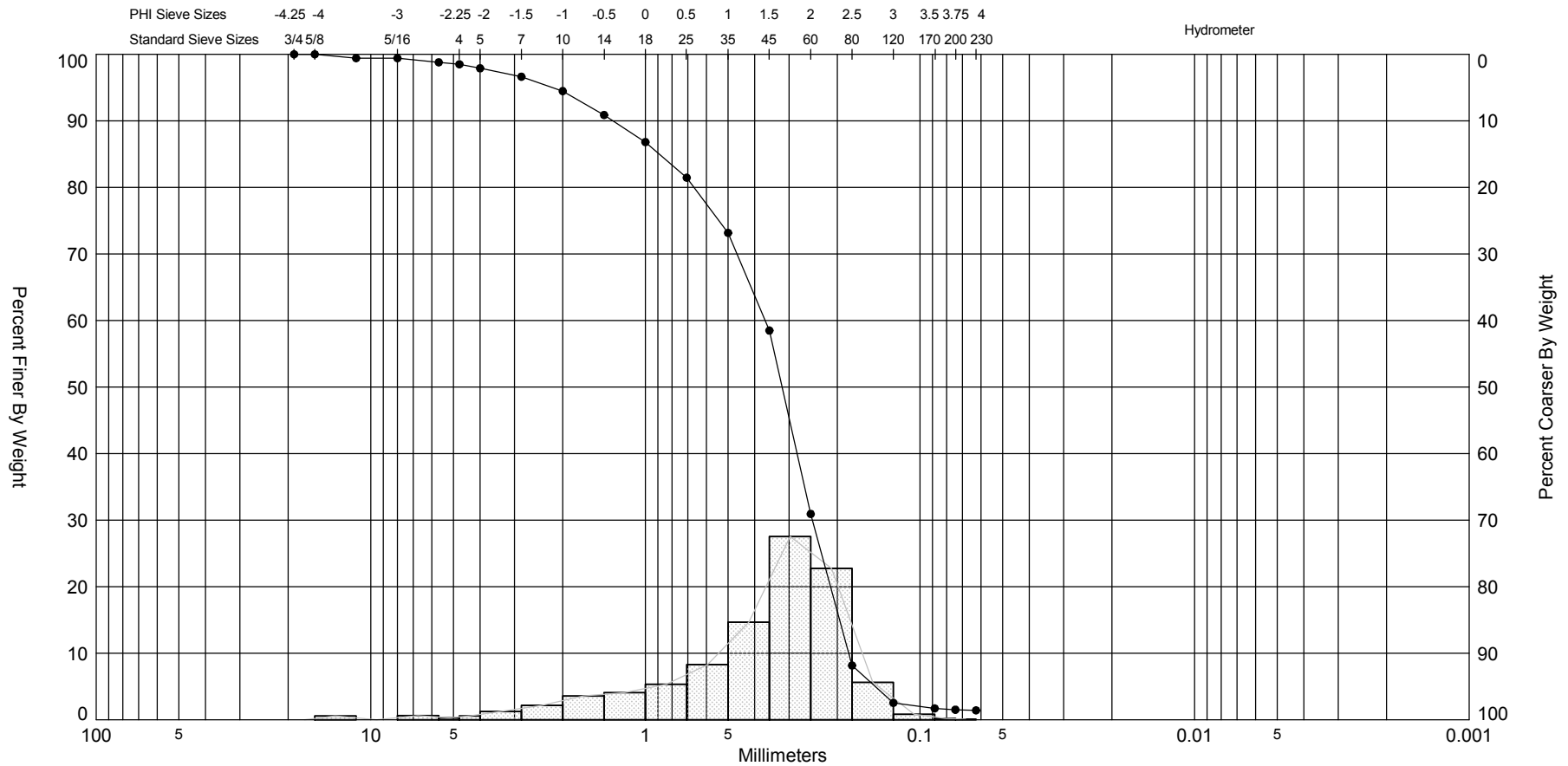
Easting (X, ft):	929,576.55
Northing (Y, ft):	1,108,559.37
Horizontal System:	NAD 1983
Vertical System:	NAVD 88




SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



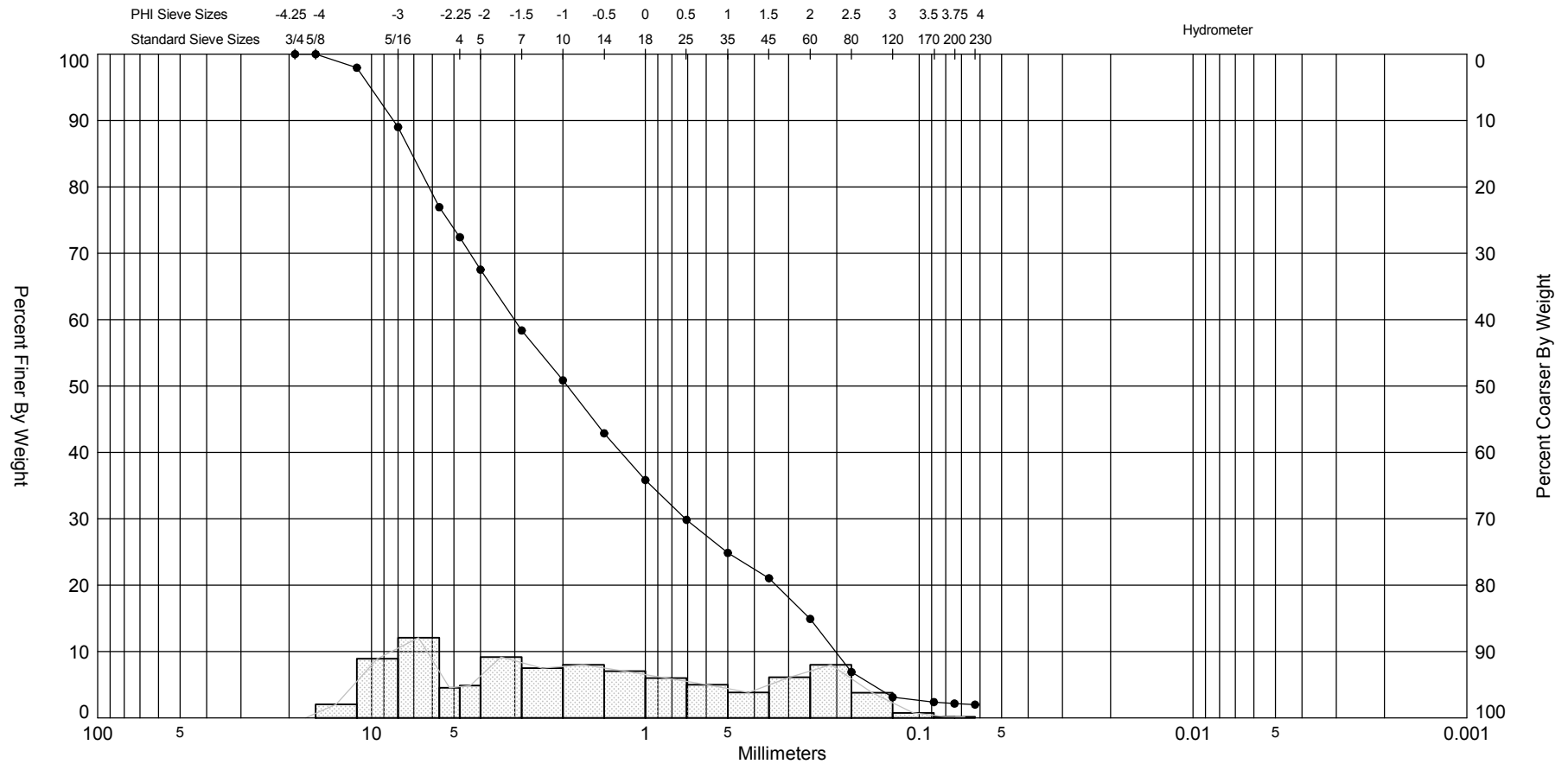
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-15 #1	—●—	-37.3	SW	#200 - 1.51 #230 - 1.42	2.30	77.20	1.65	1.32	-1.47	5.5	1.18	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	929,980.81
												Northing (Y, ft):	1,109,567.55
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

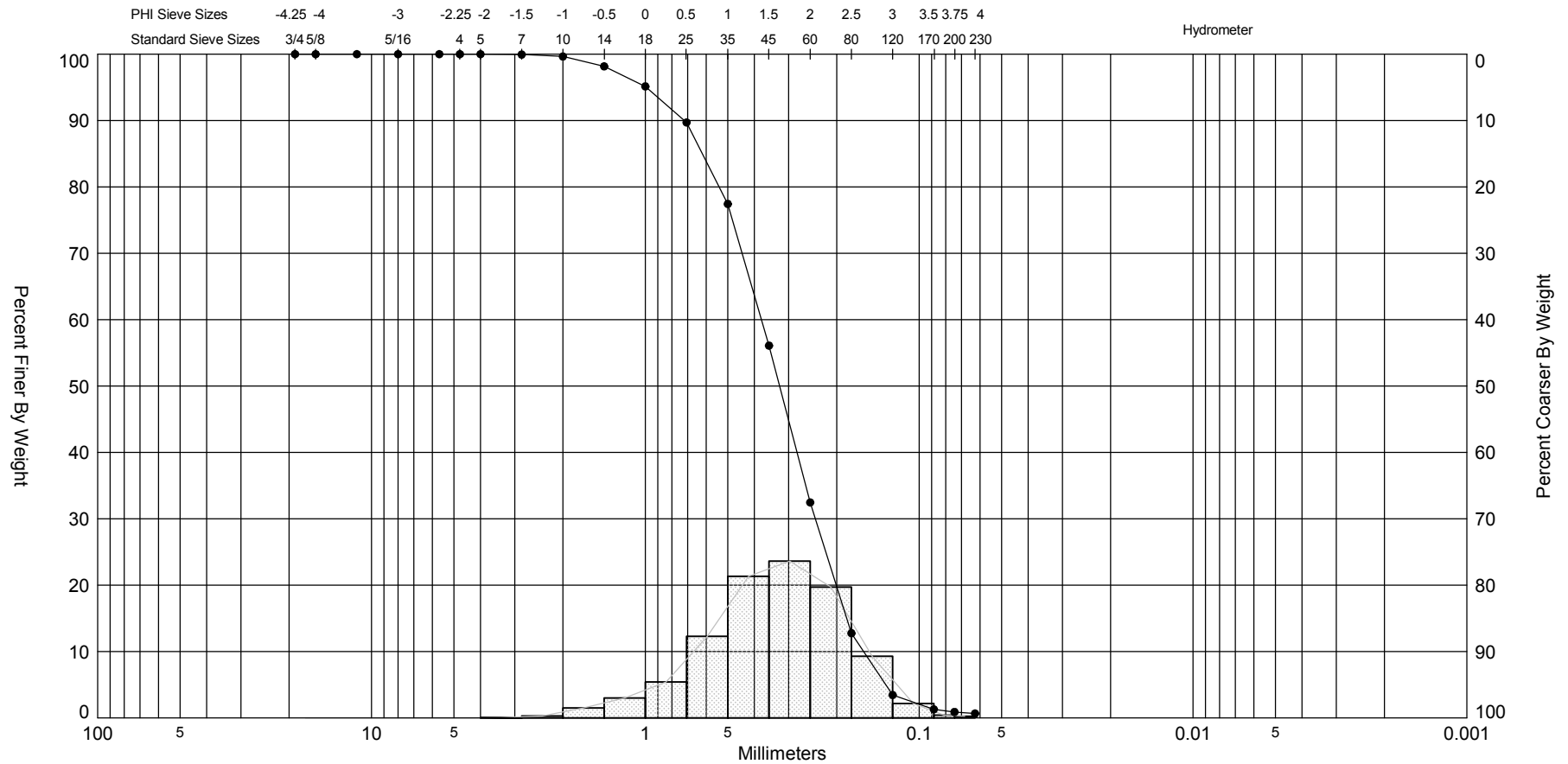
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-15 #2	—●—	-41.3	SW	#200 - 2.16 #230 - 2.00	2.00	76.90		-0.73	0.36	1.94	1.93	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	01-12-09
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):	929,980.81
												Northing (Y, ft):	1,109,567.55
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

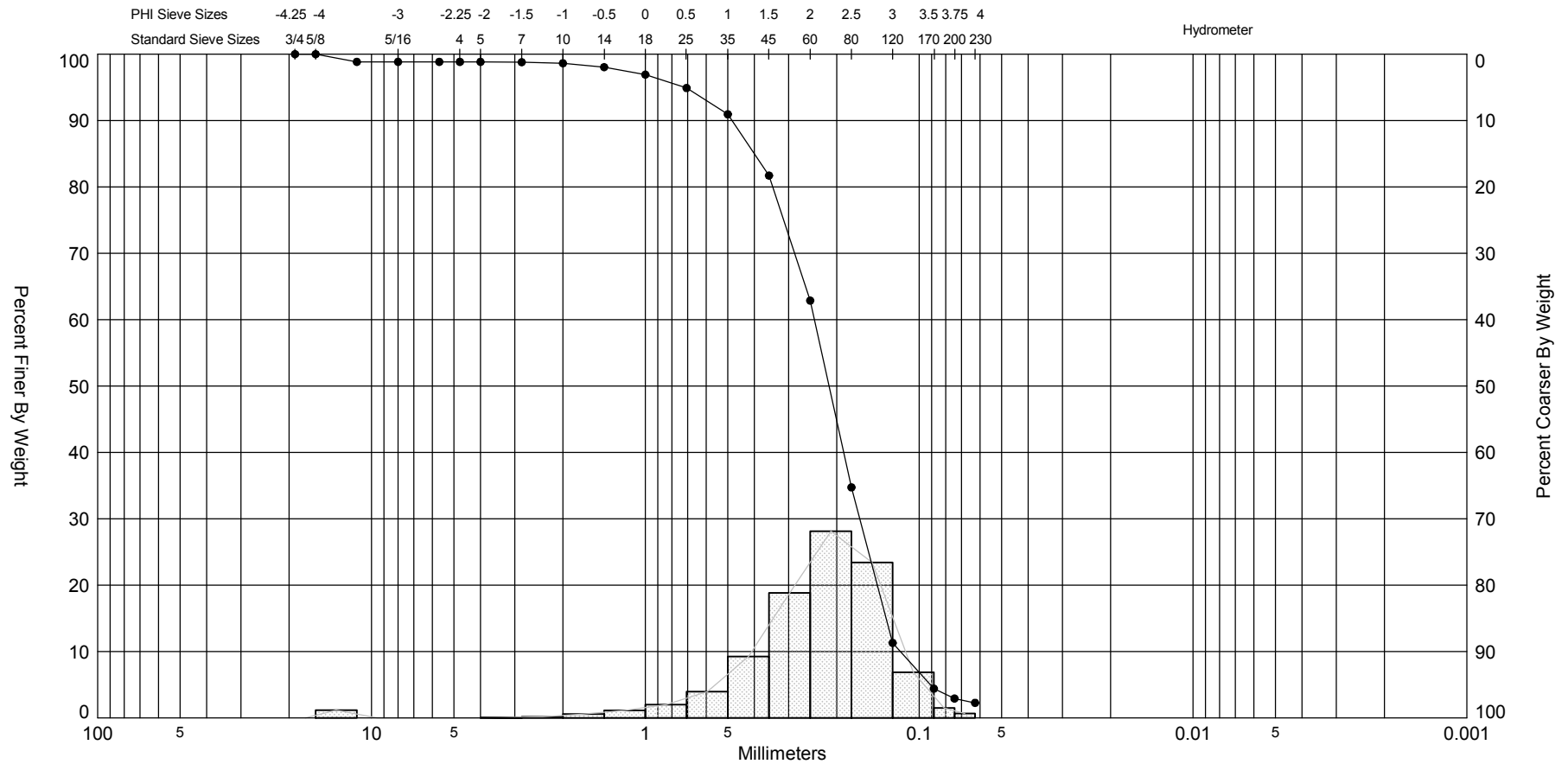
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-15 #3	—●—	-43.8	SW	#200 - 0.89 #230 - 0.66	1.80	90.70	1.63	1.57	-0.42	3.32	0.86	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	01-12-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	929,980.81
												Northing (Y, ft):	1,109,567.55
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09

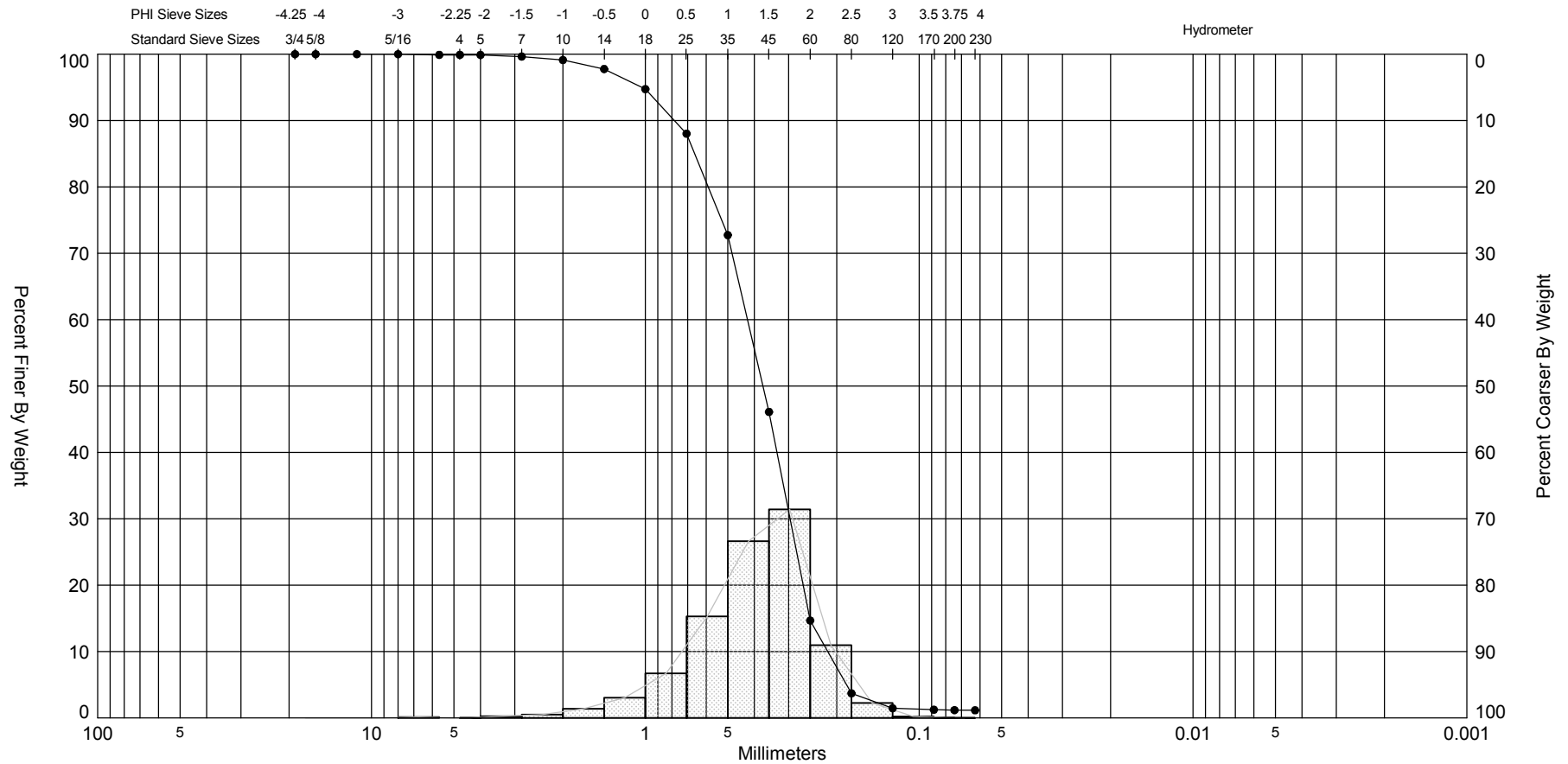


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLS-15 #4	—●—	-47.8	SW	#200 - 2.92 #230 - 2.27	2.20	73.90	2.23	2.05	-2.5	14.15	1.02	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	01-12-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	929,980.81
												Northing (Y, ft):	1,109,567.55
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													



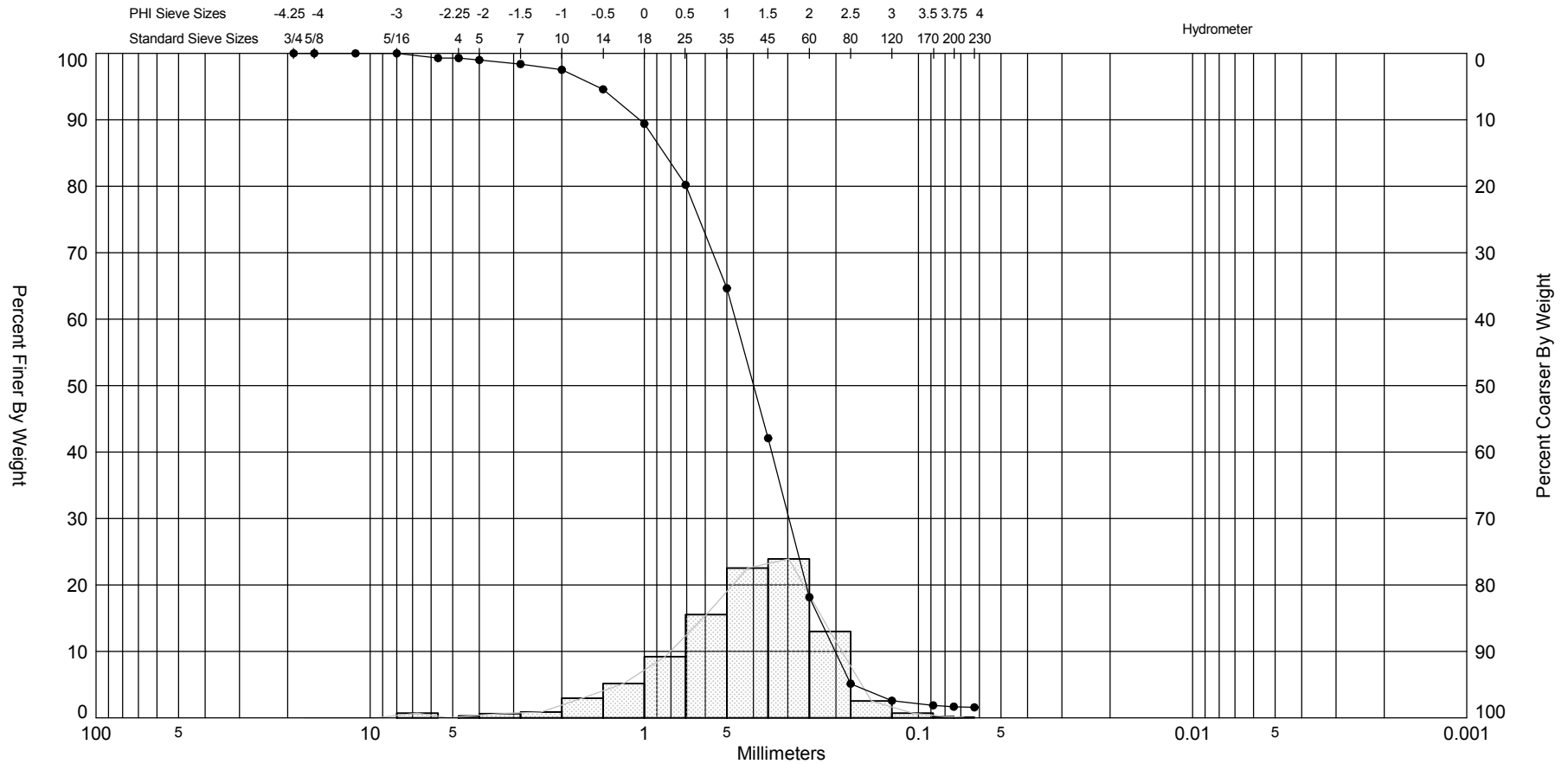
SIEVE ANALYSIS, SLC RECON CORES WET SIEVED.GPJ, FL DEP ROSS.GDT, 09/08/09




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	
SLS-16 #1	—●—	-36.3	SP	#200 - 1.17 #230 - 1.15	2.00	77.30	1.43	1.32	-0.91	5.02	0.74	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	929,036.75
												Northing (Y, ft):	1,111,597.55
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
												715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax	

SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

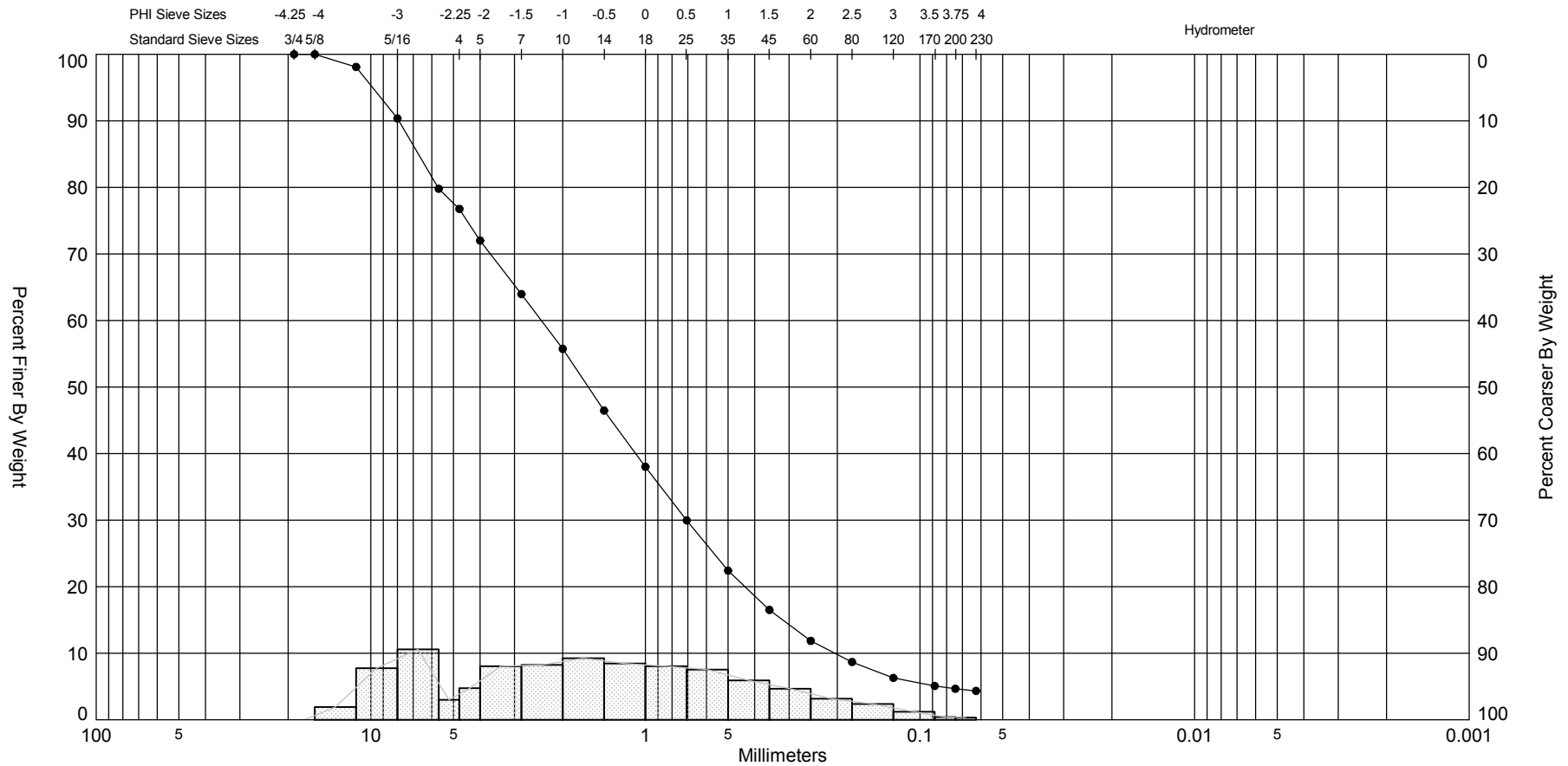


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
SLS-16 #2	—●—	-38.8	SW	#200 - 1.68 #230 - 1.58	2.00	79.70	1.32	1.17	-0.95	4.85	0.96	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	07-14-09
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):	929,036.75
												Northing (Y, ft):	1,111,597.55
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88



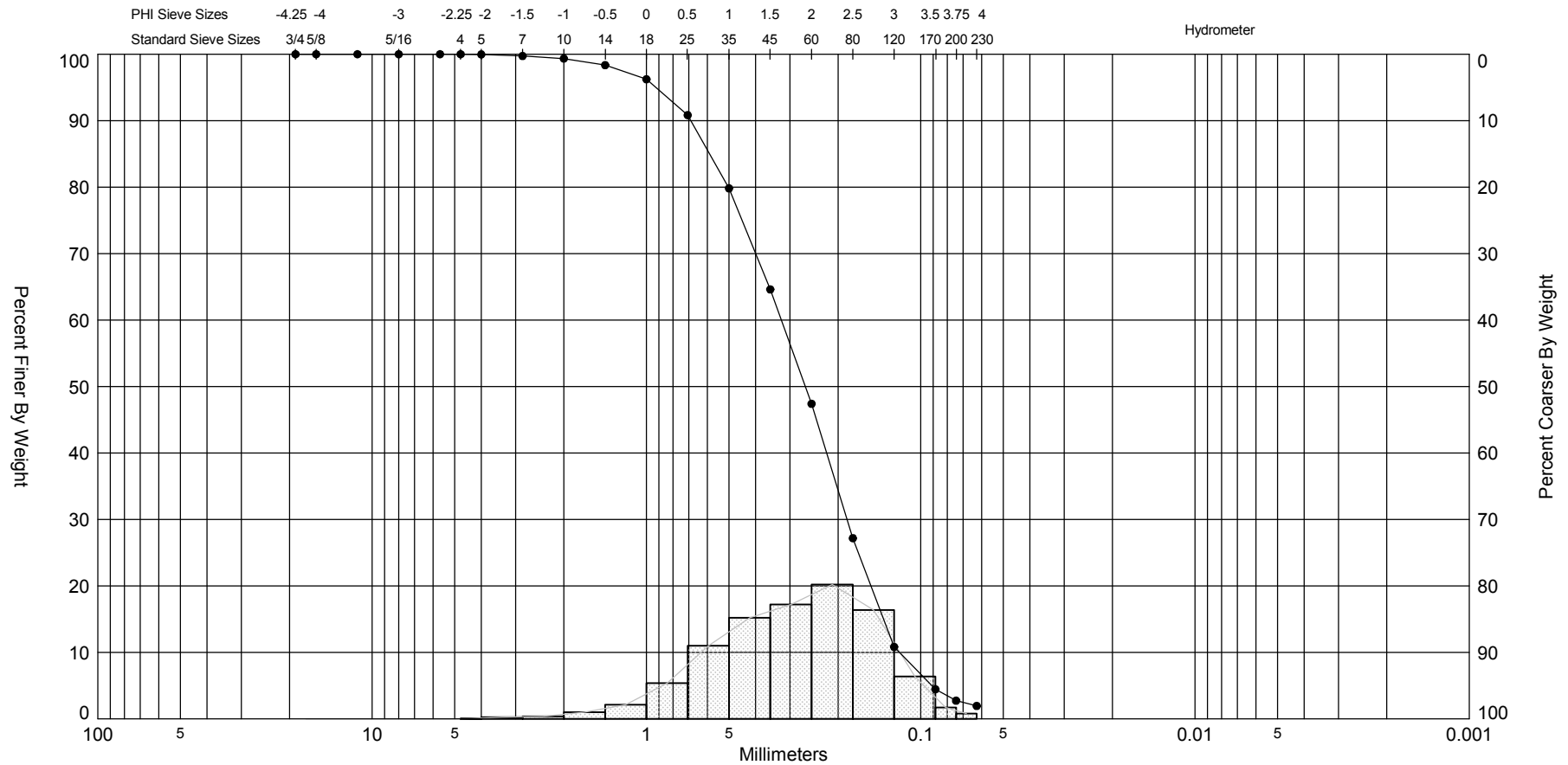
SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09




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	
SLS-16 #4	—●—	-43.8	SW	#200 - 4.66 #230 - 4.34	2.10	91.10		-0.72	0.3	2.23	1.79	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	01-12-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	929,036.75
												Northing (Y, ft):	1,111,597.55
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

SIEVE ANALYSIS SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



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	
SLS-16 #5	—●—	-48.3	SW	#200 - 2.73 #230 - 1.94	1.90	80.10	1.92	1.8	-0.46	3.15	0.98	Project Name:	South SLC Offshore Sand Search
Comments:												Analysis Date:	01-12-09
Depths and elevations based on measured values												Analyzed By:	LA
												Easting (X, ft):	929,036.75
												Northing (Y, ft):	1,111,597.55
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88
715 North Drive Suite E Melbourne, Florida 32934 Phone 321-751-1135 x 206 Fax													

**Appendix 2e**

**Vibracore gINT Sample Granularmetrics**

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-1 #1

Analysis Date: 02-20-09

Analyzed By: MO

Easting (ft): 913,519.38	Northing (ft): 1,099,655.79	Coordinate System: Florida State Plane East	Elevation (ft): -26.4 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 120.04	Wash Weight (g): 120.04	Pan Retained (g): 0.02	Sieve Loss (%): 0.03	Fines (%): #200 - 0.09 #230 - 0.07	Organics (%): 1.90	Carbonates (%): 80.30	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	0.04	0.03	0.04	0.03
4	-2.25	4.76	0.03	0.02	0.07	0.05
5	-2.00	4.00	0.30	0.25	0.37	0.30
7	-1.50	2.83	0.29	0.24	0.66	0.54
10	-1.00	2.00	0.97	0.81	1.63	1.35
14	-0.50	1.41	1.73	1.44	3.36	2.79
18	0.00	1.00	3.80	3.17	7.16	5.96
25	0.50	0.71	7.24	6.03	14.40	11.99
35	1.00	0.50	14.60	12.16	29.00	24.15
45	1.50	0.35	24.88	20.73	53.88	44.88
60	2.00	0.25	40.97	34.13	94.85	79.01
80	2.50	0.18	21.62	18.01	116.47	97.02
120	3.00	0.13	3.10	2.58	119.57	99.60
170	3.50	0.09	0.33	0.27	119.90	99.87
200	3.75	0.07	0.05	0.04	119.95	99.91
230	4.00	0.06	0.03	0.02	119.98	99.93

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.44	2.14	1.94	1.58	1.02	0.66	-0.15
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.41	0.38	0.8	-1.15	5.11	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-1 #2

Analysis Date: 02-20-09

Analyzed By: MO

Easting (ft): 913,519.38	Northing (ft): 1,099,655.79	Coordinate System: Florida State Plane East	Elevation (ft): -29.4 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 118.32	Wash Weight (g): 118.32	Pan Retained (g): 0.11	Sieve Loss (%): 0.12	Fines (%): #200 - 0.33 #230 - 0.22	Organics (%): 1.80	Carbonates (%): 81.00	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	1.68	1.42	1.68	1.42
11/16"	-3.50	11.31	0.00	0.00	1.68	1.42
5/16"	-3.00	8.00	0.77	0.65	2.45	2.07
3.5	-2.50	5.66	0.83	0.70	3.28	2.77
4	-2.25	4.76	0.39	0.33	3.67	3.10
5	-2.00	4.00	0.08	0.07	3.75	3.17
7	-1.50	2.83	0.75	0.63	4.50	3.80
10	-1.00	2.00	1.92	1.62	6.42	5.42
14	-0.50	1.41	4.25	3.59	10.67	9.01
18	0.00	1.00	8.71	7.36	19.38	16.37
25	0.50	0.71	15.47	13.07	34.85	29.44
35	1.00	0.50	23.88	20.18	58.73	49.62
45	1.50	0.35	26.83	22.68	85.56	72.30
60	2.00	0.25	22.62	19.12	108.18	91.42
80	2.50	0.18	8.11	6.85	116.29	98.27
120	3.00	0.13	1.19	1.01	117.48	99.28
170	3.50	0.09	0.32	0.27	117.80	99.55
200	3.75	0.07	0.14	0.12	117.94	99.67
230	4.00	0.06	0.13	0.11	118.07	99.78

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.26	1.81	1.57	1.01	0.33	-0.03	-1.13
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.82	0.57	1.16	-1.66	7.61	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-1 #3

Analysis Date: 02-20-09

Analyzed By: MO

Easting (ft): 913,519.38	Northing (ft): 1,099,655.79	Coordinate System: Florida State Plane East	Elevation (ft): -32.9 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 120.39	Wash Weight (g): 120.39	Pan Retained (g): 0.41	Sieve Loss (%): 0.23	Fines (%): #200 - 0.71 #230 - 0.58	Organics (%): 1.80	Carbonates (%): 79.00	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	0.40	0.33	0.40	0.33
5/16"	-3.00	8.00	0.00	0.00	0.40	0.33
3.5	-2.50	5.66	0.39	0.32	0.79	0.65
4	-2.25	4.76	0.71	0.59	1.50	1.24
5	-2.00	4.00	0.17	0.14	1.67	1.38
7	-1.50	2.83	1.32	1.10	2.99	2.48
10	-1.00	2.00	1.54	1.28	4.53	3.76
14	-0.50	1.41	3.67	3.05	8.20	6.81
18	0.00	1.00	7.27	6.04	15.47	12.85
25	0.50	0.71	13.15	10.92	28.62	23.77
35	1.00	0.50	21.55	17.90	50.17	41.67
45	1.50	0.35	27.65	22.97	77.82	64.64
60	2.00	0.25	25.74	21.38	103.56	86.02
80	2.50	0.18	12.80	10.63	116.36	96.65
120	3.00	0.13	2.13	1.77	118.49	98.42
170	3.50	0.09	0.74	0.61	119.23	99.03
200	3.75	0.07	0.31	0.26	119.54	99.29
230	4.00	0.06	0.16	0.13	119.70	99.42

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.42	1.95	1.74	1.18	0.53	0.14	-0.80
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.04	0.49	1.01	-1.04	5.4	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-1 #4

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 913,519.38	Northing (ft): 1,099,655.79	Coordinate System: Florida State Plane East	Elevation (ft): -36.4 NAVD 88
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USCS: SW-SM	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 120.91	Wash Weight (g): 114.60	Pan Retained (g): 0.09	Sieve Loss (%): -0.04	Fines (%): #200 - 5.79 #230 - 5.25	Organics (%): 1.90	Carbonates (%): 77.00	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	0.08	0.07	0.08	0.07
4	-2.25	4.76	0.16	0.13	0.24	0.20
5	-2.00	4.00	0.09	0.07	0.33	0.27
7	-1.50	2.83	0.15	0.12	0.48	0.39
10	-1.00	2.00	0.96	0.79	1.44	1.18
14	-0.50	1.41	2.08	1.72	3.52	2.90
18	0.00	1.00	4.85	4.01	8.37	6.91
25	0.50	0.71	9.68	8.01	18.05	14.92
35	1.00	0.50	18.58	15.37	36.63	30.29
45	1.50	0.35	26.82	22.18	63.45	52.47
60	2.00	0.25	29.40	24.32	92.85	76.79
80	2.50	0.18	12.71	10.51	105.56	87.30
120	3.00	0.13	5.11	4.23	110.67	91.53
170	3.50	0.09	2.42	2.00	113.09	93.53
200	3.75	0.07	0.82	0.68	113.91	94.21
230	4.00	0.06	0.65	0.54	114.56	94.75

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	2.34	1.96	1.44	0.83	0.54	-0.24
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.33	0.40	0.91	-0.32	4.06	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL\_DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-1 #5

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 913,519.38	Northing (ft): 1,099,655.79	Coordinate System: Florida State Plane East	Elevation (ft): -39.4 NAVD 88
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USCS: SW-SM	Munsell: Wet - 10YR-5/1 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 124.04	Wash Weight (g): 114.12	Pan Retained (g): 0.74	Sieve Loss (%): -0.06	Fines (%): #200 - 9.88 #230 - 8.53	Organics (%): 1.70	Carbonates (%): 67.70	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	0.14	0.11	0.14	0.11
4	-2.25	4.76	0.00	0.00	0.14	0.11
5	-2.00	4.00	0.17	0.14	0.31	0.25
7	-1.50	2.83	0.52	0.42	0.83	0.67
10	-1.00	2.00	1.15	0.93	1.98	1.60
14	-0.50	1.41	2.29	1.85	4.27	3.45
18	0.00	1.00	2.89	2.33	7.16	5.78
25	0.50	0.71	3.87	3.12	11.03	8.90
35	1.00	0.50	5.25	4.23	16.28	13.13
45	1.50	0.35	7.10	5.72	23.38	18.85
60	2.00	0.25	12.33	9.94	35.71	28.79
80	2.50	0.18	32.42	26.14	68.13	54.93
120	3.00	0.13	30.72	24.77	98.85	79.70
170	3.50	0.09	9.48	7.64	108.33	87.34
200	3.75	0.07	3.45	2.78	111.78	90.12
230	4.00	0.06	1.68	1.35	113.46	91.47

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	3.28	2.91	2.41	1.81	1.25	-0.17
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.09	0.23	1.07	-1.33	4.97	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-1 #6

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 913,519.38	Northing (ft): 1,099,655.79	Coordinate System: Florida State Plane East	Elevation (ft): -41.4 NAVD 88
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USCS: SW-SM	Munsell: Wet - 10YR-5/1 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 116.00	Wash Weight (g): 108.60	Pan Retained (g): 0.35	Sieve Loss (%): 0.01	Fines (%): #200 - 8.63 #230 - 6.69	Organics (%): 2.00	Carbonates (%): 84.40	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	0.04	0.03	0.04	0.03
5	-2.00	4.00	0.12	0.10	0.16	0.13
7	-1.50	2.83	0.43	0.37	0.59	0.50
10	-1.00	2.00	0.73	0.63	1.32	1.13
14	-0.50	1.41	1.51	1.30	2.83	2.43
18	0.00	1.00	2.49	2.15	5.32	4.58
25	0.50	0.71	3.83	3.30	9.15	7.88
35	1.00	0.50	6.82	5.88	15.97	13.76
45	1.50	0.35	10.86	9.36	26.83	23.12
60	2.00	0.25	22.77	19.63	49.60	42.75
80	2.50	0.18	28.09	24.22	77.69	66.97
120	3.00	0.13	17.61	15.18	95.30	82.15
170	3.50	0.09	7.69	6.63	102.99	88.78
200	3.75	0.07	3.00	2.59	105.99	91.37
230	4.00	0.06	2.25	1.94	108.24	93.31

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	3.14	2.76	2.15	1.55	1.12	0.06
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.96	0.26	1.01	-0.85	4.29	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-2 #1

Analysis Date: 02-20-09

Analyzed By: MO

Easting (ft): 913,501.56	Northing (ft): 1,101,606.78	Coordinate System: Florida State Plane East	Elevation (ft): -23.6 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 132.52	Wash Weight (g): 132.52	Pan Retained (g): 0.06	Sieve Loss (%): 0.02	Fines (%): #200 - 0.07 #230 - 0.06	Organics (%): 2.00	Carbonates (%): 84.40	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	0.15	0.11	0.15	0.11
4	-2.25	4.76	0.18	0.14	0.33	0.25
5	-2.00	4.00	0.32	0.24	0.65	0.49
7	-1.50	2.83	1.29	0.97	1.94	1.46
10	-1.00	2.00	2.63	1.98	4.57	3.44
14	-0.50	1.41	8.15	6.15	12.72	9.59
18	0.00	1.00	13.53	10.21	26.25	19.80
25	0.50	0.71	22.21	16.76	48.46	36.56
35	1.00	0.50	31.71	23.93	80.17	60.49
45	1.50	0.35	33.81	25.51	113.98	86.00
60	2.00	0.25	15.58	11.76	129.56	97.76
80	2.50	0.18	2.42	1.83	131.98	99.59
120	3.00	0.13	0.32	0.24	132.30	99.83
170	3.50	0.09	0.09	0.07	132.39	99.90
200	3.75	0.07	0.04	0.03	132.43	99.93
230	4.00	0.06	0.01	0.01	132.44	99.94

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.88	1.46	1.28	0.78	0.16	-0.19	-0.87
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.67	0.63	0.84	-0.64	3.56	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-2 #2

Analysis Date: 02-20-09

Analyzed By: MO

Easting (ft): 913,501.56	Northing (ft): 1,101,606.78	Coordinate System: Florida State Plane East	Elevation (ft): -26.1 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 112.68	Wash Weight (g): 112.68	Pan Retained (g): 0.45	Sieve Loss (%): 0.22	Fines (%): #200 - 0.82 #230 - 0.63	Organics (%): 1.90	Carbonates (%): 86.20	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	2.38	2.11	2.38	2.11
11/16"	-3.50	11.31	1.98	1.76	4.36	3.87
5/16"	-3.00	8.00	1.53	1.36	5.89	5.23
3.5	-2.50	5.66	2.05	1.82	7.94	7.05
4	-2.25	4.76	0.76	0.67	8.70	7.72
5	-2.00	4.00	0.61	0.54	9.31	8.26
7	-1.50	2.83	1.85	1.64	11.16	9.90
10	-1.00	2.00	4.59	4.07	15.75	13.97
14	-0.50	1.41	8.61	7.64	24.36	21.61
18	0.00	1.00	12.44	11.04	36.80	32.65
25	0.50	0.71	16.05	14.24	52.85	46.89
35	1.00	0.50	17.93	15.91	70.78	62.80
45	1.50	0.35	15.95	14.16	86.73	76.96
60	2.00	0.25	14.78	13.12	101.51	90.08
80	2.50	0.18	8.43	7.48	109.94	97.56
120	3.00	0.13	1.19	1.06	111.13	98.62
170	3.50	0.09	0.41	0.36	111.54	98.98
200	3.75	0.07	0.23	0.20	111.77	99.18
230	4.00	0.06	0.21	0.19	111.98	99.37

