






Granularmetric Report				 <p>US Army Corps of Engineers Jacksonville District</p>			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-13 @ 1 ft							
Analysis Date: 3/29/2019							
Easting (ft): <div style="text-align: center;">666,850</div>		Northing (ft): <div style="text-align: center;">1,903,160</div>		Coordinate System: <div style="text-align: center;">State Plane, FLE (U.S. Ft.)</div>		Elevation (ft): <div style="text-align: center;">-58.8 NAVD88</div>	
USCS: <div style="text-align: center;">SP</div>		Munsell: <div style="text-align: center;">10Y 5/1</div>		Fines (%): #200 - 1.38 #230 - 1.30		Organics (%): Carbonates (%): <div style="text-align: center;">15.67</div>	
Shells (%): <div style="text-align: center;">11</div>							
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.01		0.01		
#4	-2.25	4.75	0.07		0.08		
#5	-2.00	4.00	0.12		0.20		
#7	-1.50	2.80	0.17		0.37		
#10	-1.00	2.00	0.71		1.07		
#14	-0.50	1.40	1.11		2.18		
#18	0.00	1.00	1.29		3.47		
#25	0.50	0.71	2.17		5.64		
#35	1.00	0.50	6.12		11.75		
#45	1.50	0.36	11.95		23.71		
#60	2.00	0.25	20.34		44.05		
#80	2.50	0.18	37.09		81.14		
#120	3.00	0.13	16.36		97.50		
#170	3.50	0.09	1.06		98.56		
#200	3.75	0.08	0.06		98.62		
#230	4.00	0.06	0.08		98.70		
SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.92	2.59	2.42	2.08	1.53	1.18	0.35	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.88	0.27	2.08	0.24	0.81	-1.55	6.55


Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-13 @ 5 ft							
Analysis Date: 3/29/2019							
Easting (ft): 666,850		Northing (ft): 1,903,160		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -62.8 NAVD88	
USCS: SW		Munsell: 10Y 5/1		Fines (%): #200 - 2.05 #230 - 2.03		Organics (%): Carbonates (%): Shells (%): 20.3	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.11		0.11		
#4	-2.25	4.75	0.21		0.31		
#5	-2.00	4.00	0.52		0.83		
#7	-1.50	2.80	0.28		1.11		
#10	-1.00	2.00	0.77		1.88		
#14	-0.50	1.40	0.95		2.83		
#18	0.00	1.00	1.05		3.88		
#25	0.50	0.71	1.40		5.28		
#35	1.00	0.50	3.52		8.81		
#45	1.50	0.36	8.01		16.82		
#60	2.00	0.25	17.59		34.40		
#80	2.50	0.18	38.37		72.77		
#120	3.00	0.13	23.11		95.89		
#170	3.50	0.09	1.92		97.80		
#200	3.75	0.08	0.14		97.95		
#230	4.00	0.06	0.02		97.97		
SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.98	2.74	2.55	2.20	1.73	1.45	0.40	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	2.00	0.25	2.20	0.22	0.87	-2.21	9.77

Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-14 @ 2 ft							
Analysis Date: 3/29/2019							
Easting (ft): 667,502		Northing (ft): 1,903,875		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -56.1 NAVD88	
USCS: SW		Munsell: 10Y 6/1		Fines (%): #200 - 1.54 #230 - 1.48		Organics (%): Carbonates (%): 18.86	
						Shells (%): 15.7	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
#3.5	-2.50	5.60	0.00		0.00		
#4	-2.25	4.75	0.20		0.20		
#5	-2.00	4.00	0.07		0.27		
#7	-1.50	2.80	0.37		0.63		
#10	-1.00	2.00	0.47		1.10		
#14	-0.50	1.40	1.63		2.73		
#18	0.00	1.00	1.94		4.67		
#25	0.50	0.71	2.99		7.66		
#35	1.00	0.50	6.87		14.53		
#45	1.50	0.36	11.70		26.23		
#60	2.00	0.25	20.25		46.48		
#80	2.50	0.18	35.25		81.73		
#120	3.00	0.13	15.42		97.15		
#170	3.50	0.09	1.15		98.31		
#200	3.75	0.08	0.16		98.46		
#230	4.00	0.06	0.05		98.52		
<p>SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fine to medium-grained sand-sized shell, trace silt</p>							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.93	2.57	2.40	2.05	1.45	1.06	0.06	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.81	0.29	2.05	0.24	0.87	-1.45	5.85


