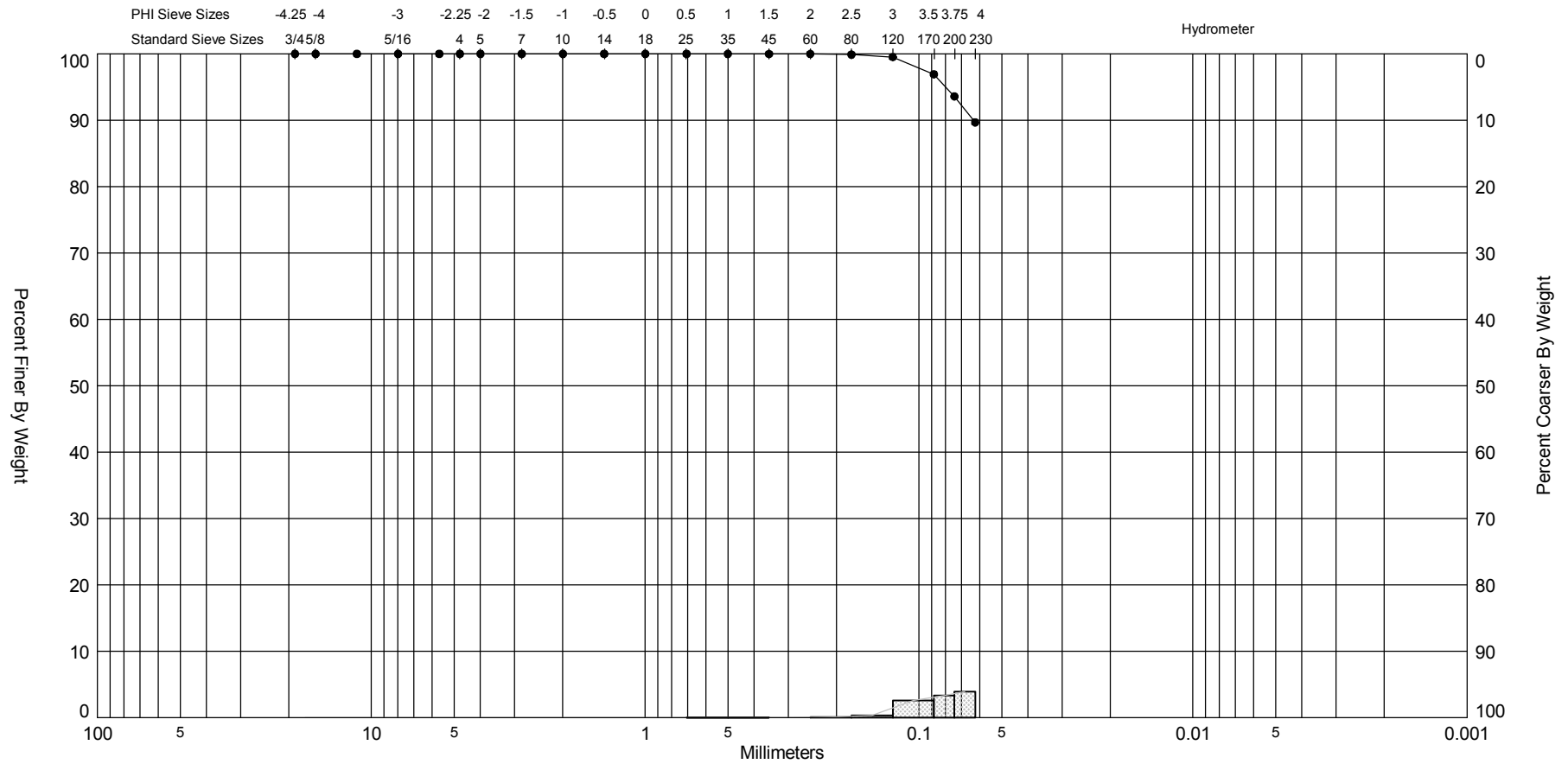


DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
1. PROJECT McFaddin Sand Search Jefferson County, TX			9. SIZE AND TYPE OF BIT 3.0 In.	
2. BORING DESIGNATION JCVC-15-15			10. COORDINATE SYSTEM/DATUM Texas South Central	
3. DRILLING AGENCY American Vibracore Services, Inc.			11. MANUFACTURER'S DESIGNATION OF DRILL Alpine Pneumatic Vibracore	
