

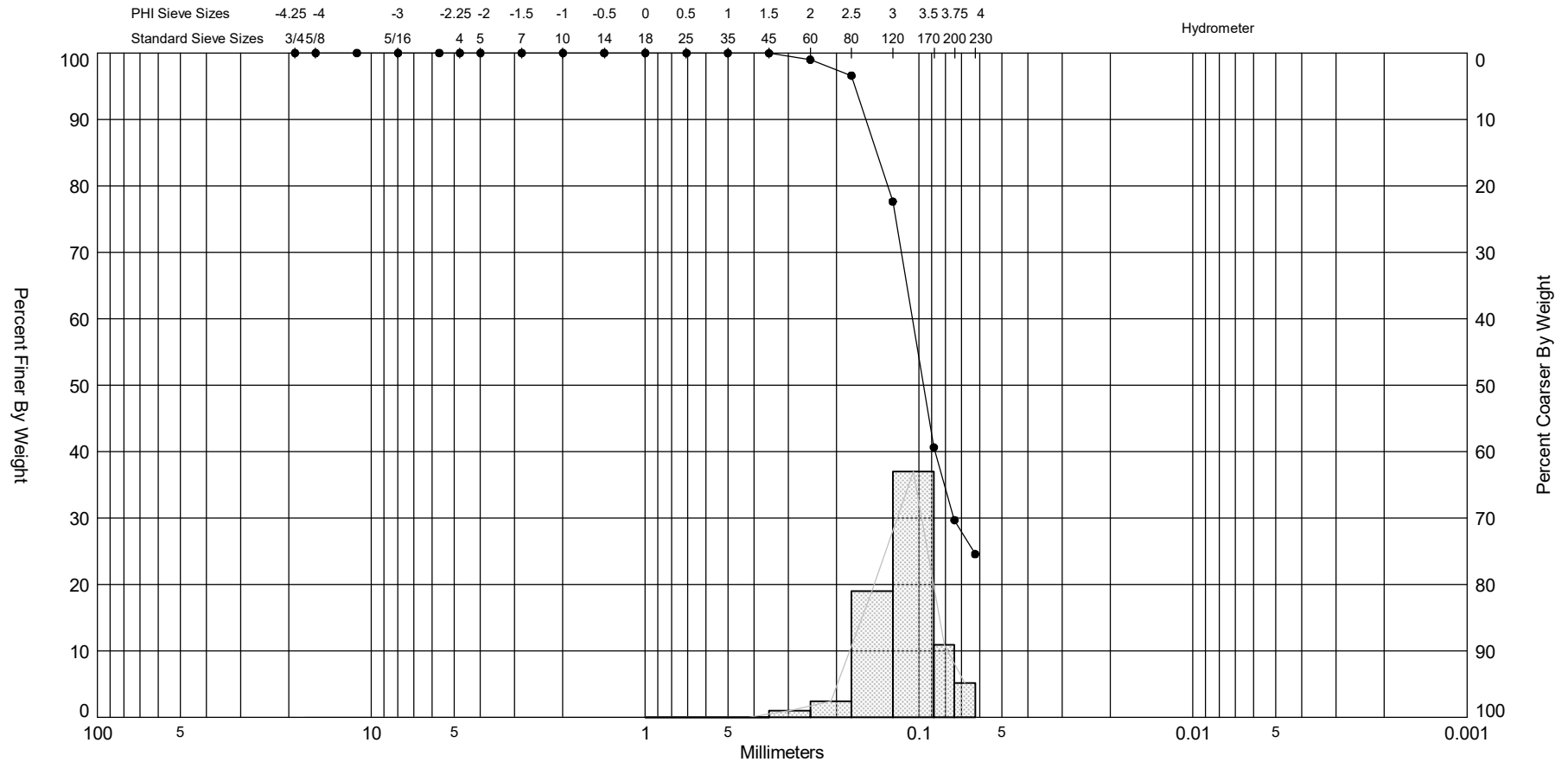
DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT McFaddin Sand Search Jefferson County, TX			9. SIZE AND TYPE OF BIT 3.0 In.	