Granularmetric Report				 <p>US Army Corps of Engineers Jacksonville District</p>			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-15 @ 1 ft							
Analysis Date: 3/29/2019							
Easting (ft): <div style="text-align: center;">668,152</div>		Northing (ft): <div style="text-align: center;">1,904,661</div>		Coordinate System: <div style="text-align: center;">State Plane, FLE (U.S. Ft.)</div>		Elevation (ft): <div style="text-align: center;">-54.3 NAVD88</div>	
USCS: <div style="text-align: center;">SW</div>		Munsell: <div style="text-align: center;">10Y 6/1</div>		Fines (%): #200 - 1.55 #230 - 1.50		Organics (%): Carbonates (%): Shells (%): <div style="text-align: center;">23</div>	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
#3.5	-2.50	5.60	0.00		0.00		
#4	-2.25	4.75	0.05		0.05		
#5	-2.00	4.00	0.14		0.18		
#7	-1.50	2.80	0.43		0.61		
#10	-1.00	2.00	0.92		1.53		
#14	-0.50	1.40	1.73		3.26		
#18	0.00	1.00	2.78		6.04		
#25	0.50	0.71	3.94		9.98		
#35	1.00	0.50	7.04		17.01		
#45	1.50	0.36	11.29		28.31		
#60	2.00	0.25	20.63		48.94		
#80	2.50	0.18	35.17		84.11		
#120	3.00	0.13	13.55		97.66		
#170	3.50	0.09	0.54		98.21		
#200	3.75	0.08	0.24		98.45		
#230	4.00	0.06	0.05		98.50		
SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.90	2.50	2.37	2.02	1.35	0.93	-0.19	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.74	0.30	2.02	0.25	0.91	-1.36	5.05


GRANULARMETRIC REPORT % FLAGLER HSDR - NAVD88 - WORKING.GPJ CESAJ 20171021.GDT 7/1/19

Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-15 @ 4 ft							
Analysis Date: 3/29/2019							
Easting (ft): 668,152		Northing (ft): 1,904,661		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -57.3 NAVD88	
USCS: SW		Munsell: 10Y 6/1		Fines (%): #200 - 1.89 #230 - 1.86		Organics (%): Carbonates (%): 23.97 Shells (%): 26.6	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.22		0.22		
#4	-2.25	4.75	0.51		0.73		
#5	-2.00	4.00	0.18		0.92		
#7	-1.50	2.80	0.34		1.26		
#10	-1.00	2.00	1.03		2.29		
#14	-0.50	1.40	1.93		4.22		
#18	0.00	1.00	2.61		6.82		
#25	0.50	0.71	4.07		10.89		
#35	1.00	0.50	6.80		17.69		
#45	1.50	0.36	10.40		28.09		
#60	2.00	0.25	18.44		46.52		
#80	2.50	0.18	35.44		81.96		
#120	3.00	0.13	15.32		97.28		
#170	3.50	0.09	0.74		98.02		
#200	3.75	0.08	0.09		98.11		
#230	4.00	0.06	0.03		98.14		
<p>SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, trace silt</p>							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.93	2.57	2.40	2.05	1.35	0.88	-0.35	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.73	0.30	2.05	0.24	0.99	-1.61	6.07

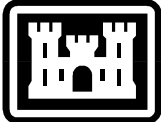
Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-15 @ 8 ft							
Analysis Date: 3/29/2019							
Easting (ft): 668,152		Northing (ft): 1,904,661		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -61.3 NAVD88	
USCS: SW		Munsell: 10Y 6/1		Fines (%): #200 - 1.52 #230 - 1.47		Organics (%): Carbonates (%): Shells (%): 25.5	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.11		0.11		
#4	-2.25	4.75	0.18		0.29		
#5	-2.00	4.00	0.24		0.53		
#7	-1.50	2.80	0.40		0.93		
#10	-1.00	2.00	0.83		1.76		
#14	-0.50	1.40	1.34		3.10		
#18	0.00	1.00	2.00		5.10		
#25	0.50	0.71	2.90		8.00		
#35	1.00	0.50	6.51		14.50		
#45	1.50	0.36	10.40		24.90		
#60	2.00	0.25	19.25		44.15		
#80	2.50	0.18	39.72		83.87		
#120	3.00	0.13	13.49		97.36		
#170	3.50	0.09	0.98		98.34		
#200	3.75	0.08	0.14		98.48		
#230	4.00	0.06	0.05		98.53		
SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.91	2.50	2.39	2.07	1.50	1.07	-0.02	
Moment Statistics	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
	1.81	0.29	2.07	0.24	0.9	-1.71	6.89

