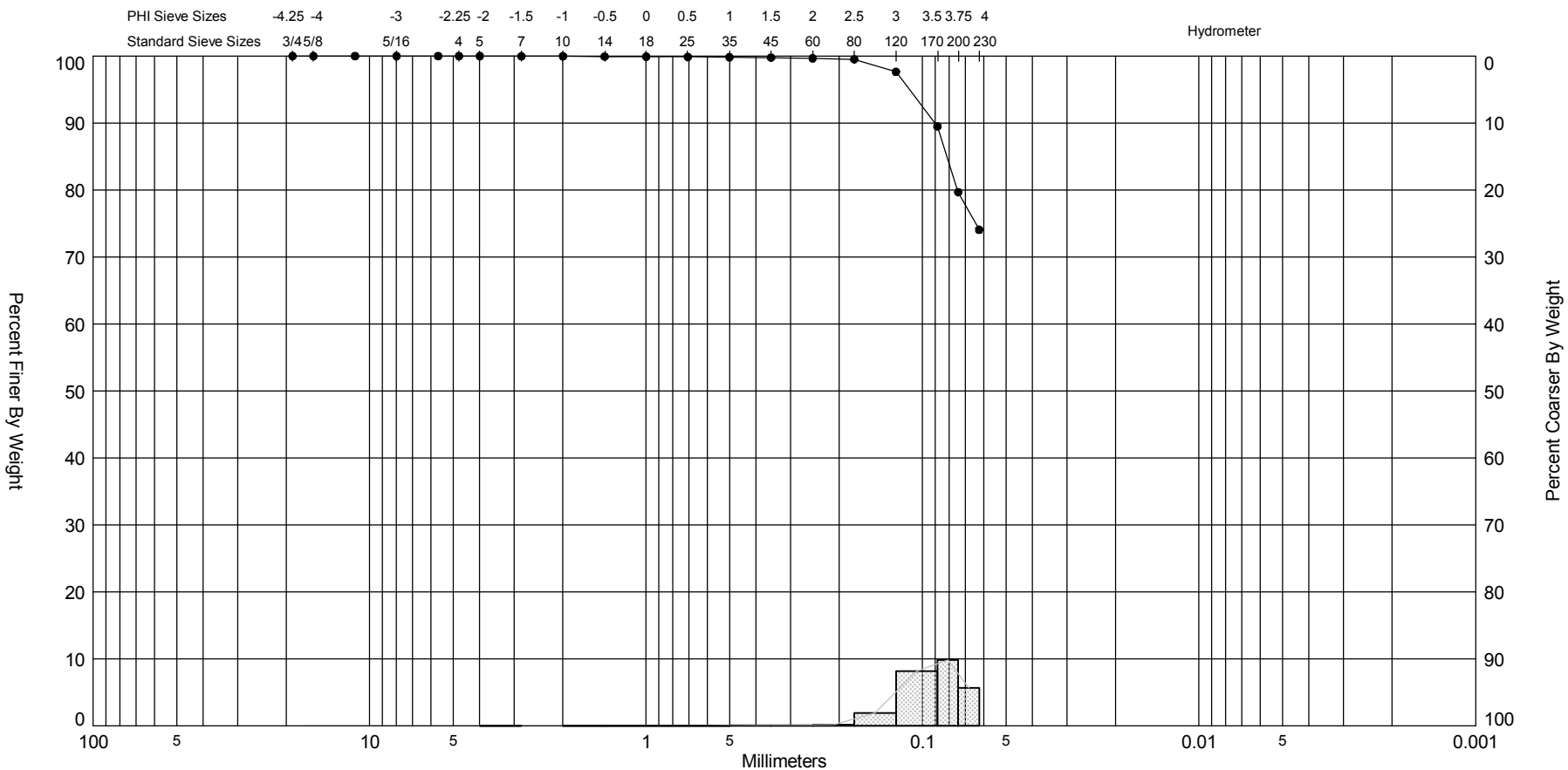


DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT McFaddin Sand Search Jefferson County, TX			9. SIZE AND TYPE OF BIT 3.0 In. 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL Texas South Central NAD 1983 NAVD 88	
2. BORING DESIGNATION JCVC-15-05		LOCATION COORDINATES X = 3,476,095 Y = 13,784,985	11. MANUFACTURER'S DESIGNATION OF DRILL ☐ AUTO HAMMER Alpine Pneumatic Vibracore ☐ MANUAL HAMMER	
