







Granularmetric Report Depths and elevations based on measured values				 Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116			
Project Name: Longboat Key 2010 Sand Search							
Sample Name: LBVC-10-48 #1							
Analysis Date: 09-16-10							
Analyzed By: JD							
Easting (ft):		Northing (ft):		Coordinate System:		Elevation (ft):	
410,324		1,160,816		Florida State Plane West		-11.2 NAVD 88	
USCS:		Munsell:		Comments:			
SP		Wet - 5Y-8/1 Dry - 5Y-8/1 Washed - 5Y-8/1					
Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
88.10	87.01	0.02	0.06	#200 - 1.36 #230 - 1.34			0
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained	
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00	
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00	
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00	
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00	
3.5	-2.50	5.66	0.00	0.00	0.00	0.00	
4	-2.25	4.76	0.00	0.00	0.00	0.00	
5	-2.00	4.00	0.03	0.03	0.03	0.03	
7	-1.50	2.83	0.10	0.11	0.13	0.14	
10	-1.00	2.00	0.18	0.20	0.31	0.34	
14	-0.50	1.41	0.34	0.39	0.65	0.73	
18	0.00	1.00	0.53	0.60	1.18	1.33	
25	0.50	0.71	0.91	1.03	2.09	2.36	
35	1.00	0.50	1.20	1.36	3.29	3.72	
45	1.50	0.35	1.69	1.92	4.98	5.64	
60	2.00	0.25	5.48	6.22	10.46	11.86	
80	2.50	0.18	16.83	19.10	27.29	30.96	
120	3.00	0.13	57.70	65.49	84.99	96.45	
170	3.50	0.09	1.90	2.16	86.89	98.61	
200	3.75	0.07	0.03	0.03	86.92	98.64	
230	4.00	0.06	0.02	0.02	86.94	98.66	
Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.99	2.90	2.84	2.65	2.34	2.11	1.33	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.47	0.18	0.61	-3.09	15.36		


Granularmetric Report Depths and elevations based on measured values				 Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116			
Project Name: Longboat Key 2010 Sand Search							
Sample Name: LBVC-10-48 #2							
Analysis Date: 09-16-10							
Analyzed By: JD							
Easting (ft): <div style="text-align: center;">410,324</div>		Northing (ft): <div style="text-align: center;">1,160,816</div>		Coordinate System: <div style="text-align: center;">Florida State Plane West</div>		Elevation (ft): <div style="text-align: center;">-12.0 NAVD 88</div>	
USCS: <div style="text-align: center;">SW</div>		Munsell: Wet - 5Y-6/1 Dry - 5Y-8/1 Washed - 5Y-8/1		Comments:			
Dry Weight (g): <div style="text-align: center;">100.56</div>	Wash Weight (g): <div style="text-align: center;">99.75</div>	Pan Retained (g): <div style="text-align: center;">0.02</div>	Sieve Loss (%): <div style="text-align: center;">0.08</div>	Fines (%): #200 - 0.95 #230 - 0.91	Organics (%):	Carbonates (%):	Shell Hash (%): <div style="text-align: center;">8</div>
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained	
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00	
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00	
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00	
5/16"	-3.00	8.00	0.91	0.90	0.91	0.90	
3.5	-2.50	5.66	4.28	4.26	5.19	5.16	
4	-2.25	4.76	1.38	1.37	6.57	6.53	
5	-2.00	4.00	2.74	2.72	9.31	9.25	
7	-1.50	2.83	5.67	5.64	14.98	14.89	
10	-1.00	2.00	7.64	7.60	22.62	22.49	
14	-0.50	1.41	8.31	8.26	30.93	30.75	
18	0.00	1.00	6.22	6.19	37.15	36.94	
25	0.50	0.71	5.79	5.76	42.94	42.70	
35	1.00	0.50	4.86	4.83	47.80	47.53	
45	1.50	0.35	5.76	5.73	53.56	53.26	
60	2.00	0.25	8.94	8.89	62.50	62.15	
80	2.50	0.18	17.40	17.30	79.90	79.45	
120	3.00	0.13	18.77	18.67	98.67	98.12	
170	3.50	0.09	0.91	0.90	99.58	99.02	
200	3.75	0.07	0.03	0.03	99.61	99.05	
230	4.00	0.06	0.04	0.04	99.65	99.09	
Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.92	2.62	2.37	1.22	-0.85	-1.43	-2.52	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	0.71	0.61	1.81	-0.44	1.86		


