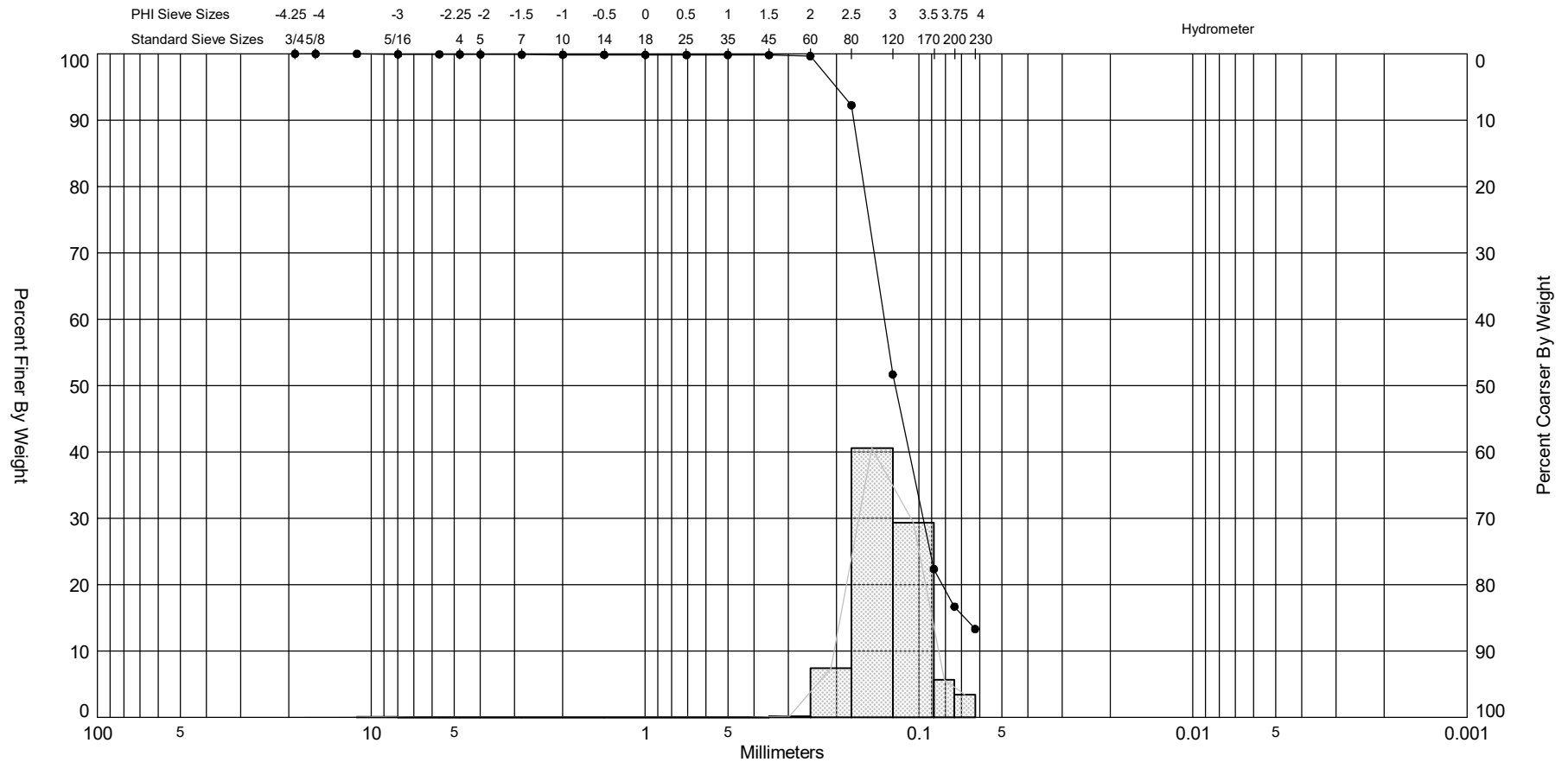


DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 1 SHEETS	
1. PROJECT McFaddin NWR Beach Ridge Restoration Jefferson County, Texas				9. SIZE AND TYPE OF BIT 3.0 In.			
2. BORING DESIGNATION JCVC-18-12				10. COORDINATE SYSTEM/DATUM Texas South Central		HORIZONTAL NAD 1983	
3. DRILLING AGENCY APTIM				11. MANUFACTURER'S DESIGNATION OF DRILL APTIM SEAS VC-700 Vibracore		VERTICAL NAVD88	
4. NAME OF DRILLER Francis Stankiewicz				12. TOTAL SAMPLES			
5. DIRECTION OF BORING ☒ VERTICAL ☐ 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 05-18-18 18:00			
8. TOTAL DEPTH OF BORING 20.0 Ft.				16. ELEVATION TOP OF BORING -24.7 Ft.			
				17. TOTAL RECOVERY FOR BORING 17.5 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	
-24.7	0.0						
-25.3	0.6		SAND, fine grained, quartz, little silt, trace clay, trace rock, trace shell hash, rocks up to (0.75" x 0.5"), (1.25" x 0.5") shell fragment @ 0.2', (1.0" x 0.5") shell fragment @ 0.3', (1.5" x 1.0") whole shell @ 0.5', grayish brown (2.5Y-5/2), (SM).		1	Sample #1, Depth = 0.3' Mean (mm): 0.13, Phi Sorting: 1.07 Fines (230): 16.83% (SM)	
-25.9	1.2		SAND, fine grained, quartz, some silt, trace clay, trace shell hash, (0.75" x 0.5") shell fragment @ 0.9', (3.0" x 1.5") clay pocket @ 1.1', gray (2.5Y-6/1), (SM).		2	Sample #2, Depth = 0.9' Mean (mm): 0.10, Phi Sorting: 0.53 Fines (230): 29.56% (SM)	
-30.0	5.3		SAND, fine grained, quartz, trace shell hash, trace silt, 0.75" clayey pocket @ 4.2', gray (2.5Y-6/1), (SP-SM).		3	Sample #3, Depth = 3.2' Mean (mm): 0.13, Phi Sorting: 0.41 Fines (230): 8.52% (SP-SM)	
-32.1	7.4		SAND, fine grained, quartz, trace silt, gray (2.5Y-6/1), (SP-SM).		4	Sample #4, Depth = 6.3' Mean (mm): 0.13, Phi Sorting: 0.36 Fines (230): 6.81% (SP-SM)	
-32.5	7.8		CLAY, dark greenish gray (10Y-4/1), (CL).		T1	Sample #T1, Depth = 7.6' Ave. Field Vane (tsf): 0.15	
-33.9	9.2		SAND, fine grained, quartz, trace clay, trace silt, clay distributed in clayey laminae, gray (2.5Y-5/1), (SP-SM).		5	Sample #5, Depth = 8.5' Mean (mm): 0.13, Phi Sorting: 0.36 Fines (230): 5.51% (SP-SM)	
-36.3	11.6		SAND, fine grained, quartz, trace organics, trace silt, gray (5Y-5/1), (SP-SM).		6	Sample #6, Depth = 10.5' Mean (mm): 0.13, Phi Sorting: 0.37 Fines (230): 6.30% (SP-SM)	