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.33	1.77	1.43	0.60	-0.35	-0.87	-3.08
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.35	0.78	1.51	-1.04	4.13	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-2 #3

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 913,501.56	Northing (ft): 1,101,606.78	Coordinate System: Florida State Plane East	Elevation (ft): -30.6 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 135.68	Wash Weight (g): 130.27	Pan Retained (g): 0.20	Sieve Loss (%): 0.18	Fines (%): #200 - 4.74 #230 - 4.31	Organics (%): 1.80	Carbonates (%): 75.10	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.01	0.01	0.01	0.01
7	-1.50	2.83	0.31	0.23	0.32	0.24
10	-1.00	2.00	0.58	0.43	0.90	0.67
14	-0.50	1.41	1.95	1.44	2.85	2.11
18	0.00	1.00	3.42	2.52	6.27	4.63
25	0.50	0.71	7.20	5.31	13.47	9.94
35	1.00	0.50	17.19	12.67	30.66	22.61
45	1.50	0.35	35.15	25.91	65.81	48.52
60	2.00	0.25	36.85	27.16	102.66	75.68
80	2.50	0.18	17.81	13.13	120.47	88.81
120	3.00	0.13	5.05	3.72	125.52	92.53
170	3.50	0.09	2.47	1.82	127.99	94.35
200	3.75	0.07	1.24	0.91	129.23	95.26
230	4.00	0.06	0.59	0.43	129.82	95.69

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.68	2.32	1.99	1.53	1.05	0.74	0.03

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.45	0.37	0.82	-0.3	4.3

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-2 #4

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 913,501.56	Northing (ft): 1,101,606.78	Coordinate System: Florida State Plane East	Elevation (ft): -35.1 NAVD 88
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USCS: SW-SM	Munsell: Wet - 10YR-5/1 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 111.86	Wash Weight (g): 107.21	Pan Retained (g): 0.17	Sieve Loss (%): 0.13	Fines (%): #200 - 5.24 #230 - 4.44	Organics (%): 1.80	Carbonates (%): 78.70	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	0.15	0.13	0.15	0.13
4	-2.25	4.76	0.16	0.14	0.31	0.27
5	-2.00	4.00	0.47	0.42	0.78	0.69
7	-1.50	2.83	0.76	0.68	1.54	1.37
10	-1.00	2.00	1.62	1.45	3.16	2.82
14	-0.50	1.41	2.77	2.48	5.93	5.30
18	0.00	1.00	3.85	3.44	9.78	8.74
25	0.50	0.71	5.25	4.69	15.03	13.43
35	1.00	0.50	7.49	6.70	22.52	20.13
45	1.50	0.35	9.63	8.61	32.15	28.74
60	2.00	0.25	18.28	16.34	50.43	45.08
80	2.50	0.18	34.07	30.46	84.50	75.54
120	3.00	0.13	16.67	14.90	101.17	90.44
170	3.50	0.09	3.67	3.28	104.84	93.72
200	3.75	0.07	1.16	1.04	106.00	94.76
230	4.00	0.06	0.89	0.80	106.89	95.56

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.82	2.78	2.49	2.08	1.28	0.69	-0.56
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.73	0.30	1.11	-1.16	4.37	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-2 #5

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 913,501.56	Northing (ft): 1,101,606.78	Coordinate System: Florida State Plane East	Elevation (ft): -38.1 NAVD 88
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USCS: SW-SM	Munsell: Wet - 10YR-5/1 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 119.21	Wash Weight (g): 111.72	Pan Retained (g): 0.74	Sieve Loss (%): 0.00	Fines (%): #200 - 7.73 #230 - 6.92	Organics (%): 1.90	Carbonates (%): 78.90	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	0.10	0.08	0.10	0.08
5/16"	-3.00	8.00	0.00	0.00	0.10	0.08
3.5	-2.50	5.66	0.17	0.14	0.27	0.22
4	-2.25	4.76	0.00	0.00	0.27	0.22
5	-2.00	4.00	0.02	0.02	0.29	0.24
7	-1.50	2.83	0.17	0.14	0.46	0.38
10	-1.00	2.00	0.54	0.45	1.00	0.83
14	-0.50	1.41	1.22	1.02	2.22	1.85
18	0.00	1.00	1.95	1.64	4.17	3.49
25	0.50	0.71	3.26	2.73	7.43	6.22
35	1.00	0.50	6.46	5.42	13.89	11.64
45	1.50	0.35	12.14	10.18	26.03	21.82
60	2.00	0.25	23.31	19.55	49.34	41.37
80	2.50	0.18	38.04	31.91	87.38	73.28
120	3.00	0.13	15.61	13.09	102.99	86.37
170	3.50	0.09	5.08	4.26	108.07	90.63
200	3.75	0.07	1.95	1.64	110.02	92.27
230	4.00	0.06	0.96	0.81	110.98	93.08

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	2.91	2.57	2.14	1.58	1.21	0.28
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.93	0.26	0.9	-1.21	6.54	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-2 #6

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft):  
913,501.56

Northing (ft):  
1,101,606.78

Coordinate System:  
Florida State Plane East

Elevation (ft):  
-41.1 NAVD 88

USCS:  
SW-SM

Munsell:  
Wet - 10YR-5/1  
Dry - 10YR-6/1

Comments:

Dry Weight (g): 111.76	Wash Weight (g): 105.86	Pan Retained (g): 0.18	Sieve Loss (%): 0.00	Fines (%): #200 - 6.22 #230 - 5.43	Organics (%): 1.80	Carbonates (%): 70.70	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	0.99	0.89	0.99	0.89
5/16"	-3.00	8.00	0.00	0.00	0.99	0.89
3.5	-2.50	5.66	0.31	0.28	1.30	1.17
4	-2.25	4.76	0.14	0.13	1.44	1.30
5	-2.00	4.00	0.45	0.40	1.89	1.70
7	-1.50	2.83	0.69	0.62	2.58	2.32
10	-1.00	2.00	1.53	1.37	4.11	3.69
14	-0.50	1.41	2.35	2.10	6.46	5.79
18	0.00	1.00	3.24	2.90	9.70	8.69
25	0.50	0.71	4.83	4.32	14.53	13.01
35	1.00	0.50	8.79	7.87	23.32	20.88
45	1.50	0.35	14.48	12.96	37.80	33.84
60	2.00	0.25	28.61	25.60	66.41	59.44
80	2.50	0.18	24.99	22.36	91.40	81.80
120	3.00	0.13	9.02	8.07	100.42	89.87
170	3.50	0.09	3.19	2.85	103.61	92.72
200	3.75	0.07	1.19	1.06	104.80	93.78
230	4.00	0.06	0.88	0.79	105.68	94.57

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	2.64	2.35	1.82	1.16	0.69	-0.69
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.55	0.34	1.17	-1.54	7.02	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-3 #1

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 913,570.06	Northing (ft): 1,103,594.69	Coordinate System: Florida State Plane East	Elevation (ft): -27.6 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 121.47	Wash Weight (g): 121.47	Pan Retained (g): 0.06	Sieve Loss (%): 0.07	Fines (%): #200 - 0.17 #230 - 0.13	Organics (%): 1.90	Carbonates (%): 75.60	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	0.32	0.26	0.32	0.26
3.5	-2.50	5.66	0.05	0.04	0.37	0.30
4	-2.25	4.76	0.20	0.16	0.57	0.46
5	-2.00	4.00	0.27	0.22	0.84	0.68
7	-1.50	2.83	0.55	0.45	1.39	1.13
10	-1.00	2.00	0.86	0.71	2.25	1.84
14	-0.50	1.41	1.78	1.47	4.03	3.31
18	0.00	1.00	3.92	3.23	7.95	6.54
25	0.50	0.71	8.82	7.26	16.77	13.80
35	1.00	0.50	19.02	15.66	35.79	29.46
45	1.50	0.35	30.43	25.05	66.22	54.51
60	2.00	0.25	36.65	30.17	102.87	84.68
80	2.50	0.18	15.15	12.47	118.02	97.15
120	3.00	0.13	2.78	2.29	120.80	99.44
170	3.50	0.09	0.39	0.32	121.19	99.76
200	3.75	0.07	0.09	0.07	121.28	99.83
230	4.00	0.06	0.05	0.04	121.33	99.87

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.41	1.99	1.84	1.41	0.86	0.57	-0.24
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.28	0.41	0.84	-1.29	6.69	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-3 #2

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 913,570.06	Northing (ft): 1,103,594.69	Coordinate System: Florida State Plane East	Elevation (ft): -30.6 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 117.97	Wash Weight (g): 117.97	Pan Retained (g): 0.55	Sieve Loss (%): 0.08	Fines (%): #200 - 0.71 #230 - 0.56	Organics (%): 1.90	Carbonates (%): 80.30	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	1.15	0.97	1.15	0.97
5/16"	-3.00	8.00	0.00	0.00	1.15	0.97
3.5	-2.50	5.66	0.47	0.40	1.62	1.37
4	-2.25	4.76	0.30	0.25	1.92	1.62
5	-2.00	4.00	0.40	0.34	2.32	1.96
7	-1.50	2.83	1.13	0.96	3.45	2.92
10	-1.00	2.00	2.35	1.99	5.80	4.91
14	-0.50	1.41	5.32	4.51	11.12	9.42
18	0.00	1.00	9.79	8.30	20.91	17.72
25	0.50	0.71	16.29	13.81	37.20	31.53
35	1.00	0.50	24.41	20.69	61.61	52.22
45	1.50	0.35	25.77	21.84	87.38	74.06
60	2.00	0.25	17.91	15.18	105.29	89.24
80	2.50	0.18	8.92	7.56	114.21	96.80
120	3.00	0.13	1.79	1.52	116.00	98.32
170	3.50	0.09	0.72	0.61	116.72	98.93
200	3.75	0.07	0.43	0.36	117.15	99.29
230	4.00	0.06	0.18	0.15	117.33	99.44

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.38	1.83	1.53	0.95	0.26	-0.10	-0.99
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.83	0.56	1.09	-0.99	5.68	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-3 #3

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 913,570.06	Northing (ft): 1,103,594.69	Coordinate System: Florida State Plane East	Elevation (ft): -34.1 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 120.31	Wash Weight (g): 118.30	Pan Retained (g): 0.55	Sieve Loss (%): 0.35	Fines (%): #200 - 2.62 #230 - 2.47	Organics (%): 1.90	Carbonates (%): 79.10	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	1.15	0.96	1.15	0.96
5/16"	-3.00	8.00	0.00	0.00	1.15	0.96
3.5	-2.50	5.66	0.47	0.39	1.62	1.35
4	-2.25	4.76	0.30	0.25	1.92	1.60
5	-2.00	4.00	0.40	0.33	2.32	1.93
7	-1.50	2.83	1.13	0.94	3.45	2.87
10	-1.00	2.00	2.35	1.95	5.80	4.82
14	-0.50	1.41	5.32	4.42	11.12	9.24
18	0.00	1.00	9.79	8.14	20.91	17.38
25	0.50	0.71	16.29	13.54	37.20	30.92
35	1.00	0.50	24.41	20.29	61.61	51.21
45	1.50	0.35	25.77	21.42	87.38	72.63
60	2.00	0.25	17.91	14.89	105.29	87.52
80	2.50	0.18	8.92	7.41	114.21	94.93
120	3.00	0.13	1.79	1.49	116.00	96.42
170	3.50	0.09	0.72	0.60	116.72	97.02
200	3.75	0.07	0.43	0.36	117.15	97.38
230	4.00	0.06	0.18	0.15	117.33	97.53

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.52	1.88	1.58	0.97	0.28	-0.08	-0.98
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.83	0.56	1.09	-0.99	5.68	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-3 #4

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 913,570.06	Northing (ft): 1,103,594.69	Coordinate System: Florida State Plane East	Elevation (ft): -35.6 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 117.37	Wash Weight (g): 117.37	Pan Retained (g): 0.32	Sieve Loss (%): 0.14	Fines (%): #200 - 0.61 #230 - 0.43	Organics (%): 2.00	Carbonates (%): 76.40	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	1.00	0.85	1.00	0.85
3.5	-2.50	5.66	0.22	0.19	1.22	1.04
4	-2.25	4.76	0.31	0.26	1.53	1.30
5	-2.00	4.00	0.20	0.17	1.73	1.47
7	-1.50	2.83	0.38	0.32	2.11	1.79
10	-1.00	2.00	0.88	0.75	2.99	2.54
14	-0.50	1.41	2.11	1.80	5.10	4.34
18	0.00	1.00	4.58	3.90	9.68	8.24
25	0.50	0.71	9.09	7.74	18.77	15.98
35	1.00	0.50	17.69	15.07	36.46	31.05
45	1.50	0.35	26.09	22.23	62.55	53.28
60	2.00	0.25	31.07	26.47	93.62	79.75
80	2.50	0.18	16.70	14.23	110.32	93.98
120	3.00	0.13	4.92	4.19	115.24	98.17
170	3.50	0.09	1.09	0.93	116.33	99.10
200	3.75	0.07	0.34	0.29	116.67	99.39
230	4.00	0.06	0.21	0.18	116.88	99.57

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.62	2.15	1.91	1.43	0.80	0.50	-0.42
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.28	0.41	0.99	-1.34	6.94	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-3 #5

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 913,570.06	Northing (ft): 1,103,594.69	Coordinate System: Florida State Plane East	Elevation (ft): -40.6 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/1 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 120.77	Wash Weight (g): 116.04	Pan Retained (g): 0.14	Sieve Loss (%): 0.06	Fines (%): #200 - 4.69 #230 - 4.11	Organics (%): 2.00	Carbonates (%): 69.90	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	0.45	0.37	0.45	0.37
4	-2.25	4.76	0.00	0.00	0.45	0.37
5	-2.00	4.00	0.35	0.29	0.80	0.66
7	-1.50	2.83	0.84	0.70	1.64	1.36
10	-1.00	2.00	1.62	1.34	3.26	2.70
14	-0.50	1.41	2.02	1.67	5.28	4.37
18	0.00	1.00	2.78	2.30	8.06	6.67
25	0.50	0.71	3.79	3.14	11.85	9.81
35	1.00	0.50	5.65	4.68	17.50	14.49
45	1.50	0.35	9.99	8.27	27.49	22.76
60	2.00	0.25	28.37	23.49	55.86	46.25
80	2.50	0.18	36.72	30.40	92.58	76.65
120	3.00	0.13	17.83	14.76	110.41	91.41
170	3.50	0.09	3.70	3.06	114.11	94.47
200	3.75	0.07	1.02	0.84	115.13	95.31
230	4.00	0.06	0.70	0.58	115.83	95.89

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.66	2.75	2.47	2.06	1.55	1.09	-0.36
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.81	0.29	1.02	-1.52	6.13	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-4 #1

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 912,707.73	Northing (ft): 1,105,643.32	Coordinate System: Florida State Plane East	Elevation (ft): -28.6 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 120.27	Wash Weight (g): 120.27	Pan Retained (g): 0.08	Sieve Loss (%): 0.07	Fines (%): #200 - 0.16 #230 - 0.15	Organics (%): 2.00	Carbonates (%): 76.70	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	0.75	0.62	0.75	0.62
4	-2.25	4.76	0.23	0.19	0.98	0.81
5	-2.00	4.00	0.27	0.22	1.25	1.03
7	-1.50	2.83	0.35	0.29	1.60	1.32
10	-1.00	2.00	0.85	0.71	2.45	2.03
14	-0.50	1.41	2.44	2.03	4.89	4.06
18	0.00	1.00	4.26	3.54	9.15	7.60
25	0.50	0.71	9.29	7.72	18.44	15.32
35	1.00	0.50	19.85	16.50	38.29	31.82
45	1.50	0.35	33.67	28.00	71.96	59.82
60	2.00	0.25	33.03	27.46	104.99	87.28
80	2.50	0.18	13.04	10.84	118.03	98.12
120	3.00	0.13	1.68	1.40	119.71	99.52
170	3.50	0.09	0.30	0.25	120.01	99.77
200	3.75	0.07	0.08	0.07	120.09	99.84
230	4.00	0.06	0.01	0.01	120.10	99.85

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.36	1.94	1.78	1.32	0.79	0.52	-0.37
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.2	0.44	0.85	-1.35	6.57	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-4 #2

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft):

912,707.73

Northing (ft):

1,105,643.32

Coordinate System:

Florida State Plane East

Elevation (ft):

-33.1 NAVD 88

USCS:

SW

Munsell:

Wet - 10YR-6/2  
Dry - 2.5Y-7/1

Comments:

Dry Weight (g):

118.42

Wash Weight (g):

116.36

Pan Retained (g):

0.06

Sieve Loss (%):

0.03

Fines (%):

#200 - 1.95  
#230 - 1.82

Organics (%):

2.00

Carbonates (%):

87.70

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

8.87

7.49

8.87

7.49

5/16"

-3.00

8.00

0.00

0.00

8.87

7.49

3.5

-2.50

5.66

4.70

3.97

13.57

11.46

4

-2.25

4.76

2.28

1.93

15.85

13.39

5

-2.00

4.00

3.20

2.70

19.05

16.09

7

-1.50

2.83

6.47

5.46

25.52

21.55

10

-1.00

2.00

7.88

6.65

33.40

28.20

14

-0.50

1.41

9.94

8.39

43.34

36.59

18

0.00

1.00

10.09

8.52

53.43

45.11

25

0.50

0.71

10.97

9.26

64.40

54.37

35

1.00

0.50

13.31

11.24

77.71

65.61

45

1.50

0.35

14.75

12.46

92.46

78.07

60

2.00

0.25

12.77

10.78

105.23

88.85

80

2.50

0.18

8.03

6.78

113.26

95.63

120

3.00

0.13

1.82

1.54

115.08

97.17

170

3.50

0.09

0.73

0.62

115.81

97.79

200

3.75

0.07

0.31

0.26

116.12

98.05

230

4.00

0.06

0.15

0.13

116.27

98.18

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.45

1.78

1.38

0.26

-1.24

-2.01

-3.42

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

-0.08

1.06

1.77

-0.49

2.43

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-4 #3

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft):  
912,707.73

Northing (ft):  
1,105,643.32

Coordinate System:  
Florida State Plane East

Elevation (ft):  
-36.1 NAVD 88

USCS: SW Munsell: Wet - 10YR-4/1 Dry - 10YR-6/1 Comments:

Dry Weight (g): 120.09 Wash Weight (g): 115.27 Pan Retained (g): 0.23 Sieve Loss (%): 0.00 Fines (%): #200 - 4.97 #230 - 4.20 Organics (%): 1.90 Carbonates (%): 77.40 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	0.54	0.45	0.54	0.45
5/16"	-3.00	8.00	0.53	0.44	1.07	0.89
3.5	-2.50	5.66	0.17	0.14	1.24	1.03
4	-2.25	4.76	0.13	0.11	1.37	1.14
5	-2.00	4.00	0.27	0.22	1.64	1.36
7	-1.50	2.83	0.83	0.69	2.47	2.05
10	-1.00	2.00	0.96	0.80	3.43	2.85
14	-0.50	1.41	1.97	1.64	5.40	4.49
18	0.00	1.00	3.18	2.65	8.58	7.14
25	0.50	0.71	5.22	4.35	13.80	11.49
35	1.00	0.50	9.86	8.21	23.66	19.70
45	1.50	0.35	16.13	13.43	39.79	33.13
60	2.00	0.25	29.55	24.61	69.34	57.74
80	2.50	0.18	28.93	24.09	98.27	81.83
120	3.00	0.13	11.49	9.57	109.76	91.40
170	3.50	0.09	3.30	2.75	113.06	94.15
200	3.75	0.07	1.06	0.88	114.12	95.03
230	4.00	0.06	0.92	0.77	115.04	95.80

Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
	3.74	2.61	2.36	1.84	1.20	0.77	-0.40
	1.61	0.33	1.11	-1.56	7.4		

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-4 #4

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 912,707.73	Northing (ft): 1,105,643.32	Coordinate System: Florida State Plane East	Elevation (ft): -39.6 NAVD 88
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USCS: SW-SM	Munsell: Wet - 10YR-5/1 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 111.15	Wash Weight (g): 106.35	Pan Retained (g): 0.39	Sieve Loss (%): 0.13	Fines (%): #200 - 5.35 #230 - 4.81	Organics (%): 1.90	Carbonates (%): 74.80	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	0.19	0.17	0.19	0.17
4	-2.25	4.76	0.02	0.02	0.21	0.19
5	-2.00	4.00	0.38	0.34	0.59	0.53
7	-1.50	2.83	1.26	1.13	1.85	1.66
10	-1.00	2.00	1.03	0.93	2.88	2.59
14	-0.50	1.41	1.56	1.40	4.44	3.99
18	0.00	1.00	1.97	1.77	6.41	5.76
25	0.50	0.71	3.78	3.40	10.19	9.16
35	1.00	0.50	7.25	6.52	17.44	15.68
45	1.50	0.35	14.72	13.24	32.16	28.92
60	2.00	0.25	29.13	26.21	61.29	55.13
80	2.50	0.18	31.88	28.68	93.17	83.81
120	3.00	0.13	7.88	7.09	101.05	90.90
170	3.50	0.09	2.91	2.62	103.96	93.52
200	3.75	0.07	1.26	1.13	105.22	94.65
230	4.00	0.06	0.60	0.54	105.82	95.19

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.91	2.51	2.35	1.90	1.35	1.01	-0.21
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.69	0.31	0.98	-1.33	6.05	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-4 #5

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 912,707.73	Northing (ft): 1,105,643.32	Coordinate System: Florida State Plane East	Elevation (ft): -43.6 NAVD 88
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USCS: SW-SM	Munsell: Wet - 10YR-5/1 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 119.43	Wash Weight (g): 112.25	Pan Retained (g): 0.53	Sieve Loss (%): 0.21	Fines (%): #200 - 7.87 #230 - 6.68	Organics (%): 2.10	Carbonates (%): 75.20	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	0.48	0.40	0.48	0.40
4	-2.25	4.76	0.28	0.23	0.76	0.63
5	-2.00	4.00	0.26	0.22	1.02	0.85
7	-1.50	2.83	0.47	0.39	1.49	1.24
10	-1.00	2.00	0.77	0.64	2.26	1.88
14	-0.50	1.41	1.35	1.13	3.61	3.01
18	0.00	1.00	2.97	2.49	6.58	5.50
25	0.50	0.71	6.33	5.30	12.91	10.80
35	1.00	0.50	14.18	11.87	27.09	22.67
45	1.50	0.35	22.14	18.54	49.23	41.21
60	2.00	0.25	28.34	23.73	77.57	64.94
80	2.50	0.18	18.91	15.83	96.48	80.77
120	3.00	0.13	8.52	7.13	105.00	87.90
170	3.50	0.09	3.47	2.91	108.47	90.81
200	3.75	0.07	1.58	1.32	110.05	92.13
230	4.00	0.06	1.42	1.19	111.47	93.32

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	2.73	2.32	1.69	1.06	0.72	-0.10
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.54	0.34	1.01	-0.73	5.13	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-5 #1

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 912,381.37	Northing (ft): 1,107,634.78	Coordinate System: Florida State Plane East	Elevation (ft): -35.2 NAVD 88
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USCS: SW WITH GRAVEL	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 128.50	Wash Weight (g): 127.35	Pan Retained (g): 0.05	Sieve Loss (%): 0.26	Fines (%): #200 - 1.29 #230 - 1.20	Organics (%): 1.90	Carbonates (%): 85.60	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	19.00	14.79	19.00	14.79
5/8"	-4.00	16.00	3.46	2.69	22.46	17.48
11/16"	-3.50	11.31	14.20	11.05	36.66	28.53
5/16"	-3.00	8.00	0.00	0.00	36.66	28.53
3.5	-2.50	5.66	3.66	2.85	40.32	31.38
4	-2.25	4.76	1.01	0.79	41.33	32.17
5	-2.00	4.00	2.53	1.97	43.86	34.14
7	-1.50	2.83	4.11	3.20	47.97	37.34
10	-1.00	2.00	5.38	4.19	53.35	41.53
14	-0.50	1.41	6.96	5.42	60.31	46.95
18	0.00	1.00	6.58	5.12	66.89	52.07
25	0.50	0.71	8.23	6.40	75.12	58.47
35	1.00	0.50	11.89	9.25	87.01	67.72
45	1.50	0.35	16.51	12.85	103.52	80.57
60	2.00	0.25	15.04	11.70	118.56	92.27
80	2.50	0.18	6.24	4.86	124.80	97.13
120	3.00	0.13	1.27	0.99	126.07	98.12
170	3.50	0.09	0.52	0.40	126.59	98.52
200	3.75	0.07	0.25	0.19	126.84	98.71
230	4.00	0.06	0.12	0.09	126.96	98.80

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.28	1.65	1.28	-0.20	-3.32	-4.14	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	-0.87	1.83	1.97	0.33	1.92	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-5 #2

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 912,381.37	Northing (ft): 1,107,634.78	Coordinate System: Florida State Plane East	Elevation (ft): -38.7 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/1 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 113.34	Wash Weight (g): 113.34	Pan Retained (g): 1.19	Sieve Loss (%): 0.00	Fines (%): #200 - 1.79 #230 - 1.04	Organics (%): 1.80	Carbonates (%): 70.00	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	2.29	2.02	2.29	2.02
5/16"	-3.00	8.00	0.00	0.00	2.29	2.02
3.5	-2.50	5.66	0.17	0.15	2.46	2.17
4	-2.25	4.76	0.07	0.06	2.53	2.23
5	-2.00	4.00	0.38	0.34	2.91	2.57
7	-1.50	2.83	0.79	0.70	3.70	3.27
10	-1.00	2.00	0.97	0.86	4.67	4.13
14	-0.50	1.41	1.99	1.76	6.66	5.89
18	0.00	1.00	2.60	2.29	9.26	8.18
25	0.50	0.71	3.84	3.39	13.10	11.57
35	1.00	0.50	6.38	5.63	19.48	17.20
45	1.50	0.35	11.44	10.09	30.92	27.29
60	2.00	0.25	25.79	22.75	56.71	50.04
80	2.50	0.18	40.42	35.66	97.13	85.70
120	3.00	0.13	10.74	9.48	107.87	95.18
170	3.50	0.09	1.81	1.60	109.68	96.78
200	3.75	0.07	1.62	1.43	111.30	98.21
230	4.00	0.06	0.85	0.75	112.15	98.96

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.99	2.48	2.35	2.00	1.39	0.89	-0.75
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.66	0.32	1.24	-2.19	9.42	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL\_DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-5 #3

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 912,381.37	Northing (ft): 1,107,634.78	Coordinate System: Florida State Plane East	Elevation (ft): -41.2 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/1 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 116.33	Wash Weight (g): 116.33	Pan Retained (g): 1.65	Sieve Loss (%): 0.00	Fines (%): #200 - 3.19 #230 - 1.42	Organics (%): 1.70	Carbonates (%): 66.60	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	0.13	0.11	0.13	0.11
4	-2.25	4.76	0.15	0.13	0.28	0.24
5	-2.00	4.00	0.08	0.07	0.36	0.31
7	-1.50	2.83	0.49	0.42	0.85	0.73
10	-1.00	2.00	0.61	0.52	1.46	1.25
14	-0.50	1.41	1.33	1.14	2.79	2.39
18	0.00	1.00	2.29	1.97	5.08	4.36
25	0.50	0.71	3.63	3.12	8.71	7.48
35	1.00	0.50	6.74	5.79	15.45	13.27
45	1.50	0.35	12.34	10.61	27.79	23.88
60	2.00	0.25	29.38	25.26	57.17	49.14
80	2.50	0.18	37.79	32.49	94.96	81.63
120	3.00	0.13	12.37	10.63	107.33	92.26
170	3.50	0.09	2.60	2.24	109.93	94.50
200	3.75	0.07	2.69	2.31	112.62	96.81
230	4.00	0.06	2.06	1.77	114.68	98.58

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.55	2.61	2.40	2.01	1.52	1.13	0.10
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.87	0.27	0.93	-1.05	5.84	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: PS-5 #4

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft):  
912,381.37

Northing (ft):  
1,107,634.78

Coordinate System:  
Florida State Plane East

Elevation (ft):  
-42.7 NAVD 88

USCS:  
SW WITH GRAVEL

Munsell:  
Wet - 10YR-5/1  
Dry - 10YR-6/1

Comments:

Dry Weight (g): 117.00	Wash Weight (g): 117.00	Pan Retained (g): 0.60	Sieve Loss (%): 0.00	Fines (%): #200 - 0.79 #230 - 0.51	Organics (%): 1.90	Carbonates (%): 77.90	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	14.91	12.74	14.91	12.74
5/8"	-4.00	16.00	0.00	0.00	14.91	12.74
11/16"	-3.50	11.31	7.77	6.64	22.68	19.38
5/16"	-3.00	8.00	0.00	0.00	22.68	19.38
3.5	-2.50	5.66	1.72	1.47	24.40	20.85
4	-2.25	4.76	0.86	0.74	25.26	21.59
5	-2.00	4.00	1.00	0.85	26.26	22.44
7	-1.50	2.83	2.73	2.33	28.99	24.77
10	-1.00	2.00	3.11	2.66	32.10	27.43
14	-0.50	1.41	4.64	3.97	36.74	31.40
18	0.00	1.00	5.27	4.50	42.01	35.90
25	0.50	0.71	6.09	5.21	48.10	41.11
35	1.00	0.50	8.48	7.25	56.58	48.36
45	1.50	0.35	13.11	11.21	69.69	59.57
60	2.00	0.25	19.35	16.54	89.04	76.11
80	2.50	0.18	19.49	16.66	108.53	92.77
120	3.00	0.13	5.29	4.52	113.82	97.29
170	3.50	0.09	1.37	1.17	115.19	98.46
200	3.75	0.07	0.88	0.75	116.07	99.21
230	4.00	0.06	0.33	0.28	116.40	99.49

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.75	2.24	1.97	1.07	-1.46	-3.64	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.07	0.95	1.83	-0.01	2.35	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-06 #1

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 932,194.1	Northing (ft): 1,078,461.91	Coordinate System: Florida State Plane East	Elevation (ft): -26.3 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 99.44	Wash Weight (g): 98.46	Pan Retained (g): 0.06	Sieve Loss (%): 0.64	Fines (%): #200 - 1.76 #230 - 1.71	Organics (%): 2.00	Carbonates (%): 85.50	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	0.65	0.65	0.65	0.65
3.5	-2.50	5.66	0.04	0.04	0.69	0.69
4	-2.25	4.76	0.00	0.00	0.69	0.69
5	-2.00	4.00	0.15	0.15	0.84	0.84
7	-1.50	2.83	0.69	0.69	1.53	1.53
10	-1.00	2.00	2.15	2.16	3.68	3.69
14	-0.50	1.41	5.55	5.58	9.23	9.27
18	0.00	1.00	10.87	10.93	20.10	20.20
25	0.50	0.71	17.60	17.70	37.70	37.90
35	1.00	0.50	24.68	24.82	62.38	62.72
45	1.50	0.35	21.88	22.00	84.26	84.72
60	2.00	0.25	10.66	10.72	94.92	95.44
80	2.50	0.18	1.99	2.00	96.91	97.44
120	3.00	0.13	0.49	0.49	97.40	97.93
170	3.50	0.09	0.22	0.22	97.62	98.15
200	3.75	0.07	0.09	0.09	97.71	98.24
230	4.00	0.06	0.05	0.05	97.76	98.29

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.98	1.48	1.28	0.74	0.14	-0.19	-0.88
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.64	0.64	0.89	-0.74	5.07	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-06 #2

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 932,194.1	Northing (ft): 1,078,461.91	Coordinate System: Florida State Plane East	Elevation (ft): -30.3 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 150.03	Wash Weight (g): 146.48	Pan Retained (g): 0.13	Sieve Loss (%): 0.19	Fines (%): #200 - 2.78 #230 - 2.65	Organics (%): 1.90	Carbonates (%): 72.50	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	0.00	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	0.04	0.03	0.06	0.04
14	-0.50	1.41	0.33	0.22	0.39	0.26
18	0.00	1.00	1.93	1.29	2.32	1.55
25	0.50	0.71	6.46	4.31	8.78	5.86
35	1.00	0.50	17.95	11.96	26.73	17.82
45	1.50	0.35	37.87	25.24	64.60	43.06
60	2.00	0.25	54.58	36.38	119.18	79.44
80	2.50	0.18	22.04	14.69	141.22	94.13
120	3.00	0.13	2.87	1.91	144.09	96.04
170	3.50	0.09	1.27	0.85	145.36	96.89
200	3.75	0.07	0.50	0.33	145.86	97.22
230	4.00	0.06	0.20	0.13	146.06	97.35

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.73	2.16	1.94	1.60	1.14	0.92	0.40
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.52	0.35	0.63	-0.25	4.13	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-06 #3

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 932,194.1	Northing (ft): 1,078,461.91	Coordinate System: Florida State Plane East	Elevation (ft): -31.8 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 114.16	Wash Weight (g): 111.30	Pan Retained (g): 0.08	Sieve Loss (%): 0.38	Fines (%): #200 - 3.23 #230 - 2.96	Organics (%): 2.00	Carbonates (%): 83.20	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.05	0.04	0.05	0.04
10	-1.00	2.00	0.54	0.47	0.59	0.51
14	-0.50	1.41	2.11	1.85	2.70	2.36
18	0.00	1.00	6.48	5.68	9.18	8.04
25	0.50	0.71	14.92	13.07	24.10	21.11
35	1.00	0.50	25.68	22.49	49.78	43.60
45	1.50	0.35	29.39	25.74	79.17	69.34
60	2.00	0.25	21.18	18.55	100.35	87.89
80	2.50	0.18	6.06	5.31	106.41	93.20
120	3.00	0.13	2.43	2.13	108.84	95.33
170	3.50	0.09	1.22	1.07	110.06	96.40
200	3.75	0.07	0.42	0.37	110.48	96.77
230	4.00	0.06	0.31	0.27	110.79	97.04

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.92	1.90	1.65	1.12	0.59	0.30	-0.27
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.08	0.47	0.8	0.14	3.68	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-06 #4

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 932,194.1	Northing (ft): 1,078,461.91	Coordinate System: Florida State Plane East	Elevation (ft): -36.8 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 107.37	Wash Weight (g): 105.59	Pan Retained (g): 0.08	Sieve Loss (%): 0.11	Fines (%): #200 - 2.04 #230 - 1.84	Organics (%): 1.80	Carbonates (%): 73.80	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	0.00	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	0.11	0.10	0.11	0.10
14	-0.50	1.41	0.38	0.35	0.49	0.45
18	0.00	1.00	1.09	1.02	1.58	1.47
25	0.50	0.71	3.48	3.24	5.06	4.71
35	1.00	0.50	11.13	10.37	16.19	15.08
45	1.50	0.35	28.40	26.45	44.59	41.53
60	2.00	0.25	44.44	41.39	89.03	82.92
80	2.50	0.18	12.91	12.02	101.94	94.94
120	3.00	0.13	2.04	1.90	103.98	96.84
170	3.50	0.09	0.92	0.86	104.90	97.70
200	3.75	0.07	0.28	0.26	105.18	97.96
230	4.00	0.06	0.21	0.20	105.39	98.16

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.52	2.04	1.90	1.60	1.19	1.02	0.51
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.53	0.35	0.6	-0.32	5.07	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-06 #5

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 932,194.1	Northing (ft): 1,078,461.91	Coordinate System: Florida State Plane East	Elevation (ft): -41.8 NAVD 88
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USCS: SW-SM	Munsell: Wet - 2.5Y-6/2 Dry - 5Y-7/1	Comments:
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Dry Weight (g): 109.26	Wash Weight (g): 104.78	Pan Retained (g): 0.26	Sieve Loss (%): 0.16	Fines (%): #200 - 5.11 #230 - 4.52	Organics (%): 1.80	Carbonates (%): 80.60	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	0.04	0.04	0.04	0.04
4	-2.25	4.76	0.19	0.17	0.23	0.21
5	-2.00	4.00	0.30	0.27	0.53	0.48
7	-1.50	2.83	0.83	0.76	1.36	1.24
10	-1.00	2.00	1.42	1.30	2.78	2.54
14	-0.50	1.41	2.50	2.29	5.28	4.83
18	0.00	1.00	4.70	4.30	9.98	9.13
25	0.50	0.71	8.53	7.81	18.51	16.94
35	1.00	0.50	14.93	13.66	33.44	30.60
45	1.50	0.35	19.33	17.69	52.77	48.29
60	2.00	0.25	26.67	24.41	79.44	72.70
80	2.50	0.18	15.17	13.88	94.61	86.58
120	3.00	0.13	5.67	5.19	100.28	91.77
170	3.50	0.09	2.60	2.38	102.88	94.15
200	3.75	0.07	0.81	0.74	103.69	94.89
230	4.00	0.06	0.65	0.59	104.34	95.48

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.80	2.41	2.08	1.54	0.80	0.44	-0.48
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.34	0.40	1.02	-0.58	3.88	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-06 #6

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 932,194.1	Northing (ft): 1,078,461.91	Coordinate System: Florida State Plane East	Elevation (ft): -44.3 NAVD 88
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USCS: SW-SM	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 110.93	Wash Weight (g): 104.80	Pan Retained (g): 0.34	Sieve Loss (%): 0.21	Fines (%): #200 - 6.63 #230 - 6.04	Organics (%): 1.90	Carbonates (%): 82.40	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	0.51	0.46	0.51	0.46
5/16"	-3.00	8.00	0.00	0.00	0.51	0.46
3.5	-2.50	5.66	0.45	0.41	0.96	0.87
4	-2.25	4.76	0.29	0.26	1.25	1.13
5	-2.00	4.00	0.03	0.03	1.28	1.16
7	-1.50	2.83	0.50	0.45	1.78	1.61
10	-1.00	2.00	0.94	0.85	2.72	2.46
14	-0.50	1.41	2.32	2.09	5.04	4.55
18	0.00	1.00	4.29	3.87	9.33	8.42
25	0.50	0.71	8.66	7.81	17.99	16.23
35	1.00	0.50	18.57	16.74	36.56	32.97
45	1.50	0.35	27.36	24.66	63.92	57.63
60	2.00	0.25	21.05	18.98	84.97	76.61
80	2.50	0.18	9.90	8.92	94.87	85.53
120	3.00	0.13	4.73	4.26	99.60	89.79
170	3.50	0.09	2.81	2.53	102.41	92.32
200	3.75	0.07	1.17	1.05	103.58	93.37
230	4.00	0.06	0.65	0.59	104.23	93.96

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	2.41	1.96	1.35	0.76	0.49	-0.44
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.24	0.42	1.05	-0.82	6.16	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-07 #1

Analysis Date: 06-22-09

Analyzed By: LA

Easting (ft): 932,507.91	Northing (ft): 1,082,457.18	Coordinate System: Florida State Plane East	Elevation (ft): -20.5 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/3 Dry - 10YR-6/3	Comments:
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Dry Weight (g): 105.83	Wash Weight (g): 104.66	Pan Retained (g): 0.01	Sieve Loss (%): 0.30	Fines (%): #200 - 1.42 #230 - 1.39	Organics (%): 2.00	Carbonates (%): 87.40	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	0.09	0.09	0.09	0.09
5	-2.00	4.00	0.04	0.04	0.13	0.13
7	-1.50	2.83	0.13	0.12	0.26	0.25
10	-1.00	2.00	1.34	1.27	1.60	1.52
14	-0.50	1.41	5.69	5.38	7.29	6.90
18	0.00	1.00	13.82	13.06	21.11	19.96
25	0.50	0.71	22.38	21.15	43.49	41.11
35	1.00	0.50	28.59	27.02	72.08	68.13
45	1.50	0.35	24.96	23.58	97.04	91.71
60	2.00	0.25	6.03	5.70	103.07	97.41
80	2.50	0.18	0.77	0.73	103.84	98.14
120	3.00	0.13	0.26	0.25	104.10	98.39
170	3.50	0.09	0.16	0.15	104.26	98.54
200	3.75	0.07	0.04	0.04	104.30	98.58
230	4.00	0.06	0.03	0.03	104.33	98.61

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.79	1.34	1.15	0.66	0.12	-0.15	-0.68
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.6	0.66	0.72	-0.23	3.47	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-07 #2

Analysis Date: 06-22-09

Analyzed By: LA

Easting (ft): 932,507.91	Northing (ft): 1,082,457.18	Coordinate System: Florida State Plane East	Elevation (ft): -25.0 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 105.35	Wash Weight (g): 103.39	Pan Retained (g): 0.00	Sieve Loss (%): 0.34	Fines (%): #200 - 2.25 #230 - 2.19	Organics (%): 2.00	Carbonates (%): 86.10	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	0.02	0.02	0.02	0.02
5	-2.00	4.00	0.07	0.07	0.09	0.09
7	-1.50	2.83	0.32	0.30	0.41	0.39
10	-1.00	2.00	1.66	1.58	2.07	1.97
14	-0.50	1.41	5.04	4.78	7.11	6.75
18	0.00	1.00	11.12	10.56	18.23	17.31
25	0.50	0.71	19.50	18.51	37.73	35.82
35	1.00	0.50	28.98	27.51	66.71	63.33
45	1.50	0.35	24.52	23.27	91.23	86.60
60	2.00	0.25	9.08	8.62	100.31	95.22
80	2.50	0.18	1.59	1.51	101.90	96.73
120	3.00	0.13	0.66	0.63	102.56	97.36
170	3.50	0.09	0.28	0.27	102.84	97.63
200	3.75	0.07	0.13	0.12	102.97	97.75
230	4.00	0.06	0.06	0.06	103.03	97.81

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.99	1.44	1.25	0.76	0.21	-0.06	-0.68
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.69	0.62	0.77	-0.16	3.72	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-07 #3

Analysis Date: 06-22-09

Analyzed By: LA

Easting (ft): 932,507.91	Northing (ft): 1,082,457.18	Coordinate System: Florida State Plane East	Elevation (ft): -28.0 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-6/2 Dry - 5Y-7/1	Comments:
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Dry Weight (g): 129.26	Wash Weight (g): 126.05	Pan Retained (g): 0.13	Sieve Loss (%): 0.17	Fines (%): #200 - 2.92 #230 - 2.74	Organics (%): 1.90	Carbonates (%): 80.30	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	2.71	2.10	2.71	2.10
5/16"	-3.00	8.00	0.00	0.00	2.71	2.10
3.5	-2.50	5.66	0.44	0.34	3.15	2.44
4	-2.25	4.76	0.03	0.02	3.18	2.46
5	-2.00	4.00	0.06	0.05	3.24	2.51
7	-1.50	2.83	0.42	0.32	3.66	2.83
10	-1.00	2.00	1.03	0.80	4.69	3.63
14	-0.50	1.41	3.59	2.78	8.28	6.41
18	0.00	1.00	6.74	5.21	15.02	11.62
25	0.50	0.71	11.37	8.80	26.39	20.42
35	1.00	0.50	16.80	13.00	43.19	33.42
45	1.50	0.35	21.66	16.76	64.85	50.18
60	2.00	0.25	31.20	24.14	96.05	74.32
80	2.50	0.18	23.19	17.94	119.24	92.26
120	3.00	0.13	4.16	3.22	123.40	95.48
170	3.50	0.09	1.57	1.21	124.97	96.69
200	3.75	0.07	0.50	0.39	125.47	97.08
230	4.00	0.06	0.23	0.18	125.70	97.26

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.93	2.27	2.02	1.49	0.68	0.25	-0.75
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.2	0.44	1.2	-1.69	7.66	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-07 #4

Analysis Date: 06-22-09

Analyzed By: LA

Easting (ft): 932,507.91	Northing (ft): 1,082,457.18	Coordinate System: Florida State Plane East	Elevation (ft): -32.0 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-6/2 Dry - 5Y-7/1	Comments:
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Dry Weight (g): 128.19	Wash Weight (g): 124.23	Pan Retained (g): 0.07	Sieve Loss (%): 0.09	Fines (%): #200 - 3.53 #230 - 3.22	Organics (%): 1.80	Carbonates (%): 78.30	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	0.25	0.20	0.25	0.20
4	-2.25	4.76	0.00	0.00	0.25	0.20
5	-2.00	4.00	0.01	0.01	0.26	0.21
7	-1.50	2.83	0.14	0.11	0.40	0.32
10	-1.00	2.00	0.52	0.41	0.92	0.73
14	-0.50	1.41	1.58	1.23	2.50	1.96
18	0.00	1.00	3.85	3.00	6.35	4.96
25	0.50	0.71	9.79	7.64	16.14	12.60
35	1.00	0.50	24.05	18.76	40.19	31.36
45	1.50	0.35	39.44	30.77	79.63	62.13
60	2.00	0.25	31.80	24.81	111.43	86.94
80	2.50	0.18	7.11	5.55	118.54	92.49
120	3.00	0.13	3.07	2.39	121.61	94.88
170	3.50	0.09	1.51	1.18	123.12	96.06
200	3.75	0.07	0.52	0.41	123.64	96.47
230	4.00	0.06	0.40	0.31	124.04	96.78

