Appendix D: Petit Bois South-OCS Boring Logs, Penetrometer Logs, and Lab Results

Table D-1 Petit Bois South-OCS Vibracore Samples

BORING	SAMPLE DEPTH (ft BGS)	LOCATION	LATITUDE	LONGITUDE	USCS	USCS_Lab	ANGULARITY	WET COLOR CODE	WET MUNSELL VALUE	WET COLOR	DRY COLOR CODE	DRY MUNSELL VALUE	DRY COLOR	D_{50}	% FINES	Comp_D50	Comp_Fines
BI-PBS-1-12		PETIT BOIS PASS	30.1348	-88.3521												0.21	11.3
BI-PBS-1-12a	0-0.4	PETIT BOIS PASS	30.1348	-88.3521	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5.5/2	5.5	LT OLIVE GRAY	0.21	11.30		
BI-PBS-2-12		PETIT BOIS PASS	30.1366	-88.3468												0.22	2.57
BI-PBS-2-12a	0-4.5	PETIT BOIS PASS	30.1366	-88.3468	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2225	1.6		
BI-PBS-2-12b	4.5-7.8	PETIT BOIS PASS	30.1366	-88.3468	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2136	3.9		
BI-PBS-3-12		PETIT BOIS PASS	30.1373	-88.3447	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.												
BI-PBS-4-12		PETIT BOIS PASS	30.1382	-88.3421												0.25	1.70
BI-PBS-4-12a	0-5	PETIT BOIS PASS	30.1382	-88.3421	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 7/2	7	LT GRAY	5Y 7/2	7	LT GRAY	0.2594	1.2		
BI-PBS-4-12b	5-8.6	PETIT BOIS PASS	30.1382	-88.3421	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2258	2.4		
BI-PBS-5-12		PETIT BOIS PASS	30.1394	-88.3388												0.20	14.4
BI-PBS-5-12a	4-6	PETIT BOIS PASS	30.1394	-88.3388	SM	SM	ANGULAR TO SUBROUNDED	2.5Y 4.5/2	4.5	GRAYISH BROWN	2.5Y 6/2	6	LT BROWNISH GRAY	0.2022	14.4		
BI-PBS-6-12		PETIT BOIS PASS	30.1407	-88.3350												0.20	5.99
BI-PBS-6-12a	0-5	PETIT BOIS PASS	30.1407	-88.3350	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2731	2.8		
BI-PBS-6-12b	6.9-16.4	PETIT BOIS PASS	30.1407	-88.3350	SM	SP-SM	ANGULAR TO SUBROUNDED	5Y 4/1.5	4	DK OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.4046	18		
BI-PBS-7-12		PETIT BOIS PASS	30.1420	-88.3312												0.21	13.54
BI-PBS-7-12A	3.5-10.4	PETIT BOIS PASS	30.1420	-88.3312	SM	SM	SUBANGULAR TO SUBROUNDED	2.5Y 4/2	4	DK GRAYISH BROWN	2.5Y 5/2	5	GRAYISH BROWN	0.2193	18.1		
BI-PBS-7-12B	10.4-15	PETIT BOIS PASS	30.1420	-88.3312	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 5.5/3	5.5	LT OLIVE BROWN	2.5Y 7/2	7	LT GRAY	0.2054	6.7		
BI-PBS-8-12		PETIT BOIS PASS	30.1434	-88.3270												0.20	13.25
BI-PBS-8-12a	0.0 - 3.1	PETIT BOIS PASS	30.1434	-88.3270	SP-SM	SP-SM	ANGULAR TO SUBROUNDED	5Y 5.5/2	5.5	LT OLIVE GRAY	5Y 6.5/2	6.5	LT GRAY	0.2196	5.2		
BI-PBS-8-12b	3.1-7.3	PETIT BOIS PASS	30.1434	-88.3270	SP	SM	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1878	19.2		
BI-PBS-9-12		PETIT BOIS PASS	30.1461	-88.3195	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.												
BI-PBS-10-12		PETIT BOIS PASS	30.1390	-88.3517												0.32	1.66
BI-PBS-10-12a	0-5.9	PETIT BOIS PASS	30.1390	-88.3517	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.3303	1.3		
BI-PBS-10-12b	5.9-8.4	PETIT BOIS PASS	30.1390	-88.3517	SP	SP	ANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6.5/2	6.5	LT GRAY	0.2846	2.5		
BI-PBS-11-12		PETIT BOIS PASS	30.1381	-88.3502												0.27	1.88
BI-PBS-11-12a	0-8.6	PETIT BOIS PASS	30.1381	-88.3502	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2814	1.6		
BI-PBS-11-12b	8.6-10.4	PETIT BOIS PASS	30.1381	-88.3502	SP	SP	ANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2368	3.2		
BI-PBS-12-12		PETIT BOIS PASS	30.1373	-88.3489												0.25	2.90
BI-PBS-12-12a	0-5	PETIT BOIS PASS	30.1373	-88.3489	SP	SP	ANGULAR TO SUBROUNDED	5Y 5.5/2	5.5	LT OLIVE GRAY	5Y 6.5/2	6.5	LT GRAY	0.27	1.9		
BI-PBS-12-12b	5-8.8	PETIT BOIS PASS	30.1373	-88.3489	SP	SP	ANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2333	2.8		
BI-PBS-12-12c	8.8-10	PETIT BOIS PASS	30.1373	-88.3489	SP-SM	SP-SM	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2117	9.9		
BI-PBS-13-12		PETIT BOIS PASS	30.1404	-88.3603												0.30	2.18
BI-PBS-13-12a	0-5	PETIT BOIS PASS	30.1404	-88.3603	SP	SP	ANGULAR TO SUBROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/1	7	LT GRAY	0.3484	1.6		
BI-PBS-13-12b	5-9.2	PETIT BOIS PASS	30.1404	-88.3603	SP	SP	ANGULAR TO SUBROUNDED	2.5Y 5.5/2	5.5	LT BROWNISH GRAY	2.5Y 6.5/2	6.5	LT GRAY	0.2477	2.9		
BI-PBS-14-12		PETIT BOIS PASS	30.1365	-88.3528												0.23	7.48
BI-PBS-14-12a	0-3.2	PETIT BOIS PASS	30.1365	-88.3528	SP	SP	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.25	3.70		
BI-PBS-14-12b	3.2-6	PETIT BOIS PASS	30.1365	-88.3528	SP-SM	SP-SM	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.20	11.80		
BI-PBS-15-12		PETIT BOIS PASS	30.1388	-88.3563												0.26	5.53

BORING	SAMPLE DEPTH (ft BGS)	LOCATION	LATITUDE	LONGITUDE	USCS	USCS_Lab	ANGULARITY	WET COLOR CODE	WET MUNSELL VALUE	WET COLOR	DRY COLOR CODE	DRY MUNSELL VALUE	DRY COLOR	D_{50}	% FINES	Comp_D50	Comp_Fines
BI-PBS-15-12a	0-5.5	PETIT BOIS PASS	30.1388	-88.3563	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/1.5	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.29	2.00		
BI-PBS-15-12b	5.5-8.7	PETIT BOIS PASS	30.1388	-88.3563	SP-SM	SP-SM	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.20	11.60		
BI-PBS-16-12		PETIT BOIS PASS	30.1358	-88.3450												0.26	2.74
BI-PBS-16-12a	0-2.5	PETIT BOIS PASS	30.1358	-88.3450	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2923	2.4		
BI-PBS-16-12b	2.5-3.8	PETIT BOIS PASS	30.1358	-88.3450	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 4.5/2	4.5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2097	3.7		
BI-PBS-16-12c	3.8-5.6	PETIT BOIS PASS	30.1358	-88.3450	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 4.5/2	4.5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2406	4		
BI-PBS-17-12		PETIT BOIS PASS	30.1354	-88.3414												0.21	2.7
BI-PBS-17-12a	0-1	PETIT BOIS PASS	30.1354	-88.3414	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5.5/2	5.5	LT OLIVE GRAY	2.5Y 6.5/2	6.5	LT GRAY	0.2148	2.7		
BI-PBS-18-12		PETIT BOIS PASS	30.1373	-88.3411												0.28	2.34
BI-PBS-18-12a	0-2.4	PETIT BOIS PASS	30.1373	-88.3411	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.3756	1.7		
BI-PBS-18-12b	2.4-8.2	PETIT BOIS PASS	30.1373	-88.3411	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2358	2.6		
BI-PBS-19-12		PETIT BOIS PASS	30.1395	-88.3428												0.30	1.8
BI-PBS-19-12a	0-5	PETIT BOIS PASS	30.1395	-88.3428	SP	SP	ANGULAR TO SUBROUNDED	5Y 5.5/2	5.5	LT OLIVE GRAY	6.5/2	6.5	LT GRAY	0.2978	1.8		
BI-PBS-20-12		PETIT BOIS PASS	30.1308	-88.3453												0.28	10.10
BI-PBS-20-12a	4.1-6	PETIT BOIS PASS	30.1308	-88.3453	SP-SM	SP-SM	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2777	9.1		
BI-PBS-20-12b	12-12.7	PETIT BOIS PASS	30.1308	-88.3453	SP	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2927	12.8		
BI-PBS-21-12		PETIT BOIS PASS	30.1374	-88.3323												0.31	2.17
BI-PBS-21-12a	0-3.5	PETIT BOIS PASS	30.1374	-88.3323	SP	SP	ANGULAR TO SUBROUNDED	5Y 7/2	7	LT GRAY	2.5Y 7/2	7	LT GRAY	0.3757	1.3		
BI-PBS-21-12b	3.5-7.2	PETIT BOIS PASS	30.1374	-88.3323	SP	SP	ANGULAR TO SUBROUNDED	5Y 5.5/2	5.5	LT OLIVE GRAY	5Y 6.5/2	6.5	LT GRAY	0.2445	3		
BI-PBS-22-12		PETIT BOIS PASS	30.1401	-88.3333												0.29	2.3
BI-PBS-22-12a	0-5.9	PETIT BOIS PASS	30.1401	-88.3333	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/1	7	LT GRAY	0.291	2.3		
BI-PBS-23-12		PETIT BOIS PASS	30.1416	-88.3363												0.28	4.29
BI-PBS-23-12a	0-3.6	PETIT BOIS PASS	30.1416	-88.3363	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.3131	2.6		
BI-PBS-23-12b	7.9-9.7	PETIT BOIS PASS	30.1416	-88.3363	SP-SM	SP-SM	ANGULAR TO SUBROUNDED	2.5Y 5/2	5	GRAYISH BROWN	2.5Y 6/2	6	LT BROWNISH GRAY	0.2021	9		
BI-PBS-23-12c	18.7-19.7	PETIT BOIS PASS	30.1416	-88.3363	SP-SM	SP-SM	ANGULAR TO SUBROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/1.5	7	LT GRAY	0.3065	8.2		
BI-PBS-24-12		PETIT BOIS PASS	30.1388	-88.3348												0.29	3.4
BI-PBS-24-12a	0-3.6	PETIT BOIS PASS	30.1388	-88.3348	SP	SP	ANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2906	3.4		
BI-PBS-25-12		PETIT BOIS PASS	30.1419	-88.3516												0.30	4.50
BI-PBS-25-12a	0-5.2	PETIT BOIS PASS	30.1419	-88.3516	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/1.5	7	LT GRAY	0.3107	1.6		
BI-PBS-25-12b	5.2-6.6	PETIT BOIS PASS	30.1419	-88.3516	SP-SM	SP-SM	ANGULAR TO SUBROUNDED	5Y 4.5/2	4.5	OLIVE GRAY	5Y 6.5/2	6.5	LT GRAY	0.3415	5.7		
BI-PBS-25-12c	13.4-15.7	PETIT BOIS PASS	30.1419	-88.3516	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 5/2	5	GRAYISH BROWN	2.5Y 6/2	6	LT BROWNISH GRAY	0.2548	12.3		
BI-PBS-26-12		PETIT BOIS PASS	30.1351	-88.3390												0.26	3.78
BI-PBS-26-12a	0-3.6	PETIT BOIS PASS	30.1351	-88.3390	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	2.5Y 7/2	7	LT GRAY	0.3129	2.1		
BI-PBS-26-12b	3.6-4.3	PETIT BOIS PASS	30.1351	-88.3390	SP-SM	SP-SM	ANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.1923	6.2		
BI-PBS-27-12		PETIT BOIS PASS	30.1346	-88.3338												0.34	3.27
BI-PBS-27-12a	0-6	PETIT BOIS PASS	30.1346	-88.3338	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/1	7	LT GRAY	0.3658	1.5		
BI-PBS-27-12b	6-7.3	PETIT BOIS PASS	30.1346	-88.3338	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2594	5.2		
BI-PBS-27-12c	10.6-12.6	PETIT BOIS PASS	30.1346	-88.3338	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/1	5	GRAY	5Y 7/2	7	LT GRAY	0.2972	9.2		

BORING	SAMPLE DEPTH (ft BGS)	LOCATION	LATITUDE	LONGITUDE	USCS	USCS_Lab	ANGULARITY	WET COLOR CODE	WET MUNSELL VALUE	WET COLOR	DRY COLOR CODE	DRY MUNSELL VALUE	DRY COLOR	D_{50}	% FINES	Comp_D50	Comp_Fines
BI-PBS-28-12		PETIT BOIS PASS	30.1338	-88.3309												0.30	3.89
BI-PBS-28-12a	0-6.5	PETIT BOIS PASS	30.1338	-88.3309	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2984	2.9		
BI-PBS-28-12b	11-12.4	PETIT BOIS PASS	30.1338	-88.3309	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2837	8.5		
BI-PBS-29-12		PETIT BOIS PASS	30.1323	-88.3293												0.24	2.90
BI-PBS-29-12A	0-6	PETIT BOIS PASS	30.1323	-88.3293	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2483	2.1		
BI-PBS-29-12B	6-6.6	PETIT BOIS PASS	30.1323	-88.3293	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.1892	10.9		
BI-PBS-30-12		PETIT BOIS PASS	30.1310	-88.3283												0.31	8.76
BI-PBS-30-12a	0-3.1	PETIT BOIS PASS	30.1310	-88.3283	SP	SP	ANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	2.5Y 6/2	6	LT BROWNISH GRAY	0.2933	3		
BI-PBS-30-12B	14.3-15.6	PETIT BOIS PASS	30.1310	-88.3283	SM	SM	ANGULAR TO SUBROUNDED	2.5Y 5/2	5	GRAYISH BROWN	2.5Y 6/2	6	LT BROWNISH GRAY	0.3355	22.5		
BI-PBS-31-12		PETIT BOIS PASS	30.1339	-88.3436												0.27	2.4
BI-PBS-31-12a	0-3.7	PETIT BOIS PASS	30.1339	-88.3436	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2707	2.4		
BI-PBS-32-12		PETIT BOIS PASS	30.1170	-88.3537												0.25	6.5
BI-PBS-32-12a	4-9	PETIT BOIS PASS	30.1170	-88.3537	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 5/2	5	GRAYISH BROWN	2.5Y 7/2	7	LT GRAY	0.25	6.50		
BI-PBS-32-12b	9-12.5	PETIT BOIS PASS	30.1170	-88.3537	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 6/1.5	6	GRAY	2.5Y 7/1	7	LT GRAY	0.20	6.50		
BI-PBS-32-12c	12.5-16.6	PETIT BOIS PASS	30.1170	-88.3537	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 6/1.5	6	LT BROWNISH GRAY	2.5Y 7/1	7	LT GRAY	0.19	9.70		
BI-PBS-33-12		PETIT BOIS PASS	30.1122	-88.3583	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.												
BI-PBS-34-12		PETIT BOIS PASS	30.1170	-88.3686												0.25	2.98
BI-PBS-34-12a	0-5	PETIT BOIS PASS	30.1170	-88.3686	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2693	1.5		
BI-PBS-34-12b	5-6.9	PETIT BOIS PASS	30.1170	-88.3686	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2581	2.1		
BI-PBS-34-12c	6.9-11.3	PETIT BOIS PASS	30.1170	-88.3686	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2229	4.3		
BI-PBS-35-12		PETIT BOIS PASS	30.1140	-88.3752	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.												
BI-PBS-36-12		PETIT BOIS PASS	30.1209	-88.3587												0.32	2.90
BI-PBS-36-12a	0-3	PETIT BOIS PASS	30.1206	-88.3698	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.315	2.9		
BI-PBS-37-12		PETIT BOIS PASS	30.1186	-88.3640	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.												
BI-PBS-38-12		PETIT BOIS PASS	30.1185	-88.3717												0.26	2.33
BI-PBS-38-12a	0-5	PETIT BOIS PASS	30.1185	-88.3717	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2949	1.2		
BI-PBS-38-12b	5-9.1	PETIT BOIS PASS	30.1185	-88.3717	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2214	3.7		
BI-PBS-39-12		PETIT BOIS PASS	30.1211	-88.3745												0.29	1.29
BI-PBS-39-12a	0-5	PETIT BOIS PASS	30.1211	-88.3745	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.3064	1.1		
BI-PBS-39-12b	5-8.1	PETIT BOIS PASS	30.1211	-88.3745	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2592	1.6		
BI-PBS-40-12		PETIT BOIS PASS	30.1148	-88.3560	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.												
BI-PBS-41-12		PETIT BOIS PASS	30.11985	-88.36078												0.36	3.41
BI-PBS-41-12a	0-3.2	PETIT BOIS PASS	30.11985	-88.36078	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2682	2.4		
BI-PBS-41-12b	5.6-6.9	PETIT BOIS PASS	30.11985	-88.36078	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 4/1	4	DK GRAY	2.5Y 5/1	5	GRAY	0.2692	5.7		
BI-PBS-41-12c	7.6-10.2	PETIT BOIS PASS	30.11985	-88.36078	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2304	7		
BI-PBS-41-12d	10.2-11.3	PETIT BOIS PASS	30.11985	-88.36078	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2553	4.8		
BI-PBS-41-12e	11.3-16.3	PETIT BOIS PASS	30.11985	-88.36078	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 6/1	6	GRAY	2.5Y 7/1	7	LT GRAY	0.2128	4.6		
BI-PBS-42-12		PETIT BOIS PASS	30.12407	-88.36487												0.21	6.43

BORING	SAMPLE DEPTH (ft BGS)	LOCATION	LATITUDE	LONGITUDE	USCS	USCS_Lab	ANGULARITY	WET COLOR CODE	WET MUNSELL VALUE	WET COLOR	DRY COLOR CODE	DRY MUNSELL VALUE	DRY COLOR	D_{50}	% FINES	Comp_D50	Comp_Fines
BI-PBS-42-12a	0-1.6	PETIT BOIS PASS	30.12407	-88.36487	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/4	5	OLIVE	5Y 6/4	6	PALE OLIVE	0.2201	9.7		
BI-PBS-42-12b	4.4-8	PETIT BOIS PASS	30.12407	-88.36487	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 4/2	4	DK GRAYISH BROWN	2.5Y 5/2	5	GRAYISH BROWN	0.2199	7.9		
BI-PBS-42-12c	9.5-14.5	PETIT BOIS PASS	30.12407	-88.36487	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2062	6.1		
BI-PBS-43-12		PETIT BOIS PASS	30.12673	-88.37410												0.32	1.40
BI-PBS-43-12a	0-1.5	PETIT BOIS PASS	30.12673	-88.37410	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.318	1.4		
BI-PBS-44-12		PETIT BOIS PASS	30.12272	-88.36683												0.28	2.50
BI-PBS-44-12a	0-1.2	PETIT BOIS PASS	30.12272	-88.36683	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2		LT GRAY	0.2779	2.5		
BI-PBS-45-12		PETIT BOIS PASS	30.1157	-88.3549												0.32	3.23
BI-PBS-45-12a	0-2.8	PETIT BOIS PASS	30.1157	-88.3549	SP	SP	ANGULAR TO SUBROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/1	7	LT GRAY	0.50	1.40		
BI-PBS-45-12b	2.8-5	PETIT BOIS PASS	30.1157	-88.3549	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 5/2	5	GRAYISH BROWN	2.5Y 6/2	6	LT BROWNISH GRAY	0.22	3.40		
BI-PBS-45-12c	14-17.2	PETIT BOIS PASS	30.1157	-88.3549	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.25	4.90		
BI-PBS-46-12		PETIT BOIS PASS	30.1136	-88.3567												0.36	3.87
BI-PBS-46-12a	0-4.5	PETIT BOIS PASS	30.1136	-88.3567	SP	SP	ANGULAR TO SUBROUNDED	2.5Y 5.5/2	5.5	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.26	2.30		
BI-PBS-46-12b	6.4-8.7	PETIT BOIS PASS	30.1136	-88.3567	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 6.5/2	6.5	LT GRAY	2.5Y 7/2	7	LT GRAY	0.26	7.80		
BI-PBS-46-12c	8.7-10.0	PETIT BOIS PASS	30.1136	-88.3567	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 5/1.5	5	GRAYISH BROWN	2.5Y 6/2	6	LT BROWNISH GRAY	0.24	6.40		
BI-PBS-46-12d	10-11.4	PETIT BOIS PASS	30.1136	-88.3567	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 3.5/2	3.5	DK GRAYISH BROWN	2.5Y 5/2	5	GRAYISH BROWN	0.22	7.00		
BI-PBS-46-12e	11.4-14.3	PETIT BOIS PASS	30.1136	-88.3567	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 5/2	5	GRAYISH BROWN	2.5Y 6/2	6	LT BROWNISH GRAY	0.19	6.30		
BI-PBS-46-12f	16.7-20	PETIT BOIS PASS	30.1136	-88.3567	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5.5/2	5.5	LT OLIVE GRAY	2.5Y 7/2	7	LT GRAY	0.25	6.70		
BI-PBS-47-12		PETIT BOIS PASS	30.1438	-88.3625												0.26	1.19
BI-PBS-47-12a	0-3.7	PETIT BOIS PASS	30.1438	-88.3625	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.28	1.70		
BI-PBS-47-12b	3.7-5.6	PETIT BOIS PASS	30.1438	-88.3625	SP	SP	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.21	0.20		
BI-PBS-48-12		PETIT BOIS PASS	30.1426	-88.3573												0.26	5.97
BI-PBS-48-12a	0-1.3	PETIT BOIS PASS	30.1426	-88.3573	SP	SP	ANGULAR TO SUBROUNDED	5Y 7/2	7	LT GRAY	5Y 7.5/2	7.5	PALE YELLOW	0.51	1.70		
BI-PBS-48-12b	1.3-3.9	PETIT BOIS PASS	30.1426	-88.3573	SP	SP	ANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.22	0.40		
BI-PBS-48-12c	3.9-6.3	PETIT BOIS PASS	30.1426	-88.3573	SM	SM	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5.5/2	5.5	LT OLIVE GRAY	0.19	14.90		
BI-PBS-49-12		PETIT BOIS PASS	30.1493	-88.3679												0.24	3.60
BI-PBS-49-12a	0-4.2	PETIT BOIS PASS	30.1493	-88.3679	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.24	3.60		
BI-PBS-50-12		PETIT BOIS PASS	30.1471	-88.3652												0.25	4.97
BI-PBS-50-12a	0-5	PETIT BOIS PASS	30.1471	-88.3652	SP	SP	ANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.27	3.30		
BI-PBS-50-12b	5-6.3	PETIT BOIS PASS	30.1471	-88.3652	SP-SM	SP-SM	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.21	11.40		
BI-PBS-51-12		PETIT BOIS PASS	30.1383	-88.3647	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.												
BI-PBS-52-12		PETIT BOIS PASS	30.1627	-88.3720	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.												
BI-PBS-53-12		PETIT BOIS PASS	30.1611	-88.3683												0.33	2.40
BI-PBS-53-12a	0-5.5	PETIT BOIS PASS	30.1611	-88.3683	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7.5/2	7.5	PALE YELLOW	0.33	2.40		
BI-PBS-54-12		PETIT BOIS PASS	30.1588	-88.3645												0.33	3.14
BI-PBS-54-12a	0-5	PETIT BOIS PASS	30.1588	-88.3645	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.30	1.70		
BI-PBS-54-12b	5.6-6.8	PETIT BOIS PASS	30.1588	-88.3645	SP-SM	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.39	3.20		
BI-PBS-54-12c	7.5-9.5	PETIT BOIS PASS	30.1588	-88.3645	SP-SM	SP-SM	ANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.35	6.70		

BORING	SAMPLE DEPTH (ft BGS)	LOCATION	LATITUDE	LONGITUDE	USCS	USCS_Lab	ANGULARITY	WET COLOR CODE	WET MUNSELL VALUE	WET COLOR	DRY COLOR CODE	DRY MUNSELL VALUE	DRY COLOR	D_{50}	% FINES	Comp_D50	Comp_Fines
BI-PBS-55-12		PETIT BOIS PASS	30.1658	-88.3630												0.33	1.70
BI-PBS-55-12a	0-3.2	PETIT BOIS PASS	30.1658	-88.3630	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.33	1.70		
BI-PBS-56-12		PETIT BOIS PASS	30.1677	-88.3665												0.28	6.71
BI-PBS-56-12a	0-2.6	PETIT BOIS PASS	30.1677	-88.3664	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.34	1.40		
BI-PBS-56-12b	2.6-4.7	PETIT BOIS PASS	30.1677	-88.3664	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.25	13.80		
BI-PBS-56-12c	4.7-7.4	PETIT BOIS PASS	30.1677	-88.3664	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 5/2	5	GRAYISH BROWN	2.5Y 6/2	6	LT BROWNISH GRAY	0.24	7.20		
BI-PBS-57-12		PETIT BOIS PASS	30.1693	-88.3703												0.31	3.33
BI-PBS-57-12a	0-3.8	PETIT BOIS PASS	30.1693	-88.3703	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.34	2.30		
BI-PBS-57-12c	4.6-5.4	PETIT BOIS PASS	30.1693	-88.3703	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.23	8.50		
BI-PBS-58-12		PETIT BOIS PASS	30.1707	-88.3743												0.31	6.13
BI-PBS-58-12a	0-3.2	PETIT BOIS PASS	30.1707	-88.3743	SP	SP	ANGULAR TO SUBROUNDED	5Y 5.5/2	5.5	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.34	1.60		
BI-PBS-58-12b	3.2-4.6	PETIT BOIS PASS	30.1707	-88.3743	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.24	16.50		
BI-PBS-59-12		PETIT BOIS PASS	30.1410	-88.3462												0.29	4.27
BI-PBS-59-12a	0-1.8	PETIT BOIS PASS	30.1410	-88.3462	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/1	7	LT GRAY	0.3203	1.1		
BI-PBS-59-12b	1.8-2.6	PETIT BOIS PASS	30.1410	-88.3462	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.206	11.4		
BI-PBS-60-12		PETIT BOIS PASS	30.1451	-88.3343												0.25	4.17
BI-PBS-60-12a	1.8-2.8	PETIT BOIS PASS	30.1451	-88.3343	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	2.5Y 6/2	6	LT BROWNISH GRAY	0.1996	17.9		
BI-PBS-60-12b	2.8-4.3	PETIT BOIS PASS	30.1451	-88.3343	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	2.5Y 6/2	6	LT BROWNISH GRAY	0.2138	14		
BI-PBS-60-12c	4.3-11.8	PETIT BOIS PASS	30.1451	-88.3343	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 6/3	6	LT YELLOWISH BROWN	2.5Y 7/3	7	PALE BROWN	0.2462	4.3		
BI-PBS-60-12d	11.8-16.8	PETIT BOIS PASS	30.1451	-88.3343	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 7/2	7	LT GRAY	2.5Y 7.5/1.5	7.5	PALE BROWN	0.2621	1.4		
BI-PBS-61-12		PETIT BOIS PASS	30.1504	-88.3072												0.23	5.2
BI-PBS-61-12a	0-2.2	PETIT BOIS PASS	30.1504	-88.3071	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/1.5	5	GRAYISH BROWN	5Y 6.5/2	6.5	LT GRAY	0.2349	5.2		
BI-PBS-62-12		PETIT BOIS PASS	30.1533	-88.3073												0.23	4.01
BI-PBS-62-12a	0-0.8	PETIT BOIS PASS	30.1533	-88.3073	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT BROWNISH GRAY	5Y 7/2	7	LT GRAY	0.2417	3		
BI-PBS-62-12b	3.1-5.9	PETIT BOIS PASS	30.1533	-88.3073	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.1758	11.6		
BI-PBS-62-12c	5.9-11	PETIT BOIS PASS	30.1533	-88.3073	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 8/1	8	WHITE	2.5Y 8/1	8	WHITE	0.205	2.5		
BI-PBS-62-12d	11-16.1	PETIT BOIS PASS	30.1533	-88.3073	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 8/1	8	WHITE	2.5Y 8/1	8	WHITE	0.2836	2.3		
BI-PBS-63-12		PETIT BOIS PASS	30.1545	-88.3118												0.24	2.36
BI-PBS-63-12a	0-1.5	PETIT BOIS PASS	30.1545	-88.3118	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2768	1.83		
BI-PBS-63-12b	6.4-9	PETIT BOIS PASS	30.1545	-88.3118	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.2104	3		
BI-PBS-63-12c	9-14	PETIT BOIS PASS	30.1545	-88.3118	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 6.5/2	6.5	LT GRAY	2.5Y 7.5/2	7.5	PALE BROWN	0.2398	2		
BI-PBS-64-12		PETIT BOIS PASS	30.1516	-88.3039												0.88	11.35
BI-PBS-64-12a	0-1	PETIT BOIS PASS	30.1516	-88.3039	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2991	1.6		
BI-PBS-64-12b	15.2-16.2	PETIT BOIS PASS	30.1516	-88.3039	SP	SP	SUBANGULAR TO SUBROUNDED	10YR 6/2	6	LT BROWNISH GRAY	10YR 7/1	7	LT GRAY	0.2304	3.9		
BI-PBS-65-12		PETIT BOIS PASS	30.1522	-88.3105												0.32	5.8
BI-PBS-65-12a	0-2.5	PETIT BOIS PASS	30.1522	-88.3105	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5.5/2	5.5	LT OLIVE GRAY	5Y 7/1	7	LT GRAY	0.3177	5.8		
BI-PBS-66-12		PETIT BOIS PASS	30.1539	-88.3136												0.32	1.7
BI-PBS-66-12a	0-2.4	PETIT BOIS PASS	30.1539	-88.3136	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.3188	1.7		

BORING	SAMPLE DEPTH (ft BGS)	LOCATION	LATITUDE	LONGITUDE	USCS	USCS_Lab	ANGULARITY	WET COLOR CODE	WET MUNSELL VALUE	WET COLOR	DRY COLOR CODE	DRY MUNSELL VALUE	DRY COLOR	D_{50}	% FINES	Comp_D50	Comp_Fines
BI-PBS-67-12		PETIT BOIS PASS	30.1422	-88.3192												0.19	8.3
BI-PBS-67-12a	0-4.2	PETIT BOIS PASS	30.1422	-88.3192	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.1928	8.3		
BI-PBS-68-12		PETIT BOIS PASS	30.1390	-88.3159												0.34	2.7
BI-PBS-68-12a	0-3.9	PETIT BOIS PASS	30.1390	-88.3159	SP	SP	ANGULAR TO SUBROUNDED	2.5Y 5/2	5	GRAYISH BROWN	2.5Y 7/1	7	LT GRAY	0.3374	2.7		
BI-PBS-69-12		PETIT BOIS PASS	30.1417	-88.3083												0.20	14.69
BI-PBS-69-12a	0.4-1.1	PETIT BOIS PASS	30.1417	-88.3083	SP-SM	SP-SM	ANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2889	6.2		
BI-PBS-69-12b	15.2-16.3	PETIT BOIS PASS	30.1417	-88.3083	SM	SM	SUBANGULAR TO SUBROUNDED	10YR 5/2	5	GRAYISH BROWN	10YR 6/2	6	LT BROWNISH GRAY	0.1428	20.1		
BI-PBS-70-12		PETIT BOIS PASS	30.1475	-88.3122												0.20	7.3
BI-PBS-70-12a	15.2-17.6	PETIT BOIS PASS	30.1475	-88.3122	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 7/2	7	LT GRAY	2.5Y 7.5/2	7.5	PALE BROWN	0.2041	7.3		
BI-PBS-71-12		PETIT BOIS PASS	30.1374	-88.3141												0.22	9.97
BI-PBS-71-12a	0-3.4	PETIT BOIS PASS	30.1374	-88.3141	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2468	3.4		
BI-PBS-71-12b	3.4-5.2	PETIT BOIS PASS	30.1374	-88.3141	SM	SM	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.209	13.2		
BI-PBS-71-12c	5.9-10.5	PETIT BOIS PASS	30.1374	-88.3141	SM	SM	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.1997	15.3		
BI-PBS-72-12		PETIT BOIS PASS	30.1395	-88.3208												0.23	10.74
BI-PBS-72-12a	0-2.3	PETIT BOIS PASS	30.1395	-88.3208	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.3295	1.8		
BI-PBS-72-12b	2.3-9.5	PETIT BOIS PASS	30.1395	-88.3208	SM	SM	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.1997	13.6		
BI-PBS-73-12		PETIT BOIS PASS	30.1430	-88.3231												0.23	7.71
BI-PBS-73-12a	0-2.9	PETIT BOIS PASS	30.1430	-88.3231	SP	SP	ANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2622	2.8		
BI-PBS-73-12b	2.9-5.4	PETIT BOIS PASS	30.1430	-88.3231	SM	SM	ANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1993	13.4		
BI-PBS-74-12		PETIT BOIS PASS	30.1479	-88.3293												0.23	11.05
BI-PBS-74-12a	0-2.2	PETIT BOIS PASS	30.1479	-88.3293	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2787	2.5		
BI-PBS-74-12b	2.2-4.4	PETIT BOIS PASS	30.1479	-88.3293	SM	SM	ANGULAR TO SUBROUNDED	5Y 5/1	5	GRAY	5Y 6/2	6	LT OLIVE GRAY	0.1838	19.6		
BI-PBS-75-12		PETIT BOIS PASS	30.1413	-88.3218												0.23	3.6
BI-PBS-75-12a	0-3	PETIT BOIS PASS	30.1413	-88.3218	SP	SP	ANGULAR TO SUBROUNDED	5Y 4.5/2	4.5	OLIVE GRAY	5Y 6.5/2	6.5	LT GRAY	0.2318	3.6		
BI-PBS-76-12		PETIT BOIS PASS	30.1451	-88.3296												0.27	6.23
BI-PBS-76-12a	0-3.9	PETIT BOIS PASS	30.1451	-88.3296	SP	SP	ANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.3173	1.8		
BI-PBS-76-12b	3.9-5.4	PETIT BOIS PASS	30.1451	-88.3296	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2024	14.4		
BI-PBS-76-12c	8-9	PETIT BOIS PASS	30.1451	-88.3296	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/1	4	DK GRAY	2.5Y 5/2	5	GRAYISH BROWN	0.2085	16.9		
BI-PBS-77-12		PETIT BOIS PASS	30.1547	-88.3155												0.25	4.6
BI-PBS-77-12a	0-1.9	PETIT BOIS PASS	30.1547	-88.3155	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2464	4.6		
BI-PBS-78-12		PETIT BOIS PASS	30.1560	-88.3202												0.28	6.3
BI-PBS-78-12a	0-3.2	PETIT BOIS PASS	30.1560	-88.3202	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2821	6.3		
BI-PBS-79-12		PETIT BOIS PASS	30.1572	-88.3246												0.25	5.62
BI-PBS-79-12a	0-1.9	PETIT BOIS PASS	30.1572	-88.3246	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2701	1.9		
BI-PBS-79-12c	1.9-3.1	PETIT BOIS PASS	30.1572	-88.3246	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2114	11.5		
BI-PBS-80-12		PETIT BOIS PASS	30.1586	-88.3288												0.24	7.19
BI-PBS-80-12a	0-2	PETIT BOIS PASS	30.1586	-88.3288	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2596	1.9		
BI-PBS-80-12b	2-4.4	PETIT BOIS PASS	30.1586	-88.3288	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2305	11.6		

BORING	SAMPLE DEPTH (ft BGS)	LOCATION	LATITUDE	LONGITUDE	USCS	USCS_Lab	ANGULARITY	WET COLOR CODE	WET MUNSELL VALUE	WET COLOR	DRY COLOR CODE	DRY MUNSELL VALUE	DRY COLOR	D_{50}	% FINES	Comp_D50	Comp_Fines
BI-PBS-81-12		PETIT BOIS PASS	30.1610	-88.3215												0.20	5.56
BI-PBS-81-12a	0-1.9	PETIT BOIS PASS	30.1610	-88.3215	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2244	2.4		
BI-PBS-81-12b	1.9-3.6	PETIT BOIS PASS	30.1610	-88.3215	SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1757	9.1		
BI-PBS-82-12		PETIT BOIS PASS	30.1395	-88.3187	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.												
BI-PBS-83-12		PETIT BOIS PASS	30.1384	-88.3331												0.31	2.47
BI-PBS-83-12A	0-5	PETIT BOIS PASS	30.1384	-88.3331	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.3509	1		
BI-PBS-83-12B	5-7.7	PETIT BOIS PASS	30.1384	-88.3331	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2416	5.2		
BI-PBS-84-12		PETIT BOIS PASS	30.1277	-88.3397												0.22	12.60
BI-PBS-84-12A	0-4.1	PETIT BOIS PASS	30.1277	-88.3397	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.195	16.7		
BI-PBS-84-12B	4.1-6.2	PETIT BOIS PASS	30.1277	-88.3397	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 5/1	5	GRAY	2.5Y 6/1	6	GRAY	0.2799	4.6		
BI-PBS-85-12		PETIT BOIS PASS	30.1406	-88.3480												0.30	1.2
BI-PBS-85-12A	0-1.6	PETIT BOIS PASS	30.1406	-88.3480	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2999	1.2		
BI-PBS-86-12		PETIT BOIS PASS	30.1347	-88.3440												0.20	7.04
BI-PBS-86-12A	0-3.6	PETIT BOIS PASS	30.1347	-88.3440	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.204	3.1		
BI-PBS-86-12B	3.6-5.9	PETIT BOIS PASS	30.1347	-88.3440	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1926	13.2		
BI-PBS-87-12		PETIT BOIS PASS	30.1359	-88.3402												0.25	2.16
BI-PBS-87-12A	0-5	PETIT BOIS PASS	30.1359	-88.3402	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.258	1.5		
BI-PBS-87-12B	5-6.4	PETIT BOIS PASS	30.1359	-88.3402	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2058	4.5		
BI-PBS-88-12		PETIT BOIS PASS	30.1324	-88.3425												0.23	4.73
BI-PBS-88-12A	0-5	PETIT BOIS PASS	30.1324	-88.3425	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2311	2.6		
BI-PBS-88-12B	5-6.1	PETIT BOIS PASS	30.1324	-88.3425	SP	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2	14.4		
BI-PBS-94-12		PETIT BOIS PASS	30.1452	-88.4677												0.25	4.30
BI-PBS-94-12a	0.0-4.5	PETIT BOIS PASS	30.1452	-88.4677	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2448	5.4		
BI-PBS-94-12b	4.5-7.0	PETIT BOIS PASS	30.1452	-88.4677	SP-SM	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.3252	1.1		
BI-PBS-94-12c	7.0-10.0	PETIT BOIS PASS	30.1452	-88.4677	SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2112	7.7		
BI-PBS-95-12		PETIT BOIS PASS	30.1621	-88.4584												0.26	5.63
BI-PBS-95-12a	0.0-2.2	PETIT BOIS PASS	30.1621	-88.4584	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.32	1.2		
BI-PBS-95-12b	2.2-4.2	PETIT BOIS PASS	30.1621	-88.4584	SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1954	10.5		
BI-PBS-99-12		PETIT BOIS PASS	30.14097	-88.42232												0.29	4.94
BI-PBS-99-12a	0-3.8	PETIT BOIS PASS	30.1410	-88.4223	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE	5Y 6/2	6	LT OLIVE GRAY	0.3009	2.1		
BI-PBS-99-12b	3.8-6.3	PETIT BOIS PASS	30.1410	-88.4223	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.3217	2		
BI-PBS-99-12c	6.3-8.7	PETIT BOIS PASS	30.1410	-88.4223	SP-SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2553	12.5		
BI-PBS-101-12		PETIT BOIS PASS	30.13187	-88.39965												0.31	1.83
BI-PBS-101-12a	0-5	PETIT BOIS PASS	30.13187	-88.39965	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.31	1.8		
BI-PBS-101-12b	5-6.8	PETIT BOIS PASS	30.13187	-88.39965	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.3007	1.9		
BI-PBS-104-12		PETIT BOIS PASS	30.1311	-88.3408												0.23	14.52
BI-PBS-104-12a	0.0-1.0	PETIT BOIS PASS	30.1311	-88.3408	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2759	1.9		
BI-PBS-104-12b	1.0-4.1	PETIT BOIS PASS	30.1311	-88.3408	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2074	12.9		

BORING	SAMPLE DEPTH (ft BGS)	LOCATION	LATITUDE	LONGITUDE	USCS	USCS_Lab	ANGULARITY	WET COLOR CODE	WET MUNSELL VALUE	WET COLOR	DRY COLOR CODE	DRY MUNSELL VALUE	DRY COLOR	D_{50}	% FINES	Comp_D50	Comp_Fines
BI-PBS-104-12c	4.1-6.7	PETIT BOIS PASS	30.1311	-88.3408	SC	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2412	21.9		
BI-PBS-105-12		PETIT BOIS PASS	30.1354	-88.3366												0.26	2.1
BI-PBS-105-12a	0.0-1.5	PETIT BOIS PASS	30.1354	-88.3366	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2602	2.1		
BI-PBS-106-12		PETIT BOIS PASS	30.13698	-88.33967												0.50	2.5
BI-PBS-106-12a	0.0-1.1	PETIT BOIS PASS	30.13698	-88.33967	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/3	5	OLIVE	5Y 6/3	6	PALE OLIVE	0.5035	2.5		
BI-PBS-107-12		PETIT BOIS PASS	30.1168	-88.3615												0.23	7.77
BI-PBS-107-12a	6.0-8.1	PETIT BOIS PASS	30.1168	-88.3615	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2166	15.1		
BI-PBS-107-12b	8.7-11.1	PETIT BOIS PASS	30.1168	-88.3615	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/1	4	DK GRAY	5Y 5/1	5	GRAY	0.294	13.3		
BI-PBS-107-12c	11.1-17.3	PETIT BOIS PASS	30.1168	-88.3615	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2036	6.7		
BI-PBS-108-12		PETIT BOIS PASS	30.1331	-88.3373												0.24	12.36
BI-PBS-108-12a	0.0-2.7	PETIT BOIS PASS	30.1331	-88.3373	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2444	4.4		
BI-PBS-108-12b	2.7-4.1	PETIT BOIS PASS	30.1331	-88.3373	SC	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2294	27.7		
BI-PBS-109-12		PETIT BOIS PASS	30.1300	-88.3335												0.24	14.91
BI-PBS-109-12a	0.0-2.3	PETIT BOIS PASS	30.1300	-88.3335	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2367	3.5		
BI-PBS-109-12b	3.3-5.9	PETIT BOIS PASS	30.1300	-88.3335	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2436	22.2		
BI-PBS-110-12		PETIT BOIS PASS	30.1567	-88.3561												0.23	12.31
BI-PBS-110-12a	0.0-2.3	PETIT BOIS PASS	30.1567	-88.3561	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2964	2.6		
BI-PBS-110-12b	2.3-12.5	PETIT BOIS PASS	30.1567	-88.3561	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2127	14.5		
BI-PBS-111-12		PETIT BOIS PASS	30.1522	-88.3473												0.24	11.08
BI-PBS-111-12a	0-4	PETIT BOIS PASS	30.1522	-88.3473	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.3011	3.7		
BI-PBS-111-12b	6.4-12.8	PETIT BOIS PASS	30.1522	-88.3473	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1971	15.7		
BI-PBS-112-12		PETIT BOIS PASS	30.1534	-88.3617												0.33	2.30
BI-PBS-112-12a	0-5	PETIT BOIS PASS	30.1534	-88.3617	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.3298	2.3		
BI-PBS-112-12b	5-6.6	PETIT BOIS PASS	30.1534	-88.3617	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.3135	7.6		
BI-PBS-112-12c	9-14	PETIT BOIS PASS	30.1534	-88.3617	SP-SM	SM	SUBANGULAR TO SUBROUNDED	5Y 3/1	3	VERY DK GRAY	5Y 5/1	5	GRAY	0.2161	12.7		
BI-PBS-112-12d	14-17.8	PETIT BOIS PASS	30.1534	-88.3617	SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2329	11.2		
BI-PBS-112-12e	17.8-20.2	PETIT BOIS PASS	30.1534	-88.3617	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.242	4.9		
BI-PBS-113-12		PETIT BOIS PASS	30.1469	-88.3545												0.27	8.17
BI-PBS-113-12a	0-5.2	PETIT BOIS PASS	30.1469	-88.3545	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2966	2.6		
BI-PBS-113-12b	5.2-8.9	PETIT BOIS PASS	30.1469	-88.3545	SC	SM	SUBANGULAR TO SUBROUNDED	5Y 4/1	4	DK GRAY	5Y 5/1	5	GRAY	0.2354	16		
BI-PBS-114-12		PETIT BOIS PASS	30.1359	-88.3328												0.66	3.5
BI-PBS-114-12a	0-3	PETIT BOIS PASS	30.1359	-88.3328	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.6627	3.5		
BI-PBS-115-12		PETIT BOIS PASS	30.1458	-88.3494												0.37	2.1
BI-PBS-115-12a	0-1.7	PETIT BOIS PASS	30.1458	-88.3494	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/3	5	OLIVE	5Y 6/3	6	PALE OLIVE	0.3711	2.1		

Boring Designation BI-PBS-01-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-01-12	LOCATION COORDINATES: E = 1,136,390 N = 231,154	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 57.8 Ft.	
		15. DATE BORING	STARTED: 11-26-12 / COMPLETED: 11-26-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 13.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-56.8	0.0				
-57.2	0.4		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace shell fragments, gray (SP-SM)	A	Classification: SP-SM Color: 5Y 5.5/2- D50: 0.2136 mm % Fines: 11.3
-59.3	2.5		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)		
-61.6	4.8		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, some silt, alternating layers of clayey sand and silty sand, greenish gray mottled with gray (SC)		
-62.8	6.0		SILT, inorganic-L, mostly silt, little fine-grained sand-sized quartz, trace clay, trace wood debris, lt. gray mottled with gray (ML)	NS	
-69.3	12.5		CLAY, fat, mostly clay, some silt, trace fine-grained sand-sized quartz, trace wood debris, low to medium plasticity, gray (CH)		
-70.2	13.4		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, little shell fragments, trace wood debris, gray (CL)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13475° Long = -88.35205°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

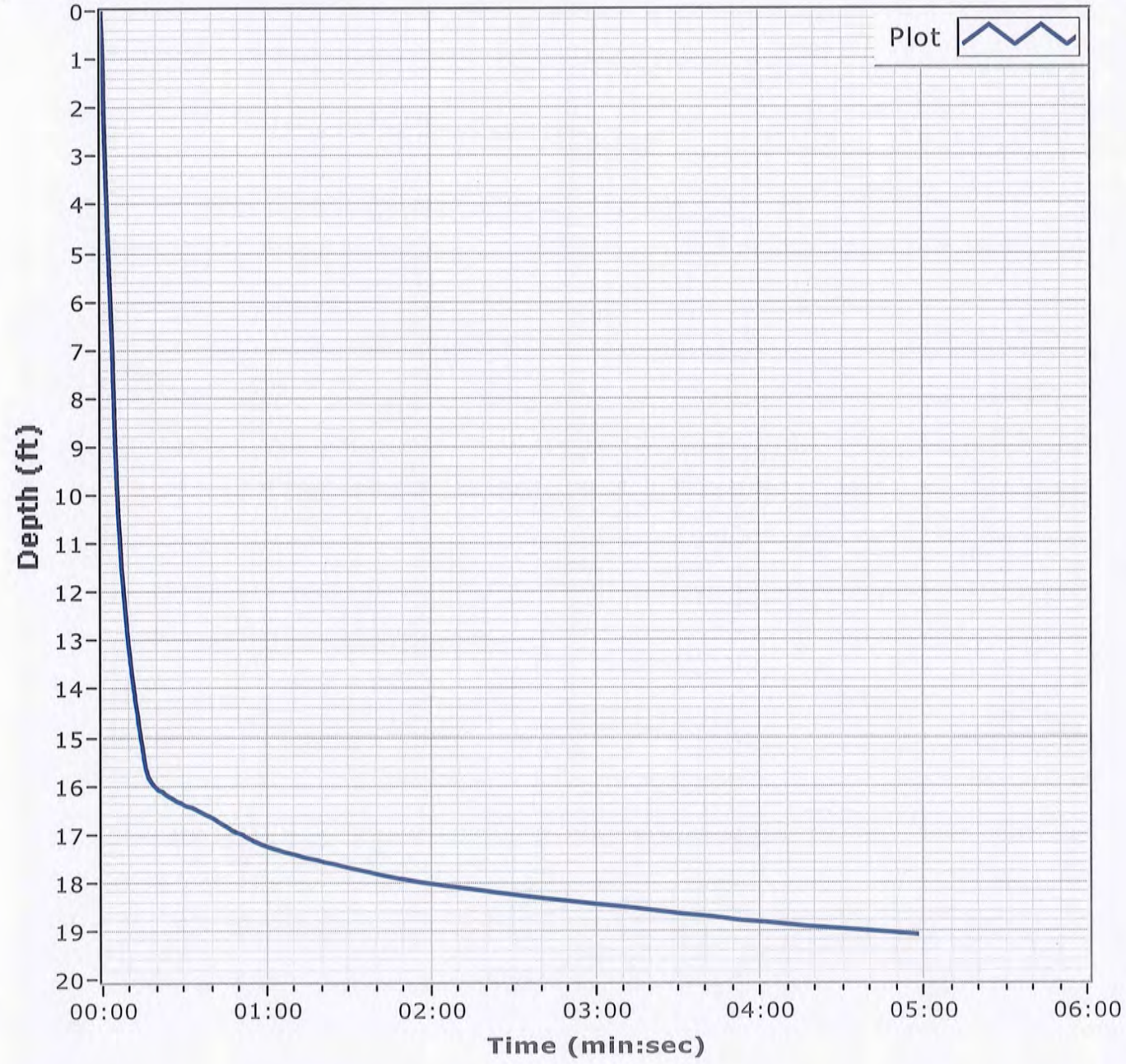
Core Identifier BI-PBS-01-12
Coordinate System
Latitude / Longitude

Date 11/26/2012
Start Time 13:30:56
End Time 13:35:54
Total Time 00:04:58

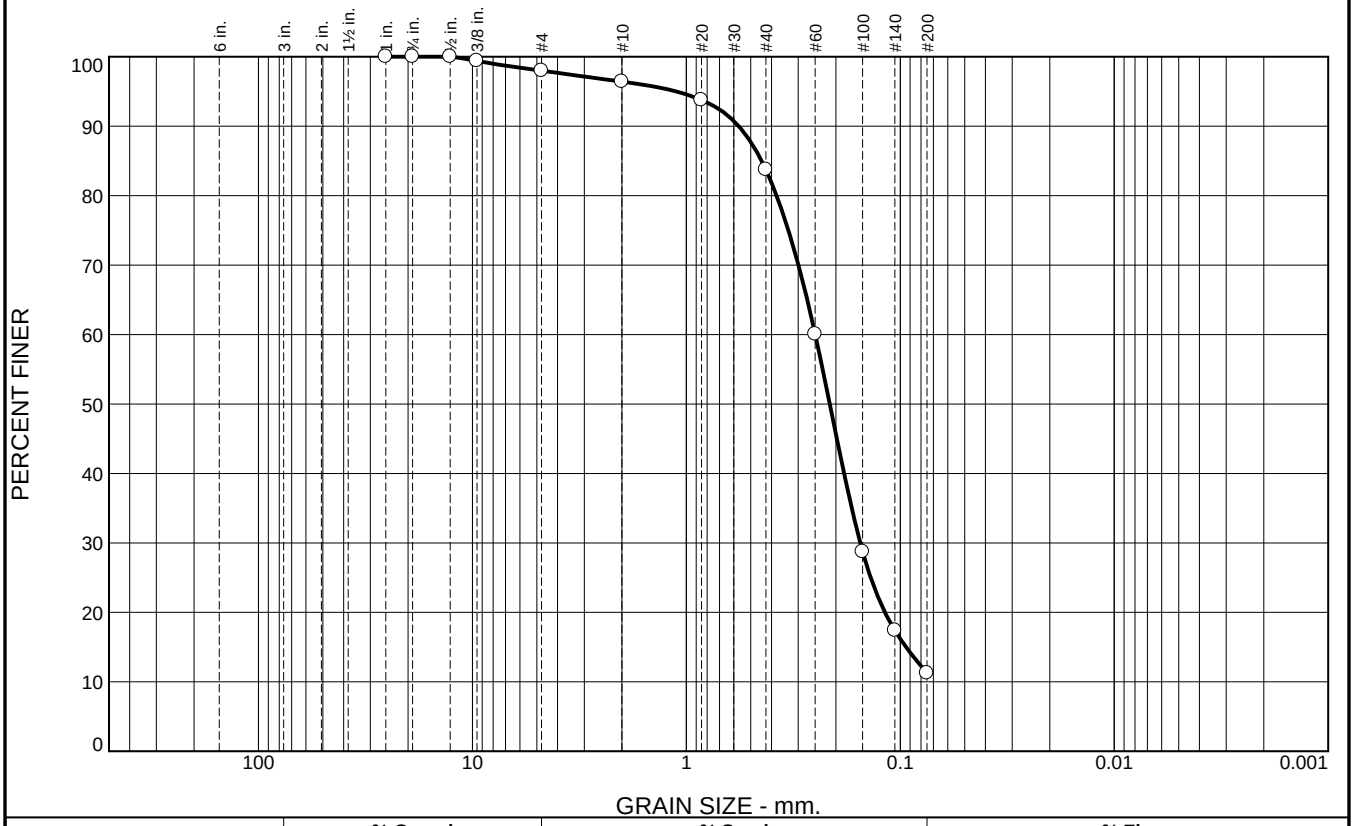
Water Depth 57.8'
Penetration 19.1'
Recovery 13.4'

Latitude 30 08.085
Longitude 088 21.123

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.0	1.6	12.7	72.4	11.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.4		
#4	98.0		
#10	96.4		
#20	93.8		
#40	83.7		
#60	60.1		
#100	28.7		
#140	17.4		
#200	11.3		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5689 D_{85}= 0.4448 D_{60}= 0.2498
D_{50}= 0.2136 D_{30}= 0.1540 D_{15}= 0.0940
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-01-12 A
Sample Number: 6471 (45) **Depth:** 0.0' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-02-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-02-12	LOCATION COORDINATES: E = 1,138,053 N = 231,827	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 50.9 Ft.	
		15. DATE BORING	STARTED: 11-26-12 / COMPLETED: 11-26-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -50.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-50.2	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, shell fragments in interval 0-2.7 ft., greenish gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.22 mm % Fines: 1.6
				B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.21 mm % Fines: 3.9
-58.0	7.8				
-59.7	9.5		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, greenish gray (SC)	NS	
-61.7	11.5		CLAY, lean, mostly clay, some sand, trace shell fragments, greenish gray (CL)		
-66.7	16.5		CLAY, fat, mostly clay, moderately stiff with some clayey sand nodules, greenish gray mottled with brown (CH)		
-68.6	18.4		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, trace shell fragments, gray (SM)		
-70.2	20.0		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace wood debris, moderately stiff, gray (CH)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13658° Long = -88.34678°

Project Mississippi Barrier Island Restoration Project

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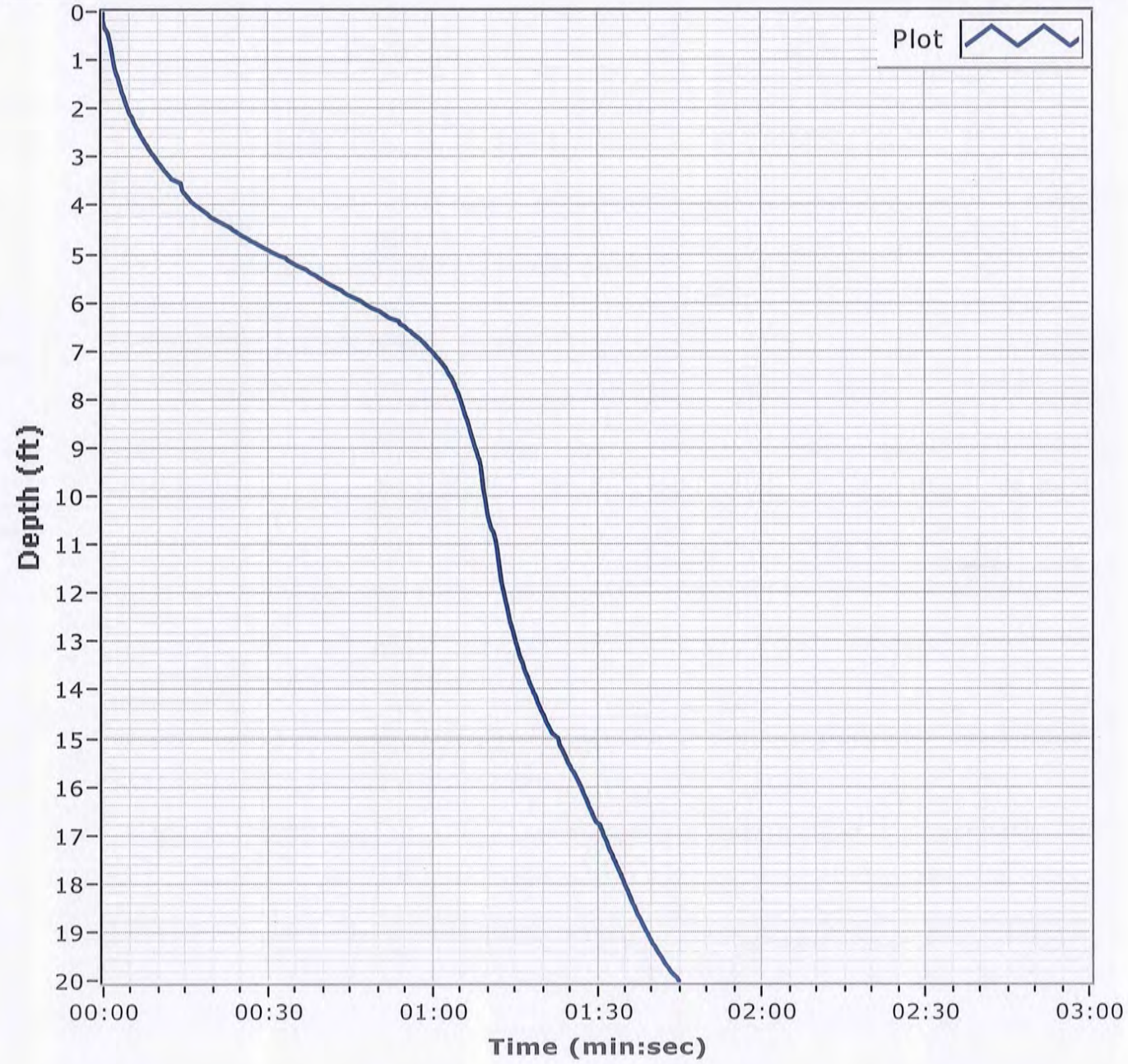
Core Identifier BI-PBS-02-12
Coordinate System
Latitude / Longitude

Latitude 30 08.195
Longitude 088 20.807

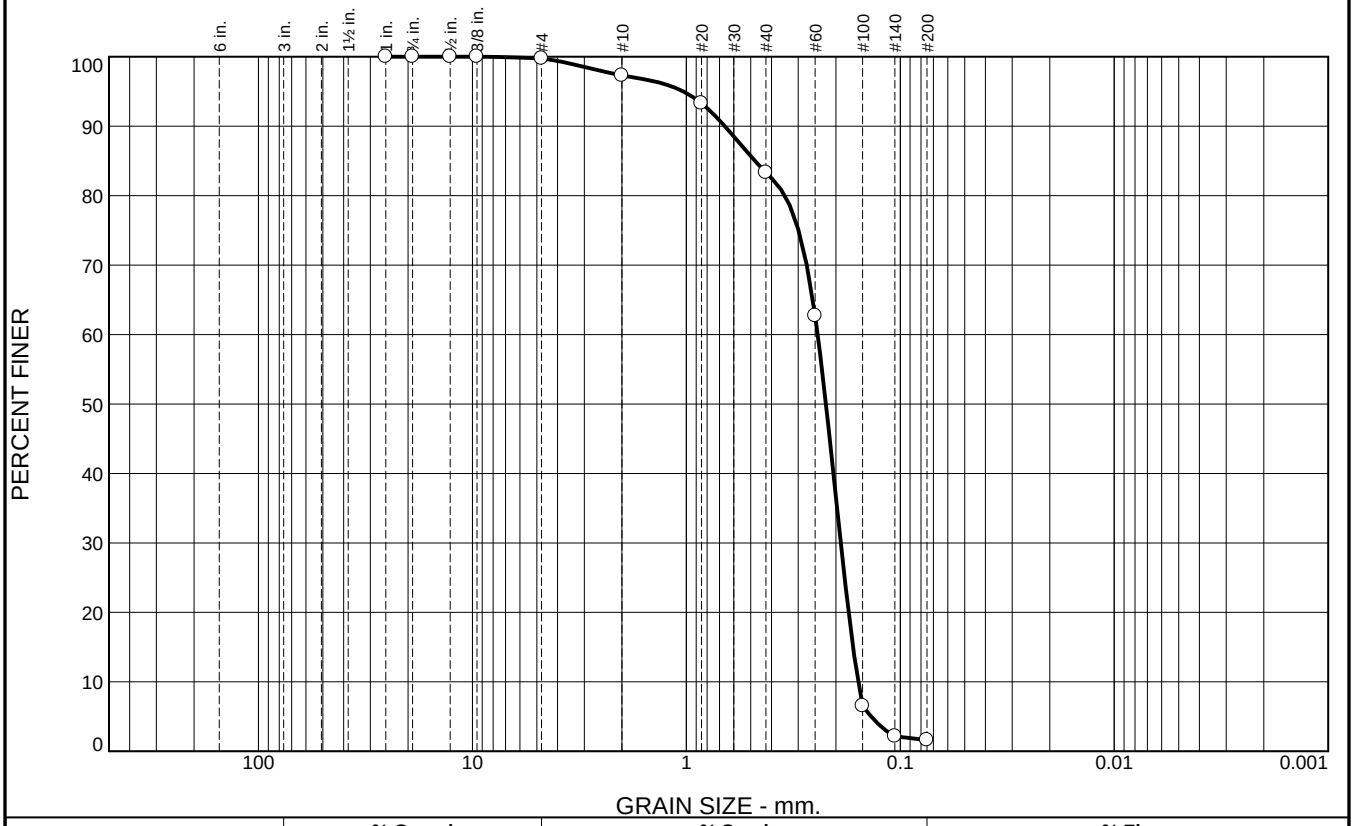
Date 11/26/2012
Start Time 12:43:05
End Time 12:44:50
Total Time 00:01:45

Water Depth 50.9'
Penetration 20.0'
Recovery 19.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	2.4	14.0	81.7	1.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	97.3		
#20	93.3		
#40	83.3		
#60	62.7		
#100	6.5		
#140	2.2		
#200	1.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6616 D_{85}= 0.4781 D_{60}= 0.2432
D_{50}= 0.2225 D_{30}= 0.1898 D_{15}= 0.1665
D_{10}= 0.1575 C_u= 1.54 C_c= 0.94

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-02-12 A
Sample Number: 6469 (55) **Depth:** 0.0' **Date:** 11/28/12

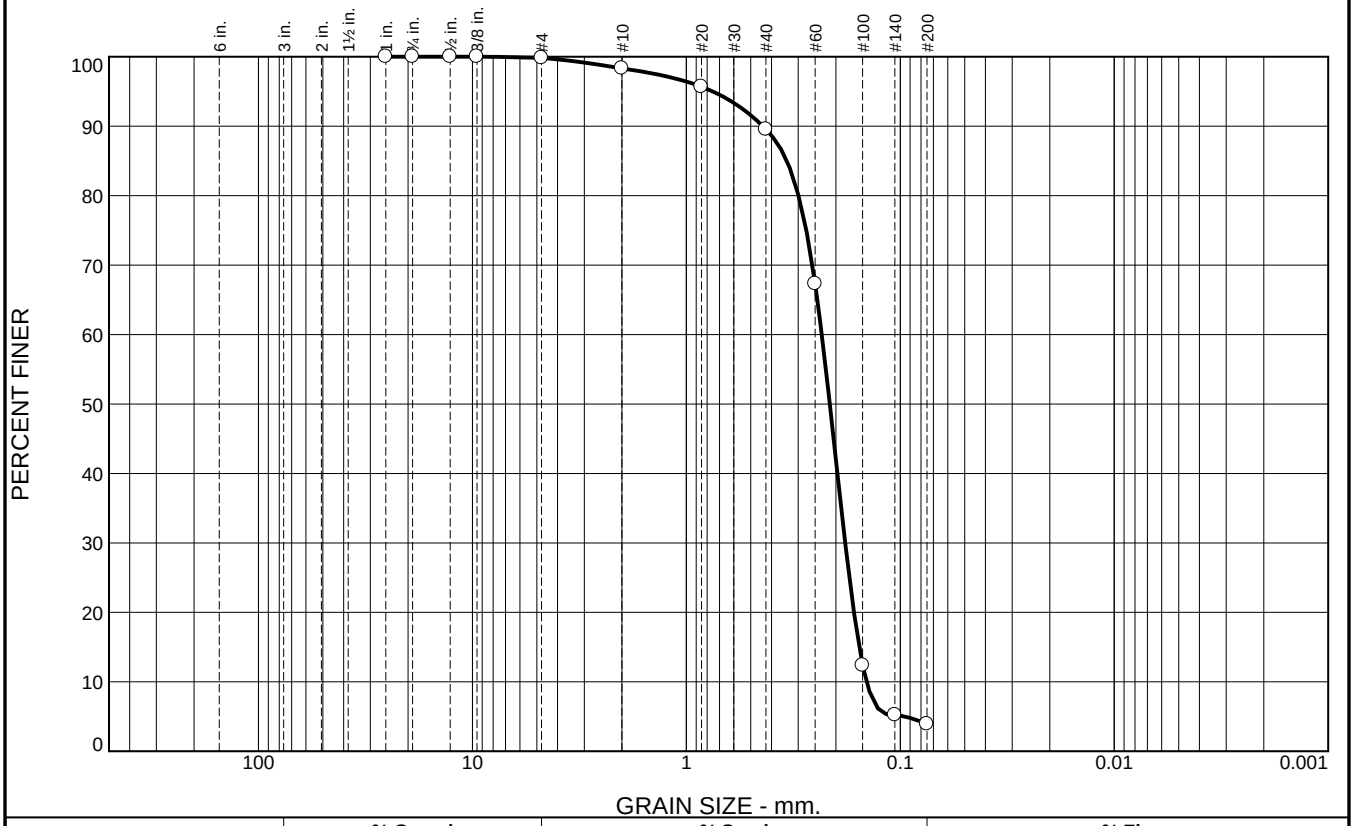
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	1.5	8.8	85.6	3.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	98.3		
#20	95.7		
#40	89.5		
#60	67.3		
#100	12.4		
#140	5.2		
#200	3.9		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4395 D_{85}= 0.3391 D_{60}= 0.2327
D_{50}= 0.2136 D_{30}= 0.1810 D_{15}= 0.1556
D_{10}= 0.1438 C_u= 1.62 C_c= 0.98

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-02-12 B
Sample Number: 6469 (56) **Depth:** 4.5' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-03-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-03-12	LOCATION COORDINATES: E = 1,138,716 N = 232,102	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 59.7 Ft.	
		15. DATE BORING	STARTED: 11-26-12 / COMPLETED: 11-26-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -59.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-59.3	0.0				
-61.1	1.8		SAND, clayey, mostly fine-grained sand-sized quartz, some shell fragments, with sandy clay stringers, gray mottled with brown (SC)		
-66.4	7.1		CLAY, lean, mostly clay, trace shell fragments, pockets of sandy clay, medium plasticity, gray mottled with brown (CL)		
-78.8	19.5		SAND, clayey, mostly fine-grained sand-sized quartz, trace shell fragments, low plasticity, gray (SC) At El. -67.5 Ft., mostly fine-grained sand-sized quartz, some clay, trace shell fragments, trace wood debris, alternating layers of clayey sand and sandy clay, gray	NS	
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13733° Long = -88.34468°

Project Mississippi Barrier Island Restoration Project

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Core Identifier BI-PBS-03-12

Coordinate System
Latitude / Longitude

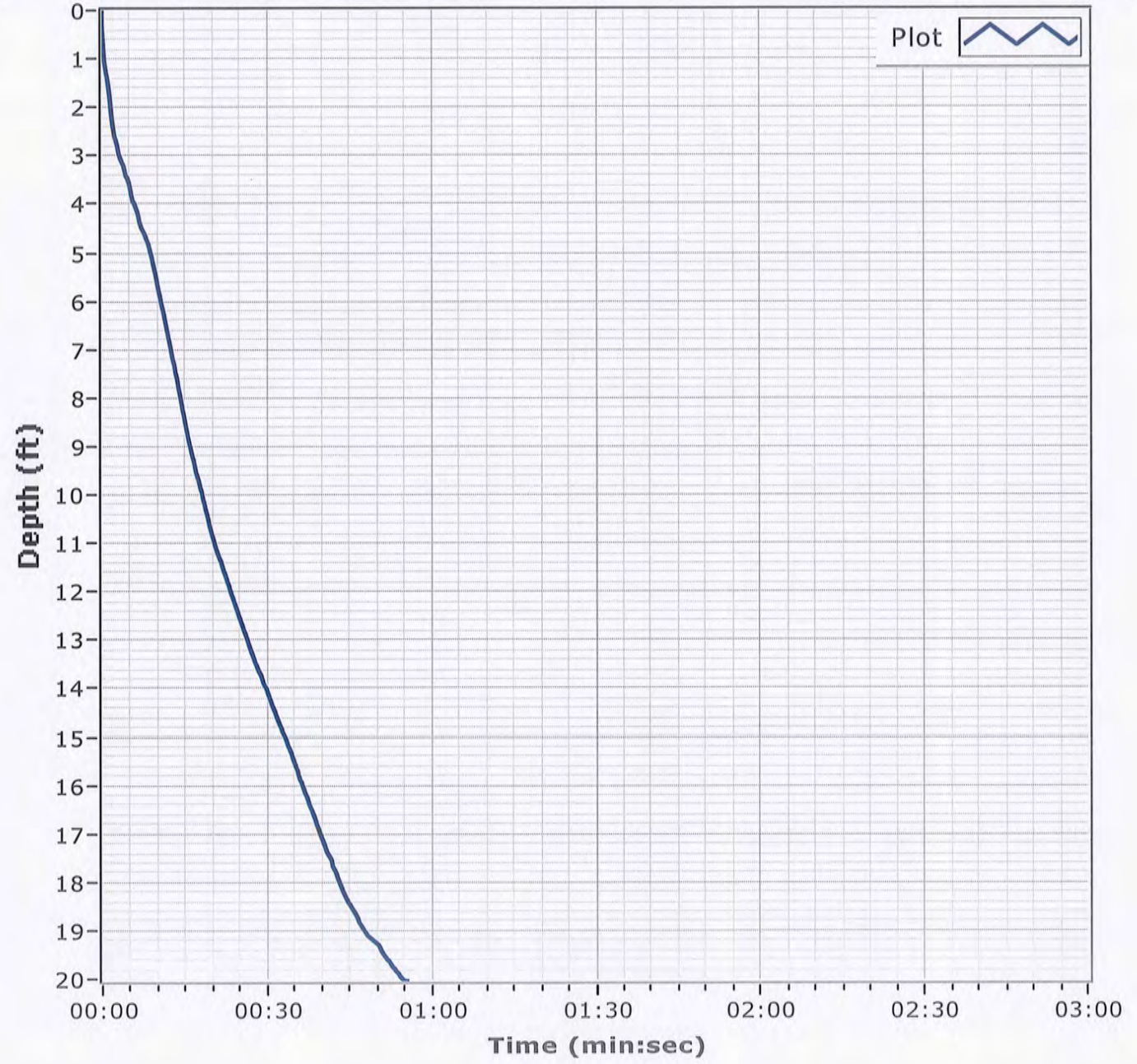
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Longitude 088 20.681

Date 11/26/2012
Start Time 09:52:42
End Time 09:53:38
Total Time 00:00:55

Water Depth 59.7'
Penetration 20.0'
Recovery 19.5'

Comments



Boring Designation BI-PBS-04-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-04-12	LOCATION COORDINATES: E = 1,139,523 N = 232,429	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 49.8 Ft.
		15. DATE BORING	STARTED: 11-26-12 / COMPLETED: 11-26-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -49.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-49.3	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace wood debris, greenish gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.26 mm % Fines: 1.2
				B	Classification: SP Color: 5Y 7/2-light gray D50: 0.23 mm % Fines: 2.4
-57.9	8.6				
-59.0	9.7		SAND, silty, mostly fine to medium-grained sand-sized quartz, some shell fragments, greenish gray (SM)	NS	
			CLAY, lean, mostly clay, some fine-grained sand-sized quartz, trace shell fragments, medium stiffness, brown mottled with gray (CL) At El. -59.8 Ft., mostly clay, some fine-grained sand-sized quartz, medium stiffness, some bands of fat clay throughout interval, greenish gray mottled with brown		
-64.8	15.5				
			SAND, clayey, mostly fine-grained sand-sized quartz, trace shell fragments, gray (SC)		
-68.8	19.5				
-69.3	20.0		CLAY, fat, mostly clay, trace shell fragments, medium stiffness, gray (CH)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.13822° Long = -88.34212°

Project Mississippi Barrier Island Restoration Project

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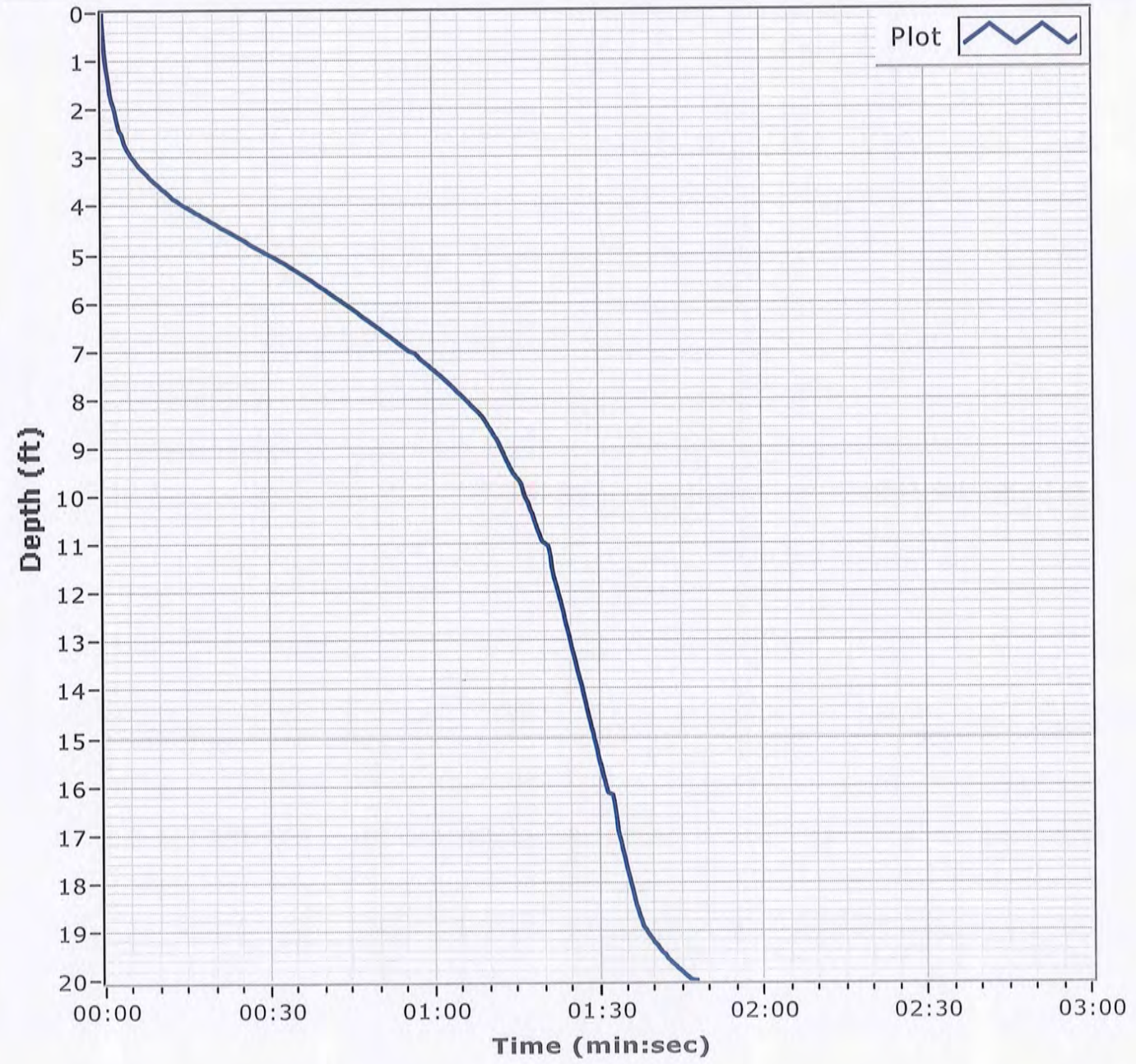
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Coordinate System
Latitude / Longitude

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Longitude 088 20.527

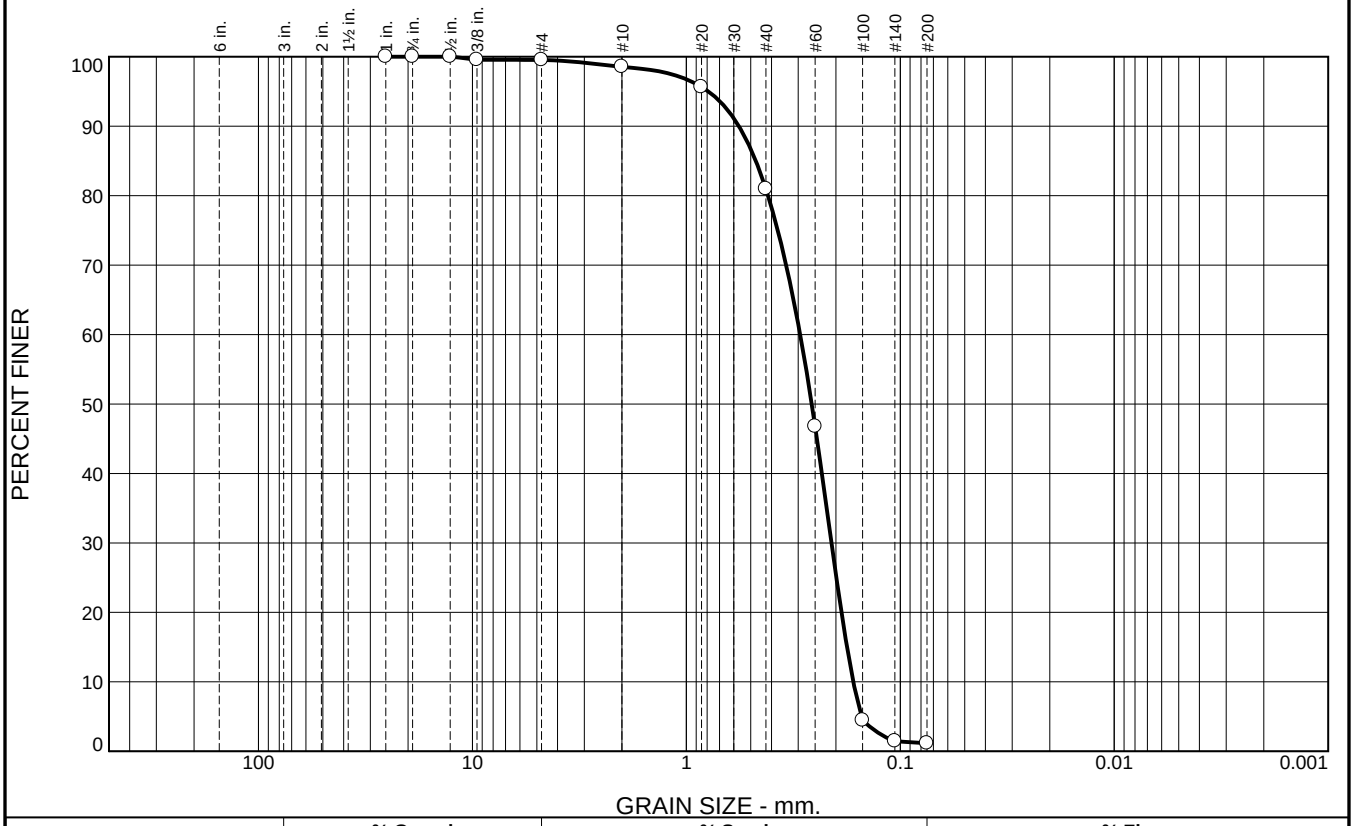
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Start Time 10:36:10
End Time 10:37:58
Total Time 00:01:48

Water Depth 59.3'
Penetration 20.0'
Recovery 20.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	1.0	17.5	79.8	1.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.6		
#4	99.5		
#10	98.5		
#20	95.6		
#40	81.0		
#60	46.8		
#100	4.5		
#140	1.5		
#200	1.2		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5681 D_{85}= 0.4736 D_{60}= 0.2939
D_{50}= 0.2594 D_{30}= 0.2097 D_{15}= 0.1776
D_{10}= 0.1660 C_u= 1.77 C_c= 0.90

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-04-12 A
Sample Number: 6469 (57) **Depth:** 0.0' **Date:** 11/28/12

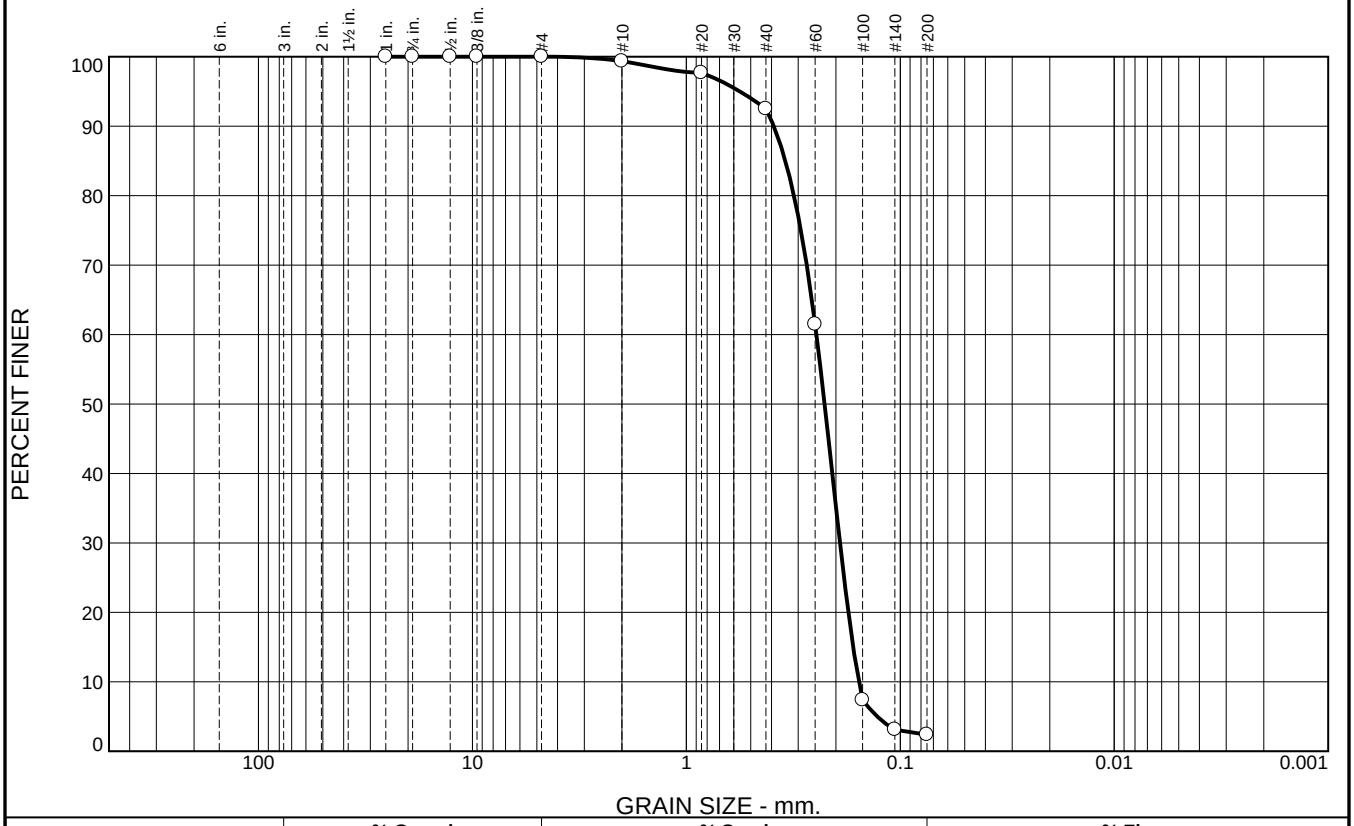
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.7	6.8	90.1	2.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.3		
#20	97.7		
#40	92.5		
#60	61.5		
#100	7.4		
#140	3.1		
#200	2.4		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3901 D_{85}= 0.3443 D_{60}= 0.2465
D_{50}= 0.2258 D_{30}= 0.1914 D_{15}= 0.1662
D_{10}= 0.1563 C_u= 1.58 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-04-12 B
Sample Number: 6469 (58) **Depth:** 5.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-05-12

DRILLING LOG	DIVISION: South Atlantic	INSTALLATION: Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-05-12	LOCATION COORDINATES: E = 1,140,581 N = 232,863	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 60.1 Ft.	
		15. DATE BORING	STARTED: 11-24-12 / COMPLETED: 11-24-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -59.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-59.2	0.0				
-61.2	2.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, some shell fragments, dark gray (SC)	NS	
-62.2	3.0		CLAY, lean, mostly clay, little fine-grained sand-sized quartz, dark gray (CL)		
-63.2	4.0				
-65.2	6.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, little shell fragments, gray (SM)	A	Classification: SM Color: 2.5Y 6/2-light brownish gray D50: 0.2 mm % Fines: 14.4
-66.0	6.8		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little shell fragments, trace silt, gray (SP)		
-70.4	11.2		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM) CLAY, silty, some clay, some silt, trace fine-grained sand-sized quartz, gray (CL-ML)	NS	
-72.1	12.9		SAND, silty, mostly fine-grained sand-sized quartz, some silt, little clay, gray (SM)		
-76.6	17.4		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, stiff, lt. gray to tan (CH)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13940° Long = -88.33877°

Project Mississippi Barrier Island Restoration Project

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Core Identifier BI-PBS-05-12

Coordinate System
Latitude / Longitude

Latitude 30 08.364

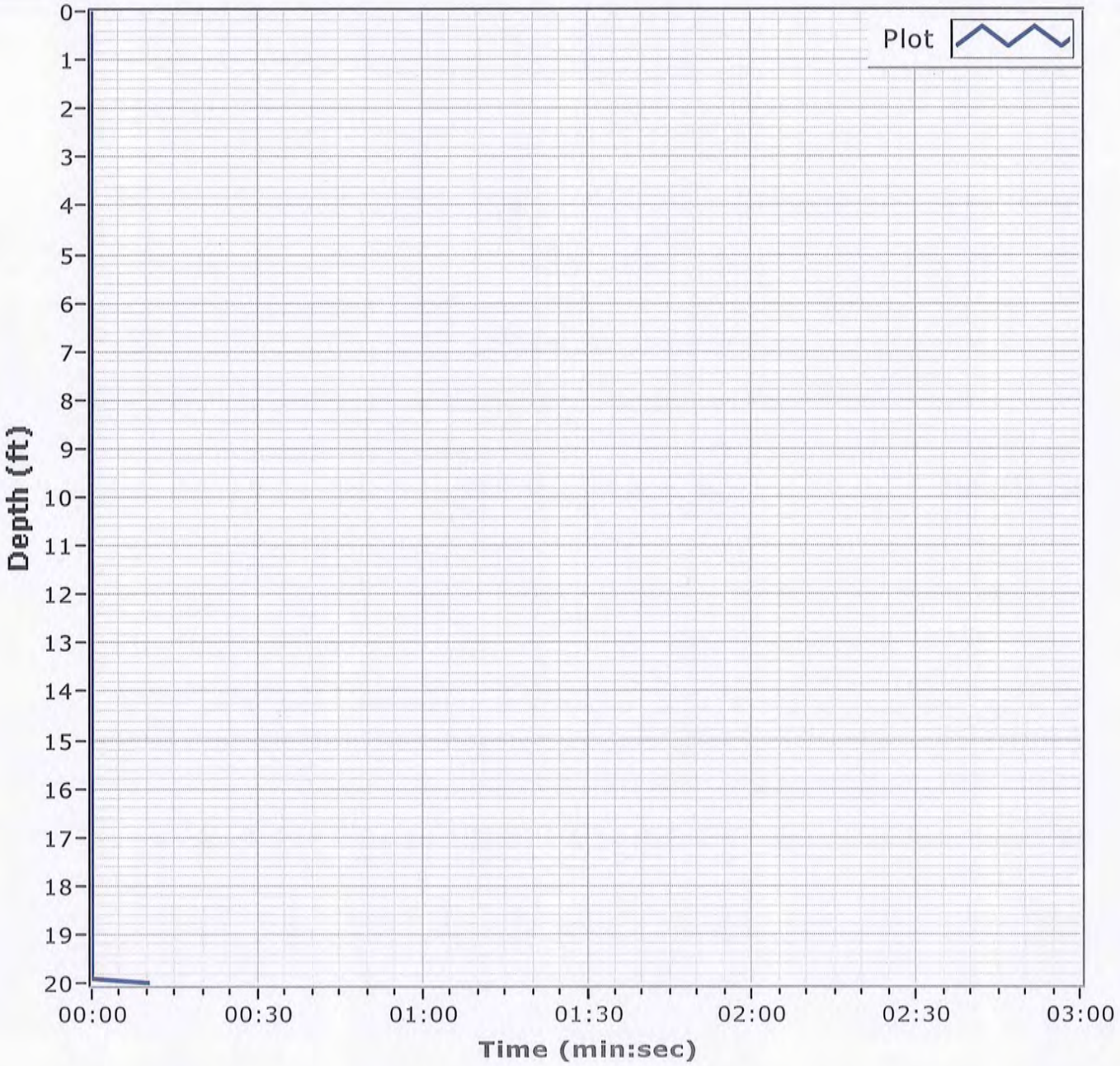
Longitude 088 20.326

Date 11/24/2012
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Total Time 00:00:10

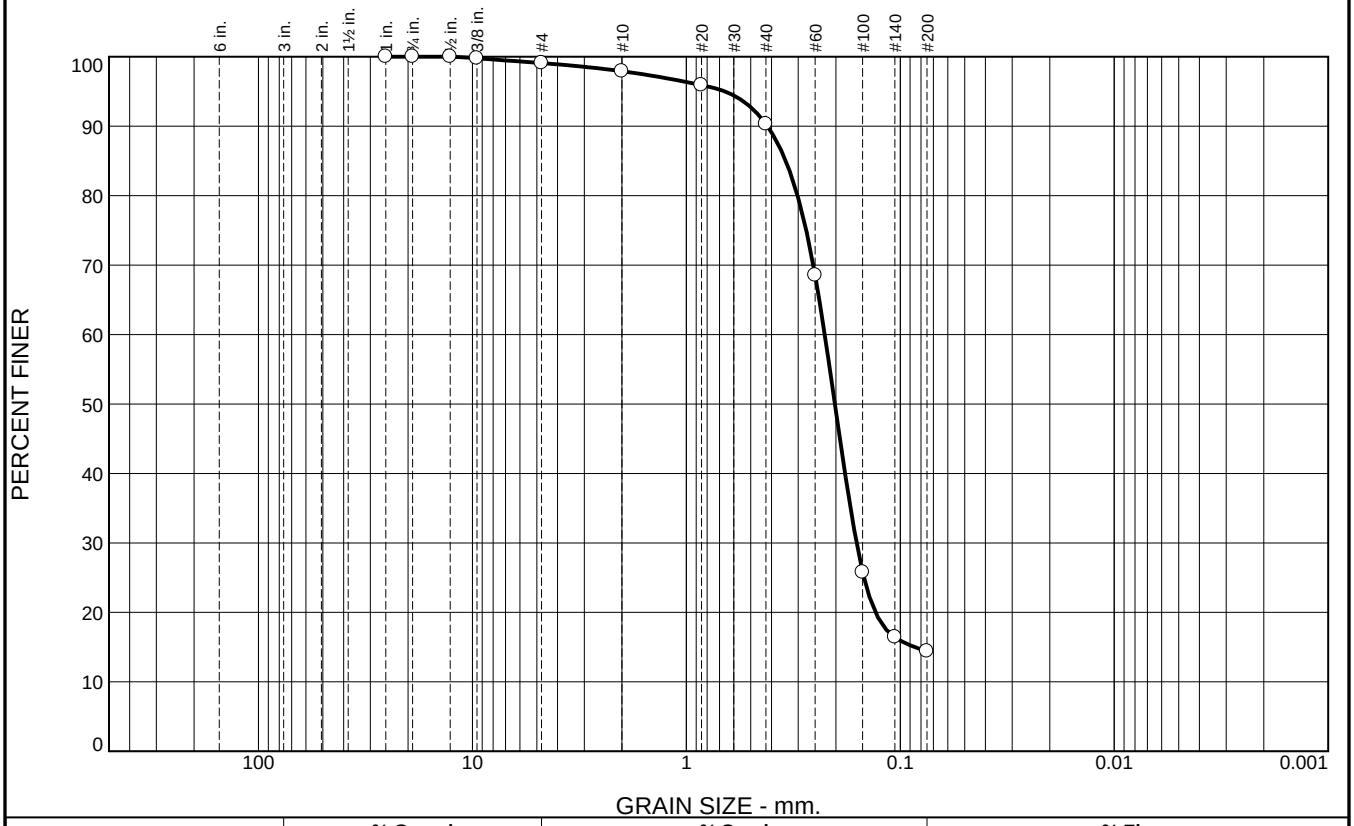
Water Depth 60.1'
Penetration 20.0'
Recovery 17.4'

Comments

Note: Penetrometer cable damaged.



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.9	1.2	7.6	75.9	14.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.8		
#4	99.1		
#10	97.9		
#20	95.9		
#40	90.3		
#60	68.5		
#100	25.8		
#140	16.4		
#200	14.4		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4182 D_{85}= 0.3430 D_{60}= 0.2255
D_{50}= 0.2022 D_{30}= 0.1602 D_{15}= 0.0857
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-05-12 A
Sample Number: 6469 (54) **Depth:** 4.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-06-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-06-12	LOCATION COORDINATES: E = 1,141,764 N = 233,348	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 55 Ft.	
		15. DATE BORING	STARTED: 11-24-12 / COMPLETED: 11-24-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-54.3	0.0				
-59.3	5.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.27 mm % Fines: 2.8
-61.2	6.9		SAND, silty, mostly fine-grained sand-sized quartz, clay lenses throughout, gray (SM)	NS	
-70.7	16.4		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, trace shells, clay lenses throughout, gray (SP-SM)	B	Classification: SM Color: 5Y 6/2-light olive gray D50: 0.1672 mm % Fines: 18
-73.3	19.0		SAND, silty, mostly fine-grained sand-sized quartz, some shells, gray (SM)	NS	
-74.0	19.7		CLAY, lean, mostly clay, little fine-grained sand-sized quartz, little shell fragments, gray (CL)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14072° Long = -88.33502°

Project Mississippi Barrier Island Restoration Project

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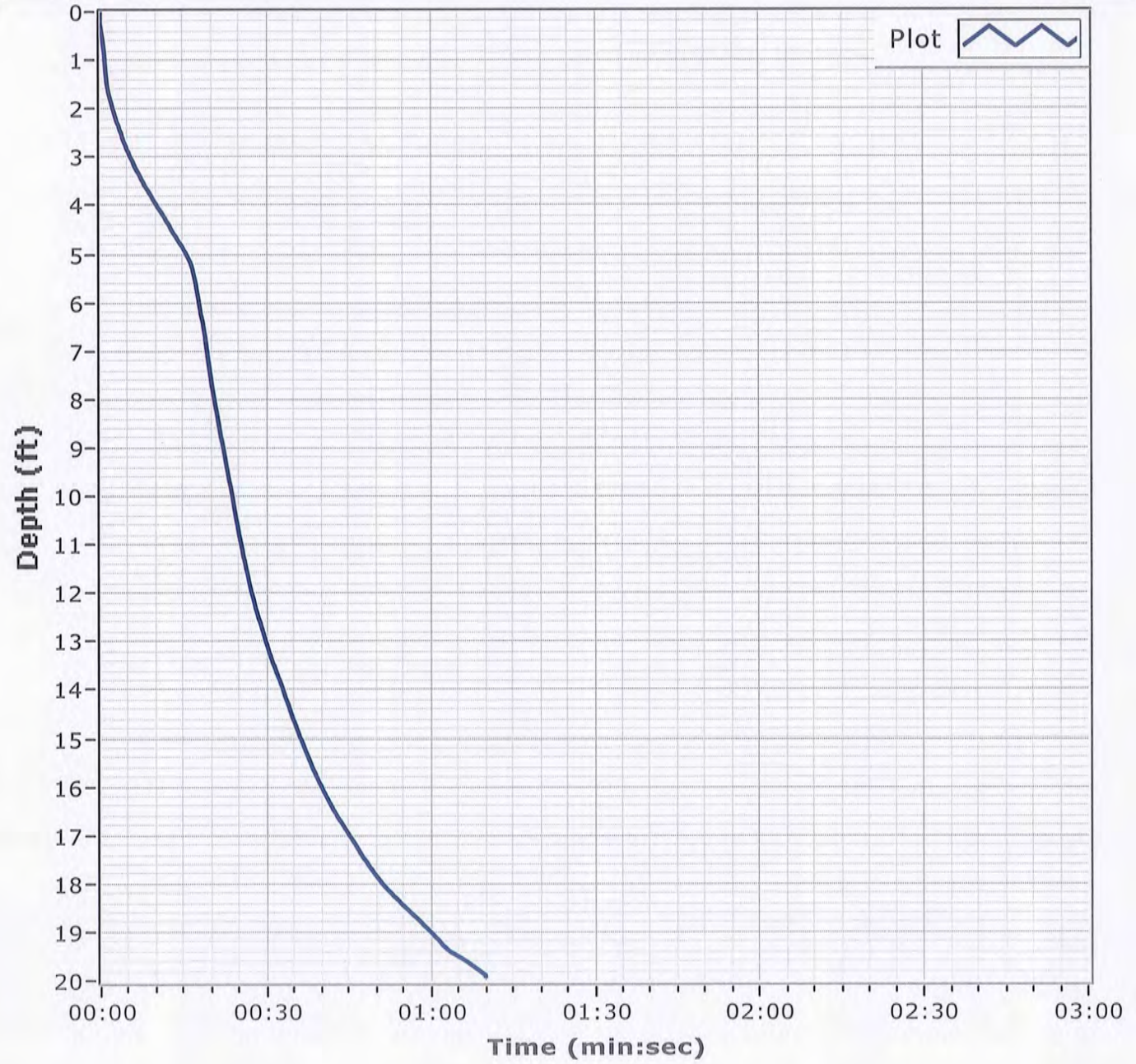
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Latitude / Longitude

Date 11/24/2012
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End Time 14:30:10
Total Time 00:01:10

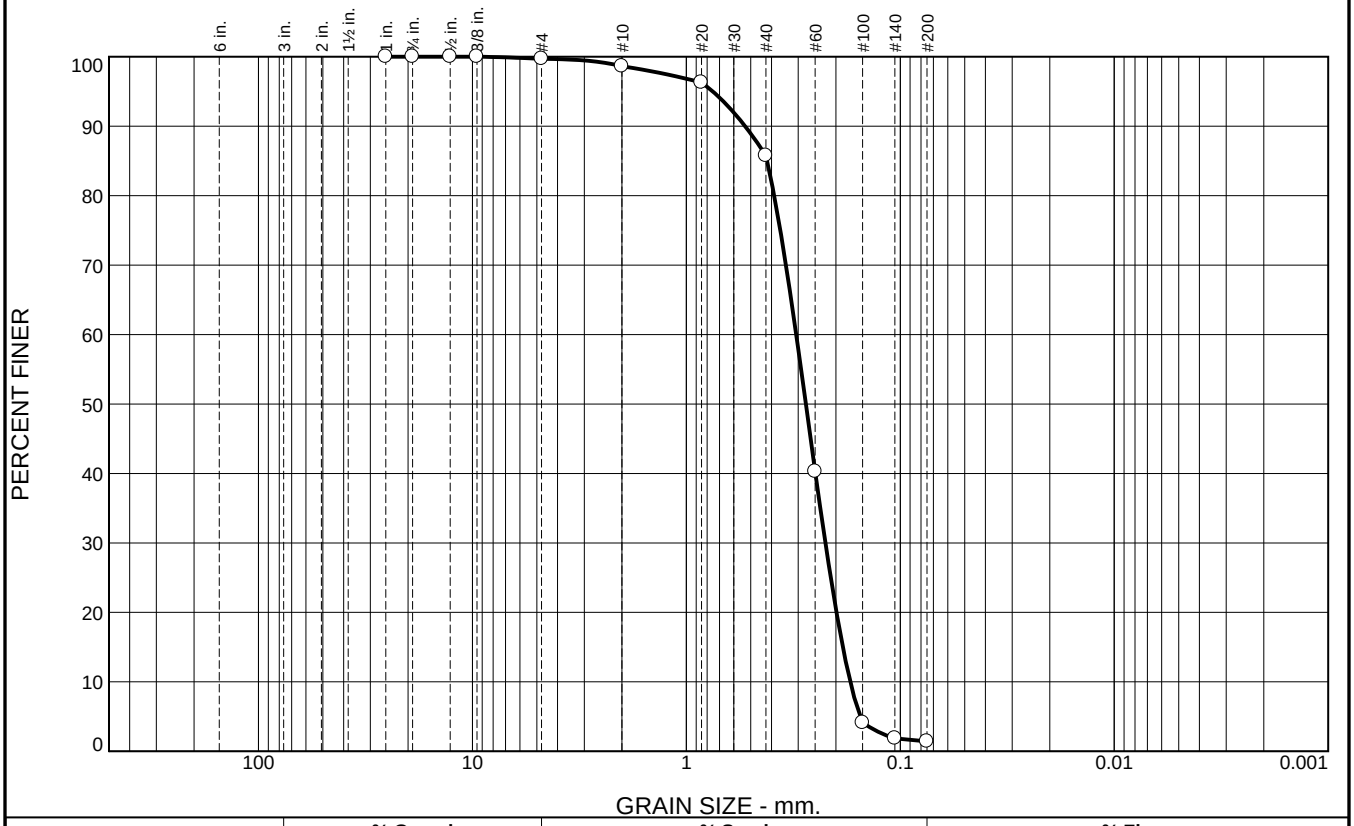
Water Depth 55.0'
Penetration 20.0'
Recovery 19.7'

Latitude 30 08.443
Longitude 088 20.105

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	1.1	12.8	84.4	1.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.6		
#20	96.3		
#40	85.8		
#60	40.3		
#100	4.1		
#140	1.9		
#200	1.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5317 D_{85}= 0.4195 D_{60}= 0.3067
D_{50}= 0.2764 D_{30}= 0.2238 D_{15}= 0.1857
D_{10}= 0.1715 C_u= 1.79 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-06-12a A
Sample Number: 6469 (47) **Depth:** 0.0' **Date:** 11/28/12

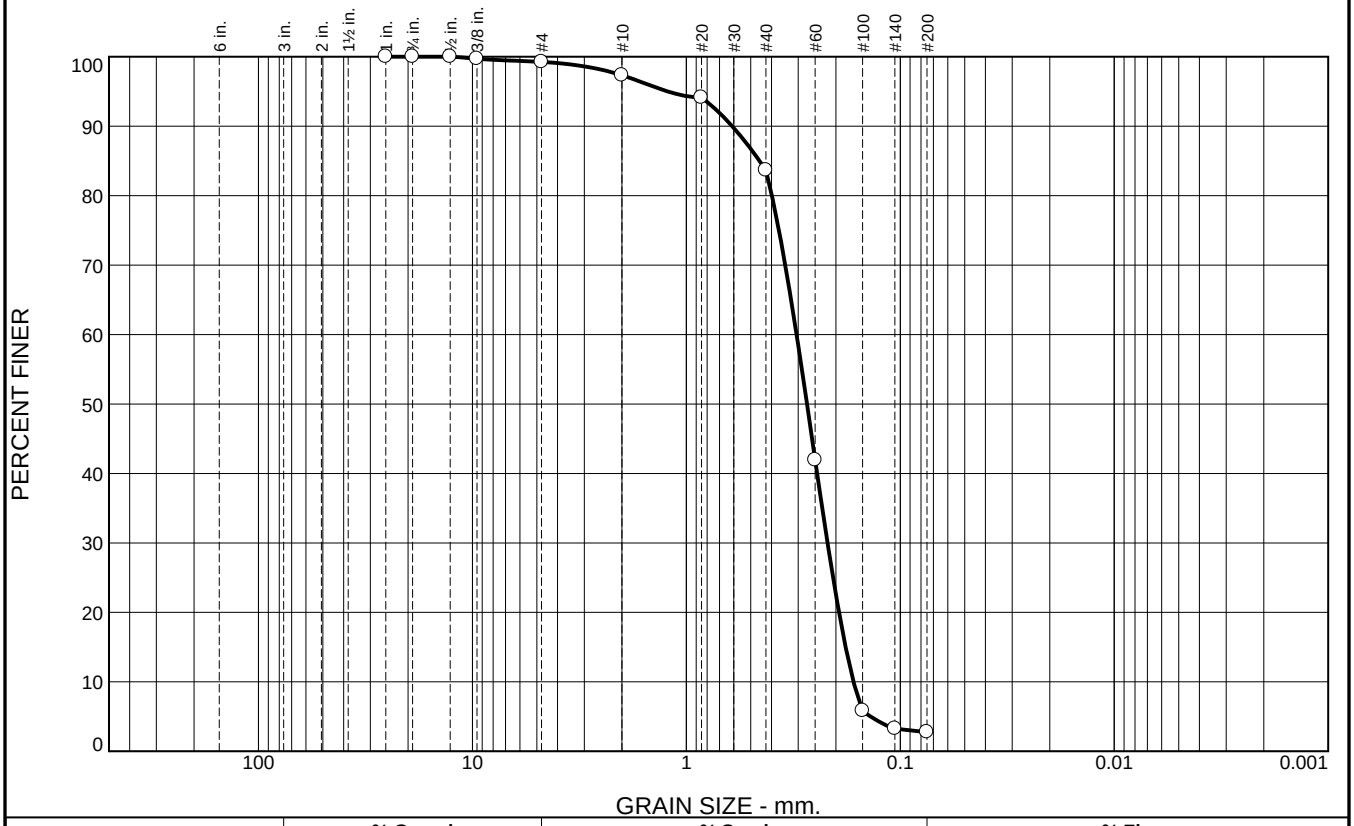
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	1.9	13.7	80.8	2.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.7		
#4	99.2		
#10	97.3		
#20	94.1		
#40	83.6		
#60	41.9		
#100	5.8		
#140	3.3		
#200	2.8		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6106 D_{85}= 0.4553 D_{60}= 0.3055
D_{50}= 0.2731 D_{30}= 0.2188 D_{15}= 0.1802
D_{10}= 0.1656 C_u= 1.84 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-06-12b A
Sample Number: 6469 (48) **Depth:** 0.0' **Date:** 11/28/12

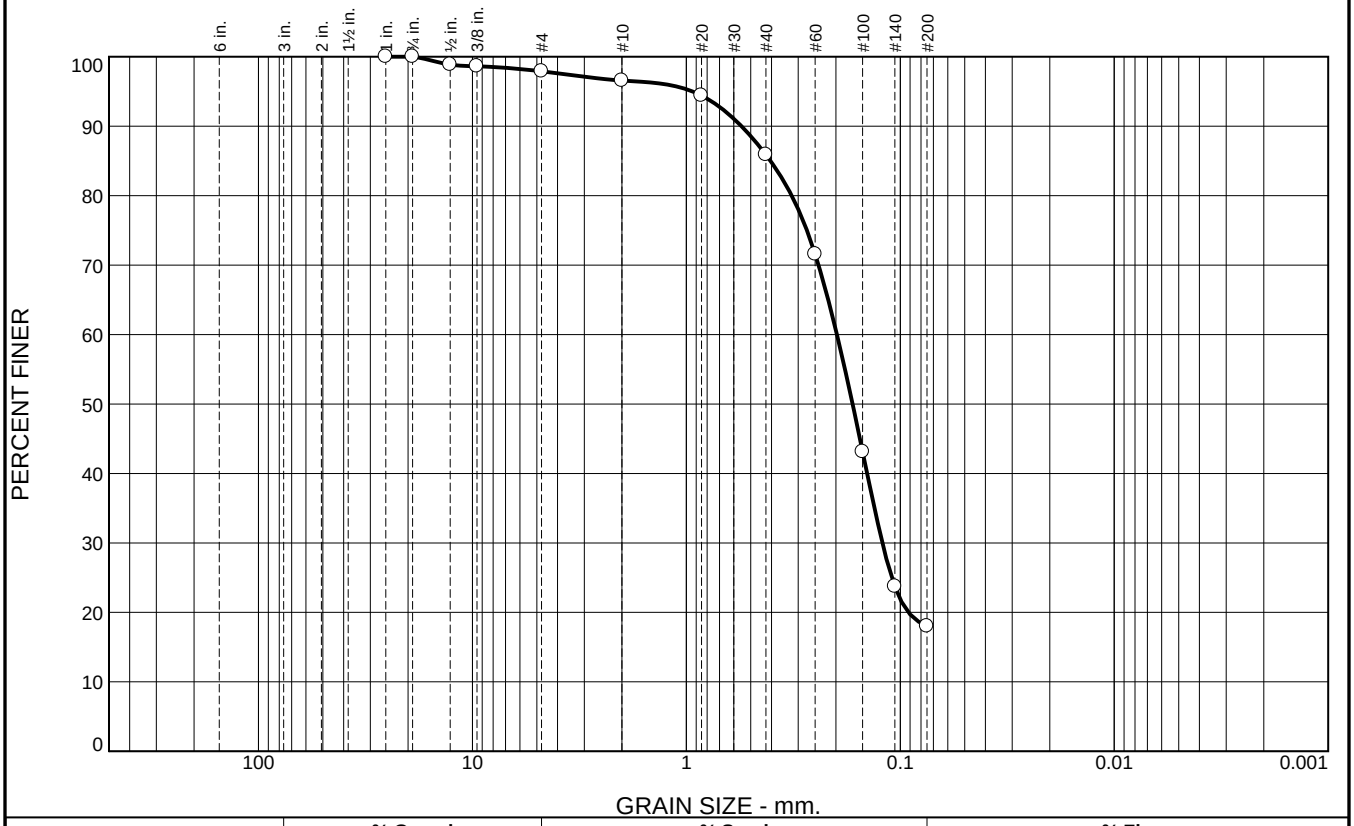
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.1	1.3	10.7	67.9	18.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	98.9		
.375	98.6		
#4	97.9		
#10	96.6		
#20	94.4		
#40	85.9		
#60	71.6		
#100	43.1		
#140	23.7		
#200	18.0		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5527 D_{85}= 0.4046 D_{60}= 0.1978
D_{50}= 0.1672 D_{30}= 0.1213 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-06-12b B
Sample Number: 6469 (49) **Depth:** 6.9' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-07-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-07-12	LOCATION COORDINATES: E = 1,142,976 N = 233,808	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 60.9 Ft.	
		15. DATE BORING	STARTED: 11-21-12 / COMPLETED: 11-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -60.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-60.5	0.0				
			SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, trace shell fragments, gray (ML)	NS	
-64.0	3.5				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, few silt, trace wood debris, gray (SP)	A	Classification: SM Color: 2.5Y 5/2-grayish brown D50: 0.22 mm % Fines: 18.1
			At El. -71.0 Ft., mostly fine-grained sand-sized quartz, trace shell fragments, lt. gray to white	B	Classification: SP-SM Color: 2.5Y 7/2-light gray D50: 0.21 mm % Fines: 6.7
-75.5	15.0				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14197° Long = -88.33118°

Project Mississippi Barrier Island Restoration Project

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Core Identifier BI-PBS-7-12

Coordinate System
Latitude / Longitude

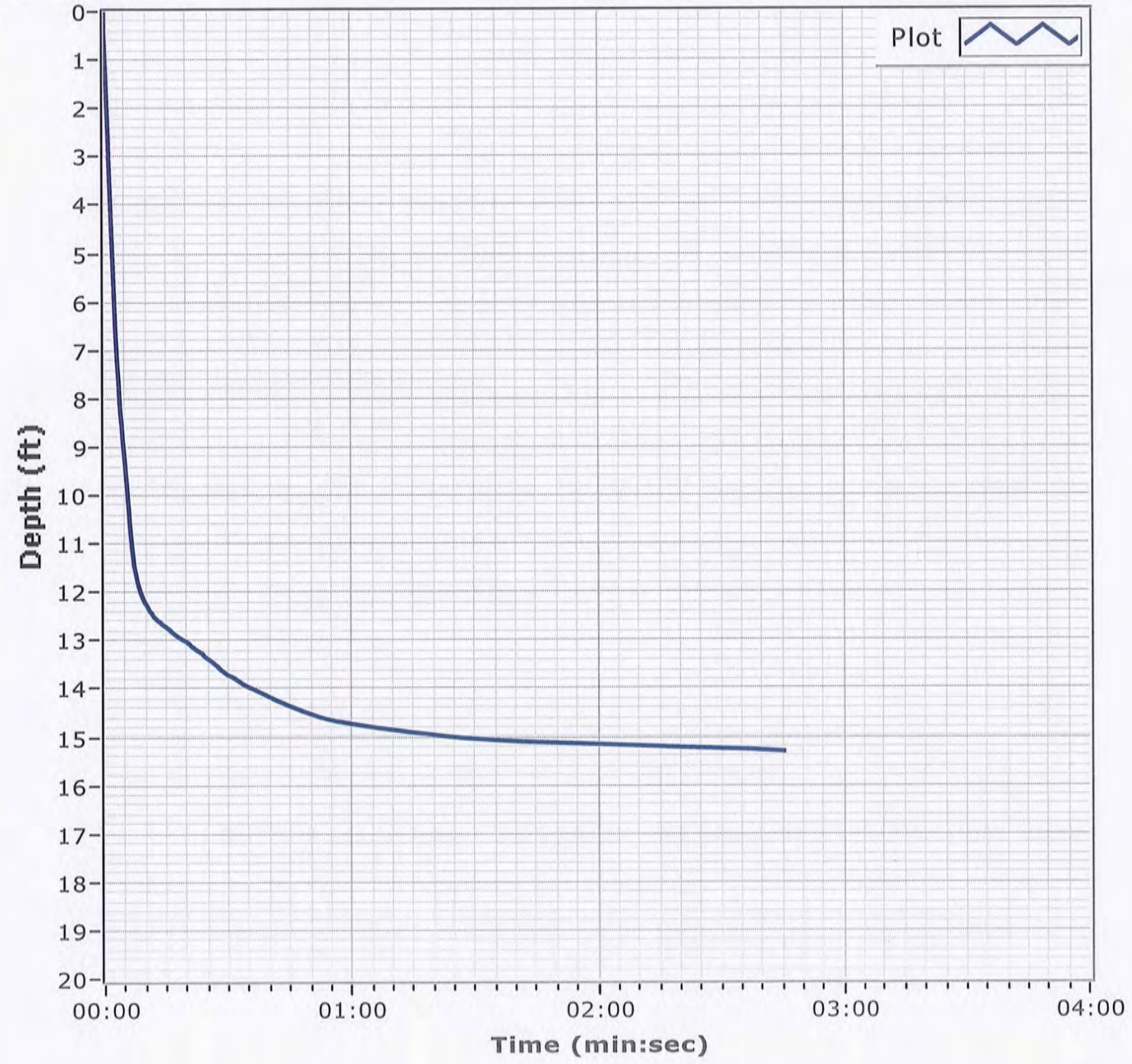
Latitude 30 08.518

Longitude 088 19.871

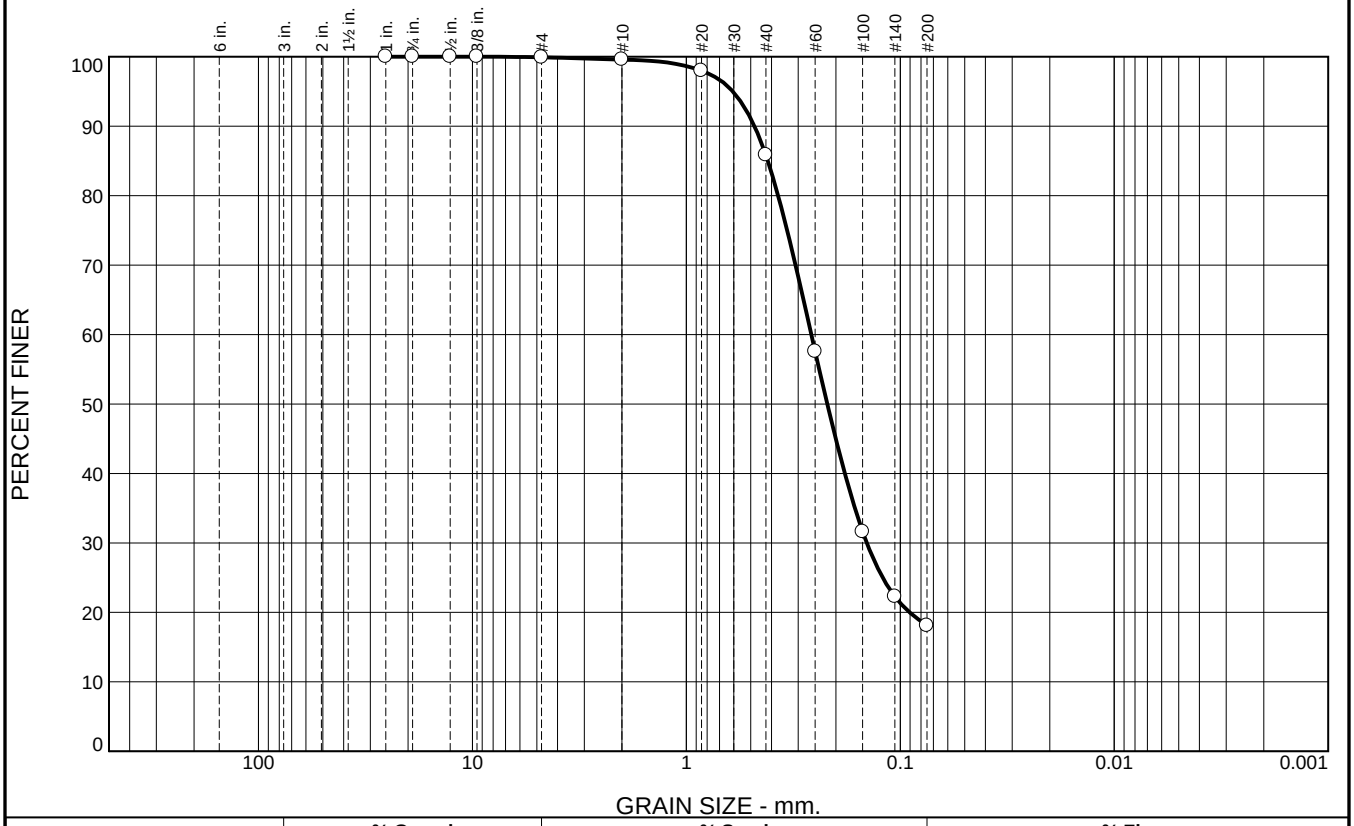
Date 11/21/2012
Start Time 11:38:15
End Time 11:41:01
Total Time 00:02:45

Water Depth 60.9'
Penetration 15.3'
Recovery 15.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.3	13.8	67.7	18.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.6		
#20	98.0		
#40	85.8		
#60	57.6		
#100	31.6		
#140	22.3		
#200	18.1		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4805 D_{85}= 0.4161 D_{60}= 0.2606
D_{50}= 0.2193 D_{30}= 0.1435 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-07-12 A
Sample Number: 6469 (8) **Depth:** 3.5' **Date:** 11/28/12

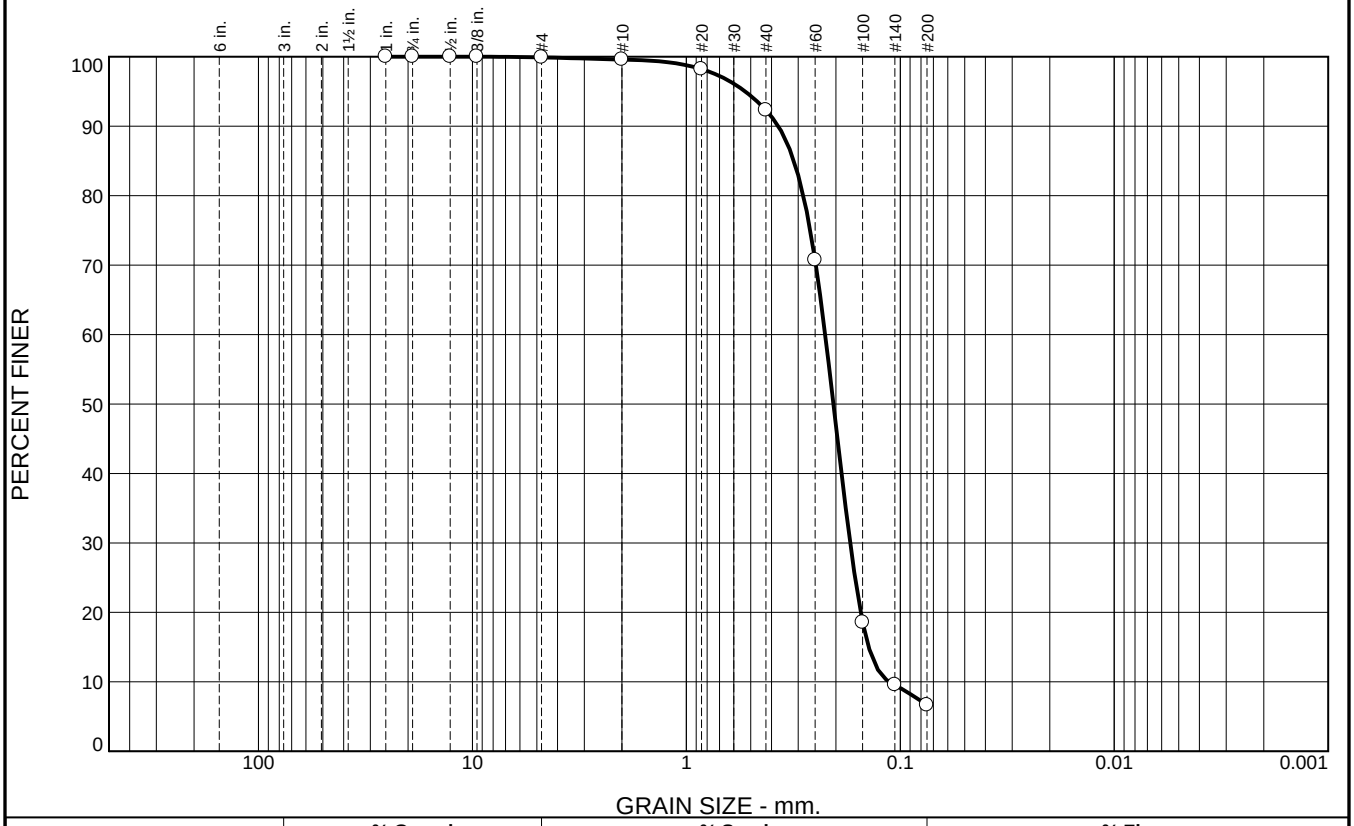
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.3	7.3	85.6	6.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.6		
#20	98.2		
#40	92.3		
#60	70.7		
#100	18.6		
#140	9.6		
#200	6.7		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3716 D_{85}= 0.3144 D_{60}= 0.2244
D_{50}= 0.2054 D_{30}= 0.1716 D_{15}= 0.1406
D_{10}= 0.1125 C_u= 1.99 C_c= 1.17

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-07-12 B
Sample Number: 6469 (9) **Depth:** 10.4' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-08-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-08-12	LOCATION COORDINATES: E = 1,144,285 N = 234,334	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 57 Ft.	
		15. DATE BORING	STARTED: 11-21-12 / COMPLETED: 11-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.1 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-56.6	0.0				
			SAND, poorly-graded, mostly fine to medium-grained quartz, trace fines, trace shell fragments, lt. gray to gray (SP)	A	Classification: SP-SM Color: 5Y 6.5/2- D50: 0.22 mm % Fines: 5.2
-59.7	3.1				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fines, few shell fragments, gray (SP)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.19 mm % Fines: 19.2
-63.9	7.3				
			SAND, silty, mostly fine-grained sand-sized quartz, some fines, fines content increases with depth, gray (SM)		
-66.6	10.0				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, clayey sand bordering on sandy clay with SP lense at 11.5 ft., dark gray (SC)		
-68.1	11.5				
			CLAY, lean, mostly clay, some sand, low to medium plasticity, lt. gray mottled with orange (CL)	NS	
-74.7	18.1				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14340° Long = -88.32703°

Project Mississippi Barrier Island Restoration Project

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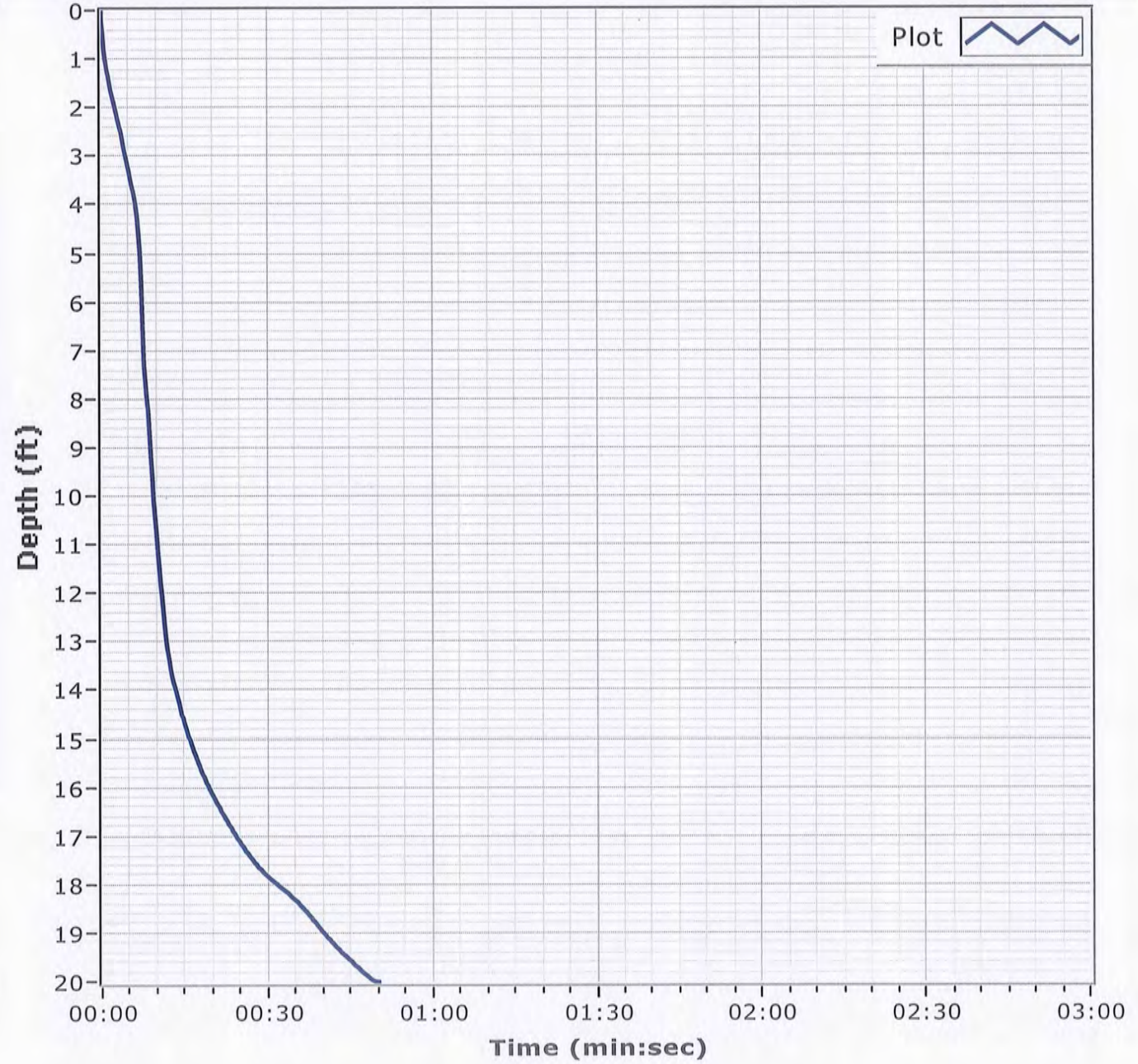
Core Identifier BI-PBS-08-12
Coordinate System
Latitude / Longitude

Date 11/21/2012
Start Time 09:13:51
End Time 09:14:41
Total Time 00:00:50

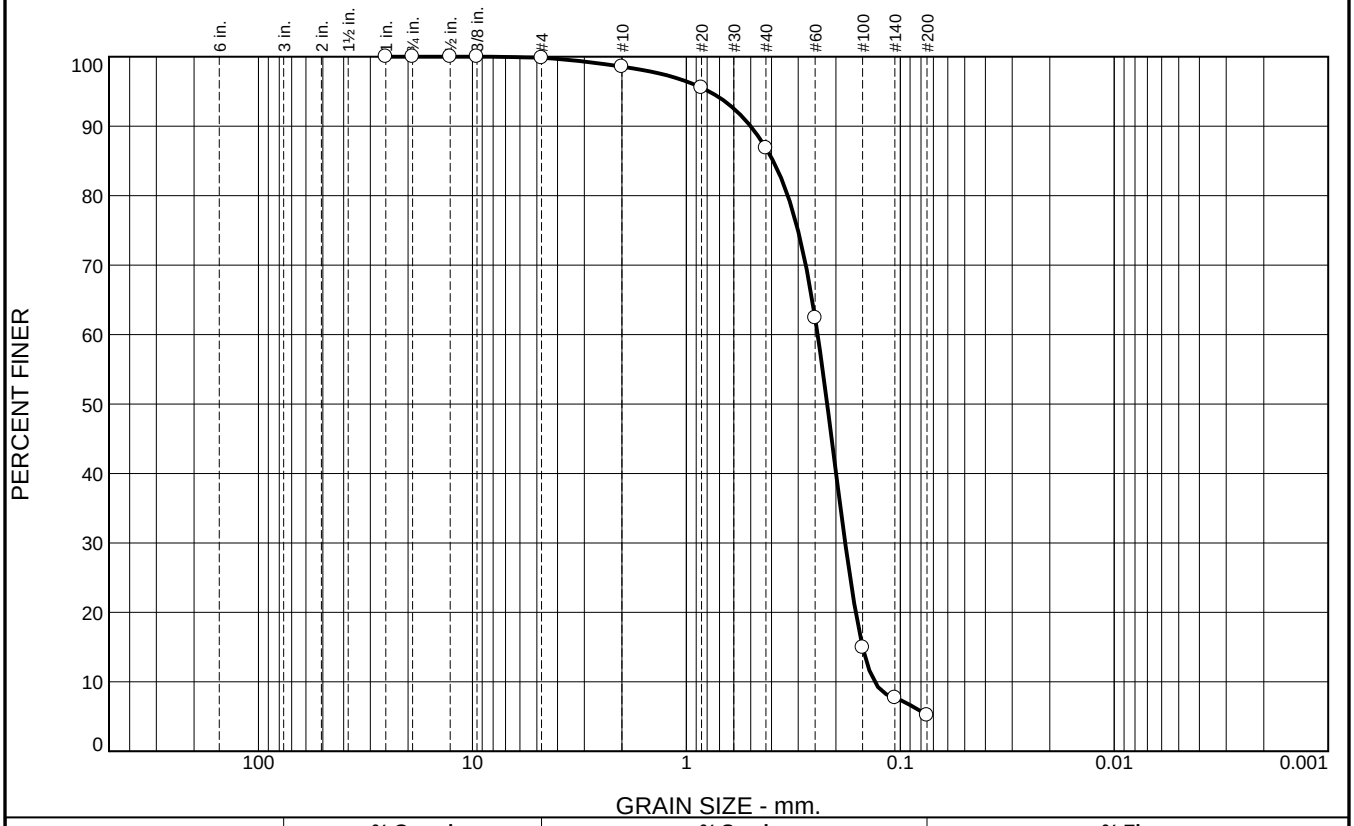
Water Depth 57.0'
Penetration 20.0'
Recovery 18.1'

Latitude 30 08.604
Longitude 088 19.622

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	1.2	11.7	81.7	5.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	98.6		
#20	95.5		
#40	86.9		
#60	62.4		
#100	15.0		
#140	7.7		
#200	5.2		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5011 D_{85}= 0.3929 D_{60}= 0.2433
D_{50}= 0.2196 D_{30}= 0.1810 D_{15}= 0.1501
D_{10}= 0.1320 C_u= 1.84 C_c= 1.02

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-08-12 A
Sample Number: 6469 (1) **Depth:** 0.0' **Date:** 11/28/12

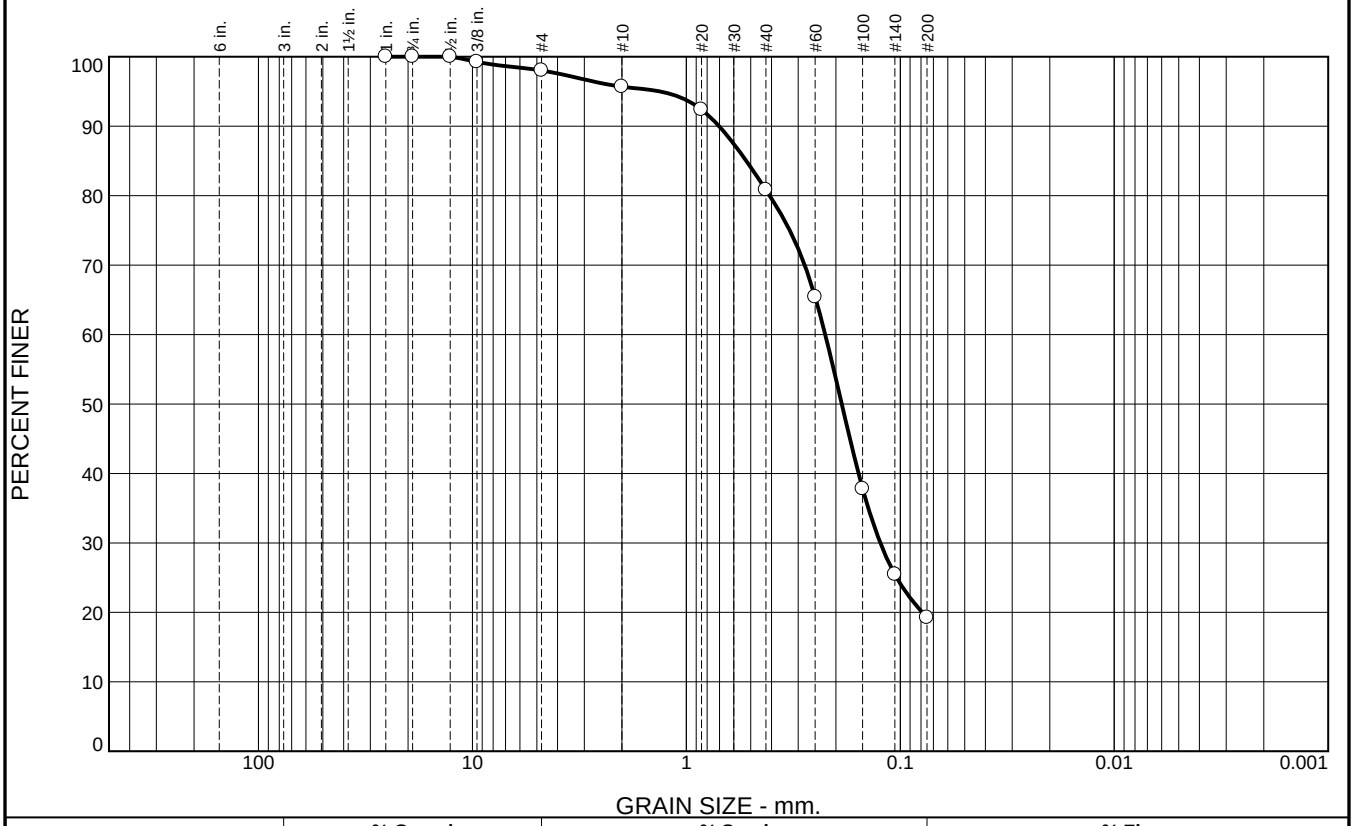
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.0	2.3	14.9	61.6	19.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.2		
#4	98.0		
#10	95.7		
#20	92.4		
#40	80.8		
#60	65.4		
#100	37.8		
#140	25.4		
#200	19.2		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7036 D_{85}= 0.5247 D_{60}= 0.2243
D_{50}= 0.1878 D_{30}= 0.1240 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-08-12 B
Sample Number: 6469 (2) **Depth:** 3.1' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-09-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-09-12	LOCATION COORDINATES: E = 1,146,677 N = 235,316	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 59.4 Ft.	
		15. DATE BORING	STARTED: 11-19-12 / COMPLETED: 11-19-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -59.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-59.4	0.0				
			SAND, clayey, mostly fine-grained sand-sized quartz, trace shell fragments, gray (SC)		
-62.0	2.6				
			CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace shell fragments, trace wood debris, gray (CH)	NS	
-76.7	17.3				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14607° Long = -88.31945°

Project Mississippi Barrier Island Restoration Project

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S E R V I C E S

Core Identifier BI-PBS-9-12

Coordinate System
Latitude / Longitude

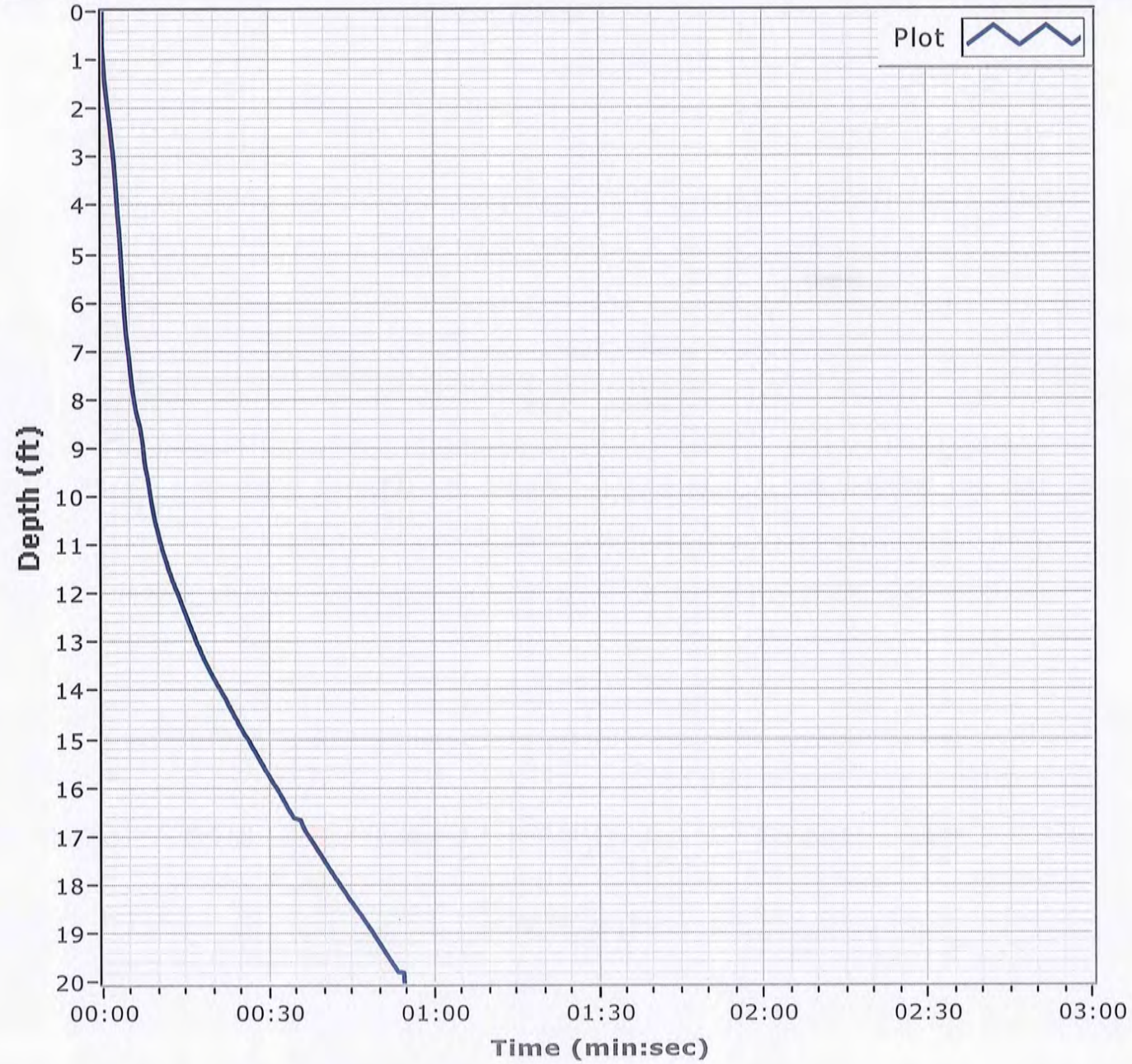
Latitude 30 08.764

Longitude 88 19.167

Date 11/19/2012
Start Time 10:09:30
End Time 10:10:26
Total Time 00:00:55

Water Depth 59.4'
Penetration 20.8'
Recovery 17.2'

Comments



Boring Designation BI-PBS-101-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-101-12	LOCATION COORDINATES: E = 1,121,347 N = 230,046	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 47.3 Ft.	
		15. DATE BORING	STARTED: 01-12-13 / COMPLETED: 01-12-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -47.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-47.0	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, shelly zone at 1.2 ft., 0.5-in. clay lens at 4.6 ft., lt. gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.31 mm % Fines: 1.8
				B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.3007 mm % Fines: 1.9
-53.8	6.8				
-54.0	7.0		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, gray (SP-SM)		
			CLAY, lean, mostly clay, some fine-grained sand-sized quartz, medium to high plasticity, clayey sand veins throughout, soft but becoming gradually stiffer with depth, orangy brown, greenish gray, gray mottle (CL)	NS	
-61.3	14.3				
-62.0	15.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, dark gray (SC)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.13187° Long = -88.39965°

Project Mississippi Barrier Island Restoration Project

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AMERICAN VIBRACORE
S E R V I C E S

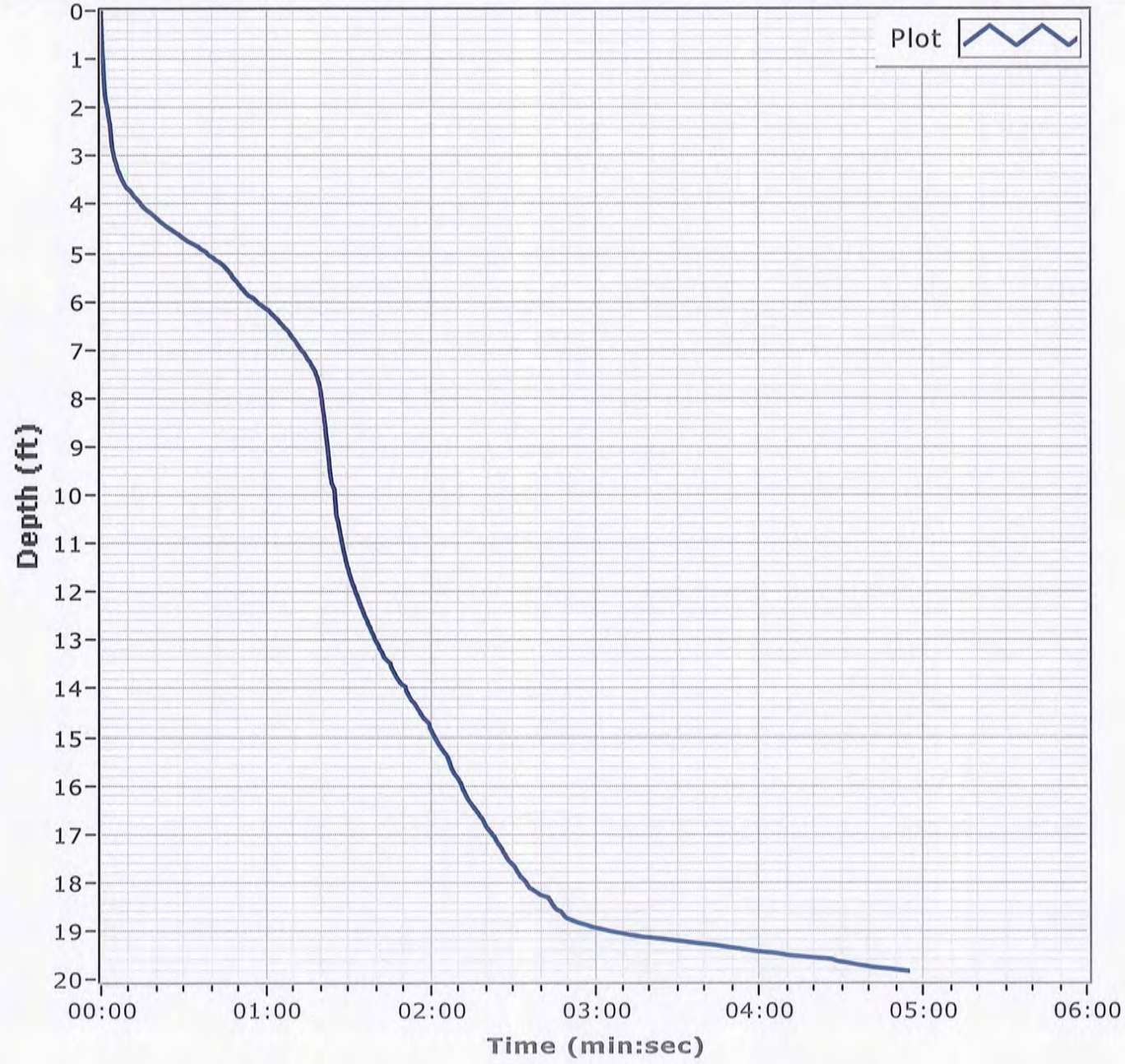
Core Identifier BI-PBS-101-12
Coordinate System
Latitude / Longitude

Date 01/12/2013
Start Time 10:07:18
End Time 10:12:13
Total Time 00:04:55

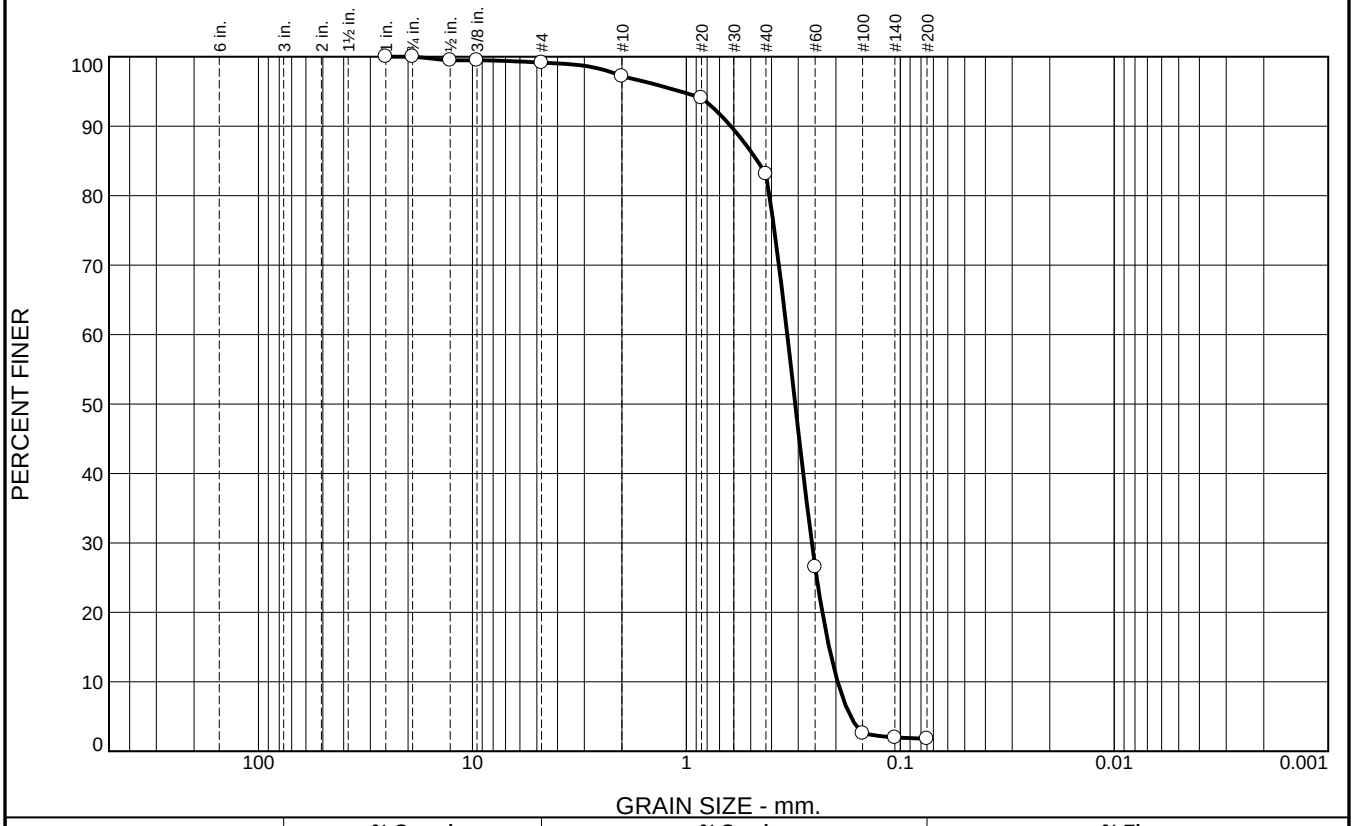
Water Depth 47.3'
Penetration 19.8'
Recovery 15'

Latitude 30 07.912 N
Longitude 088 23.979 W

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.9	1.9	14.1	81.3	1.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.5		
.375	99.5		
#4	99.1		
#10	97.2		
#20	94.1		
#40	83.1		
#60	26.5		
#100	2.6		
#140	2.0		
#200	1.8		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6194 D_{85}= 0.4658 D_{60}= 0.3375
D_{50}= 0.3100 D_{30}= 0.2592 D_{15}= 0.2153
D_{10}= 0.1963 C_u= 1.72 C_c= 1.01

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-101-12 A
Sample Number: 6507 (4) **Depth:** 0.0' **Date:** 1/14/13

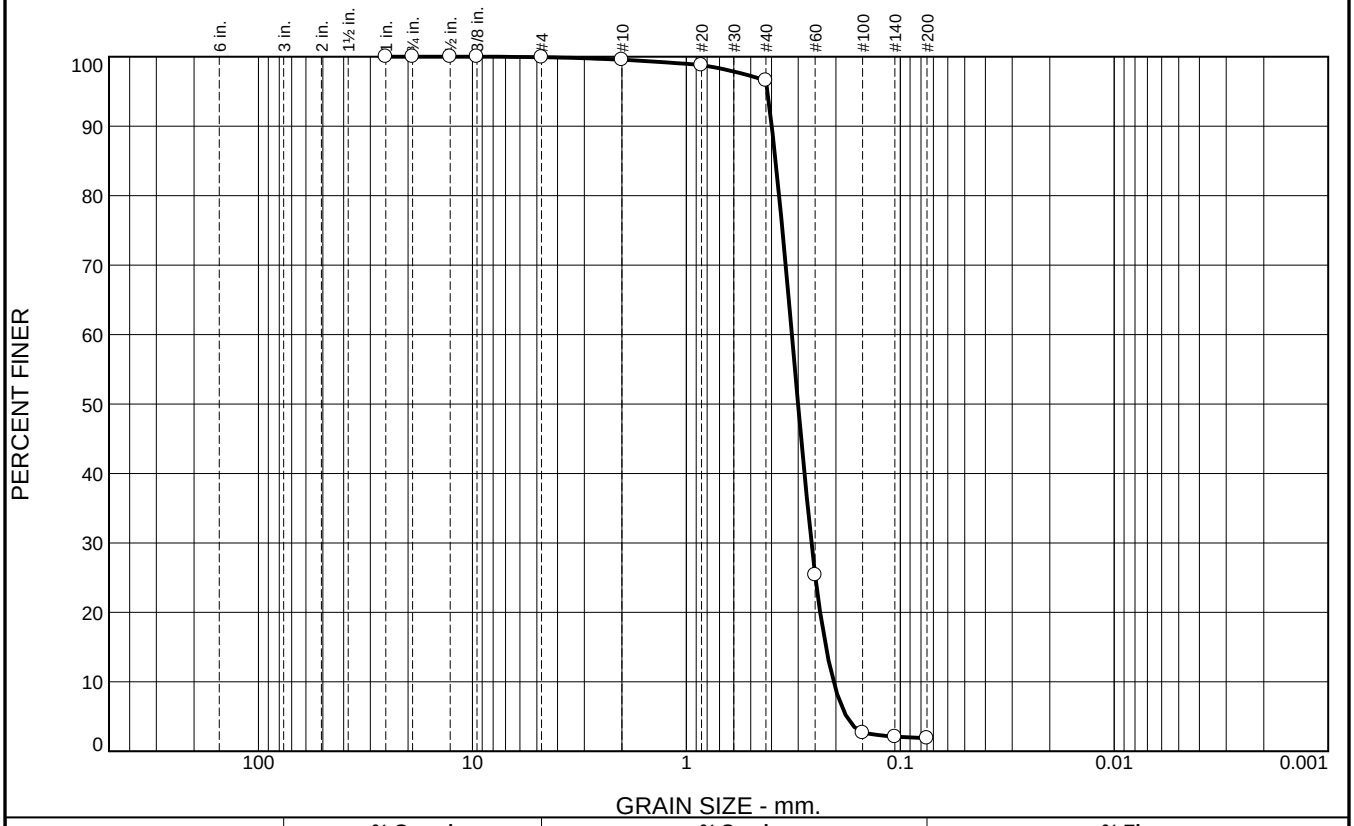
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.3	3.0	94.7	1.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.6		
#20	98.8		
#40	96.6		
#60	25.4		
#100	2.7		
#140	2.1		
#200	1.9		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3987 D_{85}= 0.3826 D_{60}= 0.3213
D_{50}= 0.3007 D_{30}= 0.2602 D_{15}= 0.2227
D_{10}= 0.2051 C_u= 1.57 C_c= 1.03

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-101-12 B
Sample Number: 6507 (5) **Depth:** 5.0' **Date:** 1/14/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-10-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-10-12	LOCATION COORDINATES: E = 1,136,488 N = 232,689	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 48.1 Ft.	
		15. DATE BORING	STARTED: 11-23-12 / COMPLETED: 11-23-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -47.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 11.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-47.2	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little shell fragments, trace fines, gray to light gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.33 mm % Fines: 1.3
-53.1	5.9				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, trace shell fragments, gray to light gray (SP)	B	Classification: SP Color: 5Y 6.5/2- D50: 0.28 mm % Fines: 2.5
-55.6	8.4				
-56.9	9.7		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, gray (SP-SM)	NS	
-59.1	11.9		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.13897° Long = -88.35172°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

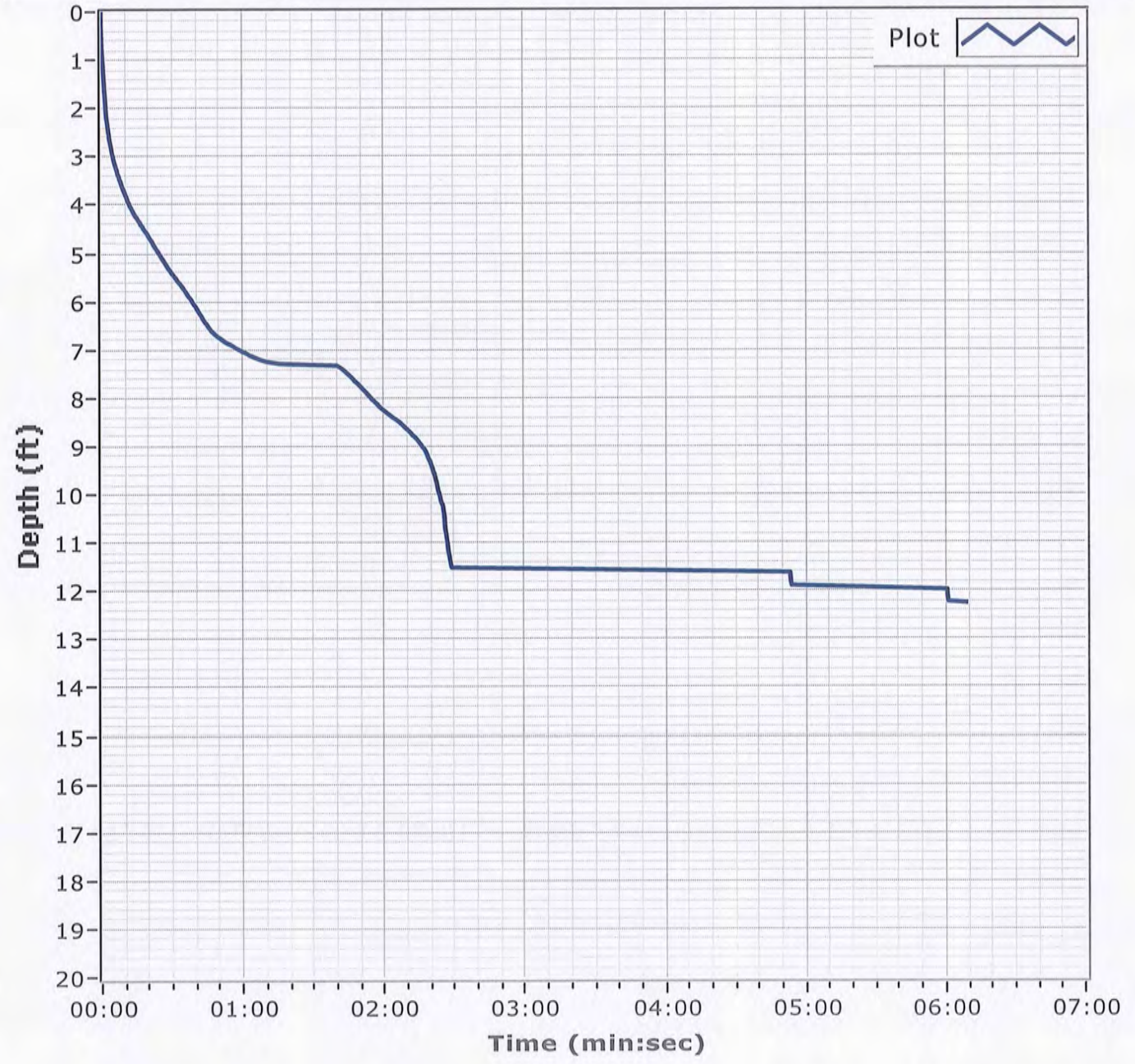
Core Identifier BI-PBS-10-12
Coordinate System
Latitude / Longitude

Date 11/23/2012
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Total Time 00:06:09

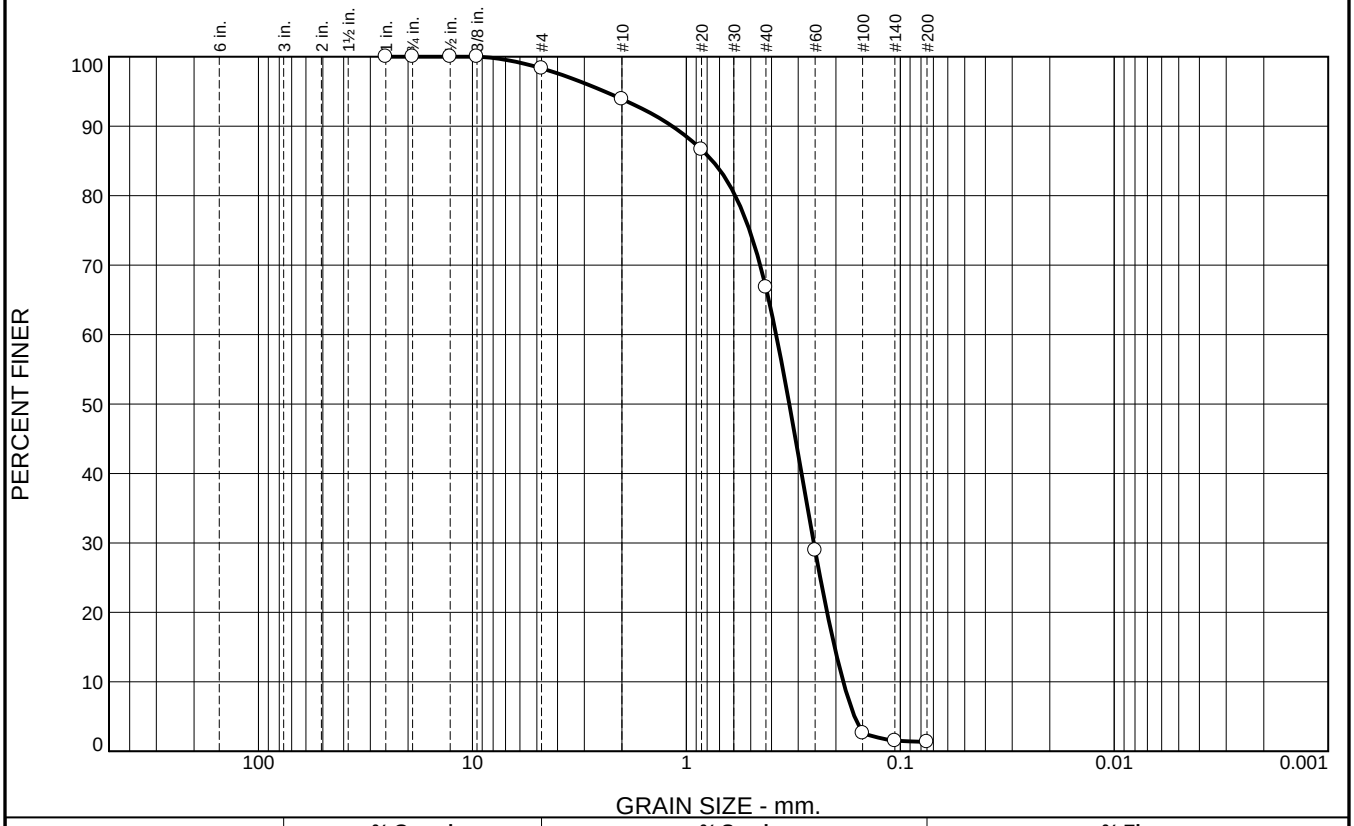
Water Depth 48.1'
Penetration 12.3'
Recovery 11.9'

Latitude 30 08.338
Longitude 088 20.103

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.7	4.4	27.1	65.5	1.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	98.3		
#10	93.9		
#20	86.6		
#40	66.8		
#60	28.9		
#100	2.6		
#140	1.5		
#200	1.3		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.1641 D_{85}= 0.7550 D_{60}= 0.3804
D_{50}= 0.3303 D_{30}= 0.2537 D_{15}= 0.2028
D_{10}= 0.1848 C_u= 2.06 C_c= 0.92

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-10-12 A
Sample Number: 6469 (38) **Depth:** 0.0' **Date:** 11/28/12

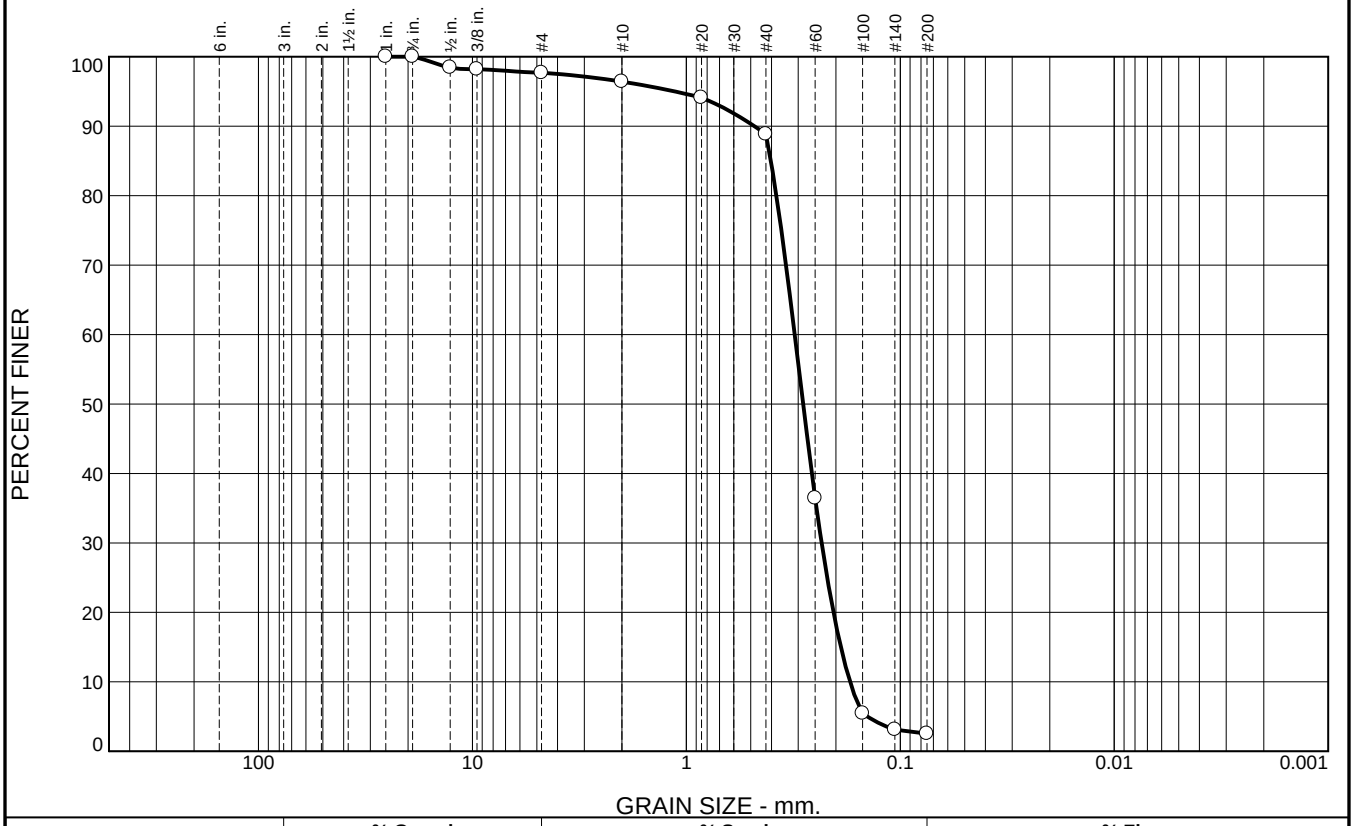
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.3	1.3	7.6	86.3	2.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	98.4		
.375	98.2		
#4	97.7		
#10	96.4		
#20	94.1		
#40	88.8		
#60	36.4		
#100	5.4		
#140	3.1		
#200	2.5		

* (no specification provided)

Material Description

Fine grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4813 D_{85}= 0.4025 D_{60}= 0.3117
D_{50}= 0.2846 D_{30}= 0.2332 D_{15}= 0.1898
D_{10}= 0.1720 C_u= 1.81 C_c= 1.01

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-10-12 B
Sample Number: 6469 (39) **Depth:** 5.9' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-104-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-104-12	LOCATION COORDINATES: E = 1,139,968 N = 229,824	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 60.1 Ft.	
		15. DATE BORING	STARTED: 01-04-13 / COMPLETED: 01-04-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -60.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-60.0	0.0				
-61.0	1.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2759 mm % Fines: 1.9
-64.1	4.1		SAND, silty, mostly fine-grained sand-sized quartz, some silt, few clay, trace shell fragments, gray (SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2074 mm % Fines: 12.9
-66.7	6.7		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, few silt, trace shell fragments, trace wood debris, gray (SC)	C	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2412 mm % Fines: 21.9
-73.2	13.2		CLAY, lean, mostly clay, trace wood debris, some fine-grained sandy zones, gray (CL)	NS	
-76.5	16.5		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray (SM)		
-78.2	18.2		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, trace wood debris, gray (SP-SM)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13105° Long = -88.34075°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