2. BORING DESIGNATION JCVC-15-03			10. COORDINATE SYSTEM/DATUM Texas South Central	
3. DRILLING AGENCY American Vibracore Services, Inc.			11. MANUFACTURER'S DESIGNATION OF DRILL ☐ AUTO HAMMER Alpine Pneumatic Vibracore ☐ MANUAL HAMMER	
4. NAME OF DRILLER Brian McCord			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	
8. TOTAL DEPTH OF BORING 20.0 Ft.			16. ELEVATION TOP OF BORING -24.2 Ft.	
			17. TOTAL RECOVERY FOR BORING 19.7 Ft.	
			18. SIGNATURE AND TITLE OF INSPECTOR KM	

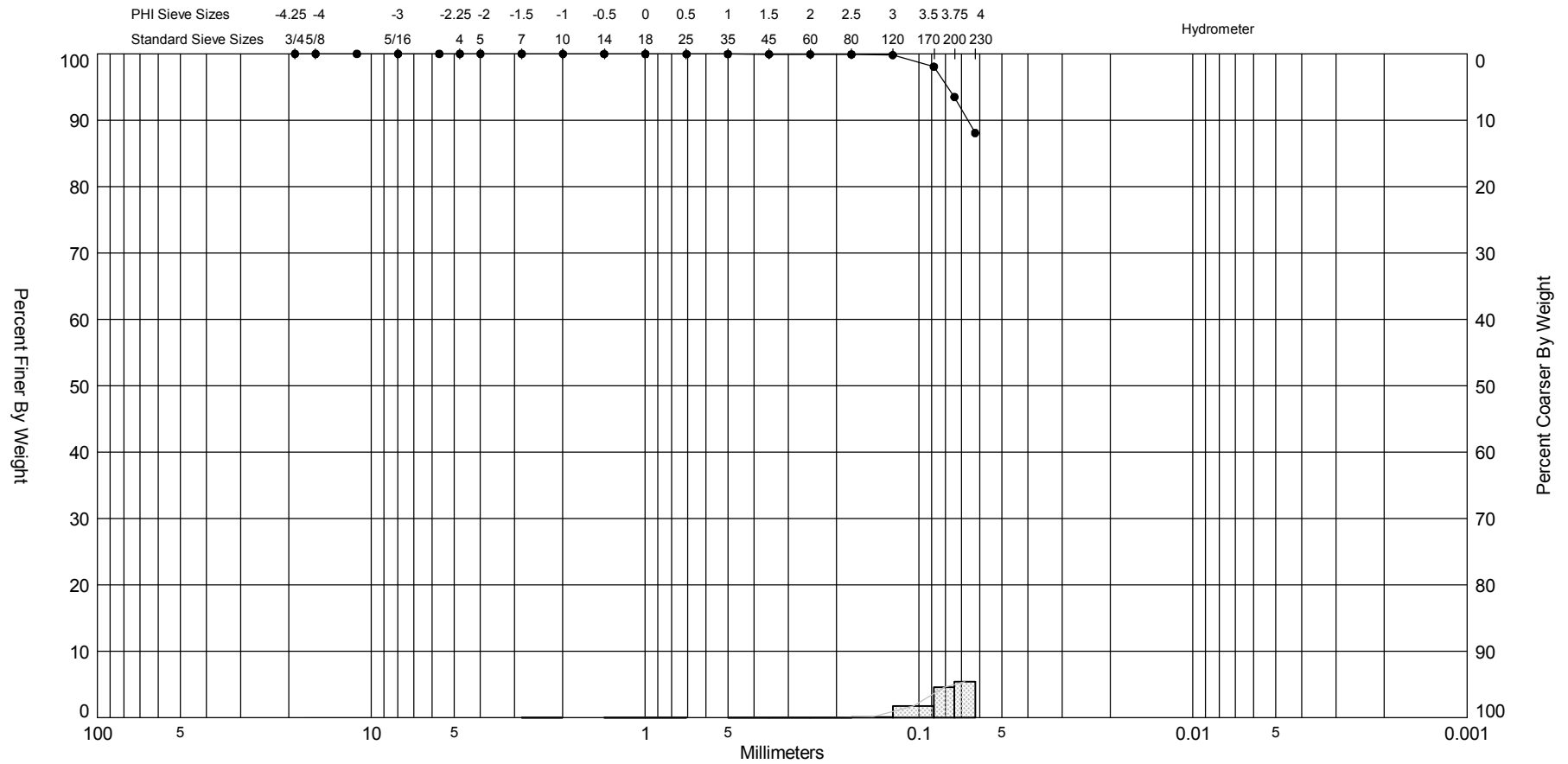
ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-24.2	0.0					
-27.0	2.8		CLAY, trace sand, light olive brown (2.5Y-5/4), (CL).		T1	Sample #T1, Depth = 1.8' Ave. Field Vane (tsf): 0.59
-29.7	5.5		CLAY, little sand, brown (10YR-5/3), (CL).		1	Sample #1, Depth = 4.3' Mean (mm): 0.08, Phi Sorting: 0.39 Fines (230): 88.08% (CL)
-32.1	7.9		CLAY, little sand, light olive brown (2.5Y-5/3), (CL).		2	Sample #2, Depth = 6.7' Mean (mm): 0.08, Phi Sorting: 0.34 Fines (230): 85.57% (CL)
-37.9	13.7		SAND, fine grained, quartz, little clay, trace silt, clay distributed in clayey pockets up to (3" x 1"), light olive brown (2.5Y-5/4), (SC).		3	Sample #3, Depth = 10.8' Mean (mm): 0.10, Phi Sorting: 0.32 Fines (230): 23.21% (SC)
-40.3	16.1		SAND, fine grained, quartz, trace clay, trace silt, clay distributed in laminae, grayish brown (2.5Y-5/2), (SC).		4	Sample #4, Depth = 14.8' Mean (mm): 0.12, Phi Sorting: 0.38 Fines (230): 12.71% (SC)
-43.9	19.7		SAND, fine grained, quartz, some clay, trace silt, clay distributed in pockets up to (3" x 4"), gray (2.5Y-5/1), (SC).		5	Sample #5, Depth = 18.0' Mean (mm): 0.13, Phi Sorting: 0.53 Fines (230): 35.75% (SC)
-44.2	20.0		No Recovery.			