3. DRILLING AGENCY American Vibracore Services, Inc.		CONTRACTOR FILE NO.	12. TOTAL SAMPLES DISTURBED UNDISTURBED (UD)	
4. NAME OF DRILLER Brian McCord			13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED			14. ELEVATION GROUND WATER	
6. THICKNESS OF OVERBURDEN 0.0 Ft.			15. DATE BORING STARTED COMPLETED 01-26-15 10:17 01-26-15 10:23	
7. DEPTH DRILLED INTO ROCK 0.0 Ft.			16. ELEVATION TOP OF BORING -27.5 Ft.	
8. TOTAL DEPTH OF BORING 20.0 Ft.			17. TOTAL RECOVERY FOR BORING 18.2 Ft.	
			18. SIGNATURE AND TITLE OF INSPECTOR KM	

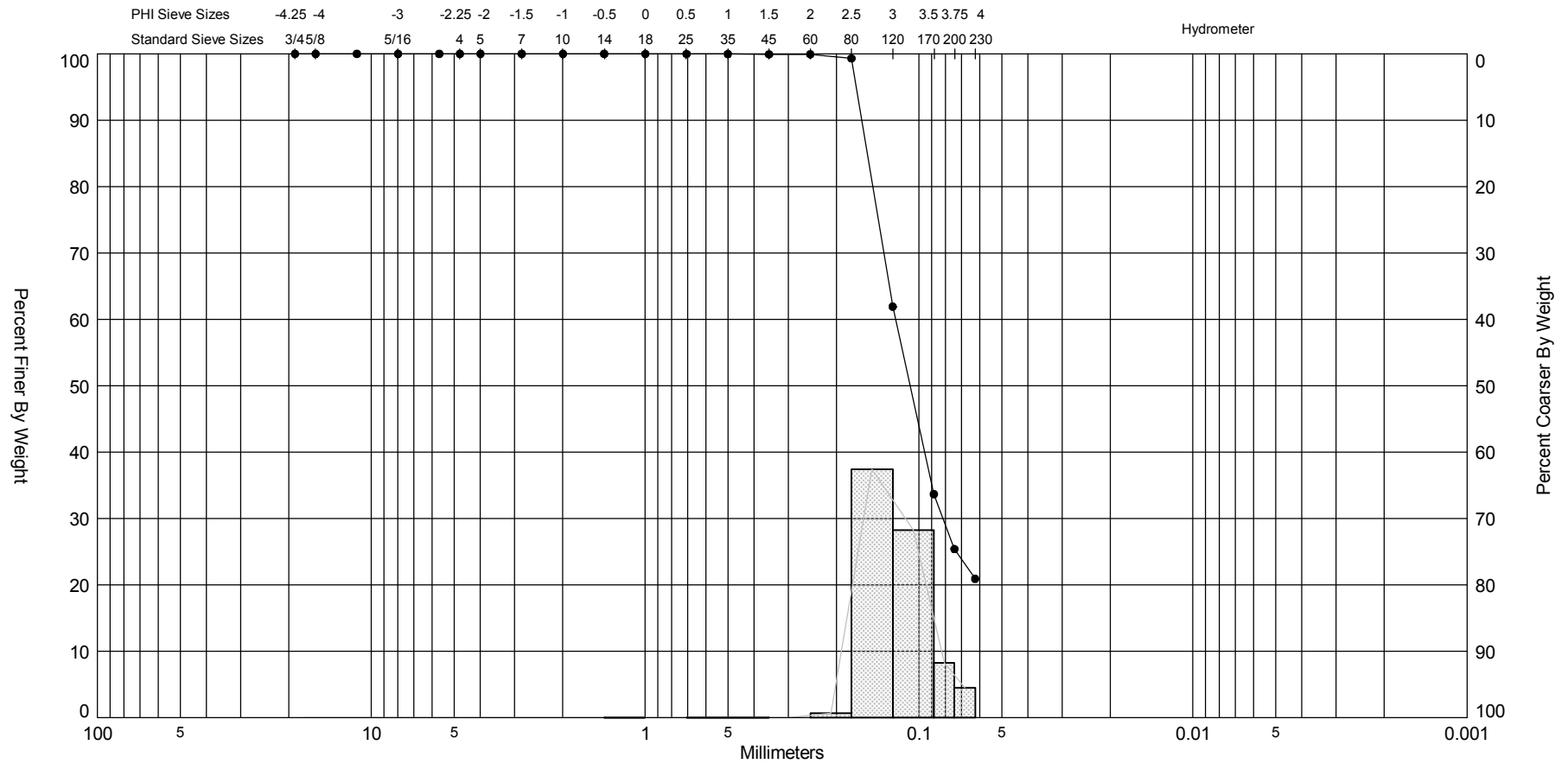
ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-27.5	0.0					
-28.5	1.0		CLAY, trace shell hash, grayish brown (2.5Y-5/2), (CL).		T1	Sample #T1, Depth = 0.6' Ave. Field Vane (tsf): 0.48
					T2	Sample #T2, Depth = 3.0' Ave. Field Vane (tsf): 0.55
			CLAY, trace sand, sand distributed in sandy pockets up to 0.25", light olive brown (2.5Y-5/3), (CL).		T3	Sample #T3, Depth = 6.0' Ave. Field Vane (tsf): 0.54
-35.2	7.7					