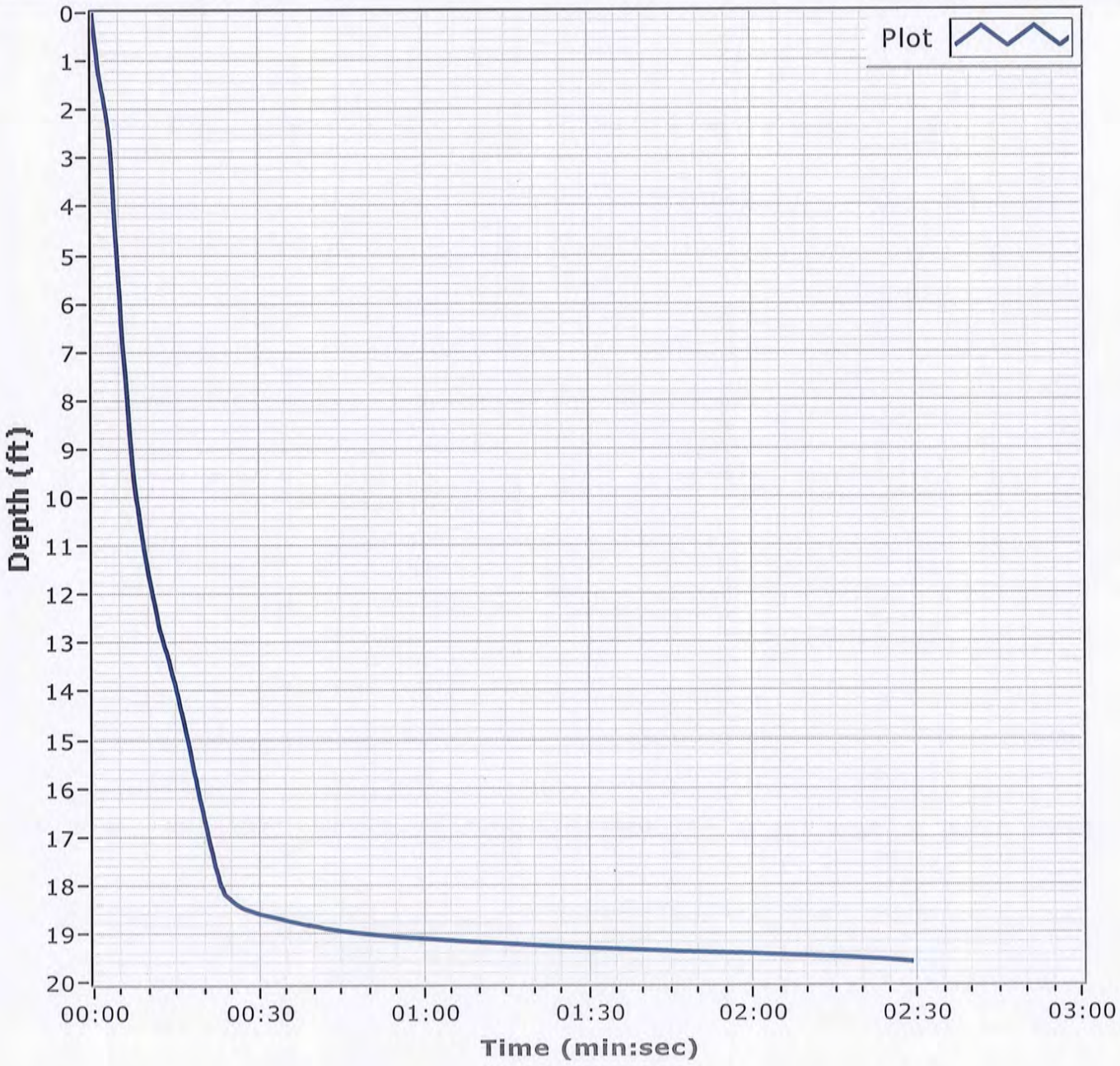
Core Identifier BI-PBS-104-12
Coordinate System
Latitude / Longitude

Latitude 30 07.863 N
Longitude 088 20.445 W

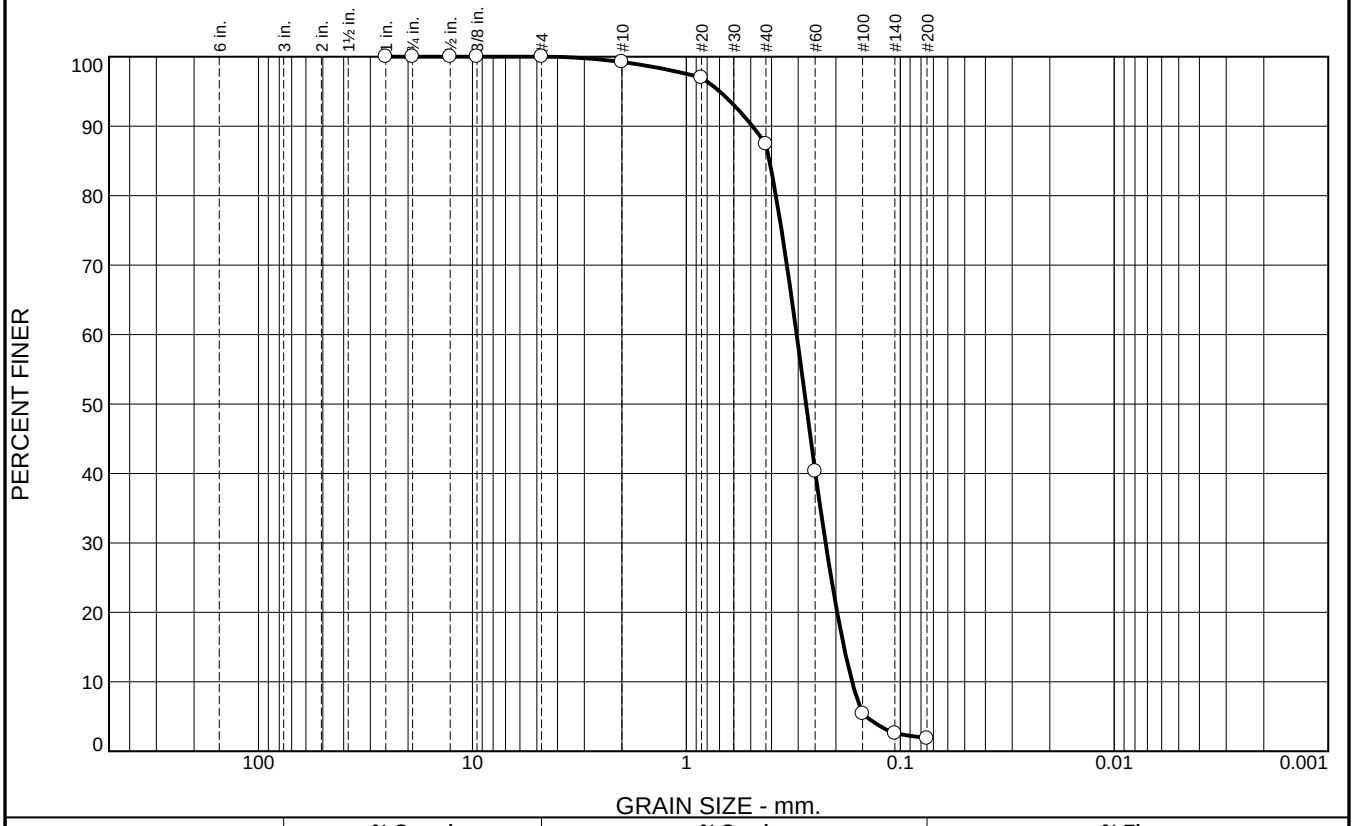
Date 01/04/2013
Start Time 13:53:43
End Time 13:56:12
Total Time 00:02:29

Water Depth 60.1'
Penetration 19.6'
Recovery 18.2'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.8	11.8	85.5	1.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.2		
#20	97.0		
#40	87.4		
#60	40.3		
#100	5.4		
#140	2.6		
#200	1.9		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4914 D_{85}= 0.4087 D_{60}= 0.3052
D_{50}= 0.2759 D_{30}= 0.2234 D_{15}= 0.1835
D_{10}= 0.1682 C_u= 1.81 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-104-12 A
Sample Number: 6503 (20) **Depth:** 0.0' **Date:** 1/08/13

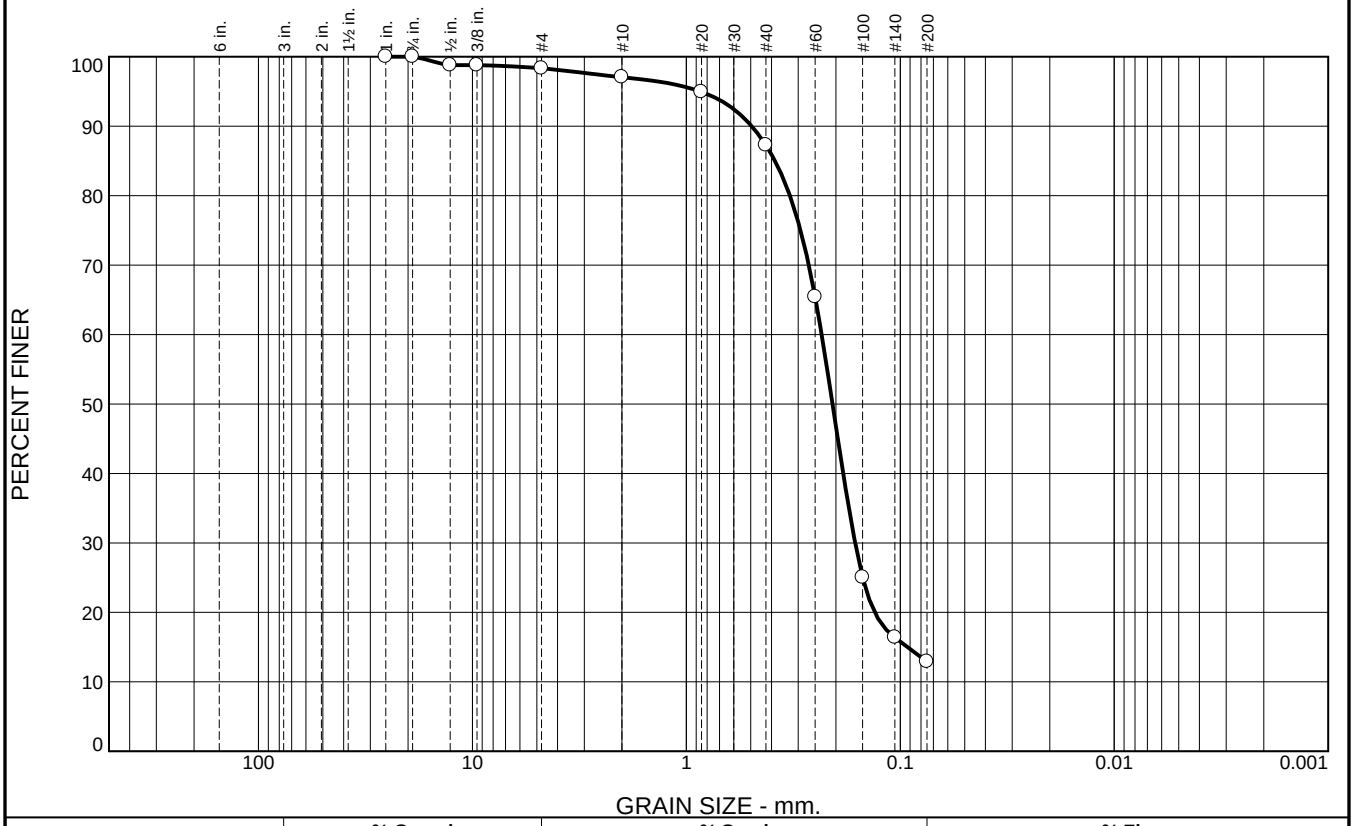
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.7	1.3	9.7	74.4	12.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	98.8		
.375	98.8		
#4	98.3		
#10	97.0		
#20	94.9		
#40	87.3		
#60	65.4		
#100	25.0		
#140	16.4		
#200	12.9		

* (no specification provided)

Material Description

Fine grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4950 D_{85}= 0.3851 D_{60}= 0.2331
D_{50}= 0.2074 D_{30}= 0.1627 D_{15}= 0.0926
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-104-12 B
Sample Number: 6503 (21) **Depth:** 1.0' **Date:** 1/08/13

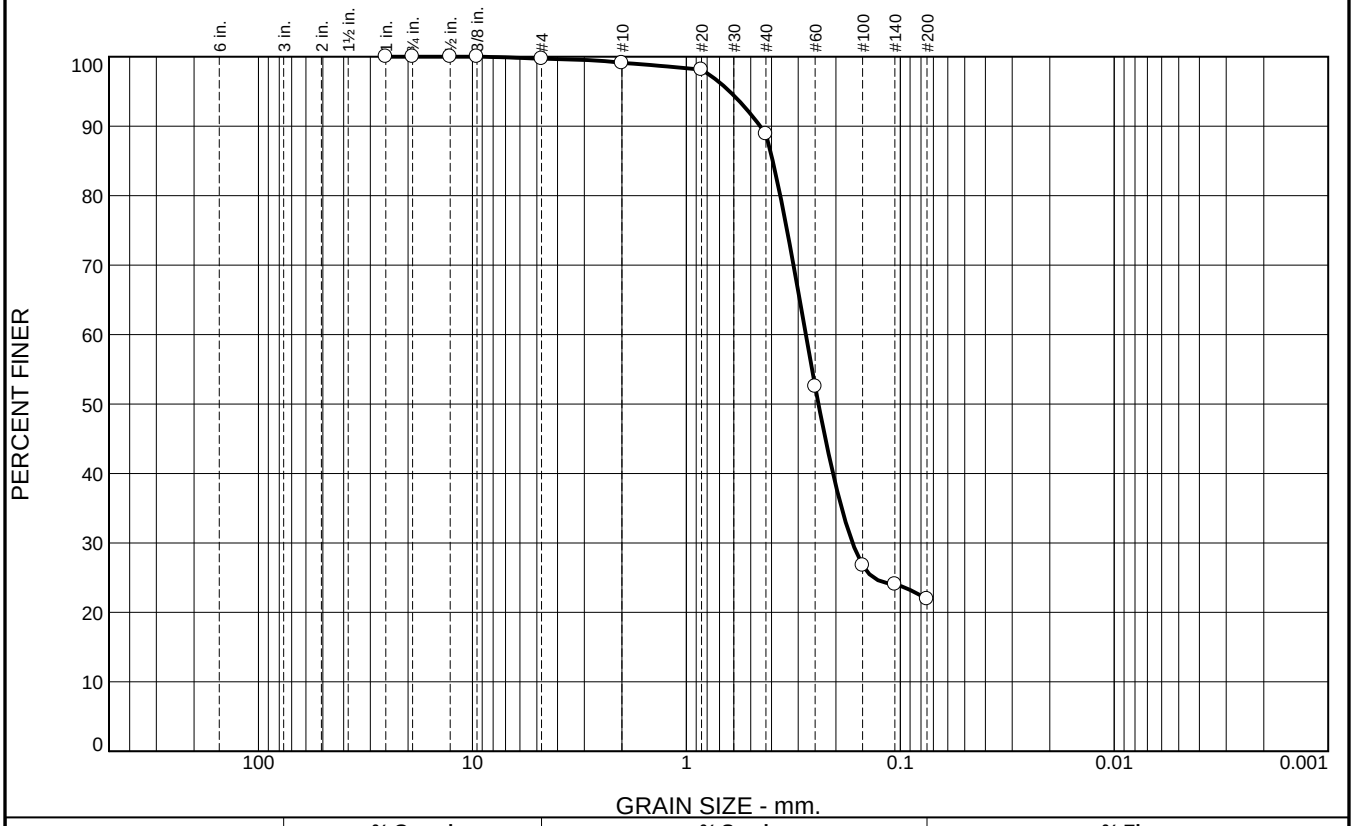
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.6	10.2	67.0	21.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	99.1		
#20	98.1		
#40	88.9		
#60	52.5		
#100	26.8		
#140	24.0		
#200	21.9		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4520 D_{85}= 0.3946 D_{60}= 0.2766
D_{50}= 0.2412 D_{30}= 0.1673 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-104-12 C
Sample Number: 6503 (22) **Depth:** 4.1' **Date:** 1/08/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-105-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-105-12	LOCATION COORDINATES: E = 1,141,273 N = 231,419	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 59.8 Ft.	
		15. DATE BORING	STARTED: 01-04-13 / COMPLETED: 01-04-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -59.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-59.5	0.0				
-61.0	1.5		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shells, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2602 mm % Fines: 2.1
-65.9	6.4		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, some silt, few shell fragments, greenish gray, orangy brown, gray mottle (CL) At El. -63.0 Ft., mostly clay, trace fine-grained sand-sized quartz, trace shell fragments, greenish gray, orangy brown, gray mottle At El. -64.6 Ft., mostly clay, some fine-grained sand-sized quartz, trace shell fragments, some clay bands, gray		
-68.7	9.2		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, few shell fragments, gray (SC)		
-75.2	15.7		CLAY, lean, mostly clay, trace shell fragments, trace wood debris, some fine-grained sand between 13.7 and 15.7 ft., gray (CL)	NS	
-78.0	18.5		CLAY, fat, mostly clay, very stiff, medium to high plasticity, lt. gray, orangy brown mottle (CH)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13542° Long = -88.33660°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-105-12

Coordinate System
Latitude / Longitude

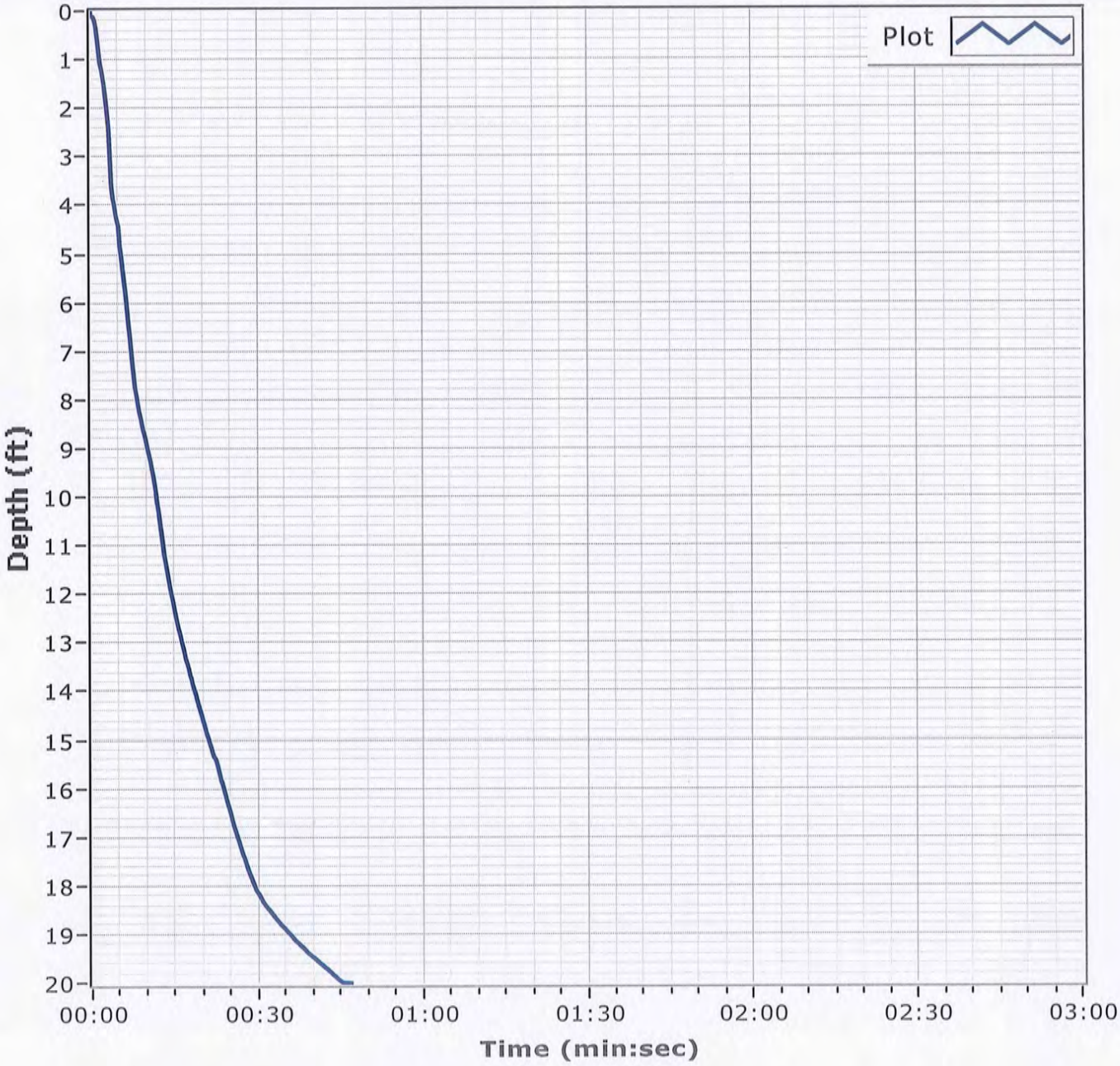
Latitude 30 008.125 N

Longitude 088 20.196 W

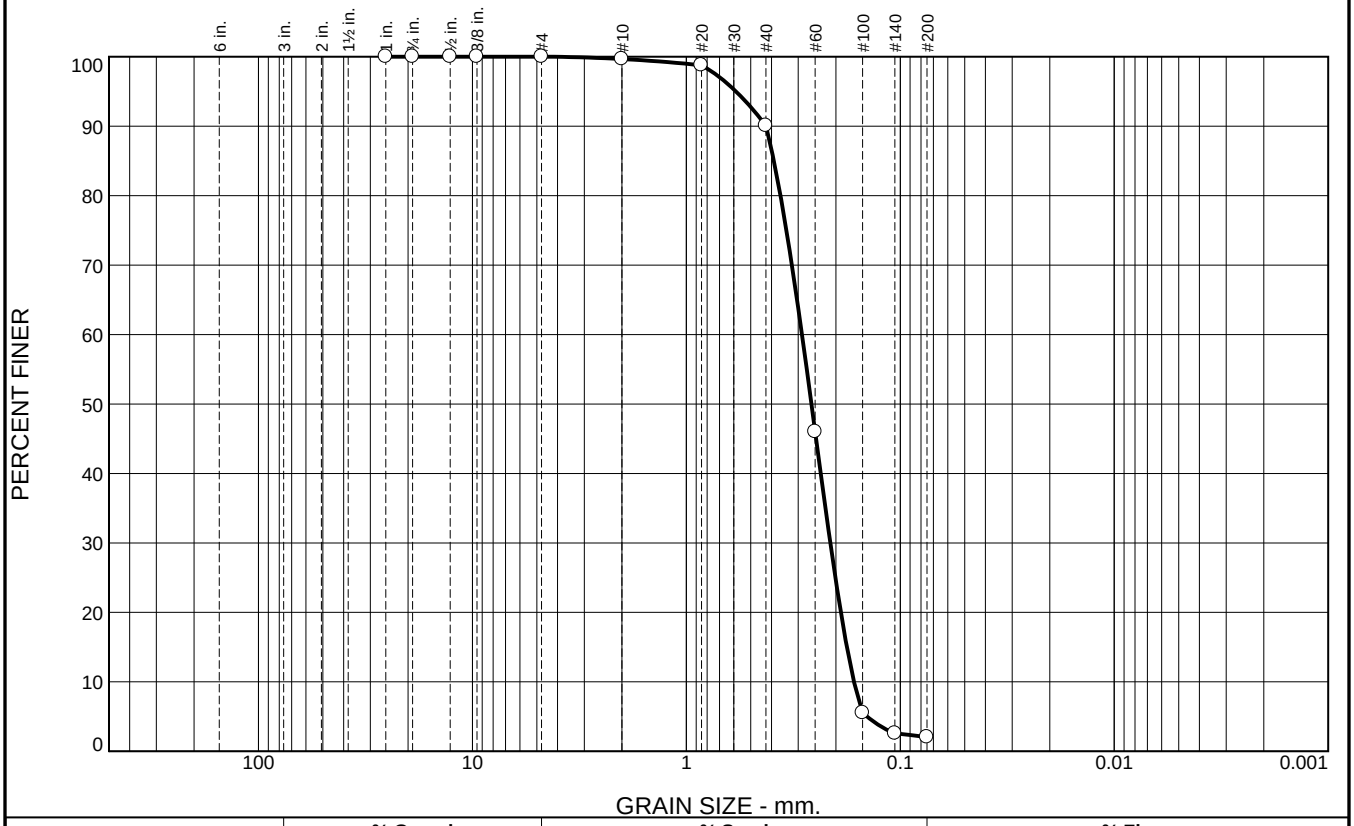
Date 01/04/2013
Start Time 15:40:32
End Time 15:41:19
Total Time 00:00:47

Water Depth 59.8'
Penetration 20.0'
Recovery 18.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	9.6	88.0	2.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.7		
#20	98.8		
#40	90.1		
#60	46.0		
#100	5.5		
#140	2.6		
#200	2.1		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4244 D_{85}= 0.3897 D_{60}= 0.2882
D_{50}= 0.2602 D_{30}= 0.2124 D_{15}= 0.1778
D_{10}= 0.1648 C_u= 1.75 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-105-12 A
Sample Number: 6503 (23) **Depth:** 0.0' **Date:** 1/08/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-106A-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-106A-12	LOCATION COORDINATES: E = 1,140,300 N = 231,982	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 58.4 Ft.	
		15. DATE BORING	STARTED: 01-12-13 / COMPLETED: 01-12-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -58.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-58.2	0.0				
-59.3	1.1		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, some shell fragments, trace fines, gray (SP)	A	Classification: SP Color: 5Y 6/3-pale olive D50: 0.5035 mm % Fines: 2.5
-64.9	6.7		CLAY, lean, mostly clay, trace shell fragments, pockets of clayey sand, low to medium plasticity, stiff, orangy brown, greenish gray, and gray mottle (CL)		
-67.4	9.2		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little shell fragments, gray (SC)		
-78.4	20.2		CLAY, fat, mostly clay, trace shell fragments, trace wood debris, medium to high plasticity, stiff, trace fine-grained sandy zones throughout, gray (CH) At El. -75.8 Ft., mostly clay, trace wood debris, medium to high plasticity, very stiff, some silty pockets within zone, lt. gray	NS	

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13698° Long = -88.33967°

Project Mississippi Barrier Island Restoration Project

AVS
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S E R V I C E S

Core Identifier BI-PBS-106A-12

Coordinate System
Latitude / Longitude

Latitude 30 08.219

Longitude 088 20.380

Date 01/12/2013

Start Time 14:55:56

End Time 14:57:02

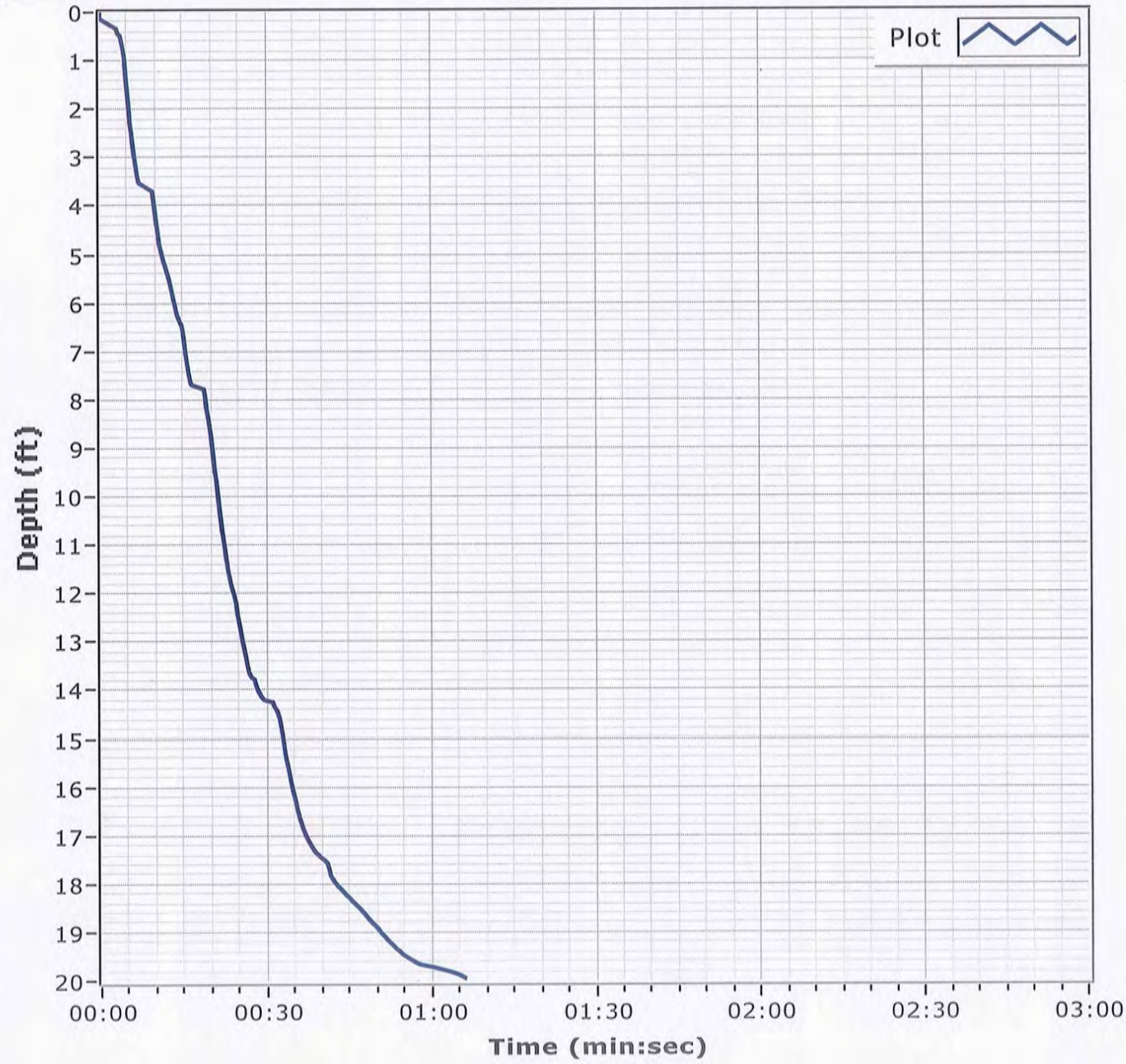
Total Time 00:01:06

Water Depth 58.4'

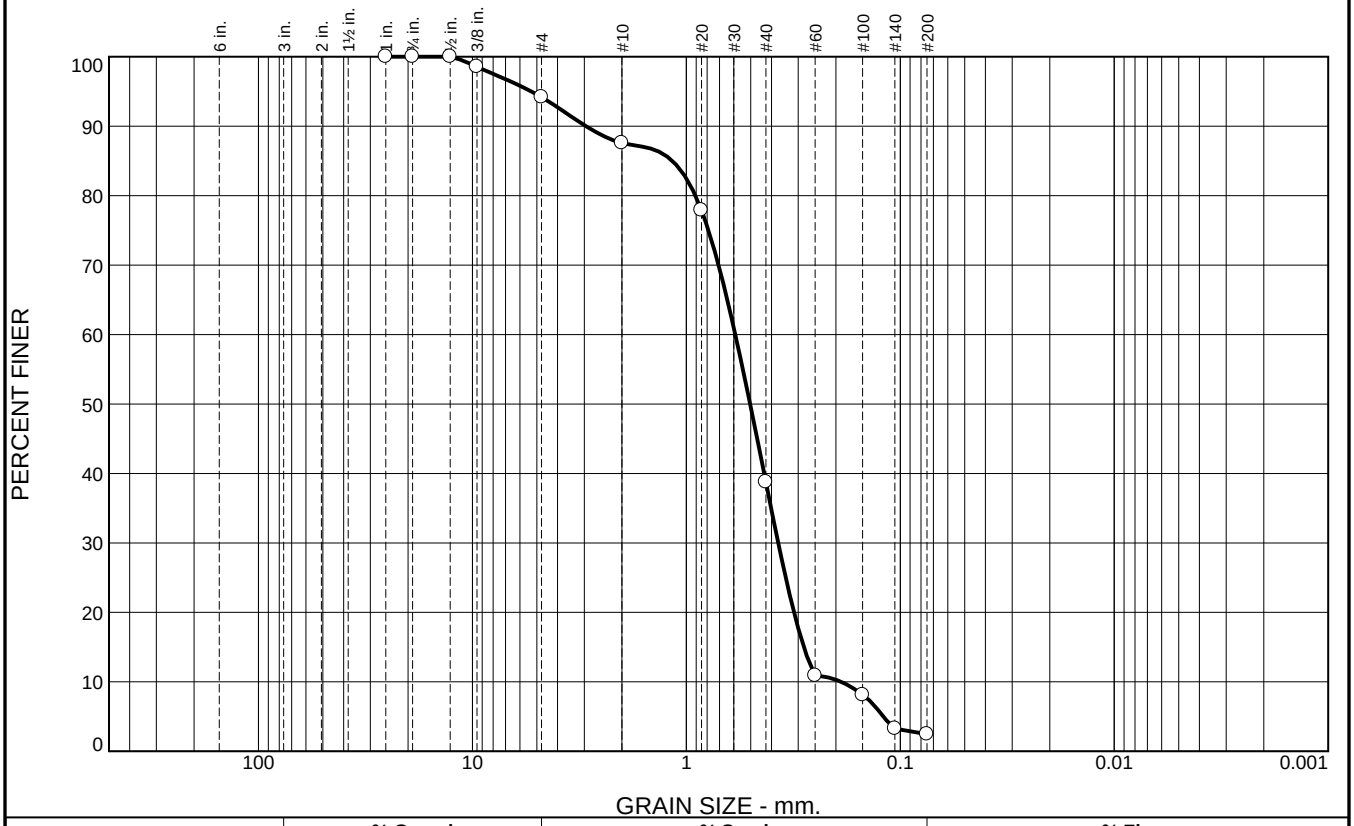
Penetration 20.0'

Recovery 20.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	5.8	6.6	48.8	36.3	2.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	98.5		
#4	94.2		
#10	87.6		
#20	77.9		
#40	38.8		
#60	10.9		
#100	8.1		
#140	3.3		
#200	2.5		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 2.9447 D_{85}= 1.1613 D_{60}= 0.5904
D_{50}= 0.5035 D_{30}= 0.3720 D_{15}= 0.2827
D_{10}= 0.1888 C_u= 3.13 C_c= 1.24

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-106A-12 A
Sample Number: 6507 (6) **Depth:** 0.0' **Date:** 1/14/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-107-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-107-12	LOCATION COORDINATES: E = 1,133,445 N = 224,614	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 62.5 Ft.	
		15. DATE BORING	STARTED: 01-04-13 / COMPLETED: 01-04-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -62.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-62.4	0.0				
-65.0	2.6		CLAY, lean, mostly clay, low to medium plasticity, fine-grained sand pockets, stiff, brownish orange, greenish gray, and gray mottle (CL)	NS	
-65.6	3.2		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)		
-67.7	5.3		CLAY, lean, mostly clay, some silt, some fine-grained sand-sized quartz, trace wood debris, brown (CL)		
-68.4	6.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2166 mm % Fines: 15.1
-70.5	8.1				
-71.1	8.7		SAND, silty, mostly fine-grained sand-sized quartz, few shell fragments, trace clay, gray (SM)	NS	
-73.5	11.1		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, some shell fragments, trace wood debris, gray (CL)	B	Classification: SM Color: 5Y 5/1-gray D50: 0.294 mm % Fines: 13.3
-79.7	17.3		SAND, silty, mostly fine-grained sand-sized quartz, some silt, little shell fragments, trace clay stringers, gray (SM) SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, dense, gray (SP)	C	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.2036 mm % Fines: 6.7

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

Lat = 30.11680° Long = -88.36145°

Project Mississippi Barrier Island Restoration Project

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AMERICAN VIBRACORE SERVICES

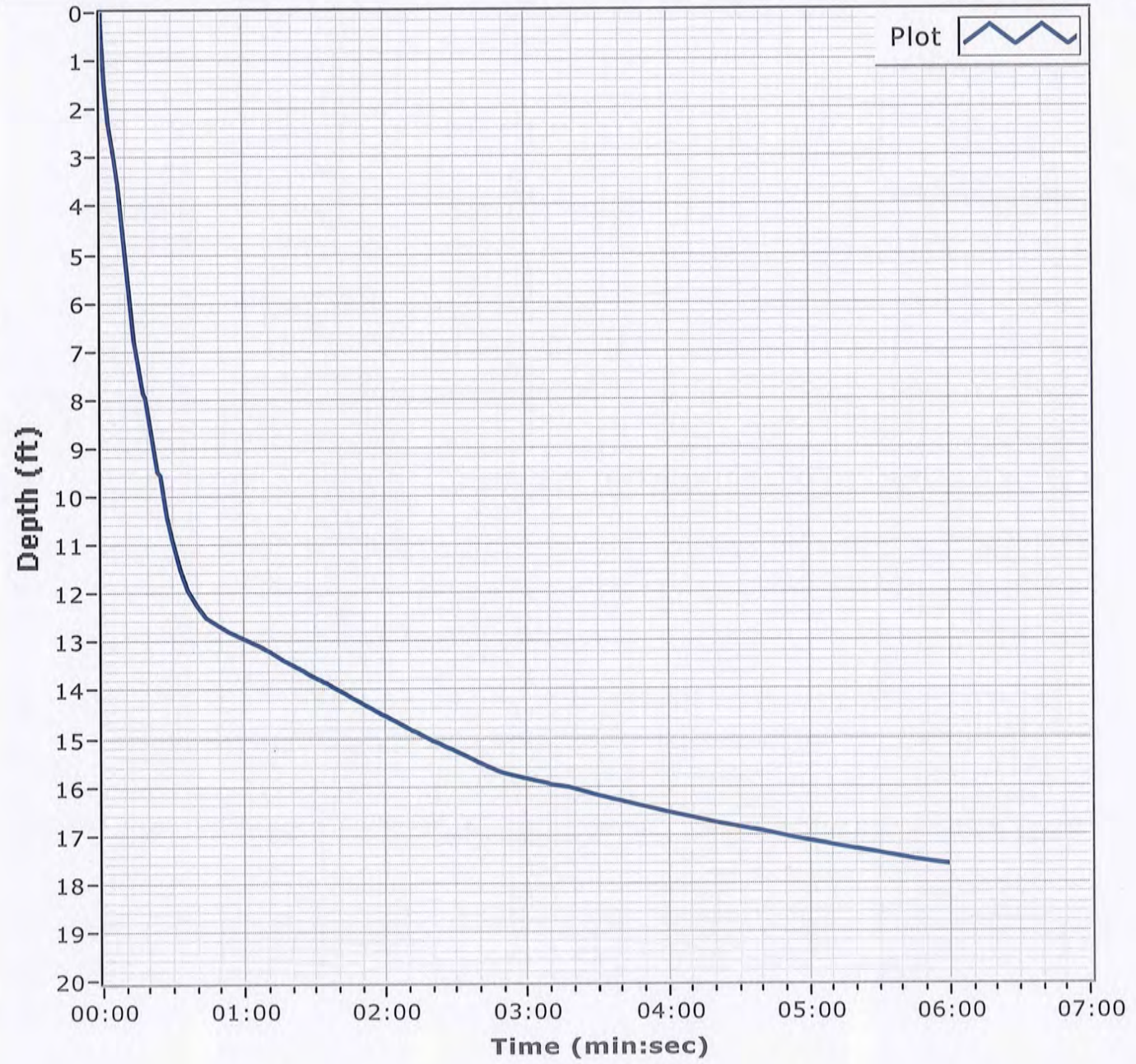
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Coordinate System
Latitude / Longitude

Latitude 30 07.008 N
Longitude 088 21.687 W

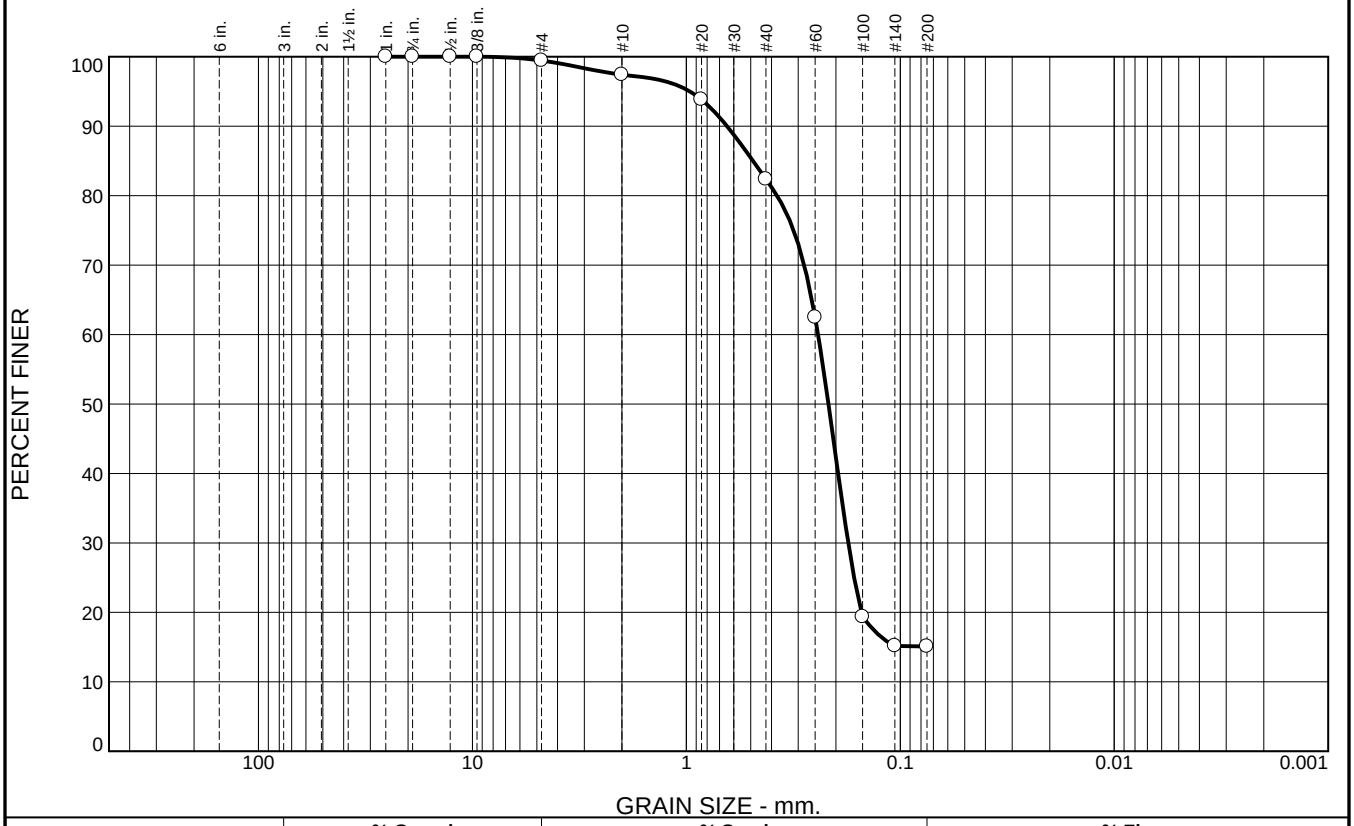
Date 01/04/2013
Start Time 13:03:43
End Time 13:09:43
Total Time 00:05:59

Water Depth 62.5'
Penetration 17.6'
Recovery 17.3'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.6	2.0	15.0	67.3	15.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.4		
#10	97.4		
#20	93.8		
#40	82.4		
#60	62.5		
#100	19.4		
#140	15.2		
#200	15.1		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6459 D_{85}= 0.4884 D_{60}= 0.2422
D_{50}= 0.2166 D_{30}= 0.1752 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-107-12 A
Sample Number: 6503 (24) **Depth:** 6.0' **Date:** 1/08/13

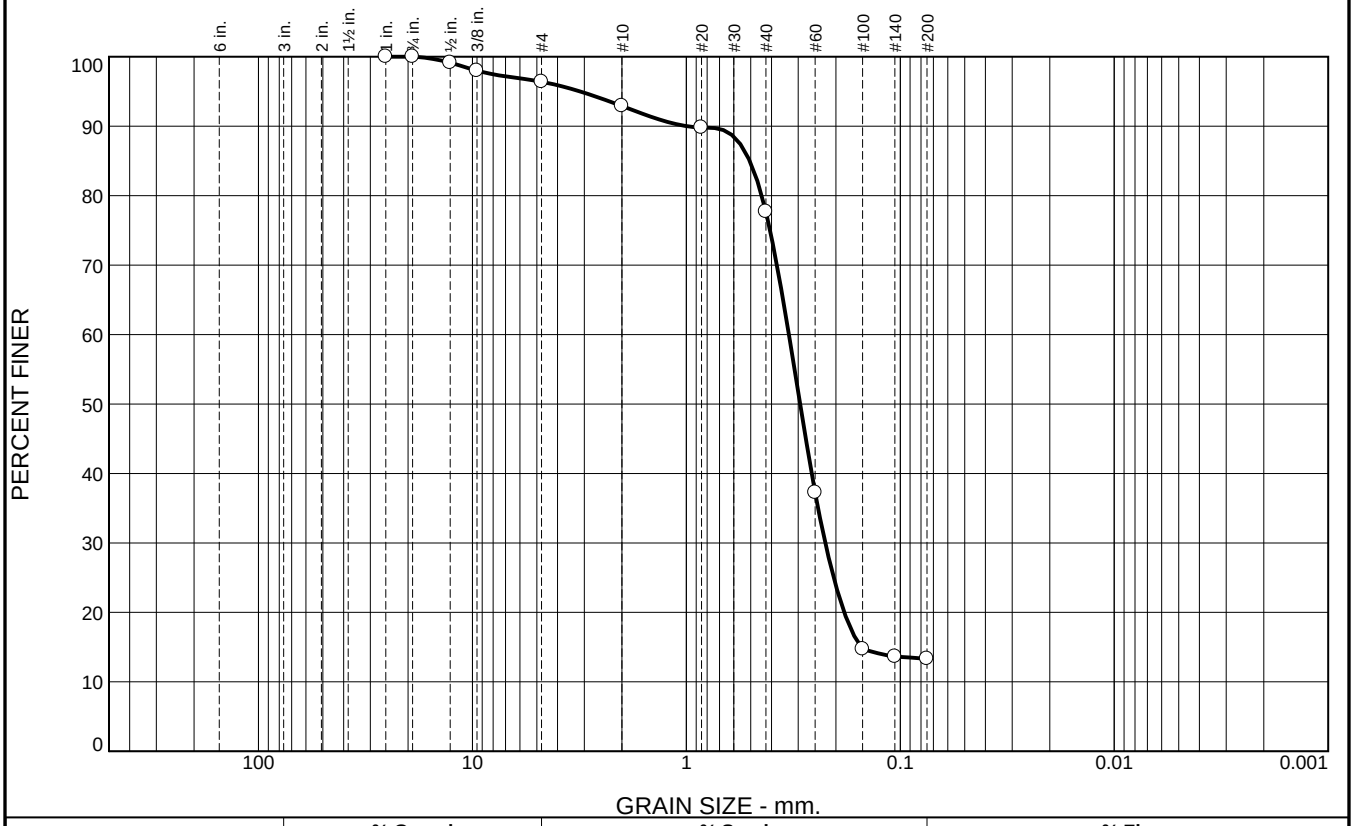
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.6	3.5	15.2	64.4	13.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.1		
.375	98.0		
#4	96.4		
#10	92.9		
#20	89.8		
#40	77.7		
#60	37.2		
#100	14.7		
#140	13.6		
#200	13.3		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.9996 D_{85}= 0.5057 D_{60}= 0.3317
D_{50}= 0.2940 D_{30}= 0.2242 D_{15}= 0.1526
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-107-12 B
Sample Number: 6503 (25) **Depth:** 8.7' **Date:** 1/08/13

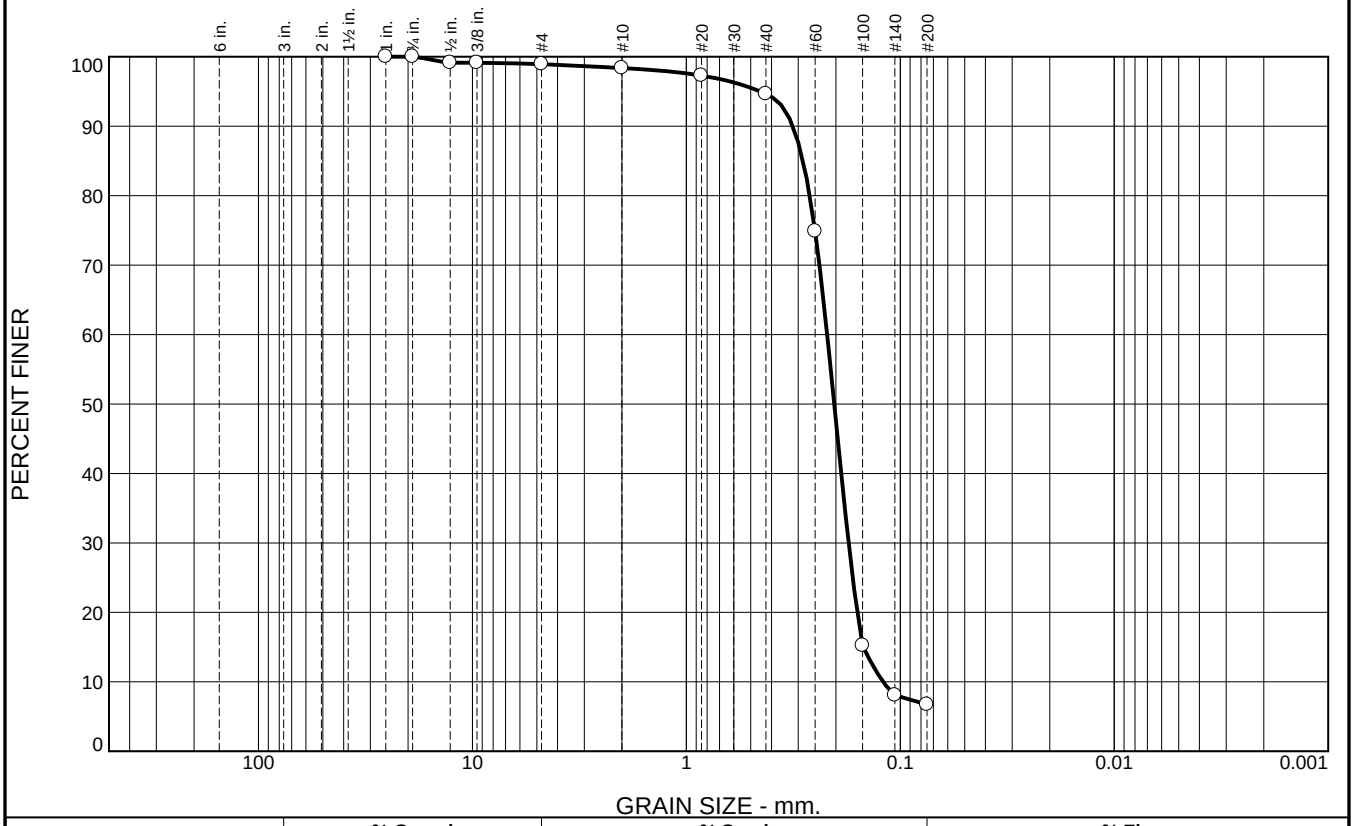
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.1	0.5	3.8	87.9	6.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.1		
.375	99.1		
#4	98.9		
#10	98.4		
#20	97.3		
#40	94.6		
#60	74.9		
#100	15.2		
#140	8.1		
#200	6.7		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3180 D_{85}= 0.2852 D_{60}= 0.2197
D_{50}= 0.2036 D_{30}= 0.1745 D_{15}= 0.1488
D_{10}= 0.1202 C_u= 1.83 C_c= 1.15

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-107-12 C
Sample Number: 6503 (26) **Depth:** 11.1' **Date:** 1/08/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-108-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-108-12	LOCATION COORDINATES: E = 1,141,062 N = 230,567	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 59.1 Ft.	
		15. DATE BORING	STARTED: 01-04-13 / COMPLETED: 01-04-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -58.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-58.9	0.0				
-61.6	2.7		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2444 mm % Fines: 4.4
-63.0	4.1		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, few shell fragments, gray (SC)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2294 mm % Fines: 27.7
-75.4	16.5		CLAY, lean, mostly clay, little silt, few shell fragments, some sandy zones, dark gray (CL)	NS	
-76.4	17.5		CLAY, fat, mostly clay, medium to high plasticity, very stiff, gets siltier near 16-16.5 ft., lt. gray (CH)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13308° Long = -88.33728°

Project Mississippi Barrier Island Restoration Project

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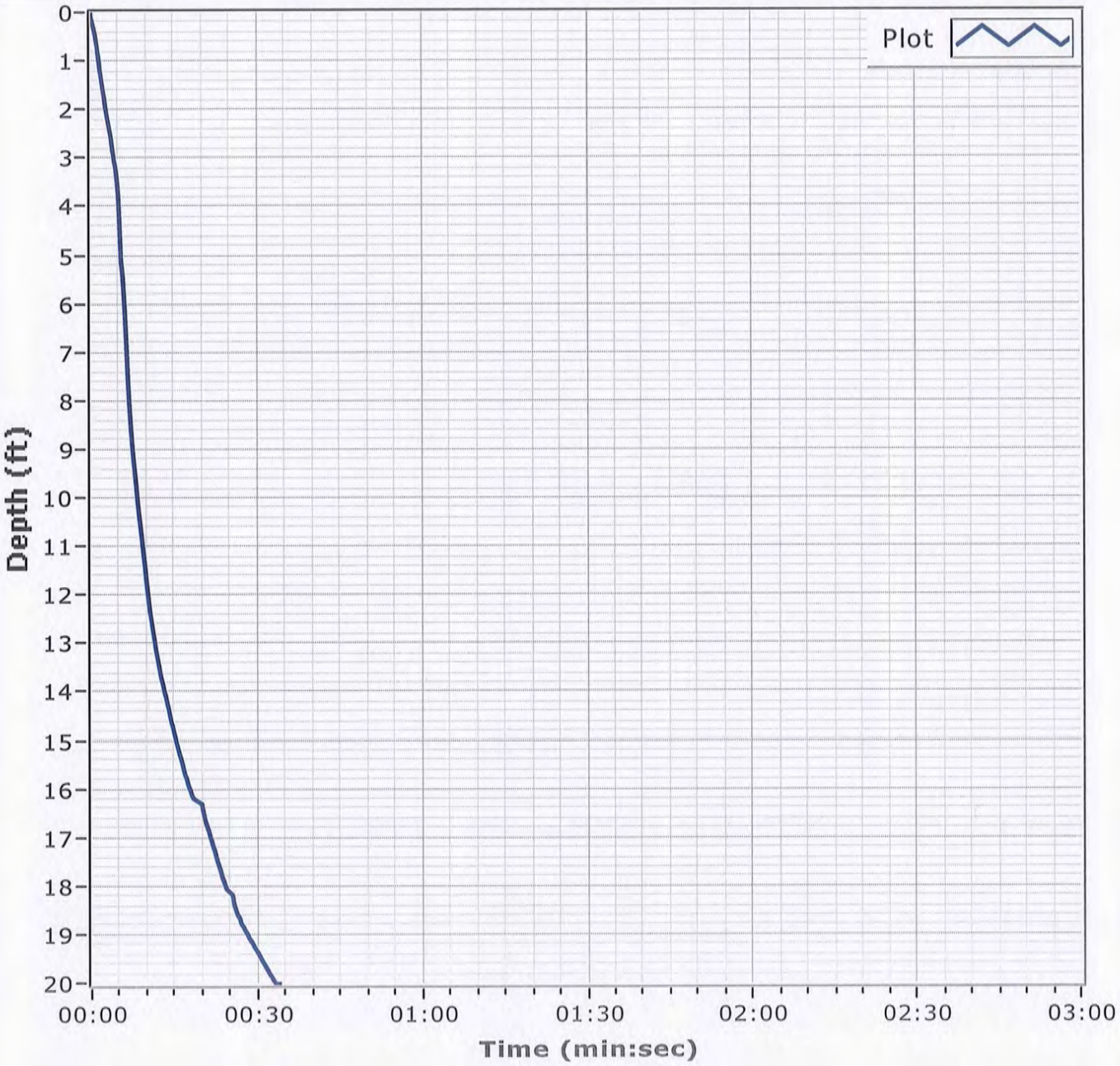
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Coordinate System
Latitude / Longitude

Date 01/04/2013
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Total Time 00:00:34

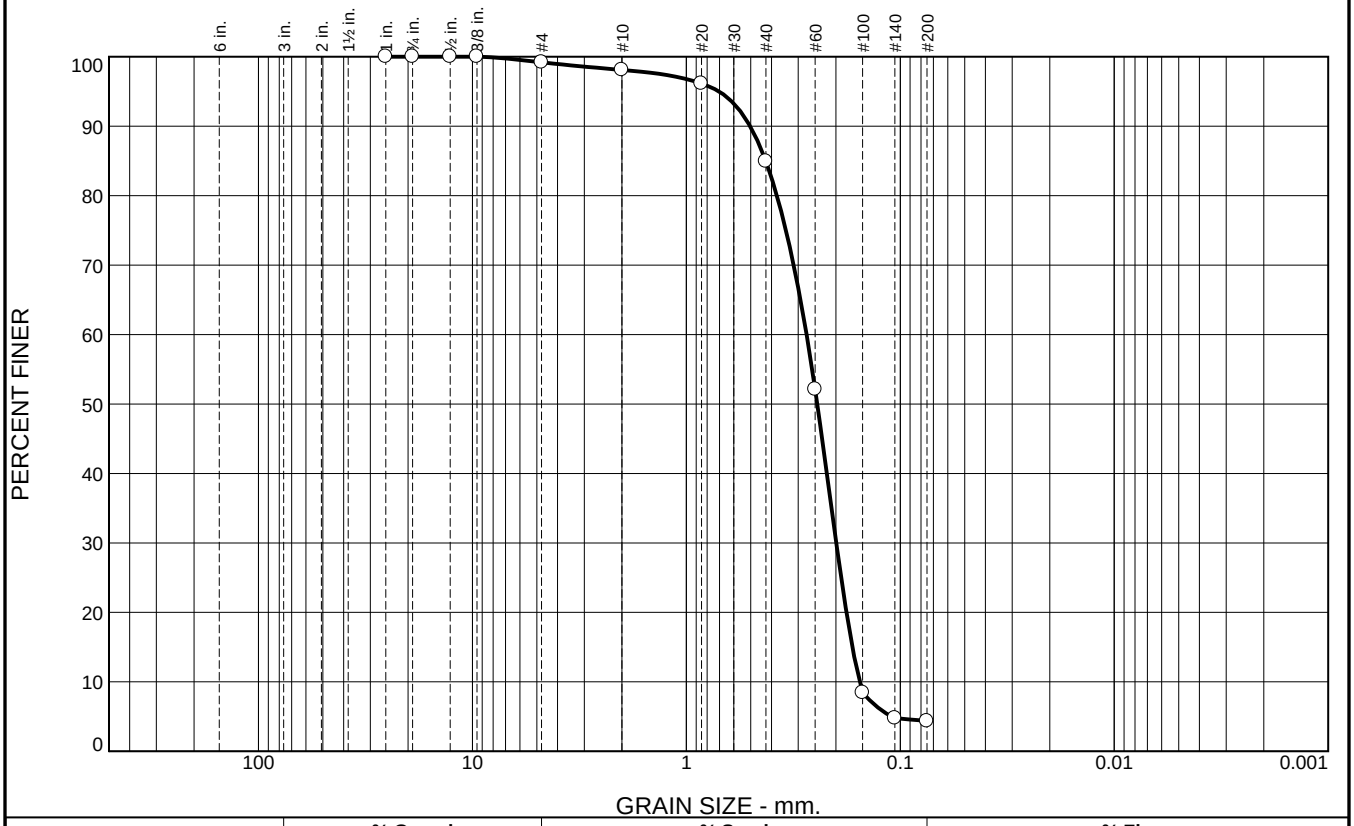
Water Depth 59.1'
Penetration 20.0'
Recovery 17.5'

Latitude 30 07.799 N
Longitude 088 20.237 W

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	1.1	13.2	80.5	4.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.2		
#10	98.1		
#20	96.1		
#40	84.9		
#60	52.1		
#100	8.4		
#140	4.8		
#200	4.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5037 D_{85}= 0.4257 D_{60}= 0.2743
D_{50}= 0.2444 D_{30}= 0.1993 D_{15}= 0.1676
D_{10}= 0.1549 C_u= 1.77 C_c= 0.93

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-108-12 A
Sample Number: 6503 (27) **Depth:** 0.0' **Date:** 1/08/13

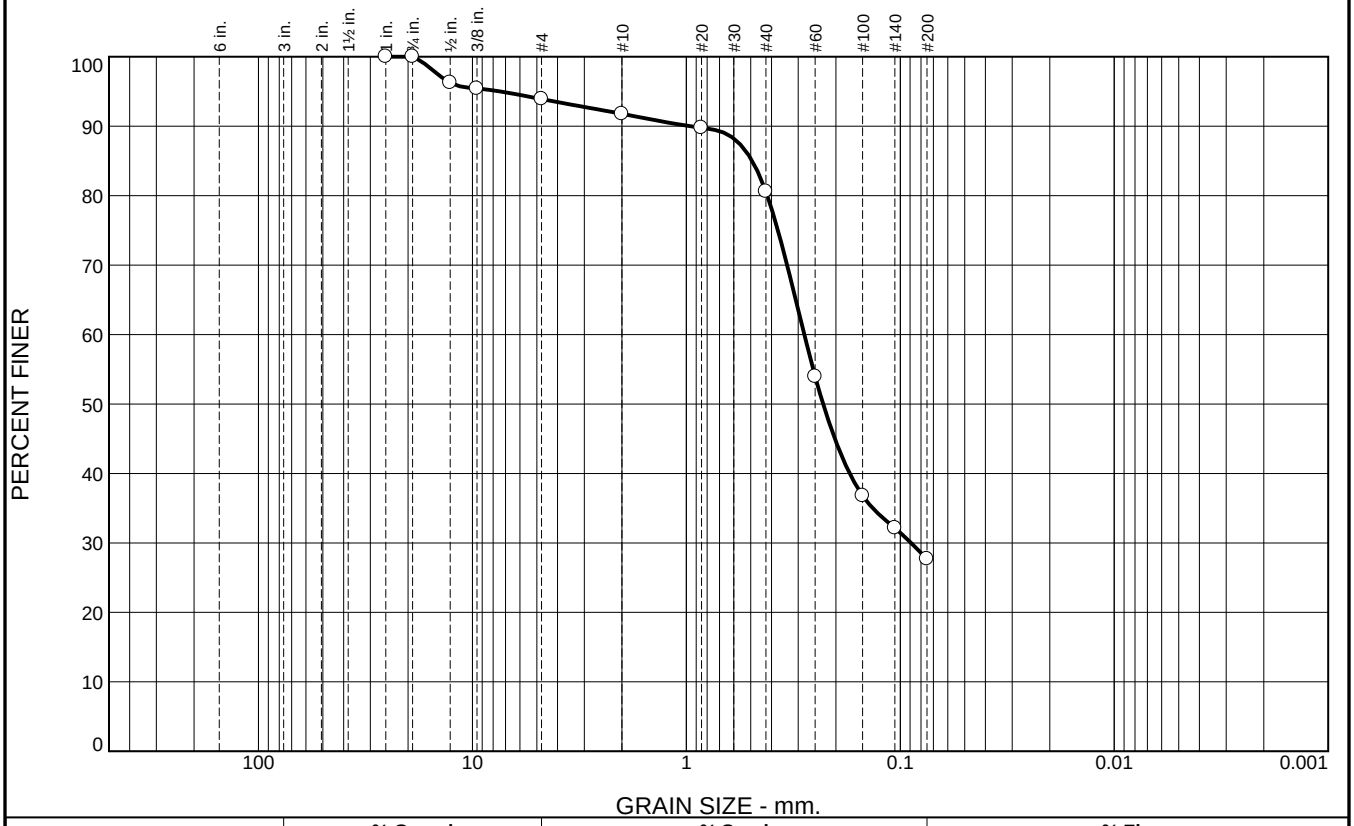
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	6.1	2.1	11.2	52.9	27.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	96.3		
.375	95.4		
#4	93.9		
#10	91.8		
#20	89.8		
#40	80.6		
#60	54.0		
#100	36.8		
#140	32.2		
#200	27.7		

* (no specification provided)

Material Description

Fine to medium, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.9627 D_{85}= 0.4924 D_{60}= 0.2811
D_{50}= 0.2294 D_{30}= 0.0891 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-108-12 B
Sample Number: 6503 (28) **Depth:** 2.7' **Date:** 1/08/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-109-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-109-12	LOCATION COORDINATES: E = 1,142,277 N = 229,445	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 60.4 Ft.	
		15. DATE BORING	STARTED: 01-04-13 / COMPLETED: 01-04-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -60.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-60.3	0.0				
-62.6	2.3		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 5/2-olive gray D50: 0.2367 mm % Fines: 3.5
-66.2	5.9		SAND, silty, mostly fine-grained sand-sized quartz, some silt, few shell fragments, gray (SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2436 mm % Fines: 22.2
-74.7	14.4		CLAY, lean, mostly clay, some sand, little silt, trace shell fragments, gray (CL)	NS	
-75.3	15.0		SAND, poorly-graded with clay, mostly fine-grained sand-sized quartz, little silt, few clay, trace shell fragments, gray (SP-SC)		
-76.9	16.6		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, gray (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.12998° Long = -88.33345°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

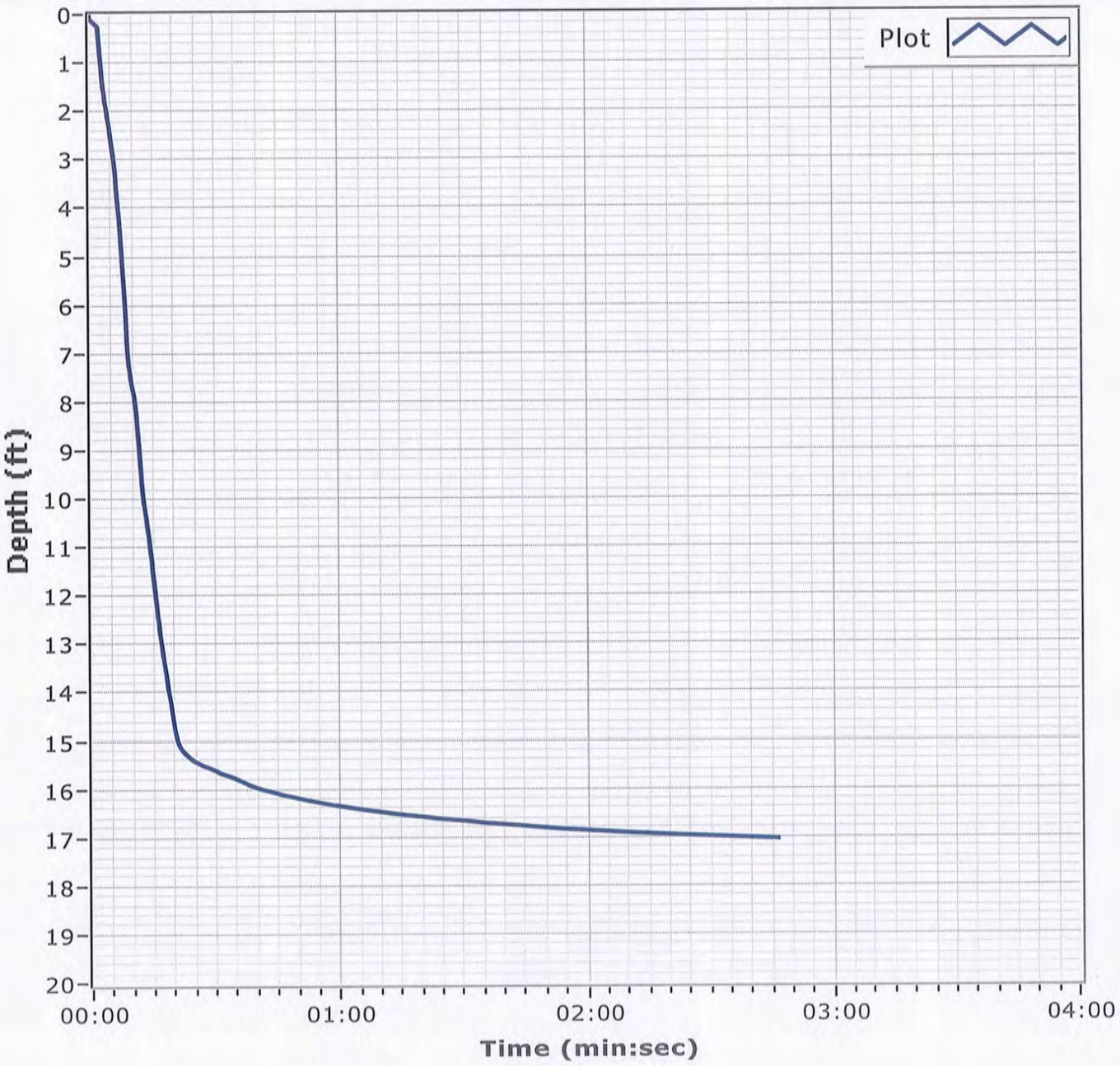
Core Identifier BI-PBS-109-12
Coordinate System
Latitude / Longitude

Latitude 30 07.799 N
Longitude 088 20.007 W

Date 01/04/2013
Start Time 14:35:20
End Time 14:38:07
Total Time 00:02:46

Water Depth 60.4'
Penetration 17.1'
Recovery 16.6'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.9	11.7	83.7	3.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	98.9		
#20	96.7		
#40	87.2		
#60	55.5		
#100	7.5		
#140	4.6		
#200	3.5		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4702 D_{85}= 0.3987 D_{60}= 0.2625
D_{50}= 0.2367 D_{30}= 0.1967 D_{15}= 0.1683
D_{10}= 0.1570 C_u= 1.67 C_c= 0.94

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-109-12 A
Sample Number: 6503 (29) **Depth:** 0.0' **Date:** 1/08/12

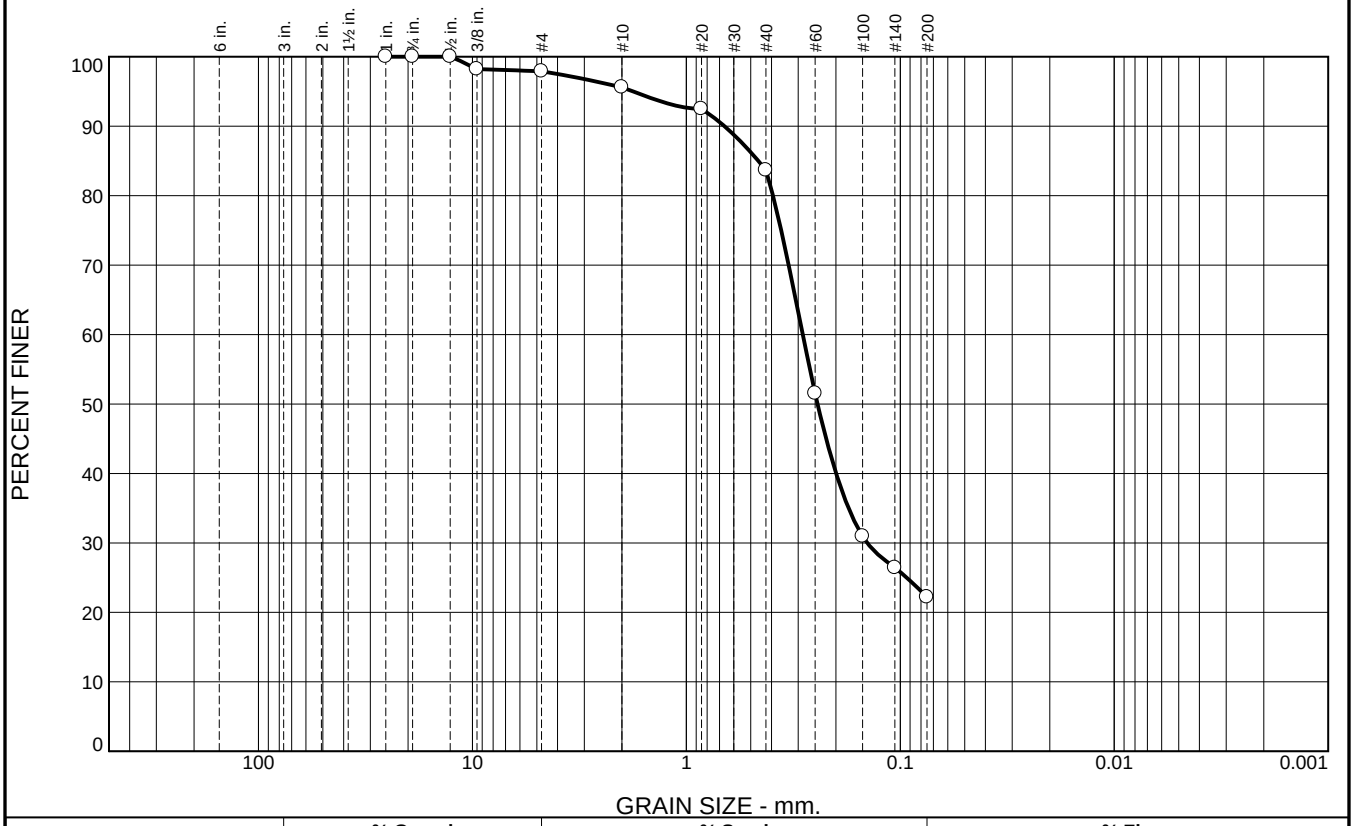
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.1	2.3	11.9	61.5	22.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	98.2		
#4	97.9		
#10	95.6		
#20	92.5		
#40	83.7		
#60	51.5		
#100	30.9		
#140	26.4		
#200	22.2		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6646 D_{85}= 0.4611 D_{60}= 0.2859
D_{50}= 0.2436 D_{30}= 0.1428 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-109-12 B
Sample Number: 6503 (30) **Depth:** 2.3' **Date:** 1/08/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-110-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-110-12	LOCATION COORDINATES: E = 1,135,086 N = 239,132	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 51.4 Ft.	
		15. DATE BORING	STARTED: 01-12-13 / COMPLETED: 01-12-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -51.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-51.6	0.0				
-53.9	2.3		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2964 mm % Fines: 2.6
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, altenating bands of clay, dark gray (SM)	NS	
			At El. -57.2 Ft., mostly fine-grained sand-sized quartz, some silt, trace clay, dark gray	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2127 mm % Fines: 14.5
-64.1	12.5				
			SAND, poorly-graded with clay, mostly fine-grained sand-sized quartz, few clay, few silt, some clay intervals with poorly-graded, fine-grained sand with silt between 14.3-15.3 ft., gray (SP-SC)	NS	
-69.9	18.3				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.1567° Long = -88.35607°

Project Mississippi Barrier Island Restoration Project

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S E R V I C E S

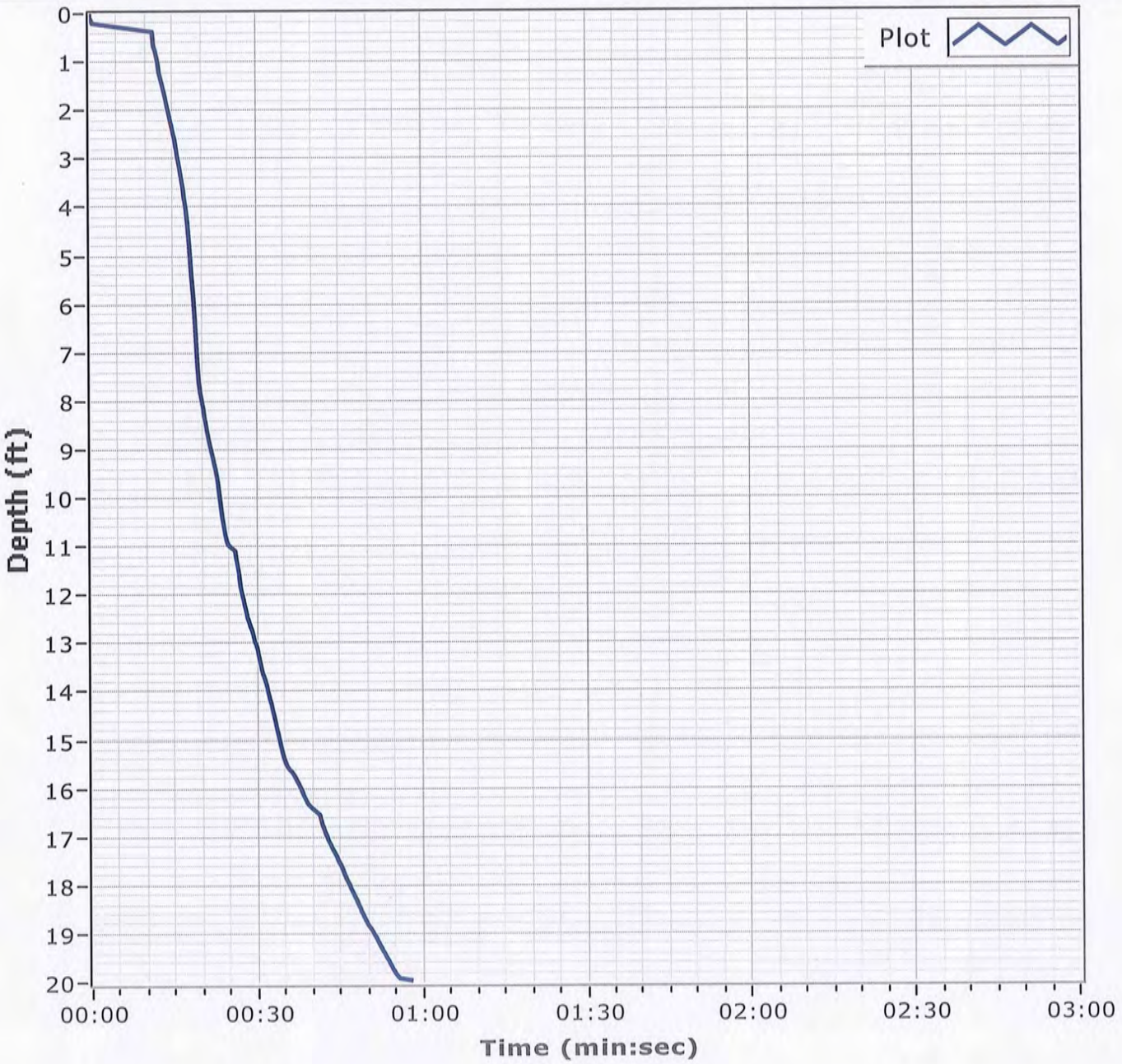
Core Identifier BI-PBS-110-12
Coordinate System
Latitude / Longitude

Date 01/12/2013
Start Time 11:44:29
End Time 11:45:27
Total Time 00:00:58

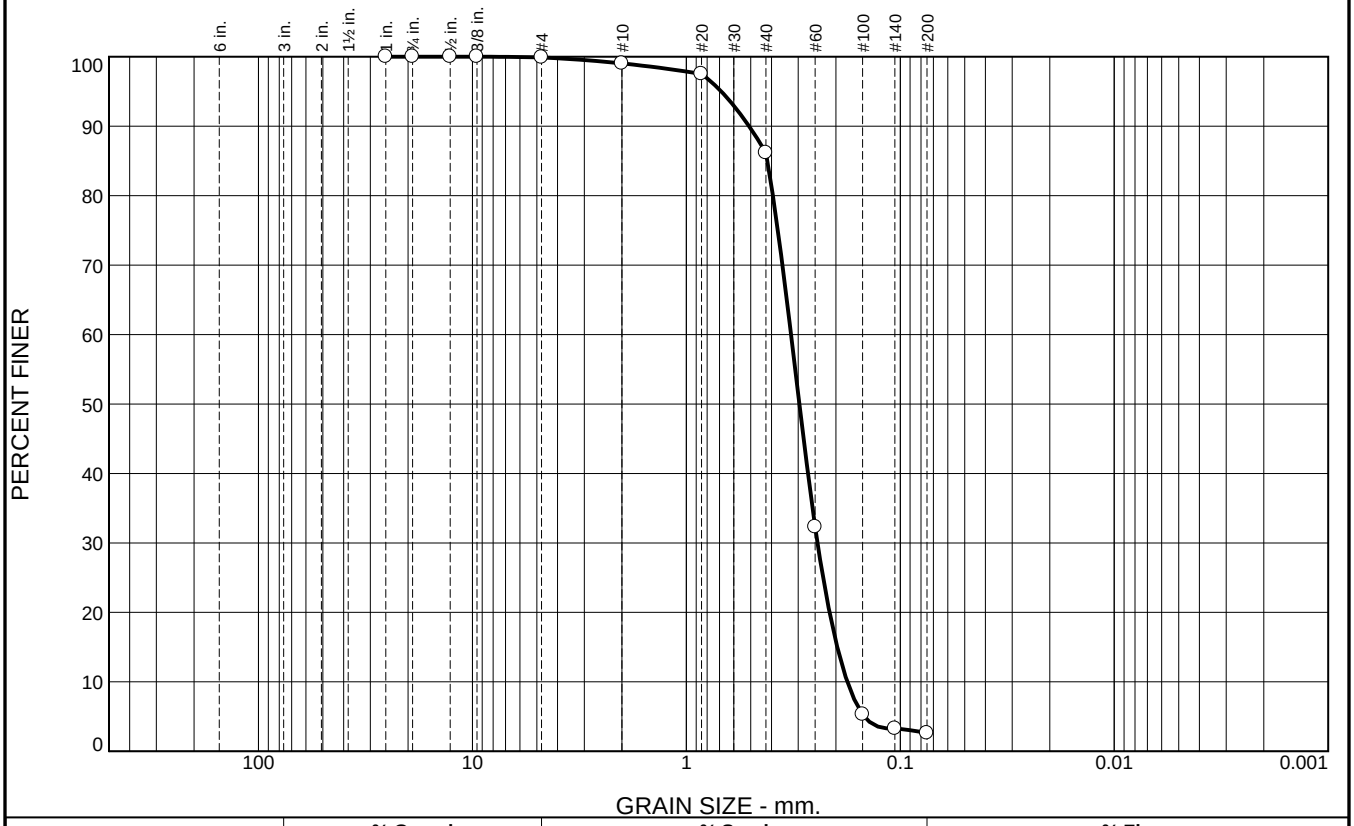
Water Depth 51.4'
Penetration 20.0'
Recovery 18.3'

Latitude 30 09.402
Longitude 088 21.364

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.9	12.8	83.6	2.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.0		
#20	97.5		
#40	86.2		
#60	32.3		
#100	5.3		
#140	3.3		
#200	2.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5094 D_{85}= 0.4184 D_{60}= 0.3242
D_{50}= 0.2964 D_{30}= 0.2437 D_{15}= 0.1971
D_{10}= 0.1770 C_u= 1.83 C_c= 1.04

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-110-12 A
Sample Number: 6507 (7) **Depth:** 0.0' **Date:** 1/14/13

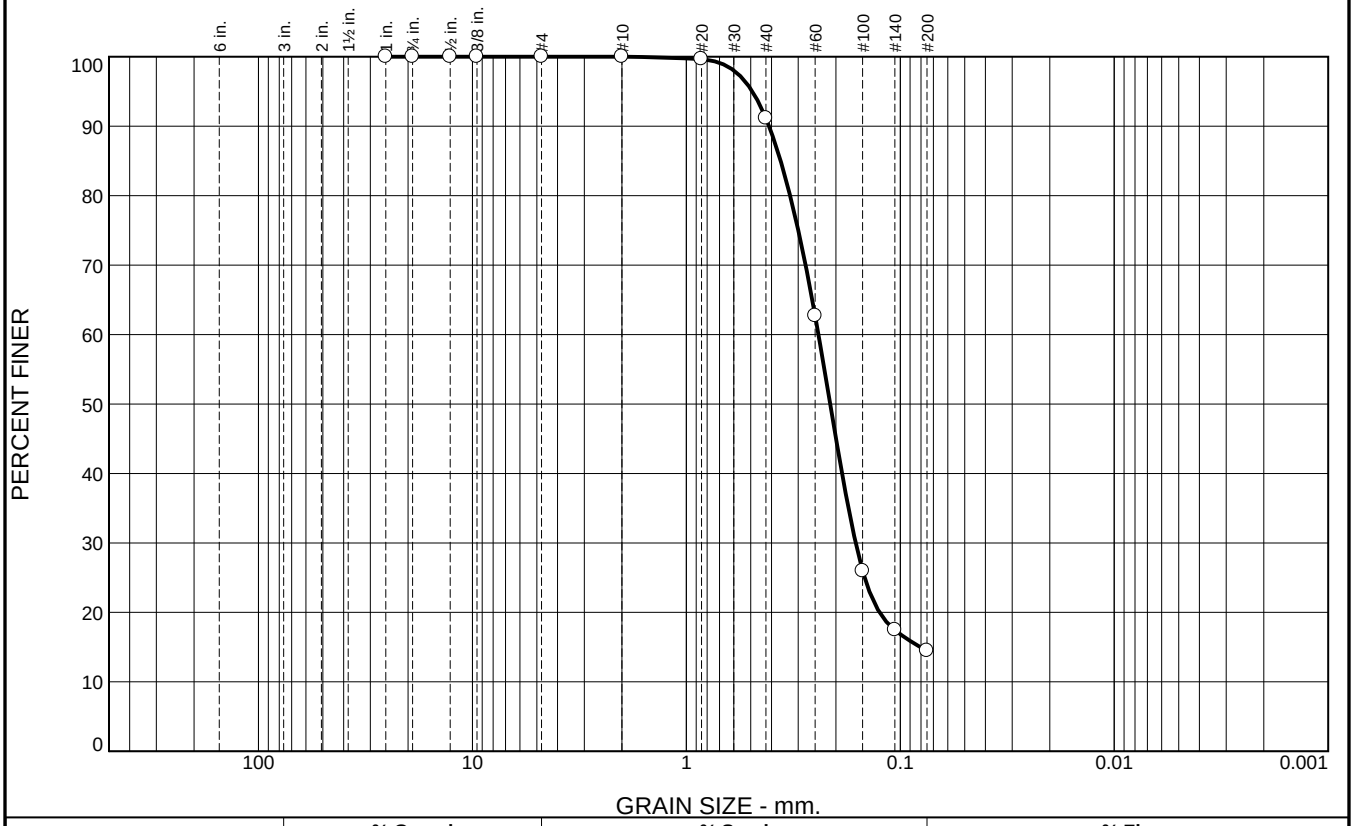
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	8.8	76.7	14.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.7		
#40	91.2		
#60	62.7		
#100	26.0		
#140	17.5		
#200	14.5		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4106 D_{85}= 0.3624 D_{60}= 0.2412
D_{50}= 0.2127 D_{30}= 0.1618 D_{15}= 0.0805
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-110-12 B
Sample Number: 6507 (8) **Depth:** 5.6' **Date:** 1/14/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-111-12

DRILLING LOG	DIVISION: South Atlantic	INSTALLATION: Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-111-12	LOCATION COORDINATES: E = 1,137,855 N = 237,489	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 52 Ft.	
		15. DATE BORING	STARTED: 01-12-13 / COMPLETED: 01-12-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -52.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-52.2	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.3011 mm % Fines: 3.7
-56.2	4.0				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, trace wood debris, clay bands, gray (SC)	NS	
-58.6	6.4				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace wood debris, few clay lenses, gray (SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1971 mm % Fines: 15.7
-65.0	12.8				
-66.0	13.8		CLAY, silty, mostly clay, some silt, few fine-grained sand-sized quartz, low plasticity, gray (CL-ML)	NS	
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray (SM)		
-70.9	18.7				
-72.1	19.9		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, gray (SP)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.15215° Long = -88.34733°

Project Mississippi Barrier Island Restoration Project

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Core Identifier BI-PBS-111-12

Coordinate System
Latitude / Longitude

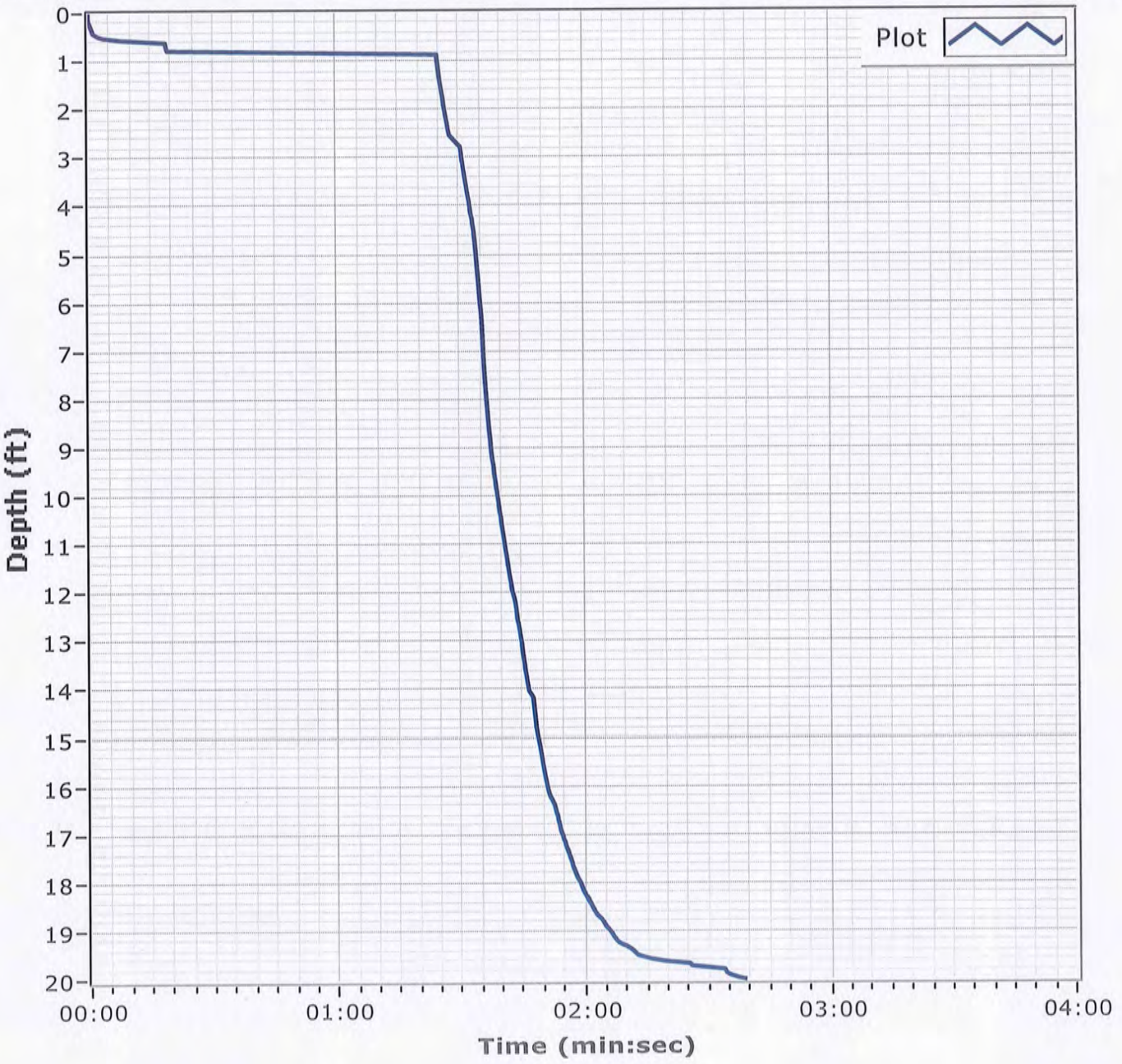
Latitude 30 09.129

Longitude 088 20.840

Date 01/12/2013
Start Time 12:17:09
End Time 12:19:48
Total Time 00:02:39

Water Depth 52.0'
Penetration 20.0'
Recovery 19.9'

Comments
at 0.8' vibrator stopped then restarted



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.5	2.4	21.4	71.0	3.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.1		
.375	99.1		
#4	98.5		
#10	96.1		
#20	92.5		
#40	74.7		
#60	35.2		
#100	7.0		
#140	4.3		
#200	3.7		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6764 D_{85}= 0.5410 D_{60}= 0.3420
D_{50}= 0.3011 D_{30}= 0.2331 D_{15}= 0.1840
D_{10}= 0.1648 C_u= 2.08 C_c= 0.96

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-111-12 A
Sample Number: 6507 (9) **Depth:** 0.0' **Date:** 1/14/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	11.2	73.0	15.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.4		
#40	88.7		
#60	64.2		
#100	34.7		
#140	21.6		
#200	15.7		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4435 D_{85}= 0.3828 D_{60}= 0.2328
D_{50}= 0.1971 D_{30}= 0.1353 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-111-12 B
Sample Number: 6507 (10) **Depth:** 6.4' **Date:** 1/14/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-11-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-11-12	LOCATION COORDINATES: E = 1,136,985 N = 232,368	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 46.4 Ft.
		15. DATE BORING	STARTED: 11-23-12 / COMPLETED: 11-23-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -45.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-45.5	0.0				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, little shell fragments, trace fines, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.28 mm % Fines: 1.6
-54.1	8.6				
-55.9	10.4		SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fines, trace shell fragments, lt. gray (SP)	B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.24 mm % Fines: 3.2
-59.3	13.8		SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, gray (SM)	NS	
-60.0	14.5		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, lt. gray mottled with gray and orange (CL)		
-61.1	15.6		SAND, silty, mostly fine-grained sand-sized quartz, some silt, gray (SM)		
-64.8	19.3		CLAY, lean, mostly clay, with sandy lenses throughout, lt. gray mottled with gray and orange (CL)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13808° Long = -88.35015°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

Core Identifier BI-PBS-11-12

Coordinate System
Latitude / Longitude

Latitude 30 08.285

Longitude 088 20.009

Date 11/23/2012

Start Time 15:04:48

End Time 15:09:25

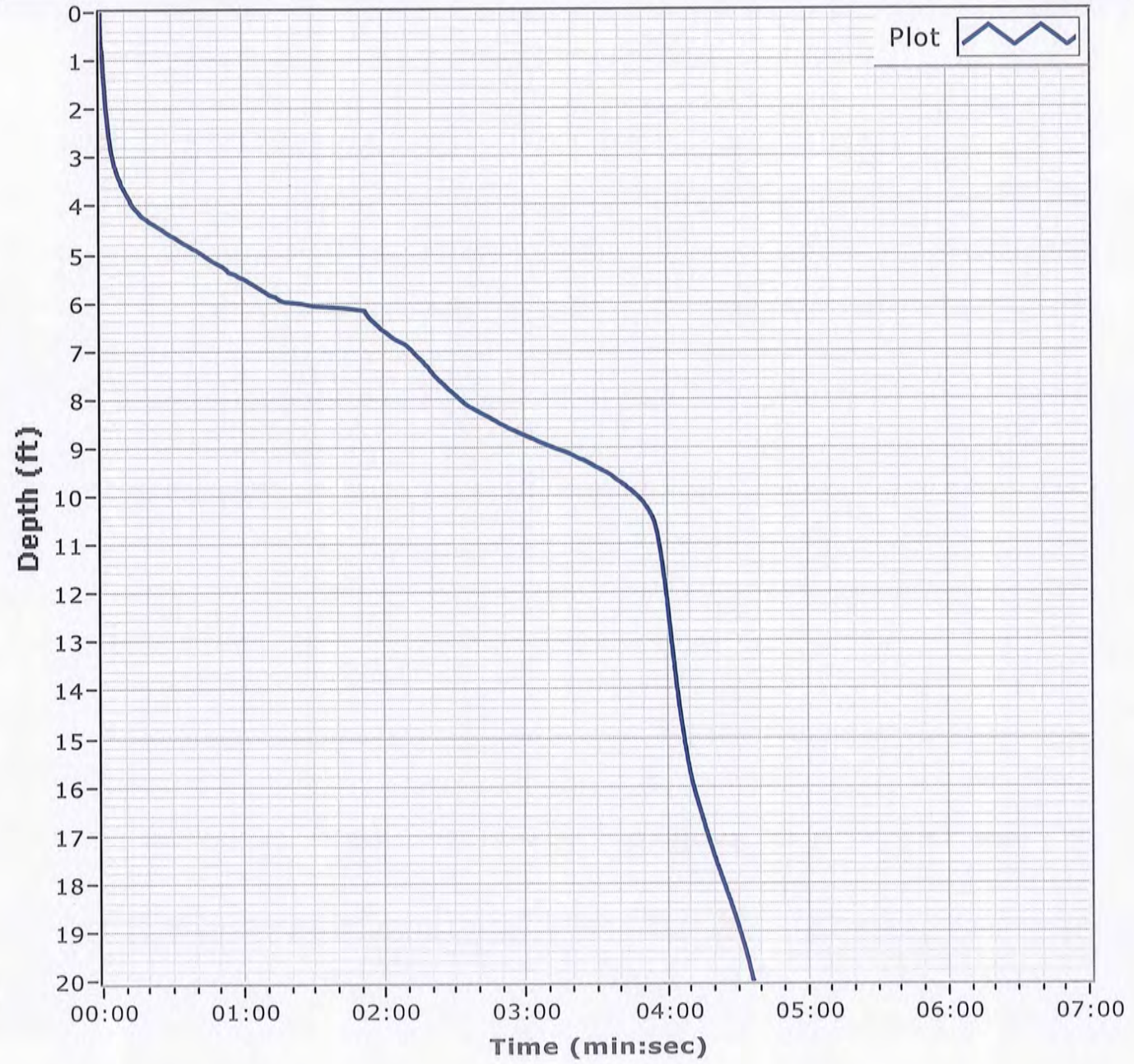
Total Time 00:04:36

Water Depth 46.4

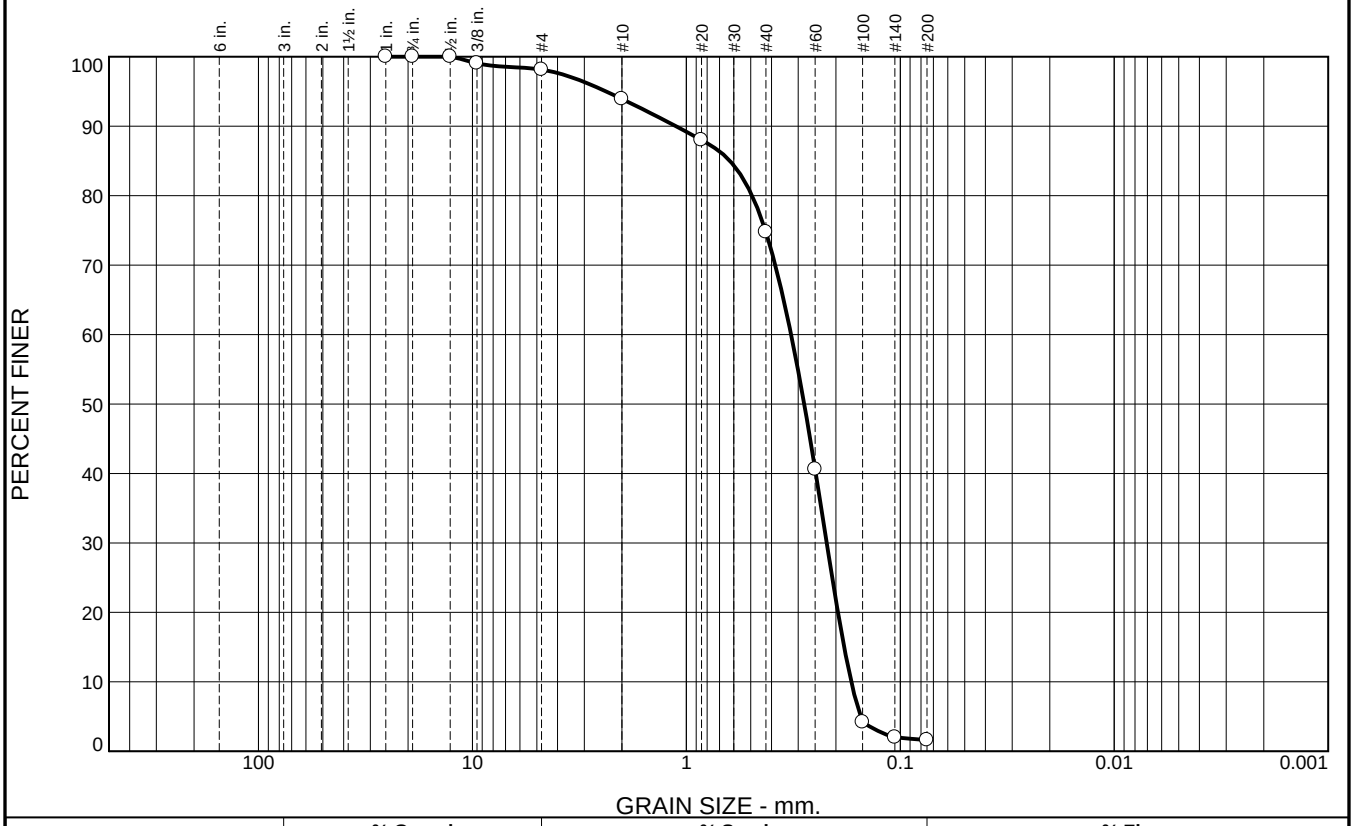
Penetration 20.0'

Recovery 19.3'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.9	4.2	19.1	73.2	1.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.1		
#4	98.1		
#10	93.9		
#20	88.0		
#40	74.8		
#60	40.6		
#100	4.2		
#140	2.0		
#200	1.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.1206 D_{85}= 0.6257 D_{60}= 0.3240
D_{50}= 0.2814 D_{30}= 0.2208 D_{15}= 0.1831
D_{10}= 0.1697 C_u= 1.91 C_c= 0.89

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-11-12 A
Sample Number: 6469 (36) **Depth:** 0.0' **Date:** 11/28/12

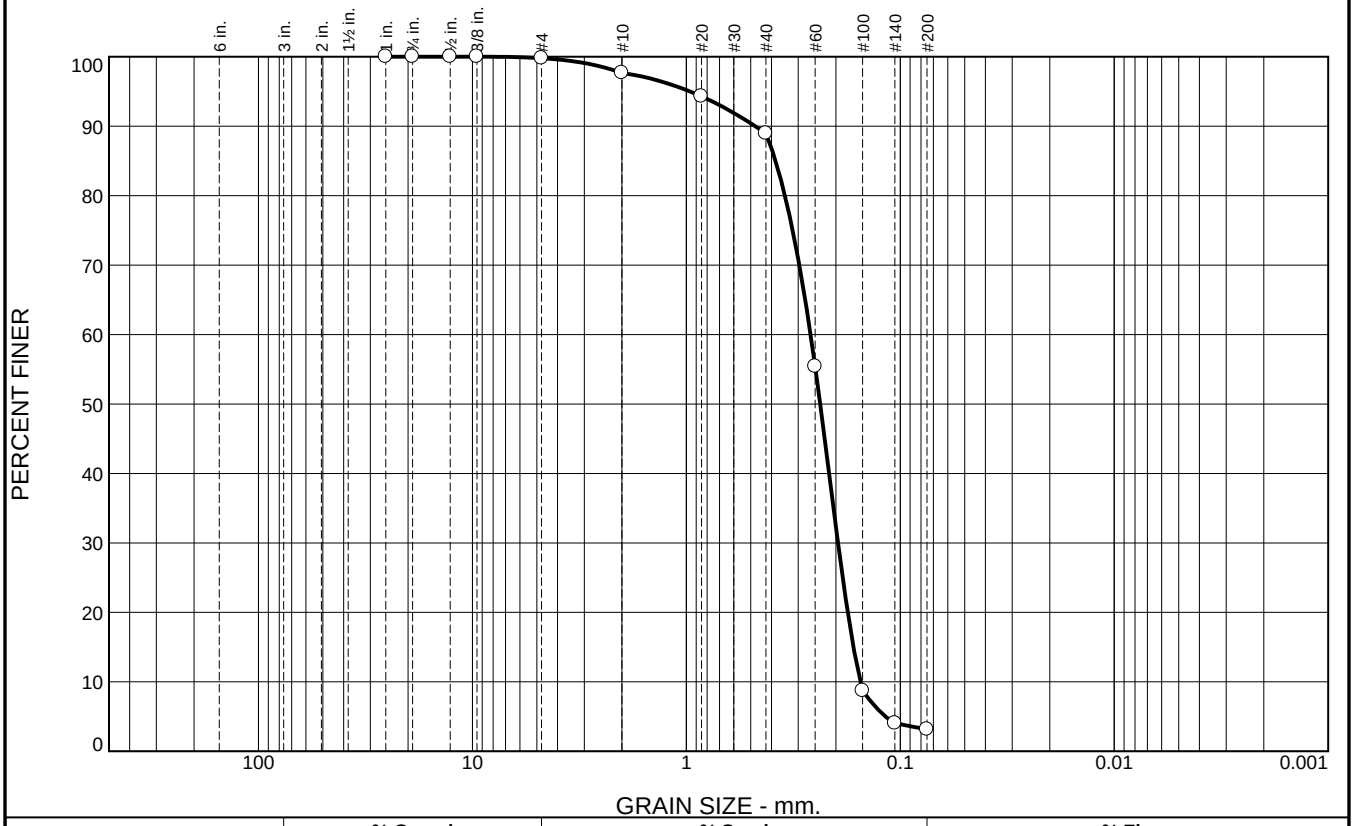
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	2.1	8.8	85.7	3.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	97.7		
#20	94.3		
#40	88.9		
#60	55.4		
#100	8.7		
#140	4.0		
#200	3.2		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4772 D_{85}= 0.3827 D_{60}= 0.2626
D_{50}= 0.2368 D_{30}= 0.1955 D_{15}= 0.1658
D_{10}= 0.1537 C_u= 1.71 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-11-12 B
Sample Number: 6469 (37) **Depth:** 8.6' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-112-12

DRILLING LOG	DIVISION: South Atlantic	INSTALLATION: Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-112-12	LOCATION COORDINATES: E = 1,133,311 N = 237,913	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 49 Ft.
		15. DATE BORING	STARTED: 01-12-13 / COMPLETED: 01-12-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -49.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-49.2	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.3298 mm % Fines: 2.3
-54.2	5.0				
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace clay, gray (SP-SM)	B	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.3135 mm % Fines: 7.6
-55.8	6.6				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, few clay bands, gray (SM)	NS	
-58.2	9.0				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, gray (SP-SM)	C	Classification: SM Color: 5Y 5/1-gray D50: 0.2161 mm % Fines: 12.7
-63.2	14.0				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, few shell fragments, few clay nodules, gray (SM)	D	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.2329 mm % Fines: 11.2
-67.0	17.8				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, lt. gray (SP)	E E	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.242 mm % Fines: 4.9
-69.4	20.2				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.15337° Long = -88.3617°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-112-12

Coordinate System
Latitude / Longitude

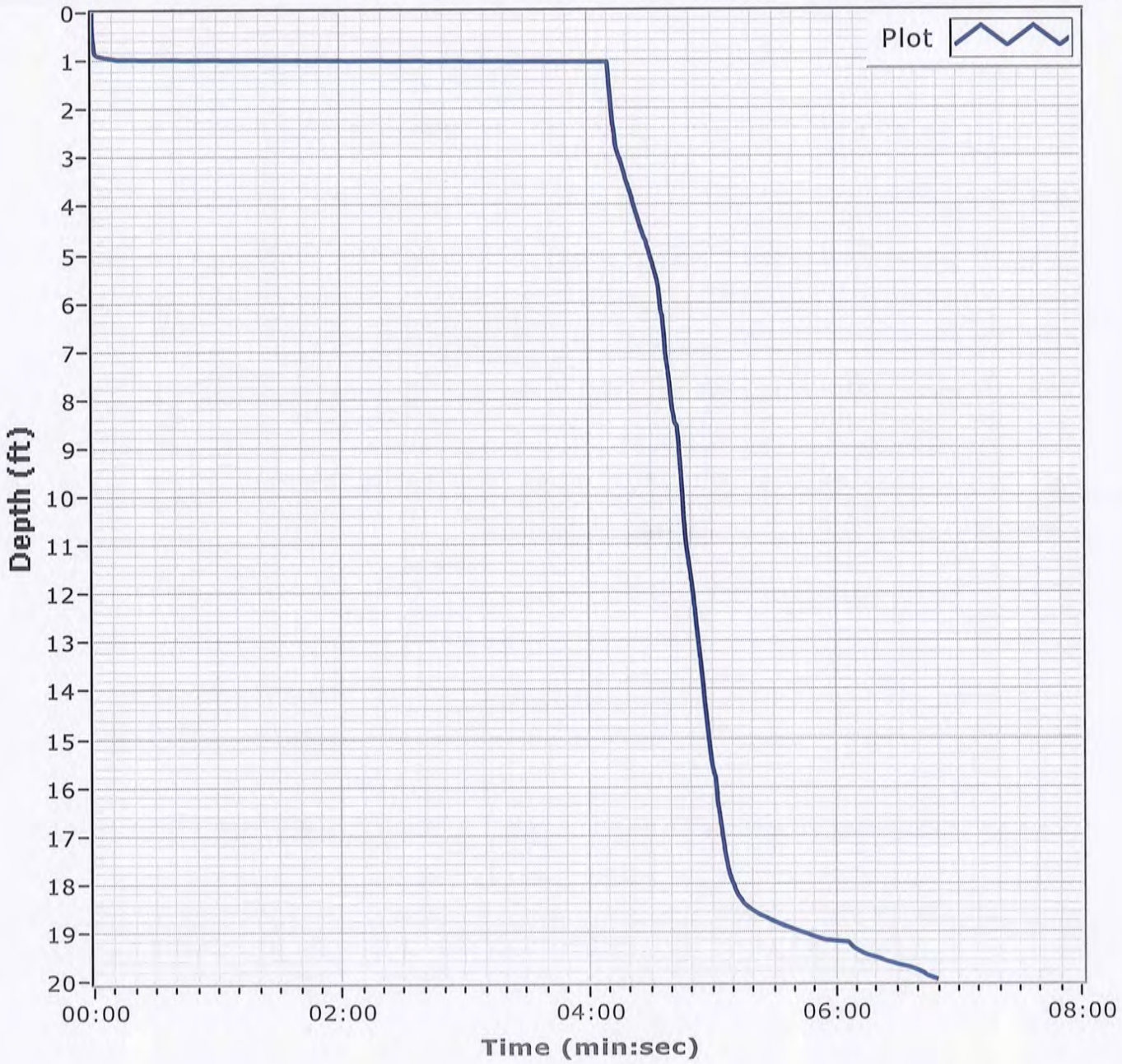
Latitude 30 09.202

Longitude 088 21.702

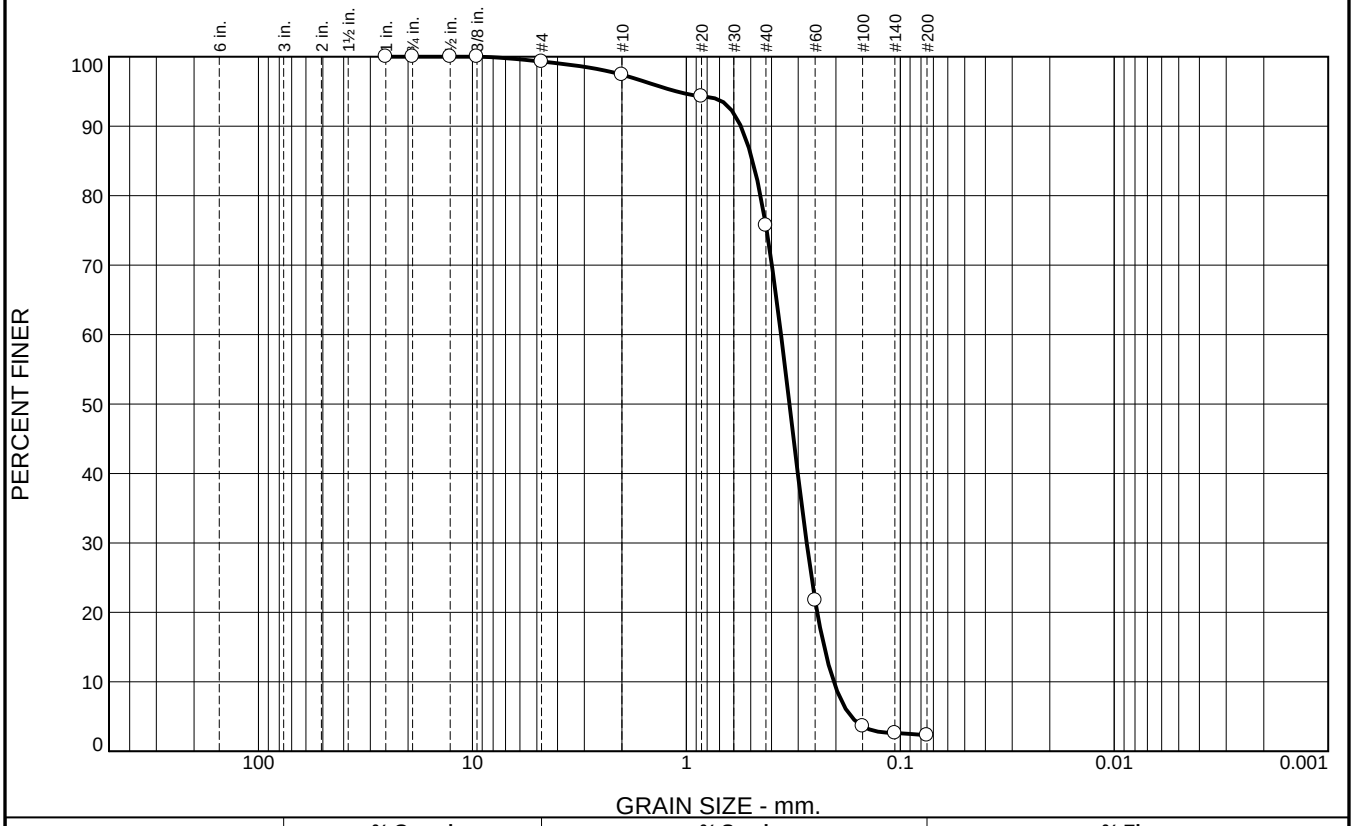
Date 01/12/2013
Start Time 10:58:31
End Time 11:05:21
Total Time 00:06:50

Water Depth 49.0'
Penetration 20.0'
Recovery 20.0'

Comments
at 1.0' vibrator stopped then restarted



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.7	1.9	21.7	73.4	2.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.3		
#10	97.4		
#20	94.3		
#40	75.7		
#60	21.7		
#100	3.6		
#140	2.6		
#200	2.3		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5563 D_{85}= 0.4901 D_{60}= 0.3610
D_{50}= 0.3298 D_{30}= 0.2740 D_{15}= 0.2268
D_{10}= 0.2047 C_u= 1.76 C_c= 1.02

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-112-12 A
Sample Number: 6507 (11) **Depth:** 0.0' **Date:** 1/14/13

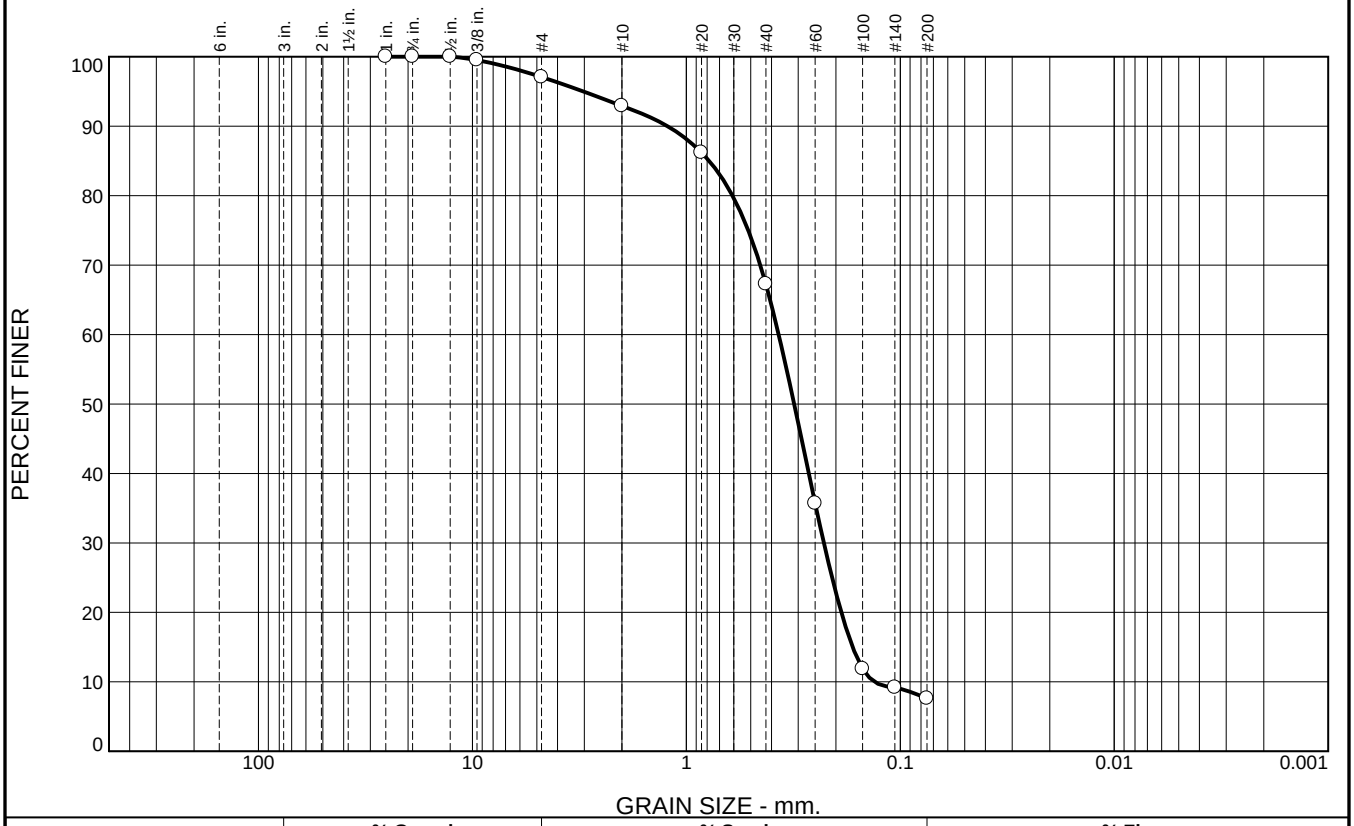
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.9	4.2	25.6	59.7	7.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.5		
#4	97.1		
#10	92.9		
#20	86.2		
#40	67.3		
#60	35.7		
#100	11.9		
#140	9.2		
#200	7.6		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.2257 D_{85}= 0.7835 D_{60}= 0.3702
D_{50}= 0.3135 D_{30}= 0.2276 D_{15}= 0.1672
D_{10}= 0.1321 C_u= 2.80 C_c= 1.06

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-112 B
Sample Number: 6507 (12) **Depth:** 5.0' **Date:** 1/14/13

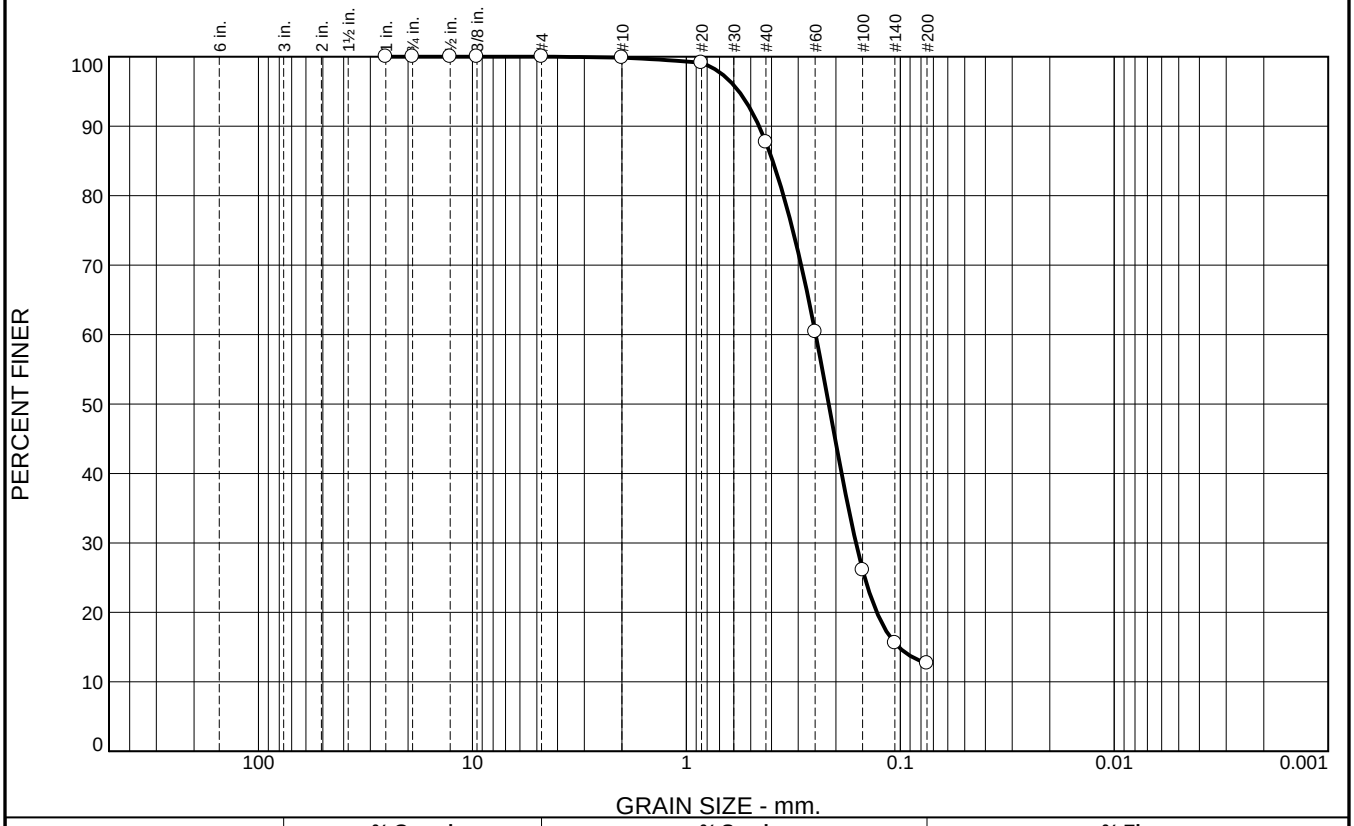
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	12.2	75.0	12.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.1		
#40	87.7		
#60	60.4		
#100	26.1		
#140	15.6		
#200	12.7		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4573 D_{85}= 0.3948 D_{60}= 0.2485
D_{50}= 0.2161 D_{30}= 0.1613 D_{15}= 0.1016
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-112-12 C
Sample Number: 6507 (13) **Depth:** 9.0' **Date:** 1/14/13

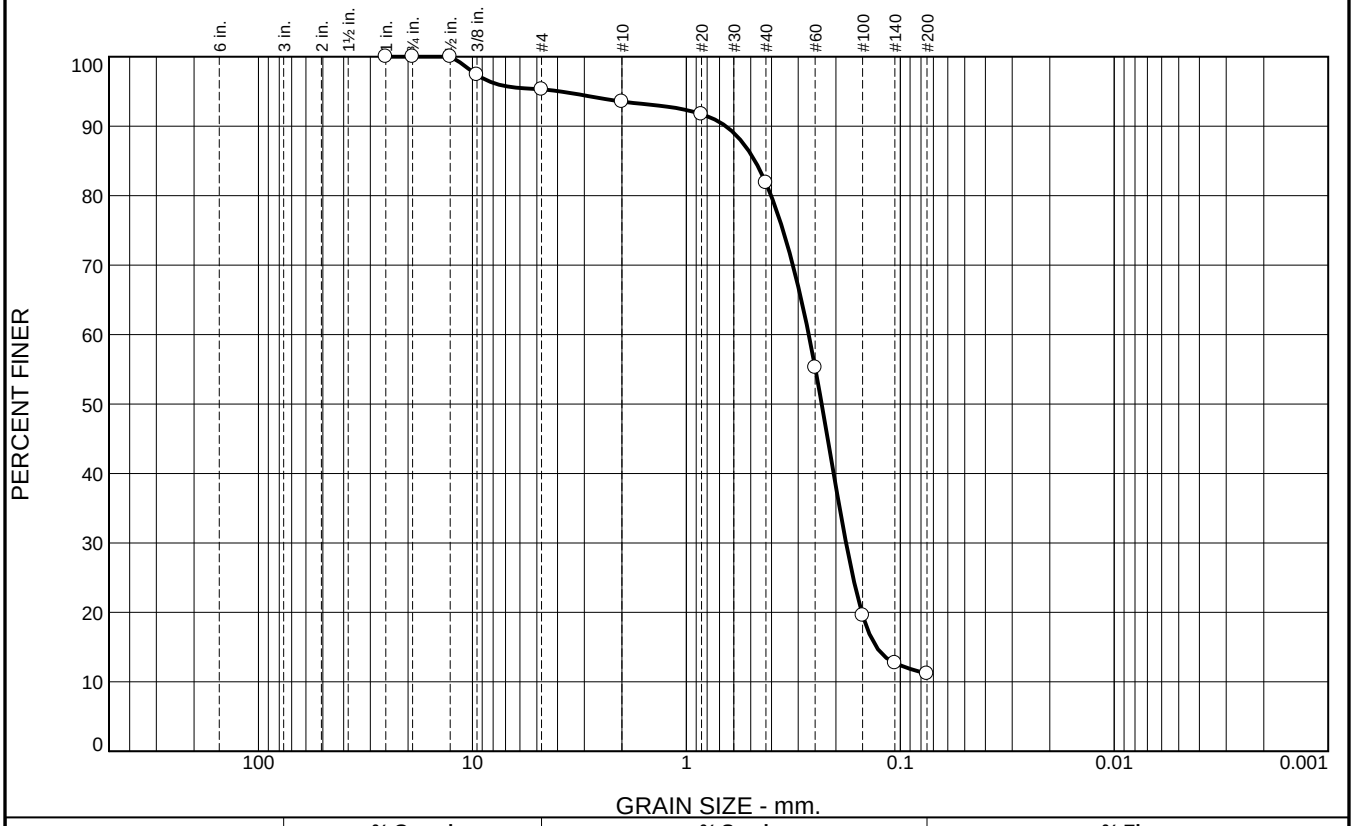
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	4.7	1.8	11.7	70.6	11.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	97.4		
#4	95.3		
#10	93.5		
#20	91.7		
#40	81.8		
#60	55.3		
#100	19.6		
#140	12.7		
#200	11.2		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6544 D_{85}= 0.4779 D_{60}= 0.2679
D_{50}= 0.2329 D_{30}= 0.1794 D_{15}= 0.1293
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-112-12 D
Sample Number: 6507 (14) **Depth:** 14.0' **Date:** 1/14/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.5	10.2	84.3	4.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.4		
#20	98.5		
#40	89.2		
#60	53.0		
#100	11.1		
#140	5.7		
#200	4.9		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4341 D_{85}= 0.3881 D_{60}= 0.2705
D_{50}= 0.2420 D_{30}= 0.1956 D_{15}= 0.1613
D_{10}= 0.1460 C_u= 1.85 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-112-12 E
Sample Number: 6507 (15) **Depth:** 17.8' **Date:** 1/14/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-113-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-113-12	LOCATION COORDINATES: E = 1,135,613 N = 235,577	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 51 Ft.	
		15. DATE BORING	STARTED: 01-12-13 / COMPLETED: 01-12-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -51.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-51.0	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, shelly at 2.0 ft., gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2966 mm % Fines: 2.6
-56.2	5.2				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, few silt, trace shell fragments, gray (SC)	B	Classification: SM Color: 5Y 5/1-gray D50: 0.2354 mm % Fines: 16
-59.9	8.9				
-60.5	9.5		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, low to medium plasticity, gray (CL)		
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, few silt, few shell fragments, gray (SC)	NS	
-68.7	17.7				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, few shell fragments, trace clay, gray (SM)		
-71.2	20.2				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14692° Long = -88.35445°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

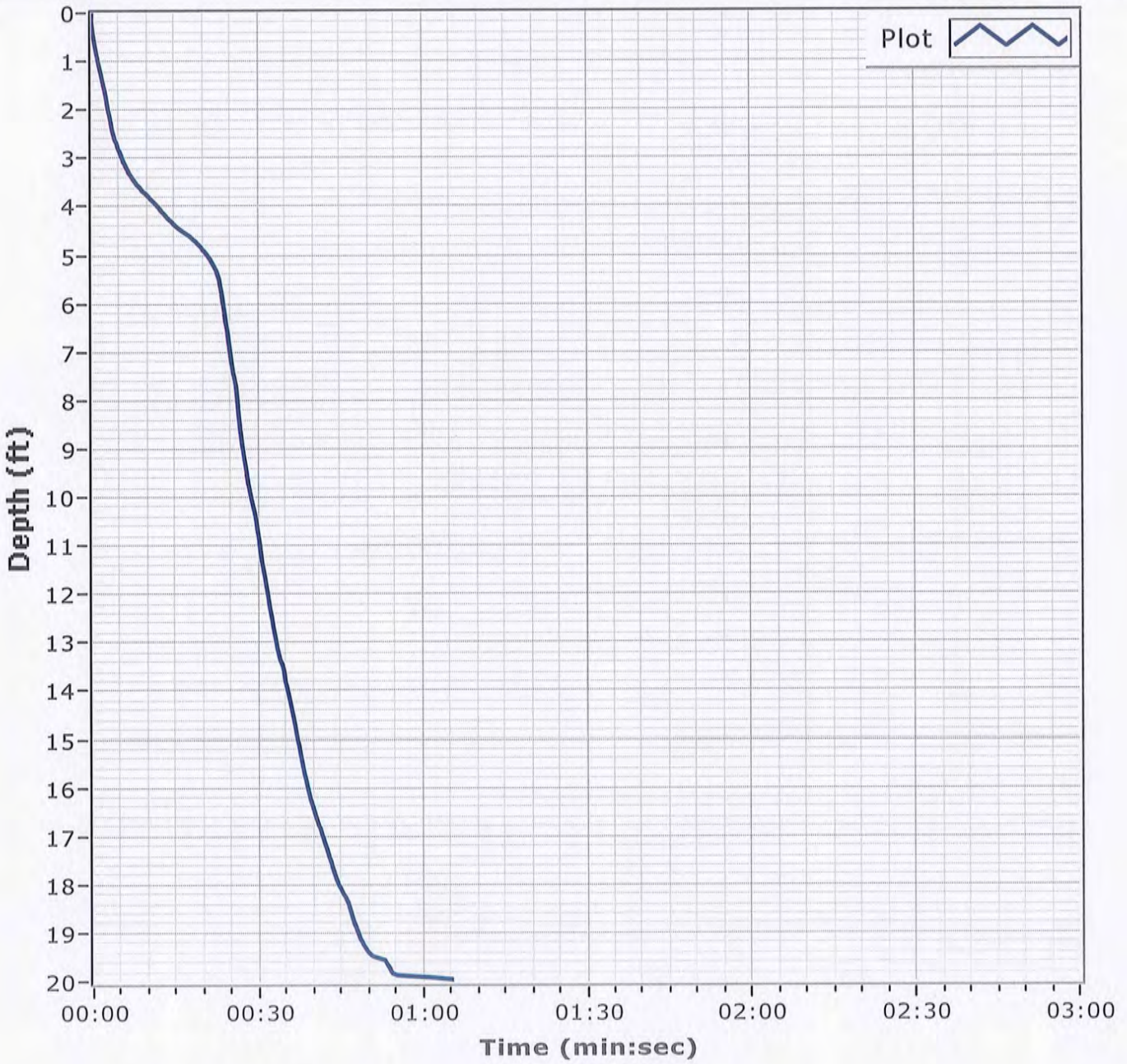
Core Identifier BI-PBS-113-12
Coordinate System
Latitude / Longitude

Date 01/12/2013
Start Time 13:23:16
End Time 13:24:22
Total Time 00:01:05

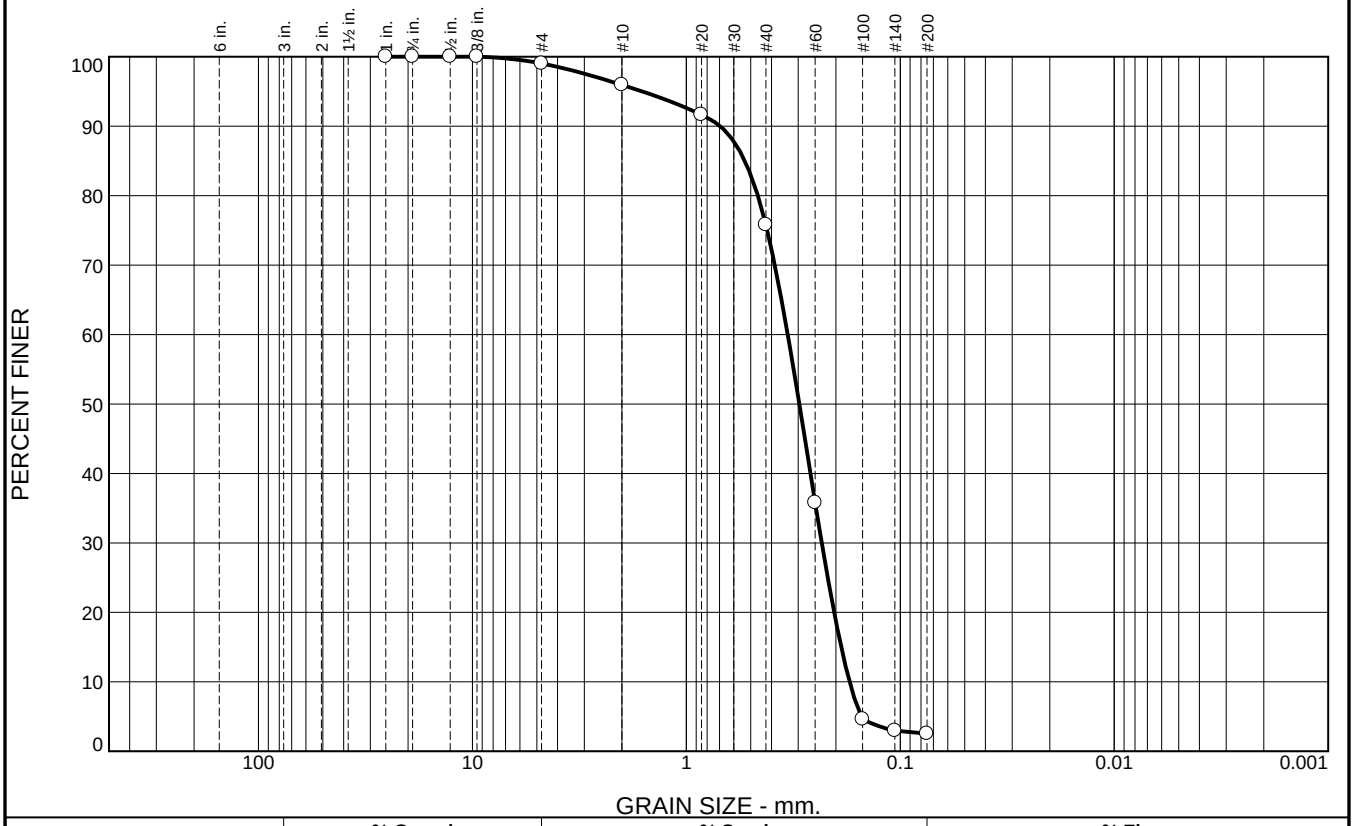
Water Depth 51.0'
Penetration 20.0'
Recovery 20.0'

Latitude 30 08.815
Longitude 088 21.267

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.0	3.1	20.1	73.2	2.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.0		
#10	95.9		
#20	91.6		
#40	75.8		
#60	35.8		
#100	4.6		
#140	3.0		
#200	2.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6951 D_{85}= 0.5330 D_{60}= 0.3359
D_{50}= 0.2966 D_{30}= 0.2328 D_{15}= 0.1889
D_{10}= 0.1728 C_u= 1.94 C_c= 0.93

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-113-12 A
Sample Number: 6507 (16) **Depth:** 0.0' **Date:** 1/14/13

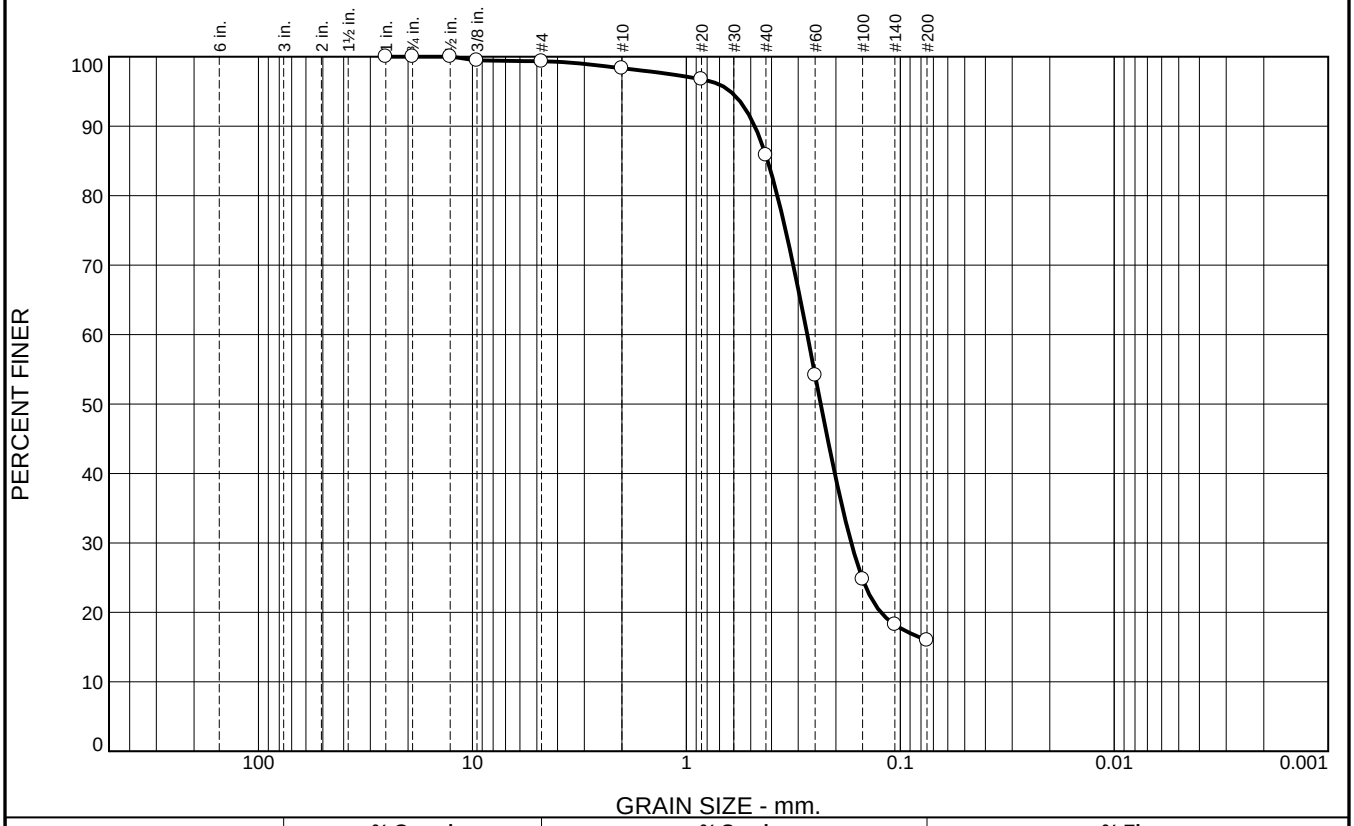
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.7	1.0	12.5	69.8	16.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.5		
#4	99.3		
#10	98.3		
#20	96.7		
#40	85.8		
#60	54.1		
#100	24.8		
#140	18.2		
#200	16.0		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4791 D_{85}= 0.4167 D_{60}= 0.2723
D_{50}= 0.2354 D_{30}= 0.1696 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-113-12 B
Sample Number: 6507 (17) **Depth:** 5.0' **Date:** 1/14/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-114-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-114-12	LOCATION COORDINATES: E = 1,142,473 N = 231,598	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 57.3 Ft.	
		15. DATE BORING	STARTED: 01-12-13 / COMPLETED: 01-12-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -57.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-57.0	0.0				
-60.0	3.0		SAND, poorly-graded, mostly medium-grained sand-sized quartz, some shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.6627 mm % Fines: 3.5
-64.2	7.2		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, trace shell fragments, brownish orange, greenish gray, and gray mottle (CL) At El. -60.6 Ft., mostly clay, some fine-grained sand-sized quartz, trace shell fragments, trace wood debris, gray	NS	
-65.8	8.8		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, alternating layers of clay within this zone, gray (SP-SM)		
-66.7	9.7		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)		
-71.4	14.4		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace wood debris, medium to high plasticity, stiff, gray (CH)		
-75.4	18.4		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, trace shell fragments, gray (CL)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.1359° Long = -88.3328°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
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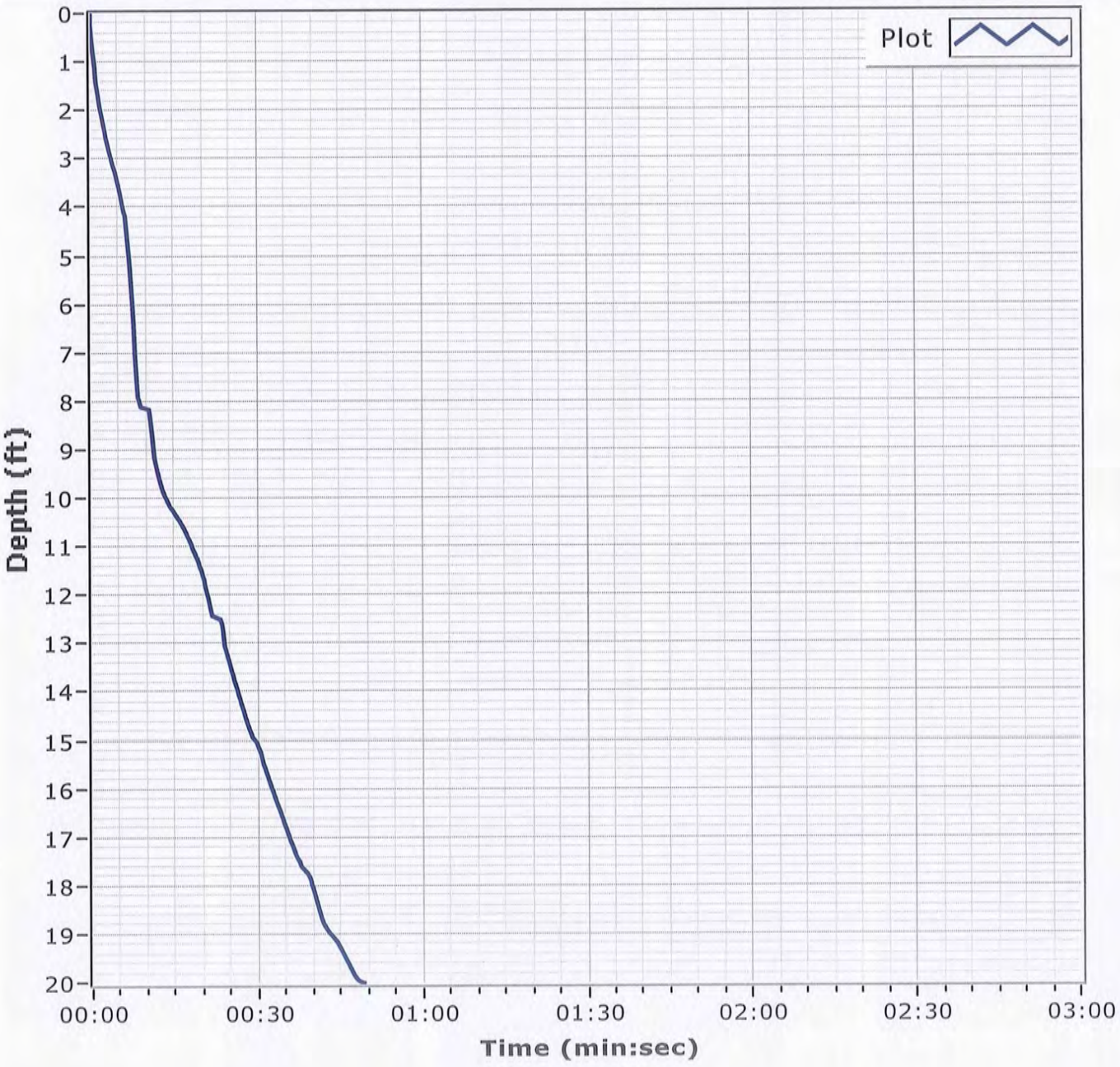
Core Identifier BI-PBS-114-12
Coordinate System
Latitude / Longitude

Latitude 30 08.154
Longitude 088 19.968

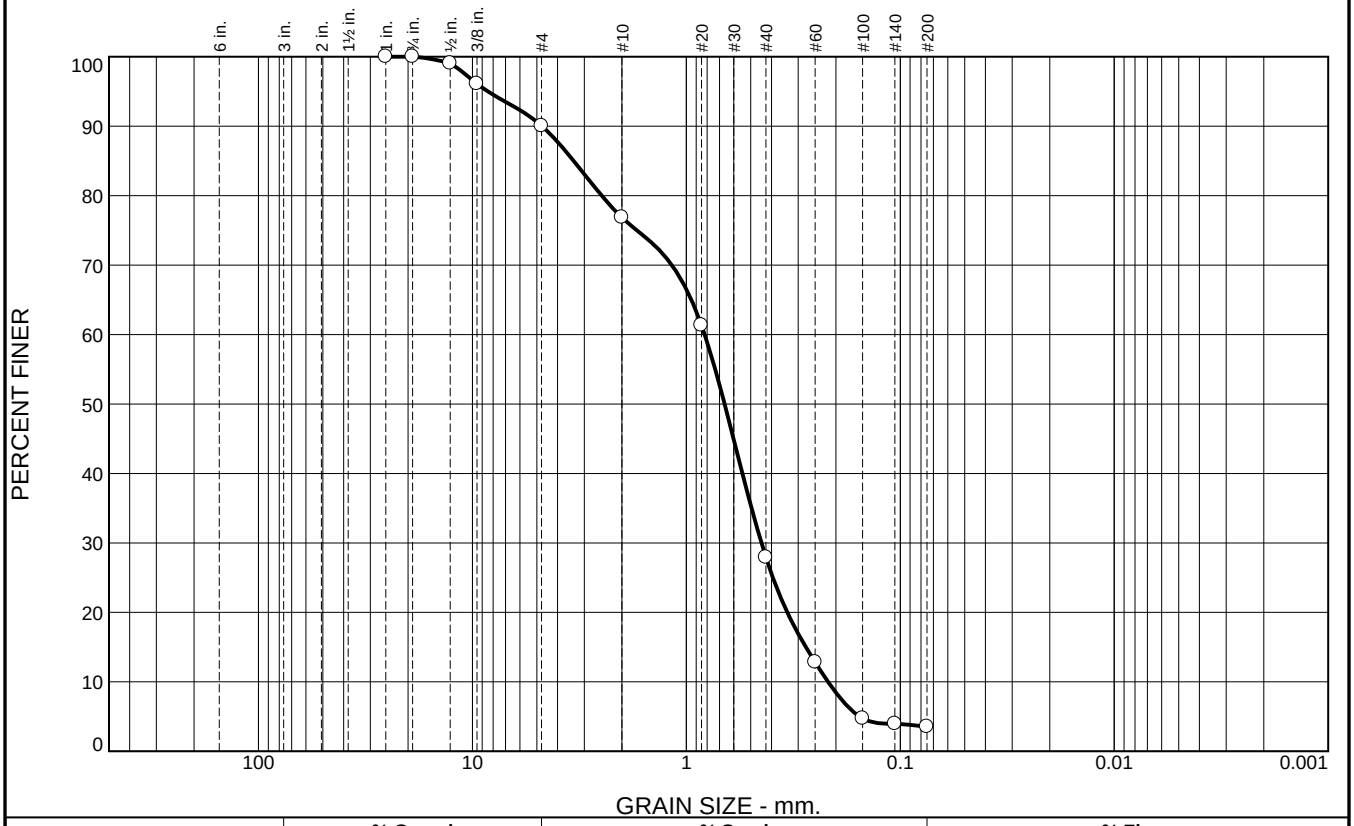
Date 01/12/2013
Start Time 15:36:18
End Time 15:37:08
Total Time 00:00:49

Water Depth 57.3'
Penetration 20.0'
Recovery 18.4'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	10.0	13.2	48.9	24.4	3.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.1		
.375	96.1		
#4	90.0		
#10	76.8		
#20	61.3		
#40	27.9		
#60	12.8		
#100	4.7		
#140	3.9		
#200	3.5		

* (no specification provided)

Material Description

Fine, medium and coarse grained, SAND, with some SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 4.7311 D_{85}= 3.3642 D_{60}= 0.8215
D_{50}= 0.6627 D_{30}= 0.4460 D_{15}= 0.2764
D_{10}= 0.2175 C_u= 3.78 C_c= 1.11

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-114-12 A
Sample Number: 6507 (18) **Depth:** 0.0' **Date:** 1/14/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-115-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-115-12	LOCATION COORDINATES: E = 1,137,201 N = 235,165	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 54 Ft.	
		15. DATE BORING	STARTED: 01-12-13 / COMPLETED: 01-12-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-54.0	0.0				
-55.7	1.7		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/3-pale olive D50: 0.3711 mm % Fines: 2.1
-59.5	5.5		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, trace shell fragments, low to medium plasticity, stiff, orangy brown, gray, and greenish gray mottle (CL)		
-74.0	20.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, trace wood debris, clayey sand and silty sand zones with bands of clay throughout, gray (SC)	NS	
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14577° Long = -88.34943°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-115-12

Coordinate System
Latitude / Longitude

Latitude 30 08.746

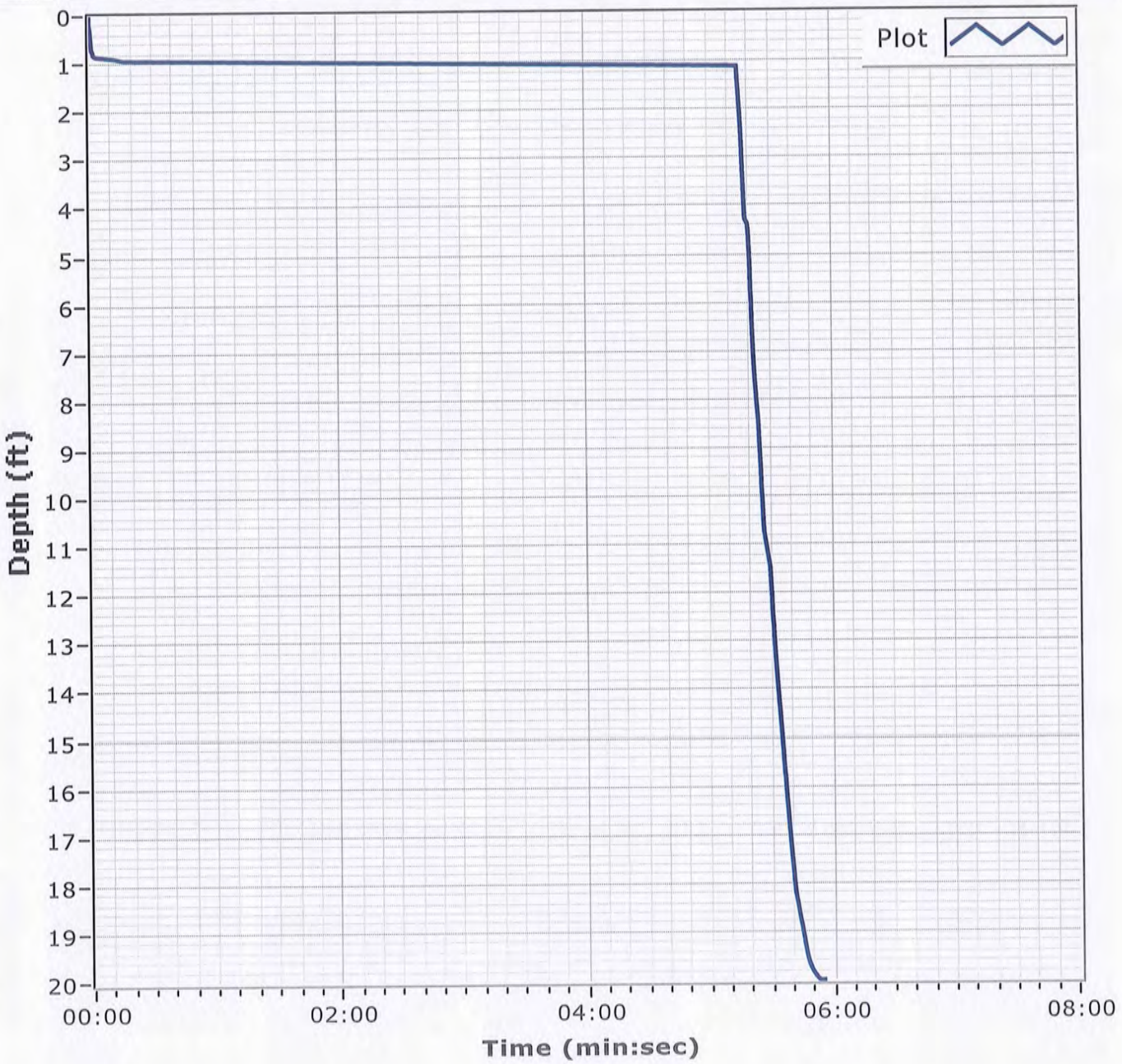
Longitude 088 20.966

Date 01/12/2013
Start Time 13:56:04
End Time 14:01:59
Total Time 00:05:55

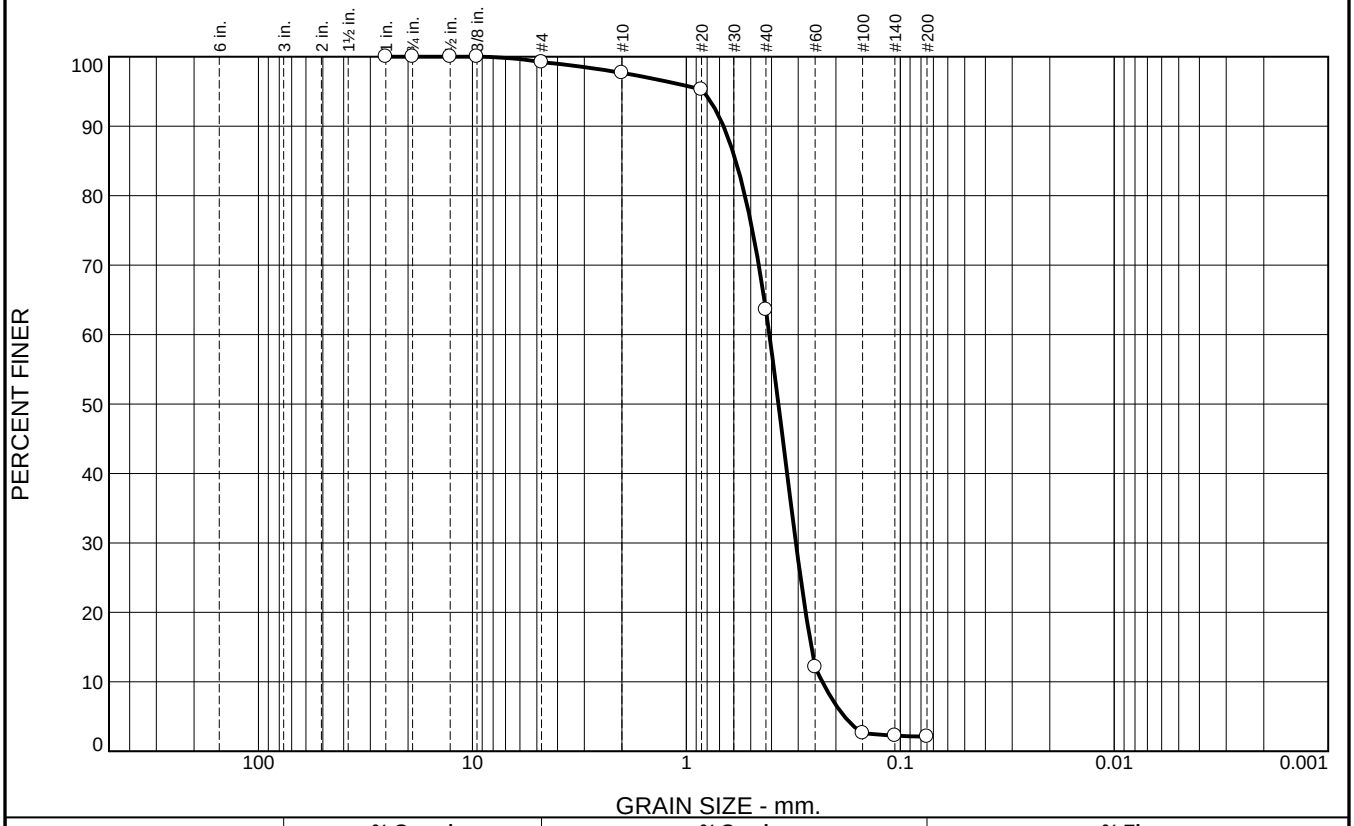
Water Depth 54.0'
Penetration 20.0'
Recovery 20.0'

Comments

@ 1.0' air hose got twisted up. Untangled air hose and continued coring.