-37.0	12.3		SAND, fine grained, quartz, some clay, trace silt, greenish gray (10Y-5/1), (SC).		7	Sample #7, Depth = 12.0' Mean (mm): 0.12, Phi Sorting: 0.36 Fines (230): 33.96% (SC)	
-38.7	14.0		CLAY, some sand, trace organics, trace wood fragments, wood fragments up to (1.0" x 0.5"), sand decreases with depth, 3.0" sandy pocket @ 12.6', dark greenish gray (10Y-4/1), (CL).		T2	Sample #T2, Depth = 13.2' Ave. Field Vane (tsf): 0.62	
-39.9	15.2		CLAY, some wood fragments, trace sand, trace shell hash, wood fragments up to 3.0", very dark greenish gray (10Y-3/1), (CL).				
-41.1	16.4		CLAY, trace organics, greenish gray (5GY-5/1), (CL).		T3	Sample #T3, Depth = 15.8' Ave. Field Vane (tsf): 0.87	
-41.7	17.0		Clayey SAND, fine grained, quartz, some silt, dark gray (2.5Y-4/1), (SC).				
-42.2	17.5		Silty SAND, fine grained, quartz, trace rock, rocks up to 2.5", Bit Sample from 17.2' to 17.5', dark grayish brown (2.5Y-4/2), (SM).				
-44.7	20.0		No Recovery.				

MCFADDIN 2018 VC.GPJ 8/3/18

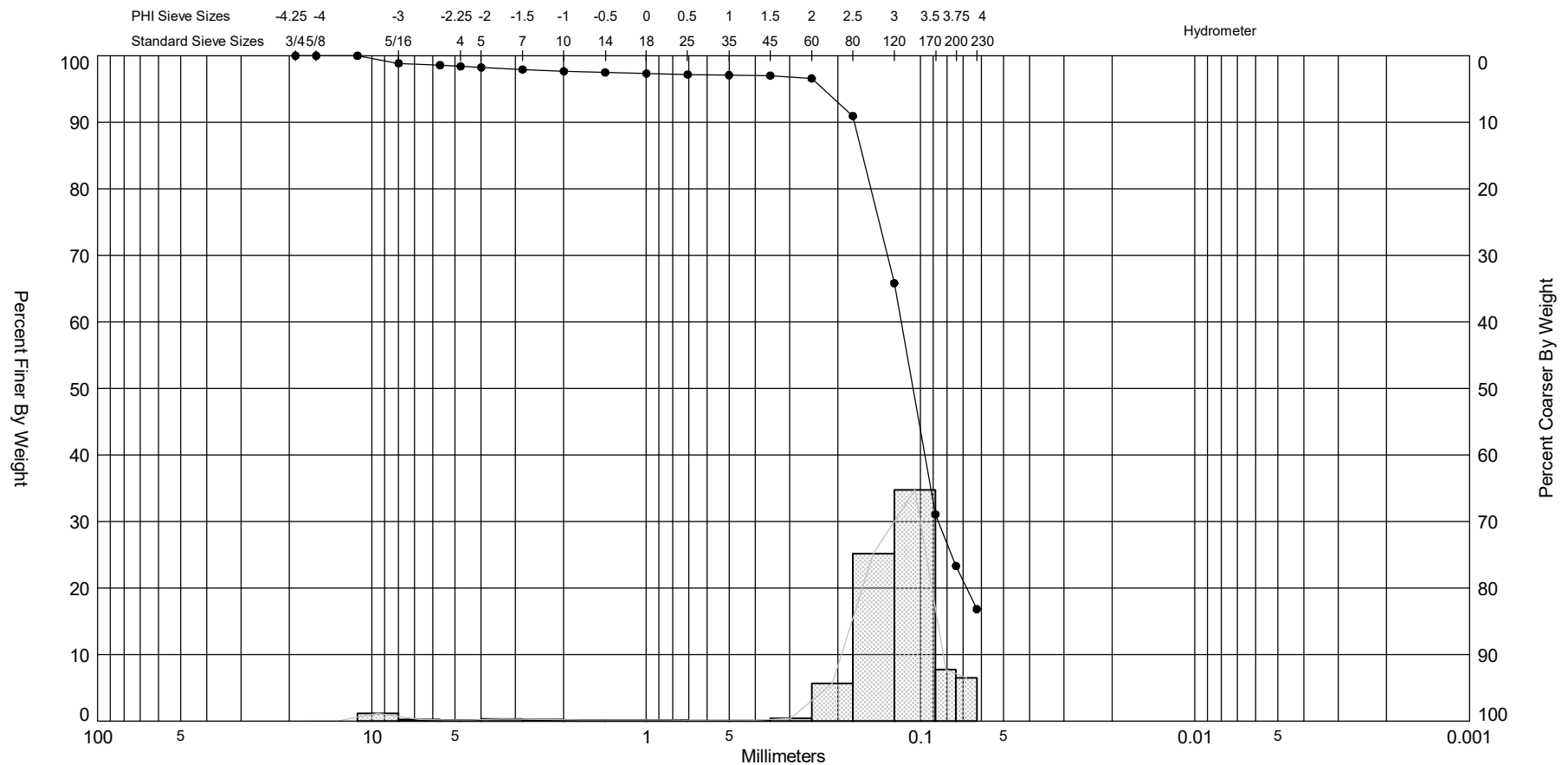
Granularmetric Report Depths and elevations based on measured values				 APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102			
Project Name: McFaddin NWR Beach Ridge Restoration							
Sample Name: JCVC-18-12 COMP							
Analysis Date: 10-05-18							
Analyzed By: BF							
Easting (ft): 3,472,967		Northing (ft): 13,785,643		Coordinate System: Texas South Central		Elevation (ft):	
USCS: SM		Munsell:		Comments: COMPOSITE			
Dry Weight (g): 100.00	Wash Weight (g): 100.00	Pan Retained (g): 13.28	Sieve Loss (%): 0.03	Fines (%): #200 - 16.69 #230 - 13.31	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	0.06	0.06	0.06	0.06	
3.5	-2.50	5.66	0.01	0.01	0.07	0.07	
4	-2.25	4.76	0.02	0.02	0.09	0.09	
5	-2.00	4.00	0.01	0.01	0.10	0.10	
7	-1.50	2.83	0.02	0.02	0.12	0.12	
10	-1.00	2.00	0.01	0.01	0.13	0.13	
14	-0.50	1.41	0.01	0.01	0.14	0.14	
18	0.00	1.00	0.01	0.01	0.15	0.15	
25	0.50	0.71	0.01	0.01	0.16	0.16	
35	1.00	0.50	0.01	0.01	0.17	0.17	
45	1.50	0.35	0.01	0.01	0.18	0.18	
60	2.00	0.25	0.15	0.15	0.33	0.33	
80	2.50	0.18	7.41	7.41	7.74	7.74	
120	3.00	0.13	40.58	40.58	48.32	48.32	
170	3.50	0.09	29.32	29.32	77.64	77.64	
200	3.75	0.07	5.67	5.67	83.31	83.31	
230	4.00	0.06	3.38	3.38	86.69	86.69	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
	3.80	3.45	3.03	2.71	2.60	2.32	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.97	0.13	0.46	-2.83	38.98		