			End of Boring			

LOUISIANA JEFFERSON COUNTY 2015 VCS.GPJ JPBRAZIL.GDT 6/4/15

Granularmetric Report				 APTIM 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391-8102			
Depths and elevations based on measured values							
Project Name: McFaddin NWR Beach Ridge Restoration							
Sample Name: JCVC-15-03 COMP							
Analysis Date: 11-19-18							
Analyzed By: KM							
Easting (ft):		Northing (ft):		Coordinate System:		Elevation (ft):	
3,476,473		13,787,998		Texas South Central			
USCS:		Munsell:		Comments:			
SC				COMPOSITE			
Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
100.00	100.00	24.55	0.01	#200 - 29.69 #230 - 24.56			
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	0.01	0.01	0.03	0.03	
60	2.00	0.25	0.96	0.96	0.99	0.99	
80	2.50	0.18	2.40	2.40	3.39	3.39	
120	3.00	0.13	18.98	18.98	22.37	22.37	
170	3.50	0.09	37.00	37.00	59.37	59.37	
200	3.75	0.07	10.94	10.94	70.31	70.31	
230	4.00	0.06	5.13	5.13	75.44	75.44	
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
		3.98	3.37	3.04	2.83	2.54	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.17	0.11	0.41	-0.71	4.38		

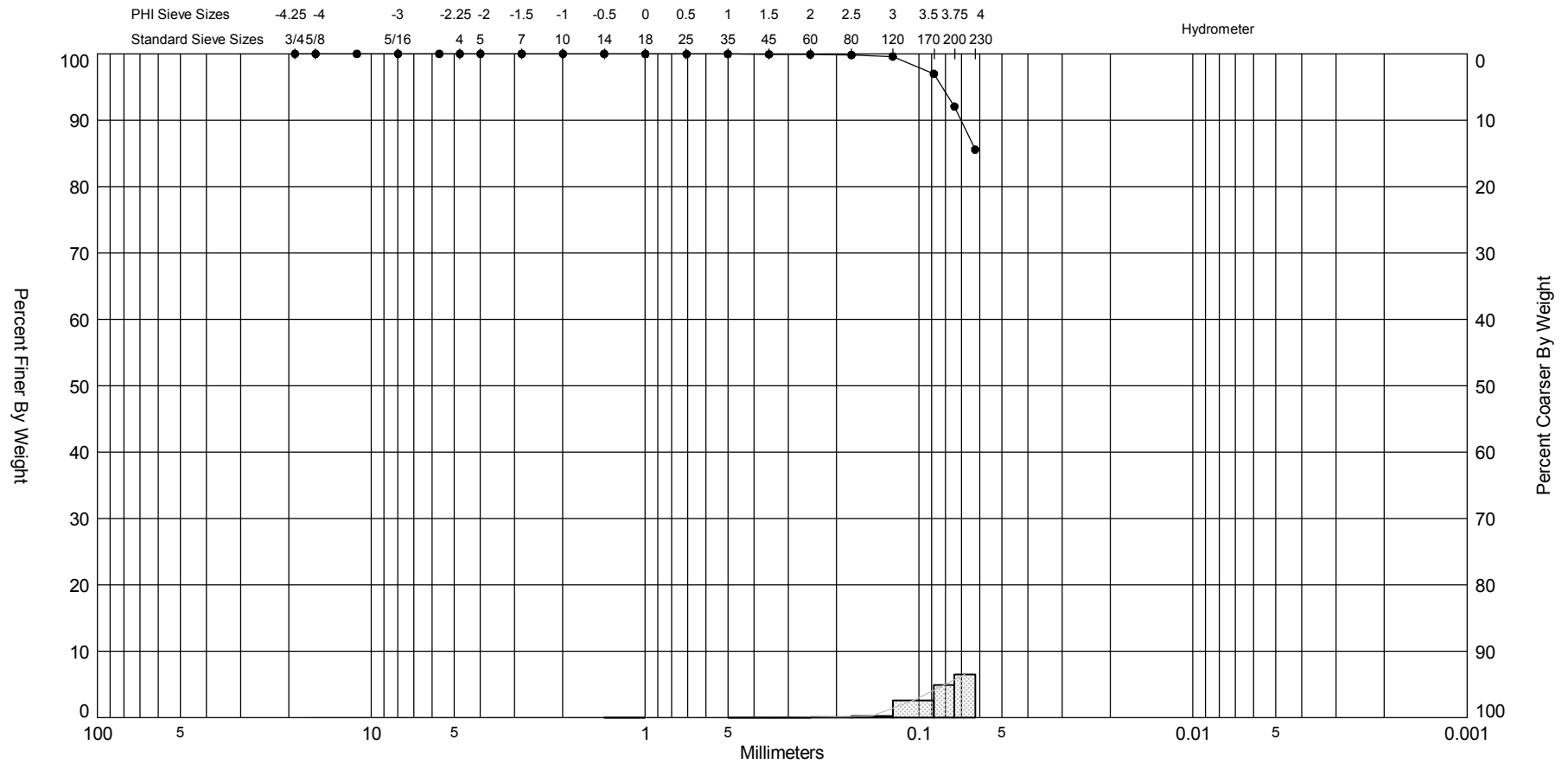
MCFADDIN_COMPOSITE_20181008.GPJ 11/19/18





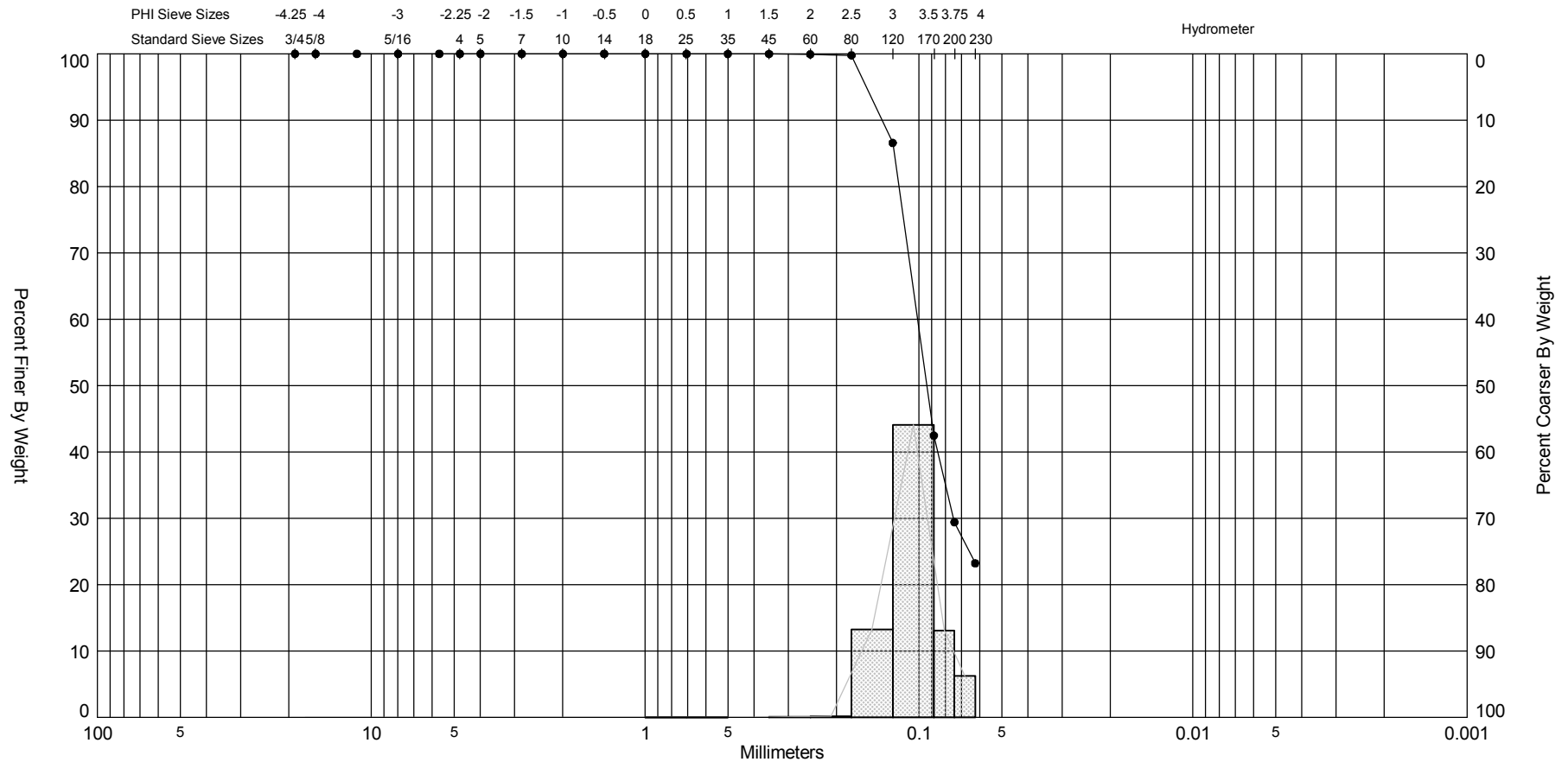
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-15-03 #1	—●—	-28.5	CL	#200 - 93.51 #230 - 88.08				3.65	-6.87	75.6	0.39	Project Name:	McFaddin Sand Search
Comments:												Analysis Date:	02-16-15
Depths and elevations based on measured values												Analyzed By:	GS
							CB&I Coastal Planning & Engineering, Inc. 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391 8102					Easting (X, ft):	3,476,473