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.05	1.94	1.76	1.30	0.83	0.59	0.00
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.25	0.42	0.77	-0.32	5.5	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-07 #5

Analysis Date: 06-22-09

Analyzed By: LA

Easting (ft): 932,507.91	Northing (ft): 1,082,457.18	Coordinate System: Florida State Plane East	Elevation (ft): -35.5 NAVD 88
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USCS: SW-SM	Munsell: Wet - 2.5Y-6/2 Dry - 5Y-7/1	Comments:
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Dry Weight (g): 117.45	Wash Weight (g): 112.40	Pan Retained (g): 0.24	Sieve Loss (%): 0.20	Fines (%): #200 - 5.02 #230 - 4.69	Organics (%): 1.90	Carbonates (%): 82.00	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.02	0.02	0.02	0.02
7	-1.50	2.83	0.44	0.37	0.46	0.39
10	-1.00	2.00	1.76	1.50	2.22	1.89
14	-0.50	1.41	3.59	3.06	5.81	4.95
18	0.00	1.00	5.53	4.71	11.34	9.66
25	0.50	0.71	9.10	7.75	20.44	17.41
35	1.00	0.50	15.21	12.95	35.65	30.36
45	1.50	0.35	21.70	18.48	57.35	48.84
60	2.00	0.25	27.79	23.66	85.14	72.50
80	2.50	0.18	18.46	15.72	103.60	88.22
120	3.00	0.13	4.78	4.07	108.38	92.29
170	3.50	0.09	2.26	1.92	110.64	94.21
200	3.75	0.07	0.90	0.77	111.54	94.98
230	4.00	0.06	0.39	0.33	111.93	95.31

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.77	2.37	2.08	1.52	0.79	0.41	-0.49
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.33	0.40	0.98	-0.48	3.34	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-07 #6

Analysis Date: 06-22-09

Analyzed By: LA

Easting (ft): 932,507.91	Northing (ft): 1,082,457.18	Coordinate System: Florida State Plane East	Elevation (ft): -37.5 NAVD 88
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USCS: SW-SM	Munsell: Wet - 2.5Y-7/2 Dry - 2.5Y-7/1	Comments:
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Dry Weight (g): 110.68	Wash Weight (g): 105.00	Pan Retained (g): 0.19	Sieve Loss (%): 0.07	Fines (%): #200 - 6.03 #230 - 5.37	Organics (%): 1.80	Carbonates (%): 86.10	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	1.85	1.67	1.85	1.67
5/16"	-3.00	8.00	0.78	0.70	2.63	2.37
3.5	-2.50	5.66	0.00	0.00	2.63	2.37
4	-2.25	4.76	0.03	0.03	2.66	2.40
5	-2.00	4.00	0.17	0.15	2.83	2.55
7	-1.50	2.83	0.88	0.80	3.71	3.35
10	-1.00	2.00	2.38	2.15	6.09	5.50
14	-0.50	1.41	4.53	4.09	10.62	9.59
18	0.00	1.00	8.01	7.24	18.63	16.83
25	0.50	0.71	11.14	10.07	29.77	26.90
35	1.00	0.50	15.03	13.58	44.80	40.48
45	1.50	0.35	17.21	15.55	62.01	56.03
60	2.00	0.25	21.48	19.41	83.49	75.44
80	2.50	0.18	11.87	10.72	95.36	86.16
120	3.00	0.13	5.13	4.63	100.49	90.79
170	3.50	0.09	2.63	2.38	103.12	93.17
200	3.75	0.07	0.88	0.80	104.00	93.97
230	4.00	0.06	0.73	0.66	104.73	94.63

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	2.40	1.99	1.31	0.41	-0.06	-1.12
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.04	0.49	1.32	-1.05	5.24	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-08 #1

Analysis Date: 06-04-09

Analyzed By: LA

Easting (ft): 932,104.69	Northing (ft): 1,084,441.91	Coordinate System: Florida State Plane East	Elevation (ft): -28.1 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-6/2 Dry - 5Y-7/1	Comments:
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Dry Weight (g): 136.84	Wash Weight (g): 135.61	Pan Retained (g): 0.01	Sieve Loss (%): 0.00	Fines (%): #200 - 0.93 #230 - 0.90	Organics (%): 2.00	Carbonates (%): 83.10	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	0.06	0.04	0.06	0.04
5	-2.00	4.00	0.20	0.15	0.26	0.19
7	-1.50	2.83	0.79	0.58	1.05	0.77
10	-1.00	2.00	2.30	1.68	3.35	2.45
14	-0.50	1.41	4.83	3.53	8.18	5.98
18	0.00	1.00	9.50	6.94	17.68	12.92
25	0.50	0.71	19.85	14.51	37.53	27.43
35	1.00	0.50	36.15	26.42	73.68	53.85
45	1.50	0.35	38.63	28.23	112.31	82.08
60	2.00	0.25	19.64	14.35	131.95	96.43
80	2.50	0.18	2.91	2.13	134.86	98.56
120	3.00	0.13	0.49	0.36	135.35	98.92
170	3.50	0.09	0.18	0.13	135.53	99.05
200	3.75	0.07	0.03	0.02	135.56	99.07
230	4.00	0.06	0.04	0.03	135.60	99.10

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.95	1.57	1.37	0.93	0.42	0.11	-0.64
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.83	0.56	0.77	-0.68	3.99	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-08 #2

Analysis Date: 06-04-09

Analyzed By: LA

Easting (ft): 932,104.69	Northing (ft): 1,084,441.91	Coordinate System: Florida State Plane East	Elevation (ft): -32.1 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 135.92	Wash Weight (g): 132.82	Pan Retained (g): 0.09	Sieve Loss (%): 0.00	Fines (%): #200 - 2.44 #230 - 2.34	Organics (%): 1.90	Carbonates (%): 79.80	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.01	0.01	0.01	0.01
10	-1.00	2.00	0.10	0.07	0.11	0.08
14	-0.50	1.41	0.92	0.68	1.03	0.76
18	0.00	1.00	3.89	2.86	4.92	3.62
25	0.50	0.71	13.29	9.78	18.21	13.40
35	1.00	0.50	31.75	23.36	49.96	36.76
45	1.50	0.35	43.37	31.91	93.33	68.67
60	2.00	0.25	27.56	20.28	120.89	88.95
80	2.50	0.18	8.30	6.11	129.19	95.06
120	3.00	0.13	2.12	1.56	131.31	96.62
170	3.50	0.09	0.92	0.68	132.23	97.30
200	3.75	0.07	0.36	0.26	132.59	97.56
230	4.00	0.06	0.14	0.10	132.73	97.66

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.50	1.88	1.66	1.21	0.75	0.56	0.07
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.18	0.44	0.67	0.15	3.93	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-08 #3

Analysis Date: 01-12-09

Analyzed By: LA

Easting (ft): 932,104.69	Northing (ft): 1,084,441.91	Coordinate System: Florida State Plane East	Elevation (ft): -36.1 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 118.83	Wash Weight (g): 113.98	Pan Retained (g): 0.18	Sieve Loss (%): 0.14	Fines (%): #200 - 4.89 #230 - 4.37	Organics (%): 1.90	Carbonates (%): 89.40	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	0.17	0.14	0.17	0.14
5	-2.00	4.00	0.22	0.19	0.39	0.33
7	-1.50	2.83	1.28	1.08	1.67	1.41
10	-1.00	2.00	3.56	3.00	5.23	4.41
14	-0.50	1.41	7.71	6.49	12.94	10.90
18	0.00	1.00	13.40	11.28	26.34	22.18
25	0.50	0.71	17.72	14.91	44.06	37.09
35	1.00	0.50	20.89	17.58	64.95	54.67
45	1.50	0.35	17.28	14.54	82.23	69.21
60	2.00	0.25	14.38	12.10	96.61	81.31
80	2.50	0.18	8.51	7.16	105.12	88.47
120	3.00	0.13	4.68	3.94	109.80	92.41
170	3.50	0.09	2.40	2.02	112.20	94.43
200	3.75	0.07	0.81	0.68	113.01	95.11
230	4.00	0.06	0.62	0.52	113.63	95.63

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.71	2.19	1.74	0.87	0.09	-0.27	-0.95
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.84	0.56	1.13	0.12	2.84	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-08 #4

Analysis Date: 01-12-09

Analyzed By: LA

Easting (ft): 932,104.69	Northing (ft): 1,084,441.91	Coordinate System: Florida State Plane East	Elevation (ft): -39.1 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 133.32	Wash Weight (g): 128.38	Pan Retained (g): 0.17	Sieve Loss (%): 0.23	Fines (%): #200 - 4.47 #230 - 4.03	Organics (%): 1.90	Carbonates (%): 81.10	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	1.18	0.89	1.18	0.89
5/16"	-3.00	8.00	0.00	0.00	1.18	0.89
3.5	-2.50	5.66	0.24	0.18	1.42	1.07
4	-2.25	4.76	0.56	0.42	1.98	1.49
5	-2.00	4.00	0.10	0.08	2.08	1.57
7	-1.50	2.83	0.42	0.32	2.50	1.89
10	-1.00	2.00	0.63	0.47	3.13	2.36
14	-0.50	1.41	1.41	1.06	4.54	3.42
18	0.00	1.00	4.01	3.01	8.55	6.43
25	0.50	0.71	9.96	7.47	18.51	13.90
35	1.00	0.50	25.82	19.37	44.33	33.27
45	1.50	0.35	37.92	28.44	82.25	61.71
60	2.00	0.25	27.82	20.87	110.07	82.58
80	2.50	0.18	9.56	7.17	119.63	89.75
120	3.00	0.13	4.71	3.53	124.34	93.28
170	3.50	0.09	2.26	1.70	126.60	94.98
200	3.75	0.07	0.73	0.55	127.33	95.53
230	4.00	0.06	0.58	0.44	127.91	95.97

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.51	2.10	1.82	1.29	0.79	0.55	-0.24
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.21	0.43	0.99	-1.38	9.16	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-08 #5

Analysis Date: 01-12-09

Analyzed By: LA

Easting (ft): 932,104.69	Northing (ft): 1,084,441.91	Coordinate System: Florida State Plane East	Elevation (ft): -41.6 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 126.29	Wash Weight (g): 121.43	Pan Retained (g): 0.45	Sieve Loss (%): 0.25	Fines (%): #200 - 4.79 #230 - 4.45	Organics (%): 1.90	Carbonates (%): 84.20	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	0.05	0.04	0.05	0.04
5	-2.00	4.00	0.03	0.02	0.08	0.06
7	-1.50	2.83	0.20	0.16	0.28	0.22
10	-1.00	2.00	1.08	0.86	1.36	1.08
14	-0.50	1.41	3.40	2.69	4.76	3.77
18	0.00	1.00	7.16	5.67	11.92	9.44
25	0.50	0.71	14.23	11.27	26.15	20.71
35	1.00	0.50	26.38	20.89	52.53	41.60
45	1.50	0.35	29.65	23.48	82.18	65.08
60	2.00	0.25	19.16	15.17	101.34	80.25
80	2.50	0.18	11.59	9.18	112.93	89.43
120	3.00	0.13	4.41	3.49	117.34	92.92
170	3.50	0.09	2.05	1.62	119.39	94.54
200	3.75	0.07	0.85	0.67	120.24	95.21
230	4.00	0.06	0.43	0.34	120.67	95.55

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.67	2.20	1.83	1.18	0.60	0.29	-0.39
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.14	0.45	0.91	0.04	3.41	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-08 #6

Analysis Date: 01-12-09

Analyzed By: LA

Easting (ft): 932,104.69	Northing (ft): 1,084,441.91	Coordinate System: Florida State Plane East	Elevation (ft): -44.6 NAVD 88
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USCS: SW-SM	Munsell: Wet - 2.5Y-6/2 Dry - 5Y-7/1	Comments:
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Dry Weight (g): 134.32	Wash Weight (g): 128.63	Pan Retained (g): 0.26	Sieve Loss (%): 0.21	Fines (%): #200 - 5.15 #230 - 4.63	Organics (%): 2.10	Carbonates (%): 86.80	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	0.58	0.43	0.58	0.43
3.5	-2.50	5.66	0.08	0.06	0.66	0.49
4	-2.25	4.76	0.37	0.28	1.03	0.77
5	-2.00	4.00	0.56	0.42	1.59	1.19
7	-1.50	2.83	1.28	0.95	2.87	2.14
10	-1.00	2.00	4.38	3.26	7.25	5.40
14	-0.50	1.41	7.65	5.70	14.90	11.10
18	0.00	1.00	11.70	8.71	26.60	19.81
25	0.50	0.71	18.43	13.72	45.03	33.53
35	1.00	0.50	28.04	20.88	73.07	54.41
45	1.50	0.35	24.15	17.98	97.22	72.39
60	2.00	0.25	14.89	11.09	112.11	83.48
80	2.50	0.18	7.34	5.46	119.45	88.94
120	3.00	0.13	4.58	3.41	124.03	92.35
170	3.50	0.09	2.51	1.87	126.54	94.22
200	3.75	0.07	0.85	0.63	127.39	94.85
230	4.00	0.06	0.70	0.52	128.09	95.37

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.82	2.05	1.62	0.89	0.19	-0.22	-1.06
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.81	0.57	1.13	-0.17	3.69	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-09 #1

Analysis Date: 06-22-09

Analyzed By: LA

Easting (ft): 932,026.26	Northing (ft): 1,086,422.79	Coordinate System: Florida State Plane East	Elevation (ft): -35.9 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 146.33	Wash Weight (g): 144.57	Pan Retained (g): 0.02	Sieve Loss (%): 0.18	Fines (%): #200 - 1.43 #230 - 1.40	Organics (%): 2.20	Carbonates (%): 81.80	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	0.73	0.50	0.73	0.50
5/16"	-3.00	8.00	0.00	0.00	0.73	0.50
3.5	-2.50	5.66	0.22	0.15	0.95	0.65
4	-2.25	4.76	0.11	0.08	1.06	0.73
5	-2.00	4.00	0.20	0.14	1.26	0.87
7	-1.50	2.83	0.63	0.43	1.89	1.30
10	-1.00	2.00	1.64	1.12	3.53	2.42
14	-0.50	1.41	3.64	2.49	7.17	4.91
18	0.00	1.00	8.24	5.63	15.41	10.54
25	0.50	0.71	18.66	12.75	34.07	23.29
35	1.00	0.50	34.94	23.88	69.01	47.17
45	1.50	0.35	44.22	30.22	113.23	77.39
60	2.00	0.25	22.89	15.64	136.12	93.03
80	2.50	0.18	6.08	4.15	142.20	97.18
120	3.00	0.13	1.52	1.04	143.72	98.22
170	3.50	0.09	0.41	0.28	144.13	98.50
200	3.75	0.07	0.10	0.07	144.23	98.57
230	4.00	0.06	0.05	0.03	144.28	98.60

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.24	1.71	1.46	1.05	0.54	0.21	-0.49
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.93	0.52	0.85	-1.29	7.96	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-09 #2

Analysis Date: 06-22-09

Analyzed By: LA

Easting (ft): 932,026.26	Northing (ft): 1,086,422.79	Coordinate System: Florida State Plane East	Elevation (ft): -39.4 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 129.70	Wash Weight (g): 128.25	Pan Retained (g): 0.00	Sieve Loss (%): 0.25	Fines (%): #200 - 1.44 #230 - 1.38	Organics (%): 2.20	Carbonates (%): 85.20	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	0.68	0.52	0.68	0.52
3.5	-2.50	5.66	0.72	0.56	1.40	1.08
4	-2.25	4.76	0.20	0.15	1.60	1.23
5	-2.00	4.00	0.39	0.30	1.99	1.53
7	-1.50	2.83	1.95	1.50	3.94	3.03
10	-1.00	2.00	3.51	2.71	7.45	5.74
14	-0.50	1.41	6.07	4.68	13.52	10.42
18	0.00	1.00	11.62	8.96	25.14	19.38
25	0.50	0.71	21.32	16.44	46.46	35.82
35	1.00	0.50	33.69	25.98	80.15	61.80
45	1.50	0.35	29.07	22.41	109.22	84.21
60	2.00	0.25	14.36	11.07	123.58	95.28
80	2.50	0.18	3.00	2.31	126.58	97.59
120	3.00	0.13	0.94	0.72	127.52	98.31
170	3.50	0.09	0.26	0.20	127.78	98.51
200	3.75	0.07	0.06	0.05	127.84	98.56
230	4.00	0.06	0.08	0.06	127.92	98.62

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.99	1.50	1.29	0.77	0.17	-0.19	-1.14
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.64	0.64	0.95	-0.93	5.01	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-09 #3

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 932,026.26	Northing (ft): 1,086,422.79	Coordinate System: Florida State Plane East	Elevation (ft): -42.4 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 133.21	Wash Weight (g): 129.11	Pan Retained (g): 0.12	Sieve Loss (%): 0.23	Fines (%): #200 - 3.58 #230 - 3.40	Organics (%): 2.20	Carbonates (%): 81.60	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.18	0.14	0.18	0.14
10	-1.00	2.00	0.35	0.26	0.53	0.40
14	-0.50	1.41	1.80	1.35	2.33	1.75
18	0.00	1.00	5.51	4.14	7.84	5.89
25	0.50	0.71	13.46	10.10	21.30	15.99
35	1.00	0.50	26.54	19.92	47.84	35.91
45	1.50	0.35	34.19	25.67	82.03	61.58
60	2.00	0.25	26.54	19.92	108.57	81.50
80	2.50	0.18	13.99	10.50	122.56	92.00
120	3.00	0.13	4.06	3.05	126.62	95.05
170	3.50	0.09	1.40	1.05	128.02	96.10
200	3.75	0.07	0.42	0.32	128.44	96.42
230	4.00	0.06	0.24	0.18	128.68	96.60

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.99	2.12	1.84	1.27	0.73	0.50	-0.11
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.23	0.43	0.8	-0.05	3.43	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-09 #4

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 932,026.26	Northing (ft): 1,086,422.79	Coordinate System: Florida State Plane East	Elevation (ft): -44.9 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 125.55	Wash Weight (g): 122.79	Pan Retained (g): 0.06	Sieve Loss (%): 0.06	Fines (%): #200 - 2.52 #230 - 2.31	Organics (%): 2.10	Carbonates (%): 81.30	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	0.80	0.64	0.80	0.64
3.5	-2.50	5.66	0.06	0.05	0.86	0.69
4	-2.25	4.76	0.39	0.31	1.25	1.00
5	-2.00	4.00	0.29	0.23	1.54	1.23
7	-1.50	2.83	1.37	1.09	2.91	2.32
10	-1.00	2.00	3.27	2.60	6.18	4.92
14	-0.50	1.41	5.57	4.44	11.75	9.36
18	0.00	1.00	8.22	6.55	19.97	15.91
25	0.50	0.71	12.38	9.86	32.35	25.77
35	1.00	0.50	20.48	16.31	52.83	42.08
45	1.50	0.35	25.87	20.61	78.70	62.69
60	2.00	0.25	26.18	20.85	104.88	83.54
80	2.50	0.18	12.29	9.79	117.17	93.33
120	3.00	0.13	3.76	2.99	120.93	96.32
170	3.50	0.09	1.11	0.88	122.04	97.20
200	3.75	0.07	0.35	0.28	122.39	97.48
230	4.00	0.06	0.26	0.21	122.65	97.69

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.78	2.02	1.80	1.19	0.46	0.00	-0.99
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.01	0.50	1.09	-0.81	4.26	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-09 #5

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 932,026.26	Northing (ft): 1,086,422.79	Coordinate System: Florida State Plane East	Elevation (ft): -48.4 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 125.80	Wash Weight (g): 121.90	Pan Retained (g): 0.21	Sieve Loss (%): 0.10	Fines (%): #200 - 3.69 #230 - 3.37	Organics (%): 1.90	Carbonates (%): 78.70	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	2.05	1.63	2.05	1.63
5/16"	-3.00	8.00	0.00	0.00	2.05	1.63
3.5	-2.50	5.66	0.00	0.00	2.05	1.63
4	-2.25	4.76	0.14	0.11	2.19	1.74
5	-2.00	4.00	0.20	0.16	2.39	1.90
7	-1.50	2.83	0.39	0.31	2.78	2.21
10	-1.00	2.00	0.90	0.72	3.68	2.93
14	-0.50	1.41	2.41	1.92	6.09	4.85
18	0.00	1.00	5.00	3.97	11.09	8.82
25	0.50	0.71	11.24	8.93	22.33	17.75
35	1.00	0.50	22.50	17.89	44.83	35.64
45	1.50	0.35	32.42	25.77	77.25	61.41
60	2.00	0.25	25.74	20.46	102.99	81.87
80	2.50	0.18	11.88	9.44	114.87	91.31
120	3.00	0.13	3.85	3.06	118.72	94.37
170	3.50	0.09	1.79	1.42	120.51	95.79
200	3.75	0.07	0.66	0.52	121.17	96.31
230	4.00	0.06	0.40	0.32	121.57	96.63

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.22	2.11	1.83	1.28	0.70	0.40	-0.48
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.14	0.45	1.08	-1.58	8.89	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-09 #6

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 932,026.26	Northing (ft): 1,086,422.79	Coordinate System: Florida State Plane East	Elevation (ft): -52.4 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/1 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 138.91	Wash Weight (g): 135.84	Pan Retained (g): 0.12	Sieve Loss (%): 0.08	Fines (%): #200 - 2.65 #230 - 2.37	Organics (%): 2.00	Carbonates (%): 72.40	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.08	0.06	0.08	0.06
10	-1.00	2.00	0.25	0.18	0.33	0.24
14	-0.50	1.41	1.00	0.72	1.33	0.96
18	0.00	1.00	2.55	1.84	3.88	2.80
25	0.50	0.71	6.30	4.54	10.18	7.34
35	1.00	0.50	13.23	9.52	23.41	16.86
45	1.50	0.35	20.42	14.70	43.83	31.56
60	2.00	0.25	35.98	25.90	79.81	57.46
80	2.50	0.18	33.94	24.43	113.75	81.89
120	3.00	0.13	17.12	12.32	130.87	94.21
170	3.50	0.09	3.73	2.69	134.60	96.90
200	3.75	0.07	0.62	0.45	135.22	97.35
230	4.00	0.06	0.39	0.28	135.61	97.63

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.15	2.59	2.36	1.86	1.28	0.95	0.24
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.75	0.30	0.82	-0.57	3.55	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-10 #1

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 935,921.12	Northing (ft): 1,101,579.87	Coordinate System: Florida State Plane East	Elevation (ft): -27.7 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 128.70	Wash Weight (g): 127.81	Pan Retained (g): 0.05	Sieve Loss (%): 0.19	Fines (%): #200 - 0.93 #230 - 0.92	Organics (%): 2.20	Carbonates (%): 83.20	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	0.25	0.19	0.25	0.19
4	-2.25	4.76	0.00	0.00	0.25	0.19
5	-2.00	4.00	0.03	0.02	0.28	0.21
7	-1.50	2.83	0.26	0.20	0.54	0.41
10	-1.00	2.00	0.78	0.61	1.32	1.02
14	-0.50	1.41	3.01	2.34	4.33	3.36
18	0.00	1.00	7.99	6.21	12.32	9.57
25	0.50	0.71	18.01	13.99	30.33	23.56
35	1.00	0.50	34.58	26.87	64.91	50.43
45	1.50	0.35	40.56	31.52	105.47	81.95
60	2.00	0.25	18.22	14.16	123.69	96.11
80	2.50	0.18	2.72	2.11	126.41	98.22
120	3.00	0.13	0.78	0.61	127.19	98.83
170	3.50	0.09	0.23	0.18	127.42	99.01
200	3.75	0.07	0.08	0.06	127.50	99.07
230	4.00	0.06	0.01	0.01	127.51	99.08

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.96	1.57	1.39	0.99	0.53	0.23	-0.37
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.91	0.53	0.71	-0.63	4.92	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-10 #2

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 935,921.12	Northing (ft): 1,101,579.87	Coordinate System: Florida State Plane East	Elevation (ft): -32.2 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 130.27	Wash Weight (g): 129.34	Pan Retained (g): 0.04	Sieve Loss (%): 0.26	Fines (%): #200 - 1.01 #230 - 1.00	Organics (%): 2.10	Carbonates (%): 84.80	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.01	0.01	0.01	0.01
7	-1.50	2.83	0.13	0.10	0.14	0.11
10	-1.00	2.00	0.49	0.38	0.63	0.49
14	-0.50	1.41	2.64	2.03	3.27	2.52
18	0.00	1.00	8.90	6.83	12.17	9.35
25	0.50	0.71	21.58	16.57	33.75	25.92
35	1.00	0.50	37.08	28.46	70.83	54.38
45	1.50	0.35	37.78	29.00	108.61	83.38
60	2.00	0.25	16.45	12.63	125.06	96.01
80	2.50	0.18	2.95	2.26	128.01	98.27
120	3.00	0.13	0.60	0.46	128.61	98.73
170	3.50	0.09	0.27	0.21	128.88	98.94
200	3.75	0.07	0.07	0.05	128.95	98.99
230	4.00	0.06	0.01	0.01	128.96	99.00

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.96	1.52	1.36	0.92	0.47	0.20	-0.32

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	0.88	0.54	0.67	-0.2	3.61

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-10 #3

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 935,921.12	Northing (ft): 1,101,579.87	Coordinate System: Florida State Plane East	Elevation (ft): -34.2 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 120.14	Wash Weight (g): 119.11	Pan Retained (g): 0.00	Sieve Loss (%): 0.37	Fines (%): #200 - 1.27 #230 - 1.23	Organics (%): 2.10	Carbonates (%): 79.80	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	0.00	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	0.18	0.15	0.18	0.15
14	-0.50	1.41	0.83	0.69	1.01	0.84
18	0.00	1.00	4.27	3.55	5.28	4.39
25	0.50	0.71	13.40	11.15	18.68	15.54
35	1.00	0.50	30.91	25.73	49.59	41.27
45	1.50	0.35	38.45	32.00	88.04	73.27
60	2.00	0.25	22.96	19.11	111.00	92.38
80	2.50	0.18	5.31	4.42	116.31	96.80
120	3.00	0.13	1.69	1.41	118.00	98.21
170	3.50	0.09	0.49	0.41	118.49	98.62
200	3.75	0.07	0.13	0.11	118.62	98.73
230	4.00	0.06	0.05	0.04	118.67	98.77

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.30	1.78	1.55	1.14	0.68	0.51	0.03
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.11	0.46	0.65	0.03	3.75	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-10 #4

Analysis Date: 03-23-09

Analyzed By: LA

Easting (ft): 935,921.12	Northing (ft): 1,101,579.87	Coordinate System: Florida State Plane East	Elevation (ft): -37.2 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-7/2	Comments:
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Dry Weight (g): 124.00	Wash Weight (g): 120.61	Pan Retained (g): 0.08	Sieve Loss (%): 0.00	Fines (%): #200 - 3.01 #230 - 2.81	Organics (%): 2.00	Carbonates (%): 79.40	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.08	0.06	0.08	0.06
10	-1.00	2.00	0.26	0.21	0.34	0.27
14	-0.50	1.41	1.60	1.29	1.94	1.56
18	0.00	1.00	4.82	3.89	6.76	5.45
25	0.50	0.71	12.13	9.78	18.89	15.23
35	1.00	0.50	25.01	20.17	43.90	35.40
45	1.50	0.35	35.77	28.85	79.67	64.25
60	2.00	0.25	26.86	21.66	106.53	85.91
80	2.50	0.18	9.14	7.37	115.67	93.28
120	3.00	0.13	2.82	2.27	118.49	95.55
170	3.50	0.09	1.32	1.06	119.81	96.61
200	3.75	0.07	0.47	0.38	120.28	96.99
230	4.00	0.06	0.25	0.20	120.53	97.19

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.88	1.96	1.75	1.25	0.74	0.52	-0.06
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.21	0.43	0.76	0.02	3.8	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-10 #5

Analysis Date: 03-23-09

Analyzed By: LA

Easting (ft): 935,921.12	Northing (ft): 1,101,579.87	Coordinate System: Florida State Plane East	Elevation (ft): -40.2 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 121.61	Wash Weight (g): 117.18	Pan Retained (g): 0.10	Sieve Loss (%): 0.00	Fines (%): #200 - 4.10 #230 - 3.74	Organics (%): 2.10	Carbonates (%): 83.10	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.09	0.07	0.09	0.07
7	-1.50	2.83	0.45	0.37	0.54	0.44
10	-1.00	2.00	1.53	1.26	2.07	1.70
14	-0.50	1.41	3.85	3.17	5.92	4.87
18	0.00	1.00	7.19	5.91	13.11	10.78
25	0.50	0.71	13.33	10.96	26.44	21.74
35	1.00	0.50	24.68	20.29	51.12	42.03
45	1.50	0.35	27.72	22.79	78.84	64.82
60	2.00	0.25	22.41	18.43	101.25	83.25
80	2.50	0.18	9.05	7.44	110.30	90.69
120	3.00	0.13	3.92	3.22	114.22	93.91
170	3.50	0.09	1.82	1.50	116.04	95.41
200	3.75	0.07	0.60	0.49	116.64	95.90
230	4.00	0.06	0.44	0.36	117.08	96.26

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.36	2.05	1.78	1.17	0.58	0.24	-0.49
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.1	0.47	0.93	-0.11	3.5	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-11 #1

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 935,799.27	Northing (ft): 1,103,554.41	Coordinate System: Florida State Plane East	Elevation (ft): -29.5 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 123.91	Wash Weight (g): 123.04	Pan Retained (g): 0.02	Sieve Loss (%): 0.25	Fines (%): #200 - 0.99 #230 - 0.98	Organics (%): 2.20	Carbonates (%): 80.80	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.08	0.06	0.08	0.06
10	-1.00	2.00	0.31	0.25	0.39	0.31
14	-0.50	1.41	1.19	0.96	1.58	1.27
18	0.00	1.00	4.45	3.59	6.03	4.86
25	0.50	0.71	11.94	9.64	17.97	14.50
35	1.00	0.50	28.20	22.76	46.17	37.26
45	1.50	0.35	45.89	37.03	92.06	74.29
60	2.00	0.25	26.06	21.03	118.12	95.32
80	2.50	0.18	3.94	3.18	122.06	98.50
120	3.00	0.13	0.50	0.40	122.56	98.90
170	3.50	0.09	0.14	0.11	122.70	99.01
200	3.75	0.07	0.00	0.00	122.70	99.01
230	4.00	0.06	0.01	0.01	122.71	99.02

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.99	1.73	1.52	1.17	0.73	0.53	0.01
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.1	0.47	0.61	-0.57	4.02	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-11 #2

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 935,799.27	Northing (ft): 1,103,554.41	Coordinate System: Florida State Plane East	Elevation (ft): -33.0 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-6/2 Dry - 5Y-7/1	Comments:
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Dry Weight (g): 136.25	Wash Weight (g): 134.89	Pan Retained (g): 0.02	Sieve Loss (%): 0.48	Fines (%): #200 - 1.54 #230 - 1.51	Organics (%): 2.10	Carbonates (%): 85.20	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	0.25	0.18	0.25	0.18
4	-2.25	4.76	0.32	0.23	0.57	0.41
5	-2.00	4.00	0.27	0.20	0.84	0.61
7	-1.50	2.83	1.76	1.29	2.60	1.90
10	-1.00	2.00	5.45	4.00	8.05	5.90
14	-0.50	1.41	12.33	9.05	20.38	14.95
18	0.00	1.00	17.54	12.87	37.92	27.82
25	0.50	0.71	20.81	15.27	58.73	43.09
35	1.00	0.50	25.22	18.51	83.95	61.60
45	1.50	0.35	24.42	17.92	108.37	79.52
60	2.00	0.25	18.71	13.73	127.08	93.25
80	2.50	0.18	5.49	4.03	132.57	97.28
120	3.00	0.13	1.28	0.94	133.85	98.22
170	3.50	0.09	0.27	0.20	134.12	98.42
200	3.75	0.07	0.06	0.04	134.18	98.46
230	4.00	0.06	0.04	0.03	134.22	98.49

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.22	1.66	1.37	0.69	-0.11	-0.46	-1.11
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.59	0.66	1	-0.28	2.77	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-11 #3

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 935,799.27	Northing (ft): 1,103,554.41	Coordinate System: Florida State Plane East	Elevation (ft): -36.0 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 126.87	Wash Weight (g): 122.93	Pan Retained (g): 0.13	Sieve Loss (%): 0.00	Fines (%): #200 - 3.44 #230 - 3.21	Organics (%): 2.10	Carbonates (%): 87.70	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	0.03	0.02	0.03	0.02
5	-2.00	4.00	0.23	0.18	0.26	0.20
7	-1.50	2.83	0.33	0.26	0.59	0.46
10	-1.00	2.00	1.10	0.87	1.69	1.33
14	-0.50	1.41	3.84	3.03	5.53	4.36
18	0.00	1.00	8.46	6.67	13.99	11.03
25	0.50	0.71	15.14	11.93	29.13	22.96
35	1.00	0.50	22.82	17.99	51.95	40.95
45	1.50	0.35	26.75	21.08	78.70	62.03
60	2.00	0.25	23.71	18.69	102.41	80.72
80	2.50	0.18	13.47	10.62	115.88	91.34
120	3.00	0.13	4.14	3.26	120.02	94.60
170	3.50	0.09	1.87	1.47	121.89	96.07
200	3.75	0.07	0.62	0.49	122.51	96.56
230	4.00	0.06	0.29	0.23	122.80	96.79

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.14	2.15	1.85	1.21	0.56	0.21	-0.45
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.14	0.45	0.94	-0.17	3.24	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-11 #4

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 935,799.27	Northing (ft): 1,103,554.41	Coordinate System: Florida State Plane East	Elevation (ft): -39.0 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 127.11	Wash Weight (g): 123.60	Pan Retained (g): 0.07	Sieve Loss (%): 0.07	Fines (%): #200 - 3.06 #230 - 2.89	Organics (%): 2.20	Carbonates (%): 83.40	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.23	0.18	0.23	0.18
10	-1.00	2.00	0.64	0.50	0.87	0.68
14	-0.50	1.41	2.54	2.00	3.41	2.68
18	0.00	1.00	6.59	5.18	10.00	7.86
25	0.50	0.71	13.64	10.73	23.64	18.59
35	1.00	0.50	25.55	20.10	49.19	38.69
45	1.50	0.35	33.59	26.43	82.78	65.12
60	2.00	0.25	24.63	19.38	107.41	84.50
80	2.50	0.18	11.08	8.72	118.49	93.22
120	3.00	0.13	3.18	2.50	121.67	95.72
170	3.50	0.09	1.13	0.89	122.80	96.61
200	3.75	0.07	0.42	0.33	123.22	96.94
230	4.00	0.06	0.22	0.17	123.44	97.11

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.86	1.99	1.75	1.21	0.66	0.38	-0.28
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.16	0.45	0.82	-0.13	3.53	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-11 #5

Analysis Date: 03-23-09

Analyzed By: MO

Easting (ft): 935,799.27	Northing (ft): 1,103,554.41	Coordinate System: Florida State Plane East	Elevation (ft): -43.0 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 116.06	Wash Weight (g): 111.50	Pan Retained (g): 0.12	Sieve Loss (%): 0.03	Fines (%): #200 - 4.43 #230 - 4.04	Organics (%): 2.10	Carbonates (%): 83.30	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	2.16	1.86	2.16	1.86
5/16"	-3.00	8.00	0.60	0.52	2.76	2.38
3.5	-2.50	5.66	0.00	0.00	2.76	2.38
4	-2.25	4.76	0.35	0.30	3.11	2.68
5	-2.00	4.00	0.25	0.22	3.36	2.90
7	-1.50	2.83	0.72	0.62	4.08	3.52
10	-1.00	2.00	2.08	1.79	6.16	5.31
14	-0.50	1.41	3.61	3.11	9.77	8.42
18	0.00	1.00	5.37	4.63	15.14	13.05
25	0.50	0.71	8.96	7.72	24.10	20.77
35	1.00	0.50	16.49	14.21	40.59	34.98
45	1.50	0.35	22.11	19.05	62.70	54.03
60	2.00	0.25	24.89	21.45	87.59	75.48
80	2.50	0.18	14.61	12.59	102.20	88.07
120	3.00	0.13	6.06	5.22	108.26	93.29
170	3.50	0.09	2.05	1.77	110.31	95.06
200	3.75	0.07	0.59	0.51	110.90	95.57
230	4.00	0.06	0.45	0.39	111.35	95.96

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.48	2.34	1.99	1.39	0.65	0.19	-1.09
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.14	0.45	1.27	-1.43	6.44	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-12 #1

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 935,898.87	Northing (ft): 1,105,578.95	Coordinate System: Florida State Plane East	Elevation (ft): -29.0 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-6/2 Dry - 5Y-7/1	Comments:
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Dry Weight (g): 131.67	Wash Weight (g): 130.69	Pan Retained (g): 0.00	Sieve Loss (%): 0.17	Fines (%): #200 - 0.93 #230 - 0.91	Organics (%): 2.10	Carbonates (%): 82.10	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	0.28	0.21	0.28	0.21
5/16"	-3.00	8.00	0.00	0.00	0.28	0.21
3.5	-2.50	5.66	0.00	0.00	0.28	0.21
4	-2.25	4.76	0.00	0.00	0.28	0.21
5	-2.00	4.00	0.03	0.02	0.31	0.23
7	-1.50	2.83	0.35	0.27	0.66	0.50
10	-1.00	2.00	0.98	0.74	1.64	1.24
14	-0.50	1.41	3.75	2.85	5.39	4.09
18	0.00	1.00	9.42	7.15	14.81	11.24
25	0.50	0.71	20.47	15.55	35.28	26.79
35	1.00	0.50	37.08	28.16	72.36	54.95
45	1.50	0.35	34.90	26.51	107.26	81.46
60	2.00	0.25	18.32	13.91	125.58	95.37
80	2.50	0.18	3.80	2.89	129.38	98.26
120	3.00	0.13	0.88	0.67	130.26	98.93
170	3.50	0.09	0.13	0.10	130.39	99.03
200	3.75	0.07	0.05	0.04	130.44	99.07
230	4.00	0.06	0.02	0.02	130.46	99.09

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.99	1.59	1.38	0.91	0.44	0.15	-0.44
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.86	0.55	0.75	-0.76	6.04	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-12 #2

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 935,898.87	Northing (ft): 1,105,578.95	Coordinate System: Florida State Plane East	Elevation (ft): -33.0 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 121.29	Wash Weight (g): 119.85	Pan Retained (g): 0.01	Sieve Loss (%): 0.21	Fines (%): #200 - 1.41 #230 - 1.39	Organics (%): 2.00	Carbonates (%): 79.90	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.17	0.14	0.17	0.14
10	-1.00	2.00	0.53	0.44	0.70	0.58
14	-0.50	1.41	1.70	1.40	2.40	1.98
18	0.00	1.00	5.18	4.27	7.58	6.25
25	0.50	0.71	12.98	10.70	20.56	16.95
35	1.00	0.50	27.78	22.90	48.34	39.85
45	1.50	0.35	37.97	31.31	86.31	71.16
60	2.00	0.25	22.88	18.86	109.19	90.02
80	2.50	0.18	8.06	6.65	117.25	96.67
120	3.00	0.13	1.81	1.49	119.06	98.16
170	3.50	0.09	0.37	0.31	119.43	98.47
200	3.75	0.07	0.14	0.12	119.57	98.59
230	4.00	0.06	0.02	0.02	119.59	98.61

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.37	1.84	1.60	1.16	0.68	0.46	-0.15
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.11	0.46	0.72	-0.29	3.79	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-12 #3

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 935,898.87	Northing (ft): 1,105,578.95	Coordinate System: Florida State Plane East	Elevation (ft): -35.6 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 140.04	Wash Weight (g): 136.86	Pan Retained (g): 0.09	Sieve Loss (%): 0.34	Fines (%): #200 - 2.85 #230 - 2.66	Organics (%): 2.00	Carbonates (%): 84.00	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	1.61	1.15	1.61	1.15
5/16"	-3.00	8.00	1.30	0.93	2.91	2.08
3.5	-2.50	5.66	2.33	1.66	5.24	3.74
4	-2.25	4.76	1.57	1.12	6.81	4.86
5	-2.00	4.00	2.45	1.75	9.26	6.61
7	-1.50	2.83	5.20	3.71	14.46	10.32
10	-1.00	2.00	6.36	4.54	20.82	14.86
14	-0.50	1.41	8.05	5.75	28.87	20.61
18	0.00	1.00	9.73	6.95	38.60	27.56
25	0.50	0.71	11.75	8.39	50.35	35.95
35	1.00	0.50	16.33	11.66	66.68	47.61
45	1.50	0.35	23.31	16.65	89.99	64.26
60	2.00	0.25	28.81	20.57	118.80	84.83
80	2.50	0.18	11.80	8.43	130.60	93.26
120	3.00	0.13	3.74	2.67	134.34	95.93
170	3.50	0.09	1.31	0.94	135.65	96.87
200	3.75	0.07	0.39	0.28	136.04	97.15
230	4.00	0.06	0.26	0.19	136.30	97.34

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.83	1.98	1.76	1.07	-0.18	-0.90	-2.23
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.64	0.64	1.47	-0.85	3.27	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-12 #4

Analysis Date: 02-20-09

Analyzed By: LA

Easting (ft): 935,898.87	Northing (ft): 1,105,578.95	Coordinate System: Florida State Plane East	Elevation (ft): -37.0 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 121.87	Wash Weight (g): 118.60	Pan Retained (g): 0.07	Sieve Loss (%): 0.00	Fines (%): #200 - 3.06 #230 - 2.75	Organics (%): 2.00	Carbonates (%): 76.90	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.18	0.15	0.18	0.15
10	-1.00	2.00	0.33	0.27	0.51	0.42
14	-0.50	1.41	0.81	0.66	1.32	1.08
18	0.00	1.00	1.45	1.19	2.77	2.27
25	0.50	0.71	2.77	2.27	5.54	4.54
35	1.00	0.50	6.81	5.59	12.35	10.13
45	1.50	0.35	18.66	15.31	31.01	25.44
60	2.00	0.25	45.48	37.32	76.49	62.76
80	2.50	0.18	31.25	25.64	107.74	88.40
120	3.00	0.13	8.14	6.68	115.88	95.08
170	3.50	0.09	1.76	1.44	117.64	96.52
200	3.75	0.07	0.51	0.42	118.15	96.94
230	4.00	0.06	0.38	0.31	118.53	97.25

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.99	2.41	2.24	1.83	1.49	1.19	0.54
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.76	0.30	0.69	-0.91	6	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-12 #5

Analysis Date: 02-20-09

Analyzed By: LA

Easting (ft): 935,898.87	Northing (ft): 1,105,578.95	Coordinate System: Florida State Plane East	Elevation (ft): -41.0 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 133.51	Wash Weight (g): 127.86	Pan Retained (g): 0.16	Sieve Loss (%): 0.00	Fines (%): #200 - 4.65 #230 - 4.36	Organics (%): 2.00	Carbonates (%): 76.80	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	0.10	0.07	0.10	0.07
5	-2.00	4.00	0.00	0.00	0.10	0.07
7	-1.50	2.83	0.04	0.03	0.14	0.10
10	-1.00	2.00	0.18	0.13	0.32	0.23
14	-0.50	1.41	0.60	0.45	0.92	0.68
18	0.00	1.00	1.23	0.92	2.15	1.60
25	0.50	0.71	2.79	2.09	4.94	3.69
35	1.00	0.50	8.57	6.42	13.51	10.11
45	1.50	0.35	25.22	18.89	38.73	29.00
60	2.00	0.25	49.50	37.08	88.23	66.08
80	2.50	0.18	28.97	21.70	117.20	87.78
120	3.00	0.13	7.22	5.41	124.42	93.19
170	3.50	0.09	2.15	1.61	126.57	94.80
200	3.75	0.07	0.74	0.55	127.31	95.35
230	4.00	0.06	0.39	0.29	127.70	95.64

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.59	2.41	2.21	1.78	1.39	1.16	0.60

Moment Statistics	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
	1.72	0.30	0.67	-0.6	5.91