4. NAME OF DRILLER Brian McCord			12. TOTAL SAMPLES DISTURBED UNDISTURBED (UD)	
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 01-27-15 08:40	
8. TOTAL DEPTH OF BORING 20.0 Ft.			16. ELEVATION TOP OF BORING -26.5 Ft.	
			17. TOTAL RECOVERY FOR BORING 19.9 Ft.	
			18. SIGNATURE AND TITLE OF INSPECTOR KM	

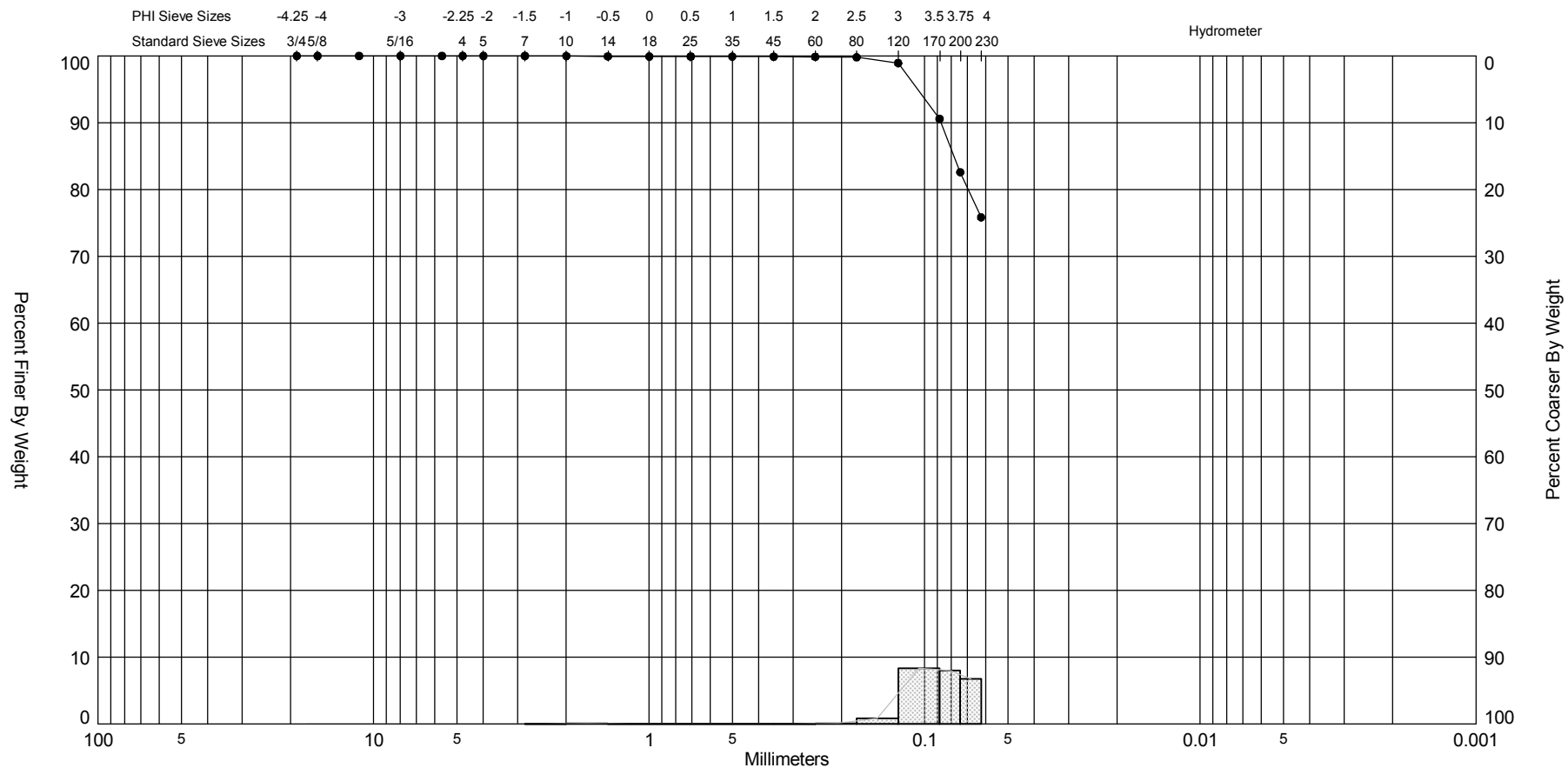
ELEV. (ft)	DEPTH (ft)	LEGEND	CLASSIFICATION OF MATERIALS Depths and elevations based on measured values	% REC.	BOX OR SAMPLE	REMARKS
-26.5	0.0					
-27.3	0.8		CLAY, trace shell hash, dark grayish brown (2.5Y-4/2), (CL).		T1	Sample #11, Depth = 0.4' Ave. Field Vane (tsf): 0.34
					T2	Sample #T2, Depth = 3.0' Ave. Field Vane (tsf): 0.43
			CLAY, light olive brown (2.5Y-5/3), (CL).		T3	Sample #T3, Depth = 5.5' Ave. Field Vane (tsf): 0.45
-33.2	6.7					
			CLAY, little sand, greenish gray (10Y-5/1), (CL).		1	Sample #1, Depth = 9.0' Mean (mm): 0.08, Phi Sorting: 0.34 Fines (230): 89.69% (CL)
-37.8	11.3					
-38.8	12.3		CLAY, some sand, greenish gray (10Y-5/1), (CL).		2	Sample #2, Depth = 11.8' Mean (mm): 0.09, Phi Sorting: 0.40 Fines (230): 75.85% (CL)
			CLAY, some sand, (1.25" x 1") rock fragment at 14.2', dark greenish gray (10Y-4/1), (CL).		3	Sample #3, Depth = 13.3' Mean (mm): 0.10, Phi Sorting: 0.83 Fines (230): 66.98% (CL)
-40.9	14.4					
			Clayey SAND, fine grained, quartz, 3" clayey pocket at 15.9', dark grayish brown (2.5Y-4/2), (CL).		4	Sample #4, Depth = 15.2' Mean (mm): 0.10, Phi Sorting: 0.35 Fines (230): 46.29% (CL)
-42.5	16.0					
