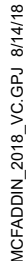


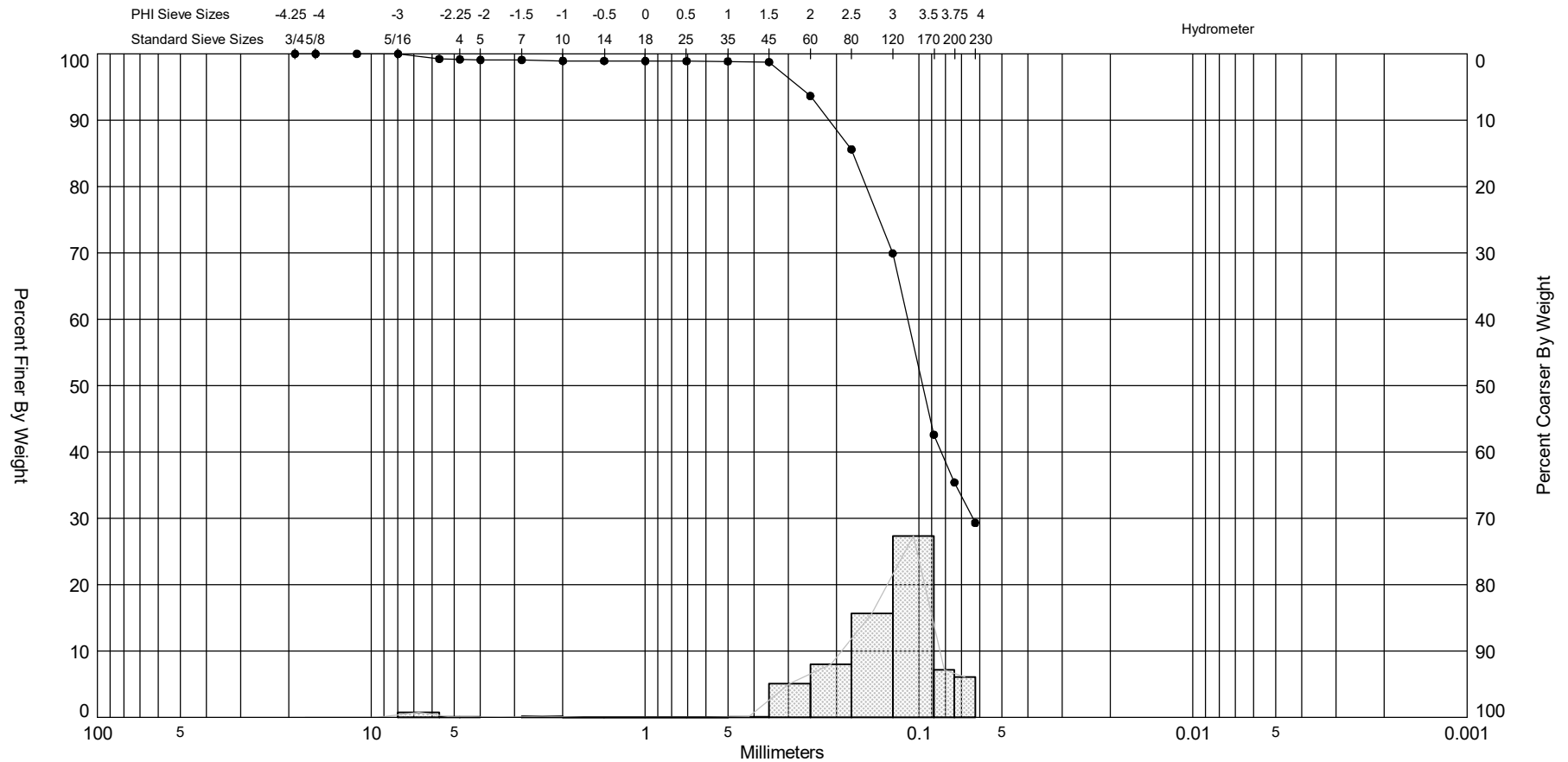
DRILLING LOG		DIVISION	INSTALLATION	SHEET 1
1. PROJECT McFaddin NWR Beach Ridge Restoration Jefferson County, Texas				
2. BORING DESIGNATION JCVC-18-27		LOCATION COORDINATES (ft) X = 3,483,203 Y = 13,786,369		9. SIZE AND TYPE OF BIT 3.0 In. 10. COORDINATE SYSTEM/DATUM Texas South Central HORIZONTAL NAD 1983 VERTICAL NAVD88
3. DRILLING AGENCY APTIM		CONTRACTOR FILE NO.		11. MANUFACTURER'S DESIGNATION OF DRILL ☐ AUTO HAMMER APTIM SEAS VC-700 Vibracore ☐ MANUAL HAMMER
4. NAME OF DRILLER Francis Stankiewicz		12. TOTAL SAMPLES		13. TOTAL NUMBER CORE BOXES
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED		DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
6. THICKNESS OF OVERBURDEN 0.0 Ft.		15. DATE BORING		STARTED 05-23-18 07:20
7. DEPTH DRILLED INTO ROCK 0.0 Ft.		16. ELEVATION TOP OF BORING -28.7 Ft.		COMPLETED 05-23-18 07:42
8. TOTAL DEPTH OF BORING 19.0 Ft.		17. TOTAL RECOVERY FOR BORING 18.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR KM

ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-28.7	0.0					
-29.9	1.2		CLAY, trace sand, trace shell hash, light yellowish brown (2.5Y-6/3), (CL).		T1	Sample #T1, Depth = 0.7' Ave. Field Vane (tsf): 0.33
			CLAY, (0.5" x 0.25") shell fragment @ 3.7', light olive brown (2.5Y-5/4), (CL).		T2	Sample #T2, Depth = 2.7' Ave. Field Vane (tsf): 0.87
-32.6	3.9		SAND, fine grained, quartz, some clay, light olive gray (5Y-6/2), (SC).		1	Sample #1, Depth = 4.2' Mean (mm): 0.12, Phi Sorting: 0.40 Fines (230): 25.18% (SC)
-33.2	4.5		SAND, fine grained, quartz, some clay, trace shell fragments, trace shell hash, trace whole shell, shell fragments up to (1.0" x 0.5"), whole shells up to 1.5", light olive brown (2.5Y-5/3), (SC).		2	Sample #2, Depth = 5.0' Mean (mm): 0.13, Phi Sorting: 0.88 Fines (230): 29.30% (SC)
-34.2	5.5		SAND, fine grained, quartz, some clay, trace shell fragments, trace shell hash, shell fragments up to (1.25" x 1.0"), 2.0" shell fragment @ 6.0', gray (2.5Y-5/1), (SC).		3	Sample #3, Depth = 6.0' Mean (mm): 0.14, Phi Sorting: 1.02 Fines (230): 29.87% (SC)
-35.2	6.5		Clayey SAND, fine grained, quartz, trace organics, trace shell hash, dark greenish gray (10Y-4/1), (SC).		4	Sample #4, Depth = 6.9' Mean (mm): 0.12, Phi Sorting: 0.54 Fines (230): 43.07% (SC)
-36.0	7.3		Sandy CLAY, trace organics, greenish gray (10Y-5/1), (CL).		5 / T3 @ 8.0'	Sample #5 / T3 @ 8.0', Depth = 7.8' Mean (mm): 0.11, Phi Sorting: 0.53 Fines (230): 64.23% (CL)
-37.1	8.4		Clayey SAND, fine grained, quartz, trace organics, 3.0" clay pocket @ 10.6', dark grayish brown (2.5Y-4/2), (CL).		6	Ave. Field Vane (tsf): 0.74 Sample #6, Depth = 9.6' Mean (mm): 0.11, Phi Sorting: 0.46 Fines (230): 47.30% (CL)
-39.5	10.8		SAND, fine grained, quartz, little clay, dark gray (2.5Y-4/1), (SC).		7	Sample #7, Depth = 12.6' Mean (mm): 0.13, Phi Sorting: 0.63 Fines (230): 15.95% (SC)
-42.8	14.1		SAND, fine grained, quartz, some clay, trace organics, dark gray (2.5Y-4/1), (SC).		VS VC02 S#5	Sample #VS VC02 S#5, Depth = 14.1' - 15.6'
-44.3	15.6		Sandy CLAY, sand distributed in laminae and pockets up to 1.5", dark gray (5Y-4/1), (CL).		VS VC02 S#6	Sample #VS VC02 S#6, Depth = 15.6' - 16.6'
-45.3	16.6		CLAY, trace rock, rocks up to 0.25", Bit Sample from 17.9' to 18.2', light olive brown (2.5Y-5/4), (CL).		T4	Sample #T4, Depth = 17.4' Ave. Field Vane (tsf): 1.00
-46.9	18.2		No Recovery.			
-47.7	19.0		End of Boring			