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-13 #1

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 936,296.22	Northing (ft): 1,107,569.2	Coordinate System: Florida State Plane East	Elevation (ft): -36.2 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 128.65	Wash Weight (g): 127.63	Pan Retained (g): 0.01	Sieve Loss (%): 0.09	Fines (%): #200 - 0.92 #230 - 0.89	Organics (%): 2.00	Carbonates (%): 81.90	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	0.23	0.18	0.23	0.18
5/16"	-3.00	8.00	0.00	0.00	0.23	0.18
3.5	-2.50	5.66	0.17	0.13	0.40	0.31
4	-2.25	4.76	0.16	0.12	0.56	0.43
5	-2.00	4.00	0.17	0.13	0.73	0.56
7	-1.50	2.83	0.54	0.42	1.27	0.98
10	-1.00	2.00	1.39	1.08	2.66	2.06
14	-0.50	1.41	4.22	3.28	6.88	5.34
18	0.00	1.00	7.91	6.15	14.79	11.49
25	0.50	0.71	14.83	11.53	29.62	23.02
35	1.00	0.50	25.29	19.66	54.91	42.68
45	1.50	0.35	32.88	25.56	87.79	68.24
60	2.00	0.25	25.85	20.09	113.64	88.33
80	2.50	0.18	11.03	8.57	124.67	96.90
120	3.00	0.13	2.28	1.77	126.95	98.67
170	3.50	0.09	0.41	0.32	127.36	98.99
200	3.75	0.07	0.11	0.09	127.47	99.08
230	4.00	0.06	0.04	0.03	127.51	99.11

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.39	1.89	1.67	1.14	0.55	0.20	-0.55

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.04	0.49	0.89	-0.83	5.02

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-13 #2

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 936,296.22	Northing (ft): 1,107,569.2	Coordinate System: Florida State Plane East	Elevation (ft): -39.2 NAVD 88
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USCS: SP	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 143.33	Wash Weight (g): 141.63	Pan Retained (g): 0.02	Sieve Loss (%): 0.05	Fines (%): #200 - 1.33 #230 - 1.25	Organics (%): 2.00	Carbonates (%): 75.20	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.11	0.08	0.11	0.08
10	-1.00	2.00	0.44	0.31	0.55	0.39
14	-0.50	1.41	1.13	0.79	1.68	1.18
18	0.00	1.00	2.42	1.69	4.10	2.87
25	0.50	0.71	5.42	3.78	9.52	6.65
35	1.00	0.50	12.92	9.01	22.44	15.66
45	1.50	0.35	28.14	19.63	50.58	35.29
60	2.00	0.25	46.79	32.64	97.37	67.93
80	2.50	0.18	35.12	24.50	132.49	92.43
120	3.00	0.13	7.69	5.37	140.18	97.80
170	3.50	0.09	1.00	0.70	141.18	98.50
200	3.75	0.07	0.25	0.17	141.43	98.67
230	4.00	0.06	0.11	0.08	141.54	98.75

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.74	2.33	2.14	1.73	1.24	1.01	0.28
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.63	0.32	0.71	-0.85	4.61	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-13 #3

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 936,296.22	Northing (ft): 1,107,569.2	Coordinate System: Florida State Plane East	Elevation (ft): -40.7 NAVD 88
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USCS:	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 134.55	Wash Weight (g): 132.82	Pan Retained (g): 0.02	Sieve Loss (%): 0.00	Fines (%): #200 - 1.38 #230 - 1.28	Organics (%): 2.00	Carbonates (%): 78.70	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	4.10	3.05	4.10	3.05
5/8"	-4.00	16.00	0.00	0.00	4.10	3.05
11/16"	-3.50	11.31	2.12	1.58	6.22	4.63
5/16"	-3.00	8.00	1.09	0.81	7.31	5.44
3.5	-2.50	5.66	0.47	0.35	7.78	5.79
4	-2.25	4.76	0.07	0.05	7.85	5.84
5	-2.00	4.00	0.67	0.50	8.52	6.34
7	-1.50	2.83	0.66	0.49	9.18	6.83
10	-1.00	2.00	1.11	0.82	10.29	7.65
14	-0.50	1.41	2.22	1.65	12.51	9.30
18	0.00	1.00	3.50	2.60	16.01	11.90
25	0.50	0.71	6.36	4.73	22.37	16.63
35	1.00	0.50	14.31	10.64	36.68	27.27
45	1.50	0.35	26.59	19.76	63.27	47.03
60	2.00	0.25	39.27	29.19	102.54	76.22
80	2.50	0.18	22.72	16.89	125.26	93.11
120	3.00	0.13	6.26	4.65	131.52	97.76
170	3.50	0.09	0.91	0.68	132.43	98.44
200	3.75	0.07	0.24	0.18	132.67	98.62
230	4.00	0.06	0.13	0.10	132.80	98.72

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.70	2.23	1.98	1.55	0.89	0.43	-3.27
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.13	0.46	1.19	-1.65	7.74	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-13 #4

Analysis Date: 01-12-09

Analyzed By: LA

Easting (ft): 936,296.22	Northing (ft): 1,107,569.2	Coordinate System: Florida State Plane East	Elevation (ft): -42.7 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 146.95	Wash Weight (g): 146.95	Pan Retained (g): 0.72	Sieve Loss (%): 0.05	Fines (%): #200 - 0.82 #230 - 0.54	Organics (%): 2.00	Carbonates (%): 81.00	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	4.03	2.74	4.03	2.74
5/16"	-3.00	8.00	10.94	7.44	14.97	10.18
3.5	-2.50	5.66	6.40	4.36	21.37	14.54
4	-2.25	4.76	1.97	1.34	23.34	15.88
5	-2.00	4.00	3.10	2.11	26.44	17.99
7	-1.50	2.83	4.71	3.21	31.15	21.20
10	-1.00	2.00	5.35	3.64	36.50	24.84
14	-0.50	1.41	4.77	3.25	41.27	28.09
18	0.00	1.00	4.30	2.93	45.57	31.02
25	0.50	0.71	5.62	3.82	51.19	34.84
35	1.00	0.50	10.92	7.43	62.11	42.27
45	1.50	0.35	17.39	11.83	79.50	54.10
60	2.00	0.25	32.34	22.01	111.84	76.11
80	2.50	0.18	24.16	16.44	136.00	92.55
120	3.00	0.13	7.48	5.09	143.48	97.64
170	3.50	0.09	1.74	1.18	145.22	98.82
200	3.75	0.07	0.53	0.36	145.75	99.18
230	4.00	0.06	0.41	0.28	146.16	99.46

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.74	2.24	1.97	1.33	-0.98	-2.24	-3.35
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	0.5	0.71	1.99	-0.82	2.34	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-13 #5

Analysis Date: 01-12-09

Analyzed By: LA

Easting (ft): 936,296.22	Northing (ft): 1,107,569.2	Coordinate System: Florida State Plane East	Elevation (ft): -46.2 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 119.54	Wash Weight (g): 119.54	Pan Retained (g): 0.83	Sieve Loss (%): 0.00	Fines (%): #200 - 1.02 #230 - 0.70	Organics (%): 2.00	Carbonates (%): 79.80	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	0.84	0.70	0.84	0.70
4	-2.25	4.76	0.18	0.15	1.02	0.85
5	-2.00	4.00	0.04	0.03	1.06	0.88
7	-1.50	2.83	0.22	0.18	1.28	1.06
10	-1.00	2.00	0.30	0.25	1.58	1.31
14	-0.50	1.41	1.37	1.15	2.95	2.46
18	0.00	1.00	3.11	2.60	6.06	5.06
25	0.50	0.71	5.96	4.99	12.02	10.05
35	1.00	0.50	11.31	9.46	23.33	19.51
45	1.50	0.35	22.79	19.06	46.12	38.57
60	2.00	0.25	35.11	29.37	81.23	67.94
80	2.50	0.18	26.73	22.36	107.96	90.30
120	3.00	0.13	7.38	6.17	115.34	96.47
170	3.50	0.09	2.23	1.87	117.57	98.34
200	3.75	0.07	0.76	0.64	118.33	98.98
230	4.00	0.06	0.38	0.32	118.71	99.30

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.88	2.36	2.16	1.69	1.14	0.81	-0.01
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.57	0.34	0.9	-1.25	6.91	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-14 #1

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 929,576.55	Northing (ft): 1,108,559.37	Coordinate System: Florida State Plane East	Elevation (ft): -35.6 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-6/2 Dry - 5Y-7/1	Comments:
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Dry Weight (g): 104.98	Wash Weight (g): 104.01	Pan Retained (g): 0.01	Sieve Loss (%): 0.00	Fines (%): #200 - 0.98 #230 - 0.94	Organics (%): 1.90	Carbonates (%): 75.20	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	0.12	0.11	0.12	0.11
4	-2.25	4.76	0.11	0.10	0.23	0.21
5	-2.00	4.00	0.09	0.09	0.32	0.30
7	-1.50	2.83	0.34	0.32	0.66	0.62
10	-1.00	2.00	0.42	0.40	1.08	1.02
14	-0.50	1.41	1.35	1.29	2.43	2.31
18	0.00	1.00	2.45	2.33	4.88	4.64
25	0.50	0.71	5.59	5.32	10.47	9.96
35	1.00	0.50	14.05	13.38	24.52	23.34
45	1.50	0.35	29.16	27.78	53.68	51.12
60	2.00	0.25	35.52	33.84	89.20	84.96
80	2.50	0.18	12.15	11.57	101.35	96.53
120	3.00	0.13	2.16	2.06	103.51	98.59
170	3.50	0.09	0.39	0.37	103.90	98.96
200	3.75	0.07	0.06	0.06	103.96	99.02
230	4.00	0.06	0.04	0.04	104.00	99.06

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.43	1.99	1.85	1.48	1.03	0.73	0.03
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.36	0.39	0.74	-1.18	6.43	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-14 #2

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 929,576.55	Northing (ft): 1,108,559.37	Coordinate System: Florida State Plane East	Elevation (ft): -38.6 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-6/2 Dry - 5Y-7/1	Comments:
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Dry Weight (g): 110.81	Wash Weight (g): 109.79	Pan Retained (g): 0.00	Sieve Loss (%): 0.03	Fines (%): #200 - 1.01 #230 - 0.96	Organics (%): 1.50	Carbonates (%): 77.30	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	0.33	0.30	0.33	0.30
3.5	-2.50	5.66	0.19	0.17	0.52	0.47
4	-2.25	4.76	0.00	0.00	0.52	0.47
5	-2.00	4.00	0.19	0.17	0.71	0.64
7	-1.50	2.83	0.32	0.29	1.03	0.93
10	-1.00	2.00	0.88	0.79	1.91	1.72
14	-0.50	1.41	1.65	1.49	3.56	3.21
18	0.00	1.00	3.69	3.33	7.25	6.54
25	0.50	0.71	7.99	7.21	15.24	13.75
35	1.00	0.50	19.07	17.21	34.31	30.96
45	1.50	0.35	31.91	28.80	66.22	59.76
60	2.00	0.25	32.04	28.91	98.26	88.67
80	2.50	0.18	8.60	7.76	106.86	96.43
120	3.00	0.13	2.32	2.09	109.18	98.52
170	3.50	0.09	0.43	0.39	109.61	98.91
200	3.75	0.07	0.09	0.08	109.70	98.99
230	4.00	0.06	0.06	0.05	109.76	99.04

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.41	1.92	1.76	1.33	0.83	0.57	-0.23
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.22	0.43	0.81	-1.29	7.33	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-14 #3

Analysis Date: 02-20-09

Analyzed By: MO

Easting (ft): 929,576.55	Northing (ft): 1,108,559.37	Coordinate System: Florida State Plane East	Elevation (ft): -43.6 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-6/2 Dry - 2.5Y-7/1	Comments:
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Dry Weight (g): 116.47	Wash Weight (g): 113.69	Pan Retained (g): 0.04	Sieve Loss (%): 0.00	Fines (%): #200 - 2.63 #230 - 2.42	Organics (%): 1.90	Carbonates (%): 89.40	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	8.42	7.23	8.42	7.23
5/16"	-3.00	8.00	9.28	7.97	17.70	15.20
3.5	-2.50	5.66	9.56	8.21	27.26	23.41
4	-2.25	4.76	2.39	2.05	29.65	25.46
5	-2.00	4.00	3.36	2.88	33.01	28.34
7	-1.50	2.83	7.43	6.38	40.44	34.72
10	-1.00	2.00	6.60	5.67	47.04	40.39
14	-0.50	1.41	8.01	6.88	55.05	47.27
18	0.00	1.00	9.38	8.05	64.43	55.32
25	0.50	0.71	10.47	8.99	74.90	64.31
35	1.00	0.50	11.81	10.14	86.71	74.45
45	1.50	0.35	9.76	8.38	96.47	82.83
60	2.00	0.25	8.58	7.37	105.05	90.20
80	2.50	0.18	4.55	3.91	109.60	94.11
120	3.00	0.13	2.47	2.12	112.07	96.23
170	3.50	0.09	1.03	0.88	113.10	97.11
200	3.75	0.07	0.30	0.26	113.40	97.37
230	4.00	0.06	0.25	0.21	113.65	97.58

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.71	1.58	1.03	-0.33	-2.31	-2.95	-3.73
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	-0.61	1.53	1.93	-0.06	1.91	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-14 #4

Analysis Date: 02-20-09

Analyzed By: MO

Easting (ft): 929,576.55	Northing (ft): 1,108,559.37	Coordinate System: Florida State Plane East	Elevation (ft): -46.1 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-5/2 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 107.68	Wash Weight (g): 107.68	Pan Retained (g): 0.79	Sieve Loss (%): 0.12	Fines (%): #200 - 1.19 #230 - 0.86	Organics (%): 2.00	Carbonates (%): 81.60	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	0.04	0.04	0.04	0.04
4	-2.25	4.76	0.00	0.00	0.04	0.04
5	-2.00	4.00	0.20	0.19	0.24	0.23
7	-1.50	2.83	0.38	0.35	0.62	0.58
10	-1.00	2.00	0.89	0.83	1.51	1.41
14	-0.50	1.41	2.06	1.91	3.57	3.32
18	0.00	1.00	4.86	4.51	8.43	7.83
25	0.50	0.71	11.09	10.30	19.52	18.13
35	1.00	0.50	20.29	18.84	39.81	36.97
45	1.50	0.35	23.85	22.15	63.66	59.12
60	2.00	0.25	21.90	20.34	85.56	79.46
80	2.50	0.18	11.60	10.77	97.16	90.23
120	3.00	0.13	6.43	5.97	103.59	96.20
170	3.50	0.09	2.28	2.12	105.87	98.32
200	3.75	0.07	0.53	0.49	106.40	98.81
230	4.00	0.06	0.36	0.33	106.76	99.14

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.90	2.21	1.89	1.29	0.68	0.40	-0.31
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.27	0.41	0.93	-0.21	3.54	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-14 #5

Analysis Date: 02-20-09

Analyzed By: MO

Easting (ft):  
929,576.55

Northing (ft):  
1,108,559.37

Coordinate System:  
Florida State Plane East

Elevation (ft):  
-48.6 NAVD 88

USCS:  
SW-SM

Munsell:  
Wet - 10YR-5/1  
Dry - 10YR-6/1

Comments:

Dry Weight (g): 130.77	Wash Weight (g): 122.90	Pan Retained (g): 0.39	Sieve Loss (%): 0.00	Fines (%): #200 - 6.85 #230 - 6.33	Organics (%): 2.10	Carbonates (%): 80.60	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	0.13	0.10	0.13	0.10
5/16"	-3.00	8.00	0.00	0.00	0.13	0.10
3.5	-2.50	5.66	0.26	0.20	0.39	0.30
4	-2.25	4.76	0.18	0.14	0.57	0.44
5	-2.00	4.00	0.25	0.19	0.82	0.63
7	-1.50	2.83	0.66	0.50	1.48	1.13
10	-1.00	2.00	1.39	1.06	2.87	2.19
14	-0.50	1.41	3.36	2.57	6.23	4.76
18	0.00	1.00	5.44	4.16	11.67	8.92
25	0.50	0.71	9.33	7.13	21.00	16.05
35	1.00	0.50	15.93	12.18	36.93	28.23
45	1.50	0.35	20.61	15.76	57.54	43.99
60	2.00	0.25	21.41	16.37	78.95	60.36
80	2.50	0.18	19.87	15.19	98.82	75.55
120	3.00	0.13	15.26	11.67	114.08	87.22
170	3.50	0.09	6.47	4.95	120.55	92.17
200	3.75	0.07	1.28	0.98	121.83	93.15
230	4.00	0.06	0.68	0.52	122.51	93.67

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	2.86	2.48	1.68	0.87	0.50	-0.47
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.5	0.35	1.13	-0.62	3.71	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-15 #1

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 929,980.81	Northing (ft): 1,109,567.55	Coordinate System: Florida State Plane East	Elevation (ft): -37.3 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 148.89	Wash Weight (g): 146.90	Pan Retained (g): 0.11	Sieve Loss (%): 0.00	Fines (%): #200 - 1.51 #230 - 1.42	Organics (%): 2.30	Carbonates (%): 77.20	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	0.87	0.58	0.87	0.58
5/16"	-3.00	8.00	0.00	0.00	0.87	0.58
3.5	-2.50	5.66	0.92	0.62	1.79	1.20
4	-2.25	4.76	0.45	0.30	2.24	1.50
5	-2.00	4.00	0.90	0.60	3.14	2.10
7	-1.50	2.83	1.89	1.27	5.03	3.37
10	-1.00	2.00	3.21	2.16	8.24	5.53
14	-0.50	1.41	5.34	3.59	13.58	9.12
18	0.00	1.00	6.06	4.07	19.64	13.19
25	0.50	0.71	7.97	5.35	27.61	18.54
35	1.00	0.50	12.35	8.29	39.96	26.83
45	1.50	0.35	21.85	14.68	61.81	41.51
60	2.00	0.25	41.03	27.56	102.84	69.07
80	2.50	0.18	33.90	22.77	136.74	91.84
120	3.00	0.13	8.37	5.62	145.11	97.46
170	3.50	0.09	1.24	0.83	146.35	98.29
200	3.75	0.07	0.30	0.20	146.65	98.49
230	4.00	0.06	0.14	0.09	146.79	98.58

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.78	2.33	2.13	1.65	0.89	0.26	-1.12

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.32	0.40	1.18	-1.47	5.5

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-15 #2

Analysis Date: 01-12-09

Analyzed By: LA

Easting (ft): 929,980.81	Northing (ft): 1,109,567.55	Coordinate System: Florida State Plane East	Elevation (ft): -41.3 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-6/2 Dry - 2.5Y-7/1	Comments:
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Dry Weight (g): 148.24	Wash Weight (g): 145.77	Pan Retained (g): 0.03	Sieve Loss (%): 0.31	Fines (%): #200 - 2.16 #230 - 2.00	Organics (%): 2.00	Carbonates (%): 76.90	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	3.04	2.05	3.04	2.05
5/16"	-3.00	8.00	13.24	8.93	16.28	10.98
3.5	-2.50	5.66	17.91	12.08	34.19	23.06
4	-2.25	4.76	6.72	4.53	40.91	27.59
5	-2.00	4.00	7.24	4.88	48.15	32.47
7	-1.50	2.83	13.58	9.16	61.73	41.63
10	-1.00	2.00	11.13	7.51	72.86	49.14
14	-0.50	1.41	11.83	7.98	84.69	57.12
18	0.00	1.00	10.45	7.05	95.14	64.17
25	0.50	0.71	8.88	5.99	104.02	70.16
35	1.00	0.50	7.38	4.98	111.40	75.14
45	1.50	0.35	5.66	3.82	117.06	78.96
60	2.00	0.25	9.09	6.13	126.15	85.09
80	2.50	0.18	11.86	8.00	138.01	93.09
120	3.00	0.13	5.62	3.79	143.63	96.88
170	3.50	0.09	1.10	0.74	144.73	97.62
200	3.75	0.07	0.32	0.22	145.05	97.84
230	4.00	0.06	0.23	0.16	145.28	98.00

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.75	1.91	0.99	-0.95	-2.39	-2.79	-3.33
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	-0.73	1.66	1.93	0.36	1.94	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-15 #3

Analysis Date: 01-12-09

Analyzed By: LA

Easting (ft): 929,980.81	Northing (ft): 1,109,567.55	Coordinate System: Florida State Plane East	Elevation (ft): -43.8 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 117.39	Wash Weight (g): 117.39	Pan Retained (g): 0.71	Sieve Loss (%): 0.05	Fines (%): #200 - 0.89 #230 - 0.66	Organics (%): 1.80	Carbonates (%): 90.70	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.07	0.06	0.07	0.06
10	-1.00	2.00	0.34	0.29	0.41	0.35
14	-0.50	1.41	1.75	1.49	2.16	1.84
18	0.00	1.00	3.55	3.02	5.71	4.86
25	0.50	0.71	6.37	5.43	12.08	10.29
35	1.00	0.50	14.42	12.28	26.50	22.57
45	1.50	0.35	25.05	21.34	51.55	43.91
60	2.00	0.25	27.74	23.63	79.29	67.54
80	2.50	0.18	23.13	19.70	102.42	87.24
120	3.00	0.13	10.93	9.31	113.35	96.55
170	3.50	0.09	2.53	2.16	115.88	98.71
200	3.75	0.07	0.47	0.40	116.35	99.11
230	4.00	0.06	0.27	0.23	116.62	99.34

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.92	2.42	2.19	1.63	1.06	0.73	0.01
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.57	0.34	0.86	-0.42	3.32	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-15 #4

Analysis Date: 01-12-09

Analyzed By: LA

Easting (ft): 929,980.81	Northing (ft): 1,109,567.55	Coordinate System: Florida State Plane East	Elevation (ft): -47.8 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-4/1 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 135.39	Wash Weight (g): 135.39	Pan Retained (g): 2.85	Sieve Loss (%): 0.16	Fines (%): #200 - 2.92 #230 - 2.27	Organics (%): 2.20	Carbonates (%): 73.90	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	1.57	1.16	1.57	1.16
5/16"	-3.00	8.00	0.00	0.00	1.57	1.16
3.5	-2.50	5.66	0.00	0.00	1.57	1.16
4	-2.25	4.76	0.00	0.00	1.57	1.16
5	-2.00	4.00	0.00	0.00	1.57	1.16
7	-1.50	2.83	0.07	0.05	1.64	1.21
10	-1.00	2.00	0.22	0.16	1.86	1.37
14	-0.50	1.41	0.80	0.59	2.66	1.96
18	0.00	1.00	1.52	1.12	4.18	3.08
25	0.50	0.71	2.73	2.02	6.91	5.10
35	1.00	0.50	5.36	3.96	12.27	9.06
45	1.50	0.35	12.49	9.23	24.76	18.29
60	2.00	0.25	25.51	18.84	50.27	37.13
80	2.50	0.18	38.10	28.14	88.37	65.27
120	3.00	0.13	31.72	23.43	120.09	88.70
170	3.50	0.09	9.33	6.89	129.42	95.59
200	3.75	0.07	2.02	1.49	131.44	97.08
230	4.00	0.06	0.88	0.65	132.32	97.73

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.46	2.90	2.71	2.23	1.68	1.38	0.48
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.05	0.24	1.02	-2.5	14.15	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-16 #1

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 929,036.75	Northing (ft): 1,111,597.55	Coordinate System: Florida State Plane East	Elevation (ft): -36.3 NAVD 88
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USCS: SP	Munsell: Wet - 2.5Y-5/3 Dry - 2.5Y-6/3	Comments:
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Dry Weight (g): 139.80	Wash Weight (g): 138.44	Pan Retained (g): 0.04	Sieve Loss (%): 0.16	Fines (%): #200 - 1.17 #230 - 1.15	Organics (%): 2.00	Carbonates (%): 77.30	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	0.15	0.11	0.15	0.11
4	-2.25	4.76	0.00	0.00	0.15	0.11
5	-2.00	4.00	0.02	0.01	0.17	0.12
7	-1.50	2.83	0.33	0.24	0.50	0.36
10	-1.00	2.00	0.72	0.52	1.22	0.88
14	-0.50	1.41	1.90	1.36	3.12	2.24
18	0.00	1.00	4.23	3.03	7.35	5.27
25	0.50	0.71	9.38	6.71	16.73	11.98
35	1.00	0.50	21.36	15.28	38.09	27.26
45	1.50	0.35	37.24	26.64	75.33	53.90
60	2.00	0.25	43.94	31.43	119.27	85.33
80	2.50	0.18	15.33	10.97	134.60	96.30
120	3.00	0.13	3.15	2.25	137.75	98.55
170	3.50	0.09	0.31	0.22	138.06	98.77
200	3.75	0.07	0.08	0.06	138.14	98.83
230	4.00	0.06	0.03	0.02	138.17	98.85

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.44	1.98	1.84	1.43	0.93	0.63	-0.04

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.32	0.40	0.74	-0.91	5.02

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-16 #2

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 929,036.75	Northing (ft): 1,111,597.55	Coordinate System: Florida State Plane East	Elevation (ft): -38.8 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 117.89	Wash Weight (g): 116.09	Pan Retained (g): 0.05	Sieve Loss (%): 0.00	Fines (%): #200 - 1.68 #230 - 1.58	Organics (%): 2.00	Carbonates (%): 79.70	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	0.83	0.70	0.83	0.70
4	-2.25	4.76	0.00	0.00	0.83	0.70
5	-2.00	4.00	0.35	0.30	1.18	1.00
7	-1.50	2.83	0.72	0.61	1.90	1.61
10	-1.00	2.00	1.01	0.86	2.91	2.47
14	-0.50	1.41	3.48	2.95	6.39	5.42
18	0.00	1.00	6.11	5.18	12.50	10.60
25	0.50	0.71	10.83	9.19	23.33	19.79
35	1.00	0.50	18.34	15.56	41.67	35.35
45	1.50	0.35	26.60	22.56	68.27	57.91
60	2.00	0.25	28.21	23.93	96.48	81.84
80	2.50	0.18	15.35	13.02	111.83	94.86
120	3.00	0.13	3.02	2.56	114.85	97.42
170	3.50	0.09	0.83	0.70	115.68	98.12
200	3.75	0.07	0.24	0.20	115.92	98.32
230	4.00	0.06	0.12	0.10	116.04	98.42

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.53	2.08	1.86	1.32	0.67	0.29	-0.57
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.17	0.44	0.96	-0.95	4.85	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-16 #3

Analysis Date: 07-14-09

Analyzed By: LA

Easting (ft): 929,036.75	Northing (ft): 1,111,597.55	Coordinate System: Florida State Plane East	Elevation (ft): -40.8 NAVD 88
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USCS: SW	Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2	Comments:
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Dry Weight (g): 126.60	Wash Weight (g): 124.84	Pan Retained (g): 0.03	Sieve Loss (%): 0.10	Fines (%): #200 - 1.60 #230 - 1.53	Organics (%): 2.00	Carbonates (%): 82.90	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	0.36	0.28	0.36	0.28
3.5	-2.50	5.66	0.07	0.06	0.43	0.34
4	-2.25	4.76	0.10	0.08	0.53	0.42
5	-2.00	4.00	0.19	0.15	0.72	0.57
7	-1.50	2.83	0.81	0.64	1.53	1.21
10	-1.00	2.00	2.61	2.06	4.14	3.27
14	-0.50	1.41	5.07	4.00	9.21	7.27
18	0.00	1.00	9.05	7.15	18.26	14.42
25	0.50	0.71	14.41	11.38	32.67	25.80
35	1.00	0.50	22.96	18.14	55.63	43.94
45	1.50	0.35	26.66	21.06	82.29	65.00
60	2.00	0.25	26.79	21.16	109.08	86.16
80	2.50	0.18	11.88	9.38	120.96	95.54
120	3.00	0.13	2.94	2.32	123.90	97.86
170	3.50	0.09	0.55	0.43	124.45	98.29
200	3.75	0.07	0.14	0.11	124.59	98.40
230	4.00	0.06	0.09	0.07	124.68	98.47

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.47	1.95	1.74	1.14	0.46	0.07	-0.78

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.01	0.50	0.97	-0.7	3.99

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09



# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-16 #4

Analysis Date: 01-12-09

Analyzed By: LA

Easting (ft): 929,036.75	Northing (ft): 1,111,597.55	Coordinate System: Florida State Plane East	Elevation (ft): -43.8 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-6/2 Dry - 2.5Y-7/1	Comments:
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Dry Weight (g): 169.69	Wash Weight (g): 162.78	Pan Retained (g): 0.12	Sieve Loss (%): 0.20	Fines (%): #200 - 4.66 #230 - 4.34	Organics (%): 2.10	Carbonates (%): 91.10	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	3.22	1.90	3.22	1.90
5/16"	-3.00	8.00	13.14	7.74	16.36	9.64
3.5	-2.50	5.66	17.94	10.57	34.30	20.21
4	-2.25	4.76	5.12	3.02	39.42	23.23
5	-2.00	4.00	8.08	4.76	47.50	27.99
7	-1.50	2.83	13.64	8.04	61.14	36.03
10	-1.00	2.00	13.96	8.23	75.10	44.26
14	-0.50	1.41	15.73	9.27	90.83	53.53
18	0.00	1.00	14.34	8.45	105.17	61.98
25	0.50	0.71	13.66	8.05	118.83	70.03
35	1.00	0.50	12.83	7.56	131.66	77.59
45	1.50	0.35	10.01	5.90	141.67	83.49
60	2.00	0.25	7.89	4.65	149.56	88.14
80	2.50	0.18	5.40	3.18	154.96	91.32
120	3.00	0.13	4.05	2.39	159.01	93.71
170	3.50	0.09	2.06	1.21	161.07	94.92
200	3.75	0.07	0.71	0.42	161.78	95.34
230	4.00	0.06	0.54	0.32	162.32	95.66

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.55	1.55	0.83	-0.69	-2.16	-2.70	-3.30
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	-0.72	1.65	1.79	0.3	2.23	

GRANULARMETRIC REPORT SLC RECON CORES WET SIEVED.GPJ FL DEP ROSS.GDT 09/08/09

# Granularmetric Report

Depths and elevations based on measured values



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

Project Name: South SLC Offshore Sand Search

Sample Name: SLS-16 #5

Analysis Date: 01-12-09

Analyzed By: LA

Easting (ft): 929,036.75	Northing (ft): 1,111,597.55	Coordinate System: Florida State Plane East	Elevation (ft): -48.3 NAVD 88
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USCS: SW	Munsell: Wet - 10YR-4/1 Dry - 10YR-6/1	Comments:
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Dry Weight (g): 114.32	Wash Weight (g): 114.32	Pan Retained (g): 2.05	Sieve Loss (%): 0.14	Fines (%): #200 - 2.73 #230 - 1.94	Organics (%): 1.90	Carbonates (%): 80.10	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	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.04	0.03	0.04	0.03
7	-1.50	2.83	0.27	0.24	0.31	0.27
10	-1.00	2.00	0.44	0.38	0.75	0.65
14	-0.50	1.41	1.13	0.99	1.88	1.64
18	0.00	1.00	2.44	2.13	4.32	3.77
25	0.50	0.71	6.16	5.39	10.48	9.16
35	1.00	0.50	12.60	11.02	23.08	20.18
45	1.50	0.35	17.39	15.21	40.47	35.39
60	2.00	0.25	19.67	17.21	60.14	52.60
80	2.50	0.18	23.12	20.22	83.26	72.82
120	3.00	0.13	18.70	16.36	101.96	89.18
170	3.50	0.09	7.28	6.37	109.24	95.55
200	3.75	0.07	1.97	1.72	111.21	97.27
230	4.00	0.06	0.90	0.79	112.11	98.06

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.46	2.84	2.57	1.92	1.16	0.81	0.11
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.8	0.29	0.98	-0.46	3.15	

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**Appendix 2f**

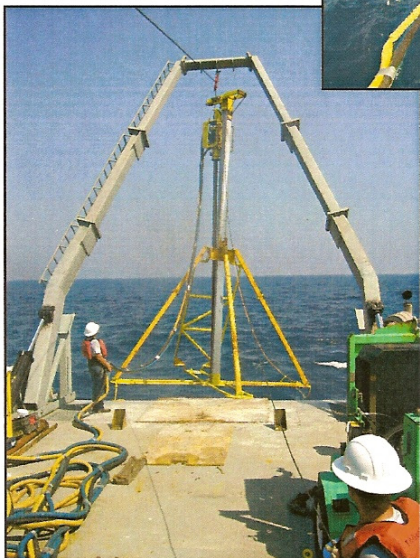
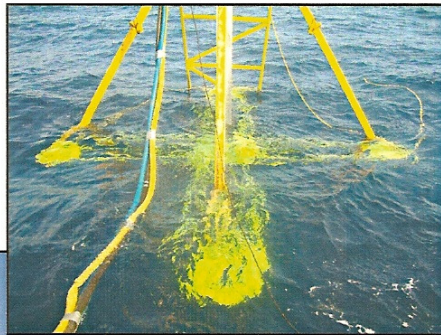
**American Vibracore Services 2008 Vibracoring Report**



**Offshore Geotechnical Investigation  
Offshore Sand Search  
St Lucie, Florida**

**Presented to Coastal Technology Corporation  
By  
American Vibracore Services, Inc.**

**December, 2008**



**American Vibracore  
Pierce & St. Lucie Shoal  
Survey Report  
December 6, 2008**

- Purpose:** Establish elevations on the ocean floor of 16 locations from 3 to 7 miles offshore of St. Lucie County where sediment core samples were obtained on December 4, 2008.
- Date of Work:** The bathymetric elevation data for the 16 core boring locations was obtained on December 6, 2008.
- Datum:** Horizontal: NAD 83 (feet)  
Vertical: NAVD 88 (feet)
- Horizontal Control:** The offshore positioning relied on Real-time Differential GPS utilizing differential corrections from the Canaveral Continuously Operating Reference Station (C.O.R.S.)
- Vertical Control:** A Coastal Instruments submersible tide gauge was installed near the middle of the Vibracore project area and was leveled in from FDEP concrete monument "94-77-A06". Elevation 3.58', NAVD88
- Survey Methodology:** Since some of the Vibracore locations were 7 miles offshore and over the horizon for our RTK/GPS radio link, we utilized Real-Time Differential GPS, together with Hypack Navigation Software, an Odom CVM Digital Echosounder, TSS Motion Compensator, and Submersible Tide Gauge to collect the position and elevation data.
- The fathometer was calibrated at the beginning and end of the survey day using a "bar check" to compensate for variations of the speed of sound in water together with the calibration of the vessel for squat, settlement, and draft.
- All gauge installations, leveling and bathymetric surveys conformed to the Florida Minimum Technical Standards and USCOE Class 2 bathymetric survey standards.

Please find attached a tabulation of the 16 Vibracore site coordinates and a comparison of bottom elevations from the August, 2007 survey and the most recent December 6, 2008 survey. Please note that all of the elevations are within the allowable accuracy tolerance for a USCOE Class 2 survey.

## LOCATION AND SOUNDING.TXT

ST.LUCIE VIBRACORE LOCATION  
NAD-83, NAVD-88

CORE #	EASTING	NORTHING	BOTTOM ELEV 08-08-07	BOTTOM ELEV 12-06-08
PS-1A	913519.38	1099655.79	-26.2	-25.9
PS-2A	913501.56	1101606.78	-23.1	-23.1
PS-3A	913570.06	1103594.69	-26.9	-26.6
PS-4A	912707.73	1105643.32	-28.1	-28.1
PS-5A	912381.37	1107634.78	-35.0	-34.7
SLS-6A	932194.10	1078461.91	-25.5	-25.8
SLS-7A	932507.91	1082457.18	-19.6	-20.0
SLS-8A	932104.69	1084441.91	-28.2	-27.6
SLS-9A	932026.26	1086422.79	-35.5	-35.4
SLS-10A	935921.12	1101579.87	-27.6	-27.2
SLS-11A	935799.27	1103554.41	-29.5	-29.0
SLS-12A	935898.87	1105578.95	-29.0	-28.0
SLS-13A	936296.22	1107569.20	-34.8	-35.2
SLS-14A	929576.55	1108559.37	-34.8	-34.6
SLS-15A	929980.81	1109567.97	-36.4	-36.3
SLS-16A	929036.75	1111597.55	-35.3	-35.3

**Certification:**

This bathymetric survey meets or exceeds the Florida Minimum Technical Standards for bathymetric surveys and the USCOE specifications for a Class 2 bathymetric survey.



John R. Morgan, H PLS #3520  
Morgan & Eklund, Inc.  
LB 4298

12/11/08

**Project**

**ST LUCIE - COASTAL TECH**



**Date** 12/04/2008

**Water Depth** -25.9

**Core Identifier** PS-1

**Coordinate System**

State Plane Coordinates (SPC)

913519.38 X

1099655.79 Y

Fl East Zone

**Start Time** 10:37:26

**End Time** 10:44:52

**Total Time** 00:07:25

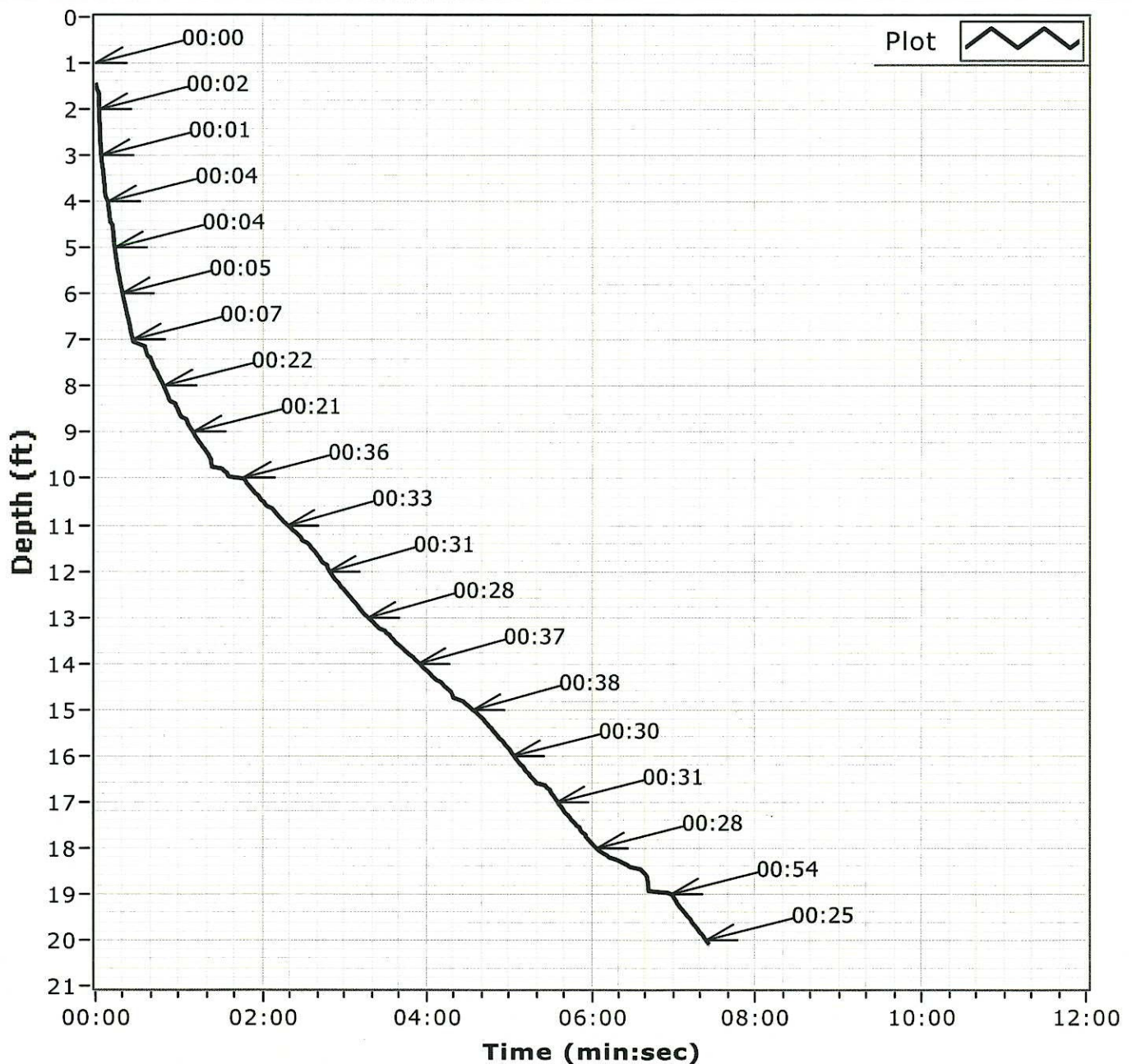
**Penetration** 20' 1"

**Recovery** 17' 6"

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)





**Project**

**ST LUCIE - COASTAL TECH**



**Date** 12/04/2008

**Water Depth** -23.1

**Core Identifier** PS-2

**Coordinate System**

**Start Time** 08:53:13

State Plane Coordinates (SPC)

**End Time** 08:58:14

**Penetration** 20' 2"

913501.56      **X**

**Total Time** 00:05:00

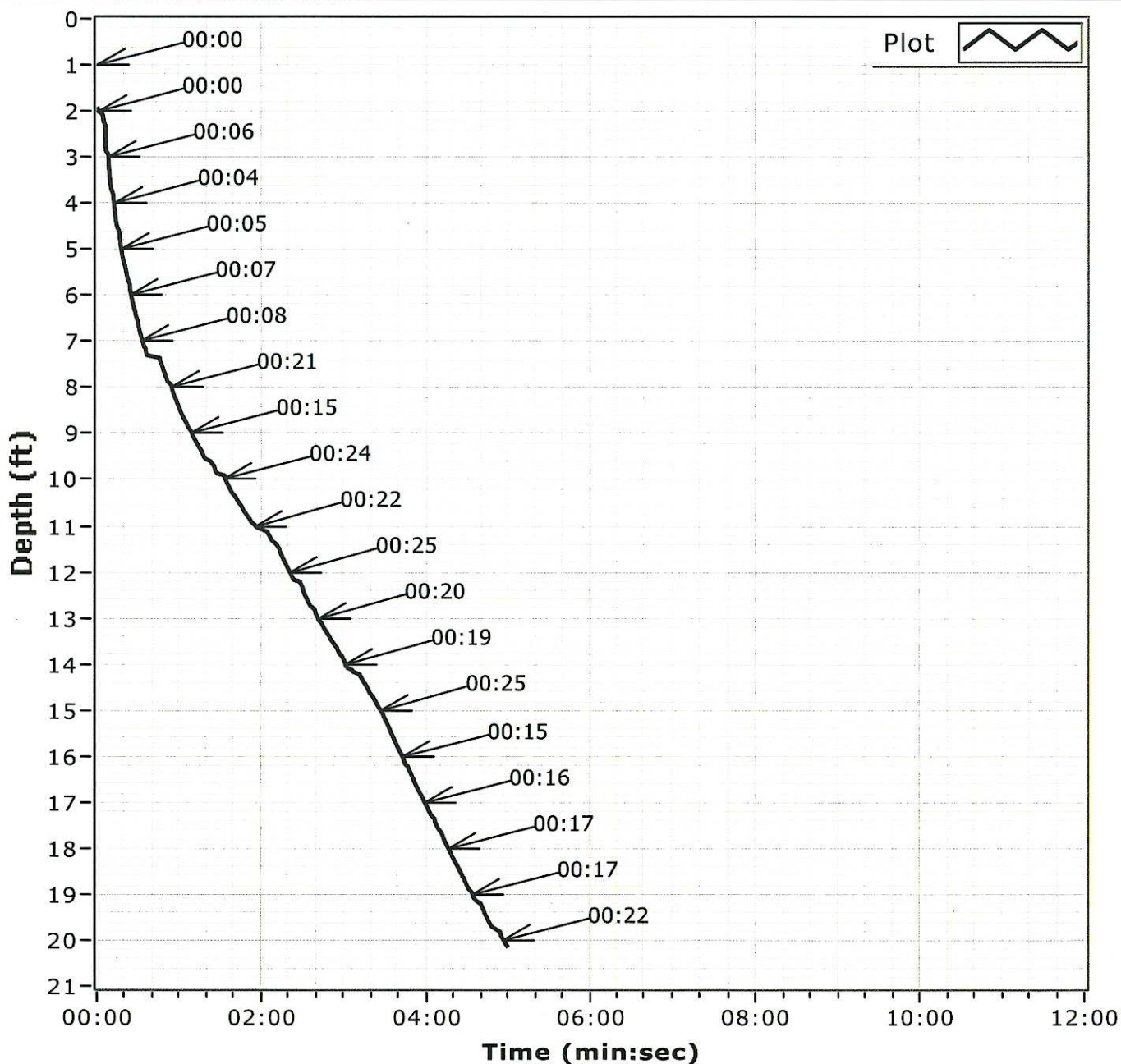
**Recovery** 18'9"

1101606.78      **Y**

Fl East      **Zone**

**Comments**

Horizontal: NAD 83 (feet)  
Vertical: NAVD 88 (feet)



**Project**

**ST LUCIE - COASTAL TECH**



**Date** 12/04/2008

**Water Depth** -26.6

**Core Identifier** PS-3

**Coordinate System**

**Start Time** 08:18:52

State Plane Coordinates (SPC)