			SAND, fine grained, quartz, little silt, silt distributed in laminae, dark grayish brown (2.5Y-4/2), (SM).		5	Sample #5, Depth = 18.0' Mean (mm): 0.11, Phi Sorting: 0.35 Fines (230): 12.06% (SM)
-46.4	19.9					
-46.5	20.0		No Recovery.			
			End of Boring			

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



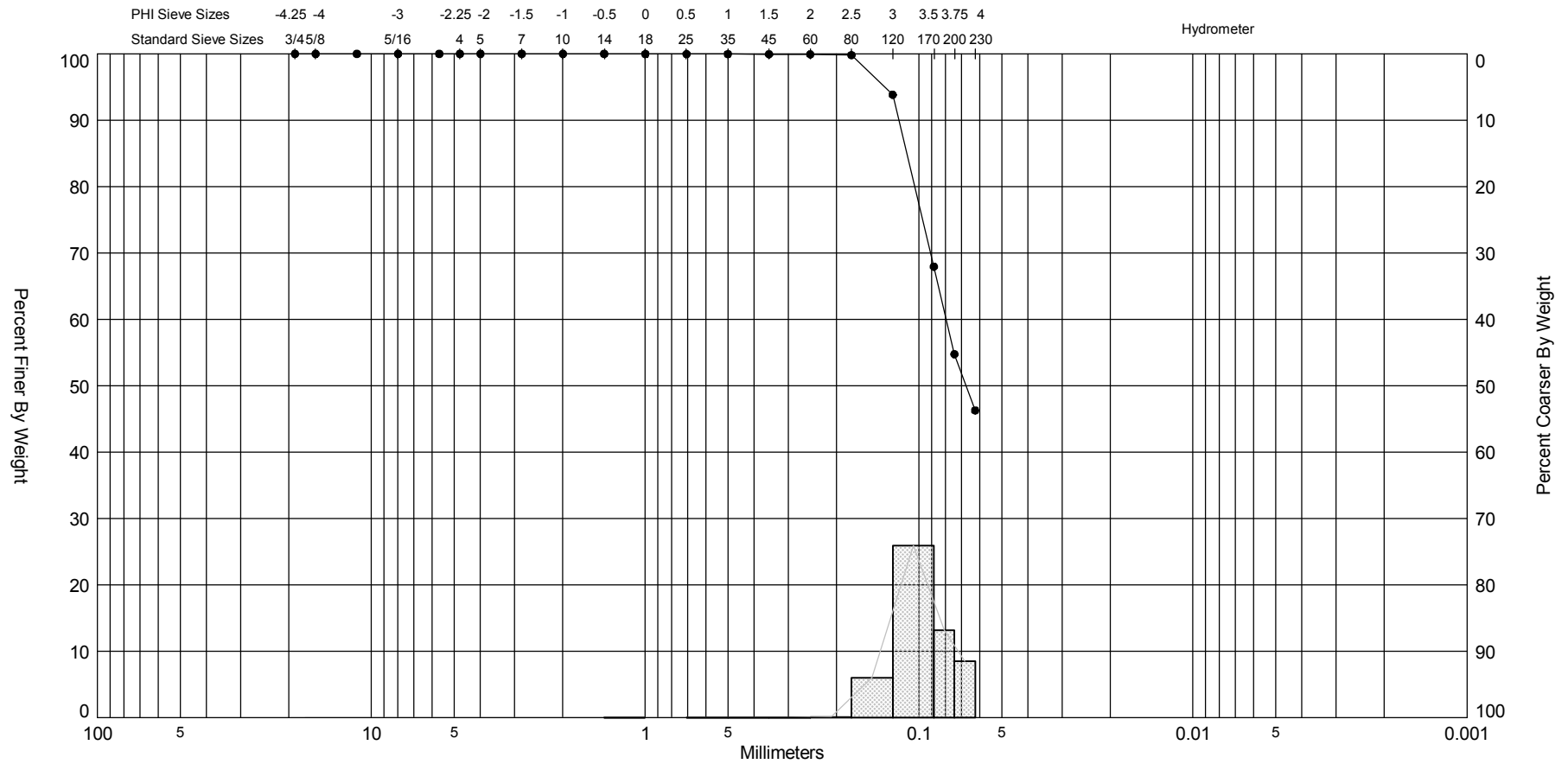
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-15-15 #1	—●—	-35.5	CL	#200 - 93.60 #230 - 89.69				3.58	-1.99	11.47	0.34	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):	3,476,298
												Northing (Y, ft):	13,786,016
												Horizontal System:	NAD 1983
												Vertical System:	NAVD 88



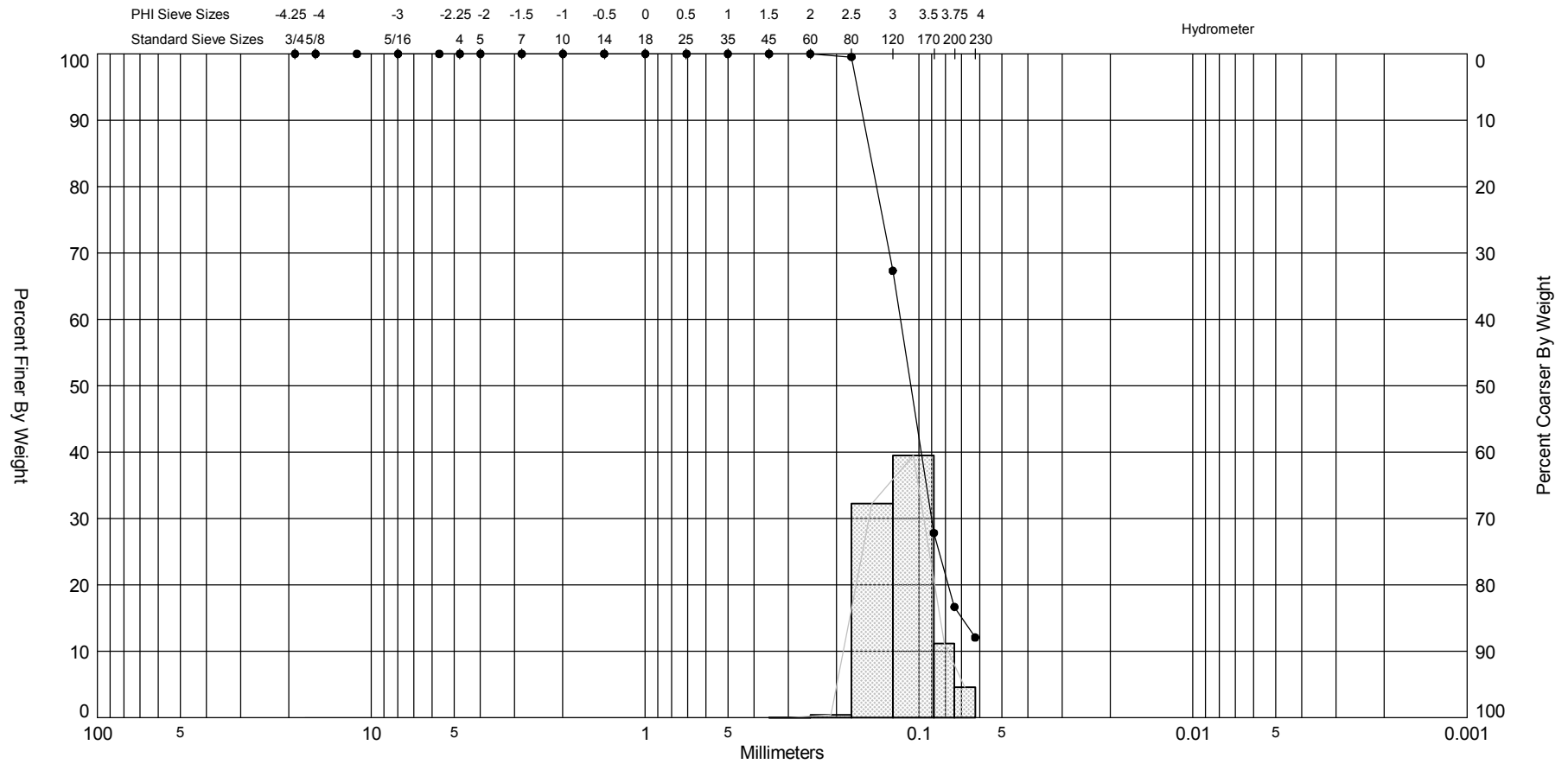
Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
JCVC-15-15 #2		-38.3	CL	#200 - 82.60 #230 - 75.85				3.51	-4.63	47.67	0.4	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):	3,476,298
												Northing (Y, ft):	13,786,016
												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-15-15 #4	—●—	-41.7	CL	#200 - 54.76 #230 - 46.29			3.89	3.38	-1.11	10.87	0.35	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):	3,476,298
												Northing (Y, ft):	13,786,016
												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-15-15 #5	—●—	-44.5	SM	#200 - 16.68 #230 - 12.06			3.22	3.14	0.22	2.26	0.35	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):	3,476,298
												Northing (Y, ft):	13,786,016
												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-15-15 #1							
Analysis Date: 02-20-15							
Analyzed By: GS				Coordinate System:		Elevation (ft):	
Easting (ft):		Northing (ft):					
3,476,298		13,786,016		Texas South Central		-35.5 NAVD 88	