GRANULARMETRIC REPORT % FLAGLER HSDR - NAVD88 - WORKING.GPJ CESAJ 20171021.GDT 7/1/19


Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-15 @ 11 ft							
Analysis Date: 3/29/2019							
Easting (ft): 668,152		Northing (ft): 1,904,661		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -64.3 NAVD88	
USCS: SP		Munsell: 10Y 4/1		Fines (%): #200 - 3.52 #230 - 3.37		Organics (%): Carbonates (%): Shells (%): 12.6	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.13		0.13		
#4	-2.25	4.75	0.07		0.20		
#5	-2.00	4.00	0.04		0.24		
#7	-1.50	2.80	0.13		0.37		
#10	-1.00	2.00	0.19		0.56		
#14	-0.50	1.40	0.23		0.79		
#18	0.00	1.00	0.33		1.12		
#25	0.50	0.71	0.39		1.52		
#35	1.00	0.50	0.56		2.07		
#45	1.50	0.36	1.11		3.19		
#60	2.00	0.25	4.64		7.82		
#80	2.50	0.18	30.51		38.33		
#120	3.00	0.13	50.36		88.69		
#170	3.50	0.09	6.88		95.57		
#200	3.75	0.08	0.91		96.48		
#230	4.00	0.06	0.16		96.63		
SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fine to medium-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
3.46	2.95	2.86	2.62	2.28	2.13	1.70	
Moment Statistics	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
	2.50	0.18	2.62	0.16	0.6	-3.57	25.42


Granularmetric Report				 <p>US Army Corps of Engineers Jacksonville District</p>			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-18 @ 1 ft							
Analysis Date: 3/29/2019							
Easting (ft): <div style="text-align: center;">667,607</div>		Northing (ft): <div style="text-align: center;">1,902,489</div>		Coordinate System: <div style="text-align: center;">State Plane, FLE (U.S. Ft.)</div>		Elevation (ft): <div style="text-align: center;">-57.5 NAVD88</div>	
USCS: <div style="text-align: center;">SW</div>		Munsell: <div style="text-align: center;">10Y 6/1</div>		Fines (%): #200 - 1.30 #230 - 1.29		Organics (%): Carbonates (%): Shells (%): <div style="text-align: center;">25.9</div>	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
#3.5	-2.50	5.60	0.00		0.00		
#4	-2.25	4.75	0.08		0.08		
#5	-2.00	4.00	0.22		0.30		
#7	-1.50	2.80	0.39		0.68		
#10	-1.00	2.00	1.13		1.81		
#14	-0.50	1.40	1.70		3.51		
#18	0.00	1.00	1.84		5.35		
#25	0.50	0.71	3.29		8.64		
#35	1.00	0.50	7.68		16.32		
#45	1.50	0.36	11.08		27.40		
#60	2.00	0.25	17.88		45.28		
#80	2.50	0.18	35.26		80.53		
#120	3.00	0.13	16.93		97.47		
#170	3.50	0.09	1.08		98.55		
#200	3.75	0.08	0.15		98.70		
#230	4.00	0.06	0.01		98.71		
SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.93	2.60	2.42	2.07	1.39	0.98	-0.10	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.80	0.29	2.07	0.24	0.92	-1.45	5.45