**End Time** 08:23:03

**Penetration** 20' 1"

913570.06 X

**Total Time** 00:04:11

**Recovery** 18' 6"

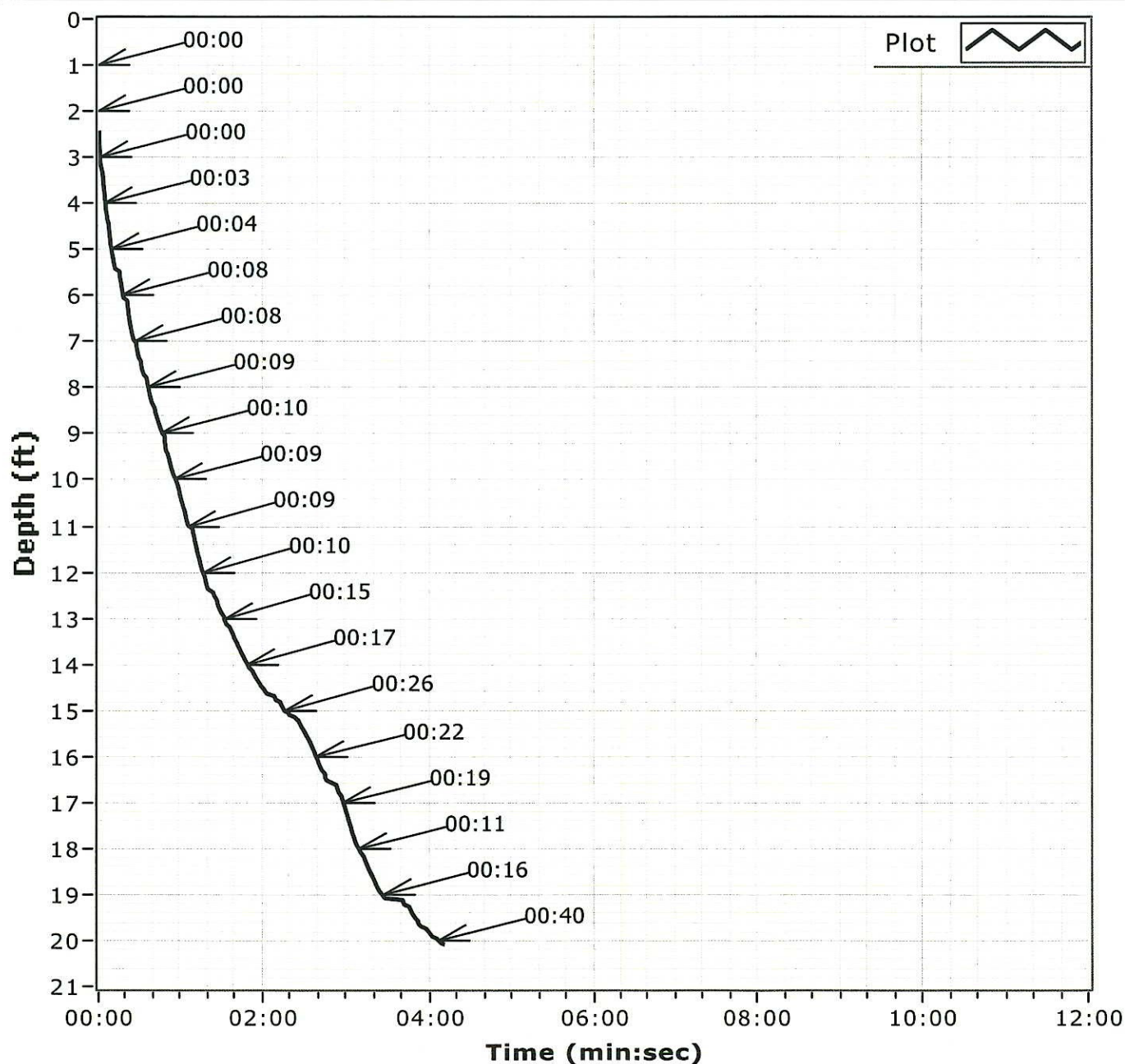
1103594.69 Y

Fl East Zone

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)



**Project**

**ST LUCIE - COASTAL TECH**



**Date** 12/04/2008

**Water Depth** -28.1

**Core Identifier** PS-4

**Coordinate System**

State Plane Coordinates (SPC)

912707.73 X

1105643.32 Y

Fl East Zone

**Start Time** 07:52:02

**End Time** 07:58:09

**Total Time** 00:06:06

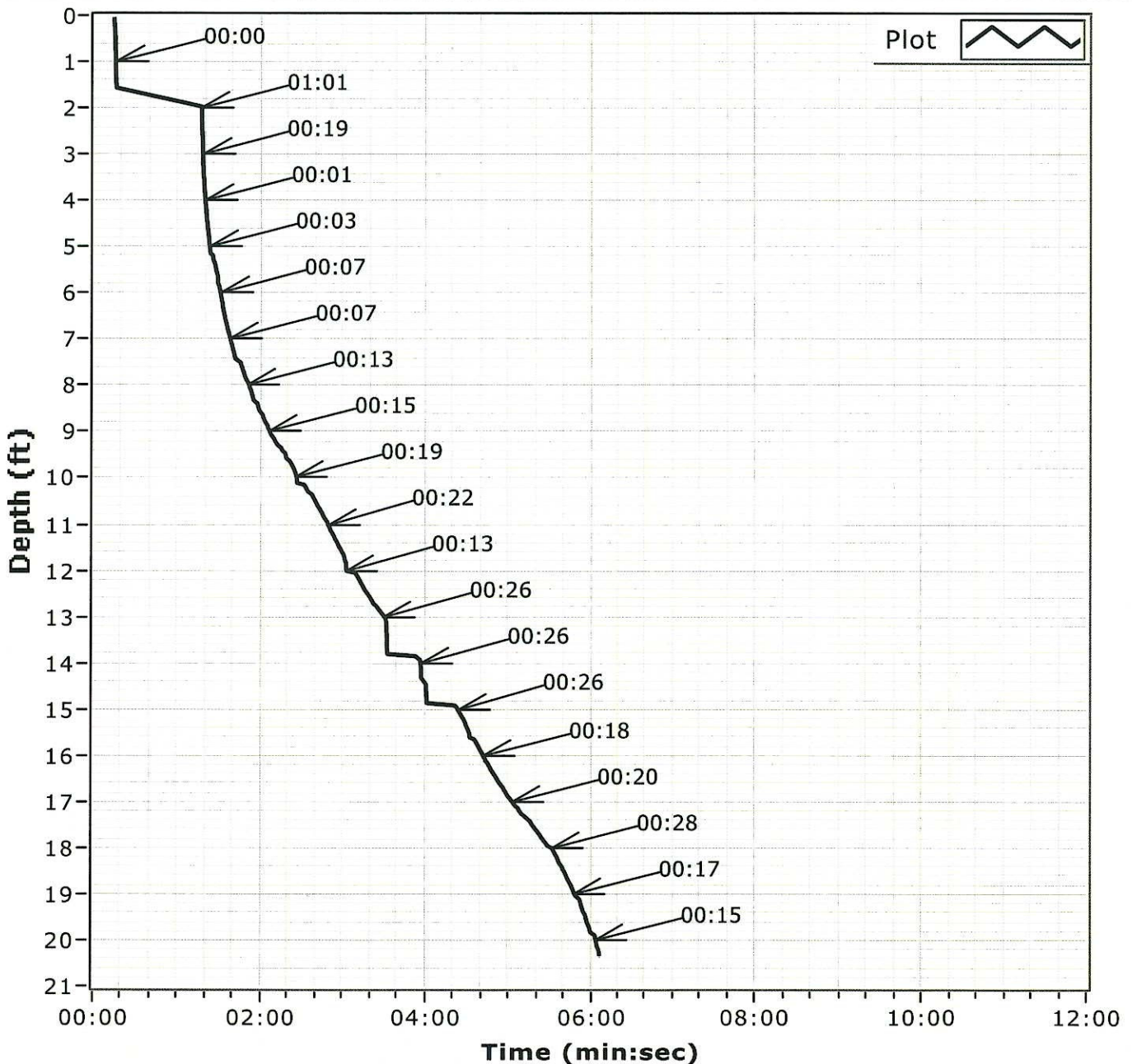
**Penetration** 20' 4"

**Recovery** 17' 6"

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)



**Project**

ST LUCIE - COASTAL TECH



**Date** 12/04/2008

**Water Depth** -34.7

**Core Identifier** PS-5

**Coordinate System**

**Start Time** 07:00:08

State Plane Coordinates (SPC)

**End Time** 07:01:15

**Penetration** 3' 7"

912381.37 X

**Total Time** 00:01:07

**Recovery** 20 FT

1107634.78 Y

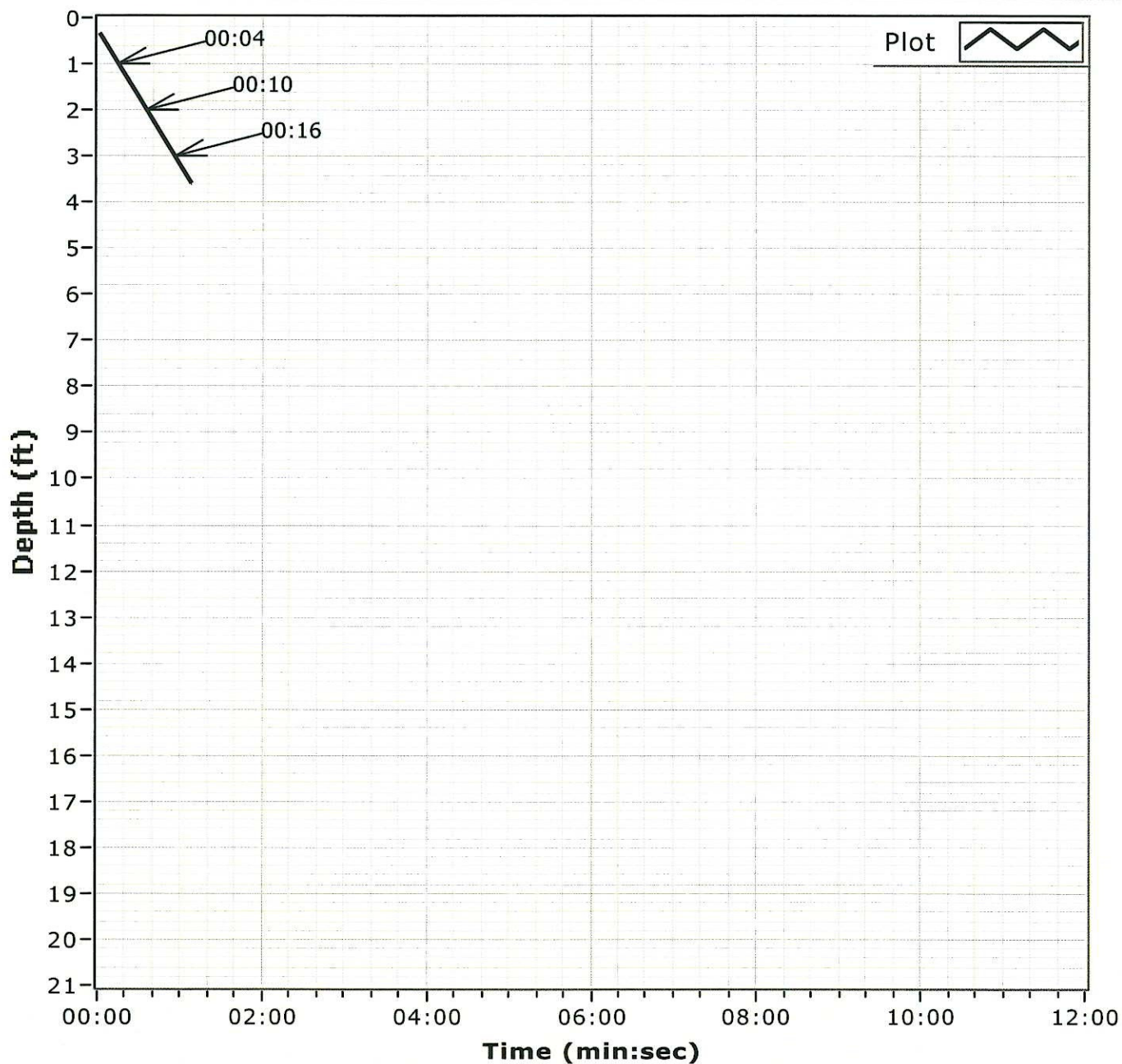
Fl East Zone

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)

Penetrometer cable wrapped around winch cable and broke. Loss of penetrometer data after 3'.



**Project** ST LUCIE - COASTAL TECH



**Date** 12/04/2008

**Water Depth** -25.8

**Core Identifier** SLS-6

**Coordinate System**

State Plane Coordinates (SPC)

932194.10 X

1078461.91 Y

Fl East Zone

**Start Time** 11:41:35

**End Time** 11:47:03

**Total Time** 00:05:28

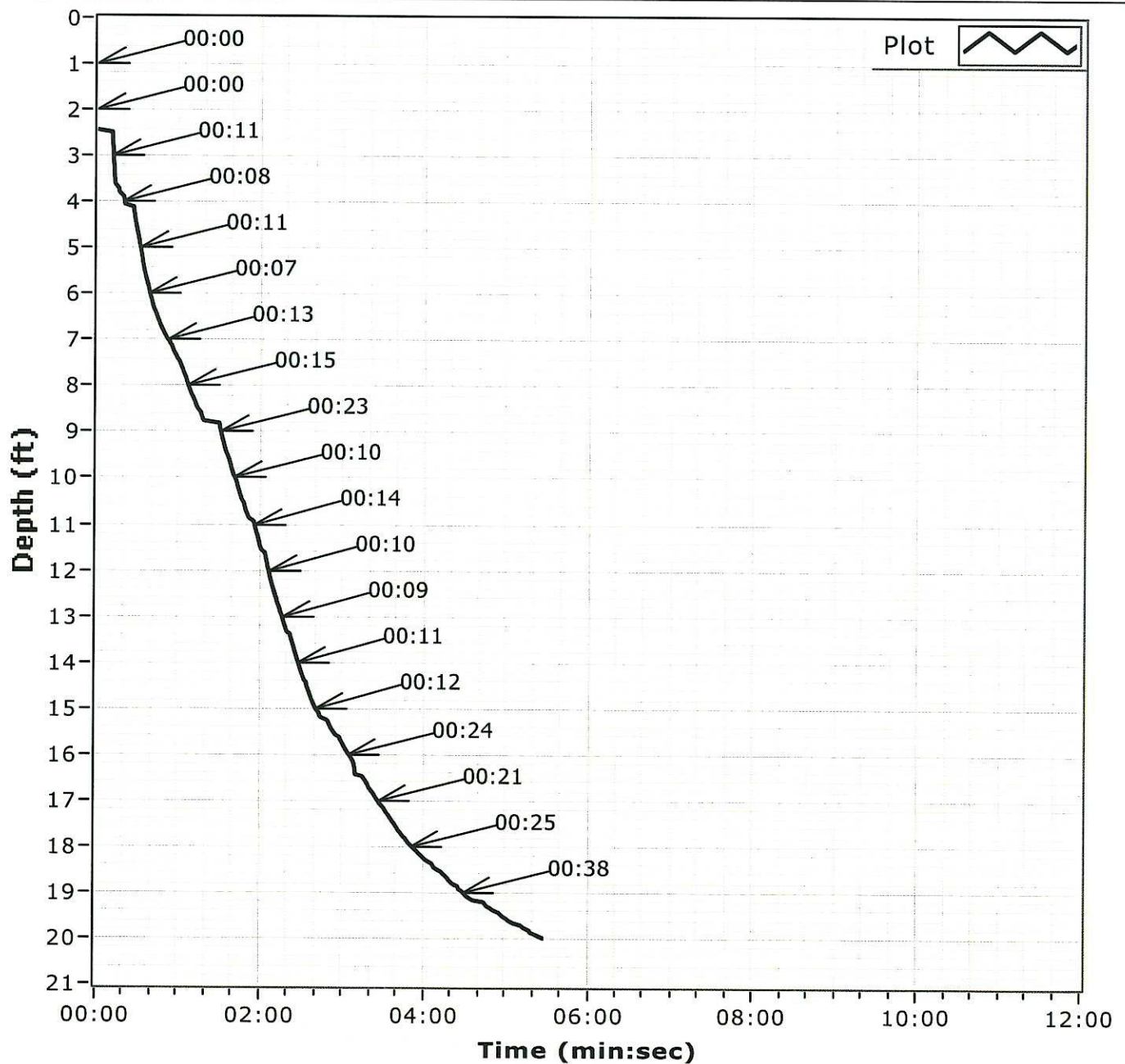
**Penetration** 20' 0"

**Recovery** 20 FT

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)



**Project**

**ST LUCIE - COASTAL TECH**



**Date** 12/04/2008

**Water Depth** -20.0

**Core Identifier** SLS-7

**Coordinate System**

**Start Time** 12:04:01

State Plane Coordinates (SPC)

**End Time** 12:11:03

**Penetration** 18' 7"

932507.91      **X**

**Total Time** 00:07:01

**Recovery** 18' 10"

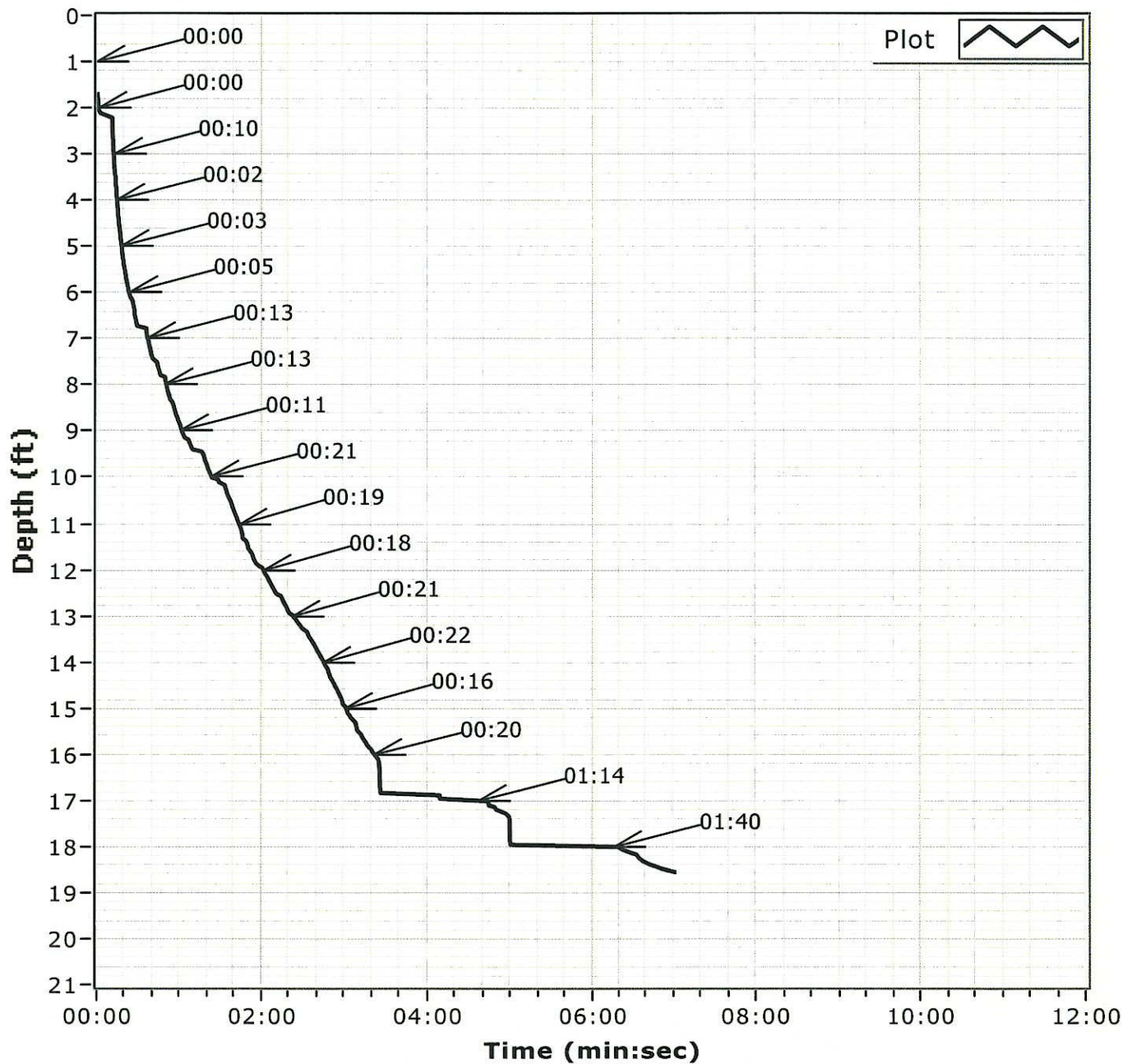
1082457.18      **Y**

Fl East      **Zone**

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)



**Project**

ST LUCIE - COASTAL TECH



**Date** 12/04/2008

**Water Depth** -27.6

**Core Identifier** SLS-8

**Coordinate System**

**Start Time** 12:27:39

State Plane Coordinates (SPC)

**End Time** 12:34:09

**Penetration** 18' 11"

932104.69 X

**Total Time** 00:06:30

**Recovery** 17' 9"

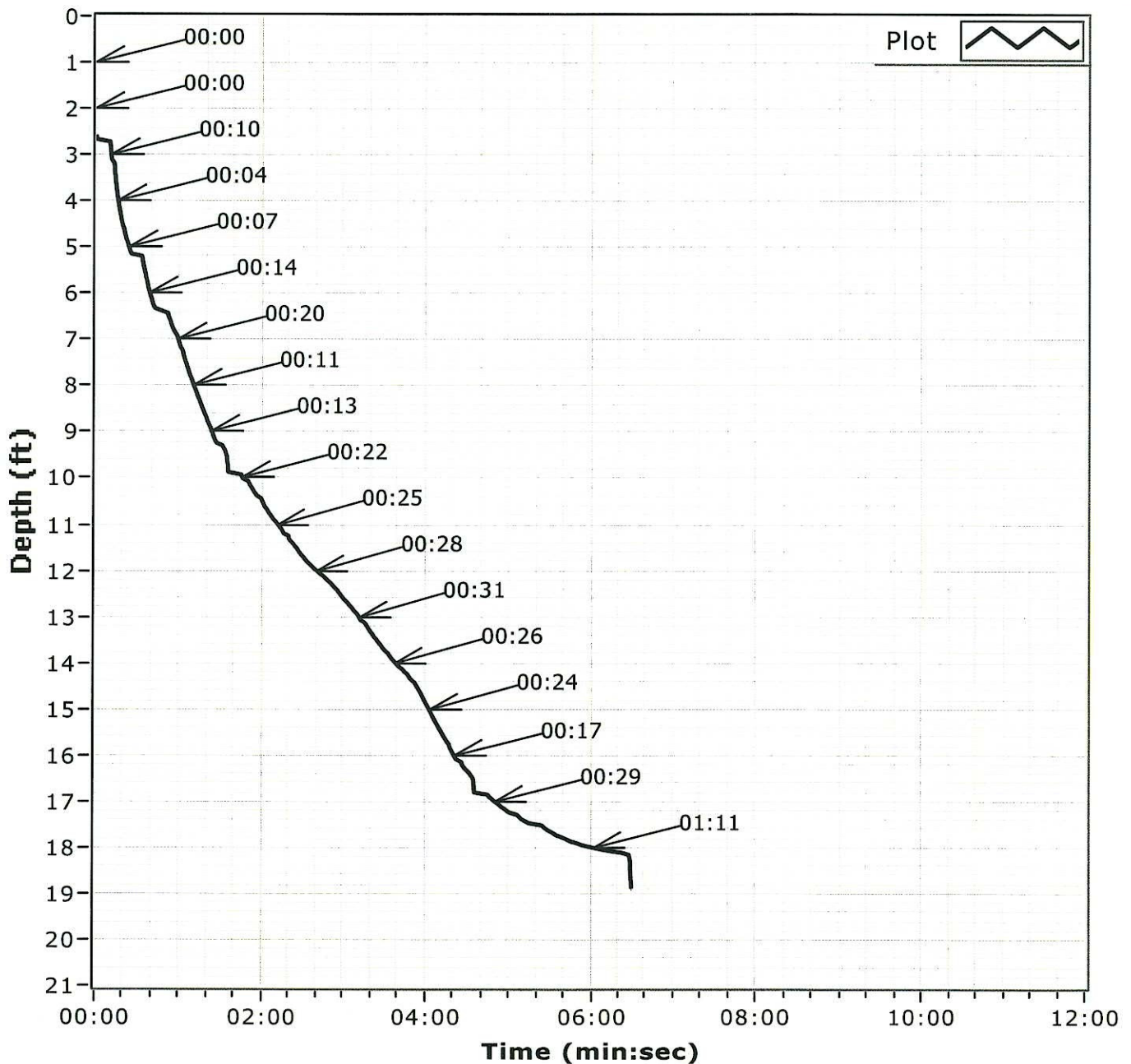
1084441.91 Y

Fl East Zone

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)



**Project**

ST LUCIE - COASTAL TECH



**Date** 12/04/2008

**Water Depth** -35.4

**Core Identifier** SLS-9

**Coordinate System**

**Start Time** 12:54:58

State Plane Coordinates (SPC)

**End Time** 13:05:11

**Penetration** 19' 2"

932026.26 X

**Total Time** 00:10:12

**Recovery** 18' 4"

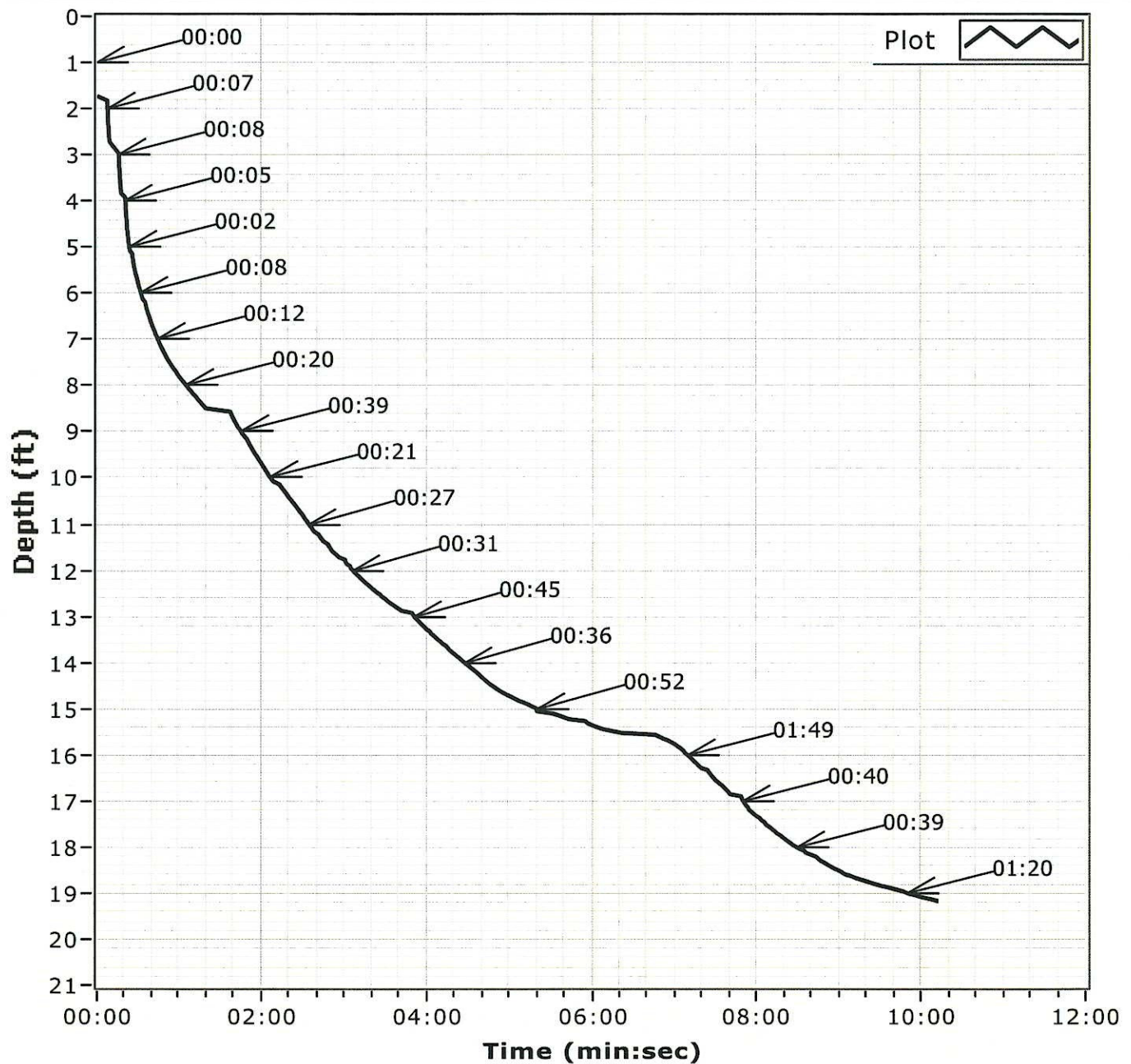
1086422.79 Y

Fl East Zone

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)





**Project**

**ST LUCIE - COASTAL TECH**



**Date** 12/04/2008

**Water Depth** -27.2

**Core Identifier** SLS-10

**Coordinate System**

**Start Time** 13:50:35

State Plane Coordinates (SPC)

**End Time** 14:00:23

**Penetration** 17' 7"

935921.12      **X**

**Total Time** 00:09:48

**Recovery** 16FT

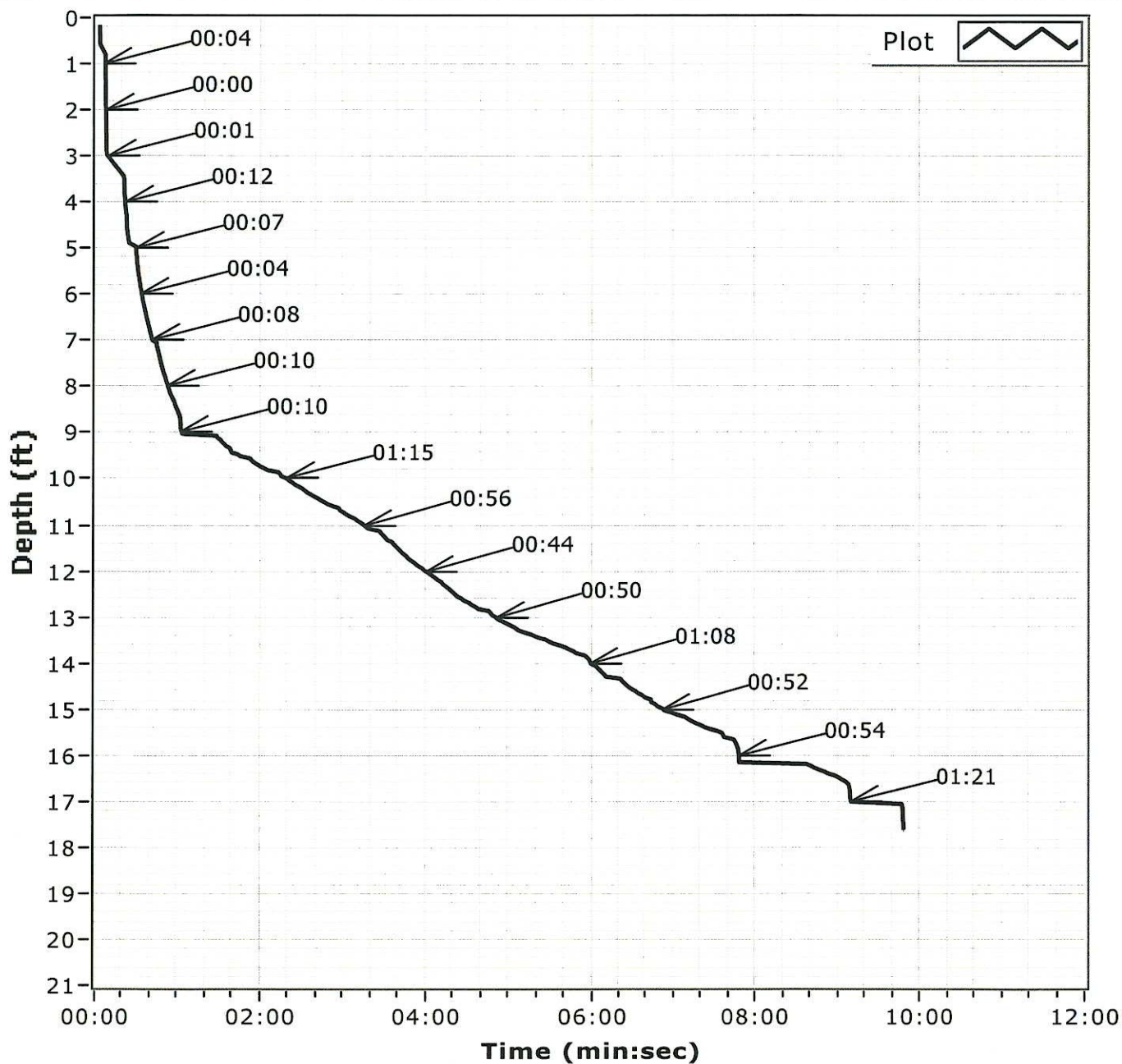
1101579.87      **Y**

Fl East      **Zone**

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)



**Project**

ST LUCIE - COASTAL TECH



**Date** 12/04/2008

**Water Depth** -29.0

**Core Identifier** SLS-11

**Coordinate System**

**Start Time** 14:18:05

State Plane Coordinates (SPC)

**End Time** 14:28:15

**Penetration** 17' 8"

935799.27 X

**Total Time** 00:10:10

**Recovery** 17' 5"

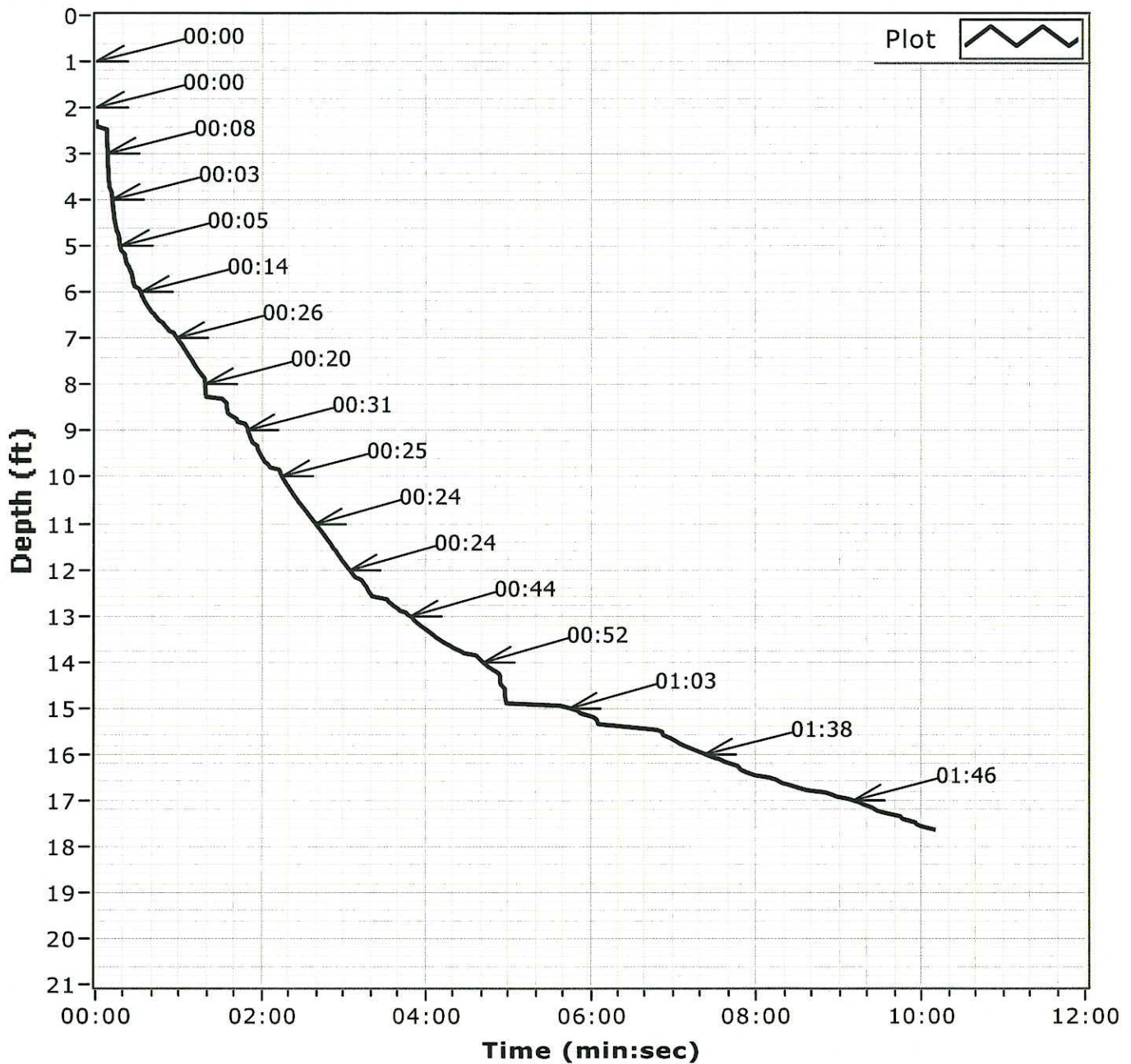
1103554.41 Y

Fl East Zone

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)



**Project**

**ST LUCIE - COASTAL TECH**



**Date** 12/04/2008

**Water Depth** -28.0

**Core Identifier** SLS-12

**Coordinate System**

**Start Time** 14:43:24

State Plane Coordinates (SPC)

**End Time** 14:52:59

**Penetration** 17' 1"

935898.87 X

**Total Time** 00:09:35

**Recovery** 16'

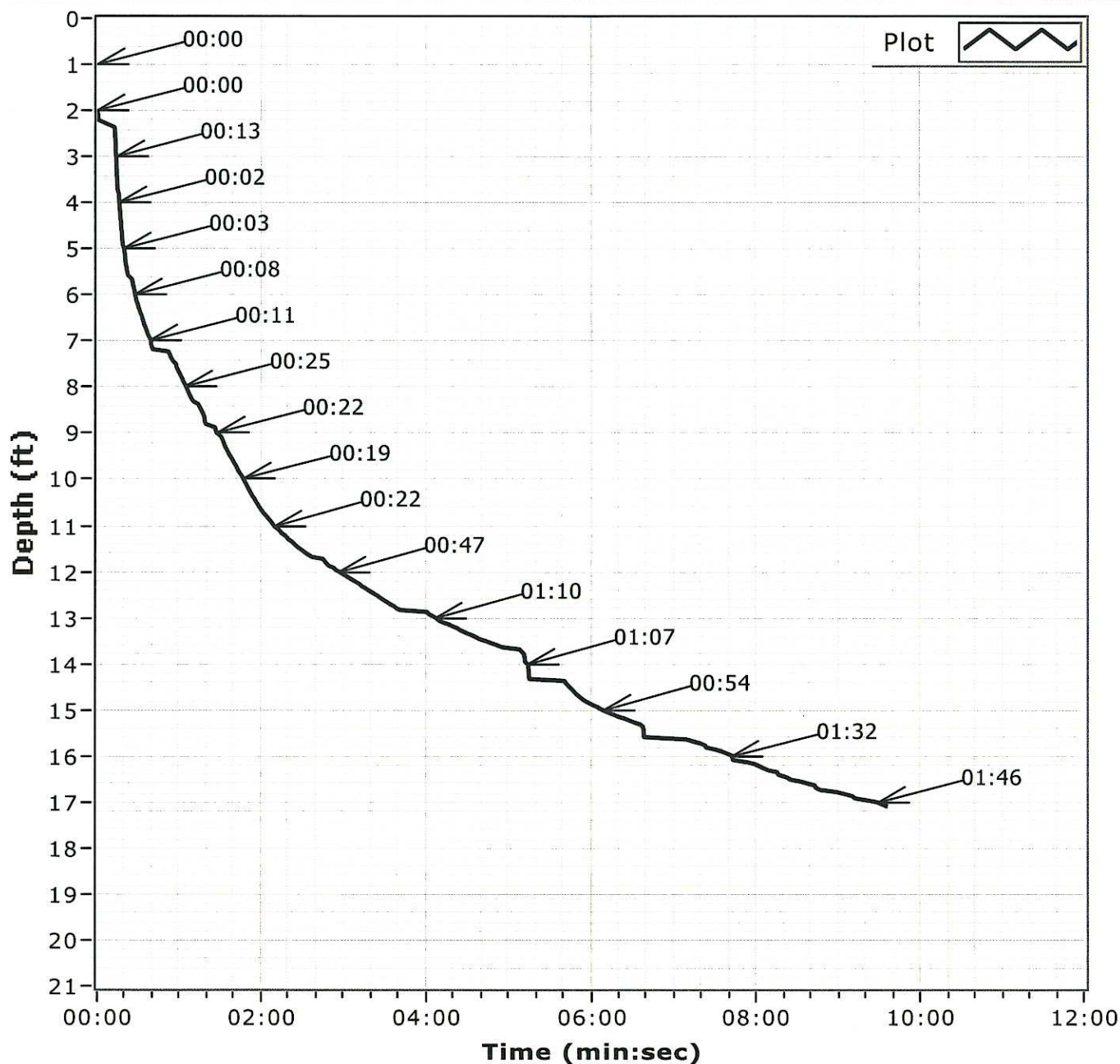
1105578.95 Y

Fl East Zone

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)



**Project**

ST LUCIE - COASTAL TECH



**Date** 12/04/2008

**Water Depth** -35.2

**Core Identifier** SLS-13

**Coordinate System**

State Plane Coordinates (SPC)

936296.22 X

1107569.20 Y

Fl East Zone

**Start Time** 15:07:19

**End Time** 15:19:29

**Total Time** 00:12:09

**Penetration** 18' 4"

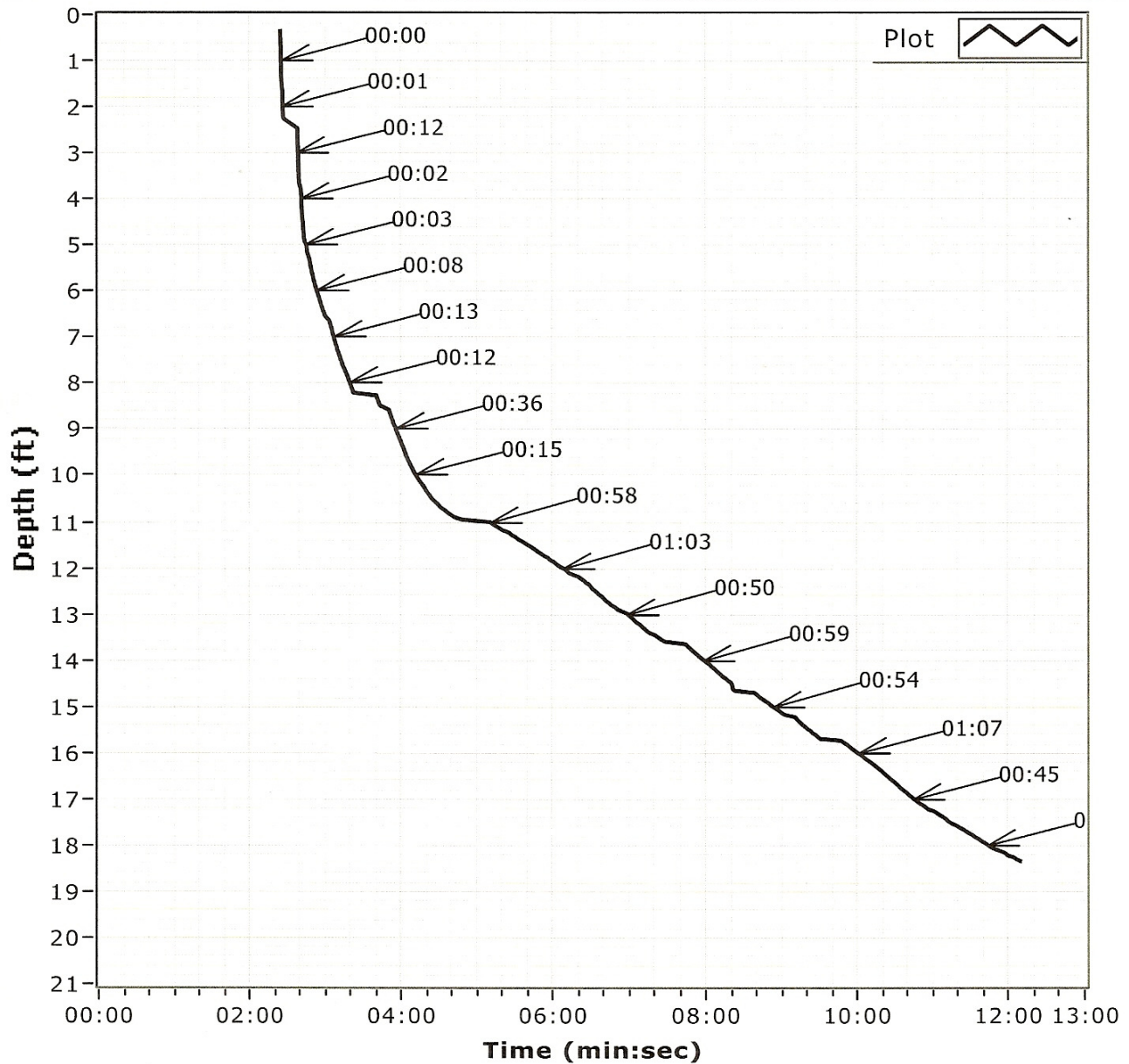
**Recovery** 14' 10"

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)

Note: Vibrator was stuck at first, then started. Actual start time is 2 min 10 sec.