MCFADDIN_COMPOSITE_20181008.GPJ 11/19/18



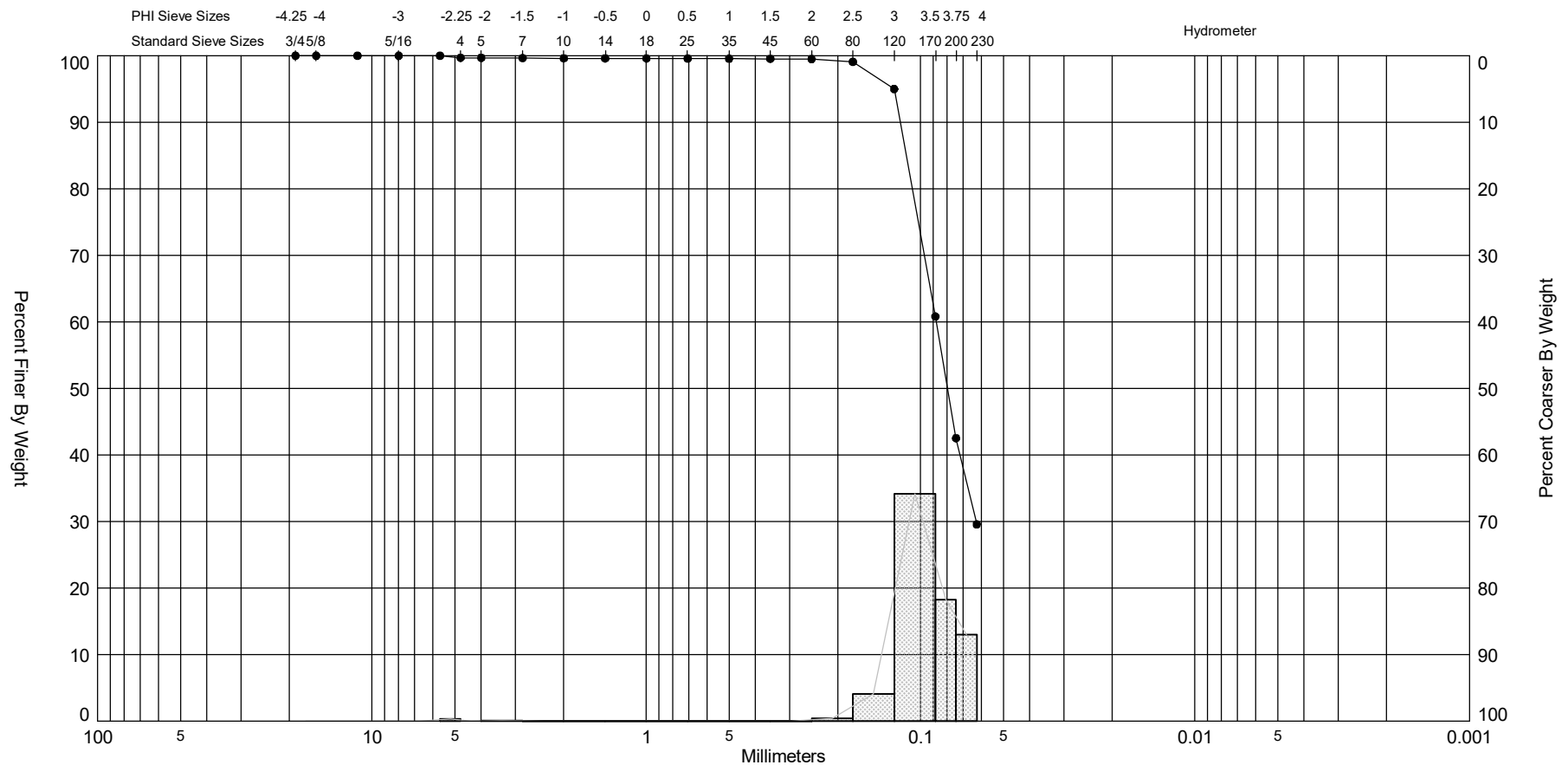
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-18-12 COMP	—●—		SM	#200 - 16.69 #230 - 13.31			3.03	2.97	-2.83	38.98	0.46	Project Name:	McFaddin NWR Beach Ridge Restoration
Comments: COMPOSITE												Analysis Date:	10-05-18
Depths and elevations based on measured values												Analyzed By:	BF
							APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102					Easting (X, ft):	3,472,967
												Northing (Y, ft):	13,785,643
												Horizontal Datum:	NAD 1983
												Vertical Datum:	NAVD 88