												Northing (Y, ft):	13,787,998
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88



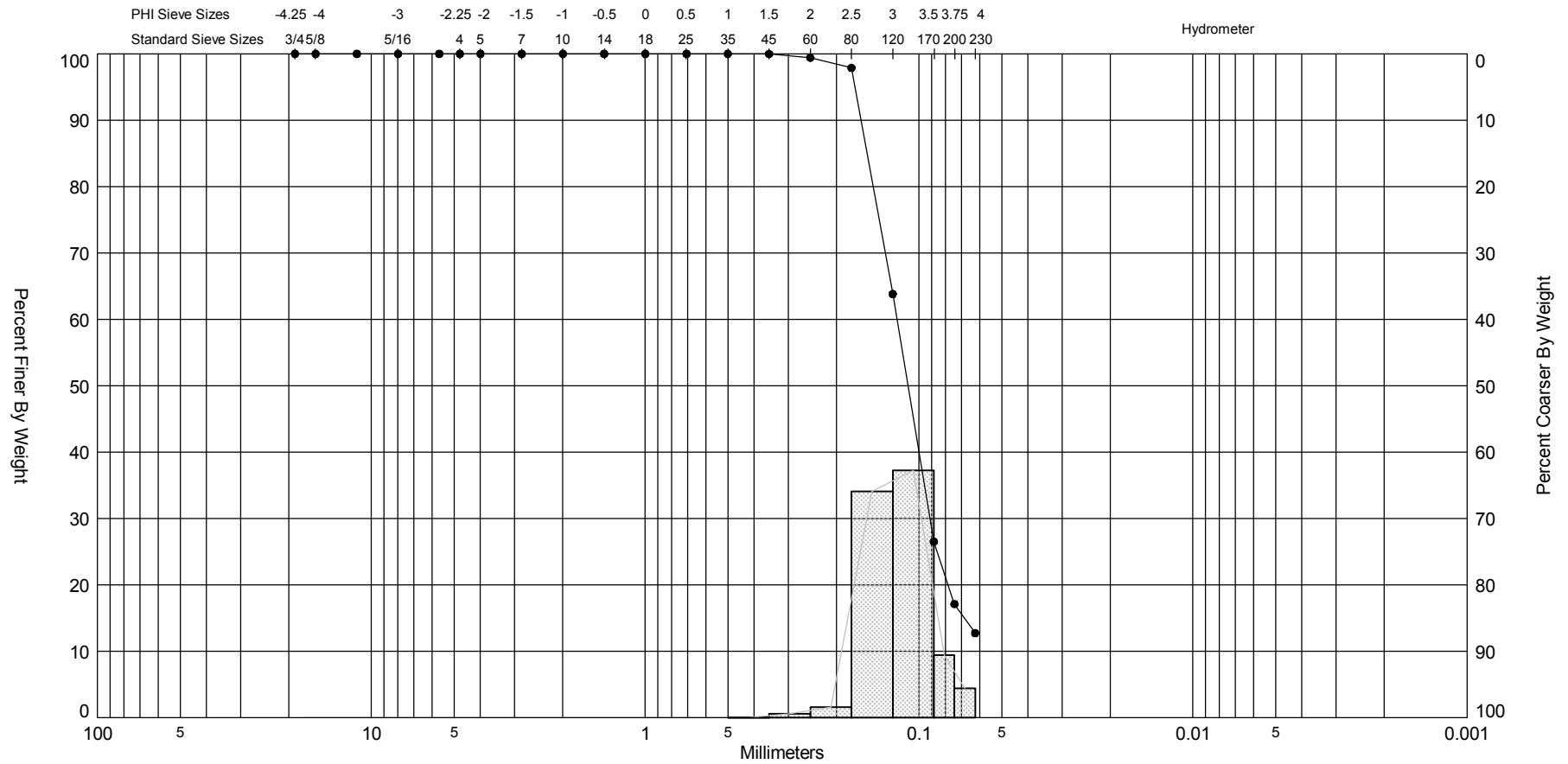
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-15-03 #2	—●—	-30.9	CL	#200 - 92.07 #230 - 85.57				3.63	-4.15	37.12	0.34	Project Name:	McFaddin Sand Search
Comments:												Analysis Date:	02-16-15
Depths and elevations based on measured values												Analyzed By:	GS
							CB&I Coastal Planning & Engineering, Inc. 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391 8102					Easting (X, ft):	3,476,473
												Northing (Y, ft):	13,787,998
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88



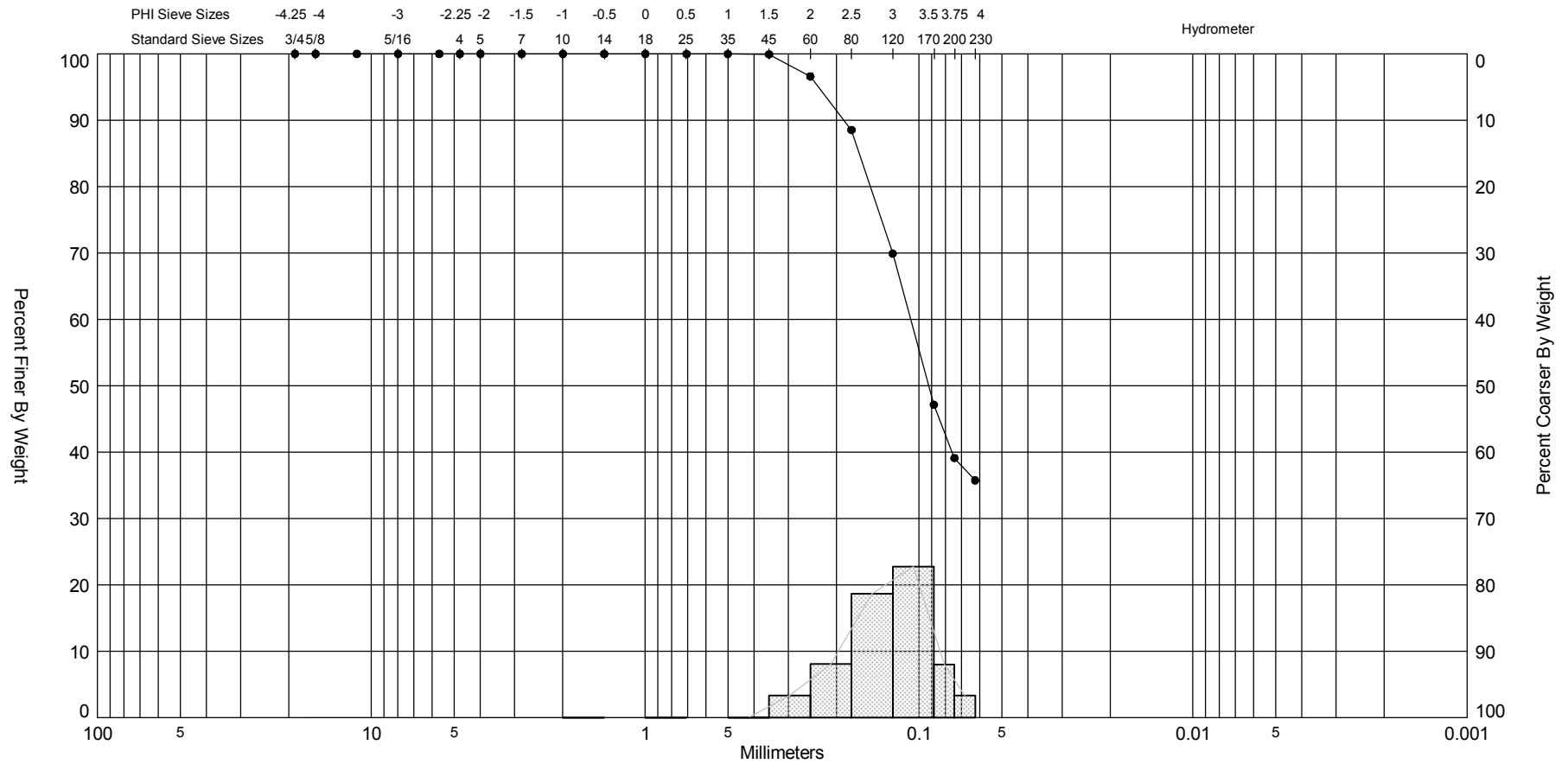
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-15-03 #3	—●—	-35.0	SC	#200 - 29.42 #230 - 23.21			3.41	3.27	-0.33	4.69	0.32	Project Name:	McFaddin Sand Search
Comments:												Analysis Date:	02-12-15
Depths and elevations based on measured values												Analyzed By:	GS
							CB&I Coastal Planning & Engineering, Inc. 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391 8102					Easting (X, ft):	3,476,473
												Northing (Y, ft):	13,787,998
												Horizontal System:	NAD 1983
												Vertical System:	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-15-03 #4		-39.0	SC	#200 - 17.12 #230 - 12.71			3.19	3.1	-0.07	3.23	0.38	Project Name:	McFaddin Sand Search
Comments:												Analysis Date:	02-11-15
Depths and elevations based on measured values												Analyzed By:	LC
						CB&I Coastal Planning & Engineering, Inc. 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391 8102						Easting (X, ft):	3,476,473