			CLAY, trace sand, sand distributed in sandy pockets up to 0.5", gray (2.5Y-5/1), (CL).		T4	Sample #T4, Depth = 8.8' Ave. Field Vane (tsf): 0.43
-37.4	9.9					
			CLAY, some sand, 3" sand pocket at 11.2', greenish gray (10Y-6/1), (CL).		1	Sample #1, Depth = 10.9' Mean (mm): 0.09, Phi Sorting: 0.48 Fines (230): 74.05% (CL)
-39.9	12.4				2	Sample #2, Depth = 13.0' Mean (mm): 0.12, Phi Sorting: 0.37 Fines (230): 20.91% (SC)
-41.0	13.5		SAND, fine grained, quartz, some clay, greenish gray (10Y-5/1), (SC).		3	Sample #3, Depth = 14.7' Mean (mm): 0.11, Phi Sorting: 0.69 Fines (230): 39.60% (SC)
			Clayey SAND, fine grained, quartz, clay distributed in laminae and pockets up to (3" x 2"), 0.5" shell hash pocket at 15.8', dark grayish brown (2.5Y-4/2), (SC).		4	Sample #4, Depth = 16.4' Mean (mm): 0.08, Phi Sorting: 0.41 Fines (230): 88.09% (CL)
-43.4	15.9				5	Sample #5, Depth = 17.5' Mean (mm): 0.09, Phi Sorting: 0.61 Fines (230): 94.41% (CL)
-44.3	16.8		CLAY, little sand, very dark grayish brown (2.5Y-3/2), (CL).			
-45.7	18.2		CLAY, trace sand, very dark grayish brown (2.5Y-3/2), (CL).			
			No Recovery.			