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	1.5	34.1	61.5	2.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.2		
#10	97.7		
#20	95.3		
#40	63.6		
#60	12.1		
#100	2.6		
#140	2.3		
#200	2.1		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6704 D_{85}= 0.5872 D_{60}= 0.4092
D_{50}= 0.3711 D_{30}= 0.3077 D_{15}= 0.2606
D_{10}= 0.2314 C_u= 1.77 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-115-12 A
Sample Number: 6507 (19) **Depth:** 0.0' **Date:** 1/14/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-12-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-12-12	LOCATION COORDINATES: E = 1,137,391 N = 232,075	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 48.7 Ft.	
		15. DATE BORING	STARTED: 11-23-12 / COMPLETED: 11-23-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -47.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-47.9	0.0				
			SAND, poorly-graded, mostly fine to medium-grained quartz, little shell fragments, trace fines, sand and shell debris layer at 3.0-3.8 ft, lt. gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.27 mm % Fines: 1.9
-52.9	5.0				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fines, trace shell fragments, lt. gray (SP)	B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.23 mm % Fines: 2.8
-56.7	8.8				
-57.9	10.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fines, lt. gray (SP)	C	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.21 mm % Fines: 9.9
			SAND, silty, mostly fine-grained sand-sized quartz, with clay lenses, gray (SM)	NS	
-61.4	13.5				
			CLAY, silty, mostly clay, trace fine-grained sand-sized quartz, lt. gray mottled with orange (CL-ML)		
-66.7	18.8				
-67.9	20.0		SAND, silty, mostly fine-grained sand-sized quartz, trace wood debris, gray (SM)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13727° Long = -88.34887°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

Core Identifier BI-PBS-12-12

Coordinate System
Latitude / Longitude

Latitude 30 08.236

Longitude 088 20.932

Date 11/23/2012

Start Time 14:18:11

End Time 14:20:19

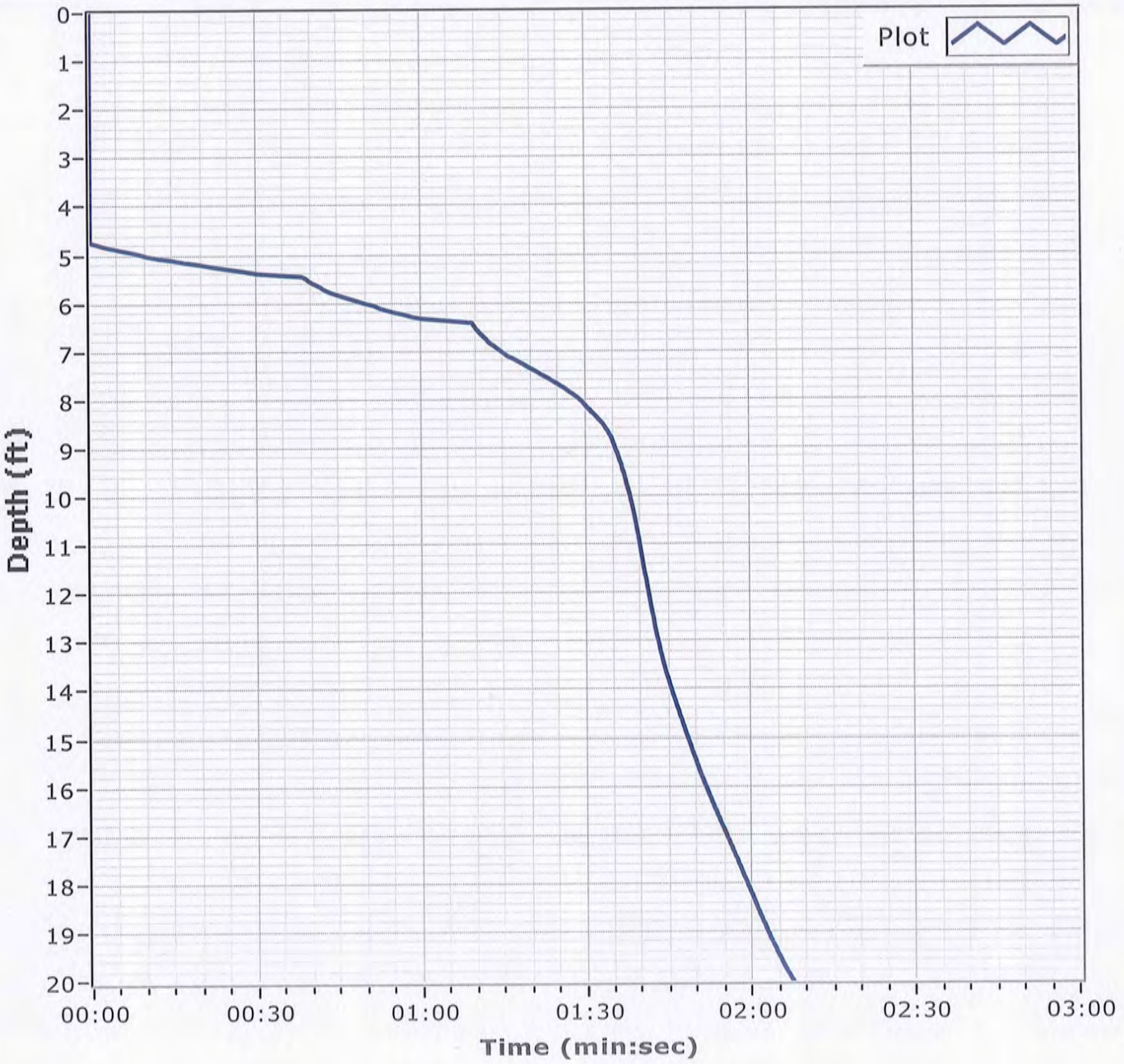
Total Time 00:02:07

Water Depth 48.7'

Penetration 20.0'

Recovery 20.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.4	4.4	20.3	72.0	1.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.6		
#4	98.6		
#10	94.2		
#20	87.8		
#40	73.9		
#60	44.1		
#100	5.6		
#140	2.4		
#200	1.9		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.0750 D_{85}= 0.6757 D_{60}= 0.3148
D_{50}= 0.2700 D_{30}= 0.2121 D_{15}= 0.1768
D_{10}= 0.1640 C_u= 1.92 C_c= 0.87

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-12-12 A
Sample Number: 6469 (33) **Depth:** 0.0' **Date:** 11/28/12

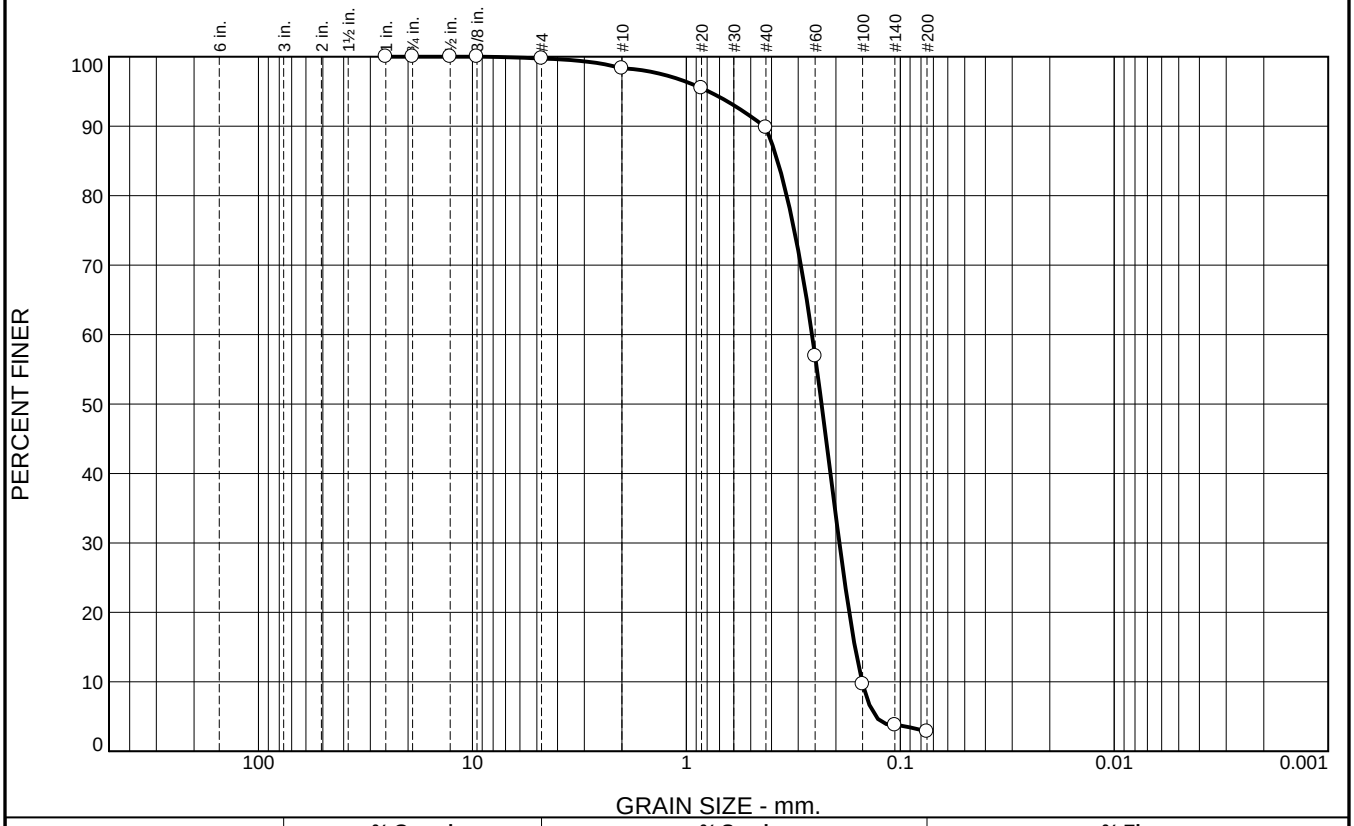
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	1.4	8.5	87.0	2.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.3		
#20	95.5		
#40	89.8		
#60	56.9		
#100	9.7		
#140	3.8		
#200	2.8		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4338 D_{85}= 0.3746 D_{60}= 0.2585
D_{50}= 0.2333 D_{30}= 0.1927 D_{15}= 0.1631
D_{10}= 0.1509 C_u= 1.71 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-12-12 B
Sample Number: 6469 (34) **Depth:** 5.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.2	2.6	13.2	73.1	9.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.6		
.375	99.3		
#4	98.8		
#10	96.2		
#20	92.0		
#40	83.0		
#60	62.8		
#100	23.6		
#140	12.6		
#200	9.9		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6799 D_{85}= 0.4731 D_{60}= 0.2404
D_{50}= 0.2117 D_{30}= 0.1656 D_{15}= 0.1204
D_{10}= 0.0766 C_u= 3.14 C_c= 1.49

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-12-12 C
Sample Number: 6469 (35) **Depth:** 8.8' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-13-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-13-12	LOCATION COORDINATES: E = 1,133,767 N = 233,198	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 46.7 Ft.	
		15. DATE BORING	STARTED: 11-28-12 / COMPLETED: 11-28-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -46.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 11.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-46.5	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, occasional bands of shelly sand, gray (SP)	A	Classification: SP Color: 2.5Y 7/1-light gray D50: 0.35 mm % Fines: 1.6
				B	Classification: SP Color: 2.5Y 6.5/2- D50: 0.25 mm % Fines: 2.9
-55.7	9.2				
-58.3	11.8		CLAY, fat, mostly clay, trace silt, trace fine-grained sand-sized quartz, moderately stiff to stiff, medium to high plasticity, gray mottled with brown (CH)	NS	
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14040° Long = -88.36032°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

Core Identifier BI-PBS-13-12

Coordinate System
Latitude / Longitude

Latitude 30 08.424

Longitude 088 21.619

Date 11/28/2012

Start Time 13:40:11

End Time 13:43:08

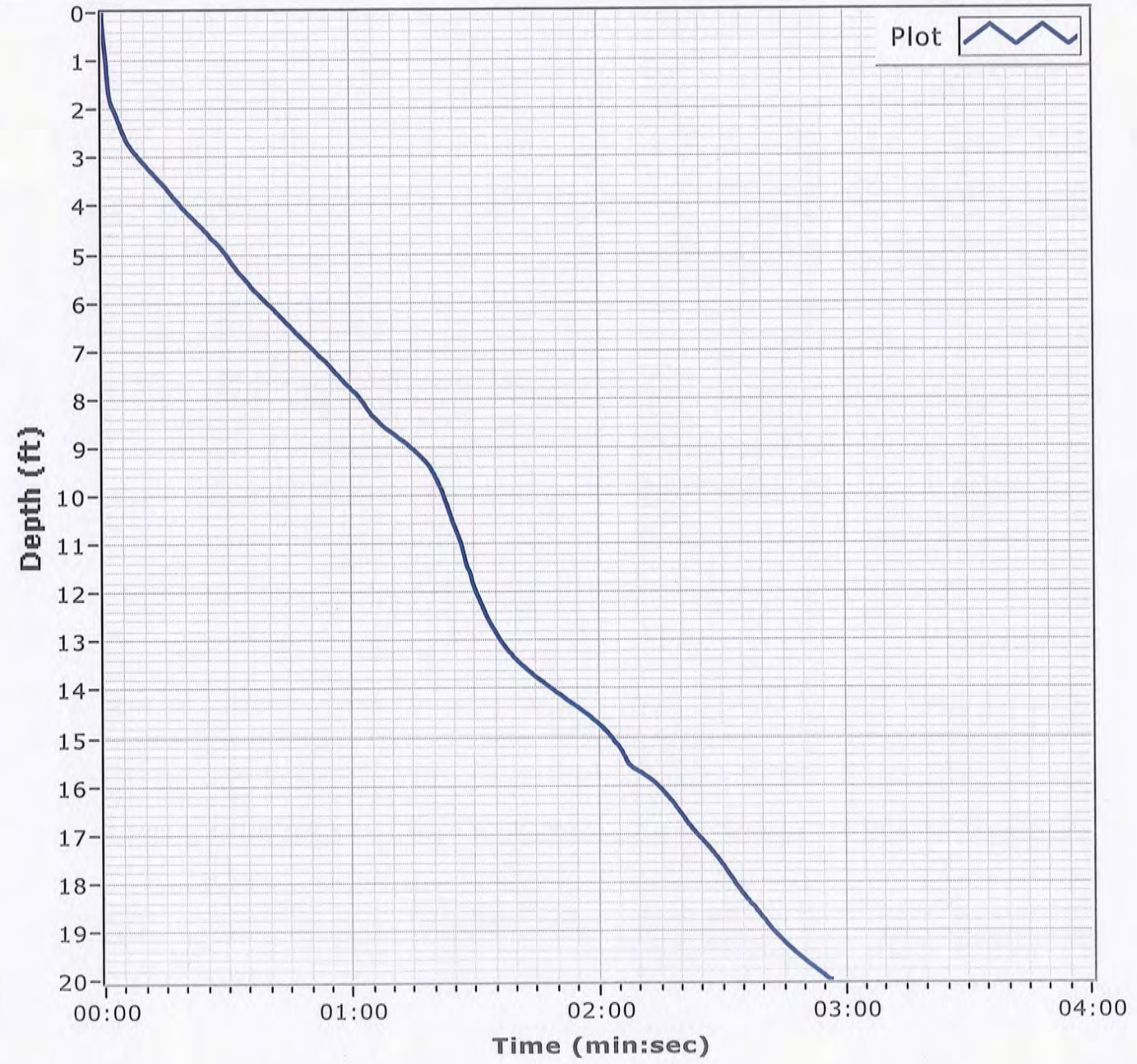
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Water Depth 46.7'

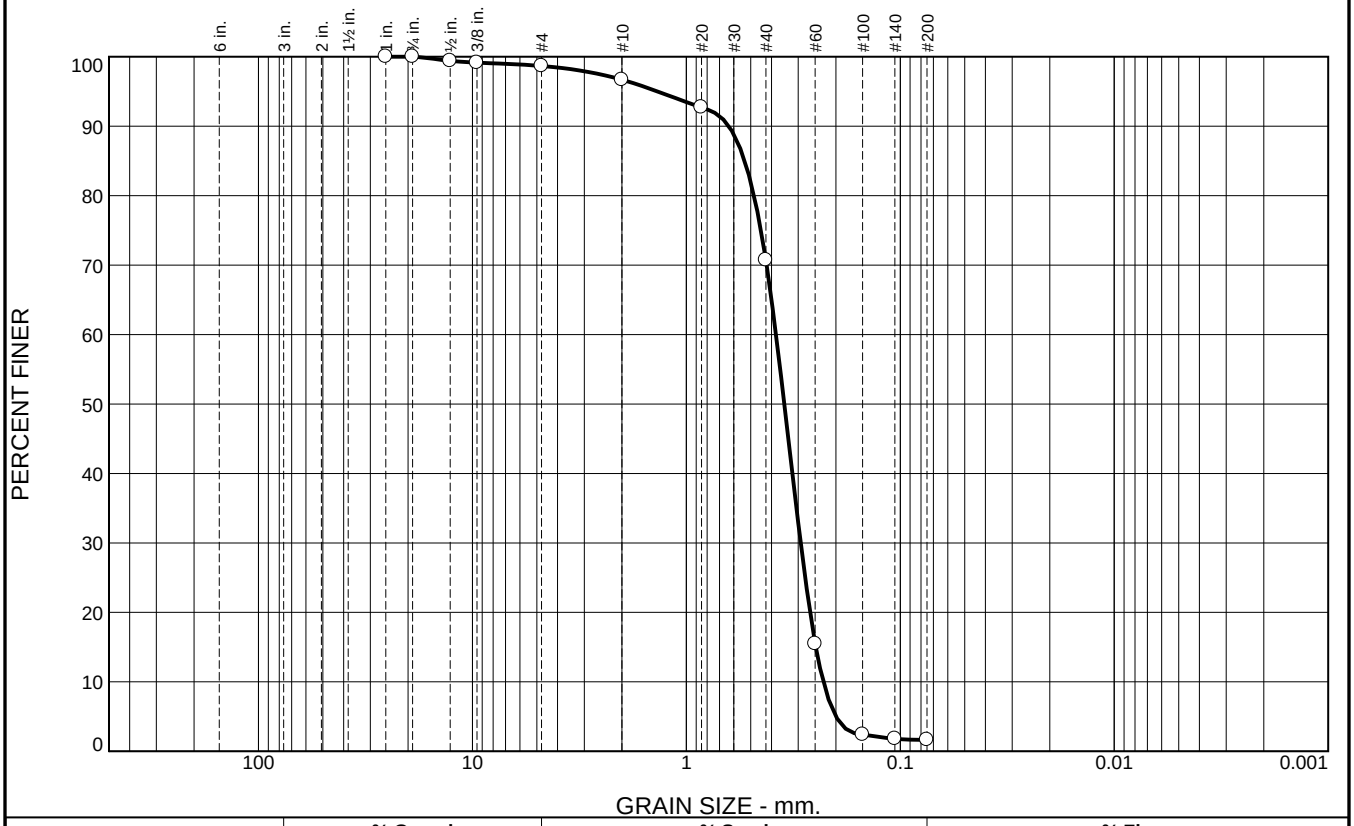
Penetration 20.0'

Recovery 12.1'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.3	2.0	26.0	69.1	1.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.4		
.375	99.1		
#4	98.7		
#10	96.7		
#20	92.7		
#40	70.7		
#60	15.5		
#100	2.4		
#140	1.8		
#200	1.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6331 D_{85}= 0.5337 D_{60}= 0.3810
D_{50}= 0.3484 D_{30}= 0.2923 D_{15}= 0.2483
D_{10}= 0.2289 C_u= 1.66 C_c= 0.98

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-13-12 A
Sample Number: 6471 (1) **Depth:** 0.0' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	2.1	12.3	81.9	2.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.2		
#10	97.1		
#20	93.1		
#40	84.8		
#60	50.9		
#100	6.6		
#140	3.4		
#200	2.9		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5218 D_{85}= 0.4275 D_{60}= 0.2775
D_{50}= 0.2477 D_{30}= 0.2028 D_{15}= 0.1718
D_{10}= 0.1600 C_u= 1.73 C_c= 0.93

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-13-12 B
Sample Number: 6471 (2) **Depth:** 5.0' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-14-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-14-12	LOCATION COORDINATES: E = 1,136,141 N = 231,771	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 53.4 Ft.	
		15. DATE BORING	STARTED: 11-28-12 / COMPLETED: 11-28-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -53.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-53.5	0.0				
			SAND, poorly-graded, mostly fine to medium-grained quartz, trace silt, trace shell fragments, greenish gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.25 mm % Fines: 3.7
-56.7	3.2				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, trace shell fragments, greenish gray (SM)	B	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.2 mm % Fines: 11.8
-59.5	6.0				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, alternating bands of clayey sand and sandy clay, gray mottled with greenish gray and brown (SC)		
-61.7	8.2				
			CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace wood debris, trace shell fragments, occasional shelly bands and sandy pockets, moderately stiff, gray (CH)	NS	
-73.1	19.6				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13645° Long = -88.35283°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

Core Identifier BI-PBS-14-12

Coordinate System
Latitude / Longitude

Latitude 30 08.187

Longitude 088 21.170

Date 11/28/2012

Start Time 09:49:38

End Time 09:50:16

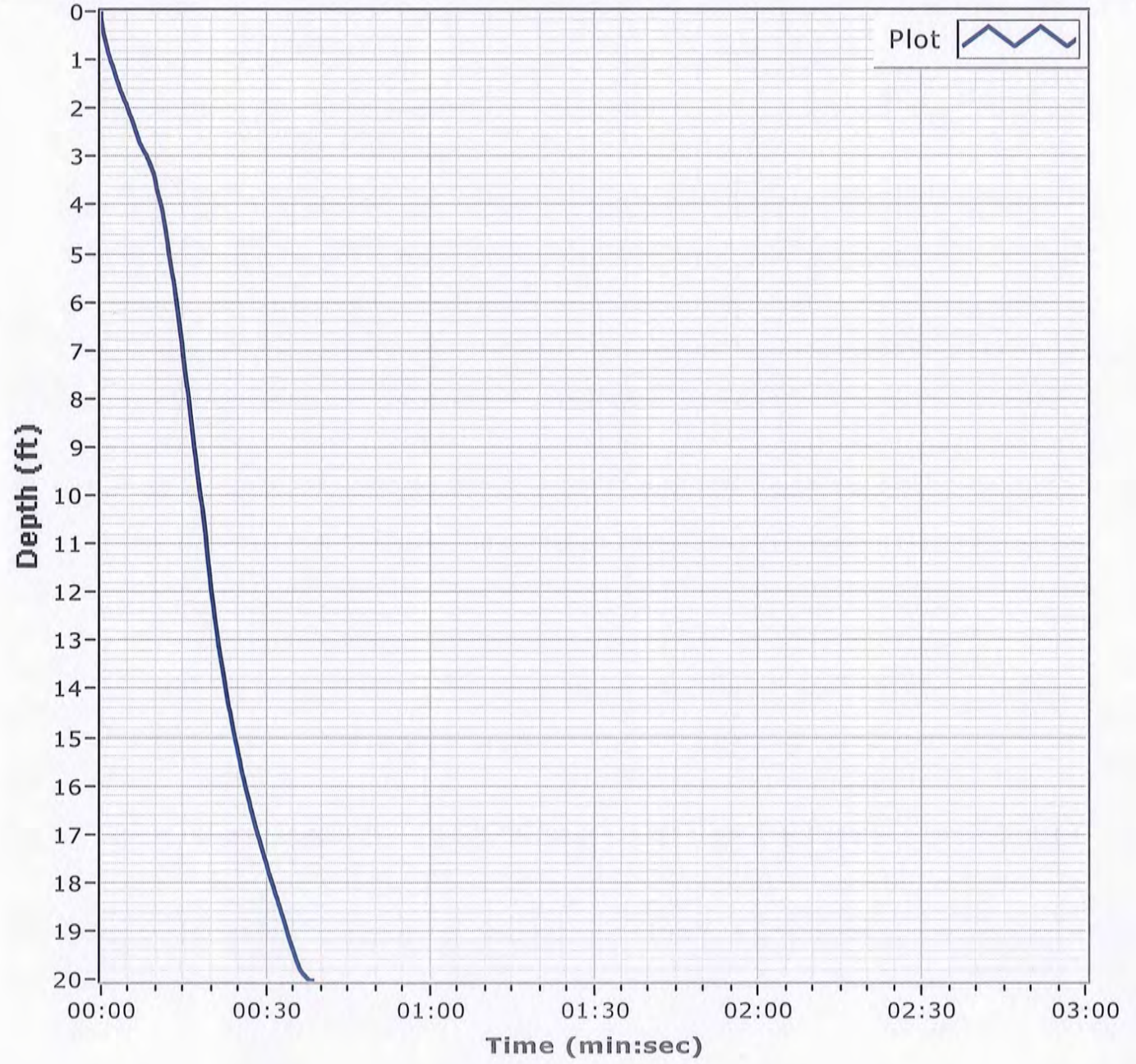
Total Time 00:00:38

Water Depth 53.4'

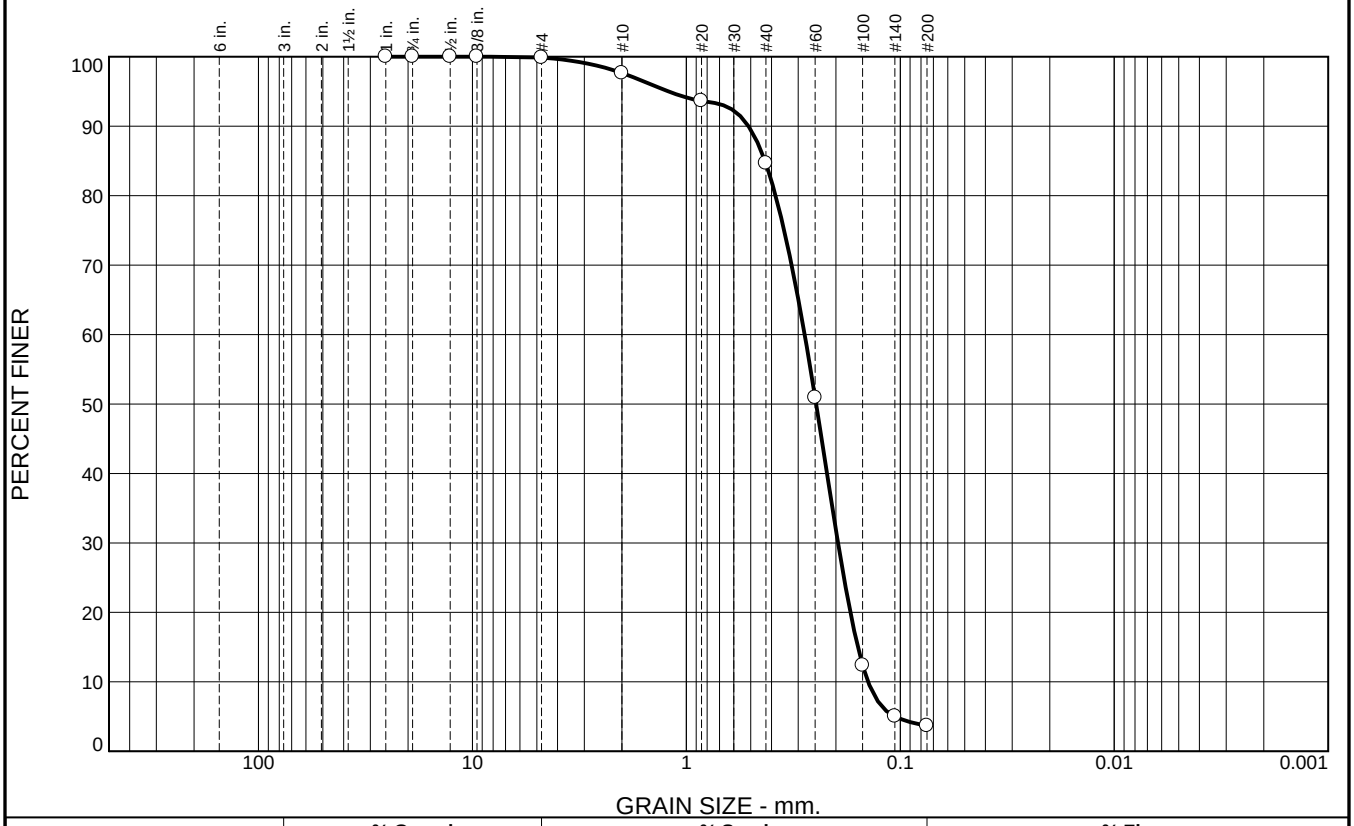
Penetration 20.0'

Recovery 19.6

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	2.3	13.0	80.9	3.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	97.6		
#20	93.6		
#40	84.6		
#60	50.9		
#100	12.4		
#140	5.0		
#200	3.7		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5125 D_{85}= 0.4290 D_{60}= 0.2801
D_{50}= 0.2473 D_{30}= 0.1955 D_{15}= 0.1580
D_{10}= 0.1414 C_u= 1.98 C_c= 0.96

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-14-12 A
Sample Number: 6471 (3) **Depth:** 0.0' **Date:** 12/03/12

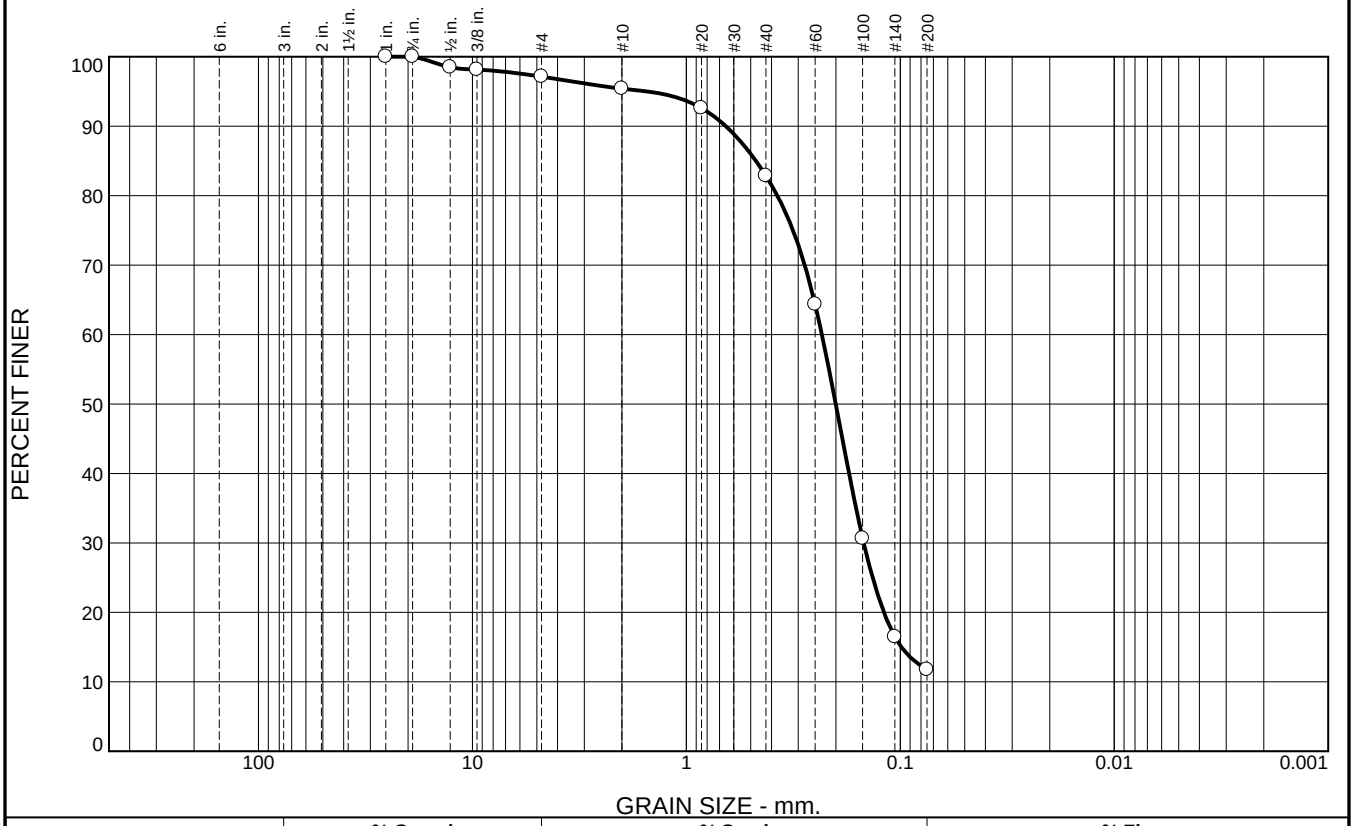
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.9	1.7	12.6	71.0	11.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	98.5		
.375	98.1		
#4	97.1		
#10	95.4		
#20	92.6		
#40	82.8		
#60	64.3		
#100	30.6		
#140	16.5		
#200	11.8		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6538 D_{85}= 0.4732 D_{60}= 0.2325
D_{50}= 0.2004 D_{30}= 0.1484 D_{15}= 0.0989
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-14-12 B
Sample Number: 6471 (4) **Depth:** 3.2' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-15-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-15-12	LOCATION COORDINATES: E = 1,135,034 N = 232,632	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. WATER DEPTH: 48.9 Ft.
		15. DATE BORING	STARTED: 11-28-12 / COMPLETED: 11-28-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -49.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-49.0	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.29 mm % Fines: 2
-54.5	5.5			NS	
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace clay, gray (SM)	B	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.2 mm % Fines: 11.6
-57.7	8.7				
			CLAY, lean, mostly clay, trace wood debris, occasional pockets of clayey sand, gray mottled with greenish gray and brown (CL)	NS	
-63.9	14.9				
			CLAY, fat, mostly clay, trace shell fragments, trace wood debris, moderately stiff, gray (CH)		
-67.1	18.1				
-67.6	18.6				
			SAND, clayey, mostly fine-grained sand-sized quartz, trace silt, trace shell fragments, gray (SC)		
-68.9	19.9				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, trace clay, gray (SP-SM)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

0 5 10 15 20 25

Lat = 30.13883° Long = -88.35632°

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Mobile District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
Barrier Island Restoration	State Plane, MSE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 1,135,034 Y = 232,632	-49.0 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
			2. NS = Sample not submitted for laboratory analysis from this interval.		

30
35
40
45
50
55
60

Lat = 30.13883° Long = -88.35632°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-15-12

Coordinate System
Latitude / Longitude

Latitude 30 08.330

Longitude 088 21.379

Date 11/28/2012

Start Time 10:32:11

End Time 10:33:48

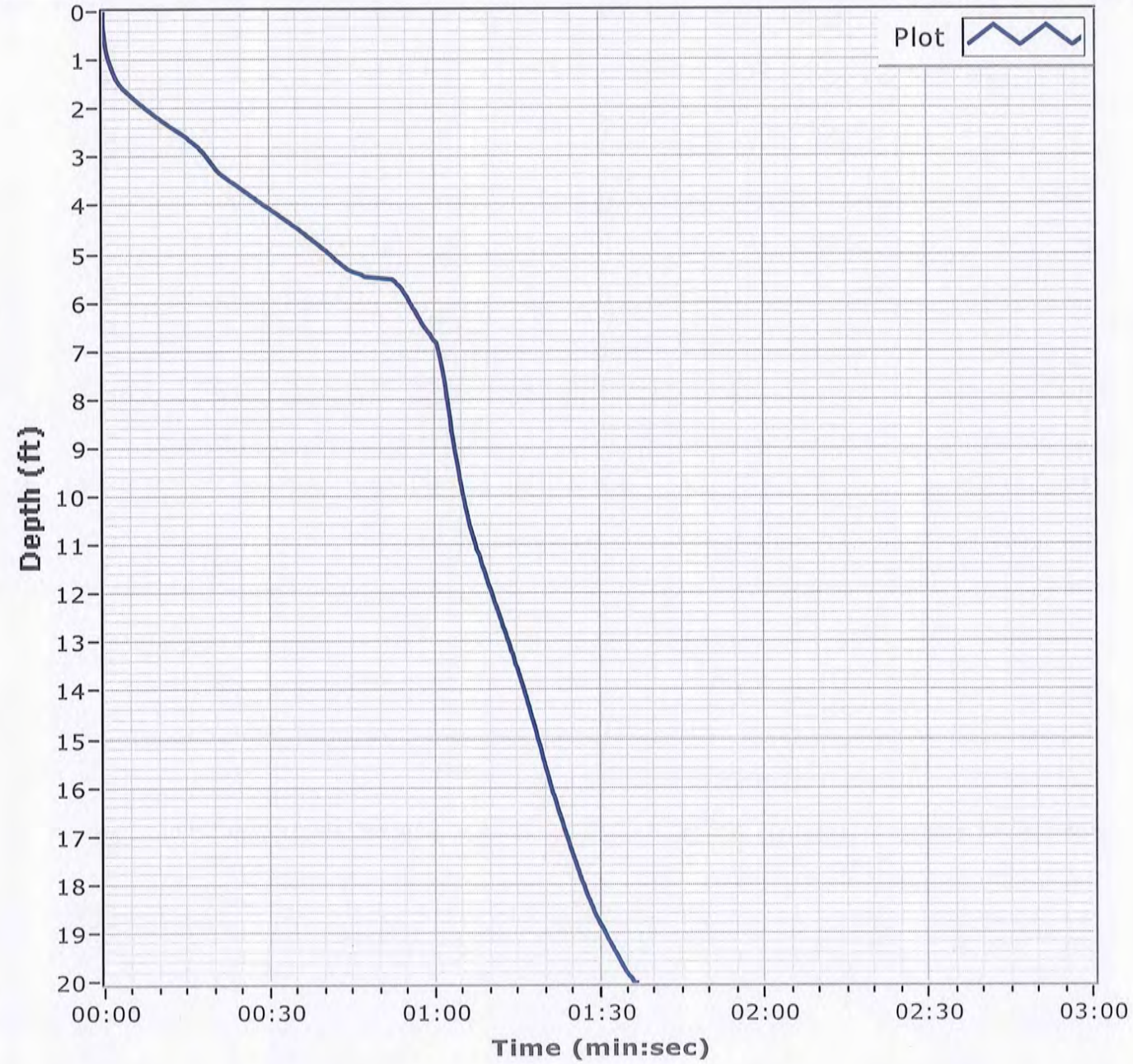
Total Time 00:01:37

Water Depth 48.9'

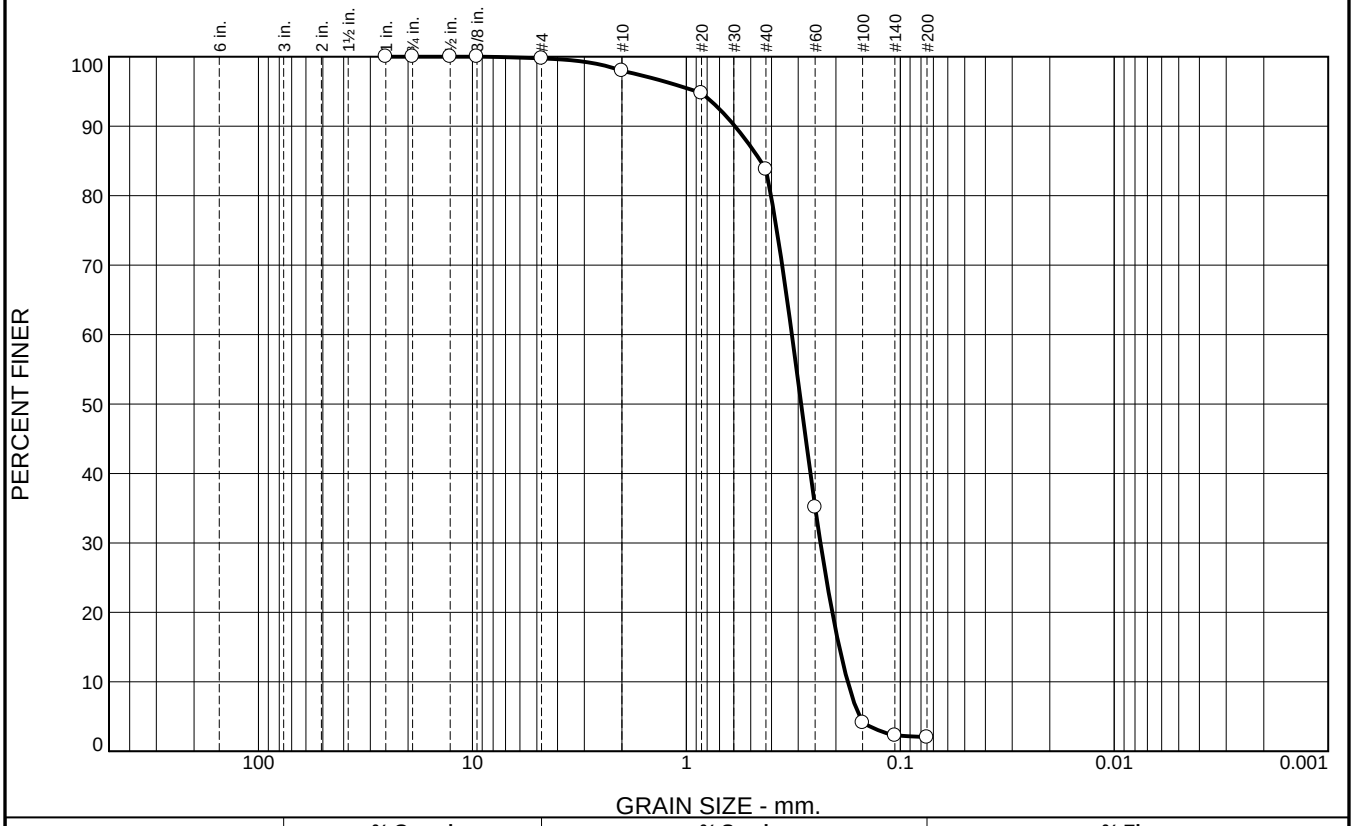
Penetration 20.0'

Recovery 19.9'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	1.7	14.2	81.8	2.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.0		
#20	94.8		
#40	83.8		
#60	35.1		
#100	4.1		
#140	2.3		
#200	2.0		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5930 D_{85}= 0.4505 D_{60}= 0.3212
D_{50}= 0.2909 D_{30}= 0.2360 D_{15}= 0.1929
D_{10}= 0.1763 C_u= 1.82 C_c= 0.98

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-15-12 A
Sample Number: 6471 (5) **Depth:** 0.0' **Date:** 12/03/12

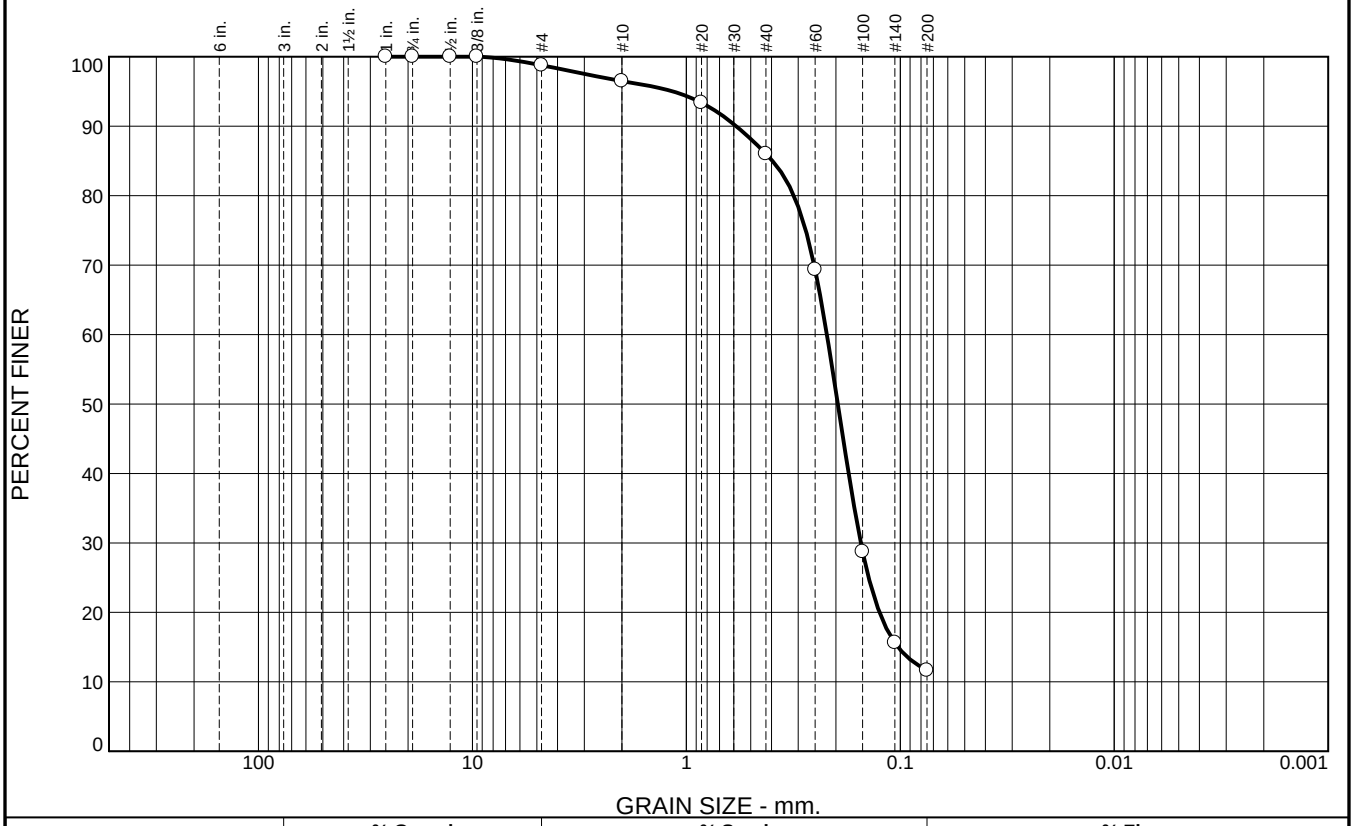
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.2	2.3	10.5	74.4	11.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	98.8		
#10	96.5		
#20	93.4		
#40	86.0		
#60	69.4		
#100	28.7		
#140	15.6		
#200	11.6		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5851 D_{85}= 0.3961 D_{60}= 0.2203
D_{50}= 0.1960 D_{30}= 0.1530 D_{15}= 0.1024
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-15-12 B
Sample Number: 6471 (6) **Depth:** 5.5' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-16-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-16-12	LOCATION COORDINATES: E = 1,138,607 N = 231,553	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 52.8 Ft.	
		15. DATE BORING	STARTED: 11-23-12 / COMPLETED: 11-23-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -52.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-52.1	0.0				
-54.6	2.5		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.29 mm % Fines: 2.4
-55.9	3.8		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fines, little shell fragments, gray (SP)	B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.21 mm % Fines: 3.7
-57.7	5.6		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fines, gray (SP)	C	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.24 mm % Fines: 4
-60.9	8.8		SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, gray (SM)	NS	
-64.2	12.1		CLAY, lean, mostly clay, some sand, lt. gray mottled with orange (CL)		
-65.2	13.1		SAND, clayey, mostly fine-grained sand-sized quartz, lt. gray mottled with orange (SC)		
-66.0	13.9		CLAY, lean, mostly clay, little fine-grained sand-sized quartz, low plasticity, dark gray (CL)		
-67.8	15.7		SAND, silty, mostly fine-grained sand-sized quartz, trace shell fragments, trace wood debris, gray (SM)		
-69.9	17.8		CLAY, lean, mostly clay, trace fine-grained sand-sized quartz, gray (CL)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13582° Long = -88.34503°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

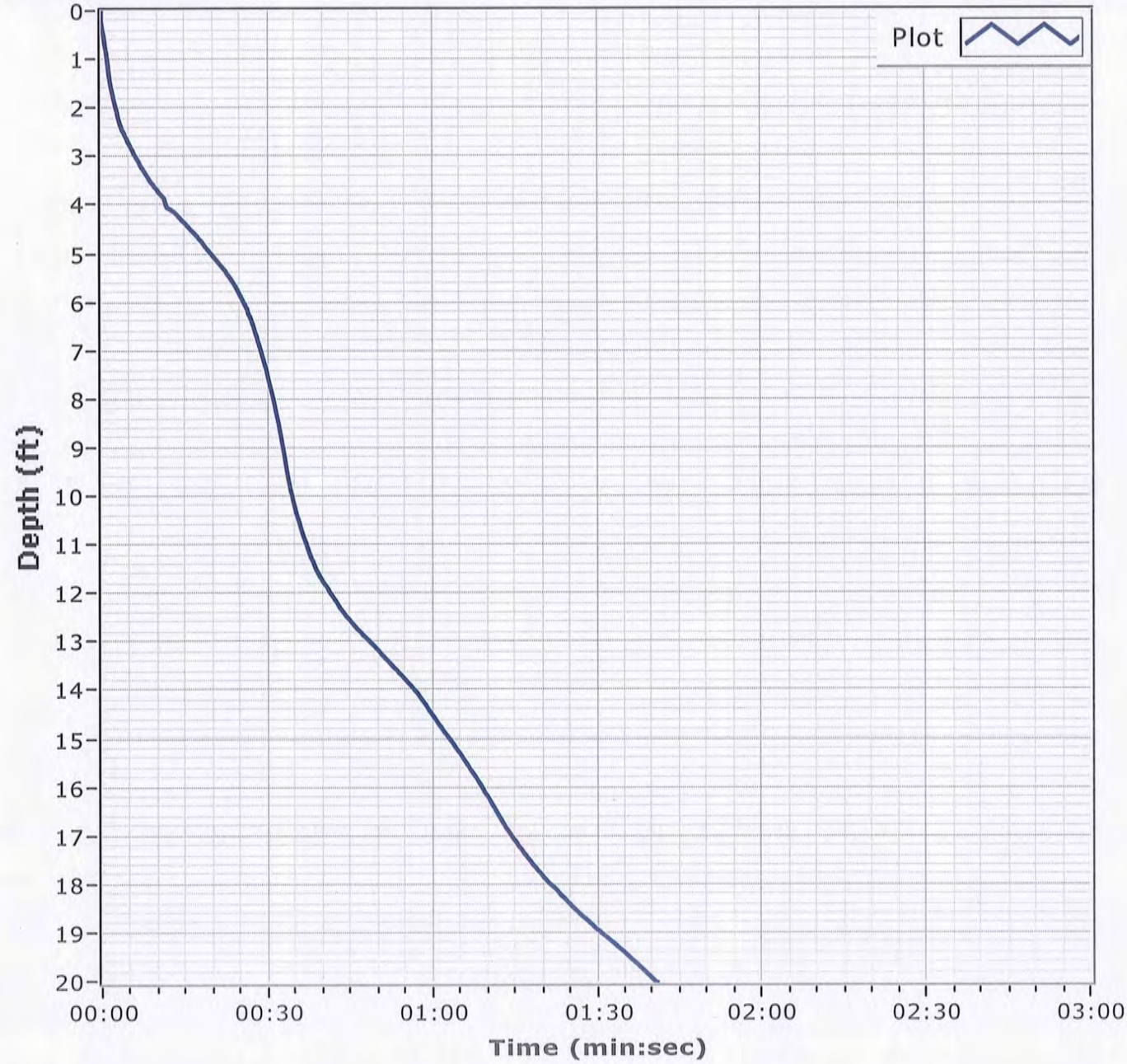
Core Identifier BI-PBS-16-12
Coordinate System
Latitude / Longitude

Latitude 30 08.149
Longitude 088 20.702

Date 11/23/2012
Start Time 13:34:56
End Time 13:36:37
Total Time 00:01:41

Water Depth 52.8'
Penetration 20.0'
Recovery 17.8'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.9	2.4	15.7	78.6	2.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.7		
#4	99.1		
#10	96.7		
#20	92.7		
#40	81.0		
#60	35.8		
#100	6.4		
#140	2.9		
#200	2.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6916 D_{85}= 0.5156 D_{60}= 0.3255
D_{50}= 0.2923 D_{30}= 0.2329 D_{15}= 0.1859
D_{10}= 0.1672 C_u= 1.95 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-16-12 A
Sample Number: 6469 (30) **Depth:** 0.0' **Date:** 11/28/12

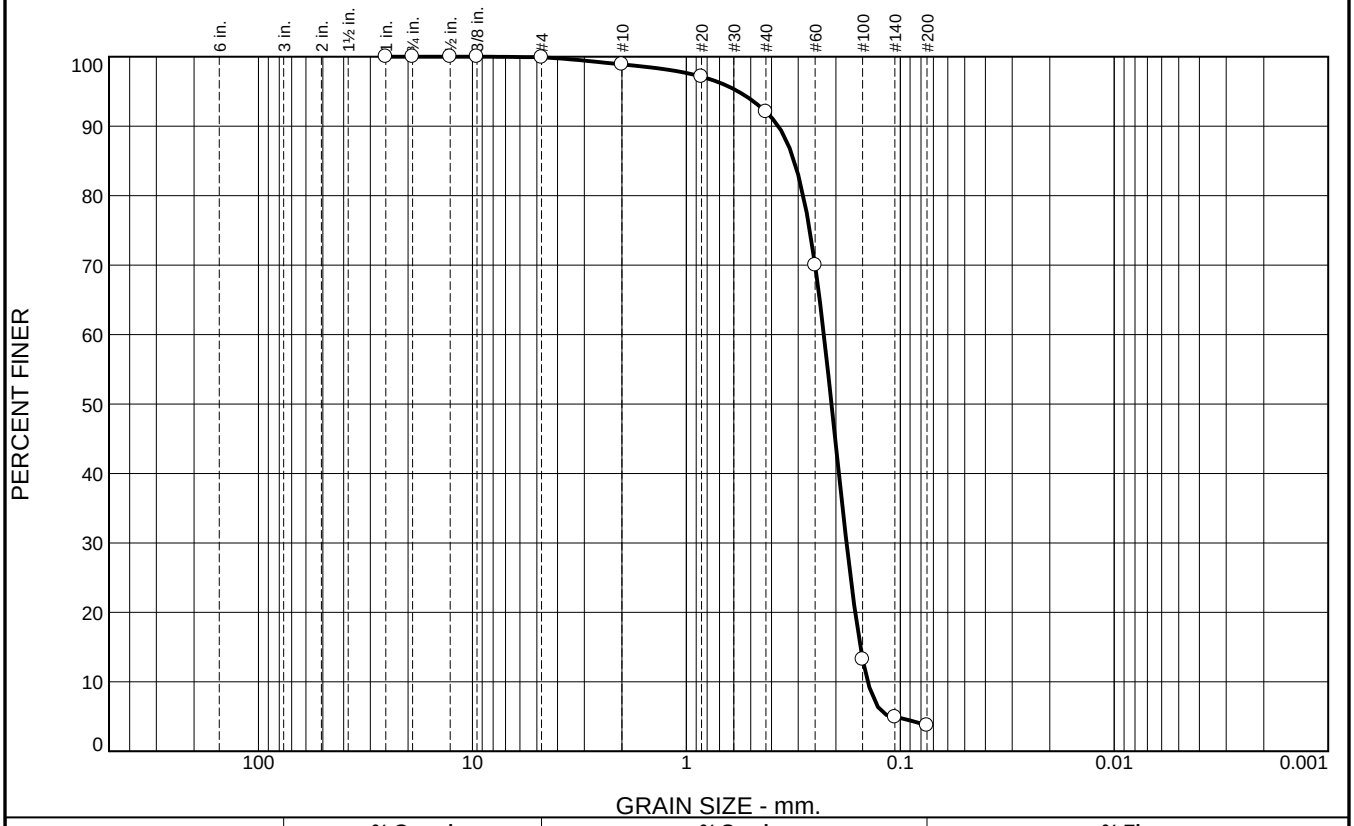
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	1.0	6.8	88.4	3.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	98.9		
#20	97.1		
#40	92.1		
#60	70.0		
#100	13.2		
#140	4.9		
#200	3.7		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3712 D_{85}= 0.3135 D_{60}= 0.2276
D_{50}= 0.2097 D_{30}= 0.1785 D_{15}= 0.1537
D_{10}= 0.1420 C_u= 1.60 C_c= 0.99

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-16-12 B
Sample Number: 6469 (31) **Depth:** 2.5' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	2.9	16.1	76.2	4.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.9		
#4	99.2		
#10	96.3		
#20	90.9		
#40	80.2		
#60	53.1		
#100	11.9		
#140	5.0		
#200	4.0		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7616 D_{85}= 0.5200 D_{60}= 0.2745
D_{50}= 0.2406 D_{30}= 0.1923 D_{15}= 0.1585
D_{10}= 0.1436 C_u= 1.91 C_c= 0.94

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-16-12 C
Sample Number: 6469 (32) **Depth:** 3.8' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-17-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-17-12	LOCATION COORDINATES: E = 1,139,765 N = 231,412	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 55.4 Ft.	
		15. DATE BORING	STARTED: 11-23-12 / COMPLETED: 11-23-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-55.0	0.0				
-56.0	1.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fines, gray (SP)	A	Classification: SP Color: 2.5Y 6/2-light brownish gray D50: 0.21 mm % Fines: 2.7
-56.2	1.2				
-57.0	2.0		SAND, silty, mostly fine-grained sand-sized quartz, gray (SM)		
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few shell fragments, trace wood debris, gray (SP-SM)		
			SILT, inorganic-L, little sand, sand lense at 4.5 ft, lt. gray mottled with orange (ML)		
-62.5	7.5				
			SAND, silty, mostly fine-grained sand-sized quartz, trace wood debris, trace shell fragments, gray (SM)	NS	
-67.0	12.0				
			SILT, inorganic-L, trace sand, trace wood debris, gray (ML)		
-71.4	16.4				
-72.5	17.5		SAND, silty, mostly fine-grained sand-sized quartz, trace shell fragments, gray (SM)		
			CLAY, lean, stiff, sand lense at 18.7 ft, lt. gray to gray (CL)		
-74.5	19.5				

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13542° Long = -88.34137°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

Core Identifier BI-PBS-17-12

Coordinate System
Latitude / Longitude

Latitude 30 08.125

Longitude 088 20.482

Date 11/23/2012

Start Time 10:21:34

End Time 10:22:18

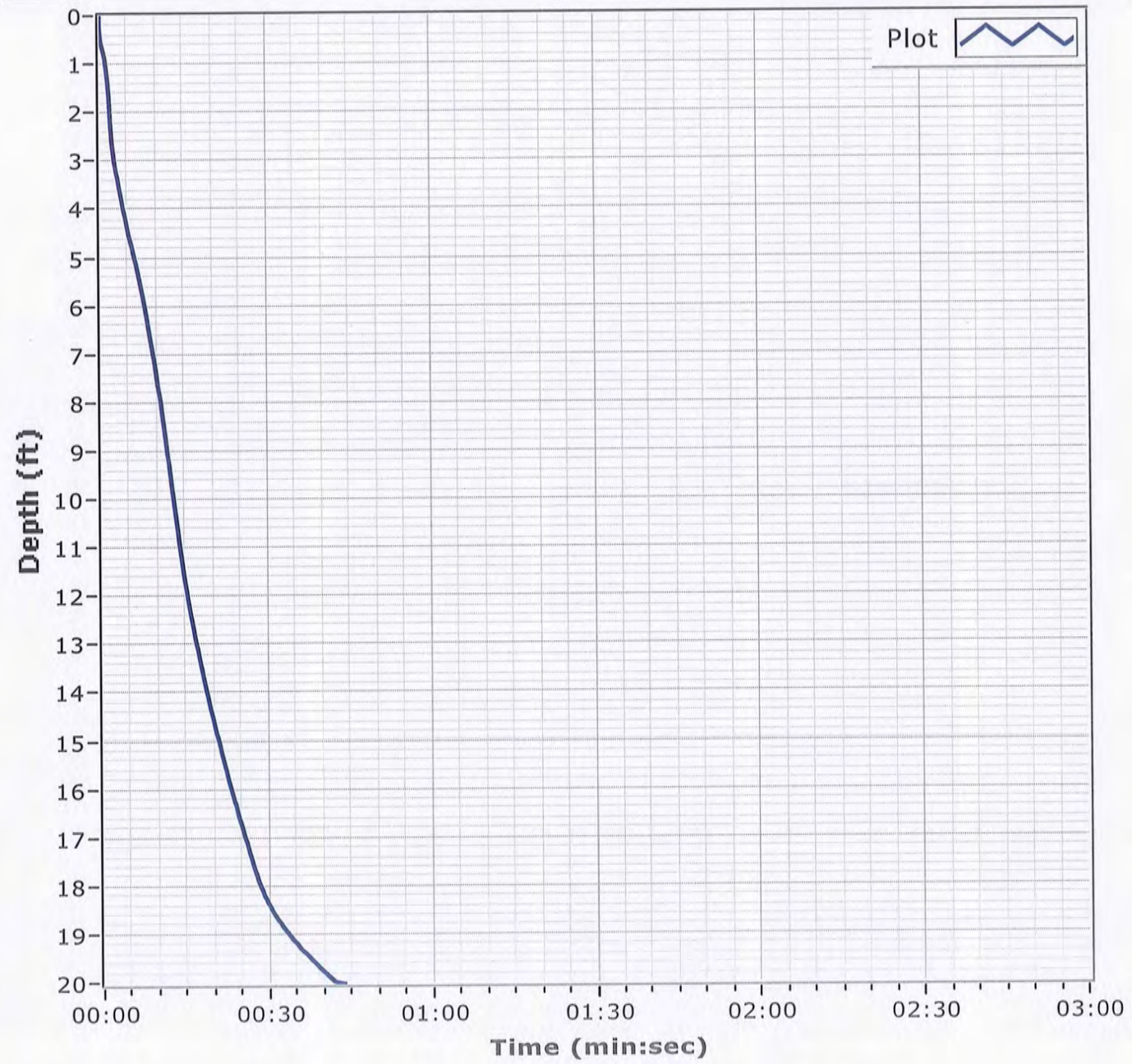
Total Time 00:00:44

Water Depth 58.7'

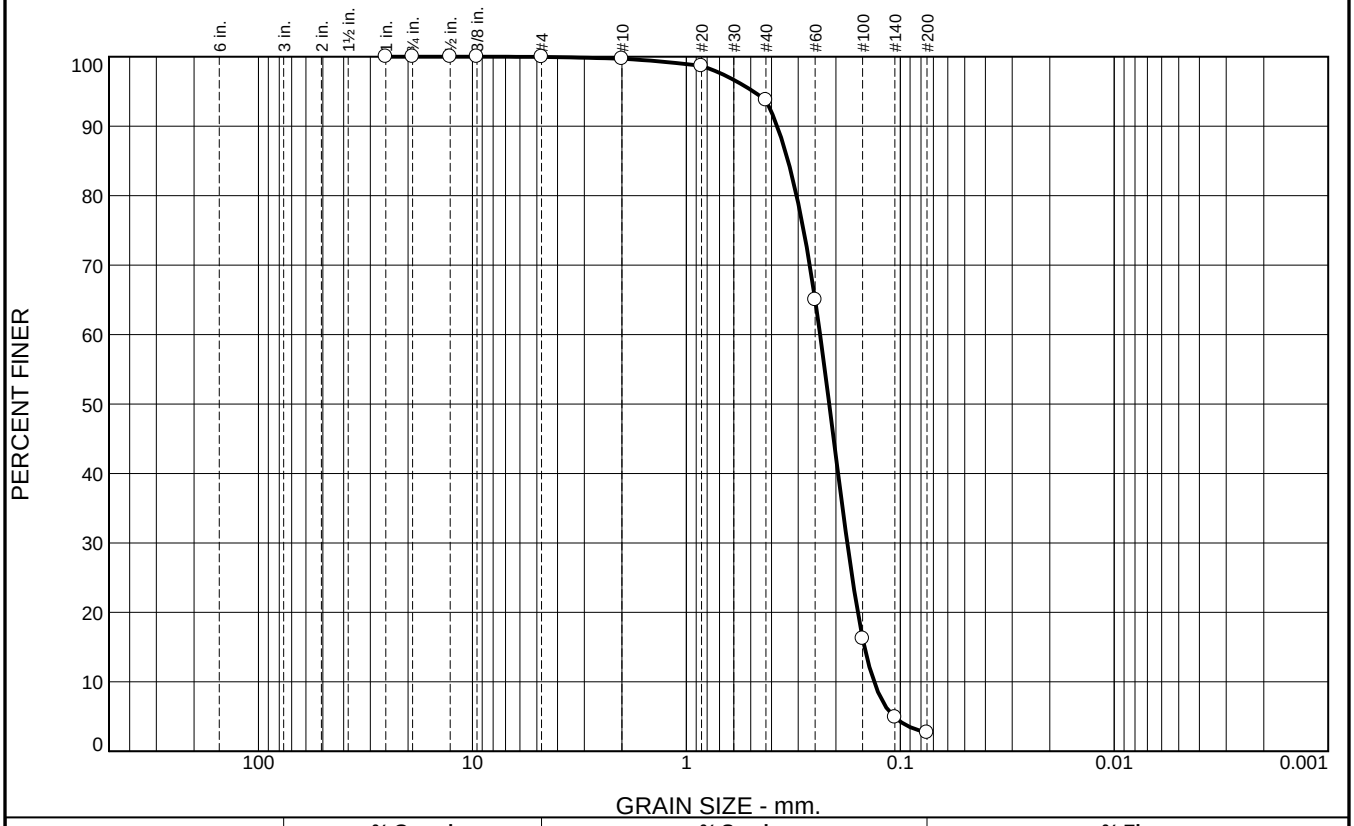
Penetration 20.0'

Recovery 19.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	6.0	91.0	2.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.7		
#20	98.7		
#40	93.7		
#60	65.0		
#100	16.2		
#140	4.9		
#200	2.7		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3762 D_{85}= 0.3346 D_{60}= 0.2370
D_{50}= 0.2148 D_{30}= 0.1771 D_{15}= 0.1471
D_{10}= 0.1328 C_u= 1.78 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-17-12 A
Sample Number: 6469 (24) **Depth:** 0.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-18-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-18-12	LOCATION COORDINATES: E = 1,139,854 N = 232,104	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 50.2 Ft.	
		15. DATE BORING	STARTED: 11-23-12 / COMPLETED: 11-23-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -49.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-49.8	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little shell fragments, trace fines, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.3756 mm % Fines: 1.7
-52.2	2.4				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fines, fines increase with depth, lt. gray to gray (SP)	B	Classification: SP Color: 5Y 7/2-light gray D50: 0.2358 mm % Fines: 2.6
-58.0	8.2				
-58.4	8.6				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little shell fragments, gray (SP-SM)		
-60.6	10.8				
			SAND, silty, mostly fine-grained sand-sized quartz, trace shell fragments, gray mottled with lt. gray and reddish brown (SM)		
-62.6	12.8				
			CLAY, silty, some fine-grained sand-sized quartz, trace shell fragments, trace wood debris, gray (CL-ML)	NS	
			SAND, silty, mostly fine-grained sand-sized quartz, trace shell fragments, trace wood debris, gray (SM)		
-66.8	17.0				
			CLAY, lean, little fine-grained sand-sized quartz, trace wood debris, gray (CL)		
-68.8	19.0				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13732° Long = -88.34108°

Project Mississippi Barrier Island Restoration Project

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SERVICES

Core Identifier BI-PBS-18-12

Coordinate System
Latitude / Longitude

Latitude 30 08.239

Longitude 088 20.465

Date 11/23/2012

Start Time 10:57:35

End Time 11:00:41

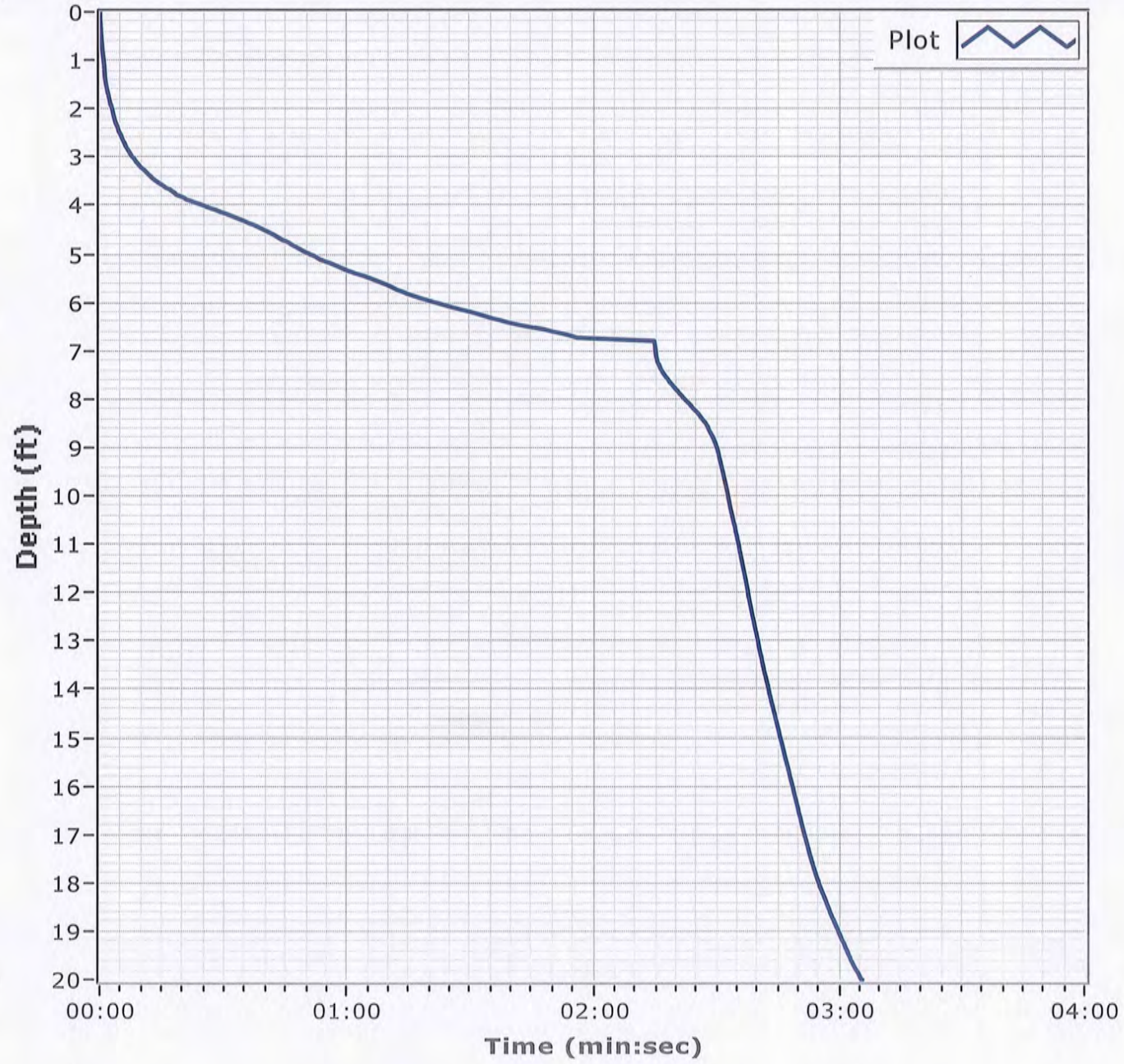
Total Time 00:03:06

Water Depth 50.2'

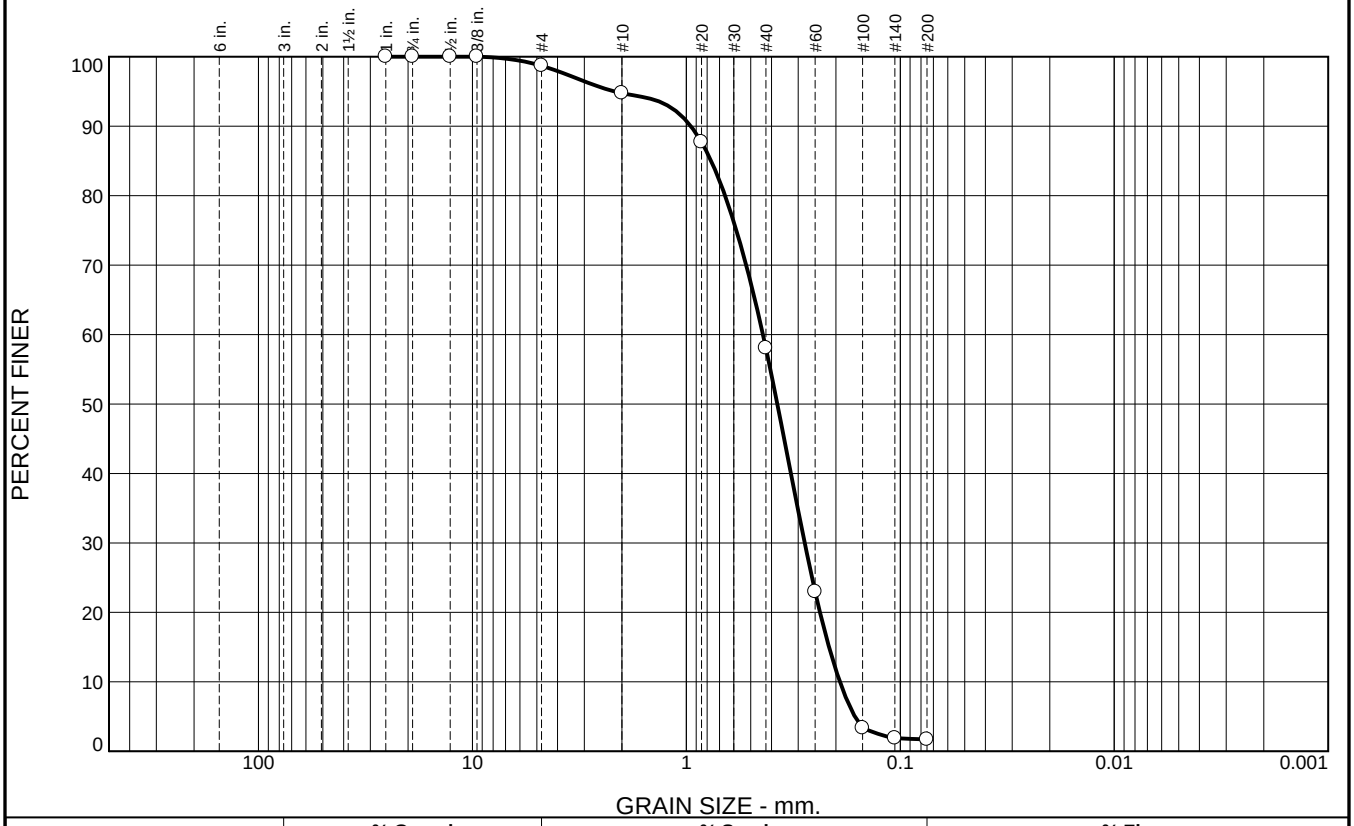
Penetration 20.0'

Recovery 19.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.3	4.0	36.6	56.4	1.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	98.7		
#10	94.7		
#20	87.7		
#40	58.1		
#60	23.0		
#100	3.4		
#140	1.9		
#200	1.7		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.9531 D_{85}= 0.7661 D_{60}= 0.4386
D_{50}= 0.3756 D_{30}= 0.2799 D_{15}= 0.2153
D_{10}= 0.1917 C_u= 2.29 C_c= 0.93

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-18-12 A
Sample Number: 6469 (25) **Depth:** 0.0' **Date:** 11/28/12

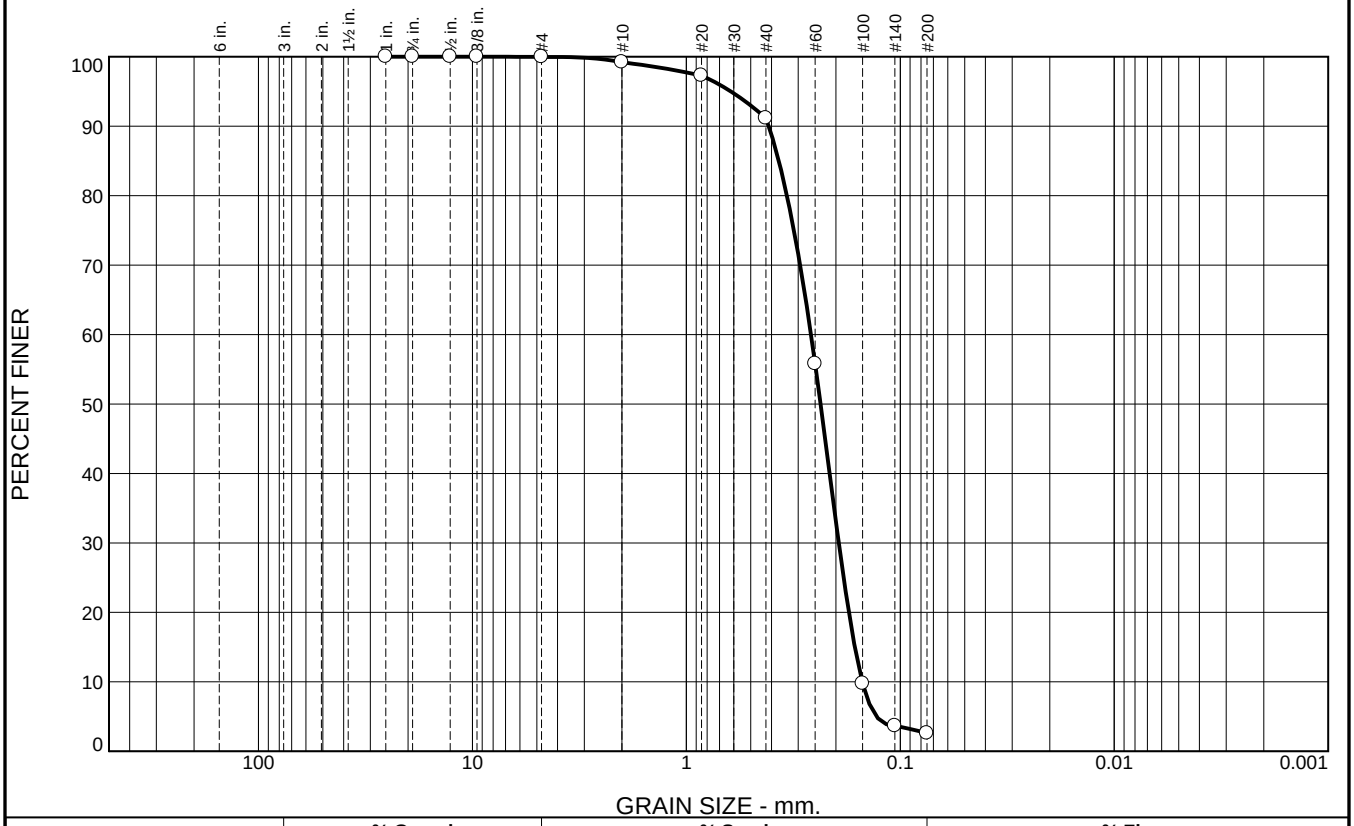
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.8	8.0	88.6	2.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.2		
#20	97.3		
#40	91.2		
#60	55.8		
#100	9.8		
#140	3.6		
#200	2.6		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4120 D_{85}= 0.3695 D_{60}= 0.2615
D_{50}= 0.2358 D_{30}= 0.1940 D_{15}= 0.1633
D_{10}= 0.1507 C_u= 1.74 C_c= 0.96

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-18-12 B
Sample Number: 6469 (26) **Depth:** 2.4' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-19-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-19-12	LOCATION COORDINATES: E = 1,139,322 N = 232,876	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 50.6 Ft.	
		15. DATE BORING	STARTED: 11-23-12 / COMPLETED: 11-23-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -50.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-50.1	0.0			
		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little shell fragments, trace fines, gray to light gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2978 mm % Fines: 1.8
-54.7	4.6			
-55.1	5.0	SAND, poorly-graded, mostly fine-grained sand-sized quartz, some shell fragments, few fines, gray (SP)	NS	
-56.3	6.2	SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little shell fragments, gray (SP-SM)		
-59.0	8.9	SAND, silty, mostly fine-grained sand-sized quartz, trace shell fragments, gray mottled with lt. gray and orange (SM)		
-59.8	9.7	CLAY, silty, little fine-grained sand-sized quartz, lt. gray mottled with orange (CL-ML)		
-60.1	10.0	SAND, silty, mostly fine-grained sand-sized quartz, gray (SM)		
-62.0	11.9	CLAY, lean, little fine-grained sand-sized quartz, lt. gray mottled with orange (CL)		
		SAND, silty, mostly fine-grained sand-sized quartz, gray to tan (SM)		
-66.1	16.0	SILT, inorganic-L, mostly silt, trace fine-grained sand-sized quartz, trace wood debris, trace shell fragments, gray (ML)		
-68.7	18.6			

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13945° Long = -88.34275°

Project Mississippi Barrier Island Restoration Project

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SERVICES

Core Identifier BI-PBS-19-12

Coordinate System
Latitude / Longitude

Latitude 30 08.367

Longitude 088 20.565

Date 11/23/2012

Start Time 11:42:08

End Time 11:43:20

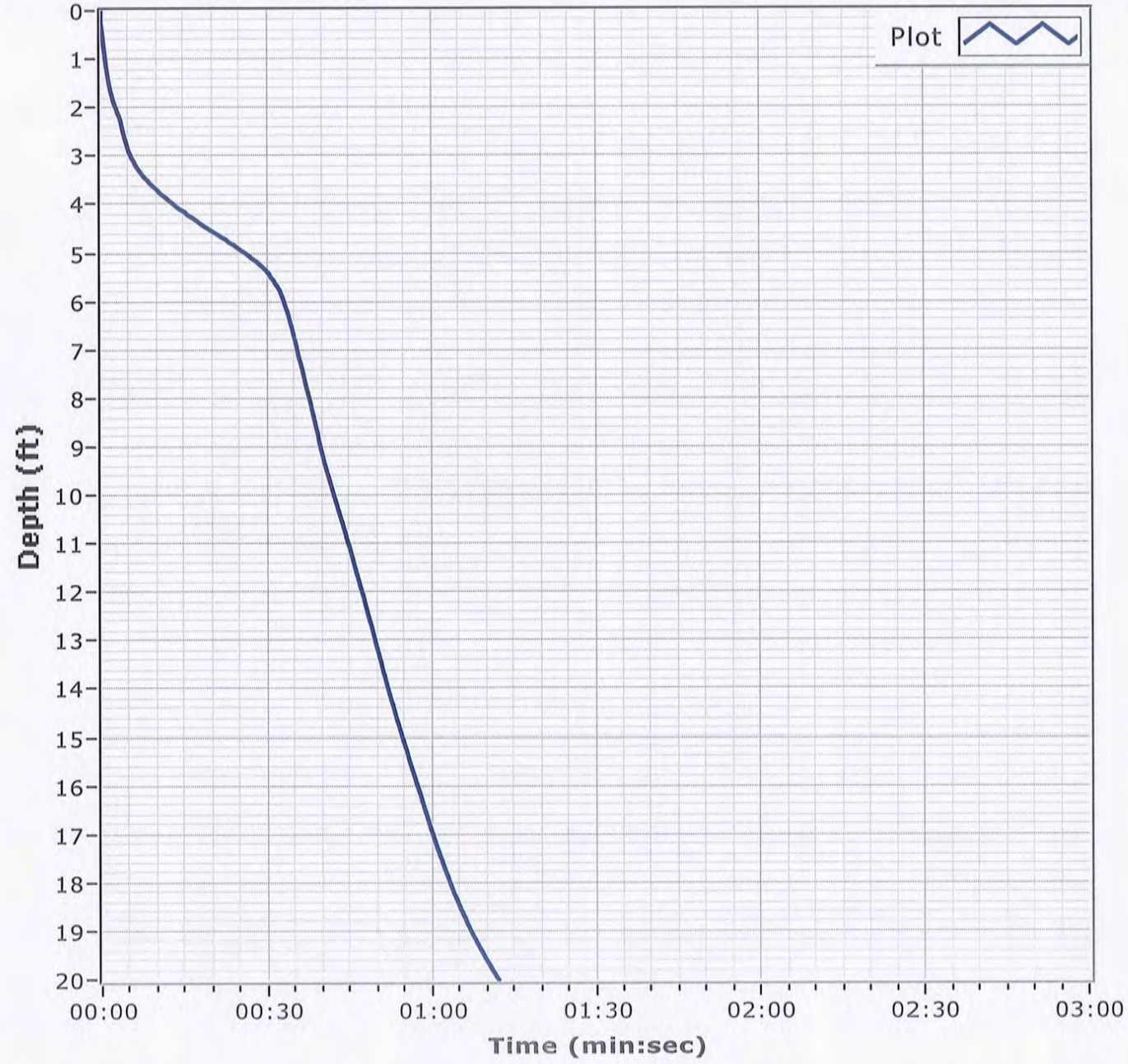
Total Time 00:01:12

Water Depth 50.6'

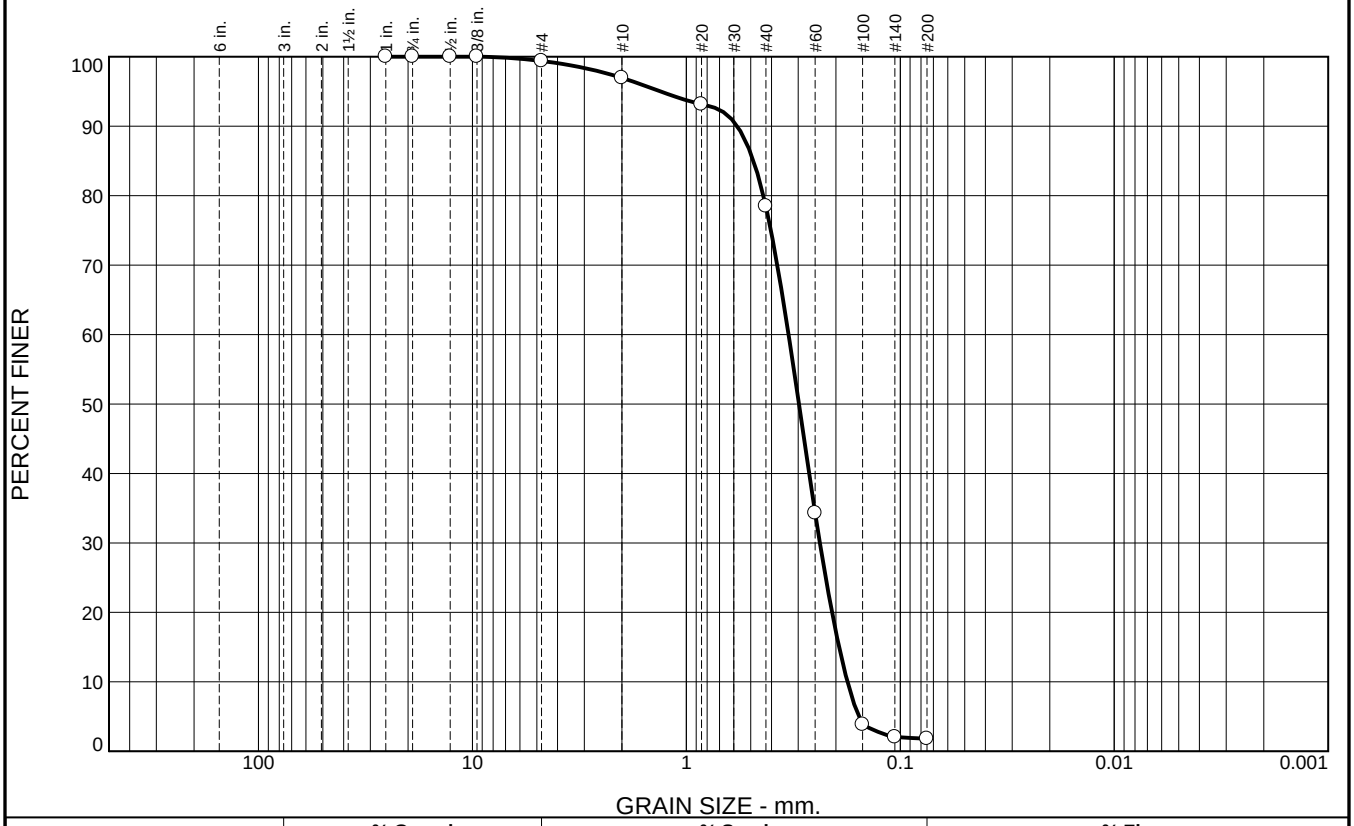
Penetration 20.0'

Recovery 18.6'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.6	2.5	18.4	76.7	1.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.4		
#10	96.9		
#20	93.1		
#40	78.5		
#60	34.3		
#100	3.9		
#140	2.0		
#200	1.8		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5783 D_{85}= 0.4857 D_{60}= 0.3329
D_{50}= 0.2978 D_{30}= 0.2376 D_{15}= 0.1933
D_{10}= 0.1768 C_u= 1.88 C_c= 0.96

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-19-12 A
Sample Number: 6469 (27) **Depth:** 0.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-20-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-20-12	LOCATION COORDINATES: E = 1,138,523 N = 229,734	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 60.8 Ft.	
		15. DATE BORING	STARTED: 11-23-12 / COMPLETED: 11-23-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -60.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 12.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-60.1	0.0				
-60.3	0.2		SILT, inorganic-L, mostly silt, trace fine-grained sand-sized quartz, trace shell fragments, gray (ML)	NS	
-64.2	4.1		SAND, silty, mostly fine-grained sand-sized quartz, trace shell fragments, gray (SM)		
-66.1	6.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace shell fragments, lt. gray (SP)	A	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.2777 mm % Fines: 9.1
-72.1	12.0		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, trace wood debris, gray (CL) At El. -66.7 Ft., mostly clay, trace fine-grained sand-sized quartz, trace shell fragments, trace wood debris, gray	NS	
-72.8	12.7		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, gray mottled with brown (SP-SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2927 mm % Fines: 12.8

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.13082° Long = -88.34532°

Project Mississippi Barrier Island Restoration Project

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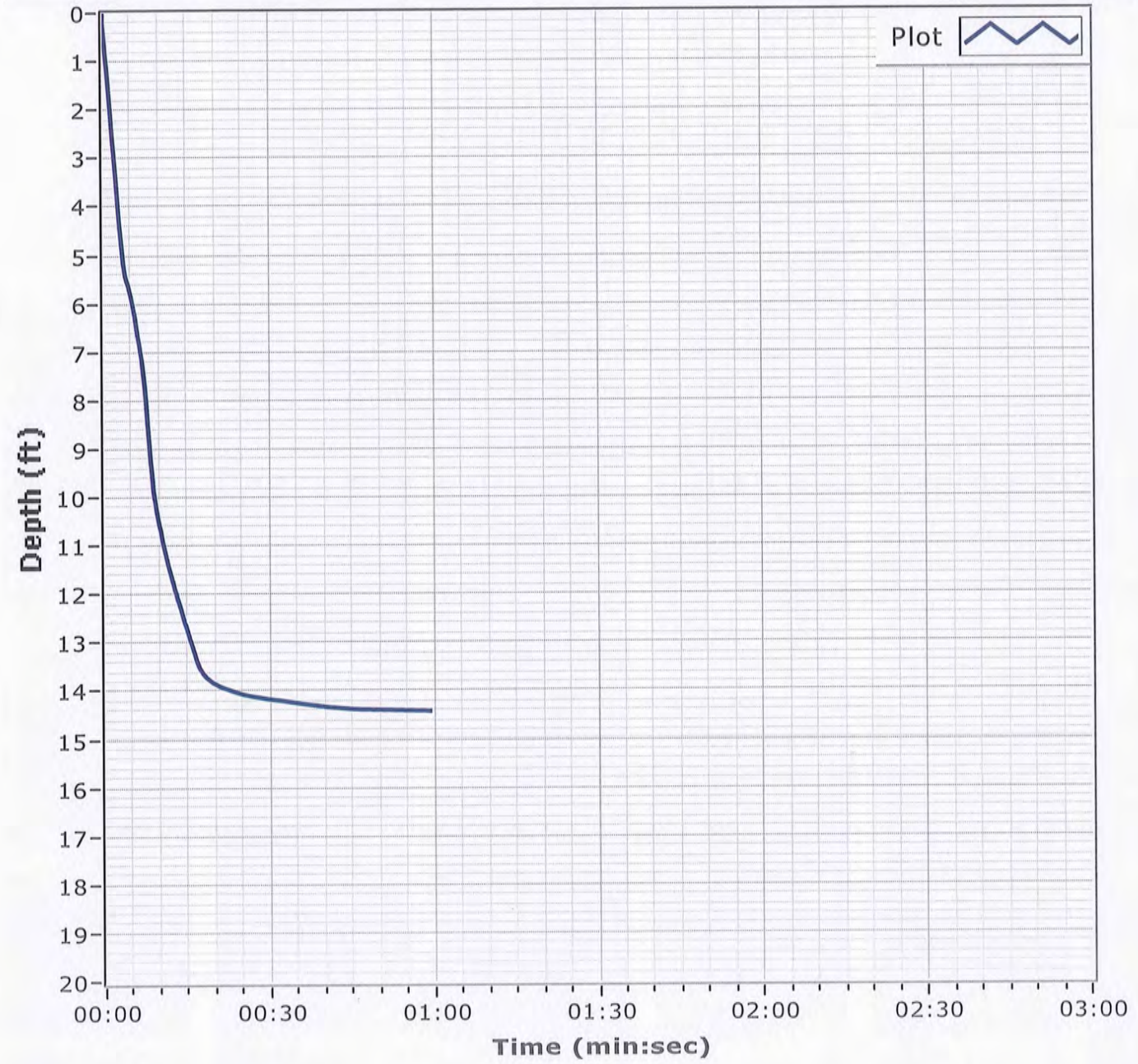
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Coordinate System
Latitude / Longitude

Date 11/23/2012
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Total Time 00:00:59

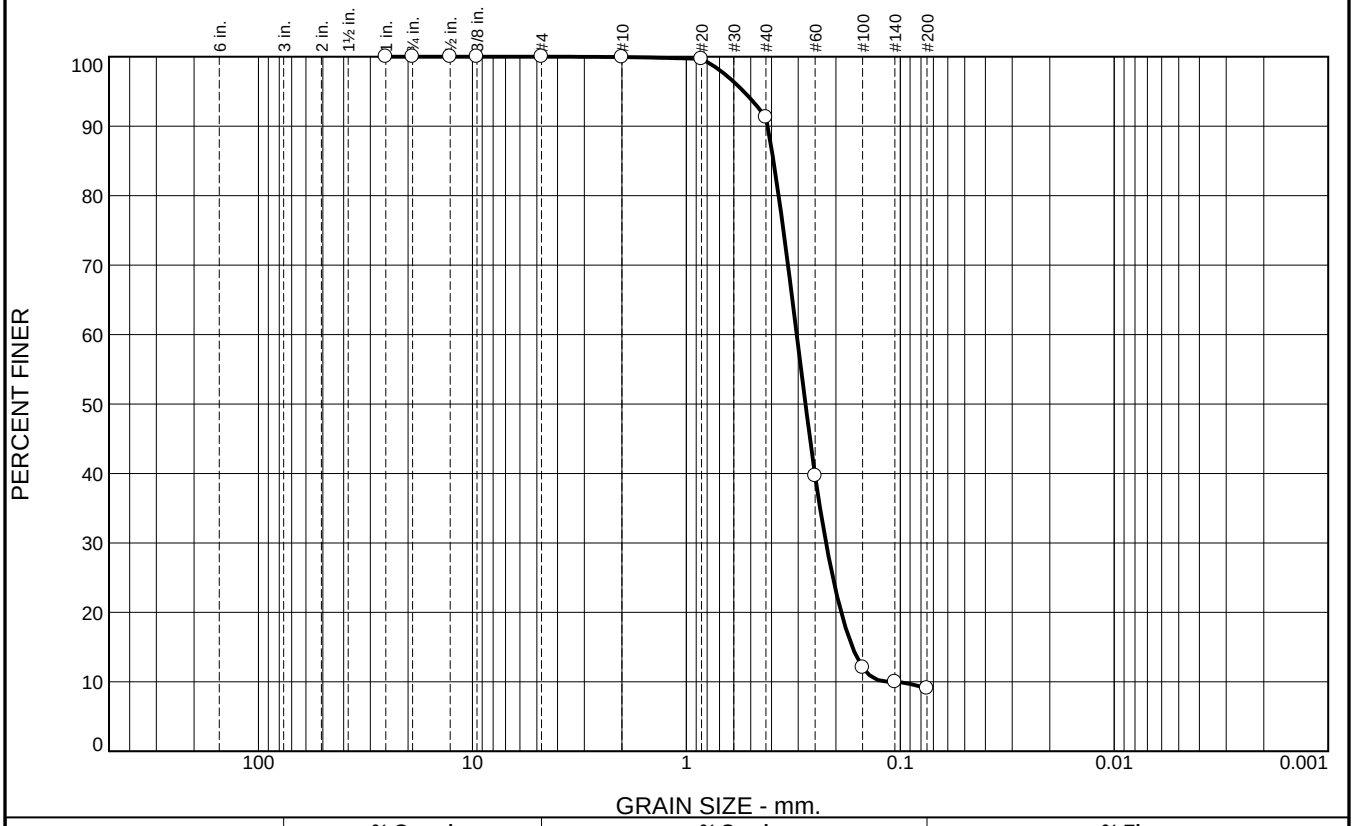
Water Depth 60.8
Penetration 14.4'
Recovery 12.7'

Latitude 30 08.849
Longitude 088 20.719

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	8.6	82.2	9.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.7		
#40	91.3		
#60	39.6		
#100	12.1		
#140	10.0		
#200	9.1		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4172 D_{85}= 0.3913 D_{60}= 0.3050
D_{50}= 0.2777 D_{30}= 0.2224 D_{15}= 0.1676
D_{10}= 0.1055 C_u= 2.89 C_c= 1.54

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-20-12 A
Sample Number: 6469 (28) **Depth:** 4.1' **Date:** 11/28/12

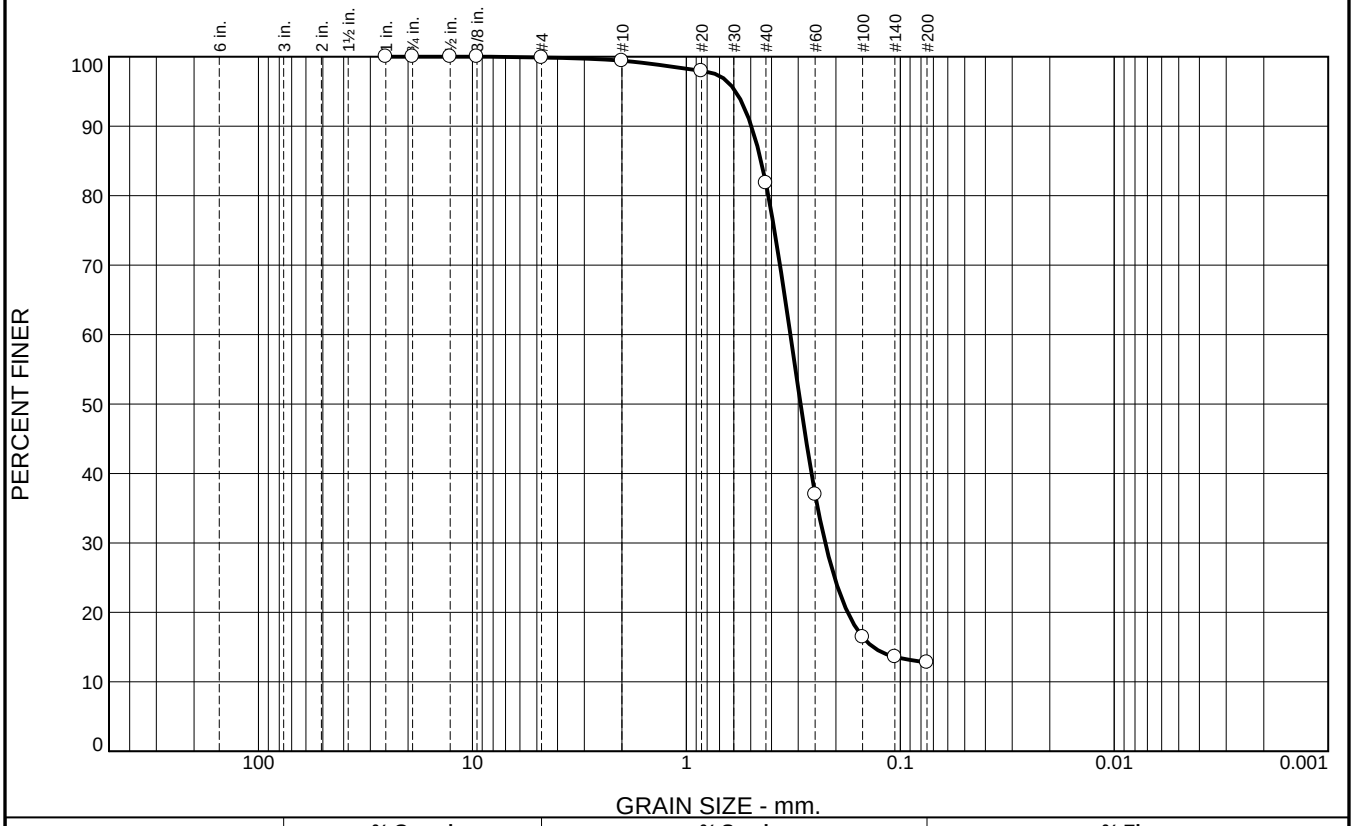
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.5	17.6	69.0	12.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.4		
#20	97.9		
#40	81.8		
#60	37.0		
#100	16.5		
#140	13.6		
#200	12.8		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4965 D_{85}= 0.4477 D_{60}= 0.3265
D_{50}= 0.2927 D_{30}= 0.2243 D_{15}= 0.1339
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-20-12 B
Sample Number: 6469 (29) **Depth:** 12.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-21-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-21-12	LOCATION COORDINATES: E = 1,142,638 N = 232,156	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 52 Ft.
		15. DATE BORING	STARTED: 11-21-12 / COMPLETED: 11-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -51.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-51.6	0.0				
			SAND, poorly-graded, mostly fine to medium-grained quartz, little shell fragments, trace fines, lt. gray (SP)	A	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.3757 mm % Fines: 1.3
-55.1	3.5				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fines, trace shell fragments, lt. gray (SP)	B	Classification: SP Color: 5Y 6.5/2- D50: 0.2445 mm % Fines: 3
-58.8	7.2				
-59.6	8.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace wood debris, gray (SC)		
-60.1	8.5		CLAY, lean, mostly fine-grained sand-sized quartz, some fine-grained sand-sized quartz, light gray mottled with brown (CL)		
-64.6	13.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, trace wood debris, gray to dark gray (SC)	NS	
-68.1	16.5		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace wood debris, gray (SM)		
-71.1	19.5		SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, trace wood debris, gray (ML)		
-71.6	20.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, gray (SM)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13743° Long = -88.33227°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

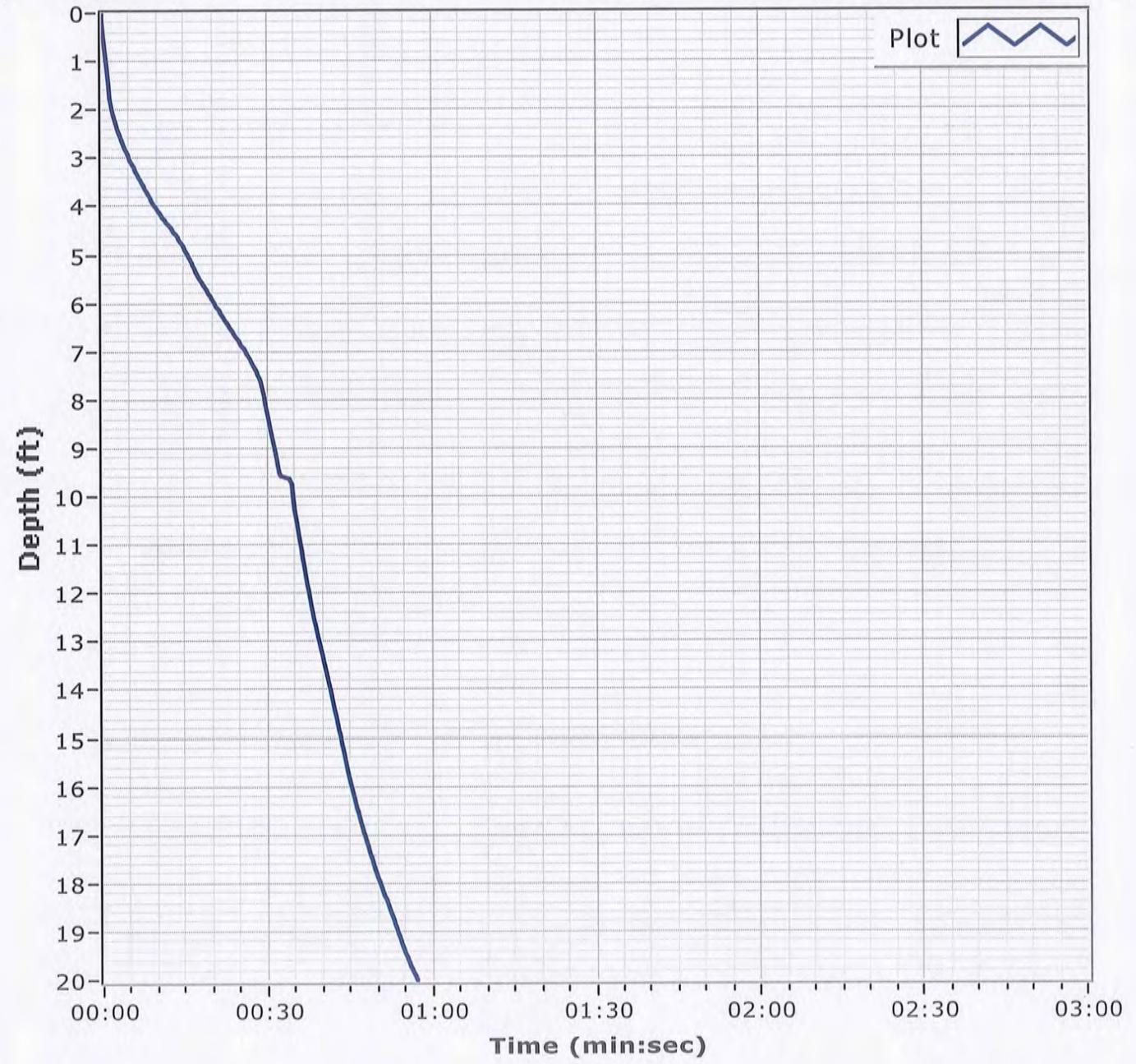
Core Identifier BI-PBS-21-12
Coordinate System
Latitude / Longitude

Latitude 30 08.246
Longitude 088 19.936

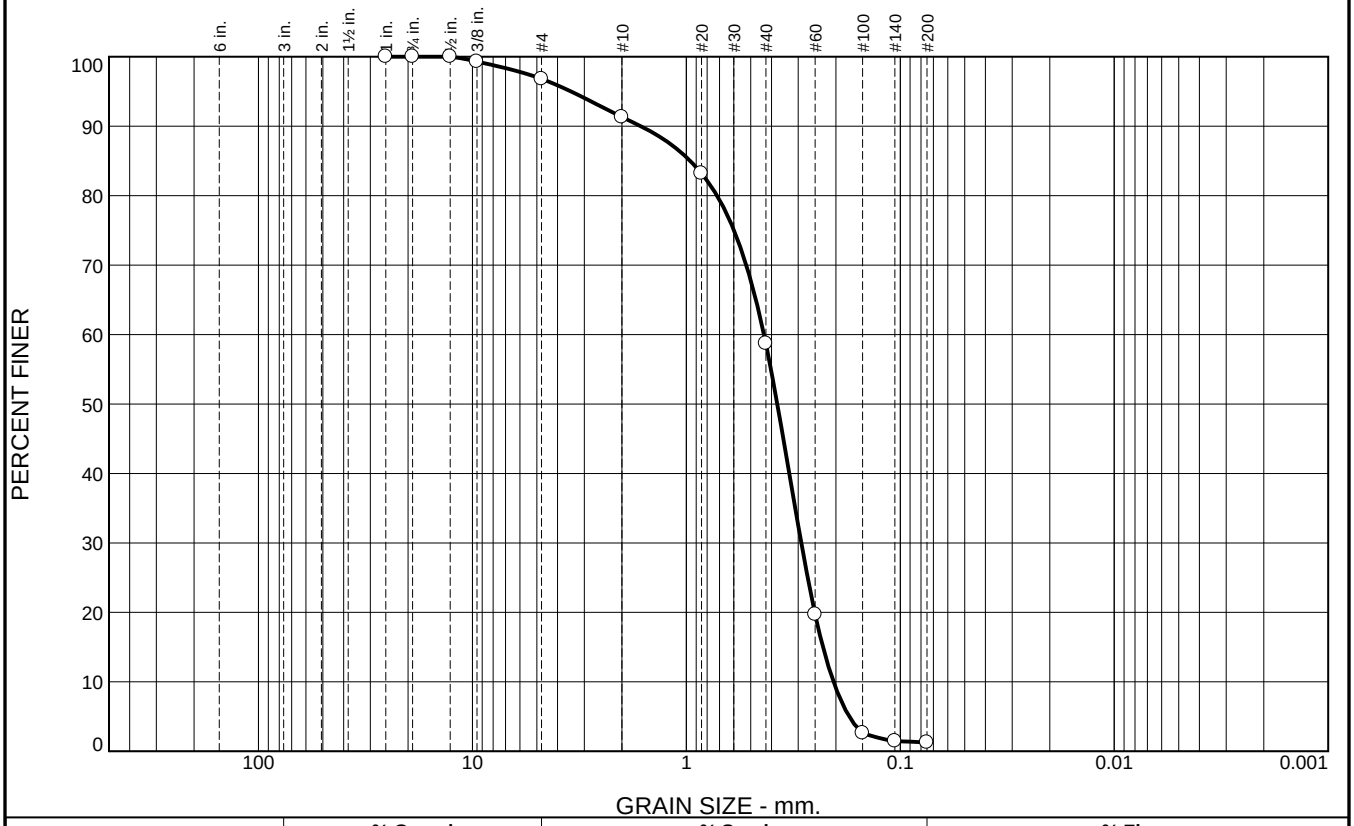
Date 11/21/2012
Start Time 12:57:37
End Time 12:58:34
Total Time 00:00:57

Water Depth 52.0'
Penetration 20.0'
Recovery 20.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.2	5.5	32.6	57.4	1.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.3		
#4	96.8		
#10	91.3		
#20	83.2		
#40	58.7		
#60	19.7		
#100	2.6		
#140	1.5		
#200	1.3		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.6366 D_{85}= 0.9602 D_{60}= 0.4338
D_{50}= 0.3757 D_{30}= 0.2904 D_{15}= 0.2298
D_{10}= 0.2052 C_u= 2.11 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-21-12 A
Sample Number: 6469 (10) **Depth:** 0.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.1	2.0	16.3	77.6	3.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.5		
.375	99.4		
#4	98.9		
#10	96.9		
#20	93.2		
#40	80.6		
#60	51.9		
#100	8.2		
#140	3.7		
#200	3.0		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6431 D_{85}= 0.4973 D_{60}= 0.2772
D_{50}= 0.2445 D_{30}= 0.1986 D_{15}= 0.1676
D_{10}= 0.1554 C_u= 1.78 C_c= 0.92

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-21-12 B
Sample Number: 6469 (11) **Depth:** 3.5' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-22-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-22-12	LOCATION COORDINATES: E = 1,142,318 N = 233,125	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 56 Ft.
		15. DATE BORING	STARTED: 11-21-12 / COMPLETED: 11-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-55.5	0.0				
			SAND, poorly-graded, mostly fine to medium-grained quartz, little shell fragments, trace fines, gray (SP)	A	Classification: SP Color: 5Y 7/1-light gray D50: 0.291 mm % Fines: 2.3
-61.4	5.9				
-62.2	6.7		SAND, silty, mostly fine-grained sand-sized quartz, trace shell fragments, trace wood debris, gray (SM)		
-63.5	8.0		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, trace wood debris, gray (CL)		
			SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, gray (SM)	NS	
-75.5	20.0				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14010° Long = -88.33327°

Project Mississippi Barrier Island Restoration Project

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Core Identifier BI-PBS-22-12

Coordinate System
Latitude / Longitude

Latitude 30 08.406

Longitude 088 19.996

Date 11/21/2012

Start Time 15:33:14

End Time 15:34:34

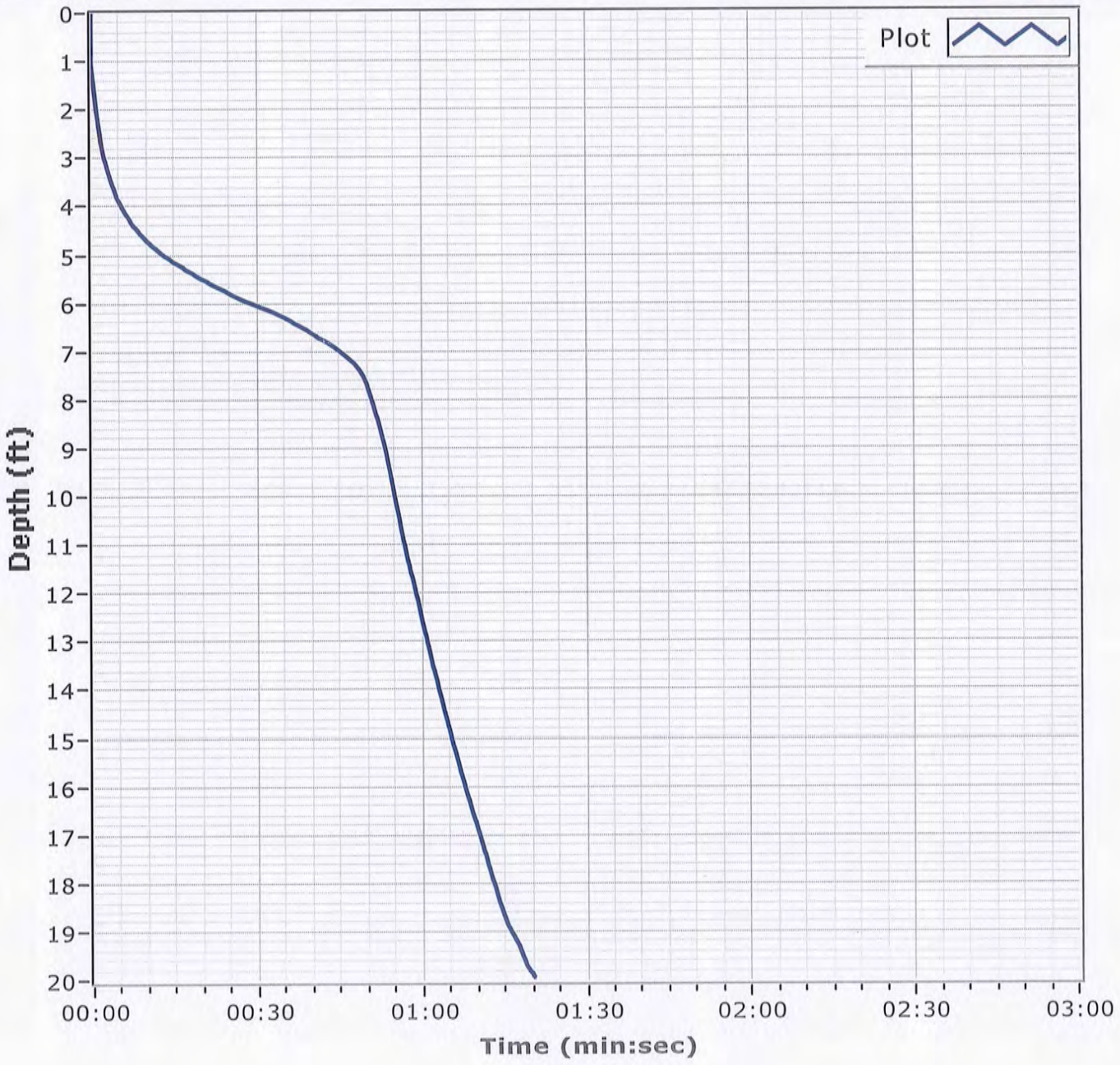
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Water Depth 56.0'

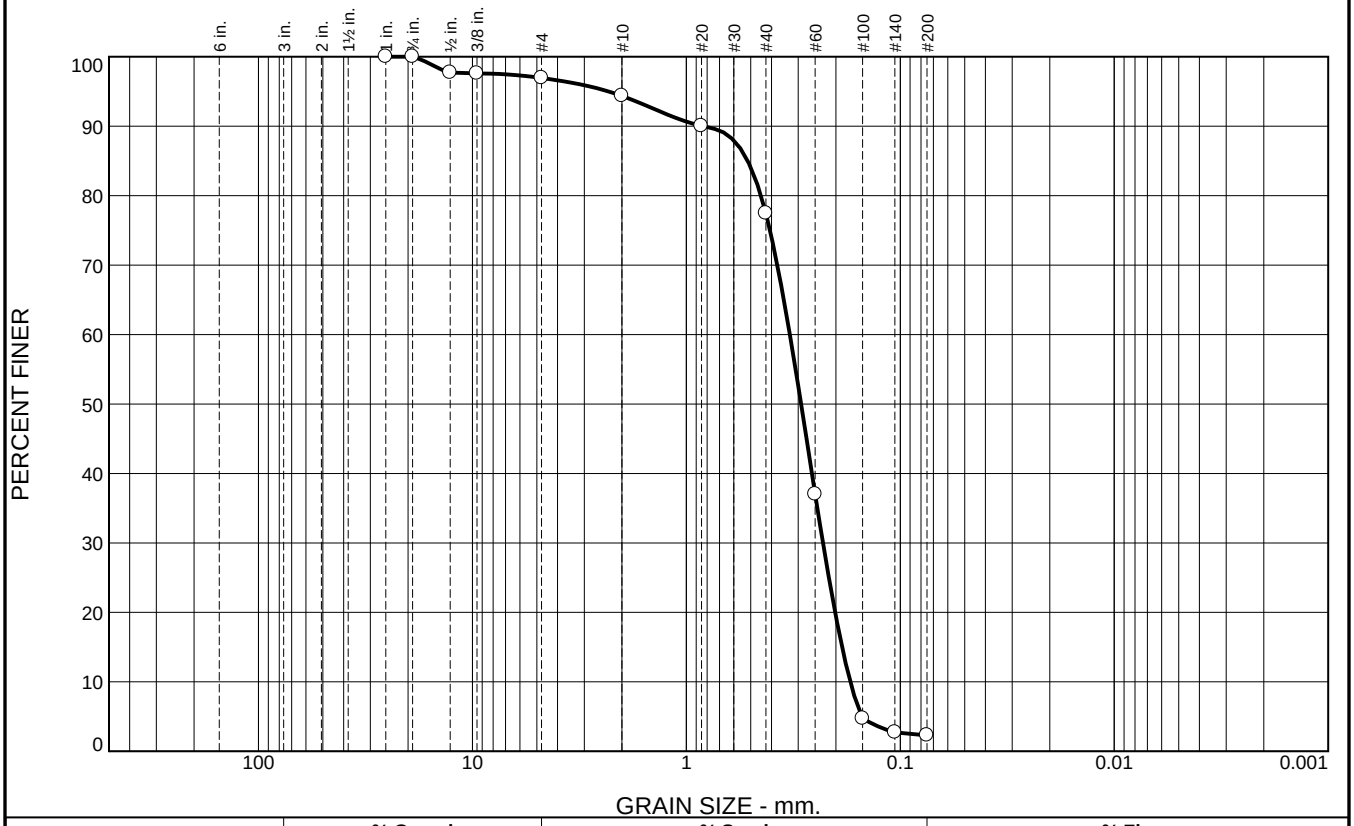
Penetration 20.0'

Recovery 20.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.1	2.5	16.9	75.2	2.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	97.7		
.375	97.6		
#4	96.9		
#10	94.4		
#20	90.0		
#40	77.5		
#60	37.0		
#100	4.7		
#140	2.7		
#200	2.3		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.8388 D_{85}= 0.5167 D_{60}= 0.3283
D_{50}= 0.2910 D_{30}= 0.2298 D_{15}= 0.1872
D_{10}= 0.1715 C_u= 1.92 C_c= 0.94

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-22-12 A
Sample Number: 6469 (18) **Depth:** 0.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-23-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-23-12	LOCATION COORDINATES: E = 1,141,367 N = 233,678	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 55.7 Ft.	
		15. DATE BORING	STARTED: 11-23-12 / COMPLETED: 11-23-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-55.3	0.0				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.3131 mm % Fines: 2.6
-58.9	3.6				
-59.6	4.3		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, stringers of brown clay, lt. gray mottled with reddish brown (SP-SM)	NS	
-60.3	5.0				
			SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, trace shell fragments, lt. gray (ML)		
-63.2	7.9				
			SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, trace wood debris, lt. gray (SM)	B	Classification: SP-SM Color: 2.5Y 6/2-light brownish gray D50: 0.2021 mm % Fines: 9
-65.0	9.7				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little silt, trace shell fragments, gray (SP-SM)	NS	
			SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, gray (SM)		
-72.3	17.0				
			CLAY, lean, mostly clay, lt. gray mottled with orange (CL)		
-74.0	18.7				
-75.0	19.7		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, lt. gray mottled with reddish brown (SP)	C	Classification: SP-SM Color: 2.5Y 7/2-light gray D50: 0.3065 mm % Fines: 8.2

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

Lat = 30.14163° Long = -88.33627°

Project Mississippi Barrier Island Restoration Project

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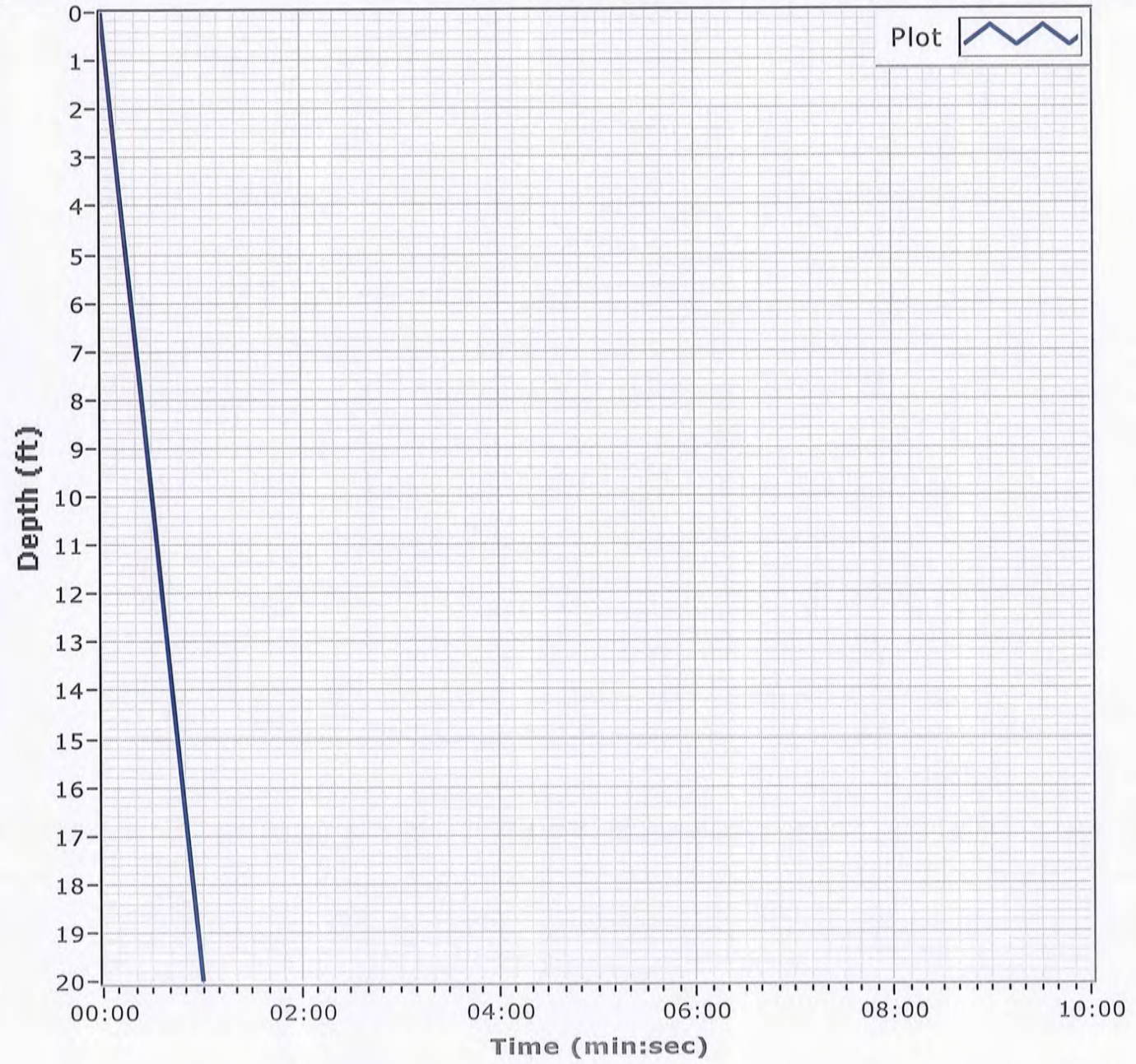
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Coordinate System
Latitude / Longitude

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Longitude 088 20.176

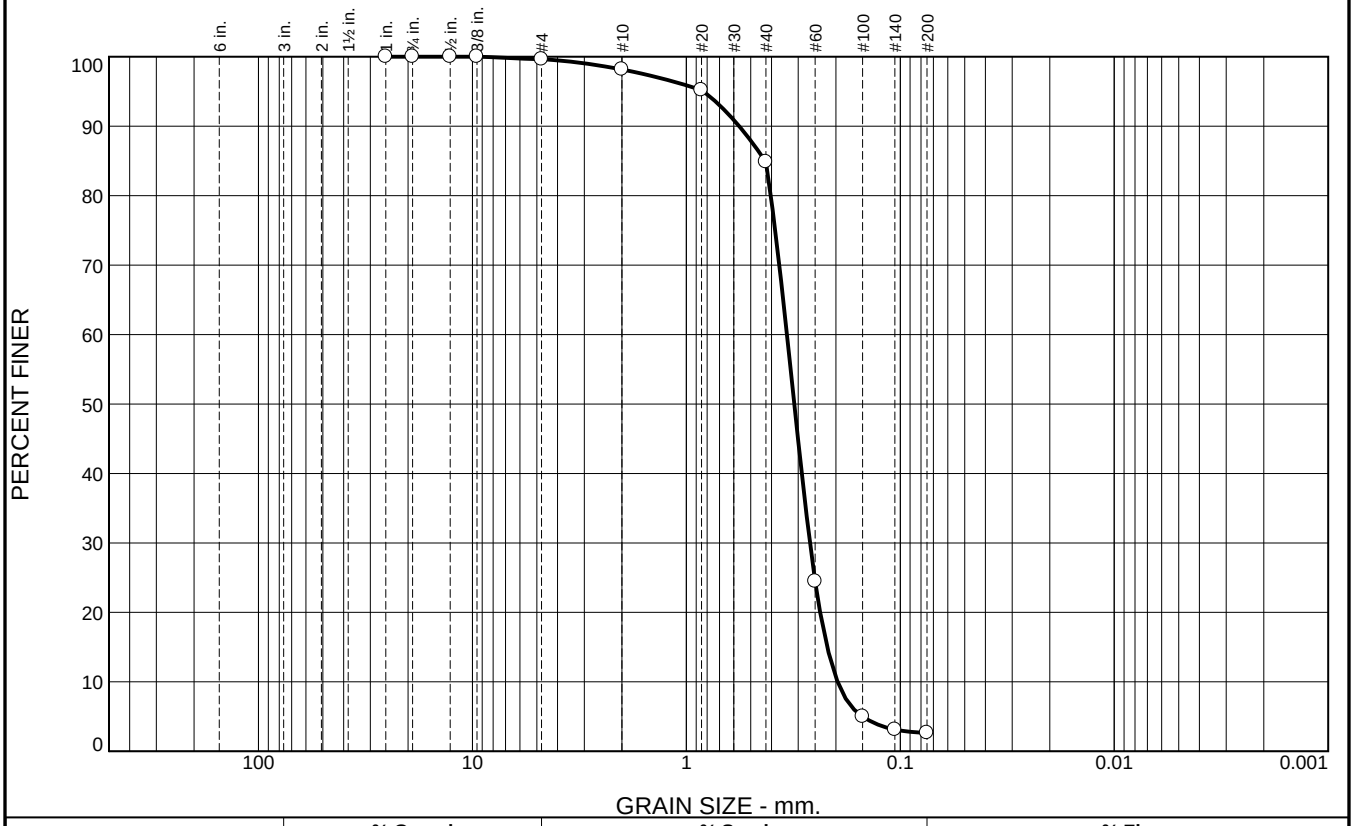
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End Time 09:01:03
Total Time 00:01:00

Water Depth 55.7'
Penetration 20.0'
Recovery 19.7'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	1.4	13.4	82.2	2.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.6		
#10	98.2		
#20	95.2		
#40	84.8		
#60	24.5		
#100	5.0		
#140	3.1		
#200	2.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5666 D_{85}= 0.4285 D_{60}= 0.3387
D_{50}= 0.3131 D_{30}= 0.2646 D_{15}= 0.2195
D_{10}= 0.1963 C_u= 1.73 C_c= 1.05

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-23-12 A
Sample Number: 6469 (19) **Depth:** 0.0' **Date:** 11/28/12

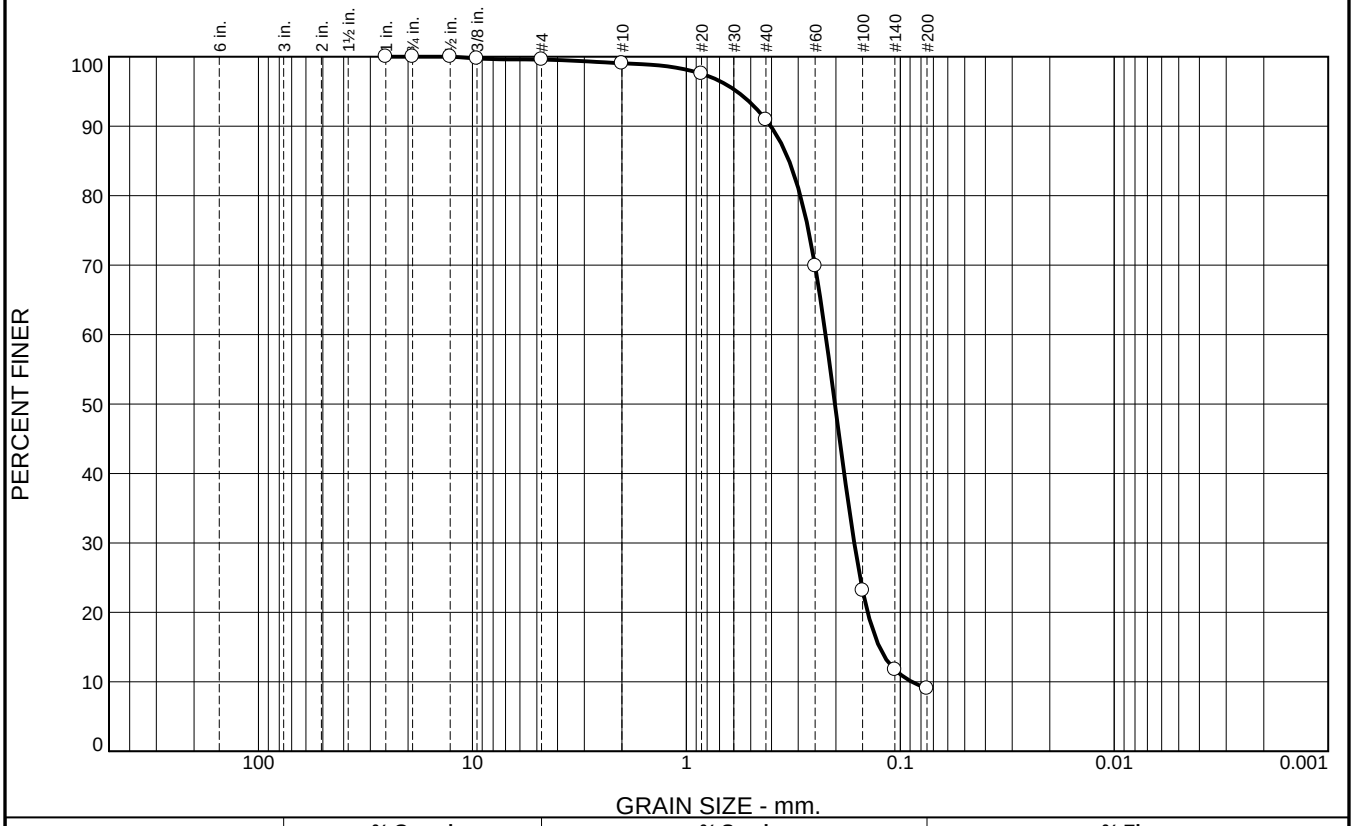
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	0.5	8.2	81.9	9.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.7		
#4	99.6		
#10	99.1		
#20	97.5		
#40	90.9		
#60	69.9		
#100	23.1		
#140	11.8		
#200	9.0		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4032 D_{85}= 0.3308 D_{60}= 0.2235
D_{50}= 0.2021 D_{30}= 0.1642 D_{15}= 0.1253
D_{10}= 0.0882 C_u= 2.53 C_c= 1.37

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-23-12 B
Sample Number: 6469 (20) **Depth:** 7.9' **Date:** 11/28/12

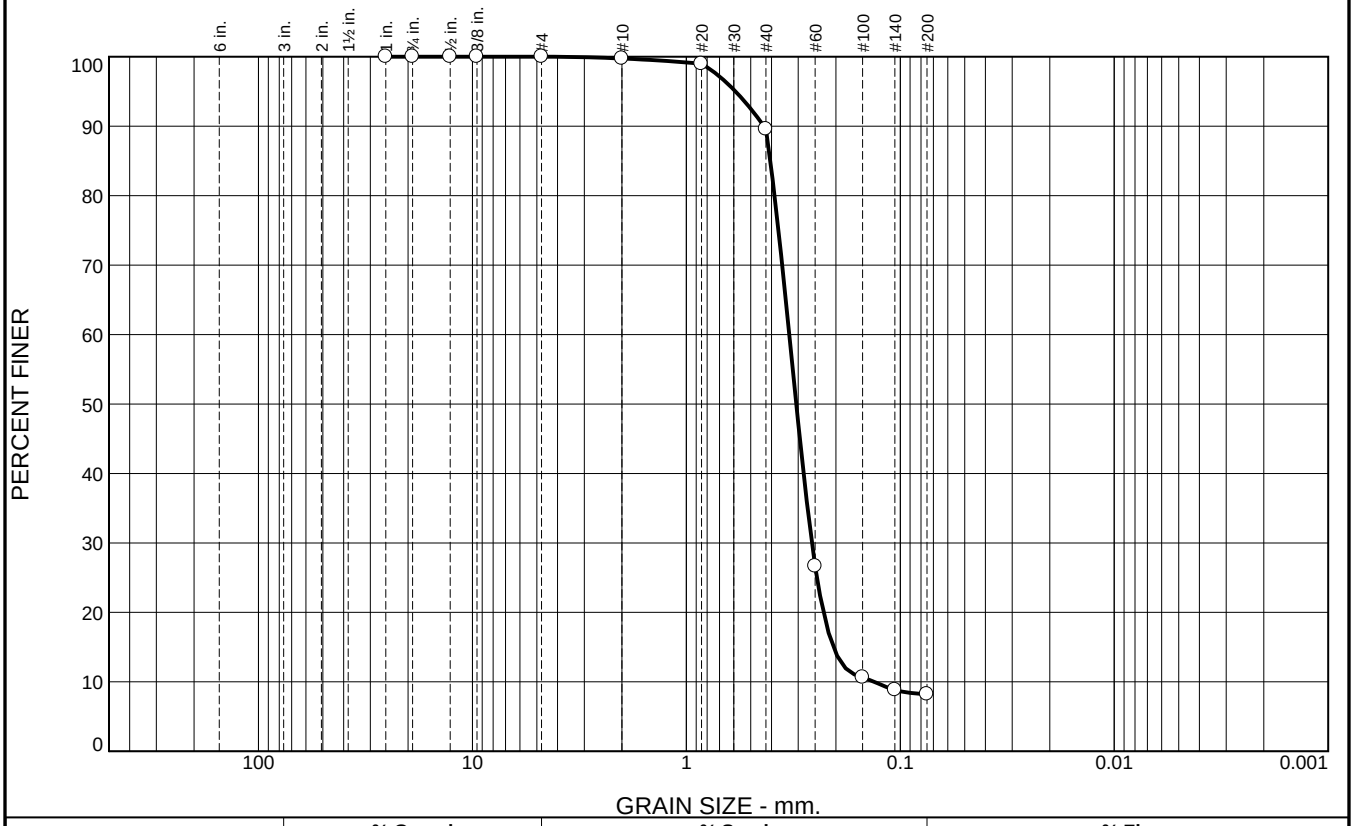
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	10.1	81.4	8.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.7		
#20	99.0		
#40	89.6		
#60	26.6		
#100	10.6		
#140	8.8		
#200	8.2		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4344 D_{85}= 0.4050 D_{60}= 0.3304
D_{50}= 0.3065 D_{30}= 0.2591 D_{15}= 0.2056
D_{10}= 0.1326 C_u= 2.49 C_c= 1.53

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-23-12 C
Sample Number: 6469 (21) **Depth:** 18.7' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-24-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-24-12	LOCATION COORDINATES: E = 1,141,846 N = 232,632	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 55.6 Ft.	
		15. DATE BORING	STARTED: 11-21-12 / COMPLETED: 11-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-55.1	0.0				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2906 mm % Fines: 3.4
-58.7	3.6				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, clay lenses through interval, lt. gray mottled with gray and orange (SC)	NS	
-62.6	7.5				
-63.5	8.4		CLAY, silty, mostly clay, trace sand, gray mottled with brown and orange (CL-ML)		
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace wood debris, gray (SM)		
-67.6	12.5				
-68.9	13.8		CLAY, lean, mostly clay, little fine-grained sand-sized quartz, trace wood debris, gray (CL)		
			SAND, silty, mostly fine-grained sand-sized quartz, trace wood debris, gray (SM)		
-73.9	18.8				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13875° Long = -88.33477°

Project Mississippi Barrier Island Restoration Project

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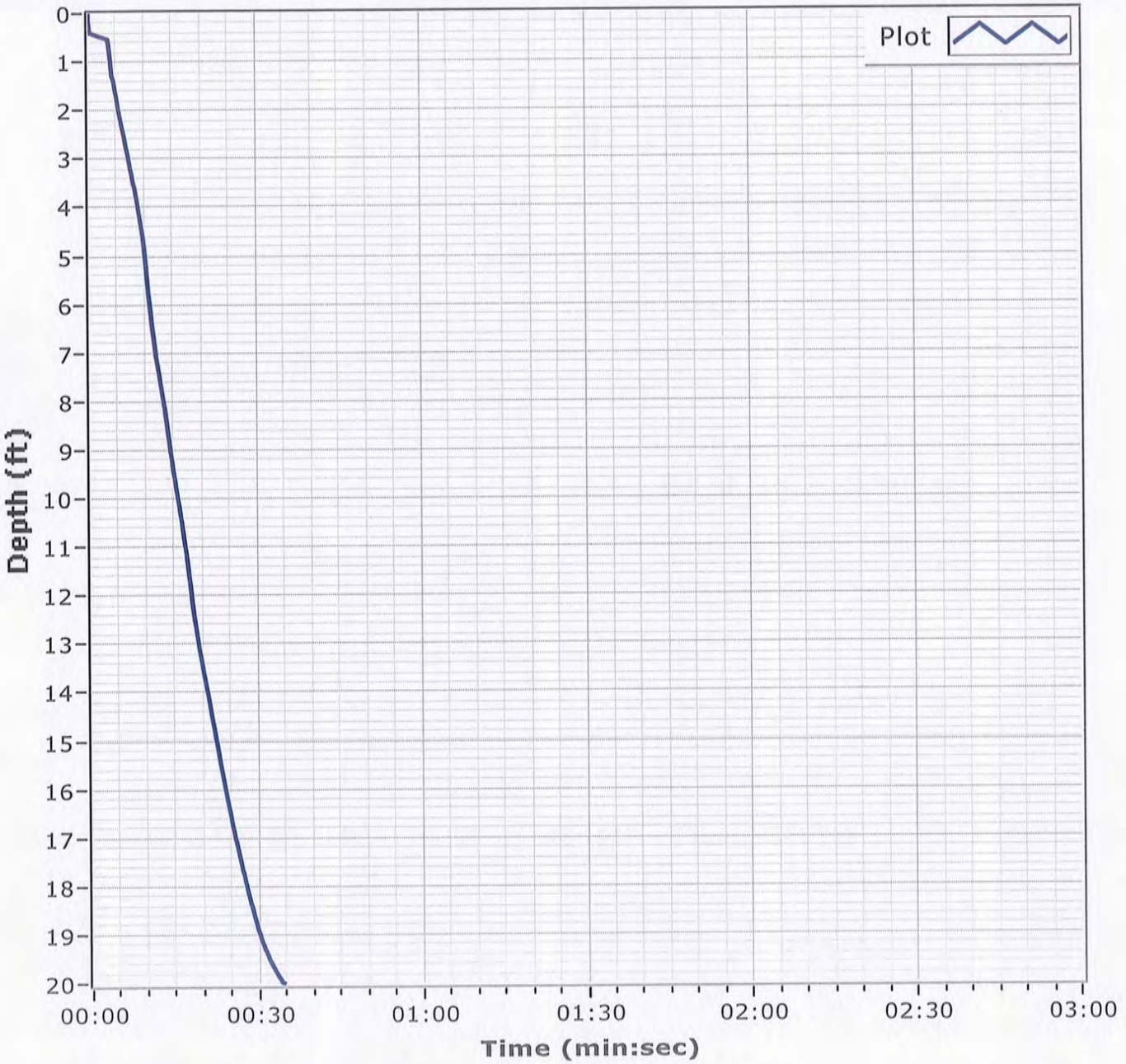
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Longitude 088 20.086

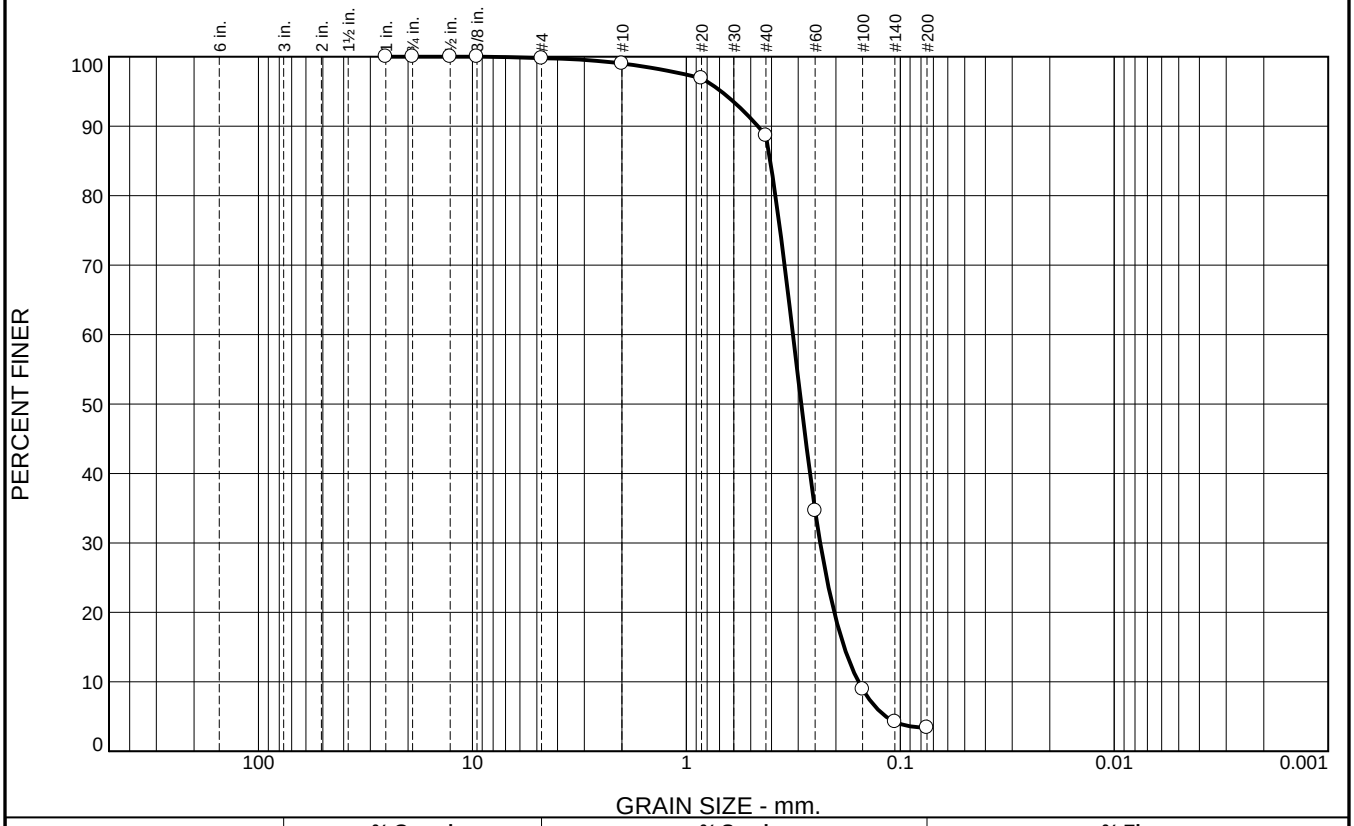
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End Time 14:55:57
Total Time 00:00:34

Water Depth 55.6
Penetration 20.0'
Recovery 18.8

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.8	10.4	85.2	3.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.0		
#20	96.9		
#40	88.6		
#60	34.6		
#100	8.9		
#140	4.3		
#200	3.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4637 D_{85}= 0.4054 D_{60}= 0.3176
D_{50}= 0.2906 D_{30}= 0.2367 D_{15}= 0.1831
D_{10}= 0.1568 C_u= 2.02 C_c= 1.13

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-24-12 A
Sample Number: 6469 (17) **Depth:** 0.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-25-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-25-12	LOCATION COORDINATES: E = 1,136,537 N = 233,755	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 49.8 Ft.	
		15. DATE BORING	STARTED: 11-24-12 / COMPLETED: 11-24-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -49.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-49.5	0.0				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, little shell fragments, trace fines, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.3107 mm % Fines: 1.6
-54.7	5.2				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)	B	Classification: SP-SM Color: 5Y 6/1-gray D50: 0.3415 mm % Fines: 5.7
-56.1	6.6				
			SAND, silty, mostly fine-grained sand-sized quartz, with clay lenses, gray mottled with lt. gray and orange (SM)	NS	
-57.9	8.4				
			CLAY, lean, mostly clay, little fine-grained sand-sized quartz, gray mottled with lt. gray and orange (CL)		
-62.9	13.4				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little silt, trace shell fragments, gray to light gray (SP-SM)	C	Classification: SP-SM Color: 2.5Y 6/2-light brownish gray D50: 0.2548 mm % Fines: 12.3
-65.2	15.7				
-66.2	16.7		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, silt content increases with depth, gray (SM)	NS	
			CLAY, silty, mostly silt, some clay, little fine-grained sand-sized quartz, gray (CL-ML)		
-68.3	18.8				

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14190° Long = -88.35155°

Project Mississippi Barrier Island Restoration Project

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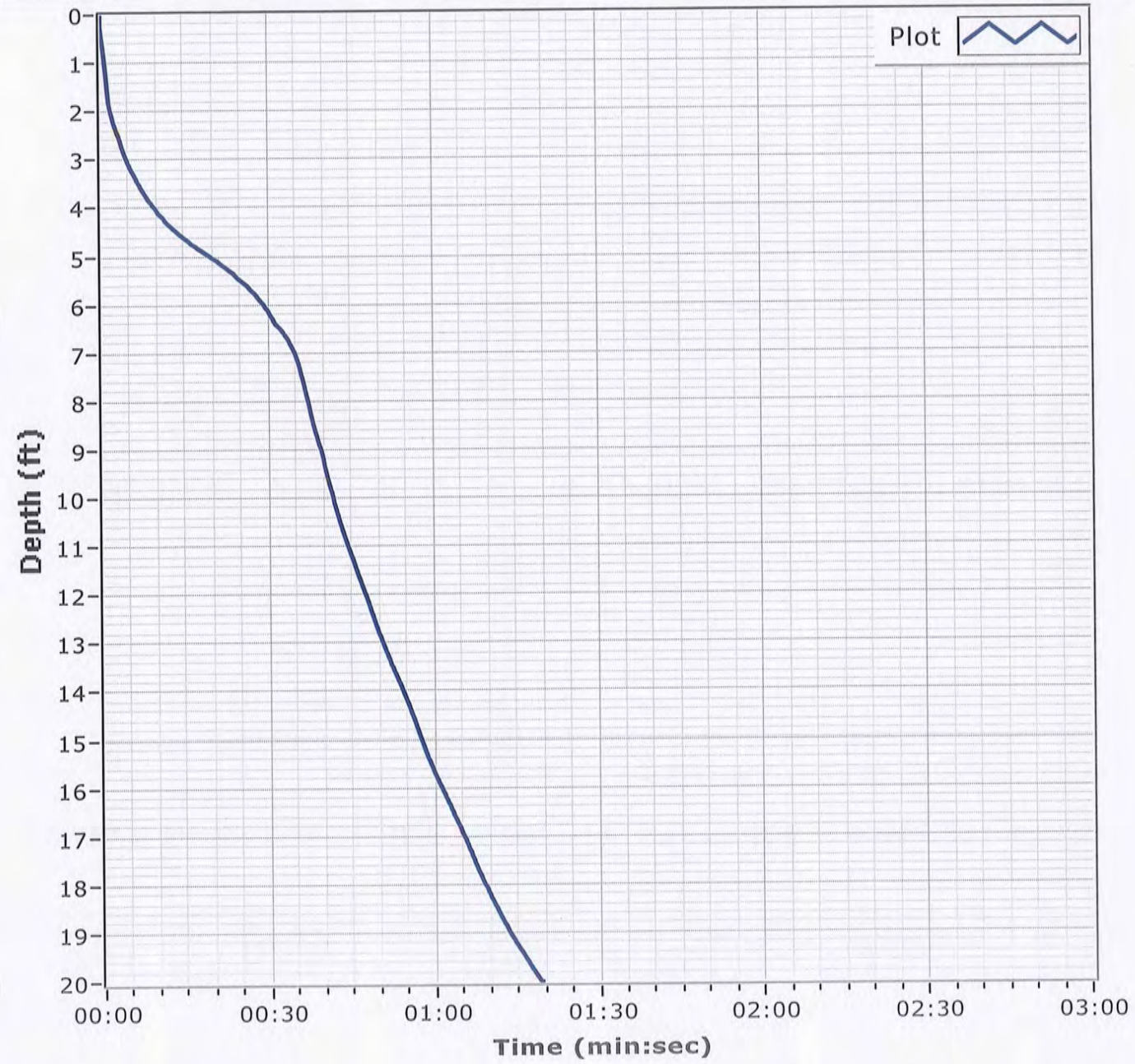
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Coordinate System
Latitude / Longitude

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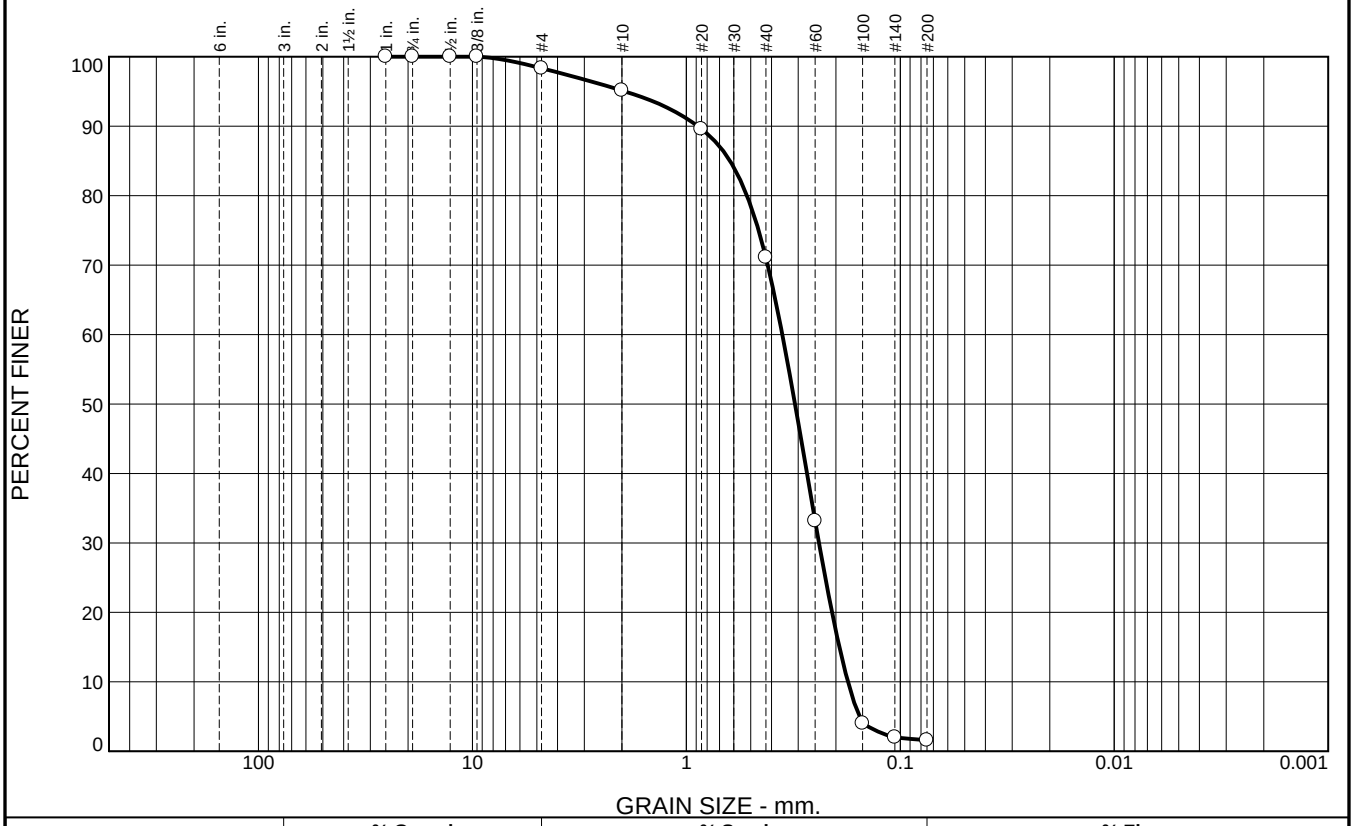
Water Depth 49.8'
Penetration 20.0'
Recovery 18.8'

Latitude 30 08.514
Longitude 088 21.093

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.7	3.2	24.0	69.5	1.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	98.3		
#10	95.1		
#20	89.6		
#40	71.1		
#60	33.2		
#100	4.0		
#140	2.0		
#200	1.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.8852 D_{85}= 0.6249 D_{60}= 0.3560
D_{50}= 0.3107 D_{30}= 0.2398 D_{15}= 0.1927
D_{10}= 0.1759 C_u= 2.02 C_c= 0.92

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-25-12 A
Sample Number: 6469 (40) **Depth:** 0.0' **Date:** 11/28/12

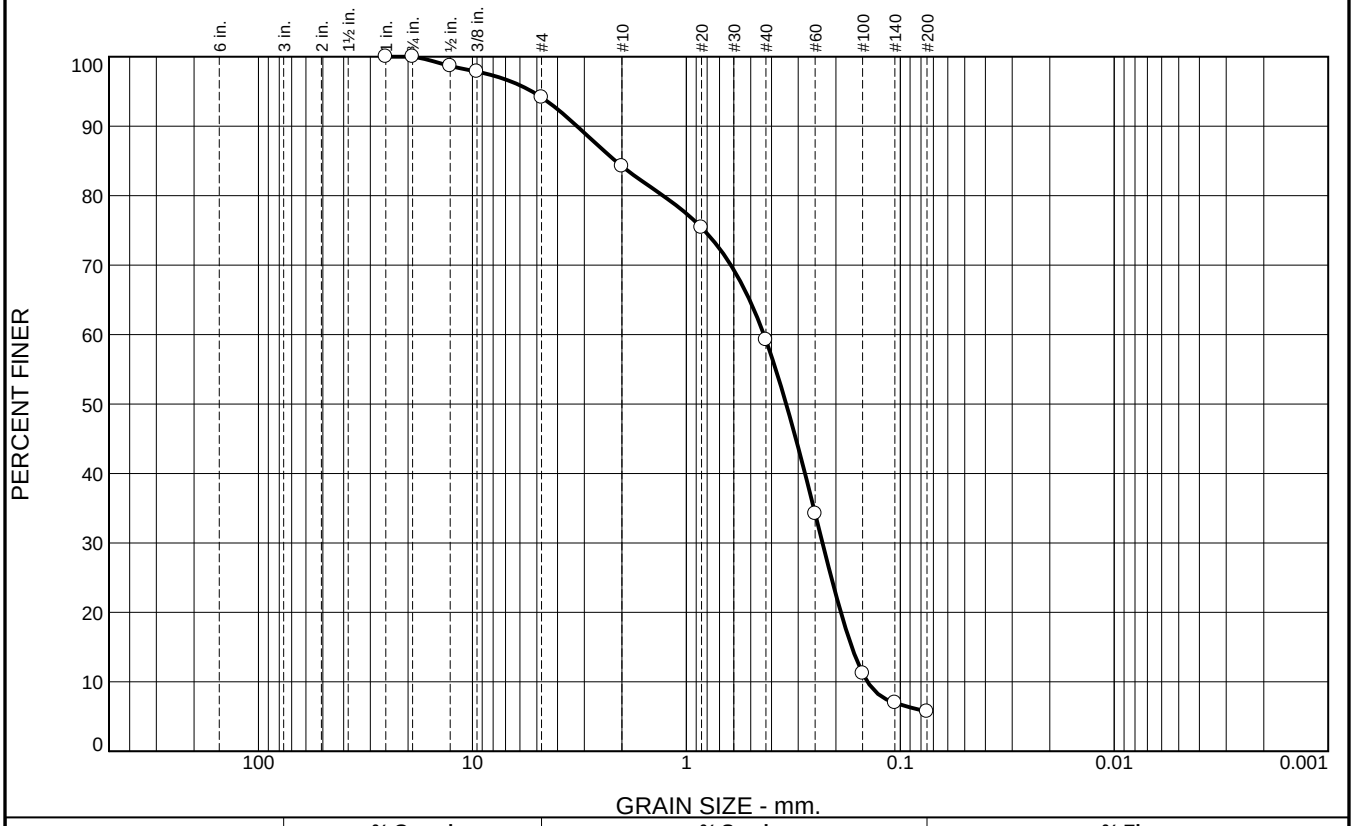
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	5.9	9.9	25.0	53.5	5.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	98.7		
.375	97.9		
#4	94.1		
#10	84.2		
#20	75.4		
#40	59.2		
#60	34.2		
#100	11.2		
#140	7.0		
#200	5.7		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 3.2439 D_{85}= 2.1444 D_{60}= 0.4341
D_{50}= 0.3415 D_{30}= 0.2310 D_{15}= 0.1686
D_{10}= 0.1423 C_u= 3.05 C_c= 0.86

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-25-12 B
Sample Number: 6469 (41) **Depth:** 5.2' **Date:** 11/28/12

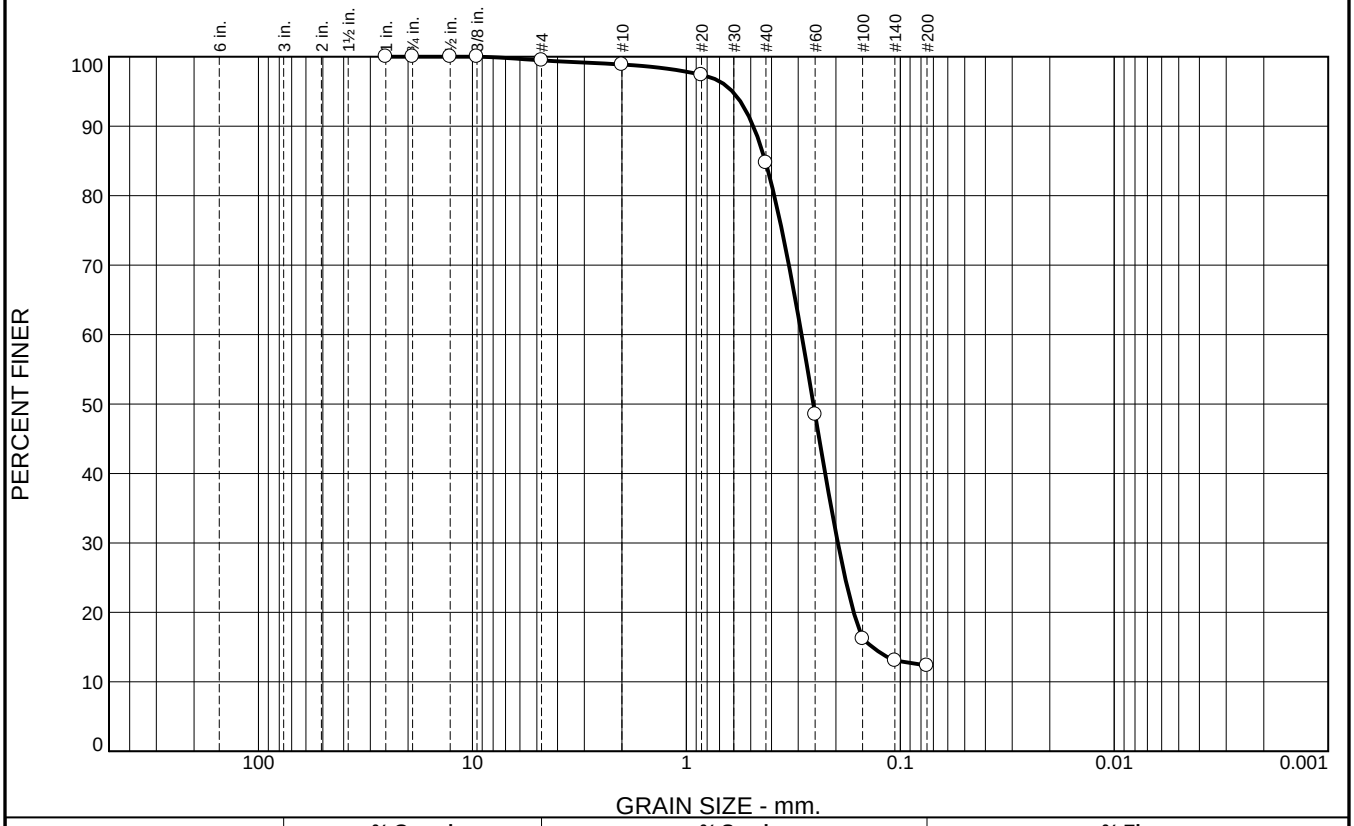
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	0.6	14.2	72.4	12.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	98.9		
#20	97.4		
#40	84.7		
#60	48.5		
#100	16.2		
#140	13.1		
#200	12.3		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4865 D_{85}= 0.4275 D_{60}= 0.2895
D_{50}= 0.2548 D_{30}= 0.1959 D_{15}= 0.1349
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-25-12 C
Sample Number: 6469 (42) **Depth:** 13.4' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-26-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-26-12	LOCATION COORDINATES: E = 1,140,508 N = 231,310	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 54.8 Ft.	
		15. DATE BORING	STARTED: 11-23-12 / COMPLETED: 11-23-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-54.4	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.3129 mm % Fines: 2.1
-58.0	3.6				
-58.7	4.3		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fines, lt. gray to gray (SP)	B	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.1923 mm % Fines: 6.2
-60.5	6.1		SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, lt. gray mottled with gray and orange (SM)		
-63.3	8.9		CLAY, lean, mostly clay, little sand, low to medium plasticity, lt. gray mottled with orange (CL)		
-65.9	11.5		SAND, silty, mostly fine-grained sand-sized quartz, trace shell fragments, gray (SM)	NS	
-71.4	17.0		CLAY, lean, mostly clay, little sand, trace shell fragments, trace wood debris, low plasticity, gray (CL)		
-72.0	17.6		SAND, silty, mostly fine-grained sand-sized quartz, gray (SM)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13513° Long = -88.33902°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

Core Identifier BI-PBS-26-12

Coordinate System
Latitude / Longitude

Latitude 30 08.108

Longitude 088 20.341

Date 11/23/2012

Start Time 09:45:40

End Time 09:47:06

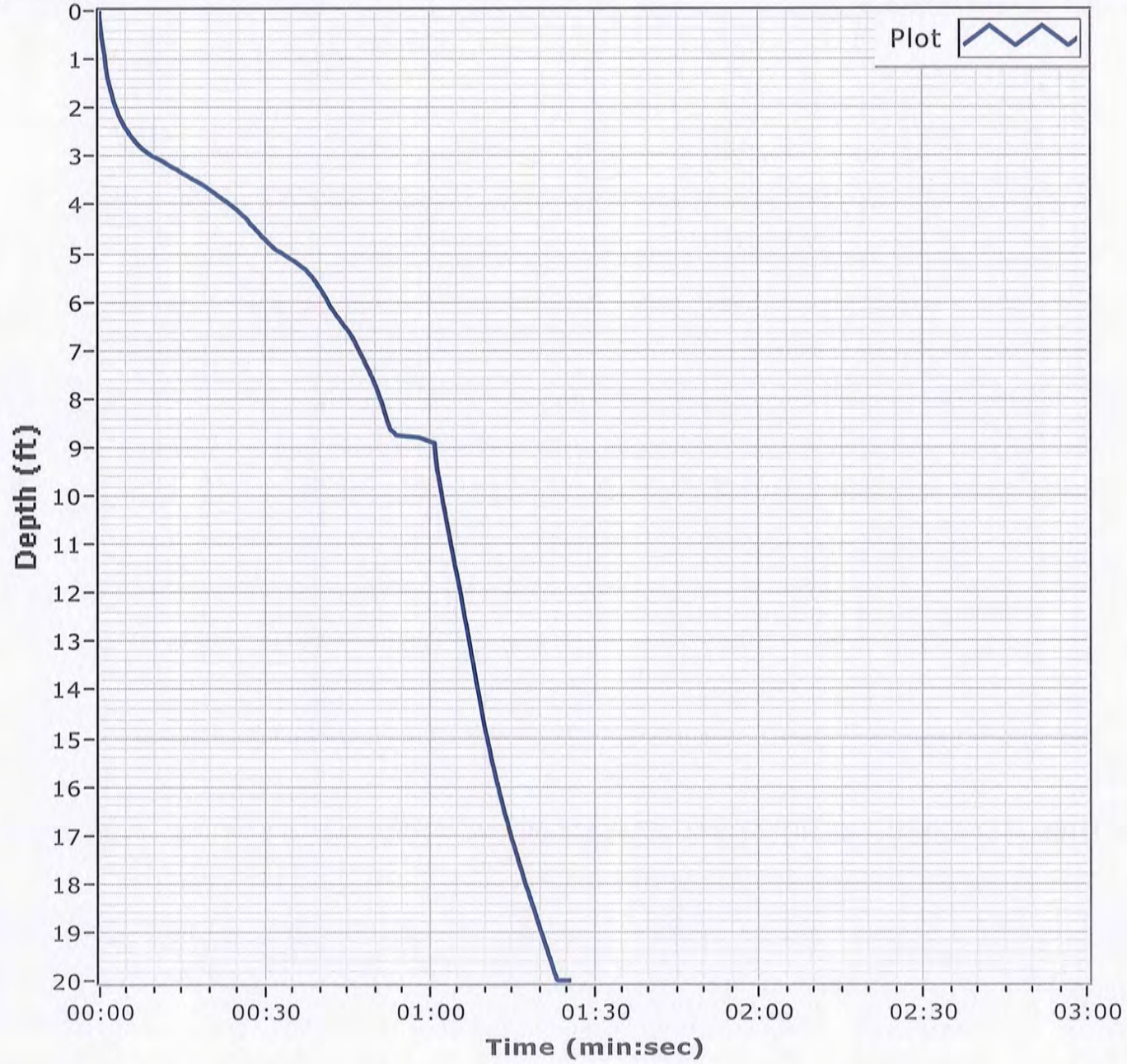
Total Time 00:01:25

Water Depth 54.8'

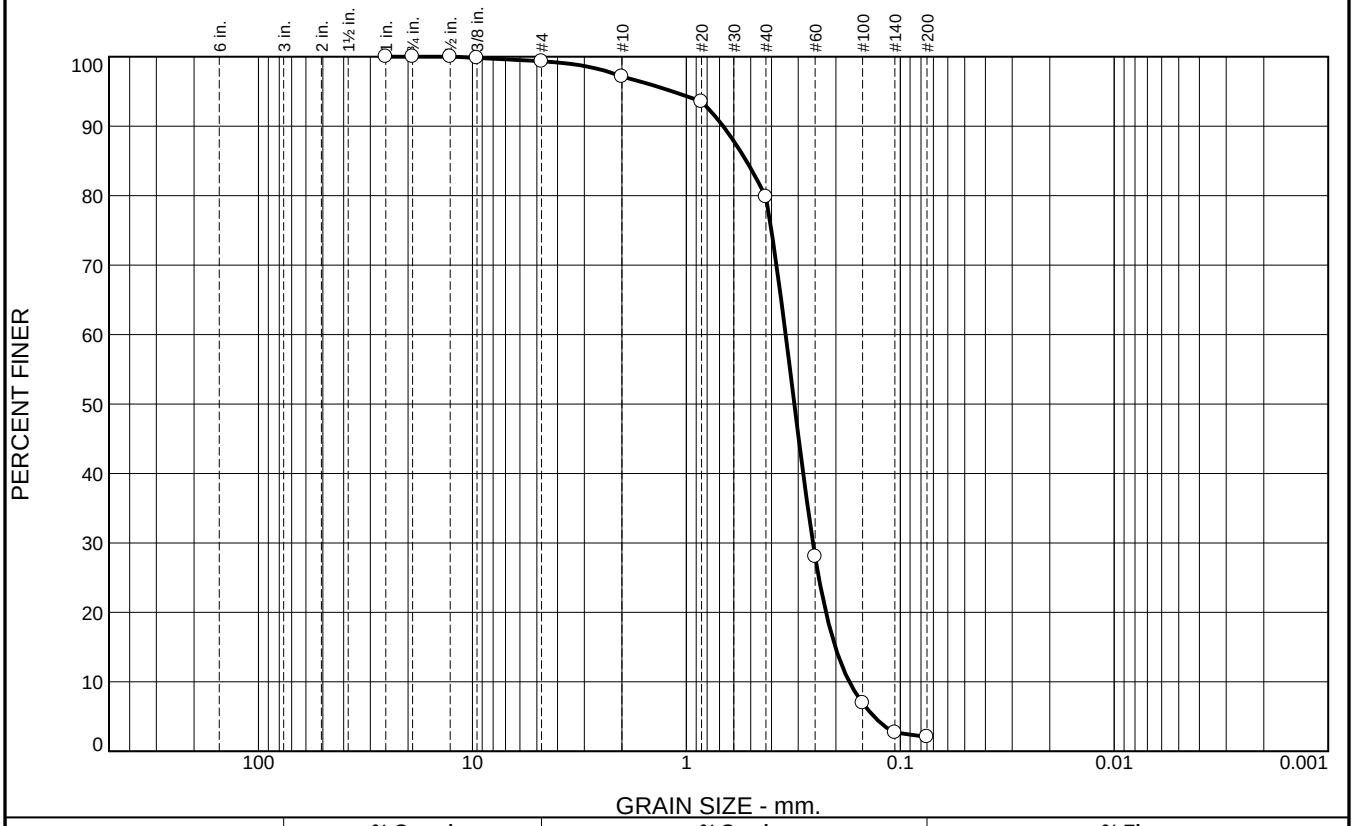
Penetration 20.0'

Recovery 17.6'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.7	2.2	17.3	77.7	2.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.8		
#4	99.3		
#10	97.1		
#20	93.5		
#40	79.8		
#60	28.0		
#100	6.9		
#140	2.7		
#200	2.1		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6733 D_{85}= 0.5244 D_{60}= 0.3434
D_{50}= 0.3129 D_{30}= 0.2560 D_{15}= 0.2013
D_{10}= 0.1733 C_u= 1.98 C_c= 1.10

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-26-12 A
Sample Number: 6469 (22) **Depth:** 0.0' **Date:** 11/28/12

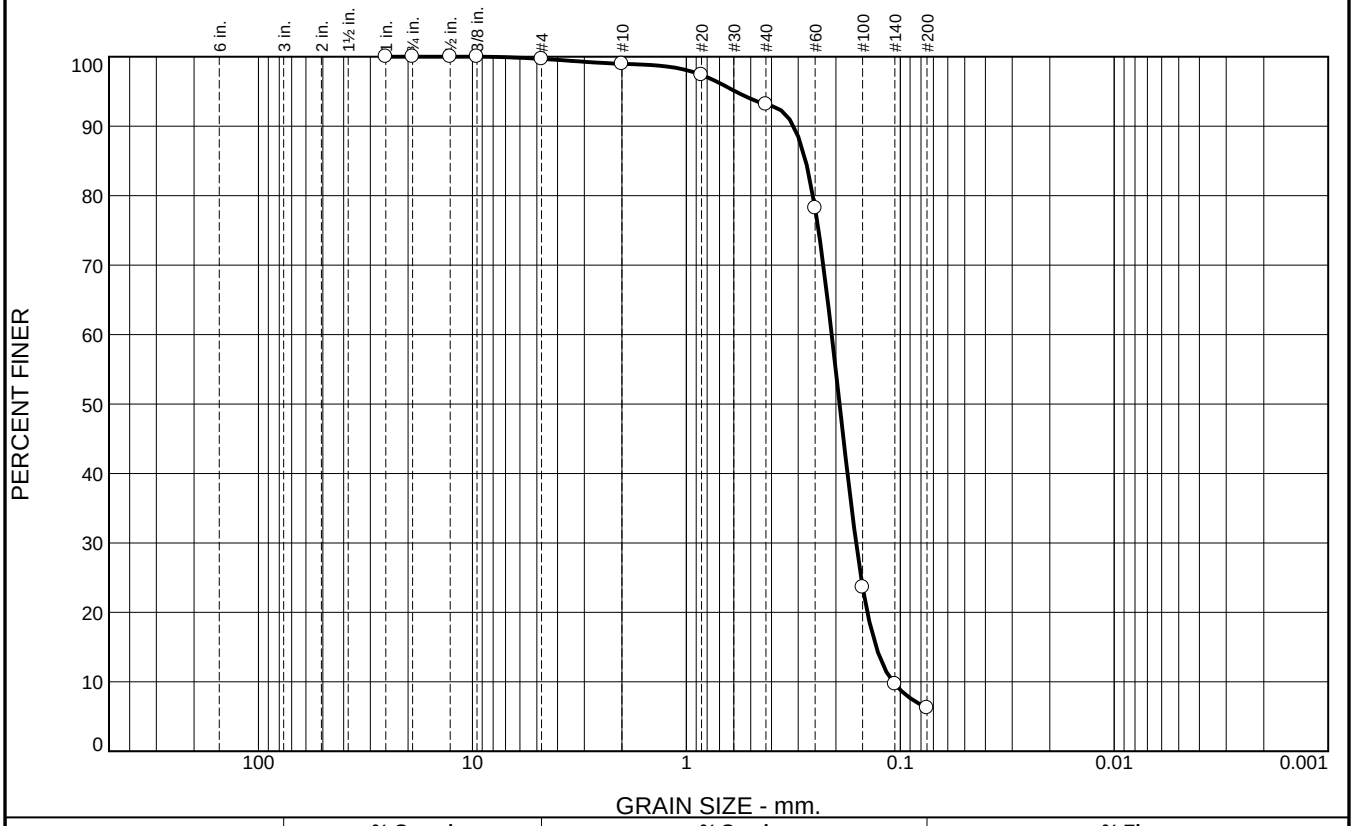
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.7	5.9	86.9	6.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	99.0		
#20	97.4		
#40	93.1		
#60	78.2		
#100	23.6		
#140	9.7		
#200	6.2		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3152 D_{85}= 0.2770 D_{60}= 0.2092
D_{50}= 0.1923 D_{30}= 0.1610 D_{15}= 0.1297
D_{10}= 0.1081 C_u= 1.94 C_c= 1.15

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-26-12 B
Sample Number: 6469 (23) **Depth:** 3.6' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-27-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-27-12	LOCATION COORDINATES: E = 1,142,169 N = 231,132	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. WATER DEPTH: 55.1 Ft.
		15. DATE BORING	STARTED: 11-21-12 / COMPLETED: 11-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-54.5	0.0				
			SAND, poorly-graded, mostly fine to medium-grained quartz, some shell fragments, trace fines, light gray (SP)	A	Classification: SP Color: 5Y 7/1-light gray D50: 0.3658 mm % Fines: 1.5
-60.5	6.0				
-61.8	7.3		SAND, poorly-graded, mostly fine-grained sand-sized quartz, some shell fragments, trace fines, lt. gray (SP)	B	Classification: SP-SM Color: 5Y 7/2-light gray D50: 0.2594 mm % Fines: 5.2
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, some shell fragments, gray (SM)	NS	
-65.1	10.6		At El. -62.5 Ft., mostly fine-grained sand-sized quartz, little shell fragments, gray		
-67.1	12.6		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fines, trace shell fragments, clayey lenses at 11.0' and 12.0', lt. gray (SP)	C	Classification: SP-SM Color: 5Y 7/2-light gray D50: 0.2972 mm % Fines: 9.2
-68.0	13.5		SAND, silty, mostly fine-grained sand-sized quartz, some silt, little shell fragments, gray (SM)	NS	
			CLAY, silty, some silt, some clay, trace fine-grained sand-sized quartz, gray (CL-ML)		
-74.2	19.7		At El. -72.3 Ft., some silt, some clay, some fine-grained sand-sized quartz, little shell fragments, gray		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13462° Long = -88.33377°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