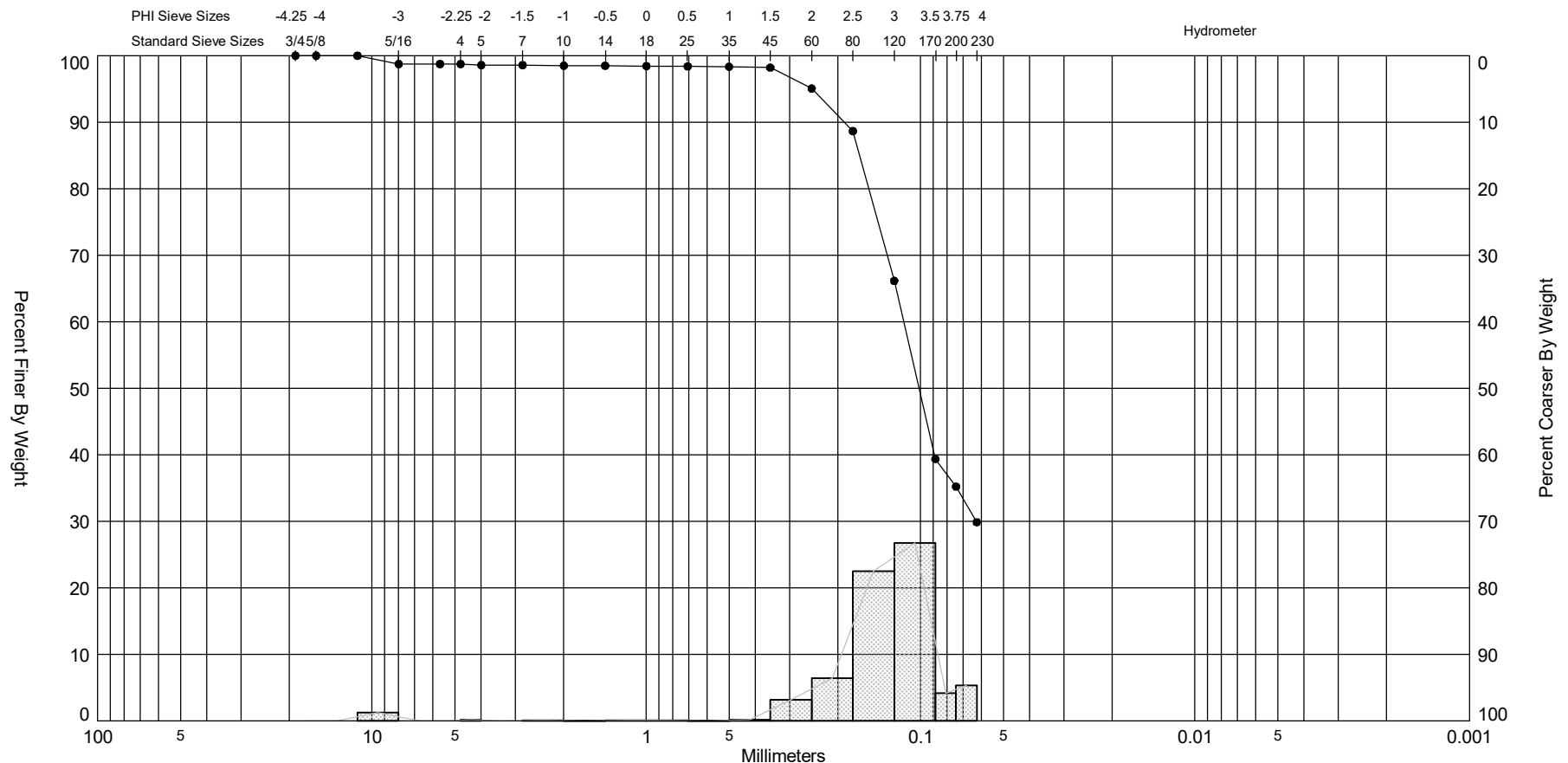


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-18-27 #1		-32.9	SC	#200 - 28.69 #230 - 25.18			3.29	3.1	-2.13	21.24	0.4	Project Name:	McFaddin NWR Beach Ridge Restoration
Comments:												Analysis Date:	06-26-18
Depths and elevations based on measured values												Analyzed By:	RMH
						APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102						Easting (X, ft):	3,483,203
												Northing (Y, ft):	13,786,369
												Horizontal Datum:	NAD 1983
												Vertical Datum:	NAVD88