												Northing (Y, ft):	13,787,998
												Horizontal System:	NAD 1983
												Vertical System:	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-15-03 #5	—●—	-42.2	SC	#200 - 39.12 #230 - 35.75			3.44	2.98	-0.56	3.21	0.53	Project Name:	McFaddin Sand Search
Comments:												Analysis Date:	02-11-15
Depths and elevations based on measured values												Analyzed By:	LC
						CB&I Coastal Planning & Engineering, Inc. 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391 8102						Easting (X, ft):	3,476,473
												Northing (Y, ft):	13,787,998
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88

Granularmetric Report Depths and elevations based on measured values				 CB&I Coastal Planning & Engineering, Inc. 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391 8102			
Project Name: McFaddin Sand Search							
Sample Name: JCVC-15-03 #1							
Analysis Date: 02-16-15							
Analyzed By: GS				Coordinate System:		Elevation (ft):	
Easting (ft):		Northing (ft):					
3,476,473		13,787,998		Texas South Central		-28.5 NAVD 88	
USCS:		Munsell: Wet - 10YR-5/3 Dry - 10YR-7/2 Washed - 10YR-7/1		Comments:			
CL							
Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
80.10	12.75	3.14	0.06	#200 - 93.51 #230 - 88.08			
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	0.02	0.02	0.02	0.02	
14	-0.50	1.41	0.00	0.00	0.02	0.02	
18	0.00	1.00	0.01	0.01	0.03	0.03	
25	0.50	0.71	0.01	0.01	0.04	0.04	
35	1.00	0.50	0.00	0.00	0.04	0.04	
45	1.50	0.35	0.01	0.01	0.05	0.05	
60	2.00	0.25	0.02	0.02	0.07	0.07	
80	2.50	0.18	0.02	0.02	0.09	0.09	
120	3.00	0.13	0.07	0.09	0.16	0.18	
170	3.50	0.09	1.40	1.75	1.56	1.93	