-47.5	20.0					
			End of Boring			

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



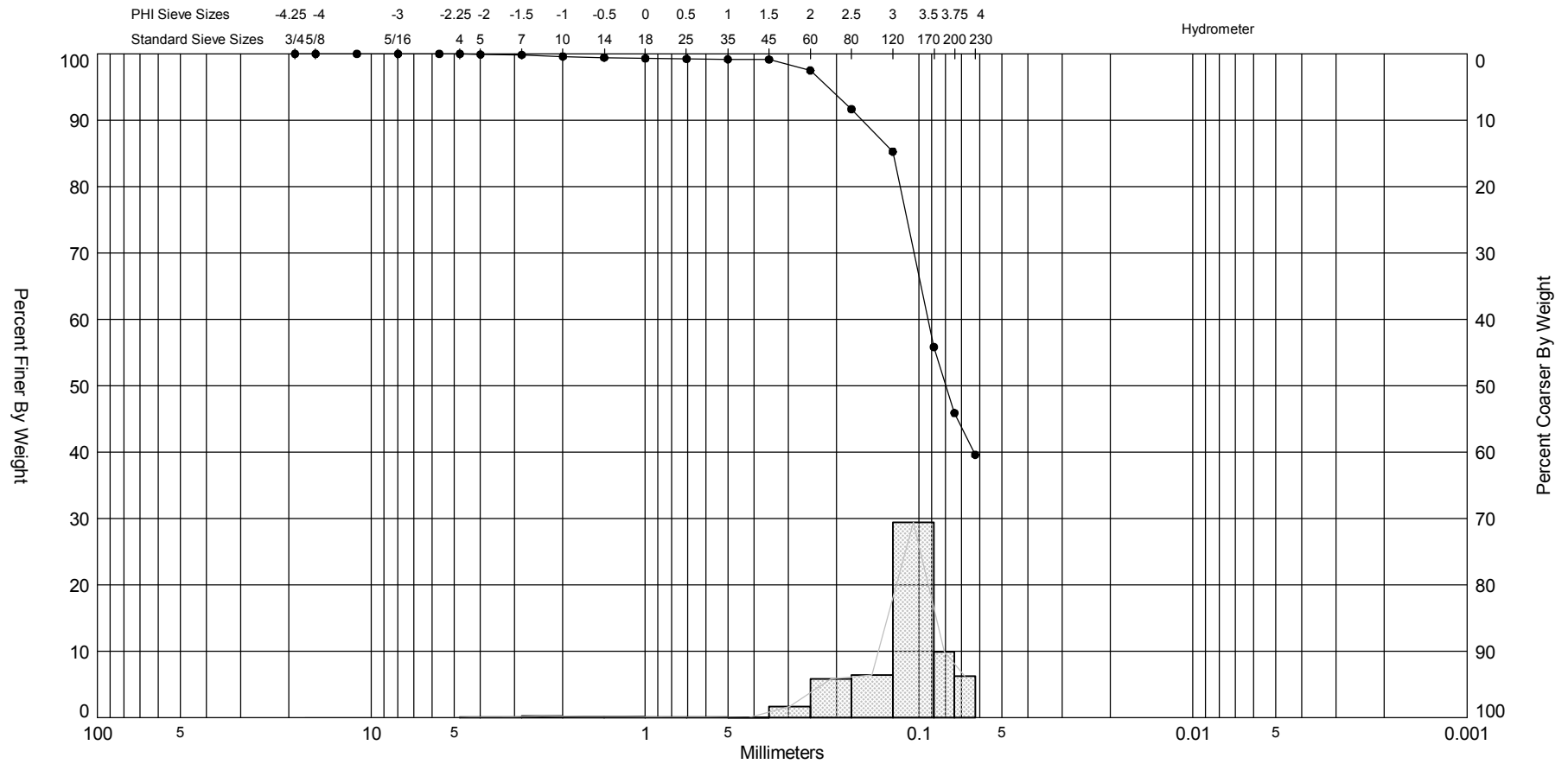
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-15-05 #1		-38.4	CL	#200 - 79.69 #230 - 74.05				3.45	-4.34	36.28	0.48	Project Name:	McFaddin Sand Search
Comments:												Analysis Date:	02-20-15
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):	3,476,095
												Northing (Y, ft):	13,784,985
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88



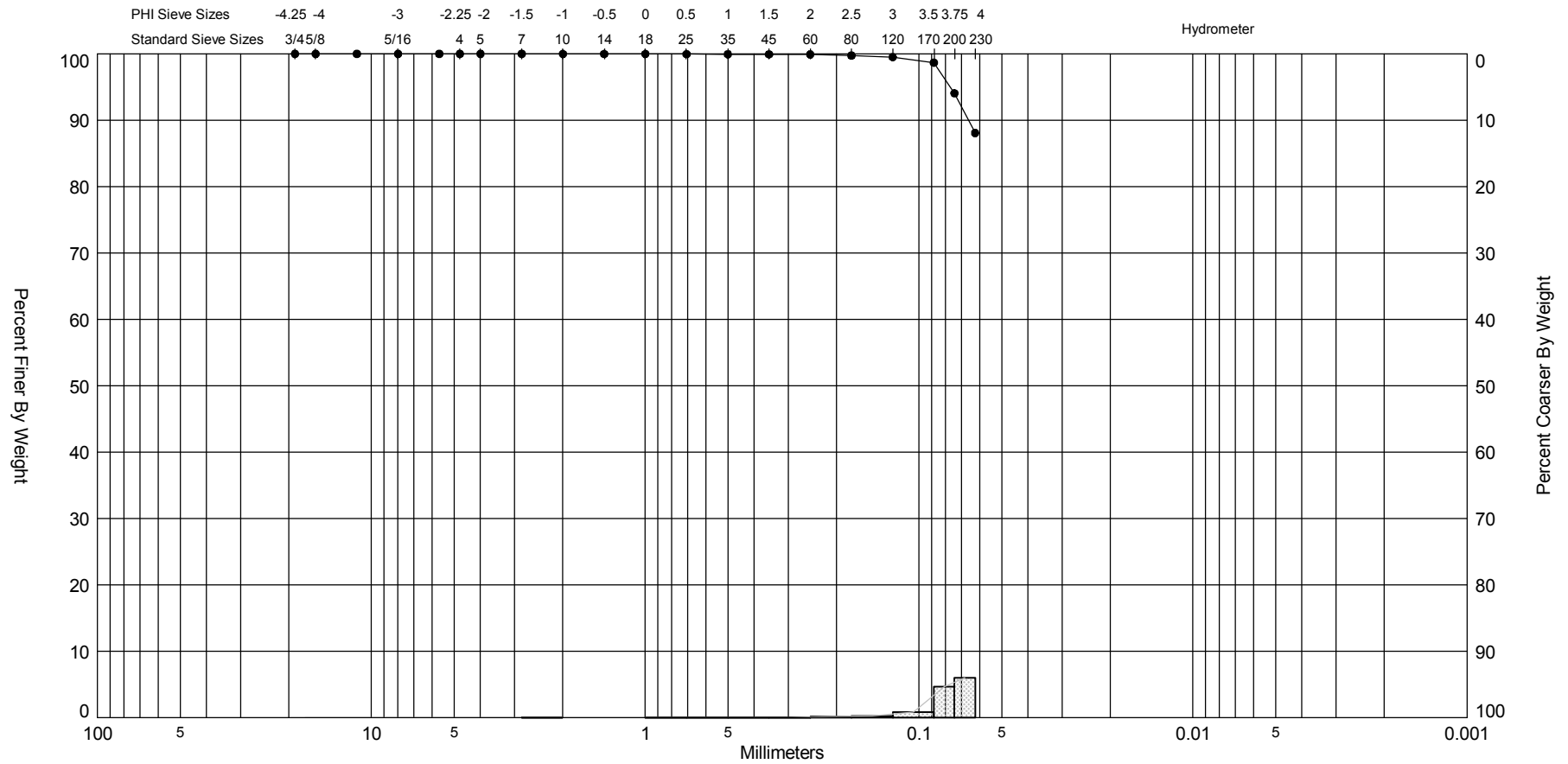
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-15-05 #2	—●—	-40.5	SC	#200 - 25.39 #230 - 20.91			3.21	3.08	0.25	4.19	0.37	Project Name:	McFaddin Sand Search
Comments:												Analysis Date:	02-20-15
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):	3,476,095
												Northing (Y, ft):	13,784,985
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88



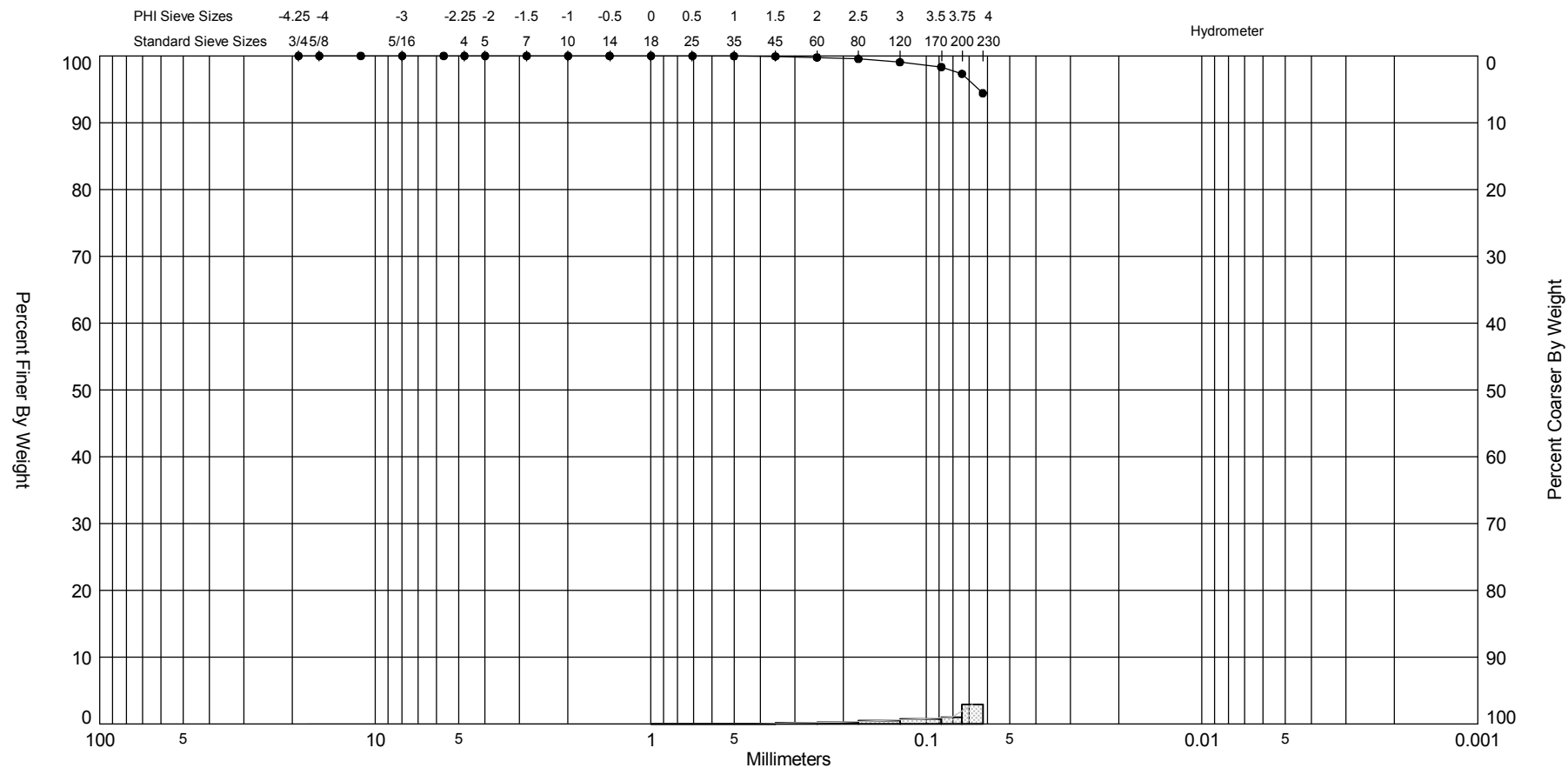