MCFADDIN_2018_VC.GPJ 8/14/18

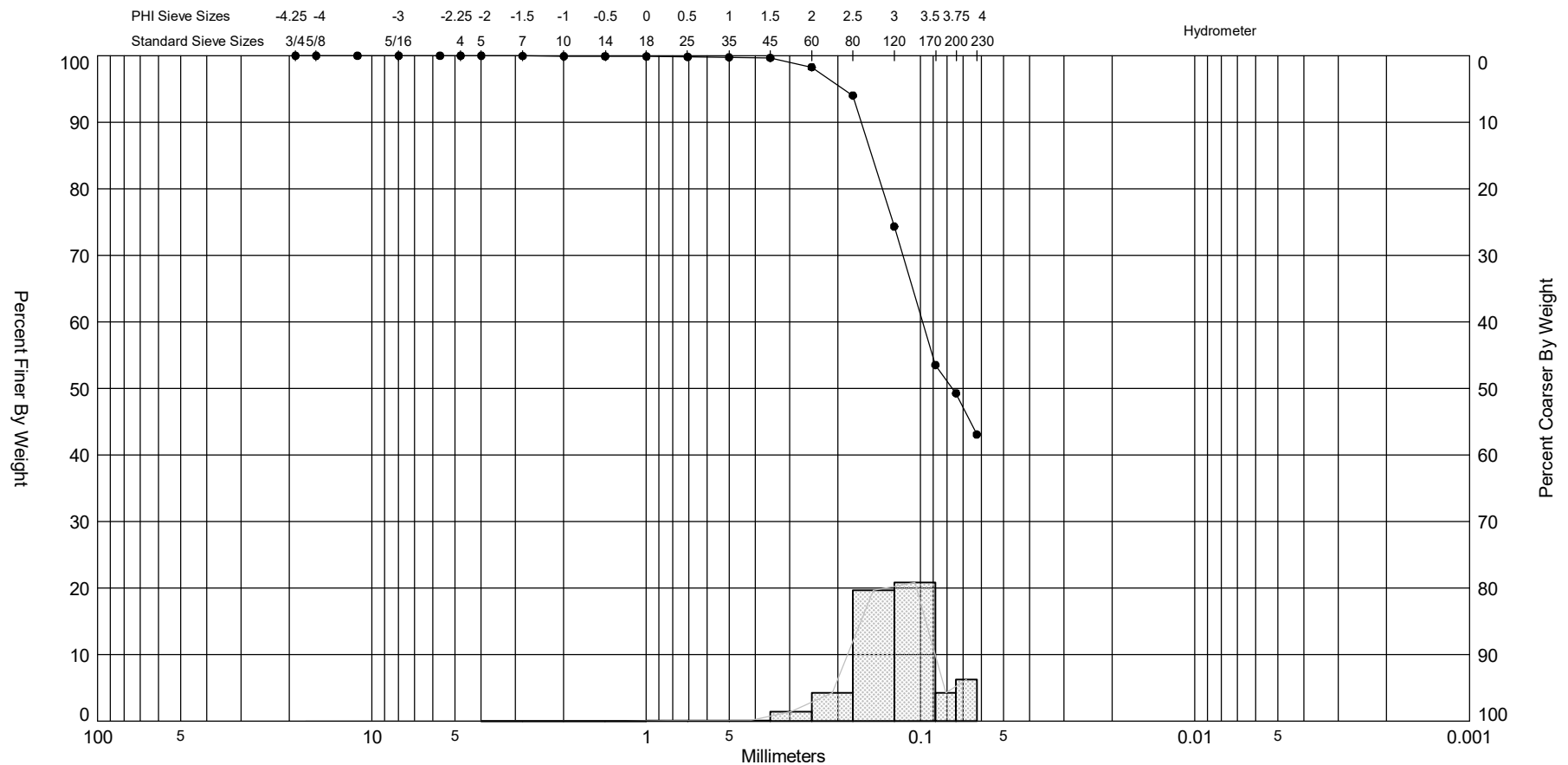


MCFADDIN_2018_VC.GPJ 8/14/18



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

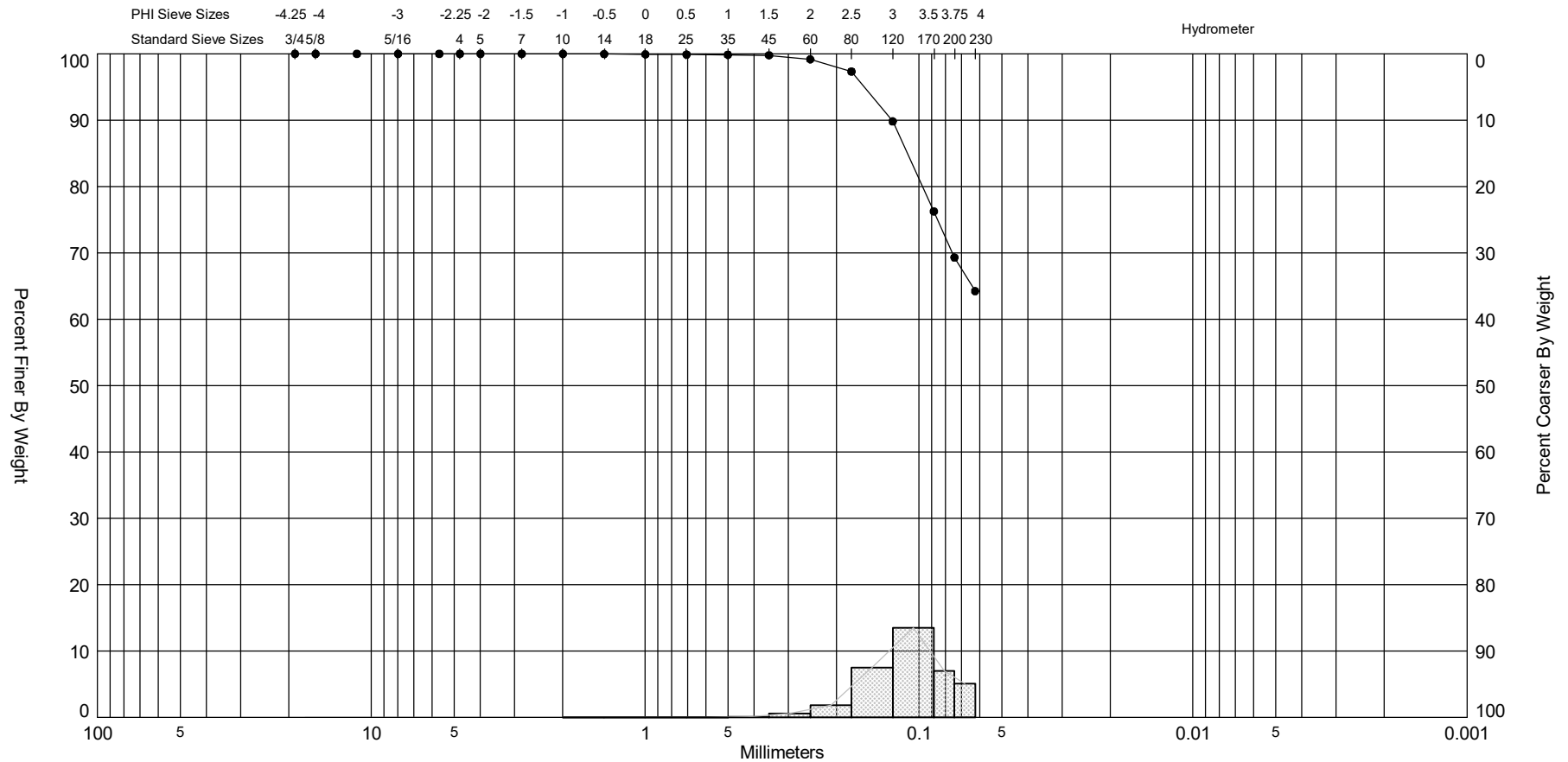
Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-18-27 #3		-34.7	SC	#200 - 35.21 #230 - 29.87			3.3	2.86	-4.24	25.26	1.02	Project Name:	McFaddin NWR Beach Ridge Restoration
Comments:												Analysis Date:	06-26-18
Depths and elevations based on measured values												Analyzed By:	RMH
						APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102						Easting (X, ft):	3,483,203
												Northing (Y, ft):	13,786,369
												Horizontal Datum:	NAD 1983
												Vertical Datum:	NAVD88