**Project**

**ST LUCIE - COASTAL TECH**



**Date** 12/04/2008

**Water Depth** -34.6

**Core Identifier** SLS-14

**Coordinate System**

**Start Time** 15:45:52

State Plane Coordinates (SPC)

**End Time** 15:55:54

**Penetration** 18' 10"

929576.55      **X**

**Total Time** 00:10:01

**Recovery** 16'

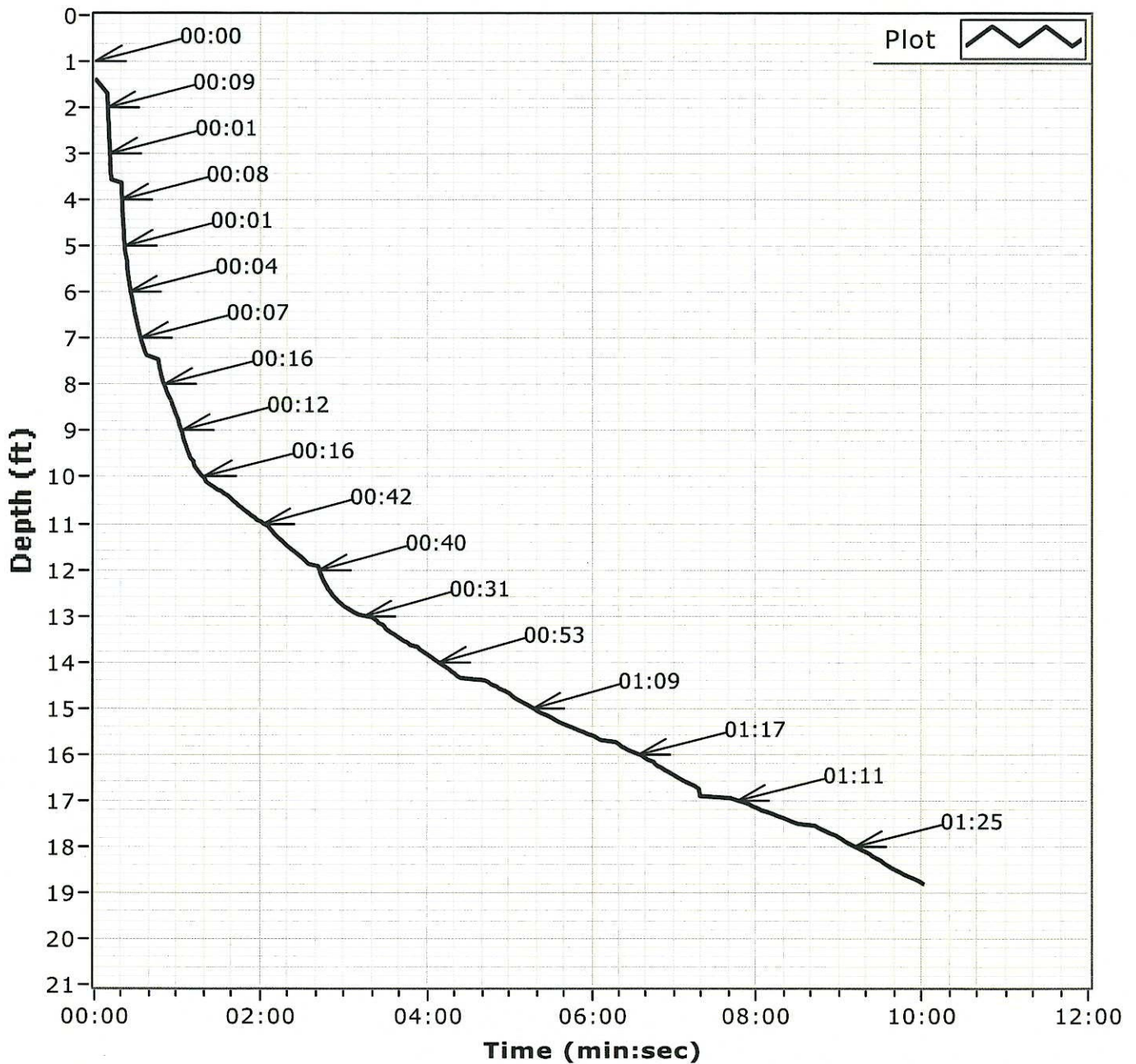
110559.37      **Y**

Fl East      **Zone**

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)



**Project**

**ST LUCIE - COASTAL TECH**



**Date** 12/04/2008

**Water Depth** -36.3

**Core Identifier** SLS-15

**Coordinate System**

State Plane Coordinates (SPC)

929980.81 X

1109567.97 Y

Fl East Zone

**Start Time** 16:09:20

**End Time** 16:15:19

**Total Time** 00:05:58

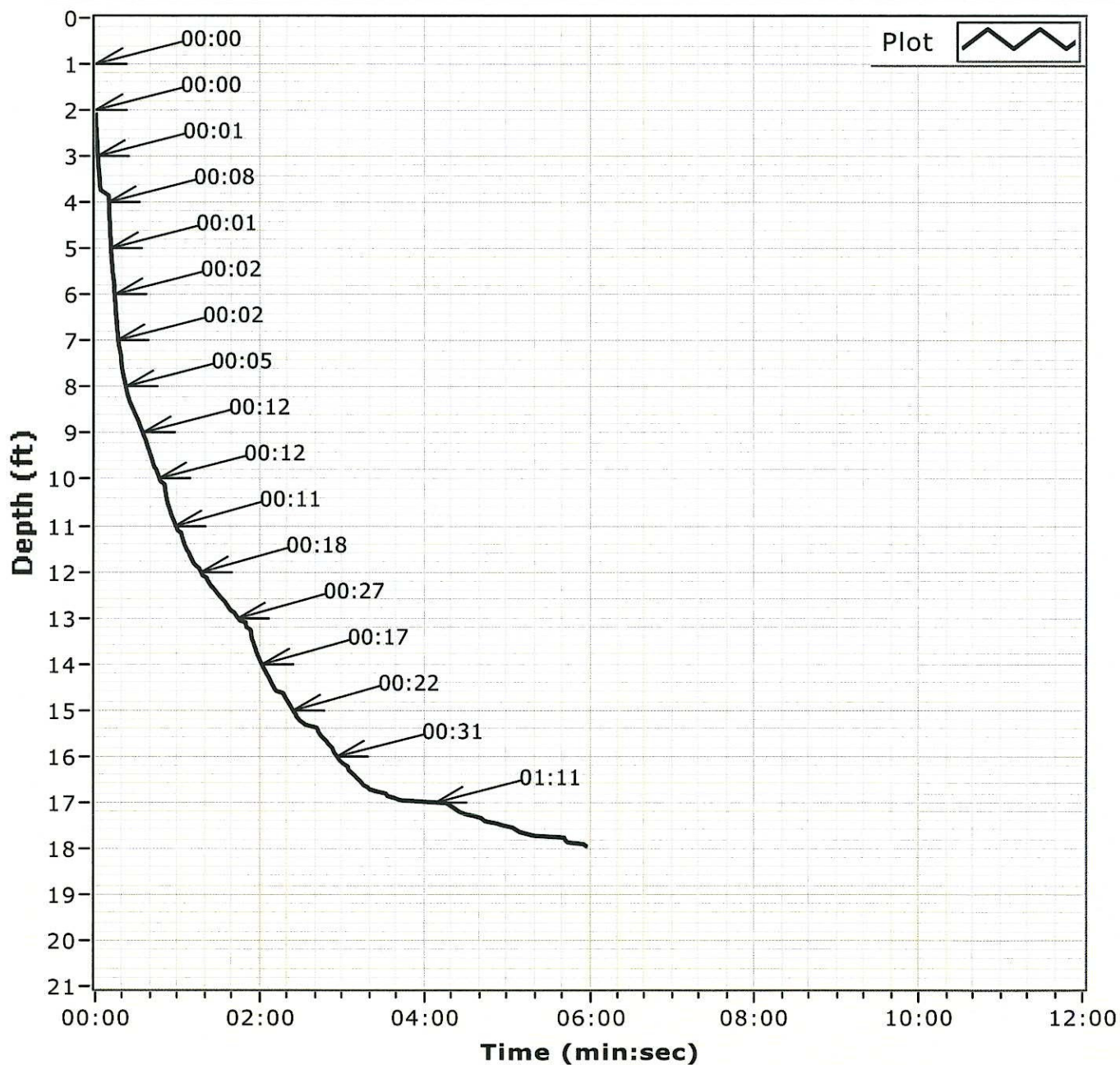
**Penetration** 18' 0"

**Recovery** 16FT

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)



**Project**

**ST LUCIE - COASTAL TECH**



**Date** 12/04/2008

**Water Depth** -35.3

**Core Identifier** SLS-16

**Coordinate System**

State Plane Coordinates (SPC)

**Start Time** 16:29:44

**End Time** 16:39:44

**Penetration** 17' 4"

929036.75      **X**

**Total Time** 00:09:59

**Recovery** 15'

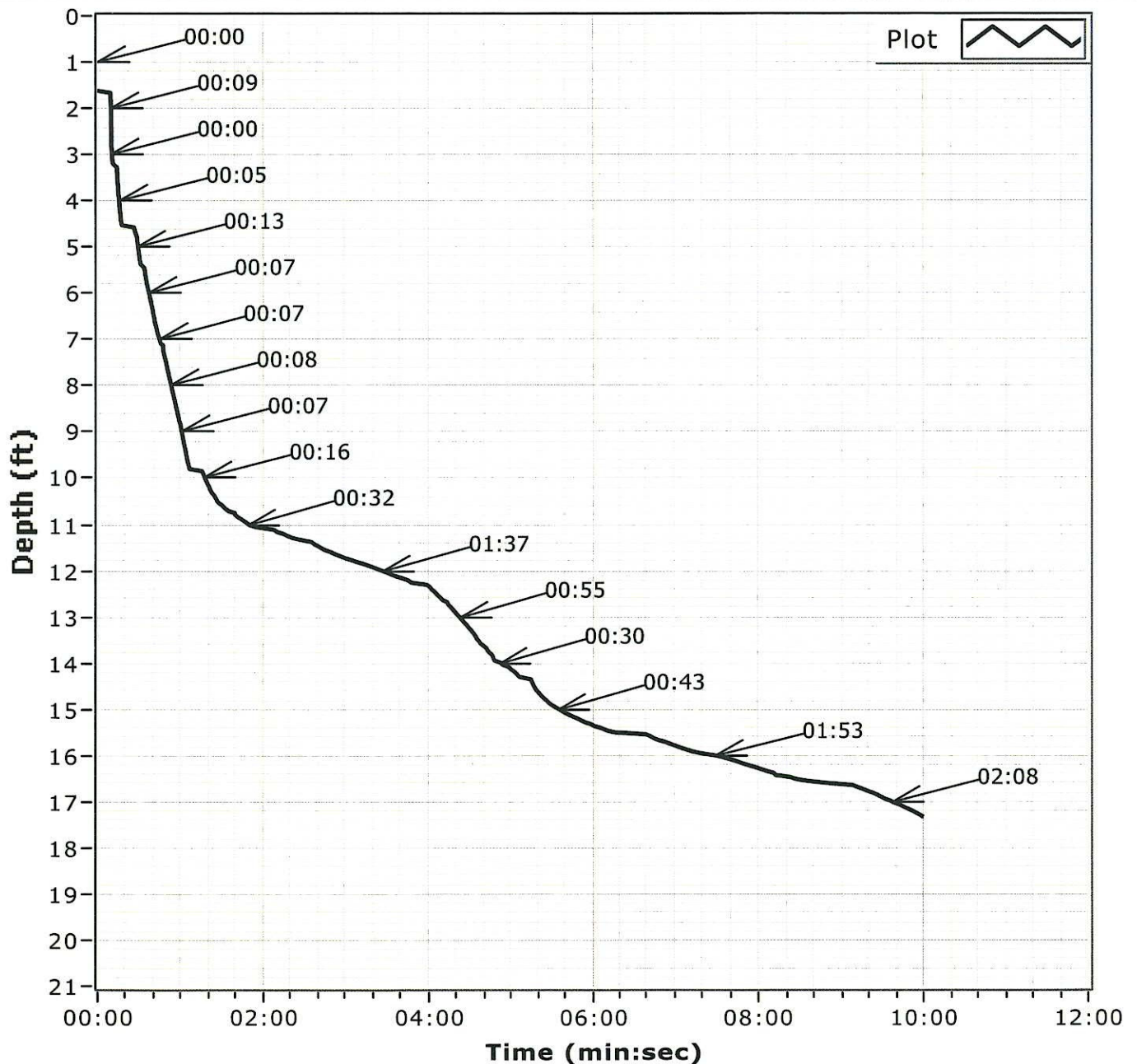
1111597.55      **Y**

Fl East      **Zone**

**Comments**

Horizontal: NAD 83 (feet)

Vertical: NAVD 88 (feet)



**Appendix 2g**

**CD-ROM Containing gINT files**



## **Appendix 3a**

### **FGS/MMS Vibracore Sample Sedimentology**

Vibracore	Sample	Mean (mm)	Std Dev (phi)	Carbonate (wt%)	Fines (wt%)
VSLA-1	0-2	0.43	0.63	88.4	1.1
	2-4	0.58	0.94	92.5	1.1
	4-6	0.42	0.61	88.6	1.1
	6-8	0.37	0.61	86.0	2.5
	8-10	0.37	0.61	92.3	1.6
	10-12	0.47	0.80	89.5	1.0
	12-14	0.33	0.81	80.6	2.1
	14-16	0.32	0.76	82.6	1.6
16-18.5	0.34	0.93	83.0	2.8	
VSLA-2	0-2	0.41	0.74	88.4	1.1
	2-4	0.30	0.64	85.0	1.0
	4-6	0.47	1.00	92.0	1.4
	6-8	0.35	0.70	86.0	4.7
	8-10	0.30	0.72	88.0	9.1
	10-12	0.42	1.20	91.0	6.9
	12-14	0.28	0.95	86.0	6.9
	14-15	0.36	0.95	88.0	6.4
VSLA-3	0-2	0.41	0.73	87.0	1.3
	2-4	0.35	0.70	86.0	1.0
	4-6	0.44	0.79	90.5	1.8
	6-8	0.39	0.70	90.0	1.6
	8-10	0.38	0.98	91.0	1.3
	10-12	0.38	0.96	91.4	1.3
	12-14	0.24	1.00	81.0	7.2
	14-16	0.68	1.60	93.0	5.1
	16-18	0.29	1.10	81.0	5.9
18-20	0.39	1.10	86.0	3.7	
VSLA-4	0-2	0.64	1.10	93.0	2.2
	2-4	0.51	0.83	86.0	1.5
	4-6	0.61	1.00	91.0	2.0
	6-8	0.63	1.10	90.0	0.5
	8-10	0.44	0.91	91.0	1.5
	10-12	0.50	1.10	91.0	1.9
	12-14	0.23	0.84	84.0	4.2
	14-16	0.22	0.97	93.0	9.1
	16-18	0.20	1.20	81.0	17.2
	18-19.5	0.47	1.40	96.0	4.4
VSLA-5	0-2	0.55	0.87	91.0	0.7
	2-4	0.59	1.00	91.0	1.5
	4-6	0.54	0.93	90.0	2.0
	6-8	0.70	1.00	93.0	1.1
	8-10	0.45	0.71	92.0	1.5
	10-12	0.49	0.87	90.0	0.6
	12-14	0.48	0.75	90.0	0.9
	14-16	0.28	0.58	78.0	1.1
16-18.5	0.30	0.93	86.0	5.5	

\*Data extracted from *A Geological Investigation of Sand Resources Along Florida's Central-East Coast* (Hoenstine et al, 2002)

Vibracore	Sample	Mean (mm)	Std Dev (phi)	Carbonate (wt%)	Fines (wt%)
VSLA-6	0-2	0.48	0.67	89.0	0.5
	2-4	0.45	0.66	87.0	0.6
	4-6	0.44	0.66	87.0	1.4
	6-8	0.48	0.77	92.0	1.5
	8-10	0.39	0.72	86.0	2.6
	10-12	0.44	0.82	87.0	1.0
	12-14	0.41	0.84	88.0	1.4
	14-16	0.39	0.73	91.0	3.0
VSLA-7	0-2	0.32	1.10	87.0	4.6
	2-4	0.21	0.96	84.0	4.4
	4-6	0.16	0.68	79.0	2.9
	6-8	0.22	1.50	77.0	7.7
	8-10	0.40	1.90	86.0	5.6
	10-12	0.34	1.20	85.0	2.4
	12-14	0.39	1.90	77.0	7.4
	14-16	0.18	1.60	61.0	14.0
	16-18	0.17	1.60	59.0	19.2
	18-19	1.40	2.00	89.0	10.0
VSLA-8	0-2	0.56	1.20	91.0	0.7
	2-4	0.64	1.10	95.0	1.3
	4-6	0.58	1.30	92.0	1.9
	6-8	0.27	0.83	85.0	1.0
	8-10	0.27	0.83	85.0	2.5
	10-12	0.30	1.10	91.0	3.8
	12-14.5	0.58	1.50	91.0	6.6

\*Data extracted from *A Geological Investigation of Sand Resources Along Florida's Central-East Coast* (Hoenstine et al, 2002)

Vibracore	Sample	Mean (mm)	Std Dev (phi)	Carbonate (wt%)	Fines (wt%)
VSLA-9A	0-2	0.24	0.74	85.0	2.3
	2-4	0.32	0.78	87.0	0.8
	4-6	0.37	0.87	88.0	1.4
	6-8	0.32	0.78	86.0	1.0
	8-10	0.18	0.85	75.0	2.6
	10-12	0.28	1.20	84.0	5.4
	12-14	0.24	1.40	79.0	10.3
	14-16	0.31	1.30	77.0	8.7
	16-18	0.78	1.50	89.0	7.0
18-19.5	0.21	1.40	72.0	12.4	
VSLA-10	0-2	0.45	0.89	89.0	0.7
	2-4	0.42	1.10	89.0	3.2
	4-6	0.49	0.99	90.0	2.7
	6-8	0.47	0.93	89.0	2.2
	8-10	0.43	0.89	79.0	2.2
	10-12	0.42	0.88	89.0	1.3
	12-14	0.46	1.00	92.0	1.8
	14-16	0.61	1.90	92.0	4.5
	16-18	0.39	1.60	83.0	9.8
	18-19.5	0.20	1.10	71.0	10.5
VSLA-11	0-2	0.30	0.74	85.0	0.9
	2-4	0.31	0.89	86.0	1.8
	4-6	0.50	0.99	92.0	1.8
	6-8	0.47	1.00	89.0	1.2
	8-10	0.46	1.20	91.0	2.5
	10-12	0.39	1.20	88.0	2.3
	12-14	0.58	1.10	90.0	3.5
	14-16	0.29	0.93	83.0	1.8
	16-18	file corrupted			
18-20	file corrupted				
VSLA-12	0-2	0.40	0.92	88.0	0.8
	2-4	0.39	0.94	88.0	1.5
	4-6	0.39	0.99	88.0	1.8
	6-8	0.38	1.00	88.0	1.0
	8-10	0.24	0.87	84.0	2.8
	10-12	0.50	1.30	91.0	2.9
	12-14	0.19	1.20	77.0	8.6
	14-16	0.17	1.40	67.0	26.0
	16-18	0.34	1.20	76.0	2.9
	18-19	0.39	2.10	1.0	13.0
VSLA-13	0-2	0.64	0.97	93.0	0.6
	2-4	0.61	0.99	92.0	0.7
	4-6	0.62	0.99	93.0	4.6
	6-8	0.34	0.65	84.0	1.1
	8-10	0.35	0.74	84.0	1.5
	10-12	0.28	0.77	81.0	1.3
	12-14	0.26	0.60	82.0	1.5
	14-16	0.19	0.78	85.0	3.1
	16-18	0.22	1.10	82.0	7.0
	18-20	0.44	1.50	88.0	6.4

\*Data extracted from *A Geological Investigation of Sand Resources Along Florida's Central-East Coast* (Hoenstine et al, 2002)

Vibracore	Sample	Mean (mm)	Std Dev (phi)	Carbonate (wt%)	Fines (wt%)
VSL-4	0-2	0.34	0.84	83	1.2
	2-4	0.37	0.98	87	2.3
	4-6	0.34	0.76	76	1.5
	6-8	0.43	0.74	85	1.2
	8-10	0.46	0.94	85	1.1
	10-12	0.41	0.89	80	0.3
	12-14	0.62	1.13	93	1.3
	14-16	0.25	0.91	81	2.5
	16-18	0.33	1.2	86	3.1
	18-20.2	0.5	2.4	78	9.9
VSL-6	0-2	0.26	0.6	73	0.4
	2-4	0.36	0.98	83	0.9
	4-6	0.31	0.67	72	0.1
	6-8	0.28	0.71	73	0.6
	8-10	0.43	0.91	82	0.7
	10-12	*0.29	1	79	0.8
	12-14	0.29	1.02	86	0.8
	14-16	0.31	1.02	88	1.9
	16-18	0.3	1.04	78	1.7
	18-20	0.2	0.85	77	1.9
VSL-8	0-2	0.35	0.66	82	1
	2-4	0.34	0.77	86	0.7
	4-6	0.4	0.63	87	0.6
	6-8	0.44	0.78	91	0.9
	8-10	0.38	1.08	78	2.1
	10-12	0.22	1.16	82	7.2
	12-14	0.27	2.05	71	15.6
	14-16	0.21	1.92	65	12.3
	16-18	0.33	2.4	67.2	15.3
	18-19.8	0.64	2.3	78.4	7.5
VSL-10	0-2	0.66	1.12	93	0.8
	2-4	1.19	1.55	95	2.6
	4-6	0.84	1.14	95	2.4
	6-8	0.39	0.98	90	1.1
	8-10	0.41	1.03	88	3.6
	10-12	0.2	0.82	79	1.8
	12-14	0.17	1	74	11.2
	14-16	0.35	1.87	76	10.6
	17.7	0.56	2.01	83	11.2
VSL-13	0-2	0.45	0.82	88	0.8
	2-4	0.47	0.72	89	1.3
	4-6	0.44	0.73	88	1.3
	6-8	0.51	0.77	91	1.8
	8-10	0.55	0.66	93	2.4
	10-12	0.51	0.77	89	1.4
	12-13.9	0.42	0.71	89	1.8

\*Data extracted from *A Geological Investigation of Sand Resources Along Florida's Central-East Coast* (Hoenstine et al, 2002)

**Appendix 3b**

**FGS/MMS DVD Report**

**Appendix 4a**

**Martin County Vibracore Logs and Sample Gradation Curves**

Boring Designation VB-MCSP06-1

<b>DRILLING LOG</b>		DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS
1. PROJECT Martin County, FL BEC Borrow Area		9. SIZE AND TYPE OF BIT See Remarks		
2. BORING DESIGNATION VB-MCSP06-1		LOCATION COORDINATES X = 934,939 Y = 1,102,182	10. COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)	HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAW		CONTRACTOR FILE NO.	11. MANUFACTURER'S DESIGNATION OF DRILL Alpine 270 Vibracore on D/B Snell	<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER L. Gaughf		12. TOTAL SAMPLES DISTURBED 2 UNDISTURBED (UD) 0		
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL	13. TOTAL NUMBER CORE BOXES 1	
6. THICKNESS OF OVERBURDEN N/A		BEARING	14. ELEVATION GROUND WATER N/A	
7. DEPTH DRILLED INTO ROCK N/A		15. DATE BORING STARTED 07-19-06 COMPLETED 07-19-06		
8. TOTAL DEPTH OF BORING 8.0 Ft.		16. ELEVATION TOP OF BORING -37.3 Ft.		
		17. TOTAL RECOVERY FOR BORING 81 %		
		18. SIGNATURE AND TITLE OF INSPECTOR Robert DiRienzo, Geotechnical Engineer		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE									
-37.3	0.0		SHELL, mostly sand to gravel-sized shell up to 1/2", few fine-grained sand-sized quartz, 2.5Y 3/1 very dark gray	100	1		-37.3		0									
-40.5	3.2		At El. -39.6 Ft., 2.5Y 4/3 olive brown				Vibracore											
-43.8	6.5		SAND, poorly-graded with silt, mostly sand to gravel-sized shell up to 1/2", some fine to medium-grained sand-sized quartz, few silt, 2.5Y 4/3 olive brown (SP-SM)	69	2		-40.5		5									
-45.3	8.0		At El. -42.3 Ft., little fine to coarse-grained sand-sized shell				Vibracore											
		NIR					-45.3											
			NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Elevation based on predicted tide 4. Laboratory Testing Results						10									
			<table border="1"> <thead> <tr> <th>SAMPLE ID</th> <th>SAMPLE DEPTH</th> <th>LABORATORY CLASSIFICATION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.0/0.5</td> <td>SP*</td> </tr> <tr> <td>2</td> <td>3.2/3.7</td> <td>SP-SM*</td> </tr> </tbody> </table>	SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION	1	0.0/0.5	SP*	2	3.2/3.7	SP-SM*						
SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION																
1	0.0/0.5	SP*																
2	3.2/3.7	SP-SM*																
			*Lab visual classification based on gradation curve. No Atterberg limits.						15									



Boring Designation VB-MCSP06-2

<b>DRILLING LOG</b>		DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS
1. PROJECT Martin County, FL BEC Borrow Area		9. SIZE AND TYPE OF BIT See Remarks		
2. BORING DESIGNATION VB-MCSP06-2		LOCATION COORDINATES X = 933,787 Y = 1,098,323	10. COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)	HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAW		CONTRACTOR FILE NO.	11. MANUFACTURER'S DESIGNATION OF DRILL Alpine 270 Vibracore on D/B Snell	<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER L. Gaughf		12. TOTAL SAMPLES DISTURBED 1 UNDISTURBED (UD) 0		
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL	13. TOTAL NUMBER CORE BOXES 2	
6. THICKNESS OF OVERBURDEN N/A		BEARING	14. ELEVATION GROUND WATER N/A	
7. DEPTH DRILLED INTO ROCK N/A		15. DATE BORING STARTED 07-18-06 COMPLETED 07-18-06		
8. TOTAL DEPTH OF BORING 7.0 Ft.		16. ELEVATION TOP OF BORING -35.2 Ft.		
		17. TOTAL RECOVERY FOR BORING 67 %		
		18. SIGNATURE AND TITLE OF INSPECTOR Robert DiRienzo, Geotechnical Engineer		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE						
-35.2	0.0		SHELL, mostly fine to coarse-grained sand-sized shell, little fine to medium-grained sand-sized quartz, few silt, 2.5Y 5/3 light olive brown	100			Vibracore		0						
			At El. -36.6 Ft., mostly sand to gravel-sized shell up to 1-1/2"		1										
			At El. -38.4 Ft., mostly fine to medium-grained sand-sized shell, 2.5Y 4/2 dark grayish brown	62			Vibracore								
-39.9	4.7								5						
		NR													
-42.2	7.0														
			NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Elevation based on predicted tide 4. Laboratory Testing Results <table border="1"> <thead> <tr> <th>SAMPLE ID</th> <th>SAMPLE DEPTH</th> <th>LABORATORY CLASSIFICATION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1.0/1.5</td> <td>SP-SM*</td> </tr> </tbody> </table> *Lab visual classification based on gradation curve. No Atterberg limits.	SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION	1	1.0/1.5	SP-SM*						10
SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION													
1	1.0/1.5	SP-SM*													

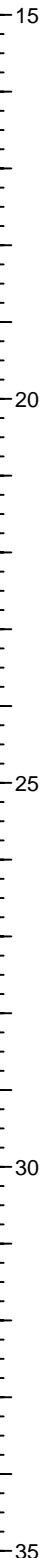
Boring Designation VB-MCSP06-3

<b>DRILLING LOG</b>		DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 2 SHEETS
1. PROJECT Martin County, FL BEC Borrow Area		9. SIZE AND TYPE OF BIT See Remarks		
2. BORING DESIGNATION VB-MCSP06-3		10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, FLE (U.S. Ft.) NAD83 MLW		
3. DRILLING AGENCY Corps of Engineers - CESAW		11. MANUFACTURER'S DESIGNATION OF DRILL <input type="checkbox"/> AUTO HAMMER Alpine 270 Vibracore on D/B Snell <input type="checkbox"/> MANUAL HAMMER		
4. NAME OF DRILLER L. Gaughf		12. TOTAL SAMPLES DISTURBED UNDISTURBED (UD) 2 0		
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES 2		
6. THICKNESS OF OVERBURDEN N/A		14. ELEVATION GROUND WATER N/A		
7. DEPTH DRILLED INTO ROCK N/A		15. DATE BORING STARTED COMPLETED 07-19-06 07-19-06		
8. TOTAL DEPTH OF BORING 12.0 Ft.		16. ELEVATION TOP OF BORING -42.6 Ft.		
		17. TOTAL RECOVERY FOR BORING 85 %		
		18. SIGNATURE AND TITLE OF INSPECTOR Robert DiRienzo, Geotechnical Engineer		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-42.6	0.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, some fine to coarse-grained sand-sized shell, 2.5Y 5/3 light olive brown (SP)		1				0
			At El. -44.7 Ft., 2.5Y 3/1 very dark gray	100			Vibracore		
			At El. -47.4 Ft., 2.5Y 5/2 grayish brown		2				5
			At El. -50.9 Ft., few fine to coarse-grained sand-sized shell, 2.5Y 4/1 dark gray	75			Vibracore		
-52.8	10.2								10
-54.6	12.0	NR							
			NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System.						15

Boring Designation VB-MCSP06-3

<b>DRILLING LOG (Cont. Sheet)</b>			INSTALLATION Jacksonville District				SHEET 2 OF 2 SHEETS											
PROJECT Martin County, FL BEC			COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)		HORIZONTAL NAD83		VERTICAL MLW											
LOCATION COORDINATES X = 934,426 Y = 1,095,178			ELEVATION TOP OF BORING -42.6 Ft.															
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE									
			3. Elevation based on predicted tide  4. Laboratory Testing Results  <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">SAMPLE ID</th> <th style="width:15%;">SAMPLE DEPTH</th> <th style="width:75%;">LABORATORY CLASSIFICATION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.0/0.5</td> <td>SP*</td> </tr> <tr> <td>2</td> <td>4.8/5.3</td> <td>SP*</td> </tr> </tbody> </table> <p>*Lab visual classification based on gradation curve. No Atterberg limits.</p>	SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION	1	0.0/0.5	SP*	2	4.8/5.3	SP*						
SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION																
1	0.0/0.5	SP*																
2	4.8/5.3	SP*																



Boring Designation VB-MCSP06-4

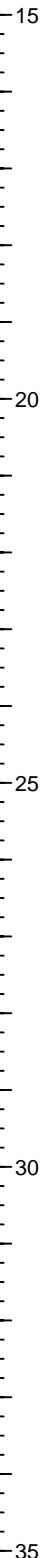
<b>DRILLING LOG</b>		DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 2 SHEETS
1. PROJECT Martin County, FL BEC Borrow Area		9. SIZE AND TYPE OF BIT See Remarks		
2. BORING DESIGNATION VB-MCSP06-4		10. COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAW		11. MANUFACTURER'S DESIGNATION OF DRILL Alpine 270 Vibracore on D/B Snell		VERTICAL MLW
4. NAME OF DRILLER L. Gaughf		12. TOTAL SAMPLES		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		DISTURBED 1
6. THICKNESS OF OVERBURDEN N/A		14. ELEVATION GROUND WATER		UNDISTURBED (UD) 0
7. DEPTH DRILLED INTO ROCK N/A		15. DATE BORING		STARTED 07-18-06
8. TOTAL DEPTH OF BORING 11.0 Ft.		16. ELEVATION TOP OF BORING		COMPLETED 07-18-06
		17. TOTAL RECOVERY FOR BORING		50 %
		18. SIGNATURE AND TITLE OF INSPECTOR Robert DiRienzo, Geotechnical Engineer		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-40.5	0.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, 2.5Y 5/2 grayish brown (SP)		1				
			At El. -43.6 Ft., few sand to gravel-sized shell up to 1", 2.5Y 3/1 very dark gray						
-46.0	5.5			50			Vibracore		
		NO RECOVERY							
-51.5	11.0								
			NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Elevation based on predicted tide 4. Laboratory Testing Results						

Boring Designation VB-MCSP06-4

DRILLING LOG (Cont. Sheet)	INSTALLATION Jacksonville District	SHEET 2 OF 2 SHEETS
PROJECT Martin County, FL BEC	COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)	HORIZONTAL NAD83
LOCATION COORDINATES X = 932,949 Y = 1,092,089	VERTICAL MLW ELEVATION TOP OF BORING -40.5 Ft.	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE						
			<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%; border-bottom: 1px dashed black;">SAMPLE ID</td> <td style="width:15%; border-bottom: 1px dashed black;">SAMPLE DEPTH</td> <td style="width:70%; border-bottom: 1px dashed black;">LABORATORY CLASSIFICATION</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">0.0/0.5</td> <td style="text-align: center;">SP*</td> </tr> </table> <p style="font-size: small; margin-top: 5px;">*Lab visual classification based on gradation curve. No Atterberg limits.</p>	SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION	1	0.0/0.5	SP*						
SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION													
1	0.0/0.5	SP*													



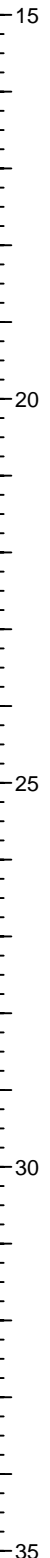
Boring Designation VB-MCSP06-5

<b>DRILLING LOG</b>		DIVISION South Atlantic	INSTALLATION Jacksonville District		SHEET 1 OF 2 SHEETS
1. PROJECT Martin County, FL BEC Borrow Area			9. SIZE AND TYPE OF BIT See Remarks		
2. BORING DESIGNATION VB-MCSP06-5		LOCATION COORDINATES X = 931,756 Y = 1,085,619		10. COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)	
3. DRILLING AGENCY Corps of Engineers - CESAW		CONTRACTOR FILE NO.		HORIZONTAL NAD83	
4. NAME OF DRILLER L. Gaughf				VERTICAL MLW	
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL		11. MANUFACTURER'S DESIGNATION OF DRILL Alpine 270 Vibracore on D/B Snell	
6. THICKNESS OF OVERBURDEN N/A				<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER	
7. DEPTH DRILLED INTO ROCK N/A				12. TOTAL SAMPLES 2	
8. TOTAL DEPTH OF BORING 12.0 Ft.				DISTURBED 2	
				UNDISTURBED (UD) 0	
				13. TOTAL NUMBER CORE BOXES 2	
				14. ELEVATION GROUND WATER N/A	
				15. DATE BORING STARTED 07-18-06	
				COMPLETED 07-18-06	
				16. ELEVATION TOP OF BORING -29.5 Ft.	
				17. TOTAL RECOVERY FOR BORING 64 %	
				18. SIGNATURE AND TITLE OF INSPECTOR Robert DiRienzo, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-29.5	0.0						-29.5		
		o o o o	SHELL, mostly fine to coarse-grained sand-sized shell, little fine-grained sand-sized quartz, 2.5Y 4/3 olive brown	100	1		Vibracore		
-31.1	1.6	o o o o					-31.1		
		o o o o	SAND, poorly-graded, mostly fine gravel-sized quartz, some fine to coarse-grained sand-sized shell, 2.5Y 5/2 grayish brown (SP)		2				
		o o o o	From El. -33.7 to -34.5 Ft., some sand to gravel-sized shell up to 1/2"						
		o o o o	From El. -35.4 to -36.4 Ft., 2.5Y 4/1 dark gray	59			Vibracore		
-37.2	7.7								
		NO RECOVERY							
-41.5	12.0						-41.5		
			NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System.						

Boring Designation VB-MCSP06-5

<b>DRILLING LOG (Cont. Sheet)</b>		INSTALLATION Jacksonville District			SHEET 2 OF 2 SHEETS													
PROJECT Martin County, FL BEC		COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)	HORIZONTAL NAD83	VERTICAL MLW														
LOCATION COORDINATES X = 931,756 Y = 1,085,619		ELEVATION TOP OF BORING -29.5 Ft.																
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE									
			3. Elevation based on predicted tide  4. Laboratory Testing Results  <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">SAMPLE ID</th> <th style="width:15%;">SAMPLE DEPTH</th> <th style="width:75%;">LABORATORY CLASSIFICATION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.0/0.5</td> <td>SP*</td> </tr> <tr> <td>2</td> <td>1.6/2.1</td> <td>SP*</td> </tr> </tbody> </table> <p>*Lab visual classification based on gradation curve. No Atterberg limits.</p>	SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION	1	0.0/0.5	SP*	2	1.6/2.1	SP*						
SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION																
1	0.0/0.5	SP*																
2	1.6/2.1	SP*																



Boring Designation VB-MCSP06-6

<b>DRILLING LOG</b>		DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 2 SHEETS
1. PROJECT Martin County, FL BEC Borrow Area		9. SIZE AND TYPE OF BIT See Remarks		
2. BORING DESIGNATION VB-MCSP06-6		LOCATION COORDINATES X = 932,106 Y = 1,079,962	10. COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)	HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAW		CONTRACTOR FILE NO.	11. MANUFACTURER'S DESIGNATION OF DRILL Alpine 270 Vibracore on D/B Snell	<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER L. Gaughf		12. TOTAL SAMPLES	DISTURBED 3	UNDISTURBED (UD) 0
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DEG. FROM VERTICAL	BEARING	13. TOTAL NUMBER CORE BOXES 2
6. THICKNESS OF OVERBURDEN N/A		14. ELEVATION GROUND WATER N/A		
7. DEPTH DRILLED INTO ROCK N/A		15. DATE BORING		
8. TOTAL DEPTH OF BORING 12.0 Ft.		STARTED 07-18-06		
		COMPLETED 07-18-06		
		16. ELEVATION TOP OF BORING -26.5 Ft.		
		17. TOTAL RECOVERY FOR BORING 78 %		
		18. SIGNATURE AND TITLE OF INSPECTOR Robert DiRienzo, Geotechnical Engineer		

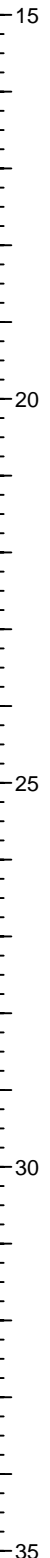
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-26.5	0.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, some fine to coarse-grained sand-sized shell, 2.5Y 5/2 grayish brown (SP)	100	1		Vibracore		0
-28.1	1.6		SHELL, mostly sand to gravel-sized shell up to 1/2", little fine-grained sand-sized quartz, 2.5Y 5/2 grayish brown At El. -29.3 Ft., little fine to medium-grained sand-sized shell, 2.5Y 5/1 gray	100	2		Vibracore		
-31.5	5.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell up to 1/2", 2.5Y 4/1 dark gray (SP) At El. -33.6 Ft., some sand to gravel-sized shell up to 3/4"	61	3		Vibracore		5
-35.8	9.3								
-38.5	12.0	NO RECOVERY							10
			NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System.						15

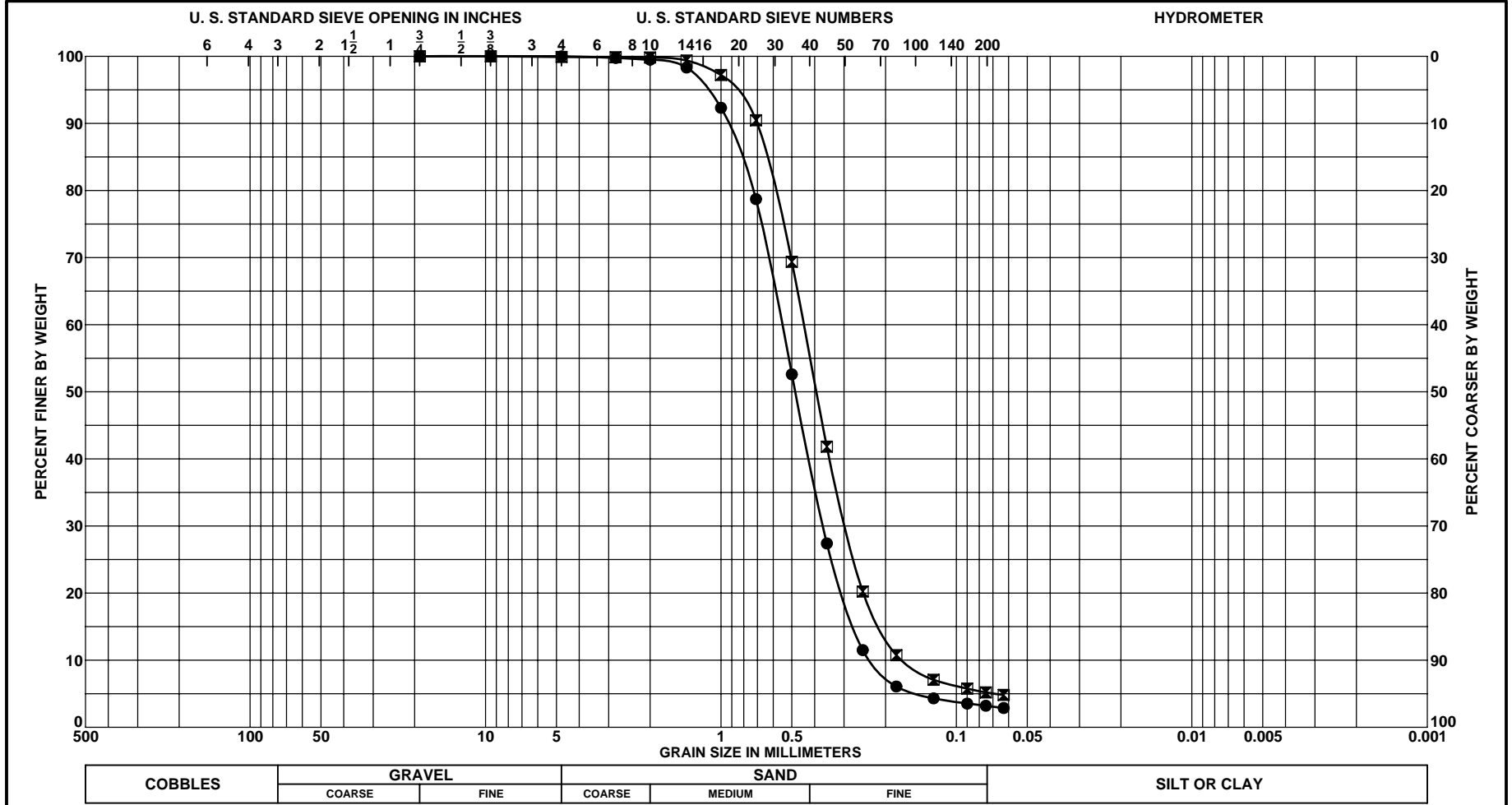


Boring Designation VB-MCSP06-6

<b>DRILLING LOG (Cont. Sheet)</b>	INSTALLATION Jacksonville District	SHEET 2 OF 2 SHEETS
PROJECT Martin County, FL BEC	COORDINATE SYSTEM/DATUM State Plane, FLE (U.S. Ft.)	HORIZONTAL NAD83
LOCATION COORDINATES X = 932,106 Y = 1,079,962	VERTICAL MLW	
		ELEVATION TOP OF BORING -26.5 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE													
			3. Elevation based on predicted tide  4. Laboratory Testing Results  <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align:left;">SAMPLE ID</th> <th style="text-align:left;">SAMPLE DEPTH</th> <th style="text-align:left;">LABORATORY CLASSIFICATION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.0/0.5</td> <td>SP*</td> </tr> <tr> <td>2</td> <td>1.6/2.1</td> <td>SP*</td> </tr> <tr> <td>3</td> <td>5.0/5.5</td> <td>SP*</td> </tr> </tbody> </table> <p>*Lab visual classification based on gradation curve. No Atterberg limits.</p>	SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION	1	0.0/0.5	SP*	2	1.6/2.1	SP*	3	5.0/5.5	SP*							
SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION																				
1	0.0/0.5	SP*																				
2	1.6/2.1	SP*																				
3	5.0/5.5	SP*																				