GRANULARMETRIC REPORT % FLAGLER HSDR - NAVD88 - WORKING.GPJ CESAJ 20171021.GDT 7/1/19


Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-18 @ 6 ft							
Analysis Date: 3/29/2019							
Easting (ft): 667,607		Northing (ft): 1,902,489		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -62.5 NAVD88	
USCS: SW		Munsell: 10Y 6/1		Fines (%): #200 - 1.31 #230 - 1.26		Organics (%): Carbonates (%): 16.69	
						Shells (%): 20.5	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/4"	-4.25	19.00	0.00		0.00		
3/8"	-3.25	9.50	0.42		0.42		
#3.5	-2.50	5.60	0.10		0.52		
#4	-2.25	4.75	0.06		0.58		
#5	-2.00	4.00	0.05		0.62		
#7	-1.50	2.80	0.36		0.98		
#10	-1.00	2.00	0.64		1.62		
#14	-0.50	1.40	0.91		2.54		
#18	0.00	1.00	1.07		3.61		
#25	0.50	0.71	1.66		5.27		
#35	1.00	0.50	4.01		9.28		
#45	1.50	0.36	8.33		17.60		
#60	2.00	0.25	17.49		35.09		
#80	2.50	0.18	43.14		78.23		
#120	3.00	0.13	18.63		96.86		
#170	3.50	0.09	1.64		98.50		
#200	3.75	0.08	0.19		98.69		
#230	4.00	0.06	0.05		98.74		
SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.95	2.65	2.46	2.17	1.71	1.40	0.42	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.97	0.26	2.17	0.22	0.88	-2.6	13.59

GRANULARMETRIC REPORT % FLAGLER HSDR - NAVD88 - WORKING.GPJ CESAJ 20171021.GDT 7/1/19


Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-19 @ 2 ft							
Analysis Date: 3/29/2019							
Easting (ft): 668,260		Northing (ft): 1,903,257		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -56.2 NAVD88	
USCS: SW		Munsell: 10Y 6/1		Fines (%): #200 - 2.03		Organics (%): Carbonates (%): Shells (%): 19.9	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/4"	-4.25	19.00	0.00		0.00		
3/8"	-3.25	9.50	0.38		0.38		
#3.5	-2.50	5.60	0.00		0.38		
#4	-2.25	4.75	0.04		0.43		
#5	-2.00	4.00	0.05		0.48		
#7	-1.50	2.80	0.42		0.89		
#10	-1.00	2.00	0.68		1.57		
#14	-0.50	1.40	1.25		2.82		
#18	0.00	1.00	1.77		4.59		
#25	0.50	0.71	2.56		7.15		
#35	1.00	0.50	4.98		12.13		
#45	1.50	0.36	9.15		21.28		
#60	2.00	0.25	19.34		40.62		
#80	2.50	0.18	40.74		81.36		
#120	3.00	0.13	15.13		96.49		
#170	3.50	0.09	1.27		97.77		
#200	3.75	0.08	0.20		97.97		
<p>SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, trace silt</p>							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.95	2.59	2.42	2.12	1.60	1.21	0.08	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.87	0.27	2.12	0.23	0.9	-2.19	10.54


Granularmetric Report				 <p>US Army Corps of Engineers Jacksonville District</p>			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-20 @ 1 ft							
Analysis Date: 3/29/2019							
Easting (ft): <div style="text-align: center;">668,944</div>		Northing (ft): <div style="text-align: center;">1,904,009</div>		Coordinate System: <div style="text-align: center;">State Plane, FLE (U.S. Ft.)</div>		Elevation (ft): <div style="text-align: center;">-56.4 NAVD88</div>	
USCS: <div style="text-align: center;">SP</div>		Munsell: <div style="text-align: center;">5Y 6/1</div>		Fines (%): #200 - 1.87 #230 - 1.80		Organics (%): <div style="text-align: center;">Carbonates (%): 15.18</div>	
						Shells (%): 20.4	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.05		0.05		
#4	-2.25	4.75	0.00		0.05		
#5	-2.00	4.00	0.03		0.08		
#7	-1.50	2.80	0.03		0.11		
#10	-1.00	2.00	0.13		0.24		
#14	-0.50	1.40	0.42		0.65		
#18	0.00	1.00	0.90		1.55		
#25	0.50	0.71	1.64		3.19		
#35	1.00	0.50	3.06		6.25		
#45	1.50	0.36	6.13		12.38		
#60	2.00	0.25	16.90		29.28		
#80	2.50	0.18	45.19		74.47		
#120	3.00	0.13	22.07		96.54		
#170	3.50	0.09	1.42		97.96		
#200	3.75	0.08	0.17		98.13		
#230	4.00	0.06	0.06		98.20		
<p>SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fine to medium-grained sand-sized shell, trace silt</p>							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.97	2.72	2.51	2.23	1.87	1.61	0.80	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	2.11	0.23	2.23	0.21	0.66	-1.79	8.71