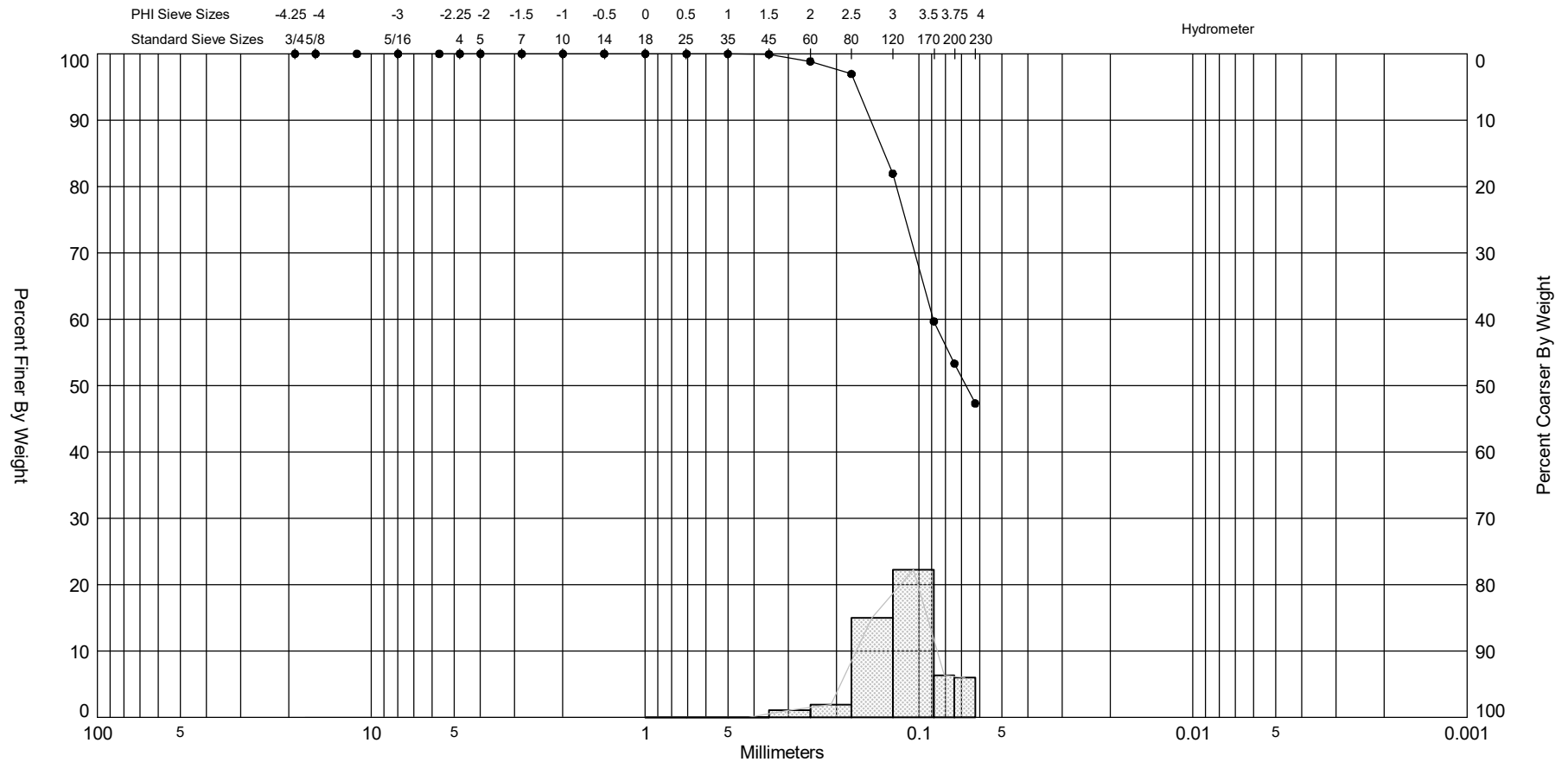
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-18-27 #4	—●—	-35.6	SC	#200 - 49.28 #230 - 43.07			3.71	3.04	-1.47	12.03	0.54	Project Name:	McFaddin NWR Beach Ridge Restoration
Comments:												Analysis Date:	06-26-18
Depths and elevations based on measured values												Analyzed By:	SP
												Easting (X, ft):	3,483,203
												Northing (Y, ft):	13,786,369
												Horizontal Datum:	NAD 1983
												Vertical Datum:	NAVD88