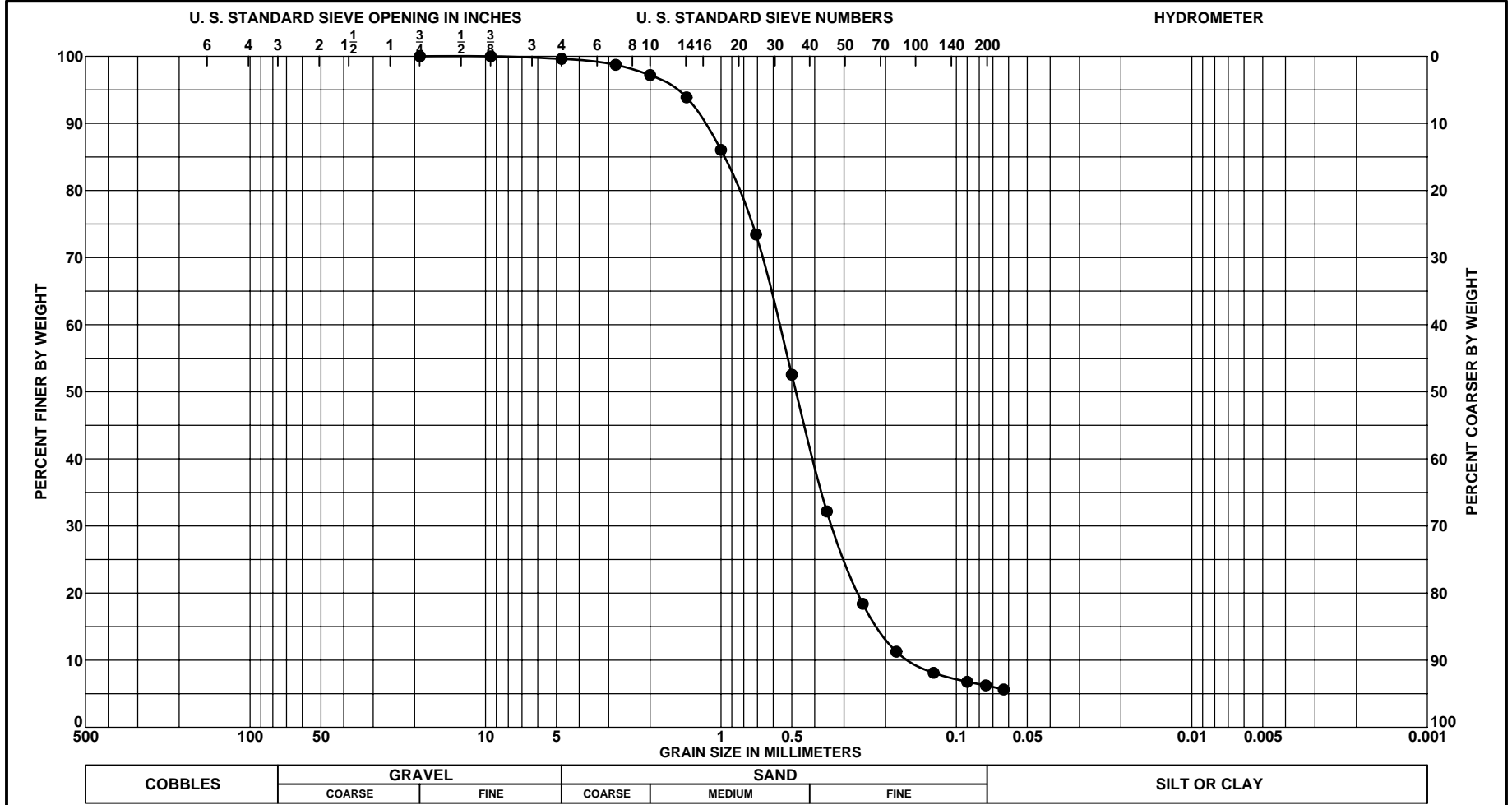




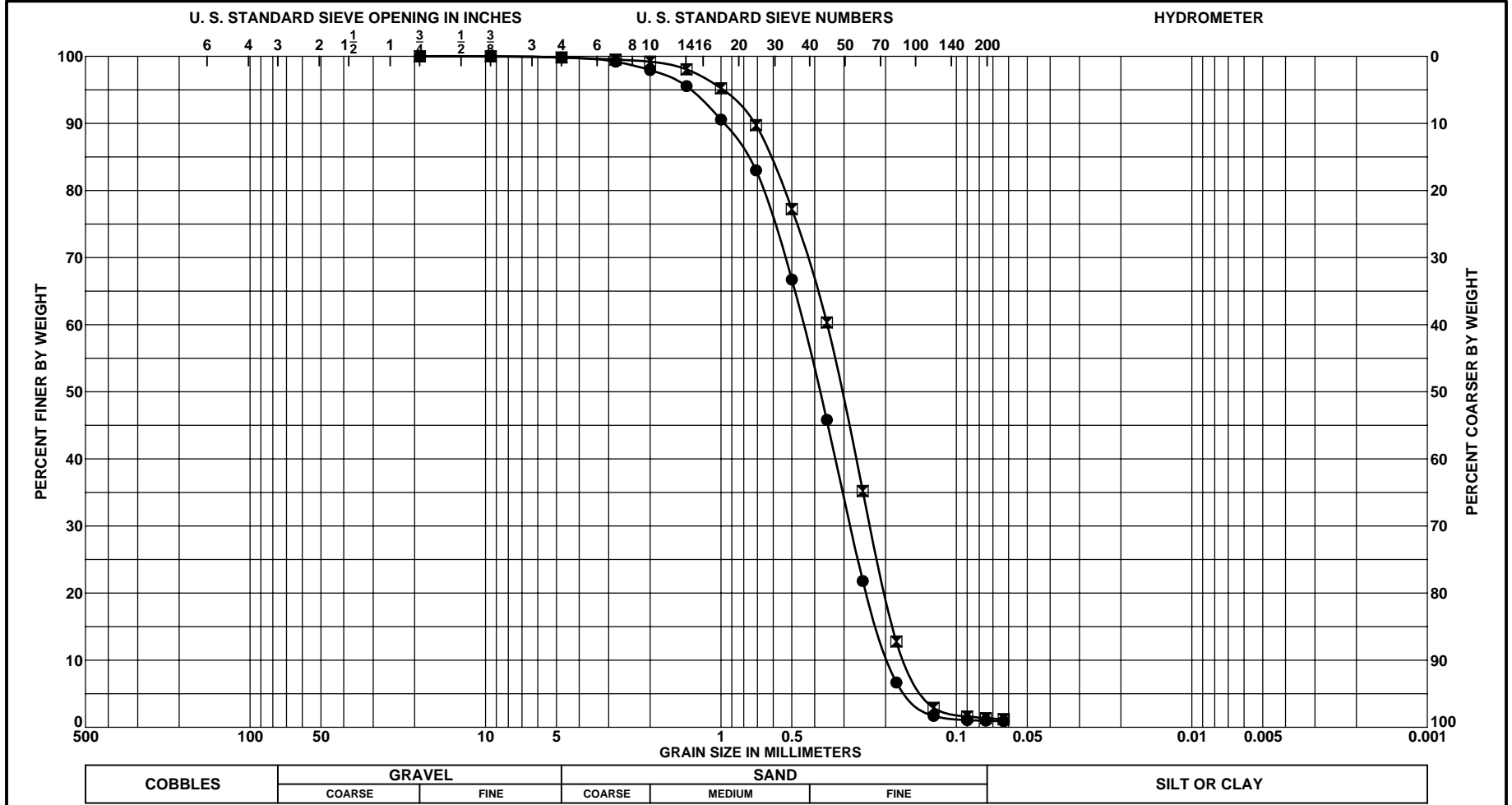
Sample No.	Depth	Classification	Munsell	CO <sub>3</sub> %	G <sub>s</sub>	Org %	w <sub>n</sub>	LL	PL	PI	SOIL CLASSIFICATION	
											COBBLES	SILT OR CLAY
● 1	0.0 to 0.5 Ft.	(SP)	2.5Y 4/3									
☒ 2	3.2 to 3.7 Ft.	(SP-SM)	2.5Y 4/3	58/85 (est)								

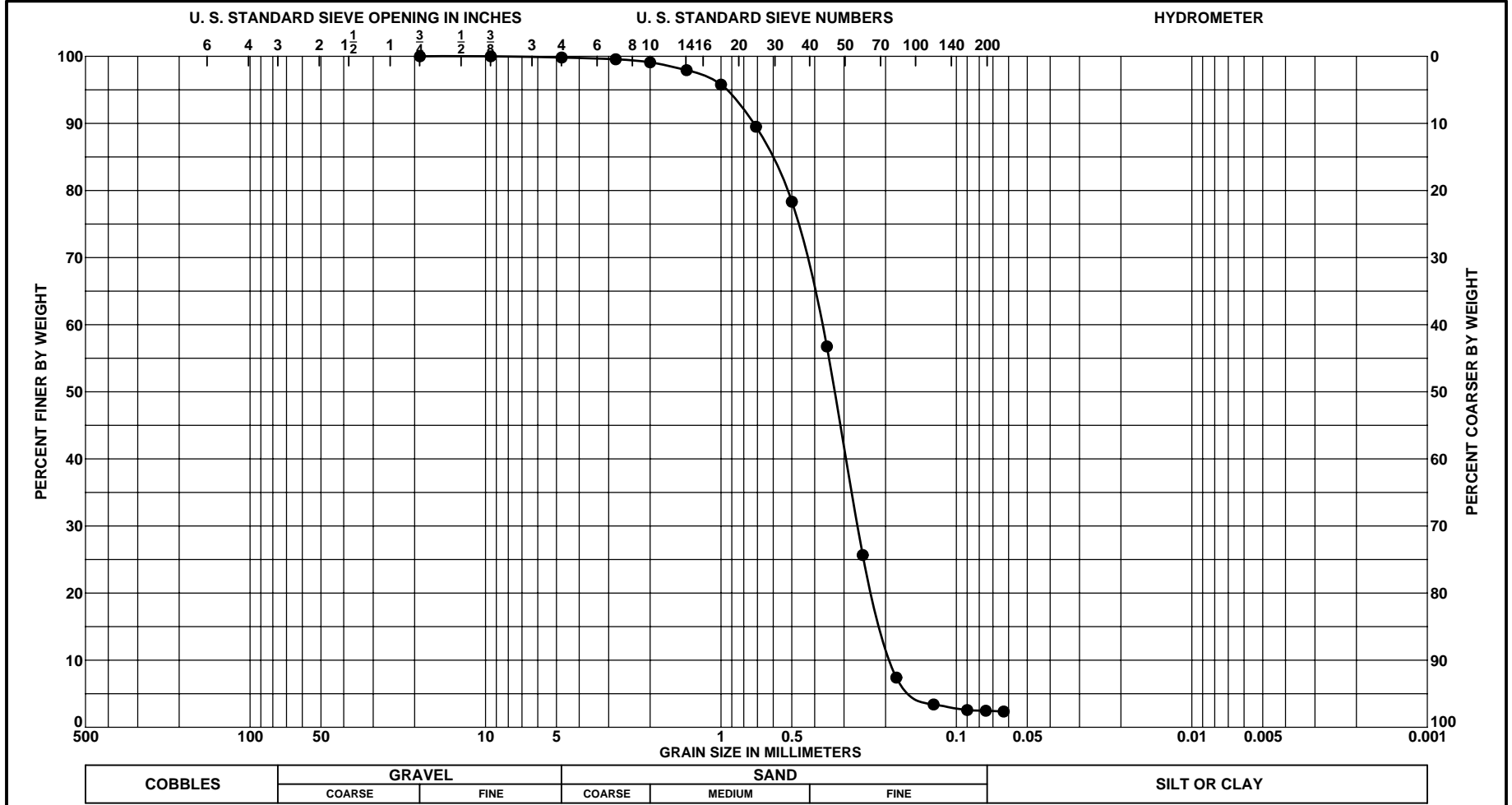
GRADATION CURVES

PROJECT	Martin County, FL BEC
	Borrow Area
BORING NO.	VB-MCSP06-1
BORING ELEV.	-37.3 Ft., MLW
DATE	4/27/2007

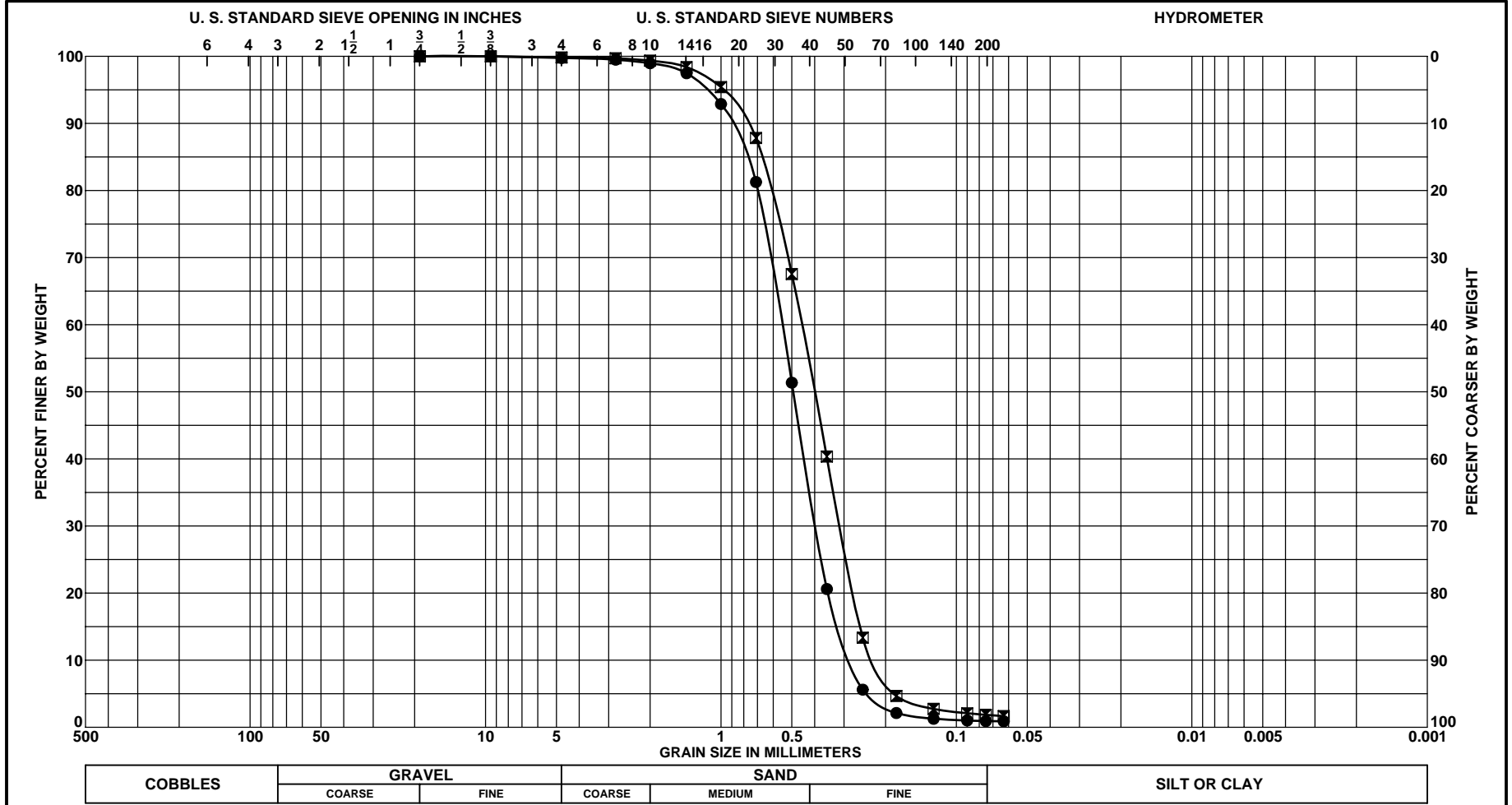


Sample No.	Depth	Classification	Munsell	CO <sub>3</sub> %	G <sub>s</sub>	Org %	w <sub>n</sub>	LL	PL	PI	SOIL CLASSIFICATION	
											COBBLES	SILT OR CLAY
● 1	1.0 to 1.5 Ft.	SAND, poorly-graded with silt, mostly coarse to fine sand-size shell fragments, few fine-grained quartz, few silt, dark grayish brown (SP-SM)	2.5Y 4/2	79/85 (est)								
GRADATION CURVES											PROJECT	Martin County, FL BEC
												Borrow Area
											BORING NO.	VB-MCSP06-2
											BORING ELEV.	-35.2 Ft., MLW
											DATE	4/27/2007





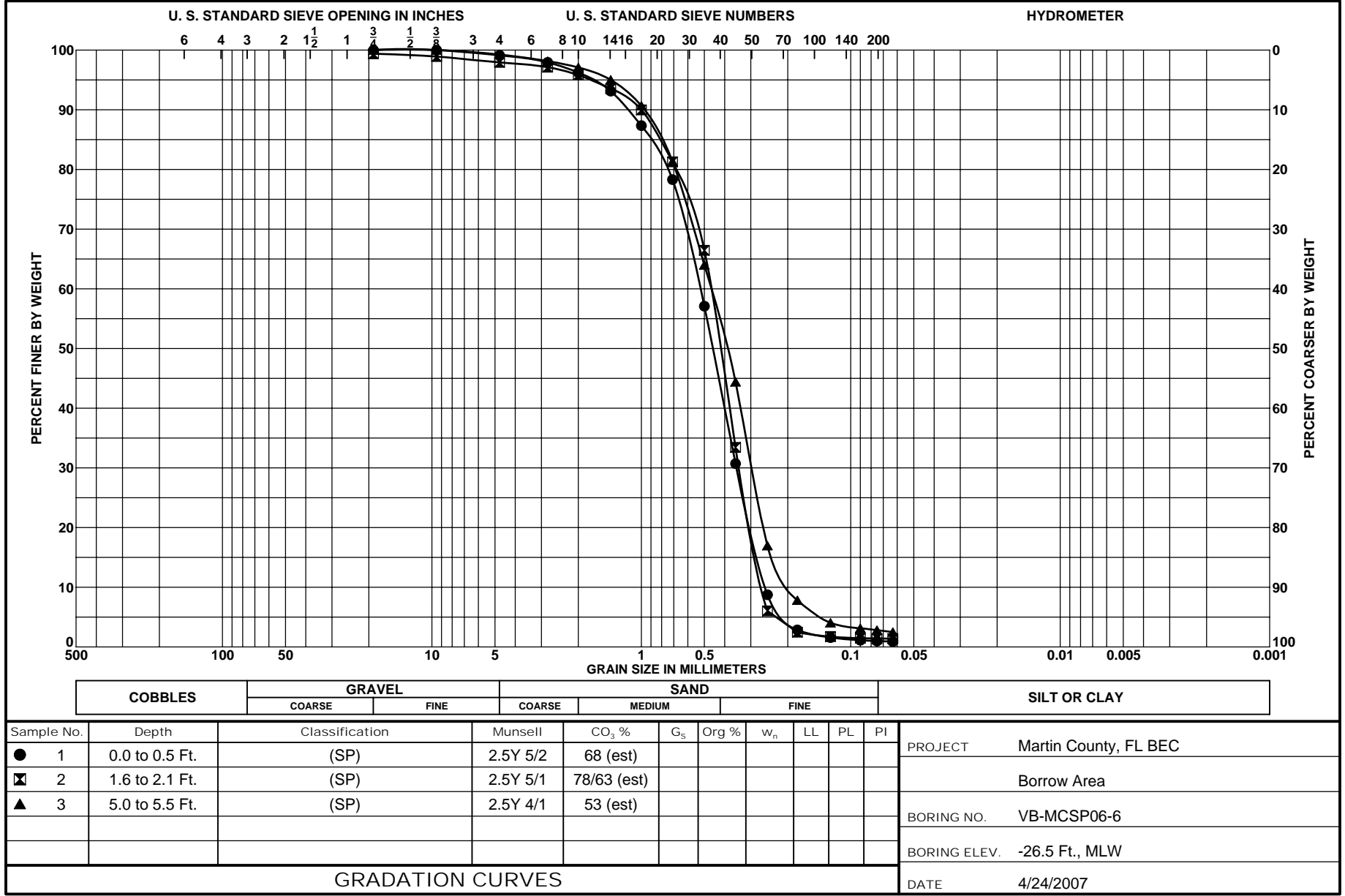
Sample No.	Depth	Classification	Munsell	CO <sub>3</sub> %	G <sub>s</sub>	Org %	w <sub>n</sub>	LL	PL	PI	GRADATION CURVES		
											PROJECT	DATE	
● 1	0.0 to 0.5 Ft.	SAND, poorly-graded, mostly fine-grained quartz, little coarse to fine sand-size shell fragments, very dark gray (SP)	2.5Y 3/1	34/21 (est)							PROJECT	Martin County, FL BEC	
												BORING NO.	VB-MCSP06-4
												BORING ELEV.	-40.5 Ft., MLW
												DATE	4/27/2007



Sample No.	Depth	Classification	Munsell	CO <sub>3</sub> %	G <sub>s</sub>	Org %	w <sub>n</sub>	LL	PL	PI	SOIL CLASSIFICATION	
											COBBLES	SILT OR CLAY
● 1	0.0 to 0.5 Ft.	(SP)	2.5Y 4/3	75 (est)								
⊠ 2	1.6 to 2.1 Ft.	(SP)	2.5Y 4/1	50/48 (est)								

**GRADATION CURVES**

PROJECT	Martin County, FL BEC
BORING NO.	VB-MCSP06-5
BORING ELEV.	-29.5 Ft., MLW
DATE	4/24/2007



**Appendix 5a**

**SEARCH 2008 Cultural Resources Report**





June 11, 2008

Mr. Grady Caulk  
Archeologist  
United States Army Corps of Engineers, Jacksonville District  
Prudential Office Building  
701 San Marco Boulevard  
Jacksonville, Florida 32207-8175

Re: Field Summary Report  
*Historic Assessment and Submerged Cultural  
Resources Remote Sensing Survey  
Of Four Borrow Areas for Martin and St. Lucie  
Counties Shore Protection Projects, Florida*  
Contract No.: W912EP-07-C-0030, Solicitation No.: W912EP-07-R-0022

Dear Mr. Caulk,

The following represents the Field Summary Report relative to the completion of the Historic Assessment and Submerged Cultural Resources Remote Sensing Survey of Four Borrow Areas for Martin and St. Lucie Counties Shore Protection Projects, Florida (Contract No.: W912EP-07-C-0030). As part of the Martin and St. Lucie Counties Federal Shore Protection Project, the U.S. Army Corps of Engineers, Jacksonville District (USACE) is investigating the feasibility of providing shoreline erosion protection, hurricane, and storm damage reduction to Martin and St. Lucie Counties.

The USACE is considering alternative sand sources in shoals offshore of Martin and St. Lucie Counties. Four borrow areas (Areas A-D) were investigated that may provide the sand sources for these projects (Figure 1). This survey, conducted by Southeastern Archaeological Research, Inc. (SEARCH), of Jonesville, Florida, and was intended to identify the absence or presence of submerged cultural resources within four proposed borrow areas. All work was conducted under Permit No. 0708.16, issued under the authority of Chapters 267.031 (1) and 267.12, Florida Statutes (F.S.) and Rule 1A-32, Florida Administrative Code (F.A.C.), administered by the Florida Bureau of Archaeological Research (BAR), Florida Division of Historical Resources (DHR).

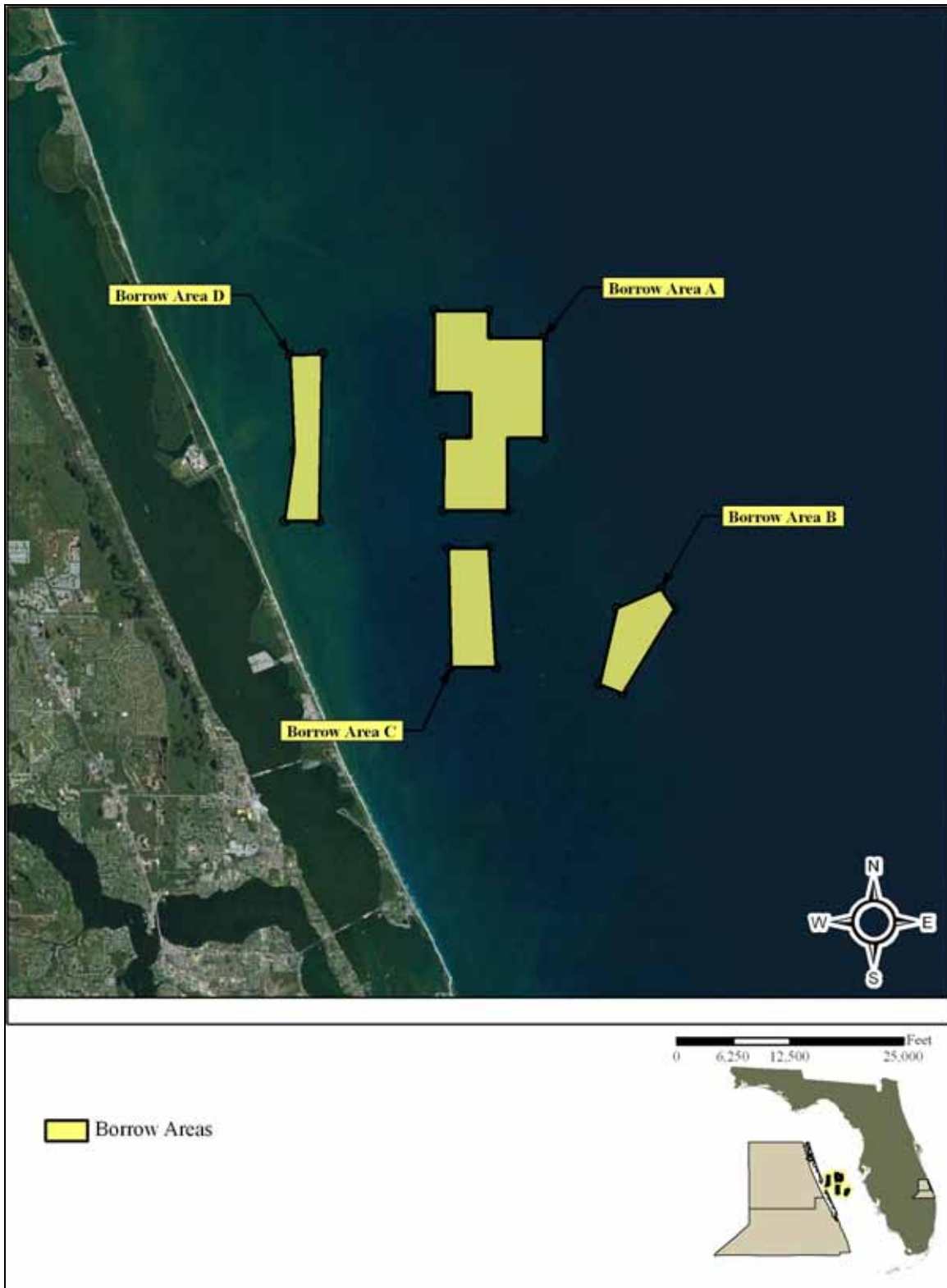
**PO Box 2818  
Riverview, FL 32568  
Phone 813-677-2280  
Fax 813-671-8416**

**110 C Maypatch Rd.  
Jacksonville, NC 28546  
Phone 910-353-7400  
Fax 910-353-8400**

**315 NW 138<sup>th</sup> Terrace  
Jonesville, FL 32669  
Phone 352-333-0049  
Fax 352-333-0069**

**515 W. Smith Street  
Orlando, FL 32804  
Phone 407-236-7711  
Fax 407-236-7799**

**PO Box 1255  
Shalimar, FL 32579  
Phone 352-354-5258  
Fax 352-333-0069**



**Figure 1. Borrow Areas A-D are the focus of the current remote sensing survey located offshore of Martin and St. Lucie Counties, Florida**

As an agency of the Federal Government the USACE has been assigned to identify cultural resources which may be affected by proposed project activities. These duties fall under Section 106 of the National Historic Preservation Act of 1996, as amended (PL 89-665); the Archaeological and Historic Preservation Act, as amended (PL 93-291); the Abandoned Shipwreck Act of 1987; and the Advisory Council on Historic Preservation revised 36 CFR Part 800 Regulations.

In addition to the survey of the four borrow areas, SEARCH conducted refinement surveys of three reported wreck sites within proximity of the current investigation. These reported wreck sites include the *America* (8SL28), the *Amazon* (8SL29), and the *Halsey* (8SL30). This refinement survey included plotting the reported location of each wreck, conducting a remote sensing survey, and confirming or denying the reported location of each wreck.

## **FIELD INVESTIGATIONS**

The field investigations consisted of a non-intrusive, subsurface, marine remote sensing survey to identify all potentially significant submerged cultural resources within the four borrow areas located off Martin and St. Lucie Counties, Florida. The four borrow areas are Area A, Area B, Area C, and Area D respectively. Fieldwork was conducted between September 7, 2007 and June 7, 2008, weather dependent. Offshore conditions during winter months were extremely sporadic and fieldwork was conducted during short weather windows when conditions were favorable for survey.

SEARCH conducted the marine remote sensing survey utilizing a variety of instruments to locate anomalies within the four proposed offshore borrow areas. This included a Klein Model 3000 Side Scan Sonar, Marine Magnetics Explorer magnetometer, and Syqwest, Inc. Stratabox™ Sub-Bottom Profiler. All instruments were integrated with a Trimble DSM-232 DGPS providing sub-meter accuracy for the location (or relocation) of any target or anomaly. SEARCH utilized Hypack® navigation software that controlled the pre-planning, acquisition, and post-processing of all remote sensing survey data. All data was collected in State Plane (NAD-83), Florida East (FL-0901), U.S. Survey Feet.

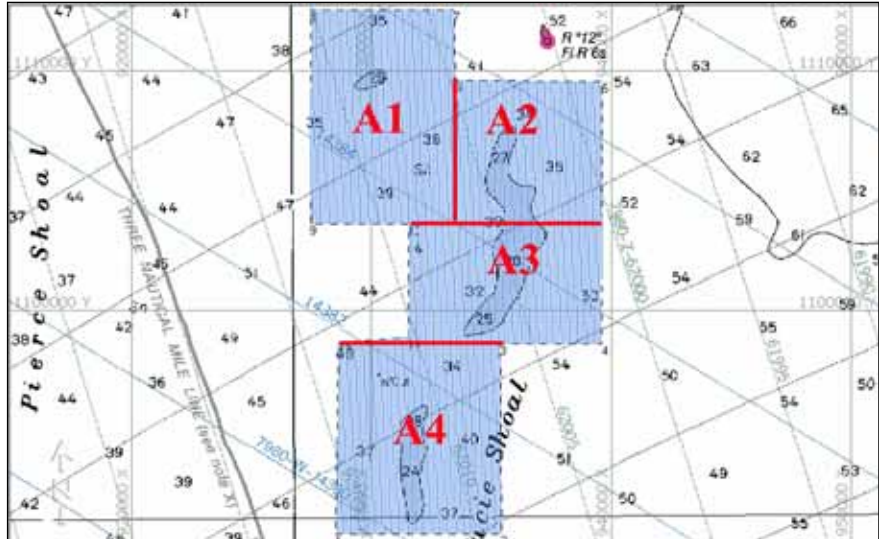
A series of parallel track lines, all oriented north/south, were pre-plotted for each of the four borrow areas. Each track line varied in length depending upon the borrow area. Track lines were spaced at 100-foot intervals.

## **RESULTS**

The following represents the initial cultural resource analysis of all remote sensing data collected from all four borrow areas. While data analysis is ongoing this document provides an overview of the field methods, work accomplished, and preliminary findings of the investigations suitable for making management decisions relative to proposed project activities.

## Borrow Area A

Area A is the largest of all four borrow areas. Located over St. Lucie Shoal Area A consists of 121 track lines spaced at 100-foot intervals. Due to the extent of Borrow Area A and to facilitate the acquisition of remote sensing data, the area was divided into four separate sections, A1, A2, A3, and A4 respectively (Figure 2). Parallel track lines, oriented north-south range, range in length from 4,443 to 9,216 feet in length. A total of 2,035,773 linear feet or 385.56 line miles were surveyed within Area A.

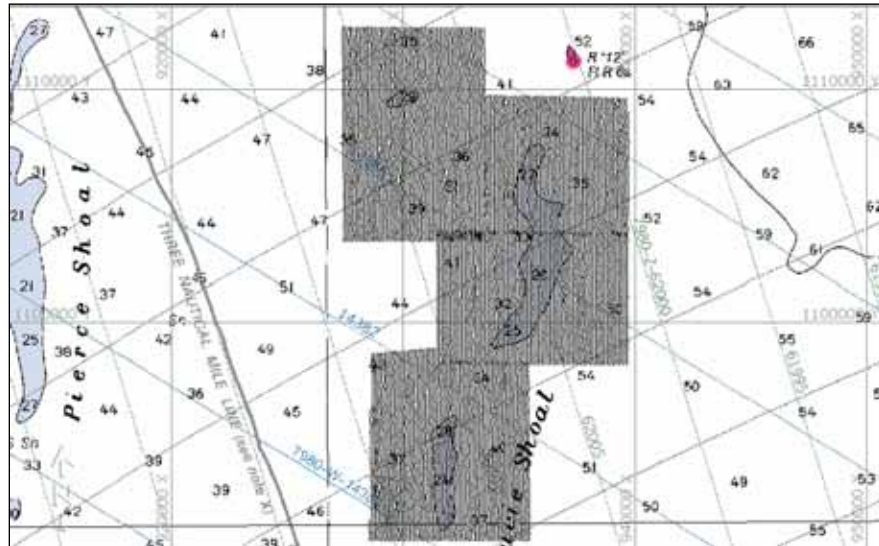


**Figure 2. Borrow Area A was divided into four separate sections to facilitate the acquisition of data. Pre-planned track lines are spaced at 100-foot intervals (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).**

The entire borrow area was successfully surveyed and full coverage was obtained with the remote sensing instruments (Figure 3).

### *Magnetometer Results*

The results of the magnetometer survey will be divided between the four areas (A1, A2, A3, and A4) of Borrow Area A.



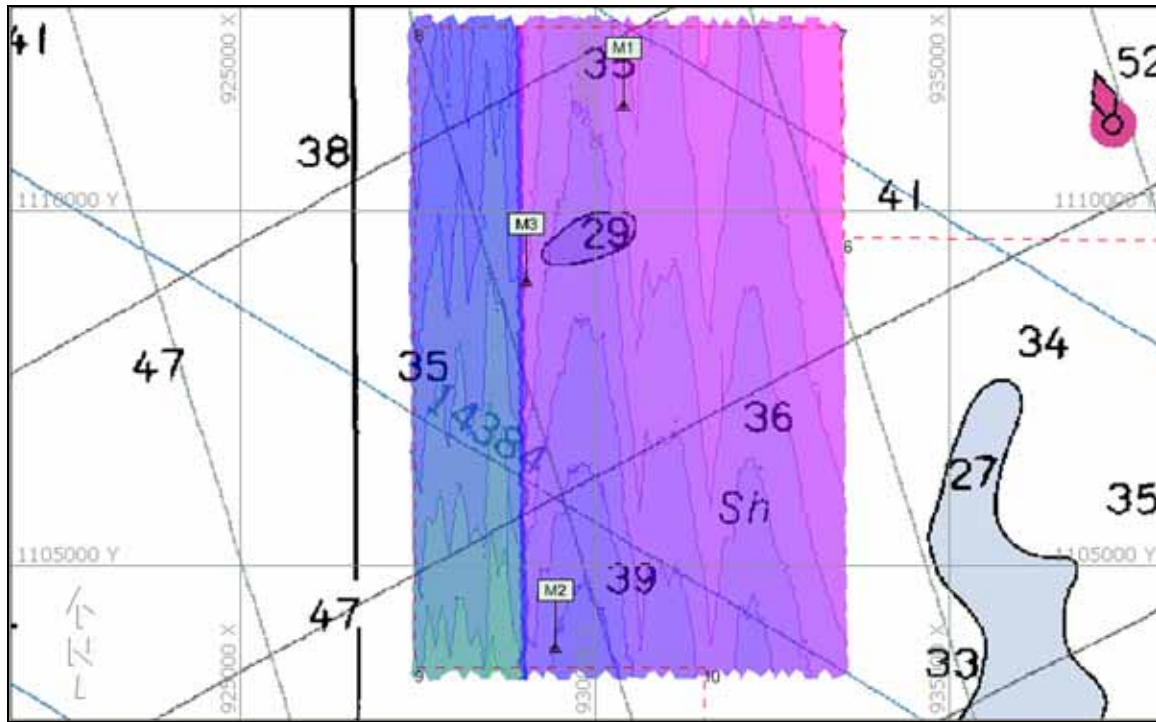
**Figure 3. Survey vessel track lines showing coverage of Borrow Area A (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).**

### Area A1

The magnetometer detected a total three magnetic anomalies within Area A1 (Table 1). Each of the three targets (Figure 4) are small, short duration anomalies indicative of isolated debris, likely modern. These targets have no associated side scan sonar or sub bottom returns and are not considered significant for the purposes of this investigation.

**Table 1. Magnetic anomalies within Area A1, the northwest portion of Borrow Area A.**

Target	Easting	Northing	Gamma Deviation	Target Duration (in feet)	Type
M1	930409.00	1111470.60	-56	9'	M
M2	929445.70	1103824.90	-251	9'	M
M3	929040.20	1108981.40	-16	9'	M



**Figure 4. Filled magnetic contour map of Area A1. Contour interval equals 10 gamma (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).**

Area A2

Results of the magnetometer survey of Area A2 identified a total of three magnetic anomalies within the area (Table 2). Each of the targets are isolated and not associated with other magnetic targets or side scan sonar returns (Figure 5). These magnetic targets are not considered significant for the purposes of this investigation.

**Table 2. Magnetic anomalies identified within Area A2 (Borrow Area A).**

Target	Easting	Northing	Gamma Deviation	Target Duration (in feet)	Type
M1	933886.60	1105709.90	+44/-11	60'	D
M2	933703.30	1108466.20	+23	40'	M
M3	933698.50	1109065.50	+53	40'	M

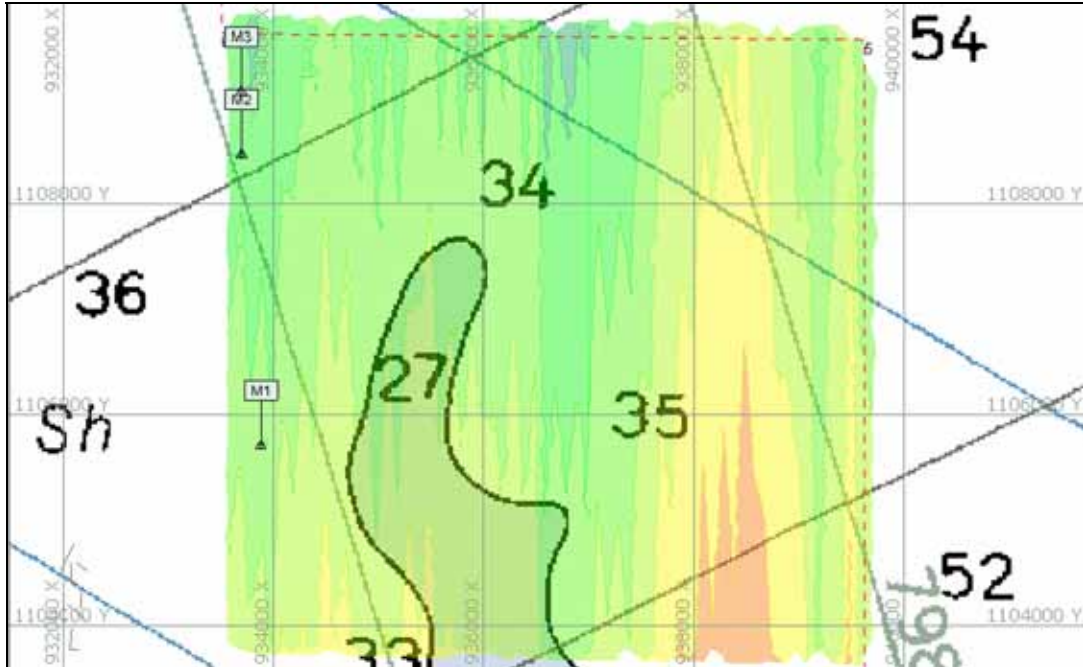


Figure 5. Filled magnetic contour map of Area A2. Magnetic anomalies are labeled in white. Contour interval equals 10 gamma (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).

### Area A3

Review of the magnetometer data from Area A3 identified no magnetic anomalies within the survey area (Figure 6). No targets are recommended for avoidance in this area.

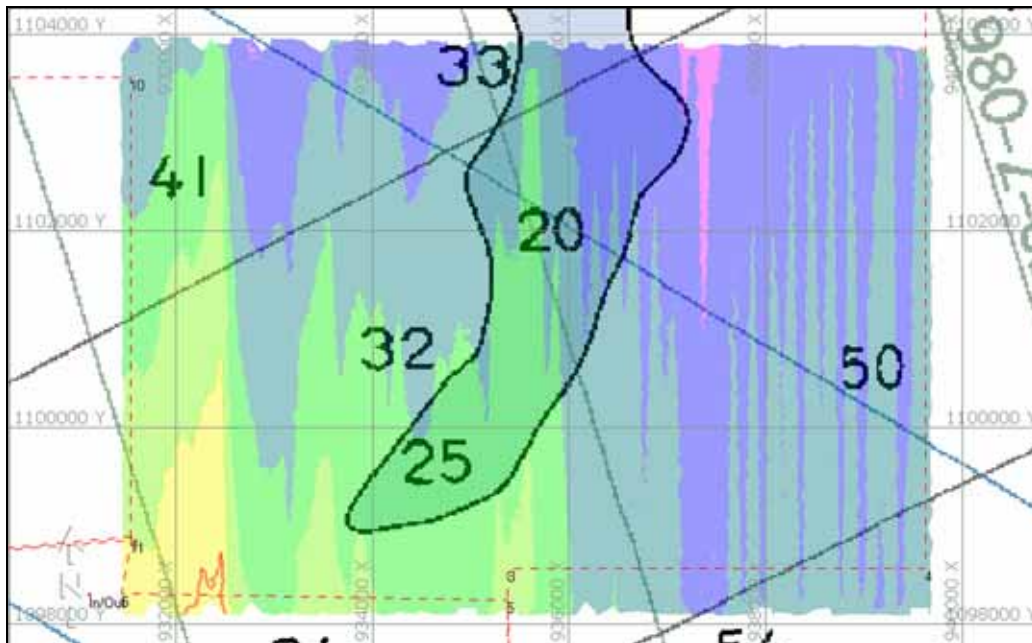
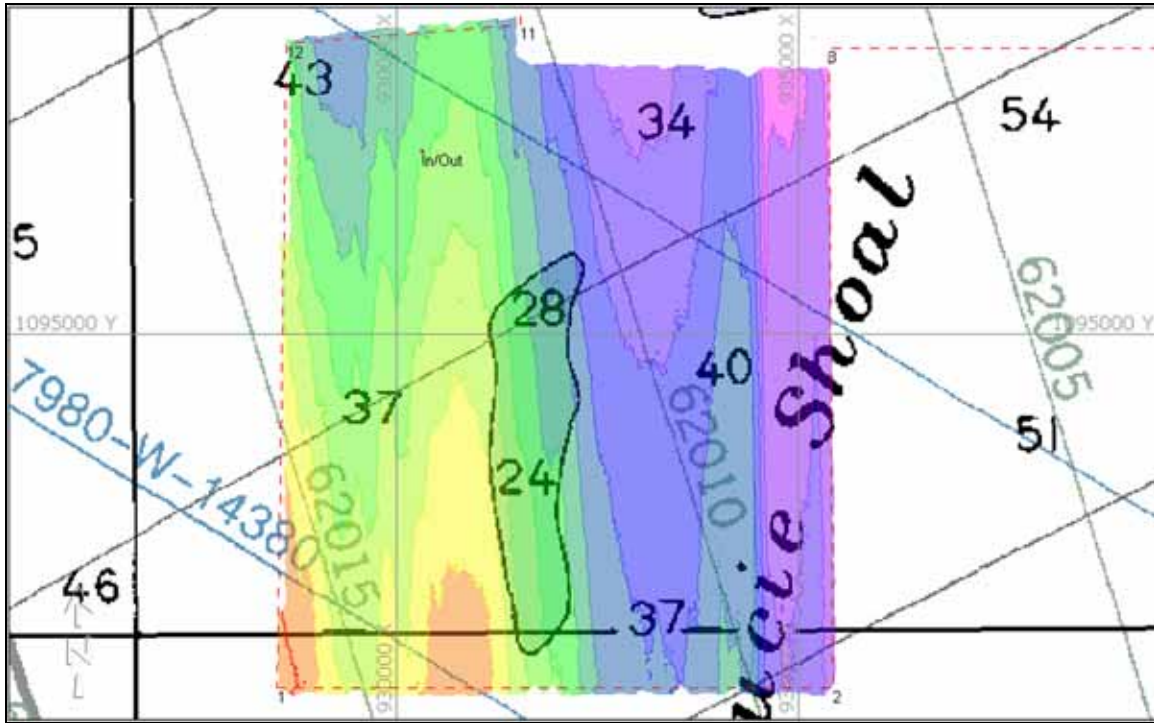


Figure 6. Filled magnetic contour map of Area A3. No magnetic anomalies were identified in this area. Contour interval equals 10 gamma (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).

## Area A4

Review of the magnetometer data identified no magnetic anomalies within Area A4 (Figure 7). Due to the lack of anomalies in this survey area, no targets are recommended for avoidance.



**Figure 7. Filled magnetic contour map of Area A4. No magnetic anomalies were identified in this survey area (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).**

### *Side Scan Sonar Results*

Initial review of the side scan sonar records identified no potentially significant sonar returns within Borrow Area A. Some small, isolated bottom features were noted within Area A3 however these likely represent modern debris deposited as an artificial reef by local fishermen. None of this debris retained a magnetic signature and is not considered significant for this investigation.