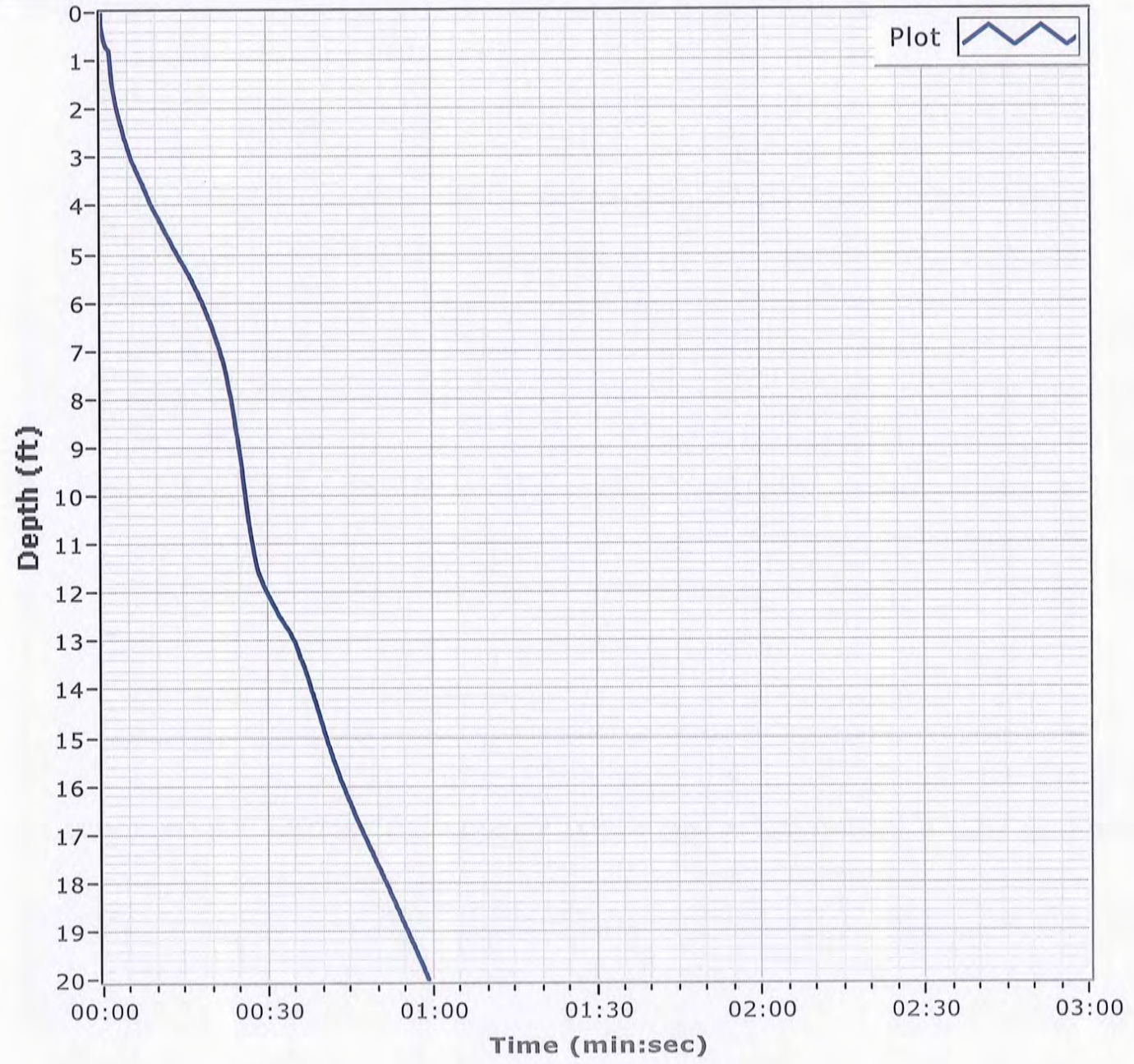
Core Identifier BI-PBS-27-12
Coordinate System
Latitude / Longitude

Latitude 30 08.077
Longitude 088 20.026

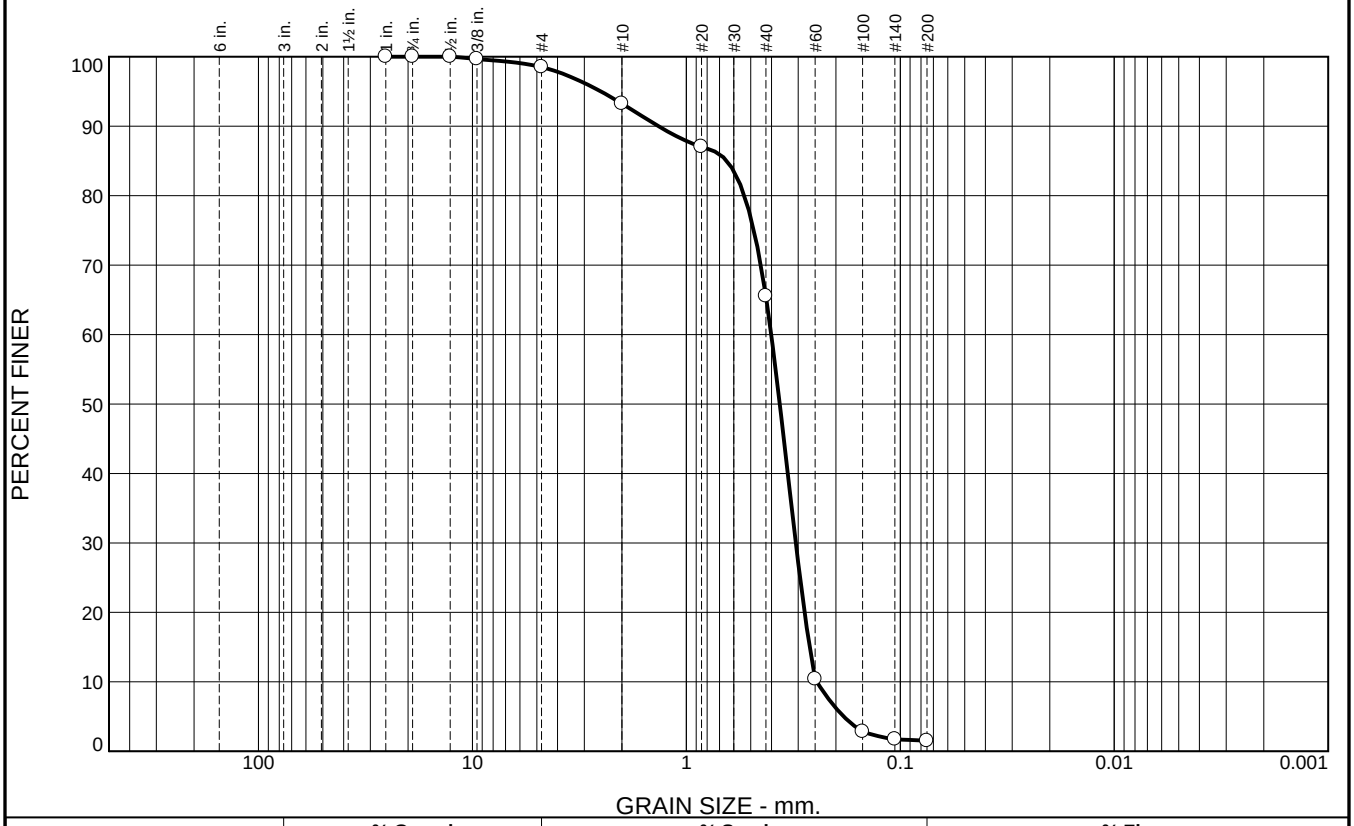
Date 11/21/2012
Start Time 14:11:22
End Time 14:12:22
Total Time 00:00:59

Water Depth 55.1'
Penetration 20.0'
Recovery 19.7'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.5	5.3	27.7	64.0	1.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.7		
#4	98.5		
#10	93.2		
#20	87.0		
#40	65.5		
#60	10.4		
#100	2.8		
#140	1.7		
#200	1.5		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.3510 D_{85}= 0.6468 D_{60}= 0.4010
D_{50}= 0.3658 D_{30}= 0.3080 D_{15}= 0.2656
D_{10}= 0.2455 C_u= 1.63 C_c= 0.96

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-27-12 A
Sample Number: 6469 (14) **Depth:** 0.0' **Date:** 11/28/12

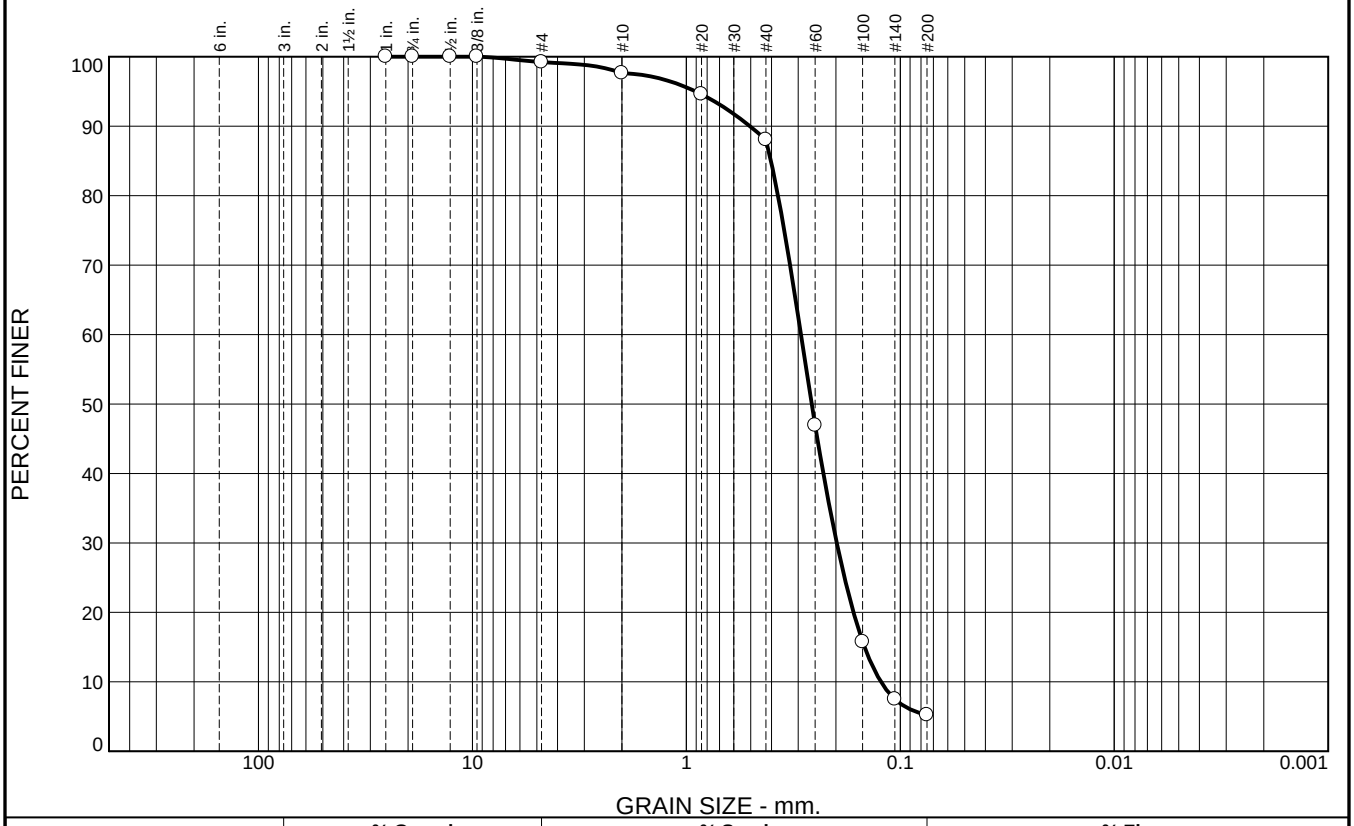
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	1.6	9.6	82.8	5.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.2		
#10	97.6		
#20	94.6		
#40	88.0		
#60	46.9		
#100	15.8		
#140	7.5		
#200	5.2		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5050 D_{85}= 0.4022 D_{60}= 0.2914
D_{50}= 0.2594 D_{30}= 0.1982 D_{15}= 0.1470
D_{10}= 0.1232 C_u= 2.37 C_c= 1.09

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-27-12 B
Sample Number: 6469 (15) **Depth:** 6.0' **Date:** 11/28/12

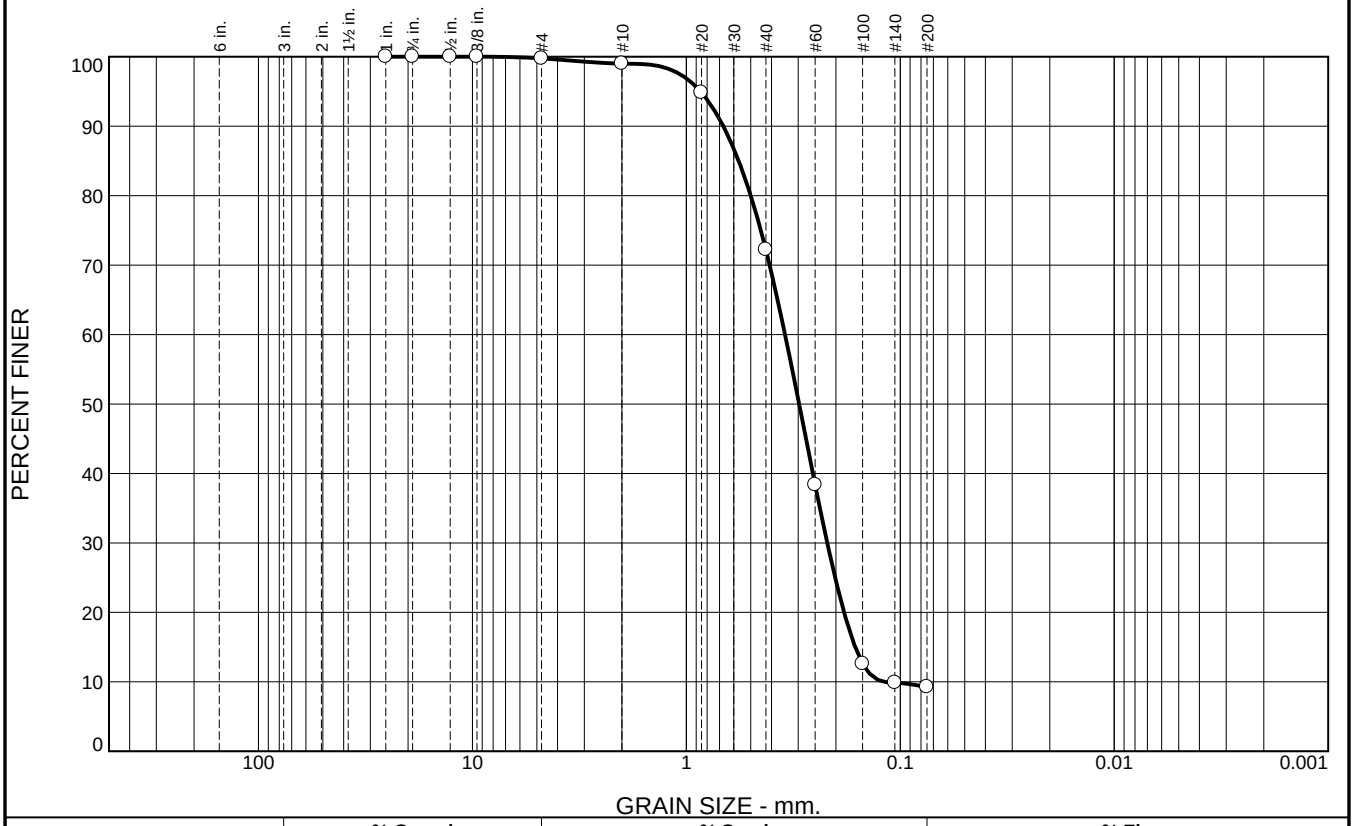
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.8	26.8	63.0	9.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.0		
#20	94.8		
#40	72.2		
#60	38.4		
#100	12.6		
#140	9.9		
#200	9.2		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6718 D_{85}= 0.5694 D_{60}= 0.3458
D_{50}= 0.2972 D_{30}= 0.2195 D_{15}= 0.1626
D_{10}= 0.1188 C_u= 2.91 C_c= 1.17

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-27-12 C
Sample Number: 6469 (16) **Depth:** 10.6' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-28-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-28-12	LOCATION COORDINATES: E = 1,143,084 N = 230,830	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 56.4 Ft.	
		15. DATE BORING	STARTED: 11-21-12 / COMPLETED: 11-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 12.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-55.9	0.0				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, trace wood debris, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2984 mm % Fines: 2.9
-62.4	6.5				
			SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, trace wood debris, gray (SM)	NS	
-64.4	8.5				
			CLAY, silty, some clay, some silt, little fine-grained sand-sized quartz, trace wood debris, gray (CL-ML)		
-65.9	10.0				
-66.9	11.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, some shell fragments, little wood debris, gray (SM)	B	Classification: SP-SM Color: 5Y 7/2-light gray D50: 0.2837 mm % Fines: 8.5
-68.3	12.4				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, little fines, trace shell fragments, trace wood debris, lt. gray (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.13378° Long = -88.33088°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

Core Identifier BI-PBS-28-12

Coordinate System
Latitude / Longitude

Latitude 30 08.027

Longitude 088 19.853

Date 11/21/2012

Start Time 13:36:59

End Time 13:39:10

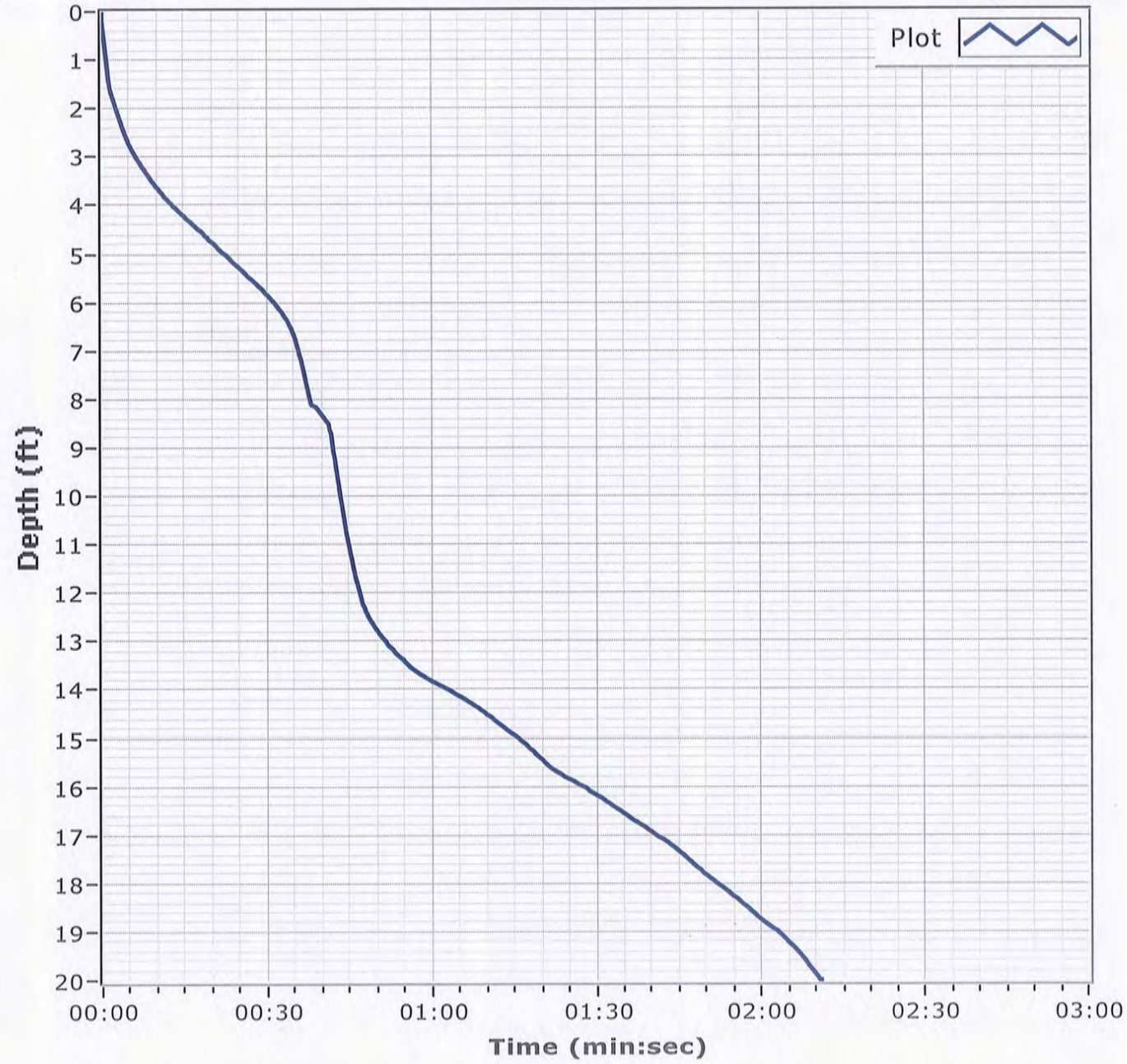
Total Time 00:02:11

Water Depth 56.4'

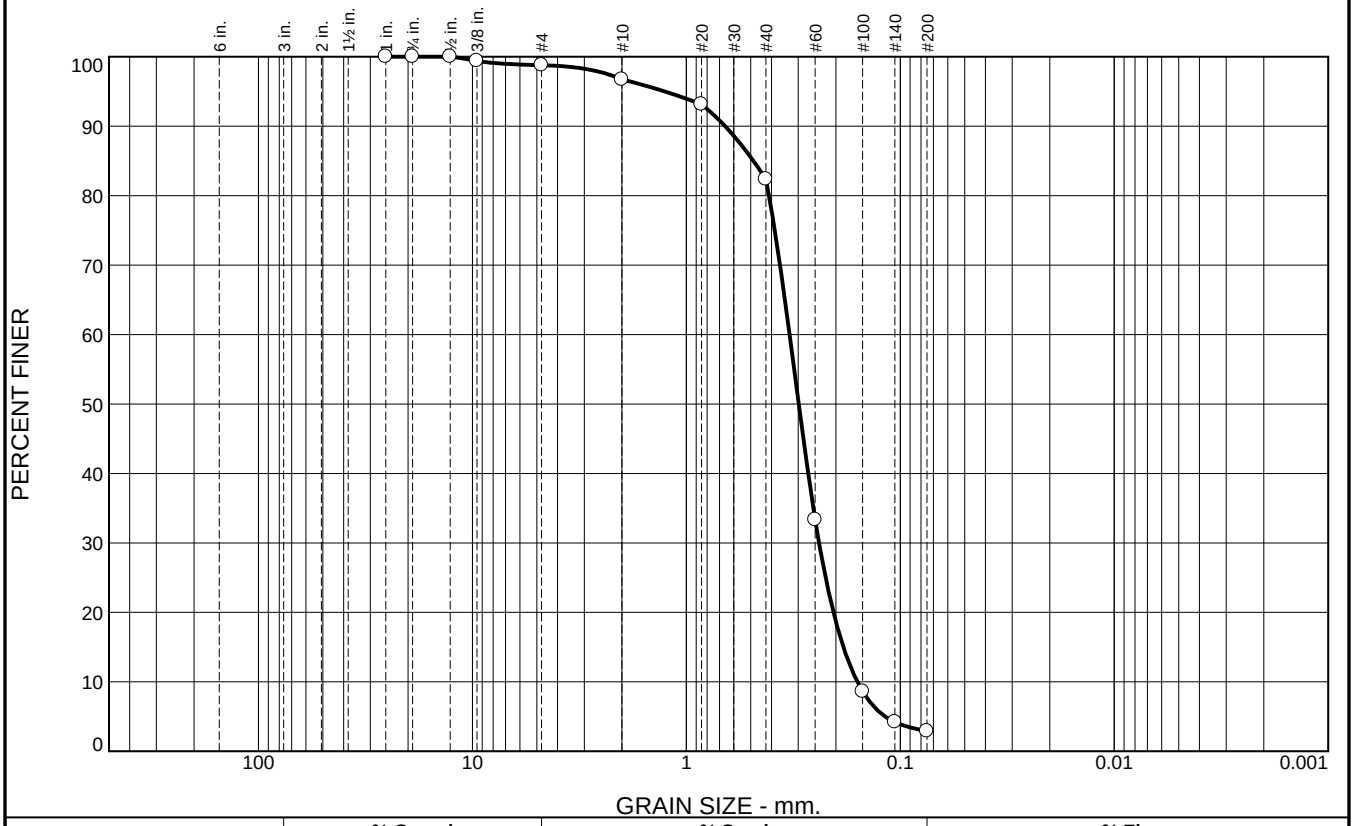
Penetration 20.0'

Recovery 12.4'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.2	2.1	14.3	79.5	2.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.4		
#4	98.8		
#10	96.7		
#20	93.1		
#40	82.4		
#60	33.3		
#100	8.6		
#140	4.2		
#200	2.9		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6592 D_{85}= 0.4861 D_{60}= 0.3292
D_{50}= 0.2984 D_{30}= 0.2398 D_{15}= 0.1847
D_{10}= 0.1588 C_u= 2.07 C_c= 1.10

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-28-12 A
Sample Number: 6469 (12) **Depth:** 0.0' **Date:** 11/28/12

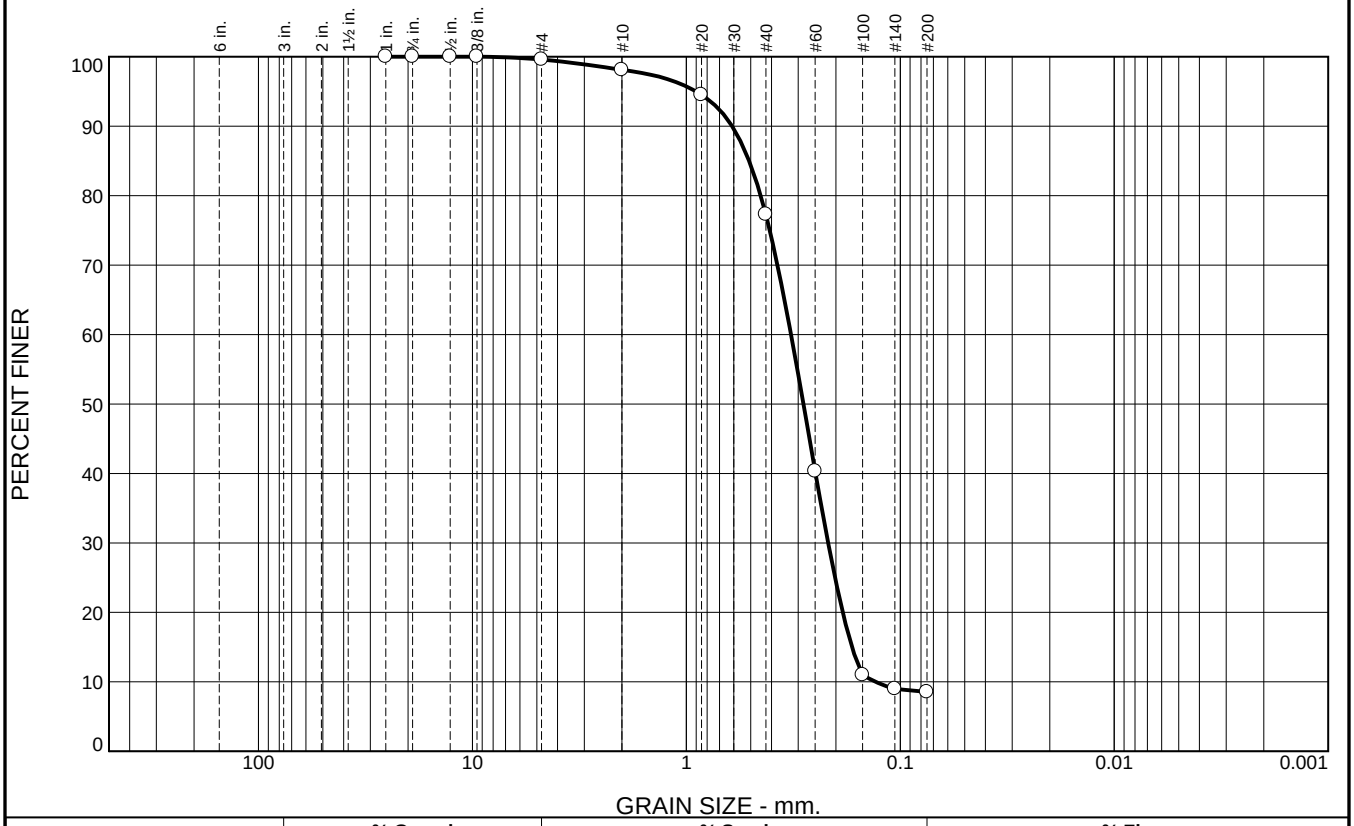
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	1.5	20.8	68.8	8.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.6		
#10	98.1		
#20	94.5		
#40	77.3		
#60	40.3		
#100	11.0		
#140	9.0		
#200	8.5		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6111 D_{85}= 0.5091 D_{60}= 0.3242
D_{50}= 0.2837 D_{30}= 0.2173 D_{15}= 0.1683
D_{10}= 0.1305 C_u= 2.49 C_c= 1.12

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-28-12 B
Sample Number: 6469 (13) **Depth:** 11.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-29-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-29-12	LOCATION COORDINATES: E = 1,143,592 N = 230,305	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 62 Ft.
		15. DATE BORING	STARTED: 11-24-12 / COMPLETED: 11-24-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -61.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 7.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-61.5	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2483 mm % Fines: 2.1
-67.5	6.0				
-68.1	6.6			B	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.1892 mm % Fines: 10.9
-68.7	7.2		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, gray (SP)	NS	
			CLAY, lean, mostly clay, little fine-grained sand-sized quartz, gray (CL)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13233° Long = -88.32928°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

Core Identifier BI-PBS-29-12

Coordinate System
Latitude / Longitude

Latitude 30 07.940

Longitude 088 19.757

Date 11/24/2012

Start Time 12:53:28

End Time 12:54:59

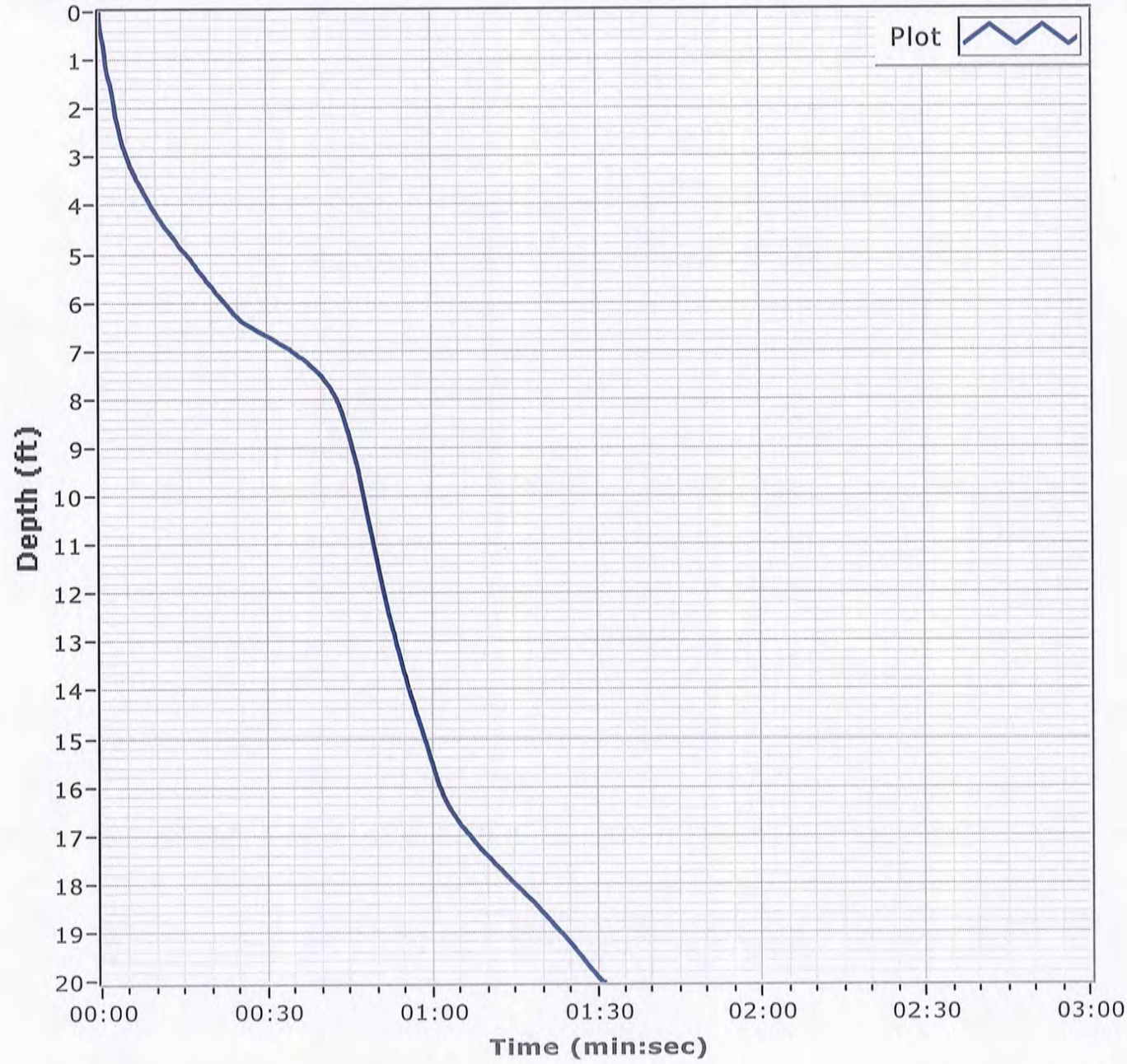
Total Time 00:01:31

Water Depth 62.0'

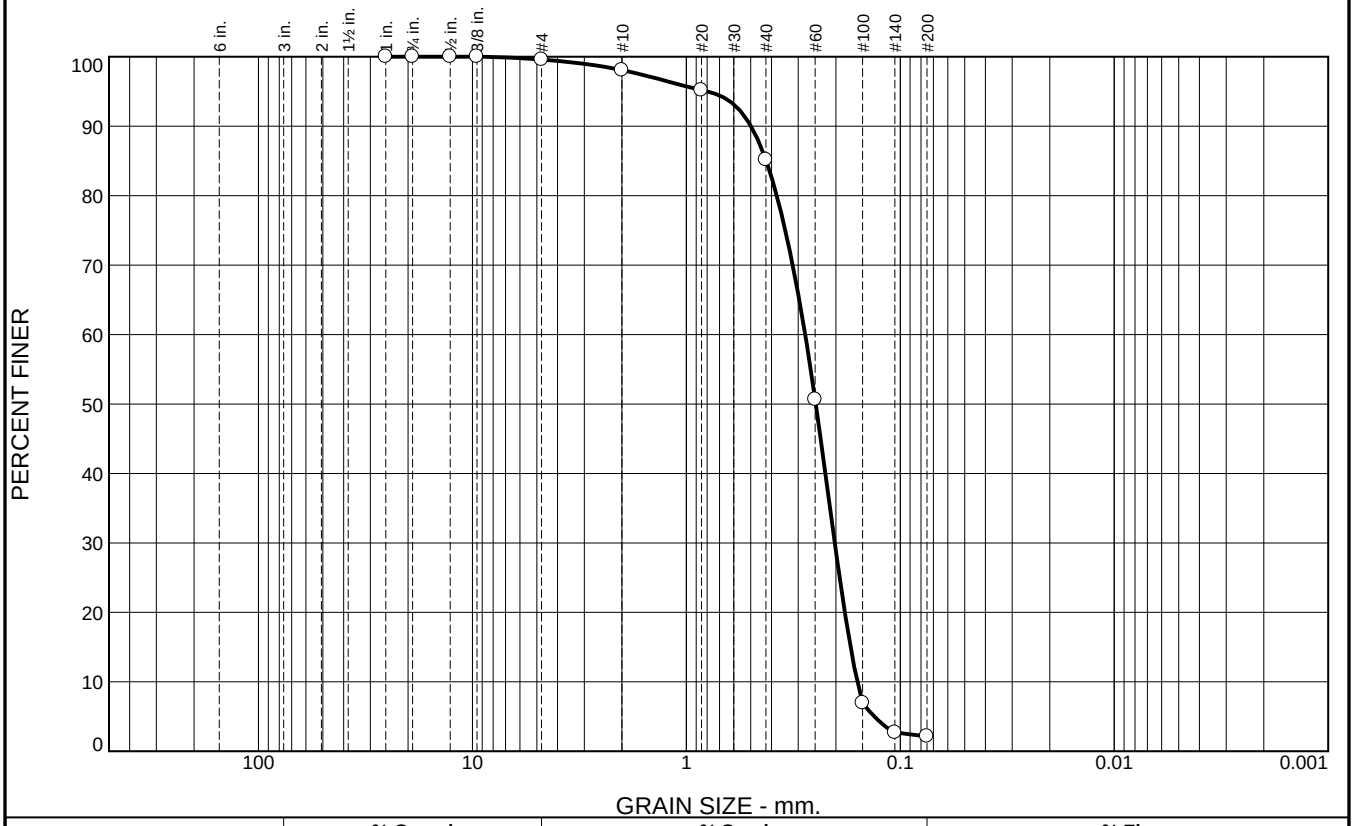
Penetration 20.0'

Recovery 7.2'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	1.5	12.9	83.1	2.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.6		
#10	98.1		
#20	95.2		
#40	85.2		
#60	50.6		
#100	7.0		
#140	2.7		
#200	2.1		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4988 D_{85}= 0.4232 D_{60}= 0.2784
D_{50}= 0.2483 D_{30}= 0.2025 D_{15}= 0.1710
D_{10}= 0.1589 C_u= 1.75 C_c= 0.93

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-29-12 A
Sample Number: 6469 (45) **Depth:** 0.0' **Date:** 11/28/12

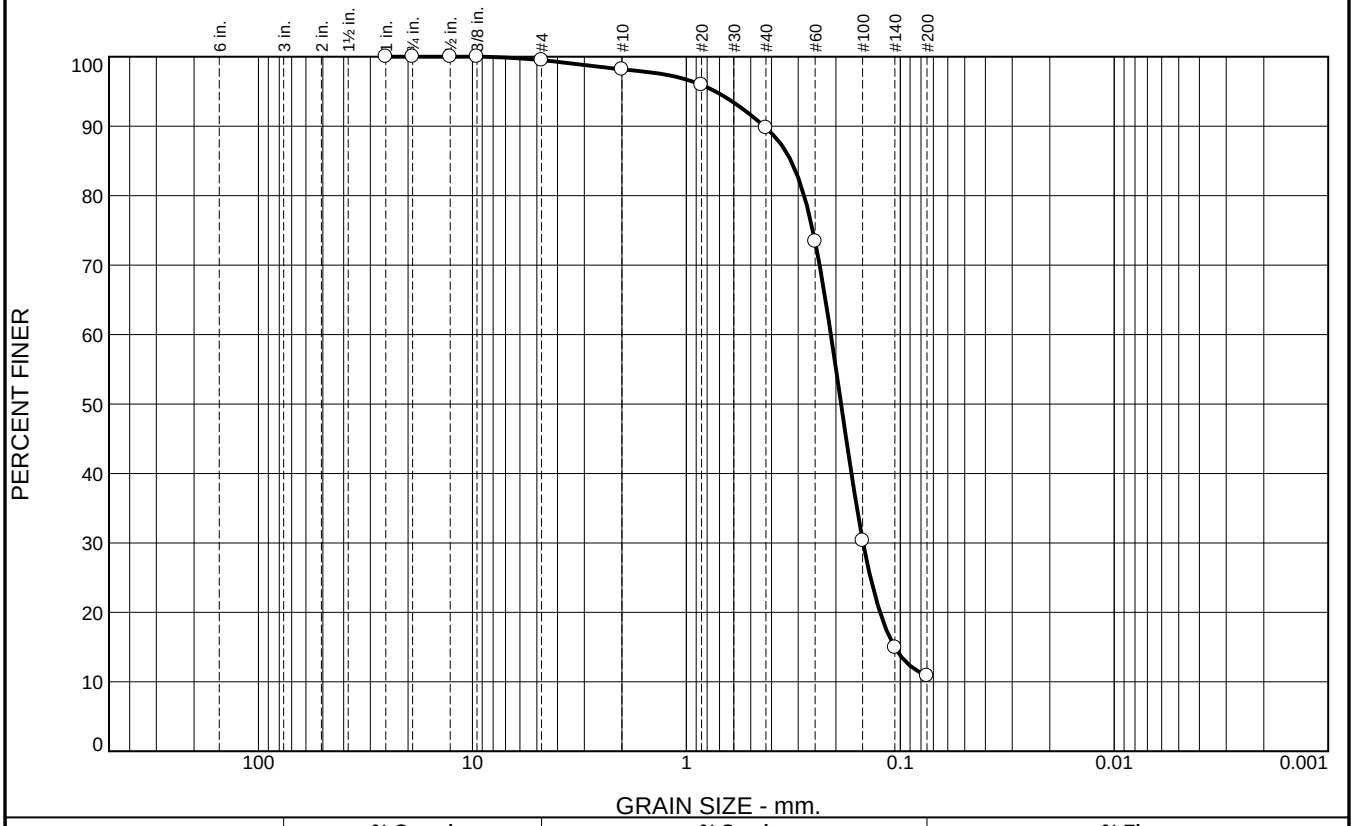
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	1.3	8.5	78.8	10.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	98.2		
#20	95.9		
#40	89.7		
#60	73.4		
#100	30.3		
#140	15.0		
#200	10.9		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4341 D_{85}= 0.3239 D_{60}= 0.2111
D_{50}= 0.1892 D_{30}= 0.1493 D_{15}= 0.1062
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-29-12 B
Sample Number: 6469 (46) **Depth:** 6.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-30-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-30-12	LOCATION COORDINATES: E = 1,143,904 N = 229,830	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 62.7 Ft.	
		15. DATE BORING	STARTED: 11-24-12 / COMPLETED: 11-24-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -62.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-62.2	0.0				
-65.3	3.1		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little shell fragments, trace fines, lt. gray (SP)	A	Classification: SP Color: 2.5Y 6/2-light brownish gray D50: 0.2933 mm % Fines: 3
-68.8	6.6		SAND, silty, mostly fine-grained sand-sized quartz, some shell fragments, gray (SM)	NS	
-69.8	7.6		CLAY, lean, mostly clay, little fine-grained sand-sized quartz, trace shell fragments, gray (CL)		
-71.3	9.1		SAND, clayey, mostly fine-grained sand-sized quartz, trace shell fragments, borderline CL, gray (SC)		
-76.5	14.3		CLAY, lean, mostly clay, trace fine-grained sand-sized quartz, trace shell fragments, gray (CL)		
-77.8	15.6		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, lt. gray to gray (SP-SM)	B	Classification: SM Color: 2.5Y 6/2-light brownish gray D50: 0.3355 mm % Fines: 22.5

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13102° Long = -88.32830°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

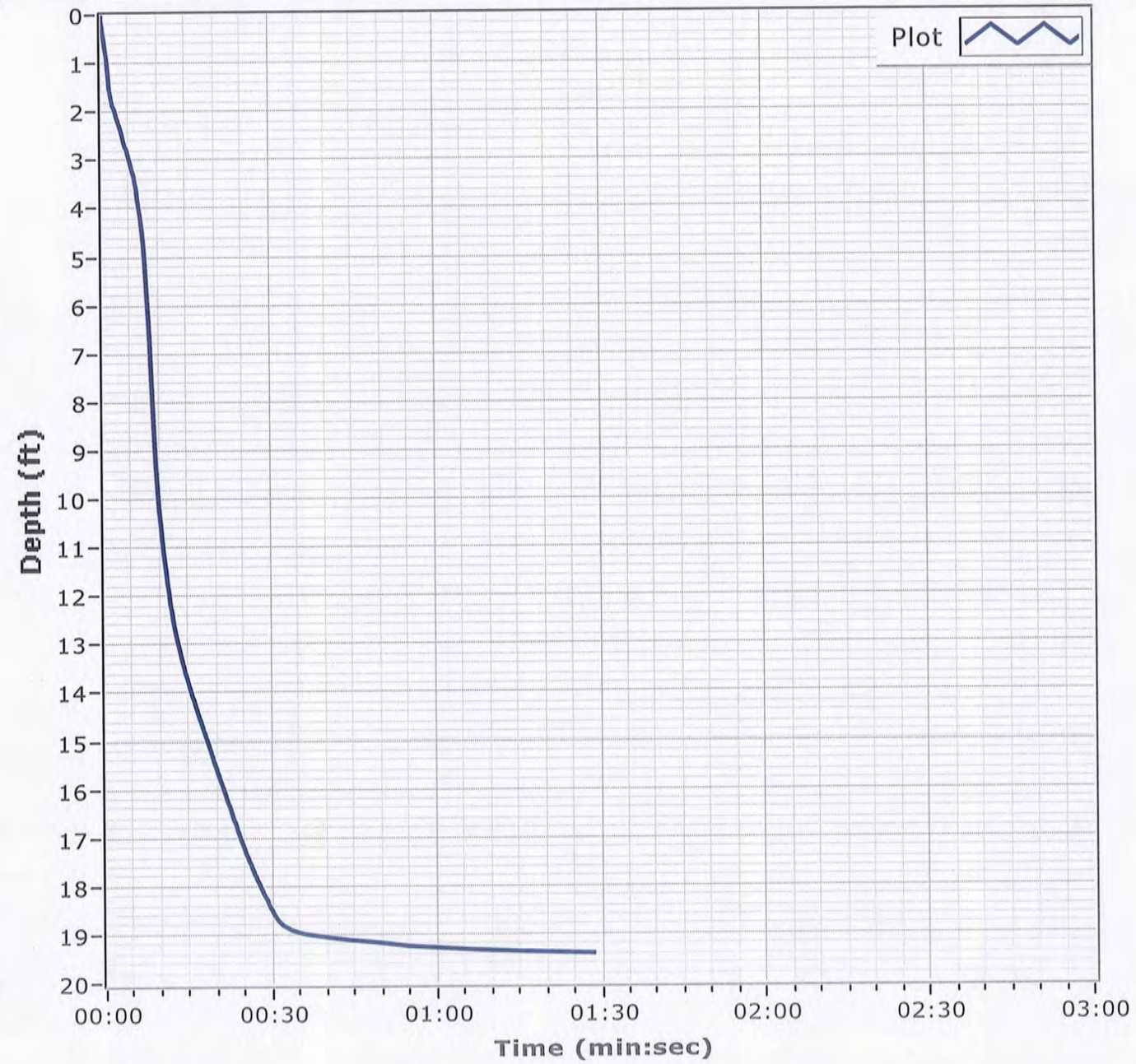
Core Identifier BI-PBS-30-12
Coordinate System Latitude / Longitude

Latitude 30 07.861
Longitude 088 19.698

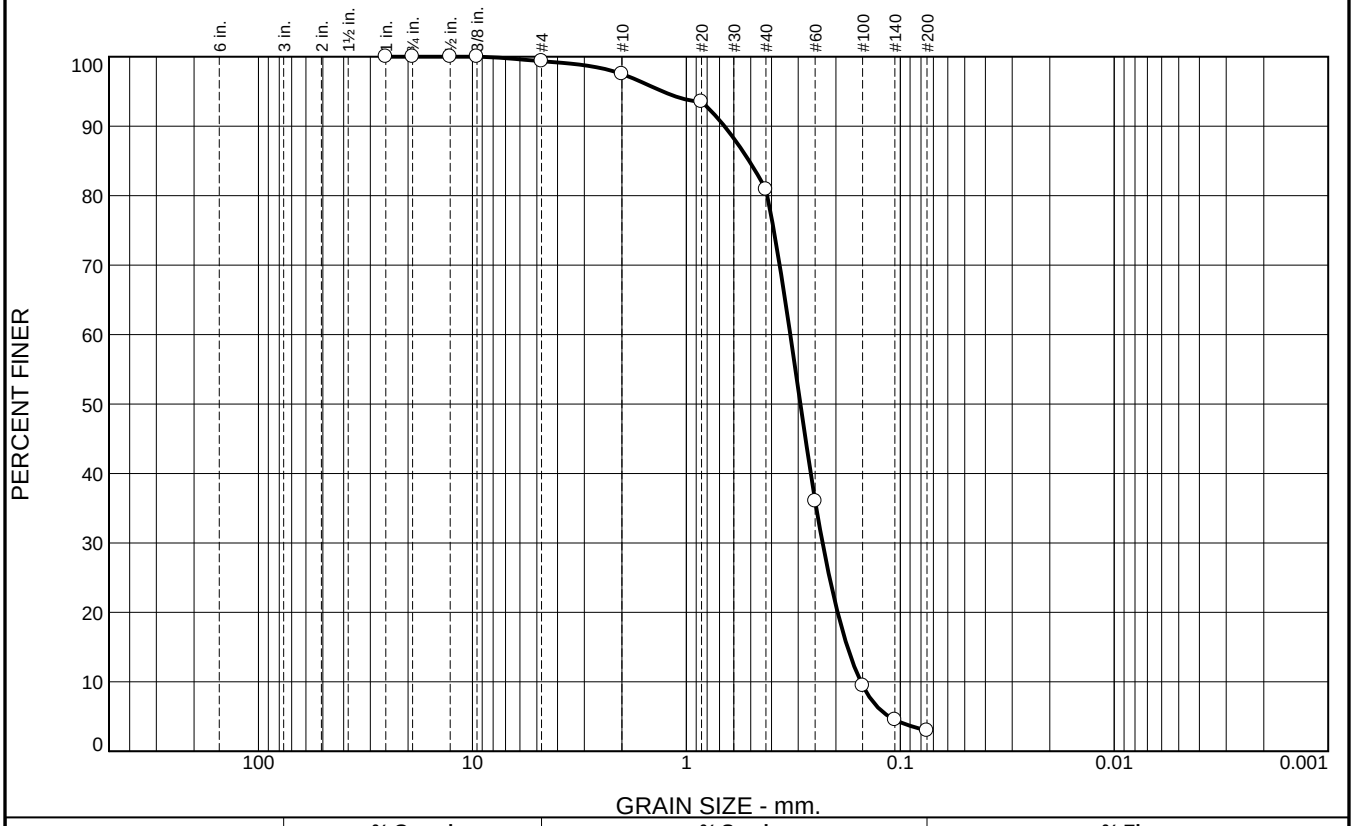
Date 11/24/2012
Start Time 12:11:23
End Time 12:12:52
Total Time 00:01:28

Water Depth 62.7'
Penetration 19.4'
Recovery 15.6'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.7	1.8	16.6	77.9	3.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.3		
#10	97.5		
#20	93.5		
#40	80.9		
#60	36.0		
#100	9.5		
#140	4.6		
#200	3.0		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6638 D_{85}= 0.5089 D_{60}= 0.3268
D_{50}= 0.2933 D_{30}= 0.2309 D_{15}= 0.1767
D_{10}= 0.1530 C_u= 2.14 C_c= 1.07

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-30-12 A
Sample Number: 6469 (43) **Depth:** 0.0' **Date:** 11/28/12

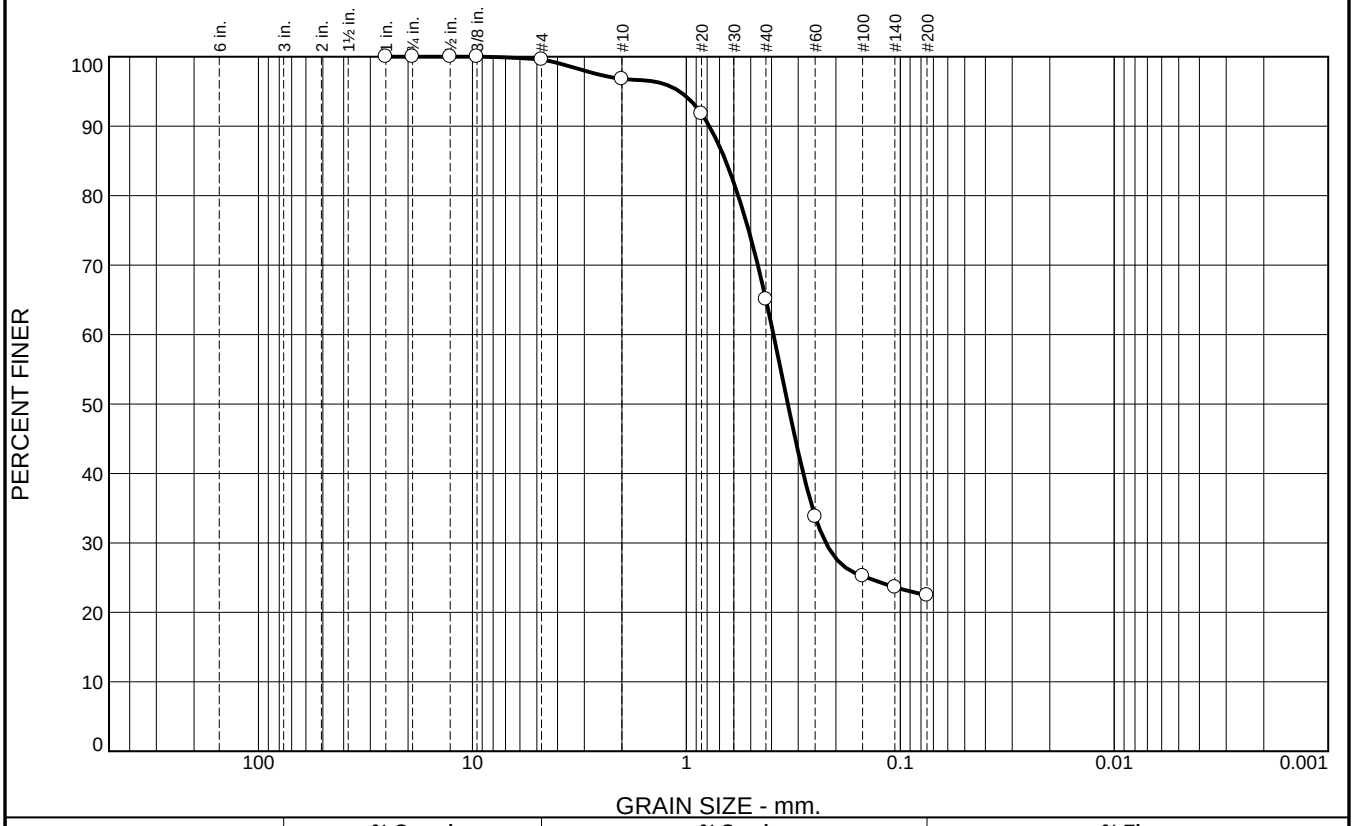
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	2.8	31.7	42.6	22.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.6		
#10	96.8		
#20	91.8		
#40	65.1		
#60	33.8		
#100	25.2		
#140	23.6		
#200	22.5		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7814 D_{85}= 0.6548 D_{60}= 0.3915
D_{50}= 0.3355 D_{30}= 0.2227 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-30-12 B
Sample Number: 6469 (44) **Depth:** 14.3' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-31-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-31-12	LOCATION COORDINATES: E = 1,139,062 N = 230,856	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 55.1 Ft.	
		15. DATE BORING	STARTED: 11-26-12 / COMPLETED: 11-26-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-54.7	0.0				
-58.4	3.7		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, trace shell fragments, trace clay, gray (SP-SM)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2707 mm % Fines: 2.4
-61.6	6.9		SAND, clayey, mostly fine to medium-grained sand-sized quartz, little silt, trace shell fragments, clay stringers, gray (SC)	NS	
-74.4	19.7		CLAY, fat, mostly clay, trace wood debris, with silty lenses, some fine grained sand-sized quartz intermixed, medium plasticity, trace clayey sand lenses, gray with brown streaks (CH)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13390° Long = -88.34360°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

Core Identifier BI-PBS-31-12

Coordinate System
Latitude / Longitude

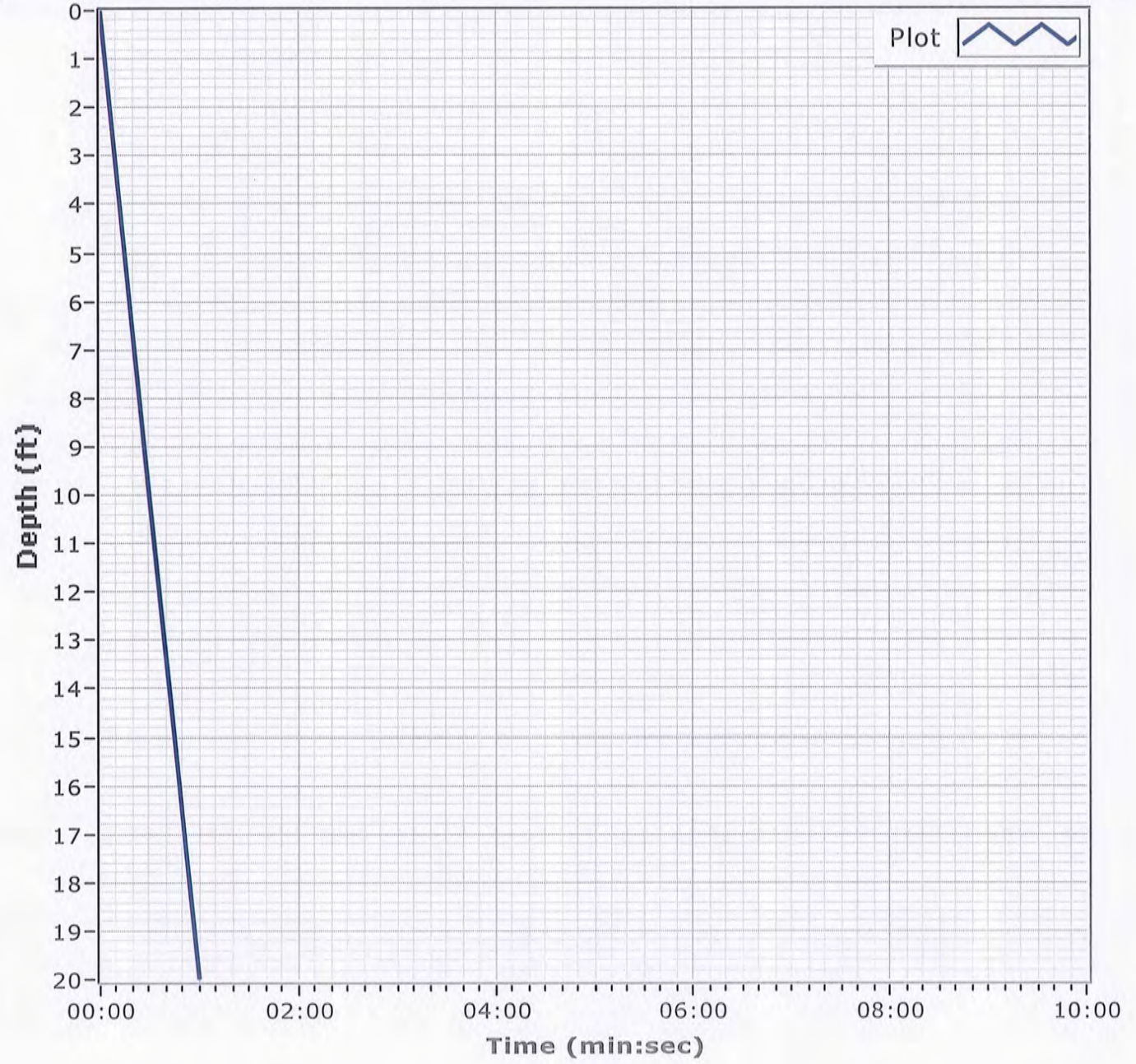
Latitude 30 08.034

Longitude 088 20.616

Date 11/26/2012
Start Time 09:05:03
End Time 09:06:03
Total Time 00:01:00

Water Depth 55.1'
Penetration 20.0'
Recovery 19.7'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	1.1	16.8	79.4	2.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.6		
#20	95.9		
#40	81.8		
#60	43.3		
#100	8.1		
#140	3.3		
#200	2.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5289 D_{85}= 0.4558 D_{60}= 0.3060
D_{50}= 0.2707 D_{30}= 0.2131 D_{15}= 0.1727
D_{10}= 0.1570 C_u= 1.95 C_c= 0.94

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-31-12 A
Sample Number: 6469 (59) **Depth:** 0.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-32-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-32-12	LOCATION COORDINATES: E = 1,135,889 N = 224,686	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 62.8 Ft.	
		15. DATE BORING	STARTED: 12-01-12 / COMPLETED: 12-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -62.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-62.6	0.0				
-62.8	0.2		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few shells, trace silt, gray (SP)	NS	
-66.6	4.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, some silt, trace wood debris, alternating bands of clayey sand and sandy clay, gray (SC)		
-69.1	6.5		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, gray (SP-SM)	A	Classification: SP-SM Color: 2.5Y 7/2-light gray D50: 0.2518 mm % Fines: 6.5
-75.1	12.5		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, trace shell fragments, trace clay stringers, gray (SP)	B	Classification: SP-SM Color: 2.5Y 7/1-light gray D50: 0.2049 mm % Fines: 6.5
-79.2	16.6		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, gray (SP-SM)	C	Classification: SP-SM Color: 2.5Y 7/1-light gray D50: 0.1877 mm % Fines: 9.7
-80.4	17.8		SAND, silty, mostly fine-grained sand-sized quartz, trace clay, gray (SM)	NS	
-82.6	20.0		CLAY, lean, mostly clay, some silt, trace fine-grained sand-sized quartz, trace shell fragments, gray (CL)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.11697° Long = -88.35372°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

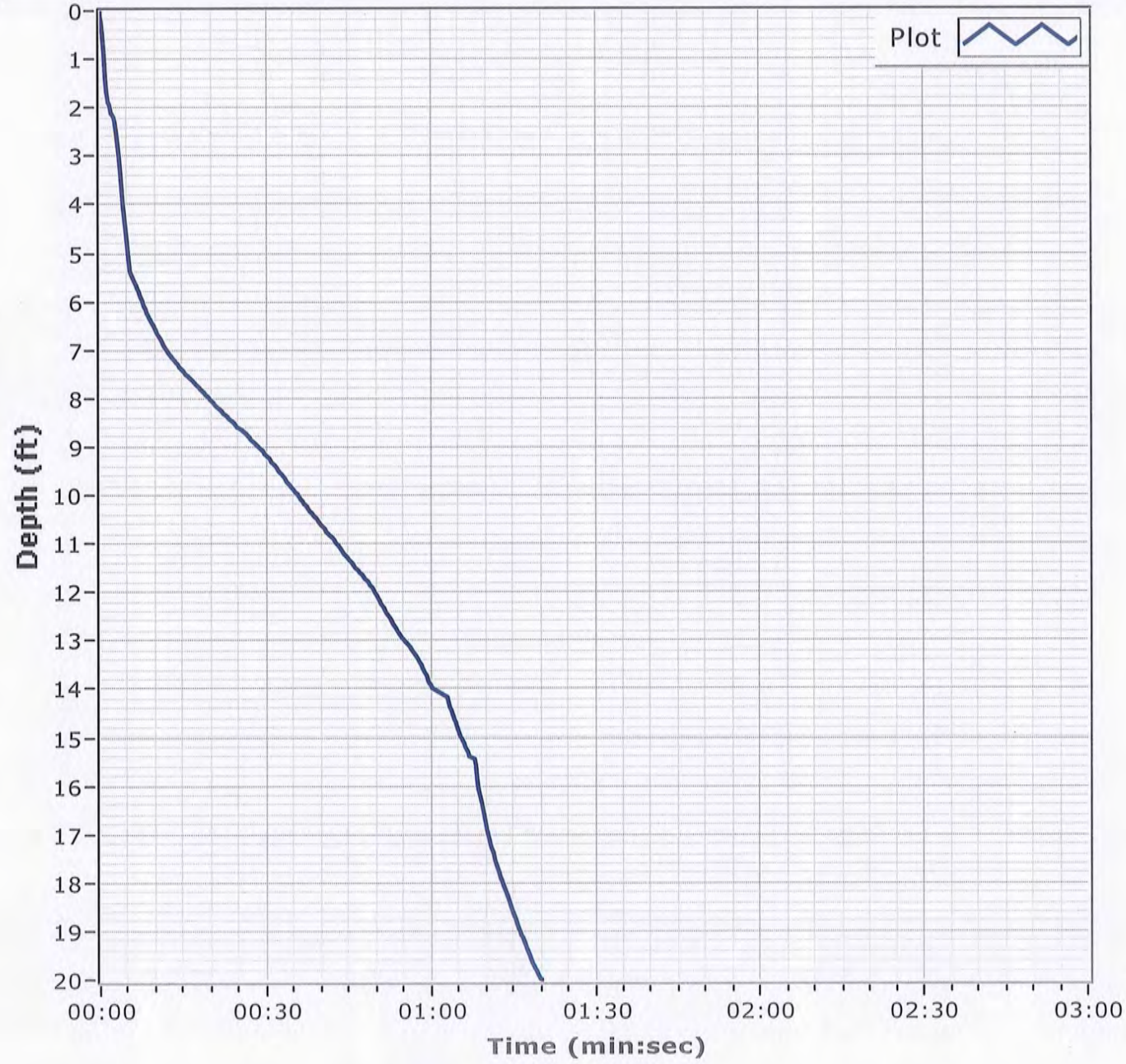
Core Identifier BI-HP-32-12
Coordinate System
Latitude / Longitude

Date 12/01/2012
Start Time 09:22:21
End Time 09:23:42
Total Time 00:01:20

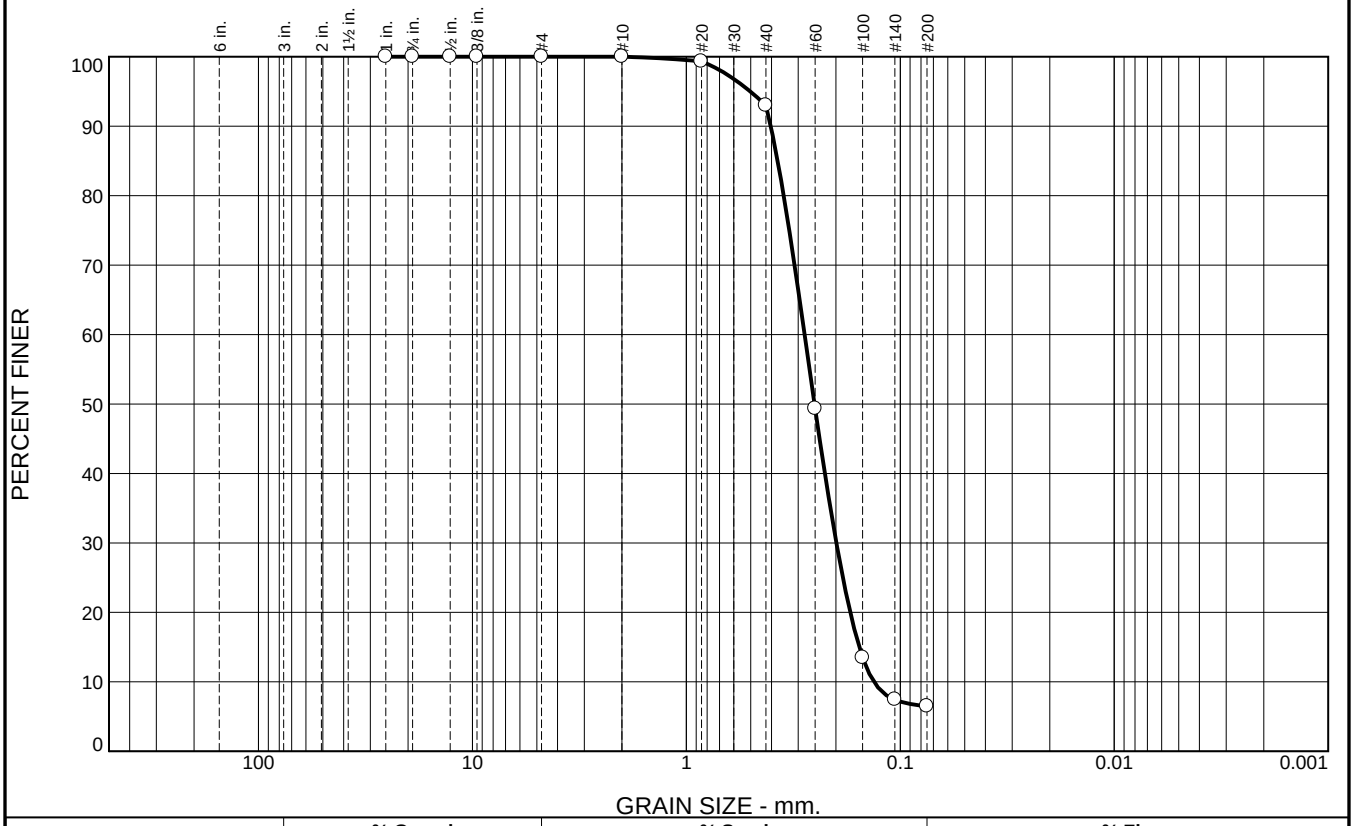
Water Depth 62.8'
Penetration 20.0'
Recovery 20.0'

Latitude 30 07.018
Longitude 088 21.223

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	7.0	86.5	6.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.3		
#40	93.0		
#60	49.3		
#100	13.5		
#140	7.4		
#200	6.5		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4031 D_{85}= 0.3742 D_{60}= 0.2802
D_{50}= 0.2518 D_{30}= 0.1990 D_{15}= 0.1556
D_{10}= 0.1329 C_u= 2.11 C_c= 1.06

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-32-12 A
Sample Number: 6471 (7) **Depth:** 4.0' **Date:** 12/03/12

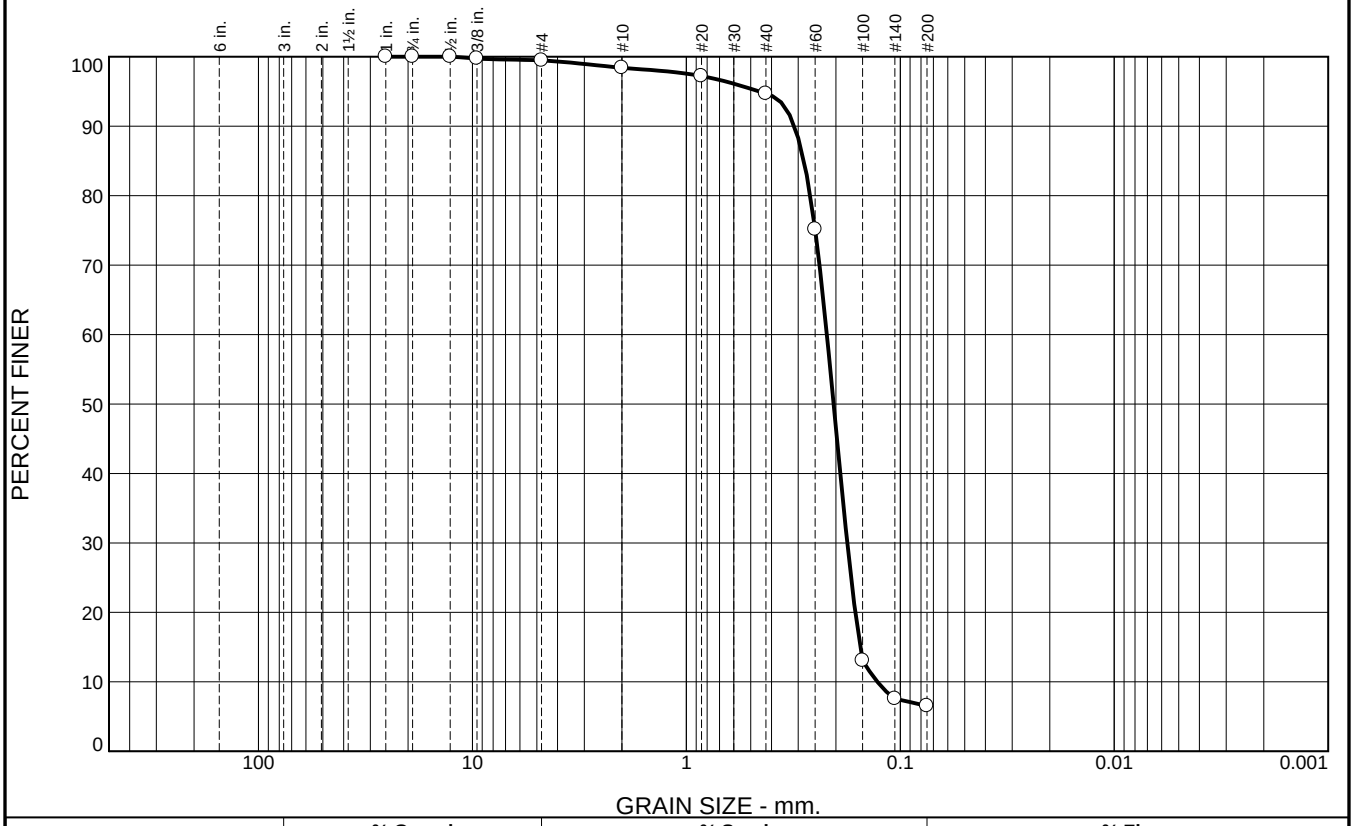
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	1.1	3.7	88.2	6.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.7		
#4	99.5		
#10	98.4		
#20	97.2		
#40	94.7		
#60	75.2		
#100	13.1		
#140	7.6		
#200	6.5		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3128 D_{85}= 0.2824 D_{60}= 0.2203
D_{50}= 0.2049 D_{30}= 0.1771 D_{15}= 0.1539
D_{10}= 0.1279 C_u= 1.72 C_c= 1.11

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-32-12 B
Sample Number: 6471 (8) **Depth:** 9.0' **Date:** 12/03/12

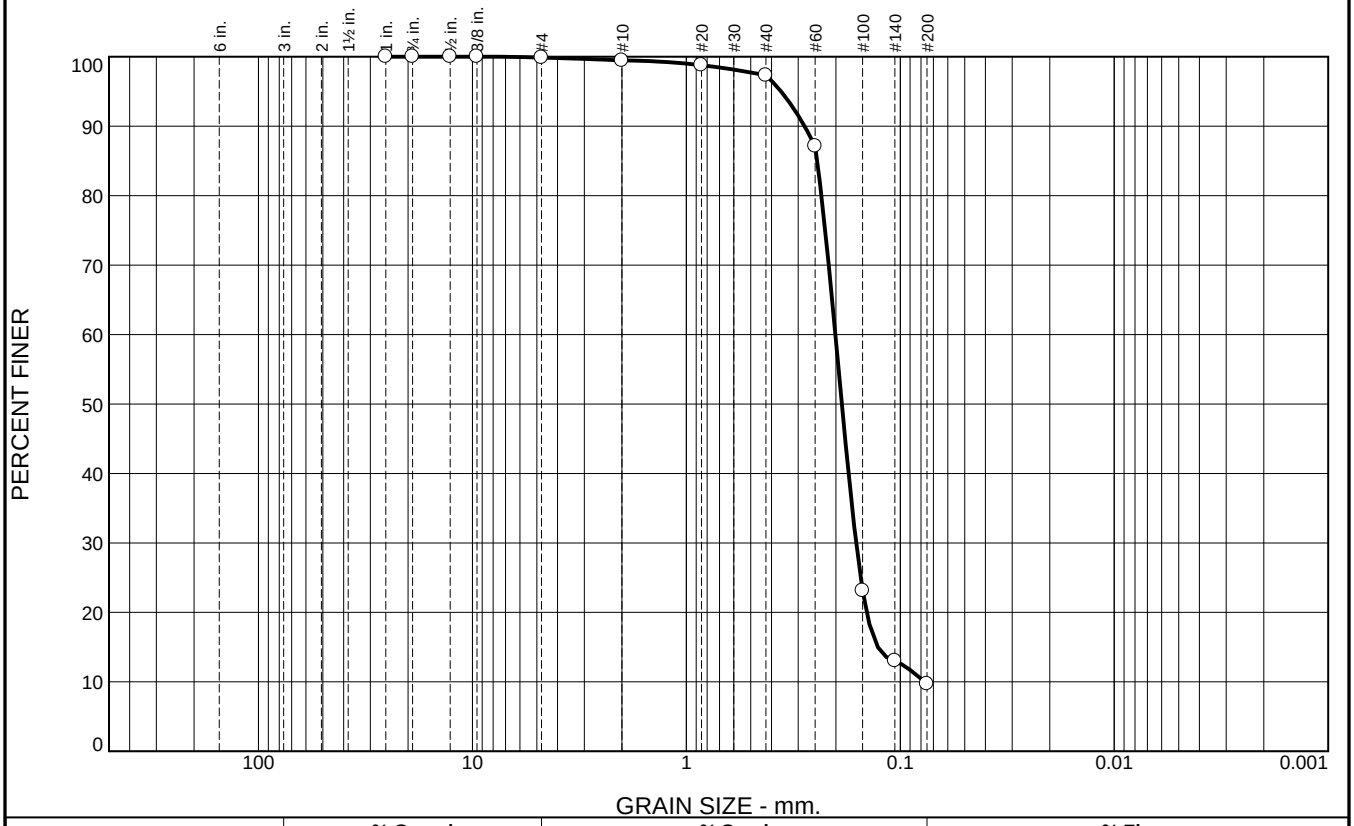
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.4	2.2	87.6	9.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.5		
#20	98.8		
#40	97.3		
#60	87.1		
#100	23.1		
#140	13.0		
#200	9.7		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2805 D_{85}= 0.2445 D_{60}= 0.2011
D_{50}= 0.1877 D_{30}= 0.1610 D_{15}= 0.1274
D_{10}= 0.0770 C_u= 2.61 C_c= 1.67

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-32-12 C
Sample Number: 6471 (9) **Depth:** 12.5' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-33-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-33-12	LOCATION COORDINATES: E = 1,134,464 N = 222,938	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 64.1 Ft.	
		15. DATE BORING	STARTED: 12-07-12 / COMPLETED: 12-07-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -63.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-63.4	0.0				
-65.5	2.1		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, medium to high plasticity, orange, greenish gray, and gray mottle (CH)	NS	
-67.8	4.4		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, clay content decreases with depth, orange, greenish gray, and gray mottle (SC)		
-72.9	9.5		SAND, silty, mostly fine-grained sand-sized quartz, some silt, some shell fragments, lttle clay nodules, organic content between 4.4 - 4.8 ft., gray (SM)		
-73.6	10.2		CLAY, fat, mostly clay, few shells, medium to high plasticity, gray (CH)		
-75.4	12.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, few shell fragments, gray (SC)		
-76.4	13.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)		
-80.4	17.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace shell fragments, gray (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.11218° Long = -88.35825°

Project Mississippi Barrier Island Restoration Project

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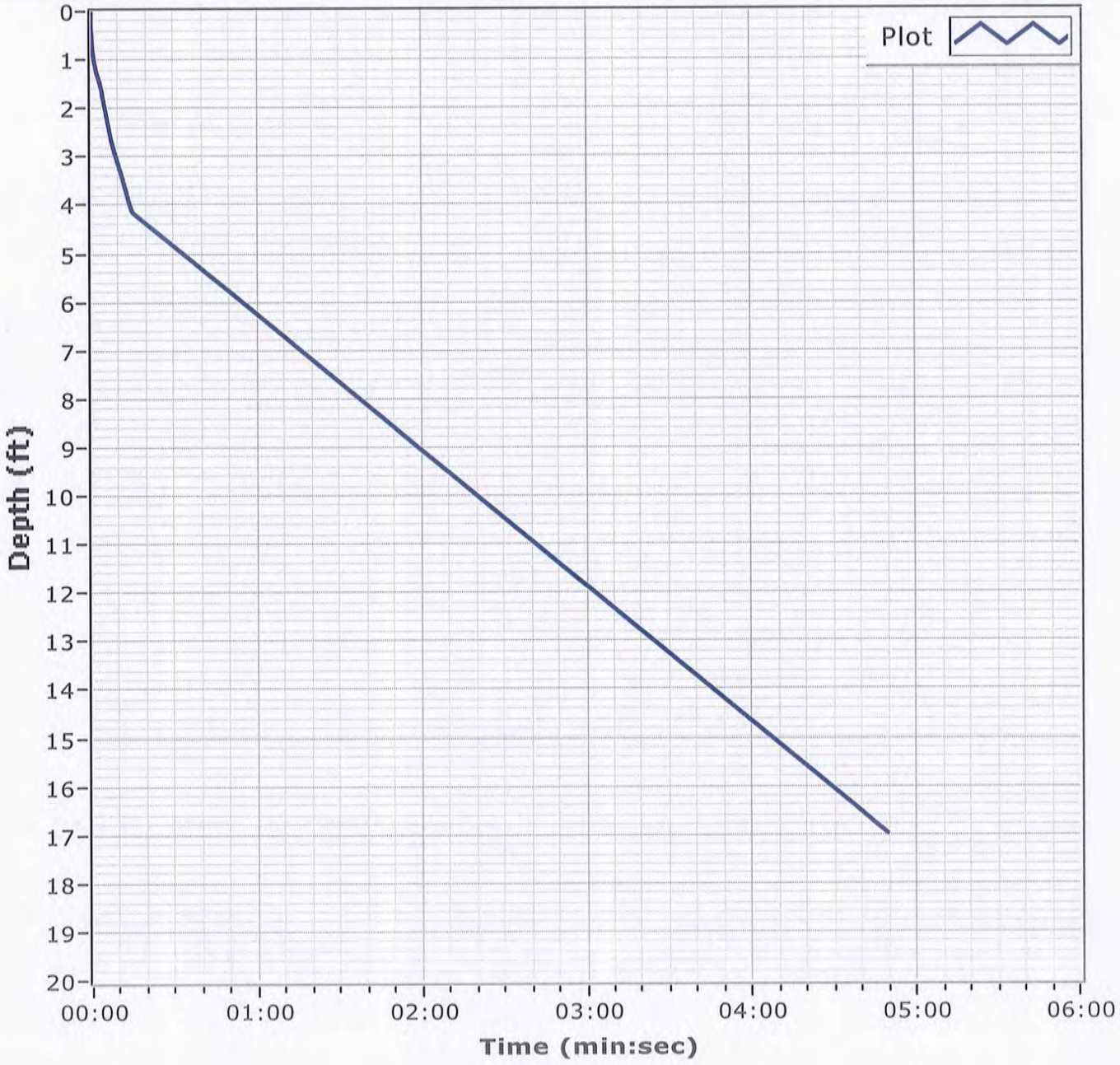
Core Identifier BI-PBS-33-12
Coordinate System
Latitude / Longitude

Date 12/07/2012
Start Time 09:25:30
End Time 09:30:20
Total Time 00:04:50

Water Depth 64.1'
Penetration 17.0'
Recovery 17.0'

Latitude 30 06.731
Longitude 088 21.495

Comments



Boring Designation BI-PBS-34-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-34-12	LOCATION COORDINATES: E = 1,131,178 N = 224,666	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 51.4 Ft.	
		15. DATE BORING	STARTED: 12-09-12 / COMPLETED: 12-09-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -50.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-50.8	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few shell fragments, trace fines, occasional shelly layers, lt. gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2693 mm % Fines: 1.5
-55.8	5.0				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)	B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2581 mm % Fines: 2.1
-57.7	6.9				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, shelly at 6.9 to 7.3 ft., gray (SP-SM)	C	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2229 mm % Fines: 4.3
-62.1	11.3				
			CLAY, fat, mostly clay, some fine-grained sand-sized quartz, medium to high plasticity, very stiff, gray, greenish gray, orangy brown mottle (CH)	NS	
-65.8	15.0				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little shell fragments, gray (SC)		
-67.2	16.4				

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.11697° Long = -88.36862°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

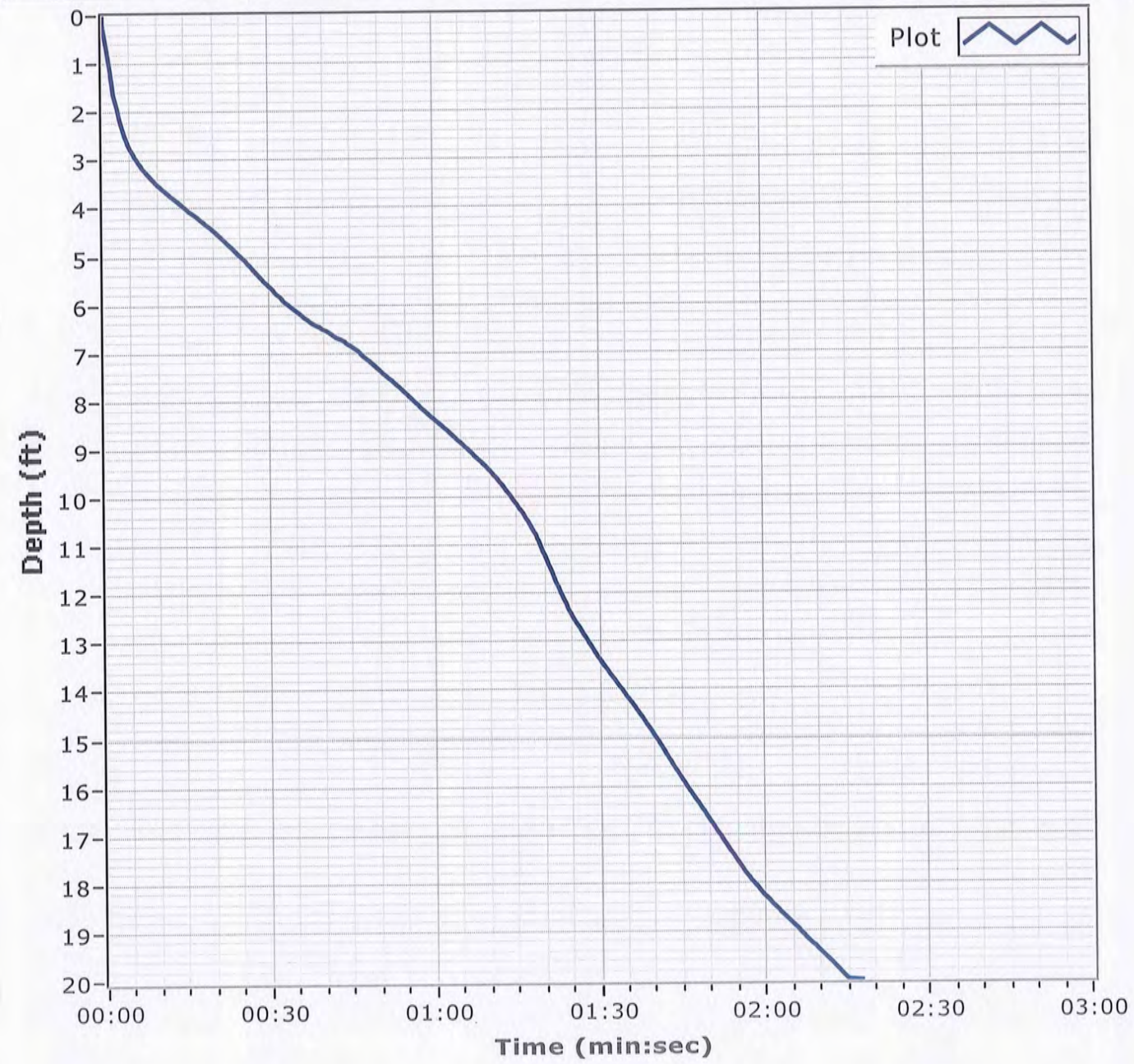
Core Identifier BI-PBS-34-12
Coordinate System Latitude / Longitude

Latitude 30 07.018
Longitude 088 22.117

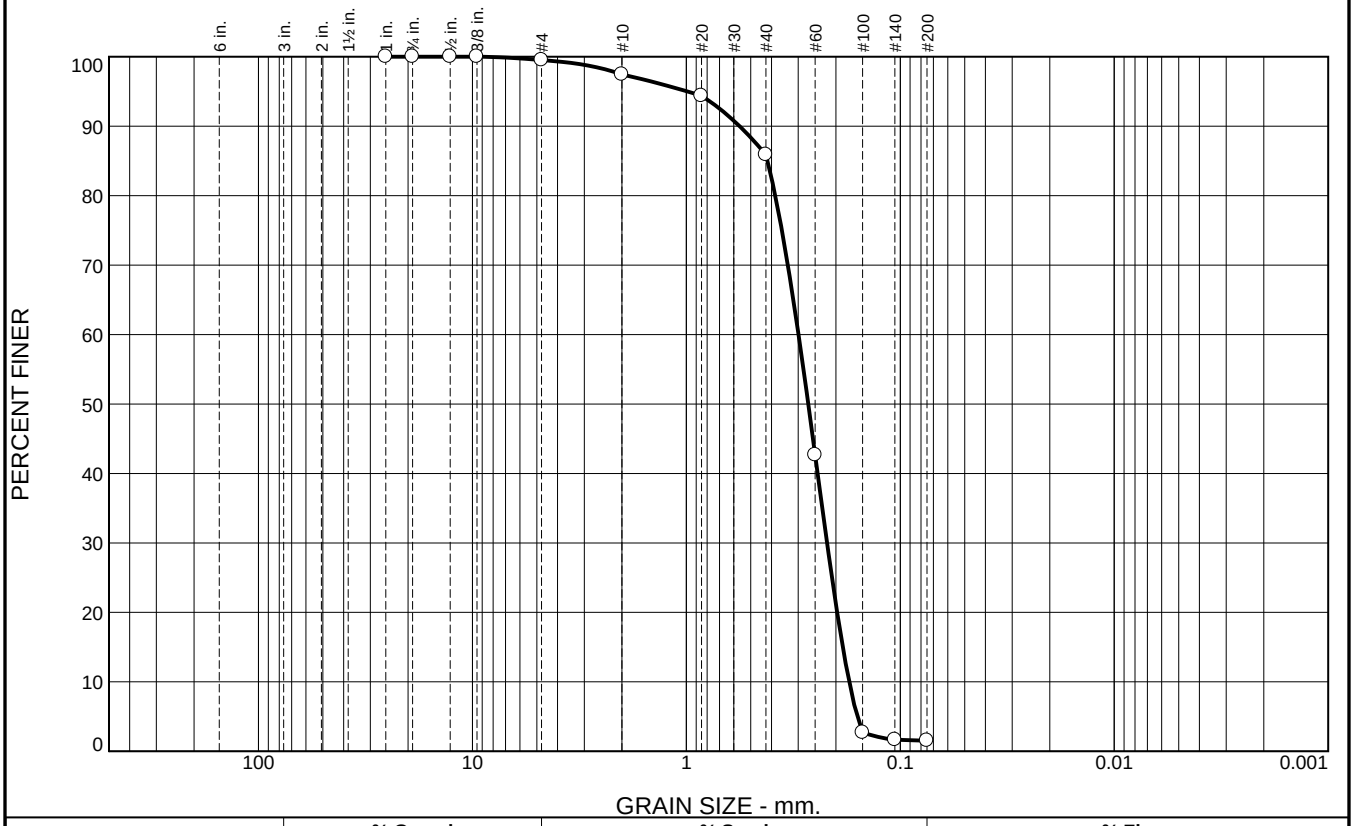
Date 12/09/2012
Start Time 10:19:08
End Time 10:21:26
Total Time 00:02:17

Water Depth 51.4'
Penetration 20.0'
Recovery 16.4'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	2.1	11.5	84.4	1.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	97.4		
#20	94.4		
#40	85.9		
#60	42.7		
#100	2.7		
#140	1.7		
#200	1.5		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5641 D_{85}= 0.4177 D_{60}= 0.2992
D_{50}= 0.2693 D_{30}= 0.2199 D_{15}= 0.1858
D_{10}= 0.1735 C_u= 1.72 C_c= 0.93

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-34-12 A
Sample Number: 6482 (41) **Depth:** 0.0' **Date:** 12/12/12

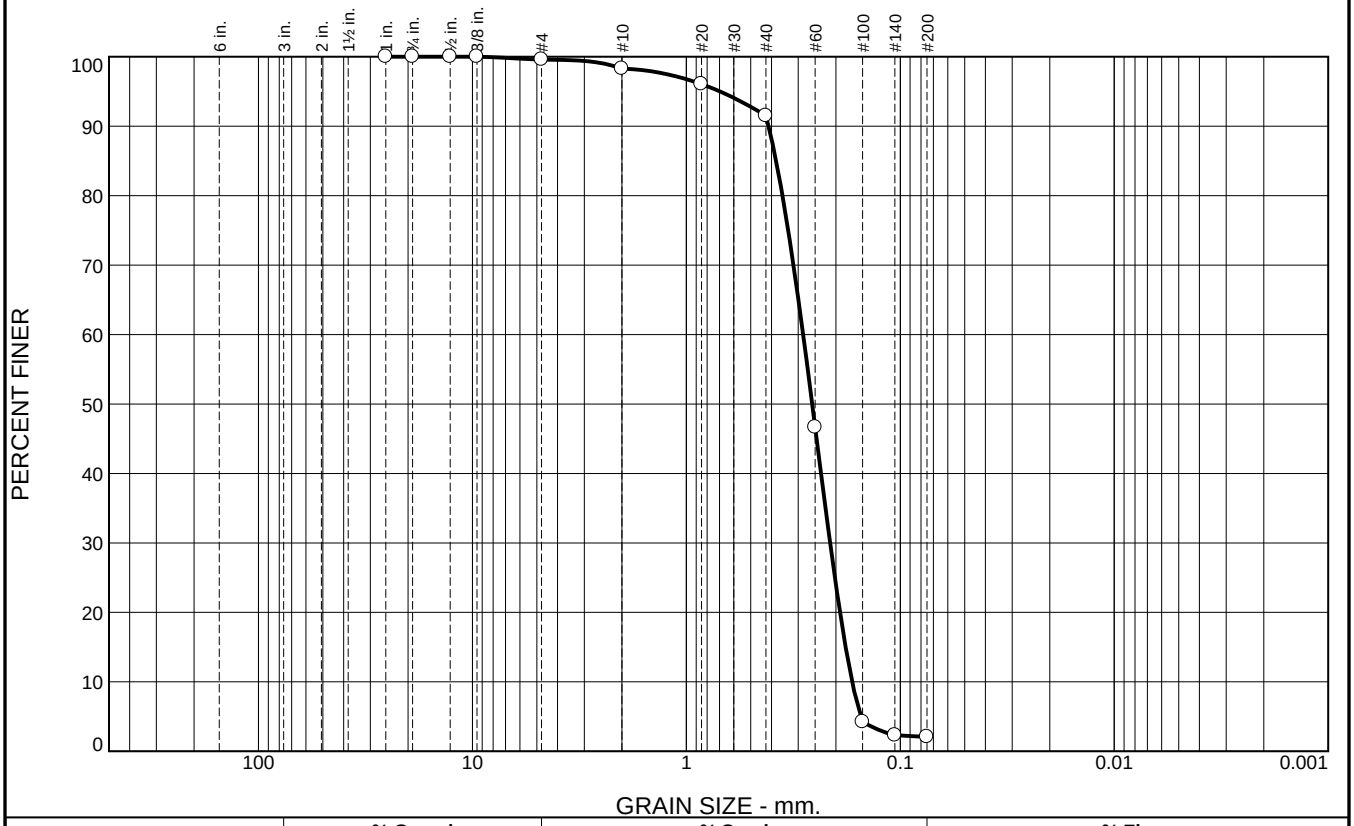
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	1.3	6.8	89.4	2.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.6		
#10	98.3		
#20	96.1		
#40	91.5		
#60	46.7		
#100	4.2		
#140	2.3		
#200	2.1		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4127 D_{85}= 0.3802 D_{60}= 0.2846
D_{50}= 0.2581 D_{30}= 0.2128 D_{15}= 0.1802
D_{10}= 0.1681 C_u= 1.69 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-34-12 B
Sample Number: 6482 (42) **Depth:** 5.0' **Date:** 12/12/12

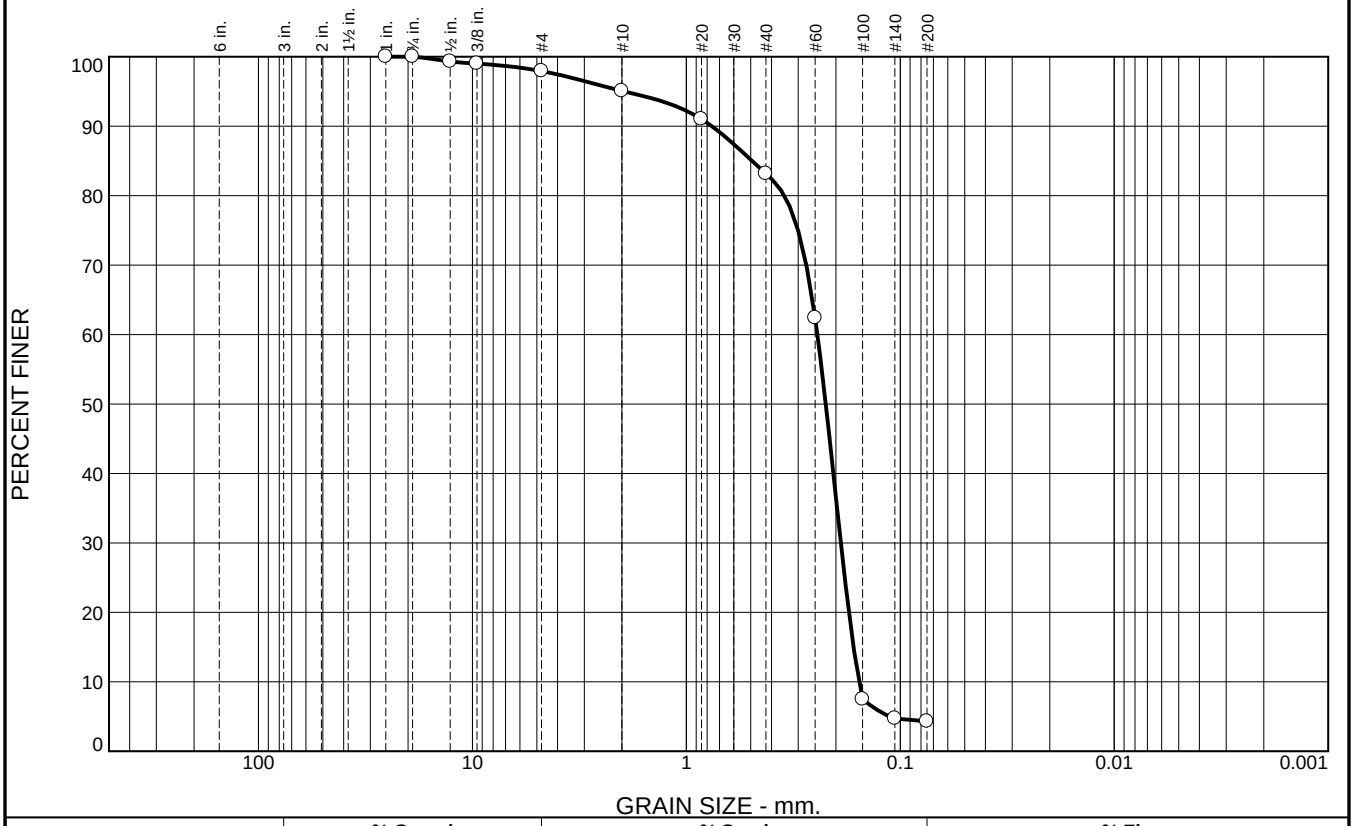
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.1	2.8	11.9	78.9	4.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.3		
.375	99.0		
#4	97.9		
#10	95.1		
#20	91.0		
#40	83.2		
#60	62.4		
#100	7.5		
#140	4.7		
#200	4.3		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace shell

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7613 D_{85}= 0.4931 D_{60}= 0.2440
D_{50}= 0.2229 D_{30}= 0.1897 D_{15}= 0.1655
D_{10}= 0.1559 C_u= 1.56 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-34-12 C
Sample Number: 6482 (43) **Depth:** 6.9' **Date:** 12/12/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-35-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-35-12	LOCATION COORDINATES: E = 1,129,112 N = 223,570	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 62.6 Ft.	
		15. DATE BORING	STARTED: 12-09-12 / COMPLETED: 12-09-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -61.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-61.4	0.0				
			CLAY, fat, mostly clay, trace shell fragments, medium to high plasticity, pockets of trace fine-grained, sand-sized quartz, dark gray (CH)		
-65.8	4.4				
			CLAY, fat, mostly clay, medium to high plasticity, pockets of trace fine-grained, sand-sized quartz, greenish gray, orangy brown, gray mottle (CH)		
-68.0	6.6				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace wood debris, brownish gray (SM)		
-69.8	8.4				
			CLAY, lean, mostly clay, some fine-grained sand-sized quartz, some shell fragments, trace wood debris, low to medium plasticity, gray (CL)	NS	
-74.3	12.9				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, trace shell fragments, gray (SM)		
-81.1	19.7				
-81.4	20.0				
			CLAY, lean, mostly clay, some fine-grained sand-sized quartz, low to medium plasticity, gray (CL)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.11398° Long = -88.37517°

DRILLING LOG (Cont. Sheet)	INSTALLATION		SHEET 2 OF 2 SHEETS
	Mobile District		
PROJECT	**COORDINATE SYSTEM/DATUM**	**HORIZONTAL**	**VERTICAL**
Barrier Island Restoration	State Plane, MSE (U.S. Ft.)	NAD83	NAVD88
LOCATION COORDINATES	**ELEVATION TOP OF BORING**		
X = 1,129,112 Y = 223,570	-61.4 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
			analysis from this interval.		

30
35
40
45
50
55
60

Lat = 30.11398° Long = -88.37517°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

Core Identifier BI-PBS-35-12

Coordinate System
Latitude / Longitude

Latitude 30 06.839

Longitude 088 22.510

Date 12/09/2012

Start Time 15:09:12

End Time 15:10:01

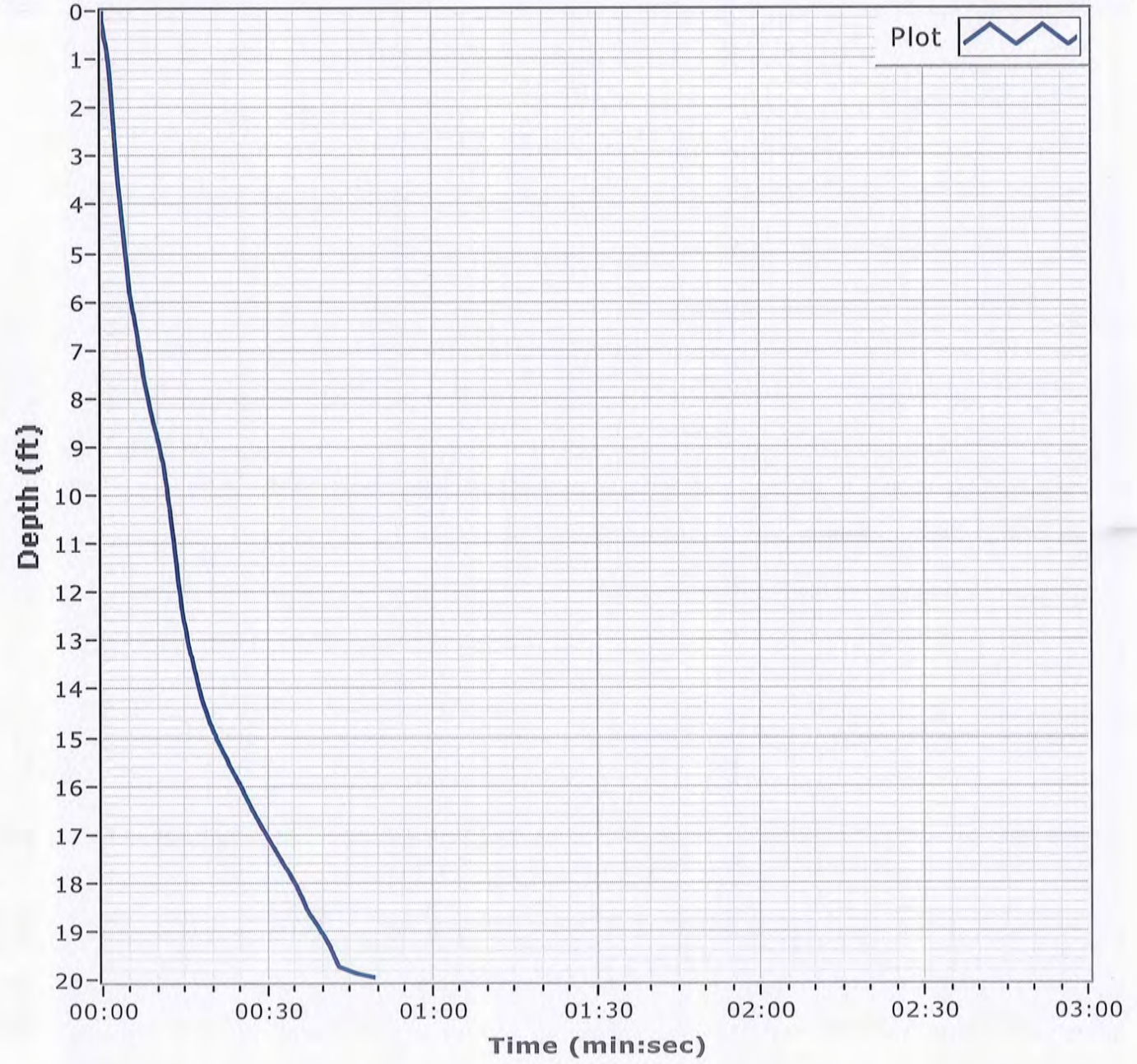
Total Time 00:00:49

Water Depth 62.6'

Penetration 20.0'

Recovery 20.0'

Comments



Boring Designation BI-PBS-36-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-36-12	LOCATION COORDINATES: E = 1,134,315 N = 226,116	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 63.9 Ft.	
		15. DATE BORING	STARTED: 12-09-12 / COMPLETED: 12-09-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -62.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 13.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-62.8	0.0				
-65.8	3.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, shell hash at 2.6 ft., becomes siltier with depth, lt. gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.315 mm % Fines: 2.9
-66.5	3.7		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace clay, dark brown (SP-SM)	NS	
-71.5	8.7		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, trace shell fragments, gray (SM)		
-73.5	10.7		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, gray (SP-SM)		
-76.5	13.7		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.12092° Long = -88.35868°

Project Mississippi Barrier Island Restoration Project

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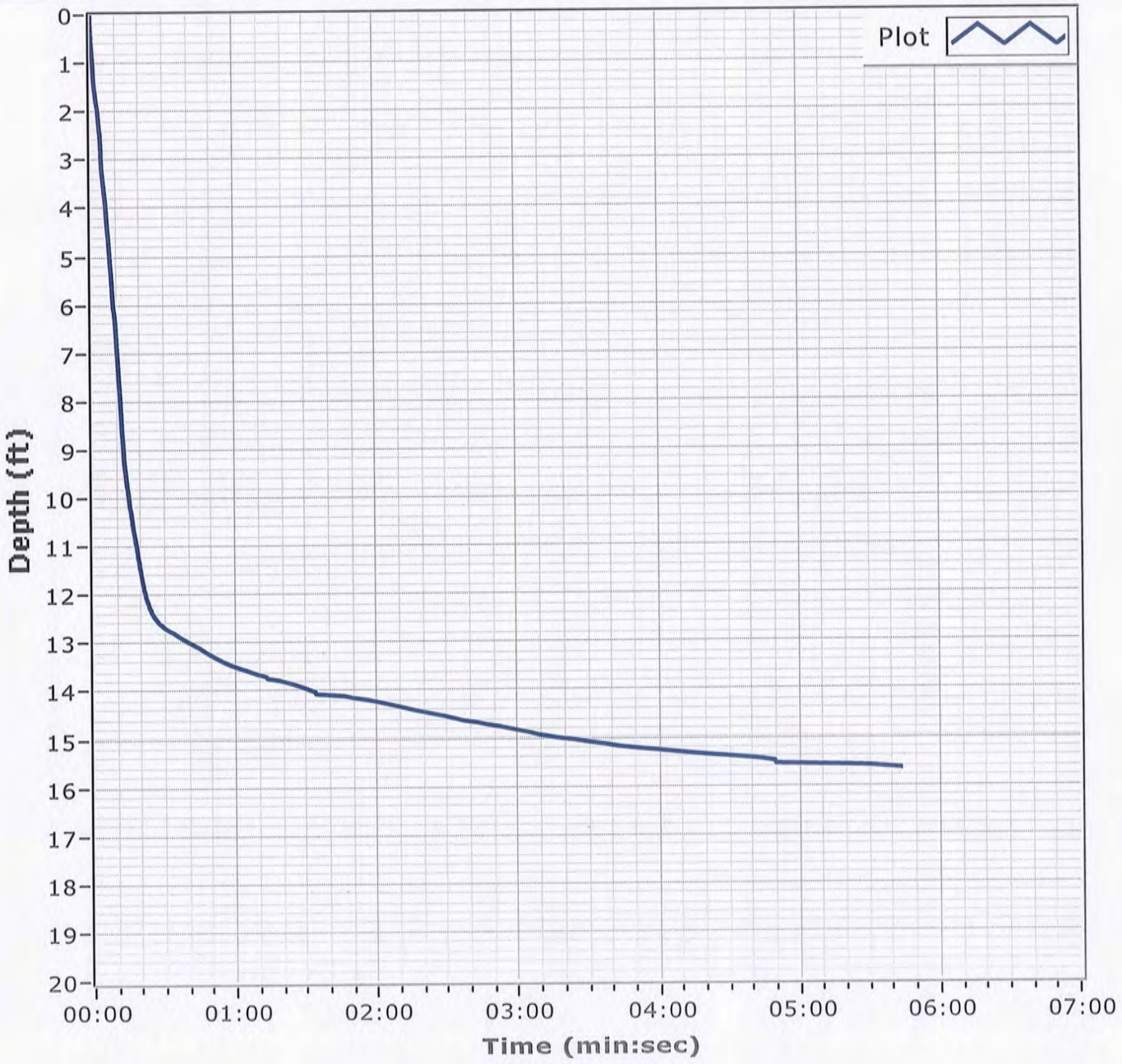
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Coordinate System Latitude / Longitude

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Longitude 088 21.521

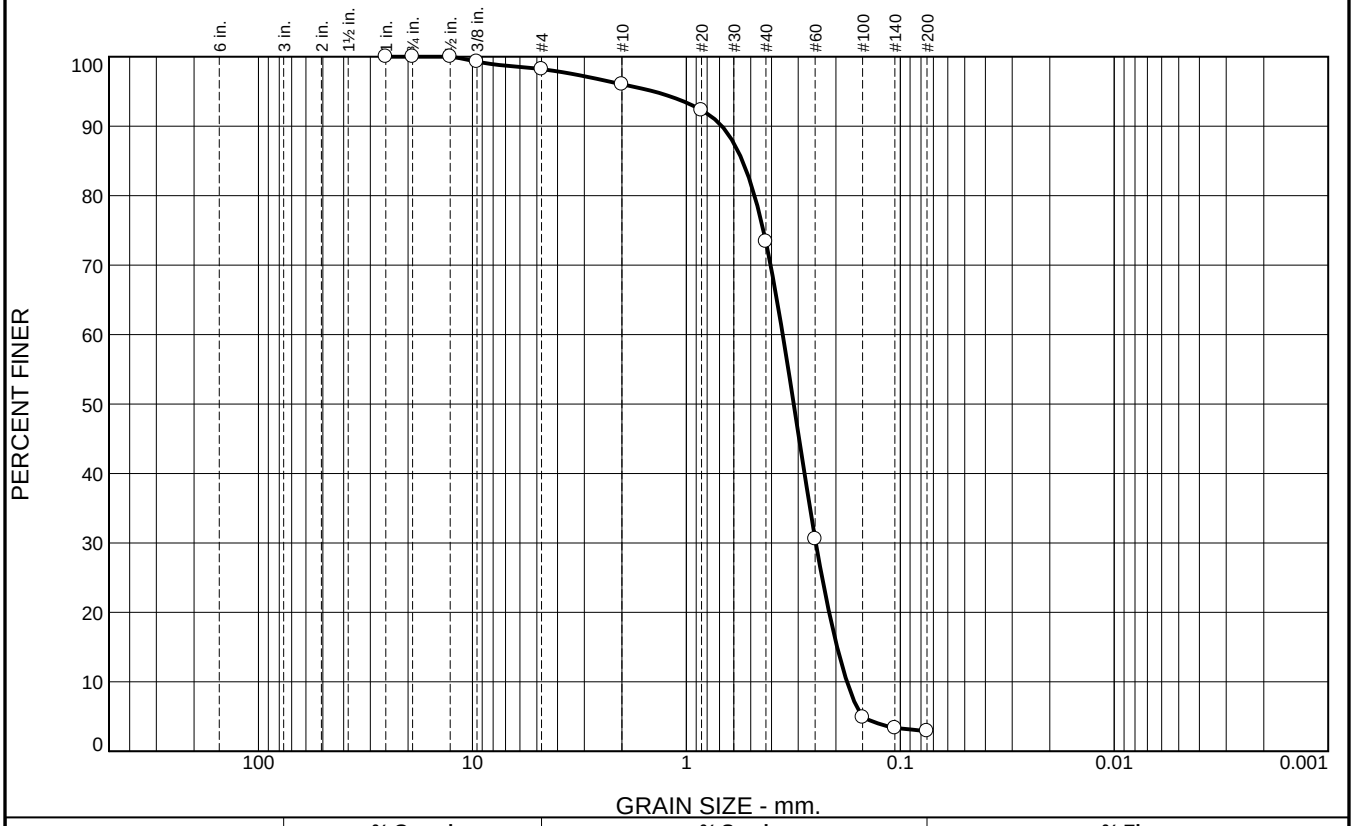
Date 12/09/2012
Start Time 14:36:25
End Time 14:42:09
Total Time 00:05:44

Water Depth 63.9'
Penetration 15.7'
Recovery 13.7'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.8	2.2	22.6	70.5	2.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.3		
#4	98.2		
#10	96.0		
#20	92.3		
#40	73.4		
#60	30.6		
#100	4.9		
#140	3.4		
#200	2.9		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6821 D_{85}= 0.5464 D_{60}= 0.3543
D_{50}= 0.3150 D_{30}= 0.2482 D_{15}= 0.1974
D_{10}= 0.1776 C_u= 1.99 C_c= 0.98

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-36-12 A
Sample Number: 6482 (44) **Depth:** 0.0' **Date:** 12/12/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-37-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-37-12	LOCATION COORDINATES: E = 1,132,652 N = 225,247	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 61.7 Ft.	
		15. DATE BORING	STARTED: 12-09-12 / COMPLETED: 12-09-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -61.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-61.1	0.0				
-64.1	3.0		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, medium to high plasticity, gray, brown, greenish gray mottle (CH)	NS	
-66.3	5.2		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace wood debris, medium to high plasticity, dark gray (CH)		
-70.6	9.5		SAND, silty, mostly fine-grained sand-sized quartz, some silt, some shell fragments, gray (SM)		
-81.1	20.0		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, silt content decreases with depth, gray (SP-SM)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.11855° Long = -88.36395°

Project Mississippi Barrier Island Restoration Project

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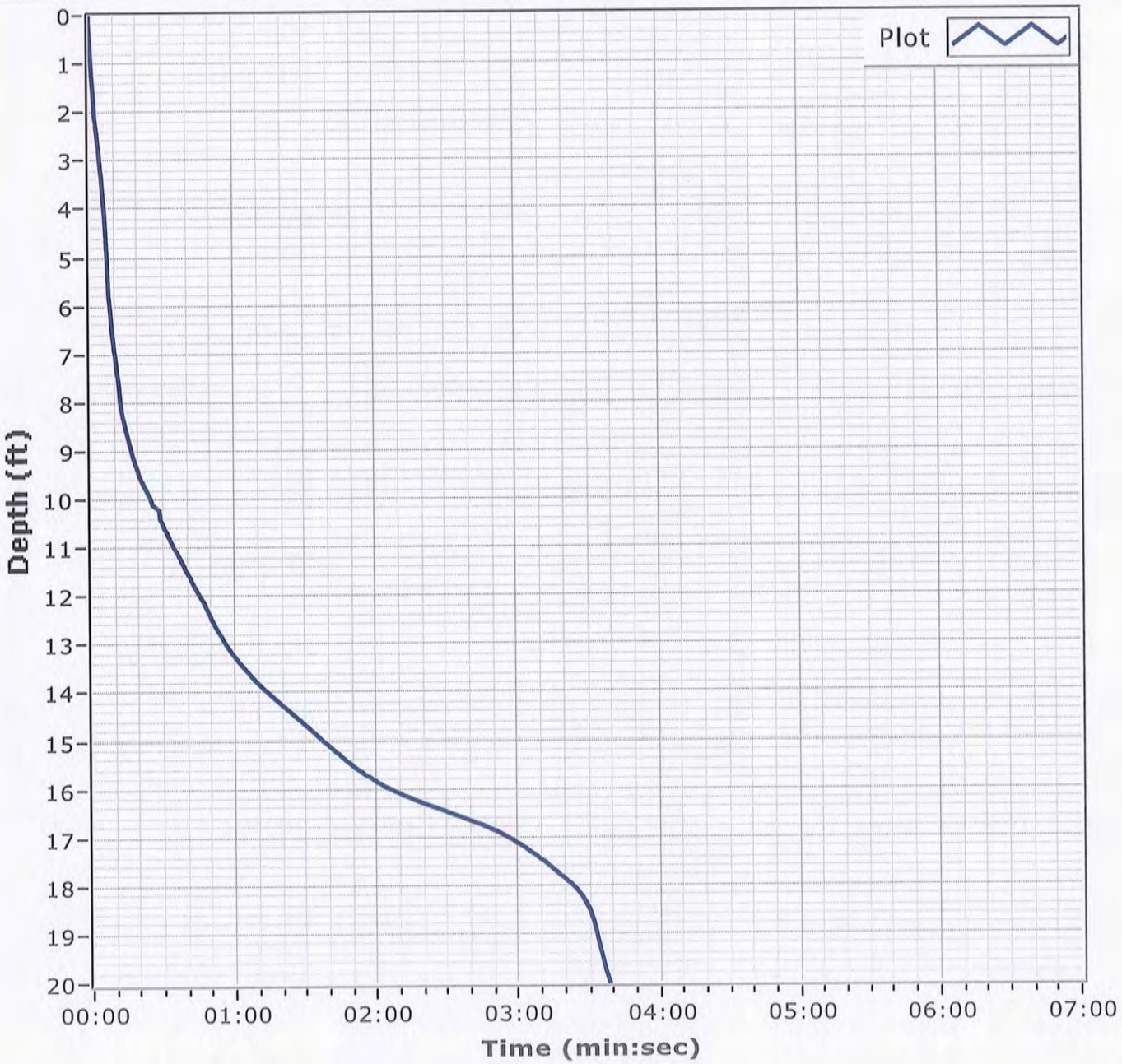
Core Identifier BI-PBS-37-12
Coordinate System
Latitude / Longitude

Latitude 30 07.113
Longitude 088 21.837

Date 12/09/2012
Start Time 09:46:28
End Time 09:50:07
Total Time 00:03:39

Water Depth 61.7'
Penetration 20.0'
Recovery 20.0'

Comments



Boring Designation BI-PBS-38-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-38-12	LOCATION COORDINATES: E = 1,130,193 N = 225,226	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 50.6 Ft.	
		15. DATE BORING	STARTED: 12-09-12 / COMPLETED: 12-09-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -50.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.1 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-50.0	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, dense, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2949 mm % Fines: 1.2
-55.0	5.0				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, dense, lt. gray (SP)	B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2214 mm % Fines: 3.7
-59.1	9.1				
-60.0	10.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, few shell fragments, gray (SM)		
			CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, medium to high plasticity, dark gray (CH)		
-63.1	13.1				
			SILT, inorganic-L, mostly silt, some clay, little fine-grained sand-sized quartz, few shell fragments, gray (ML)	NS	
-69.1	19.1				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.11852° Long = -88.37173°

Project Mississippi Barrier Island Restoration Project

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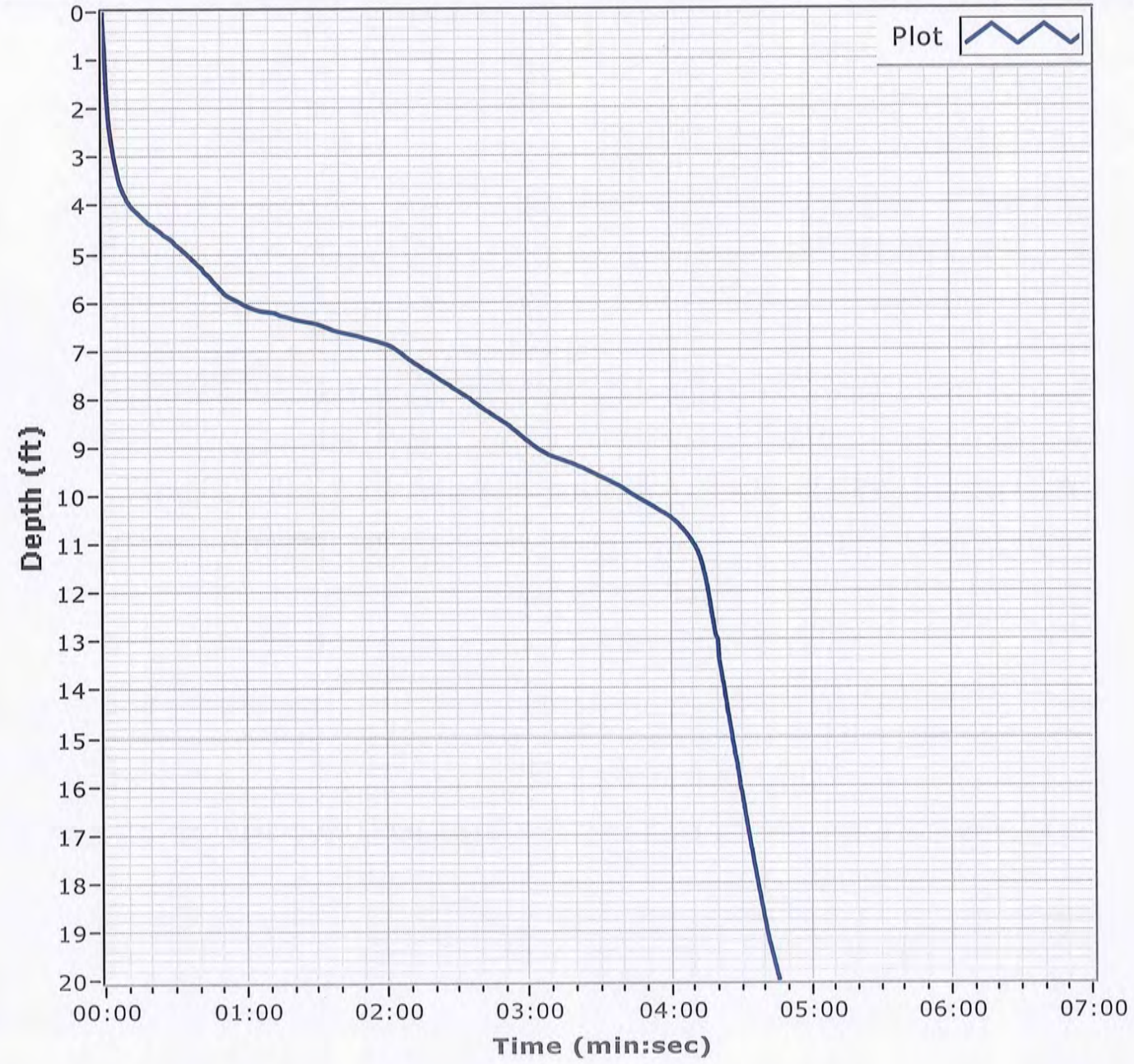
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Coordinate System
Latitude / Longitude

Latitude 30 07.111
Longitude 088 22.304

Date 12/09/2012
Start Time 10:55:00
End Time 10:59:46
Total Time 00:04:46

Water Depth 50.6'
Penetration 20.0'
Recovery 19.1'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	2.4	17.0	79.4	1.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	97.6		
#20	94.0		
#40	80.6		
#60	34.2		
#100	2.0		
#140	1.3		
#200	1.2		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5300 D_{85}= 0.4613 D_{60}= 0.3277
D_{50}= 0.2949 D_{30}= 0.2385 D_{15}= 0.1974
D_{10}= 0.1824 C_u= 1.80 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-38-12 A
Sample Number: 6482 (45) **Depth:** 0.0' **Date:** 12/12/12

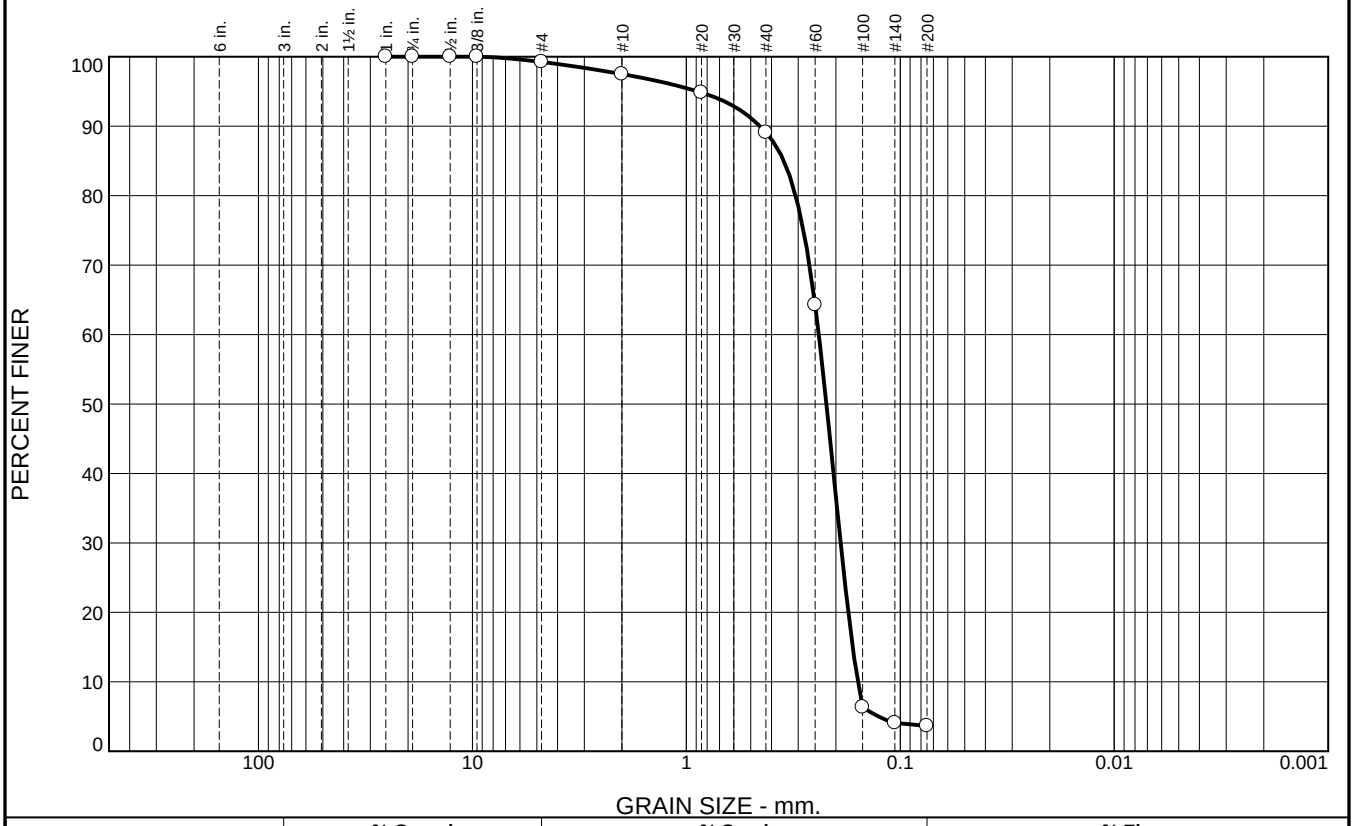
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	1.7	8.4	85.4	3.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.2		
#10	97.5		
#20	94.8		
#40	89.1		
#60	64.3		
#100	6.3		
#140	4.1		
#200	3.7		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4534 D_{85}= 0.3499 D_{60}= 0.2403
D_{50}= 0.2214 D_{30}= 0.1901 D_{15}= 0.1671
D_{10}= 0.1582 C_u= 1.52 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-38-12 B
Sample Number: 6482 (46) **Depth:** 5.0' **Date:** 12/12/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-39-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-39-12	LOCATION COORDINATES: E = 1,129,313 N = 226,171	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 49.2 Ft.	
		15. DATE BORING	STARTED: 12-09-12 / COMPLETED: 12-09-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -48.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-48.5	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little shell fragments, trace fines, lt. gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.3064 mm % Fines: 1.1
-53.5	5.0				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, little shell fragments, trace fines, lt. gray (SP)	B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2592 mm % Fines: 1.6
-56.6	8.1				
-57.6	9.1		SAND, poorly-graded with clay, mostly fine-grained sand-sized quartz, little shell fragments, few clay, gray (SP-SC)	NS	
			CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace pockets of fine-grained, sand-sized quartz, orangy brown, gray, greenish gray mottle (CH)		
-61.2	12.7				
-62.2	13.7		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, some shell fragments, gray (SC)		
-63.1	14.6				
-63.5	15.0				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, some shell fragments, gray (SM)		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, gray (SP-SM)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.12113° Long = -88.37450°

Project Mississippi Barrier Island Restoration Project

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S E R V I C E S

Core Identifier BI-PBS-39-12

Coordinate System
Latitude / Longitude

Latitude 30 07.268

Longitude 088 22.470

Date 12/09/2012

Start Time 11:32:37

End Time 11:36:36

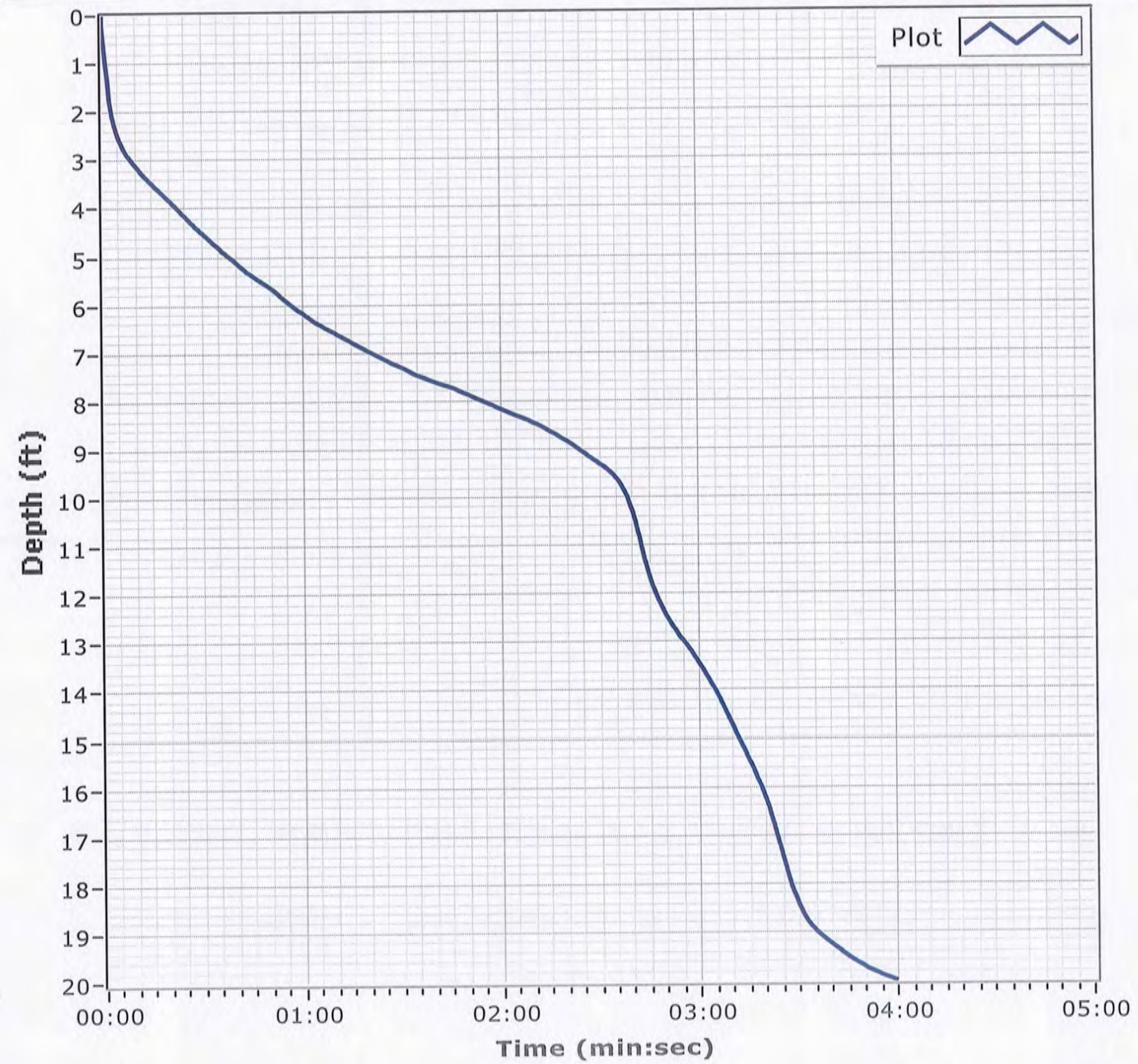
Total Time 00:03:59

Water Depth 49.2'

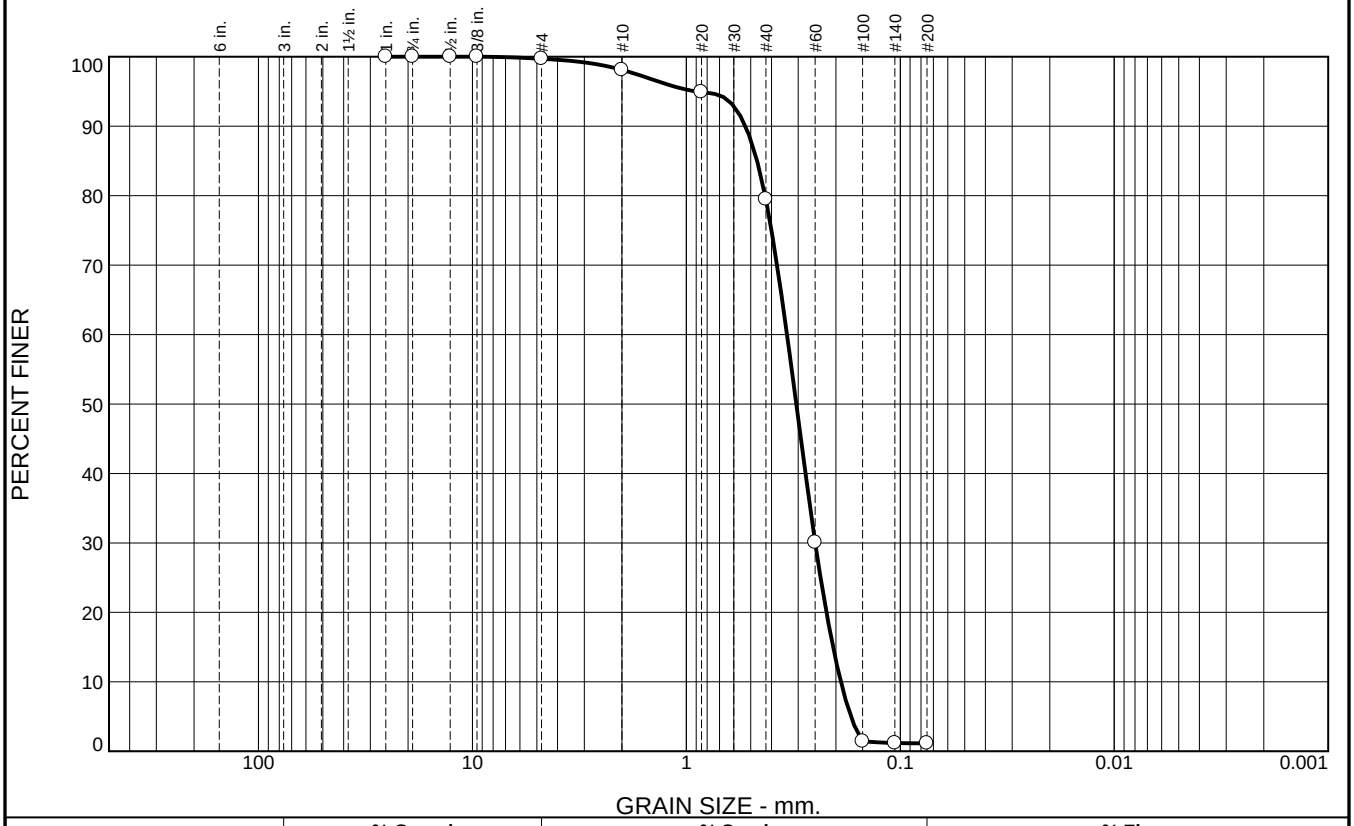
Penetration 20.0'

Recovery 15.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	1.6	18.6	78.4	1.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.1		
#20	94.9		
#40	79.5		
#60	30.1		
#100	1.4		
#140	1.2		
#200	1.1		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5294 D_{85}= 0.4671 D_{60}= 0.3385
D_{50}= 0.3064 D_{30}= 0.2498 D_{15}= 0.2062
D_{10}= 0.1898 C_u= 1.78 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-39-12 A
Sample Number: 6482 (47) **Depth:** 0.0' **Date:** 12/12/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.0	8.3	89.1	1.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.0		
#20	97.1		
#40	90.7		
#60	46.2		
#100	3.3		
#140	1.9		
#200	1.6		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4193 D_{85}= 0.3849 D_{60}= 0.2860
D_{50}= 0.2592 D_{30}= 0.2141 D_{15}= 0.1822
D_{10}= 0.1705 C_u= 1.68 C_c= 0.94

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-39-12 B
Sample Number: 6482 (48) **Depth:** 5.0' **Date:** 12/12/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-40-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-40-12	LOCATION COORDINATES: E = 1,135,172 N = 223,901	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 66.9 Ft.	
		15. DATE BORING	STARTED: 12-01-12 / COMPLETED: 12-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -66.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-66.7	0.0				
-67.7	1.0		SHELL, mostly shell fragments, some medium to coarse-grained sand-sized quartz, trace silt, gray	NS	
-68.0	1.3				
-68.8	2.1		CLAY, lean, mostly clay, trace fine-grained sand-sized quartz, trace shell fragments, brown mottled with gray (CL)		
-69.8	3.1		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray mottled with brown (SC)		
-72.6	5.9		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace clay, trace shell fragments, lt. gray (SP)		
-74.0	7.3		SAND, silty, mostly fine-grained sand-sized quartz, some silt, some organic matter, organic staining, dark brown (SM)		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, clay nodules at 7.2 ft., gray (SP-SM)		
-79.9	13.2		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little shell fragments, gray (SC)		
-82.6	15.9		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, trace shell fragments, gray (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.11482° Long = -88.35600°

Project Mississippi Barrier Island Restoration Project

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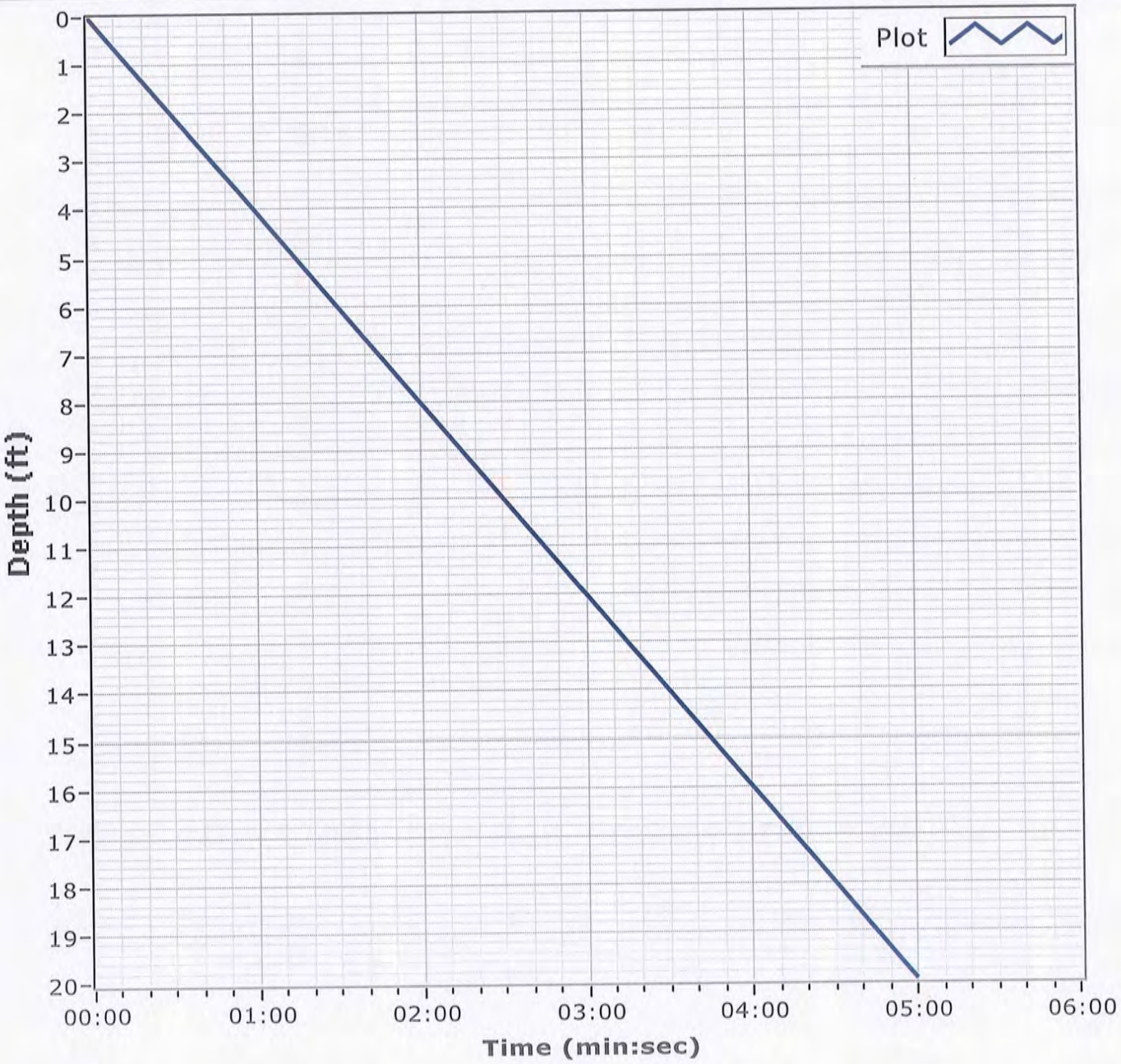
Core Identifier BI-PBS-40-12
Coordinate System Latitude / Longitude

Latitude 30 06.889
Longitude 088 21.360

Date 12/01/2012
Start Time 11:57:03
End Time 12:02:03
Total Time 00:05:00

Water Depth 66.9'
Penetration 20.0'
Recovery 15.9

Comments
pentotrometer cable broke. start time was; 1157, stop; 1202. penetration; 20.0'.



Boring Designation BI-PBS-41-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-41-12	LOCATION COORDINATES: E = 1,133,653 N = 225,724	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 62 Ft.	
		15. DATE BORING	STARTED: 12-09-12 / COMPLETED: 12-09-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -61.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-61.6	0.0				
-64.8	3.2		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2682 mm % Fines: 2.4
-65.8	4.2		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace organic matter, gray grading to brown (SM)	NS	
-66.5	4.9				
-67.2	5.6				
-68.5	6.9		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)	B	Classification: SP-SM Color: 2.5Y 5/1-gray D50: 0.2692 mm % Fines: 5.7
-69.2	7.6		SAND, silty, mostly fine-grained sand-sized quartz, some silt, gray (SM)	NS	
-71.8	10.2		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, gray (SP-SM)	C	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.2304 mm % Fines: 7
-72.9	11.3		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	D	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2353 mm % Fines: 4.8
-77.9	16.3		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)	E	Classification: SP Color: 2.5Y 7/1-light gray D50: 0.2128 mm % Fines: 4.6
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few shell fragments, gray (SP-SM)		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.11985° Long = -88.36078°

Project Mississippi Barrier Island Restoration Project

AVS
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S E R V I C E S

Core Identifier BI-PBS-41-12

Coordinate System
Latitude / Longitude

Latitude 30 07.191

Longitude 088 21.647

Date 12/09/2012

Start Time 08:56:21

End Time 09:01:23

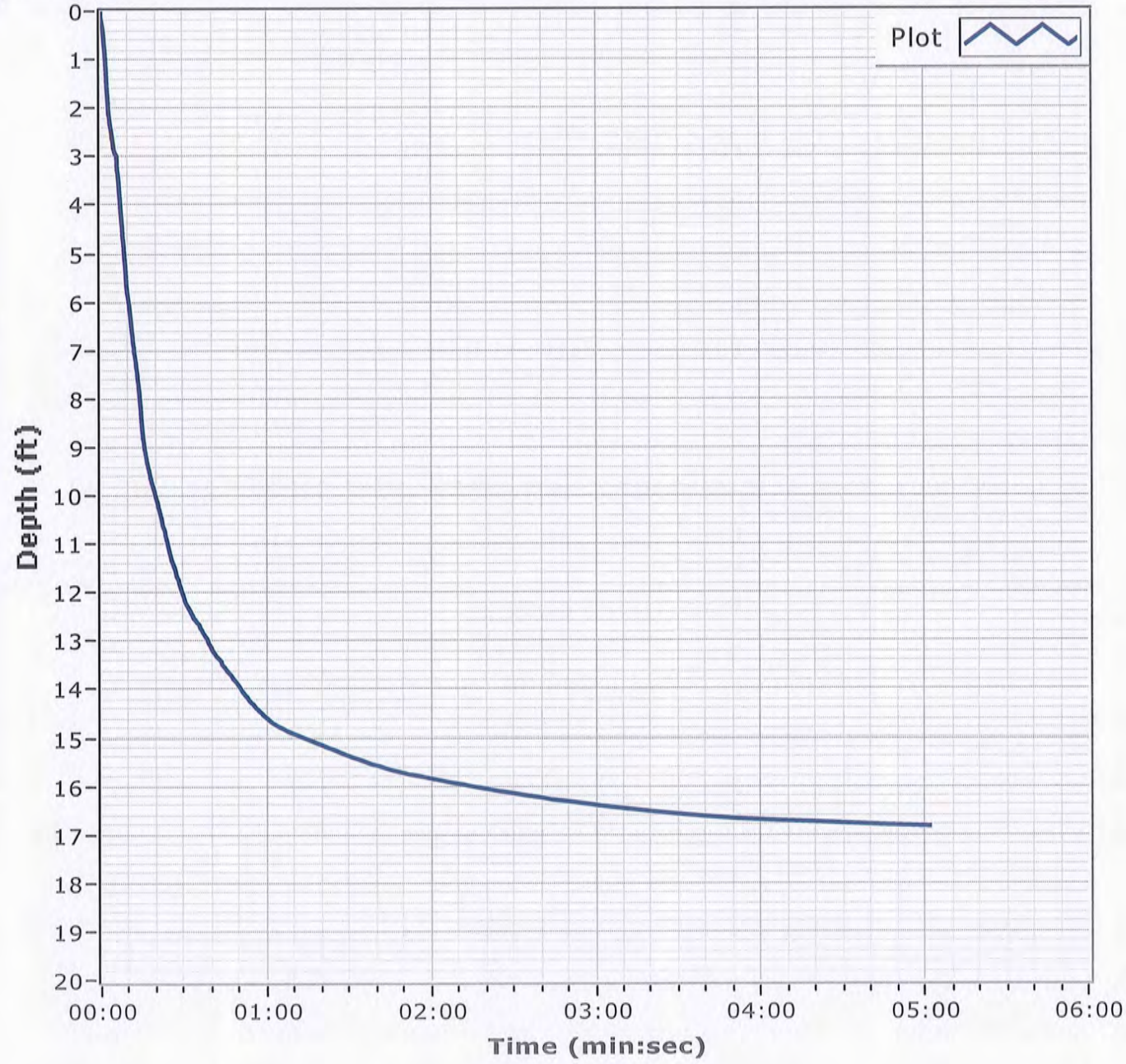
Total Time 00:05:02

Water Depth 62.0'

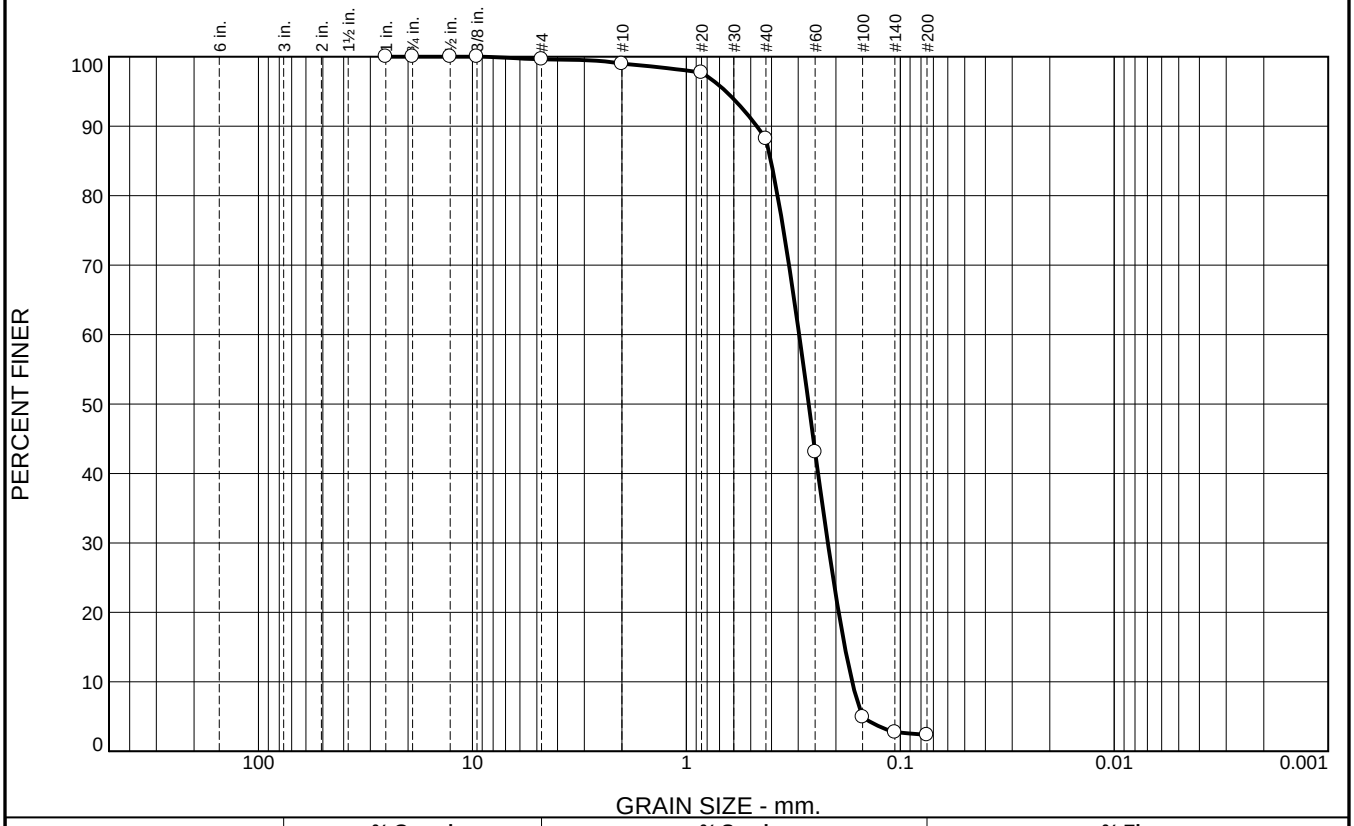
Penetration 16.8'

Recovery 16.6'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	0.6	10.8	85.8	2.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.6		
#10	99.0		
#20	97.7		
#40	88.2		
#60	43.1		
#100	4.9		
#140	2.8		
#200	2.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4687 D_{85}= 0.4026 D_{60}= 0.2972
D_{50}= 0.2682 D_{30}= 0.2180 D_{15}= 0.1817
D_{10}= 0.1680 C_u= 1.77 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-41-12 A
Sample Number: 6482 (49) **Depth:** 0.0' **Date:** 12/12/12

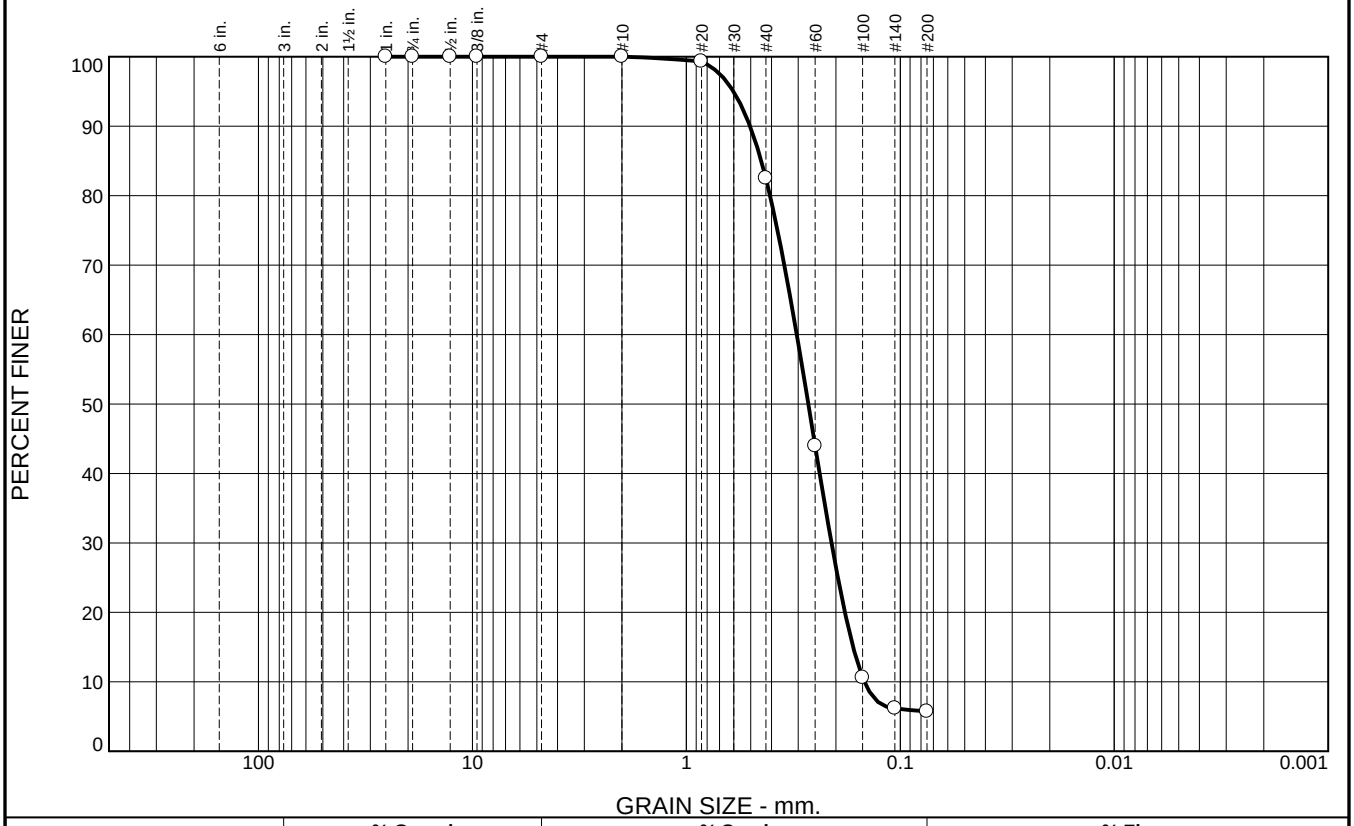
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	17.5	76.8	5.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.3		
#40	82.5		
#60	44.0		
#100	10.6		
#140	6.2		
#200	5.7		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5040 D_{85}= 0.4467 D_{60}= 0.3049
D_{50}= 0.2692 D_{30}= 0.2097 D_{15}= 0.1663
D_{10}= 0.1472 C_u= 2.07 C_c= 0.98

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-41-12 B
Sample Number: 6482 (50) **Depth:** 5.6' **Date:** 12/12/12

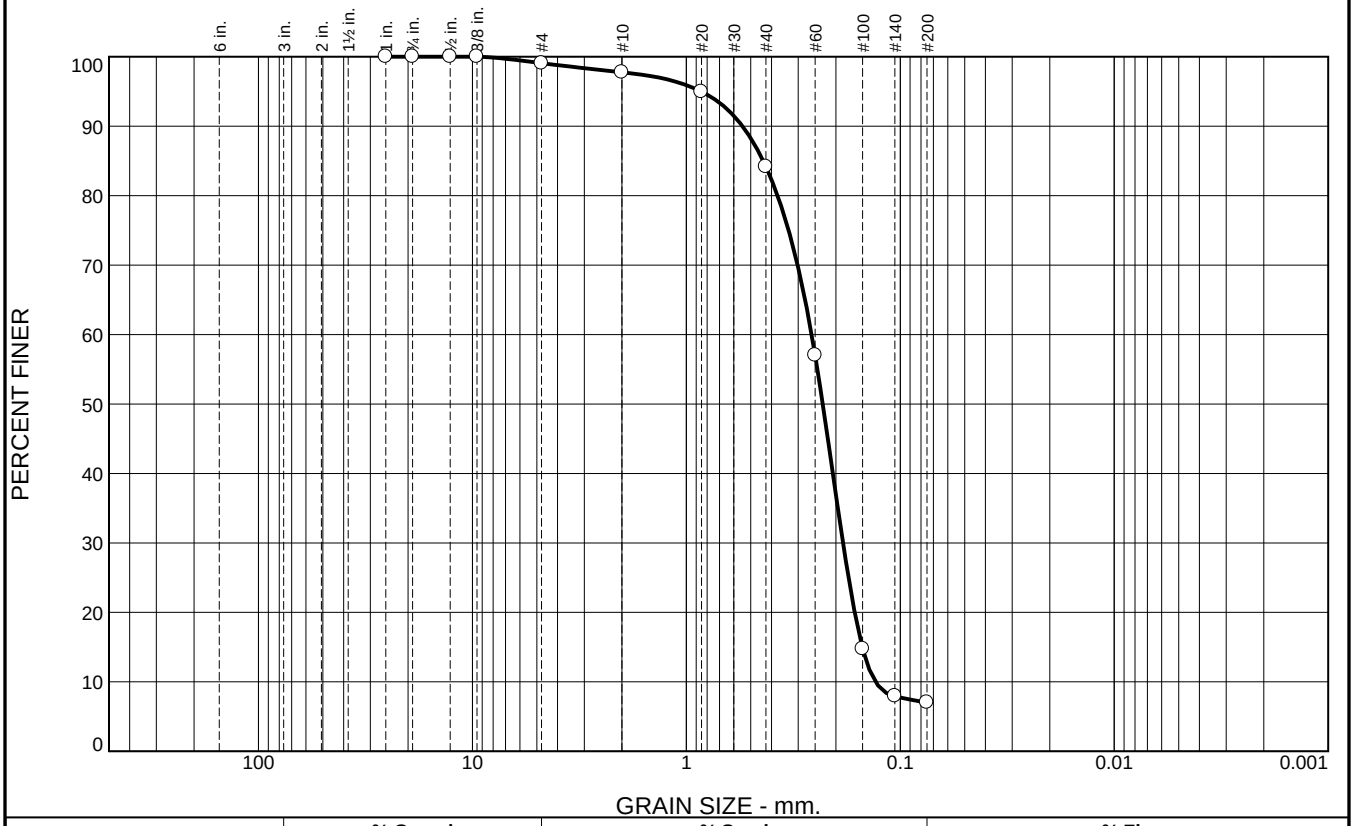
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.9	1.3	13.6	77.2	7.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.1		
#10	97.8		
#20	95.0		
#40	84.2		
#60	57.0		
#100	14.8		
#140	7.9		
#200	7.0		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5465 D_{85}= 0.4375 D_{60}= 0.2597
D_{50}= 0.2304 D_{30}= 0.1853 D_{15}= 0.1507
D_{10}= 0.1308 C_u= 1.99 C_c= 1.01

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-41-12 C
Sample Number: 6482 (51) **Depth:** 7.6' **Date:** 12/12/12

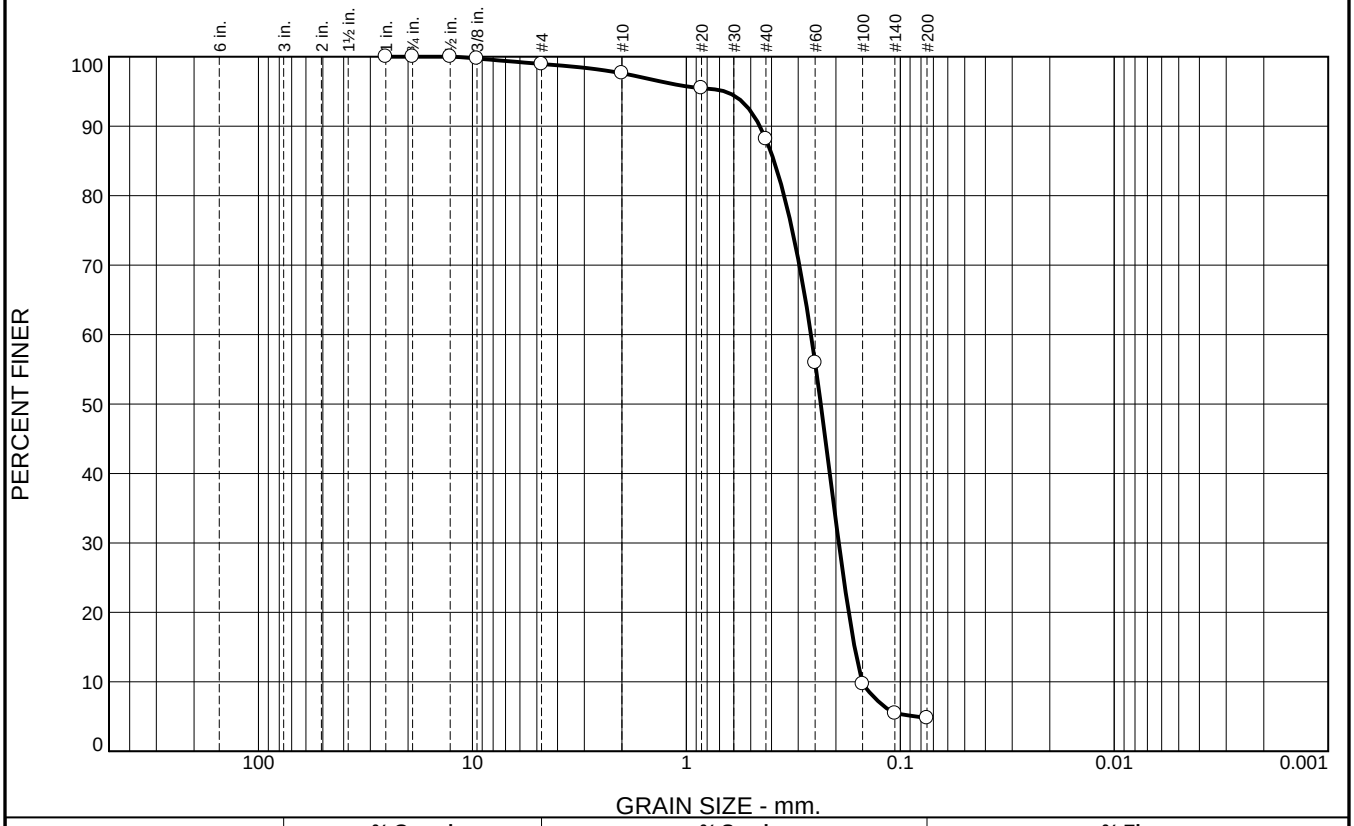
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.0	1.4	9.4	83.4	4.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.7		
#4	99.0		
#10	97.6		
#20	95.5		
#40	88.2		
#60	55.9		
#100	9.7		
#140	5.5		
#200	4.8		

* (no specification provided)

Material Description

Fine grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4534 D_{85}= 0.3892 D_{60}= 0.2614
D_{50}= 0.2353 D_{30}= 0.1939 D_{15}= 0.1637
D_{10}= 0.1509 C_u= 1.73 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-41-12 D
Sample Number: 6482 (52) **Depth:** 10.2' **Date:** 12/12/12

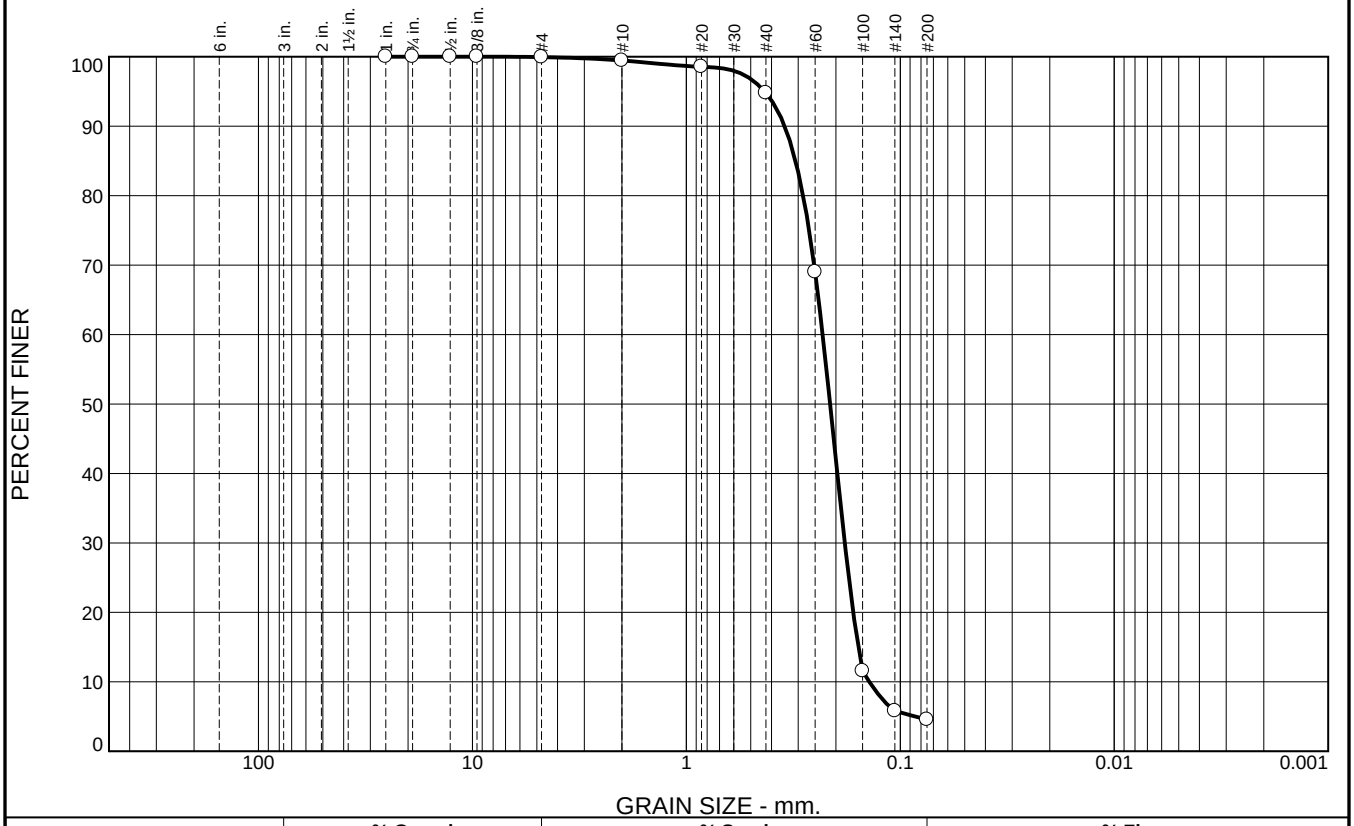
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.5	4.6	90.2	4.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.4		
#20	98.5		
#40	94.8		
#60	69.0		
#100	11.6		
#140	5.8		
#200	4.6		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3470 D_{85}= 0.3089 D_{60}= 0.2306
D_{50}= 0.2128 D_{30}= 0.1818 D_{15}= 0.1573
D_{10}= 0.1396 C_u= 1.65 C_c= 1.03

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-41-12 E
Sample Number: 6482 (53) **Depth:** 11.3' **Date:** 12/12/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-42-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-42-12	LOCATION COORDINATES: E = 1,132,353 N = 227,253	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 61.7 Ft.	
		15. DATE BORING	STARTED: 12-09-12 / COMPLETED: 12-09-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -60.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-60.7	0.0				
-62.3	1.6		SAND, poorly-graded with clay, mostly fine to medium-grained sand-sized quartz, few clay, gray mottled with orangy brown (SP-SC)	A	Classification: SP-SM Color: 5Y 6/4-pale olive D50: 0.2201 mm % Fines: 9.7
-62.6	1.9		CLAY, fat, mostly clay, medium to high plasticity, dark gray (CH)	NS	
-65.1	4.4		SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, trace clay, dark gray (ML)		
-68.7	8.0		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, gray (SP-SM)	B	Classification: SP-SM Color: 2.5Y 5/2-grayish brown D50: 0.2199 mm % Fines: 7.9
-69.1	8.4				
-70.2	9.5		CLAY, fat, mostly clay, medium to high plasticity, dark gray (CH)	NS	
-75.2	14.5		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, gray (SP-SM) SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, trace clay, trace shell fragments, gray to lt. gray (SP)	C	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.2062 mm % Fines: 6.1
-80.7	20.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)	NS	
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.12407° Long = -88.36487°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