MCFADDIN_2018_VC.GPJ 8/14/18



MCFADDIN_2018_VC.GPJ 8/14/18



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	
JCVC-18-27 #6		-38.3	SC	#200 - 53.31 #230 - 47.30			3.89	3.15	-0.62	4	0.46	Project Name:	McFaddin NWR Beach Ridge Restoration
Comments:												Analysis Date:	06-26-18
Depths and elevations based on measured values												Analyzed By:	SP
						APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102						Easting (X, ft):	3,483,203
												Northing (Y, ft):	13,786,369
												Horizontal Datum:	NAD 1983
												Vertical Datum:	NAVD88

Granularmetric Report Depths and elevations based on measured values				 APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102			
Project Name: McFaddin NWR Beach Ridge Restoration							
Sample Name: JCVC-18-27 #1							
Analysis Date: 06-26-18							
Analyzed By: RMH							
Easting (ft): 3,483,203		Northing (ft): 13,786,369		Coordinate System: Texas South Central		Elevation (ft): -32.9 NAVD88	
USCS: SC		Munsell: Wet - 5Y-6/2 Dry - 10YR-7/1 Washed - 10YR-7/2		Comments:			
Dry Weight (g): 87.18	Wash Weight (g): 67.74	Pan Retained (g): 2.47	Sieve Loss (%): 0.05	Fines (%): #200 - 28.69 #230 - 25.18	Organics (%):	Carbonates (%):	Shell Hash (%):
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	0.00	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	0.09	0.10	0.09	0.10	
18	0.00	1.00	0.07	0.08	0.16	0.18	
25	0.50	0.71	0.06	0.07	0.22	0.25	
35	1.00	0.50	0.05	0.06	0.27	0.31	
45	1.50	0.35	0.02	0.02	0.29	0.33	
60	2.00	0.25	0.12	0.14	0.41	0.47	
80	2.50	0.18	0.40	0.46	0.81	0.93	
120	3.00	0.13	24.88	28.54	25.69	29.47	
170	3.50	0.09	30.70	35.21	56.39	64.68	
200	3.75	0.07	5.78	6.63	62.17	71.31	
230	4.00	0.06	3.06	3.51	65.23	74.82	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
			3.29	2.92	2.76	2.57	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.1	0.12	0.4	-2.13	21.24		

Granularmetric Report Depths and elevations based on measured values				 APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102			
Project Name: McFaddin NWR Beach Ridge Restoration							
Sample Name: JCVC-18-27 #2							
Analysis Date: 06-26-18							
Analyzed By: RMH							
Easting (ft): 3,483,203		Northing (ft): 13,786,369		Coordinate System: Texas South Central		Elevation (ft): -33.7 NAVD88	
USCS: SC		Munsell: Wet - 2.5Y-5/3 Dry - 2.5Y-6/2 Washed - 2.5Y-7/2		Comments:			
Dry Weight (g): 98.87	Wash Weight (g): 74.40	Pan Retained (g): 4.39	Sieve Loss (%): 0.11	Fines (%): #200 - 35.40 #230 - 29.30	Organics (%):	Carbonates (%):	Shell Hash (%):
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	0.76	0.77	0.76	0.77	
4	-2.25	4.76	0.07	0.07	0.83	0.84	
5	-2.00	4.00	0.08	0.08	0.91	0.92	
7	-1.50	2.83	0.00	0.00	0.91	0.92	
10	-1.00	2.00	0.13	0.13	1.04	1.05	
14	-0.50	1.41	0.02	0.02	1.06	1.07	
18	0.00	1.00	0.01	0.01	1.07	1.08	
25	0.50	0.71	0.02	0.02	1.09	1.10	
35	1.00	0.50	0.03	0.03	1.12	1.13	
45	1.50	0.35	0.10	0.10	1.22	1.23	
60	2.00	0.25	5.06	5.12	6.28	6.35	
80	2.50	0.18	7.95	8.04	14.23	14.39	
120	3.00	0.13	15.50	15.68	29.73	30.07	
170	3.50	0.09	27.02	27.33	56.75	57.40	
200	3.75	0.07	7.12	7.20	63.87	64.60	
230	4.00	0.06	6.03	6.10	69.90	70.70	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
			3.36	2.84	2.55	1.87	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.92	0.13	0.88	-3.58	22.43		