USCS:		Munsell:		Comments:			
CL		Wet - 10Y-5/1 Dry - 10Y-7/1 Washed - 2.5Y-7/1					
Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
88.16	10.62	1.47	0.06	#200 - 93.60 #230 - 89.69			
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	0.01	0.01	0.01	0.01	
45	1.50	0.35	0.01	0.01	0.02	0.02	
60	2.00	0.25	0.00	0.00	0.02	0.02	
80	2.50	0.18	0.08	0.09	0.10	0.11	
120	3.00	0.13	0.31	0.35	0.41	0.46	
170	3.50	0.09	2.30	2.61	2.71	3.07	
200	3.75	0.07	2.94	3.33	5.65	6.40	
230	4.00	0.06	3.45	3.91	9.10	10.31	
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	
						3.64	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.58	0.08	0.34	-1.99	11.47		

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-15-15 #2							
Analysis Date: 02-20-15							
Analyzed By: GS							
Easting (ft): 3,476,298		Northing (ft): 13,786,016		Coordinate System: Texas South Central		Elevation (ft): -38.3 NAVD 88	
USCS: CL		Munsell: Wet - 10Y-5/1 Dry - 10Y-7/1 Washed - 2.5Y-7/1		Comments:			
Dry Weight (g): 109.08	Wash Weight (g): 29.18	Pan Retained (g): 2.74	Sieve Loss (%): 0.10	Fines (%): #200 - 82.60 #230 - 75.85	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	0.05	0.05	0.07	0.07	
18	0.00	1.00	0.01	0.01	0.08	0.08	
25	0.50	0.71	0.01	0.01	0.09	0.09	
35	1.00	0.50	0.01	0.01	0.10	0.10	
45	1.50	0.35	0.01	0.01	0.11	0.11	
60	2.00	0.25	0.02	0.02	0.13	0.13	
80	2.50	0.18	0.08	0.07	0.21	0.20	
120	3.00	0.13	0.94	0.86	1.15	1.06	
170	3.50	0.09	9.12	8.36	10.27	9.42	
200	3.75	0.07	8.70	7.98	18.97	17.40	
230	4.00	0.06	7.36	6.75	26.33	24.15	
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	