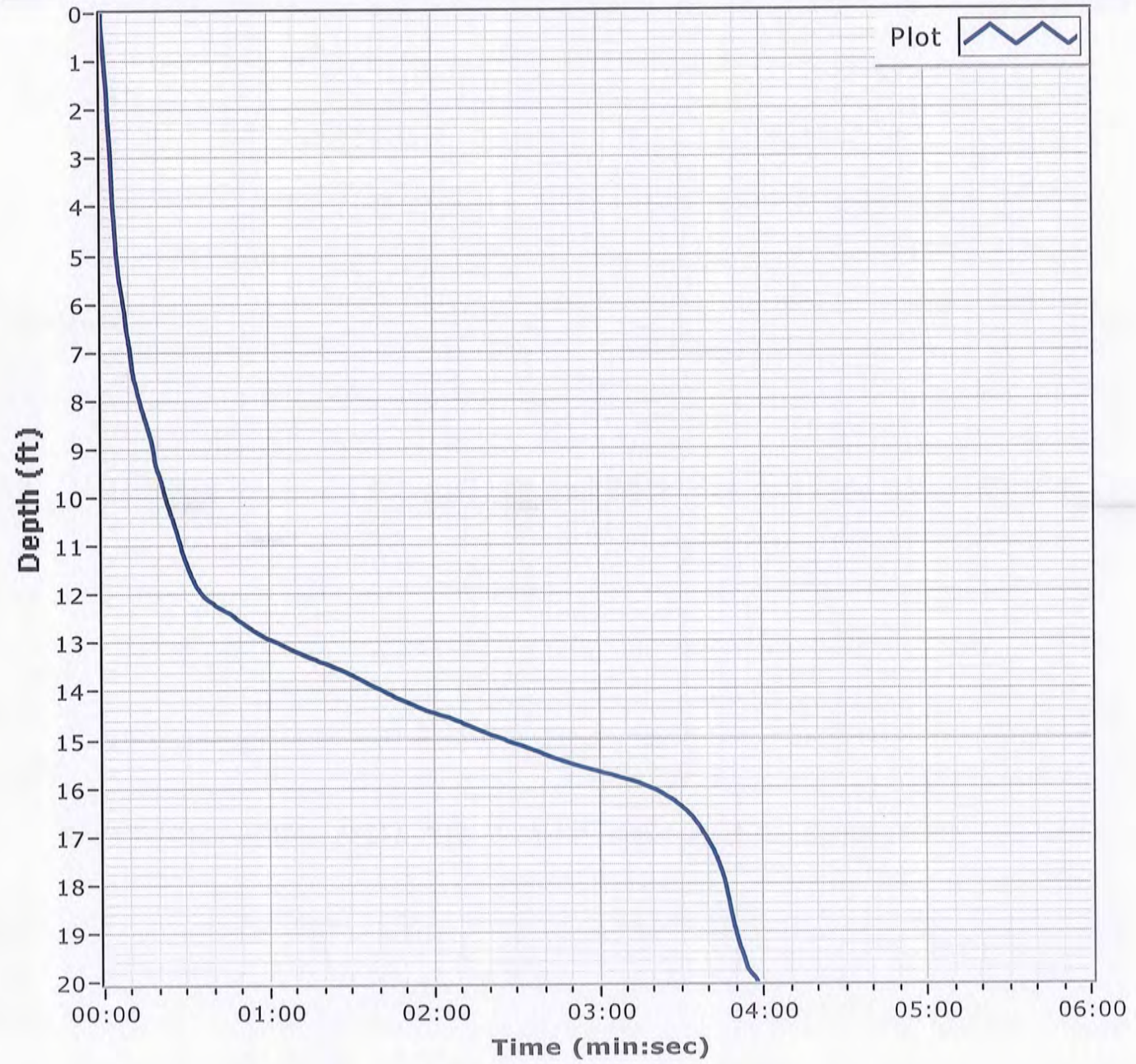
Core Identifier BI-PBS-42-12
Coordinate System Latitude / Longitude

Latitude 30 07.444
Longitude 088 21.892

Date 12/09/2012
Start Time 13:50:56
End Time 13:54:54
Total Time 00:03:57

Water Depth 61.7'
Penetration 20.0'
Recovery 20.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.1	0.0	16.9	72.3	9.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	98.9		
#10	98.9		
#20	96.6		
#40	82.0		
#60	59.7		
#100	20.5		
#140	10.2		
#200	9.7		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5833 D_{85}= 0.4746 D_{60}= 0.2513
D_{50}= 0.2201 D_{30}= 0.1726 D_{15}= 0.1328
D_{10}= 0.0925 C_u= 2.71 C_c= 1.28

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-42-12 A
Sample Number: 6482 (54) **Depth:** 0.0' **Date:** 12/12/12

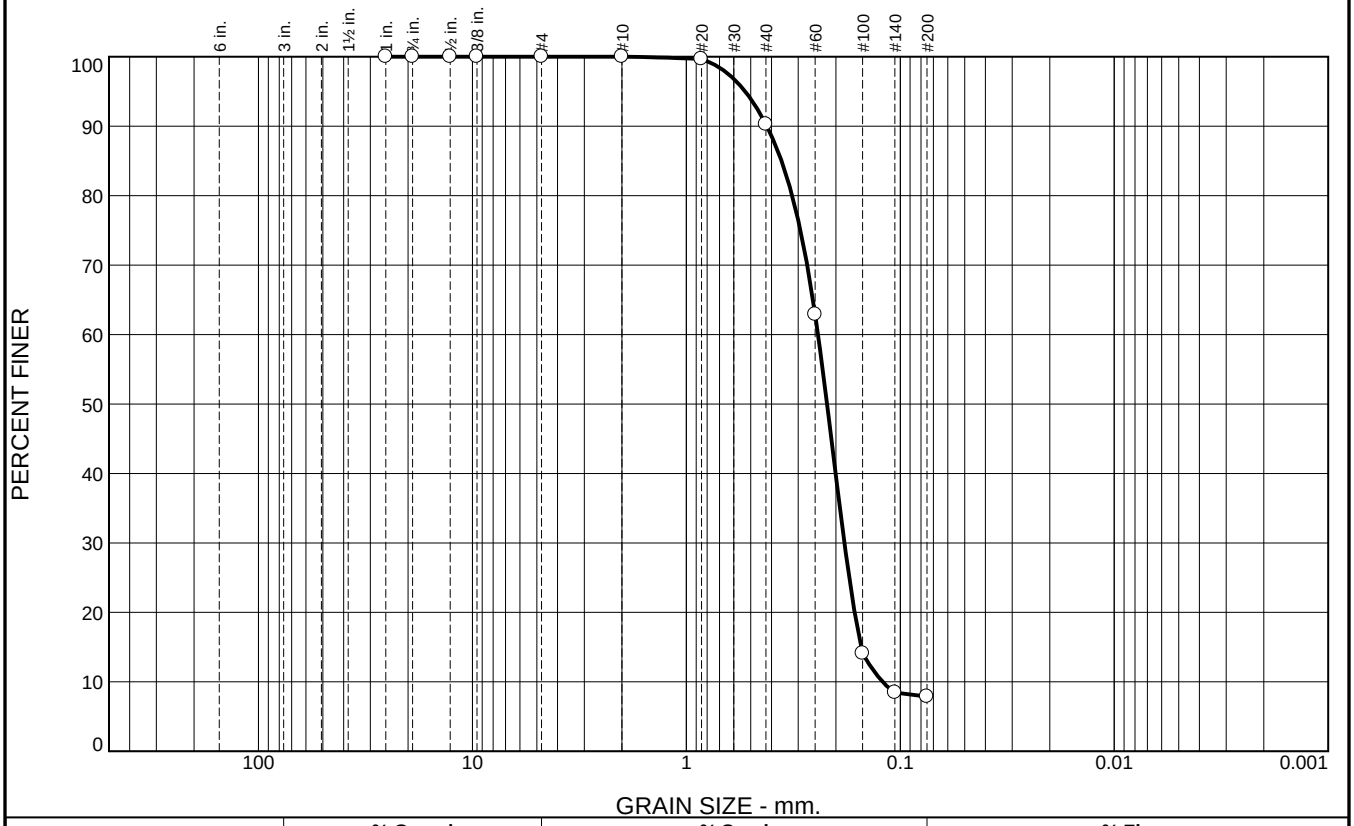
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	9.7	82.4	7.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.7		
#40	90.3		
#60	62.9		
#100	14.1		
#140	8.5		
#200	7.9		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4207 D_{85}= 0.3589 D_{60}= 0.2424
D_{50}= 0.2199 D_{30}= 0.1825 D_{15}= 0.1524
D_{10}= 0.1209 C_u= 2.00 C_c= 1.14

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-42-12 B
Sample Number: 6482 (55) **Depth:** 4.4' **Date:** 12/12/12

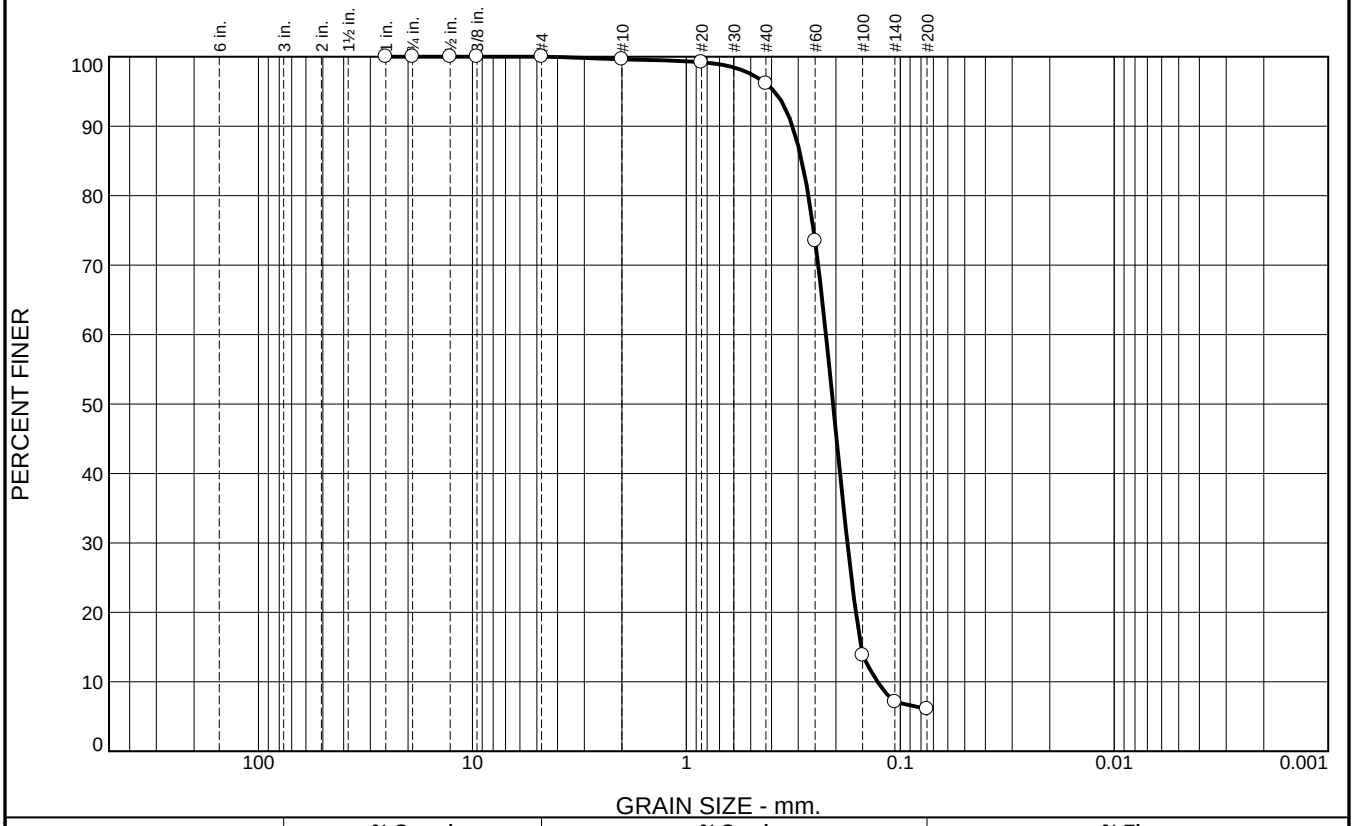
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	3.5	90.0	6.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.6		
#20	99.2		
#40	96.1		
#60	73.5		
#100	13.8		
#140	7.1		
#200	6.1		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3191 D_{85}= 0.2887 D_{60}= 0.2225
D_{50}= 0.2062 D_{30}= 0.1769 D_{15}= 0.1525
D_{10}= 0.1277 C_u= 1.74 C_c= 1.10

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-42-12 C
Sample Number: 6482 (56) **Depth:** 9.5' **Date:** 12/12/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-43-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-43-12	LOCATION COORDINATES: E = 1,129,431 N = 228,209	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 59.3 Ft.
		15. DATE BORING	STARTED: 12-09-12 / COMPLETED: 12-09-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -58.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 9.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-58.4	0.0				
-59.9	1.5		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.318 mm % Fines: 1.4
-65.2	6.8		CLAY, fat, mostly clay, medium to high plasticity, little fine-grained, sand-sized quartz and shells between 1.5 to 2.4 ft., gray, greenish gray, and orangy brown mottle (CH)	NS	
-68.2	9.8		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few fines, dense, gray (SP-SM)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.12673° Long = -88.37410°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

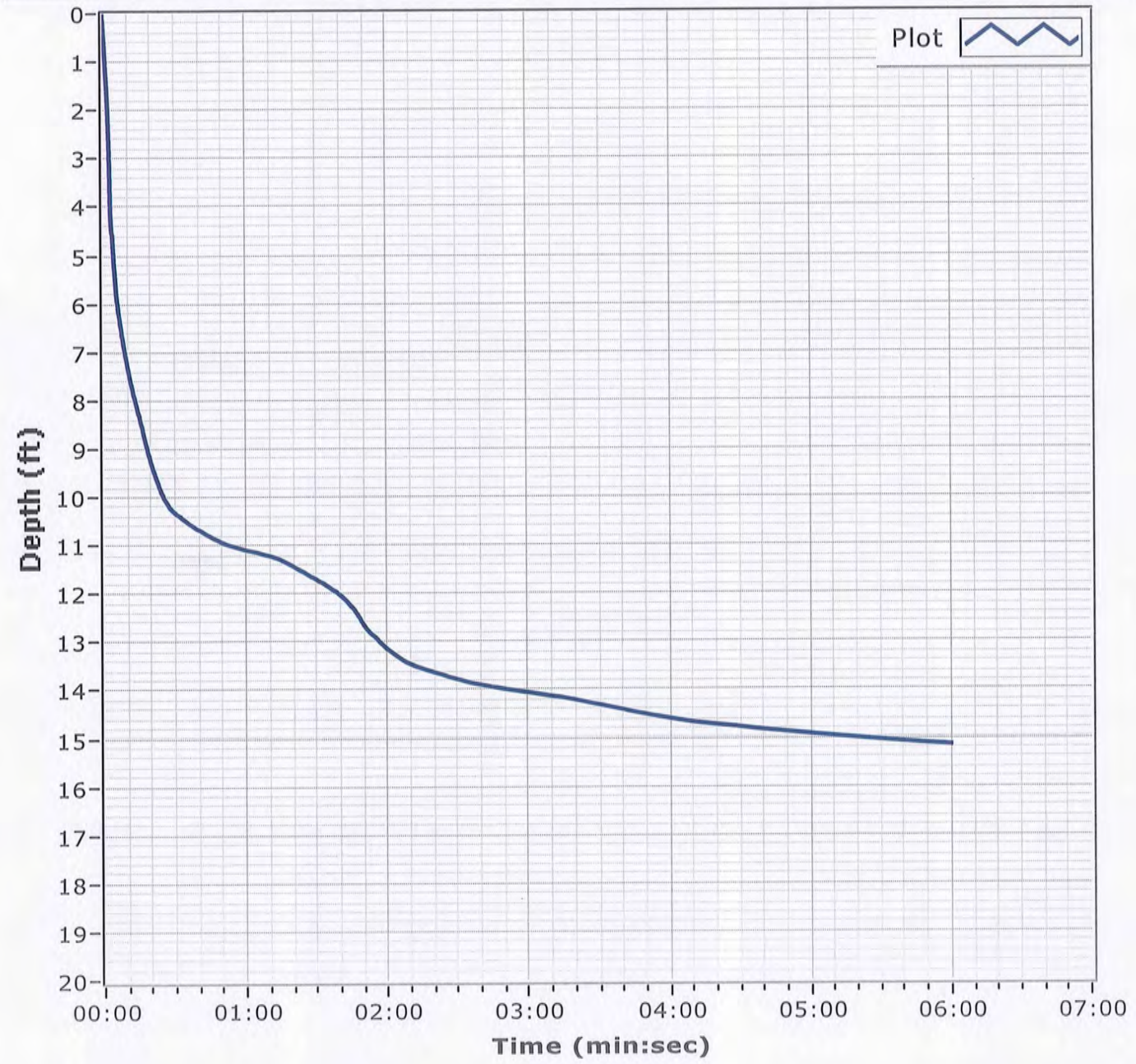
Core Identifier BI-PBS-43-12
Coordinate System Latitude / Longitude

Latitude 30 07.604
Longitude 088 22.446

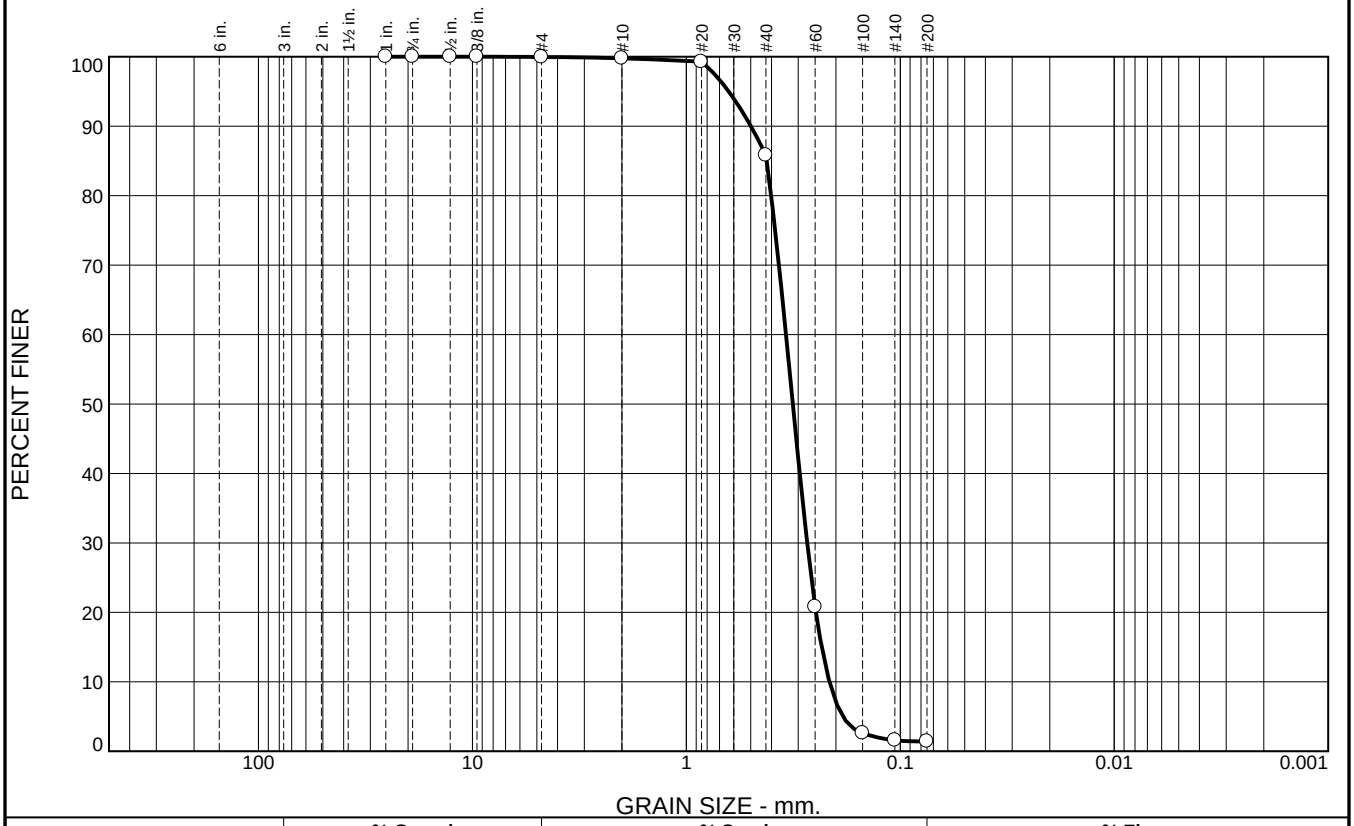
Date 12/09/2012
Start Time 13:15:18
End Time 13:21:19
Total Time 00:06:00

Water Depth 59.3'
Penetration 15.2'
Recovery 9.8'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.1	14.0	84.4	1.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.8		
#20	99.3		
#40	85.8		
#60	20.8		
#100	2.6		
#140	1.6		
#200	1.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4996 D_{85}= 0.4213 D_{60}= 0.3421
D_{50}= 0.3180 D_{30}= 0.2726 D_{15}= 0.2330
D_{10}= 0.2144 C_u= 1.60 C_c= 1.01

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-43-12 A
Sample Number: 6482 (57) **Depth:** 0.0' **Date:** 12/12/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-44-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-44-12	LOCATION COORDINATES: E = 1,131,736 N = 226,760	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 60.1 Ft.	
		15. DATE BORING	STARTED: 12-09-12 / COMPLETED: 12-09-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -59.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-59.3	0.0				
-60.5	1.2		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2779 mm % Fines: 2.5
-62.8	3.5		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, orangy brown, greenish gray, gray mottle (SC)		
-63.5	4.2				
-65.6	6.3		CLAY, fat, mostly clay, some fine-grained sand-sized quartz, medium to high plasticity, dark gray (CH)		
-67.0	7.7		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray (SM)		
-69.2	9.9		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, alternating bands of clay and clayey sand, gray (CL)		
-74.2	14.9		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, gray (SP-SM) SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, gray (SP)	NS	
-78.0	18.7		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, silt content increases with depth, gray (SP-SM)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.12272° Long = -88.36683°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

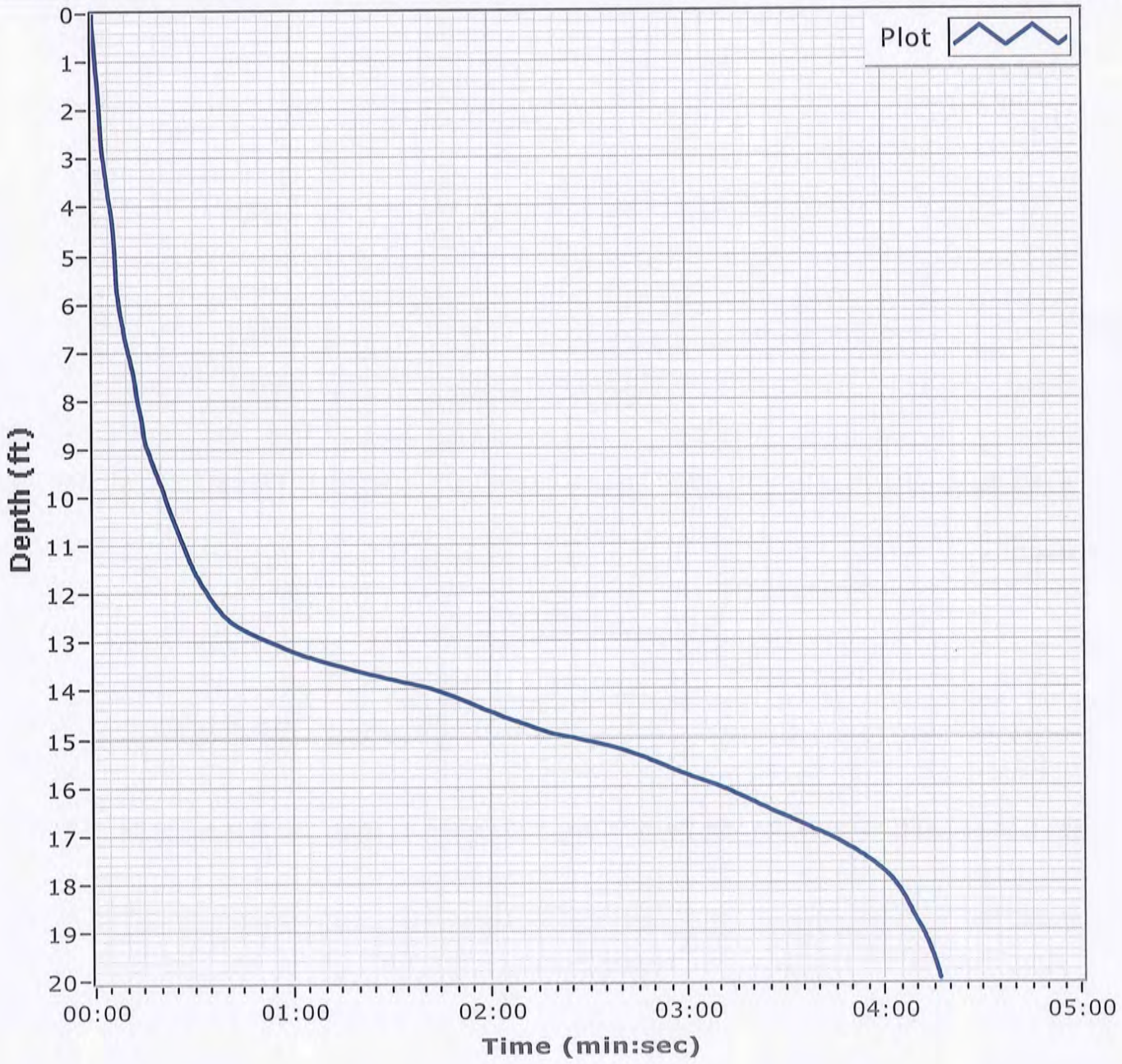
Core Identifier BI-PBS-44-12
Coordinate System
Latitude / Longitude

Latitude 30 07.363
Longitude 088 22.010

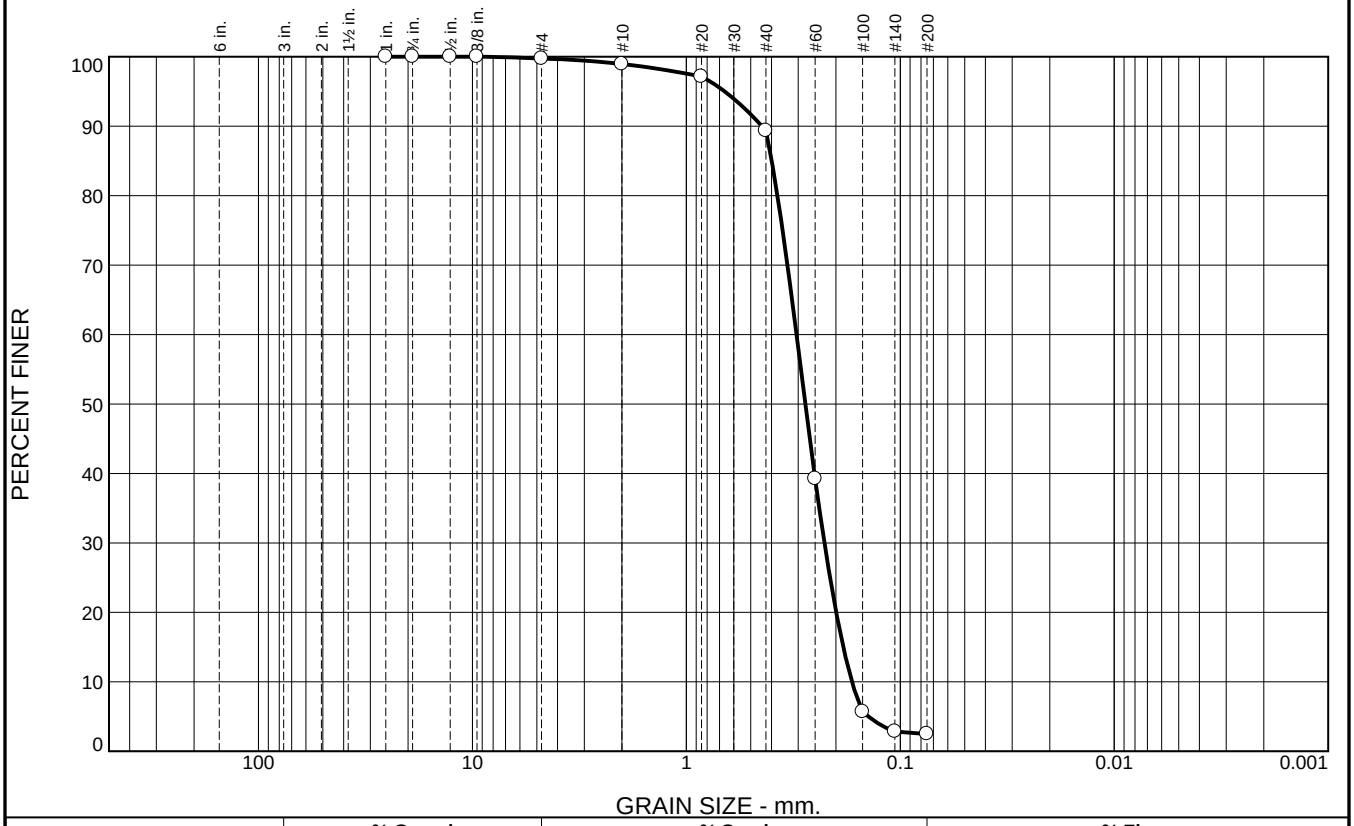
Date 12/09/2012
Start Time 12:08:39
End Time 12:12:57
Total Time 00:04:17

Water Depth 60.1'
Penetration 20.0'
Recovery 18.7'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.8	9.5	86.9	2.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.9		
#20	97.1		
#40	89.4		
#60	39.2		
#100	5.7		
#140	2.9		
#200	2.5		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4435 D_{85}= 0.3988 D_{60}= 0.3056
D_{50}= 0.2779 D_{30}= 0.2262 D_{15}= 0.1848
D_{10}= 0.1684 C_u= 1.81 C_c= 0.99

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-44-12 A
Sample Number: 6482 (58) **Depth:** 0.0' **Date:** 12/12/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-45-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-45-12	LOCATION COORDINATES: E = 1,135,509 N = 224,211	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 60.5 Ft.	
		15. DATE BORING	STARTED: 12-01-12 / COMPLETED: 12-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -60.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-60.3	0.0				
			SAND, poorly-graded, mostly medium-grained sand-sized quartz, little shell fragments, trace silt, lt. gray (SP)	A	Classification: SP Color: 2.5Y 7/1-light gray D50: 0.4972 mm % Fines: 1.4
-63.1	2.8				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, trace shell fragments, gray (SP)	B	Classification: SP Color: 2.5Y 6/2-light brownish gray D50: 0.2152 mm % Fines: 3.4
-65.3	5.0				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, some organic matter, organic staining, brown (SM)		
-68.9	8.6				
-69.4	9.1				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, dense, gray (SP)	NS	
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, 2-3 inch bands of lean clay and clayey sand, gray (SC) At El. -70.3 Ft., mostly fine-grained sand-sized quartz, some clay, some shells throughout, shelly layer between 13.1 and 13.5 ft., gray		
-74.3	14.0				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, shell layer at 16.0 ft., gray (SP)	C	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.2463 mm % Fines: 4.9
				NS	
-77.5	17.2				

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.11567° Long = -88.35493°

Project Mississippi Barrier Island Restoration Project

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S E R V I C E S

Core Identifier BI-PBS-45-12

Coordinate System
Latitude / Longitude

Latitude 30 06.940

Longitude 088 21.296

Date 12/01/2012

Start Time 10:25:47

End Time 10:29:18

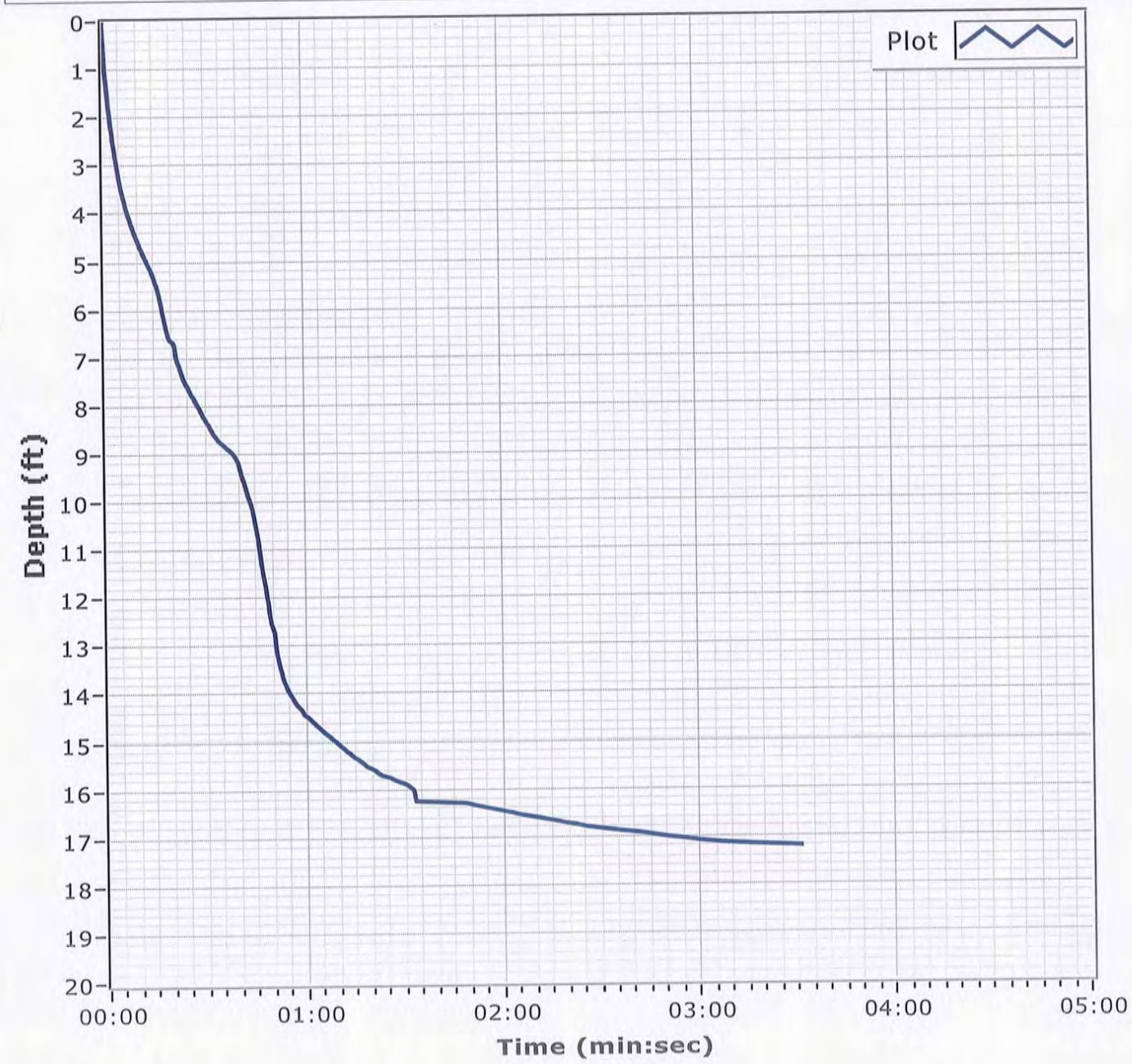
Total Time 00:03:31

Water Depth 60.5'

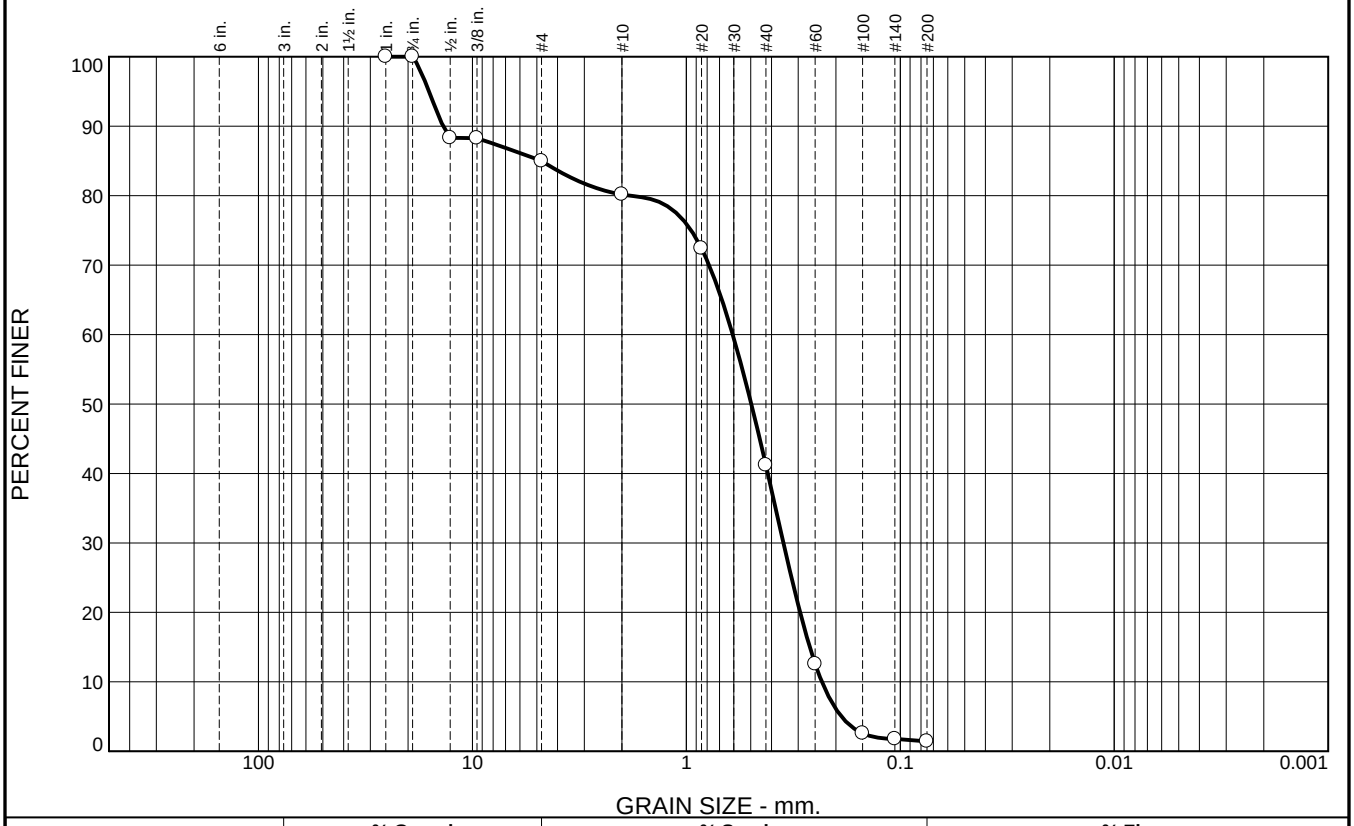
Penetration 17.2'

Recovery 17.2'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	15.0	4.8	39.0	39.8	1.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	88.3		
.375	88.3		
#4	85.0		
#10	80.2		
#20	72.4		
#40	41.2		
#60	12.6		
#100	2.6		
#140	1.8		
#200	1.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with some SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 13.7089 D_{85}= 4.7741 D_{60}= 0.6072
D_{50}= 0.4972 D_{30}= 0.3518 D_{15}= 0.2651
D_{10}= 0.2325 C_u= 2.61 C_c= 0.88

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-45-12 A
Sample Number: 6471 (10) **Depth:** 0.0' **Date:** 12/03/12

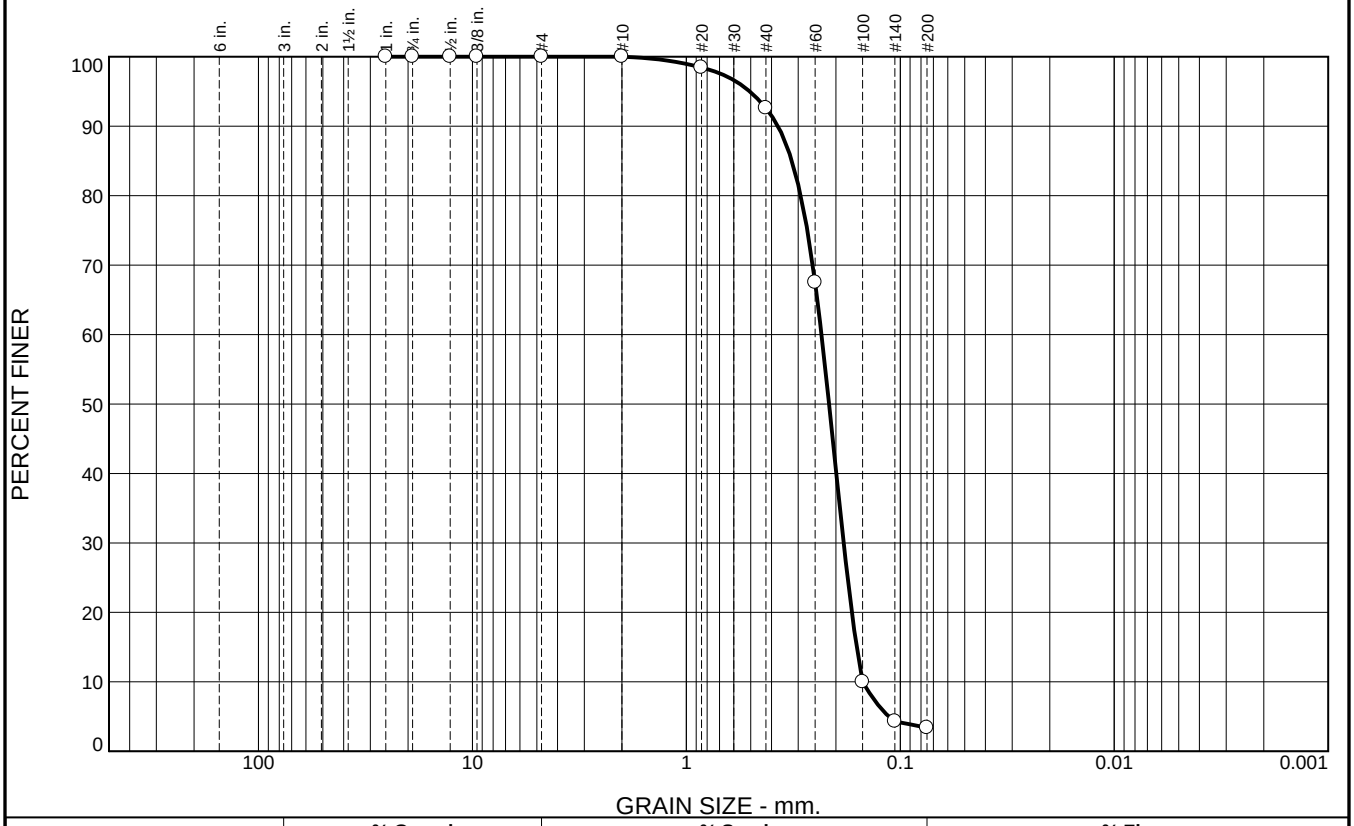
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	7.4	89.2	3.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	98.4		
#40	92.6		
#60	67.5		
#100	10.0		
#140	4.3		
#200	3.4		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3731 D_{85}= 0.3213 D_{60}= 0.2335
D_{50}= 0.2152 D_{30}= 0.1841 D_{15}= 0.1601
D_{10}= 0.1500 C_u= 1.56 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-45-12 B
Sample Number: 6471 (11) **Depth:** 2.8' **Date:** 12/03/12

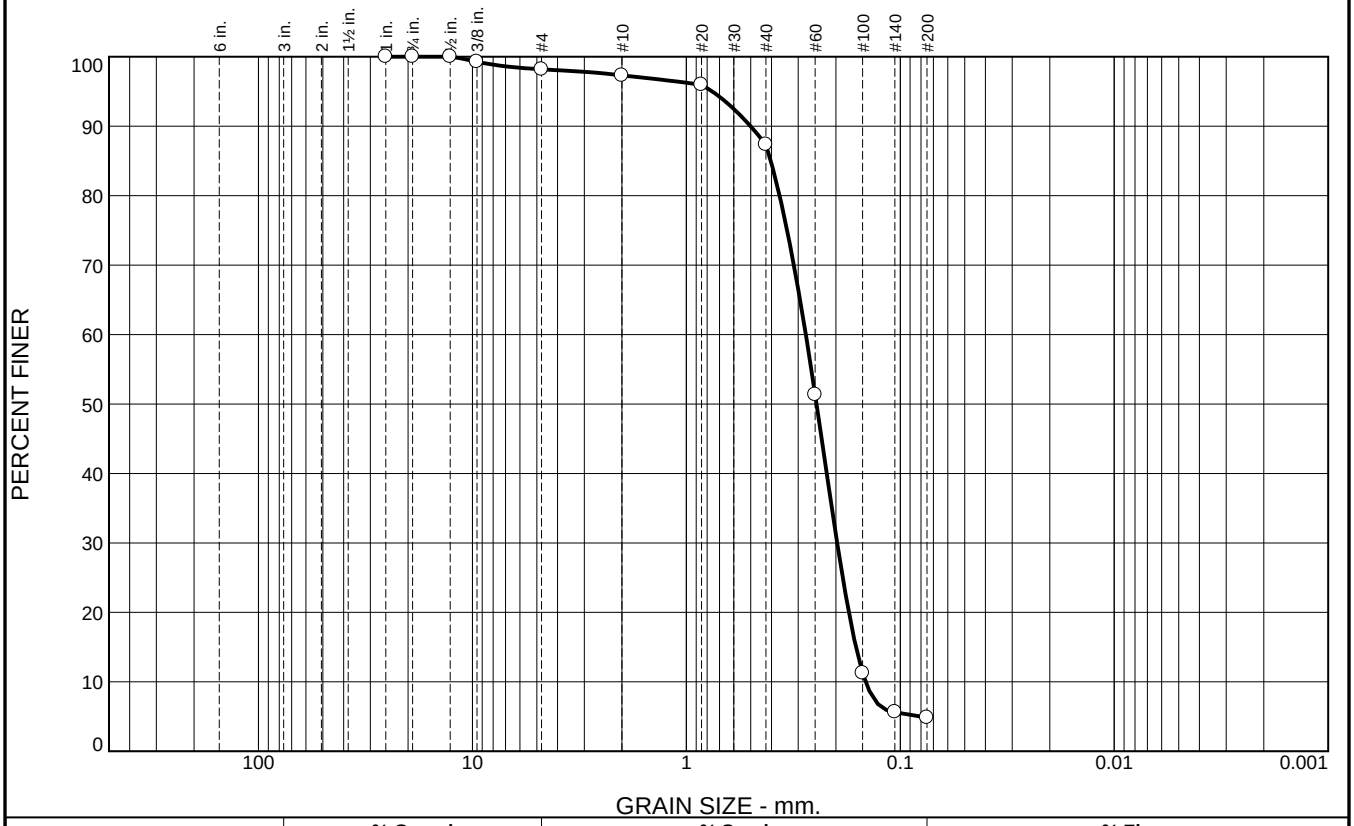
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.8	0.9	10.0	82.4	4.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.3		
#4	98.2		
#10	97.3		
#20	96.0		
#40	87.3		
#60	51.3		
#100	11.3		
#140	5.6		
#200	4.9		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5012 D_{85}= 0.4030 D_{60}= 0.2766
D_{50}= 0.2463 D_{30}= 0.1973 D_{15}= 0.1613
D_{10}= 0.1453 C_u= 1.90 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-45-12 C
Sample Number: 6471 (12) **Depth:** 14.0' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-46-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-46-12	LOCATION COORDINATES: E = 1,134,958 N = 223,463	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 60.9 Ft.	
		15. DATE BORING	STARTED: 12-01-12 / COMPLETED: 12-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -60.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-60.6	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, gray (SP)	A	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.261 mm % Fines: 2.3
-65.1	4.5				
-66.1	5.5		CLAY, lean, mostly clay, little fine-grained sand-sized quartz, medium plasticity, gray mottled with orange (CL)	NS	
-67.0	6.4				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray mottled with orange (SC)	B	Classification: SP-SM Color: 2.5Y 7/2-light gray D50: 0.2571 mm % Fines: 7.8
-69.3	8.7				
-70.6	10.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, lt. gray (SP)	C	Classification: SP-SM Color: 2.5Y 6/2-light brownish gray D50: 0.2363 mm % Fines: 6.4
-72.0	11.4		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace wood debris, gray (SP-SM)	D	Classification: SP-SM Color: 2.5Y 5/2-grayish brown D50: 0.2177 mm % Fines: 7
			SAND, silty, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, dark gray (SM)	E	Classification: SP-SM Color: 2.5Y 6/2-light brownish gray D50: 0.1909 mm % Fines: 6.3
-74.9	14.3				
-75.3	14.7		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, gray (SP-SM)	NS	
-75.9	15.3				
-77.3	16.7		SHELL, mostly shell fragments, trace clay, dark gray		
			CLAY, lean, mostly clay, little fine-grained sand-sized quartz, medium plasticity, dark gray (CL)	F	Classification: SP-SM Color: 2.5Y 7/2-light gray D50: 0.2466 mm % Fines: 6.7
-80.6	20.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little shell fragments, dark gray (SC)		
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace shell fragments, gray (SP-SM)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.11362° Long = -88.35668°

Boring Designation BI-PBS-46-12

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Mobile District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
Barrier Island Restoration	State Plane, MSE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 1,134,958 Y = 223,463	-60.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
			2. NS = Sample not submitted for laboratory analysis from this interval.		

30
35
40
45
50
55
60

Lat = 30.11362° Long = -88.35668°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

Core Identifier BI-PBS-46-12

Coordinate System
Latitude / Longitude

Latitude 30 06.817

Longitude 088 21.401

Date 12/01/2012

Start Time 13:40:35

End Time 13:44:24

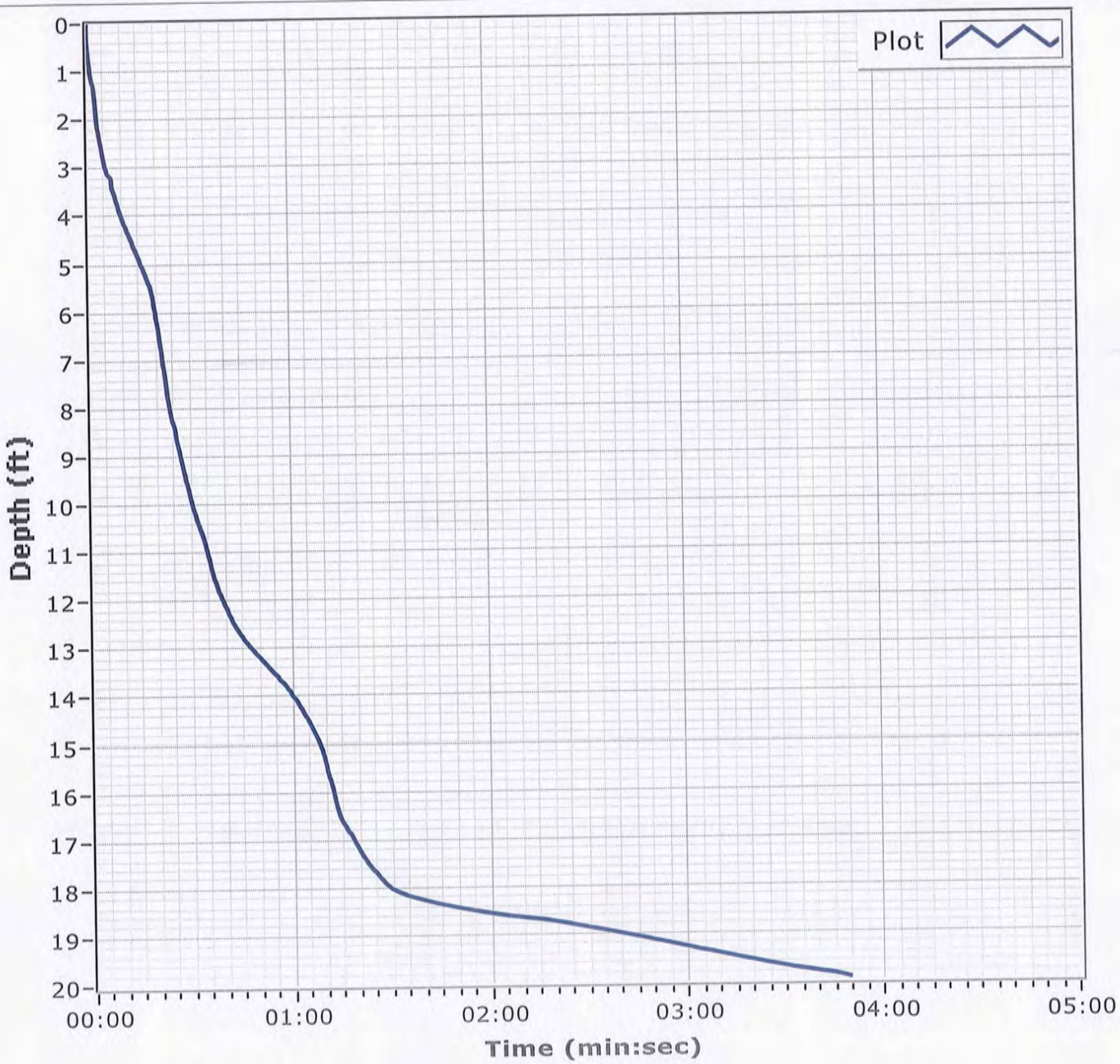
Total Time 00:03:49

Water Depth 60.9'

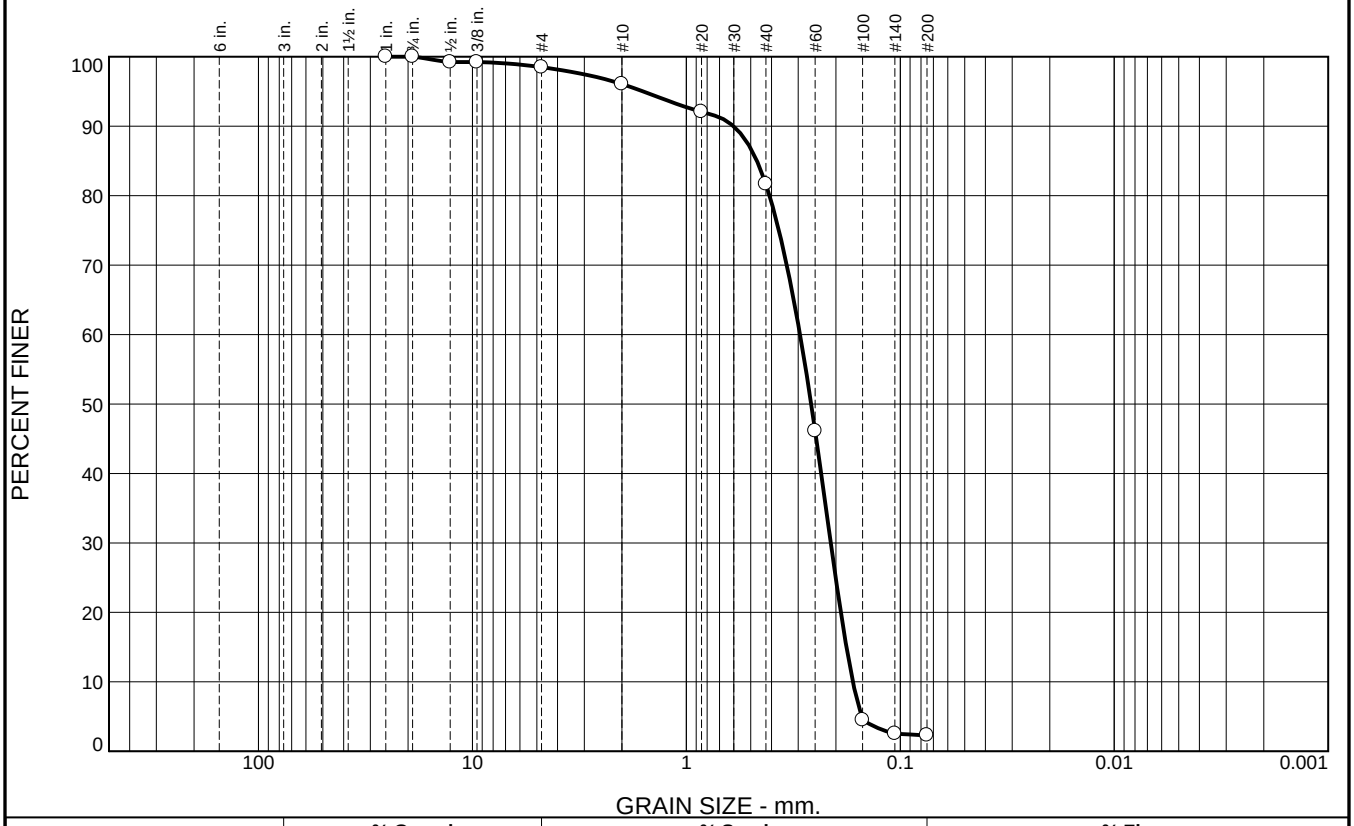
Penetration 20.0'

Recovery 20.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.5	2.4	14.4	79.4	2.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.2		
.375	99.2		
#4	98.5		
#10	96.1		
#20	92.1		
#40	81.7		
#60	46.1		
#100	4.5		
#140	2.5		
#200	2.3		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6016 D_{85}= 0.4680 D_{60}= 0.2944
D_{50}= 0.2610 D_{30}= 0.2114 D_{15}= 0.1787
D_{10}= 0.1667 C_u= 1.77 C_c= 0.91

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-46-12 A
Sample Number: 6471 (13) **Depth:** 0.0' **Date:** 12/03/12

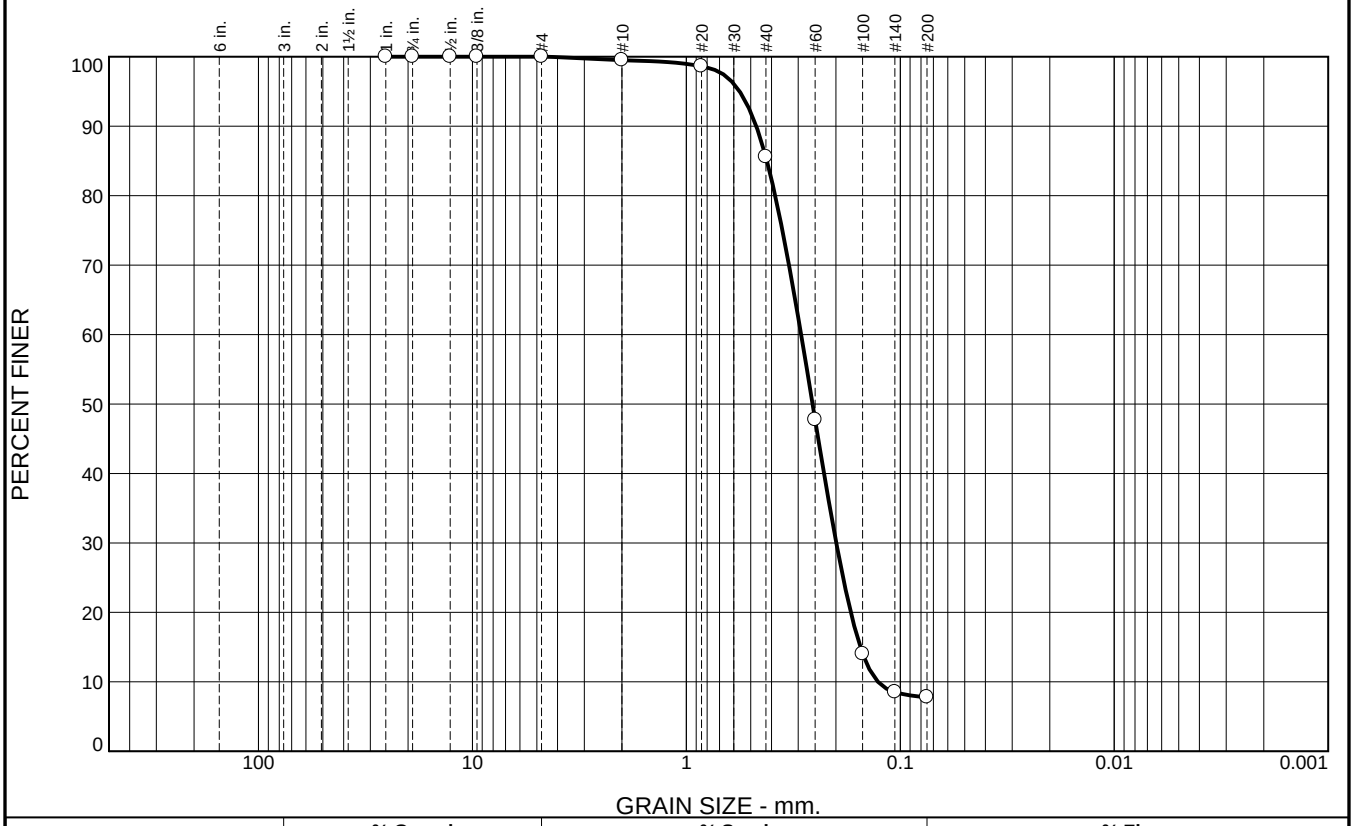
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.5	13.9	77.8	7.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.5		
#20	98.6		
#40	85.6		
#60	47.7		
#100	14.0		
#140	8.5		
#200	7.8		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4713 D_{85}= 0.4202 D_{60}= 0.2909
D_{50}= 0.2571 D_{30}= 0.1992 D_{15}= 0.1538
D_{10}= 0.1272 C_u= 2.29 C_c= 1.07

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-46-12 B
Sample Number: 6471 (14) **Depth:** 6.4' **Date:** 12/03/12

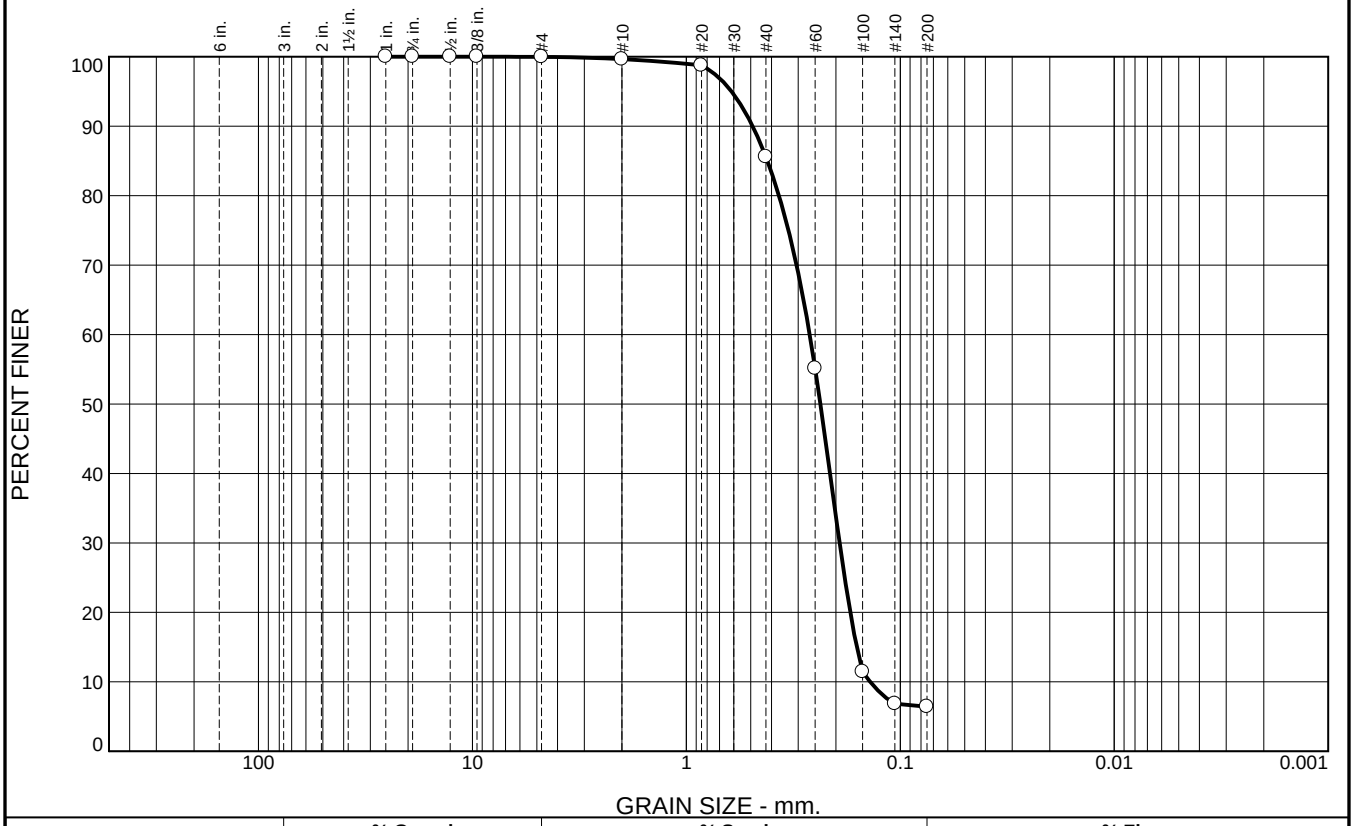
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	14.0	79.2	6.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.6		
#20	98.8		
#40	85.6		
#60	55.1		
#100	11.4		
#140	6.9		
#200	6.4		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4901 D_{85}= 0.4182 D_{60}= 0.2651
D_{50}= 0.2363 D_{30}= 0.1922 D_{15}= 0.1599
D_{10}= 0.1383 C_u= 1.92 C_c= 1.01

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-46-12 C
Sample Number: 6471 (15) **Depth:** 8.7' **Date:** 12/03/12

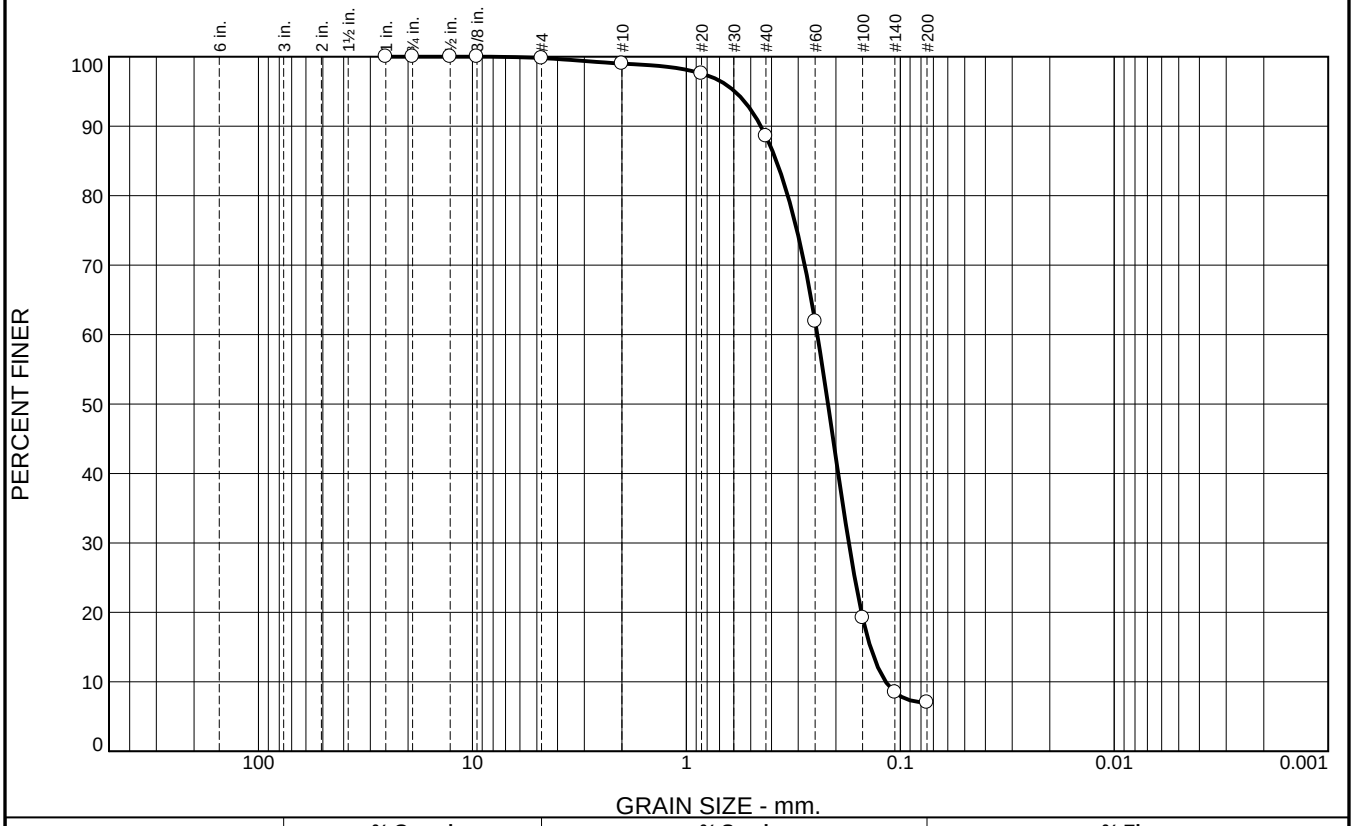
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.8	10.4	81.6	7.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.0		
#20	97.6		
#40	88.6		
#60	61.9		
#100	19.2		
#140	8.5		
#200	7.0		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4485 D_{85}= 0.3795 D_{60}= 0.2442
D_{50}= 0.2177 D_{30}= 0.1742 D_{15}= 0.1380
D_{10}= 0.1169 C_u= 2.09 C_c= 1.06

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-46-12 D
Sample Number: 6471 (16) **Depth:** 10.0' **Date:** 12/03/12

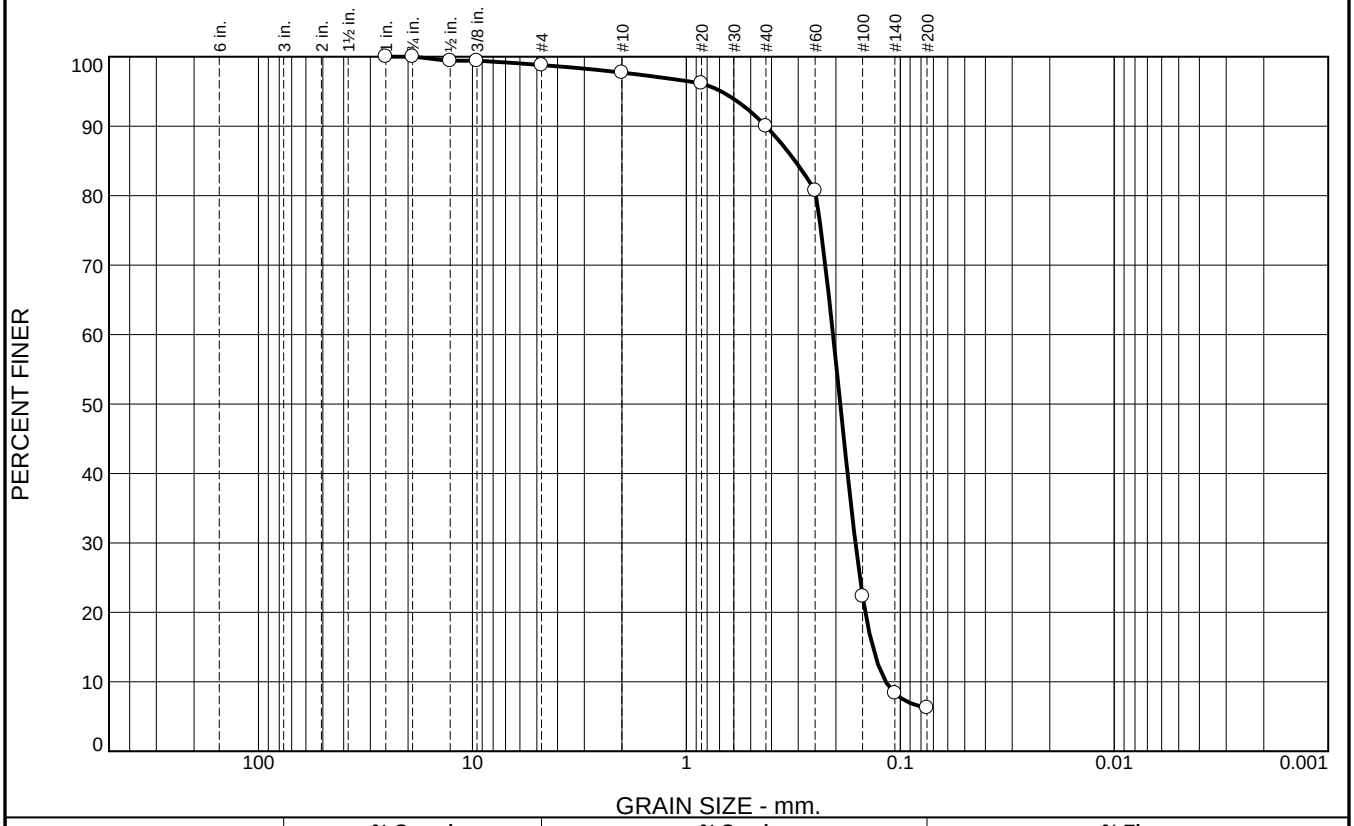
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.2	1.1	7.7	83.7	6.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.4		
.375	99.4		
#4	98.8		
#10	97.7		
#20	96.2		
#40	90.0		
#60	80.7		
#100	22.3		
#140	8.4		
#200	6.3		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4248 D_{85}= 0.3106 D_{60}= 0.2062
D_{50}= 0.1909 D_{30}= 0.1622 D_{15}= 0.1346
D_{10}= 0.1168 C_u= 1.77 C_c= 1.09

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-46-12 E
Sample Number: 6471 (17) **Depth:** 11.4' **Date:** 12/03/12

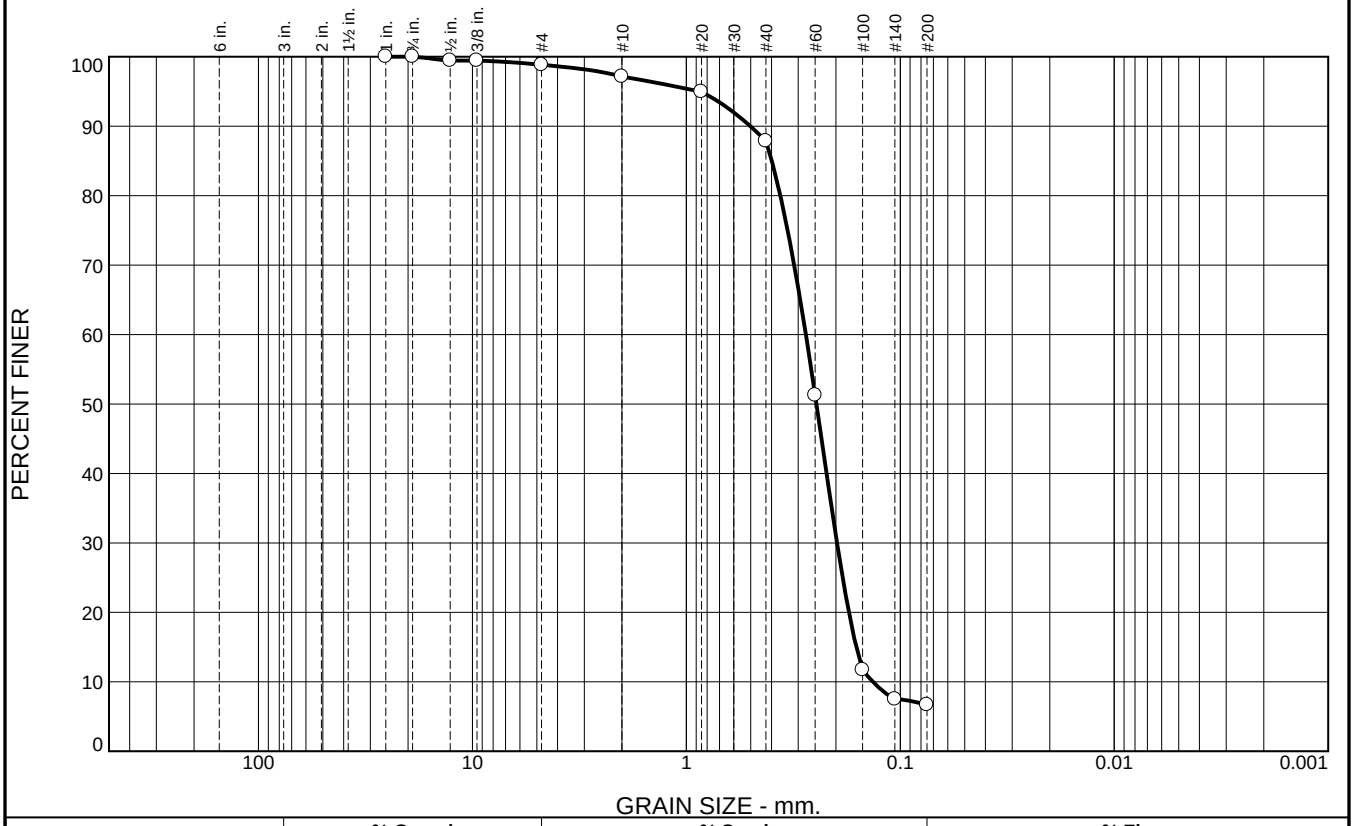
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.2	1.7	9.2	81.2	6.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.4		
.375	99.4		
#4	98.8		
#10	97.1		
#20	94.9		
#40	87.9		
#60	51.3		
#100	11.7		
#140	7.5		
#200	6.7		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5026 D_{85}= 0.3986 D_{60}= 0.2764
D_{50}= 0.2466 D_{30}= 0.1977 D_{15}= 0.1607
D_{10}= 0.1343 C_u= 2.06 C_c= 1.05

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-46-12 F
Sample Number: 6471 (18) **Depth:** 16.7' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-47-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-47-12	LOCATION COORDINATES: E = 1,133,067 N = 234,413	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 48.4 Ft.	
		15. DATE BORING	STARTED: 11-28-12 / COMPLETED: 11-28-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -48.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-48.1	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2838 mm % Fines: 1.7
-51.8	3.7				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace clay, trace shell fragments, gray (SP-SM)	B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2135 mm % Fines: 0.2
-53.7	5.6				
			SAND, poorly-graded with clay, mostly fine-grained sand-sized quartz, few clay, trace silt, trace shell fragments, gray (SP-SC)	NS	
-56.6	8.5				
			CLAY, fat, mostly clay, trace shell fragments, trace wood debris, trace fine grain sand lenses, soft to moderately hard, med. to high plasticity, gray mottled with brown and greenish gray (CH)		
-61.6	13.5				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, sandy lense at 15.0', gray (SC)		
-63.6	15.5				
			CLAY, fat, mostly clay, trace wood debris, trace shell fragments, medium to high plasticity, gray (CH)		
-65.0	16.9				

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

Lat = 30.14375° Long = -88.36252°

Project Mississippi Barrier Island Restoration Project

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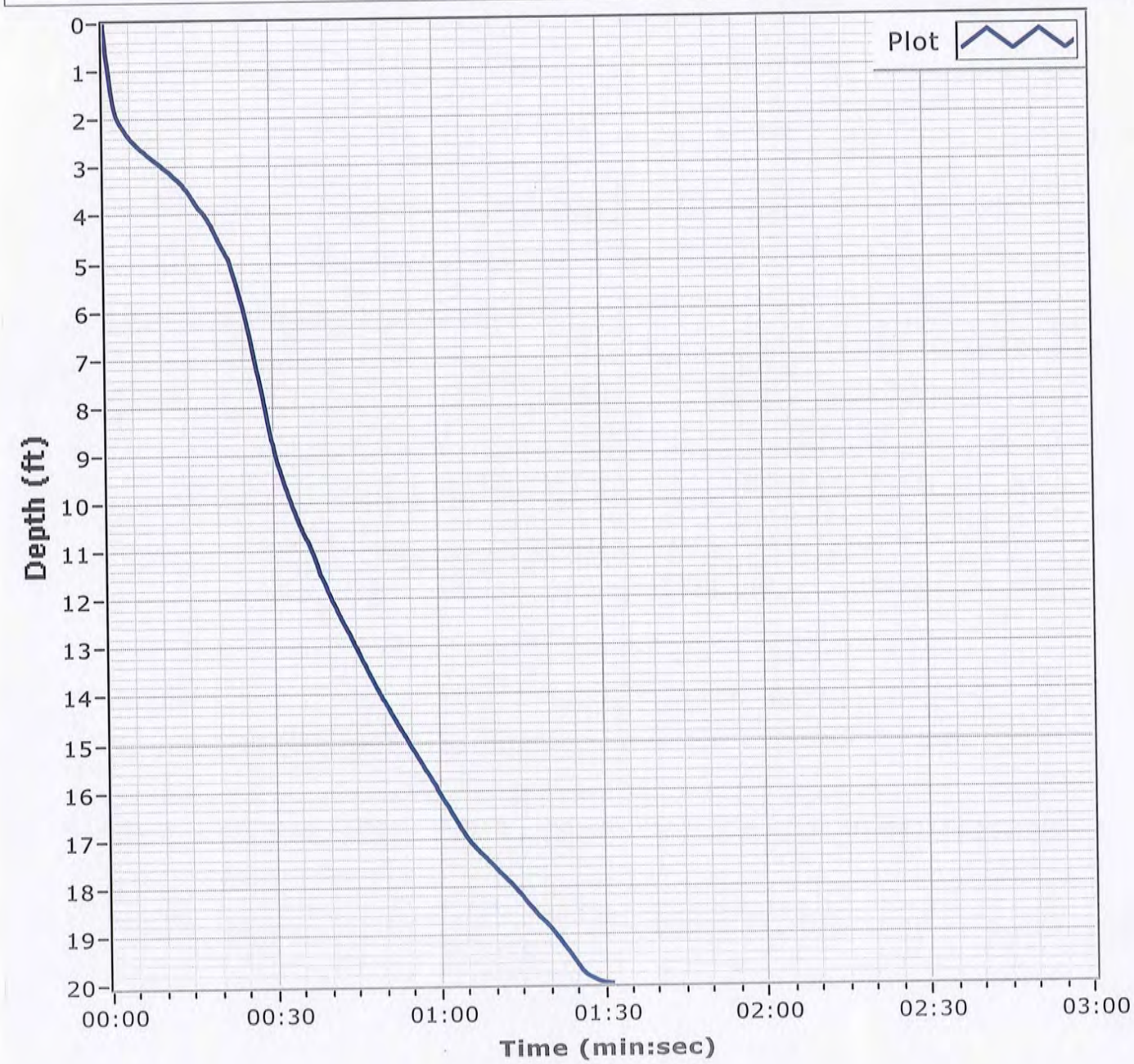
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Coordinate System Latitude / Longitude

Latitude 30 08.635
Longitude 088 21.751

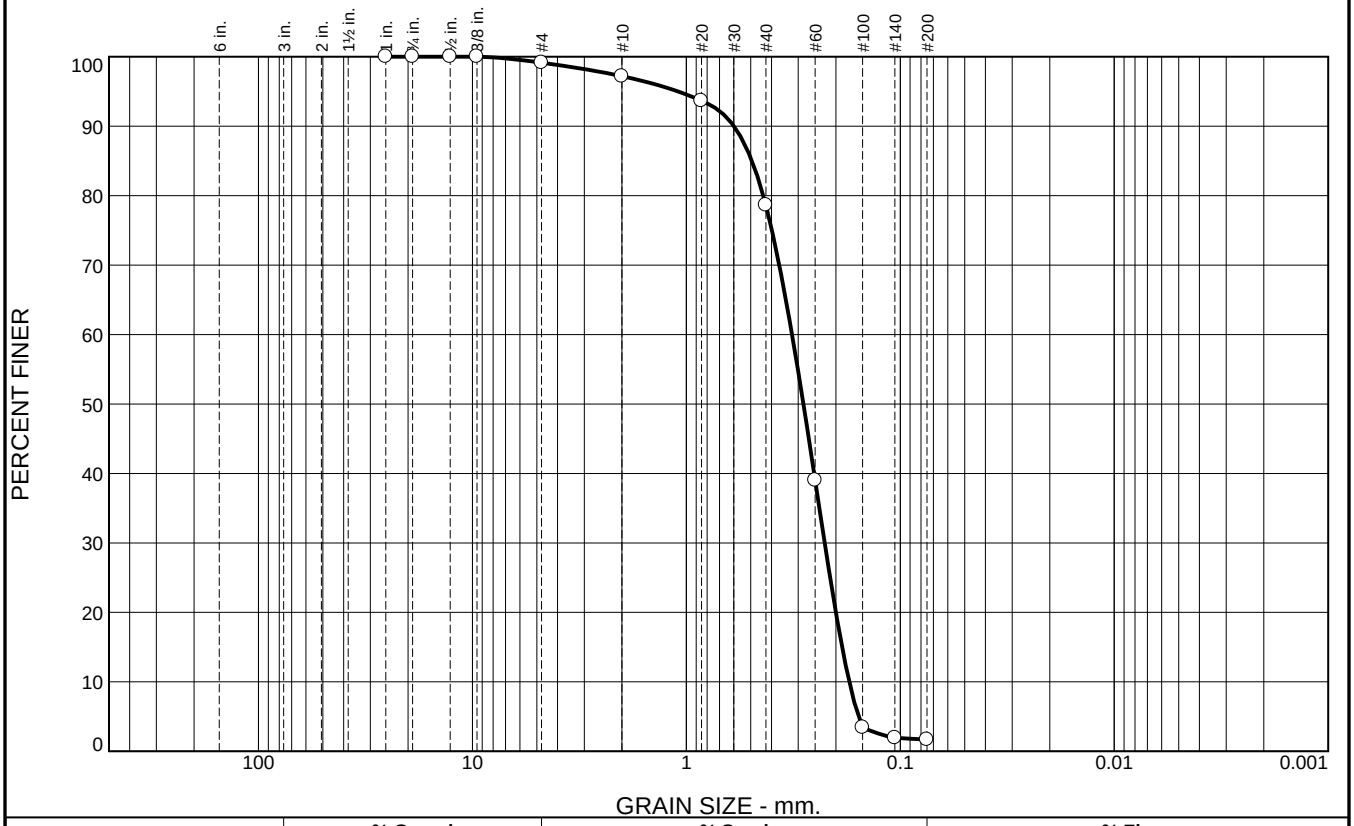
Date 11/28/2012
Start Time 14:21:09
End Time 14:22:41
Total Time 00:01:31

Water Depth 48.4'
Penetration 20.0'
Recovery 16.9'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.9	1.9	18.6	76.9	1.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.1		
#10	97.2		
#20	93.7		
#40	78.6		
#60	39.0		
#100	3.4		
#140	1.9		
#200	1.7		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5990 D_{85}= 0.4938 D_{60}= 0.3207
D_{50}= 0.2838 D_{30}= 0.2256 D_{15}= 0.1871
D_{10}= 0.1734 C_u= 1.85 C_c= 0.92

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-47-12 A
Sample Number: 6471 (19) **Depth:** 0.0' **Date:** 12/03/12

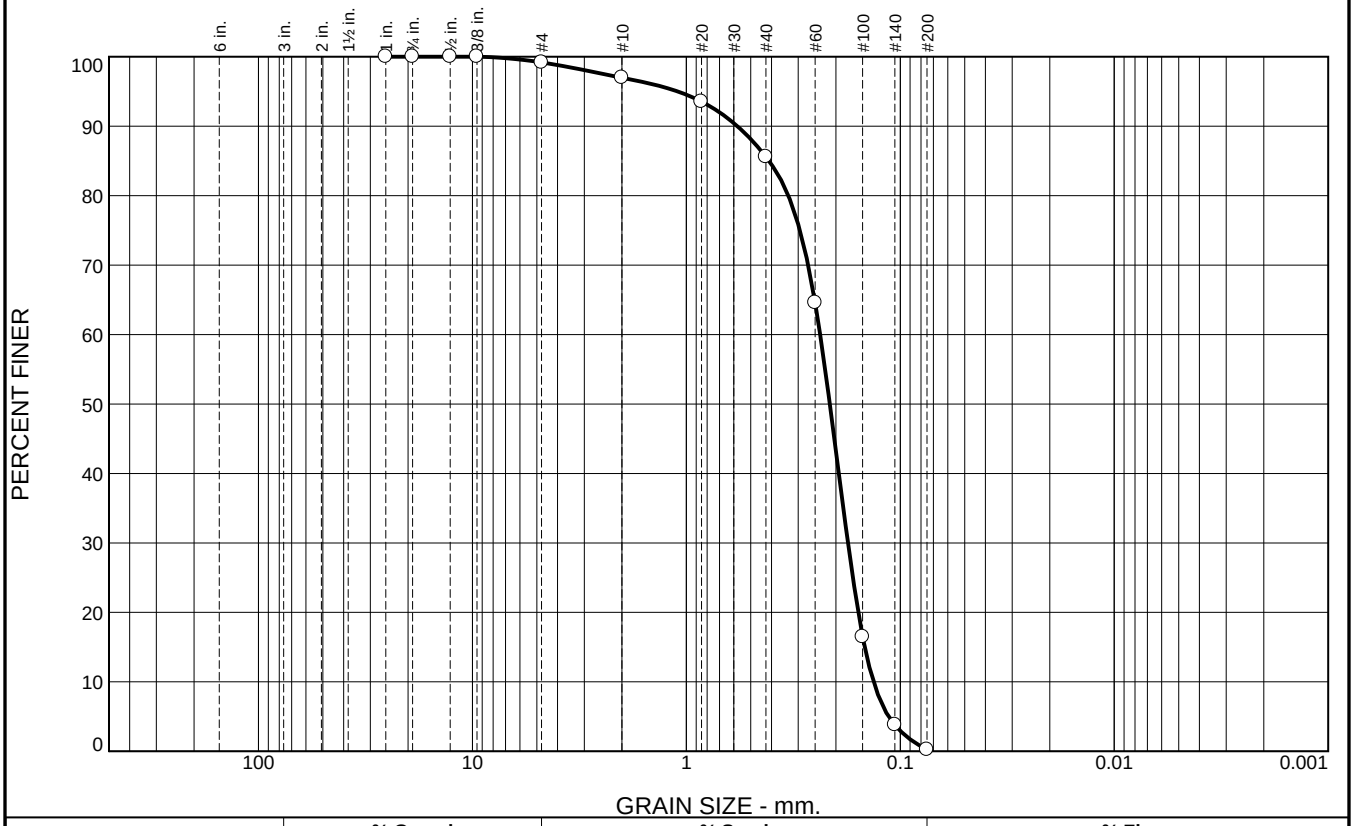
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	2.2	11.4	85.4	0.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.2		
#10	97.0		
#20	93.5		
#40	85.6		
#60	64.6		
#100	16.5		
#140	3.8		
#200	0.2		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5779 D_{85}= 0.4111 D_{60}= 0.2368
D_{50}= 0.2135 D_{30}= 0.1757 D_{15}= 0.1467
D_{10}= 0.1334 C_u= 1.77 C_c= 0.98

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-47-12 B
Sample Number: 6471 (20) **Depth:** 3.7' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-48-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-48-12	LOCATION COORDINATES: E = 1,134,712 N = 233,995	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 48.1 Ft.	
		15. DATE BORING	STARTED: 11-28-12 / COMPLETED: 11-28-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -48.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-48.2	0.0				
-49.5	1.3		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little shell fragments, trace silt, gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.5146 mm % Fines: 1.7
-52.1	3.9		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, gray (SP)	B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2246 mm % Fines: 0.4
-54.5	6.3		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, trace shell fragments, gray (SM)	C	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1863 mm % Fines: 14.9
-63.5	15.3		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, alternating bands of clayey sand and sandy clay, greenish gray (SC) At El. -58.6 Ft., mostly fine-grained sand-sized quartz, some clay, trace shells, trace wood debris, gray	NS	
-66.6	18.4		CLAY, lean, mostly clay, trace fine-grained sand-sized quartz, trace wood debris, moderately stiff, gray (CL)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14258° Long = -88.35732°

Project Mississippi Barrier Island Restoration Project

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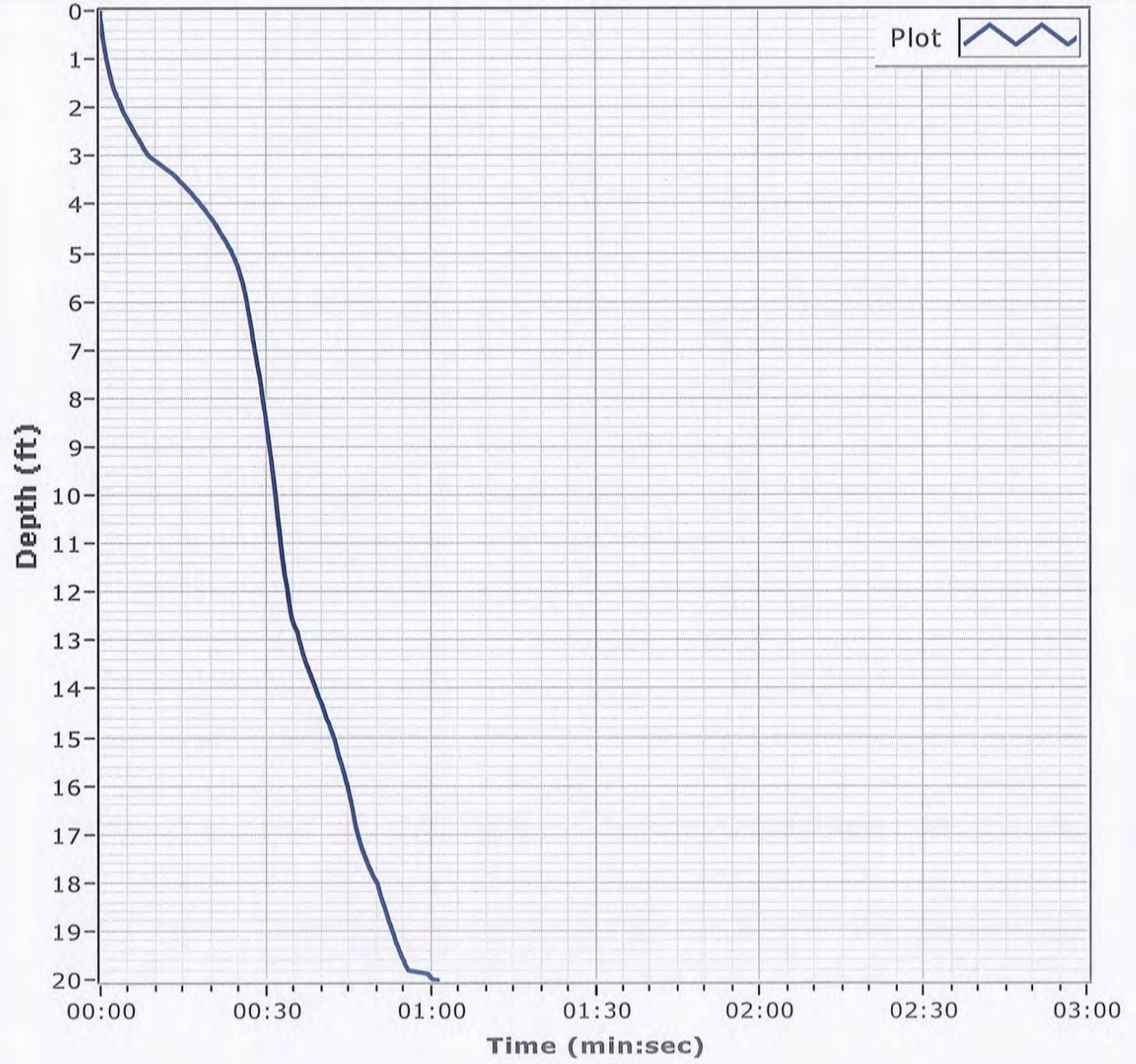
Core Identifier BI-PBS-48-12
Coordinate System Latitude / Longitude

Date 11/28/2012
Start Time 11:20:50
End Time 11:21:52
Total Time 00:01:01

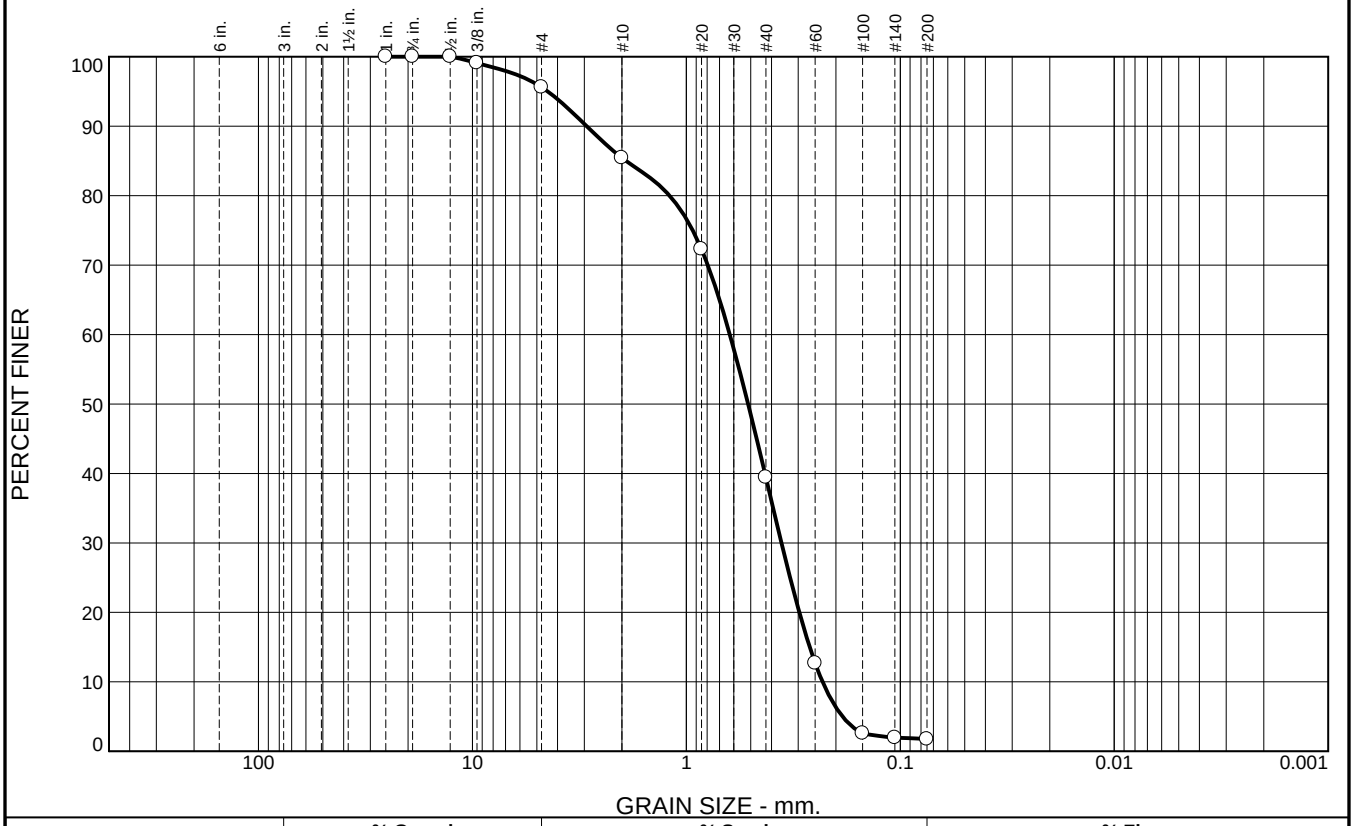
Water Depth 48.1'
Penetration 20.0'
Recovery 18.4'

Latitude 30 08.555
Longitude 088 21.439

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	4.4	10.2	46.0	37.7	1.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.1		
#4	95.6		
#10	85.4		
#20	72.3		
#40	39.4		
#60	12.7		
#100	2.6		
#140	1.9		
#200	1.7		

* (no specification provided)

Material Description

Fine to coarse grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 2.9235 D_{85}= 1.9142 D_{60}= 0.6265
D_{50}= 0.5146 D_{30}= 0.3592 D_{15}= 0.2653
D_{10}= 0.2309 C_u= 2.71 C_c= 0.89

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-48-12 A
Sample Number: 6471 (21) **Depth:** 0.0' **Date:** 12/03/12

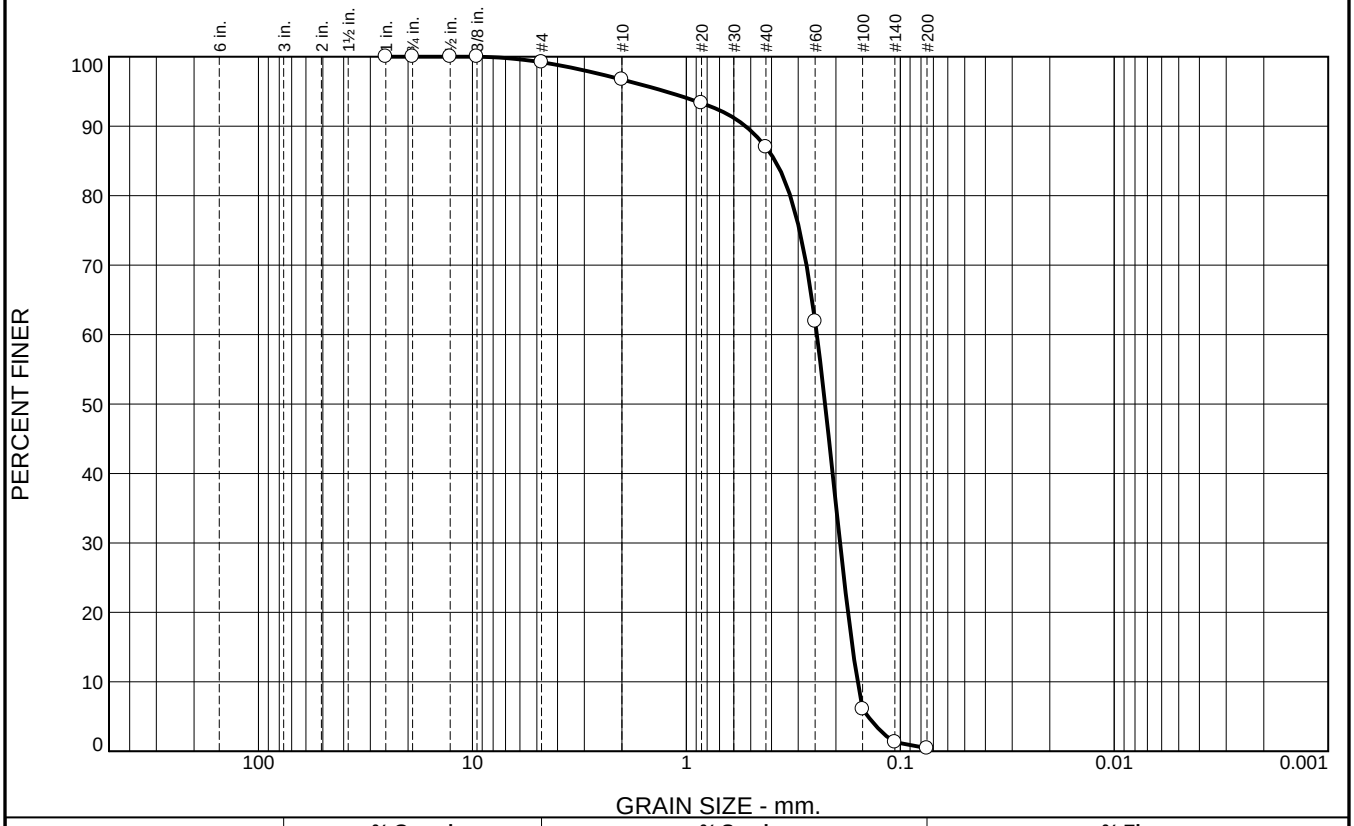
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	2.5	9.7	86.6	0.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.2		
#10	96.7		
#20	93.3		
#40	87.0		
#60	61.9		
#100	6.1		
#140	1.3		
#200	0.4		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5290 D_{85}= 0.3840 D_{60}= 0.2453
D_{50}= 0.2246 D_{30}= 0.1913 D_{15}= 0.1675
D_{10}= 0.1585 C_u= 1.55 C_c= 0.94

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-48-12 B
Sample Number: 6471 (22) **Depth:** 1.3' **Date:** 12/03/12

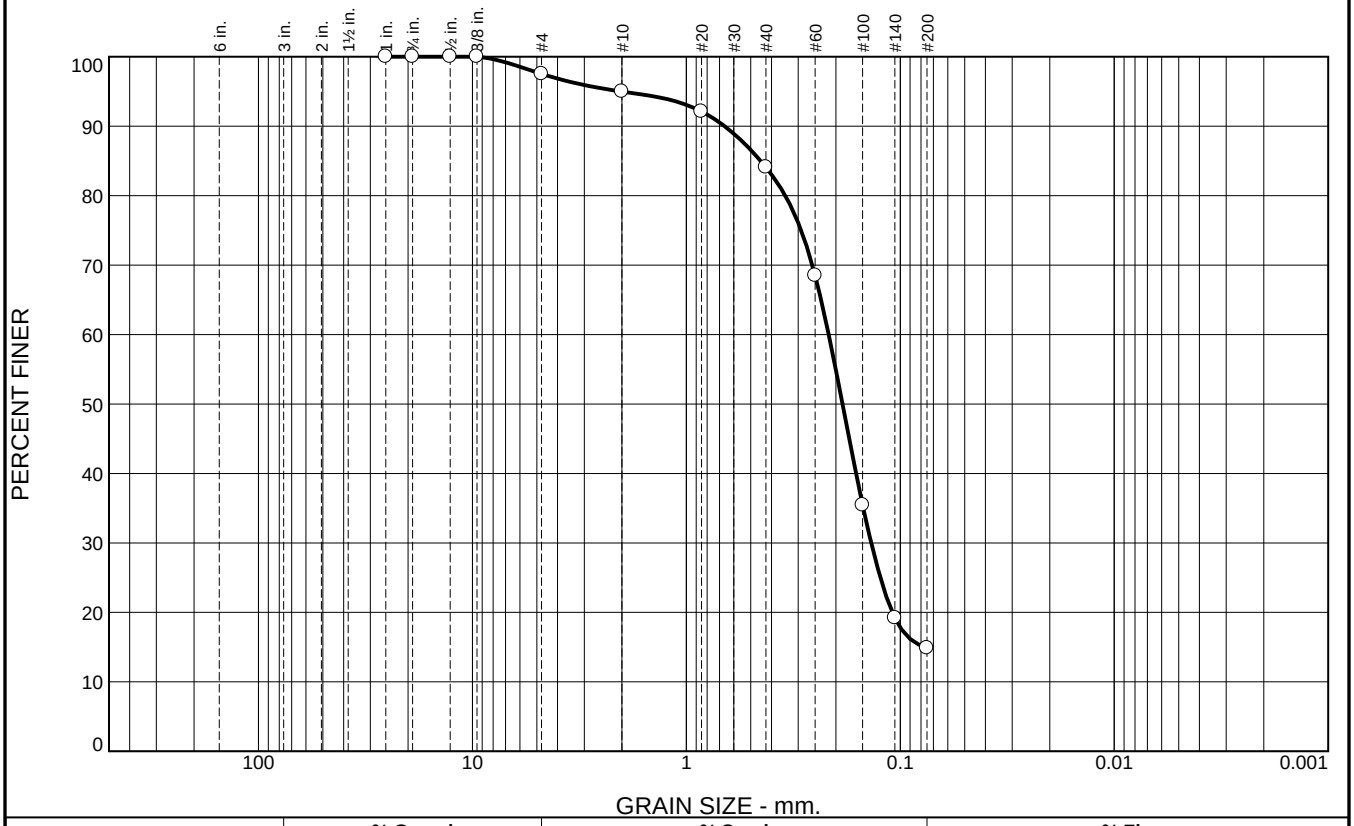
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.5	2.5	10.9	69.2	14.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	97.5		
#10	95.0		
#20	92.1		
#40	84.1		
#60	68.5		
#100	35.4		
#140	19.2		
#200	14.9		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6631 D_{85}= 0.4502 D_{60}= 0.2161
D_{50}= 0.1863 D_{30}= 0.1368 D_{15}= 0.0769
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-48-12 C
Sample Number: 6471 (23) **Depth:** 3.9' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-49-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-49-12	LOCATION COORDINATES: E = 1,131,364 N = 236,432	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 50.6 Ft.	
		15. DATE BORING	STARTED: 11-28-12 / COMPLETED: 11-28-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -50.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-50.1	0.0				
-54.3	4.2		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2387 mm % Fines: 3.6
-56.0	5.9		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, wood fragments at 4.3', gray (SM)	NS	
-58.8	8.7		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, trace wood debris, gray (CL)		
-60.8	10.7		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace wood debris, gray (SC)		
-65.3	15.2		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace shell fragments, gray (CH)		
-69.3	19.2		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, trace wood debris, gray (SC)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14932° Long = -88.36788°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-49-12

Coordinate System
Latitude / Longitude

Latitude 30 08.959

Longitude 088 22.073

Date 11/28/2012

Start Time 15:43:56

End Time 15:44:29

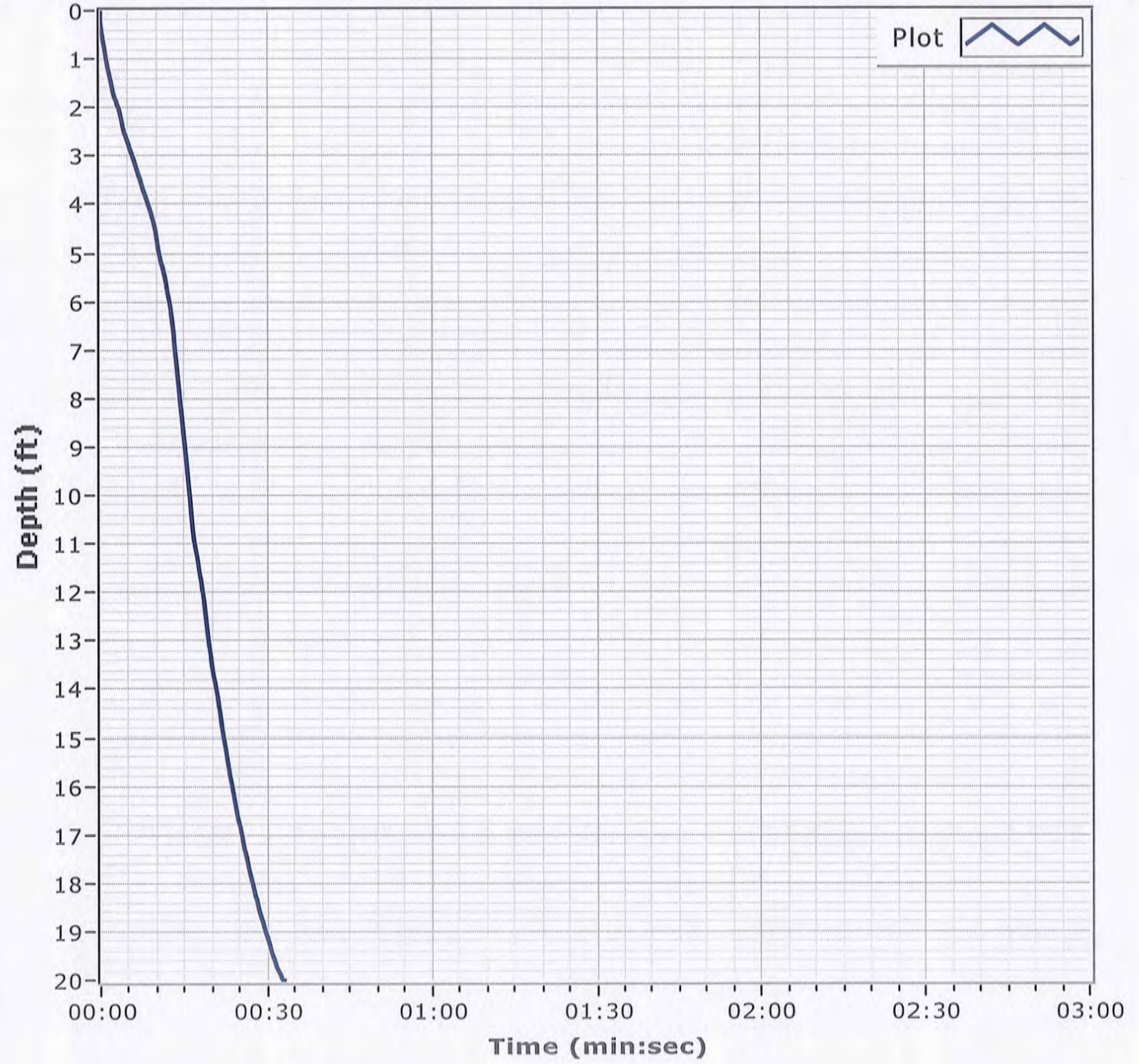
Total Time 00:00:33

Water Depth 50.6'

Penetration 20.0'

Recovery 19.2'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.6	1.8	10.2	83.8	3.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.4		
#10	97.6		
#20	94.9		
#40	87.4		
#60	54.6		
#100	7.1		
#140	4.3		
#200	3.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4671 D_{85}= 0.3966 D_{60}= 0.2649
D_{50}= 0.2387 D_{30}= 0.1982 D_{15}= 0.1695
D_{10}= 0.1583 C_u= 1.67 C_c= 0.94

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-49-12 A
Sample Number: 6471 (24) **Depth:** 0.0' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-50-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-50-12	LOCATION COORDINATES: E = 1,132,205 N = 235,628	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. WATER DEPTH: 48.7 Ft.
		15. DATE BORING	STARTED: 11-28-12 / COMPLETED: 11-28-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -48.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-48.3	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2669 mm % Fines: 3.3
-53.3	5.0				
			SAND, poorly-graded with clay, mostly fine-grained sand-sized quartz, few clay, trace shell fragments, gray (SP-SC)	B	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.2078 mm % Fines: 11.4
-54.6	6.3				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)		
-56.3	8.0				
			CLAY, fat, mostly clay, trace shell fragments, trace wood debris, intermittent lenses of sandy clay, gray (CH)	NS	
-67.2	18.9				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14710° Long = -88.36523°

Project Mississippi Barrier Island Restoration Project

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AMERICAN VIBRACORE SERVICES

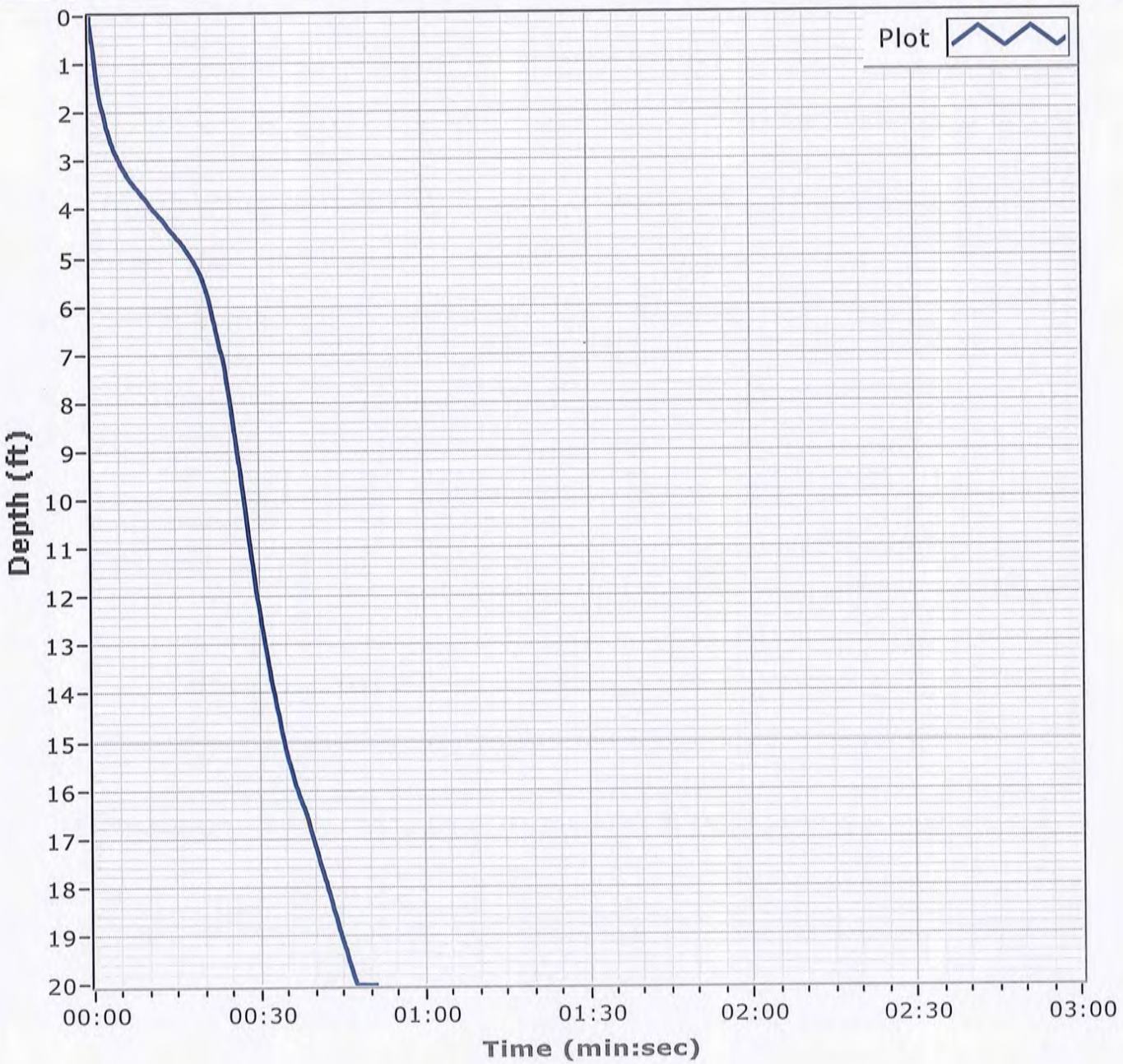
Core Identifier BI-PBS-50-12
Coordinate System
Latitude / Longitude

Latitude 30 08.826
Longitude 088 21.914

Date 11/28/2012
Start Time 15:02:32
End Time 15:03:23
Total Time 00:00:51

Water Depth 48.7'
Penetration 20.0'
Recovery 18.9'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	2.1	11.6	82.5	3.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.7		
#4	99.5		
#10	97.4		
#20	94.2		
#40	85.8		
#60	43.8		
#100	5.7		
#140	3.6		
#200	3.3		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5711 D_{85}= 0.4181 D_{60}= 0.2975
D_{50}= 0.2669 D_{30}= 0.2157 D_{15}= 0.1792
D_{10}= 0.1653 C_u= 1.80 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-50-12 A
Sample Number: 6471 (25) **Depth:** 0.0' **Date:** 12/03/12

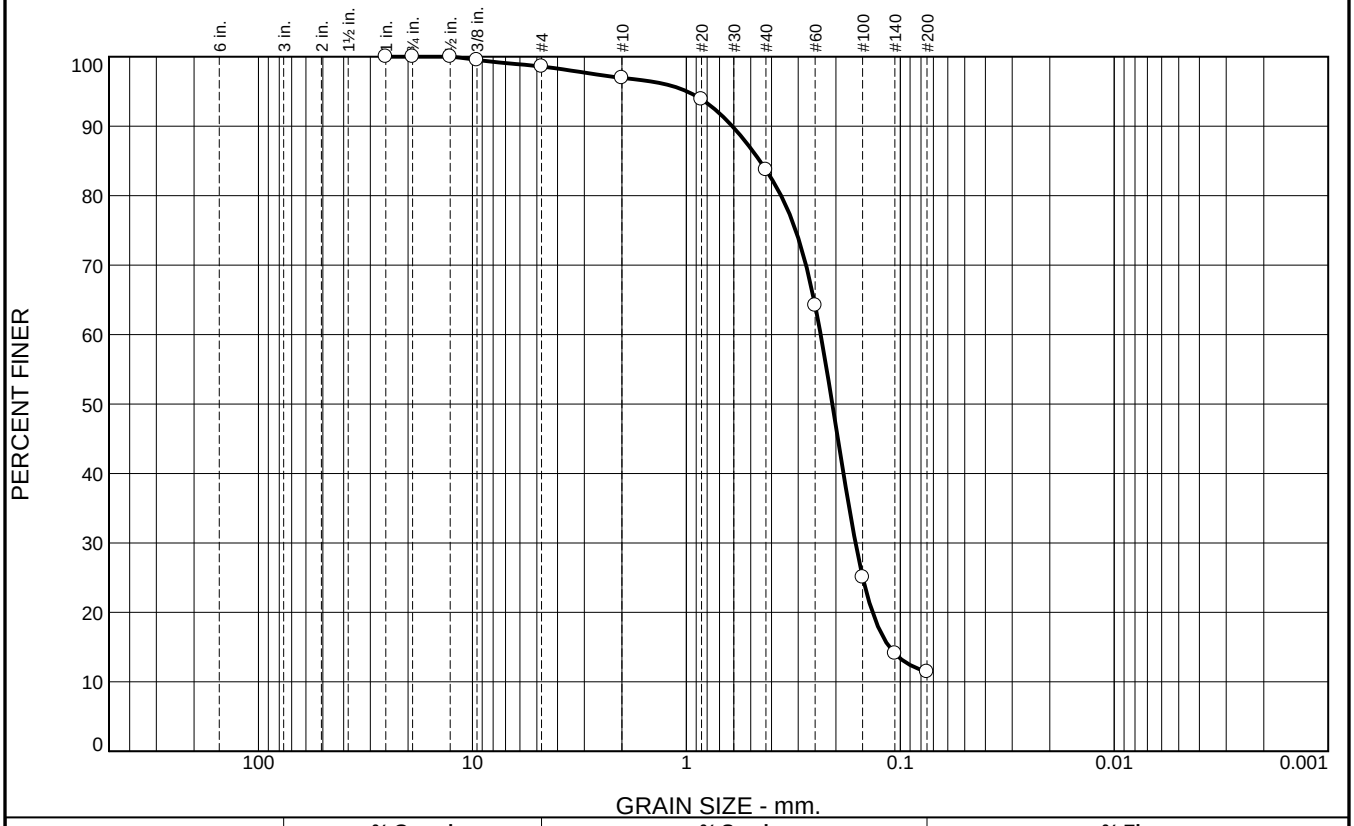
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.4	1.7	13.2	72.3	11.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.5		
#4	98.6		
#10	96.9		
#20	93.9		
#40	83.7		
#60	64.2		
#100	25.1		
#140	14.1		
#200	11.4		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6098 D_{85}= 0.4536 D_{60}= 0.2355
D_{50}= 0.2078 D_{30}= 0.1620 D_{15}= 0.1123
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-50-12 B
Sample Number: 6471 (26) **Depth:** 5.0' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-51-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-51-12	LOCATION COORDINATES: E = 1,132,401 N = 232,439	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 56.4 Ft.	
		15. DATE BORING	STARTED: 11-28-12 / COMPLETED: 11-28-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-56.4	0.0				
-58.4	2.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)		
-62.8	6.4		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, with trace clayey nodules, gray mottled with brown (SC)		
-76.2	19.8		CLAY, fat, mostly clay, little silt, trace shell fragments, trace wood debris, with occasional silty pockets and sandy clay lenses, gray (CH)	NS	
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13833° Long = -88.36465°

Project Mississippi Barrier Island Restoration Project

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S E R V I C E S

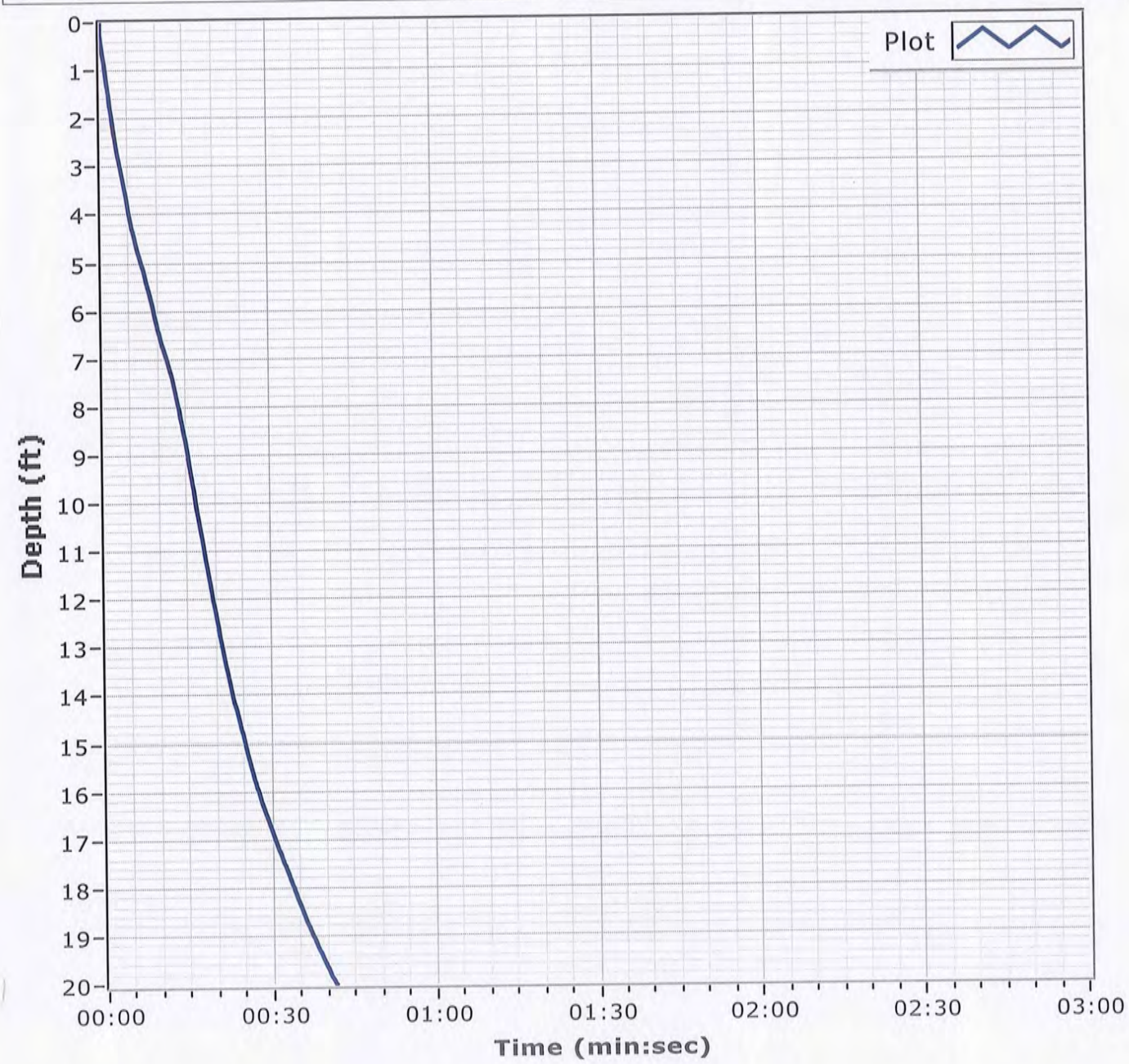
Core Identifier BI-PBS-51-12
Coordinate System
Latitude / Longitude

Date 11/28/2012
Start Time 12:11:35
End Time 12:12:16
Total Time 00:00:41

Water Depth 56.4'
Penetration 20.0'
Recovery 19.8'

Latitude 30 08.300
Longitude 088 21.879

Comments



Boring Designation BI-PBS-52-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-52-12	LOCATION COORDINATES: E = 1,130,058 N = 241,304	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 46.6 Ft.	
		15. DATE BORING	STARTED: 11-30-12 / COMPLETED: 11-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -46.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-46.7	0.0				
-47.7	1.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, gray (SP)		
-50.5	3.8		SAND, clayey, mostly fine-grained sand-sized quartz, little silt, Wood debris at 3 ft., gray (SC)		
-51.4	4.7		CLAY, lean, mostly clay, some silt, trace wood debris, silty clay, brownish gray (CL)		
-54.0	7.3		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace clay, lt. gray (SP)		
-62.4	15.7		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little shell fragments, gray (SC)	NS	
-63.2	16.5		CLAY, lean, mostly clay, little fine-grained sand-sized quartz, low plasticity, gray (CL)		
-65.3	18.6		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace silt, gray (SC)		
-66.7	20.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, lt. gray (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.16273° Long = -88.37195°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-52-12

Coordinate System
Latitude / Longitude

Latitude 30 09.764

Longitude 088 22.317

Date 11/30/2012

Start Time 11:36:31

End Time 11:37:43

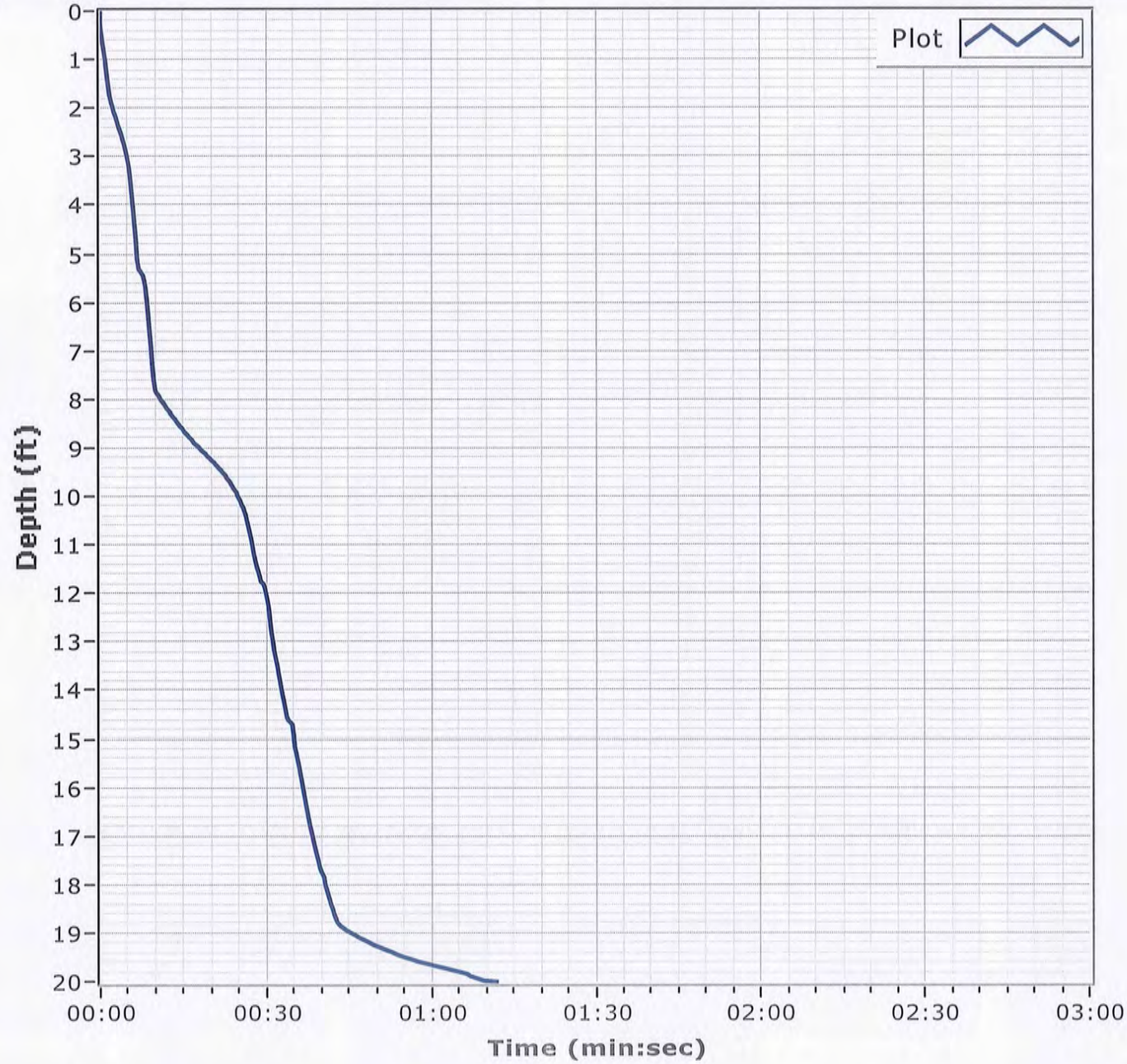
Total Time 00:01:12

Water Depth 46.6'

Penetration 20.0'

Recovery 20.0'

Comments



Boring Designation BI-PBS-53-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-53-12	LOCATION COORDINATES: E = 1,131,214 N = 240,705	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 44.5 Ft.	
		15. DATE BORING	STARTED: 11-30-12 / COMPLETED: 11-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -44.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-44.7	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.3315 mm % Fines: 2.4
-50.2	5.5				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	NS	
-52.1	7.4				
-53.1	8.4		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace clay, gray (SP-SM)		
			SAND, clayey, mostly fine to medium-grained sand-sized quartz, some clay, little shell fragments, gray (SC)		
-58.3	13.6				
-59.7	15.0		SHELL, mostly shell fragments, some fine-grained sand-sized quartz, some clay, gray		
			SAND, silty, mostly fine-grained sand-sized quartz, little clay, little shell fragments, gray (SM)		
-64.7	20.0				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.16107° Long = -88.36830°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

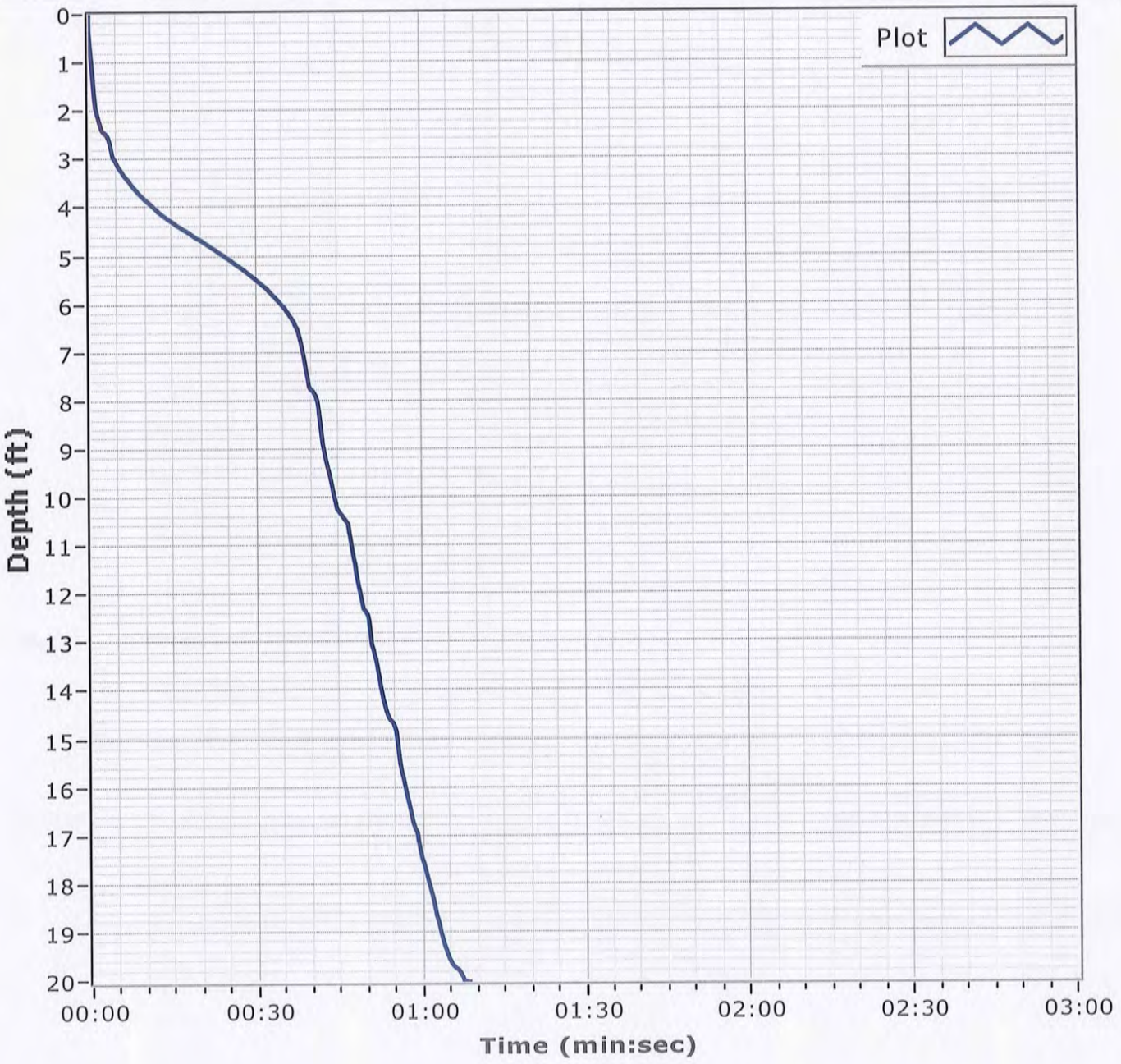
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Coordinate System Latitude / Longitude

Latitude 30 09.664
Longitude 088 22.098

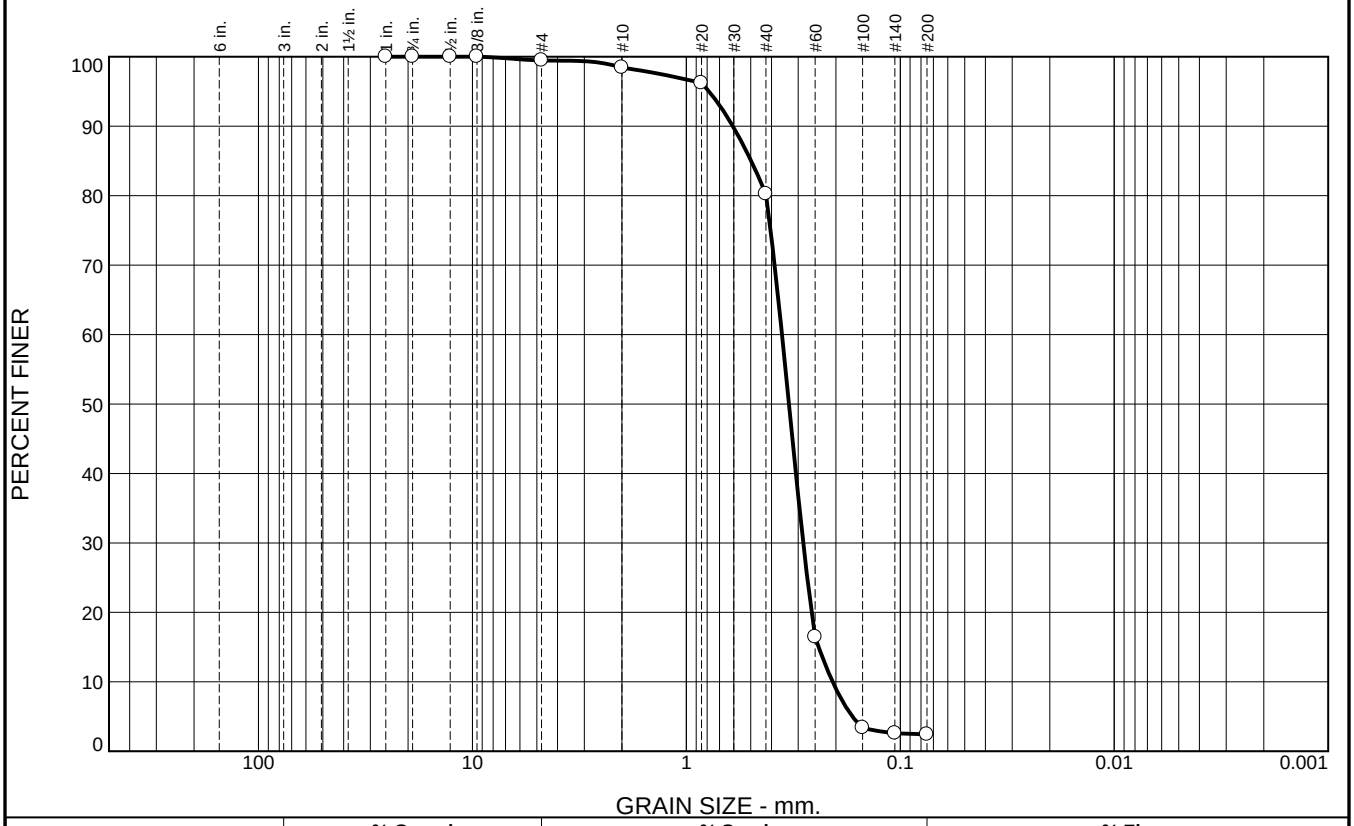
Date 11/30/2012
Start Time 10:51:05
End Time 10:52:13
Total Time 00:01:08

Water Depth 44.5'
Penetration 20.0'
Recovery 20.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	1.1	18.2	77.8	2.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	98.4		
#20	96.2		
#40	80.2		
#60	16.5		
#100	3.4		
#140	2.6		
#200	2.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6063 D_{85}= 0.4980 D_{60}= 0.3571
D_{50}= 0.3315 D_{30}= 0.2845 D_{15}= 0.2407
D_{10}= 0.2072 C_u= 1.72 C_c= 1.09

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-53-12 A
Sample Number: 6471 (27) **Depth:** 0.0' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-54-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-54-12	LOCATION COORDINATES: E = 1,132,425 N = 239,892	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 45.7 Ft.
		15. DATE BORING	STARTED: 11-30-12 / COMPLETED: 11-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -45.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-45.9	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.3037 mm % Fines: 1.7
-50.9	5.0				
-51.5	5.6			NS	
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)	B	Classification: SP Color: 5Y 7/2-light gray D50: 0.3861 mm % Fines: 3.2
-52.7	6.8				
-53.4	7.5		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, little shell fragments, few silt, gray (SP-SM)	NS	
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	C	Classification: SP-SM Color: 5Y 7/2-light gray D50: 0.3507 mm % Fines: 6.7
-55.4	9.5				
			SAND, silty, mostly fine to medium-grained sand-sized quartz, some silt, trace shell fragments, trace clay, gray (SM)	NS	
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)		
-64.4	18.5				
-65.9	20.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.15882° Long = -88.36448°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

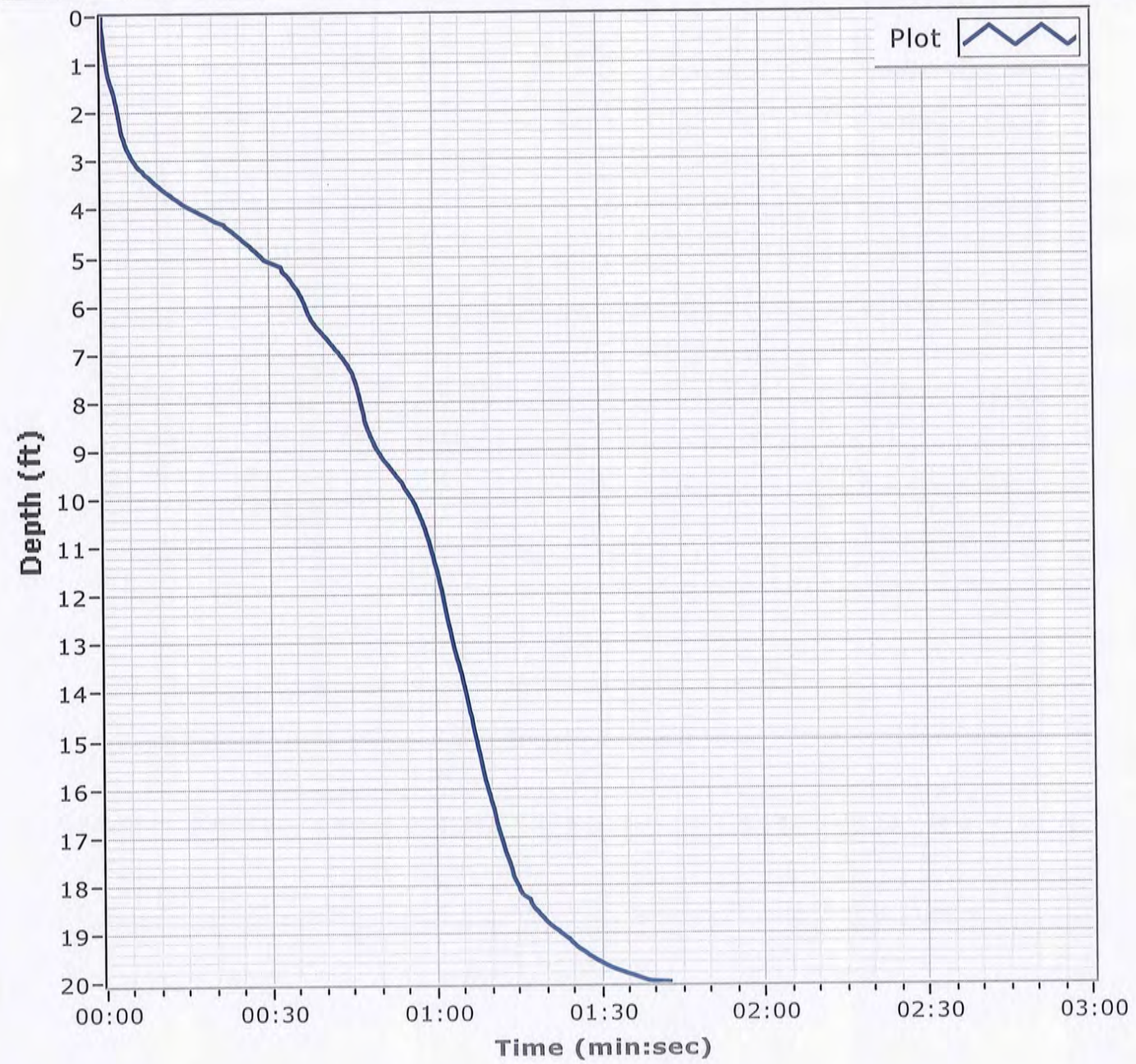
Core Identifier BI-PBS-54-12
Coordinate System
Latitude / Longitude

Latitude 30 09.529
Longitude 088 21.869

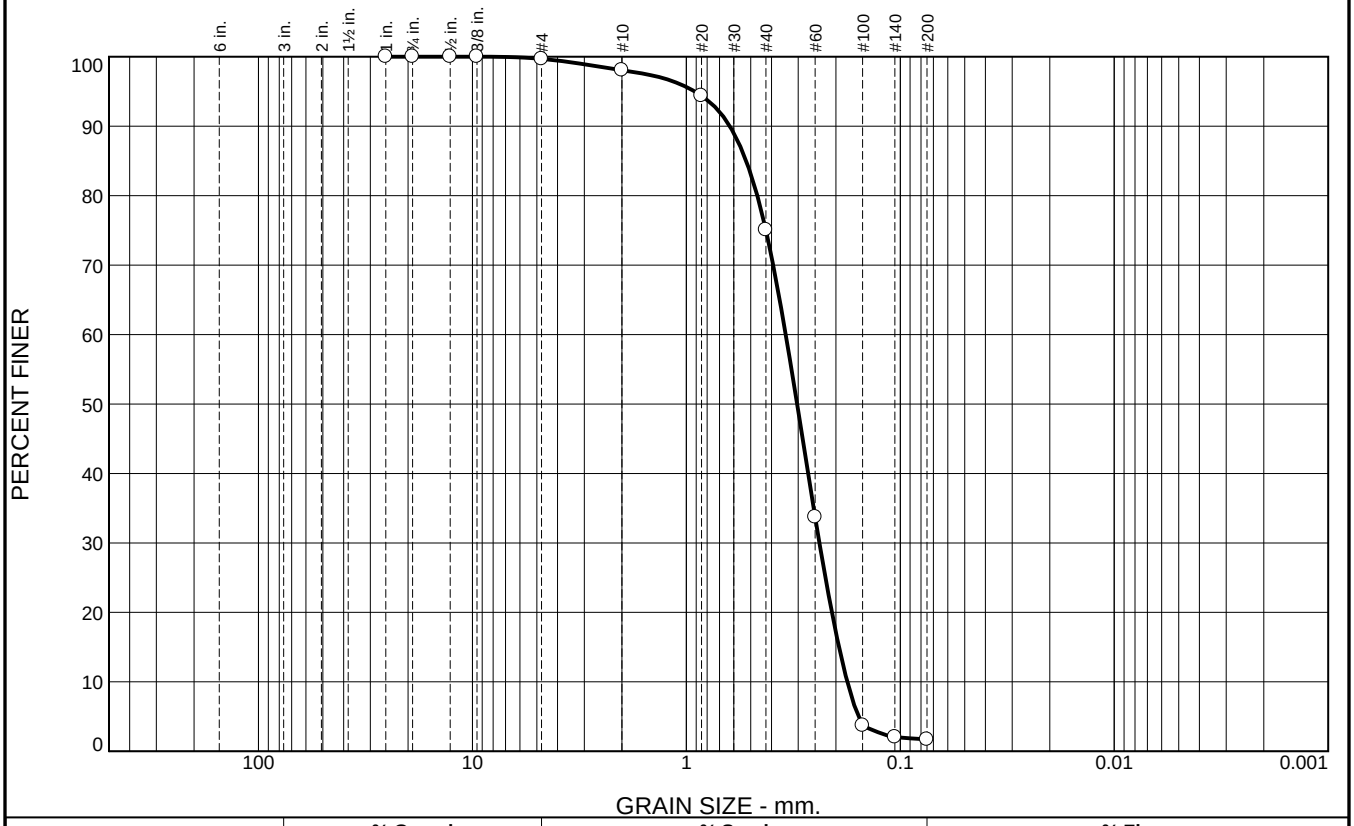
Date 11/30/2012
Start Time 09:17:07
End Time 09:18:50
Total Time 00:01:42

Water Depth 45.7'
Penetration 20.0'
Recovery 20.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	1.6	23.0	73.4	1.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.1		
#20	94.4		
#40	75.1		
#60	33.7		
#100	3.7		
#140	2.0		
#200	1.7		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6261 D_{85}= 0.5252 D_{60}= 0.3432
D_{50}= 0.3037 D_{30}= 0.2387 D_{15}= 0.1935
D_{10}= 0.1770 C_u= 1.94 C_c= 0.94

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-54-12 A
Sample Number: 6471 (28) **Depth:** 0.0' **Date:** 12/03/12

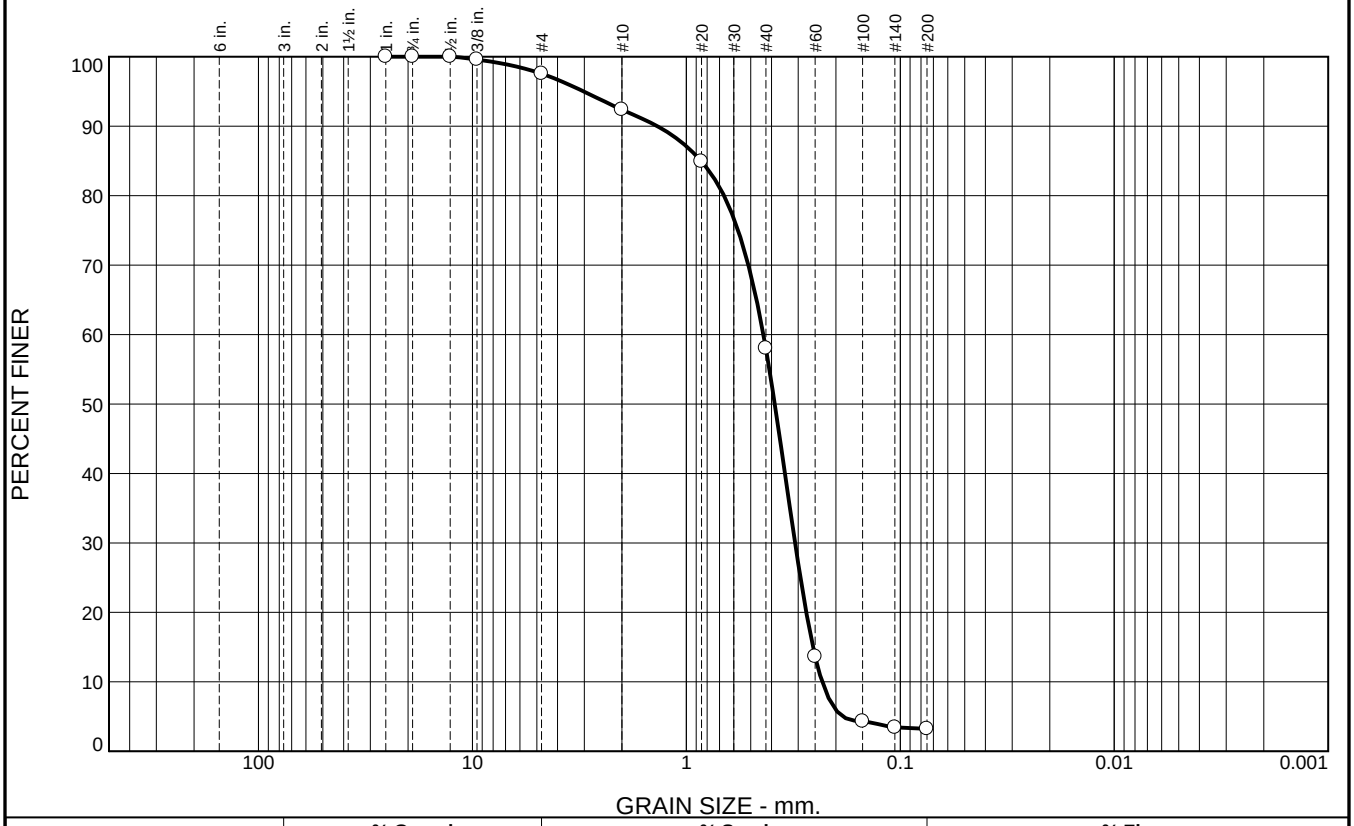
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.4	5.2	34.4	54.8	3.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.6		
#4	97.6		
#10	92.4		
#20	84.9		
#40	58.0		
#60	13.6		
#100	4.3		
#140	3.4		
#200	3.2		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.3683 D_{85}= 0.8553 D_{60}= 0.4365
D_{50}= 0.3861 D_{30}= 0.3104 D_{15}= 0.2559
D_{10}= 0.2318 C_u= 1.88 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-54-12 B
Sample Number: 6471 (29) **Depth:** 5.6' **Date:** 12/03/12

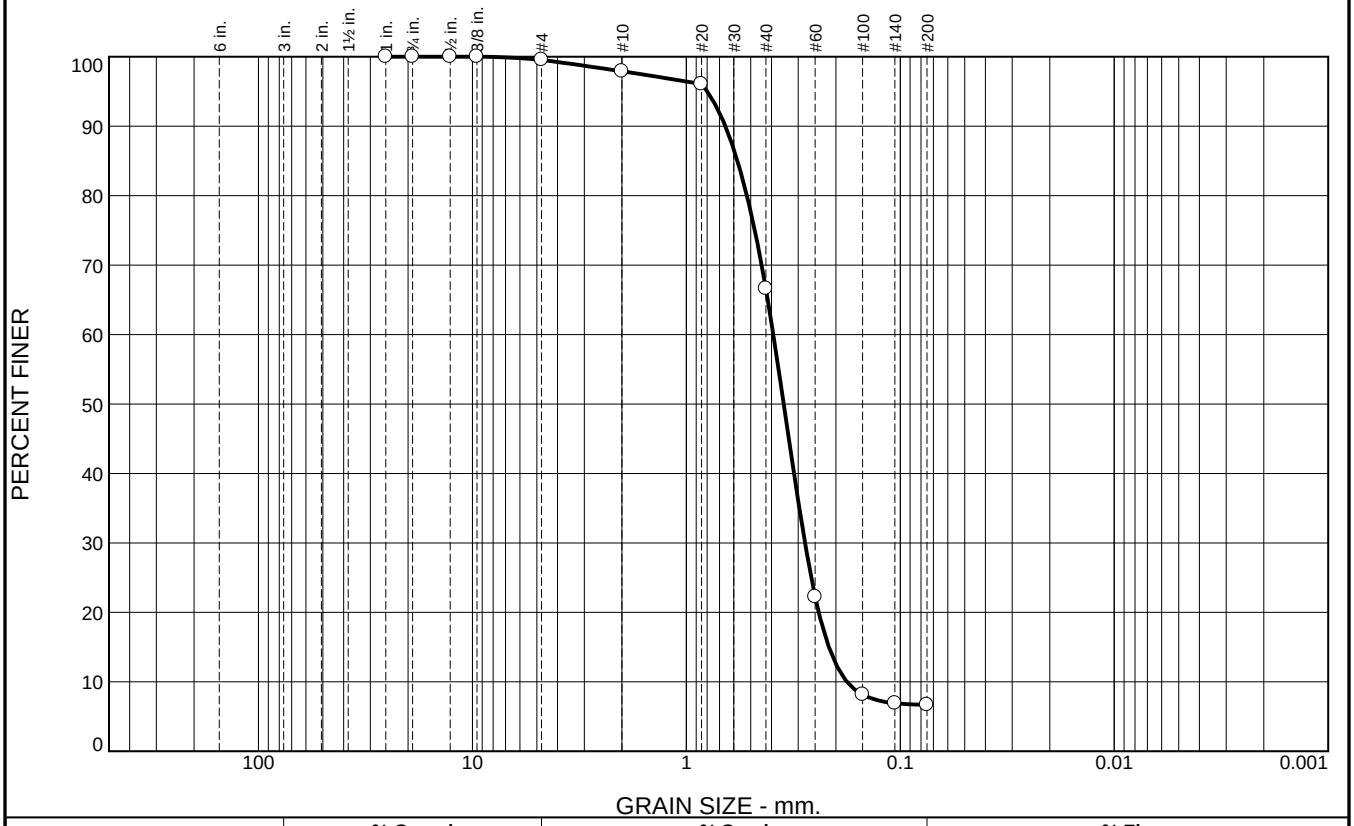
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	1.6	31.3	59.9	6.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	97.9		
#20	96.1		
#40	66.6		
#60	22.2		
#100	8.2		
#140	6.9		
#200	6.7		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6572 D_{85}= 0.5769 D_{60}= 0.3922
D_{50}= 0.3507 D_{30}= 0.2790 D_{15}= 0.2157
D_{10}= 0.1777 C_u= 2.21 C_c= 1.12

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-54-12 C
Sample Number: 6471 (30) **Depth:** 7.5' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-55-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-55-12	LOCATION COORDINATES: E = 1,132,872 N = 242,421	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 47.2 Ft.	
		15. DATE BORING	STARTED: 11-30-12 / COMPLETED: 11-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -47.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-47.2	0.0				
-50.4	3.2		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, lt. gray to gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.3311 mm % Fines: 1.7
-51.2	4.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	NS	
-52.1	4.9				
-53.6	6.4		CLAY, lean, mostly clay, with alternating bands of clayey sand, gray (CL)		
-56.7	9.5		SAND, poorly-graded with clay, mostly fine-grained sand-sized quartz, little clay, few clay stringers, gray (SP-SC)		
-59.2	12.0		CLAY, lean, mostly clay, trace shell fragments, gray (CL)		
-61.5	14.3		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, some shell fragments, gray (SC)		
-62.2	15.0		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, gray (SP-SM)		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, lt. gray (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.16577° Long = -88.36303°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

Core Identifier BI-PBS-55-12

Coordinate System
Latitude / Longitude

Latitude 30 09.946

Longitude 088 21.782

Date 11/30/2012

Start Time 12:49:34

End Time 12:52:32

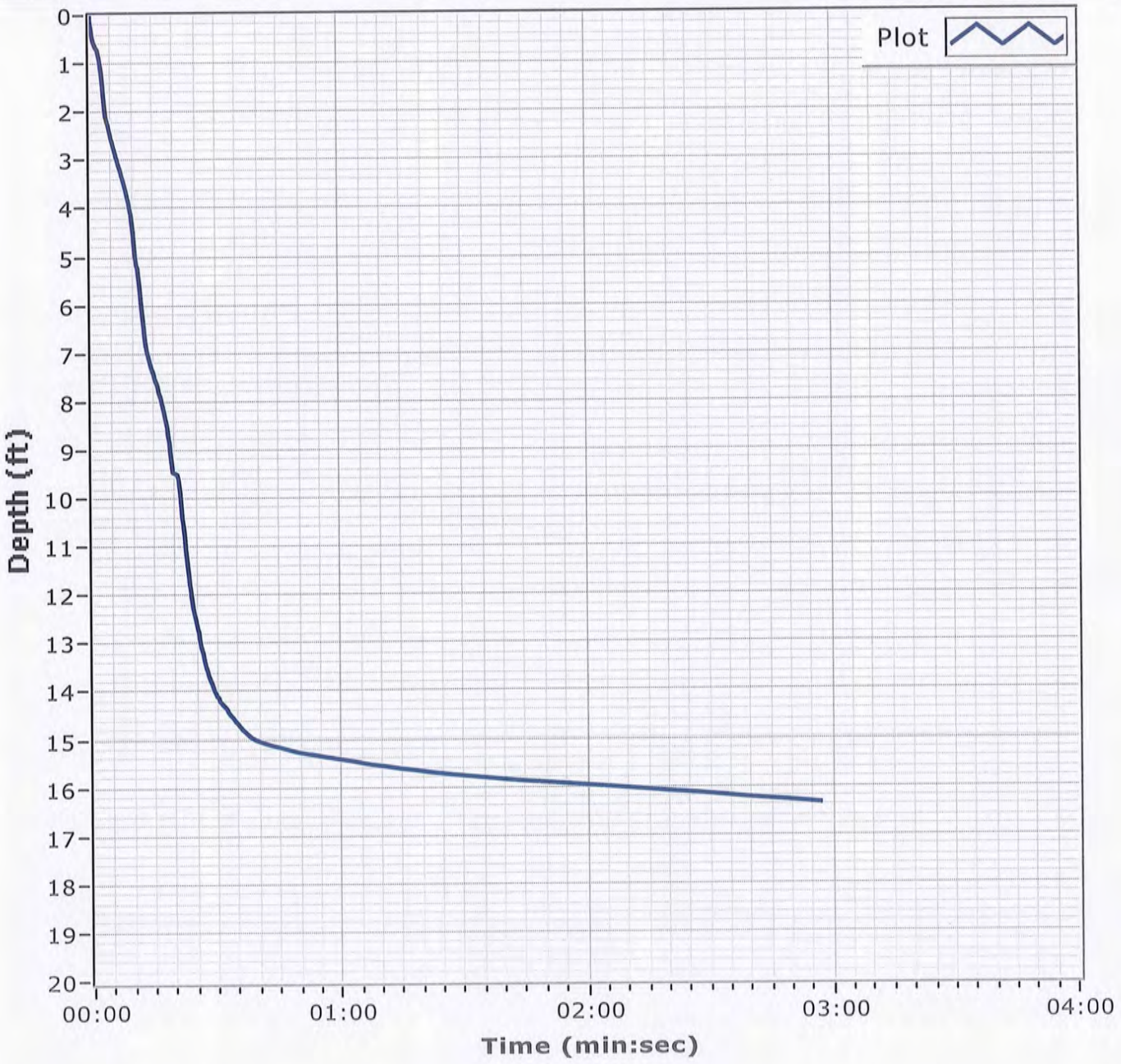
Total Time 00:02:57

Water Depth 47.2'

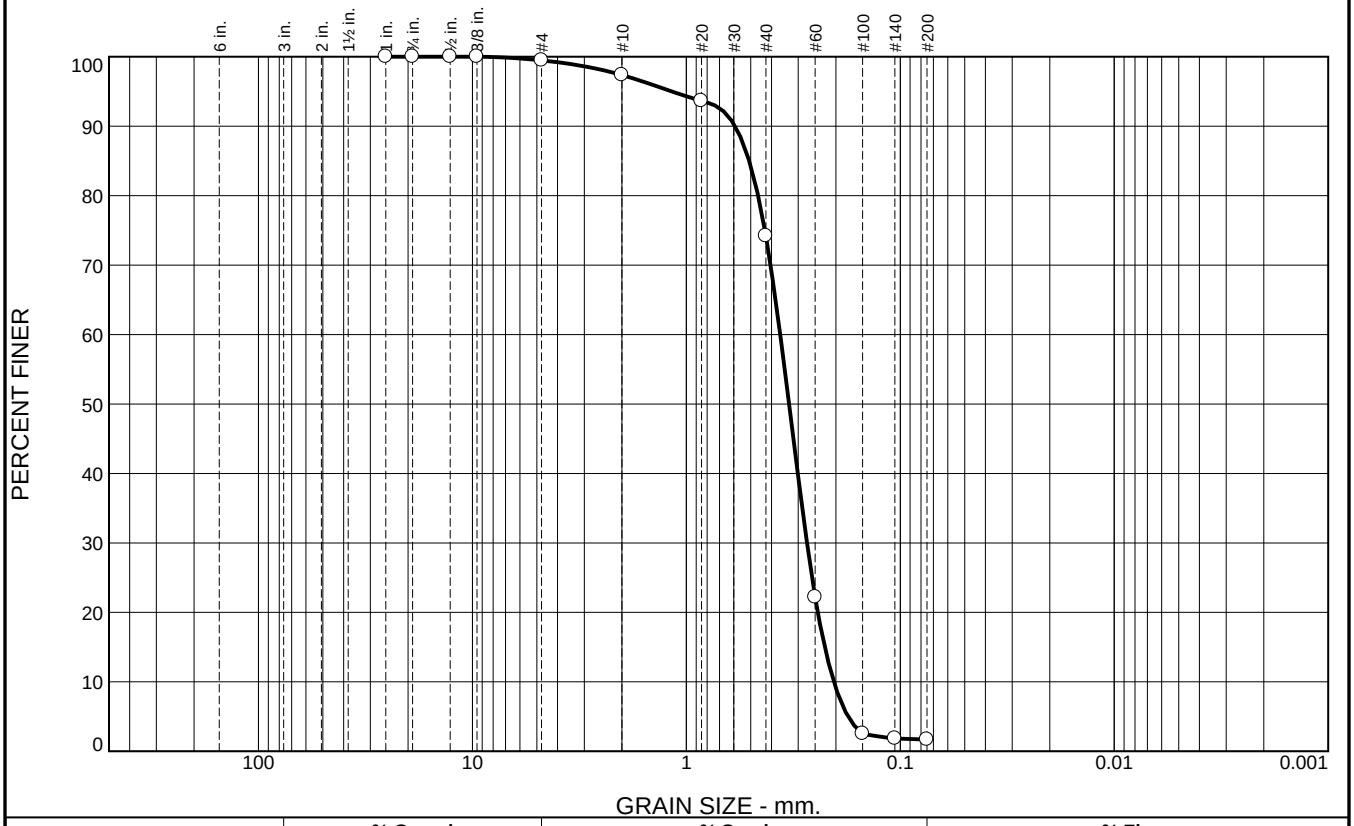
Penetration 16.4'

Recovery 15.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	2.1	23.2	72.5	1.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	97.4		
#20	93.6		
#40	74.2		
#60	22.2		
#100	2.6		
#140	1.8		
#200	1.7		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5917 D_{85}= 0.5087 D_{60}= 0.3640
D_{50}= 0.3311 D_{30}= 0.2731 D_{15}= 0.2254
D_{10}= 0.2045 C_u= 1.78 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-55-12 A
Sample Number: 6471 (31) **Depth:** 0.0' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-56-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-56-12	LOCATION COORDINATES: E = 1,131,782 N = 243,108	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 48.3 Ft.	
		15. DATE BORING	STARTED: 11-30-12 / COMPLETED: 11-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -48.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 14.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-48.2	0.0				
-50.8	2.6		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.3431 mm % Fines: 1.4
-52.9	4.7		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace silt, trace shell fragments, trace wood debris, gray (SC)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2458 mm % Fines: 13.8
				NS	
-55.6	7.4		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace clay, clayey band between 6.3 to 6.5 ft., gray (SP-SM)	C	Classification: SP-SM Color: 2.5Y 6/2-light brownish gray D50: 0.2416 mm % Fines: 7.2
-60.1	11.9		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, trace shell fragments, low to medium plasticity, gray (CL)	NS	
-63.0	14.8		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, clayey nodules throughout, lt. gray with dk gray spots (SP-SM)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.16767° Long = -88.36647°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