200	3.75	0.07	3.65	4.56	5.21	6.49	
230	4.00	0.06	4.35	5.43	9.56	11.92	
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	
						3.67	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.65	0.08	0.39	-6.87	75.6		

Granularmetric Report Depths and elevations based on measured values				 CB&I Coastal Planning & Engineering, Inc. 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391 8102			
Project Name: McFaddin Sand Search							
Sample Name: JCVC-15-03 #2							
Analysis Date: 02-16-15							
Analyzed By: GS							
Easting (ft): 3,476,473		Northing (ft): 13,787,998		Coordinate System: Texas South Central		Elevation (ft): -30.9 NAVD 88	
USCS: CL		Munsell: Wet - 2.5Y-5/3 Dry - 2.5Y-6/2 Washed - 2.5Y-7/2		Comments:			
Dry Weight (g): 77.98	Wash Weight (g): 12.91	Pan Retained (g): 1.63	Sieve Loss (%): 0.05	Fines (%): #200 - 92.07 #230 - 85.57	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	0.03	0.02	0.03	
25	0.50	0.71	0.00	0.00	0.02	0.03	
35	1.00	0.50	0.00	0.00	0.02	0.03	
45	1.50	0.35	0.02	0.03	0.04	0.06	
60	2.00	0.25	0.02	0.03	0.06	0.09	
80	2.50	0.18	0.06	0.08	0.12	0.17	
120	3.00	0.13	0.17	0.22	0.29	0.39	
170	3.50	0.09	2.04	2.62	2.33	3.01	
200	3.75	0.07	3.84	4.92	6.17	7.93	
230	4.00	0.06	5.07	6.50	11.24	14.43	
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	
						3.60	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.63	0.08	0.34	-4.15	37.12		

Granularmetric Report Depths and elevations based on measured values				 CB&I Coastal Planning & Engineering, Inc. 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391 8102											
Project Name: McFaddin Sand Search															
Sample Name: JCVC-15-03 #3															