Granularmetric Report Depths and elevations based on measured values				 Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116			
Project Name: Longboat Key 2010 Sand Search							
Sample Name: LBVC-10-48 #3							
Analysis Date: 09-16-10							
Analyzed By: JD							
Easting (ft): 410,324		Northing (ft): 1,160,816		Coordinate System: Florida State Plane West		Elevation (ft): -13.6 NAVD 88	
USCS: SW		Munsell: Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1		Comments:			
Dry Weight (g): 94.64	Wash Weight (g): 93.78	Pan Retained (g): 0.01	Sieve Loss (%): 0.05	Fines (%): #200 - 1.01 #230 - 0.99	Organics (%):	Carbonates (%):	Shell Hash (%): 3
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained	
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00	
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00	
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00	
5/16"	-3.00	8.00	0.44	0.46	0.44	0.46	
3.5	-2.50	5.66	1.22	1.29	1.66	1.75	
4	-2.25	4.76	0.92	0.97	2.58	2.72	
5	-2.00	4.00	0.87	0.92	3.45	3.64	
7	-1.50	2.83	1.93	2.04	5.38	5.68	
10	-1.00	2.00	3.41	3.60	8.79	9.28	
14	-0.50	1.41	3.94	4.16	12.73	13.44	
18	0.00	1.00	3.26	3.44	15.99	16.88	
25	0.50	0.71	3.37	3.56	19.36	20.44	
35	1.00	0.50	3.38	3.57	22.74	24.01	
45	1.50	0.35	4.41	4.66	27.15	28.67	
60	2.00	0.25	10.15	10.72	37.30	39.39	
80	2.50	0.18	26.82	28.34	64.12	67.73	
120	3.00	0.13	27.83	29.41	91.95	97.14	
170	3.50	0.09	1.74	1.84	93.69	98.98	
200	3.75	0.07	0.01	0.01	93.70	98.99	
230	4.00	0.06	0.02	0.02	93.72	99.01	
Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.96	2.78	2.62	2.19	1.11	-0.13	-1.67	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	1.59	0.33	1.48	-1.4	3.95		

Granularmetric Report Depths and elevations based on measured values				 Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116			
Project Name: Longboat Key 2010 Sand Search							
Sample Name: LBVC-10-48 #4							
Analysis Date: 09-16-10							
Analyzed By: JD							
Easting (ft): <div style="text-align: center;">410,324</div>		Northing (ft): <div style="text-align: center;">1,160,816</div>		Coordinate System: <div style="text-align: center;">Florida State Plane West</div>		Elevation (ft): <div style="text-align: center;">-14.9 NAVD 88</div>	
USCS: <div style="text-align: center;">SW</div>		Munsell: Wet - 5Y-8/1 Dry - 5Y-8/1 Washed - 5Y-8/1		Comments:			
Dry Weight (g): <div style="text-align: center;">87.38</div>	Wash Weight (g): <div style="text-align: center;">86.42</div>	Pan Retained (g): <div style="text-align: center;">0.04</div>	Sieve Loss (%): <div style="text-align: center;">0.03</div>	Fines (%): #200 - 1.22 #230 - 1.21	Organics (%):	Carbonates (%):	Shell Hash (%): <div style="text-align: center;">1</div>
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained	
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00	
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00	
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00	
5/16"	-3.00	8.00	0.00	0.00	0.00	0.00	
3.5	-2.50	5.66	0.23	0.26	0.23	0.26	
4	-2.25	4.76	0.08	0.09	0.31	0.35	
5	-2.00	4.00	0.10	0.11	0.41	0.46	
7	-1.50	2.83	0.45	0.51	0.86	0.97	
10	-1.00	2.00	1.25	1.43	2.11	2.40	
14	-0.50	1.41	1.55	1.77	3.66	4.17	
18	0.00	1.00	1.46	1.67	5.12	5.84	
25	0.50	0.71	1.94	2.22	7.06	8.06	
35	1.00	0.50	2.17	2.48	9.23	10.54	
45	1.50	0.35	0.65	0.74	9.88	11.28	
60	2.00	0.25	8.34	9.54	18.22	20.82	
80	2.50	0.18	25.76	29.48	43.98	50.30	
120	3.00	0.13	39.52	45.23	83.50	95.53	
170	3.50	0.09	2.77	3.17	86.27	98.70	
200	3.75	0.07	0.07	0.08	86.34	98.78	
230	4.00	0.06	0.01	0.01	86.35	98.79	
Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.99	2.87	2.77	2.49	2.07	1.75	-0.25	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.18	0.22	0.98	-2.37	8.8		