GRANULARMETRIC REPORT % FLAGLER HSDR - NAVD88 - WORKING.GPJ CESAJ 20171021.GDT 7/1/19


Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-20 @ 4 ft							
Analysis Date: 3/29/2019							
Easting (ft): 668,944		Northing (ft): 1,904,009		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -59.4 NAVD88	
USCS: SP		Munsell: 5Y 6/1		Fines (%): #200 - 1.63 #230 - 1.59		Organics (%): Carbonates (%): Shells (%): 13.4	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.00		0.00		
#4	-2.25	4.75	0.04		0.05		
#5	-2.00	4.00	0.09		0.14		
#7	-1.50	2.80	0.27		0.41		
#10	-1.00	2.00	0.69		1.10		
#14	-0.50	1.40	1.27		2.38		
#18	0.00	1.00	1.60		3.97		
#25	0.50	0.71	2.41		6.39		
#35	1.00	0.50	4.48		10.87		
#45	1.50	0.36	8.26		19.12		
#60	2.00	0.25	19.97		39.09		
#80	2.50	0.18	46.04		85.13		
#120	3.00	0.13	11.66		96.80		
#170	3.50	0.09	1.36		98.16		
#200	3.75	0.08	0.22		98.37		
#230	4.00	0.06	0.03		98.41		
<p>SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, trace silt</p>							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.92	2.49	2.39	2.12	1.65	1.31	0.21	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.90	0.27	2.12	0.23	0.8	-1.8	7.35

GRANULARMETRIC REPORT % FLAGLER HSDR - NAVD88 - WORKING.GPJ CESAJ 20171021.GDT 7/1/19


Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-20 @ 8 ft							
Analysis Date: 3/29/2019							
Easting (ft): 668,944		Northing (ft): 1,904,009		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -63.4 NAVD88	
USCS: SW		Munsell: 10Y 6/1		Fines (%): #200 - 1.96 #230 - 1.90		Organics (%): Carbonates (%): Shells (%): 12.3	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.22		0.22		
#4	-2.25	4.75	0.26		0.48		
#5	-2.00	4.00	0.33		0.81		
#7	-1.50	2.80	0.60		1.40		
#10	-1.00	2.00	0.78		2.18		
#14	-0.50	1.40	1.25		3.43		
#18	0.00	1.00	1.48		4.91		
#25	0.50	0.71	2.19		7.10		
#35	1.00	0.50	4.02		11.12		
#45	1.50	0.36	7.12		18.24		
#60	2.00	0.25	16.20		34.44		
#80	2.50	0.18	43.58		78.02		
#120	3.00	0.13	18.22		96.23		
#170	3.50	0.09	1.53		97.76		
#200	3.75	0.08	0.28		98.04		
#230	4.00	0.06	0.06		98.10		
SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.97	2.66	2.47	2.18	1.71	1.34	0.02	
Moment Statistics	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
	1.94	0.26	2.18	0.22	0.92	-2.15	8.9

Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-23 @ 1 ft							
Analysis Date: 3/29/2019							
Easting (ft): 668,366		Northing (ft): 1,901,850		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -53.5 NAVD88	
USCS: SW		Munsell: 5Y 6/1		Fines (%): #200 - 1.37 #230 - 1.35		Organics (%): Carbonates (%): 13.83	
						Shells (%): 19.2	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.48		0.48		
#4	-2.25	4.75	0.16		0.64		
#5	-2.00	4.00	0.35		0.99		
#7	-1.50	2.80	0.31		1.30		
#10	-1.00	2.00	0.61		1.91		
#14	-0.50	1.40	1.23		3.14		
#18	0.00	1.00	1.66		4.80		
#25	0.50	0.71	2.53		7.32		
#35	1.00	0.50	4.75		12.08		
#45	1.50	0.36	8.48		20.56		
#60	2.00	0.25	17.87		38.43		
#80	2.50	0.18	39.93		78.36		
#120	3.00	0.13	18.97		97.33		
#170	3.50	0.09	1.15		98.48		
#200	3.75	0.08	0.15		98.63		
#230	4.00	0.06	0.02		98.65		
SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.94	2.65	2.46	2.14	1.62	1.23	0.04	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.90	0.27	2.14	0.23	0.93	-2.11	9


Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-23 @ 5 ft							
Analysis Date: 3/29/2019							
Easting (ft): 668,366		Northing (ft): 1,901,850		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -57.5 NAVD88	
USCS: SW		Munsell: 5Y 6/1		Fines (%): #200 - 0.88 #230 - 0.82		Organics (%): Carbonates (%): Shells (%): 24.8	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/4"	-4.25	19.00	0.00		0.00		
3/8"	-3.25	9.50	0.51		0.51		
#3.5	-2.50	5.60	0.24		0.76		
#4	-2.25	4.75	0.19		0.94		
#5	-2.00	4.00	0.03		0.98		
#7	-1.50	2.80	0.27		1.25		
#10	-1.00	2.00	0.58		1.83		
#14	-0.50	1.40	1.30		3.13		
#18	0.00	1.00	1.52		4.65		
#25	0.50	0.71	2.31		6.96		
#35	1.00	0.50	4.52		11.48		
#45	1.50	0.36	7.99		19.47		
#60	2.00	0.25	17.69		37.16		
#80	2.50	0.18	44.63		81.79		
#120	3.00	0.13	16.04		97.83		
#170	3.50	0.09	1.17		98.99		
#200	3.75	0.08	0.13		99.12		
#230	4.00	0.06	0.06		99.18		
SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fine to medium-grained sand-sized shell							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.91	2.57	2.42	2.14	1.66	1.28	0.08	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.90	0.27	2.14	0.23	0.94	-2.56	12.53


Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-23 @ 10 ft							
Analysis Date: 3/29/2019							
Easting (ft): 668,366		Northing (ft): 1,901,850		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -62.5 NAVD88	
USCS: SW		Munsell: 5Y 6/1		Fines (%): #200 - 1.79 #230 - 1.69		Organics (%): Carbonates (%): Shells (%): 23.9	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.48		0.48		
#4	-2.25	4.75	0.00		0.48		
#5	-2.00	4.00	0.23		0.71		
#7	-1.50	2.80	0.10		0.81		
#10	-1.00	2.00	0.55		1.36		
#14	-0.50	1.40	0.99		2.35		
#18	0.00	1.00	1.57		3.92		
#25	0.50	0.71	2.39		6.31		
#35	1.00	0.50	5.16		11.47		
#45	1.50	0.36	8.83		20.30		
#60	2.00	0.25	18.26		38.56		
#80	2.50	0.18	39.16		77.72		
#120	3.00	0.13	18.81		96.53		
#170	3.50	0.09	1.44		97.98		
#200	3.75	0.08	0.24		98.21		
#230	4.00	0.06	0.10		98.31		
SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fine to medium-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.96	2.67	2.47	2.15	1.63	1.26	0.23	
Moment Statistics	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
	1.93	0.26	2.15	0.23	0.87	-2	9.14

GRANULARMETRIC REPORT % FLAGLER HSDR - NAVD88 - WORKING.GPJ CESAJ 20171021.GDT 7/1/19


Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-24 @ 1 ft							
Analysis Date: 3/29/2019							
Easting (ft): 668,987		Northing (ft): 1,902,578		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -53.6 NAVD88	
USCS: SW		Munsell: 10YR 6/1		Fines (%): #200 - 2.04 #230 - 1.99		Organics (%): Carbonates (%): Shells (%): 26.5	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.37		0.37		
#4	-2.25	4.75	0.13		0.50		
#5	-2.00	4.00	0.02		0.52		
#7	-1.50	2.80	0.21		0.73		
#10	-1.00	2.00	0.59		1.32		
#14	-0.50	1.40	1.22		2.55		
#18	0.00	1.00	1.86		4.41		
#25	0.50	0.71	3.16		7.57		
#35	1.00	0.50	6.20		13.77		
#45	1.50	0.36	9.88		23.65		
#60	2.00	0.25	19.58		43.22		
#80	2.50	0.18	41.21		84.44		
#120	3.00	0.13	12.56		97.00		
#170	3.50	0.09	0.84		97.84		
#200	3.75	0.08	0.12		97.96		
#230	4.00	0.06	0.05		98.01		
SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fine to medium-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.92	2.49	2.39	2.08	1.53	1.11	0.09	
Moment Statistics	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
	1.82	0.28	2.08	0.24	0.87	-1.84	7.97