Analysis Date: 02-12-15															
Analyzed By: GS				Easting (ft):		Northing (ft):		Coordinate System:		Elevation (ft):					
3,476,473		13,787,998		Texas South Central		-35.0 NAVD 88									
USCS: SC		Munsell: Wet - 2.5Y-5/4 Dry - 2.5Y-7/2 Washed - 2.5Y-8/2		Comments:											
Dry Weight (g): 86.66		Wash Weight (g): 68.20		Pan Retained (g): 1.64		Sieve Loss (%): 0.01		Fines (%): #200 - 29.42 #230 - 23.21		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	0.00	0.00	0.02	0.02									
60	2.00	0.25	0.04	0.05	0.06	0.07									
80	2.50	0.18	0.13	0.15	0.19	0.22									
120	3.00	0.13	11.45	13.21	11.64	13.43									
170	3.50	0.09	38.22	44.10	49.86	57.53									
200	3.75	0.07	11.31	13.05	61.17	70.58									
230	4.00	0.06	5.38	6.21	66.55	76.79									
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									
		3.93	3.41	3.13	3.03	2.68									
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis										
Statistics	3.27	0.10	0.32	-0.33	4.69										

Granularmetric Report Depths and elevations based on measured values				 CB&I Coastal Planning & Engineering, Inc. 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391 8102			
Project Name: McFaddin Sand Search							
Sample Name: JCVC-15-03 #4							
Analysis Date: 02-11-15							
Analyzed By: LC				Coordinate System:		Elevation (ft):	
Easting (ft):		Northing (ft):					
3,476,473		13,787,998		Texas South Central		-39.0 NAVD 88	
USCS:		Munsell: Wet - 2.5Y-5/2 Dry - 2.5Y-6/2 Washed - 2.5Y-7/1		Comments:			
SC							
Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
85.66	75.19	0.42	0.00	#200 - 17.12 #230 - 12.71			