Granularmetric Report Depths and elevations based on measured values				 Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116			
Project Name: Longboat Key 2010 Sand Search							
Sample Name: LBVC-10-48 #5							
Analysis Date: 09-16-10							
Analyzed By: JD							
Easting (ft): <div style="text-align: center;">410,324</div>		Northing (ft): <div style="text-align: center;">1,160,816</div>		Coordinate System: <div style="text-align: center;">Florida State Plane West</div>		Elevation (ft): <div style="text-align: center;">-15.3 NAVD 88</div>	
USCS: <div style="text-align: center;">SW</div>		Munsell: Wet - 5Y-5/1 Dry - 5Y-8/1 Washed - 5Y-8/1		Comments:			
Dry Weight (g): <div style="text-align: center;">101.57</div>	Wash Weight (g): <div style="text-align: center;">100.65</div>	Pan Retained (g): <div style="text-align: center;">0.05</div>	Sieve Loss (%): <div style="text-align: center;">0.03</div>	Fines (%): #200 - 1.02 #230 - 0.99	Organics (%):	Carbonates (%):	Shell Hash (%): <div style="text-align: center;">12</div>
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	0.72	0.71	0.72	0.71	
7/16"	-3.50	11.31	2.72	2.68	3.44	3.39	
5/16"	-3.00	8.00	0.51	0.50	3.95	3.89	
3.5	-2.50	5.66	2.90	2.86	6.85	6.75	
4	-2.25	4.76	0.83	0.82	7.68	7.57	
5	-2.00	4.00	3.39	3.34	11.07	10.91	
7	-1.50	2.83	8.75	8.61	19.82	19.52	
10	-1.00	2.00	13.65	13.44	33.47	32.96	
14	-0.50	1.41	14.40	14.18	47.87	47.14	
18	0.00	1.00	9.07	8.93	56.94	56.07	
25	0.50	0.71	9.32	9.18	66.26	65.25	
35	1.00	0.50	6.15	6.05	72.41	71.30	
45	1.50	0.35	3.56	3.50	75.97	74.80	
60	2.00	0.25	3.03	2.98	79.00	77.78	
80	2.50	0.18	7.70	7.58	86.70	85.36	
120	3.00	0.13	12.79	12.59	99.49	97.95	
170	3.50	0.09	0.99	0.97	100.48	98.92	
200	3.75	0.07	0.06	0.06	100.54	98.98	
230	4.00	0.06	0.03	0.03	100.57	99.01	
Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.88	2.41	1.53	-0.34	-1.30	-1.70	-2.81	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	-0.05	1.04	1.79	0.12	2.24		

Granularmetric Report Depths and elevations based on measured values				 Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116			
Project Name: Longboat Key 2010 Sand Search							
Sample Name: LBVC-10-48 #6							
Analysis Date: 09-16-10							
Analyzed By: JD							
Easting (ft): <div style="text-align: center;">410,324</div>		Northing (ft): <div style="text-align: center;">1,160,816</div>		Coordinate System: <div style="text-align: center;">Florida State Plane West</div>		Elevation (ft): <div style="text-align: center;">-17.6 NAVD 88</div>	
USCS: <div style="text-align: center;">SW</div>		Munsell: Wet - 5Y-8/1 Dry - 5Y-8/1 Washed - 5Y-8/1		Comments:			
Dry Weight (g): <div style="text-align: center;">98.08</div>	Wash Weight (g): <div style="text-align: center;">97.04</div>	Pan Retained (g): <div style="text-align: center;">0.01</div>	Sieve Loss (%): <div style="text-align: center;">0.01</div>	Fines (%): #200 - 1.13 #230 - 1.10	Organics (%):	Carbonates (%):	Shell Hash (%): <div style="text-align: center;">1</div>
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained	
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00	
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00	
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00	
5/16"	-3.00	8.00	0.20	0.20	0.20	0.20	
3.5	-2.50	5.66	0.26	0.27	0.46	0.47	
4	-2.25	4.76	0.14	0.14	0.60	0.61	
5	-2.00	4.00	0.13	0.13	0.73	0.74	
7	-1.50	2.83	0.48	0.49	1.21	1.23	
10	-1.00	2.00	0.76	0.77	1.97	2.00	
14	-0.50	1.41	1.05	1.07	3.02	3.07	
18	0.00	1.00	0.79	0.81	3.81	3.88	
25	0.50	0.71	0.70	0.71	4.51	4.59	
35	1.00	0.50	0.56	0.57	5.07	5.16	
45	1.50	0.35	0.05	0.05	5.12	5.21	
60	2.00	0.25	2.65	2.70	7.77	7.91	
80	2.50	0.18	16.46	16.78	24.23	24.69	
120	3.00	0.13	64.43	65.69	88.66	90.38	
170	3.50	0.09	8.28	8.44	96.94	98.82	
200	3.75	0.07	0.05	0.05	96.99	98.87	
230	4.00	0.06	0.03	0.03	97.02	98.90	
Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
3.27	2.95	2.88	2.69	2.50	2.24	0.86	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.49	0.18	0.87	-3.8	19.05		