### *Sub Bottom Profiler Results*

No significant sub bottom profiler features were observed within Borrow Area A. While this data is still being reviewed it is not likely that any significant features will be identified within Borrow Area A. The hard-pack sand within the borrow area is highly reflective, limiting the penetration to 2-4 feet maximum (Figure 8).

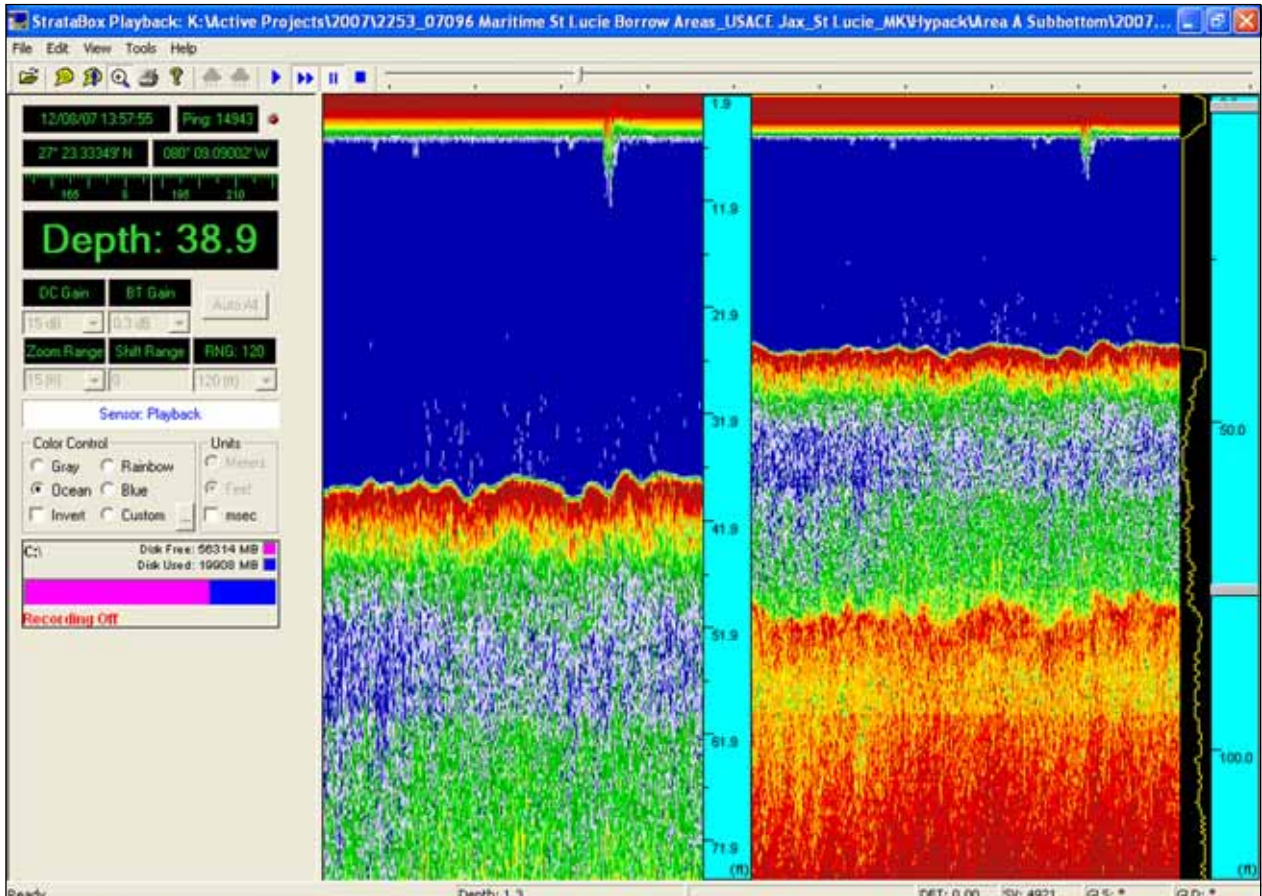


Figure 8. Sub bottom profiler data example from Borrow Area A.

## Borrow Area B

Borrow Area B is located the furthest southeast of all four borrow areas. The area consists of 81 track lines, which vary in length from 175 feet to 9,611 in length. The total of Area B equals 90.72 line miles. A wreck symbol, observed on the NOAA raster chart, is plotted in the upper reach of Area B (Figure 9).



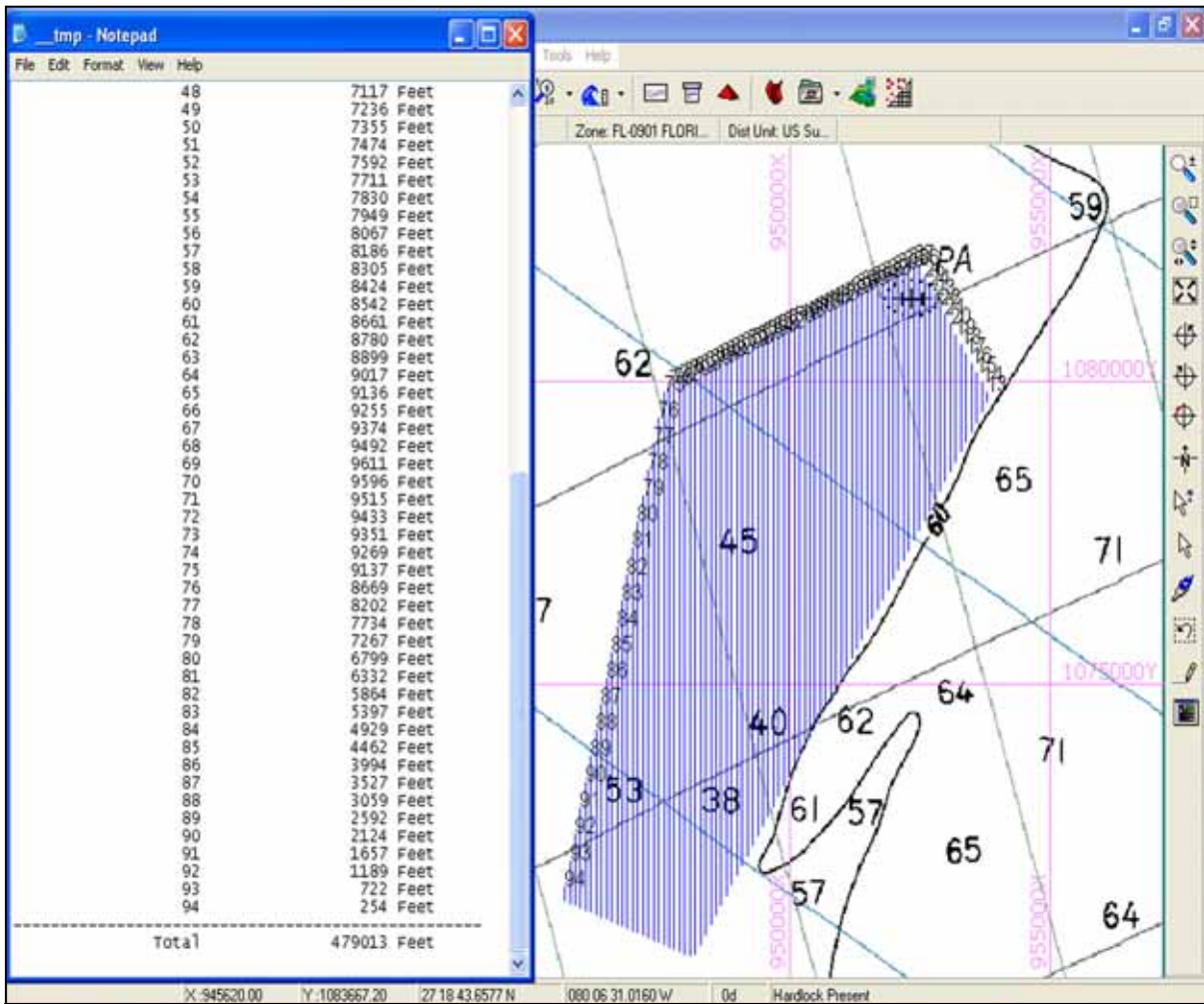
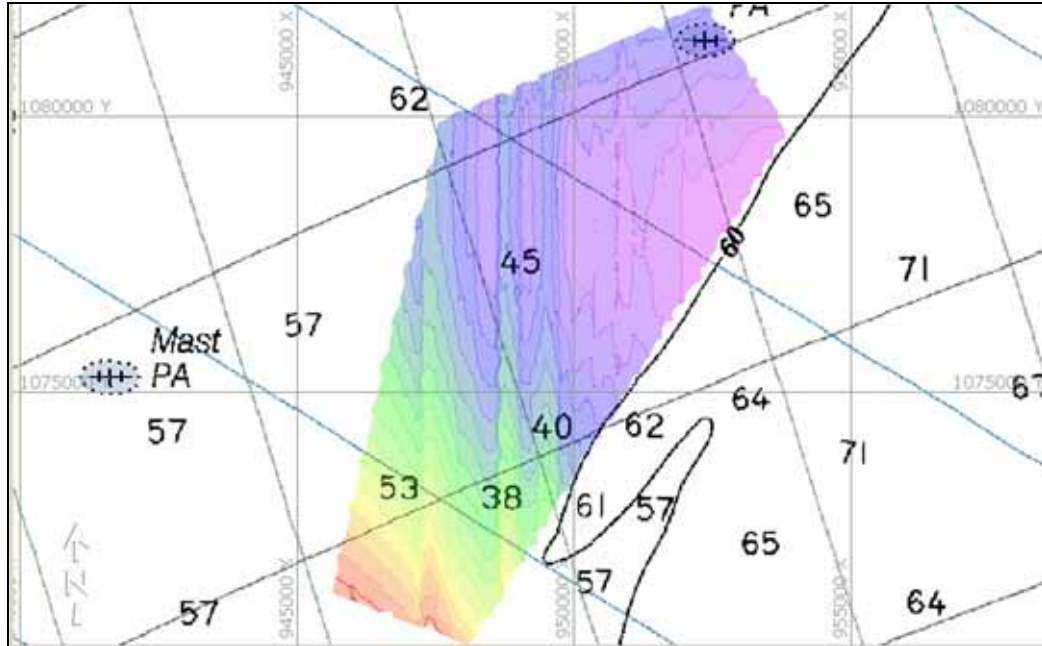


Figure 9. Borrow Area B contains 90.72 linear miles of track lines, spaced at 100-foot intervals. Pre planned track lines are shown in blue (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).

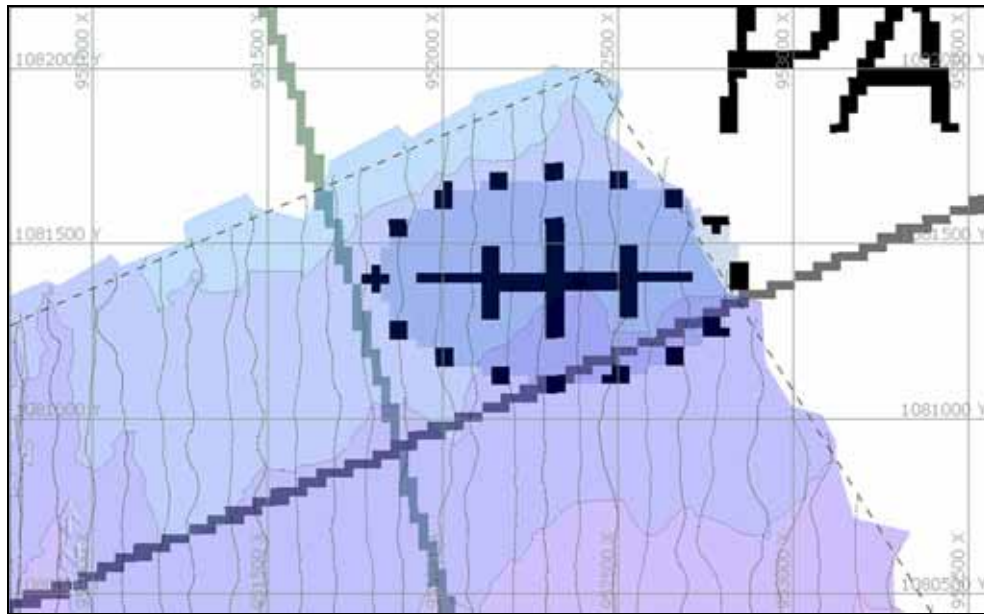
### *Magnetometer Results*

Upon completion of the remote sensing survey all magnetometer data was edited and subsequently contoured (Figure 10). A close examination of the data for Borrow Area B identified no magnetic anomalies within the survey area. Slight variances, or shifts, in the Earth’s magnetic background (as evidenced in Figure 10 below) of Borrow Area B are caused by diurnal variation, a result of multiple survey days within the survey area.



**Figure 10. Filled magnetic contour map of Borrow Area B. Contour interval equals 10 gamma (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).**

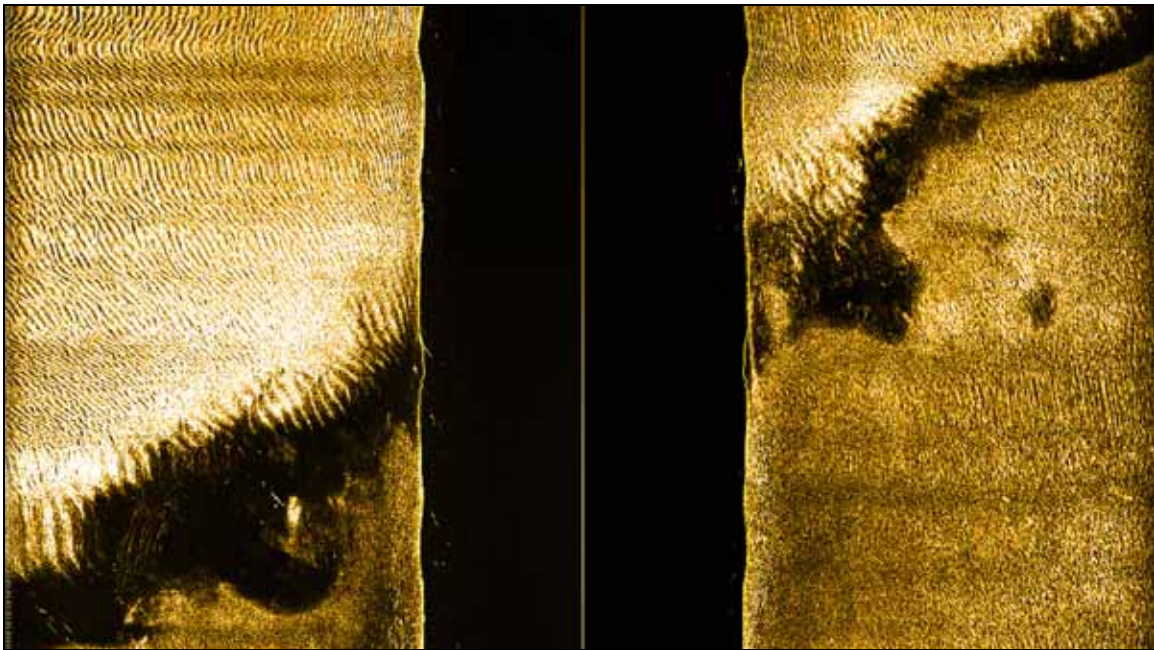
Review of the magnetometer data identified no magnetic signature associated with the wreck symbol in the top right extent of Borrow Area B (Figure 11). Negative results suggest an overall inaccuracy with regards to plotted wreck locations on NOAA charts. A review of plotted wreck locations on NOAA charts suggests an accuracy typically “within 1-3 miles”, especially with regards to offshore wreck locations.



**Figure 11. No magnetic signature is associated with the plotted wreck symbol in to top right corner of Borrow Area B (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).**

### *Side Scan Sonar Results*

No potentially significant side scan sonar targets were identified within Borrow Area B. One feature, identified as a linear ridge has been tentatively identified as a sediment change, one side comprised of shell hash sand, a very fine sediment (possibly silt), with the other side of the line a quartz sand (Figure 12). This ridge is not considered significant for the purposes of this investigation.



**Figure 12.** This sonar return was identified as a shift in sediment types within Borrow Area B.

### *Sub Bottom Profiler Results*

Initial examination of the sub bottom profiler data from Borrow Area B has identified no potentially significant features within the survey area. Penetration within the borrow area averaged 2-4 feet due to highly-reflective hard-packed sand.

### **Borrow Area C**

Area C, situated directly south of Borrow Area A, is located over a portion of St. Lucie Shoal. Comprised of 51 track lines, varying in length from 1,049 feet to 13,093 feet in length, Area C contains a total of 115.63 line miles (Figure 13).

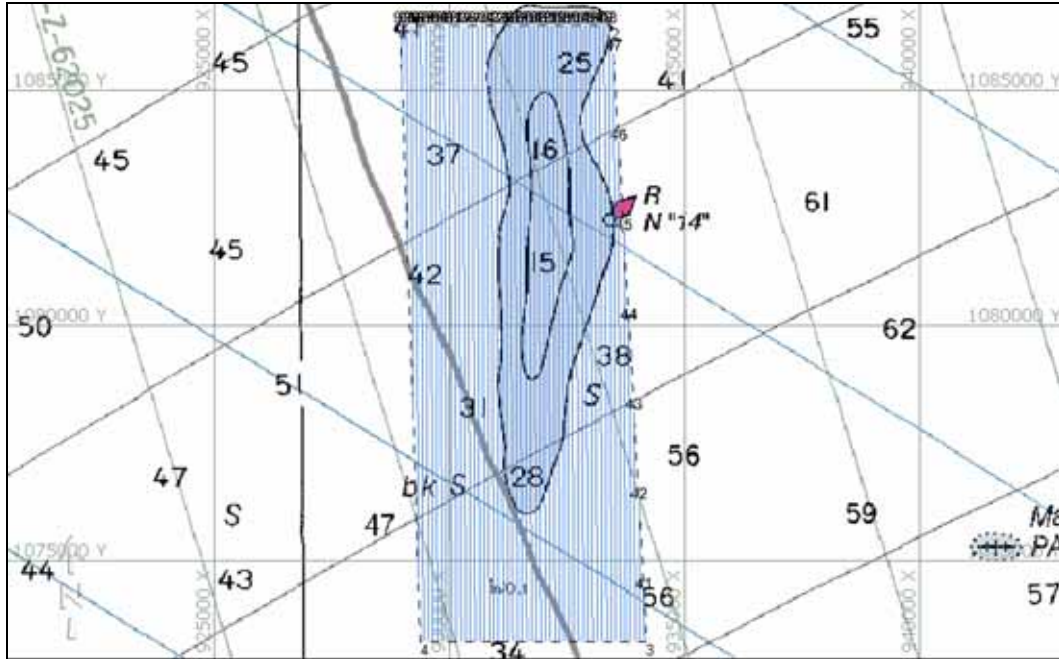


Figure 13. A total of 51 track lines, spaced at 100-foot intervals sufficiently covered Borrow Area C. Pre-planned track lines are shown in blue (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).

The entire proposed borrow area was successfully surveyed with all the required remote sensing instruments including magnetometer, side scan sonar, and sub bottom profiler. Plotted survey vessel track lines confirm complete coverage of Borrow Area C (Figure 14).

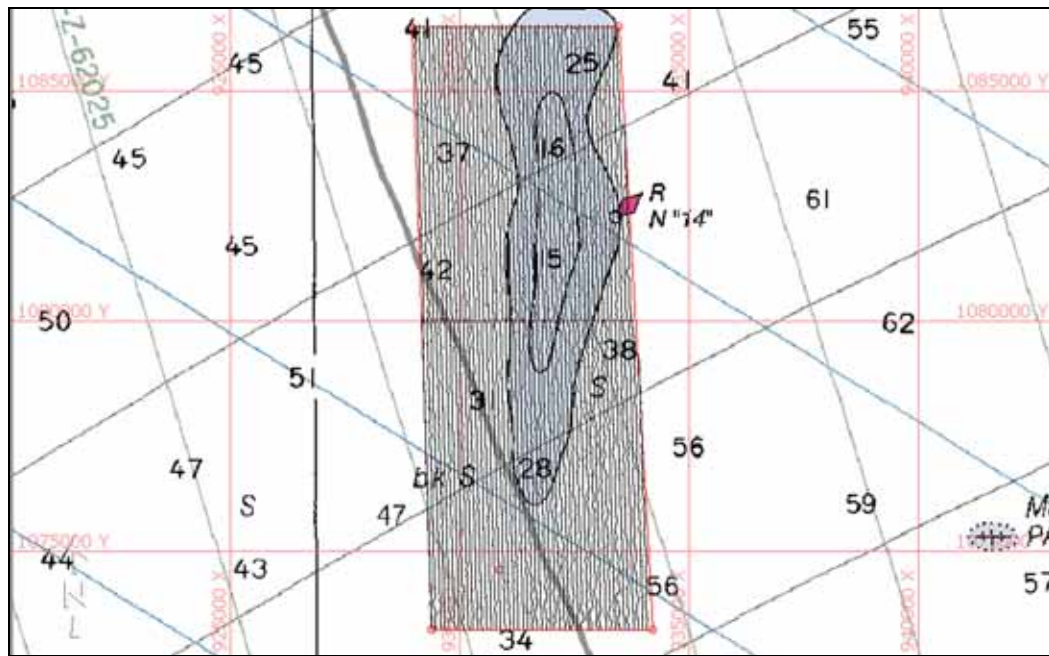


Figure 14. Survey vessel track lines and coverage of Borrow Area C (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).

*Magnetometer Results*

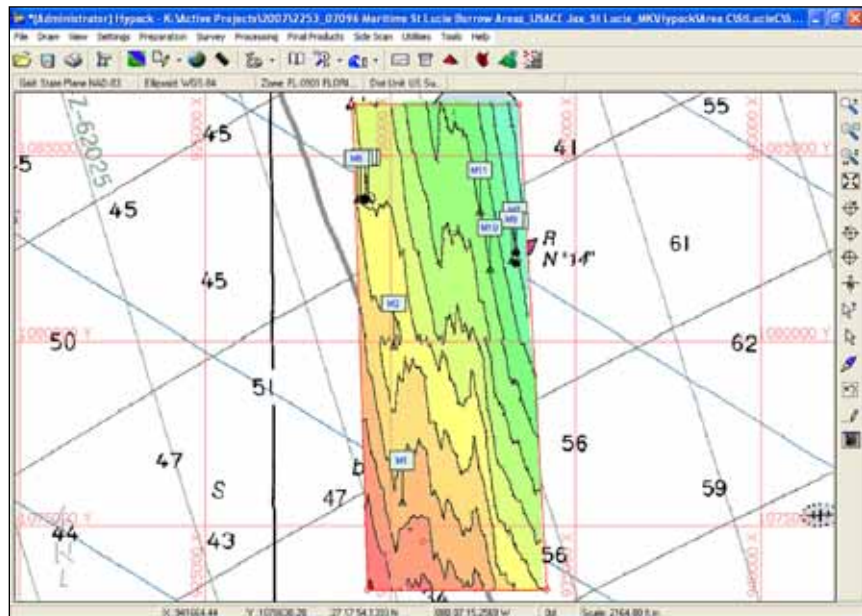
Review of the magnetometer data identified a total of 11 magnetic anomalies within Borrow Area C (Table 3). Four of the targets (M1, M2, M10, and M11) are low-gamma deviation, short duration, and are not considered significant for the purposes of this investigation. Three of the magnetic targets (M7, M8, and M9) are associated with Red Buoy #14 located within the northeast perimeter of Borrow Area C. These targets are also not considered significant for the purposes of this investigation.

**Table 3. Magnetic anomalies located within Borrow Area C.**

Target	Easting	Northing	Gamma Deviation	Duration (in feet)	Type	Description	Significant
M1	930323.60	1075642.30	+5/-6	112'	D	Unidentified	No
M2	930101.90	1079859.20	-5	91'	M	Unidentified	No
M3	929403.70	1083808.60	+5/-21	329'	D	Unidentified	Yes; associated with M4, M5, and M6
M4	929299.90	1083822.10	+240/-283	294'	D	Unidentified	Yes; associated with M3, M5, and M6
M5	929199.30	1083780.40	+5/-15	294'	D	Unidentified	Yes; associated with M3, M4, and M6
M6	929097.20	1083769.90	+3/-6	147'	D	Unidentified	Yes; associated with M3, M4, and M5
M7	933360.70	1082380.50	-90	119'	M	Red Buoy #14	No
M8	933384.50	1082079.80	+149/-134	210'	D	Red Buoy #14	No
M9	933279.80	1082139.00	-10	224'	M	Red Buoy #14	No
M10	932683.20	1081917.70	+11/-3	77'	D	Unidentified	No
M11	932425.10	1083474.90	+8	84'	M	Unidentified	No

The filled magnetic contour map (produced at a 10-gamma contour interval) identifies the location of the anomalies within the borrow area (Figure 15).

The remaining four magnetic anomalies represent a clustered anomaly within the northwest corner of Borrow Area C (Figure 16). Due to these targets close association, high-gamma deviation, long

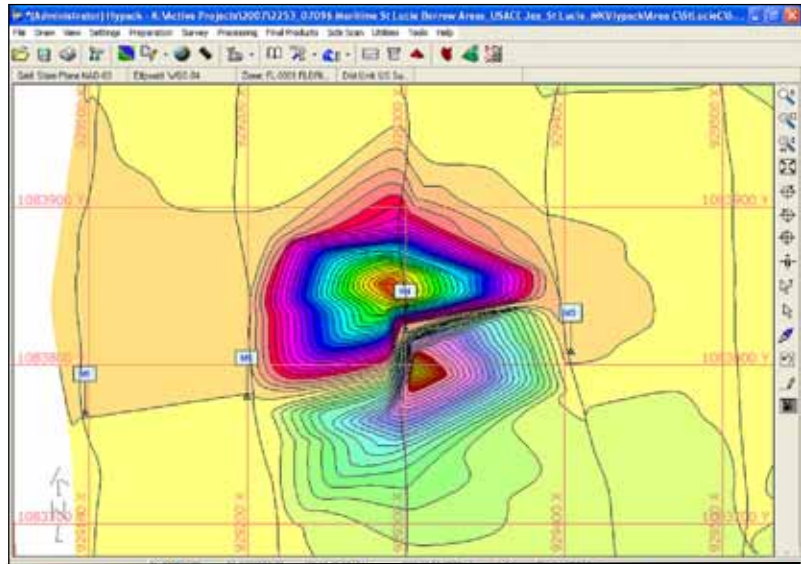


**Figure 15. Filled magnetic contour map of Borrow Area C. Magnetometer targets are labeled in white. Contour interval equals 10 gamma (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).**

duration, and associated side scan sonar return (see below), all are recommended for avoidance by proposed project activities.

### Side Scan Sonar Results

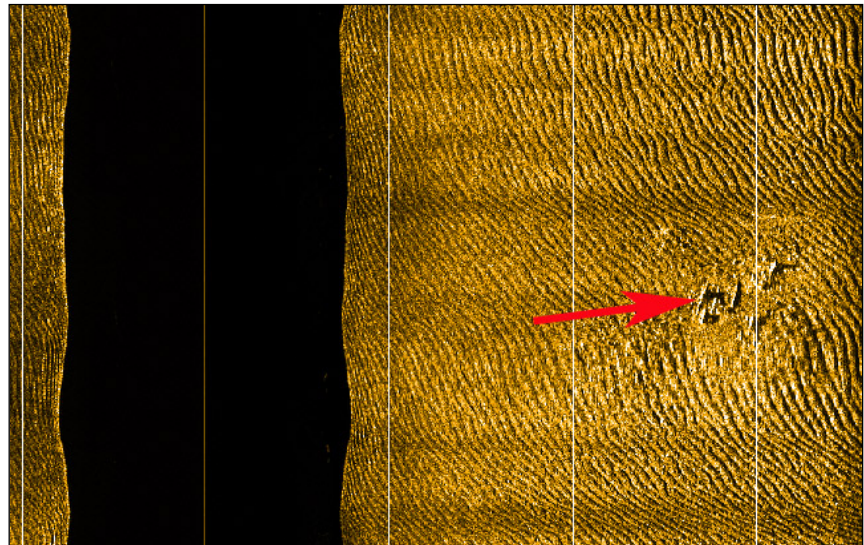
One side scan sonar target was identified within Borrow Area C (Figure 17). This target, an unidentified series of objects exposed on the seafloor, corresponds with magnetic anomalies M3, M4, M5, and M6 above. This side scan sonar target, in association with the magnetic anomalies, is recommended for avoidance by proposed project activities.



**Figure 16. Clustered anomaly including Magnetic Anomalies M3, M4, M5, and M6, is recommended for avoidance (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).**

### Sub Bottom Profiler Results

Initial review of the sub bottom profiler data has identified no potentially significant features within Borrow Area C. The hard-packed sand is highly reflective which limited the penetration of the sub bottom profiler to 2-4 feet maximum.



**Figure 17. Side scan sonar target associated with Magnetic Targets M3, M4, M5, and M6. Distance between range lines (white) equals 10 meters.**

### Borrow Area D

Area D is located closest to shore and is situated over Pierce Shoal. Almost rectangular in shape, the proposed borrow area contains 45 track lines ranging in length from 168 feet to 18,370 feet in length. Area D equals 112.85 linear miles of track lines, spaced at 100-foot intervals (Figure 18).

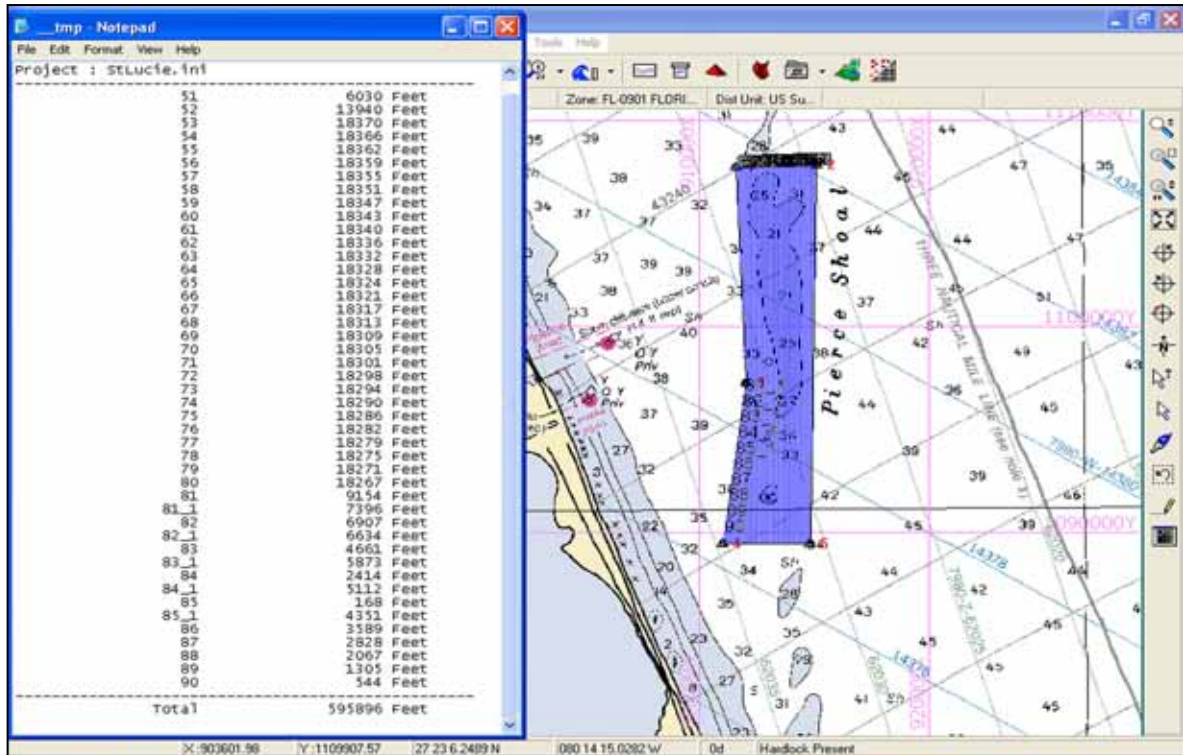


Figure 18. Borrow Area D is located closest to shore, over Pierce Shoal.

Borrow Area D was successfully surveyed with all three remote sensing instruments and coverage of the borrow area was sufficient to determine the absence or presence of potentially significant submerged cultural resources (Figure 19).

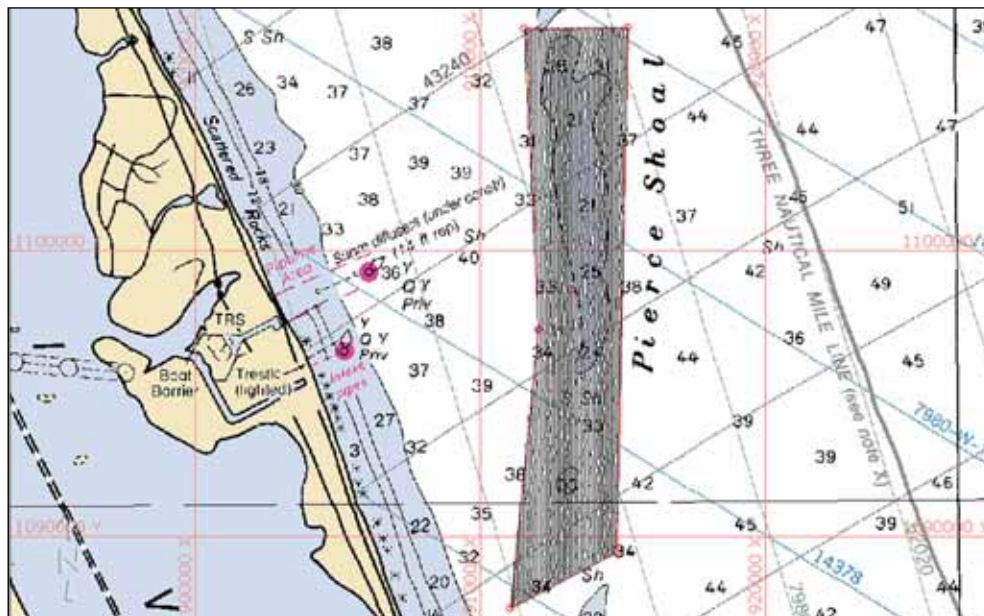


Figure 19. Survey vessel track lines and coverage of Borrow Area D (NOAA Raster Chart No. 11474 "Bethel Shoal to Jupiter Inlet").

*Magnetometer Results*

Results of the magnetometer survey identified four magnetic anomalies within Borrow Area D (Table 4). These magnetic targets are all isolated, have low-gamma deviations, and no associated side scan sonar returns (Figure 20).

**Table 4. Magnetic anomalies located within Borrow Area D.**

Target	Easting	Northing	Gamma Deviation	Duration (in feet)	Type	Description	Significant
M1	914807.70	1093963.80	+6/-5	119'	D	Unidentified	No
M2	913895.80	1089674.10	+4/-3	91'	D	Unidentified	No
M3	913204.40	1095104.20	+15/-15	105'	D	Unidentified	No
M4	912921.50	1095609.60	+5/-4	126'	D	Unidentified	No



**Figure 20. Magnetic anomalies, labeled in white, located within Borrow Area D. (NOAA Raster Chart No. 11474 “Bethel Shoal to Jupiter Inlet”).**

Since these anomalies are low-gamma deviation and relatively isolated, they are likely small pieces of debris and are therefore not considered significant for the purposes of this investigation.

*Side Scan Sonar Results*

No side scan sonar targets were identified within Borrow Area D. The bottom consists of wide expanses of sand with little to no relief.



### Sub Bottom Profiler Results

An initial review of the sub bottom profiler data identified no potentially significant features (i.e., relic land forms) within Borrow Area D. Due to the highly reflective sand within Borrow Area D, due to coarse sediment, penetration was limited to 2-4 feet throughout the borrow area.

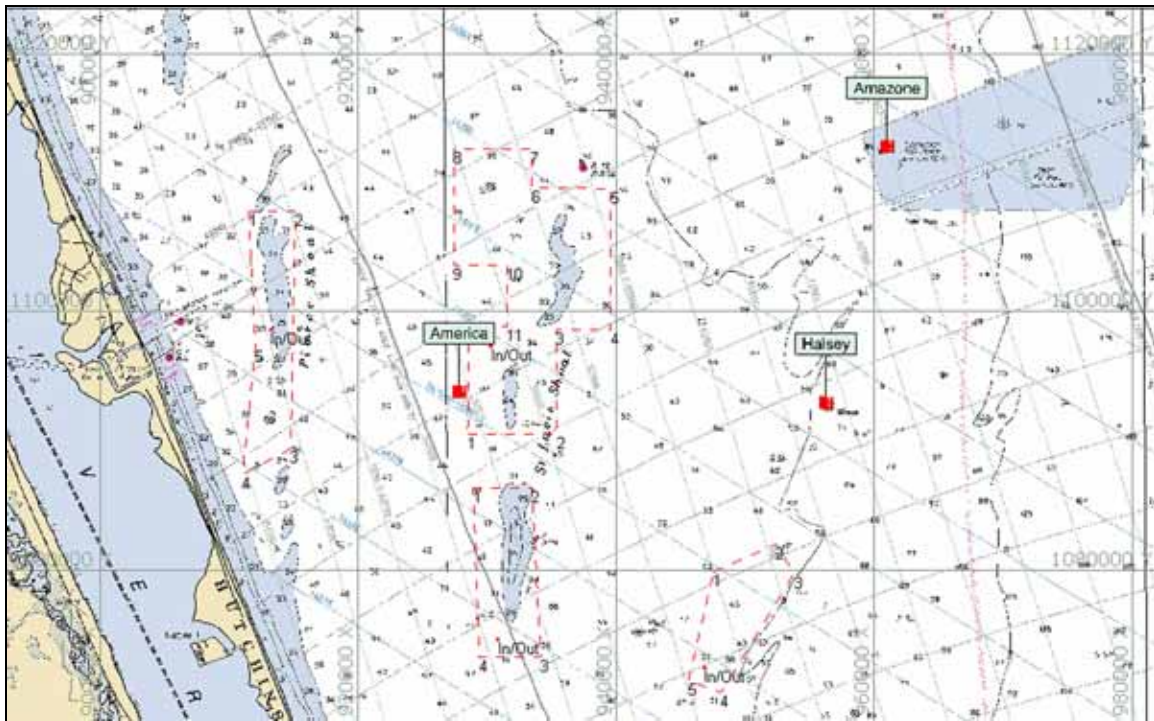
### Wreck Site Confirmation

As per the Scope of Work, SEARCH conducted a refinement survey of three shipwreck sites (the *America*, the *Amazone*, and the *Halsey*) purported to be in the vicinity of the four borrow areas. Each of the wreck sites were plotted in Hypack™ and a 1,000-foot grid square established with track lines spaced at 100-foot line spacing. Wreck site locations (Table 5) were pulled from the Florida Master Site File as well as a popular Florida shipwreck dive book (Barnett 2003).

Once the wreck sites were plotted and the pre-planned track lines established, SEARCH conducted a remote sensing survey over each of the wreck locations (Figure 21).

**Table 5. Wreck locations utilized for the refinement survey of three wreck sites (UTM North, Meters).**

Wreck	Easting	Northing
<i>America</i>	927858.01	1093794.72
<i>Amazone</i>	961049.05	1112815.15
<i>Halsey</i>	956312.41	1092550.08



**Figure 21. Plotted location of the *America*, the *Amazone*, and the *Halsey* in relation to the four borrow areas. Note the proximity of the *America* to Borrow Area A.**

Results of the refinement survey were unable to relocate the remains of the *America* whereas the *Amazon* and *Halsey* were successfully relocated at their plotted locations. None of these wreck sites will be impacted by proposed project activities. A complete analysis of these wreck locations will be provided in the Draft Report.

## CONCLUSIONS AND RECOMMENDATIONS

SEARCH successfully completed the submerged cultural resources remote sensing survey of Four Borrow Areas for Martin and St. Lucie Counties Shore Protection Projects, Florida. The fieldwork was conducted during weather windows from September 7, 2007 to June 7, 2008. The remote sensing survey, conducted for the USACE was undertaken to determine the absence or presence of potentially significant submerged cultural resources within Borrow Areas A, B, C, and D.

Results of the remote sensing survey identified no potentially significant submerged cultural resources within Borrow Areas A, B, or D respectively. These three borrow areas are cleared from an archaeological perspective and no additional work is recommended for these areas.

One cluster of magnetic targets (M3, M4, M5, and M6) with an associated side scan sonar image was identified within Borrow Area C (Table 6). This cluster of anomalies extends over 4 track lines and remains unidentified. The magnetic signature suggests this target may represent a potentially significant submerged cultural resource and is therefore recommended for avoidance.

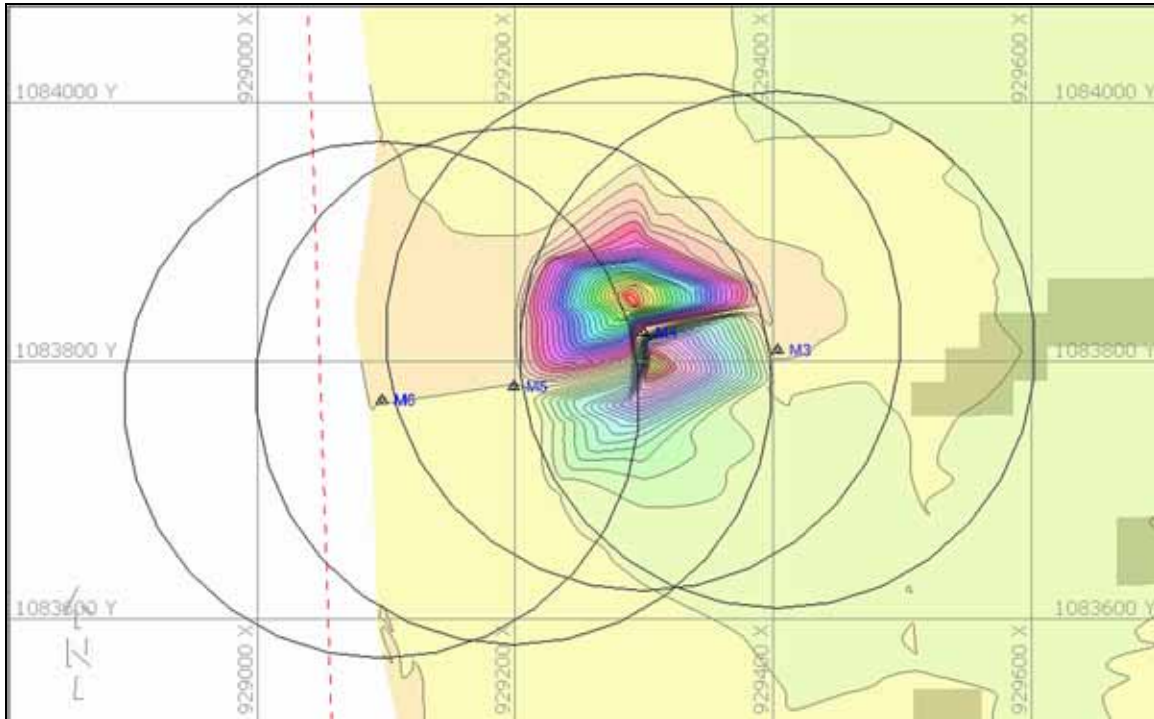
**Table 6. Magnetic targets within Borrow Area C recommended for avoidance.**

Target	Easting	Northing	Gamma Deviation	Duration (in feet)	Type	Description	Significant
M3	929403.70	1083808.60	+5/-21	329'	D	Unidentified	Yes; associated with M4, M5, and M6
M4	929299.90	1083822.10	+240/-283	294'	D	Unidentified	Yes; associated with M3, M5, and M6
M5	929199.30	1083780.40	+5/-15	294'	D	Unidentified	Yes; associated with M3, M4, and M6
M6	929097.20	1083769.90	+3/-6	147'	D	Unidentified	Yes; associated with M3, M4, and M5

Establishment of a buffer zone around this clustered anomaly will ensure protection of the site from damage or destruction by proposed project activities. While there are little to no established zones for avoidance, a review of the magnetic contour map suggests that a buffer zone of approximately 200 feet should offer sufficient protection of the site (Figure 22). If avoidance of these anomalies is not possible additional investigation in the form of diver investigations to positively identify the targets is recommended by a qualified underwater archaeologist to answer research questions to determine its significance and eligibility for listing on the National Register of Historic Places.

The buffer zones must be clearly defined prior to dredging activities and be addressed to the dredging contractor. Any issuance of permits or notices to proceed for any dredging related activities must include a set of conditions indicating that the contractor has full knowledge of

the anomalies, the terms and conditions of the buffer zones, and that a copy of the permit is to remain on the work platform at all times.



**Figure 22. Cluster of Magnetic Targets M3, M4, M5, and M6, located within Borrow Area C, recommended for avoidance. The circles identify the 200-foot buffer zone around each of the four magnetic targets.**

No additional side scan sonar or sub bottom profile targets are recommended for avoidance. Please feel free to contact me directly if there are any questions regarding our findings. The Draft Report is being prepared and will be provided to your office shortly.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Krivor'.

Michael C. Krivor, M.A., RPA  
Maritime Project Manager