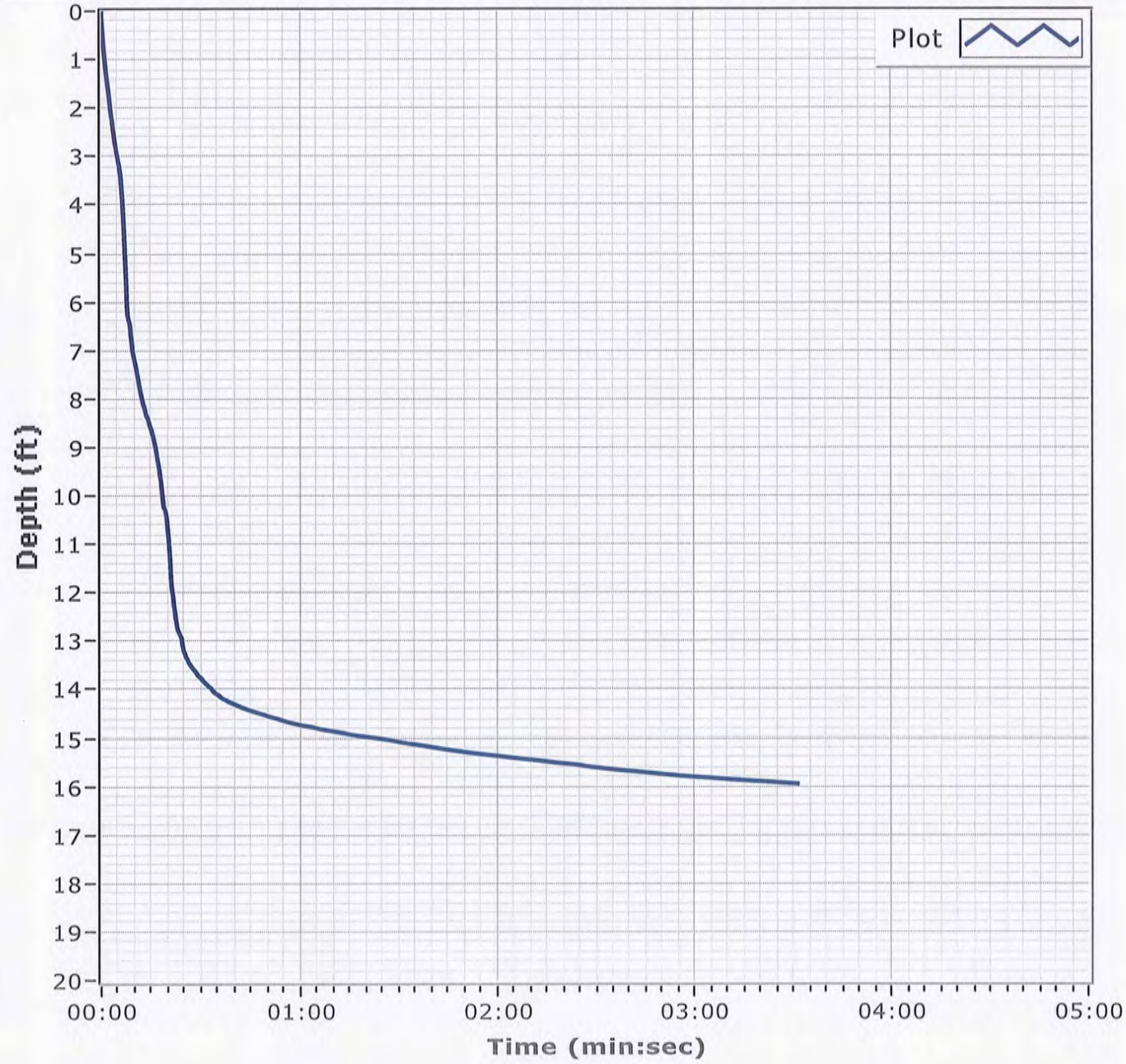
Core Identifier BI-PBS-56-12
Coordinate System
Latitude / Longitude

Latitude 30 10.060
Longitude 088 21.988

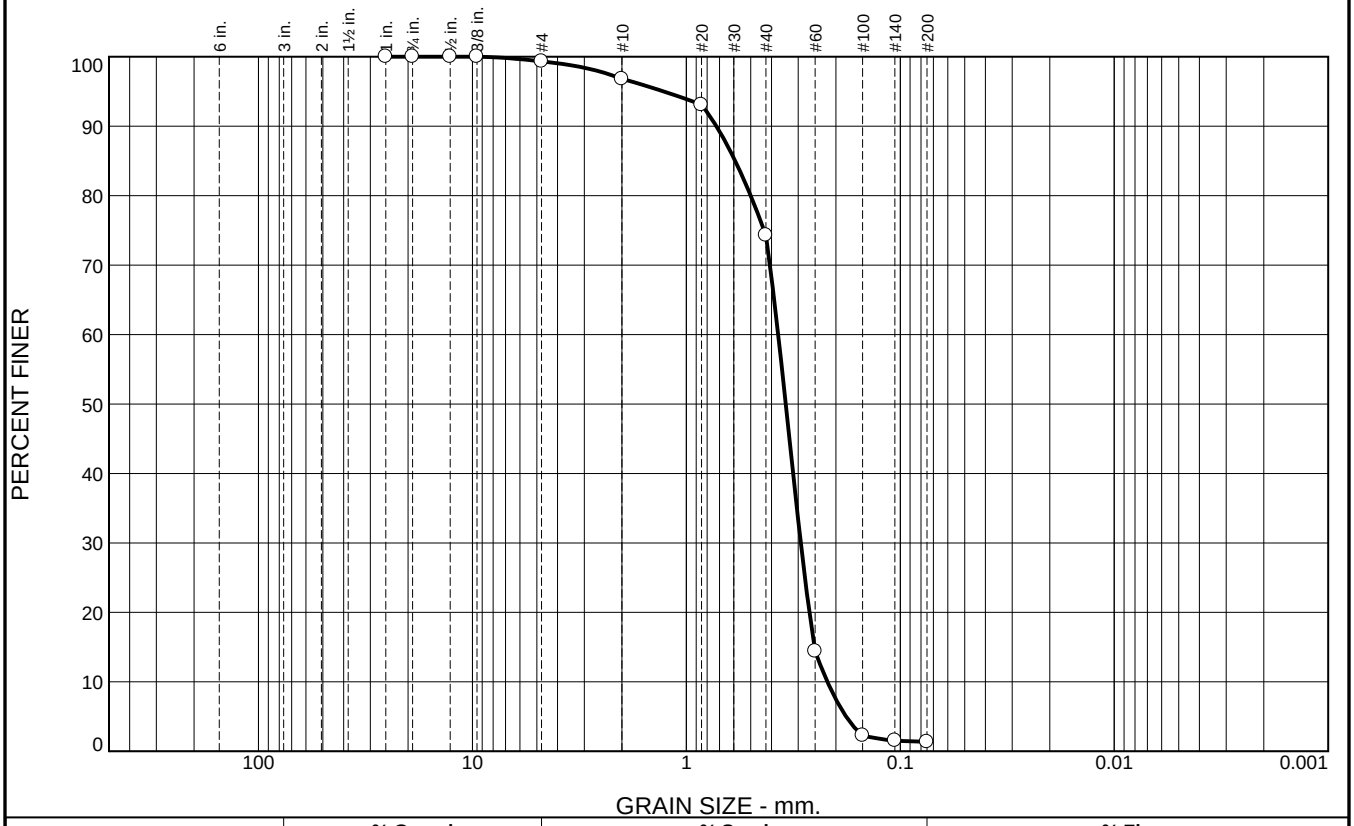
Date 11/30/2012
Start Time 13:48:11
End Time 13:51:43
Total Time 00:03:31

Water Depth 48.3'
Penetration 16.0'
Recovery 14.8'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.7	2.5	22.5	72.9	1.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.3		
#10	96.8		
#20	93.1		
#40	74.3		
#60	14.4		
#100	2.3		
#140	1.5		
#200	1.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7245 D_{85}= 0.5913 D_{60}= 0.3720
D_{50}= 0.3431 D_{30}= 0.2921 D_{15}= 0.2519
D_{10}= 0.2191 C_u= 1.70 C_c= 1.05

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-56-12 A
Sample Number: 6471 (32) **Depth:** 0.0' **Date:** 12/03/12

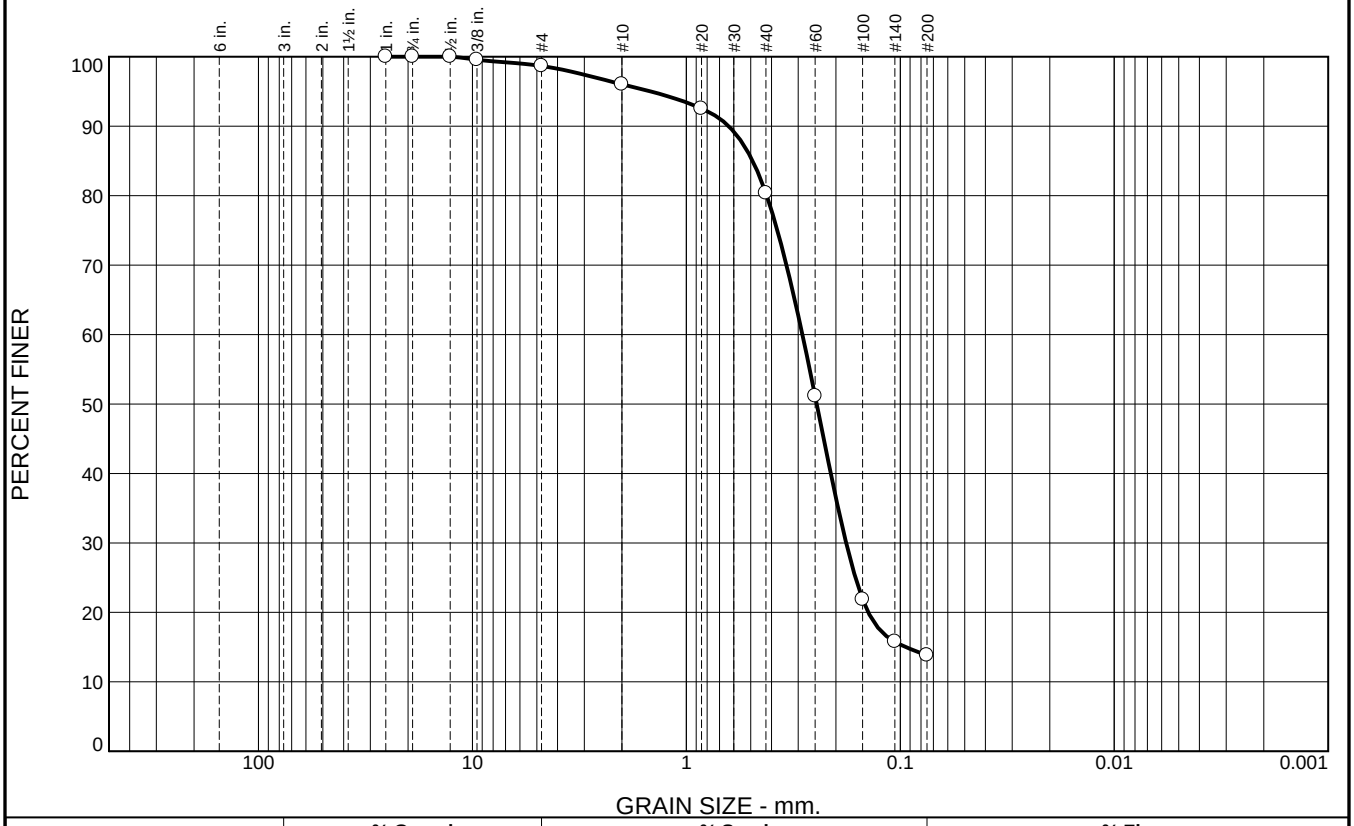
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.3	2.7	15.6	66.6	13.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.6		
#4	98.7		
#10	96.0		
#20	92.5		
#40	80.4		
#60	51.1		
#100	21.9		
#140	15.8		
#200	13.8		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6343 D_{85}= 0.4902 D_{60}= 0.2869
D_{50}= 0.2458 D_{30}= 0.1792 D_{15}= 0.0941
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-56-12 B
Sample Number: 6471 (33) **Depth:** 2.6' **Date:** 12/03/12

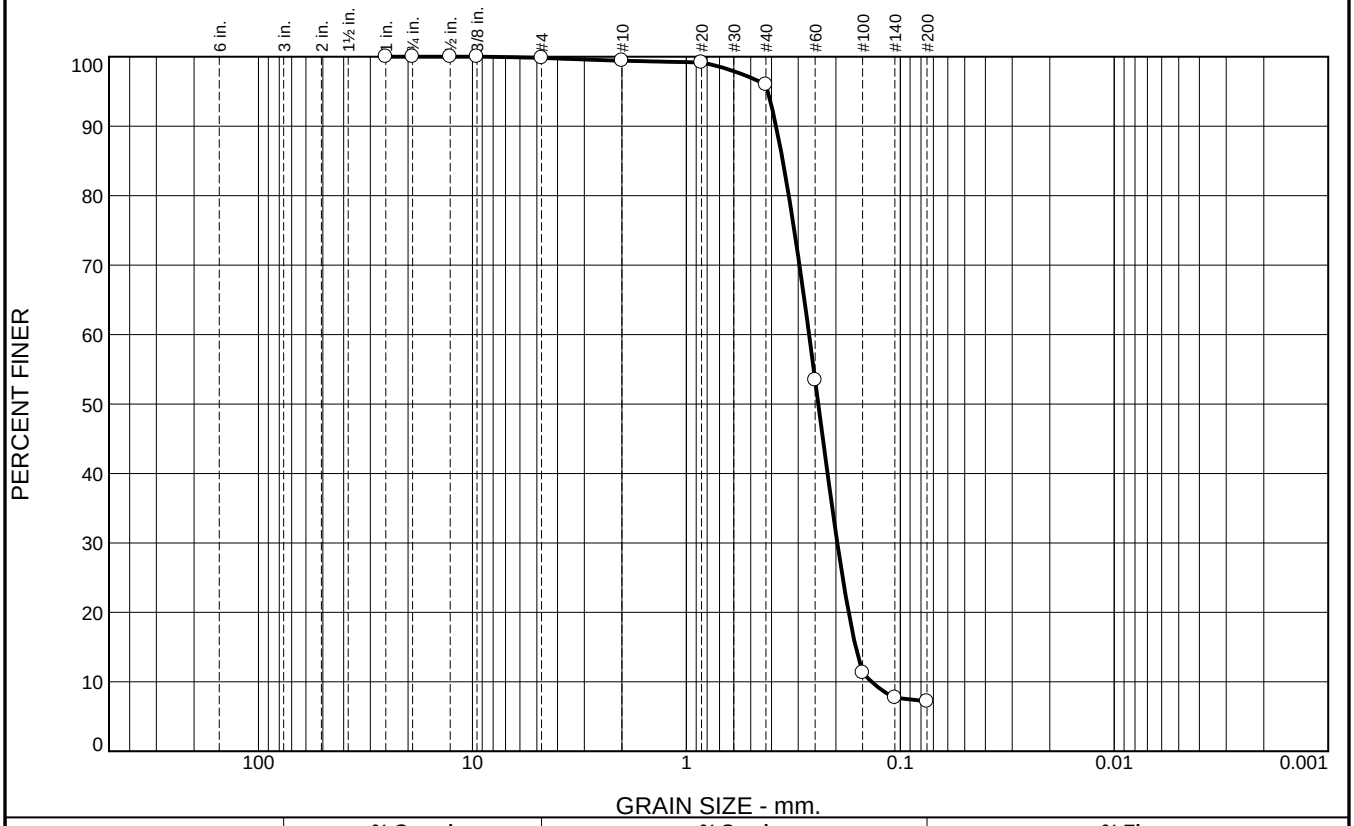
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.4	3.4	88.8	7.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.4		
#20	99.2		
#40	96.0		
#60	53.5		
#100	11.3		
#140	7.7		
#200	7.2		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3806 D_{85}= 0.3539 D_{60}= 0.2669
D_{50}= 0.2416 D_{30}= 0.1970 D_{15}= 0.1618
D_{10}= 0.1361 C_u= 1.96 C_c= 1.07

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-56-12 C
Sample Number: 6471 (34) **Depth:** 4.7' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-57-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-57-12	LOCATION COORDINATES: E = 1,130,570 N = 243,685	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 47.4 Ft.	
		15. DATE BORING	STARTED: 11-30-12 / COMPLETED: 11-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -47.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 14.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-47.1	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, lt. gray to gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.3414 mm % Fines: 2.3
-50.9	3.8				
-51.7	4.6		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	NS	
-52.5	5.4			B	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.2327 mm % Fines: 8.5
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace clay, trace wood debris, gray (SP)		
-56.1	9.0		CLAY, lean, mostly clay, some silt, trace fine-grained sand-sized quartz, gray (CL)		
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little shells, trace wood debris, gray (SC)	NS	
-58.4	11.3				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, trace shell fragments, trace wood debris, trace clay nodules, gray to light gray (SP)		
-61.1	14.0				

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.16927° Long = -88.37030°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

Core Identifier BI-PBS-57-12

Coordinate System
Latitude / Longitude

Latitude 30 10.156

Longitude 088 22.218

Date 11/30/2012

Start Time 14:51:00

End Time 14:53:28

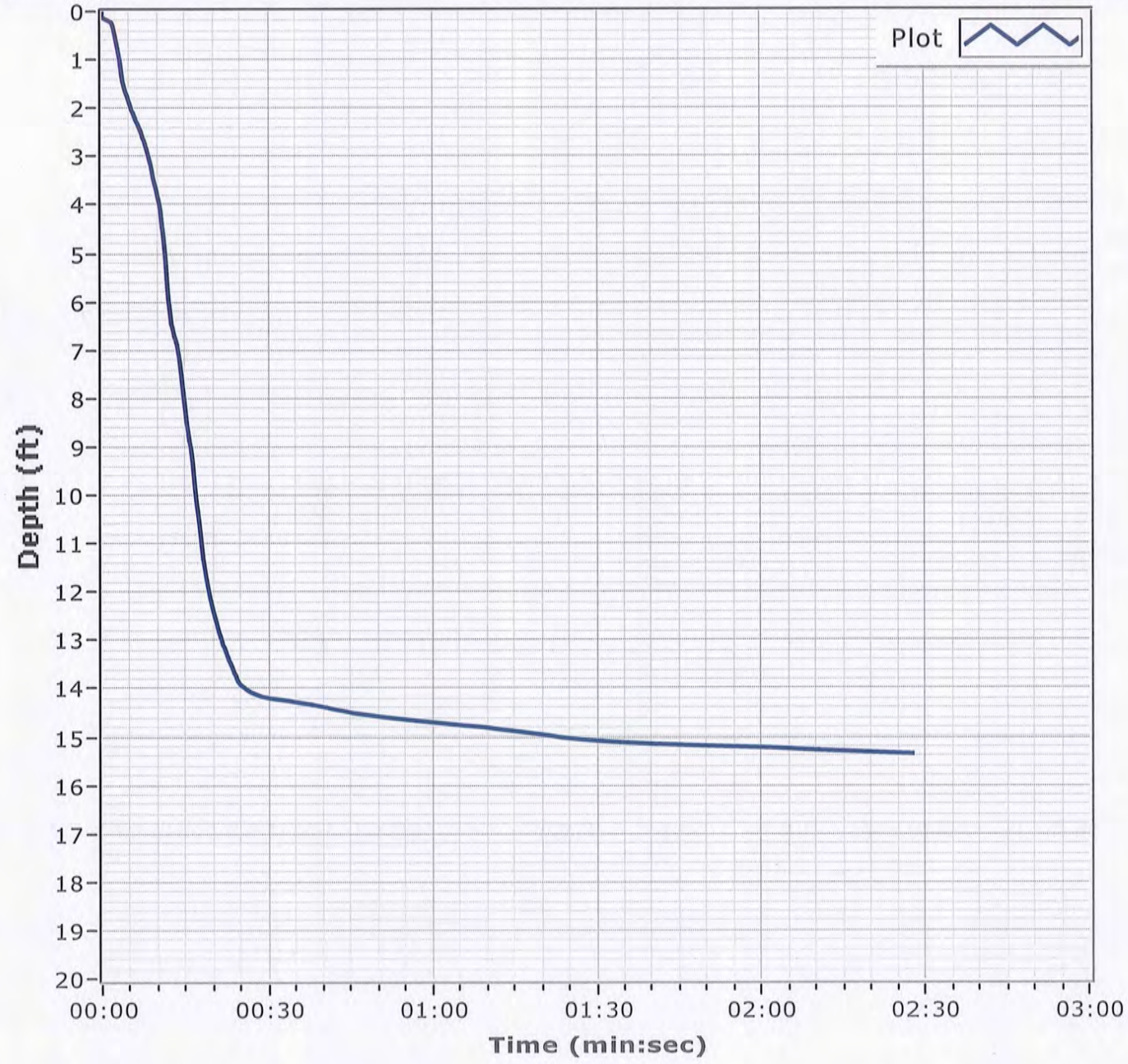
Total Time 00:02:28

Water Depth 47.4

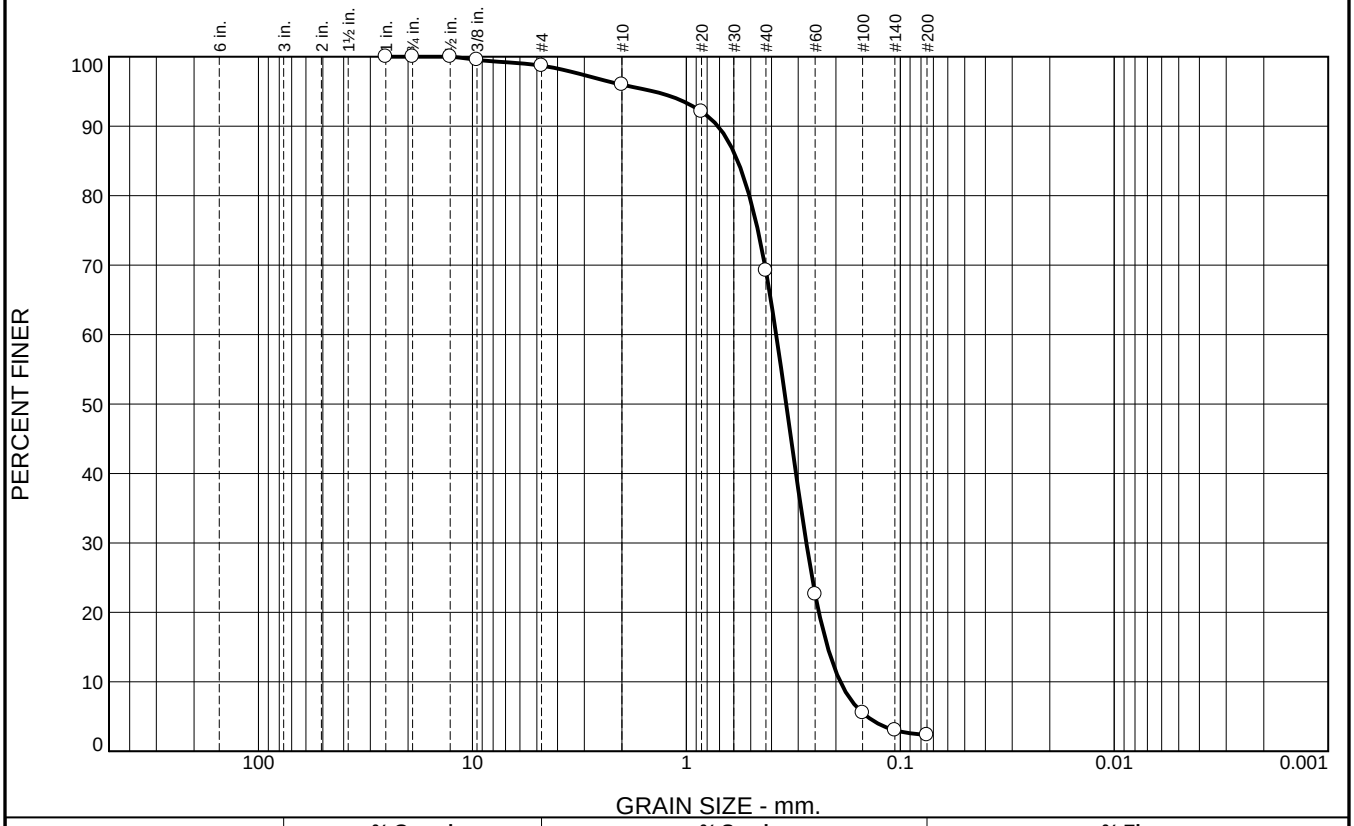
Penetration 15.4'

Recovery 14.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.3	2.7	26.8	66.9	2.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.5		
#4	98.7		
#10	96.0		
#20	92.1		
#40	69.2		
#60	22.6		
#100	5.5		
#140	3.0		
#200	2.3		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7121 D_{85}= 0.5755 D_{60}= 0.3801
D_{50}= 0.3414 D_{30}= 0.2751 D_{15}= 0.2187
D_{10}= 0.1908 C_u= 1.99 C_c= 1.04

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-57-12 A
Sample Number: 6471 (35) **Depth:** 0.0' **Date:** 12/03/12

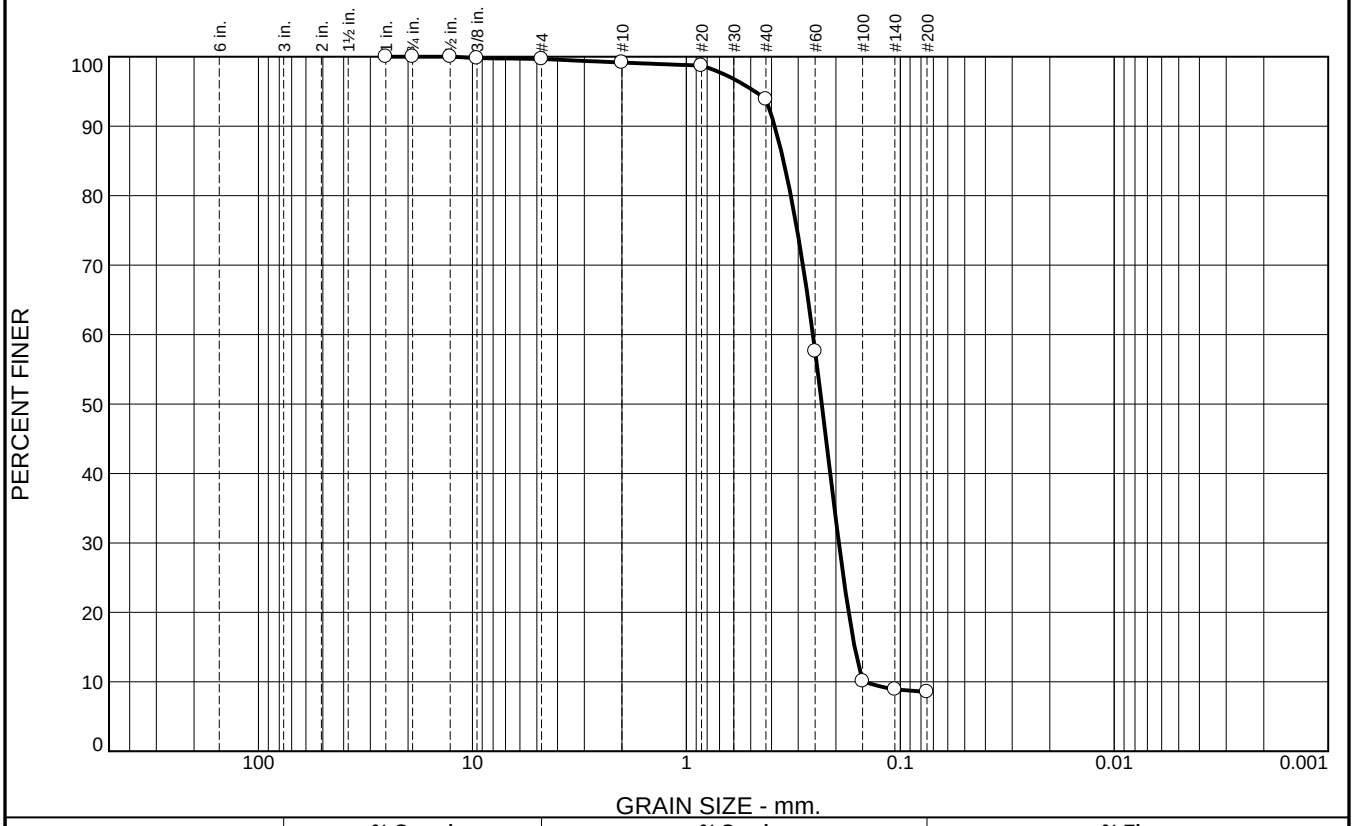
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.5	5.3	85.4	8.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.8		
#4	99.7		
#10	99.2		
#20	98.7		
#40	93.9		
#60	57.6		
#100	10.1		
#140	8.9		
#200	8.5		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3862 D_{85}= 0.3513 D_{60}= 0.2560
D_{50}= 0.2327 D_{30}= 0.1938 D_{15}= 0.1637
D_{10}= 0.1466 C_u= 1.75 C_c= 1.00

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-57-12 B
Sample Number: 6471 (36) **Depth:** 4.6' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-58-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-58-12	LOCATION COORDINATES: E = 1,129,310 N = 244,207	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 47.2 Ft.	
		15. DATE BORING	STARTED: 11-30-12 / COMPLETED: 11-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -46.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-46.8	0.0				
-50.0	3.2		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.3436 mm % Fines: 1.6
-51.4	4.6		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace silt, trace shell fragments, trace wood debris, gray (SC)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2437 mm % Fines: 16.5
-56.9	10.1		CLAY, fat, mostly clay, trace shell fragments, trace wood debris, few sandy pockets, medium to high plasticity, brownish gray to gray (CH)		
-60.7	13.9		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little shell fragments, large shells intermixed between 11.7 and 13.1 ft., gray (SC)	NS	
-66.7	19.9		SAND, poorly-graded with clay, mostly fine-grained sand-sized quartz, some clay, alternating bands of poorly graded, fine-grained sand and clay with some silt and fine grain sand, lt. gray to gray (SP-SC)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.17072° Long = -88.37428°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-58-12

Coordinate System
Latitude / Longitude

Latitude 30 10.243

Longitude 088 22.457

Date 11/30/2012

Start Time 15:41:36

End Time 15:42:37

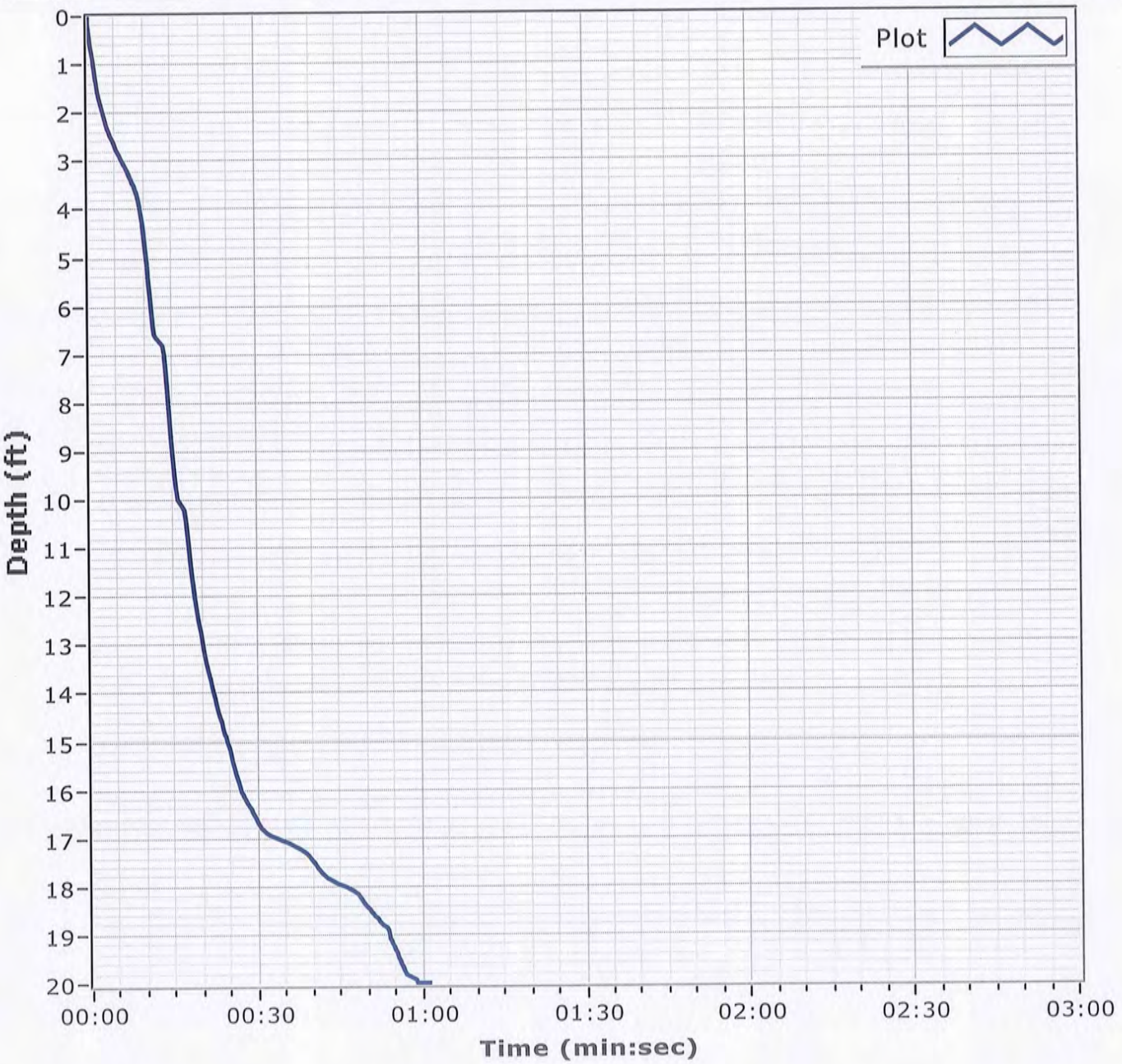
Total Time 00:01:01

Water Depth 47.2'

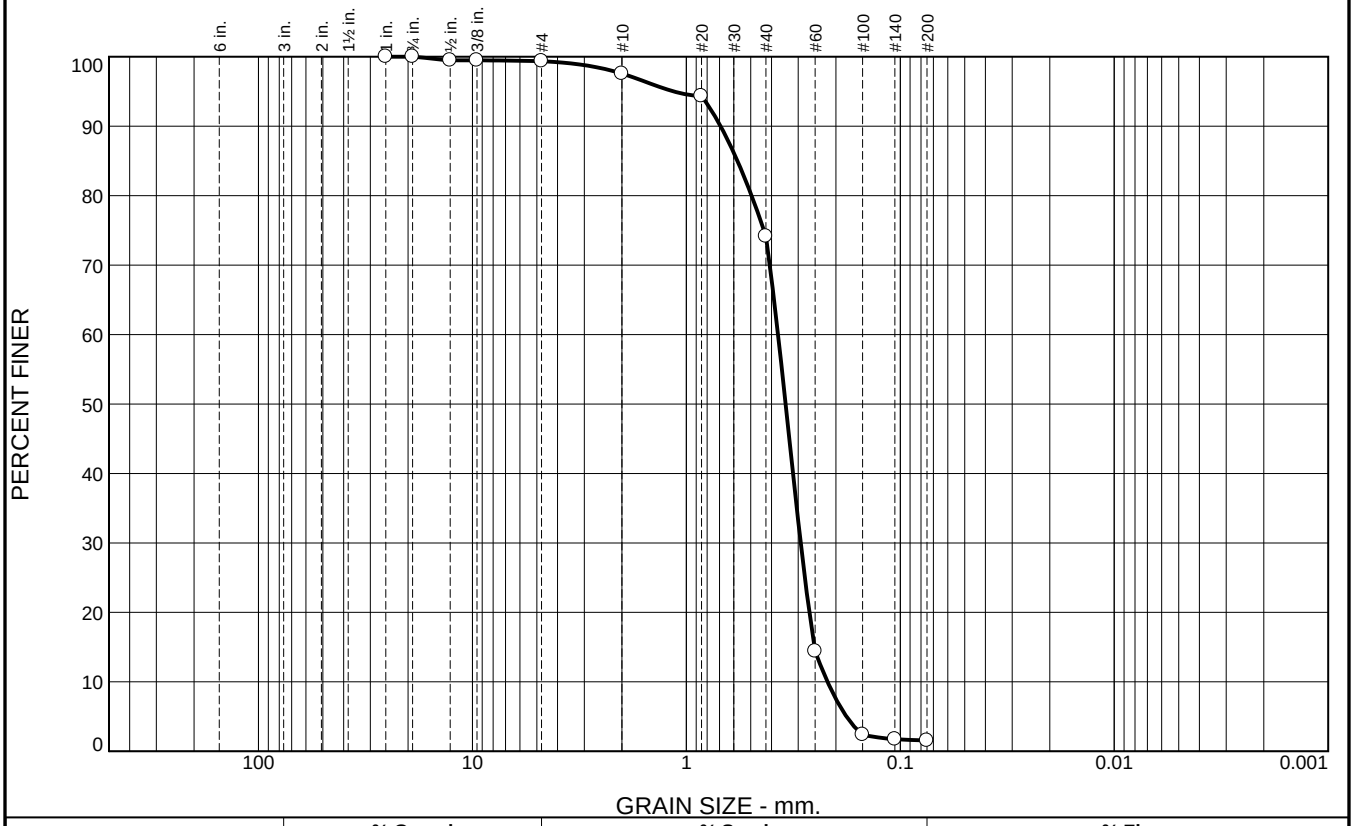
Penetration 20.0'

Recovery 19.9'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.6	1.8	23.5	72.5	1.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.5		
.375	99.5		
#4	99.4		
#10	97.6		
#20	94.3		
#40	74.1		
#60	14.4		
#100	2.4		
#140	1.7		
#200	1.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6921 D_{85}= 0.5770 D_{60}= 0.3726
D_{50}= 0.3436 D_{30}= 0.2923 D_{15}= 0.2519
D_{10}= 0.2189 C_u= 1.70 C_c= 1.05

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-58.12A
Sample Number: 6471 (37) **Depth:** 0.0' **Date:** 12/03/12

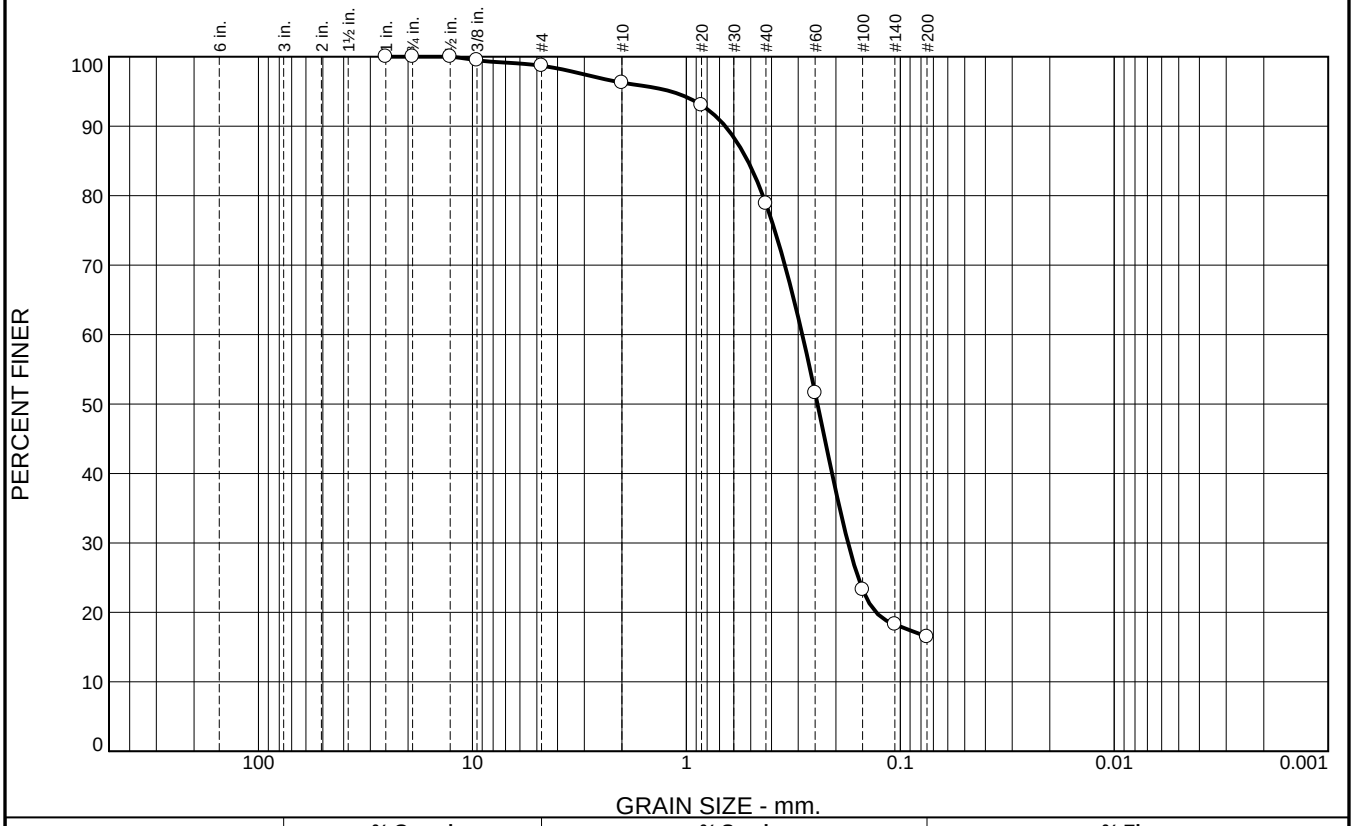
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.3	2.4	17.4	62.4	16.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.5		
#4	98.7		
#10	96.3		
#20	93.0		
#40	78.9		
#60	51.6		
#100	23.3		
#140	18.3		
#200	16.5		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with trace organics and trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6582 D_{85}= 0.5164 D_{60}= 0.2873
D_{50}= 0.2437 D_{30}= 0.1756 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-58-12 B
Sample Number: 6471 (38) **Depth:** 3.2' **Date:** 12/03/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-59-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-59-12	LOCATION COORDINATES: E = 1,138,239 N = 233,424	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 53.4 Ft.	
		15. DATE BORING	STARTED: 11-26-12 / COMPLETED: 11-26-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -52.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-52.9	0.0				
-54.7	1.8		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 7/1-light gray D50: 0.3203 mm % Fines: 1.1
-55.5	2.6		SAND, silty, mostly fine-grained sand-sized quartz, trace shell fragments, gray (SM)	B	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.206 mm % Fines: 11.4
-61.0	8.1		CLAY, silty, mostly silt, some sand, trace shells, sandy silt with alternating clayey bands, greenish gray mottled with brown (CL-ML)		
-66.2	13.3		SAND, silty, mostly fine-grained sand-sized quartz, some silt, few clay, trace shell fragments, gray (SM)	NS	
-72.4	19.5		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace wood debris, medium stiffness, gray (CH)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14097° Long = -88.34617°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

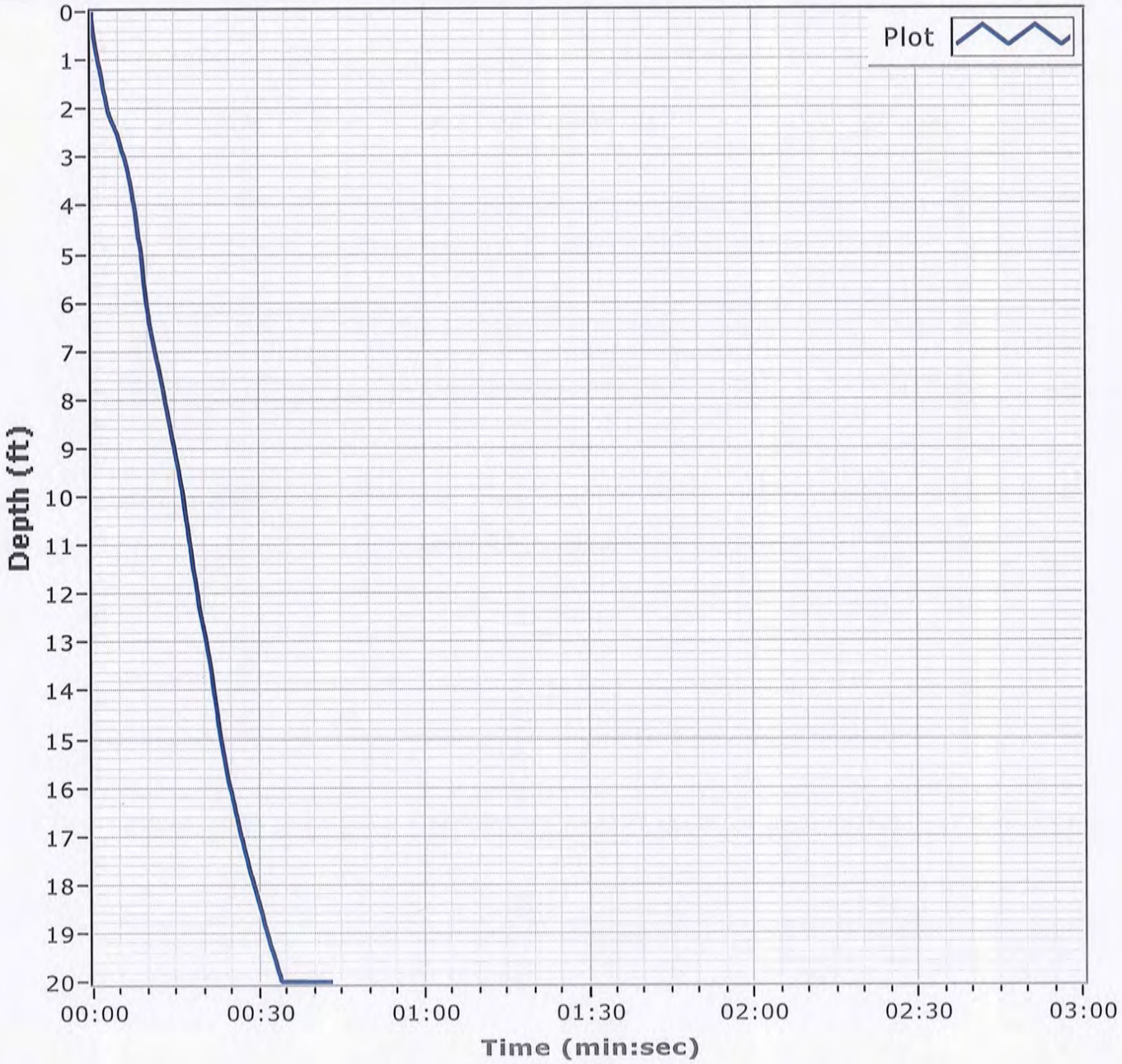
Core Identifier BI-PBS-59-12
Coordinate System
Latitude / Longitude

Date 11/26/2012
Start Time 11:20:29
End Time 11:21:12
Total Time 00:00:43

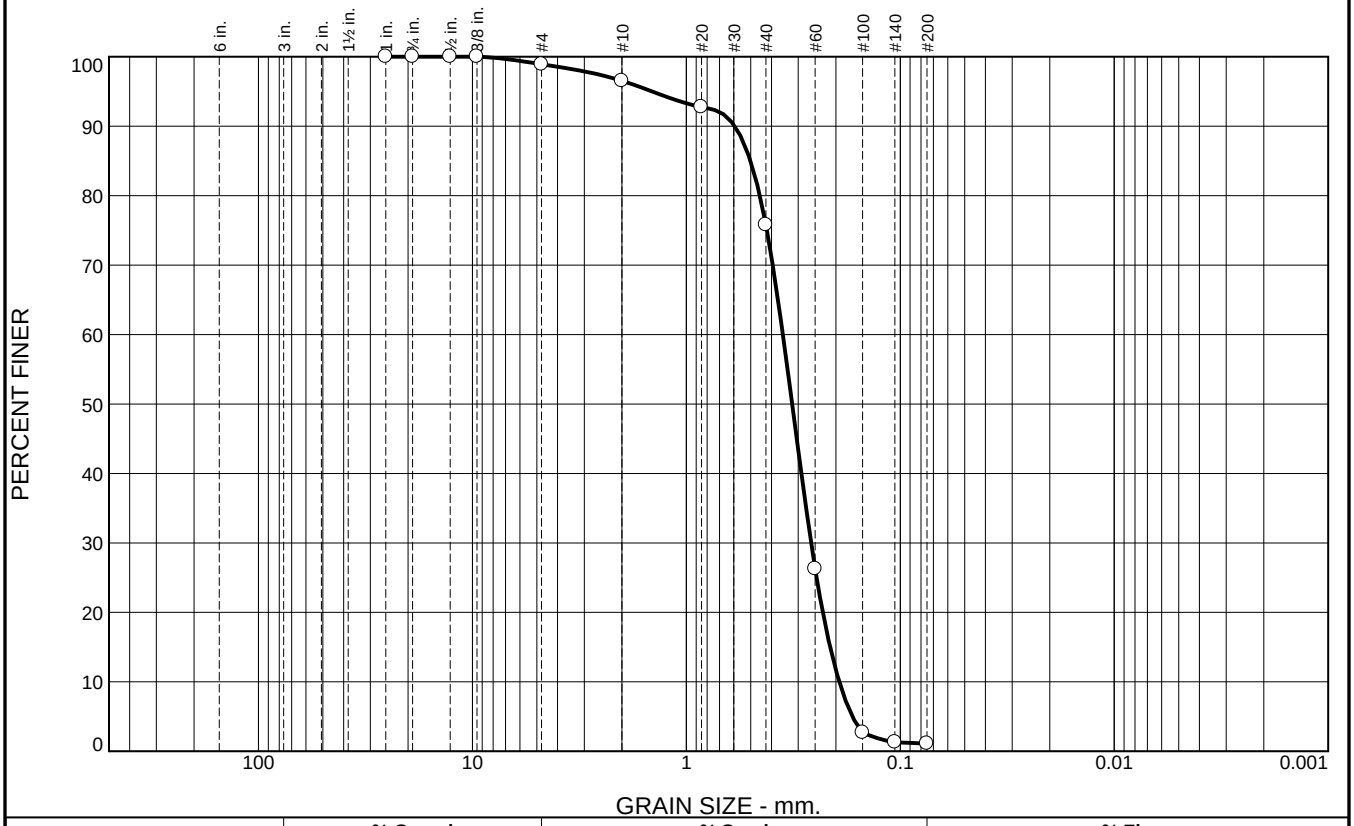
Water Depth 53.4'
Penetration 20.0'
Recovery 19.5'

Latitude 30 08.458
Longitude 088 20.770

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.1	2.4	20.7	74.7	1.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	98.9		
#10	96.5		
#20	92.8		
#40	75.8		
#60	26.3		
#100	2.7		
#140	1.3		
#200	1.1		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5938 D_{85}= 0.5015 D_{60}= 0.3539
D_{50}= 0.3203 D_{30}= 0.2611 D_{15}= 0.2128
D_{10}= 0.1930 C_u= 1.83 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-59-12 A
Sample Number: 6469 (60) **Depth:** 0.0' **Date:** 11/28/12

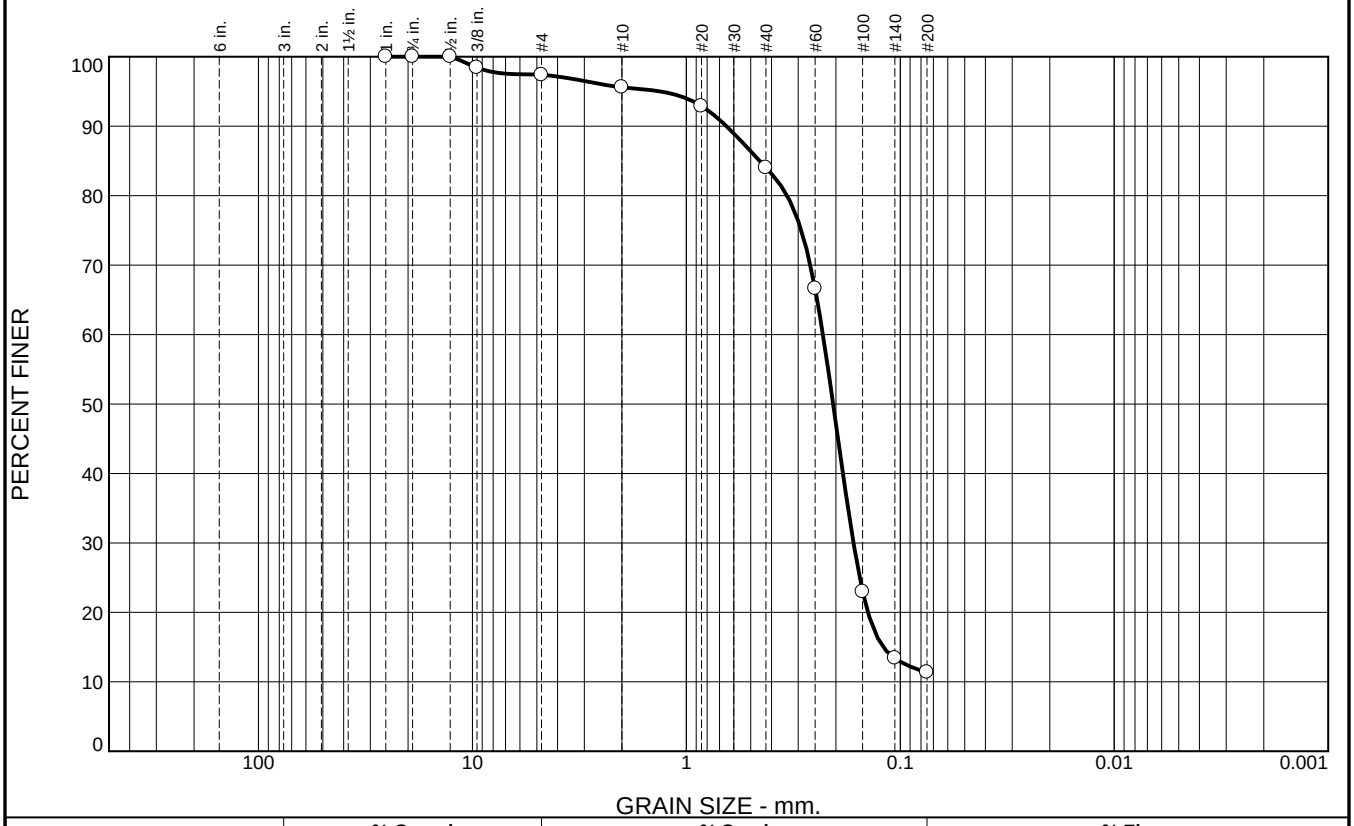
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.6	1.8	11.6	72.6	11.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	98.4		
#4	97.4		
#10	95.6		
#20	92.9		
#40	84.0		
#60	66.6		
#100	23.0		
#140	13.4		
#200	11.4		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6502 D_{85}= 0.4550 D_{60}= 0.2299
D_{50}= 0.2060 D_{30}= 0.1656 D_{15}= 0.1202
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-59-12 B
Sample Number: 6469 (61) **Depth:** 1.8' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-60-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-60-12	LOCATION COORDINATES: E = 1,142,000 N = 234,950	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 61.3 Ft.
		15. DATE BORING	STARTED: 11-24-12 / COMPLETED: 11-24-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -60.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-60.5	0.0				
-62.3	1.8		SILT, inorganic-L, mostly silt, little fine-grained sand-sized quartz, dark gray (ML)	NS	Classification: SM Color: 2.5Y 6/2-light brownish gray D50: 0.1996 mm % Fines: 17.9
-63.3	2.8		SAND, silty, mostly fine-grained sand-sized quartz, with clay lenses, dark gray (SM)	B	Classification: SM Color: 2.5Y 6/2-light brownish gray D50: 0.2138 mm % Fines: 13.5
-68.4	7.9		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, trace wood debris, dark gray (SP-SM)	C	Classification: SP Color: 2.5Y 7/3-pale yellow D50: 0.2462 mm % Fines: 4.3
-77.3	16.8		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, gray (SP) At El. -69.9 Ft., mostly fine-grained sand-sized quartz, trace fines, lt. gray At El. -72.3 Ft., mostly fine-grained sand-sized quartz, tan mottled with light gray	D	Classification: SP Color: 2.5Y 7.5/1.5- D50: 0.2621 mm % Fines: 1.4
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14512° Long = -88.33425°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

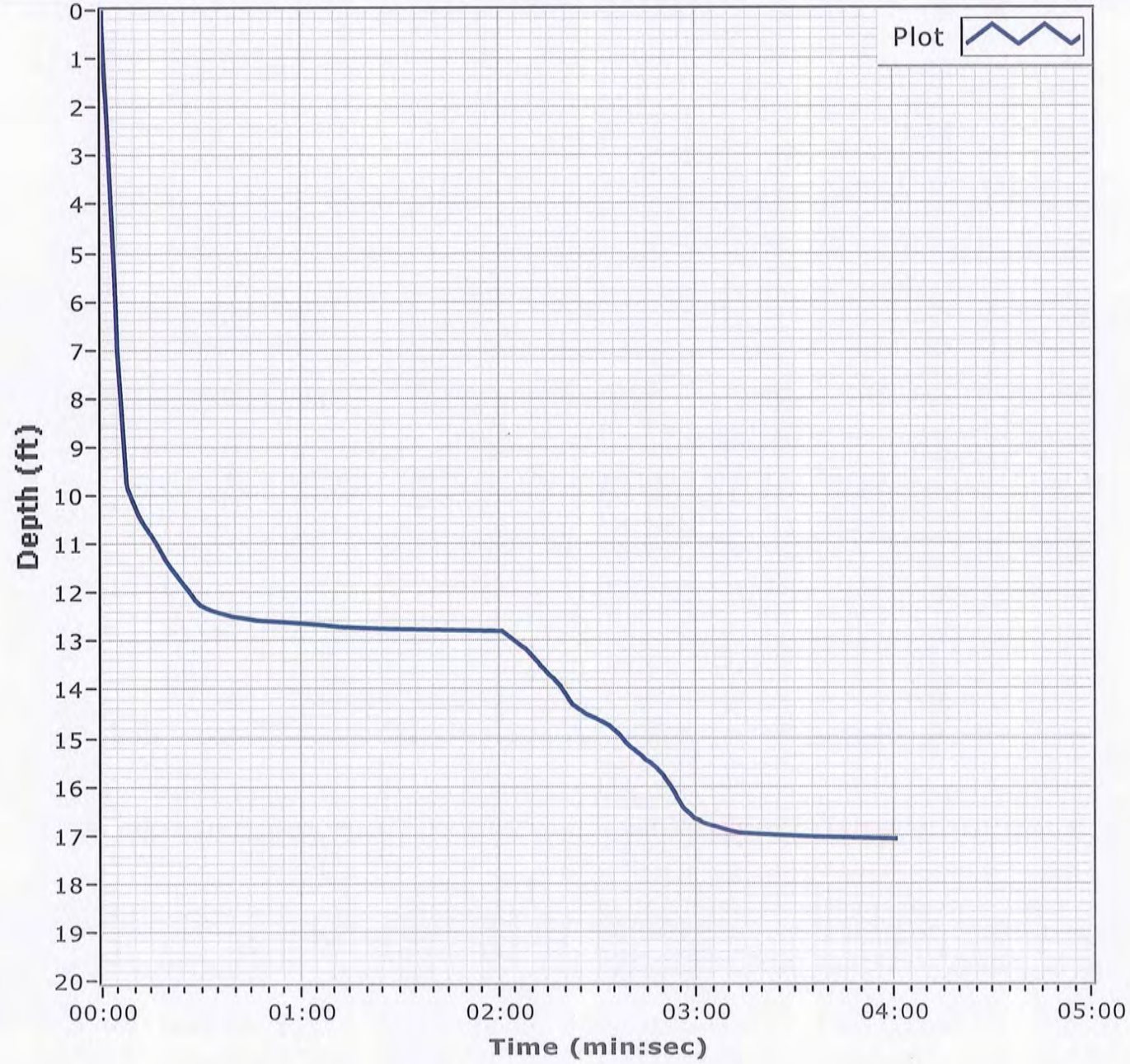
Core Identifier BI-PBS-60-12
Coordinate System
Latitude / Longitude

Latitude 30 08.707
Longitude 088 20.055

Date 11/24/2012
Start Time 15:08:12
End Time 15:12:13
Total Time 00:04:01

Water Depth 61.3'
Penetration 17.1'
Recovery 16.8'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.4	13.2	68.3	17.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.4		
#20	97.9		
#40	86.2		
#60	62.7		
#100	35.0		
#140	23.0		
#200	17.9		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4869 D_{85}= 0.4102 D_{60}= 0.2381
D_{50}= 0.1996 D_{30}= 0.1332 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-60-12 A
Sample Number: 6469 (50) **Depth:** 2.8' **Date:** 11/28/12

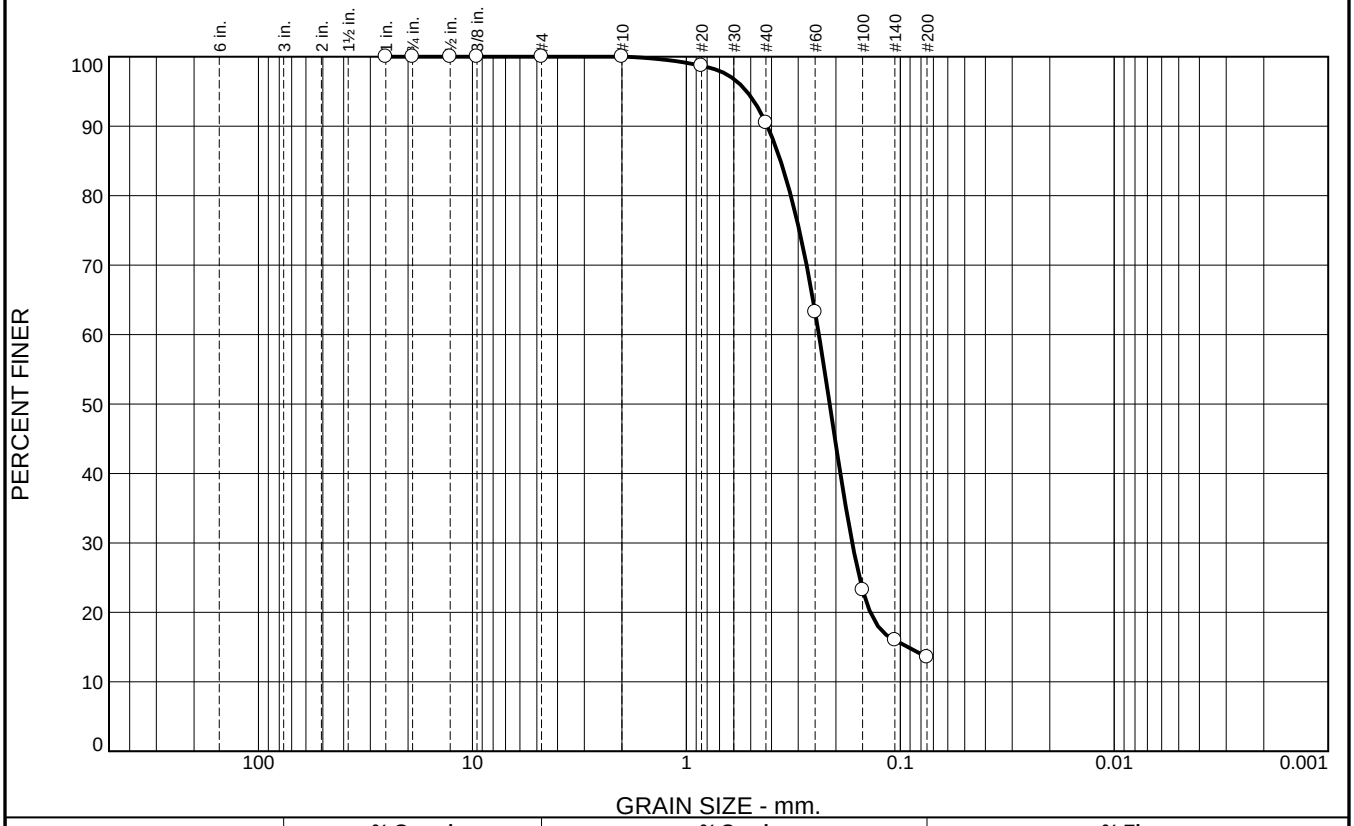
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	9.5	77.0	13.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	98.7		
#40	90.5		
#60	63.2		
#100	23.2		
#140	16.0		
#200	13.5		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4181 D_{85}= 0.3626 D_{60}= 0.2401
D_{50}= 0.2138 D_{30}= 0.1679 D_{15}= 0.0920
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-60-12 B
Sample Number: 6469 (51) **Depth:** 7.9' **Date:** 11/28/12

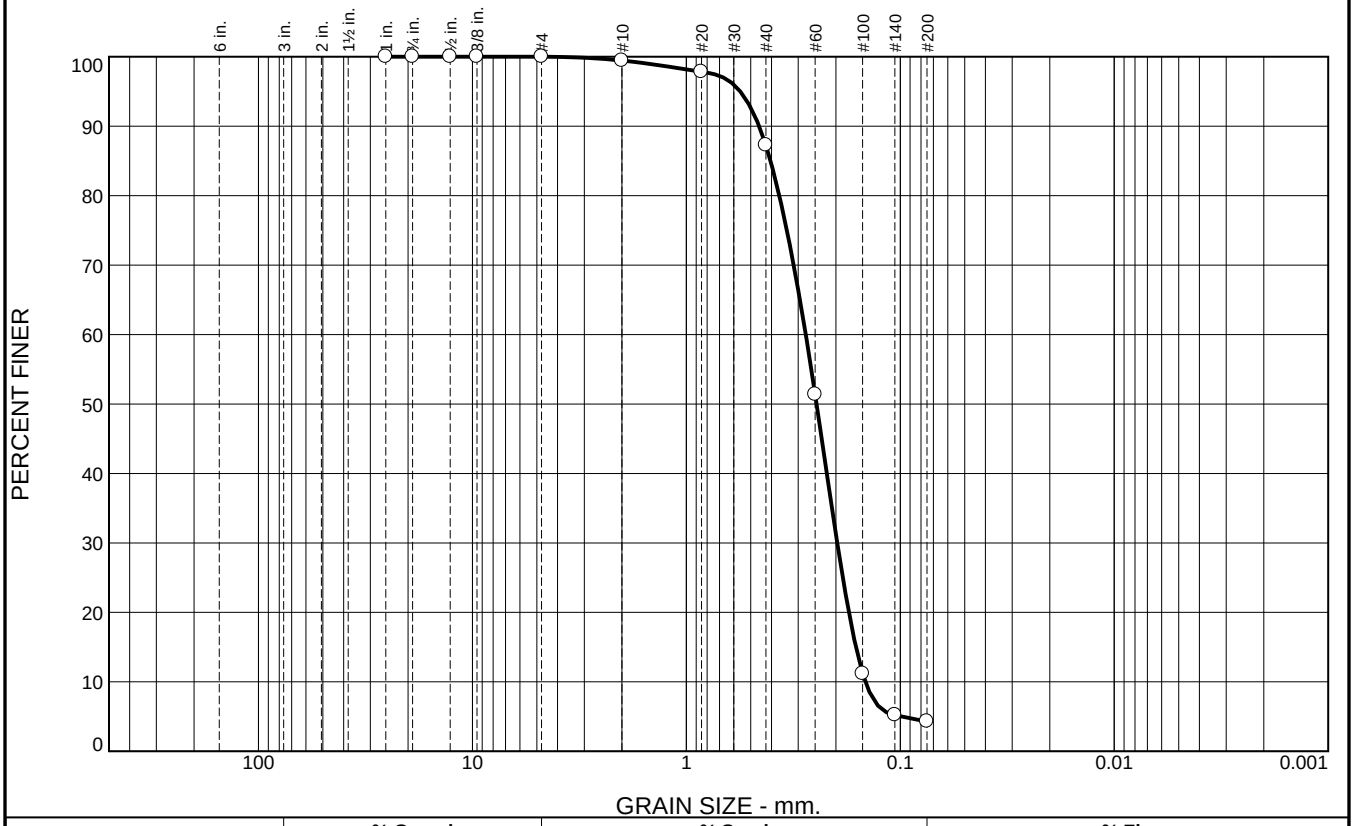
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.6	12.1	83.0	4.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.4		
#20	97.8		
#40	87.3		
#60	51.4		
#100	11.2		
#140	5.2		
#200	4.3		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4570 D_{85}= 0.4042 D_{60}= 0.2767
D_{50}= 0.2462 D_{30}= 0.1972 D_{15}= 0.1614
D_{10}= 0.1457 C_u= 1.90 C_c= 0.96

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-60-12 C
Sample Number: 6469 (52) **Depth:** 9.4' **Date:** 11/28/12

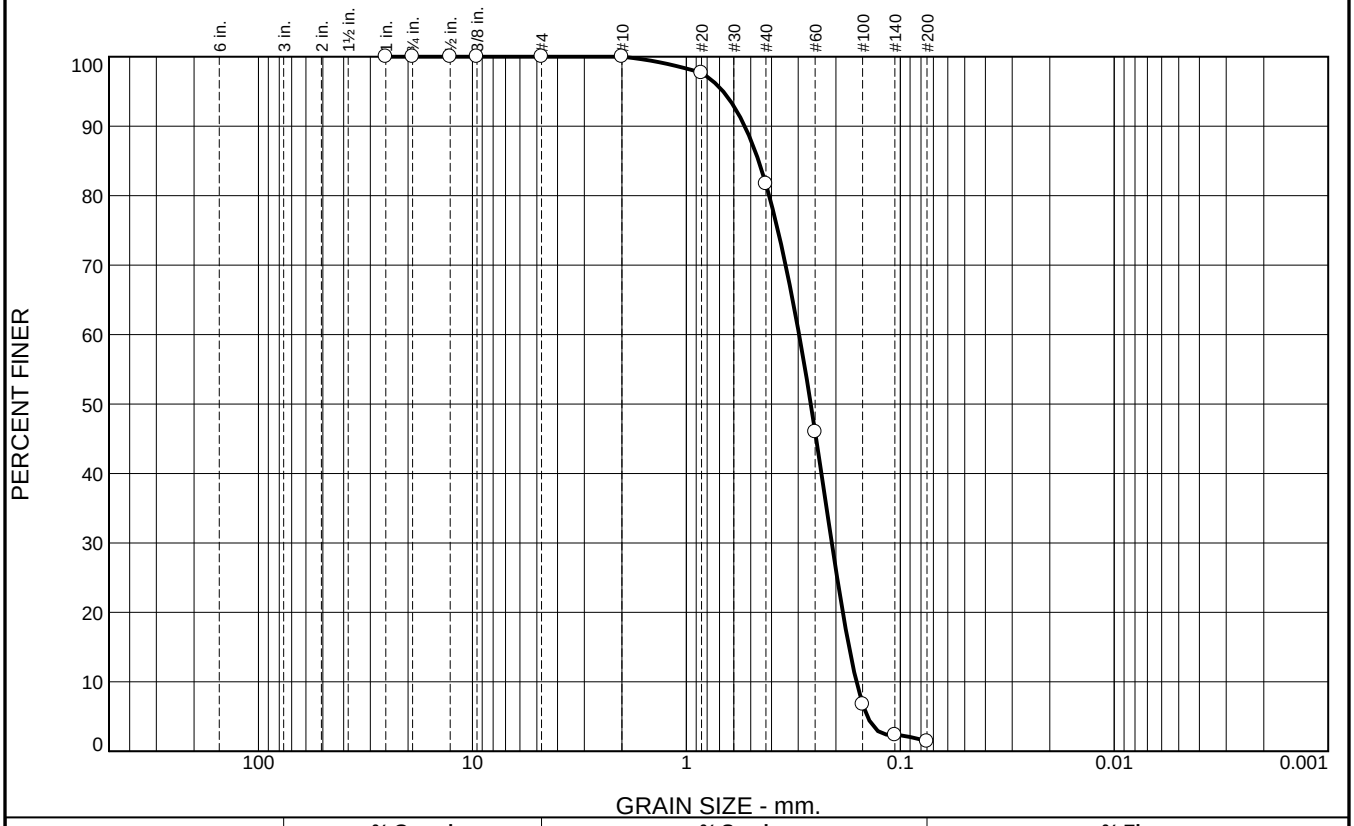
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	18.3	80.3	1.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	97.7		
#40	81.7		
#60	46.0		
#100	6.7		
#140	2.3		
#200	1.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5334 D_{85}= 0.4595 D_{60}= 0.2974
D_{50}= 0.2621 D_{30}= 0.2090 D_{15}= 0.1737
D_{10}= 0.1605 C_u= 1.85 C_c= 0.92

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-60-12 D
Sample Number: 6469 (53) **Depth:** 11.8' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-61-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-61-12	LOCATION COORDINATES: E = 1,150,557 N = 236,916	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 55 Ft.	
		15. DATE BORING	STARTED: 11-16-12 / COMPLETED: 11-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 11.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-54.9	0.0				
-57.1	2.2		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace shell fragments, gray (SP)	A	Classification: SP-SM Color: 5Y 6.5/1-gray D50: 0.2349 mm % Fines: 5.2
-60.7	5.8		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, trace shell fragments, gray (SM)	NS	
-63.1	8.2		CLAY, fat, mostly clay, little fine-grained sand-sized quartz, medium plasticity, gray (CH)		
-64.6	9.7		SAND, silty, mostly fine-grained sand-sized quartz, some silt, brown (SM)		
-66.1	11.2		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, light brown (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.15042° Long = -88.30715°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

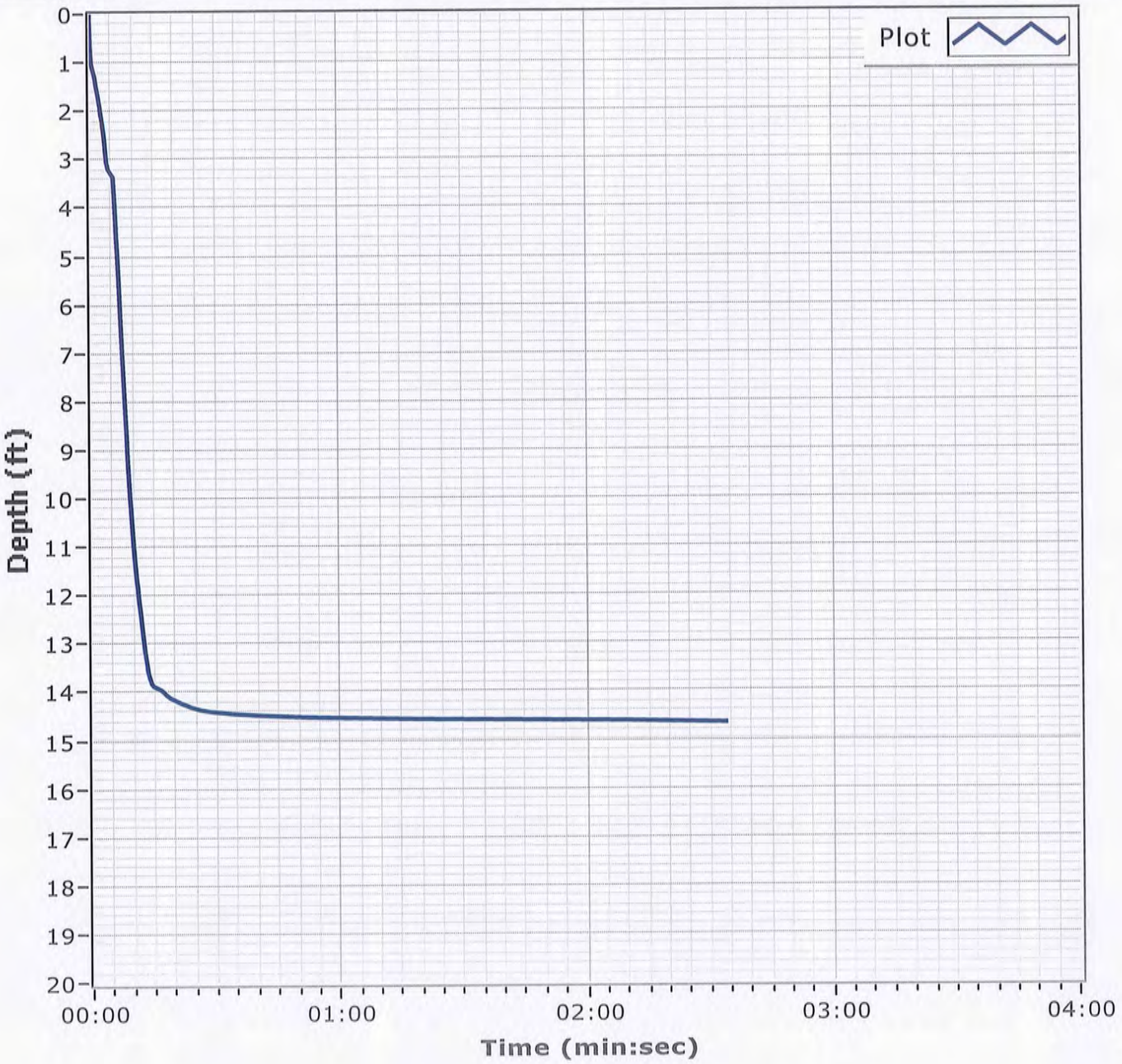
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Coordinate System
Latitude / Longitude

Date 11/16/2012
Start Time 16:27:41
End Time 16:30:15
Total Time 00:02:34

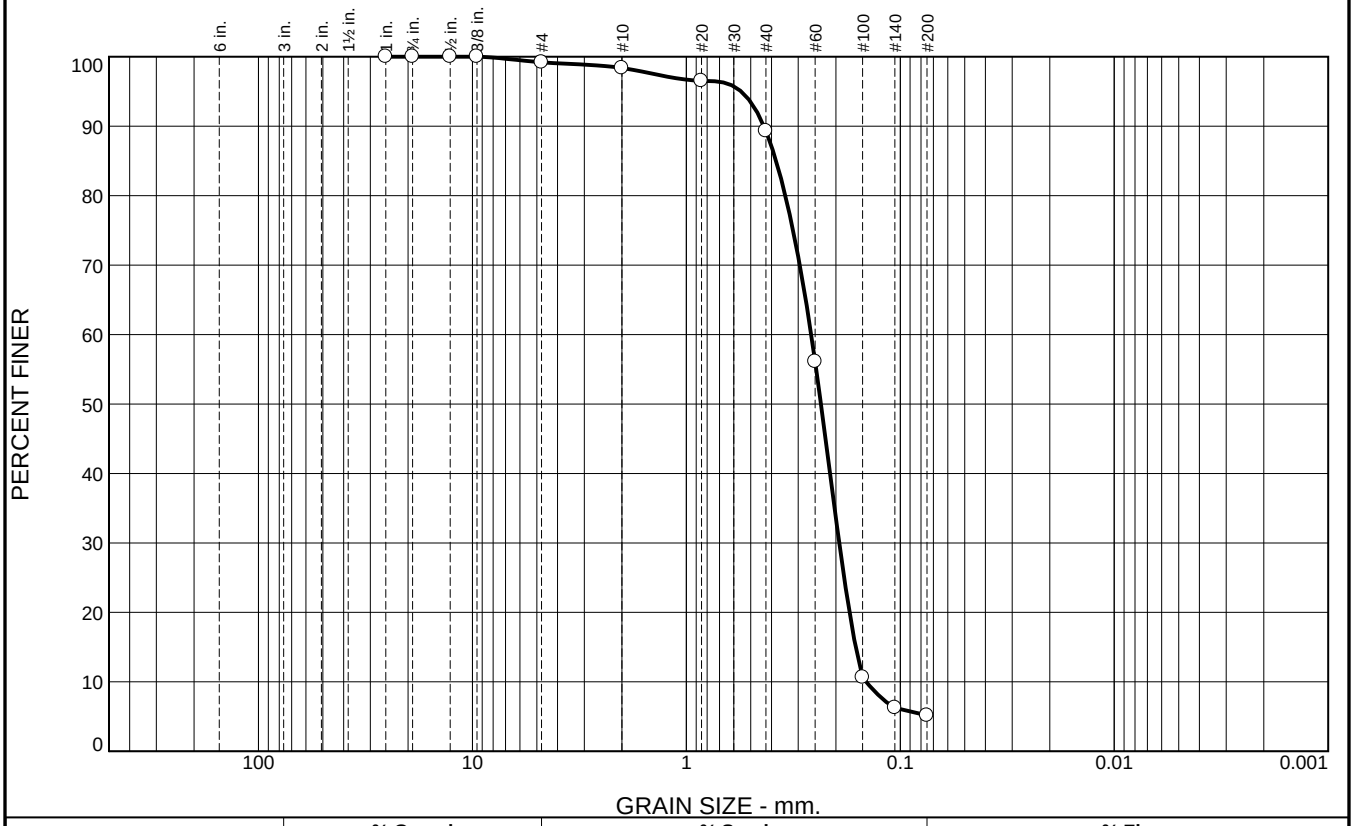
Water Depth 55.0'
Penetration 14.7'
Recovery 12.3'

Latitude 30 09.025
Longitude 88 18.429

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	0.8	9.1	84.1	5.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.2		
#10	98.4		
#20	96.5		
#40	89.3		
#60	56.1		
#100	10.6		
#140	6.3		
#200	5.2		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4342 D_{85}= 0.3805 D_{60}= 0.2609
D_{50}= 0.2349 D_{30}= 0.1930 D_{15}= 0.1618
D_{10}= 0.1444 C_u= 1.81 C_c= 0.99

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-61-12 A
Sample Number: 6462 **Depth:** 0.0' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-62-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-62-12	LOCATION COORDINATES: E = 1,150,505 N = 237,945	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 56 Ft.	
		15. DATE BORING	STARTED: 11-16-12 / COMPLETED: 11-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.1 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-56.4	0.0				
-57.2	0.8		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2417 mm % Fines: 3
-59.5	3.1		SAND, silty, mostly fine-grained sand-sized quartz, some silt, with clay lenses, gray (SM)	NS	
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, few silt, gray (SP)	B	Classification: SP-SM Color: 2.5Y 7/2-light gray D50: 0.1758 mm % Fines: 11.6
			At El. -62.3 Ft., mostly fine-grained sand-sized quartz, trace silt, light gray	C	Classification: SP Color: 2.5Y 8/1-white D50: 0.205 mm % Fines: 2.5
-72.5	16.1			D	Classification: SP Color: 2.5Y 8/1-white D50: 0.2836 mm % Fines: 2.3

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.15325° Long = -88.30730°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

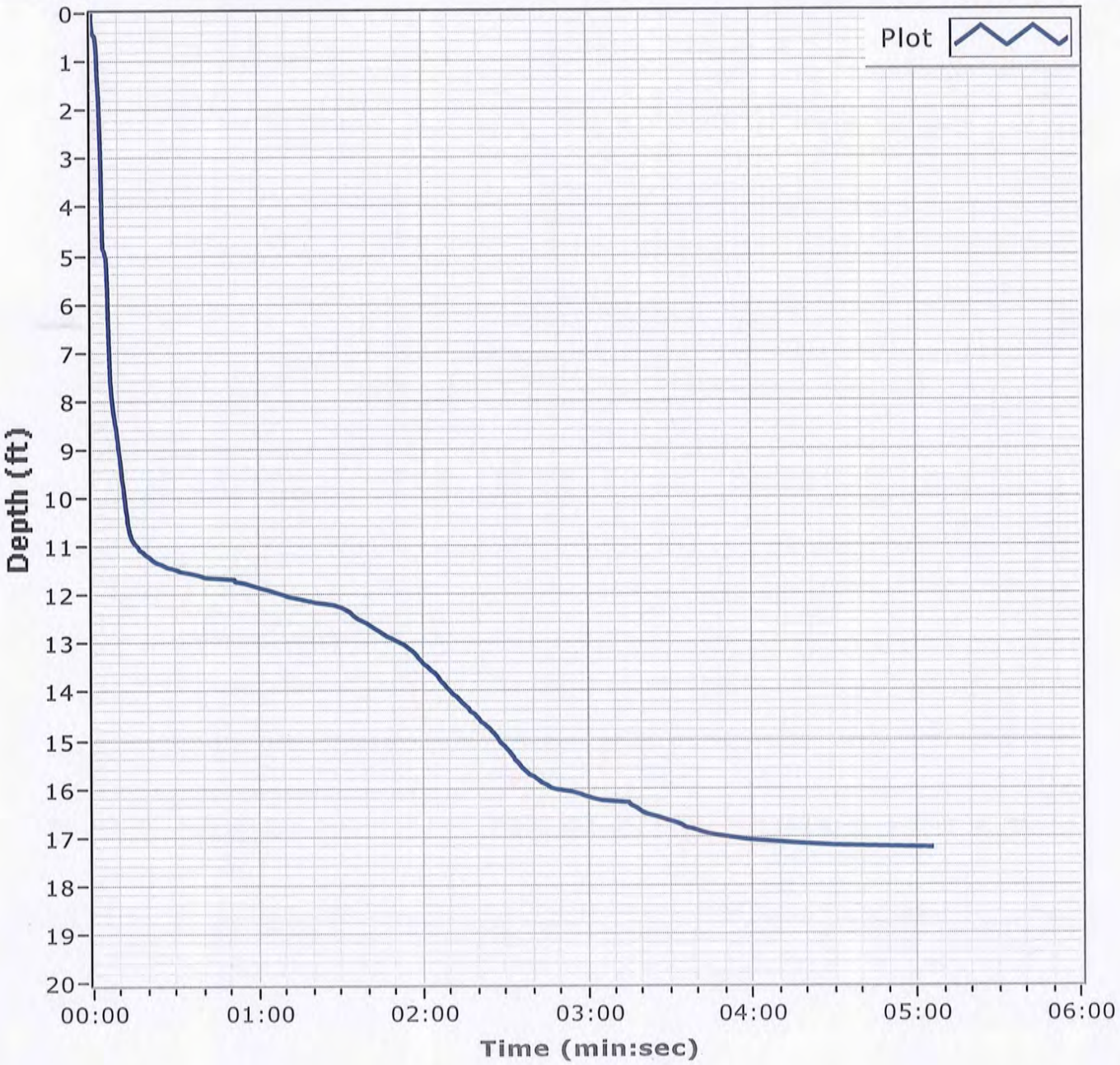
Core Identifier BI-PBS-62-12
Coordinate System
Latitude / Longitude

Date 11/16/2012
Start Time 13:13:00
End Time 13:18:06
Total Time 00:05:06

Water Depth 56.0'
Penetration 17.2'
Recovery 16.5'

Latitude 30 09.195
Longitude 88 18.438

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.6	0.9	9.0	86.5	3.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.4		
#10	98.5		
#20	96.9		
#40	89.5		
#60	53.2		
#100	9.5		
#140	3.8		
#200	3.0		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4395 D_{85}= 0.3843 D_{60}= 0.2693
D_{50}= 0.2417 D_{30}= 0.1971 D_{15}= 0.1648
D_{10}= 0.1515 C_u= 1.78 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-62-12 A
Sample Number: 6462 **Depth:** 0.0 **Date:** 11/23/12

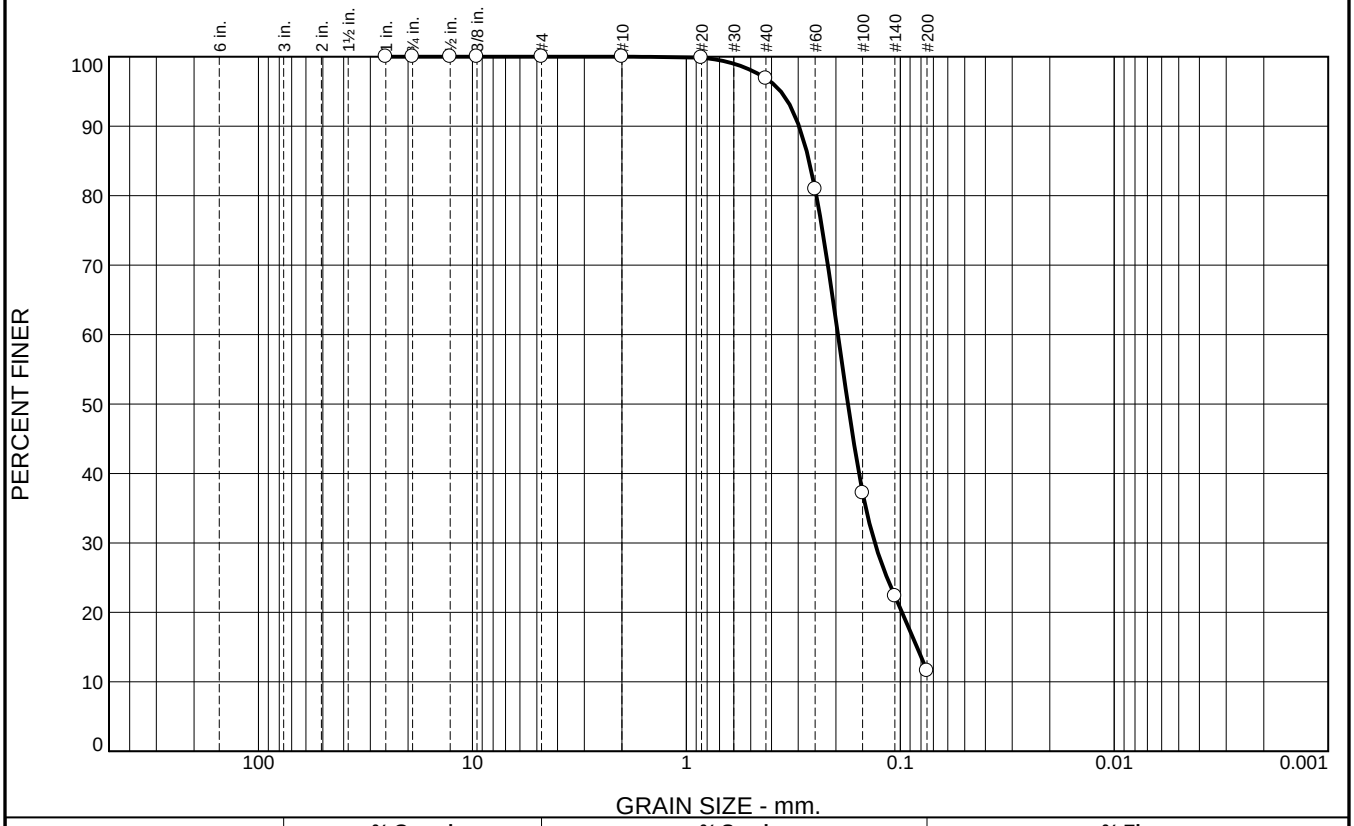
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.1	85.3	11.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	96.9		
#60	80.9		
#100	37.2		
#140	22.4		
#200	11.6		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2975 D_{85}= 0.2670 D_{60}= 0.1957
D_{50}= 0.1758 D_{30}= 0.1316 D_{15}= 0.0836
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-62-12 B
Sample Number: 6462 **Depth:** 3.1' **Date:** 11/23/12

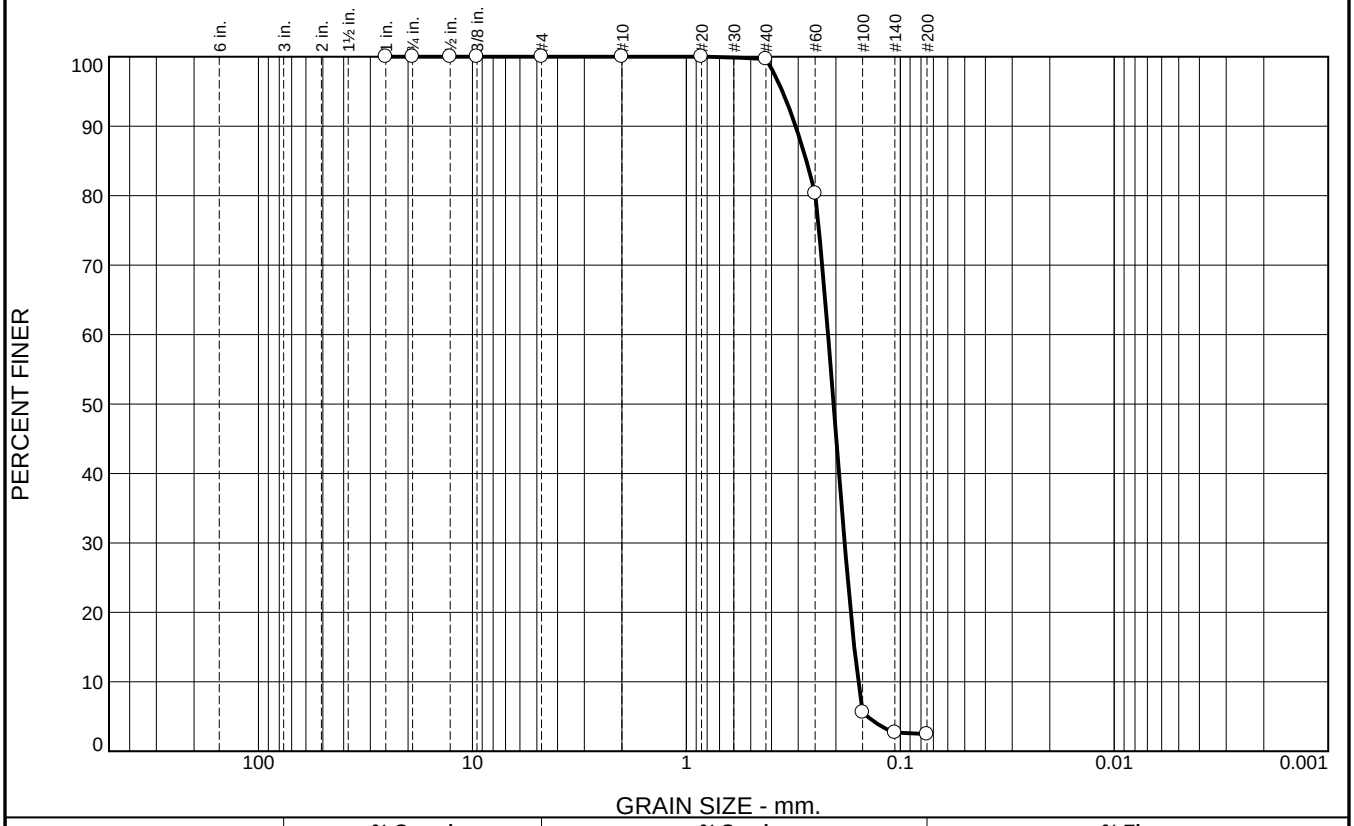
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.3	97.2	2.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.7		
#60	80.3		
#100	5.6		
#140	2.7		
#200	2.5		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3087 D_{85}= 0.2748 D_{60}= 0.2175
D_{50}= 0.2050 D_{30}= 0.1821 D_{15}= 0.1643
D_{10}= 0.1574 C_u= 1.38 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-62-12 C
Sample Number: 6462 **Depth:** 5.9' **Date:** 11/23/12

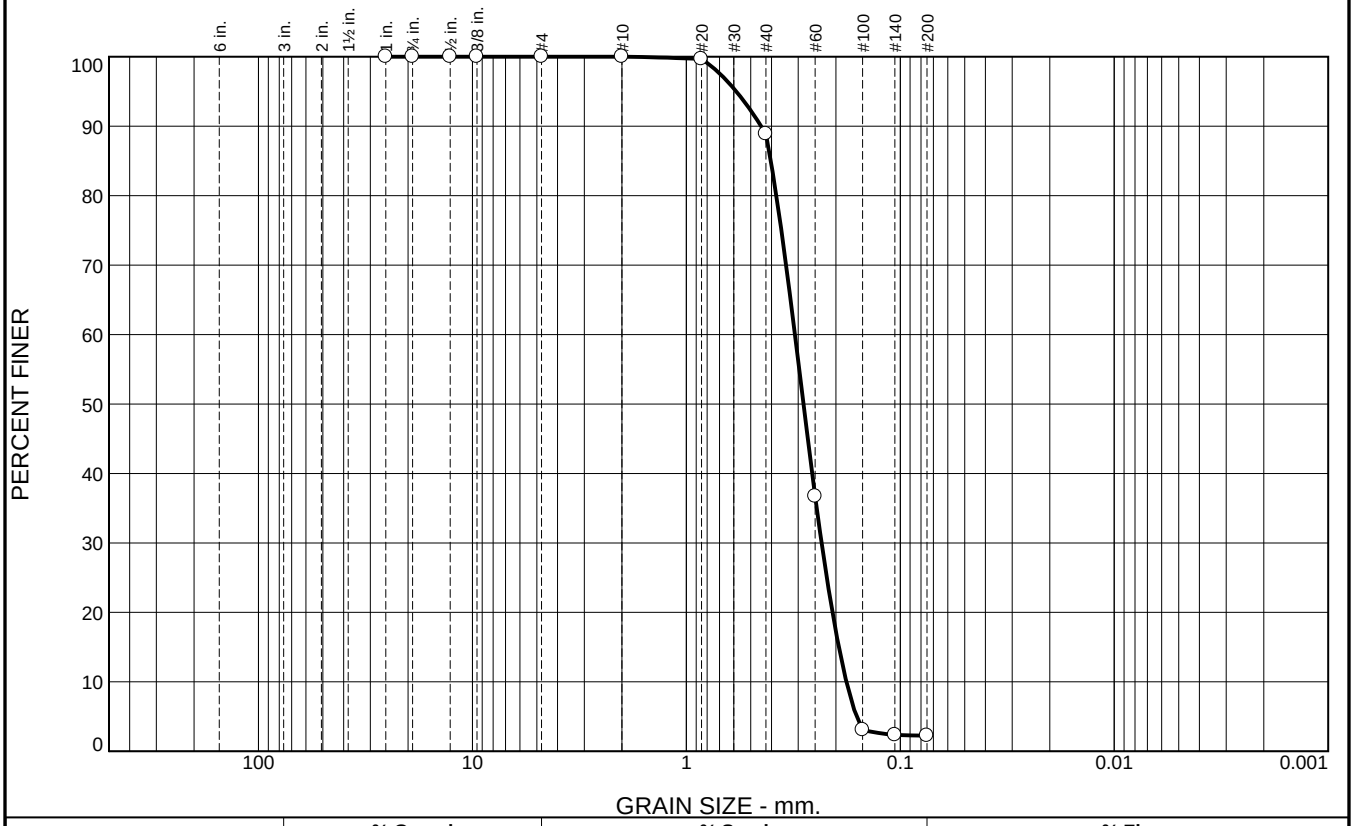
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	11.1	86.6	2.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.7		
#40	88.9		
#60	36.7		
#100	3.1		
#140	2.3		
#200	2.3		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4475 D_{85}= 0.4028 D_{60}= 0.3109
D_{50}= 0.2836 D_{30}= 0.2333 D_{15}= 0.1938
D_{10}= 0.1788 C_u= 1.74 C_c= 0.98

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-62-12 D
Sample Number: 6462 **Depth:** 11.0' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-63-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-63-12	LOCATION COORDINATES: E = 1,149,074 N = 238,385	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 56 Ft.
		15. DATE BORING	STARTED: 11-16-12 / COMPLETED: 11-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 14.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-56.3	0.0				
-57.8	1.5		SAND, poorly-graded, mostly fine-grained sand-sized quartz, gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2768 mm % Fines: 2.3
-61.3	5.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace medium to coarse-grained shell fragments, with clay lenses, gray (SC)	NS	
-61.8	5.5				
-62.6	6.3		CLAY, fat, mostly clay, medium to high plasticity, gray (CH)		
			SAND, poorly-graded with clay, mostly fine-grained sand-sized quartz, little clay, trace wood debris, gray (SP-SC)	B	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.2104 mm % Fines: 3
-70.3	14.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, dense, lt. gray (SP)	C	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.2398 mm % Fines: 2

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.15448° Long = -88.31182°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

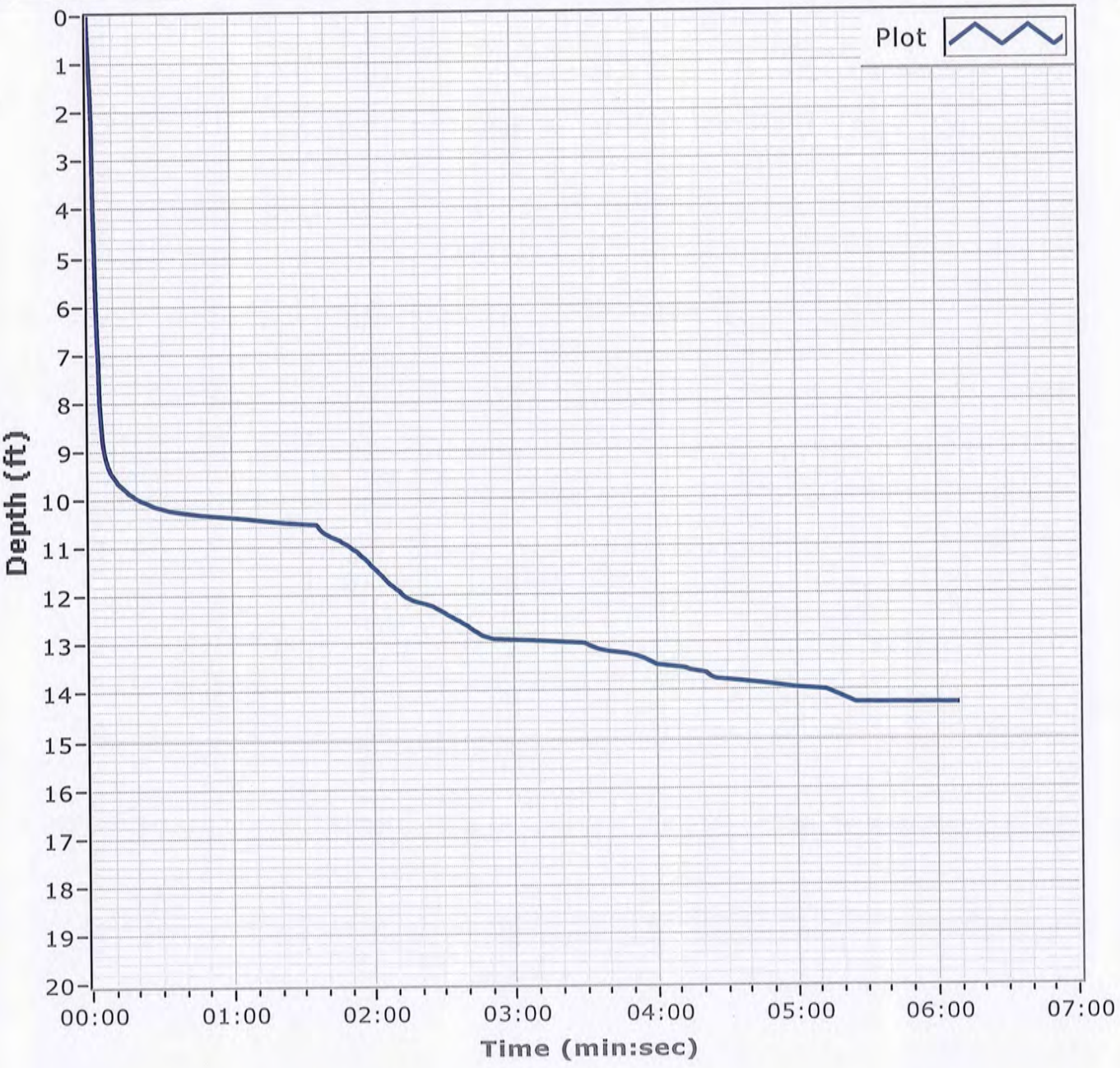
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Coordinate System Latitude / Longitude

Latitude 30 09.269
Longitude 88 18.709

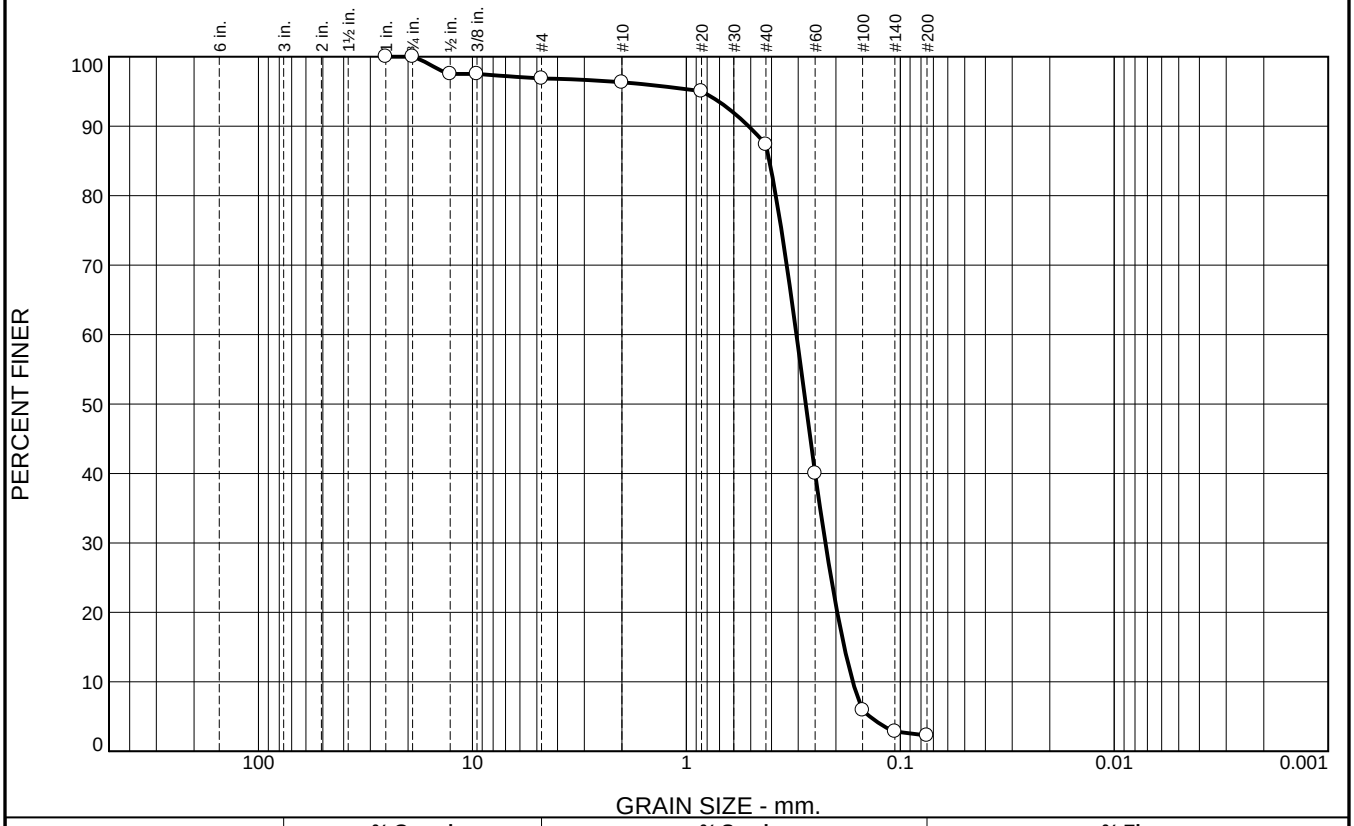
Date 11/16/2012
Start Time 14:13:22
End Time 14:19:31
Total Time 00:06:09

Water Depth 56.0'
Penetration 14.3'
Recovery 14.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.1	0.6	8.9	85.1	2.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	97.5		
.375	97.5		
#4	96.9		
#10	96.3		
#20	95.0		
#40	87.4		
#60	40.0		
#100	5.9		
#140	2.8		
#200	2.3		

* (no specification provided)

Material Description

Fine grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5122 D_{85}= 0.4090 D_{60}= 0.3060
D_{50}= 0.2768 D_{30}= 0.2239 D_{15}= 0.1829
D_{10}= 0.1668 C_u= 1.83 C_c= 0.98

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-63-12 A
Sample Number: 6462 **Depth:** 0.0' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.9	96.1	3.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.1		
#60	74.4		
#100	5.8		
#140	3.2		
#200	3.0		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2995 D_{85}= 0.2785 D_{60}= 0.2246
D_{50}= 0.2104 D_{30}= 0.1850 D_{15}= 0.1655
D_{10}= 0.1578 C_u= 1.42 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-63-12 B
Sample Number: 6462 **Depth:** 6.4' **Date:** 11/23/12

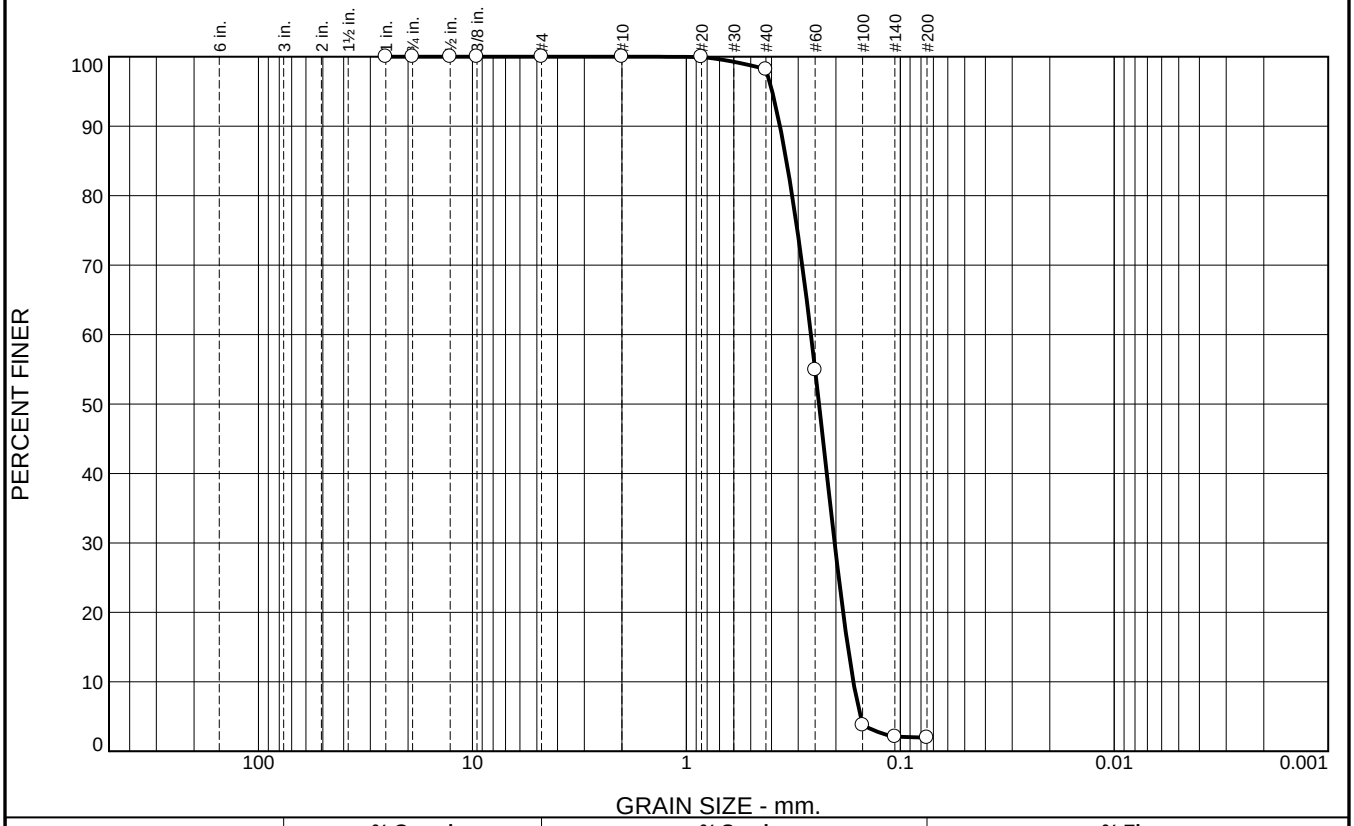
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.8	96.2	2.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	98.2		
#60	54.9		
#100	3.8		
#140	2.1		
#200	2.0		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3649 D_{85}= 0.3404 D_{60}= 0.2615
D_{50}= 0.2398 D_{30}= 0.2028 D_{15}= 0.1759
D_{10}= 0.1659 C_u= 1.58 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-63-12 C
Sample Number: 6462 **Depth:** 9.0' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-64-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-64-12	LOCATION COORDINATES: E = 1,151,592 N = 237,331	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Services, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 56 Ft.	
		15. DATE BORING	STARTED: 11-16-12 / COMPLETED: 11-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-56.5	0.0			
-57.5	1.0	SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace medium to coarse-grained shell fragments, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2991 mm % Fines: 1.6
-59.5	3.0	SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)		
-62.0	5.5	SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)		
-62.5	6.0	CLAY, fat, mostly clay, medium to high plasticity, dark gray (CH)		
-65.8	9.3	SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, dark gray (SM)	NS	
-66.1	9.6	SILT, inorganic-L, mostly silt, little fine-grained sand, trace organic matter, brown (ML)		
-68.1	11.6	SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace organic matter, dark brown (SM)		
-68.5	12.0	WOOD, mostly wood debris, brown		
-68.8	12.3	CLAY, lean, mostly clay, some silt, trace sand, dark brown (CL)		
-69.8	13.3			
-72.7	16.2	SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, gray (SP-SM)	B	Classification: SP Color: 10YR 7/1-light gray D50: 0.2304 mm % Fines: 3.9
		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, lt. gray (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.15155° Long = -88.30387°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

Core Identifier BI-PBS-64- 12

Coordinate System
Latitude / Longitude

Latitude 30 09.093

Longitude 88 18.232

Date 11/16/2012

Start Time 11:50:46

End Time 11:51:46

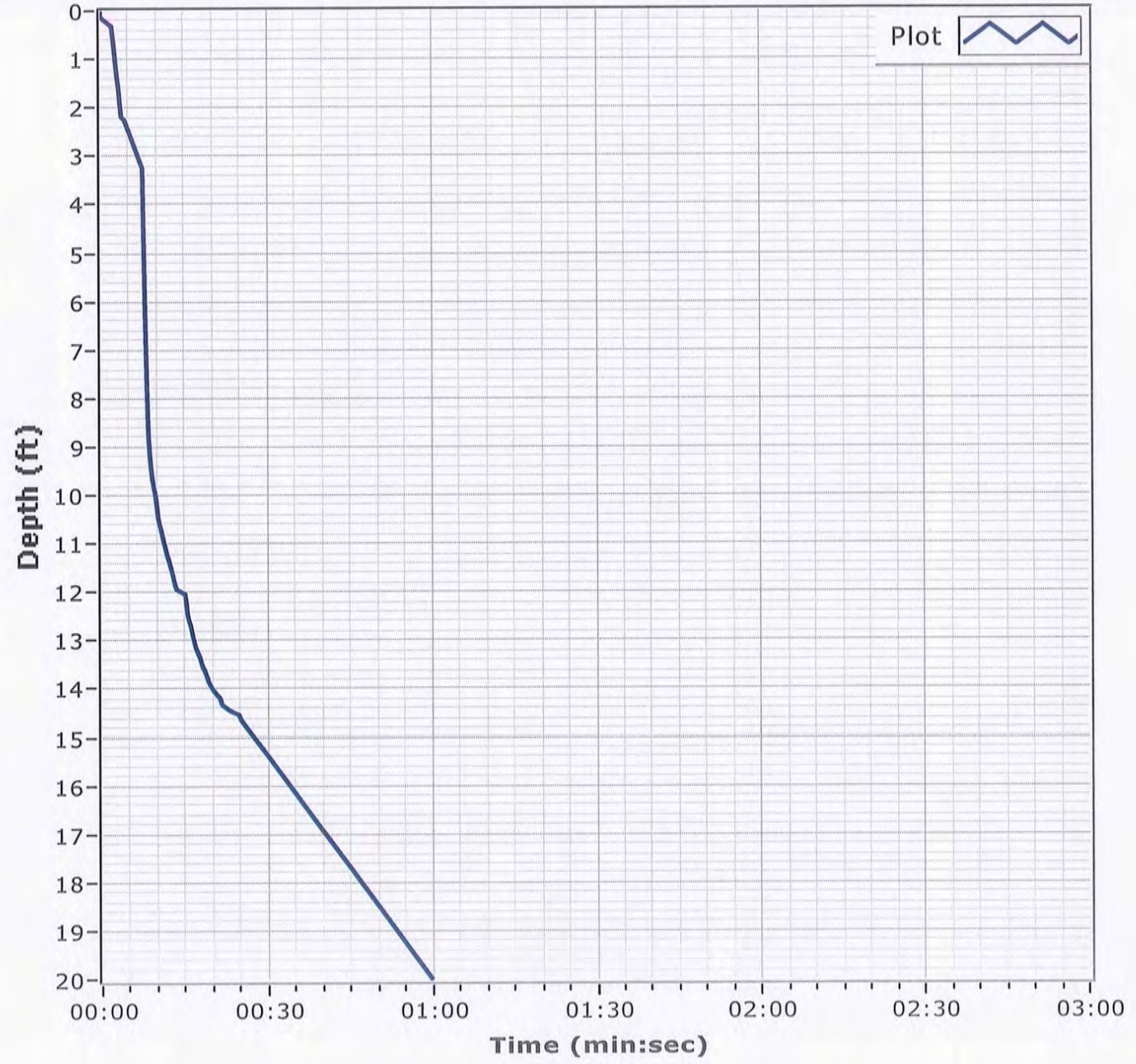
Total Time 00:01:00

Water Depth 56.0'

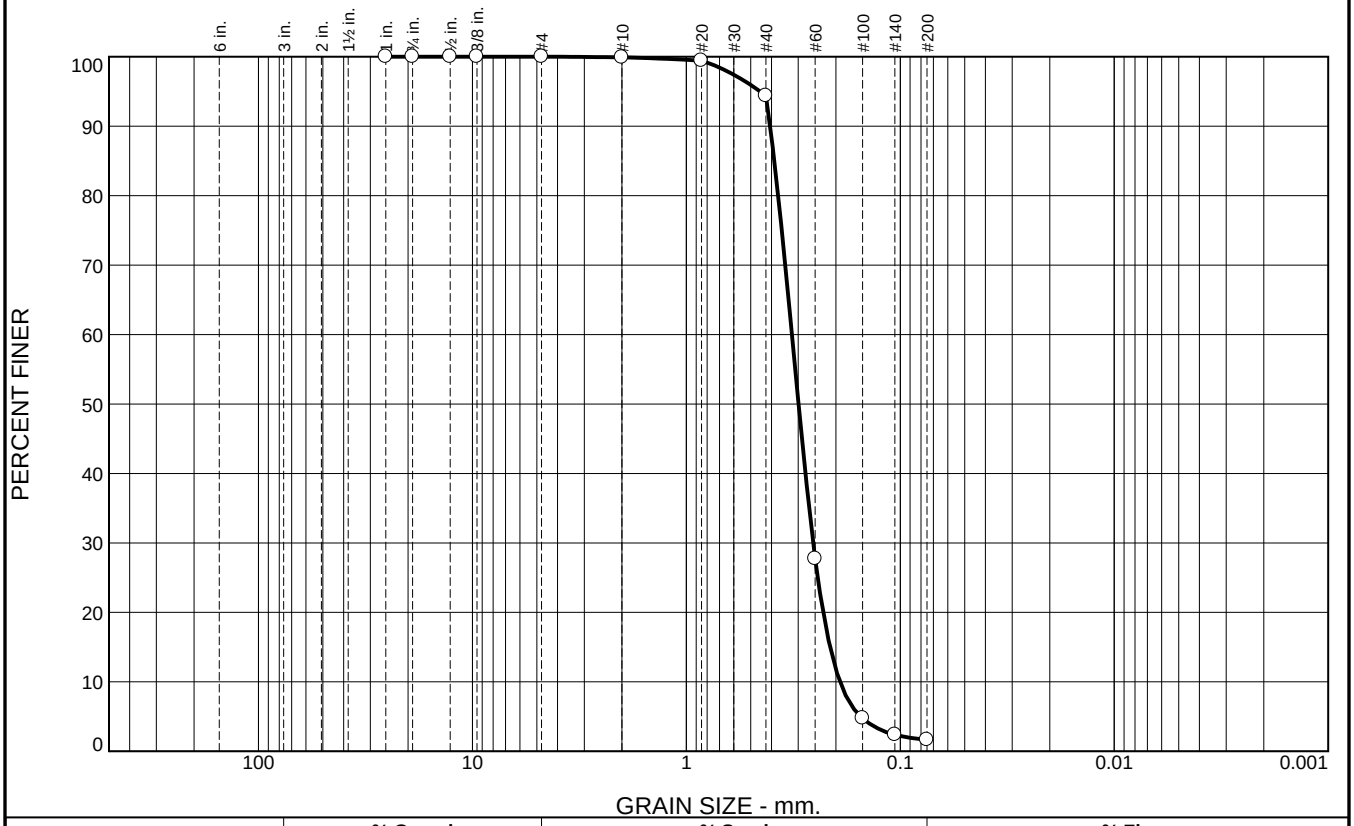
Penetration 20.0'

Recovery 17.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	5.5	92.8	1.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.4		
#40	94.4		
#60	27.7		
#100	4.8		
#140	2.4		
#200	1.6		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4059 D_{85}= 0.3878 D_{60}= 0.3211
D_{50}= 0.2991 D_{30}= 0.2554 D_{15}= 0.2129
D_{10}= 0.1915 C_u= 1.68 C_c= 1.06

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-64-12 A
Sample Number: 6462 **Depth:** 0.0' **Date:** 11/23/12

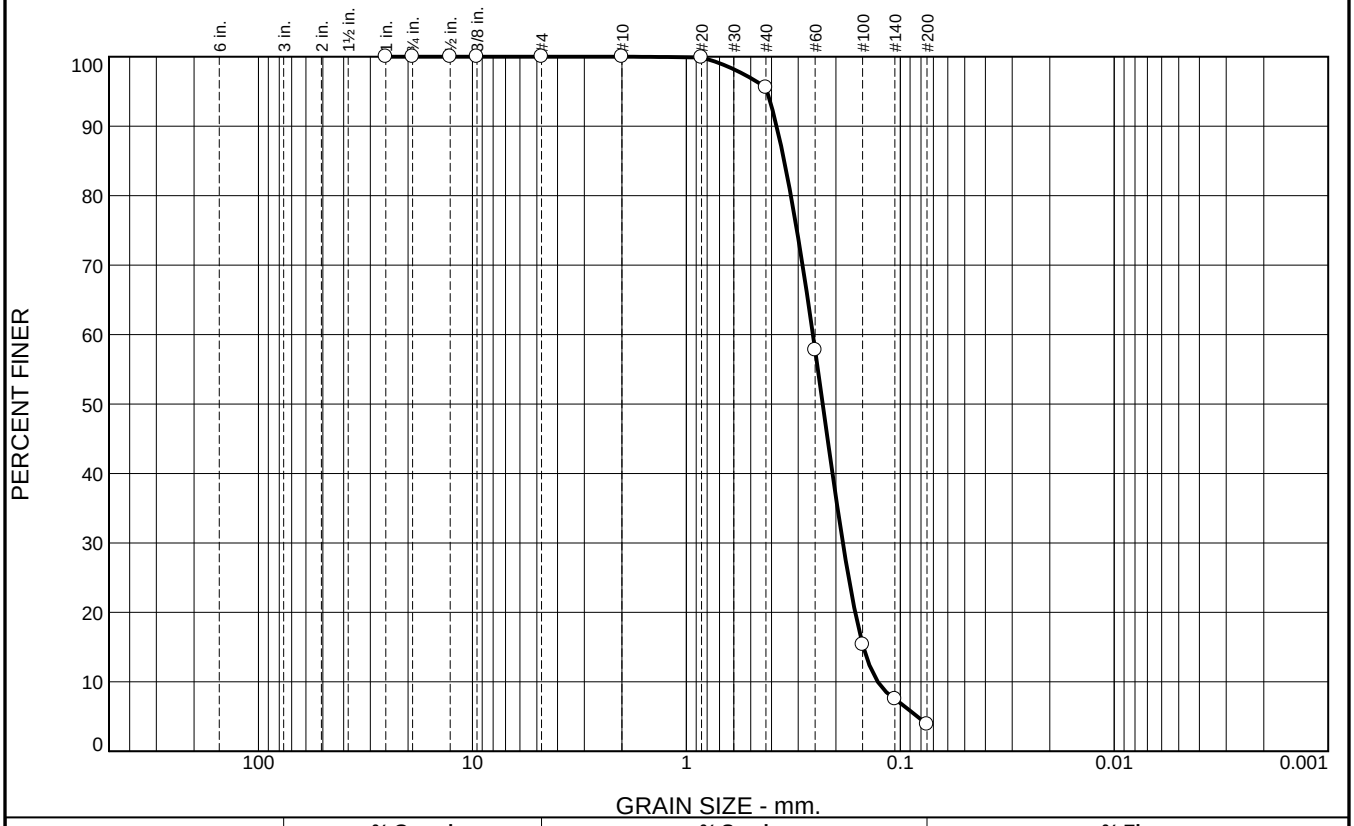
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	4.4	91.7	3.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	95.6		
#60	57.8		
#100	15.4		
#140	7.5		
#200	3.9		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3784 D_{85}= 0.3487 D_{60}= 0.2561
D_{50}= 0.2304 D_{30}= 0.1856 D_{15}= 0.1488
D_{10}= 0.1275 C_u= 2.01 C_c= 1.06

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-64-12 B
Sample Number: 6462 **Depth:** 15.2' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-65-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-65-12	LOCATION COORDINATES: E = 1,149,511 N = 237,566	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 54 Ft.	
		15. DATE BORING	STARTED: 11-16-12 / COMPLETED: 11-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 13.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-54.1	0.0				
-56.6	2.5		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, gray (SP)	A	Classification: SP-SM Color: 5Y 7/1-light gray D50: 0.3177 mm % Fines: 5.8
-59.3	5.2		SAND, silty, mostly fine-grained sand-sized quartz, some silt, gray (SM)	NS	
-63.0	8.9		CLAY, lean, mostly clay, some sandy clay lenses, gray (CL)		
-64.4	10.3		SAND, poorly-graded with clay, mostly fine-grained sand-sized quartz, little clay, trace shell fragments, gray (SP-SC)		
-67.5	13.4		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, lt. gray (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.15222° Long = -88.31045°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-65-12

Coordinate System
Latitude / Longitude

Latitude 30 09.133

Longitude 88 18.627

Date 11/16/2012

Start Time 15:46:59

End Time 15:54:01

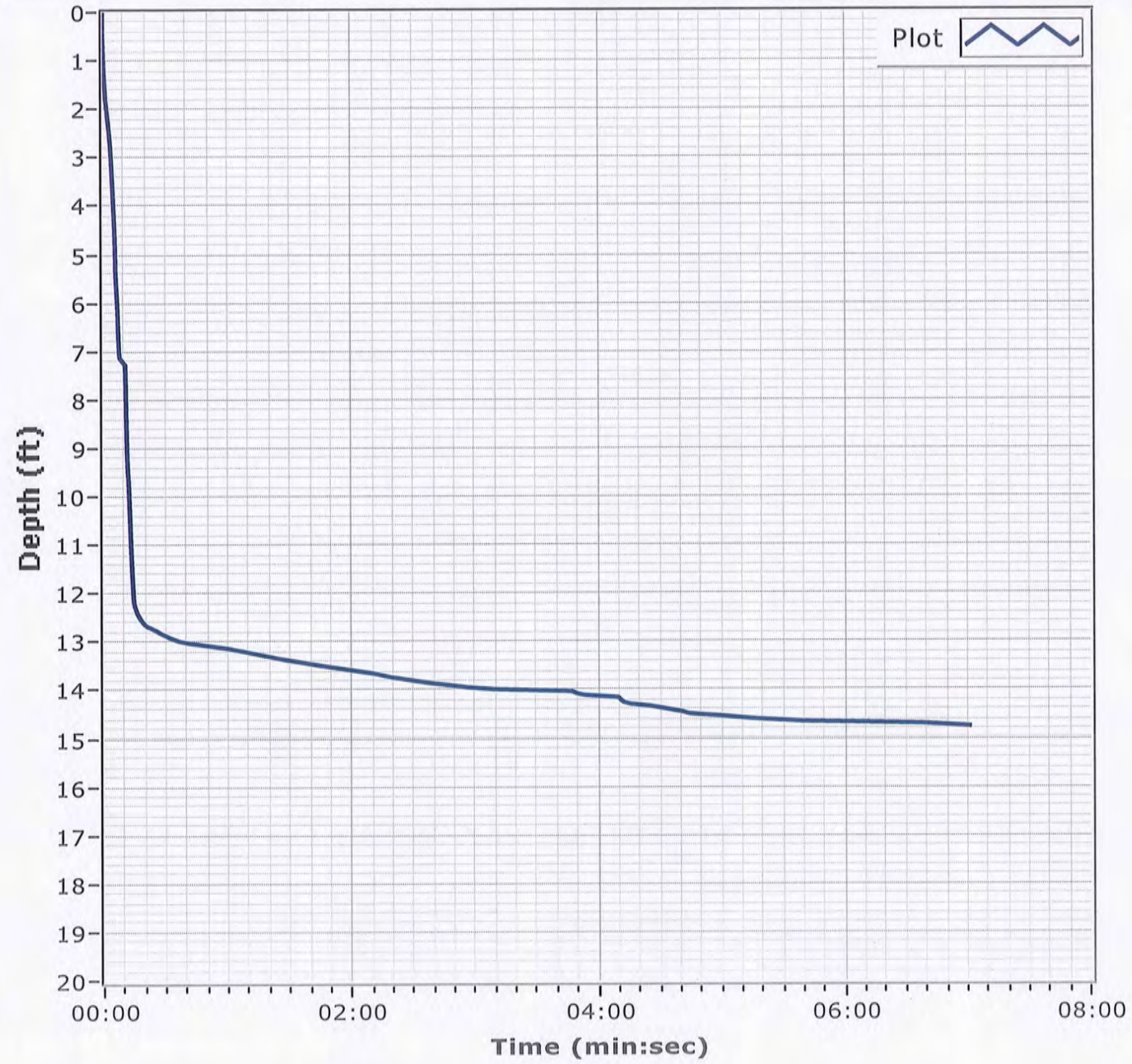
Total Time 00:07:01

Water Depth 54.0'

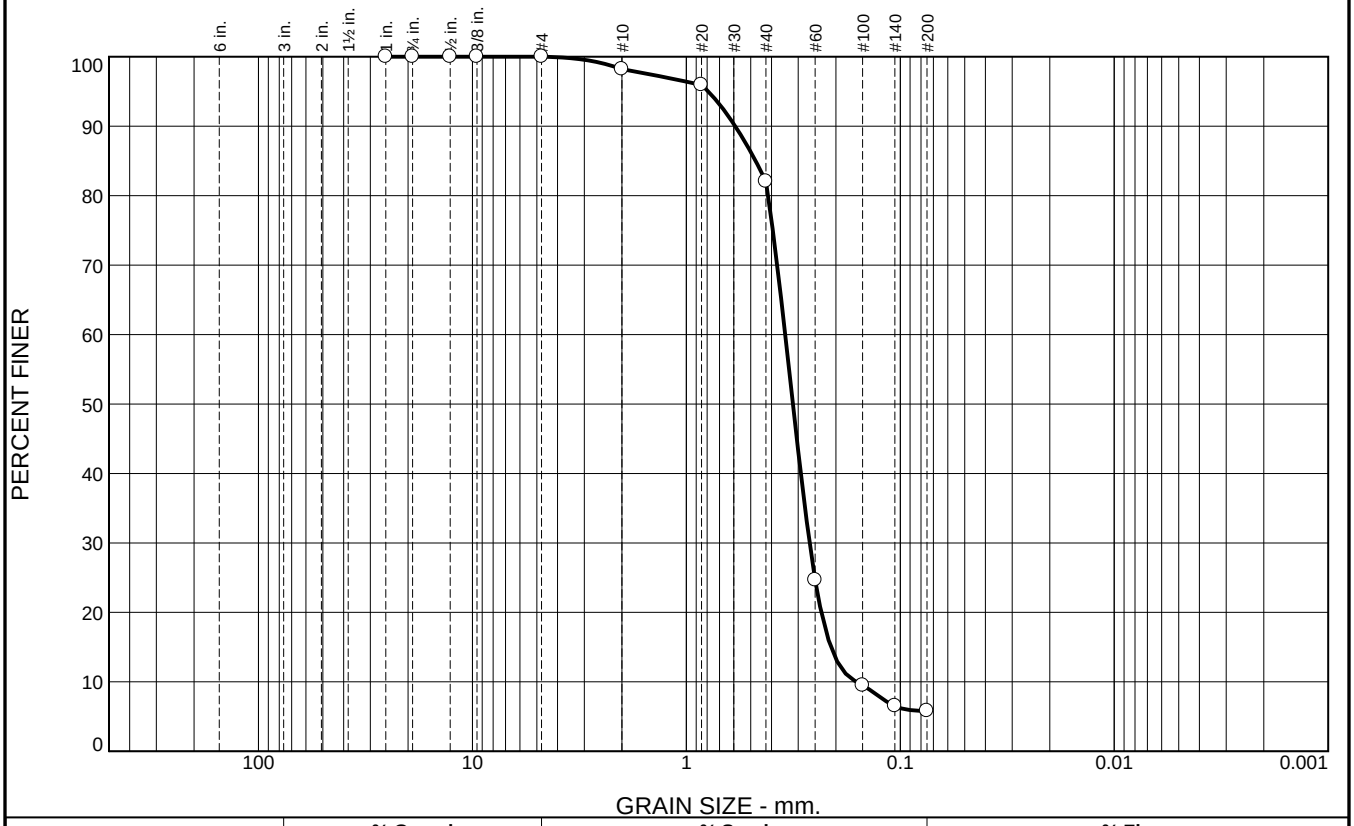
Penetration 14.8'

Recovery 13.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.8	16.2	76.2	5.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	98.2		
#20	95.9		
#40	82.0		
#60	24.7		
#100	9.5		
#140	6.5		
#200	5.8		

* (no specification provided)

Material Description

Fine to medium, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5910 D_{85}= 0.4750 D_{60}= 0.3451
D_{50}= 0.3177 D_{30}= 0.2656 D_{15}= 0.2110
D_{10}= 0.1604 C_u= 2.15 C_c= 1.27

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-65-12 A
Sample Number: 6462 **Depth:** 0.0' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-66-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-66-12	LOCATION COORDINATES: E = 1,148,519 N = 238,154	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 54 Ft.	
		15. DATE BORING	STARTED: 11-16-12 / COMPLETED: 11-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 12.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-54.3	0.0				
-56.7	2.4		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, gray (SP)	A	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.3188 mm % Fines: 1.7
-58.3	4.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)		
-61.1	6.8		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)		
-62.1	7.8		CLAY, lean, mostly clay, little fine-grained sand-sized quartz, gray (CL)	NS	
-63.1	8.8				
-63.7	9.4		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, medium plasticity, gray (CH)		
-64.4	10.1		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, dark gray (SC)		
-66.9	12.6		SAND, silty, mostly fine-grained sand-sized quartz, some silt, dark gray (SM)		
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, gray (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.15385° Long = -88.31358°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-66-12

Coordinate System
Latitude / Longitude

Latitude 30 09.231

Longitude 88 18.851

Date 11/16/2012

Start Time 14:59:57

End Time 15:03:37

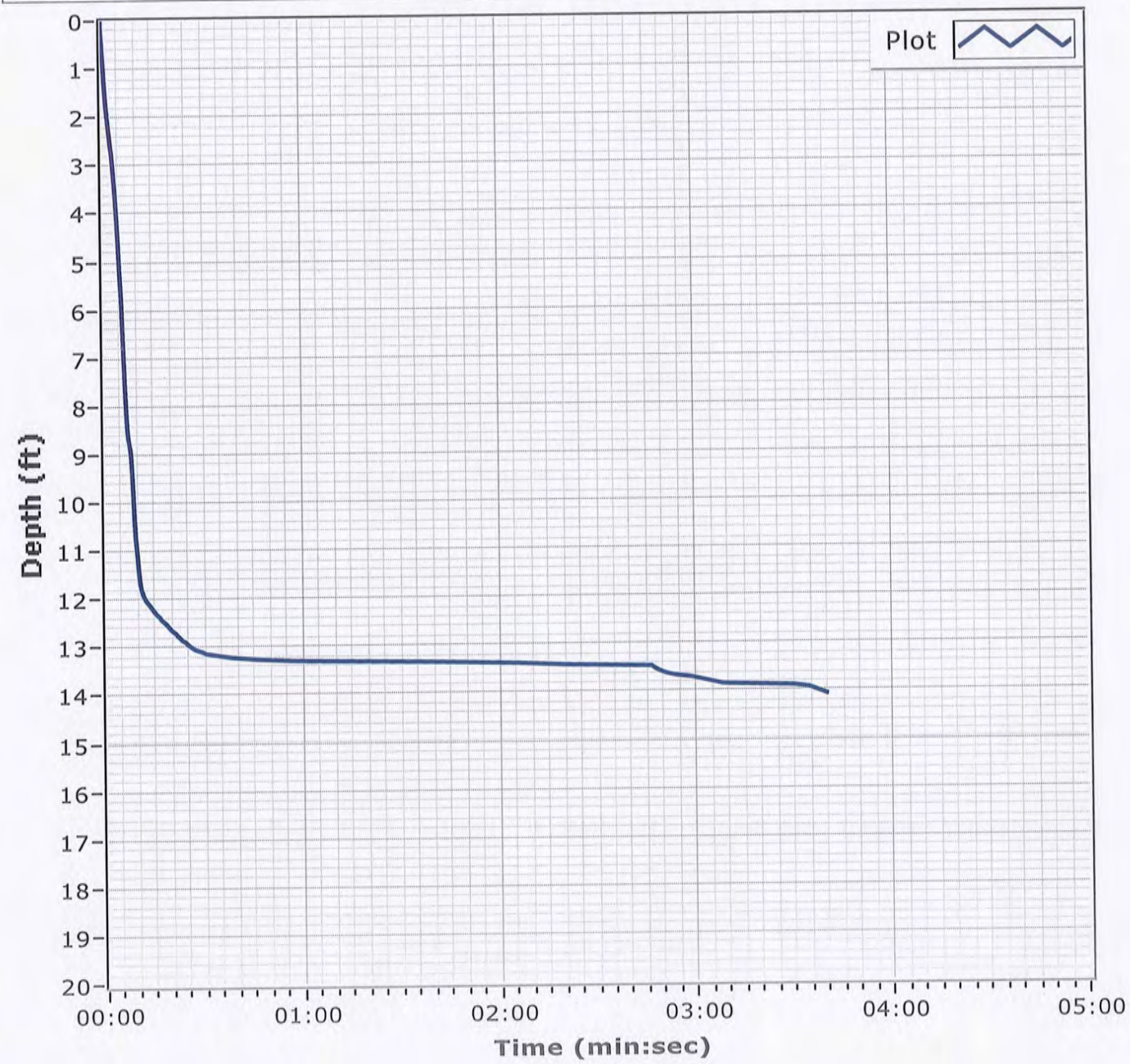
Total Time 00:03:40

Water Depth 54.0'

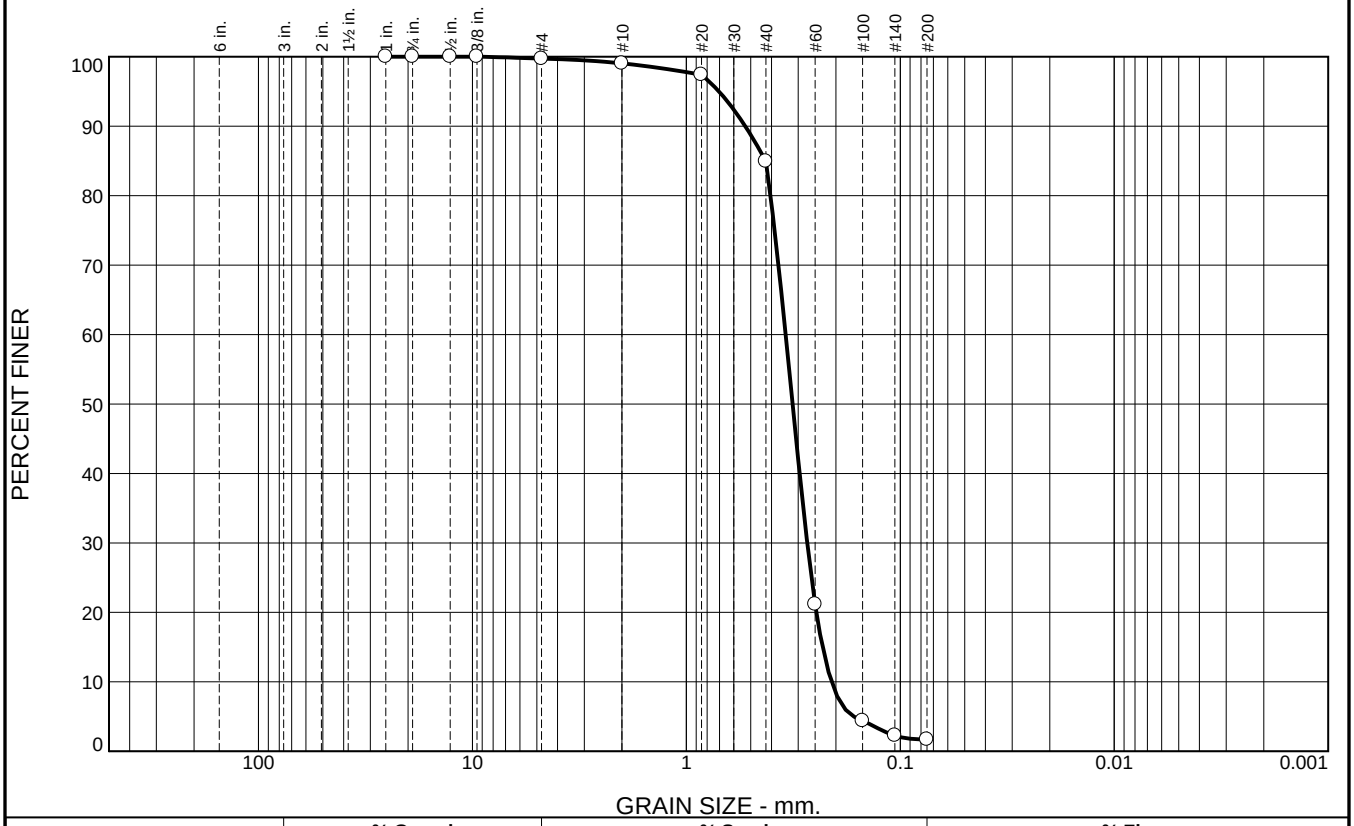
Penetration 14.1'

Recovery 12.8'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.7	14.1	83.2	1.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	99.0		
#20	97.4		
#40	84.9		
#60	21.1		
#100	4.4		
#140	2.3		
#200	1.7		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5306 D_{85}= 0.4263 D_{60}= 0.3434
D_{50}= 0.3188 D_{30}= 0.2725 D_{15}= 0.2308
D_{10}= 0.2096 C_u= 1.64 C_c= 1.03

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-66-12 A
Sample Number: 6462 **Depth:** 0.0' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-67-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-67-12	LOCATION COORDINATES: E = 1,146,753 N = 233,891	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 58.3 Ft.	
		15. DATE BORING	STARTED: 11-19-12 / COMPLETED: 11-19-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -58.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-58.3	0.0				
-62.5	4.2		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace clay, gray (SP)	A	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.1928 mm % Fines: 8.3
-65.5	7.2		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, few shell fragments, gray (SC)	NS	
-77.1	18.8		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, little sandy lenses, gray (CH) At El. -72.1 Ft., mostly clay, few shell fragments, lt. gray mottled with orange		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14215° Long = -88.31923°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-67-12

Coordinate System
Latitude / Longitude

Latitude 30 08.529

Longitude 88 19.154

Date 11/19/2012

Start Time 10:57:17

End Time 10:58:22

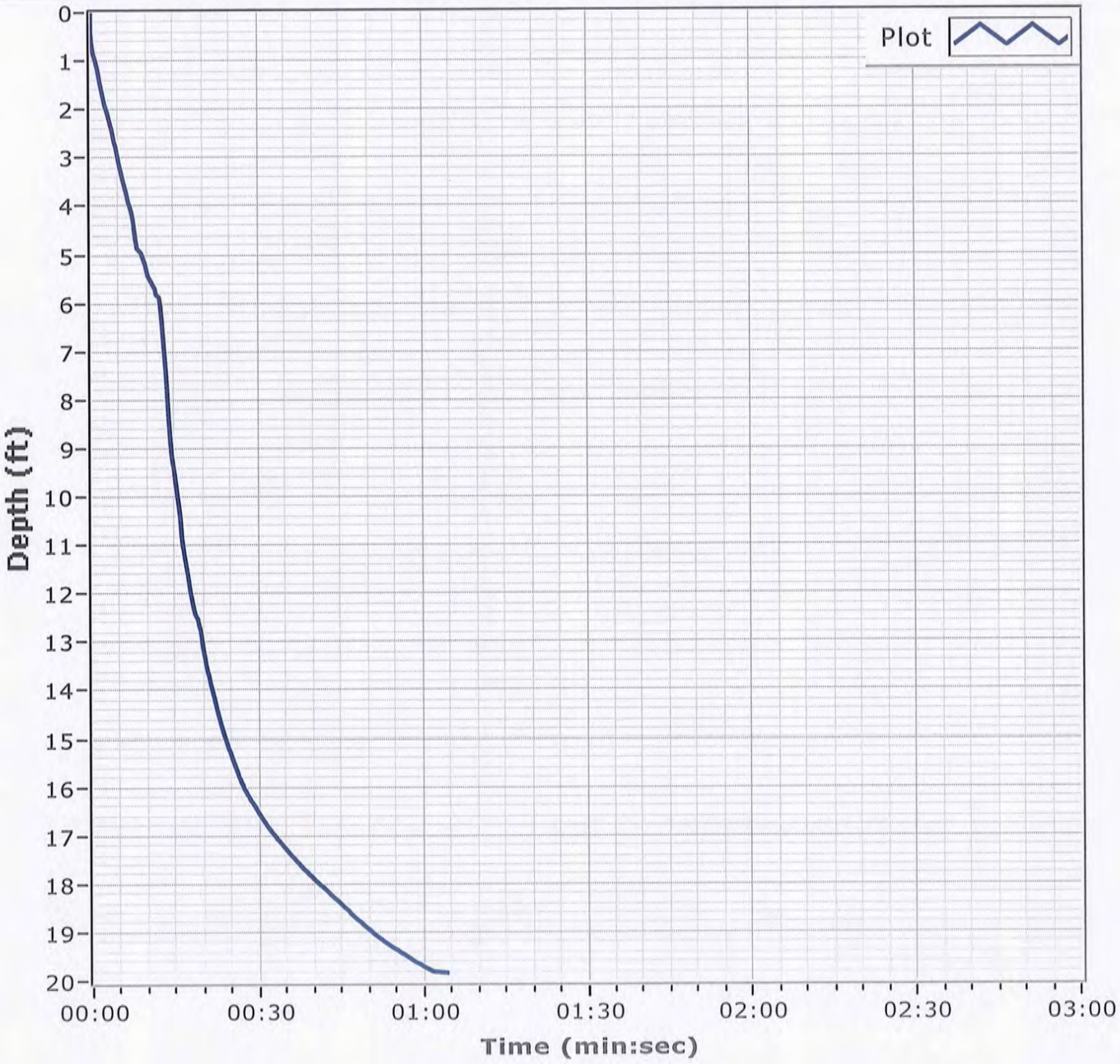
Total Time 00:01:04

Water Depth 58.3'

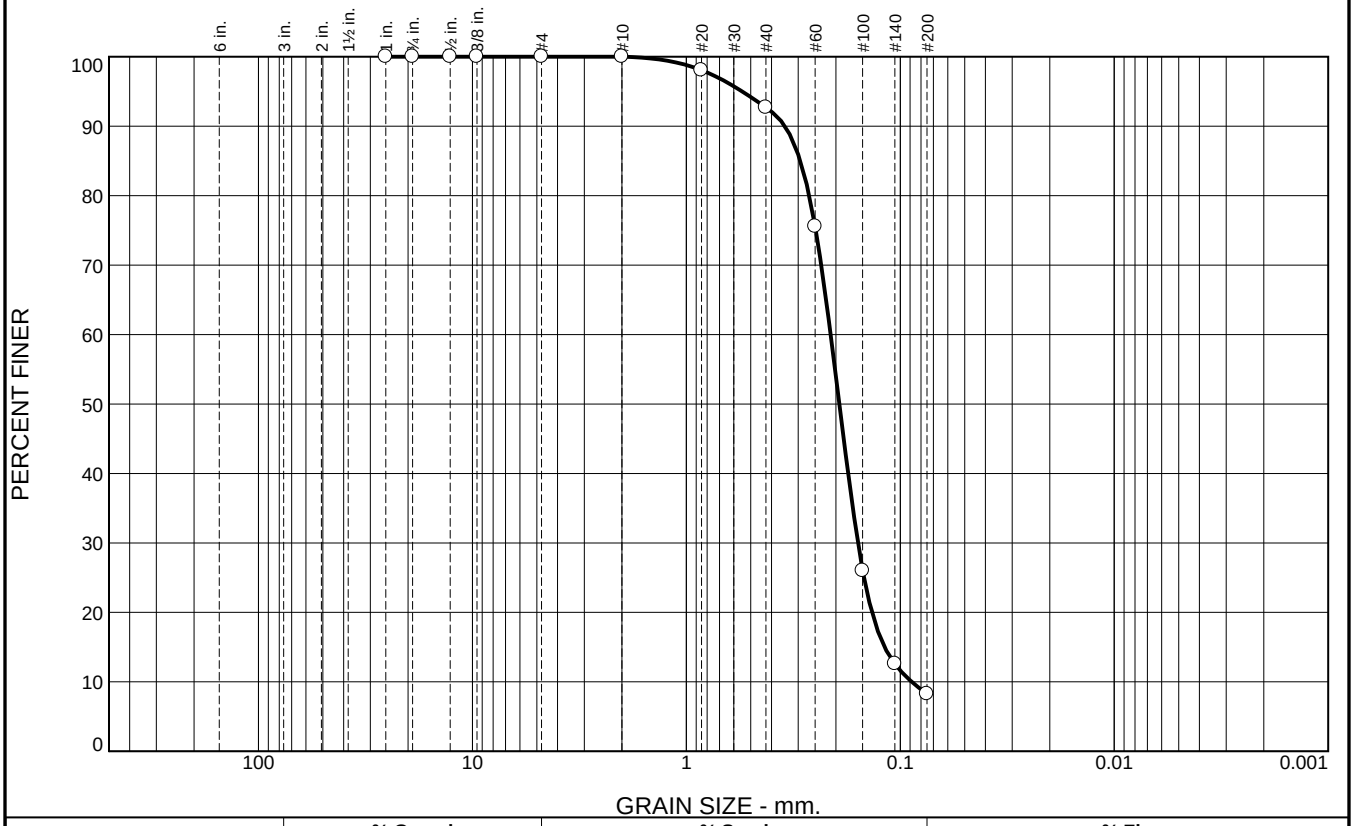
Penetration 19.8'

Recovery 18.8'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	7.3	84.4	8.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	98.1		
#40	92.7		
#60	75.6		
#100	26.0		
#140	12.6		
#200	8.3		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3461 D_{85}= 0.2935 D_{60}= 0.2116
D_{50}= 0.1928 D_{30}= 0.1578 D_{15}= 0.1185
D_{10}= 0.0885 C_u= 2.39 C_c= 1.33

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-67-12 A
Sample Number: 6462 **Depth:** 0.0' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-68-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-68-12	LOCATION COORDINATES: E = 1,147,801 N = 232,732	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 57.8 Ft.
		15. DATE BORING	STARTED: 11-19-12 / COMPLETED: 11-19-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -57.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-57.9	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few shell fragments, trace fines, gray (SP)	A	Classification: SP Color: 2.5Y 7/1-light gray D50: 0.3374 mm % Fines: 2.7
-61.8	3.9				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)		
-68.6	10.7				
			CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, medium plasticity, gray (CH)	NS	
			At El. -74.9 Ft., mostly clay, few organic matter, gray and brown mottled At El. -75.4 Ft., mostly clay, high plasticity, very stiff, dark gray		
-77.2	19.3				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13895° Long = -88.31593°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-68-12

Coordinate System
Latitude / Longitude

Latitude 30 08.337

Longitude 88 18.956

Date 11/19/2012

Start Time 13:13:12

End Time 13:13:57

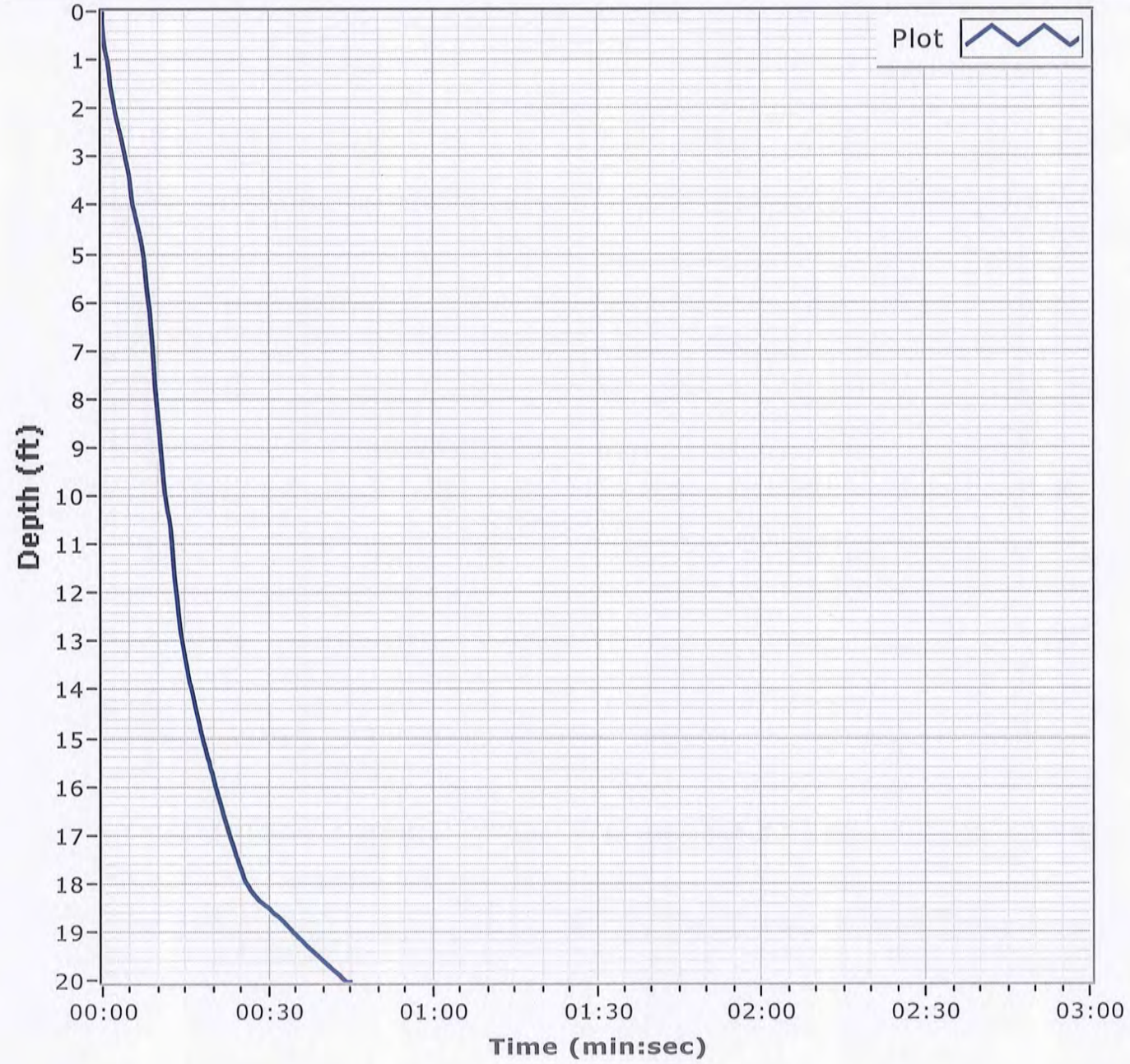
Total Time 00:00:45

Water Depth 57.8'

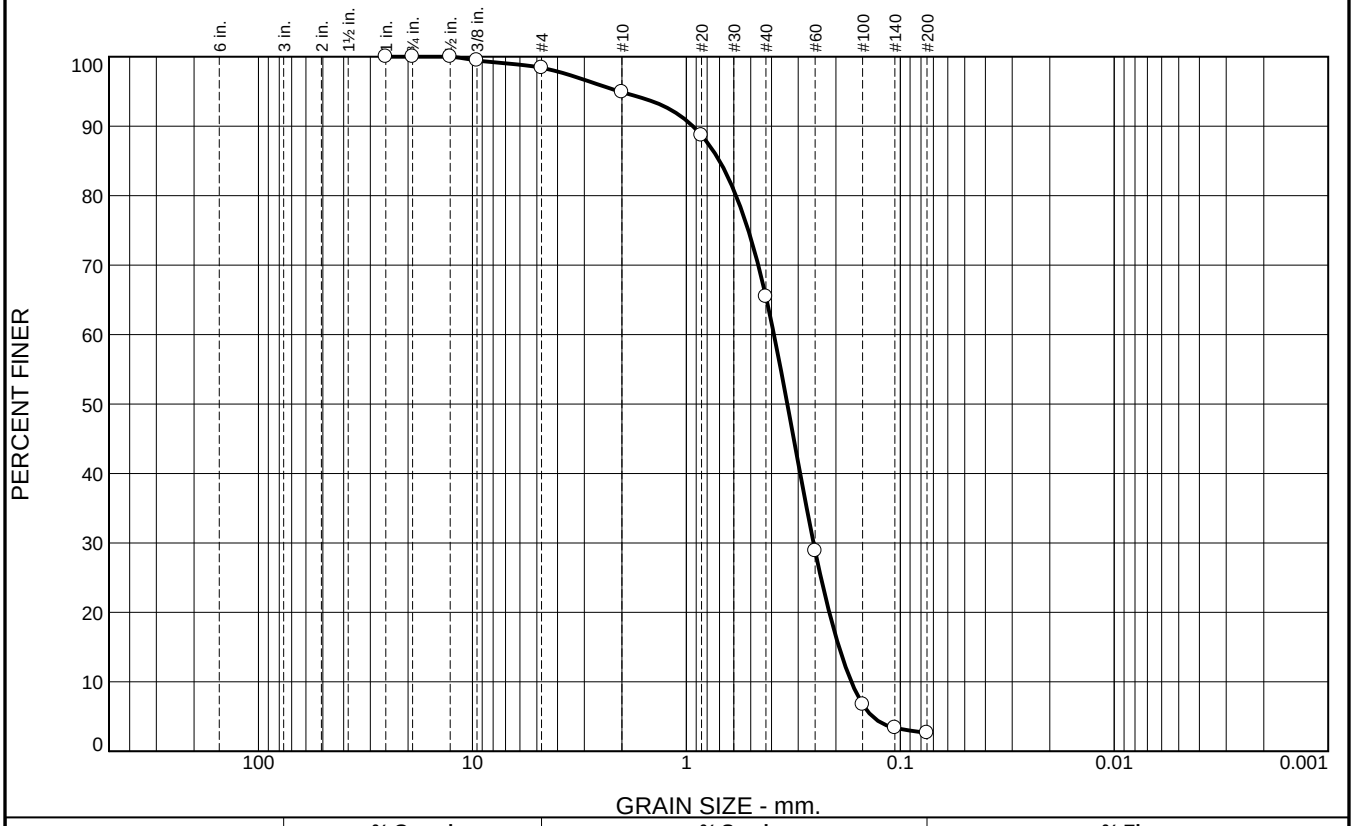
Penetration 20.0'

Recovery 19.3'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.6	3.5	29.4	62.8	2.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.5		
#4	98.4		
#10	94.9		
#20	88.7		
#40	65.5		
#60	28.9		
#100	6.7		
#140	3.4		
#200	2.7		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.9331 D_{85}= 0.7002 D_{60}= 0.3894
D_{50}= 0.3374 D_{30}= 0.2545 D_{15}= 0.1934
D_{10}= 0.1695 C_u= 2.30 C_c= 0.98

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-68-12 A
Sample Number: 6462 **Depth:** 0.0' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-69-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-69-12	LOCATION COORDINATES: E = 1,150,215 N = 233,725	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 61.8 Ft.	
		15. DATE BORING	STARTED: 11-19-12 / COMPLETED: 11-19-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -61.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-61.9	0.0				
-62.3	0.4		CLAY, fat, mostly clay, trace sand, gray (CH)	NS	
-63.0	1.1		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace clay, gray (SP)	A	Classification: SP-SM Color: 5Y 7/2-light gray D50: 0.2889 mm % Fines: 6.2
			SAND, clayey, mostly fine-grained sand-sized quartz, trace wood debris, trace shell fragments, gray (SC)	NS	
-77.1	15.2				
-78.2	16.3		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, dense, lt. gray (SP)	B	Classification: SM Color: 10YR 6/2-light brownish gray D50: 0.1428 mm % Fines: 20.1

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14165° Long = -88.30828°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

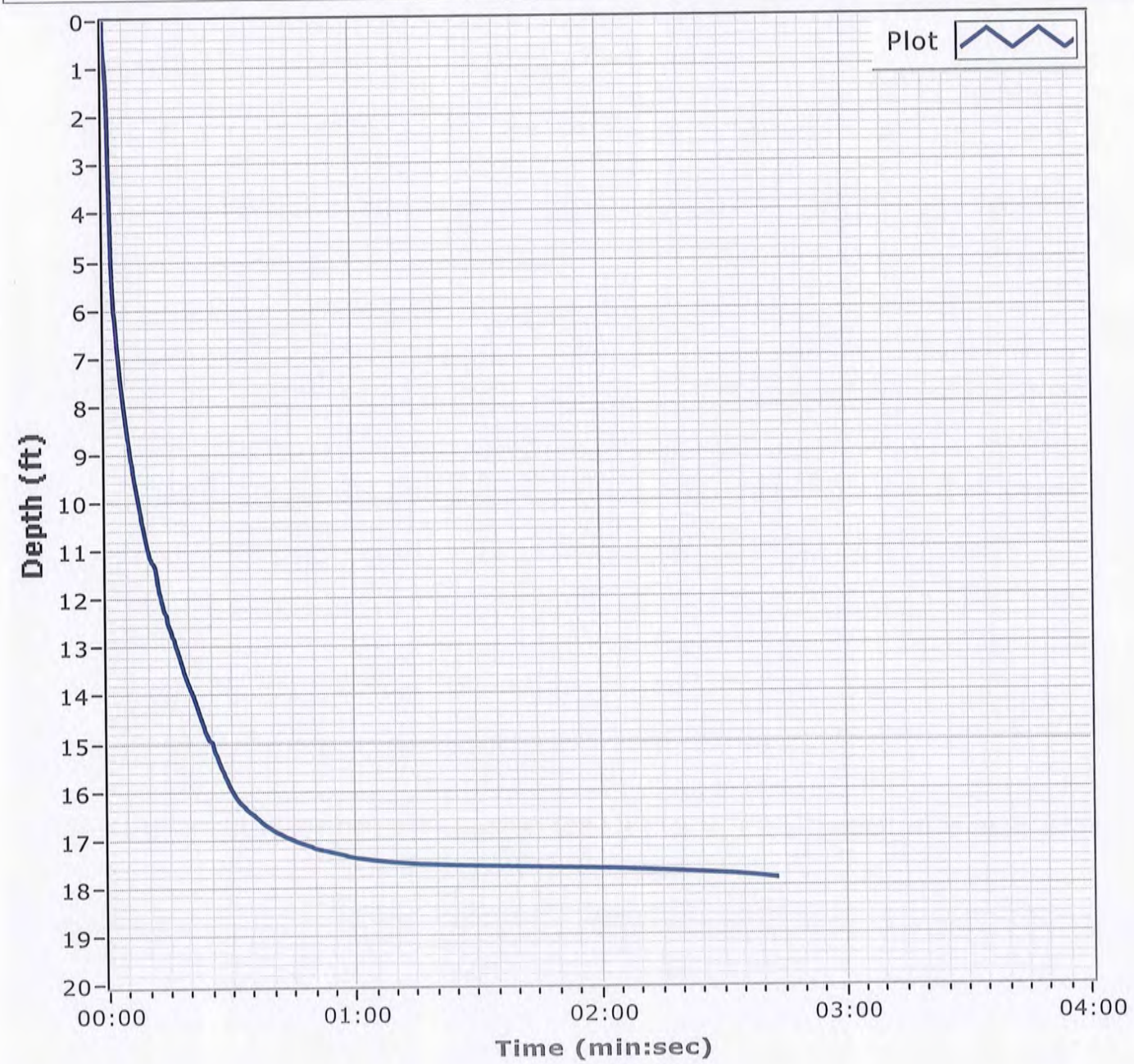
Core Identifier BI-PBS-69-12
Coordinate System Latitude / Longitude

Latitude 30 08.499
Longitude 88 18.497

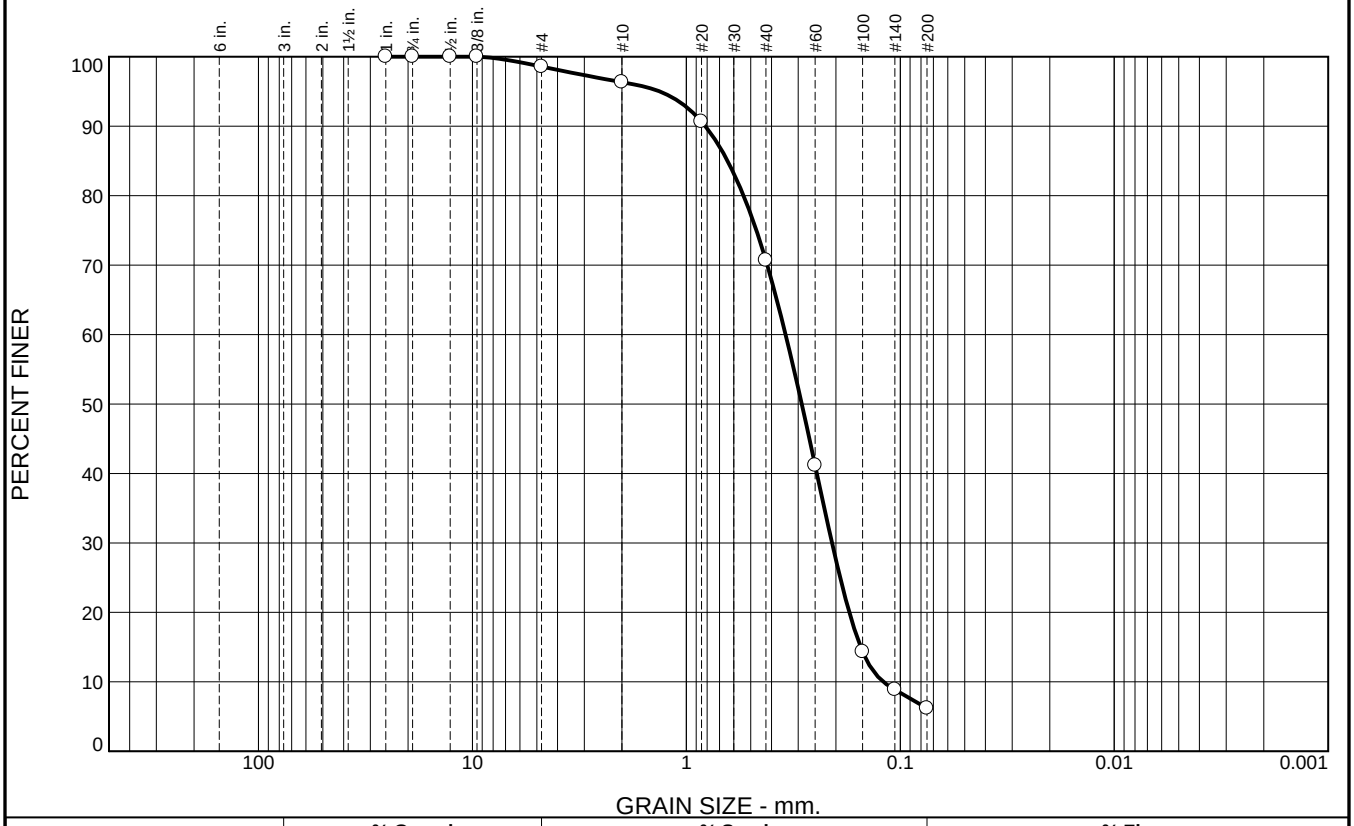
Date 11/19/2012
Start Time 11:47:54
End Time 11:50:37
Total Time 00:02:43

Water Depth 61.8'
Penetration 17.9'
Recovery 16.3'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.4	2.3	25.6	64.5	6.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	98.6		
#10	96.3		
#20	90.6		
#40	70.7		
#60	41.2		
#100	14.3		
#140	8.9		
#200	6.2		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.8163 D_{85}= 0.6420 D_{60}= 0.3437
D_{50}= 0.2889 D_{30}= 0.2085 D_{15}= 0.1532
D_{10}= 0.1201 C_u= 2.86 C_c= 1.05

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-69-12 A
Sample Number: 6462 **Depth:** 0.4' **Date:** 11/23/12