					3.71	3.24	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.51	0.09	0.4	-4.63	47.67		

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-15-15 #3							
Analysis Date: 02-20-15							
Analyzed By: GS				Coordinate System:		Elevation (ft):	
Easting (ft):		Northing (ft):					
3,476,298		13,786,016		Texas South Central		-39.8 NAVD 88	
USCS:		Munsell:		Comments:			
CL		Wet - 10Y-4/1 Dry - 10Y-7/1 Washed - 2.5Y-7/1					
Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shell Hash (%):
128.98	51.71	8.86	0.19	#200 - 73.97 #230 - 66.98			
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	0.55	0.43	0.55	0.43	
4	-2.25	4.76	0.00	0.00	0.55	0.43	
5	-2.00	4.00	0.00	0.00	0.55	0.43	
7	-1.50	2.83	0.00	0.00	0.55	0.43	
10	-1.00	2.00	0.07	0.05	0.62	0.48	
14	-0.50	1.41	0.07	0.05	0.69	0.53	
18	0.00	1.00	0.01	0.01	0.70	0.54	
25	0.50	0.71	0.02	0.02	0.72	0.56	
35	1.00	0.50	0.04	0.03	0.76	0.59	
45	1.50	0.35	0.01	0.01	0.77	0.60	
60	2.00	0.25	0.04	0.03	0.81	0.63	
80	2.50	0.18	0.43	0.33	1.24	0.96	
120	3.00	0.13	4.05	3.14	5.29	4.10	
170	3.50	0.09	15.96	12.37	21.25	16.47	
200	3.75	0.07	12.33	9.56	33.58	26.03	
230	4.00	0.06	9.02	6.99	42.60	33.02	
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	
				3.72	3.48	3.04	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.34	0.10	0.83	-5.61	40.01		

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-15-15 #4							
Analysis Date: 02-20-15							
Analyzed By: GS							
Easting (ft): 3,476,298		Northing (ft): 13,786,016		Coordinate System: Texas South Central		Elevation (ft): -41.7 NAVD 88	