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-18-12 #1	—●—	-25.0	SM	#200 - 23.31 #230 - 16.83			3.23	2.92	-4.14	22.33	1.07	Project Name:	McFaddin NWR Beach Ridge Restoration
Comments:												Analysis Date:	06-21-18
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):	3,472,967
												Northing (Y, ft):	13,785,643
												Horizontal Datum:	NAD 1983
												Vertical Datum:	NAVD88

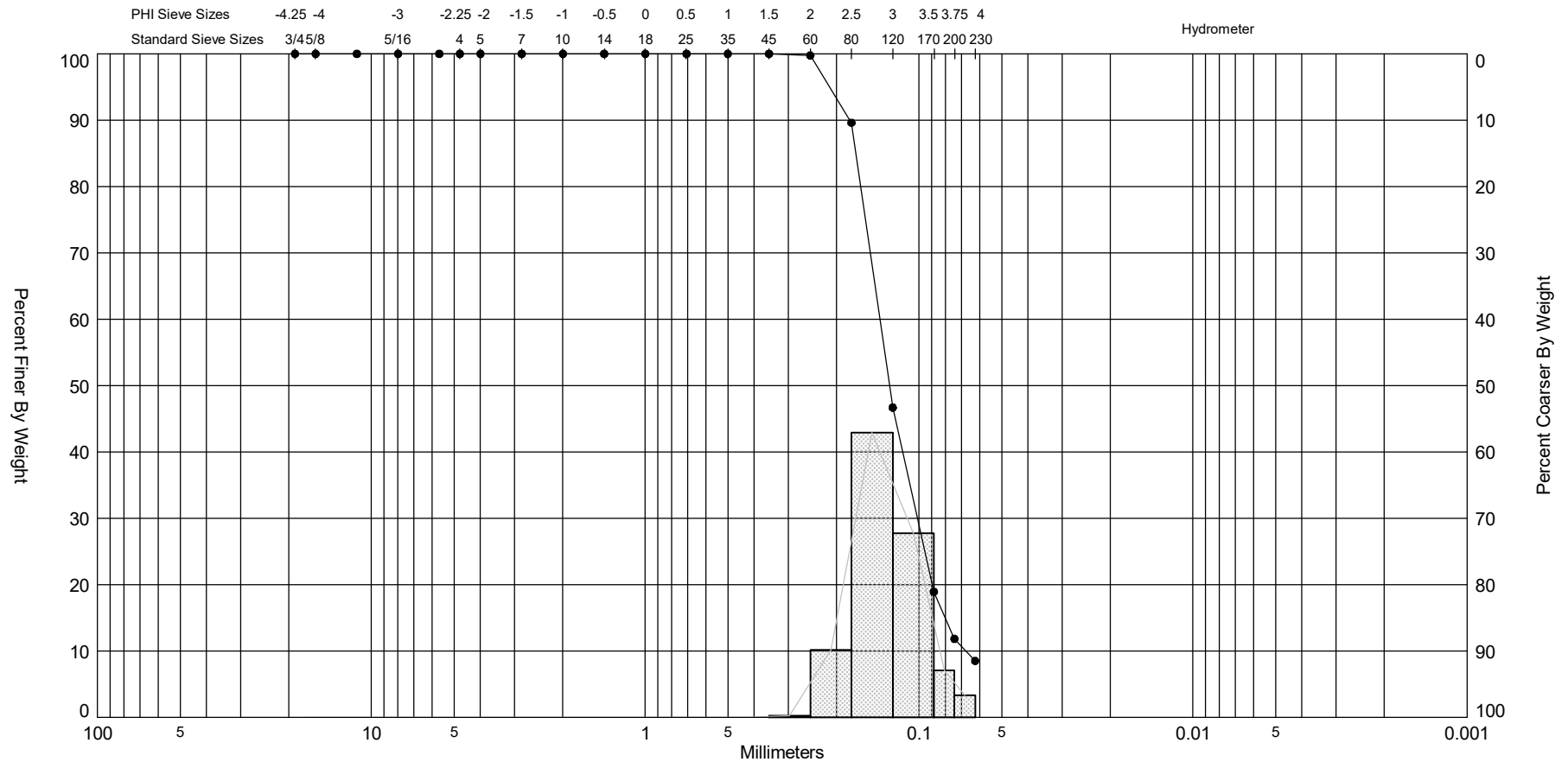


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-18-12 #2	—●—	-25.6	SM	#200 - 42.53 #230 - 29.56			3.65	3.39	-6.7	70.13	0.53	Project Name:	McFaddin NWR Beach Ridge Restoration
Comments:												Analysis Date:	06-21-18
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):	3,472,967
												Northing (Y, ft):	13,785,643
												Horizontal Datum:	NAD 1983
												Vertical Datum:	NAVD88