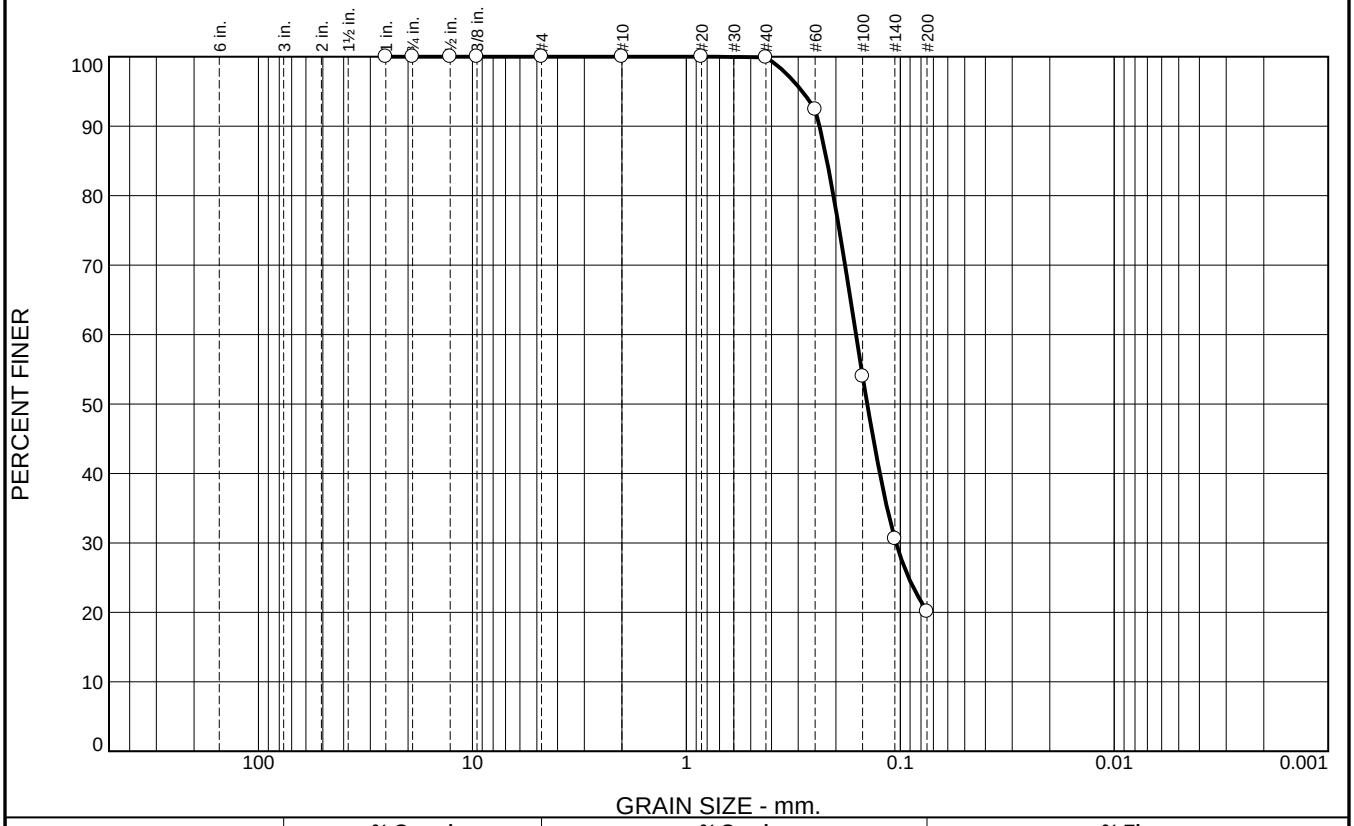
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	79.8	20.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.9		
#60	92.4		
#100	54.0		
#140	30.6		
#200	20.1		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2386 D_{85}= 0.2201 D_{60}= 0.1612
D_{50}= 0.1428 D_{30}= 0.1047 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-69-12 B
Sample Number: 6462 **Depth:** 15.2' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-70-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-70-12	LOCATION COORDINATES: E = 1,148,982 N = 235,828	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 60 Ft.	
		15. DATE BORING	STARTED: 11-19-12 / COMPLETED: 11-19-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -59.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-59.9	0.0				
-62.0	2.1		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	NS	
-67.6	7.7		CLAY, fat, mostly clay, trace organic matter, with some sandy clay lenses, gray (CH)		
-73.2	13.3		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)		
-77.5	17.6		SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fines, lt. gray (SP) At El. -75.1 Ft., mostly fine-grained sand-sized quartz, trace fines, lt. gray	A	Classification: SP-SM Color: 2.5Y 7/2-light gray D50: 0.2041 mm % Fines: 7.3
-78.2	18.3		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace wood debris, gray (SC)	——	

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14745° Long = -88.31215°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

Core Identifier BI-PBS-70-12

Coordinate System
Latitude / Longitude

Latitude 30 08.847

Longitude 88 18.729

Date 11/19/2012

Start Time 09:19:38

End Time 09:21:13

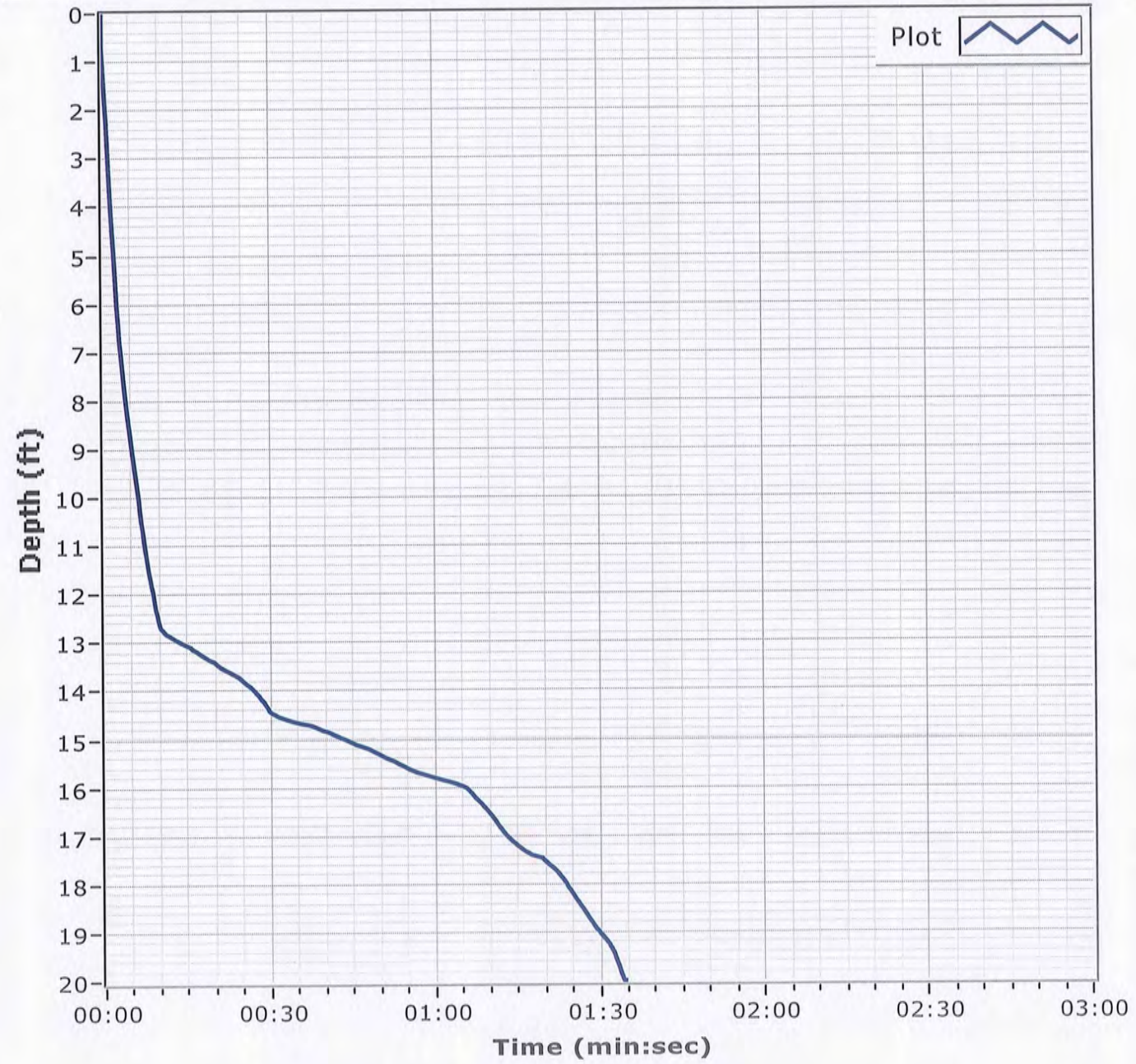
Total Time 00:01:34

Water Depth 60.0'

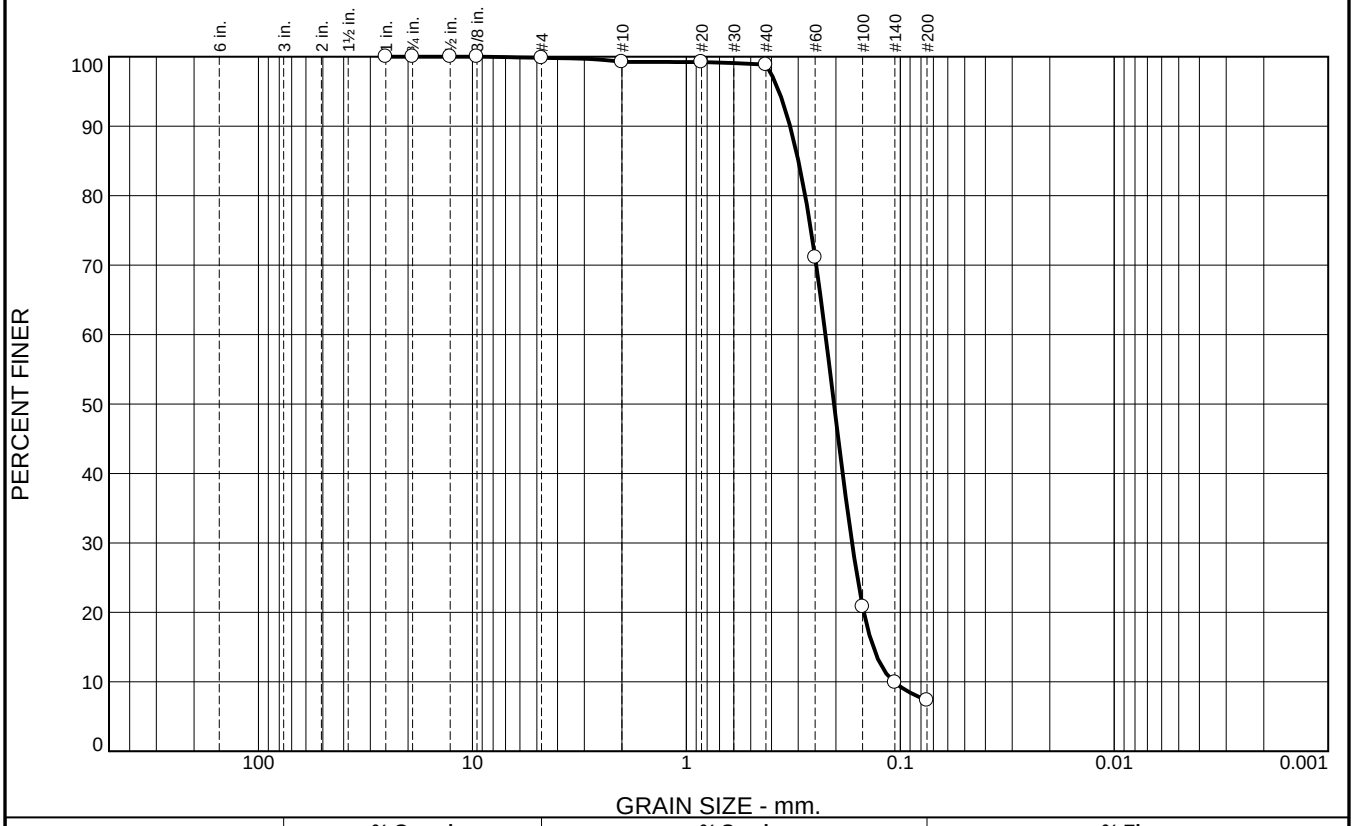
Penetration 20.0'

Recovery 18.3'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.5	0.5	91.5	7.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.3		
#20	99.2		
#40	98.8		
#60	71.1		
#100	20.8		
#140	9.9		
#200	7.3		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3276 D_{85}= 0.2996 D_{60}= 0.2238
D_{50}= 0.2041 D_{30}= 0.1682 D_{15}= 0.1339
D_{10}= 0.1068 C_u= 2.09 C_c= 1.18

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-70-12 A
Sample Number: 6462 **Depth:** 15.2' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-71-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-71-12	LOCATION COORDINATES: E = 1,148,382 N = 232,181	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 57.6 Ft.	
		15. DATE BORING	STARTED: 11-19-12 / COMPLETED: 11-19-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -57.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-57.7	0.0				
-61.1	3.4		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fines, few shell fragments, light gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2468 mm % Fines: 3.4
-62.9	5.2		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, few shell fragments, gray (SC)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.209 mm % Fines: 13.2
-63.6	5.9		CLAY, fat, mostly clay, trace fine-grained sand, medium plasticity, gray (CH)	NS	
-68.2	10.5		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, few shell fragments, gray (SC)	C	Classification: SM Color: 5Y 6/2-light olive gray D50: 0.1997 mm % Fines: 15.3
-76.1	18.4		CLAY, fat, mostly clay, high plasticity, dark gray mottled with grayish brown (CH)	NS	
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13743° Long = -88.31410°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

Core Identifier BI-PBS-71-12

Coordinate System
Latitude / Longitude

Latitude 30 08.246

Longitude 88 18.846

Date 11/19/2012

Start Time 14:05:31

End Time 14:06:16

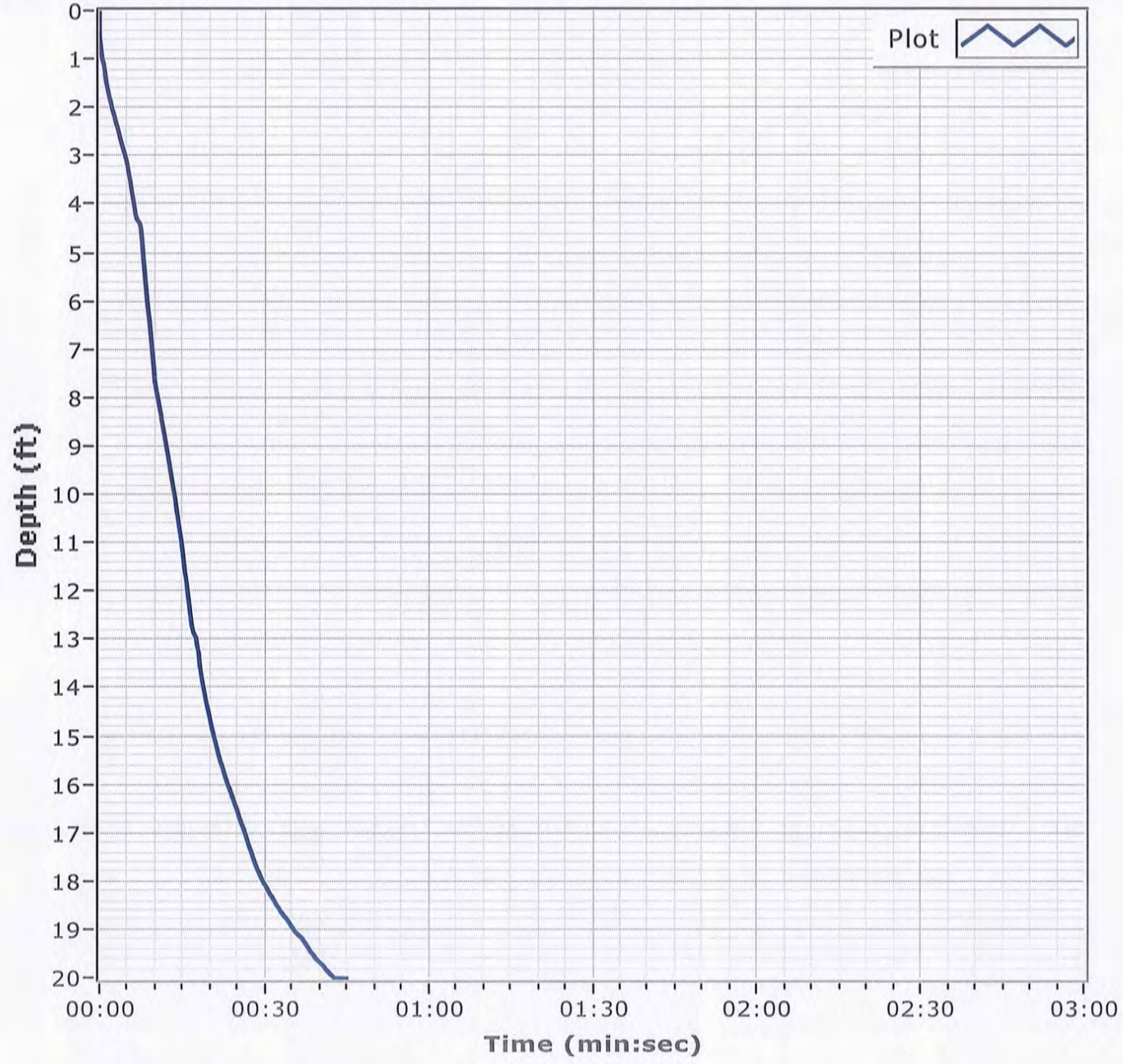
Total Time 00:00:45

Water Depth 57.6'

Penetration 20.0'

Recovery 18.4'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.1	1.2	13.0	81.3	3.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	98.9		
#10	97.7		
#20	95.1		
#40	84.7		
#60	51.1		
#100	11.4		
#140	4.8		
#200	3.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5054 D_{85}= 0.4284 D_{60}= 0.2791
D_{50}= 0.2468 D_{30}= 0.1965 D_{15}= 0.1605
D_{10}= 0.1449 C_u= 1.93 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-71-12 A
Sample Number: 6462 **Depth:** 0.0' **Date:** 11/23/12

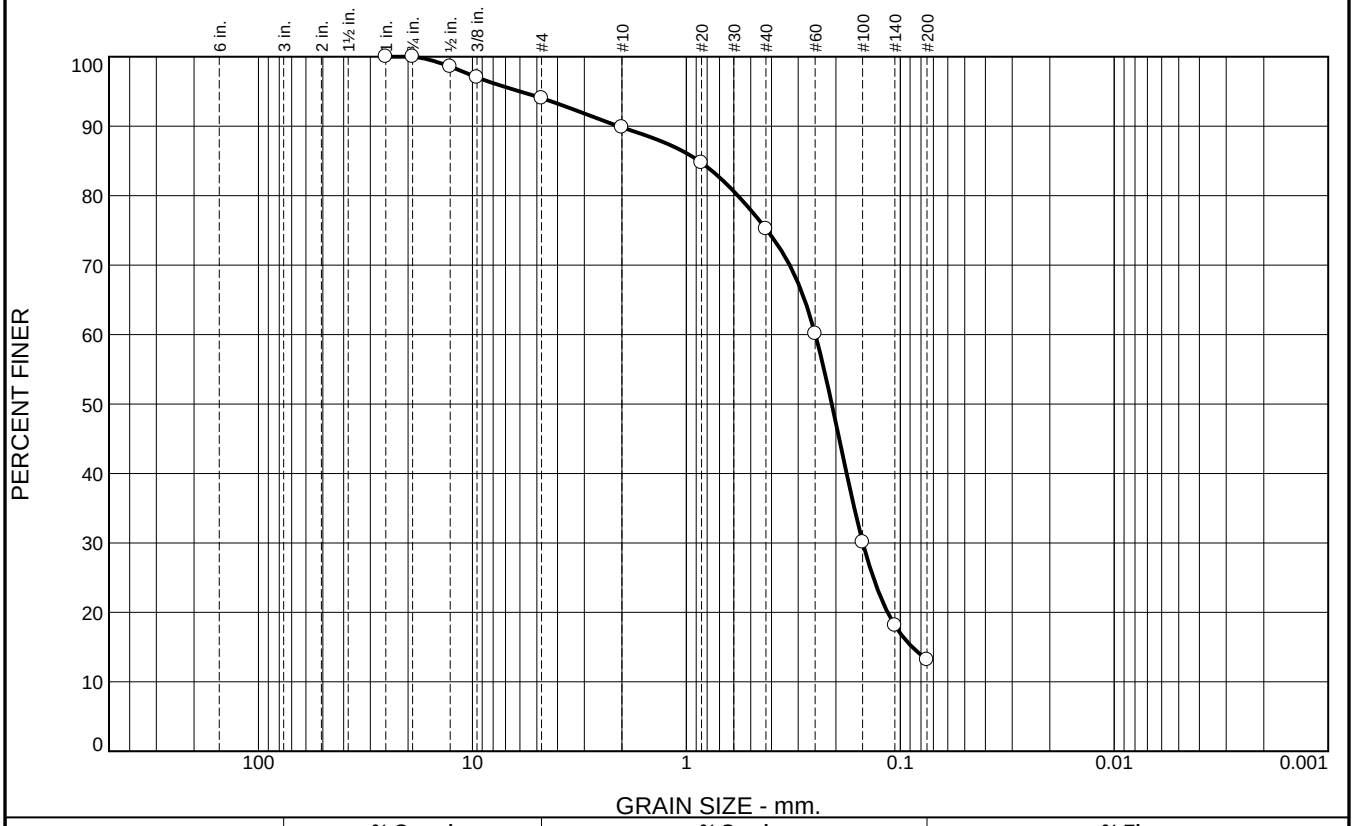
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	6.0	4.2	14.6	62.0	13.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	98.6		
.375	97.0		
#4	94.0		
#10	89.8		
#20	84.7		
#40	75.2		
#60	60.1		
#100	30.1		
#140	18.1		
#200	13.2		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with clay nodules and trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 2.0738 D_{85}= 0.8750 D_{60}= 0.2494
D_{50}= 0.2090 D_{30}= 0.1497 D_{15}= 0.0879
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-71-12 B
Sample Number: 6462 **Depth:** 3.4' **Date:** 11/23/12

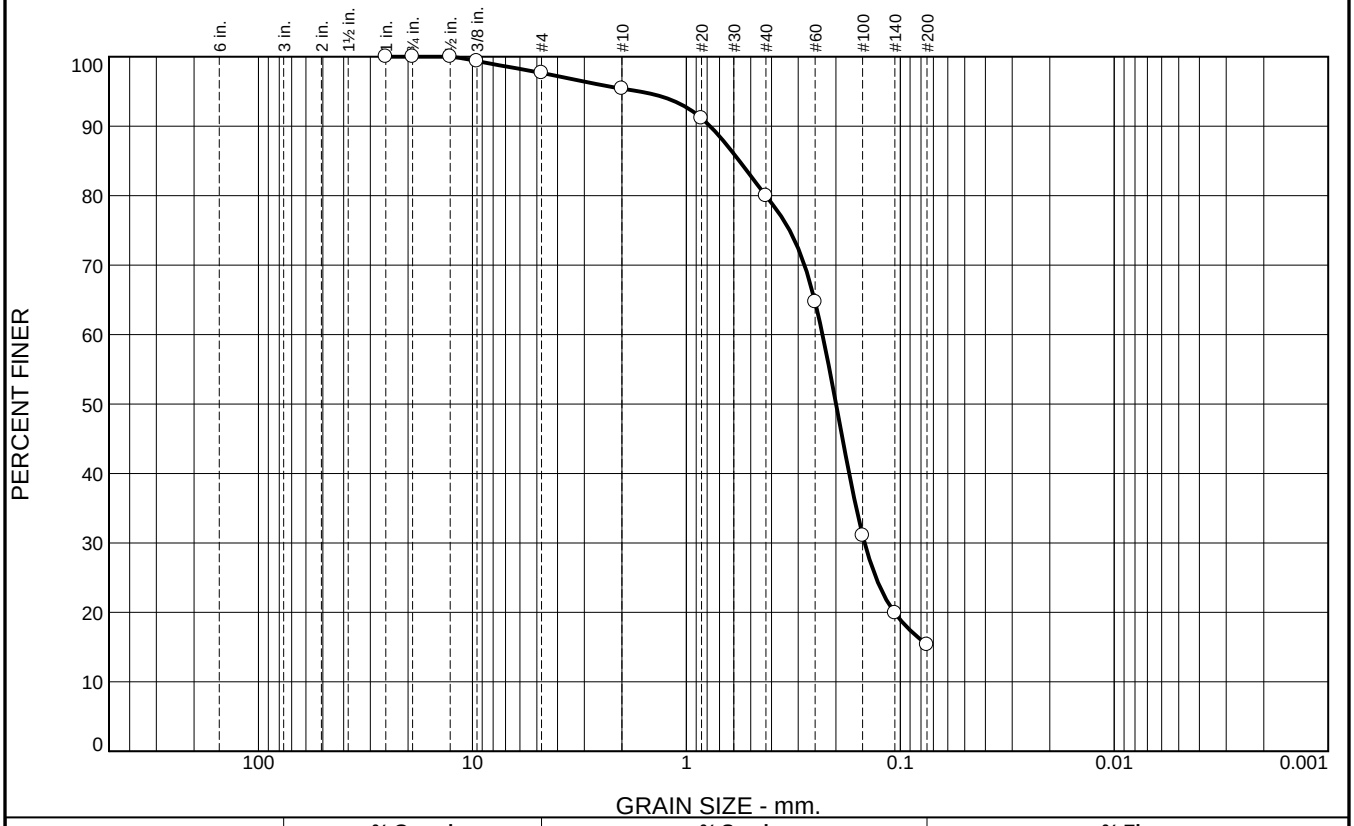
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.3	2.3	15.4	64.7	15.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.4		
#4	97.7		
#10	95.4		
#20	91.1		
#40	80.0		
#60	64.7		
#100	31.1		
#140	19.9		
#200	15.3		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with clay nodules and trace GRAVEL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7755 D_{85}= 0.5652 D_{60}= 0.2309
D_{50}= 0.1997 D_{30}= 0.1469 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-71-12 C
Sample Number: 6462 **Depth:** 5.9' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-72-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-72-12	LOCATION COORDINATES: E = 1,146,277 N = 232,914	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 58.7 Ft.	
		15. DATE BORING	STARTED: 11-19-12 / COMPLETED: 11-19-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -58.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-58.8	0.0				
-61.1	2.3		SAND, poorly-graded, mostly fine to medium-grained quartz, trace fines, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.3295 mm % Fines: 1.8
-68.3	9.5		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)	B	Classification: SM Color: 5Y 6/2-light olive gray D50: 0.1997 mm % Fines: 13.6
-75.6	16.8		CLAY, fat, mostly clay, some silt, trace fine-grained sand-sized quartz, gray (CH) At El. -70.3 Ft., mostly clay, trace sand, medium plasticity, light gray mottled with orange	NS	
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13947° Long = -88.32075°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

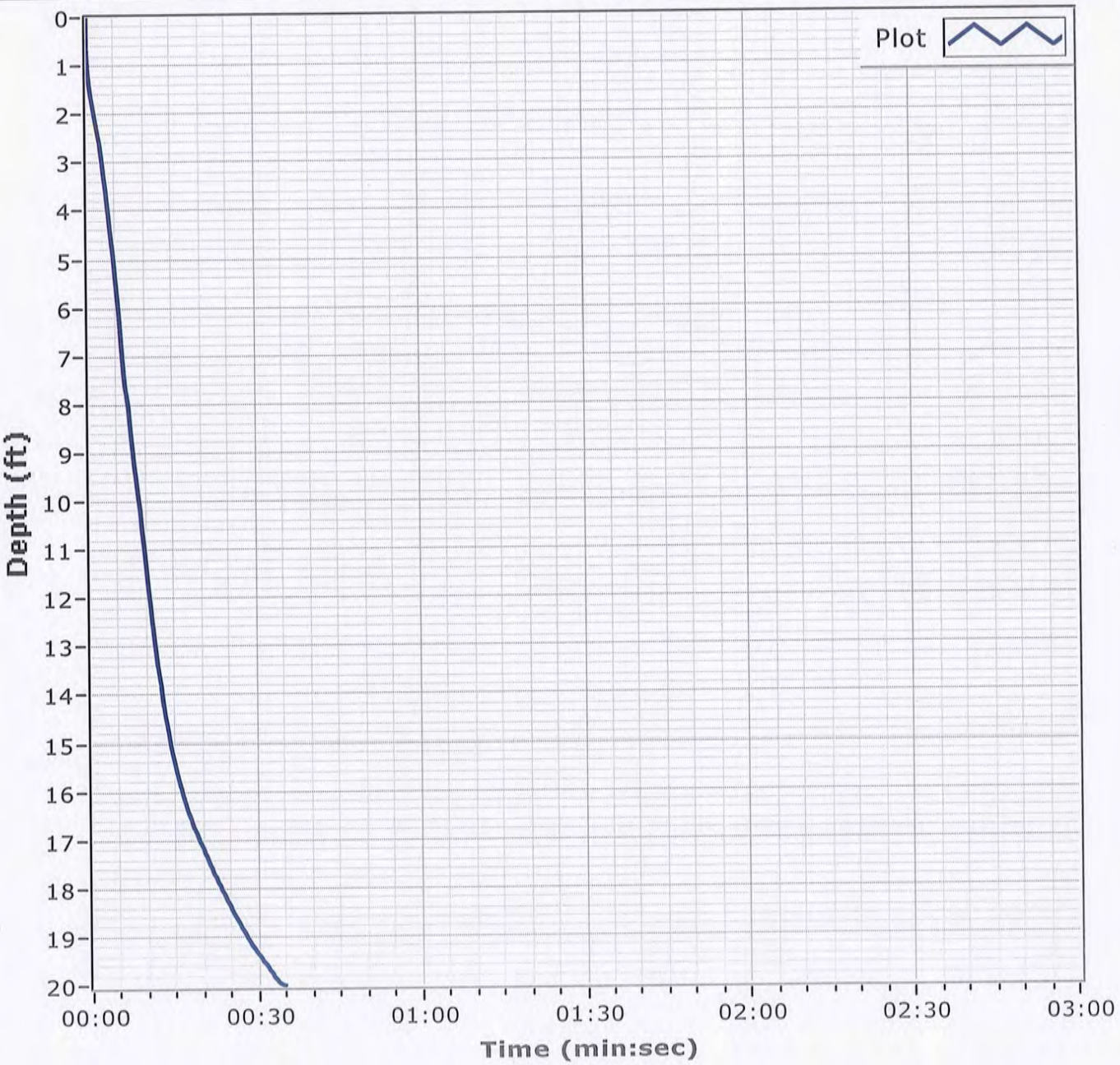
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Latitude / Longitude

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Longitude 88 19.245

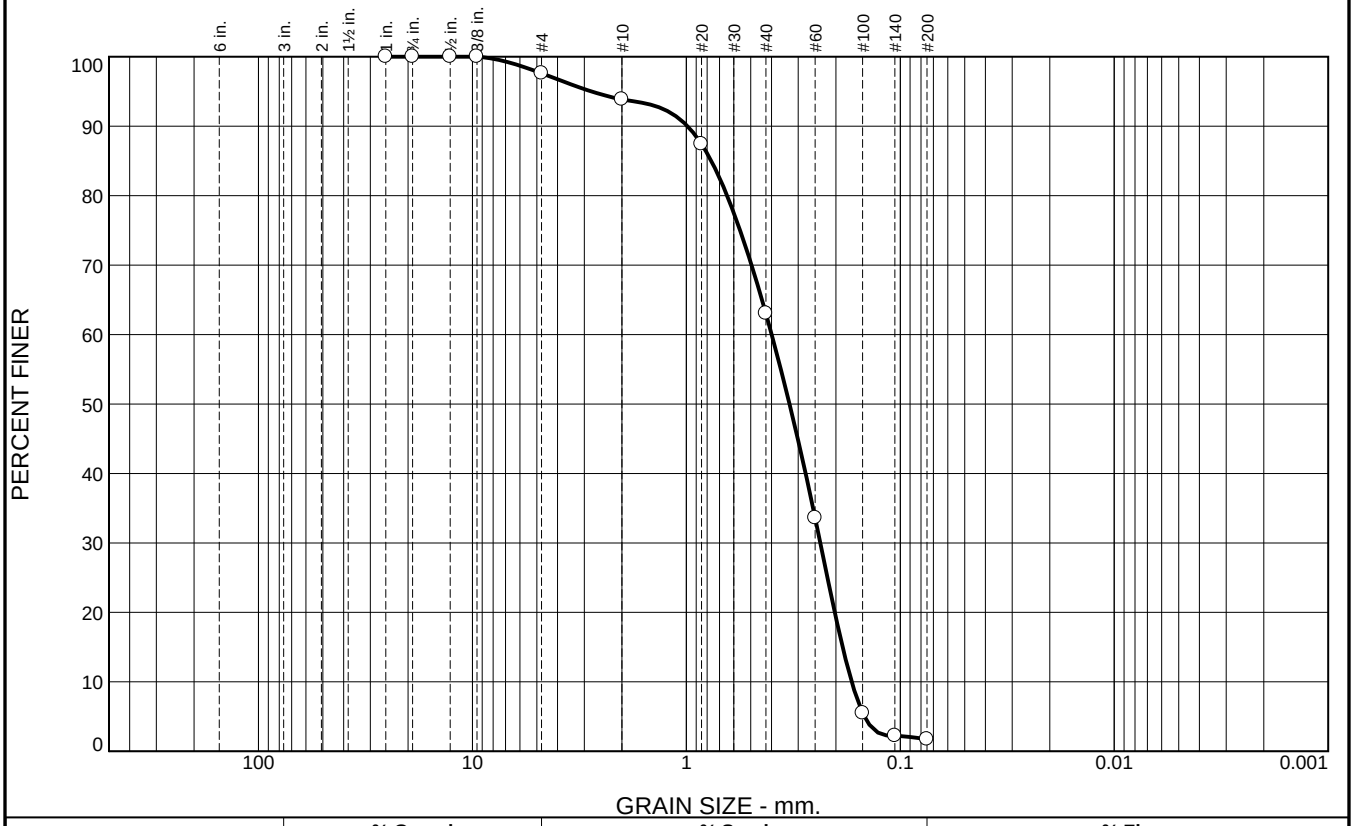
Date 11/19/2012
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End Time 14:44:49
Total Time 00:00:35

Water Depth 58.7'
Penetration 20.0'
Recovery 16.8'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.4	3.8	30.8	61.2	1.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	97.6		
#10	93.8		
#20	87.4		
#40	63.0		
#60	33.6		
#100	5.5		
#140	2.2		
#200	1.8		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.9878 D_{85}= 0.7649 D_{60}= 0.3992
D_{50}= 0.3295 D_{30}= 0.2365 D_{15}= 0.1861
D_{10}= 0.1689 C_u= 2.36 C_c= 0.83

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-72-12-A
Sample Number: 6462 **Depth:** 0.0' **Date:** 11/23/12

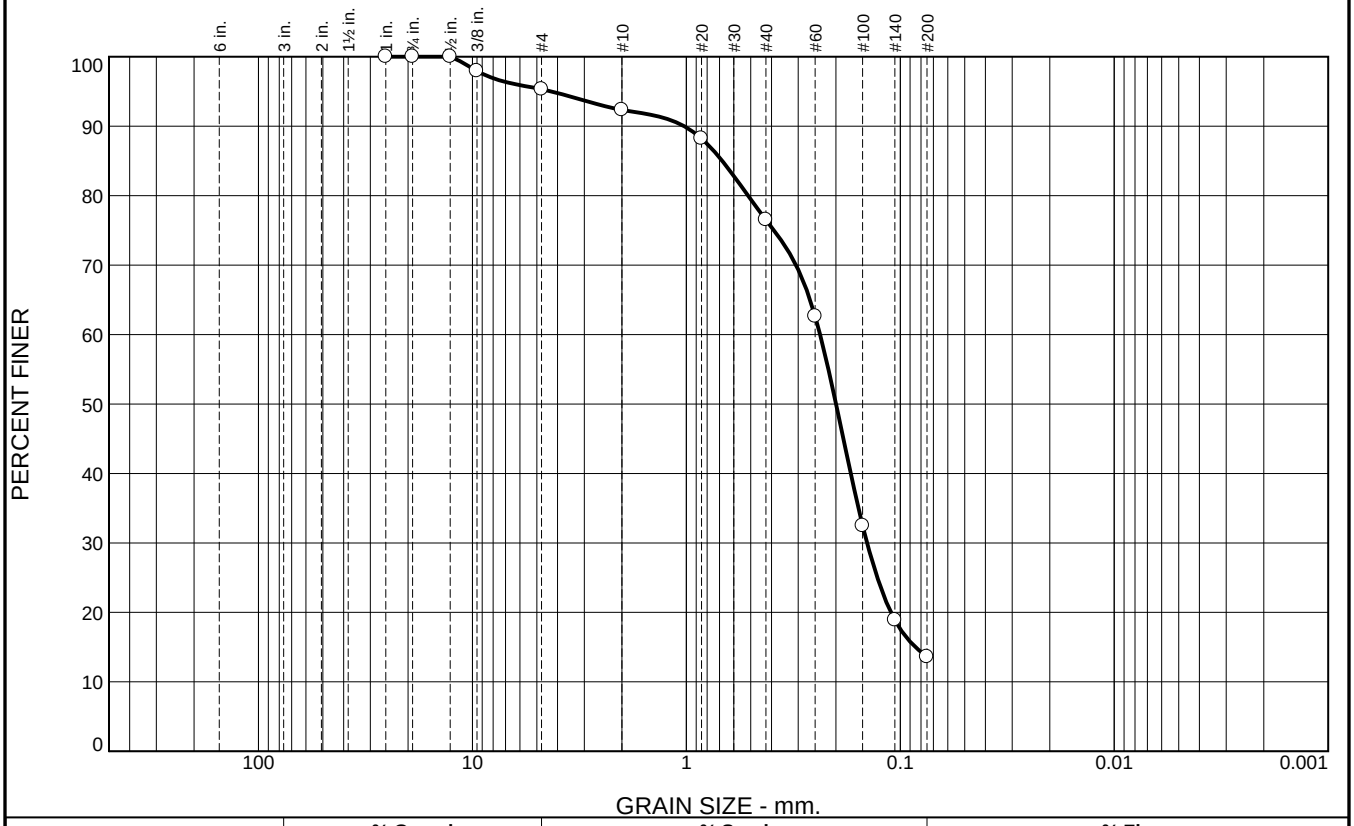
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	4.7	3.0	15.8	62.9	13.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	97.9		
#4	95.3		
#10	92.3		
#20	88.2		
#40	76.5		
#60	62.6		
#100	32.5		
#140	18.9		
#200	13.6		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.0254 D_{85}= 0.6801 D_{60}= 0.2370
D_{50}= 0.1997 D_{30}= 0.1430 D_{15}= 0.0850
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-72-12 B
Sample Number: 6462 **Depth:** 2.3' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-73-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-73-12	LOCATION COORDINATES: E = 1,145,519 N = 234,176	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 55.4 Ft.
		15. DATE BORING	STARTED: 11-20-12 / COMPLETED: 11-20-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-55.1	0.0				
-58.0	2.9		SAND, poorly-graded, mostly fine to medium-grained quartz, trace fines, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2622 mm % Fines: 2.8
-60.5	5.4		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few shell fragments, lt. gray (SP-SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1993 mm % Fines: 13.4
-64.1	9.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace wood debris, gray (SM)		
-66.1	11.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)		
-67.1	12.0		CLAY, fat, mostly clay, stiff, medium to high plasticity, gray (CH)	NS	
-74.5	19.4		CLAY, lean, mostly clay, some fine-grained sand-sized sand, low to medium plasticity, gray to dark gray (CL) At El. -70.1 Ft., mostly clay, stiff, low to medium plasticity, lt. gray mottled with brown		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14295° Long = -88.32313°

Project Mississippi Barrier Island Restoration Project

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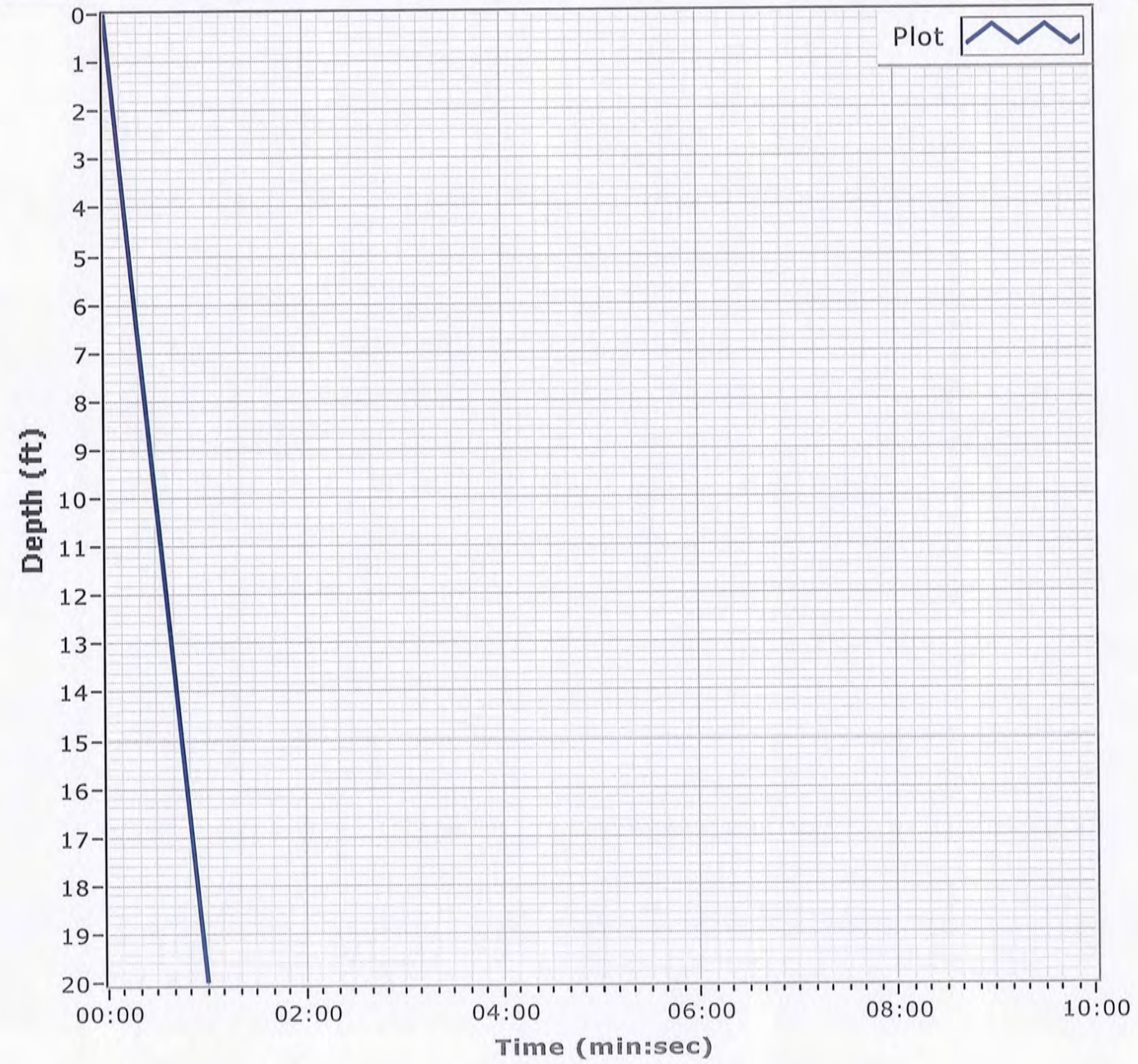
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Coordinate System
Latitude / Longitude

Latitude 30 08.577
Longitude 088 19.388

Date 11/20/2012
Start Time 09:50:03
End Time 09:51:03
Total Time 00:01:00

Water Depth 55.4'
Penetration 20.0'
Recovery 19.4'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	0.8	13.6	82.3	2.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	98.7		
#20	96.2		
#40	85.1		
#60	45.6		
#100	6.0		
#140	3.2		
#200	2.8		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4819 D_{85}= 0.4239 D_{60}= 0.2937
D_{50}= 0.2622 D_{30}= 0.2117 D_{15}= 0.1768
D_{10}= 0.1635 C_u= 1.80 C_c= 0.93

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-73-12 A
Sample Number: 6462 **Depth:** 0.0' **Date:** 11/23/12

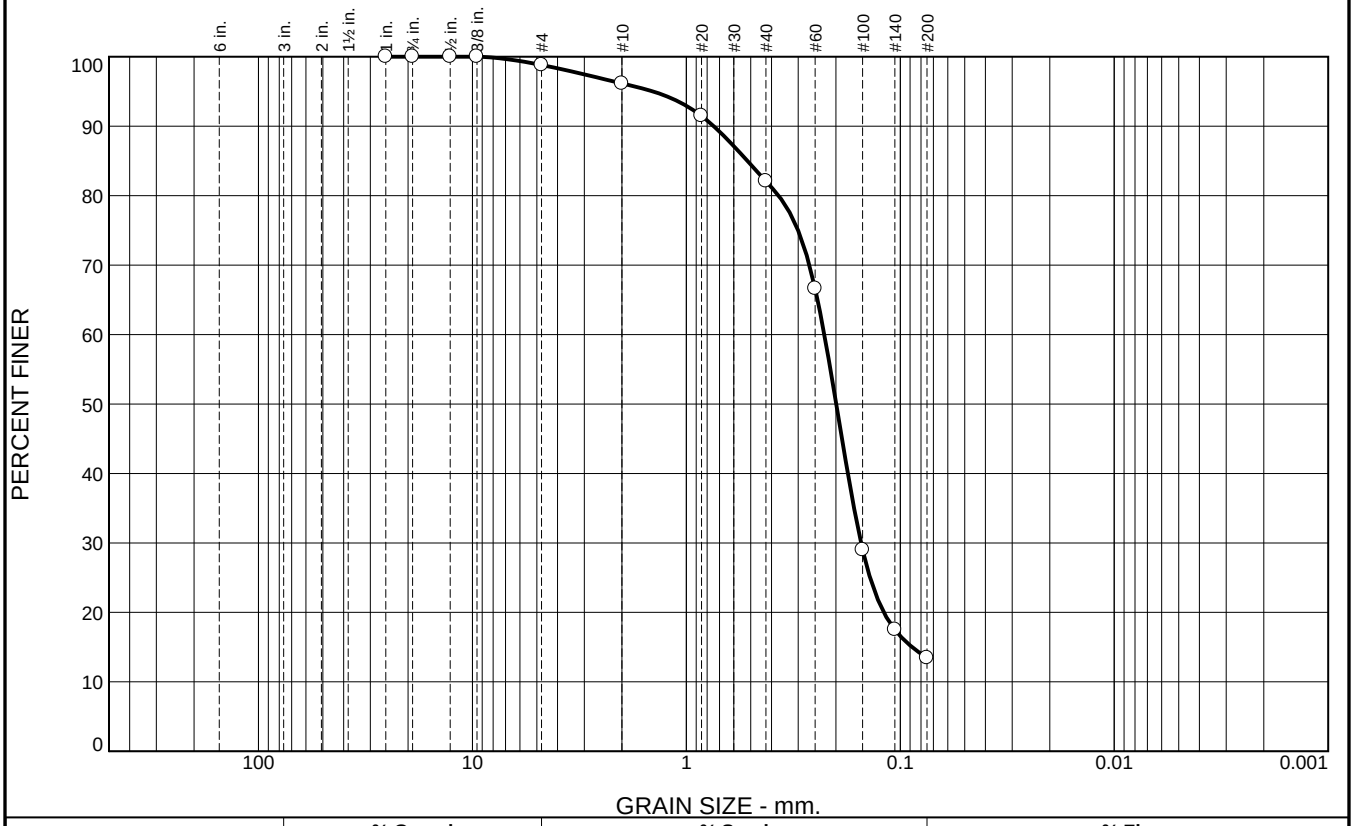
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.2	2.6	14.1	68.7	13.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	98.8		
#10	96.2		
#20	91.5		
#40	82.1		
#60	66.6		
#100	29.0		
#140	17.5		
#200	13.4		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with clay pockets and trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7452 D_{85}= 0.5186 D_{60}= 0.2265
D_{50}= 0.1993 D_{30}= 0.1526 D_{15}= 0.0881
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-73-12 B
Sample Number: 6462 **Depth:** 2.9' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-74-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-74-12	LOCATION COORDINATES: E = 1,143,560 N = 235,957	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 55.9 Ft.	
		15. DATE BORING	STARTED: 11-21-12 / COMPLETED: 11-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-55.5	0.0				
-57.7	2.2		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little shell fragments, trace fines, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2787 mm % Fines: 2.5
-59.9	4.4		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, some silt, little shell fragments, gray (SP-SM)	B	Classification: SM Color: 5Y 6/2-light olive gray D50: 0.1838 mm % Fines: 19.6
-61.0	5.5		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace wood debris, gray (SC)	NS	
-64.0	8.5		CLAY, fat, mostly clay, trace shell fragments, trace wood debris, medium plasticity, gray (CH)		
-66.5	11.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, gray (SM)		
-73.1	17.6		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, dense, lt. gray mottled with orange (SC)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14787° Long = -88.32930°

Project Mississippi Barrier Island Restoration Project

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Core Identifier BI-PBS-74-12

Coordinate System
Latitude / Longitude

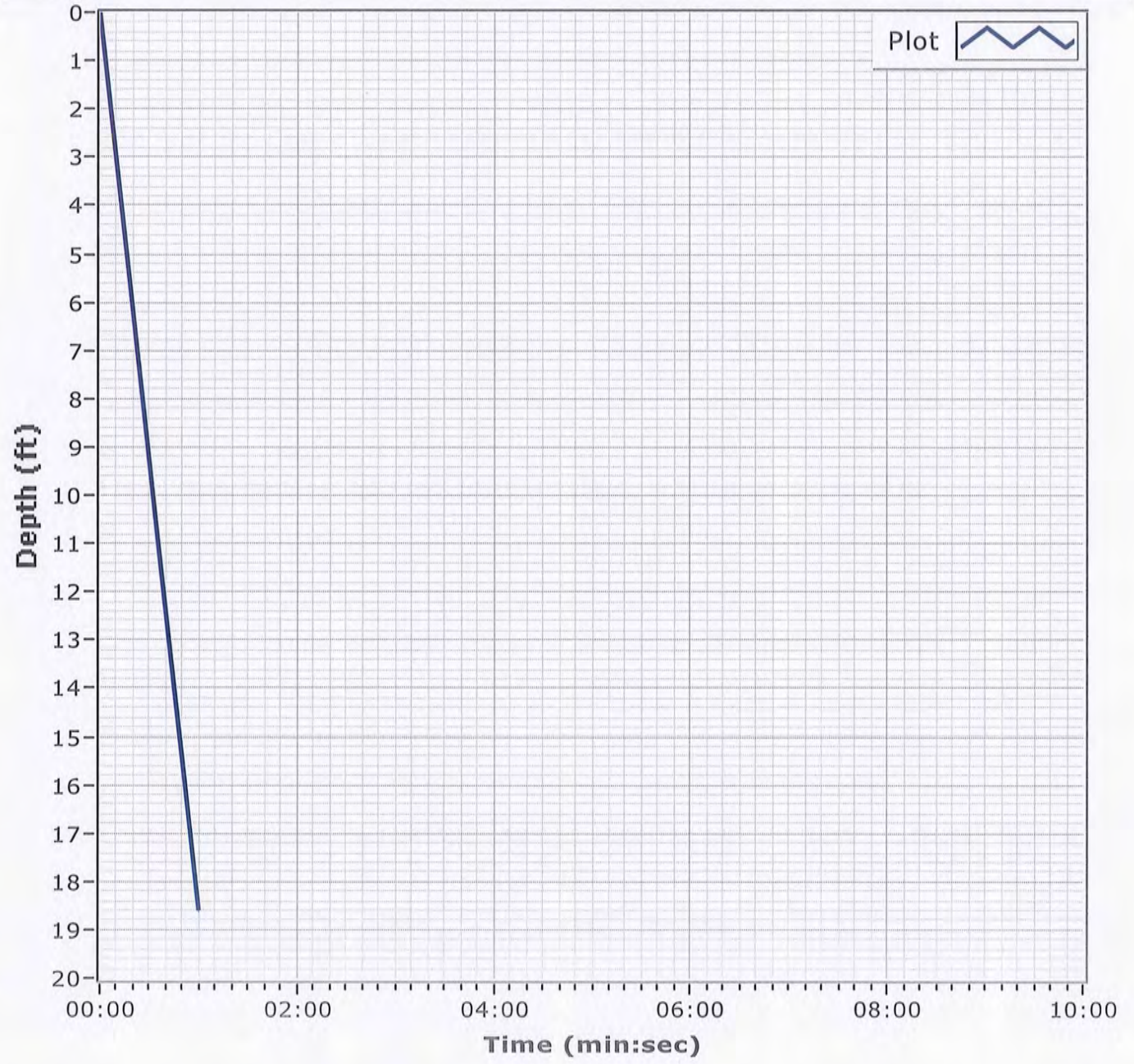
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Longitude 088 19.758

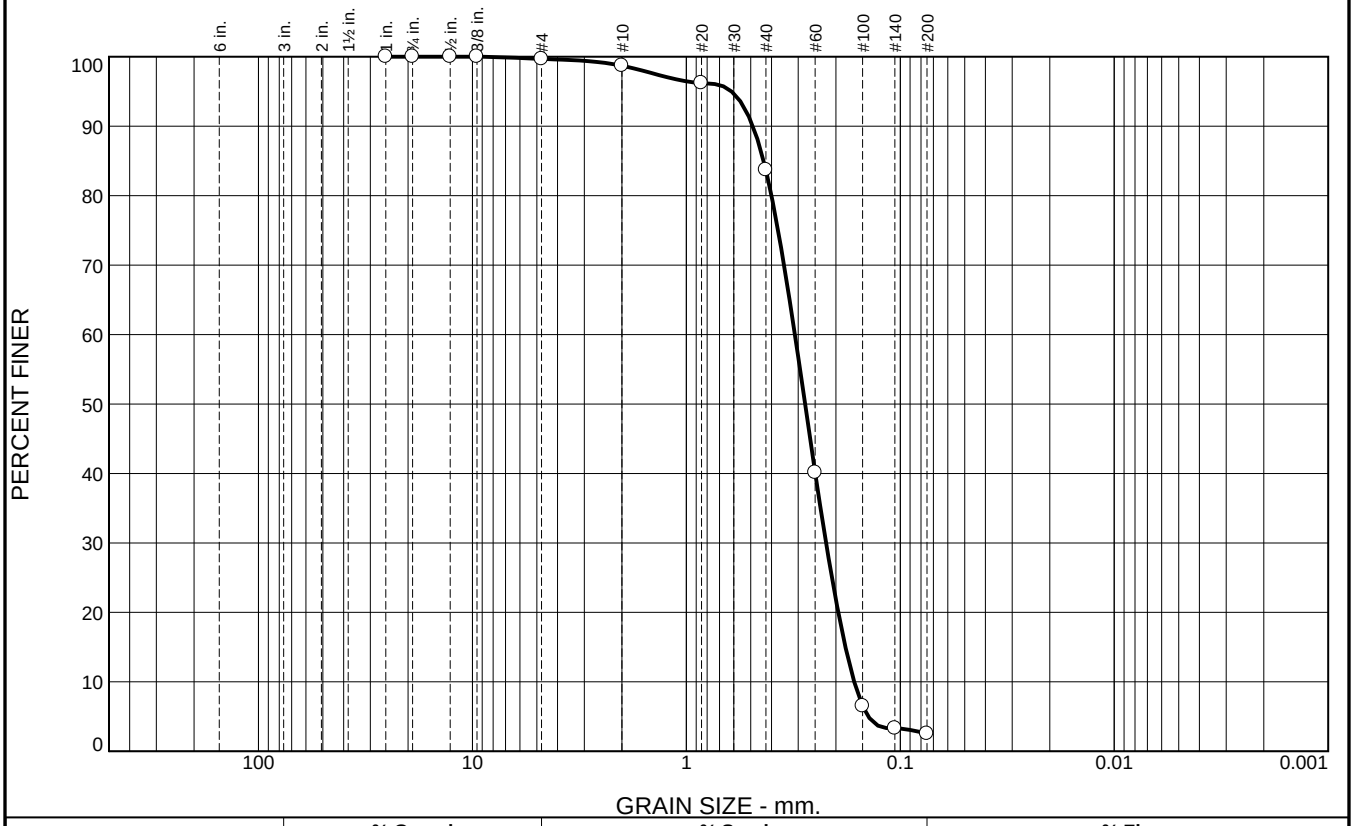
Date 11/21/2012
Start Time 10:01:03
End Time 10:02:03
Total Time 00:01:00

Water Depth 55.9'
Penetration 18.6'
Recovery 17.6'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	1.0	15.0	81.2	2.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.7		
#20	96.2		
#40	83.7		
#60	40.1		
#100	6.5		
#140	3.3		
#200	2.5		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4889 D_{85}= 0.4354 D_{60}= 0.3111
D_{50}= 0.2787 D_{30}= 0.2223 D_{15}= 0.1805
D_{10}= 0.1643 C_u= 1.89 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-74-12 A
Sample Number: 6469 (3) **Depth:** 0.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	2.1	17.8	59.7	19.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.6		
#4	99.2		
#10	97.1		
#20	94.0		
#40	79.3		
#60	63.3		
#100	40.6		
#140	26.8		
#200	19.6		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6679 D_{85}= 0.5328 D_{60}= 0.2302
D_{50}= 0.1838 D_{30}= 0.1167 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-74-12 B
Sample Number: 6469 (4) **Depth:** 2.2' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-75-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-75-12	LOCATION COORDINATES: E = 1,145,942 N = 233,567	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 56.7 Ft.	
		15. DATE BORING	STARTED: 11-20-12 / COMPLETED: 11-20-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.1 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-56.4	0.0				
-59.4	3.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2318 mm % Fines: 3.6
-65.9	9.5		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)	NS	
-74.8	18.4		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, clayey sand bordering on sandy clay, wood fragments at 14.0', gray to dark gray (SC)		
-75.5	19.1		CLAY, fat, mostly clay, little fine-grained sand-sized sand, medium plasticity, lt. gray to dark gray (CH)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14127° Long = -88.32180°

Project Mississippi Barrier Island Restoration Project

AVS
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SERVICES

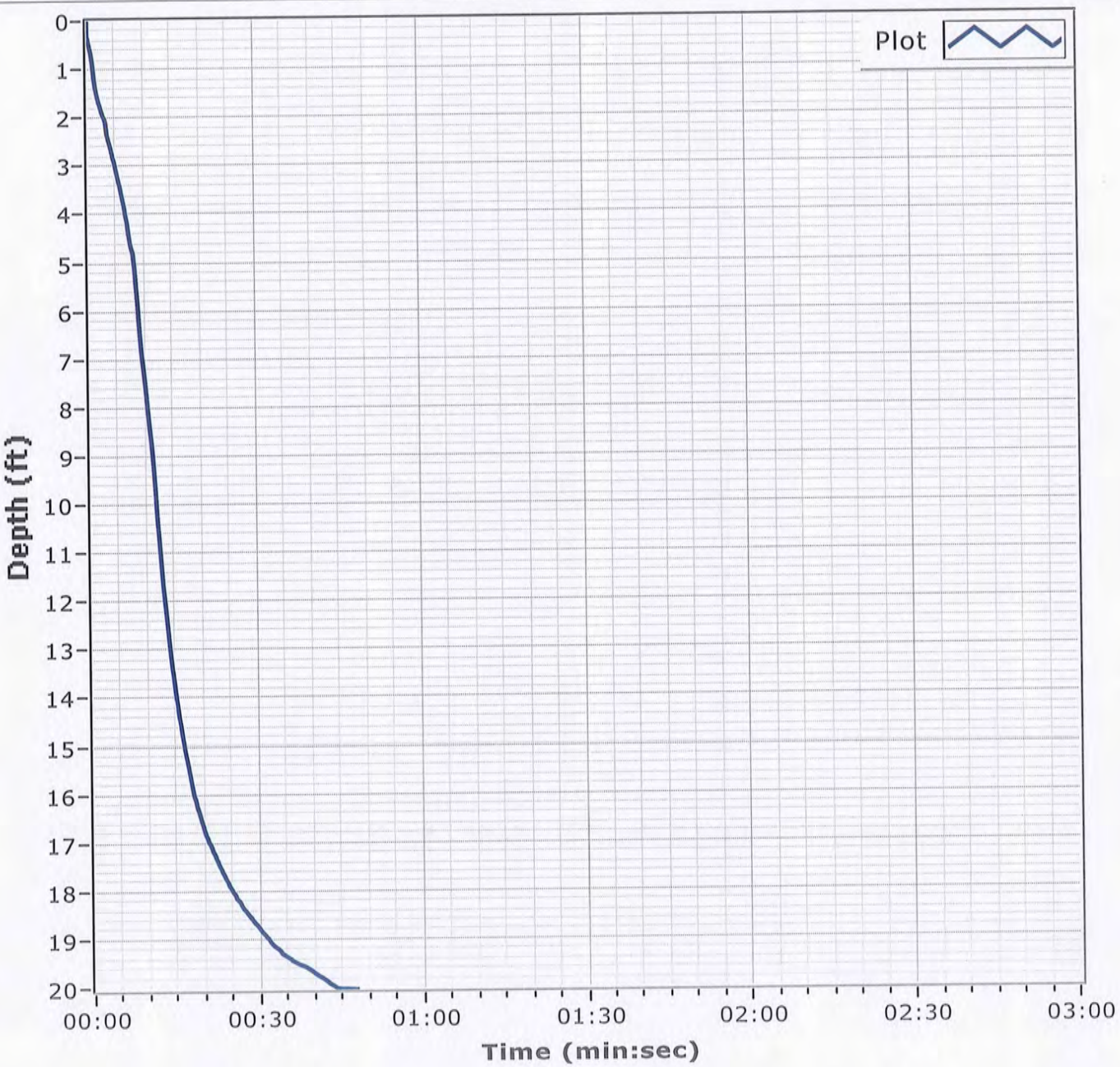
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Coordinate System
Latitude / Longitude

Latitude 30 08.476
Longitude 088 19.308

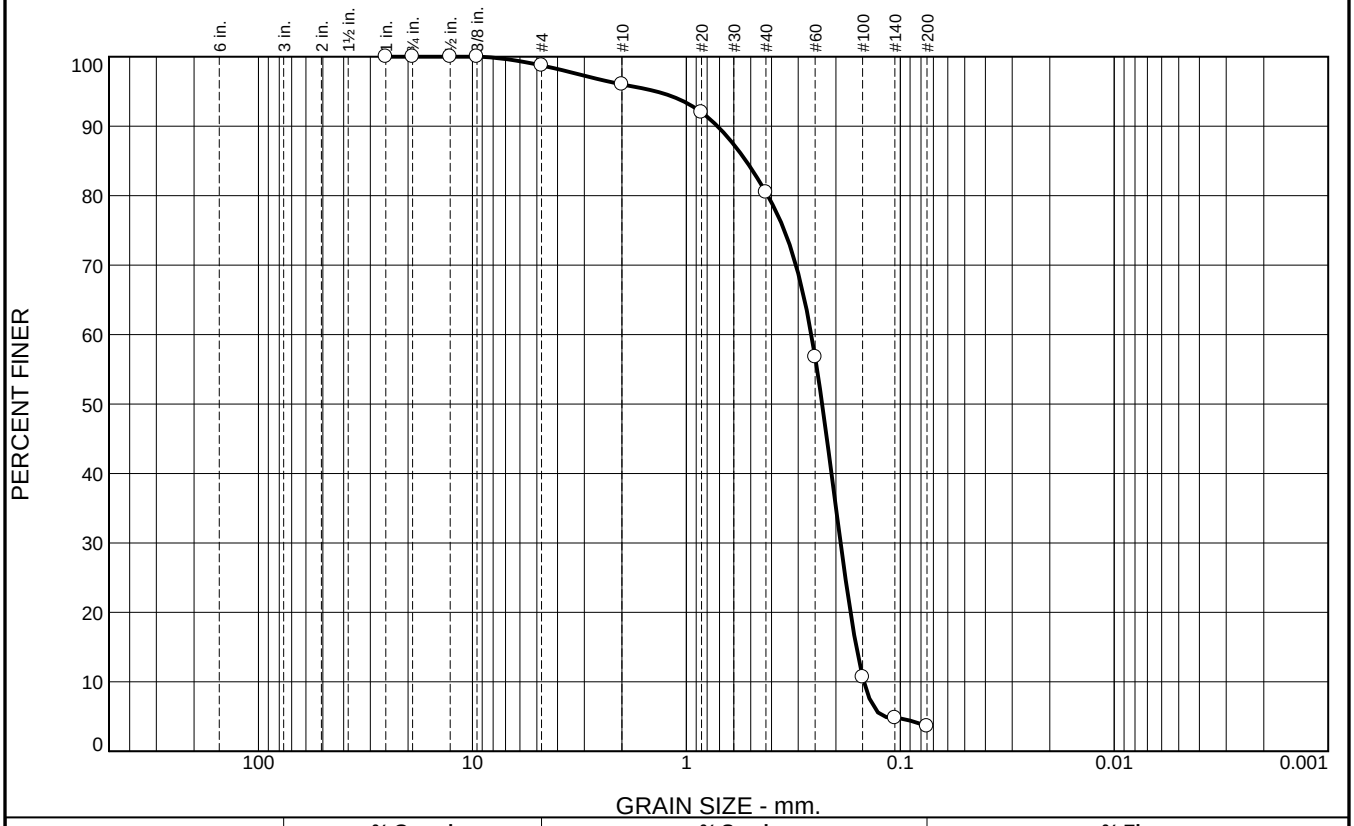
Date 11/20/2012
Start Time 09:05:19
End Time 09:06:07
Total Time 00:00:48

Water Depth 56.7'
Penetration 20.0'
Recovery 19.1'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.3	2.7	15.5	76.9	3.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	98.7		
#10	96.0		
#20	92.0		
#40	80.5		
#60	56.8		
#100	10.7		
#140	4.8		
#200	3.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7158 D_{85}= 0.5262 D_{60}= 0.2605
D_{50}= 0.2318 D_{30}= 0.1902 D_{15}= 0.1607
D_{10}= 0.1480 C_u= 1.76 C_c= 0.94

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-75-12 A
Sample Number: 6462 **Depth:** 0.0' **Date:** 11/23/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-76-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-76-12	LOCATION COORDINATES: E = 1,143,464 N = 234,949	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 52.8 Ft.	
		15. DATE BORING	STARTED: 11-21-12 / COMPLETED: 11-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -52.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: John Bass, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-52.4	0.0				
			SAND, poorly-graded, mostly fine to medium-grained quartz, trace fines, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.3173 mm % Fines: 1.8
-56.3	3.9		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little silt, trace shell fragments, trace wood debris, fines content increases with depth, gray (SP)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2024 mm % Fines: 14.4
				NS	
-61.4	9.0			C	Classification: SM Color: 2.5Y 5/2-grayish brown D50: 0.2085 mm % Fines: 16.9
-62.9	10.5		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace wood debris, gray (SM)		
-63.4	11.0		CLAY, silty, some clay, some silt, little fine-grained sand-sized quartz, gray (CL-ML)		
-65.8	13.4		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace wood debris, gray (SM)	NS	
-68.4	16.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace wood debris, soft, gray mottled with lt. gray and orange (SC)		
-71.8	19.4		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, trace wood debris, stiff, gray mottled with lt. gray and orange (CL)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.14510° Long = -88.32962°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-76-12

Coordinate System
Latitude / Longitude

Latitude 30 08.706

Longitude 088 19.777

Date 11/21/2012

Start Time 10:42:53

End Time 10:43:50

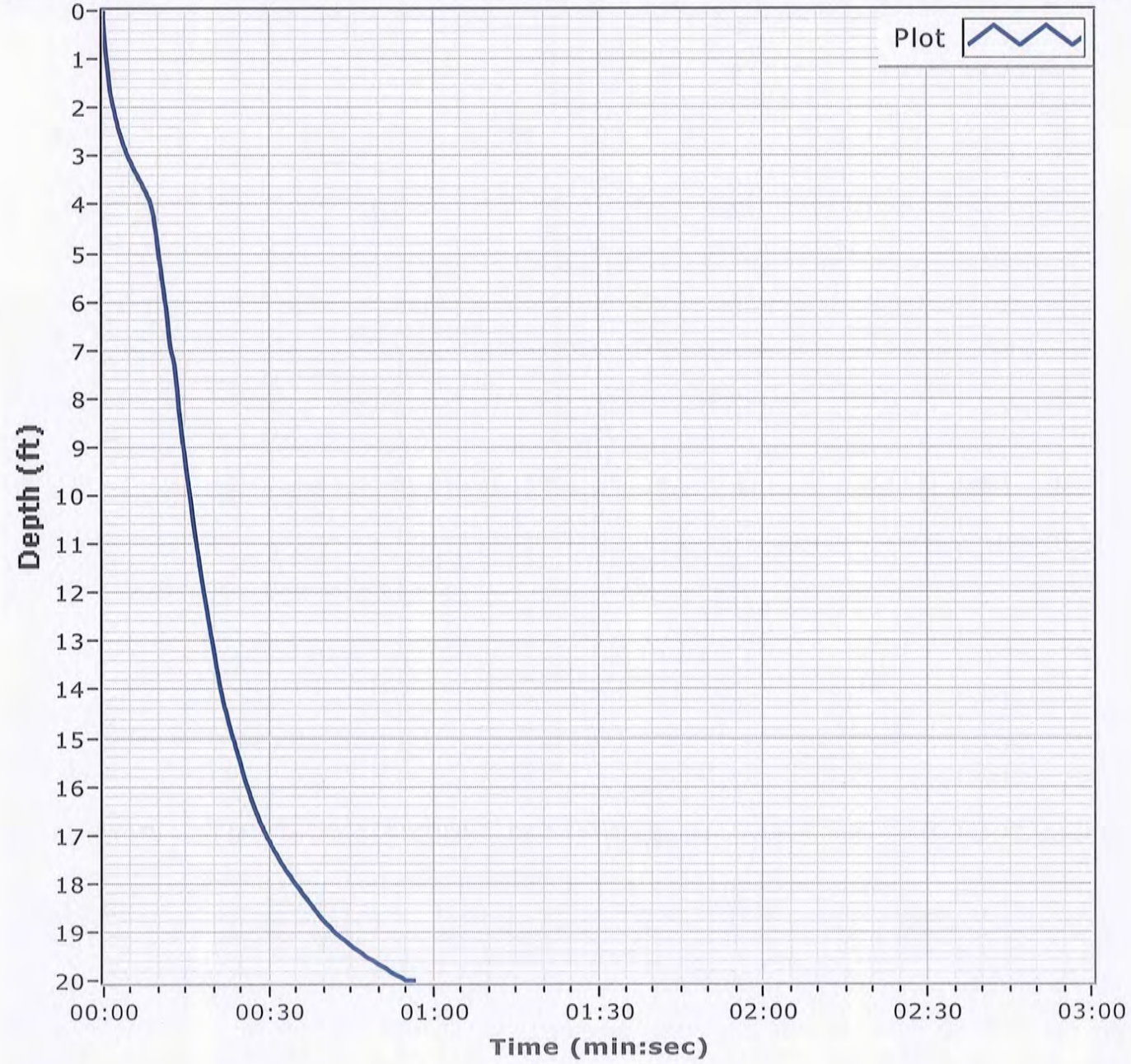
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Water Depth 52.8'

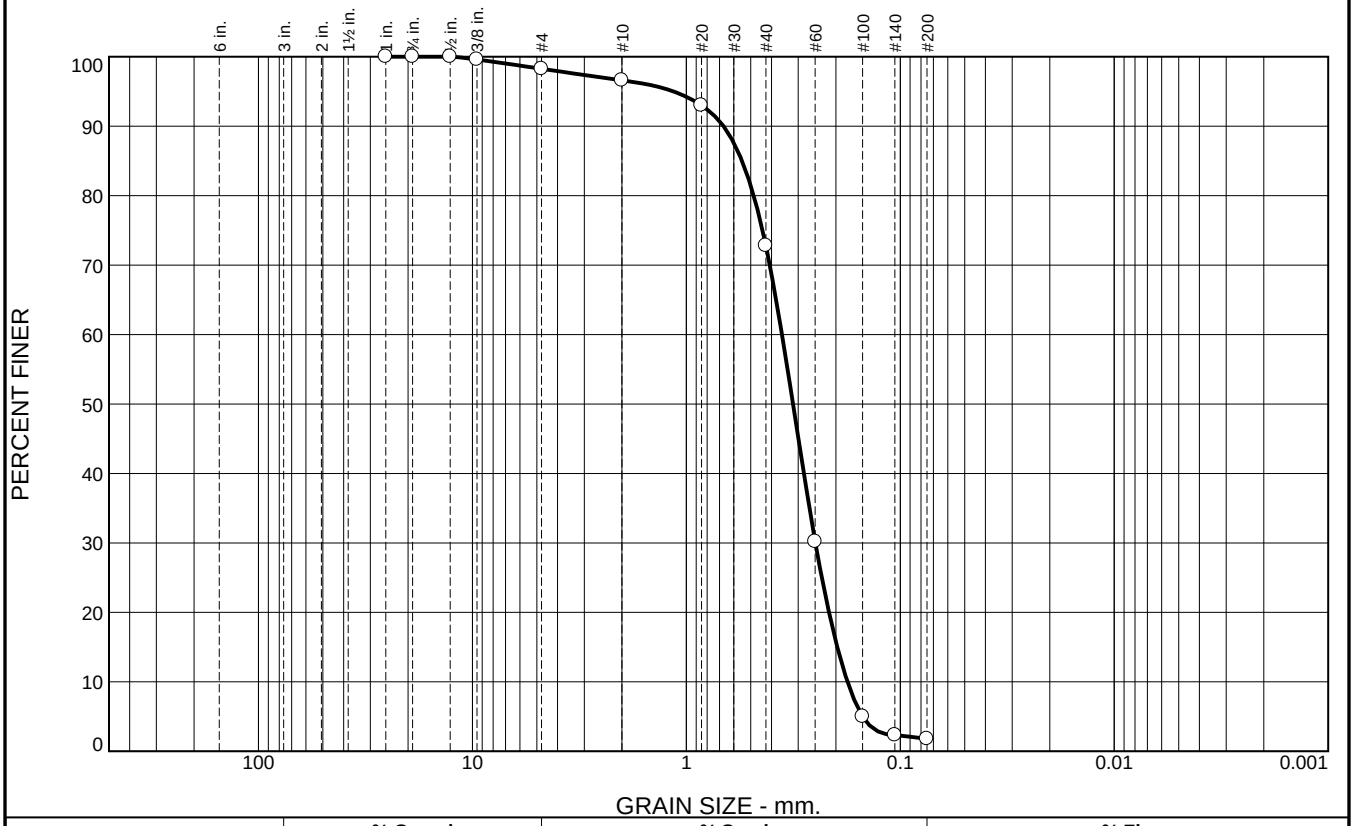
Penetration 20.0'

Recovery 19.4'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.7	1.7	23.8	71.0	1.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.6		
#4	98.3		
#10	96.6		
#20	93.0		
#40	72.8		
#60	30.2		
#100	5.0		
#140	2.3		
#200	1.8		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6705 D_{85}= 0.5491 D_{60}= 0.3573
D_{50}= 0.3173 D_{30}= 0.2493 D_{15}= 0.1971
D_{10}= 0.1767 C_u= 2.02 C_c= 0.98

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-76-12 A
Sample Number: 6469 (5) **Depth:** 0.0' **Date:** 11/28/12

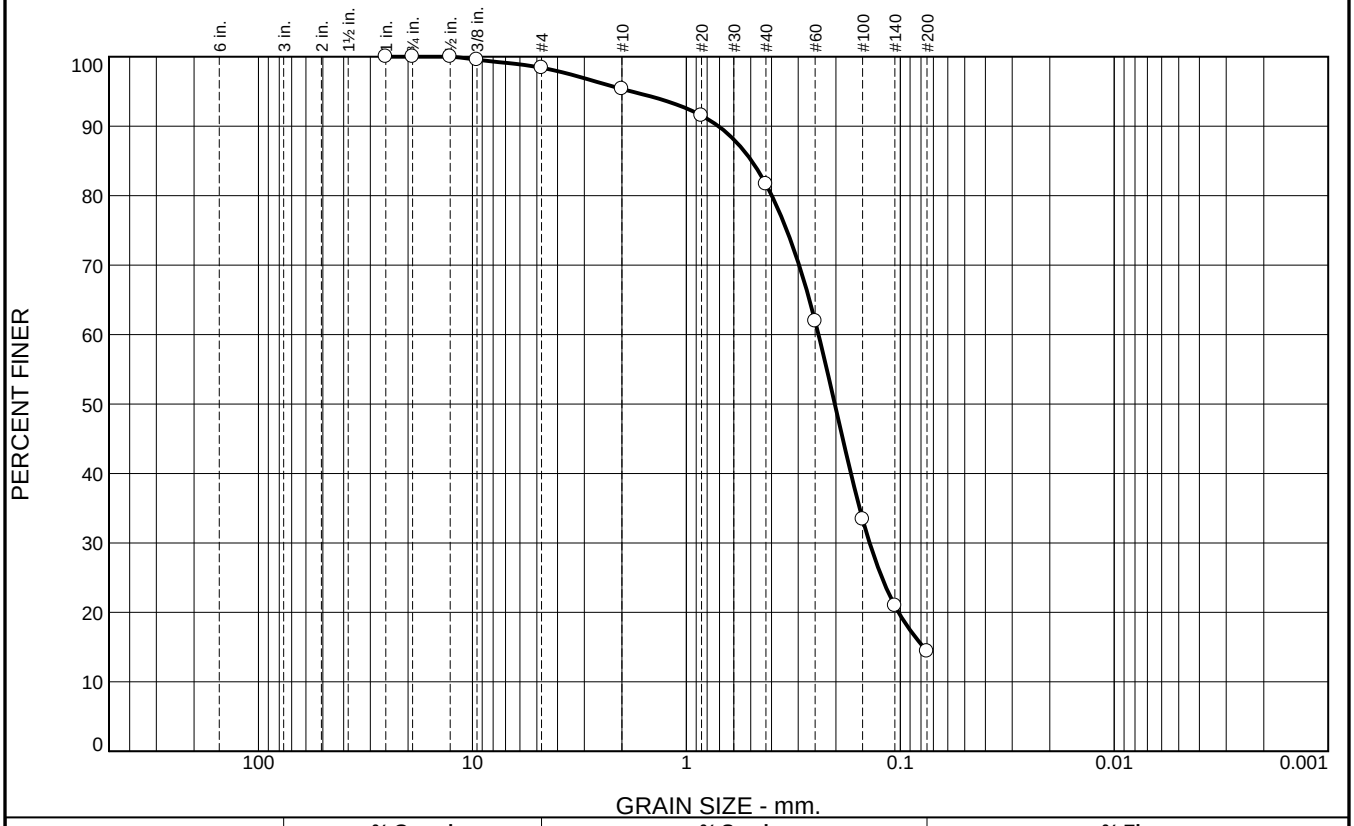
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.6	3.0	13.7	67.3	14.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.6		
#4	98.4		
#10	95.4		
#20	91.5		
#40	81.7		
#60	61.9		
#100	33.4		
#140	21.0		
#200	14.4		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7086 D_{85}= 0.4954 D_{60}= 0.2411
D_{50}= 0.2024 D_{30}= 0.1391 D_{15}= 0.0779
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-76-12 B
Sample Number: 6469 (6) **Depth:** 3.9' **Date:** 11/28/12

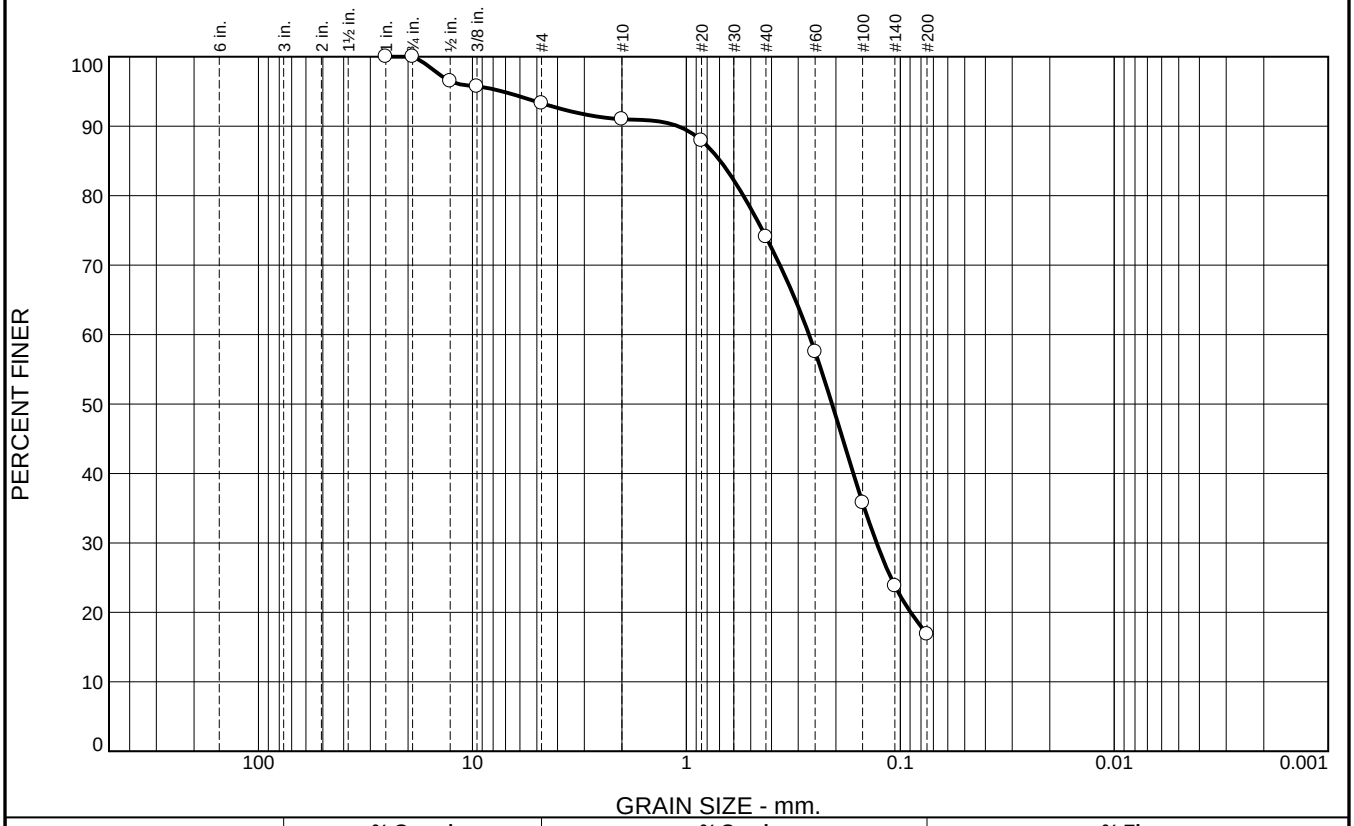
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	6.7	2.3	16.9	57.2	16.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	96.5		
.375	95.7		
#4	93.3		
#10	91.0		
#20	87.9		
#40	74.1		
#60	57.5		
#100	35.8		
#140	23.8		
#200	16.9		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.0954 D_{85}= 0.6947 D_{60}= 0.2672
D_{50}= 0.2085 D_{30}= 0.1291 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-76-12 C
Sample Number: 6469 (7) **Depth:** 8.0' **Date:** 11/28/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-77-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-77-12	LOCATION COORDINATES: E = 1,147,901 N = 238,471	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 55.8 Ft.	
		15. DATE BORING	STARTED: 12-18-12 / COMPLETED: 12-18-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-55.8	0.0				
-57.7	1.9		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace clay, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2464 mm % Fines: 4.6
-58.5	2.7		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little silt, trace shell fragments, gray (SC)		
-61.7	5.9		CLAY, lean, mostly clay, some sand, low to medium plasticity, gray (CL)		
-75.8	20.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, little clay lenses, gray (SM) At El. -67.5 Ft., mostly fine-grained sand-sized quartz, some silt, trace wood debris, gray to grayish brown	NS	

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.15473° Long = -88.31553°

Project Mississippi Barrier Island Restoration Project

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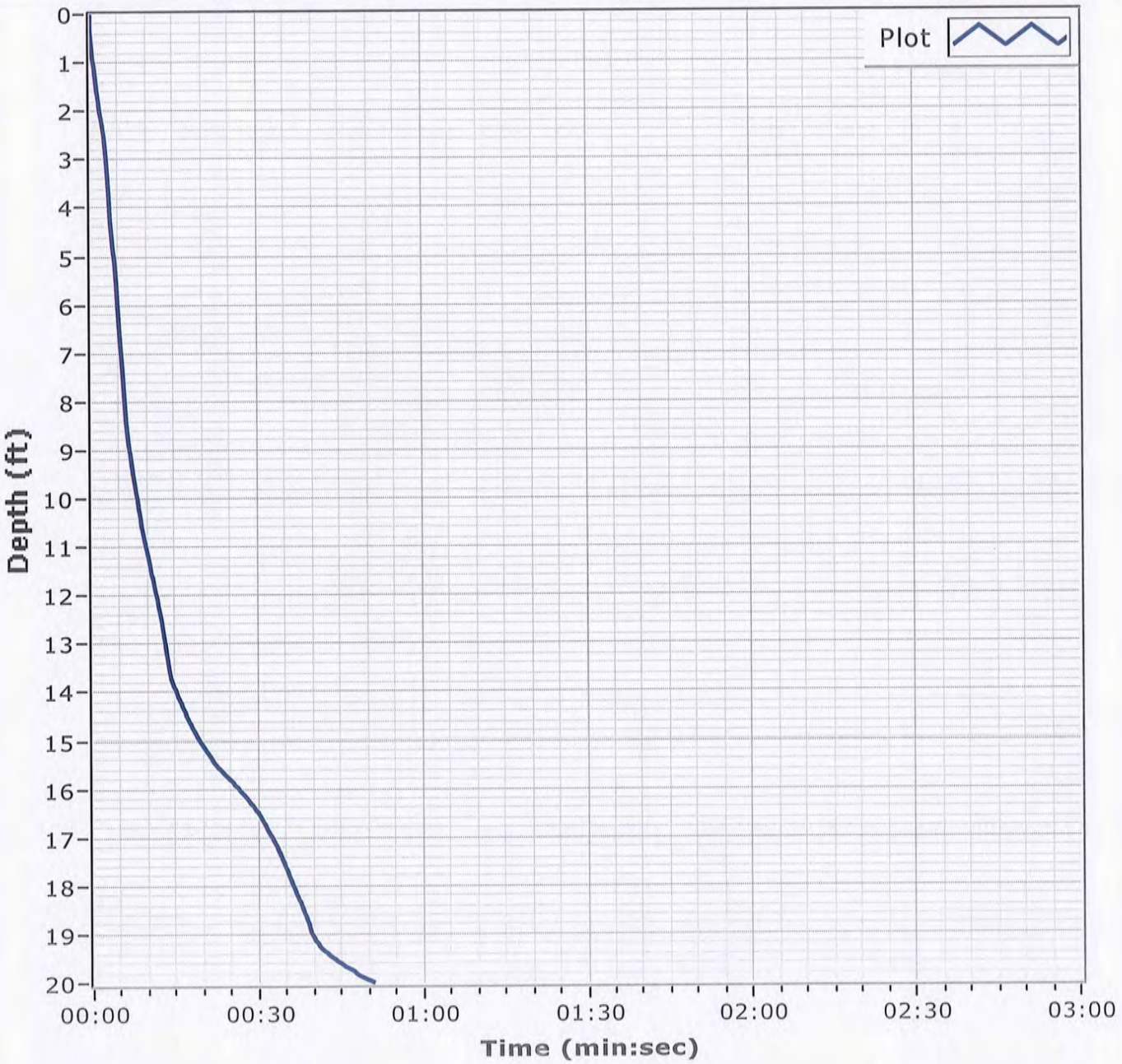
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Coordinate System Latitude / Longitude

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Total Time 00:00:51

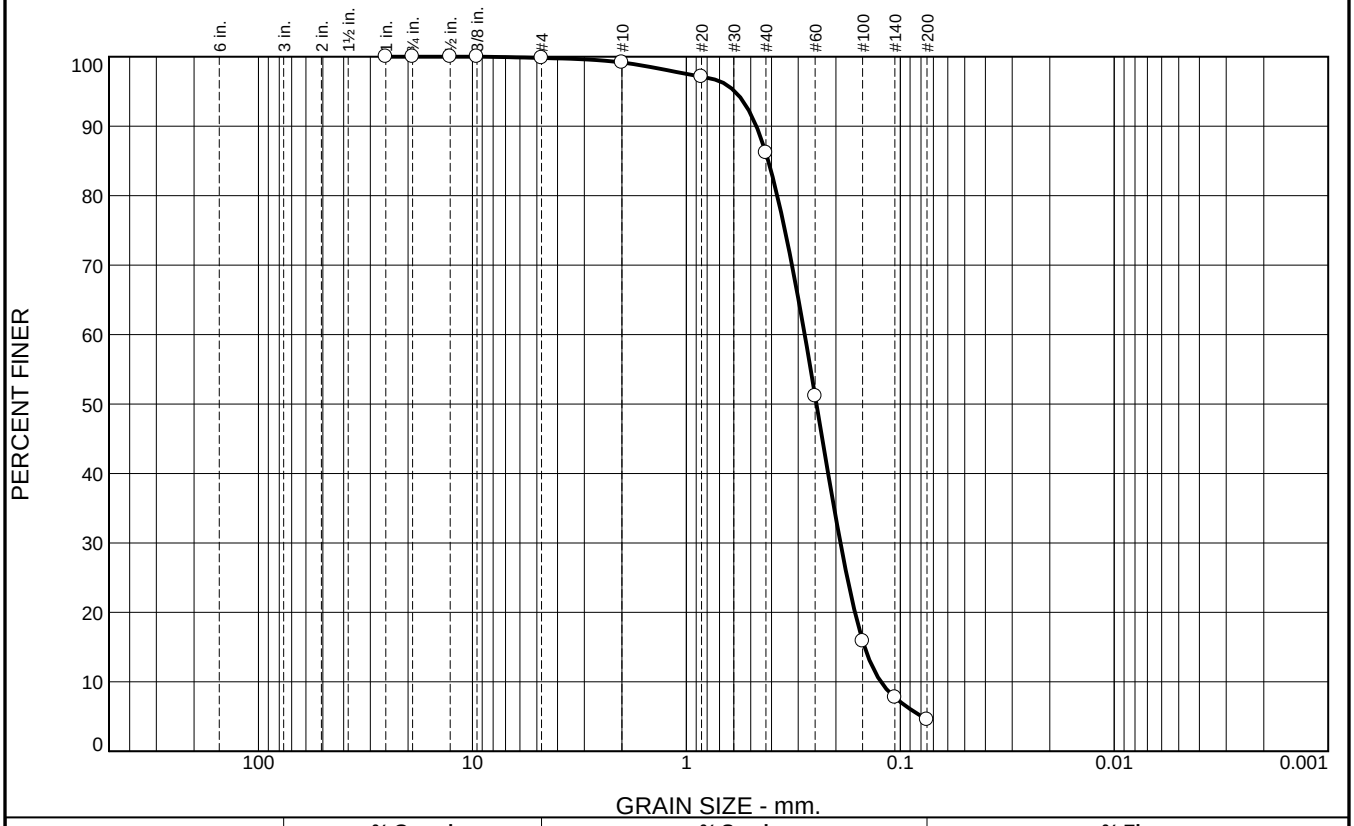
Water Depth 55.8'
Penetration 20.0'
Recovery 20.0'

Latitude 30 9.284
Longitude 88 18.932

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.6	13.0	81.6	4.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.2		
#20	97.1		
#40	86.2		
#60	51.1		
#100	15.9		
#140	7.8		
#200	4.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4708 D_{85}= 0.4140 D_{60}= 0.2799
D_{50}= 0.2464 D_{30}= 0.1905 D_{15}= 0.1469
D_{10}= 0.1234 C_u= 2.27 C_c= 1.05

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-77-12 A
Sample Number: 6494 (44) **Depth:** 0.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-78-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-78-12	LOCATION COORDINATES: E = 1,146,430 N = 238,934	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 53.9 Ft.	
		15. DATE BORING	STARTED: 12-18-12 / COMPLETED: 12-18-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -53.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-53.9	0.0				
-57.1	3.2		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, clayey bands at 2, 2.5, and 2.8 ft., lt. gray (SP)	A	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.2821 mm % Fines: 6.3
-59.3	5.4		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, grades to sandy clay, gray (SC)	NS	
-72.1	18.2		CLAY, fat, mostly clay, trace silt, trace shell fragments, trace shell fragments, medium to high plasticity, gray (CH)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.15602° Long = -88.32018°

Project Mississippi Barrier Island Restoration Project

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SERVICES

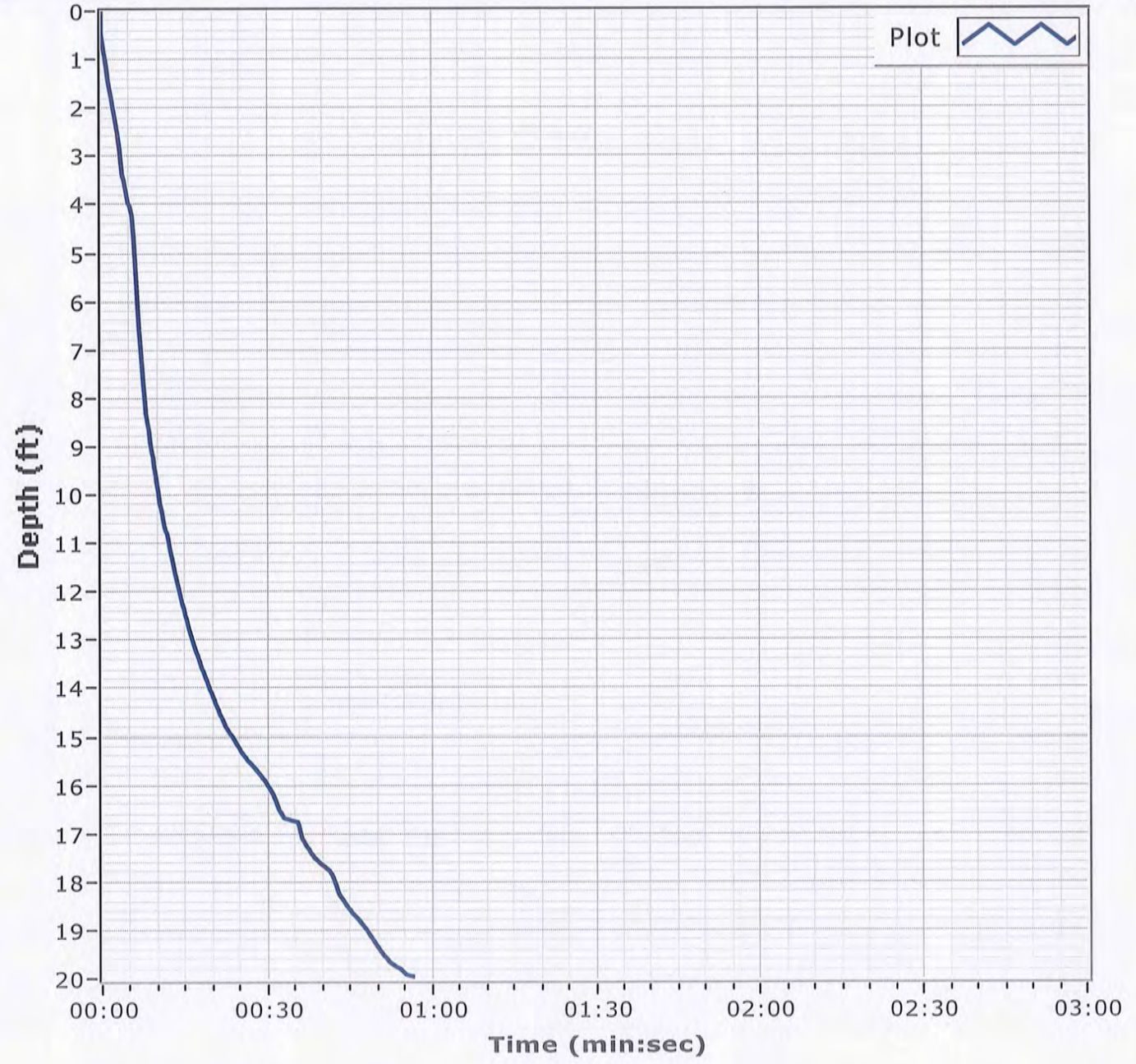
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Coordinate System
Latitude / Longitude

Date 12/18/2012
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End Time 10:49:15
Total Time 00:00:56

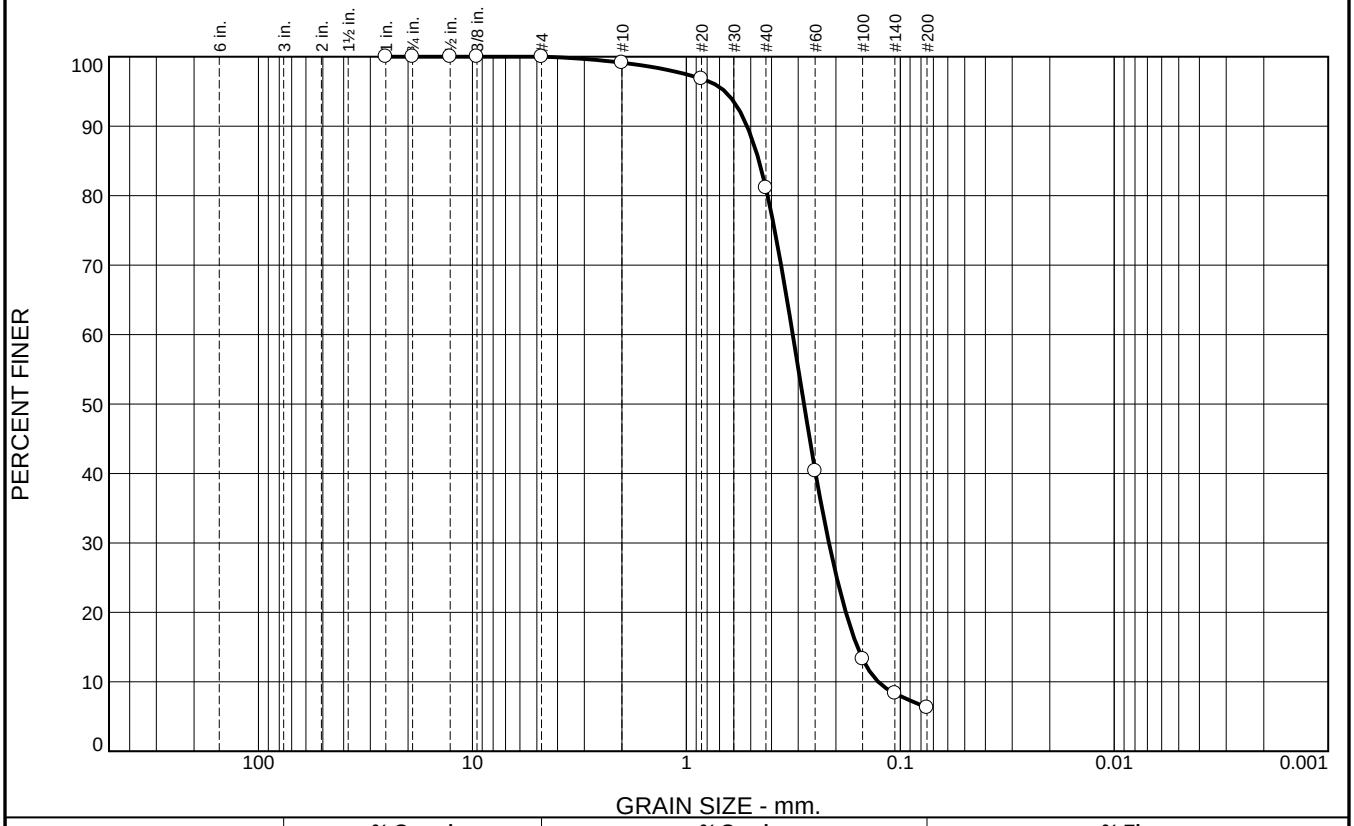
Water Depth 53.9'
Penetration 20.0'
Recovery 18.0'

Latitude 30 9.361
Longitude 88 19.211

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.9	18.0	74.8	6.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.1		
#20	96.8		
#40	81.1		
#60	40.4		
#100	13.3		
#140	8.4		
#200	6.3		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5201 D_{85}= 0.4577 D_{60}= 0.3182
D_{50}= 0.2821 D_{30}= 0.2155 D_{15}= 0.1587
D_{10}= 0.1268 C_u= 2.51 C_c= 1.15

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-78-12 A
Sample Number: 6494 (45) **Depth:** 0.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-79-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-79-12	LOCATION COORDINATES: E = 1,145,037 N = 239,338	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 52.3 Ft.	
		15. DATE BORING	STARTED: 12-18-12 / COMPLETED: 12-18-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -52.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-52.3	0.0				
-54.2	1.9		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, trace clay lenses, lt. gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2701 mm % Fines: 1.9
-55.4	3.1		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace clay lenses, gray (SP-SM)	B	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.2114 mm % Fines: 11.5
-56.9	4.6		SAND, clayey, mostly fine-grained sand-sized quartz, trace shell fragments, gray (SC)		
			CLAY, fat, mostly clay, trace shell fragments, trace wood debris, medium to high plasticity, trace sandy lenses, gray to greenish gray (CH)	NS	
-68.7	16.4				

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.15715° Long = -88.32458°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

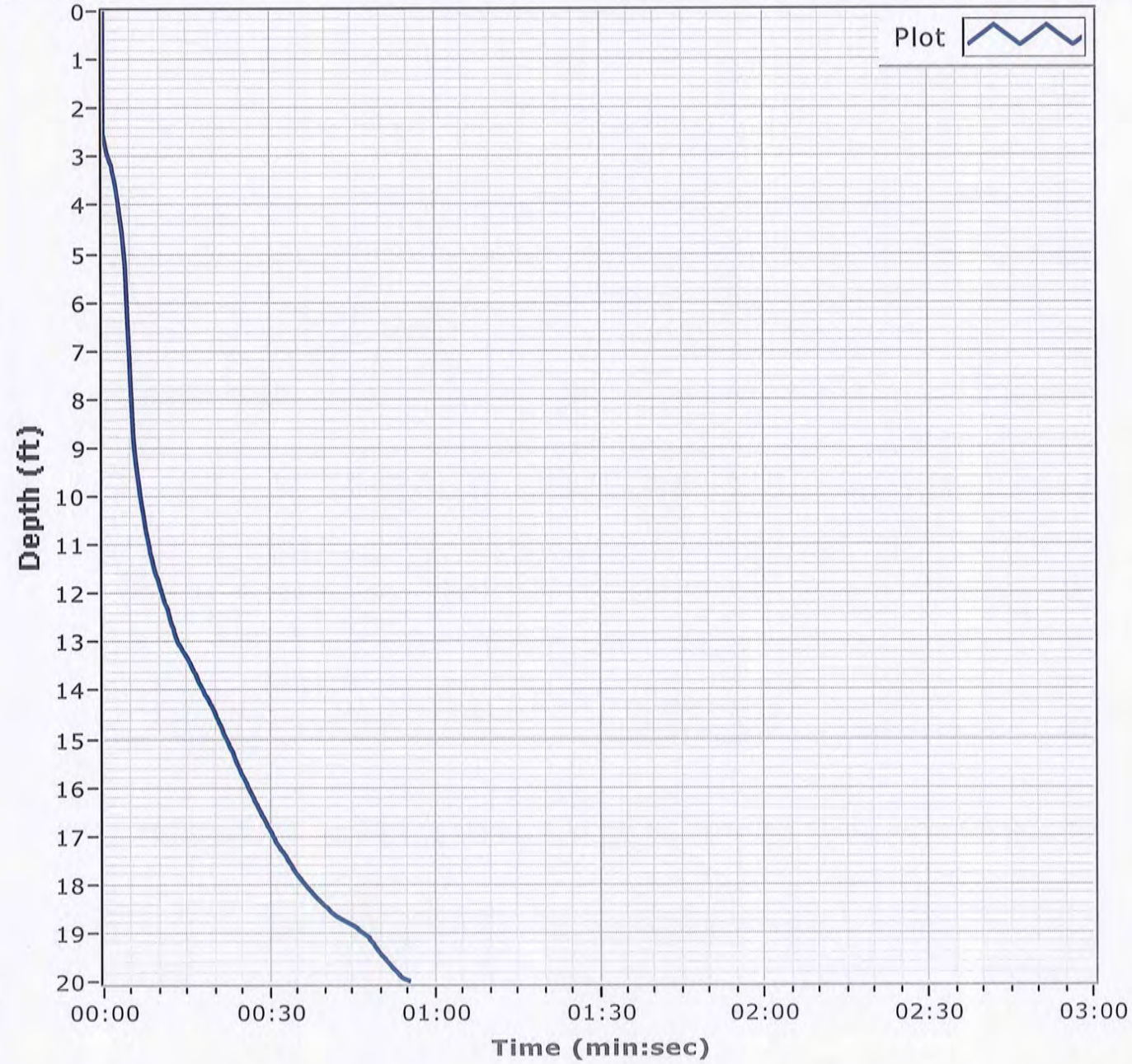
Core Identifier BI-PBS-79-12
Coordinate System
Latitude / Longitude

Latitude 30 9.429
Longitude 88 19.475

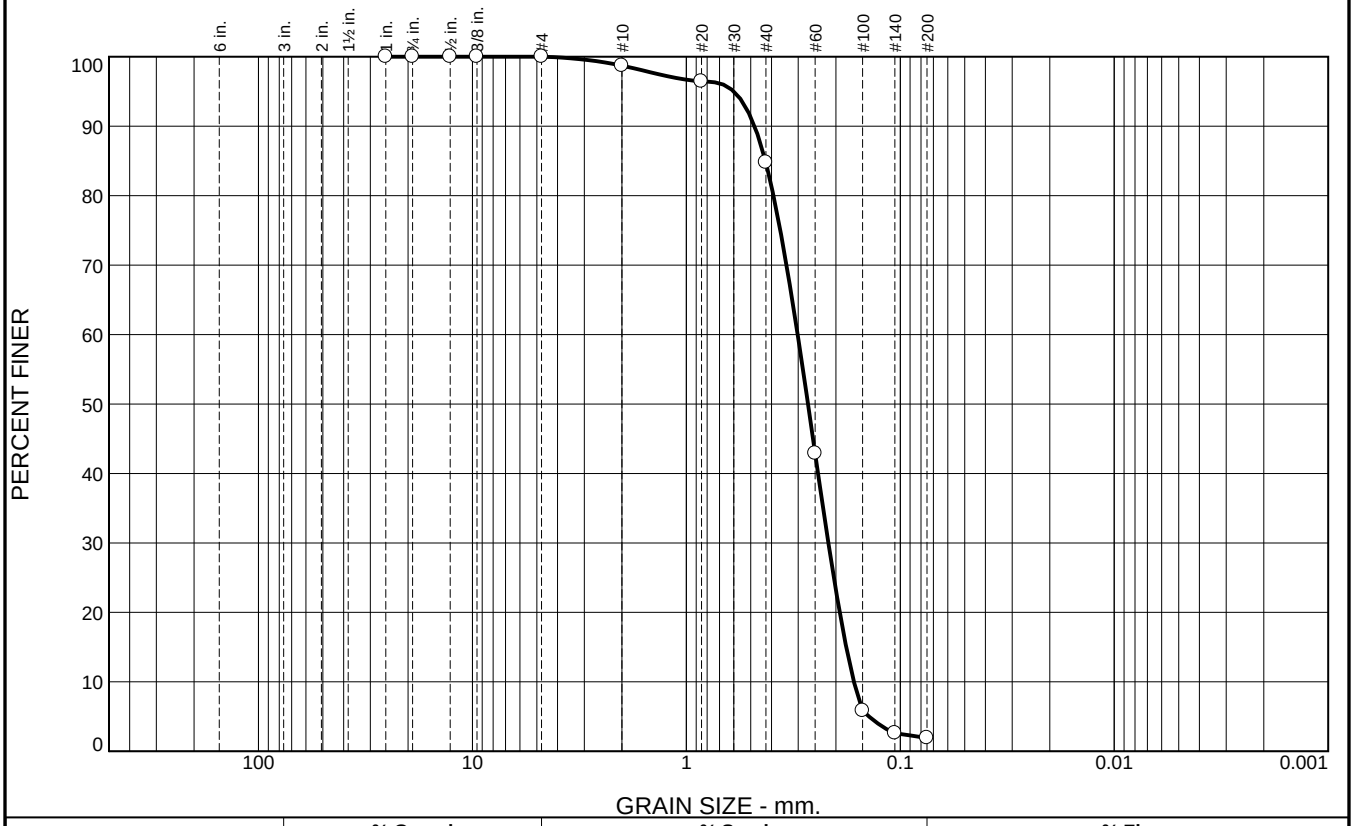
Date 12/18/2012
Start Time 09:53:10
End Time 09:54:06
Total Time 00:00:55

Water Depth 52.3'
Penetration 20.0'
Recovery 16.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.3	13.9	82.9	1.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	98.7		
#20	96.5		
#40	84.8		
#60	42.9		
#100	5.9		
#140	2.6		
#200	1.9		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4802 D_{85}= 0.4270 D_{60}= 0.3020
D_{50}= 0.2701 D_{30}= 0.2168 D_{15}= 0.1791
D_{10}= 0.1649 C_u= 1.83 C_c= 0.94

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-79-12 A
Sample Number: 6494 (46) **Depth:** 0.0' **Date:** 12/26/12

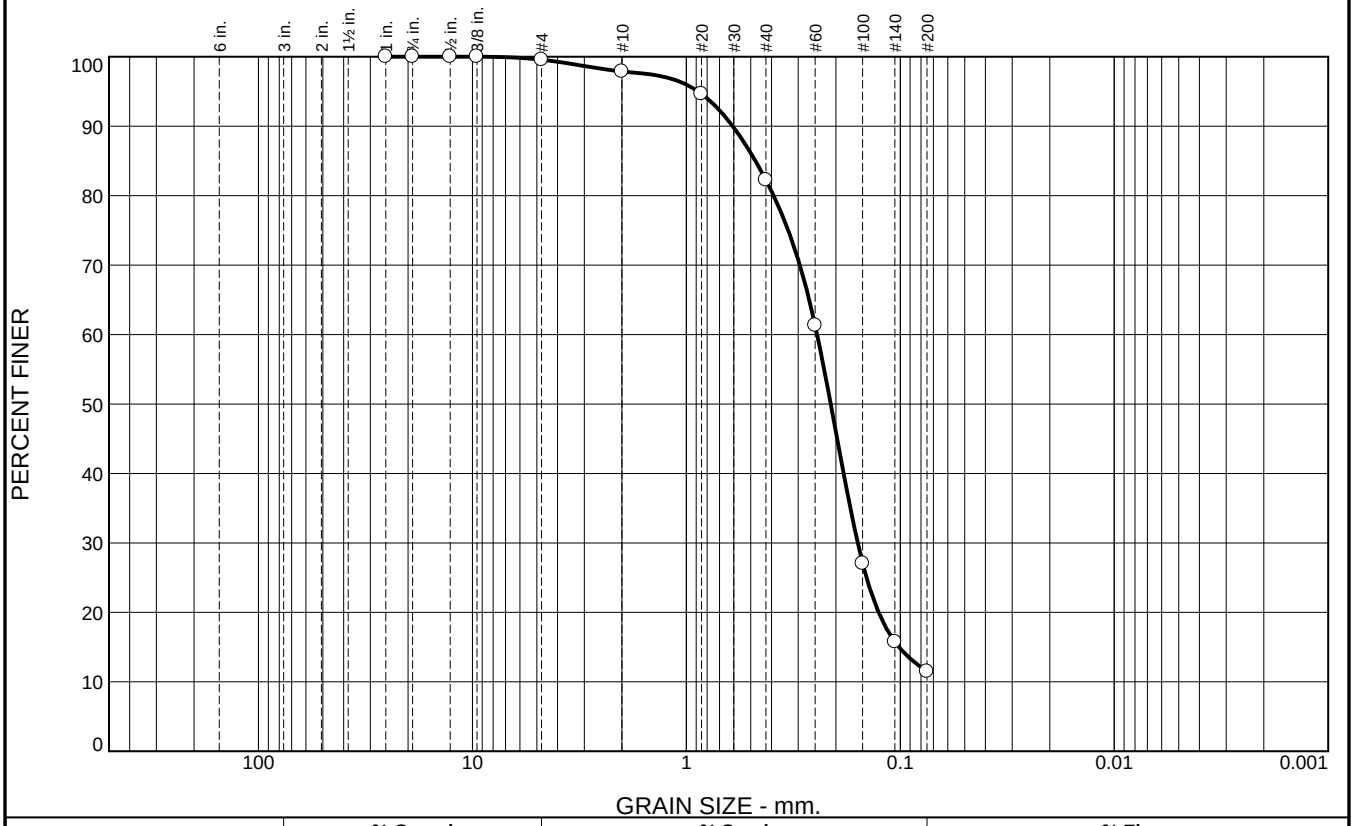
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	1.7	15.7	70.7	11.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.6		
#10	97.9		
#20	94.7		
#40	82.2		
#60	61.3		
#100	27.0		
#140	15.8		
#200	11.5		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6072 D_{85}= 0.4757 D_{60}= 0.2447
D_{50}= 0.2114 D_{30}= 0.1582 D_{15}= 0.1014
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-79-12 B
Sample Number: 6494 (47) **Depth:** 1.9' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-80-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-80-12	LOCATION COORDINATES: E = 1,143,708 N = 239,852	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 52.3 Ft.	
		15. DATE BORING	STARTED: 12-18-12 / COMPLETED: 12-18-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -52.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-52.2	0.0				
-54.2	2.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2596 mm % Fines: 1.9
-56.6	4.4		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, trace clay lenses, gray (SC)	B	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.2305 mm % Fines: 11.6
-71.6	19.4		CLAY, fat, mostly clay, trace wood debris, medium to high plasticity, stiff, trace sandy lenses, gray (CH)	NS	
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.15858° Long = -88.32878°

Project Mississippi Barrier Island Restoration Project

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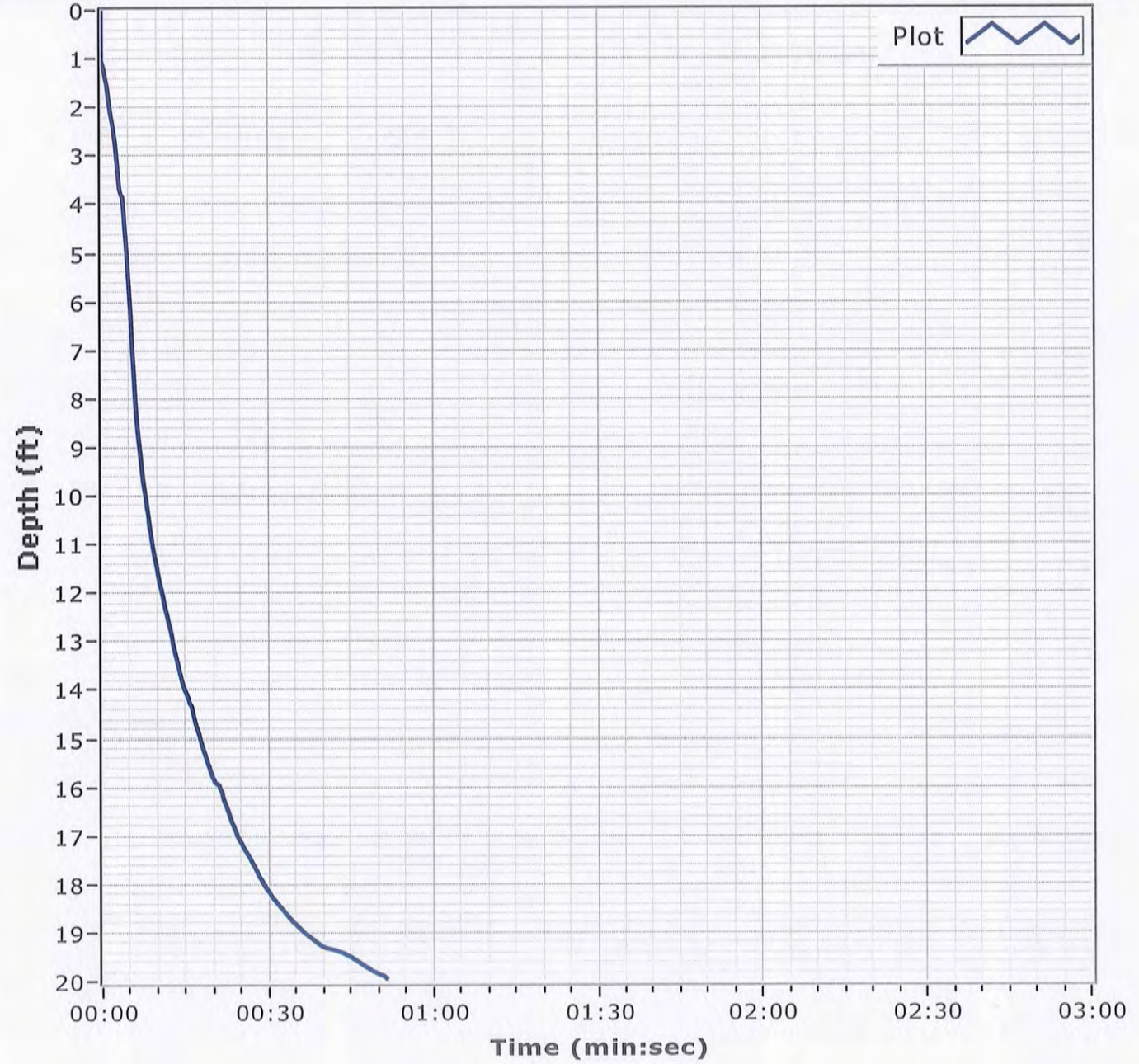
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Coordinate System
Latitude / Longitude

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End Time 09:24:12
Total Time 00:00:51

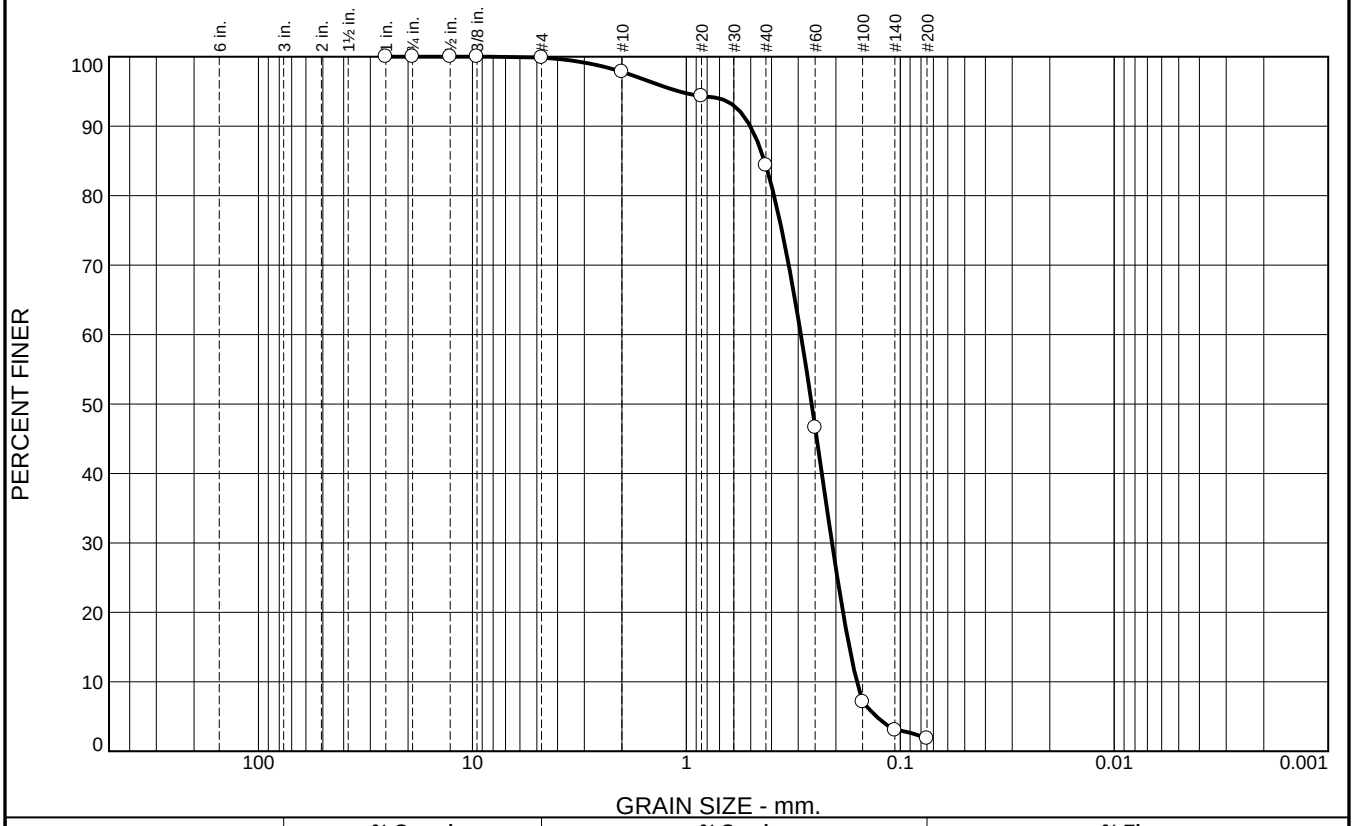
Water Depth 52.3'
Penetration 20.0'
Recovery 19.5'

Latitude 30 9.515
Longitude 88 19.727

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	2.1	13.4	82.5	1.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	97.8		
#20	94.3		
#40	84.4		
#60	46.6		
#100	7.1		
#140	3.0		
#200	1.9		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5026 D_{85}= 0.4313 D_{60}= 0.2917
D_{50}= 0.2596 D_{30}= 0.2086 D_{15}= 0.1732
D_{10}= 0.1596 C_u= 1.83 C_c= 0.93

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-80-12 A
Sample Number: 6494 (48) **Depth:** 0.0' **Date:** 12/26/12

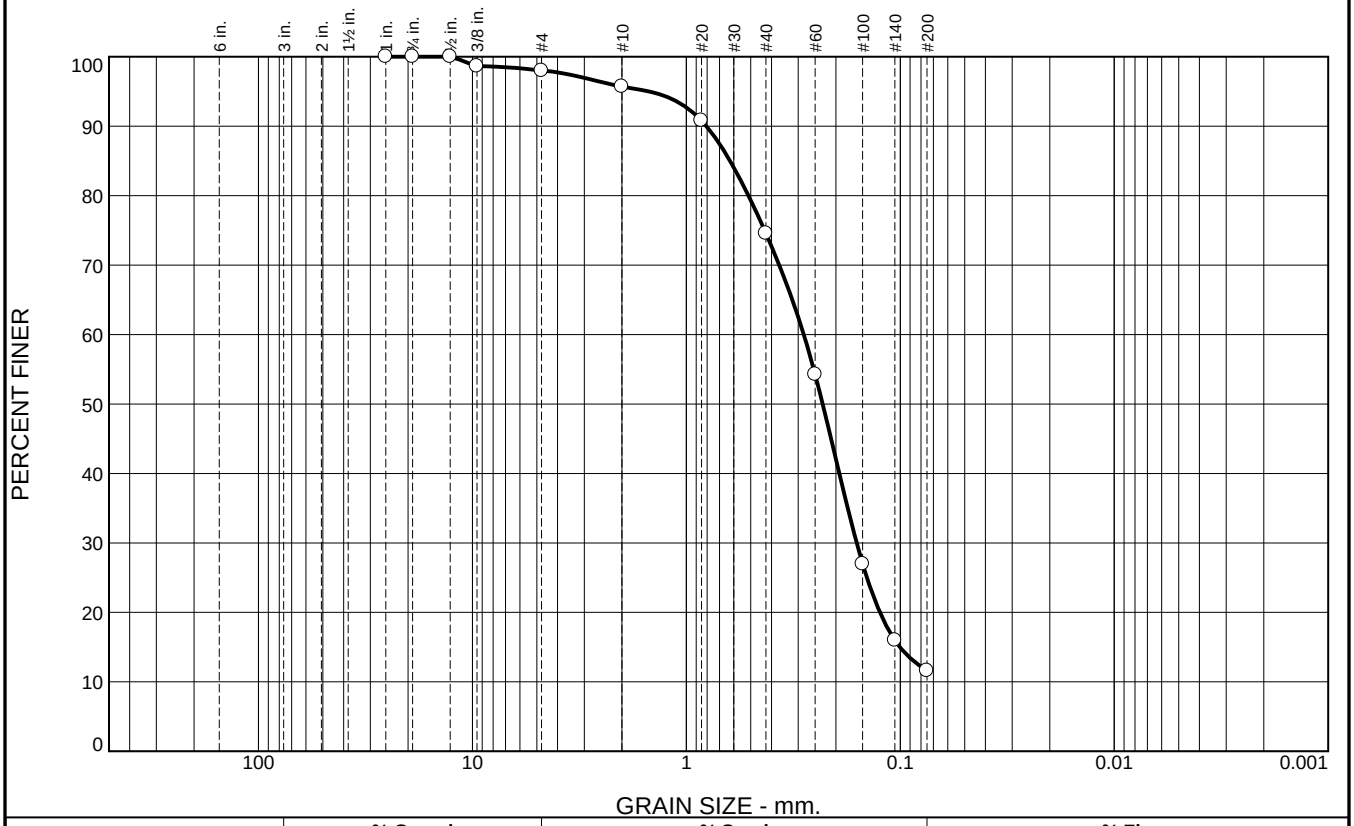
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.0	2.3	21.1	63.0	11.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	98.6		
#4	98.0		
#10	95.7		
#20	90.8		
#40	74.6		
#60	54.3		
#100	27.0		
#140	16.0		
#200	11.6		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.8069 D_{85}= 0.6250 D_{60}= 0.2827
D_{50}= 0.2305 D_{30}= 0.1600 D_{15}= 0.1005
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-80-12 B
Sample Number: 6494 (49) **Depth:** 2.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-81-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-81-12	LOCATION COORDINATES: E = 1,145,995 N = 240,743	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 52 Ft.	
		15. DATE BORING	STARTED: 12-18-12 / COMPLETED: 12-18-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -52.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-52.0	0.0				
-53.9	1.9		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, trace clay lenses, lt. gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2244 mm % Fines: 2.4
-55.6	3.6		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, trace shell fragments, gray (SM)	B	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.1757 mm % Fines: 9.1
-56.2	4.2		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)		
-68.9	16.9		CLAY, fat, mostly clay, trace wood debris, medium to high plasticity, stiff, sandy lenses at 4.7 ft., gray (CH)	NS	

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.16100° Long = -88.32153°

Project Mississippi Barrier Island Restoration Project

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S E R V I C E S

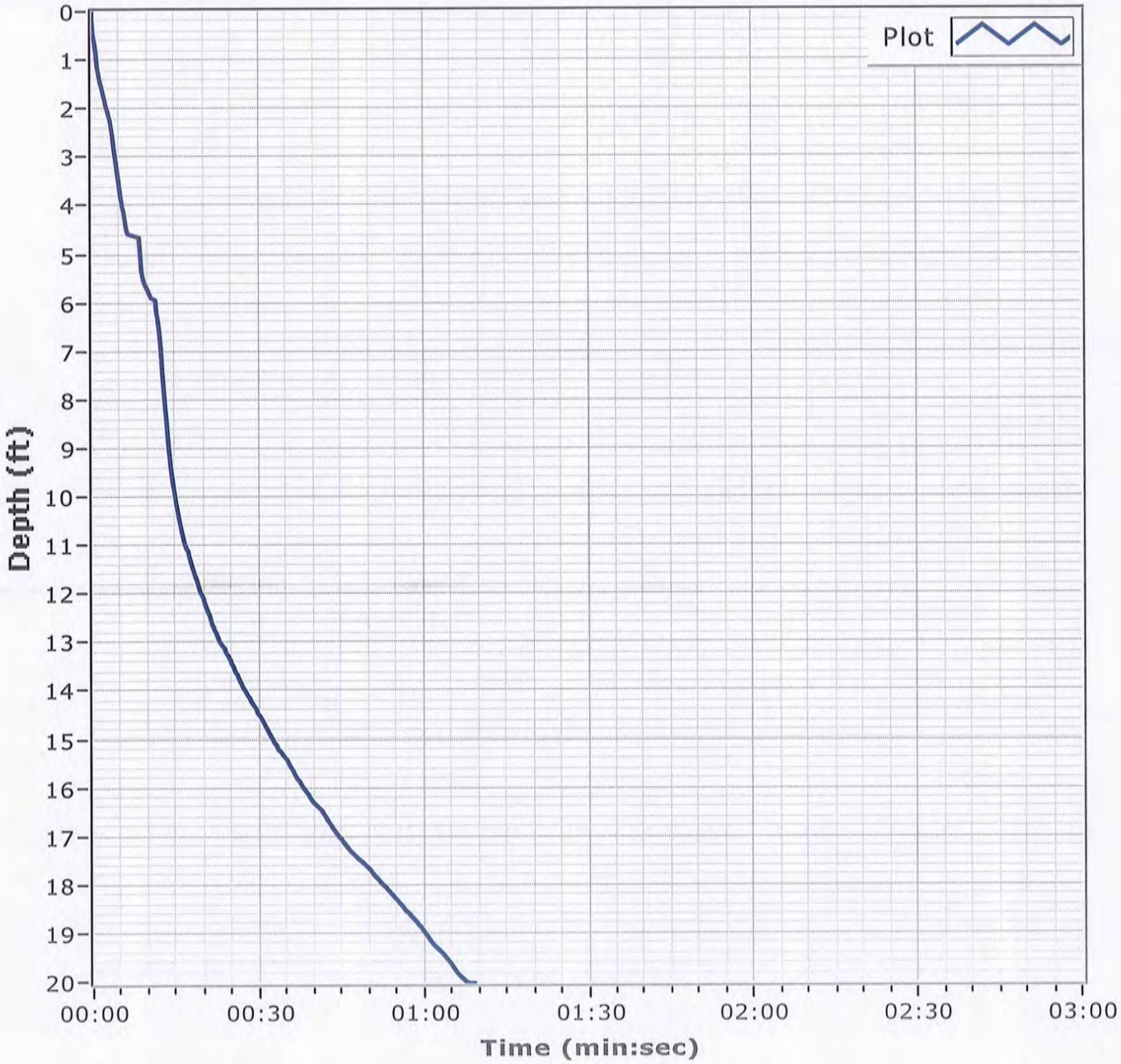
Core Identifier BI-PBS-81-12
Coordinate System
Latitude / Longitude

Latitude 30 9.660
Longitude 88 19.292

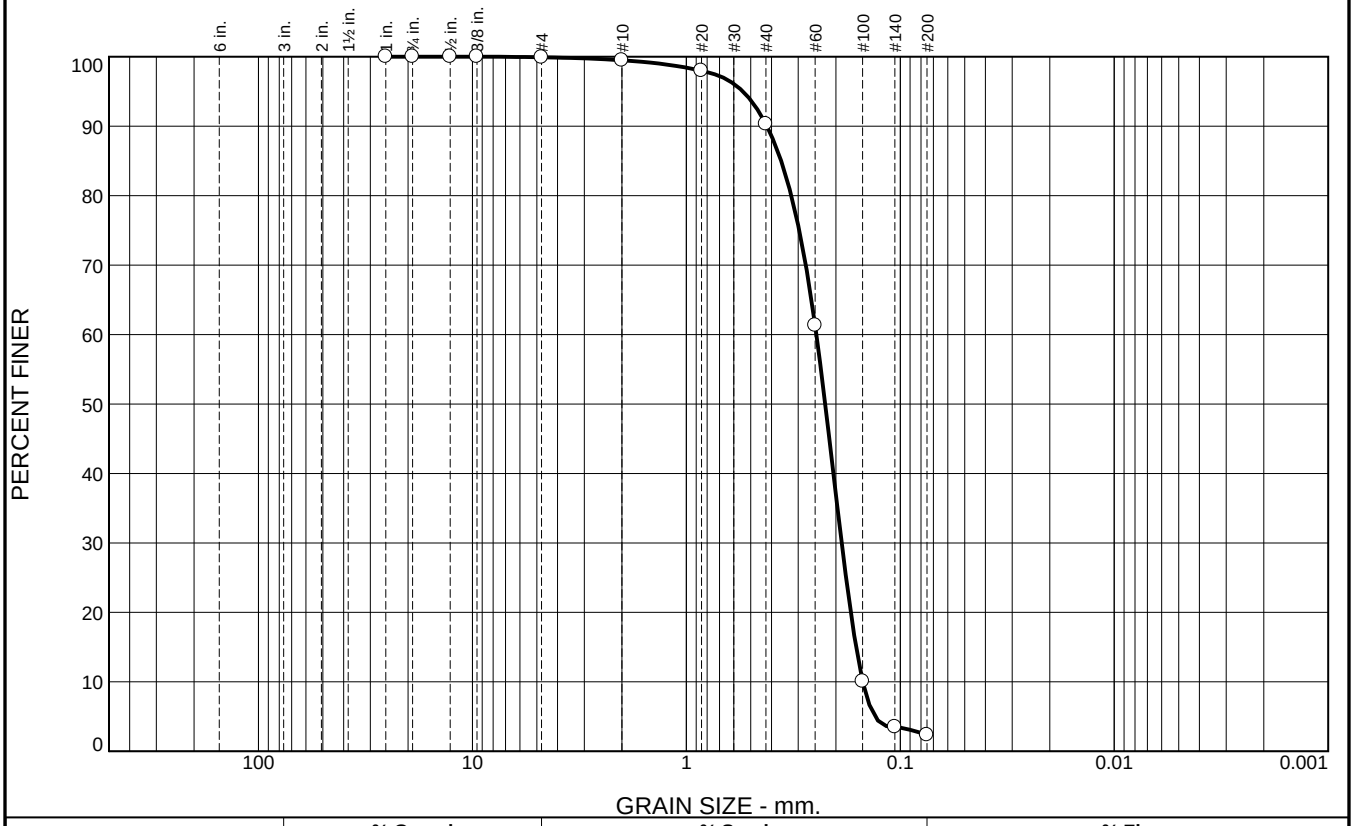
Date 12/18/2012
Start Time 10:18:31
End Time 10:19:41
Total Time 00:01:09

Water Depth 52.0'
Penetration 20.0'
Recovery 16.9'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.4	9.2	87.9	2.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.5		
#20	98.0		
#40	90.3		
#60	61.3		
#100	10.1		
#140	3.5		
#200	2.4		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4201 D_{85}= 0.3604 D_{60}= 0.2466
D_{50}= 0.2244 D_{30}= 0.1880 D_{15}= 0.1610
D_{10}= 0.1499 C_u= 1.65 C_c= 0.96

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-81-12 A
Sample Number: 6494 (50) **Depth:** 0.0' **Date:** 12/26/12

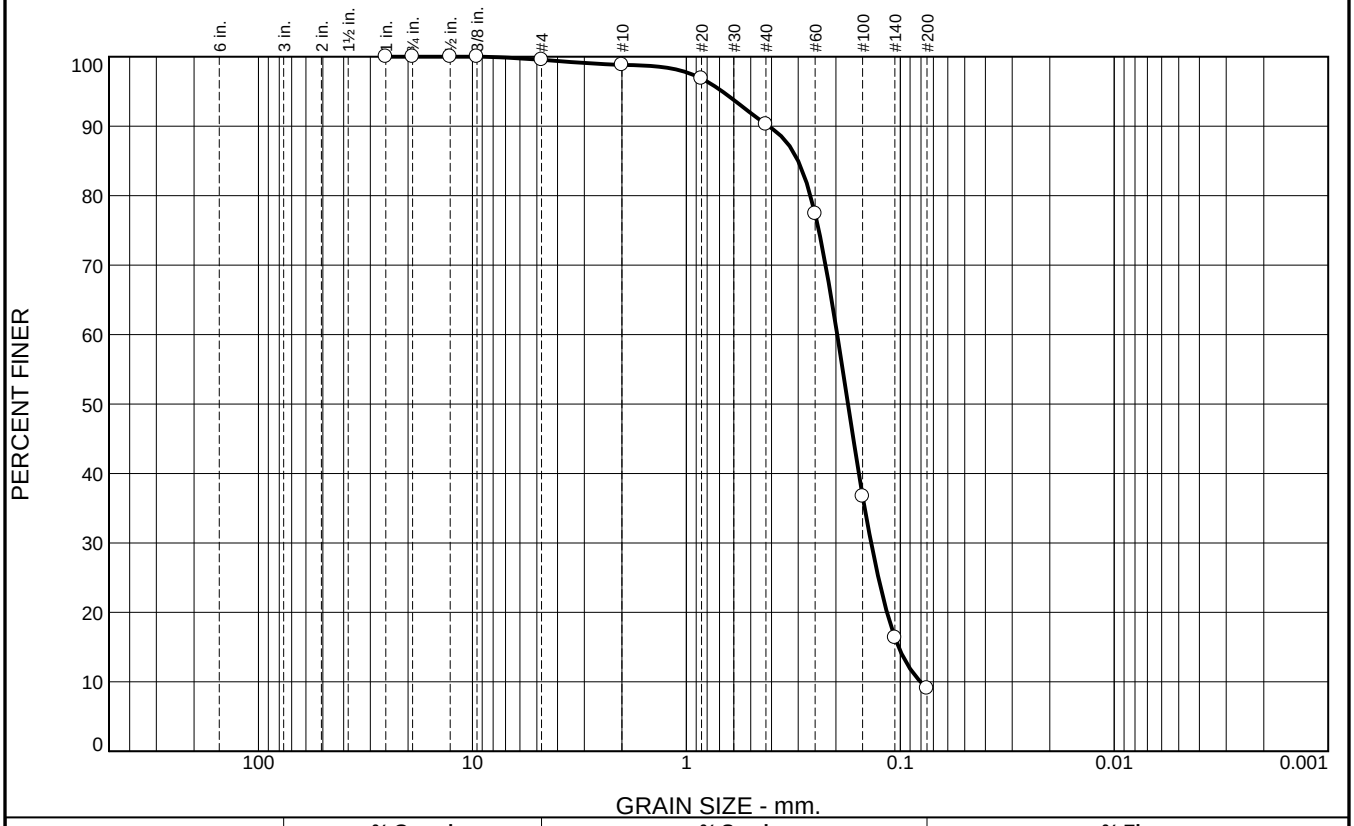
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	0.7	8.5	81.2	9.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	98.8		
#20	96.9		
#40	90.3		
#60	77.4		
#100	36.7		
#140	16.4		
#200	9.1		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4129 D_{85}= 0.3005 D_{60}= 0.1972
D_{50}= 0.1757 D_{30}= 0.1369 D_{15}= 0.1019
D_{10}= 0.0804 C_u= 2.45 C_c= 1.18

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-81-12 B
Sample Number: 6494 (51) **Depth:** 1.9' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-82-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-82-12	LOCATION COORDINATES: E = 1,146,918 N = 232,935	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 59.6 Ft.	
		15. DATE BORING	STARTED: 12-18-12 / COMPLETED: 12-18-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -59.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-59.6	0.0				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little shell fragments, trace silt, gray (SC)		
-63.4	3.8				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, little clay, trace shell fragments, gray (SM)		
-68.0	8.4				
			CLAY, lean, mostly clay, little fine-grained sand-sized quartz, trace silt, trace shell fragments, gray (CL)	NS	
			At El. -72.1 Ft., mostly clay, trace silt, stiff, low to medium plasticity, brownish gray		
-78.6	19.0				
			At El. -78.4 Ft., mostly clay, some silt, very stiff, lt. gray		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13952° Long = -88.31872°

Project Mississippi Barrier Island Restoration Project

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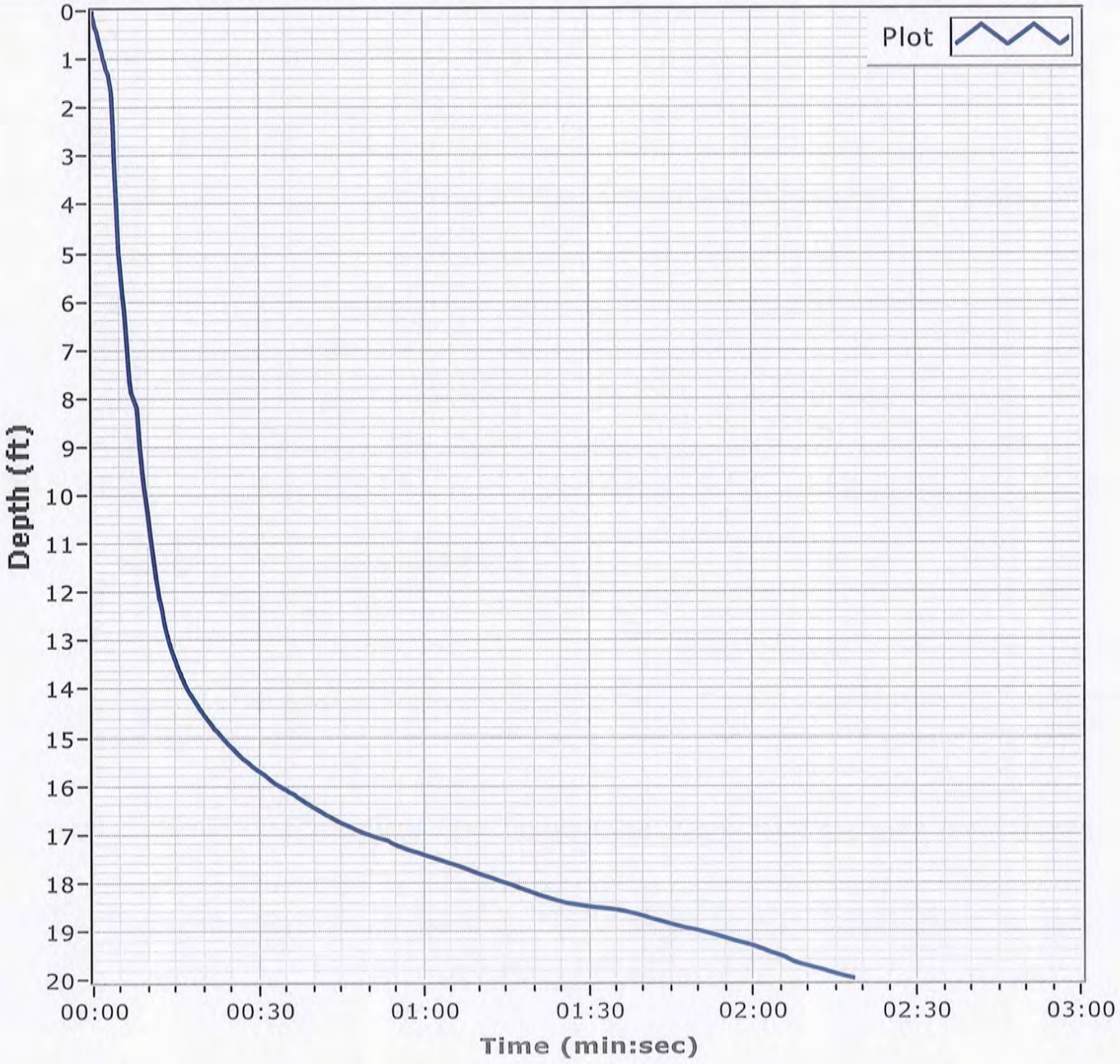
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Coordinate System
Latitude / Longitude

Latitude 30 8.371
Longitude 88 19.123

Date 12/18/2012
Start Time 11:44:47
End Time 11:47:05
Total Time 00:02:18

Water Depth 59.6'
Penetration 20.0'
Recovery 19.0'

Comments



Boring Designation BI-PBS-83-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-83-12	LOCATION COORDINATES: E = 1,142,384 N = 232,518	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 52.4 Ft.
		15. DATE BORING	STARTED: 12-18-12 / COMPLETED: 12-18-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -52.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-52.4	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little shell fragments, trace clay, trace silt, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.3509 mm % Fines: 1
				B	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.2416 mm % Fines: 5.2
-60.1	7.7				
			CLAY, lean, mostly clay, some silt, trace fine-grained sand-sized quartz, trace shell fragments, gray, orangy brown (CL)	NS	
-63.7	11.3				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little silt, trace shell fragments, gray (SC)		
-67.4	15.0				
			CLAY, lean, mostly clay, some silt, some fine-grained sand-sized quartz, trace shell fragments, trace wood debris, gray (CL)		
-72.0	19.6				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13843° Long = -88.33307°

Project Mississippi Barrier Island Restoration Project

AVS
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S E R V I C E S

Core Identifier BI-PBS-83-12

Coordinate System
Latitude / Longitude

Latitude 30 8.306

Longitude 88 19.984

Date 12/18/2012

Start Time 12:21:37

End Time 12:23:12

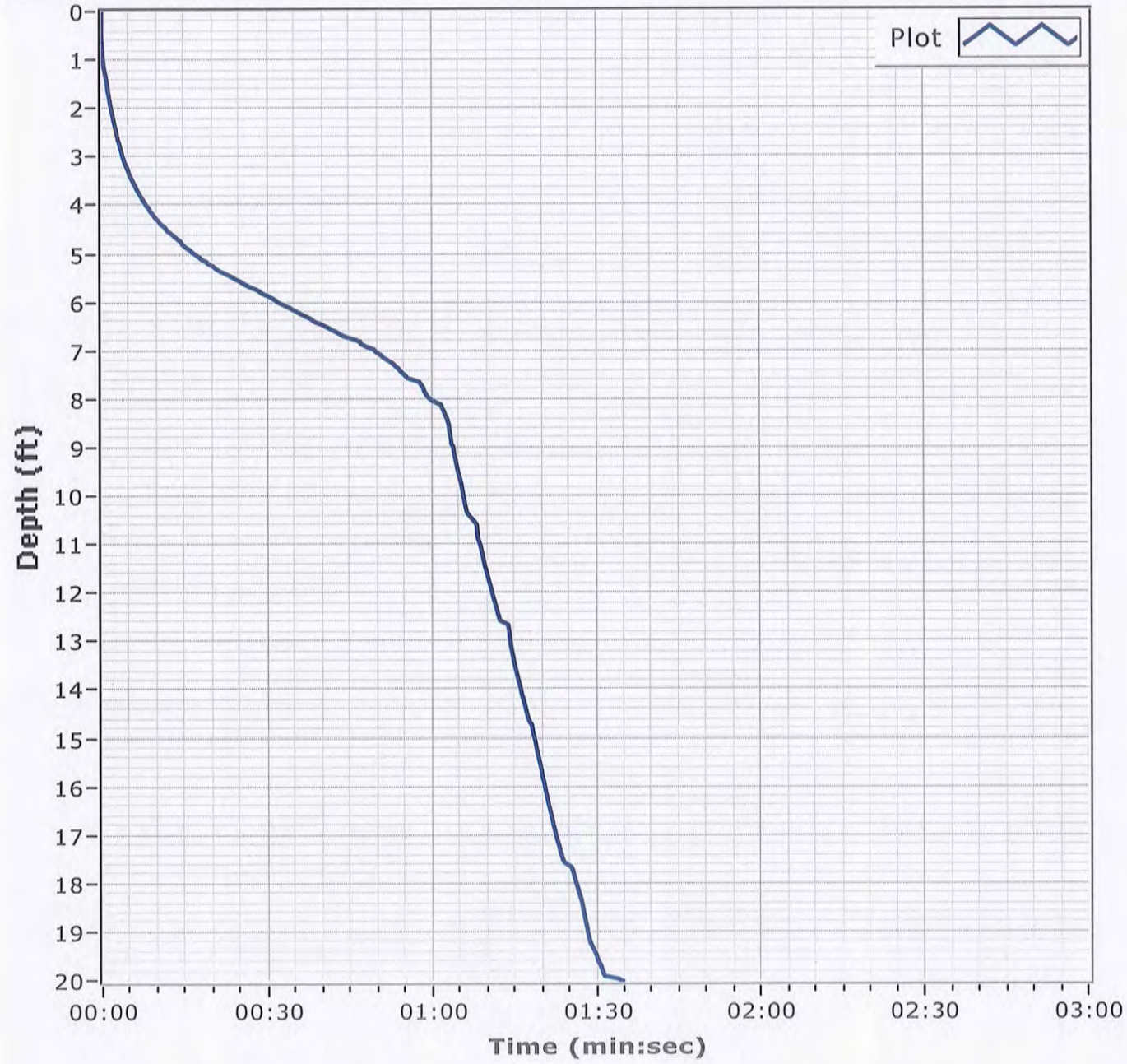
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Water Depth 52.4'

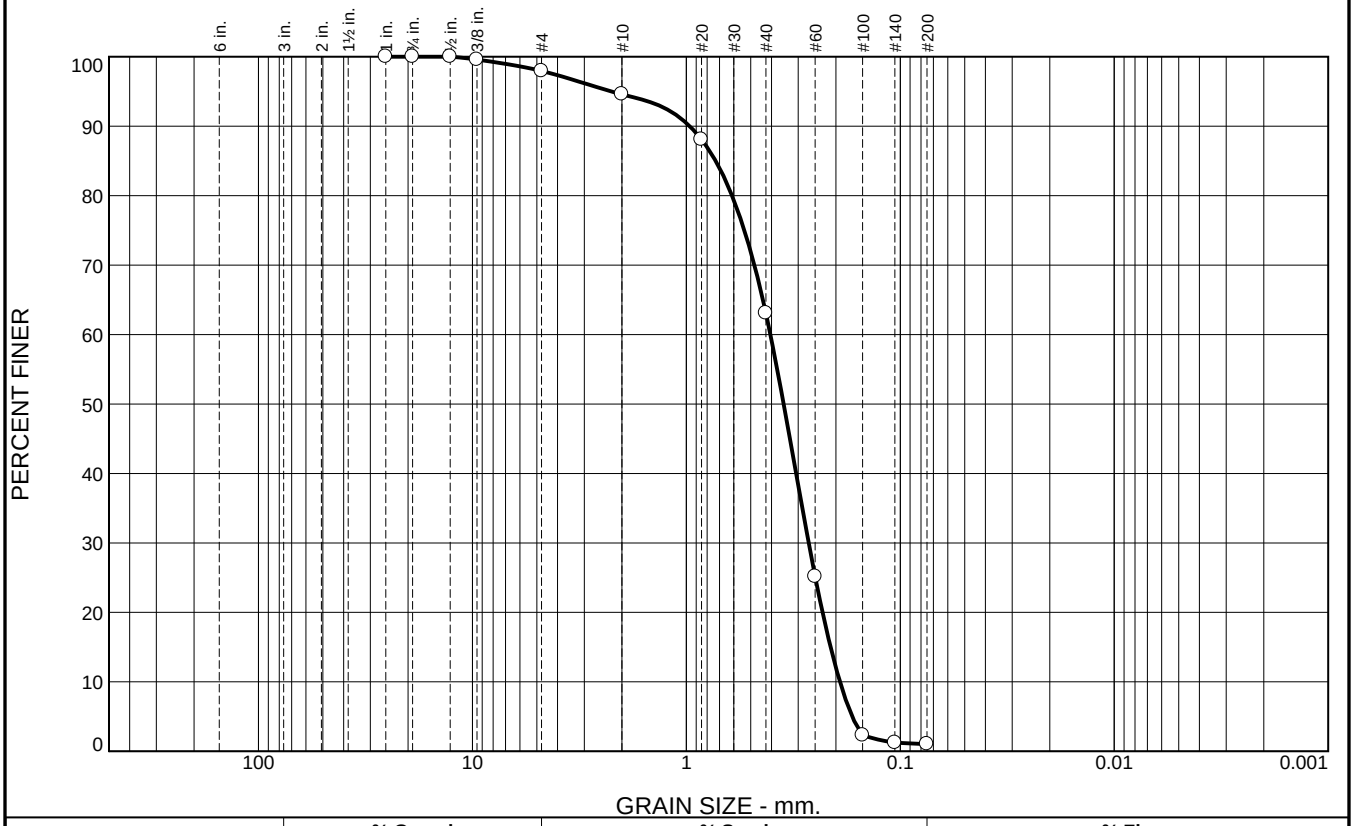
Penetration 20.0'

Recovery 19.6'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.1	3.3	31.5	62.1	1.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.6		
#4	97.9		
#10	94.6		
#20	88.1		
#40	63.1		
#60	25.1		
#100	2.3		
#140	1.2		
#200	1.0		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.9650 D_{85}= 0.7300 D_{60}= 0.4048
D_{50}= 0.3509 D_{30}= 0.2681 D_{15}= 0.2118
D_{10}= 0.1916 C_u= 2.11 C_c= 0.93

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-83-12 A
Sample Number: 6494 (52) **Depth:** 0.0' **Date:** 12/26/12

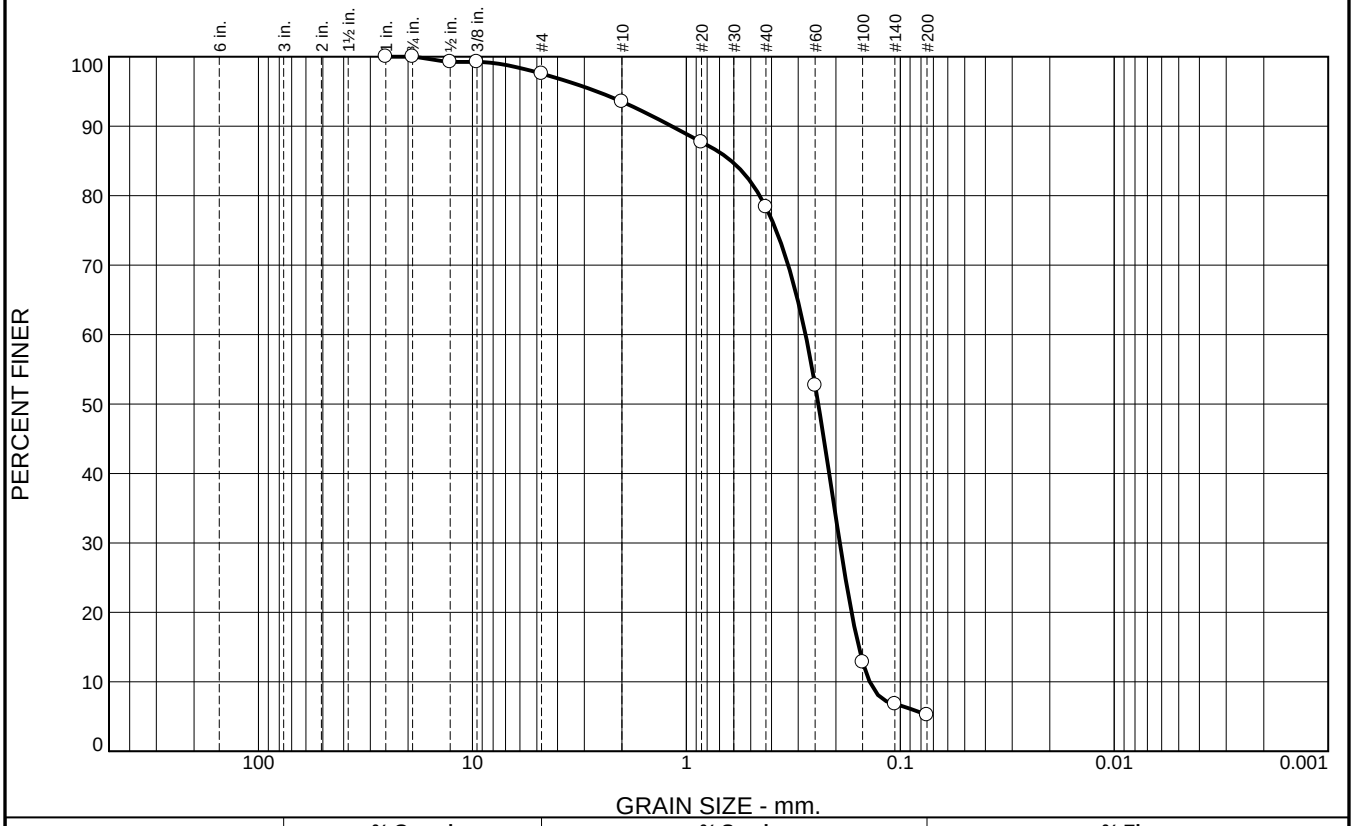
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.4	4.1	15.2	73.1	5.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.2		
.375	99.2		
#4	97.6		
#10	93.5		
#20	87.7		
#40	78.3		
#60	52.7		
#100	12.8		
#140	6.8		
#200	5.2		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.1728 D_{85}= 0.6166 D_{60}= 0.2774
D_{50}= 0.2416 D_{30}= 0.1918 D_{15}= 0.1564
D_{10}= 0.1390 C_u= 2.00 C_c= 0.95

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-83-12 B
Sample Number: 6494 (53) **Depth:** 5.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-84-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-84-12	LOCATION COORDINATES: E = 1,140,305 N = 228,596	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 63.7 Ft.	
		15. DATE BORING	STARTED: 12-18-12 / COMPLETED: 12-18-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -63.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-63.6	0.0				
-67.7	4.1		SAND, silty, mostly fine-grained sand-sized quartz, some silt, little clay, trace shell fragments, trace clay lenses, dark gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.195 mm % Fines: 16.7
-69.8	6.2		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, gray (SP)	B	Classification: SP Color: 2.5Y 6/1-gray D50: 0.2799 mm % Fines: 4.6
-76.8	13.2		CLAY, fat, mostly clay, trace shell fragments, medium to high plasticity, gray (CH)	NS	
-77.4	13.8				
-79.1	15.5		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.12767° Long = -88.33970°

Project Mississippi Barrier Island Restoration Project

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SERVICES

Core Identifier BI-PBS-84-12

Coordinate System
Latitude / Longitude

Latitude 30 2.660

Longitude 88 20.382

Date 12/18/2012

Start Time 13:23:33

End Time 13:27:12

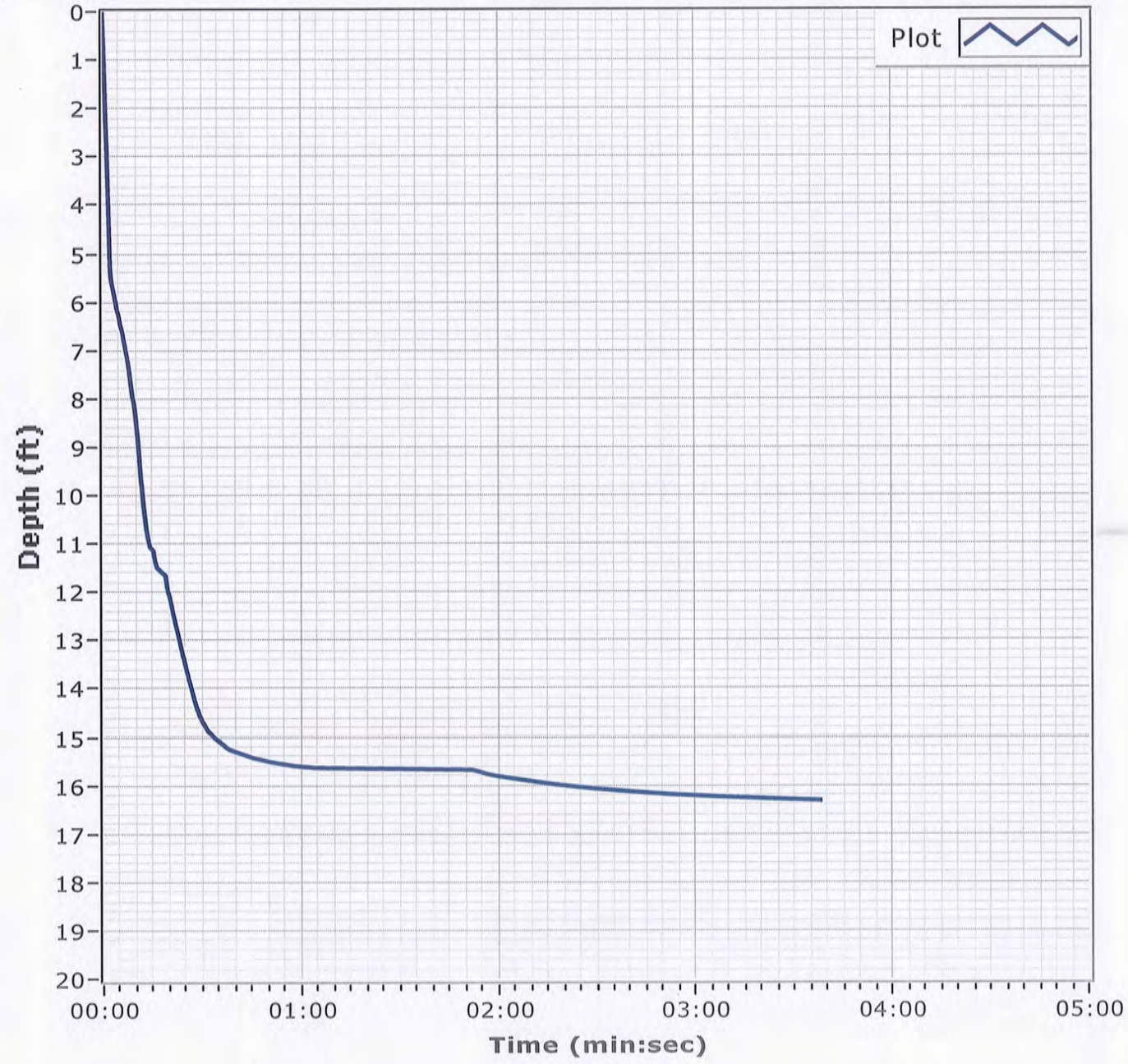
Total Time 00:03:38

Water Depth 63.7'

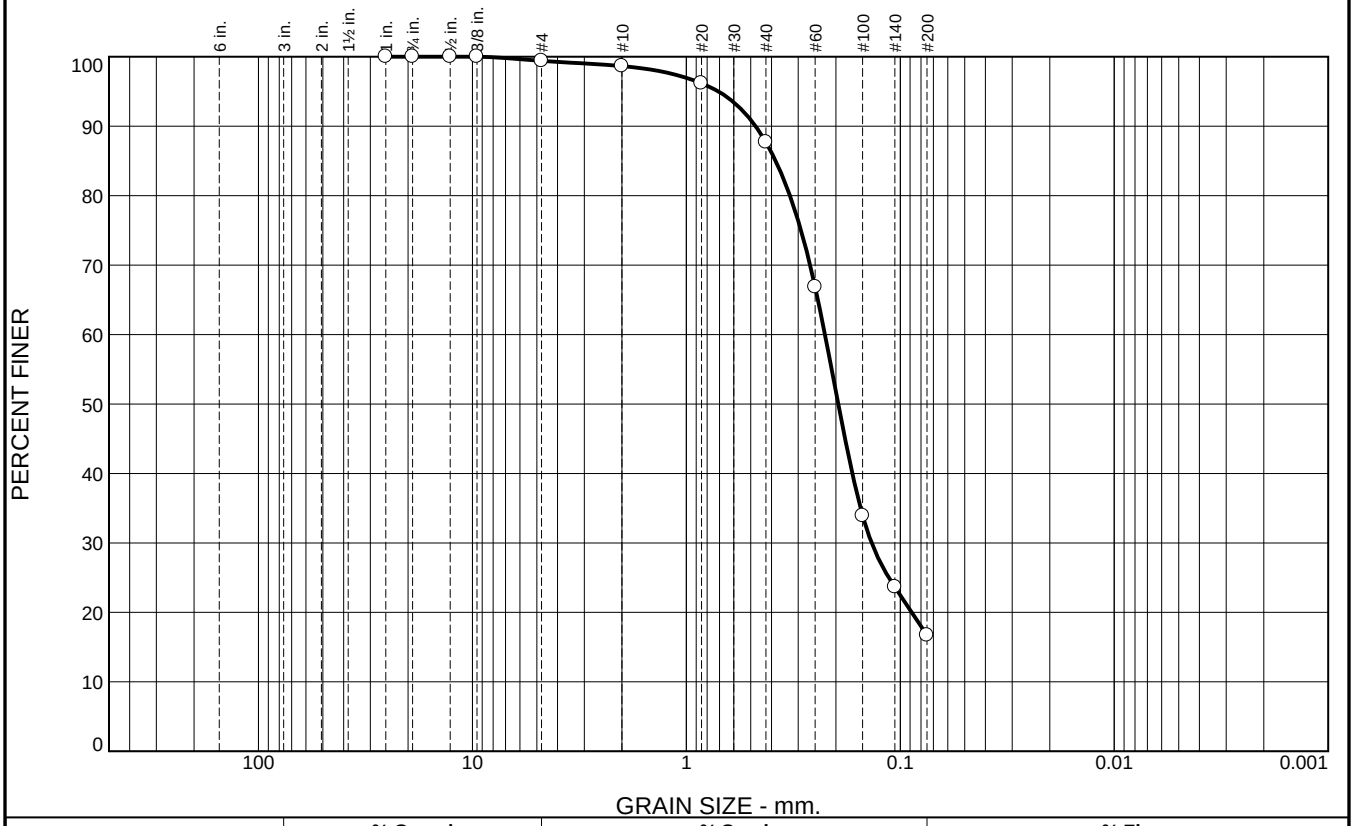
Penetration 16.3'

Recovery 15.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.6	0.8	10.9	71.0	16.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.4		
#10	98.6		
#20	96.2		
#40	87.7		
#60	66.8		
#100	33.9		
#140	23.7		
#200	16.7		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4751 D_{85}= 0.3824 D_{60}= 0.2249
D_{50}= 0.1950 D_{30}= 0.1362 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-84-12 A
Sample Number: 6494 (54) **Depth:** 0.0' **Date:** 12/26/12

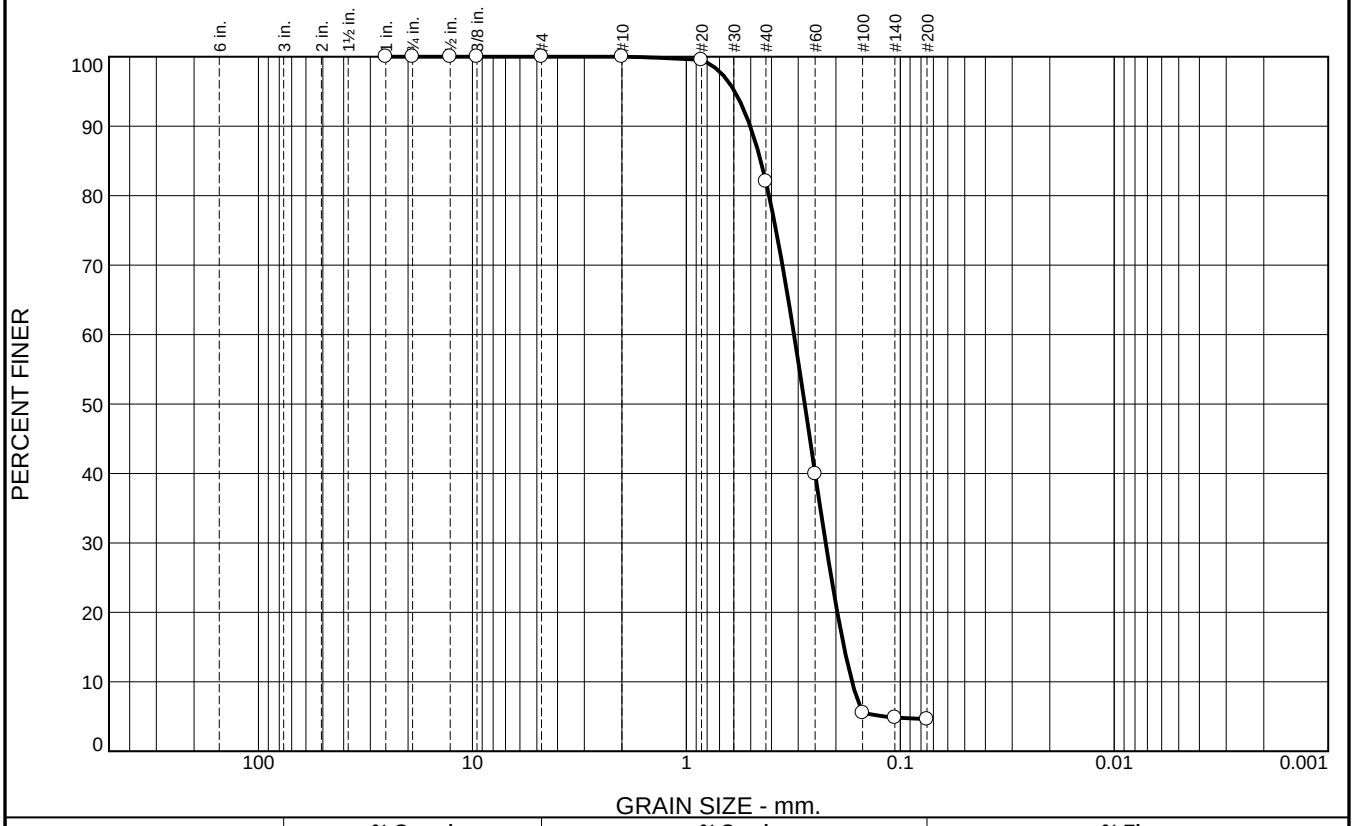
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	18.0	77.4	4.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.5		
#40	82.0		
#60	39.9		
#100	5.5		
#140	4.9		
#200	4.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5029 D_{85}= 0.4489 D_{60}= 0.3141
D_{50}= 0.2799 D_{30}= 0.2232 D_{15}= 0.1834
D_{10}= 0.1682 C_u= 1.87 C_c= 0.94