GRANULARMETRIC REPORT % FLAGLER HSDR - NAVD88 - WORKING.GPJ CESAJ 20171021.GDT 7/1/19


Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-24 @ 5 ft							
Analysis Date: 3/29/2019							
Easting (ft): 668,987		Northing (ft): 1,902,578		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -57.6 NAVD88	
USCS: SP		Munsell: 10YR 6/1		Fines (%): #200 - 2.17 #230 - 2.14		Organics (%): Carbonates (%): 16.02	
Shells (%): 21.4							
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.12		0.12		
#4	-2.25	4.75	0.08		0.20		
#5	-2.00	4.00	0.05		0.25		
#7	-1.50	2.80	0.13		0.38		
#10	-1.00	2.00	0.56		0.94		
#14	-0.50	1.40	1.10		2.04		
#18	0.00	1.00	1.55		3.60		
#25	0.50	0.71	2.66		6.25		
#35	1.00	0.50	5.63		11.89		
#45	1.50	0.36	9.69		21.57		
#60	2.00	0.25	19.44		41.01		
#80	2.50	0.18	41.83		82.84		
#120	3.00	0.13	13.88		96.72		
#170	3.50	0.09	1.00		97.72		
#200	3.75	0.08	0.11		97.83		
#230	4.00	0.06	0.03		97.86		
SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fine to medium-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.94	2.54	2.41	2.11	1.59	1.21	0.26	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.88	0.27	2.11	0.23	0.81	-1.72	7.35

Granularmetric Report				 <p>US Army Corps of Engineers Jacksonville District</p>			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-25 @ 1 ft							
Analysis Date: 3/29/2019							
Easting (ft): <div style="text-align: center;">669,671</div>		Northing (ft): <div style="text-align: center;">1,903,365</div>		Coordinate System: <div style="text-align: center;">State Plane, FLE (U.S. Ft.)</div>		Elevation (ft): <div style="text-align: center;">-58.1 NAVD88</div>	
USCS: <div style="text-align: center;">SW</div>		Munsell: <div style="text-align: center;">5Y 6/1</div>		Fines (%): #200 - 1.42 #230 - 1.37		Organics (%): <div style="text-align: center;">Carbonates (%): <div style="text-align: center;">Shells (%): <div style="text-align: center;">35.2</div></div></div>	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	1.89		1.89		
#4	-2.25	4.75	0.00		1.89		
#5	-2.00	4.00	0.18		2.07		
#7	-1.50	2.80	1.22		3.29		
#10	-1.00	2.00	1.54		4.84		
#14	-0.50	1.40	2.52		7.36		
#18	0.00	1.00	3.32		10.67		
#25	0.50	0.71	5.21		15.88		
#35	1.00	0.50	8.36		24.24		
#45	1.50	0.36	9.40		33.64		
#60	2.00	0.25	14.39		48.03		
#80	2.50	0.18	34.70		82.73		
#120	3.00	0.13	14.64		97.37		
#170	3.50	0.09	1.05		98.42		
#200	3.75	0.08	0.16		98.58		
#230	4.00	0.06	0.05		98.63		
<p>SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, some fine to coarse-grained sand-sized shell, trace silt</p>							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.92	2.54	2.39	2.03	1.04	0.51	-0.97	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.57	0.34	2.03	0.24	1.22	-1.56	5.47