MCFADDIN_2018_VC.GPJ 8/14/18

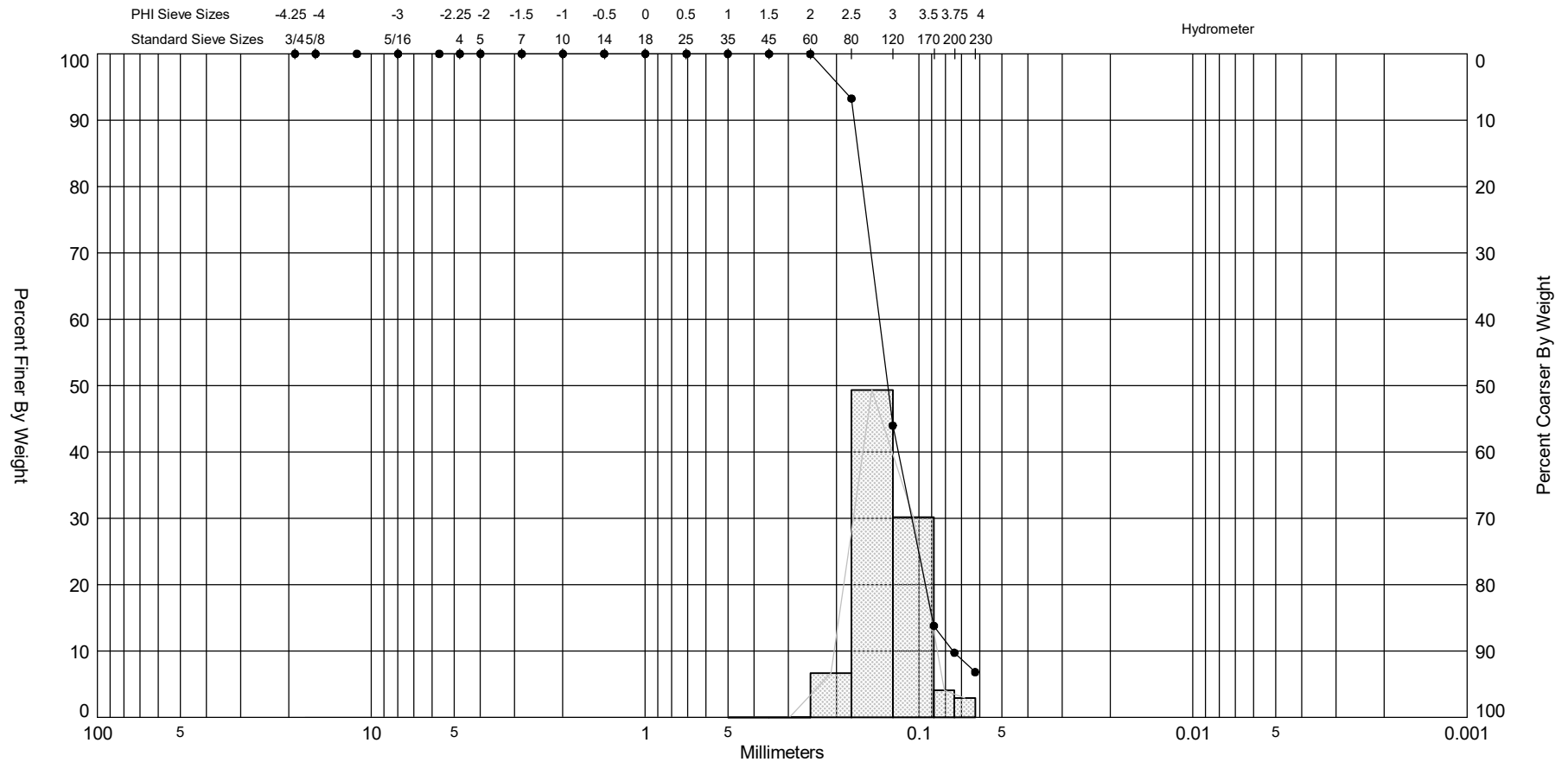
MCFADDIN_2018_VC.GPJ 8/14/18

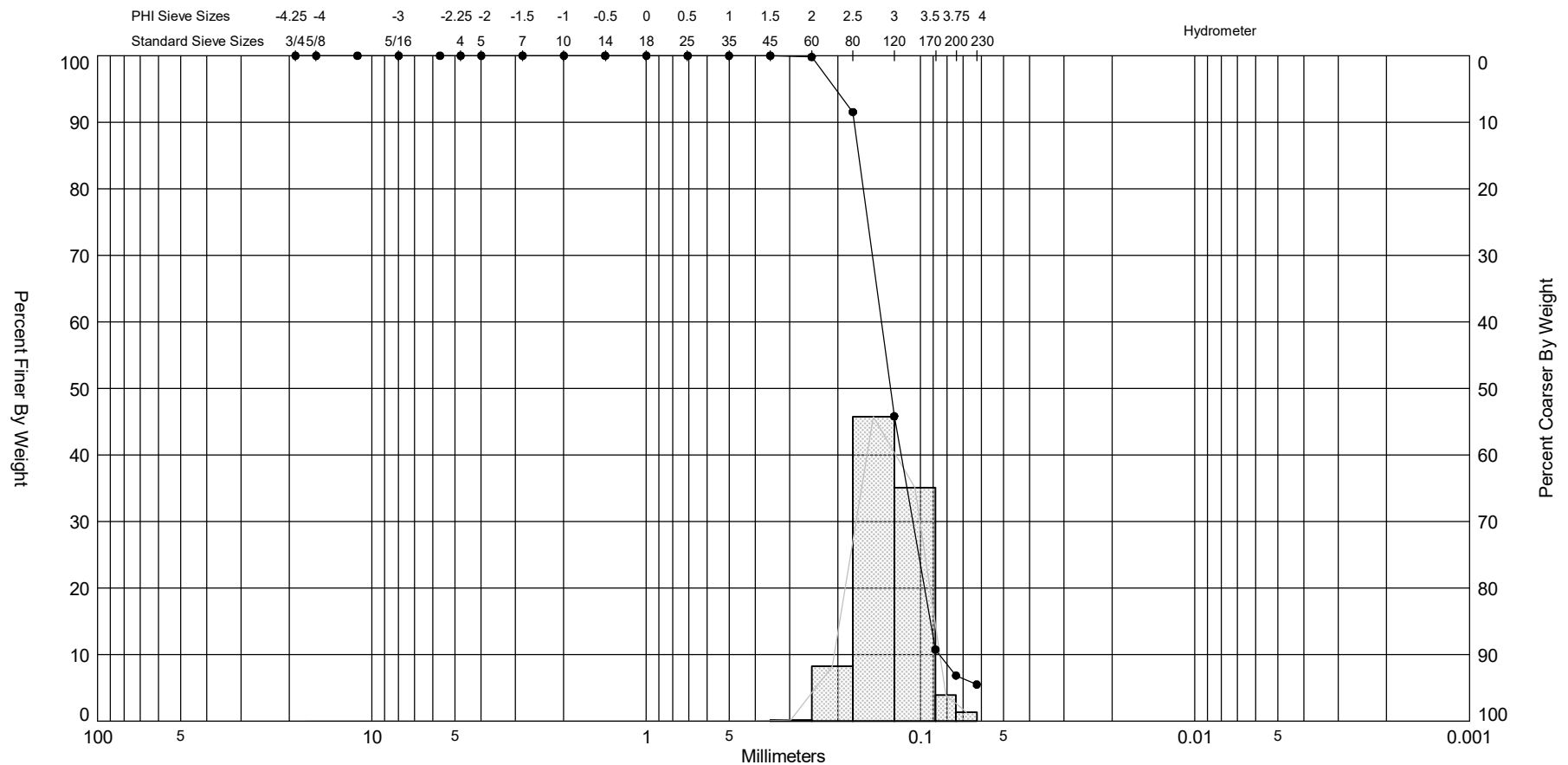


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-18-12 #3	—●—	-27.9	SP-SM	#200 - 11.84 #230 - 8.52			2.96	2.95	0.19	2.67	0.41	Project Name:	McFaddin NWR Beach Ridge Restoration
Comments:												Analysis Date:	06-21-18
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):	3,472,967
												Northing (Y, ft):	13,785,643
												Horizontal Datum:	NAD 1983
												Vertical Datum:	NAVD88