Granularmetric Report Depths and elevations based on measured values				 APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102			
Project Name: McFaddin NWR Beach Ridge Restoration							
Sample Name: JCVC-18-27 #3							
Analysis Date: 06-26-18							
Analyzed By: RMH							
Easting (ft): 3,483,203		Northing (ft): 13,786,369		Coordinate System: Texas South Central		Elevation (ft): -34.7 NAVD88	
USCS: SC		Munsell: Wet - 2.5Y-5/1 Dry - 2.5Y-7/1 Washed - 2.5Y-7/1		Comments:			
Dry Weight (g): 93.53	Wash Weight (g): 67.75	Pan Retained (g): 2.01	Sieve Loss (%): 0.14	Fines (%): #200 - 35.21 #230 - 29.87	Organics (%):	Carbonates (%):	Shell Hash (%):
Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained	
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00	
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00	
7/16"	-3.50	11.31	0.00	0.00	0.00	0.00	
5/16"	-3.00	8.00	1.17	1.25	1.17	1.25	
3.5	-2.50	5.66	0.00	0.00	1.17	1.25	
4	-2.25	4.76	0.00	0.00	1.17	1.25	
5	-2.00	4.00	0.16	0.17	1.33	1.42	
7	-1.50	2.83	0.00	0.00	1.33	1.42	
10	-1.00	2.00	0.07	0.07	1.40	1.49	
14	-0.50	1.41	0.02	0.02	1.42	1.51	
18	0.00	1.00	0.05	0.05	1.47	1.56	
25	0.50	0.71	0.05	0.05	1.52	1.61	
35	1.00	0.50	0.04	0.04	1.56	1.65	
45	1.50	0.35	0.13	0.14	1.69	1.79	
60	2.00	0.25	2.94	3.14	4.63	4.93	
80	2.50	0.18	5.99	6.40	10.62	11.33	
120	3.00	0.13	21.07	22.53	31.69	33.86	
170	3.50	0.09	25.04	26.77	56.73	60.63	
200	3.75	0.07	3.89	4.16	60.62	64.79	
230	4.00	0.06	4.99	5.34	65.61	70.13	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
			3.30	2.80	2.60	2.01	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.86	0.14	1.02	-4.24	25.26		

Granularmetric Report Depths and elevations based on measured values				 APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102			
Project Name: McFaddin NWR Beach Ridge Restoration							
Sample Name: JCVC-18-27 #4							
Analysis Date: 06-26-18							
Analyzed By: SP							
Easting (ft): 3,483,203		Northing (ft): 13,786,369		Coordinate System: Texas South Central		Elevation (ft): -35.6 NAVD88	
USCS: SC		Munsell: Wet - 10Y-4/1 Dry - 10YR-5/1 Washed - 10YR-6/1		Comments:			
Dry Weight (g): 91.48	Wash Weight (g): 53.05	Pan Retained (g): 0.96	Sieve Loss (%): 0.00	Fines (%): #200 - 49.28 #230 - 43.07	Organics (%):	Carbonates (%):	Shell Hash (%):
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	0.00	0.00	0.00	0.00	
7	-1.50	2.83	0.04	0.04	0.04	0.04	
10	-1.00	2.00	0.04	0.04	0.08	0.08	
14	-0.50	1.41	0.01	0.01	0.09	0.09	
18	0.00	1.00	0.02	0.02	0.11	0.11	
25	0.50	0.71	0.05	0.05	0.16	0.16	
35	1.00	0.50	0.06	0.07	0.22	0.23	
45	1.50	0.35	0.07	0.08	0.29	0.31	
60	2.00	0.25	1.28	1.40	1.57	1.71	
80	2.50	0.18	3.90	4.26	5.47	5.97	
120	3.00	0.13	18.01	19.69	23.48	25.66	
170	3.50	0.09	19.04	20.81	42.52	46.47	
200	3.75	0.07	3.89	4.25	46.41	50.72	
230	4.00	0.06	5.68	6.21	52.09	56.93	
Phi 5		Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
				3.71	2.98	2.75	2.39
Moment	Mean Phi		Mean mm		Skewness		Kurtosis
Statistics	3.04		0.12		-1.47		12.03