GRANULARMETRIC REPORT % FLAGLER HSDR - NAVD88 - WORKING.GPJ CESAJ 20171021.GDT 7/1/19

Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-25 @ 5 ft							
Analysis Date: 3/29/2019							
Easting (ft): 669,671		Northing (ft): 1,903,365		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -62.1 NAVD88	
USCS: SW		Munsell: 5Y 6/1		Fines (%): #200 - 2.08 #230 - 2.07		Organics (%): Carbonates (%): 23.26	
Shells (%): 26.1							
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/8"	-3.25	9.50	0.00		0.00		
#3.5	-2.50	5.60	0.55		0.55		
#4	-2.25	4.75	0.00		0.55		
#5	-2.00	4.00	0.26		0.80		
#7	-1.50	2.80	0.56		1.36		
#10	-1.00	2.00	1.00		2.36		
#14	-0.50	1.40	1.92		4.28		
#18	0.00	1.00	2.13		6.41		
#25	0.50	0.71	2.65		9.07		
#35	1.00	0.50	3.91		12.97		
#45	1.50	0.36	6.10		19.07		
#60	2.00	0.25	13.74		32.81		
#80	2.50	0.18	42.86		75.67		
#120	3.00	0.13	20.56		96.23		
#170	3.50	0.09	1.50		97.72		
#200	3.75	0.08	0.19		97.92		
#230	4.00	0.06	0.01		97.93		
<p>SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, trace silt</p>							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.97	2.70	2.49	2.20	1.72	1.25	-0.33	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.91	0.27	2.20	0.22	0.99	-2.06	7.93

Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-28 @ 1 ft							
Analysis Date: 3/29/2019							
Easting (ft): 669,111		Northing (ft): 1,901,275		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -62.6 NAVD88	
USCS: SW		Munsell: 5Y 7/1		Fines (%): #200 - 1.22 #230 - 1.19		Organics (%): Carbonates (%): Shells (%): 22.6	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/4"	-4.25	19.00	0.00		0.00		
3/8"	-3.25	9.50	0.11		0.11		
#3.5	-2.50	5.60	0.74		0.86		
#4	-2.25	4.75	0.19		1.04		
#5	-2.00	4.00	0.43		1.47		
#7	-1.50	2.80	0.58		2.05		
#10	-1.00	2.00	1.18		3.24		
#14	-0.50	1.40	1.62		4.86		
#18	0.00	1.00	1.92		6.78		
#25	0.50	0.71	2.69		9.47		
#35	1.00	0.50	5.26		14.73		
#45	1.50	0.36	8.33		23.06		
#60	2.00	0.25	16.69		39.75		
#80	2.50	0.18	37.11		76.86		
#120	3.00	0.13	20.34		97.20		
#170	3.50	0.09	1.39		98.59		
#200	3.75	0.08	0.19		98.78		
#230	4.00	0.06	0.03		98.81		
SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.95	2.68	2.47	2.14	1.56	1.08	-0.46	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.83	0.28	2.14	0.23	1.06	-2.04	8.02

Granularmetric Report				 US Army Corps of Engineers Jacksonville District			
Project Name: Flagler HSDR Flagler HSDR							
Sample Name: VB-FC18-29 @ 1 ft							
Analysis Date: 3/29/2019							
Easting (ft): 669,747		Northing (ft): 1,901,972		Coordinate System: State Plane, FLE (U.S. Ft.)		Elevation (ft): -59.7 NAVD88	
USCS: SW		Munsell: 5Y 5/1		Fines (%): #200 - 1.48 #230 - 1.44		Organics (%): Carbonates (%): 19.52	
						Shells (%): 17.3	
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	% Weight Retained		C. % Weight Retained		
3/4"	-4.25	19.00	0.00		0.00		
3/8"	-3.25	9.50	0.36		0.36		
#3.5	-2.50	5.60	0.44		0.80		
#4	-2.25	4.75	0.17		0.97		
#5	-2.00	4.00	0.31		1.28		
#7	-1.50	2.80	0.68		1.96		
#10	-1.00	2.00	3.01		4.97		
#14	-0.50	1.40	0.05		5.03		
#18	0.00	1.00	1.87		6.89		
#25	0.50	0.71	2.72		9.62		
#35	1.00	0.50	5.13		14.75		
#45	1.50	0.36	8.79		23.54		
#60	2.00	0.25	17.65		41.18		
#80	2.50	0.18	37.39		78.57		
#120	3.00	0.13	18.62		97.19		
#170	3.50	0.09	1.18		98.37		
#200	3.75	0.08	0.15		98.52		
#230	4.00	0.06	0.04		98.56		
SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, trace silt							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
2.94	2.65	2.45	2.12	1.54	1.07	-0.75	
Moment	Mean Phi	Mean mm	Median Phi	Median mm	Sorting	Skewness	Kurtosis
Statistics	1.80	0.29	2.12	0.23	1.08	-2.1	8.29