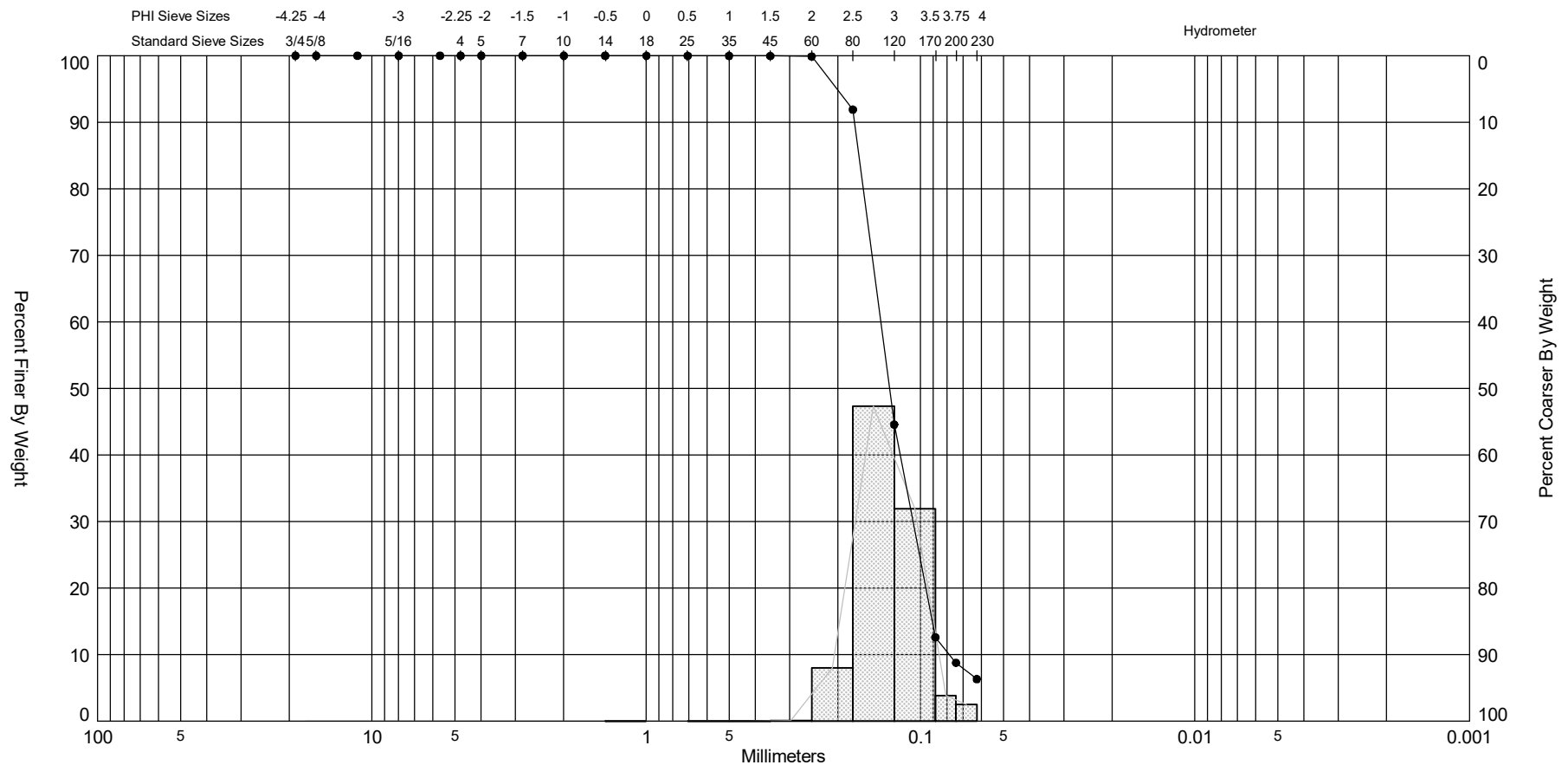
MCFADDIN_2018_VC.GPJ 8/14/18





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-18-12 #5	—●—	-33.2	SP-SM	#200 - 6.85 #230 - 5.51			2.95	2.94	-0.01	2.86	0.36	Project Name:	McFaddin NWR Beach Ridge Restoration
Comments:												Analysis Date:	06-21-18
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):	3,472,967
												Northing (Y, ft):	13,785,643
												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-18-12 #6	—●—	-35.2	SP-SM	#200 - 8.77 #230 - 6.30			2.94	2.94	0.04	4.26	0.37	Project Name:	McFaddin NWR Beach Ridge Restoration
Comments:												Analysis Date:	06-21-18
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):	3,472,967
												Northing (Y, ft):	13,785,643
												Horizontal Datum:	NAD 1983
												Vertical Datum:	NAVD88



Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-18-12 #7		-36.7	SC	#200 - 37.44 #230 - 33.96			3.29	3.01	0.42	4.42	0.36	Project Name:	McFaddin NWR Beach Ridge Restoration
Comments:												Analysis Date:	06-25-18
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):	3,472,967
												Northing (Y, ft):	13,785,643
												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-18-12 #1							
Analysis Date: 06-21-18							
Analyzed By: SP							
Easting (ft): 3,472,967		Northing (ft): 13,785,643		Coordinate System: Texas South Central		Elevation (ft): -25.0 NAVD88	
USCS: SM		Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2 Washed - 10YR-7/1		Comments:			
Dry Weight (g): 93.48	Wash Weight (g): 80.45	Pan Retained (g): 2.70	Sieve Loss (%): 0.01	Fines (%): #200 - 23.31 #230 - 16.83	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	1.06	1.13	1.06	1.13	
3.5	-2.50	5.66	0.26	0.28	1.32	1.41	
4	-2.25	4.76	0.18	0.19	1.50	1.60	
5	-2.00	4.00	0.16	0.17	1.66	1.77	
7	-1.50	2.83	0.28	0.30	1.94	2.07	
10	-1.00	2.00	0.26	0.28	2.20	2.35	
14	-0.50	1.41	0.15	0.16	2.35	2.51	
18	0.00	1.00	0.16	0.17	2.51	2.68	
25	0.50	0.71	0.12	0.13	2.63	2.81	
35	1.00	0.50	0.10	0.11	2.73	2.92	
45	1.50	0.35	0.06	0.06	2.79	2.98	
60	2.00	0.25	0.39	0.42	3.18	3.40	
80	2.50	0.18	5.28	5.65	8.46	9.05	
120	3.00	0.13	23.49	25.13	31.95	34.18	
170	3.50	0.09	32.48	34.75	64.43	68.93	
200	3.75	0.07	7.25	7.76	71.68	76.69	
230	4.00	0.06	6.06	6.48	77.74	83.17	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