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	0.02	0.02	0.02	0.02	
60	2.00	0.25	0.47	0.55	0.49	0.57	
80	2.50	0.18	1.33	1.55	1.82	2.12	
120	3.00	0.13	29.19	34.08	31.01	36.20	
170	3.50	0.09	31.93	37.28	62.94	73.48	
200	3.75	0.07	8.05	9.40	70.99	82.88	
230	4.00	0.06	3.78	4.41	74.77	87.29	
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	
	3.81	3.54	3.19	2.84	2.70	2.54	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.1	0.12	0.38	-0.07	3.23		

Granularmetric Report Depths and elevations based on measured values				 CB&I Coastal Planning & Engineering, Inc. 2481 NW Boca Raton Blvd. Boca Raton, FL 33431 ph (561) 391 8102			
Project Name: McFaddin Sand Search							
Sample Name: JCVC-15-03 #5							
Analysis Date: 02-11-15							
Analyzed By: LC							
Easting (ft):		Northing (ft):		Coordinate System:		Elevation (ft):	
3,476,473		13,787,998		Texas South Central		-42.2 NAVD 88	
USCS:		Munsell:		Comments:			
SC		Wet - 2.5Y-5/1 Dry - 2.5Y-6/1 Washed - 2.5Y-7/1					
Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
85.55	55.13	0.17	0.00	#200 - 39.12 #230 - 35.75			
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	0.01	0.01	0.01	0.01	
18	0.00	1.00	0.00	0.00	0.01	0.01	
25	0.50	0.71	0.01	0.01	0.02	0.02	
35	1.00	0.50	0.00	0.00	0.02	0.02	
45	1.50	0.35	0.03	0.04	0.05	0.06	
60	2.00	0.25	2.85	3.33	2.90	3.39	
80	2.50	0.18	6.90	8.07	9.80	11.46	
120	3.00	0.13	15.95	18.64	25.75	30.10	
170	3.50	0.09	19.48	22.77	45.23	52.87	
200	3.75	0.07	6.85	8.01	52.08	60.88	
230	4.00	0.06	2.88	3.37	54.96	64.25	
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	
			3.44	2.86	2.62	2.10	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	2.98	0.13	0.53	-0.56	3.21		