Granularmetric Report Depths and elevations based on measured values				 Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116			
Project Name: Longboat Key 2010 Sand Search							
Sample Name: LBVC-10-48 #7							
Analysis Date: 09-16-10							
Analyzed By: JD							
Easting (ft):		Northing (ft):		Coordinate System:		Elevation (ft):	
410,324		1,160,816		Florida State Plane West		-19.8 NAVD 88	
USCS:		Munsell:		Comments:			
SW		Wet - 5Y-7/1 Dry - 5Y-8/1 Washed - 5Y-8/1					
Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
101.98	100.72	0.06	0.06	#200 - 1.41 #230 - 1.34			3
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained	
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00	
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00	
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00	
5/16"	-3.00	8.00	0.77	0.76	0.77	0.76	
3.5	-2.50	5.66	1.20	1.18	1.97	1.94	
4	-2.25	4.76	0.98	0.96	2.95	2.90	
5	-2.00	4.00	0.83	0.81	3.78	3.71	
7	-1.50	2.83	1.98	1.94	5.76	5.65	
10	-1.00	2.00	2.81	2.76	8.57	8.41	
14	-0.50	1.41	2.72	2.67	11.29	11.08	
18	0.00	1.00	2.02	1.98	13.31	13.06	
25	0.50	0.71	2.21	2.17	15.52	15.23	
35	1.00	0.50	2.25	2.21	17.77	17.44	
45	1.50	0.35	2.99	2.93	20.76	20.37	
60	2.00	0.25	6.74	6.61	27.50	26.98	
80	2.50	0.18	22.09	21.66	49.59	48.64	
120	3.00	0.13	45.36	44.48	94.95	93.12	
170	3.50	0.09	5.42	5.31	100.37	98.43	
200	3.75	0.07	0.16	0.16	100.53	98.59	
230	4.00	0.06	0.07	0.07	100.60	98.66	
Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
3.18	2.90	2.80	2.52	1.85	0.67	-1.67	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	1.9	0.27	1.47	-1.83	5.39		

Granularmetric Report Depths and elevations based on measured values				 Coastal Planning & Engineering 2481 NW Boca Raton Blvd, Boca Raton FL 33431 ph (561) 391-8102 fax (561) 391-9116			
Project Name: Longboat Key 2010 Sand Search							
Sample Name: LBVC-10-48 #8							
Analysis Date: 09-16-10							
Analyzed By: JD							
Easting (ft): <div style="text-align: center;">410,324</div>		Northing (ft): <div style="text-align: center;">1,160,816</div>		Coordinate System: <div style="text-align: center;">Florida State Plane West</div>		Elevation (ft): <div style="text-align: center;">-20.8 NAVD 88</div>	
USCS: <div style="text-align: center;">SW</div>		Munsell: Wet - 5Y-6/2 Dry - 5Y-7/1 Washed - 5Y-7/1		Comments:			
Dry Weight (g): <div style="text-align: center;">105.28</div>	Wash Weight (g): <div style="text-align: center;">102.85</div>	Pan Retained (g): <div style="text-align: center;">0.02</div>	Sieve Loss (%): <div style="text-align: center;">0.00</div>	Fines (%): #200 - 2.47 #230 - 2.31	Organics (%):	Carbonates (%):	Shell Hash (%): <div style="text-align: center;">5</div>
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained	
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00	
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00	
7/16"	-3.50	11.31	0.20	0.19	0.20	0.19	
5/16"	-3.00	8.00	0.00	0.00	0.20	0.19	
3.5	-2.50	5.66	0.65	0.62	0.85	0.81	
4	-2.25	4.76	0.68	0.65	1.53	1.46	
5	-2.00	4.00	1.64	1.56	3.17	3.02	
7	-1.50	2.83	4.20	3.99	7.37	7.01	
10	-1.00	2.00	5.37	5.10	12.74	12.11	
14	-0.50	1.41	6.25	5.94	18.99	18.05	
18	0.00	1.00	4.29	4.07	23.28	22.12	
25	0.50	0.71	4.13	3.92	27.41	26.04	
35	1.00	0.50	3.42	3.25	30.83	29.29	
45	1.50	0.35	3.44	3.27	34.27	32.56	
60	2.00	0.25	7.25	6.89	41.52	39.45	
80	2.50	0.18	20.80	19.76	62.32	59.21	
120	3.00	0.13	31.47	29.89	93.79	89.10	
170	3.50	0.09	8.21	7.80	102.00	96.90	
200	3.75	0.07	0.66	0.63	102.66	97.53	
230	4.00	0.06	0.17	0.16	102.83	97.69	
Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
3.38	2.91	2.76	2.27	0.37	-0.67	-1.75	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	1.52	0.35	1.64	-0.98	2.67		