		3.70	3.23	2.82	2.64	2.14	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.92	0.13	1.07	-4.14	22.33		

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-18-12 #2							
Analysis Date: 06-21-18							
Analyzed By: SP							
Easting (ft): 3,472,967		Northing (ft): 13,785,643		Coordinate System: Texas South Central		Elevation (ft): -25.6 NAVD88	
USCS: SM		Munsell: Wet - 2.5Y-6/1 Dry - 2.5Y-7/2 Washed - 2.5Y-8/1		Comments:			
Dry Weight (g): 95.27	Wash Weight (g): 77.22	Pan Retained (g): 10.07	Sieve Loss (%): 0.02	Fines (%): #200 - 42.53 #230 - 29.56	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	0.29	0.30	0.29	0.30	
5	-2.00	4.00	0.00	0.00	0.29	0.30	
7	-1.50	2.83	0.05	0.05	0.34	0.35	
10	-1.00	2.00	0.03	0.03	0.37	0.38	
14	-0.50	1.41	0.01	0.01	0.38	0.39	
18	0.00	1.00	0.01	0.01	0.39	0.40	
25	0.50	0.71	0.02	0.02	0.41	0.42	
35	1.00	0.50	0.03	0.03	0.44	0.45	
45	1.50	0.35	0.01	0.01	0.45	0.46	
60	2.00	0.25	0.04	0.04	0.49	0.50	
80	2.50	0.18	0.40	0.42	0.89	0.92	
120	3.00	0.13	3.89	4.08	4.78	5.00	
170	3.50	0.09	32.58	34.20	37.36	39.20	
200	3.75	0.07	17.41	18.27	54.77	57.47	
230	4.00	0.06	12.36	12.97	67.13	70.44	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
			3.65	3.29	3.16	3.00	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.39	0.10	0.53	-6.7	70.13		

MCFADDIN_2018_VC.GPJ 8/14/18

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-18-12 #3							
Analysis Date: 06-21-18							
Analyzed By: SP							
Easting (ft): 3,472,967		Northing (ft): 13,785,643		Coordinate System: Texas South Central		Elevation (ft): -27.9 NAVD88	
USCS: SP-SM		Munsell: Wet - 2.5Y-6/1 Dry - 2.5Y-7/2 Washed - 10YR-7/1		Comments:			
Dry Weight (g): 92.77	Wash Weight (g): 86.20	Pan Retained (g): 1.30	Sieve Loss (%): 0.03	Fines (%): #200 - 11.84 #230 - 8.52	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	0.00	0.00	0.00	0.00	
35	1.00	0.50	0.00	0.00	0.00	0.00	
45	1.50	0.35	0.00	0.00	0.00	0.00	
60	2.00	0.25	0.22	0.24	0.22	0.24	
80	2.50	0.18	9.41	10.14	9.63	10.38	
120	3.00	0.13	39.82	42.92	49.45	53.30	
170	3.50	0.09	25.76	27.77	75.21	81.07	
200	3.75	0.07	6.58	7.09	81.79	88.16	
230	4.00	0.06	3.08	3.32	84.87	91.48	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
	3.60	3.39	2.96	2.67	2.57	2.23	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.95	0.13	0.41	0.19	2.67		