USCS: CL		Munsell: Wet - 2.5Y-4/2 Dry - 2.5Y-6/2 Washed - 2.5Y-8/1		Comments:			
Dry Weight (g): 89.62	Wash Weight (g): 53.67	Pan Retained (g): 5.34	Sieve Loss (%): 0.21	Fines (%): #200 - 54.76 #230 - 46.29	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	0.03	0.03	0.03	0.03	
25	0.50	0.71	0.00	0.00	0.03	0.03	
35	1.00	0.50	0.01	0.01	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	0.11	0.12	0.18	0.19	
120	3.00	0.13	5.34	5.96	5.52	6.15	
170	3.50	0.09	23.21	25.90	28.73	32.05	
200	3.75	0.07	11.82	13.19	40.55	45.24	
230	4.00	0.06	7.59	8.47	48.14	53.71	
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	
			3.89	3.36	3.19	2.90	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.38	0.10	0.35	-1.11	10.87		

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-15-15 #5							
Analysis Date: 02-20-15							
Analyzed By: GS							
Easting (ft): 3,476,298		Northing (ft): 13,786,016		Coordinate System: Texas South Central		Elevation (ft): -44.5 NAVD 88	
USCS: SM		Munsell: Wet - 2.5Y-4/2 Dry - 2.5Y-6/2 Washed - 2.5Y-7/2		Comments:			
Dry Weight (g): 94.58	Wash Weight (g): 84.74	Pan Retained (g): 1.43	Sieve Loss (%): 0.14	Fines (%): #200 - 16.68 #230 - 12.06	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	0.01	0.01	0.01	0.01	
80	2.50	0.18	0.43	0.45	0.44	0.46	
120	3.00	0.13	30.47	32.22	30.91	32.68	
170	3.50	0.09	37.36	39.50	68.27	72.18	
200	3.75	0.07	10.54	11.14	78.81	83.32	
230	4.00	0.06	4.37	4.62	83.18	87.94	
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	
	3.79	3.56	3.22	2.88	2.74	2.57	
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis		
Statistics	3.14	0.11	0.35	0.22	2.26		