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-15-05 #3	—●—	-42.2	SC	#200 - 45.89 #230 - 39.60			3.65	3.13	-3.2	19.86	0.69	Project Name:	McFaddin Sand Search
Comments:												Analysis Date:	02-20-15
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):	3,476,095
												Northing (Y, ft):	13,784,985
												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-15-05 #4	—●—	-43.9	CL	#200 - 94.06 #230 - 88.09				3.66	-5.88	54.66	0.41	Project Name:	McFaddin Sand Search
Comments:												Analysis Date:	02-20-15
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):	3,476,095
												Northing (Y, ft):	13,784,985
												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-15-05 #5		-45.0	CL	#200 - 97.32 #230 - 94.41				3.49	-2.03	7.35	0.61	Project Name:	McFaddin Sand Search
Comments:												Analysis Date:	02-20-15
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):	3,476,095
												Northing (Y, ft):	13,784,985
												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-15-05 #1							
Analysis Date: 02-20-15							
Analyzed By: GS							
Easting (ft):		Northing (ft):		Coordinate System:		Elevation (ft):	
3,476,095		13,784,985		Texas South Central		-38.4 NAVD 88	
USCS:		Munsell:		Comments:			
CL		Wet - 10Y-6/1 Dry - 10YR-8/3 Washed - 2.5Y-8/1					
Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
89.96	27.37	3.93	0.10	#200 - 79.69 #230 - 74.05			
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	0.03	0.03	0.03	0.03	
10	-1.00	2.00	0.00	0.00	0.03	0.03	
14	-0.50	1.41	0.03	0.03	0.06	0.06	
18	0.00	1.00	0.03	0.03	0.09	0.09	
25	0.50	0.71	0.03	0.03	0.12	0.12	
35	1.00	0.50	0.04	0.04	0.16	0.16	
45	1.50	0.35	0.05	0.06	0.21	0.22	
60	2.00	0.25	0.11	0.12	0.32	0.34	
80	2.50	0.18	0.12	0.13	0.44	0.47	
120	3.00	0.13	1.69	1.88	2.13	2.35	
170	3.50	0.09	7.31	8.13	9.44	10.48	
200	3.75	0.07	8.84	9.83	18.28	20.31	
230	4.00	0.06	5.07	5.64	23.35	25.95	
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	
				3.96	3.64	3.16	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.45	0.09	0.48	-4.34	36.28		

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-15-05 #2							
Analysis Date: 02-20-15							
Analyzed By: GS							
Easting (ft): 3,476,095		Northing (ft): 13,784,985		Coordinate System: Texas South Central		Elevation (ft): -40.5 NAVD 88	
USCS: SC		Munsell: Wet - 10Y-5/1 Dry - 10Y-7/1 Washed - 2.5Y-8/1		Comments:			
Dry Weight (g): 99.23	Wash Weight (g): 80.12	Pan Retained (g): 1.45	Sieve Loss (%): 0.18	Fines (%): #200 - 25.39 #230 - 20.91	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	0.03	0.03	0.06	0.06	
60	2.00	0.25	0.00	0.00	0.06	0.06	
80	2.50	0.18	0.63	0.63	0.69	0.69	
120	3.00	0.13	37.10	37.39	37.79	38.08	
170	3.50	0.09	28.03	28.25	65.82	66.33	
200	3.75	0.07	8.22	8.28	74.04	74.61	
230	4.00	0.06	4.45	4.48	78.49	79.09	
Shell Hash calculated from visual estimate of shell <4.75mm and >2.8mm.							
Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95	
		3.77	3.21	2.83	2.70	2.56	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.08	0.12	0.37	0.25	4.19		

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-15-05 #3							
Analysis Date: 02-20-15							
Analyzed By: GS							
Easting (ft): 3,476,095		Northing (ft): 13,784,985		Coordinate System: Texas South Central		Elevation (ft): -42.2 NAVD 88	
USCS: SC		Munsell: Wet - 2.5Y-4/2 Dry - 2.5Y-6/2 Washed - 2.5Y-7/2		Comments:			
Dry Weight (g): 87.65	Wash Weight (g): 54.95	Pan Retained (g): 1.93	Sieve Loss (%): 0.10	Fines (%): #200 - 45.89 #230 - 39.60	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	0.09	0.10	0.09	0.10	
7	-1.50	2.83	0.04	0.05	0.13	0.15	
10	-1.00	2.00	0.21	0.24	0.34	0.39	
14	-0.50	1.41	0.15	0.17	0.49	0.56	
18	0.00	1.00	0.11	0.13	0.60	0.69	
25	0.50	0.71	0.07	0.08	0.67	0.77	
35	1.00	0.50	0.04	0.05	0.71	0.82	
45	1.50	0.35	0.03	0.03	0.74	0.85	
60	2.00	0.25	1.44	1.64	2.18	2.49	
80	2.50	0.18	5.12	5.84	7.30	8.33	
120	3.00	0.13	5.60	6.39	12.90	14.72	
170	3.50	0.09	25.80	29.44	38.70	44.16	
200	3.75	0.07	8.72	9.95	47.42	54.11	
230	4.00	0.06	5.51	6.29	52.93	60.40	
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	
			3.65	3.17	3.02	2.21	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.13	0.11	0.69	-3.2	19.86		

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-15-05 #4							
Analysis Date: 02-20-15							
Analyzed By: GS							
Easting (ft): 3,476,095		Northing (ft): 13,784,985		Coordinate System: Texas South Central		Elevation (ft): -43.9 NAVD 88	
USCS: CL		Munsell: Wet - 2.5Y-3/2 Dry - 2.5Y-6/2 Washed - 2.5Y-7/2		Comments:			
Dry Weight (g): 87.70	Wash Weight (g): 12.53	Pan Retained (g): 2.02	Sieve Loss (%): 0.06	Fines (%): #200 - 94.06 #230 - 88.09	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	0.02	0.02	0.02	0.02	
14	-0.50	1.41	0.00	0.00	0.02	0.02	
18	0.00	1.00	0.00	0.00	0.02	0.02	
25	0.50	0.71	0.02	0.02	0.04	0.04	
35	1.00	0.50	0.01	0.01	0.05	0.05	
45	1.50	0.35	0.02	0.02	0.07	0.07	
60	2.00	0.25	0.01	0.01	0.08	0.08	
80	2.50	0.18	0.15	0.17	0.23	0.25	
120	3.00	0.13	0.20	0.23	0.43	0.48	
170	3.50	0.09	0.73	0.83	1.16	1.31	
200	3.75	0.07	4.06	4.63	5.22	5.94	
230	4.00	0.06	5.24	5.97	10.46	11.91	
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	
						3.70	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.66	0.08	0.41	-5.88	54.66		

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-15-05 #5							
Analysis Date: 02-20-15							
Analyzed By: GS							
Easting (ft): 3,476,095		Northing (ft): 13,784,985		Coordinate System: Texas South Central		Elevation (ft): -45.0 NAVD 88	
USCS: CL		Munsell: Wet - 2.5Y-3/2 Dry - 2.5Y-5/2 Washed - 2.5Y-6/1		Comments:			
Dry Weight (g): 86.88	Wash Weight (g): 9.65	Pan Retained (g): 4.57	Sieve Loss (%): 0.24	Fines (%): #200 - 97.32 #230 - 94.41	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	0.02	0.02	0.03	0.03	
45	1.50	0.35	0.03	0.03	0.06	0.06	
60	2.00	0.25	0.14	0.16	0.20	0.22	
80	2.50	0.18	0.20	0.23	0.40	0.45	
120	3.00	0.13	0.43	0.49	0.83	0.94	
170	3.50	0.09	0.63	0.73	1.46	1.67	
200	3.75	0.07	0.88	1.01	2.34	2.68	
230	4.00	0.06	2.53	2.91	4.87	5.59	
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	
						3.95	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.49	0.09	0.61	-2.03	7.35		