MCFADDIN_2018_VC.GPJ 8/14/18

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-18-12 #4							
Analysis Date: 06-21-18							
Analyzed By: SP							
Easting (ft): 3,472,967		Northing (ft): 13,785,643		Coordinate System: Texas South Central		Elevation (ft): -31.0 NAVD88	
USCS: SP-SM		Munsell: Wet - 2.5Y-6/1 Dry - 2.5Y-7/1 Washed - 10YR-7/1		Comments:			
Dry Weight (g): 92.12	Wash Weight (g): 86.81	Pan Retained (g): 0.94	Sieve Loss (%): 0.03	Fines (%): #200 - 9.73 #230 - 6.81	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	0.00	0.00	0.00	0.00	
35	1.00	0.50	0.00	0.00	0.00	0.00	
45	1.50	0.35	0.01	0.01	0.01	0.01	
60	2.00	0.25	0.03	0.03	0.04	0.04	
80	2.50	0.18	6.16	6.69	6.20	6.73	
120	3.00	0.13	45.42	49.31	51.62	56.04	
170	3.50	0.09	27.79	30.17	79.41	86.21	
200	3.75	0.07	3.74	4.06	83.15	90.27	
230	4.00	0.06	2.69	2.92	85.84	93.19	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
	3.46	3.31	2.94	2.69	2.59	2.37	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.95	0.13	0.36	0.36	3.08		

MCFADDIN_2018_VC.GPJ 8/14/18

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-18-12 #5							
Analysis Date: 06-21-18							
Analyzed By: SP							
Easting (ft): 3,472,967		Northing (ft): 13,785,643		Coordinate System: Texas South Central		Elevation (ft): -33.2 NAVD88	
USCS: SP-SM		Munsell: Wet - 2.5Y-5/1 Dry - 2.5Y-7/1 Washed - 10YR-7/1		Comments:			
Dry Weight (g): 92.09	Wash Weight (g): 87.72	Pan Retained (g): 0.62	Sieve Loss (%): 0.10	Fines (%): #200 - 6.85 #230 - 5.51	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	0.00	0.00	0.00	0.00	
35	1.00	0.50	0.00	0.00	0.00	0.00	
45	1.50	0.35	0.00	0.00	0.00	0.00	
60	2.00	0.25	0.18	0.20	0.18	0.20	
80	2.50	0.18	7.61	8.26	7.79	8.46	
120	3.00	0.13	42.12	45.74	49.91	54.20	
170	3.50	0.09	32.28	35.05	82.19	89.25	
200	3.75	0.07	3.59	3.90	85.78	93.15	
230	4.00	0.06	1.23	1.34	87.01	94.49	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
	3.43	3.30	2.95	2.68	2.58	2.29	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.94	0.13	0.36	-0.01	2.86		

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-18-12 #6							
Analysis Date: 06-21-18							
Analyzed By: SP							
Easting (ft): 3,472,967		Northing (ft): 13,785,643		Coordinate System: Texas South Central		Elevation (ft): -35.2 NAVD88	
USCS: SP-SM		Munsell: Wet - 5Y-5/1 Dry - 5Y-6/1 Washed - 5Y-7/1		Comments:			
Dry Weight (g): 92.75	Wash Weight (g): 87.74	Pan Retained (g): 0.84	Sieve Loss (%): 0.00	Fines (%): #200 - 8.77 #230 - 6.30	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	0.02	0.02	0.02	0.02	
25	0.50	0.71	0.00	0.00	0.02	0.02	
35	1.00	0.50	0.01	0.01	0.03	0.03	
45	1.50	0.35	0.01	0.01	0.04	0.04	
60	2.00	0.25	0.07	0.08	0.11	0.12	
80	2.50	0.18	7.41	7.99	7.52	8.11	
120	3.00	0.13	43.91	47.34	51.43	55.45	
170	3.50	0.09	29.63	31.95	81.06	87.40	
200	3.75	0.07	3.55	3.83	84.61	91.23	
230	4.00	0.06	2.29	2.47	86.90	93.70	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
	3.45	3.31	2.94	2.68	2.58	2.31	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.94	0.13	0.37	0.04	4.26		

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-18-12 #7							
Analysis Date: 06-25-18							
Analyzed By: SP							
Easting (ft): 3,472,967		Northing (ft): 13,785,643		Coordinate System: Texas South Central		Elevation (ft): -36.7 NAVD88	
USCS: SC		Munsell: Wet - 10Y-5/1 Dry - 2.5Y-6/1 Washed - 2.5Y-7/1		Comments:			
Dry Weight (g): 96.00	Wash Weight (g): 64.62	Pan Retained (g): 1.17	Sieve Loss (%): 0.04	Fines (%): #200 - 37.44 #230 - 33.96	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	0.01	0.01	0.01	0.01	
25	0.50	0.71	0.00	0.00	0.01	0.01	
35	1.00	0.50	0.01	0.01	0.02	0.02	
45	1.50	0.35	0.01	0.01	0.03	0.03	
60	2.00	0.25	0.08	0.08	0.11	0.11	
80	2.50	0.18	1.50	1.56	1.61	1.67	
120	3.00	0.13	33.60	35.00	35.21	36.67	
170	3.50	0.09	22.39	23.32	57.60	59.99	
200	3.75	0.07	2.47	2.57	60.07	62.56	
230	4.00	0.06	3.34	3.48	63.41	66.04	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
			3.29	2.83	2.70	2.55	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.01	0.12	0.36	0.42	4.42		



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-12
0.0' - 2.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-12
2.0' - 4.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-12
4.0' - 6.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-12
6.0' - 8.0'





MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-12
8.0'-10.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-12
10.0'-12.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-12
12.0'-14.0'



MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-12
14.0'-16.0'





MCFADDIN NWR BEACH
RIDGE RESTORATION
PHASE II
JCVC-18-12
16.0'-17.5'