Granularmetric Report Depths and elevations based on measured values				 APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102			
Project Name: McFaddin NWR Beach Ridge Restoration							
Sample Name: JCVC-18-27 #5							
Analysis Date: 06-26-18							
Analyzed By: SP							
Easting (ft): 3,483,203		Northing (ft): 13,786,369		Coordinate System: Texas South Central		Elevation (ft): -36.5 NAVD88	
USCS: CL		Munsell: Wet - 10Y-5/1 Dry - 10Y-6/1 Washed - 2.5Y-7/1		Comments:			
Dry Weight (g): 91.46	Wash Weight (g): 35.48	Pan Retained (g): 2.73	Sieve Loss (%): 0.02	Fines (%): #200 - 69.30 #230 - 64.23	Organics (%):	Carbonates (%):	Shell Hash (%):
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	0.00	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	0.03	0.03	0.03	0.03	
18	0.00	1.00	0.04	0.04	0.07	0.07	
25	0.50	0.71	0.04	0.04	0.11	0.11	
35	1.00	0.50	0.03	0.03	0.14	0.14	
45	1.50	0.35	0.06	0.07	0.20	0.21	
60	2.00	0.25	0.56	0.61	0.76	0.82	
80	2.50	0.18	1.69	1.85	2.45	2.67	
120	3.00	0.13	6.89	7.53	9.34	10.20	
170	3.50	0.09	12.38	13.54	21.72	23.74	
200	3.75	0.07	6.37	6.96	28.09	30.70	
230	4.00	0.06	4.64	5.07	32.73	35.77	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
				3.55	3.21	2.65	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.21	0.11	0.53	-1.58	9.35		

Granularmetric Report Depths and elevations based on measured values				 APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102			
Project Name: McFaddin NWR Beach Ridge Restoration							
Sample Name: JCVC-18-27 #6							
Analysis Date: 06-26-18							
Analyzed By: SP							
Easting (ft): 3,483,203		Northing (ft): 13,786,369		Coordinate System: Texas South Central		Elevation (ft): -38.3 NAVD88	
USCS: SC		Munsell: Wet - 2.5Y-4/2 Dry - 2.5Y-6/1 Washed - 2.5Y-7/1		Comments:			
Dry Weight (g): 93.71	Wash Weight (g): 51.32	Pan Retained (g): 1.87	Sieve Loss (%): 0.06	Fines (%): #200 - 53.31 #230 - 47.30	Organics (%):	Carbonates (%):	Shell Hash (%):
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	0.00	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	0.00	0.00	0.00	0.00	
18	0.00	1.00	0.00	0.00	0.00	0.00	
25	0.50	0.71	0.01	0.01	0.01	0.01	
35	1.00	0.50	0.01	0.01	0.02	0.02	
45	1.50	0.35	0.04	0.04	0.06	0.06	
60	2.00	0.25	1.01	1.08	1.07	1.14	
80	2.50	0.18	1.78	1.90	2.85	3.04	
120	3.00	0.13	14.07	15.01	16.92	18.05	
170	3.50	0.09	20.87	22.27	37.79	40.32	
200	3.75	0.07	5.97	6.37	43.76	46.69	
230	4.00	0.06	5.63	6.01	49.39	52.70	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
			3.89	3.16	2.93	2.57	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.15	0.11	0.46	-0.62	4		

Granularmetric Report Depths and elevations based on measured values				 APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102			
Project Name: McFaddin NWR Beach Ridge Restoration							
Sample Name: JCVC-18-27 #7							
Analysis Date: 06-26-18							
Analyzed By: RMH							
Easting (ft): 3,483,203		Northing (ft): 13,786,369		Coordinate System: Texas South Central		Elevation (ft): -41.3 NAVD88	
USCS: SC		Munsell: Wet - 2.5Y-4/1 Dry - 2.5Y-6/1 Washed - 2.5Y-7/2		Comments:			
Dry Weight (g): 93.76	Wash Weight (g): 81.40	Pan Retained (g): 2.54	Sieve Loss (%): 0.05	Fines (%): #200 - 23.75 #230 - 15.95	Organics (%):	Carbonates (%):	Shell Hash (%):
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	0.00	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	0.00	0.00	0.00	0.00	
18	0.00	1.00	0.00	0.00	0.00	0.00	
25	0.50	0.71	0.01	0.01	0.01	0.01	
35	1.00	0.50	0.01	0.01	0.02	0.02	
45	1.50	0.35	0.07	0.07	0.09	0.09	
60	2.00	0.25	7.32	7.81	7.41	7.90	
80	2.50	0.18	15.73	16.78	23.14	24.68	
120	3.00	0.13	17.31	18.46	40.45	43.14	
170	3.50	0.09	22.13	23.60	62.58	66.74	
200	3.75	0.07	8.92	9.51	71.50	76.25	
230	4.00	0.06	7.31	7.80	78.81	84.05	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
	4.00	3.72	3.15	2.51	2.24	1.81	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.9	0.13	0.63	-0.25	2.1		



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-27
0.0' - 2.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-27
2.0' - 4.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-27
4.0' - 6.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-27
6.0' - 8.0'





MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-27
8.0'-10.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-27
10.0'-12.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-27
12.0'-14.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-27
14.0'-16.0'





MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-27
16.0'-18.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-27
18.0'-18.2'