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-84-12 B
Sample Number: 6494 (55) **Depth:** 4.1' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-85-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-85-12	LOCATION COORDINATES: E = 1,137,667 N = 233,280	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 56.7 Ft.	
		15. DATE BORING	STARTED: 12-18-12 / COMPLETED: 12-18-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-56.4	0.0				
-58.0	1.6		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little shell fragments, trace fines, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2999 mm % Fines: 1.2
-64.3	7.9		CLAY, lean, mostly clay, some silt, few shell fragments, some fine-grained sand-sized quartz pockets, gray, lt. gray and orange mottle (CL)		
-65.0	8.6		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little shell fragments, gray (SC)	NS	
-72.4	16.0		CLAY, lean, mostly clay, some silt, little shell fragments, trace wood debris, gray (CL)		
-75.0	18.6		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little silt, little shell fragments, dark gray (SC)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14058° Long = -88.34798°

Project Mississippi Barrier Island Restoration Project

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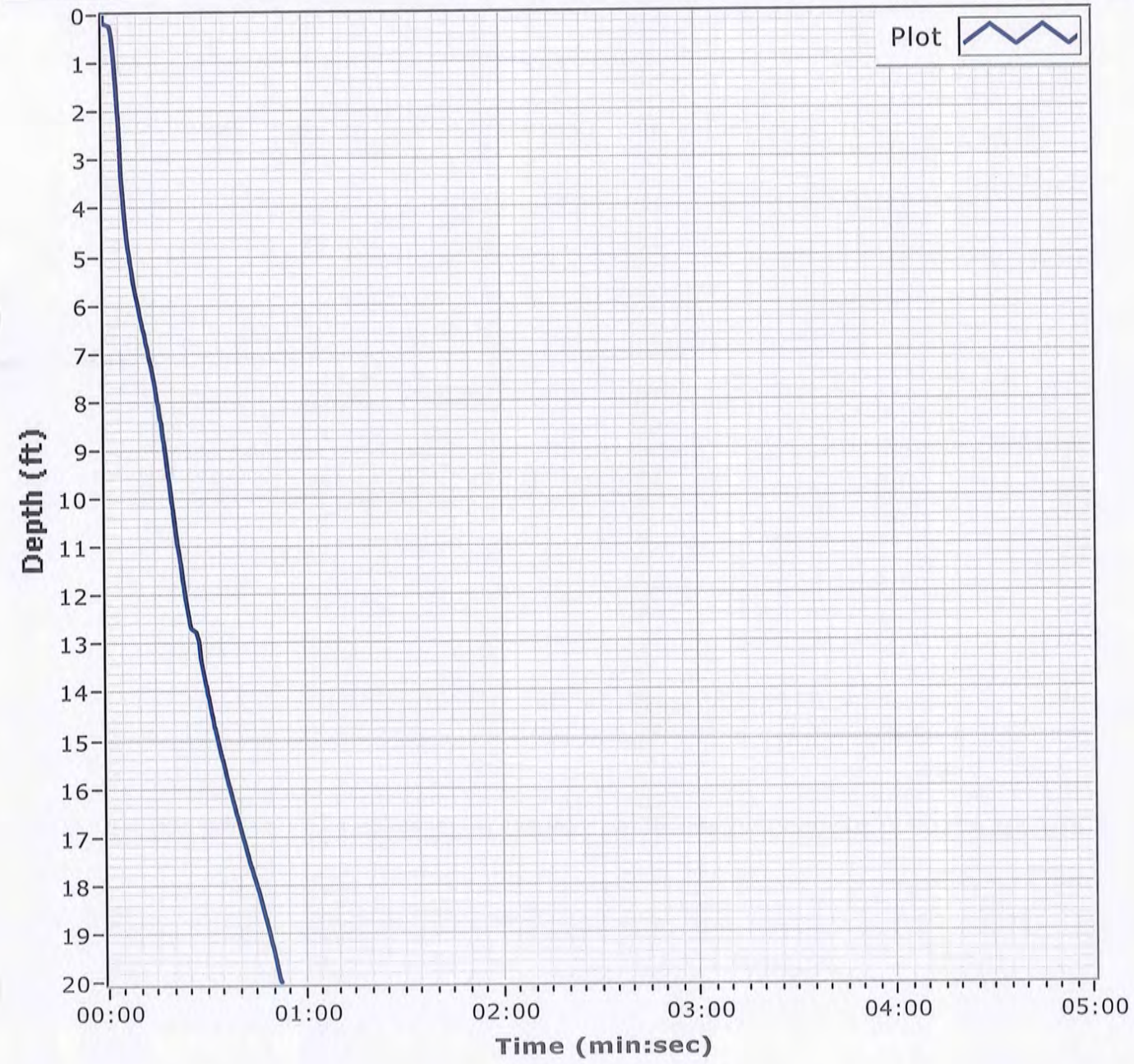
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Coordinate System
Latitude / Longitude

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Longitude 88 20.879

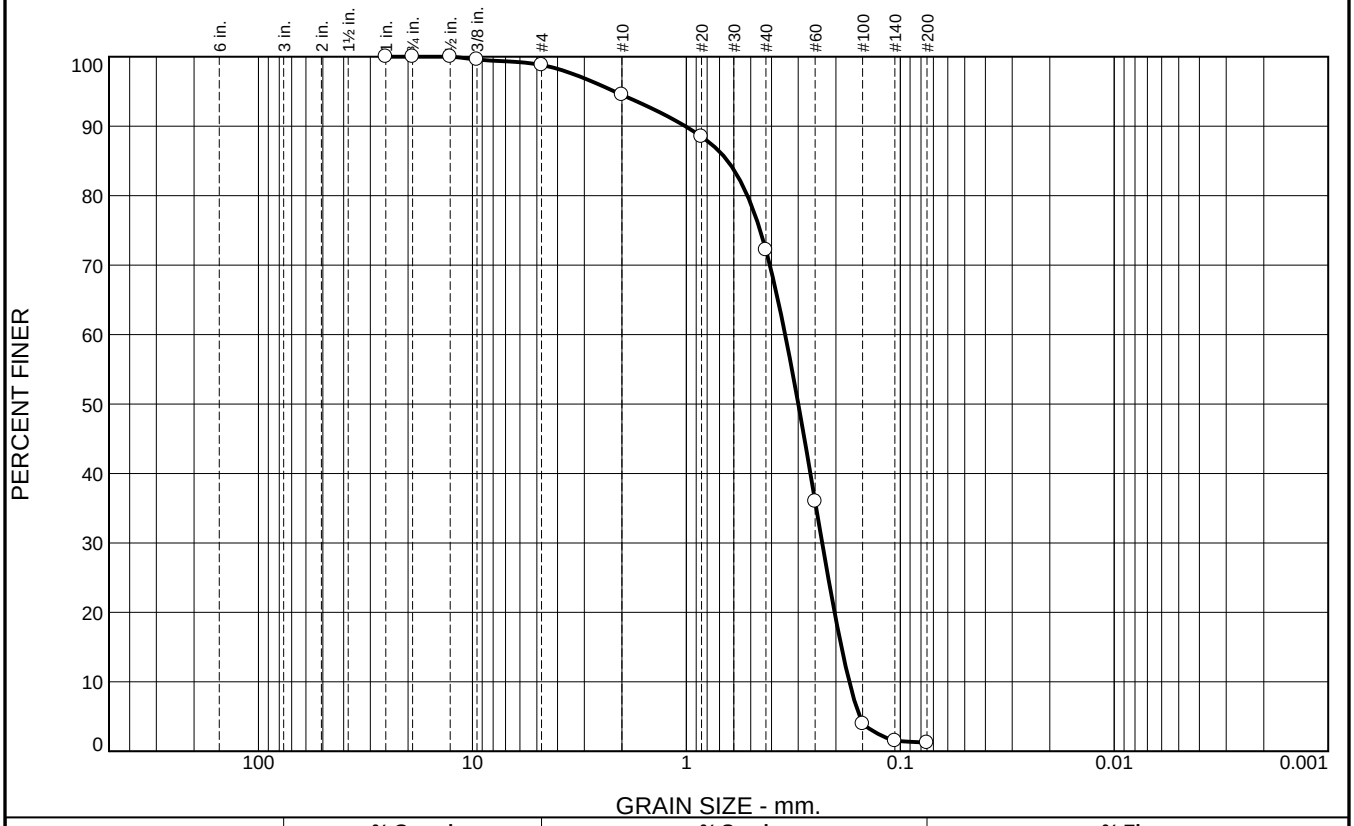
Date 12/18/2012
Start Time 15:25:05
End Time 15:25:58
Total Time 00:00:52

Water Depth 56.7'
Penetration 20.0'
Recovery 17.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.2	4.3	22.3	71.0	1.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.6		
#4	98.8		
#10	94.5		
#20	88.5		
#40	72.2		
#60	36.0		
#100	3.9		
#140	1.5		
#200	1.2		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.0127 D_{85}= 0.6412 D_{60}= 0.3452
D_{50}= 0.2999 D_{30}= 0.2317 D_{15}= 0.1885
D_{10}= 0.1732 C_u= 1.99 C_c= 0.90

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-85-12 A
Sample Number: 6494 (56) **Depth:** 0.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-86-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-86-12	LOCATION COORDINATES: E = 1,138,944 N = 231,129	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 54.7 Ft.	
		15. DATE BORING	STARTED: 12-18-12 / COMPLETED: 12-18-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-54.5	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.204 mm % Fines: 3.1
-58.1	3.6				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, little shell fragments, trace clay, gray (SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1926 mm % Fines: 13.2
-60.4	5.9				
			CLAY, lean, mostly clay, some silt, few fine-grained sand-sized quartz, trace shell fragments, gray with some orange mottle (CL)	NS	
-62.3	7.8				
			CLAY, fat, mostly clay, few silt, trace fine-grained sand-sized quartz, low to medium plasticity, gray, orange mottle (CH)		
-63.5	9.0				
-64.3	9.8				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, gray (SM)		
-65.8	11.3				
			CLAY, lean, mostly clay, some silt, little fine-grained sand-sized quartz, stiff, gray (CL)		
			CLAY, fat, mostly clay, trace wood debris, trace shell fragments, stiff, medium to high plasticity, trace fine-grained sandy pockets, gray (CH)		
-72.3	17.8				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13465° Long = -88.34397°

Project Mississippi Barrier Island Restoration Project

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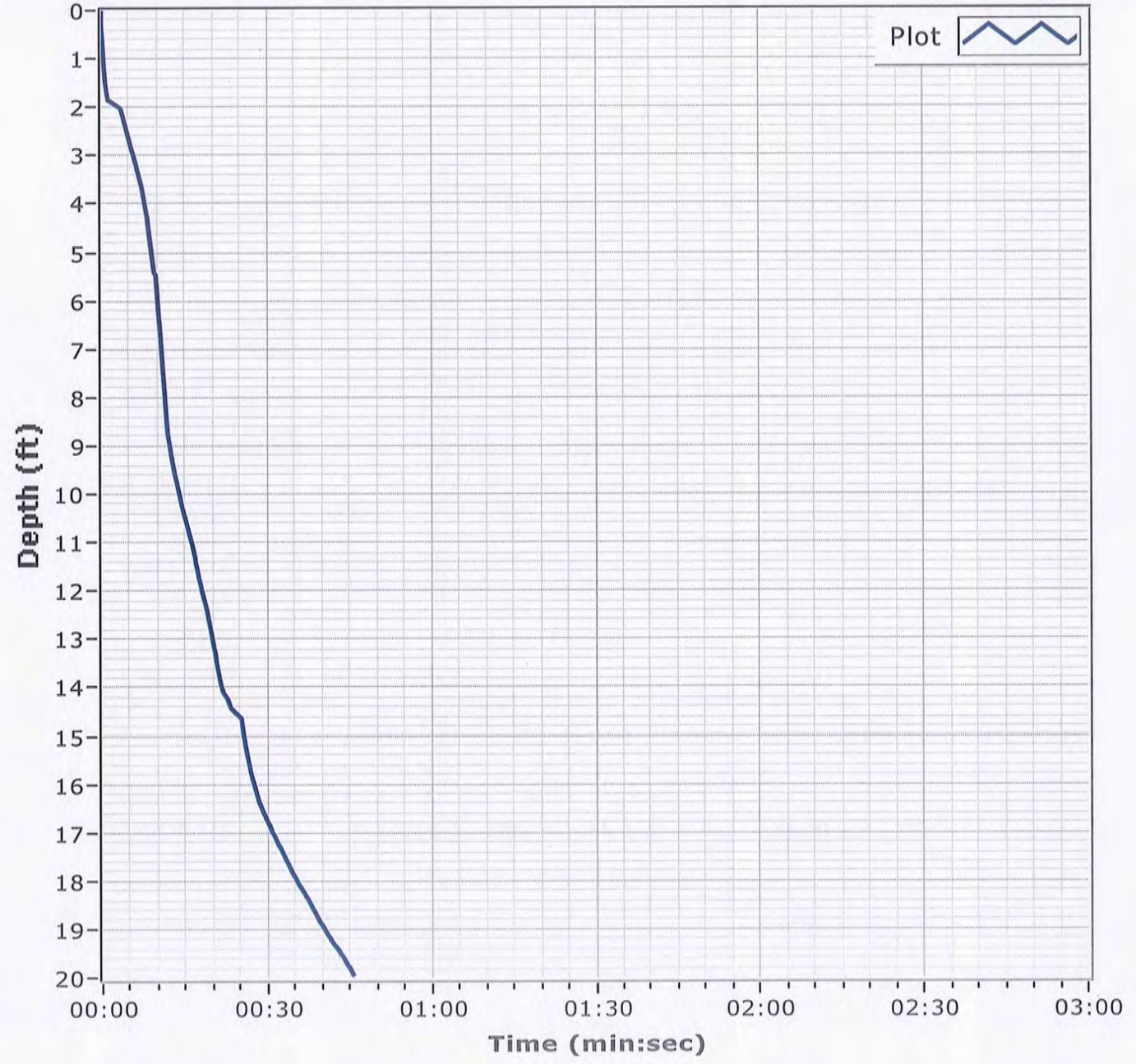
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Coordinate System
Latitude / Longitude

Latitude 30 8.079
Longitude 88 20.638

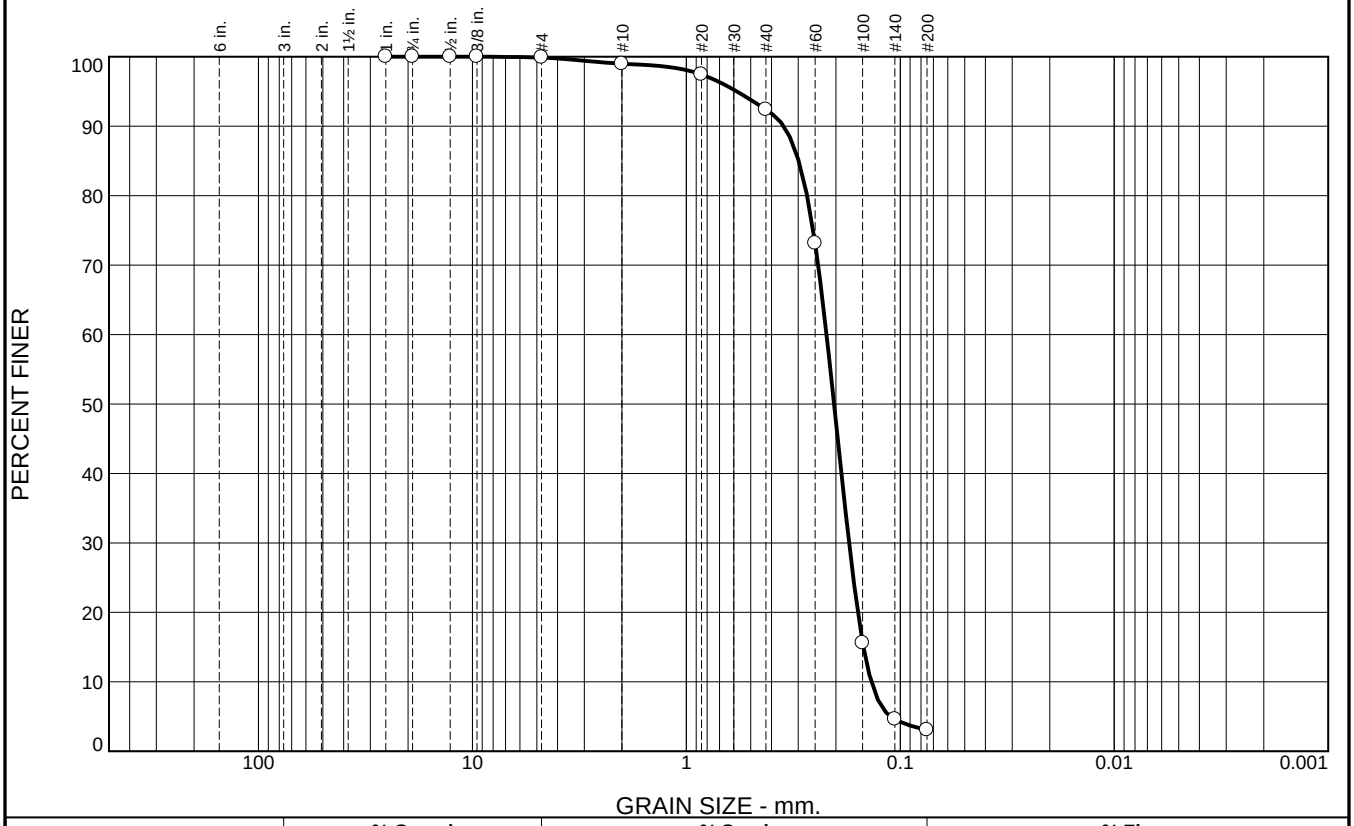
Date 12/18/2012
Start Time 14:23:55
End Time 14:24:41
Total Time 00:00:45

Water Depth 54.7'
Penetration 20.0'
Recovery 17.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.9	6.6	89.3	3.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
3/4"	100.0		
1/2"	100.0		
.375	100.0		
#4	99.9		
#10	99.0		
#20	97.4		
#40	92.4		
#60	73.1		
#100	15.6		
#140	4.6		
#200	3.1		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3506 D_{85}= 0.2987 D_{60}= 0.2211
D_{50}= 0.2040 D_{30}= 0.1736 D_{15}= 0.1488
D_{10}= 0.1366 C_u= 1.62 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-86-12 A
Sample Number: 6494 (57) **Depth:** 0.0' **Date:** 12/26/12

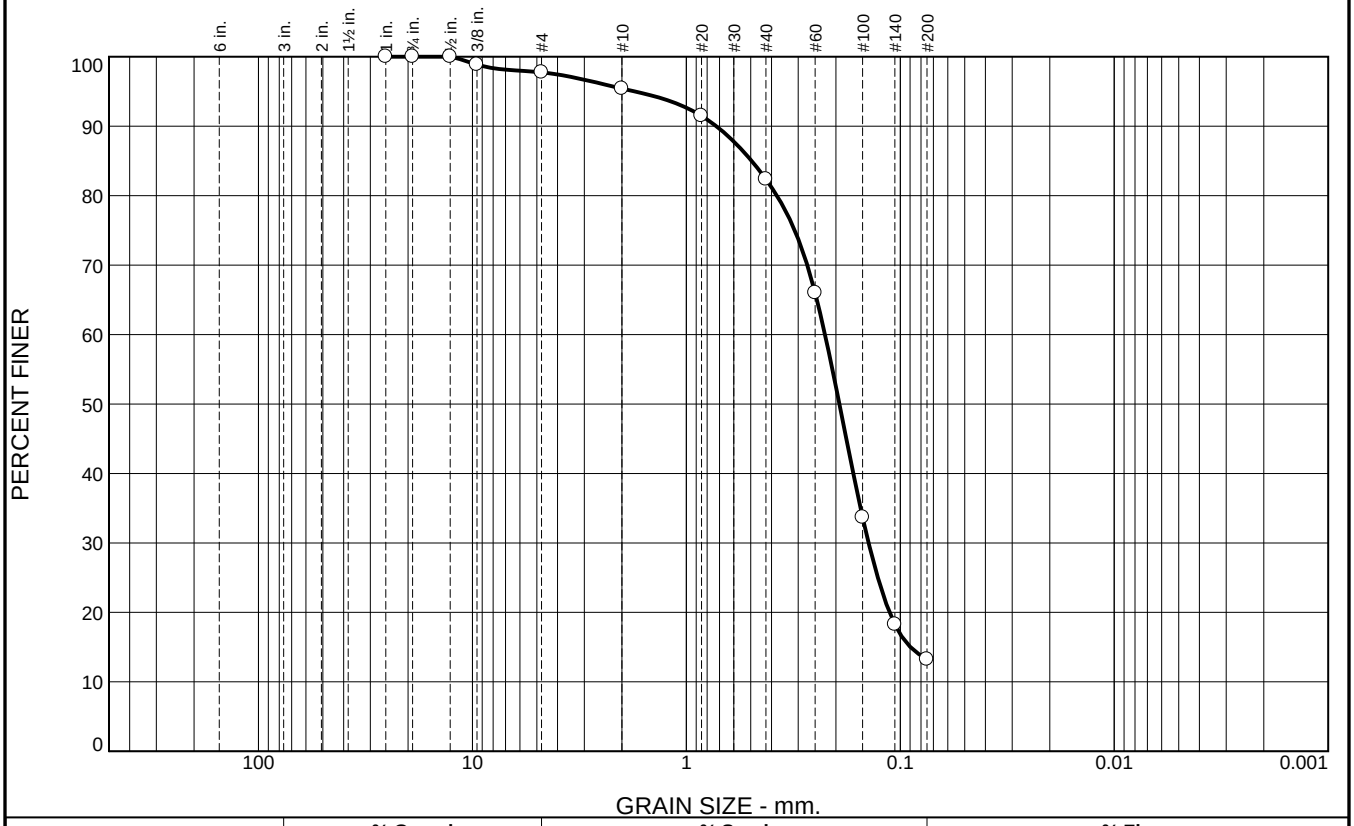
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.3	2.3	13.0	69.2	13.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	98.9		
#4	97.7		
#10	95.4		
#20	91.5		
#40	82.4		
#60	66.0		
#100	33.7		
#140	18.3		
#200	13.2		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7251 D_{85}= 0.4956 D_{60}= 0.2248
D_{50}= 0.1926 D_{30}= 0.1407 D_{15}= 0.0897
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-86-12 B
Sample Number: 6494 (58) **Depth:** 3.6' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-87-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-87-12	LOCATION COORDINATES: E = 1,140,125 N = 231,570	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 53.1 Ft.	
		15. DATE BORING	STARTED: 12-18-12 / COMPLETED: 12-18-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -52.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-52.9	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.258 mm % Fines: 1.5
-57.9	5.0				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2058 mm % Fines: 4.5
-59.3	6.4				
			CLAY, lean, mostly clay, some silt, some fine-grained sand-sized quartz, low to medium plasticity, stiff, gray, orangy brown mottle (CL)	NS	
-65.7	12.8				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, some silt, borderline silty clay with fine-grained sand, gray (SC)		
-67.9	15.0				
			CLAY, lean, mostly clay, some silt, some fine-grained sand-sized quartz, trace shell fragments, gray (CL)		
-71.7	18.8				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13585° Long = -88.34023°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

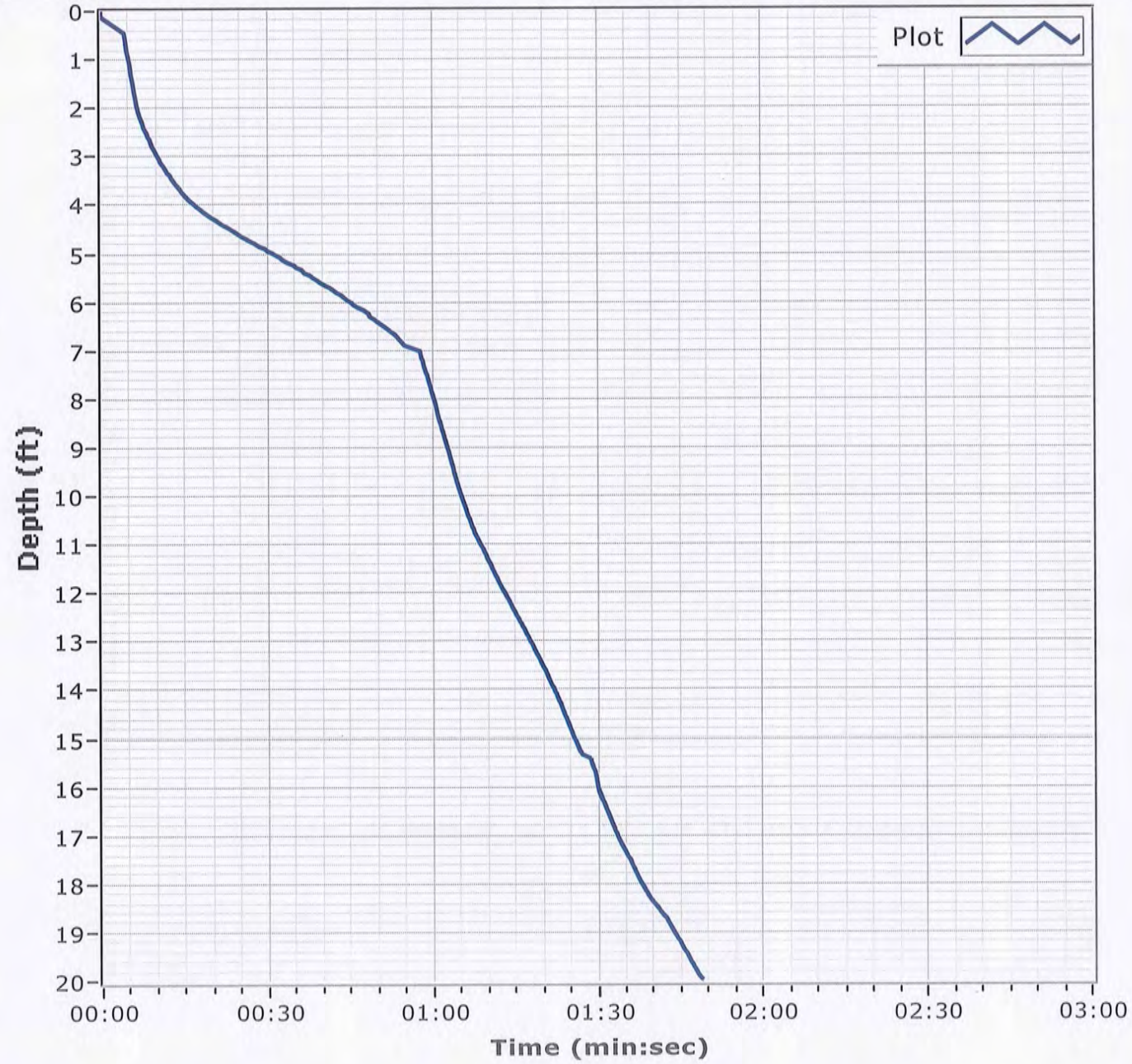
Core Identifier BI-PBS-87-12
Coordinate System
Latitude / Longitude

Latitude 30 8.151
Longitude 88 20.414

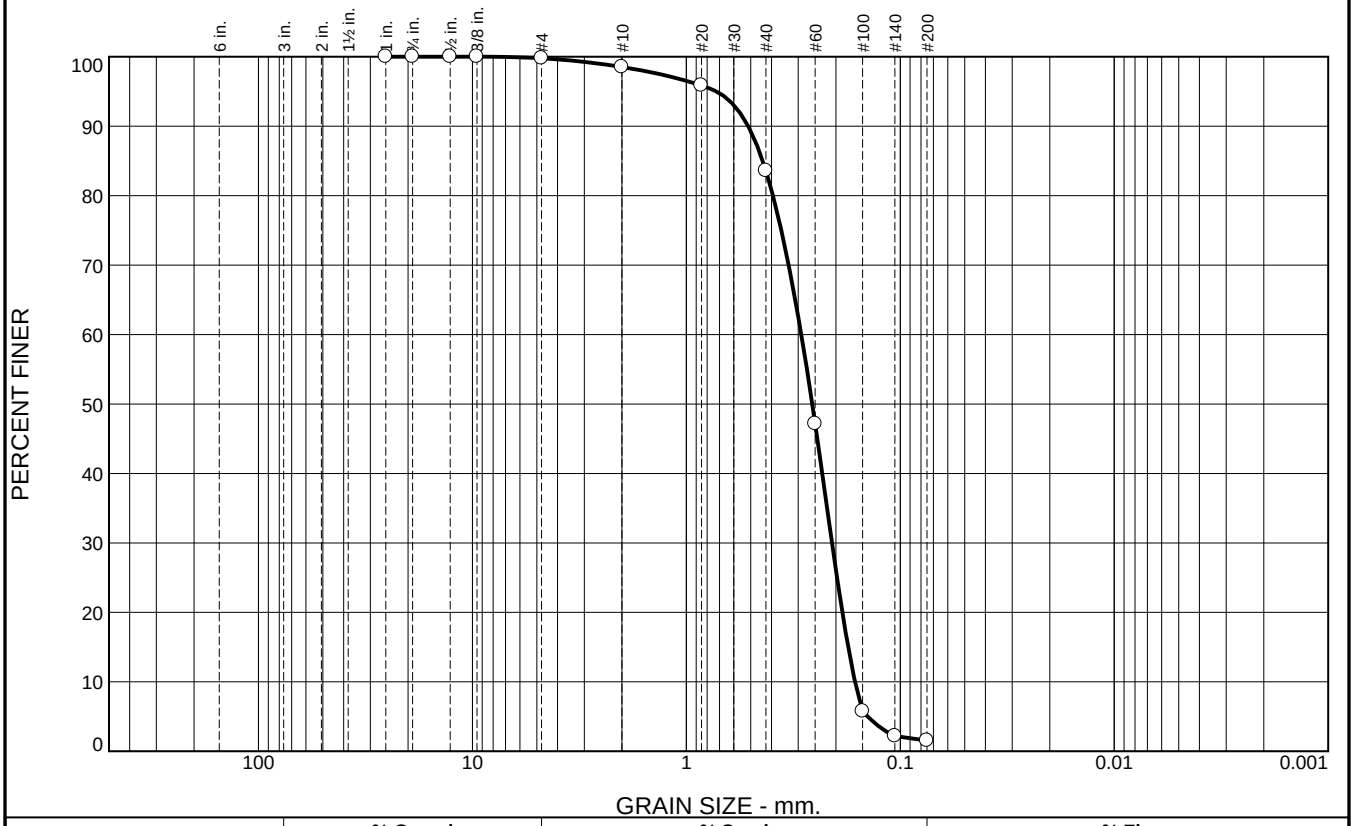
Date 12/18/2012
Start Time 14:54:33
End Time 14:56:22
Total Time 00:01:49

Water Depth 53.1'
Penetration 20.0'
Recovery 17.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	1.3	14.9	82.1	1.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	98.5		
#20	95.9		
#40	83.6		
#60	47.2		
#100	5.8		
#140	2.2		
#200	1.5		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5142 D_{85}= 0.4397 D_{60}= 0.2904
D_{50}= 0.2580 D_{30}= 0.2086 D_{15}= 0.1753
D_{10}= 0.1630 C_u= 1.78 C_c= 0.92

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-87-12 A
Sample Number: 6494 (59) **Depth:** 0.0' **Date:** 12/26/12

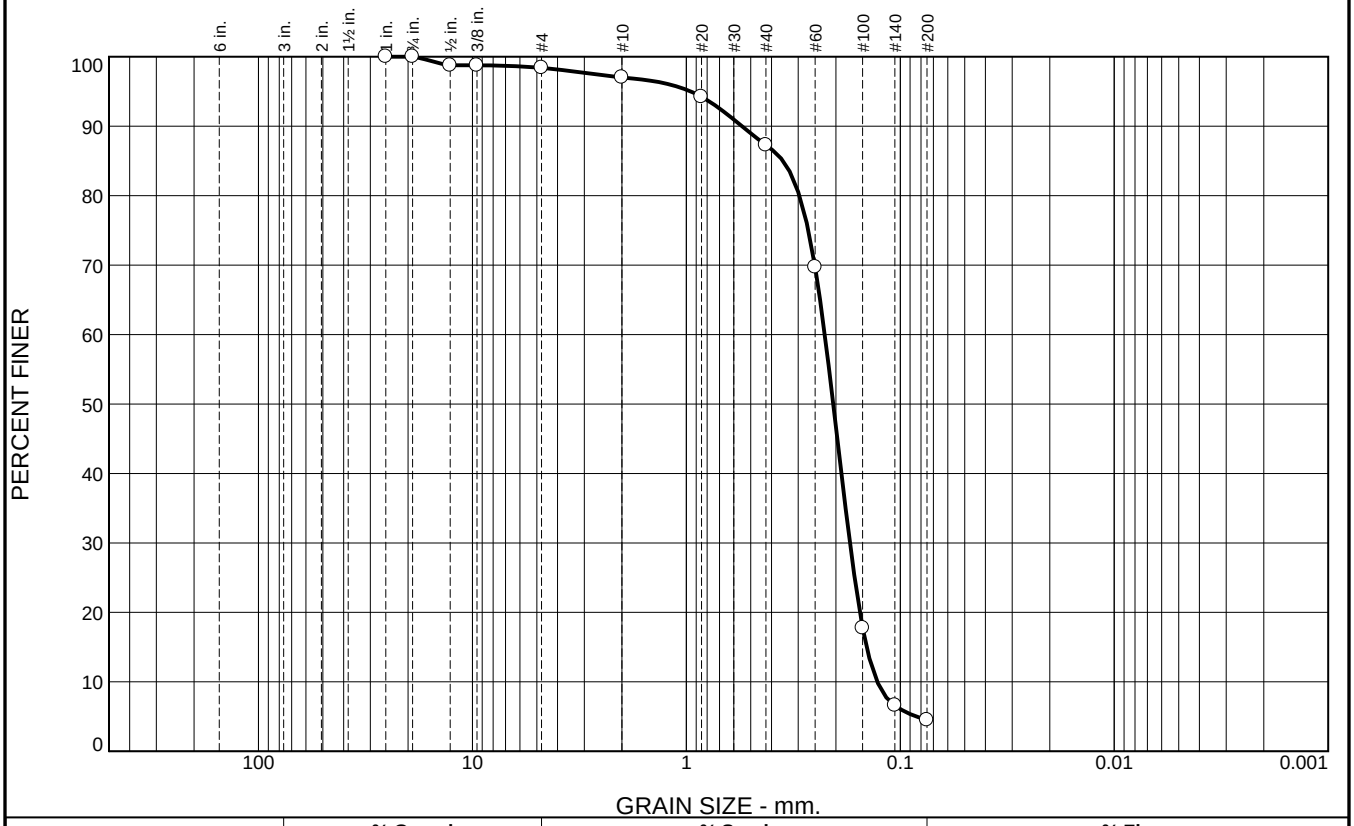
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.6	1.4	9.7	82.8	4.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	98.8		
.375	98.8		
#4	98.4		
#10	97.0		
#20	94.2		
#40	87.3		
#60	69.7		
#100	17.8		
#140	6.6		
#200	4.5		

* (no specification provided)

Material Description

Fine grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5497 D_{85}= 0.3532 D_{60}= 0.2254
D_{50}= 0.2058 D_{30}= 0.1721 D_{15}= 0.1437
D_{10}= 0.1281 C_u= 1.76 C_c= 1.02

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-87-12 B
Sample Number: 6494 (60) **Depth:** 5.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-88-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	1 of 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-88-12	LOCATION COORDINATES: E = 1,139,419 N = 230,301	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 56.3 Ft.
		15. DATE BORING	STARTED: 12-18-12 / COMPLETED: 12-18-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-56.2	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2311 mm % Fines: 2.6
-61.2	5.0				
-62.3	6.1		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, some clayey nodules, gray (SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2 mm % Fines: 14.4
-64.4	8.2		CLAY, lean, mostly clay, trace silt, trace fine-grained sand-sized quartz, low to medium plasticity, gray and orange mottle (CL)		
-67.2	11.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, few clay lenses, grayish brown (SM)		
			CLAY, fat, mostly clay, trace wood debris, zones of trace fine-grained sand, medium to high plasticity, greenish gray (CH)	NS	
-73.7	17.5				

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.13237° Long = -88.34248°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

Core Identifier BI-PBS-88-12

Coordinate System
Latitude / Longitude

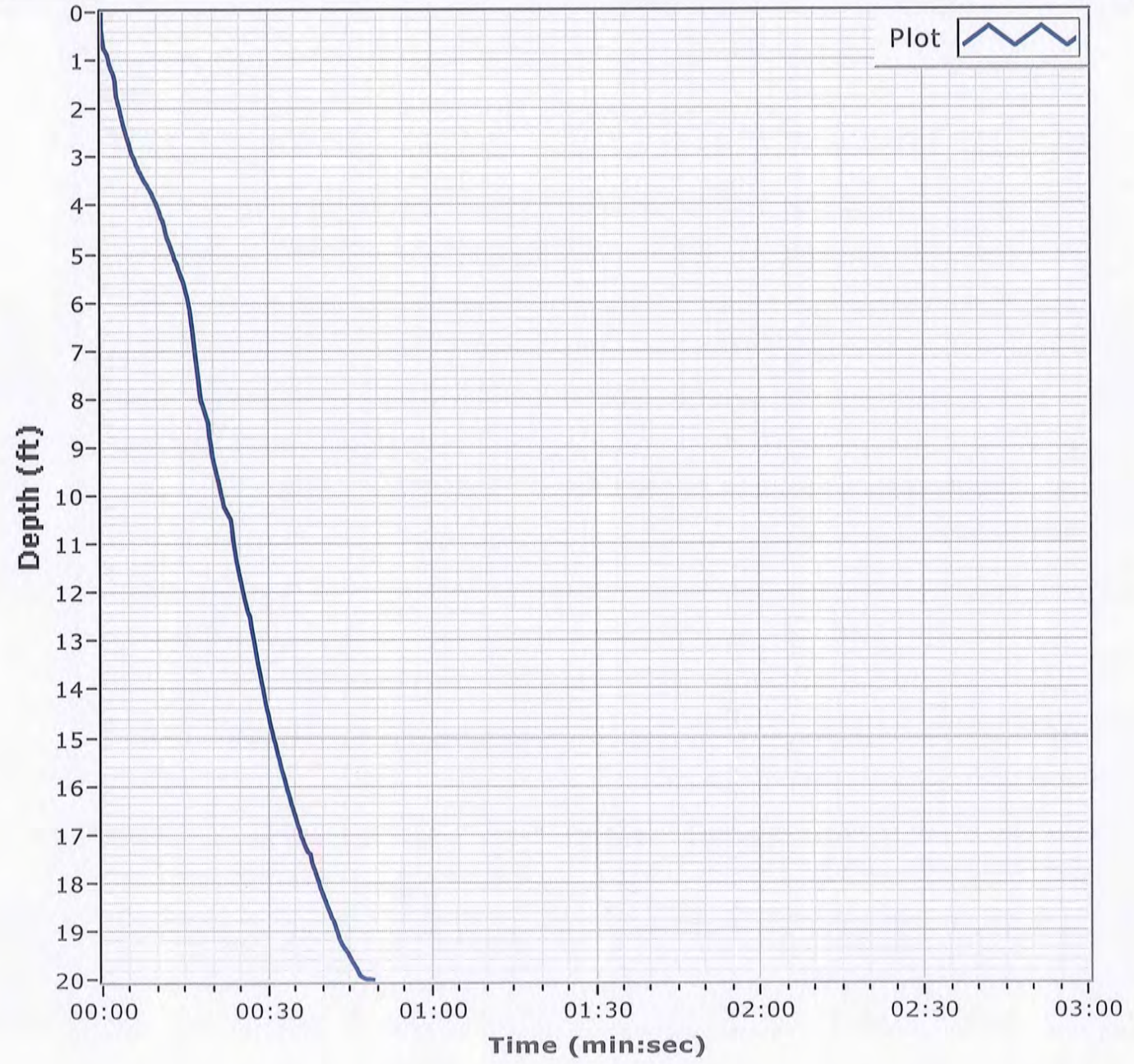
Latitude 30 7.942

Longitude 88 20.549

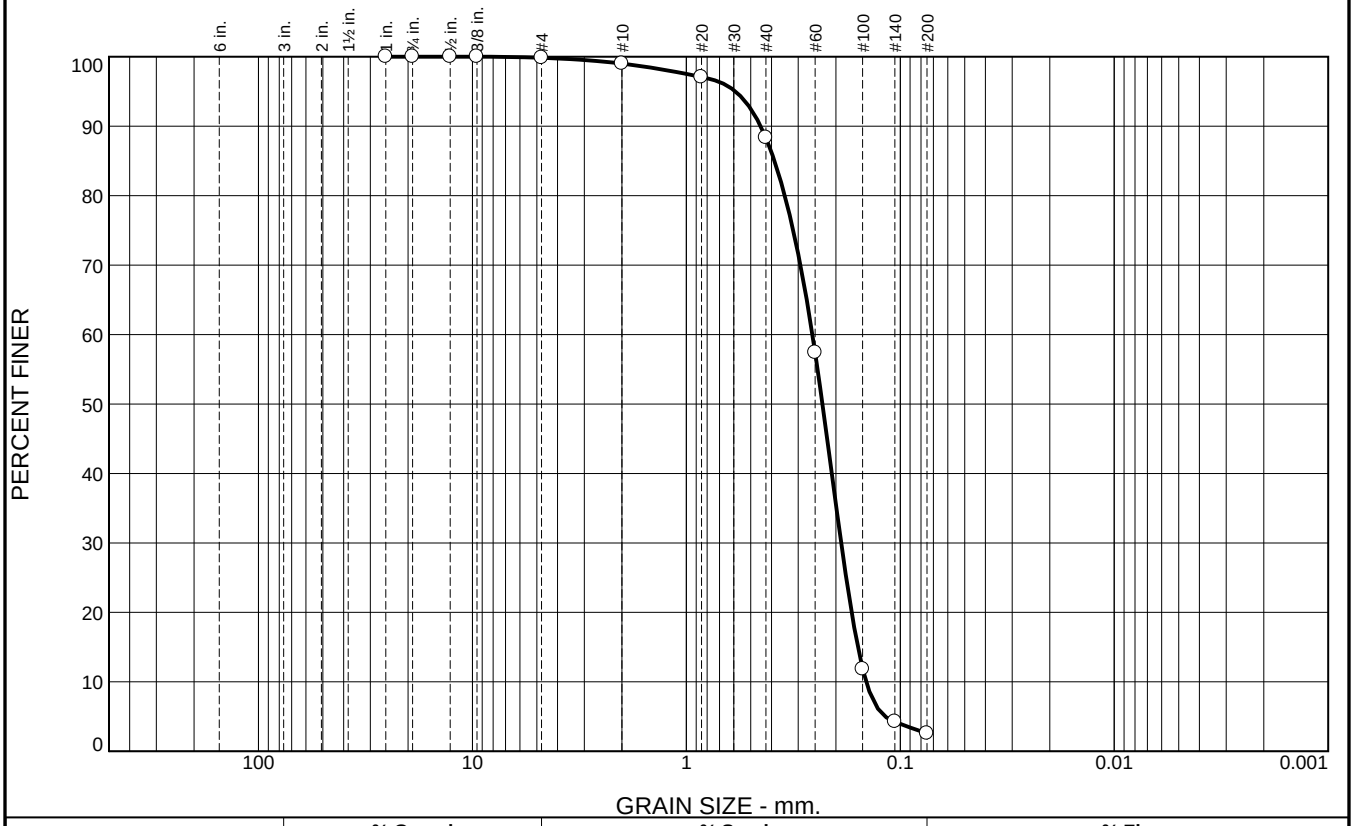
Date 12/18/2012
Start Time 13:54:14
End Time 13:55:04
Total Time 00:00:49

Water Depth 56.3'
Penetration 20.0'
Recovery 17.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.8	10.7	85.7	2.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.0		
#20	97.1		
#40	88.3		
#60	57.4		
#100	11.8		
#140	4.3		
#200	2.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4498 D_{85}= 0.3872 D_{60}= 0.2575
D_{50}= 0.2311 D_{30}= 0.1890 D_{15}= 0.1580
D_{10}= 0.1444 C_u= 1.78 C_c= 0.96

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-88-12 A
Sample Number: 6494 (61) **Depth:** 0.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	1.7	12.4	71.2	14.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.0		
#20	95.0		
#40	85.6		
#60	63.3		
#100	33.8		
#140	21.5		
#200	14.4		

* (no specification provided)

Material Description

Fine to medium grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5171 D_{85}= 0.4155 D_{60}= 0.2359
D_{50}= 0.2000 D_{30}= 0.1376 D_{15}= 0.0774
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-88-12 B
Sample Number: 6494 (62) **Depth:** 5.1' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-94-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-94-12	LOCATION COORDINATES: E = 1,099,813 N = 234,812	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 40 Ft.
		15. DATE BORING	STARTED: 01-05-13 / COMPLETED: 01-05-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -38.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-38.8	0.0				
-43.3	4.5		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little shell fragments, trace fines, lt. gray (SP)	A	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.2448 mm % Fines: 5.4
-45.8	7.0		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace shell fragments, gray (SP-SM)	B	Classification: SP Color: 5Y 7/2-light gray D50: 0.3252 mm % Fines: 1.1
-48.8	10.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)	C	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.2122 mm % Fines: 7.7
-54.0	15.2		SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, trace shell fragments, trace clay, gray (ML)	NS	
-58.3	19.5		CLAY, lean, mostly clay, some silt, some fine-grained sand-sized quartz, trace shell fragments, soft, gray (CL) At El. -55.4 Ft., mostly clay, trace silt, trace shell fragments, stiff, low to medium plasticity, red, orange, greenish gray, gray mottle		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14518° Long = -88.46772°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBS-94-12

Coordinate System
Latitude / Longitude

Latitude 30 11.088 N

Longitude 088 28.063 W

Date 01/05/2013

Start Time 14:05:29

End Time 14:10:43

Total Time 00:05:13

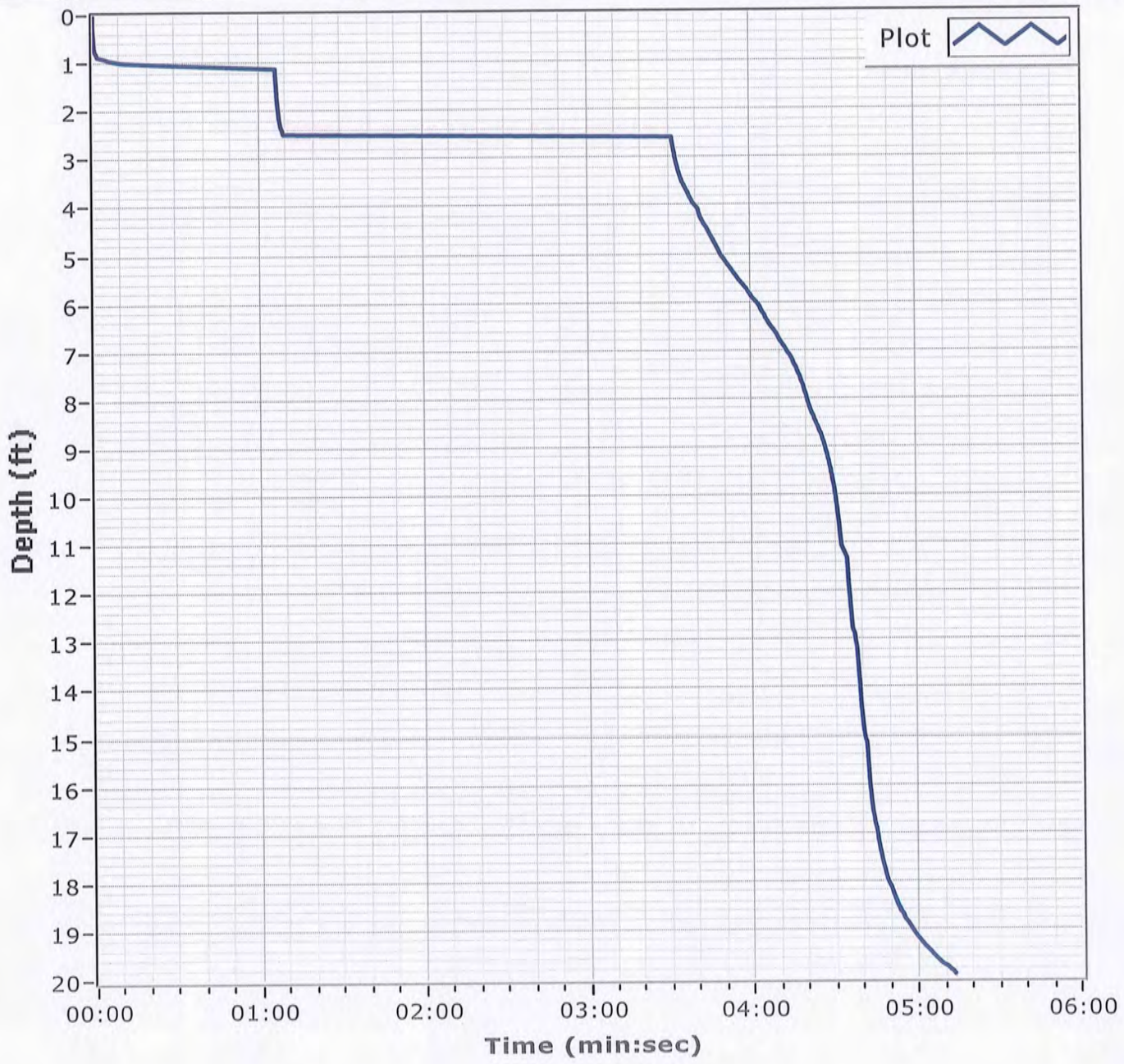
Water Depth 40.0'

Penetration 20.0'

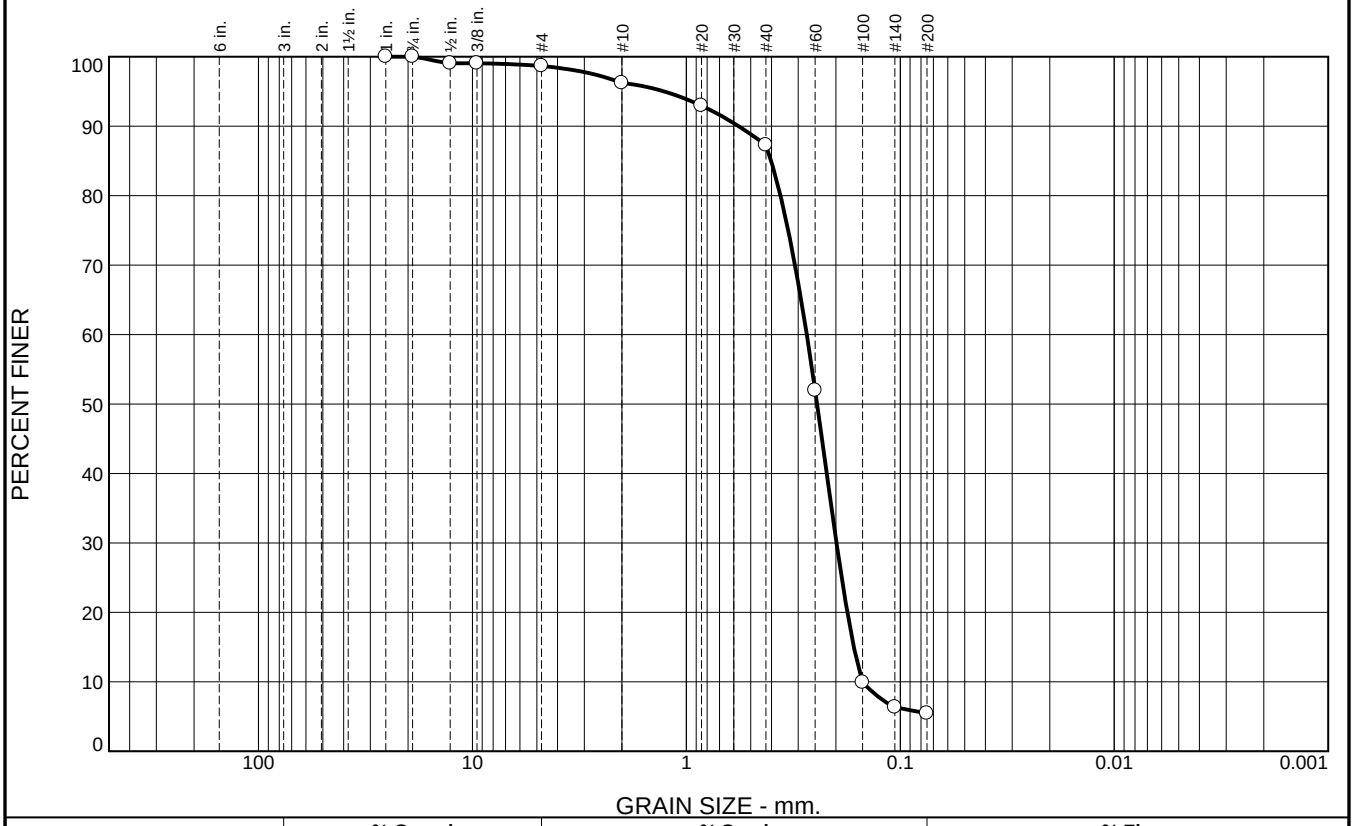
Recovery 19.5'

Comments

NOTE: VIBRATOR QUIT THEN RESTARTED



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.3	2.5	8.9	81.9	5.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.0		
.375	99.0		
#4	98.7		
#10	96.2		
#20	92.9		
#40	87.3		
#60	52.0		
#100	9.9		
#140	6.4		
#200	5.4		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5705 D_{85}= 0.4015 D_{60}= 0.2737
D_{50}= 0.2448 D_{30}= 0.1987 D_{15}= 0.1650
D_{10}= 0.1503 C_u= 1.82 C_c= 0.96

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-94-12 A
Sample Number: 6503 (15) **Depth:** 0.0' **Date:** 1/08/13

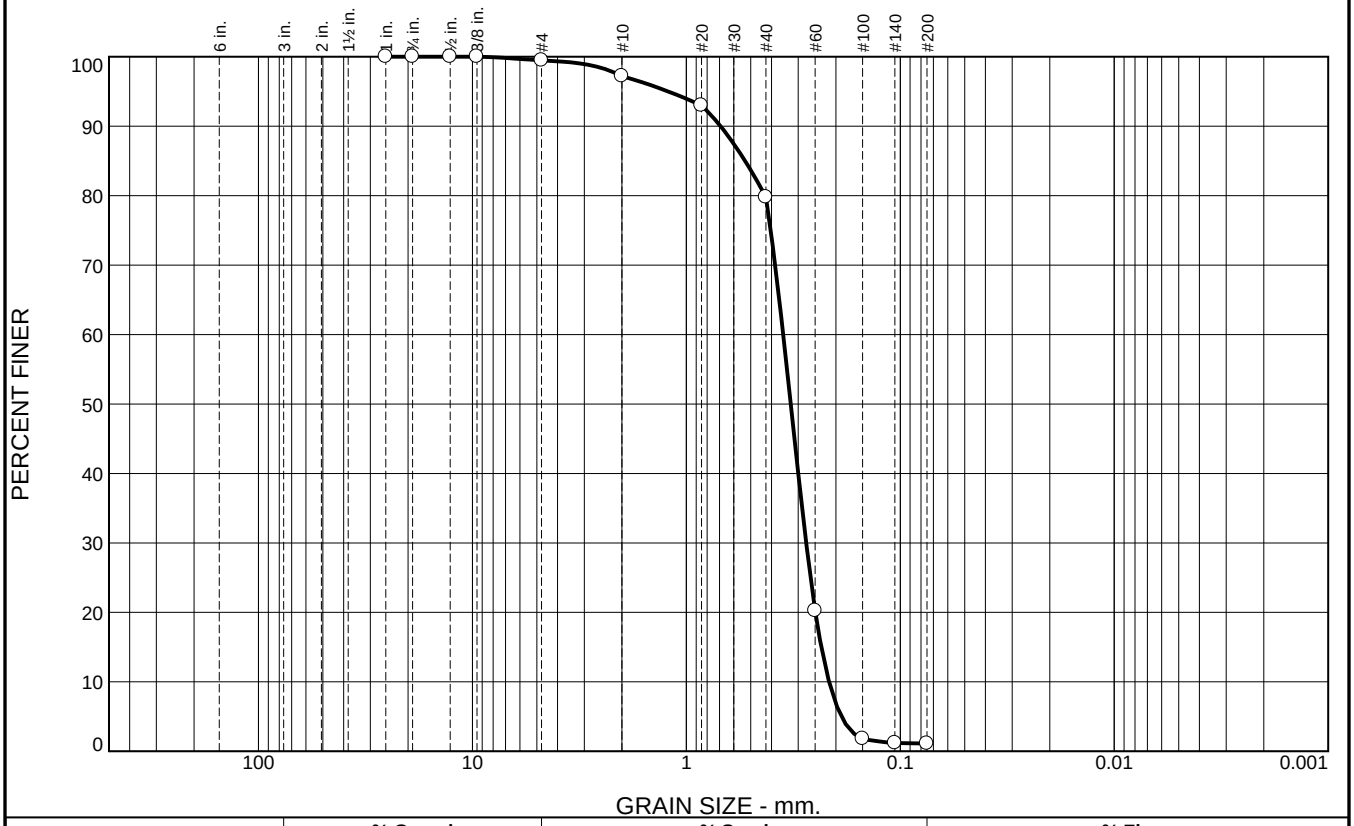
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	2.3	17.4	78.7	1.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	97.2		
#20	93.0		
#40	79.8		
#60	20.2		
#100	1.8		
#140	1.2		
#200	1.1		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6926 D_{85}= 0.5316 D_{60}= 0.3526
D_{50}= 0.3252 D_{30}= 0.2755 D_{15}= 0.2339
D_{10}= 0.2152 C_u= 1.64 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-94-12 B
Sample Number: 6503 (16) **Depth:** 4.5' **Date:** 1/08/13

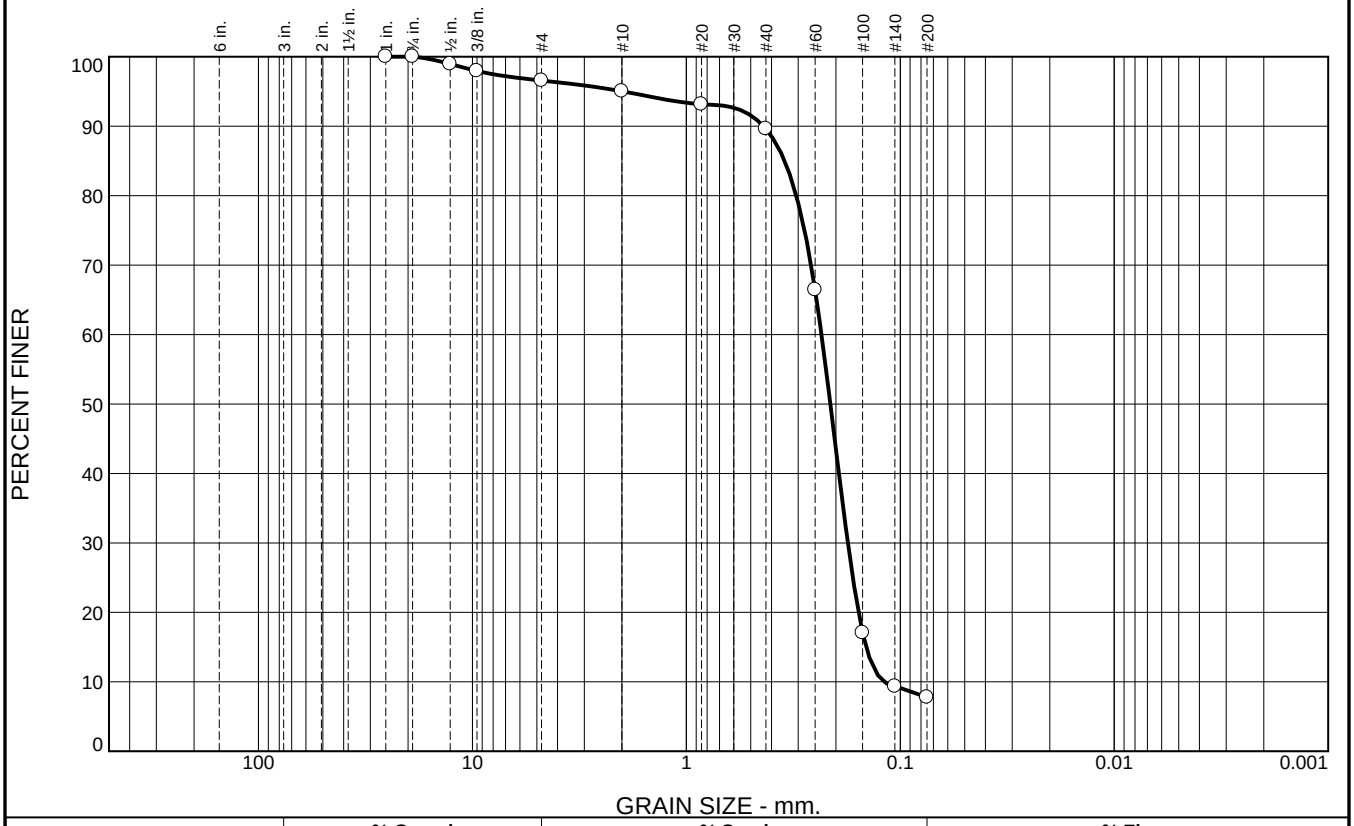
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.4	1.6	5.4	81.9	7.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	98.9		
.375	97.9		
#4	96.6		
#10	95.0		
#20	93.2		
#40	89.6		
#60	66.4		
#100	17.0		
#140	9.3		
#200	7.7		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4367 D_{85}= 0.3473 D_{60}= 0.2335
D_{50}= 0.2122 D_{30}= 0.1759 D_{15}= 0.1444
D_{10}= 0.1190 C_u= 1.96 C_c= 1.11

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-94-12 C
Sample Number: 6503 (17) **Depth:** 7.0' **Date:** 1/08/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-95-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-95-12	LOCATION COORDINATES: E = 1,102,745 N = 240,967	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 43.8 Ft.	
		15. DATE BORING	STARTED: 01-05-13 / COMPLETED: 01-05-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -42.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-42.6	0.0				
-44.8	2.2		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little shell fragments, trace fines, lt. gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.32 mm % Fines: 1.2
-46.8	4.2		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)	B	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.1954 mm % Fines: 10.5
-51.6	9.0		SILT, inorganic-L, mostly silt, some sand, trace clay, trace shell fragments, gray (ML)	NS	
-54.3	11.7		CLAY, fat, mostly clay, trace shell fragments, trace pockets of fine-grained sand, high plasticity, gray (CH)		
-60.5	17.9		CLAY, lean, mostly clay, trace shell fragments, soft becoming very stiff at depth, also becomes siltier with depth to 15.9 ft., becomes a CH at 17 ft., lt. gray, orangy brown,and gray mottle (CL)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.16208° Long = -88.45838°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

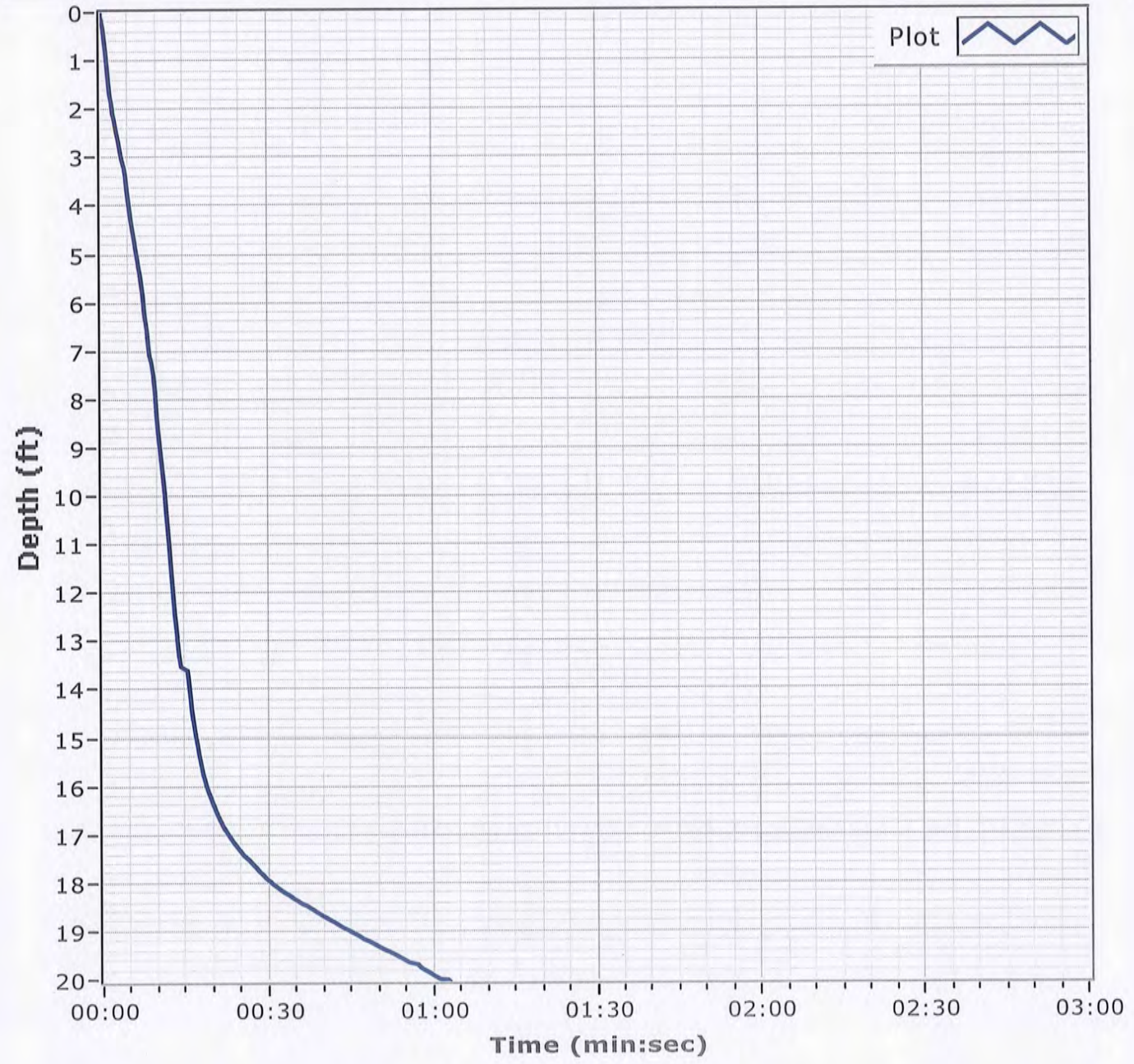
Core Identifier BI-PBS-95-12
Coordinate System Latitude / Longitude

Latitude 30 09.725 N
Longitude 088 27.503 W

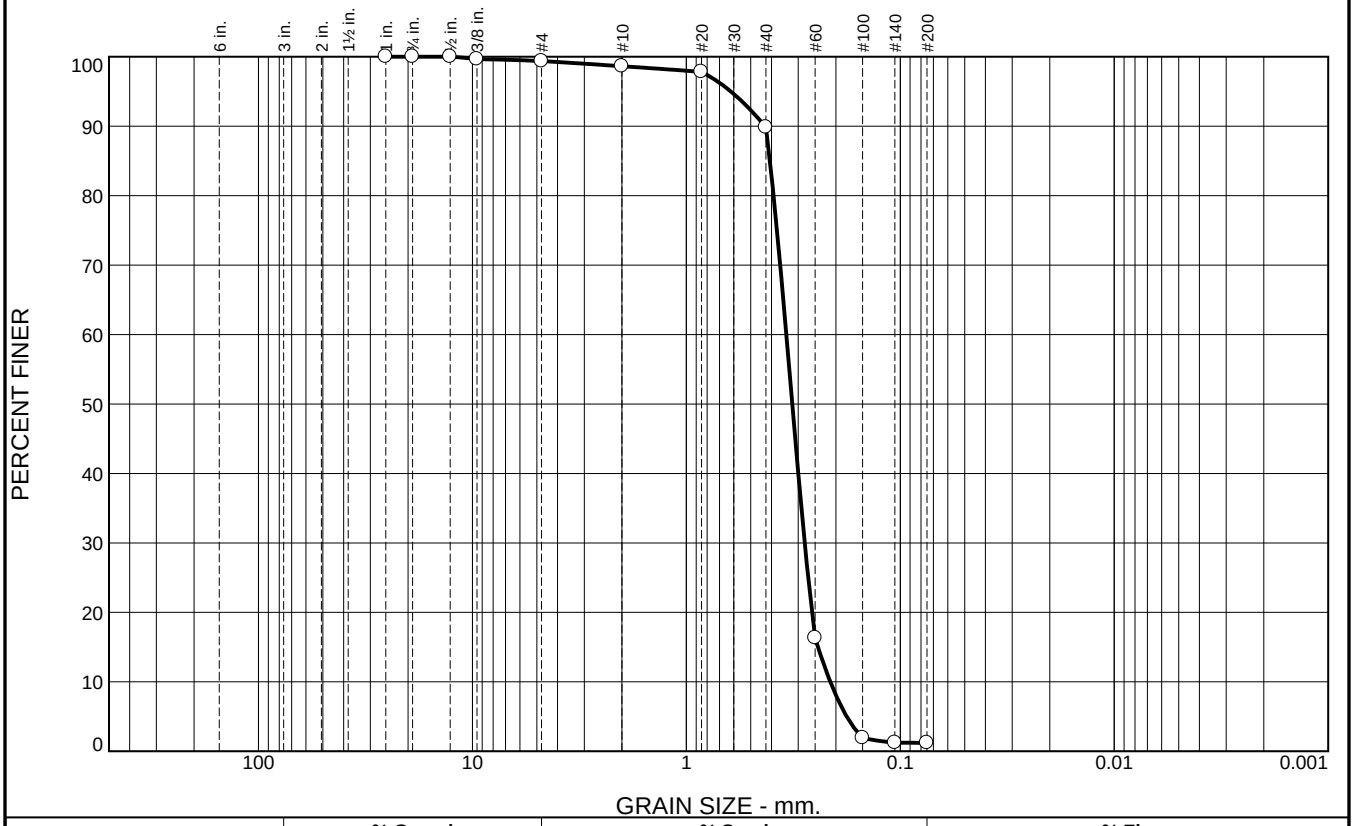
Date 01/05/2013
Start Time 14:55:29
End Time 14:56:33
Total Time 00:01:04

Water Depth 43.8'
Penetration 20.2'
Recovery 17.8'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.6	0.8	8.8	88.6	1.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.6		
#4	99.4		
#10	98.6		
#20	97.8		
#40	89.8		
#60	16.3		
#100	1.9		
#140	1.3		
#200	1.2		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4292 D_{85}= 0.4067 D_{60}= 0.3409
D_{50}= 0.3200 D_{30}= 0.2801 D_{15}= 0.2424
D_{10}= 0.2124 C_u= 1.61 C_c= 1.08

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-95-12 A
Sample Number: 6503 (18) **Depth:** 0.0' **Date:** 1/08/13

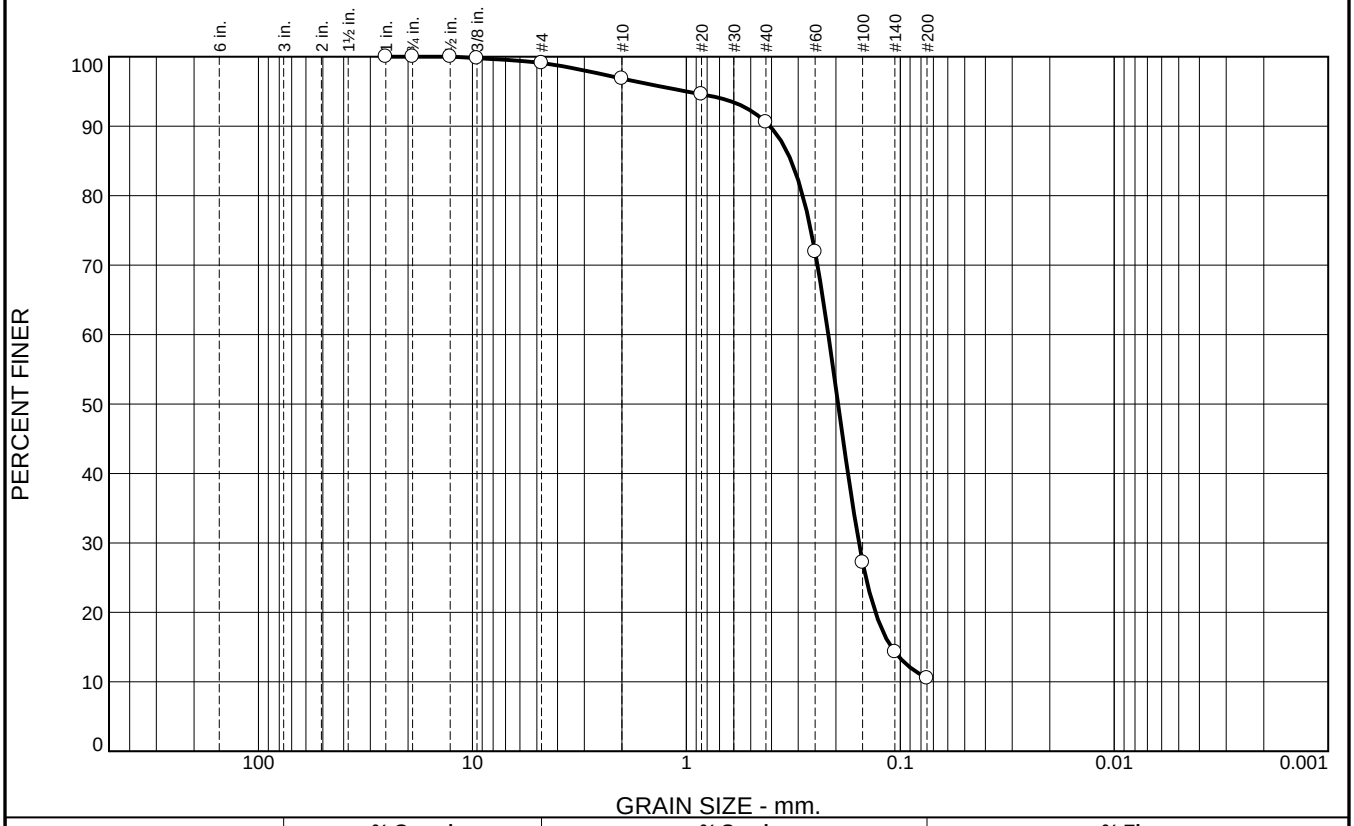
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.9	2.3	6.2	80.1	10.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.8		
#4	99.1		
#10	96.8		
#20	94.6		
#40	90.6		
#60	71.9		
#100	27.2		
#140	14.3		
#200	10.5		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4074 D_{85}= 0.3235 D_{60}= 0.2170
D_{50}= 0.1954 D_{30}= 0.1561 D_{15}= 0.1100
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBS-95-12 B
Sample Number: 6503 (19) **Depth:** 2.2' **Date:** 1/08/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBS-99-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 2 SHEETS

1. PROJECT: Barrier Island Restoration, Petit Bois Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBS-99-12	LOCATION COORDINATES: E = 1,114,168 N = 233,329	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 43.4 Ft.	
		15. DATE BORING	STARTED: 01-12-13 / COMPLETED: 01-12-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -43.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-43.1	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.3009 mm % Fines: 2.1
				B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.3217 mm % Fines: 2
-49.4	6.3				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, some shell fragments, lt. gray (SP-SM)	C	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2553 mm % Fines: 12.5
-51.8	8.7				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, trace wood debris, brown (SM)	NS	
-58.5	15.4				
			SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, brown (ML)		
-60.0	16.9				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, becomes less silty with depth, gray (SP-SM)		
-61.4	18.3				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval. 3. Top 1 ft. of sample may be compromised because contractor's vibracore unit stopped after approximately 1 ft of penetration when the		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.14097° Long = -88.42232°

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Mobile District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
Barrier Island Restoration	State Plane, MSE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 1,114,168 Y = 233,329	-43.1 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
			pneumatic hoses running the vibracore's vibrator got pinched off. Contractor then raised the vibracore barrel to unkink the hoses and restarted the vibrator. He let the machine run for about 3 minutes to get excess material out of the barrel, but there appeared to be a bit leftover, making recovery deeper than the penetration.		

30
35
40
45
50
55
60

Lat = 30.14097° Long = -88.42232°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

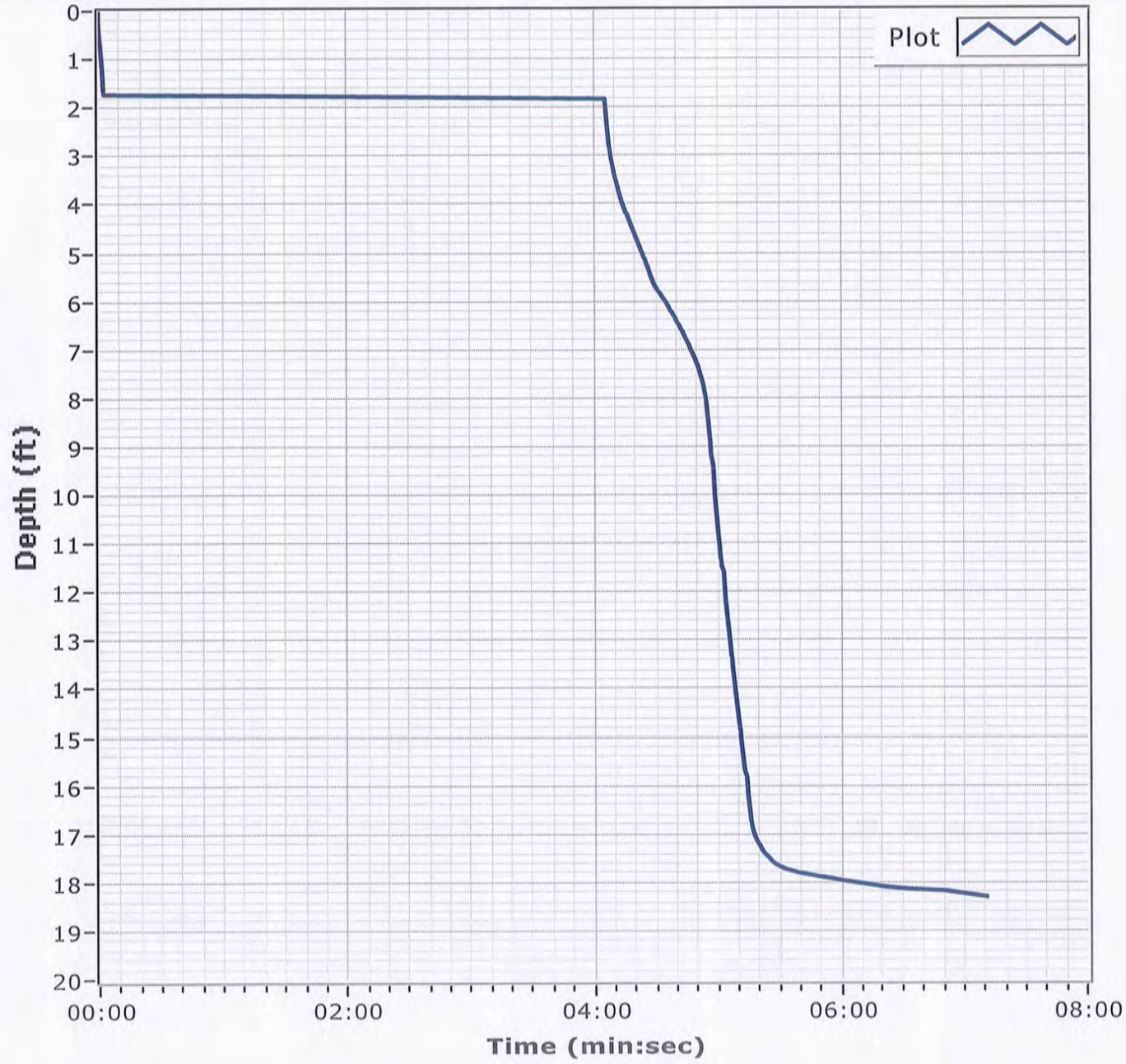
Core Identifier BI-PBS-99-12
Coordinate System Latitude / Longitude

Latitude 30 08.458 N
Longitude 088 25.339 W

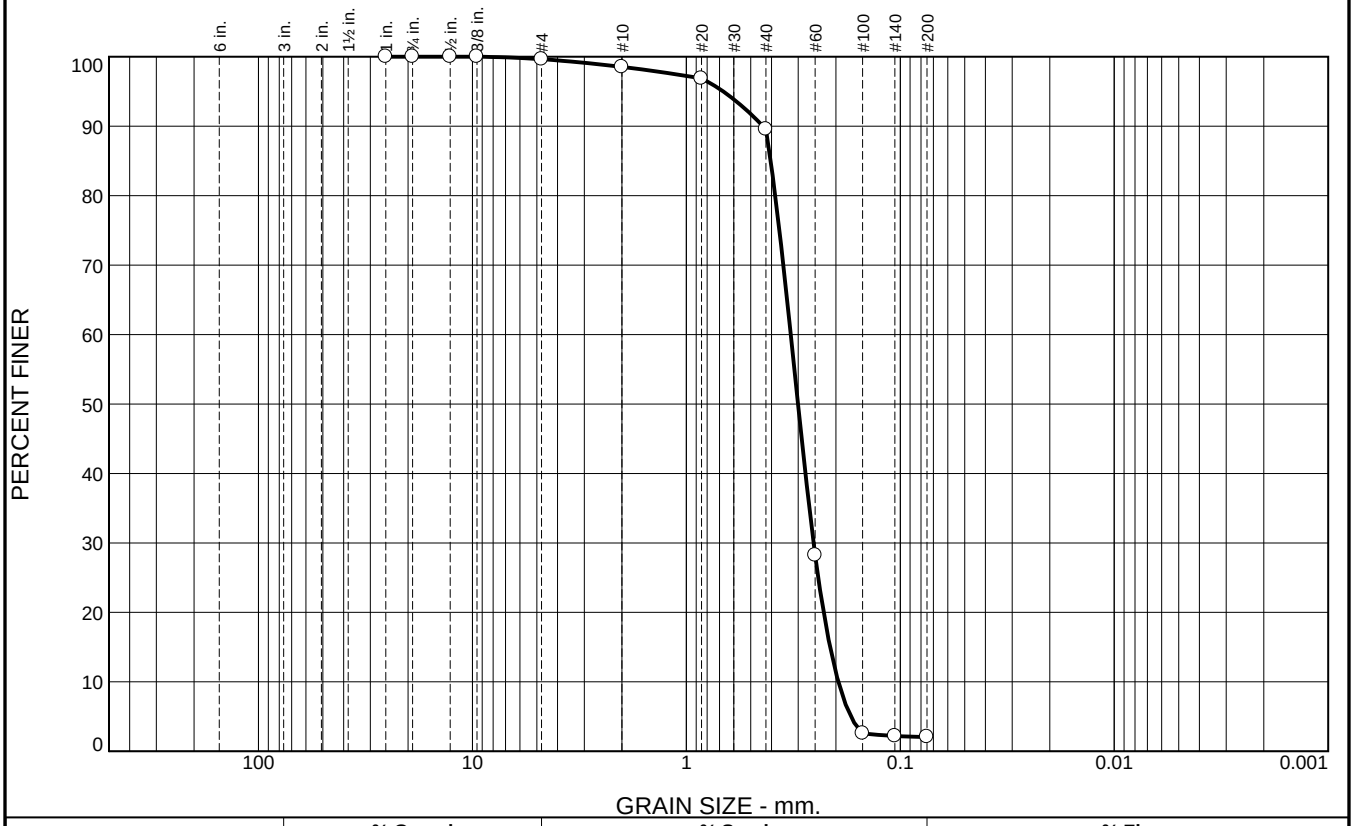
Date 01/12/2013
Start Time 09:14:49
End Time 09:22:00
Total Time 00:07:11

Water Depth 43.4'
Penetration 18.3'
Recovery 18.3'

Comments
NOTE: VIBRATOR STOPPED AND THEN RESTARTED



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	1.1	8.9	87.5	2.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.6		
#10	98.5		
#20	96.9		
#40	89.6		
#60	28.2		
#100	2.6		
#140	2.2		
#200	2.1		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4386 D_{85}= 0.4034 D_{60}= 0.3251
D_{50}= 0.3009 D_{30}= 0.2544 D_{15}= 0.2130
D_{10}= 0.1949 C_u= 1.67 C_c= 1.02

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-99-12 A
Sample Number: 6507 (1) **Depth:** 0.0' **Date:** 1/14/13

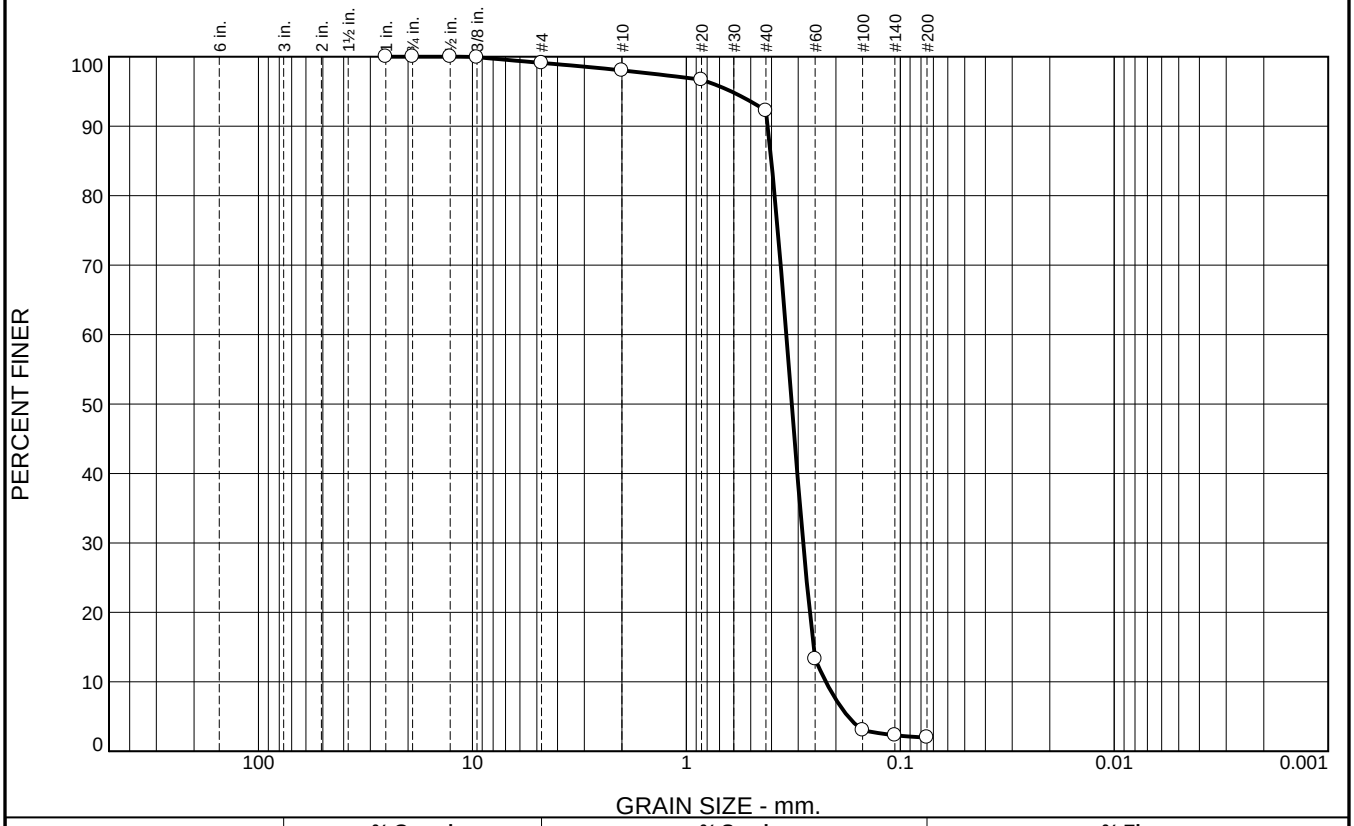
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.9	1.1	5.8	90.2	2.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.9		
#4	99.1		
#10	98.0		
#20	96.7		
#40	92.2		
#60	13.3		
#100	3.0		
#140	2.3		
#200	2.0		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4167 D_{85}= 0.4004 D_{60}= 0.3411
D_{50}= 0.3217 D_{30}= 0.2847 D_{15}= 0.2541
D_{10}= 0.2227 C_u= 1.53 C_c= 1.07

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBS-99-12 B
Sample Number: 6507 (2) **Depth:** 3.7' **Date:** 1/14/13

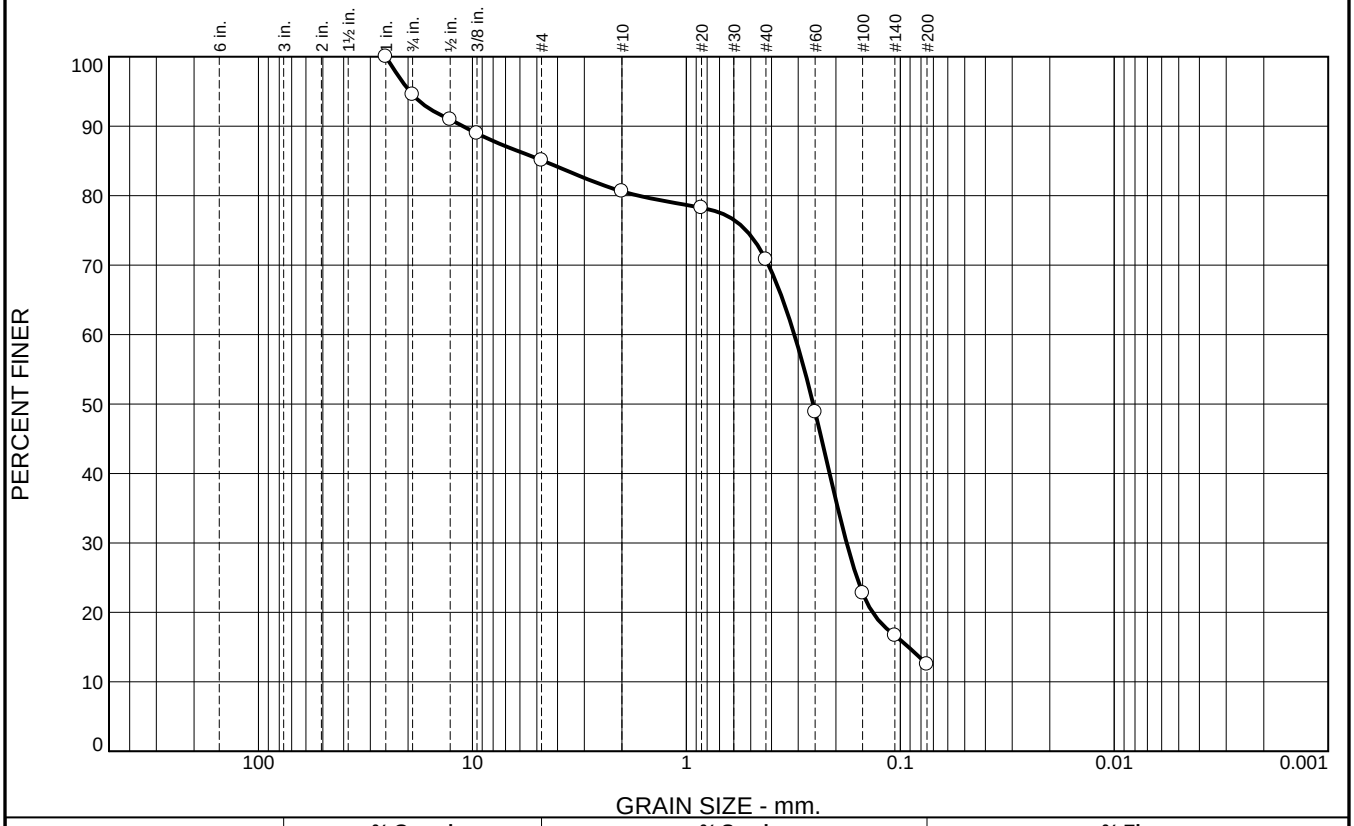
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	5.5	9.4	4.5	9.8	58.3	12.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	94.5		
.5	90.9		
.375	88.9		
#4	85.1		
#10	80.6		
#20	78.2		
#40	70.8		
#60	48.9		
#100	22.8		
#140	16.7		
#200	12.5		

* (no specification provided)

Material Description

Fine grained, SILTY SAND, with some SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 11.0776 D_{85}= 4.6678 D_{60}= 0.3130
D_{50}= 0.2553 D_{30}= 0.1782 D_{15}= 0.0916
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBS-99-12 C
Sample Number: 6507 (3) **Depth:** 6.3' **Date:** 1/14/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Appendix E: Horn Island Pass and Pascagoula Bar Channel Boring Logs, Penetrometer Logs, and Lab Results

Table E-1 Horn Island Pass and Pascagoula Bar Channel Vibracore Samples

BORING	SAMPLE DEPTH BGS (ft)	LOCATION	LATITUDE	LONGITUDE	Field USCS	Lab USCS	Angularity	Wet Munsell Classification	Wet Munsell Value	Wet Munsell Color	Dry Munsell Classification	Dry Munsell Value	Dry Munsell Color	D_{50}	% FINES	Comp_D50	Comp_Fines
BI-HP-1-10		Horn Island Pass	30.18621	-88.55043												0.30	5.33
BI-HP-1-10A	0.0 - 5.0	Horn Island Pass	30.18621	-88.55043	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	2.5Y 5/1	5	GRAY	2.5Y 7/1	7	LT GRAY	0.289	8.2		
BI-HP-1-10B	5.0 - 9.9	Horn Island Pass	30.18621	-88.55043	SP	SP	SUBANGULAR TO ROUNDED	2.5Y 5/1	5	GRAY	2.5Y 7/1	7	LT GRAY	0.3016	2.4		
BI-HP-2-10		Horn Island Pass	30.18353	-88.55217												0.26	7.82
BI-HP-2-10A	0.0 - 3.3	Horn Island Pass	30.18353	-88.55217	SP	SP	SUBANGULAR TO ROUNDED	2.5Y 4/2	4	DK GRAYISH BROWN	2.5Y 6/2	6	LT BROWNISH GRAY	0.2829	2		
BI-HP-2-10B	3.3 - 5.9	Horn Island Pass	30.18353	-88.55217	SM	SM	SUBANGULAR TO ROUNDED	2.5Y 3/2	3	VERY DK GRAYISH BROWN	2.5Y 5/1	5	GRAY	0.229	15.2		
BI-HP-3-10		Horn Island Pass	30.18417	-88.54793												0.28	4.50
BI-HP-3-10A	0.0 - 2.9	Horn Island Pass	30.18417	-88.54793	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	2.5Y 6/1	6	GRAY	2.5Y 7/2	7	LT GRAY	0.3041	5.6		
BI-HP-3-10B	2.9 - 5.8	Horn Island Pass	30.18417	-88.54793	SP	SP	SUBANGULAR TO ROUNDED	5Y 5/1	5	GRAY	2.5Y 7/2	7	LT GRAY	0.2557	3.4		
BI-HP-4-10		Horn Island Pass	30.18659	-88.54844												0.25	14.34
BI-HP-4-10A	0.0 - 4.2	Horn Island Pass	30.18659	-88.54844	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	2.5Y 6/1	6	GRAY	2.5Y 7/1	7	LT GRAY	0.28	6.6		
BI-HP-4-10B	4.2 -8.5	Horn Island Pass	30.18659	-88.54844	SM	SM	SUBANGULAR TO ROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.2732	12.5		
BI-HP-4-10C	8.5 - 11.2	Horn Island Pass	30.18659	-88.54844	SM	SM	SUBANGULAR TO ROUNDED	2.5Y 2.5/1	2.5	BLACK	2.5Y 4/2	4	DK GRAYISH BROWN	0.1803	29.3		
BI-HP-5-10		Horn Island Pass	30.18858	-88.54765												0.28	6.70
BI-HP-5-10A	0.0 - 4.8	Horn Island Pass	30.18858	-88.54765	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	2.5Y 5/2	5	GRAYISH BROWN	2.5Y 7/1	7	LT GRAY	0.2803	6.7		
BI-HP-6-10		Horn Island Pass	30.18886	-88.55173												0.30	5.90
BI-HP-6-10A	0-4	Horn Island Pass	30.18886	-88.55173	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	2.5Y 3/2	3	VERY DK GRAYISH BROWN	2.5Y 6/1	6	GRAY	0.2996	5.9		
BI-HP-7-10		Horn Island Pass	30.18484	-88.55027												0.27	4.70
BI-HP-7-10A	0.0 - 3.1	Horn Island Pass	30.18484	-88.55027	SP	SP	SUBANGULAR TO ROUNDED	2.5Y 4/1	4	DK GRAY	2.5Y 7/1	7	LT GRAY	0.2982	3.2		
BI-HP-7-10B	3.1 - 6.2	Horn Island Pass	30.18484	-88.55027	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	2.5Y 3/2	3	VERY DK GRAYISH BROWN	2.5Y 7/1	7	LT GRAY	0.2463	6.2		
BI-HP-8-10		Horn Island Pass	30.19244	-88.55197												0.28	1.60
BI-HP-8-10A	0.0 - 5.1	Horn Island Pass	30.19244	-88.55197	SP	SP	SUBANGULAR TO ROUNDED	2.5Y 4/2	4	DK GRAYISH BROWN	2.5Y 7/1	7	LT GRAY	0.2849	1.6		
BI-HP-9-10		Horn Island Pass	30.19274	-88.54668												0.23	12.70
BI-HP-9-10A	0.0 - 1.4	Horn Island Pass	30.19274	-88.54668	SM	SM	SUBANGULAR TO ROUNDED	2.5Y 3/2	3	VERY DK GRAYISH BROWN	2.5Y 5/2	5	GRAYISH BROWN	0.2278	12.7		
BI-HP-10-10		Horn Island Pass	30.19288	-88.54127												0.27	3.35
BI-HP-10-10A	0.0 - 2.8	Horn Island Pass	30.19288	-88.54127	SP	SP	SUBANGULAR TO ROUNDED	2.5Y 4/2	4	DK GRAYISH BROWN	2.5Y 7/1	7	LT GRAY	0.2922	3.2		
BI-HP-10-10B	2.8 - 5.6	Horn Island Pass	30.19288	-88.54127	SP	SP	SUBANGULAR TO ROUNDED	2.5Y 4/1	4	DK GRAY	2.5Y 7/1	7	LT GRAY	0.2576	3.5		
BI-HP-11-10		Horn Island Pass	30.18497	-88.55648												0.27	6.68
BI-HP-11-10A	0.0 - 5.1	Horn Island Pass	30.18497	-88.55648	SP	SP	SUBANGULAR TO ROUNDED	2.5Y 4/1	4	DK GRAY	2.5Y 7/1	7	LT GRAY	0.2854	4.5		
BI-HP-11-10B	5.1 - 6.2	Horn Island Pass	30.18497	-88.55648	SM	SM	SUBANGULAR TO ROUNDED	2.5Y 2.5/1	2.5	BLACK	2.5Y 5/1	5	GRAY	0.2161	16.8		
BI-HP-12-10		Horn Island Pass	30.17997	-88.55652												0.25	9.35
BI-HP-12-10A	0.0 - 3.0	Horn Island Pass	30.17997	-88.55652	SM	SM	SUBANGULAR TO ROUNDED	10YR 4/1	4	DK GRAY	2.5Y 7/1	7	LT GRAY	0.2691	12.3		
BI-HP-12-10B	3.0 - 6.0	Horn Island Pass	30.17997	-88.55652	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	5Y 5/2	5	OLIVE GRAY	2.5Y 7/1	7	LT GRAY	0.2371	6.4		
BI-HP-13-10		Horn Island Pass	30.18005	-88.56105												0.29	2.10
BI-HP-13-10A	0.0 - 3.2	Horn Island Pass	30.18005	-88.56105	SP	SP	SUBANGULAR TO ROUNDED	2.5Y 6/1	6	GRAY	2.5Y 7/2	7	LT GRAY	0.2888	2.1		
BI-HP-14-10		Horn Island Pass	30.17988	-88.55166												0.24	6.70
BI-HP-14-10A	0.0 - 2.5	Horn Island Pass	30.17988	-88.55166	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2388	6.7		
BI-HP-15-10		Horn Island Pass	30.18942	-88.53846	SC	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.											

BORING	SAMPLE DEPTH BGS (ft)	LOCATION	LATITUDE	LONGITUDE	Field USCS	Lab USCS	Angularity	Wet Munsell Classification	Wet Munsell Value	Wet Munsell Color	Dry Munsell Classification	Dry Munsell Value	Dry Munsell Color	D_{50}	% FINES	Comp_D50	Comp_Fines
BI-HP-16-10		Horn Island Pass	30.18423	-88.54405										<Null>		0.22	16.85
BI-HP-16-10A	0.0 - 1.5	Horn Island Pass	30.18423	-88.54405	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	2.5Y 4/2	4	DK GRAYISH BROWN	2.5Y 7/2	7	LT GRAY	0.2508	7		
BI-HP-16-10B	1.5 - 3.0	Horn Island Pass	30.18423	-88.54405	SM	SM	SUBANGULAR TO ROUNDED	2.5Y 4/2	4	DK GRAYISH BROWN	2.5Y 4/3	4	OLIVE BROWN	0.1831	26.7		
BI-HP-17-10		Horn Island Pass	30.18016	-88.54816	SC	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.											
BI-HP-18-10		Horn Island Pass	30.18016	-88.54816	SC	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.											
BI-HP-19-10		Horn Island Pass	30.19606	-88.55061	SC	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.											
BI-HP-20-10		Horn Island Pass	30.19091	-88.5491												0.26	9.50
BI-HP-20-10A	0.0 - 1.6	Horn Island Pass	30.19091	-88.5491	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	5Y 4/2	4	OLIVE GRAY	2.5Y 7/1	7	LT GRAY	0.2632	9.5		
BI-HP-21-10		Horn Island Pass	30.18721	-88.5542												0.27	5.36
BI-HP-21-10A	0.0 - 3.0	Horn Island Pass	30.18721	-88.5542	SP	SP	SUBANGULAR TO ROUNDED	2.5Y 6/1	6	GRAY	2.5Y 8/1	8	WHITE	0.2786	2.9		
BI-HP-21-10B	3.0 - 5.9	Horn Island Pass	30.18721	-88.5542	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.2702	7.9		
BI-HP-22-10		Horn Island Pass	30.18402	-88.55291												0.29	5.97
BI-HP-22-10A	0.0 - 3.0	Horn Island Pass	30.18402	-88.55291	SP	SP	SUBANGULAR TO ROUNDED	5Y 5/2	5	OLIVE GRAY	2.5Y 7/1	7	LT GRAY	0.2733	2.3		
BI-HP-22-10B	3.0 - 6.4	Horn Island Pass	30.18402	-88.55291	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	5Y 5/2	5	OLIVE GRAY	2.5Y 7/1	7	LT GRAY	0.2499	9.2		
BI-HP-23-10		Horn Island Pass	30.18217	-88.55531												0.24	4.80
BI-HP-23-10A	0.0 - 3.4	Horn Island Pass	30.18217	-88.55531	SP	SP	SUBANGULAR TO ROUNDED	2.5Y 5/1	5	GRAY	2.5Y 7/1	7	LT GRAY	0.2524	3.1		
BI-HP-23-10B	3.4 - 4.2	Horn Island Pass	30.18217	-88.55531	SM	SM	SUBANGULAR TO ROUNDED	2.5Y 4/1	4	DK GRAY	2.5Y 6/2	6	LT BROWNISH GRAY	0.2126	12		
BI-HP-24-10		Horn Island Pass	30.18626	-88.5455												0.26	6.29
BI-HP-24-10A	0.0 - 3.4	Horn Island Pass	30.18626	-88.5455	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	2.5Y 5/2	5	GRAYISH BROWN	2.5Y 6/2	6	LT BROWNISH GRAY	0.2625	5.5		
BI-HP-24-10B	3.4 - 6.7	Horn Island Pass	30.18626	-88.5455	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	2.Y 4/2	4	DK GRAYISH BROWN	2.5Y 7/1	7	LT GRAY	0.2557	7.1		
BI-HP-25-10		Horn Island Pass	30.18788	-88.5433												0.25	5.40
BI-HP-25-10A	0.0 - 2.5	Horn Island Pass	30.18788	-88.5433	SP-SM	SP-SM	SUBANGULAR TO ROUNDED	2.5Y 5/2	5	GRAYISH BROWN	2.5Y 7/1	7	LT GRAY	0.2544	5.4		
BI-HP-26-10		Horn Island Pass	30.19048	-88.54306												0.25	2.10
BI-HP-26-10A	0.0 - 4.0	Horn Island Pass	30.19048	-88.54306	SP	SP	SUBANGULAR TO ROUNDED	5Y 5/2	5	OLIVE GRAY	2.5Y 7/1	7	LT GRAY	0.2459	2.1		
BI-HP-27-12		Horn Island Pass	30.19757	-88.53702												0.32	3.82
BI-HP-27-12a	0-3.7	Horn Island Pass	30.19757	-88.53702	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 7/1	7	LT GRAY	2.5Y 7.5/2	7.5	PALE BROWN	0.3309	1.6		
BI-HP-27-12b	3.7-6	Horn Island Pass	30.19757	-88.53702	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 5.5/2	5.5	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.2966	7.4		
BI-HP-28-12		Horn Island Pass	30.19687	-88.5318	SP											0.32	1.64
BI-HP-28-12a	0-5.5	Horn Island Pass	30.19687	-88.5318	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 8/1	8	WHITE	5Y 8/1	8	WHITE	0.3355	1.2		
BI-HP-28-12b	5.5-6.3	Horn Island Pass	30.19687	-88.5318	SP-SM	SP	SUBANGULAR TO SUBROUNDED	2.5Y 6/1.5	6	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.2128	4.7		
BI-HP-29-12		Horn Island Pass	30.19422	-88.53372												0.29	2.44
BI-HP-29-12a	0-0.9	Horn Island Pass	30.19422	-88.53372	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.3244	6.7		
BI-HP-29-12b	0.9-3.5	Horn Island Pass	30.19422	-88.53372	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2781	1.3		
BI-HP-29-12c	3.5-5.1	Horn Island Pass	30.19422	-88.53372	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 7/1.5	7	LT GRAY	2.5Y 7.5/2	7.5	PALE BROWN	0.2868	1.9		
BI-HP-30-12		Horn Island Pass	30.19495	-88.53765												0.30	3.20
BI-HP-30-12a	0-2.4	Horn Island Pass	30.19495	-88.53765	SP	SP	ANGULAR TO SUBROUNDED	2.5Y 7/2	7	LT GRAY	2.5Y 8/1	8	WHITE	0.3133	4.5		
BI-HP-30-12b	2.4-5.4	Horn Island Pass	30.19495	-88.53765	SP-SM	SP	SUBANGULAR TO SUBROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.2705	3.4		
BI-HP-30-12c	5.4-7.9	Horn Island Pass	30.19495	-88.53765	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 5.5/2	5.5	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.3164	1.7		
BI-HP-31-12		Horn Island Pass	30.18998	-88.57763	CL	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.											
BI-HP-32-12		Horn Island Pass	30.1837	-88.5801	CL	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.											
BI-HP-33-12		Horn Island Pass	30.1858	-88.58643												0.21	2.10
BI-HP-33-12a	0-2.2	Horn Island Pass	30.1858	-88.58643	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 6/2	6	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.2133	2.1		

BORING	SAMPLE DEPTH BGS (ft)	LOCATION	LATITUDE	LONGITUDE	Field USCS	Lab USCS	Angularity	Wet Munsell Classification	Wet Munsell Value	Wet Munsell Color	Dry Munsell Classification	Dry Munsell Value	Dry Munsell Color	D_{50}	% FINES	Comp_D50	Comp_Fines
BI-HP-34-12		Horn Island Pass	30.19253	-88.55495												0.31	1.85
BI-HP-34-12A	0-4.5	Horn Island Pass	30.19253	-88.55495	SP	SP	SUBANGULAR TO SUBROUNDED	2.5y 6/2	6	LT BROWNISH GRAY	2.5Y 7/2	7	LT GRAY	0.3284	0.7		
BI-HP-34-12B	4.5-9.5	Horn Island Pass	30.19253	-88.55495	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2909	2.9		
BI-HP-34-12C	9.5-10.7	Horn Island Pass	30.19253	-88.55495	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2948	1.8		
BI-HP-36-12		Horn Island Pass	30.2009	-88.52752												0.22	1.24
BI-HP-36-12A	0-3.8	Horn Island Pass	30.2009	-88.52752	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2577	1.6		
BI-HP-36-12B	3.8-8.8	Horn Island Pass	30.2009	-88.52752	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/1	7	LT GRAY	0.2099	1.7		
BI-HP-36-12C	8.8-11.8	Horn Island Pass	30.2009	-88.52752	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2072			
BI-HP-37-12		Horn Island Pass	30.1848	-88.55917												0.25	3.30
BI-HP-37-12	0.0-3.0	Horn Island Pass	30.1848	-88.55917	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 4/3	4	OLIVE	5Y 6/3	6	PALE OLIVE	0.2458	3.3		
BI-HP-38-12		Horn Island Pass	30.19947	-88.5351												0.30	5.30
BI-HP-38-12A	0-3.6	Horn Island Pass	30.19947	-88.5351	SP-SM	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.3044	5.3		
BI-HP-39-12		Horn Island Pass	30.19077	-88.55702												0.28	1.69
BI-HP-39-12A	0-2	Horn Island Pass	30.19077	-88.55702	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2983	1.2		
BI-HP-39-12B	2-7.2	Horn Island Pass	30.19077	-88.55702	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2688	1.8		
BI-HP-39-12C	7.2-9.5	Horn Island Pass	30.19077	-88.55702	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2974	1.85		
BI-HP-40-12		Horn Island Pass	30.18765	-88.55672												0.27	3.34
BI-HP-40-12A	0-1.6	Horn Island Pass	30.18765	-88.55672	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2302	2.4		
BI-HP-40-12B	1.6-4.9	Horn Island Pass	30.18765	-88.55672	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2819	3.8		
BI-HP-41-12		Horn Island Pass	30.1987	-88.53372												0.29	4.51
BI-HP-41-12a	0.0-1.5	Horn Island Pass	30.1987	-88.53372	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 7/1	7	LT GRAY	2.5Y 8/1	8	WHITE	0.3201	1.9		
BI-HP-41-12b	1.5-4.2	Horn Island Pass	30.1987	-88.53372	SP	SP-SM	SUBANGULAR TO SUBROUNDED	2.5Y 5/2	5	GRAYISH BROWN	2.5Y 6/2	6	LT BROWNISH	0.286	6.4		
BI-HP-41-12c	4.2-7.1	Horn Island Pass	30.1987	-88.53372	SP	SP	SUBANGULAR TO SUBROUNDED	2.5Y 6/2	6	LT GRAYISH BROWN	2.5Y 7/2	7	LT GRAY	0.2785	4.1		
BI-HP-42-12		Horn Island Pass	30.19445	-88.55345												0.29	1.99
BI-HP-42-12a	0.0-5.0	Horn Island Pass	30.19445	-88.55345	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.2961	1.9		
BI-HP-42-12b	5.0-6.4	Horn Island Pass	30.19445	-88.55345	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 6/2	6	LT OLIVE GRAY	5Y 7/2	7	LT GRAY	0.276	2.3		
BI-PBC-1-12		Pascagoula Bar Channel	30.20522	-88.51597	ML	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.											
BI-PBC-2-12		Pascagoula Bar Channel	30.20082	-88.51742	ML	UNSUITABLE MATERIAL. FIELD CLASSIFICATION ONLY. NO SAMPLE RETAINED FOR LAB CLASSIFICATION.											
BI-PBC-6-12		Pascagoula Bar Channel	30.19150	-88.52677												0.17	6.60
BI-PBC-6-12a	0-1	Pascagoula Bar Channel	30.19150	-88.52677	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/3	4	OLIVE	5Y 5/3	5	OLIVE	0.1722	6.6		
BI-PBC-7-12		Pascagoula Bar Channel	30.18837	-88.52985												0.20	9.35
BI-PBC-7-12a	0.5-1.5	Pascagoula Bar Channel	30.18837	-88.52985	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 4/3	4	OLIVE	5Y 6/3	6	PALE OLIVE	0.2002	3		
BI-PBC-7-12b	5-6	Pascagoula Bar Channel	30.18837	-88.52985	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1965	15.7		
BI-PBC-8-12		Pascagoula Bar Channel	30.18937	-88.53118												0.20	0.40
BI-PBC-8-12a	2.5-4	Pascagoula Bar Channel	30.18937	-88.53118	SM	SP	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2045	0.4		
BI-PBC-9-12		Pascagoula Bar Channel	30.18625	-88.53430												0.18	15.90
BI-PBC-9-12a	2-5	Pascagoula Bar Channel	30.18625	-88.53430	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1804	15.9		
BI-PBC-10-12		Pascagoula Bar Channel	30.18527	-88.53302												0.18	10.20
BI-PBC-10-12a	0.8-1.8	Pascagoula Bar Channel	30.18527	-88.53302	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/3	4	OLIVE	5Y 5/3	5	OLIVE	0.1764	10.2		
BI-PBC-11-12		Pascagoula Bar Channel	30.18317	-88.53743												0.19	11.70
BI-PBC-11-12a	2-4	Pascagoula Bar Channel	30.18317	-88.53743	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.1992	7.3		
BI-PBC-11-12b	4-6	Pascagoula Bar Channel	30.18317	-88.53743	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.173	16.1		
BI-PBC-12-12		Pascagoula Bar Channel	30.17905	-88.53923												0.17	17.00
BI-PBC-12-12a	3-4	Pascagoula Bar Channel	30.17905	-88.53923	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2037	10.6		
BI-PBC-12-12b	4-8	Pascagoula Bar Channel	30.17905	-88.53923	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 3/2	3	DK OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1606	18.6		
BI-PBC-13-12		Pascagoula Bar Channel	30.17693	-88.54367												0.16	17.95
BI-PBC-13-12a	0.8-5.8	Pascagoula Bar Channel	30.17693	-88.54367	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1674	17.4		
BI-PBC-13-12b	5.8-8	Pascagoula Bar Channel	30.17693	-88.54367	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1486	19.2		

BORING	SAMPLE DEPTH BGS (ft)	LOCATION	LATITUDE	LONGITUDE	Field USCS	Lab USCS	Angularity	Wet Munsell Classification	Wet Munsell Value	Wet Munsell Color	Dry Munsell Classification	Dry Munsell Value	Dry Munsell Color	D_{50}	% FINES	Comp_D50	Comp_Fines
BI-PBC-14-12		Pascagoula Bar Channel	30.17283	-88.54547												0.16	18.49
BI-PBC-14-12a	0.3-5.3	Pascagoula Bar Channel	30.17283	-88.54547	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1681	15.4		
BI-PBC-14-12b	5.3-16.3	Pascagoula Bar Channel	30.17283	-88.54547	SM-SC	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.152	19.9		
BI-PBC-15-12		Pascagoula Bar Channel	30.17070	-88.54992												0.15	17.15
BI-PBC-15-12a	0.5-5.5	Pascagoula Bar Channel	30.17070	-88.54992	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1566	16.5		
BI-PBC-15-12b	5.5-10.5	Pascagoula Bar Channel	30.17070	-88.54992	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1526	17.8		
BI-PBC-16-12		Pascagoula Bar Channel	30.16658	-88.55172												0.16	15.54
BI-PBC-16-12a	0-2	Pascagoula Bar Channel	30.16658	-88.55172	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1672	14.4		
BI-PBC-16-12b	5-10	Pascagoula Bar Channel	30.16658	-88.55172	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1549	16		
BI-PBC-18-12		Pascagoula Bar Channel	30.18888	-88.53408												0.19	15.36
BI-PBC-18-12a	2-4	Pascagoula Bar Channel	30.18888	-88.53408	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1852	16.3		
BI-PBC-18-12b	4-5	Pascagoula Bar Channel	30.18888	-88.53408	SP	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2122	12.4		
BI-PBC-18-12c	5-7	Pascagoula Bar Channel	30.18888	-88.53408	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.178	15.9		
BI-PBC-19-12		Pascagoula Bar Channel	30.18565	-88.53708												0.19	14.26
BI-PBC-19-12a	0-4.2	Pascagoula Bar Channel	30.18565	-88.53708	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1915	16.8		
BI-PBC-19-12b	4.2-6	Pascagoula Bar Channel	30.18565	-88.53708	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 5/2	5	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2168	5.1		
BI-PBC-19-12c	6-9	Pascagoula Bar Channel	30.18565	-88.53708	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1742	16.2		
BI-PBC-20-12		Pascagoula Bar Channel	30.18157	-88.54130												0.18	14.11
BI-PBC-20-12a	0-0.4	Pascagoula Bar Channel	30.18157	-88.54130	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.278	3		
BI-PBC-20-12b	0.4-6	Pascagoula Bar Channel	30.18157	-88.54130	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1746	14.9		
BI-PBC-21-12		Pascagoula Bar Channel	30.17483	-88.54808												0.17	15.20
BI-PBC-21-12a	0-5	Pascagoula Bar Channel	30.17483	-88.54808	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1844	14.9		
BI-PBC-21-12b	5-10	Pascagoula Bar Channel	30.17483	-88.54808	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.162	15.5		
BI-PBC-22-12		Pascagoula Bar Channel	30.16895	-88.55433												0.16	14.55
BI-PBC-22-12a	0-3.5	Pascagoula Bar Channel	30.16895	-88.55433	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1715	13.2		
BI-PBC-22-12b	4-9	Pascagoula Bar Channel	30.16895	-88.55433	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1556	15.5		
BI-PBC-23-12		Pascagoula Bar Channel	30.16355	-88.55213												0.17	14.45
BI-PBC-23-12a	0-5	Pascagoula Bar Channel	30.16355	-88.55213	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1679	15		
BI-PBC-23-12b	5-10	Pascagoula Bar Channel	30.16355	-88.55213	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1626	13.9		
BI-PBC-24-12		Pascagoula Bar Channel	30.16817	-88.54723												0.17	14.60
BI-PBC-24-12a	0-0.5	Pascagoula Bar Channel	30.16817	-88.54723	SP	SP	SUBANGULAR TO SUBROUNDED	5Y 4/3	4	OLIVE	5Y 5/3	5	OLIVE	0.2062	4.2		
BI-PBC-24-12b	0.5-5.5	Pascagoula Bar Channel	30.16817	-88.54723	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 3/2	3	DK OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1762	15.1		
BI-PBC-24-12c	5.5-11	Pascagoula Bar Channel	30.16817	-88.54723	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1575	15.1		
BI-PBC-25-12		Pascagoula Bar Channel	30.17448	-88.54107												0.18	12.94
BI-PBC-25-12a	0-5	Pascagoula Bar Channel	30.17448	-88.54107	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1861	13.7		
BI-PBC-25-12b	5-9	Pascagoula Bar Channel	30.17448	-88.54107	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1801	12		
BI-PBC-26-12		Pascagoula Bar Channel	30.18092	-88.53453												0.20	12.31
BI-PBC-26-12a	1.8-4	Pascagoula Bar Channel	30.18092	-88.53453	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.2016	15.6		
BI-PBC-26-12b	4-6	Pascagoula Bar Channel	30.18092	-88.53453	SP	SP-SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 6/2	6	LT OLIVE GRAY	0.2045	6.9		
BI-PBC-26-12c	6-9	Pascagoula Bar Channel	30.18092	-88.53453	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1841	13.5		
BI-PBC-27-12		Pascagoula Bar Channel	30.18898	-88.52653												0.17	19.80
BI-PBC-27-12a	0-0.5	Pascagoula Bar Channel	30.18898	-88.52653	SP	SM	SUBANGULAR TO SUBROUNDED	5Y 4/3	4	OLIVE	5Y 5/3	5	OLIVE	0.1657	19.8		
BI-PBC-28-12		Pascagoula Bar Channel	30.18550	-88.53025												0.19	13.67
BI-PBC-28-12a	2.5-4	Pascagoula Bar Channel	30.18550	-88.53025	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1894	15.8		
BI-PBC-28-12b	6-9	Pascagoula Bar Channel	30.18550	-88.53025	SM	SM	SUBANGULAR TO SUBROUNDED	5Y 4/2	4	OLIVE GRAY	5Y 5/2	5	OLIVE GRAY	0.1921	12.6		

Boring Designation BI-HP-27-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-27-12	LOCATION COORDINATES: E = 1,077,859 N = 253,801	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 29.6 Ft.	
		15. DATE BORING	STARTED: 12-04-12 / COMPLETED: 12-04-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -28.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-28.5	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, trace clay nodules, lt. gray (SP)	A	Classification: SP Color: 2.5Y 7.5/2- D50: 0.3309 mm % Fines: 1.6
-32.2	3.7				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little silt, trace shell fragments, little clay stringers, lt gray with gray bands (SP-SM)	B	Classification: SP-SM Color: 2.5Y 7/2-light gray D50: 0.2966 mm % Fines: 7.4
-34.5	6.0				
			CLAY, lean, mostly clay, trace shell fragments, gray (CL)	NS	
-44.2	15.7				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.19757° Long = -88.53702°

Project Mississippi Barrier Island Restoration Project

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Core Identifier BI-HP-27-12

Coordinate System
Latitude / Longitude

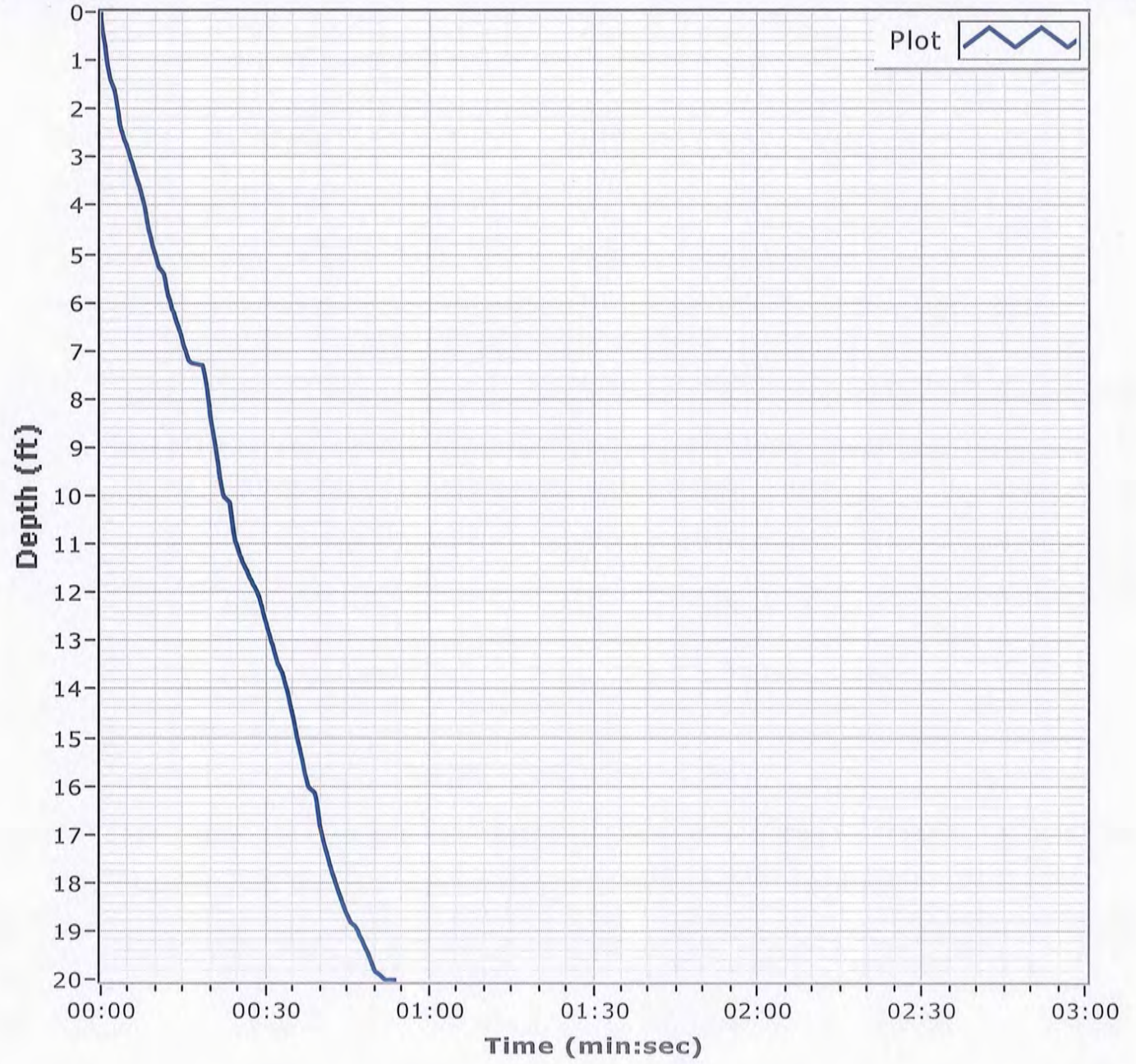
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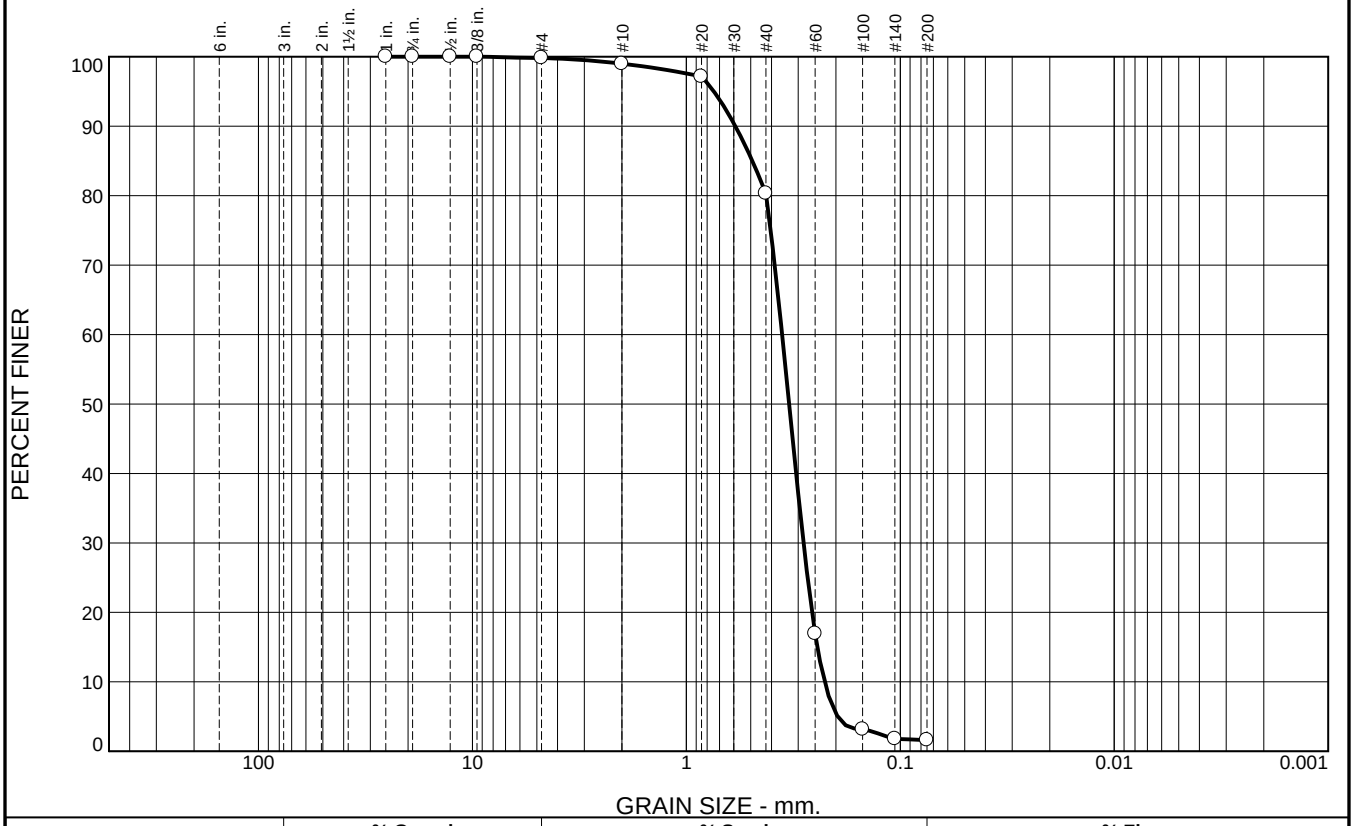
Date 12/04/2012
Start Time 13:28:18
End Time 13:29:12
Total Time 00:00:54

Water Depth 29.6'
Penetration 20.0'
Recovery 15.7'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.8	18.7	78.7	1.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.0		
#20	97.2		
#40	80.3		
#60	16.9		
#100	3.2		
#140	1.8		
#200	1.6		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5902 D_{85}= 0.4919 D_{60}= 0.3567
D_{50}= 0.3309 D_{30}= 0.2835 D_{15}= 0.2441
D_{10}= 0.2258 C_u= 1.58 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-27-12 A
Sample Number: 6480 (1) **Depth:** 0.0' **Date:** 12/07/12

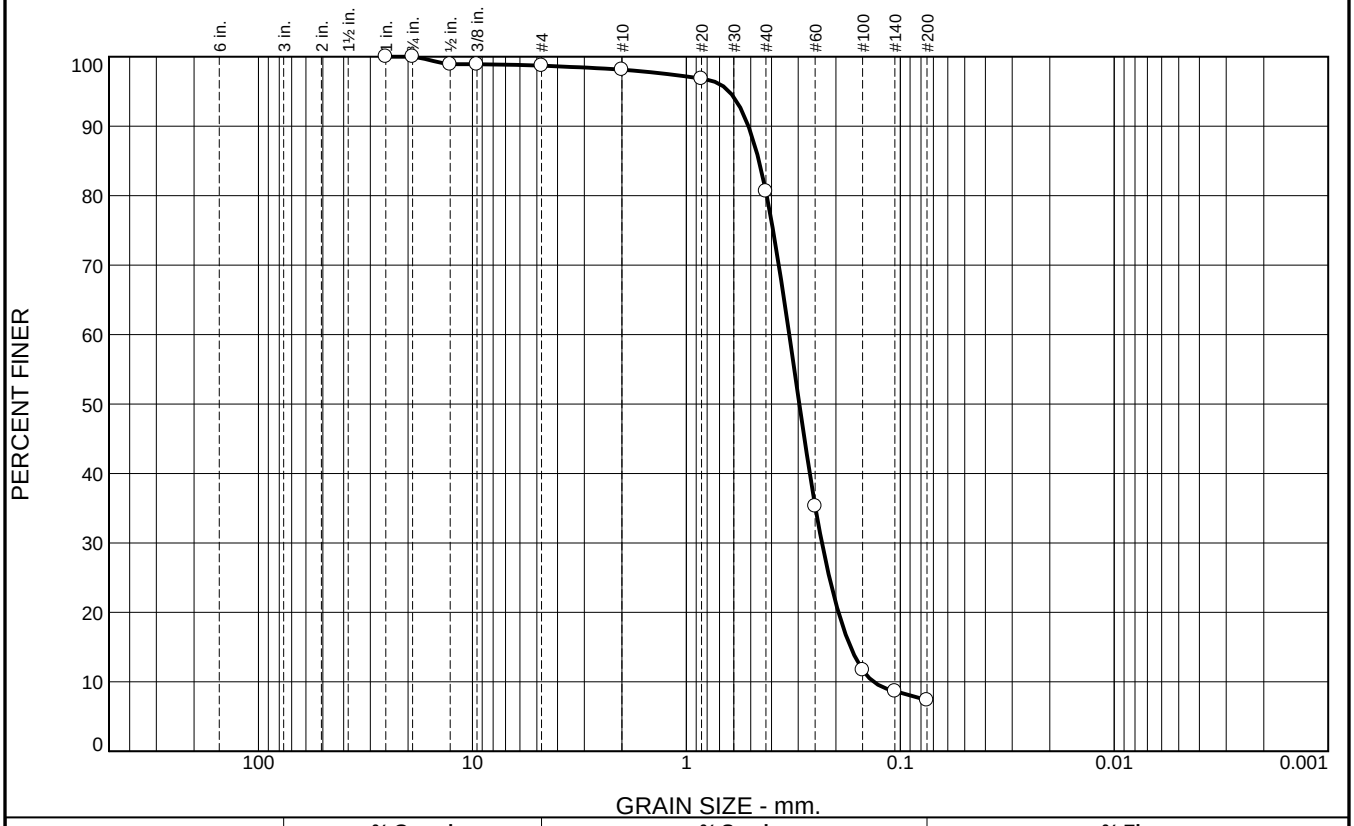
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.3	0.6	17.5	73.2	7.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	98.9		
.375	98.9		
#4	98.7		
#10	98.1		
#20	96.8		
#40	80.6		
#60	35.3		
#100	11.7		
#140	8.7		
#200	7.4		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5126 D_{85}= 0.4577 D_{60}= 0.3305
D_{50}= 0.2966 D_{30}= 0.2324 D_{15}= 0.1709
D_{10}= 0.1333 C_u= 2.48 C_c= 1.23

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-HP-27-12 B
Sample Number: 6480 (2) **Depth:** 3.7' **Date:** 12/07/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-HP-28-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-28-12	LOCATION COORDINATES: E = 1,079,508 N = 253,551	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 28.9 Ft.
		15. DATE BORING	STARTED: 12-04-12 / COMPLETED: 12-04-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -27.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-27.9	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, trace silt, lt. gray to white (SP)	A	Classification: SP Color: 5Y 8/1-white D50: 0.3355 mm % Fines: 1.2
-33.4	5.5			NS	
-34.2	6.3		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace clay nodules, clay lens at 6.2 ft., gray (SP-SM)	B	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.2128 mm % Fines: 4.7
			CLAY, lean, mostly clay, some silt, trace shell fragments, gray (CL)	NS	
-47.9	20.0				

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.19687° Long = -88.53180°

Project Mississippi Barrier Island Restoration Project

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S E R V I C E S

Core Identifier BI-HP-28-12

Coordinate System
Latitude / Longitude

Latitude 30 11.812

Longitude 088 31.908

Date 12/04/2012

Start Time 10:27:43

End Time 10:28:48

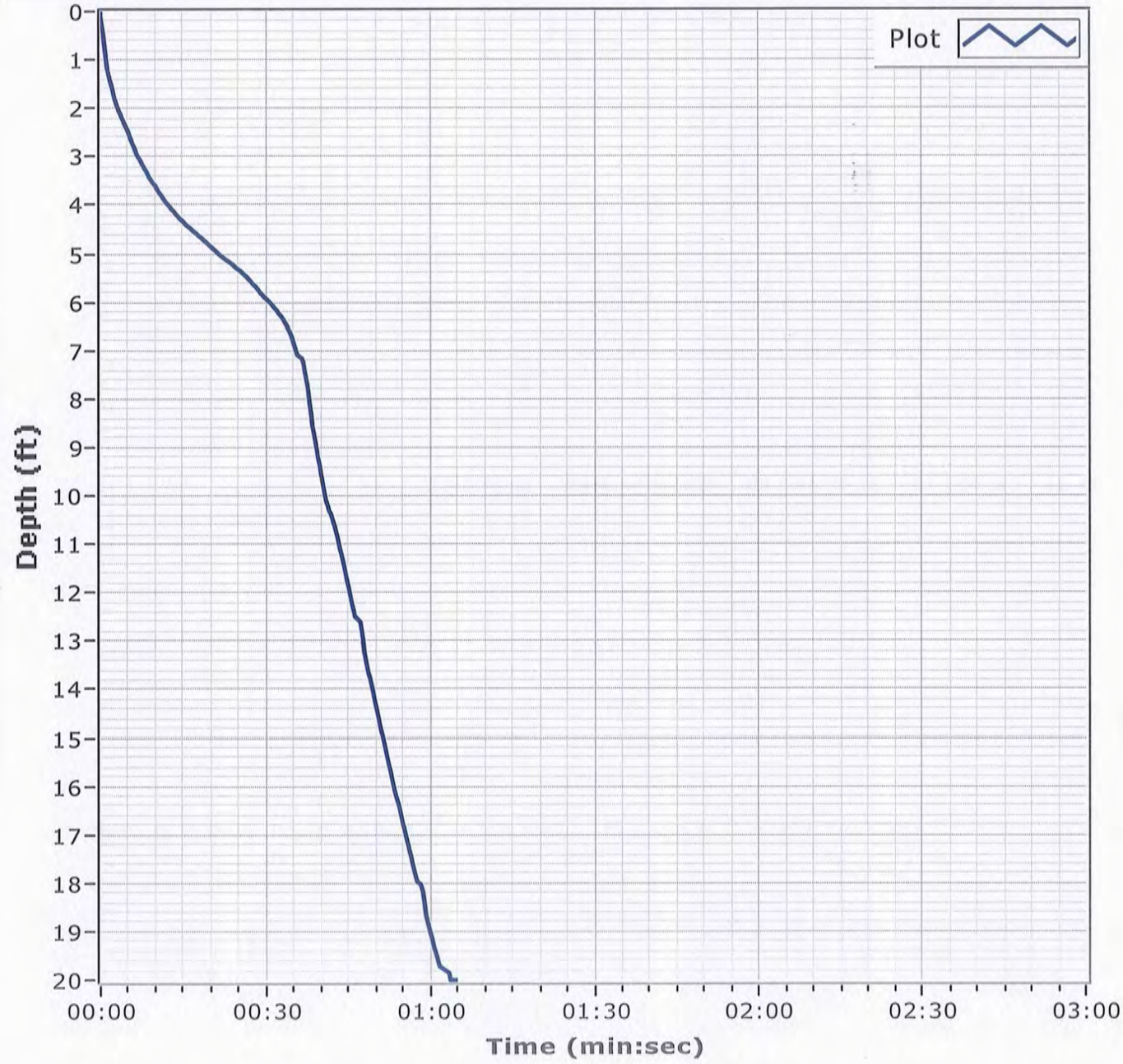
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Water Depth 28.9'

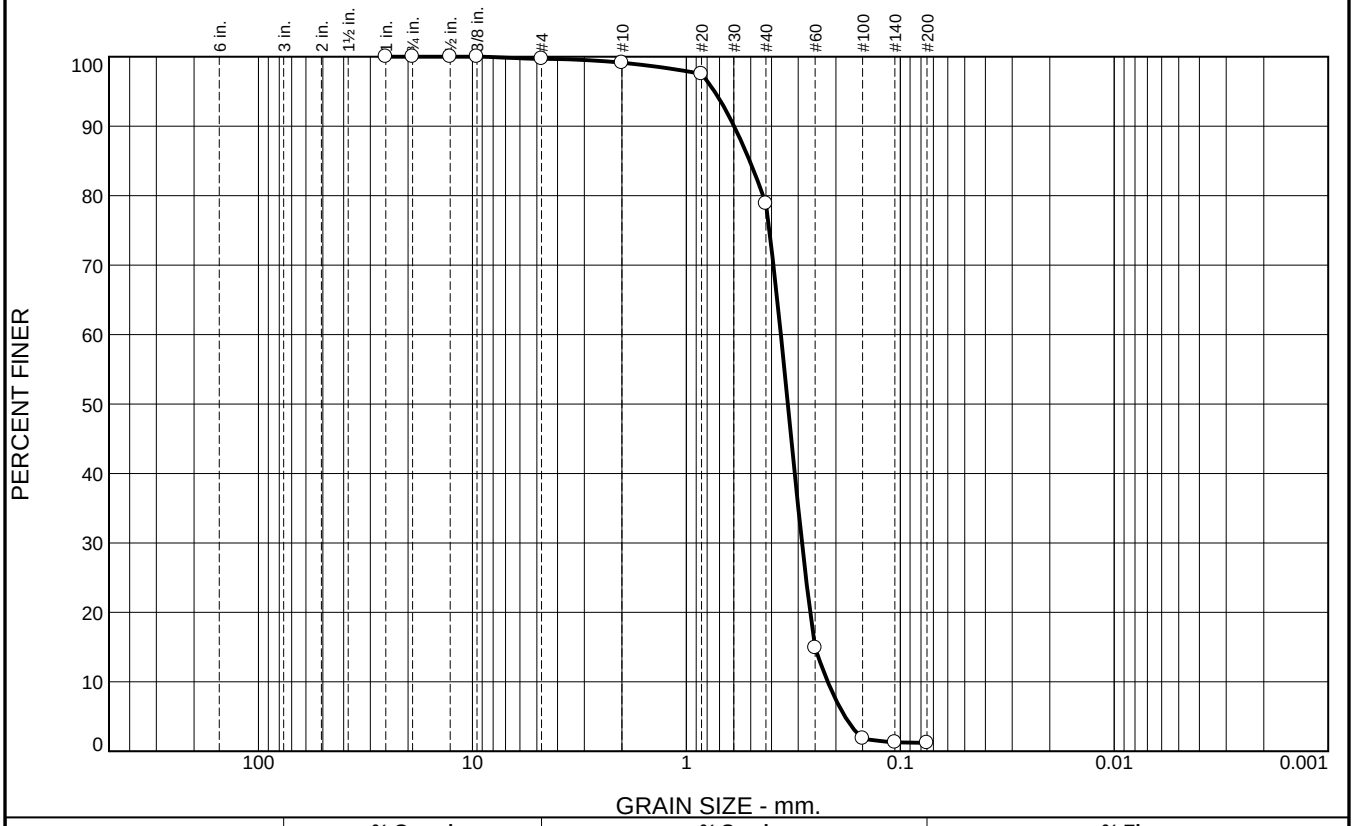
Penetration 20.0'

Recovery 20.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.6	20.2	77.7	1.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	99.1		
#20	97.5		
#40	78.9		
#60	14.9		
#100	1.8		
#140	1.3		
#200	1.2		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5981 D_{85}= 0.5057 D_{60}= 0.3616
D_{50}= 0.3355 D_{30}= 0.2883 D_{15}= 0.2503
D_{10}= 0.2182 C_u= 1.66 C_c= 1.05

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-28-12 A
Sample Number: 6480 (3) **Depth:** 0.0' **Date:** 12/07/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	6.1	89.2	4.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.7		
#40	93.9		
#60	64.8		
#100	19.4		
#140	6.4		
#200	4.7		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3783 D_{85}= 0.3380 D_{60}= 0.2366
D_{50}= 0.2128 D_{30}= 0.1721 D_{15}= 0.1392
D_{10}= 0.1236 C_u= 1.91 C_c= 1.01

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-28-12 B
Sample Number: 6480 (4) **Depth:** 5.5' **Date:** 12/07/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-HP-29-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-29-12	LOCATION COORDINATES: E = 1,078,904 N = 252,586	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 32.7 Ft.	
		15. DATE BORING	STARTED: 12-04-12 / COMPLETED: 12-04-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -31.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-31.7	0.0				
-32.6	0.9		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, trace wood debris, gray (SP)	A	Classification: SP-SM Color: 2.5Y 7/2-light gray D50: 0.3244 mm % Fines: 6.7
-35.2	3.5		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, lt. gray (SP)	B	Classification: SP Color: 5Y 7/2-light gray D50: 0.2781 mm % Fines: 1.3
-36.8	5.1		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, lt. gray to pale brown (SP)	C	Classification: SP Color: 2.5Y 7.5/2- D50: 0.2868 mm % Fines: 1.9
-50.2	18.5		CLAY, lean, mostly fine-grained sand-sized clay, some silt, trace shells, trace shell fragments, alternating sandy clay and clayey sands, gray to brownish gray (CL)	NS	

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.19422° Long = -88.53372°

Project Mississippi Barrier Island Restoration Project

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SERVICES

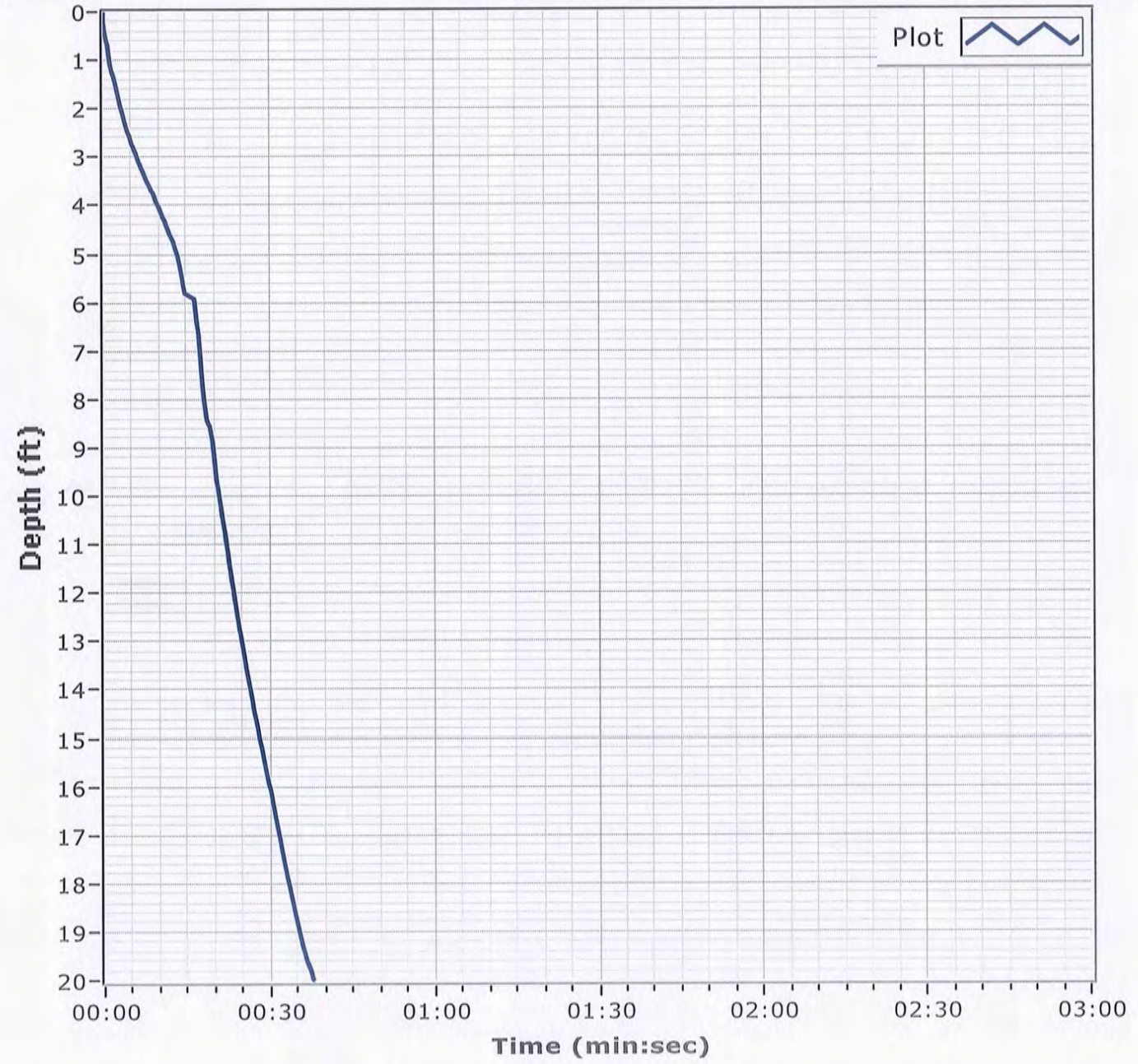
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Coordinate System
Latitude / Longitude

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Longitude 088 32.023

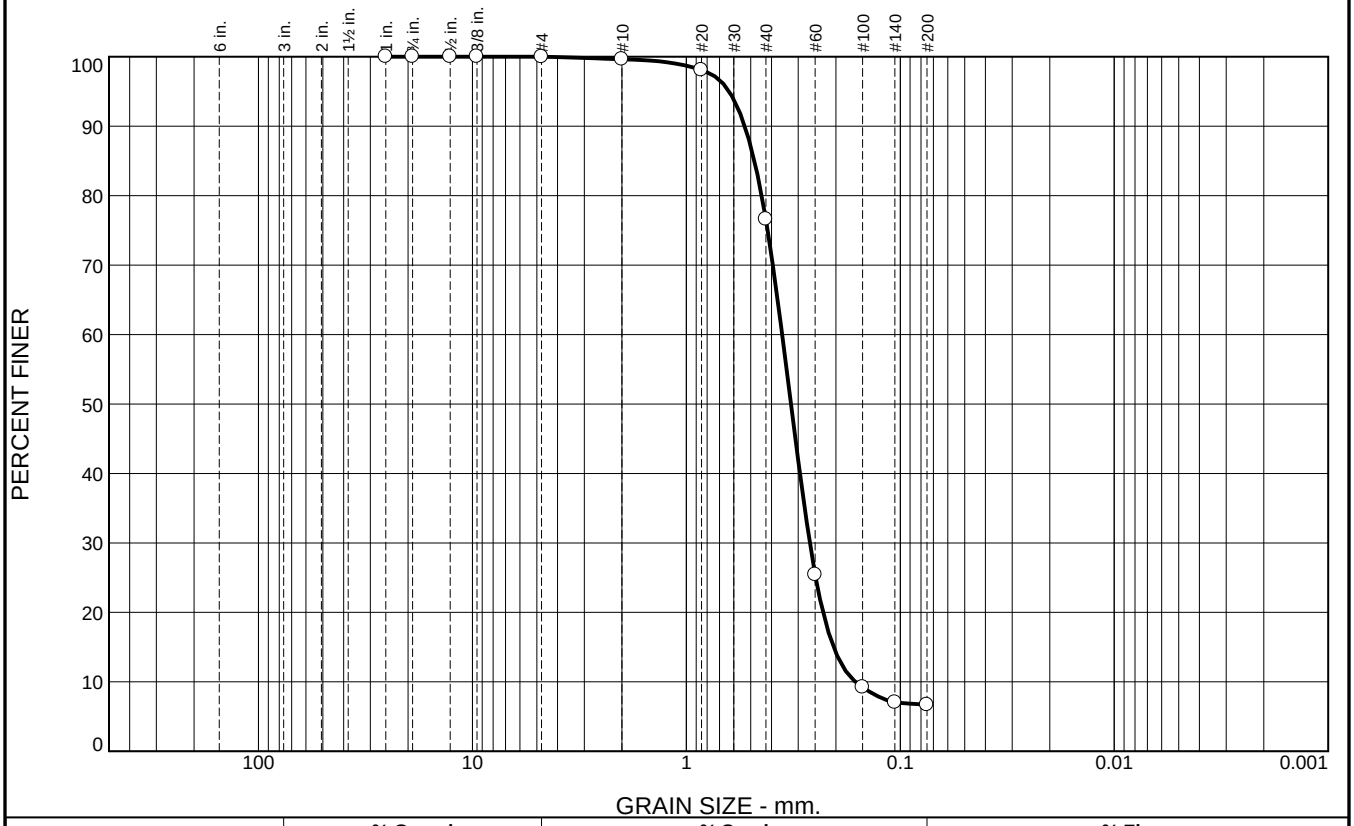
Date 12/04/2012
Start Time 11:13:56
End Time 11:14:34
Total Time 00:00:38

Water Depth 32.7'
Penetration 20.0'
Recovery 18.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	23.0	69.9	6.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.6		
#20	98.1		
#40	76.6		
#60	25.4		
#100	9.2		
#140	7.0		
#200	6.7		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5331 D_{85}= 0.4807 D_{60}= 0.3565
D_{50}= 0.3244 D_{30}= 0.2649 D_{15}= 0.2051
D_{10}= 0.1621 C_u= 2.20 C_c= 1.21

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-HP-29-12 A
Sample Number: 6480 (5) **Depth:** 0.0' **Date:** 12/07/12

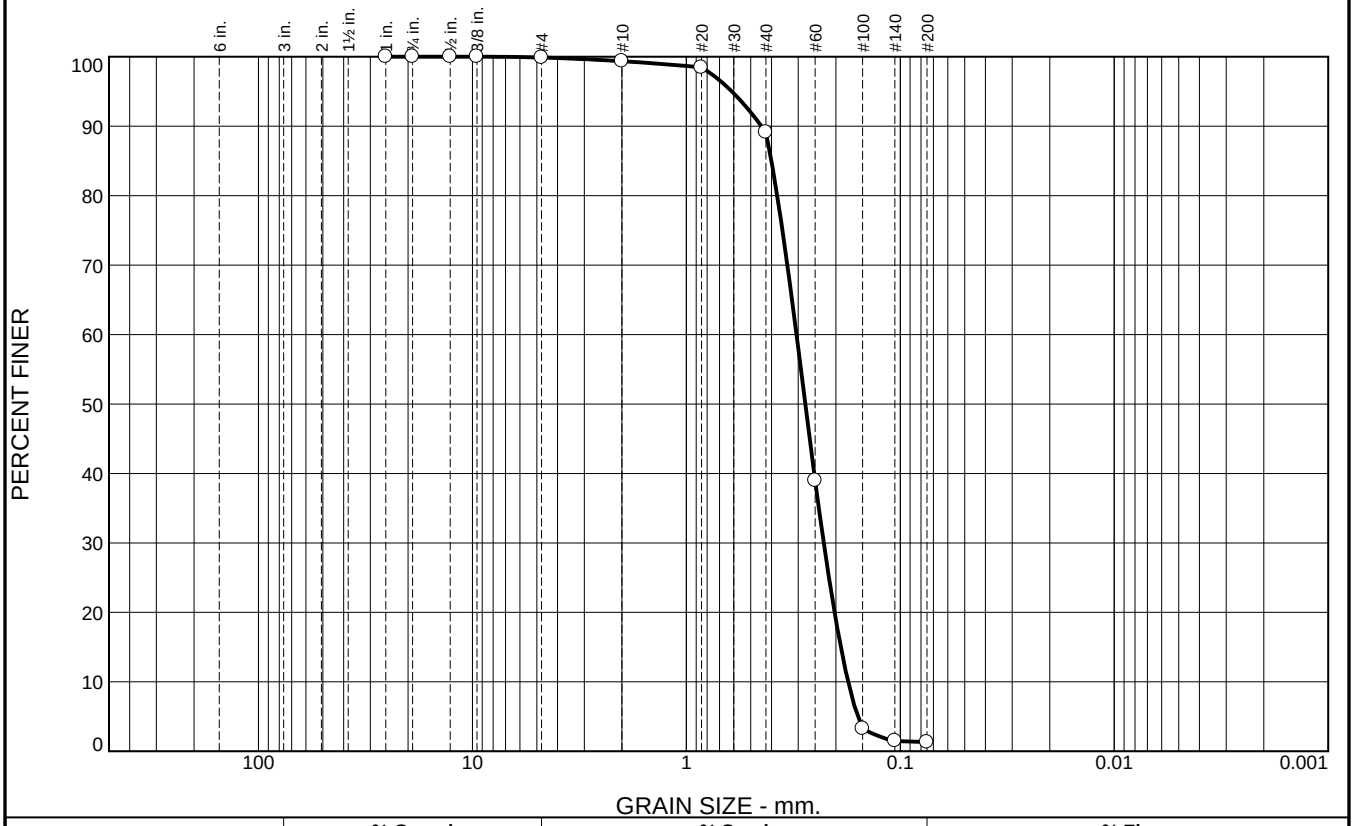
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.5	10.3	87.8	1.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.4		
#20	98.5		
#40	89.1		
#60	39.0		
#100	3.3		
#140	1.5		
#200	1.3		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4461 D_{85}= 0.4002 D_{60}= 0.3057
D_{50}= 0.2781 D_{30}= 0.2279 D_{15}= 0.1898
D_{10}= 0.1754 C_u= 1.74 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-29-12 B
Sample Number: 6480 (6) **Depth:** 0.9' **Date:** 12/07/12

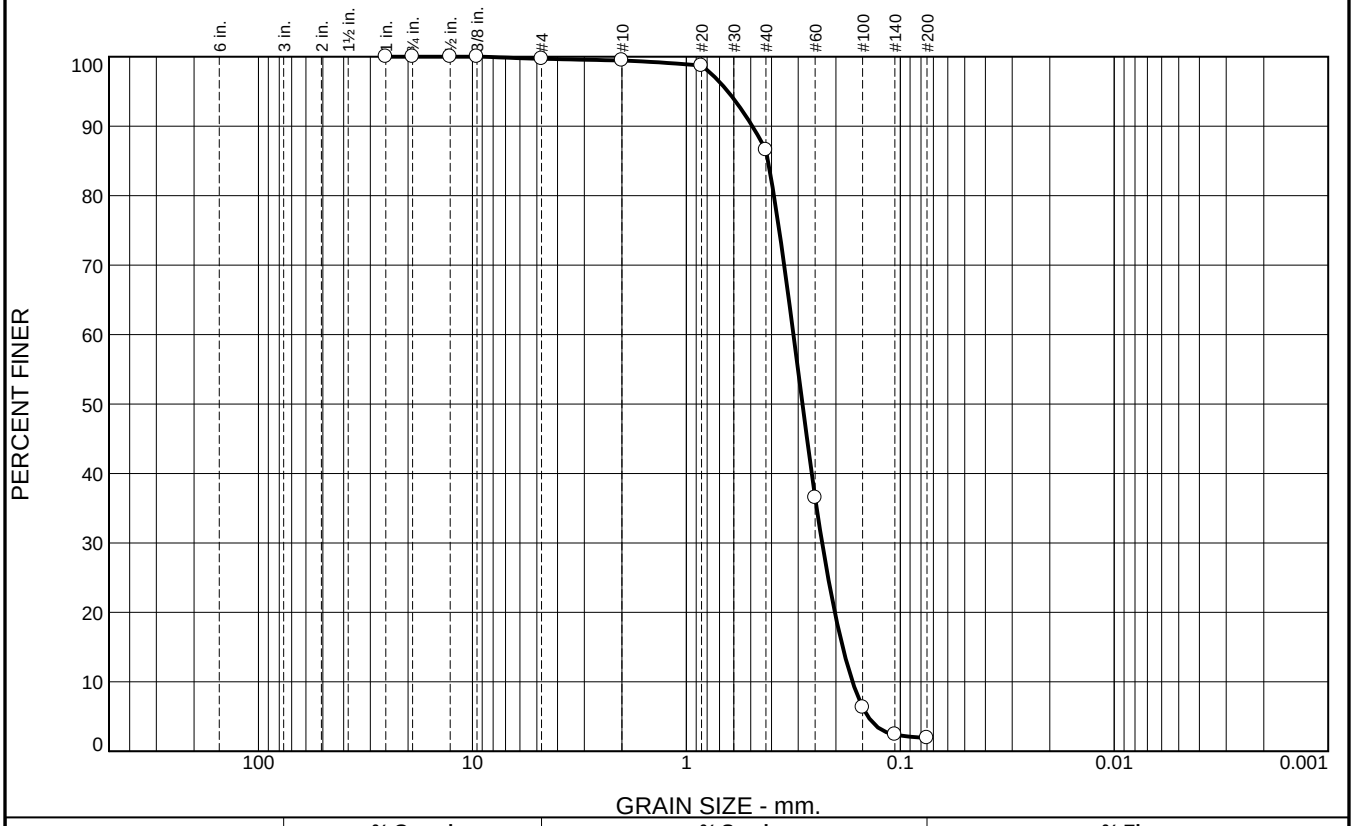
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.2	12.9	84.7	1.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	99.5		
#20	98.7		
#40	86.6		
#60	36.5		
#100	6.3		
#140	2.4		
#200	1.9		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4918 D_{85}= 0.4153 D_{60}= 0.3159
D_{50}= 0.2868 D_{30}= 0.2319 D_{15}= 0.1860
D_{10}= 0.1673 C_u= 1.89 C_c= 1.02

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-29-12 C
Sample Number: 6480 (7) **Depth:** 3.5' **Date:** 12/07/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-HP-30-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-30-12	LOCATION COORDINATES: E = 1,077,662 N = 252,848	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 29.8 Ft.	
		15. DATE BORING	STARTED: 12-04-12 / COMPLETED: 12-04-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -28.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-28.7	0.0				
-31.1	2.4		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, trace wood debris, lt gray with pale brown at 0.7 thru 1.0 ft (SP)	A	Classification: SP Color: 2.5Y 8/1-white D50: 0.3133 mm % Fines: 4.5
-34.1	5.4		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, little silt, trace shell fragments, few clay stringers throughout and a clay band at 4.2 ft., gray (SP-SM)	B	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.2705 mm % Fines: 3.4
-36.6	7.9		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, trace shell fragments, gray to lt. gray (SP)	C	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.3164 mm % Fines: 1.7
-47.7	19.0		CLAY, lean, mostly clay, trace shells, alternating clay and sandy clay layers, gray (CL)	NS	
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.19495° Long = -88.53765°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-HP-30-12

Coordinate System
Latitude / Longitude

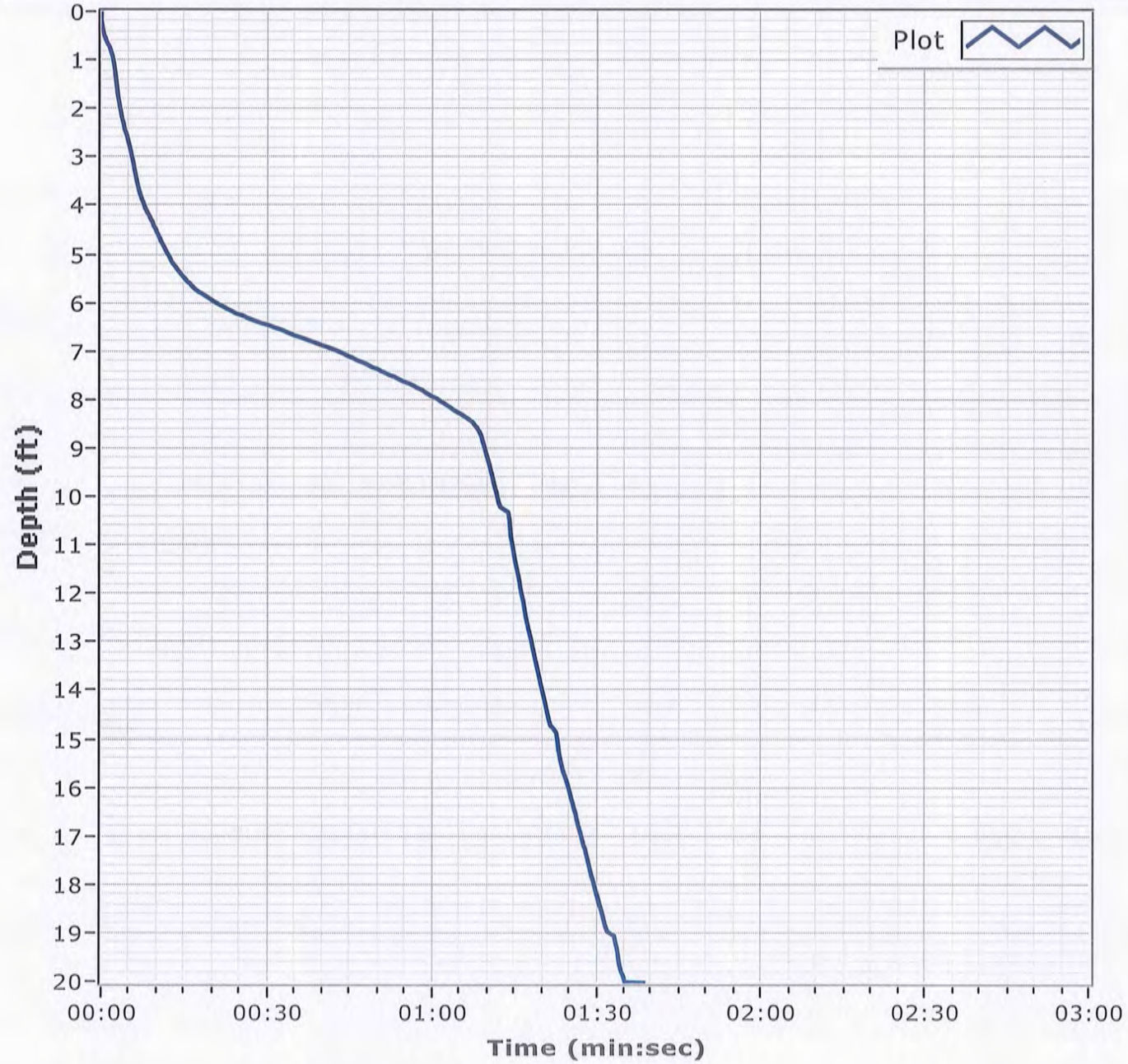
Latitude 30 11.697

Longitude 088 32.259

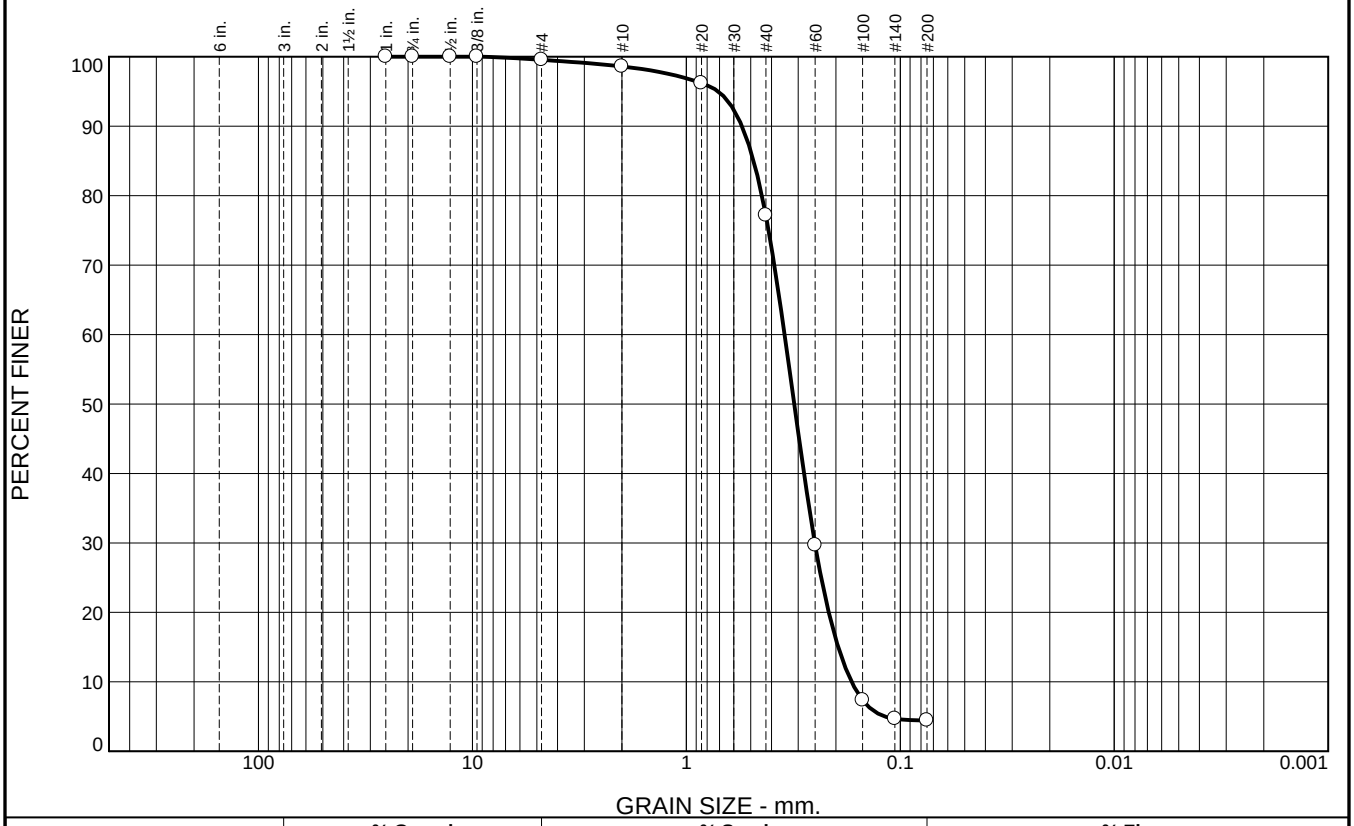
Date 12/04/2012
Start Time 11:59:24
End Time 12:01:03
Total Time 00:01:39

Water Depth 29.8'
Penetration 20.0'
Recovery 19.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	0.9	21.4	72.7	4.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	98.6		
#20	96.2		
#40	77.2		
#60	29.7		
#100	7.4		
#140	4.7		
#200	4.5		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5496 D_{85}= 0.4849 D_{60}= 0.3474
D_{50}= 0.3133 D_{30}= 0.2510 D_{15}= 0.1951
D_{10}= 0.1690 C_u= 2.06 C_c= 1.07

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-30-12 A
Sample Number: 6480 (8) **Depth:** 0.0' **Date:** 12/07/12

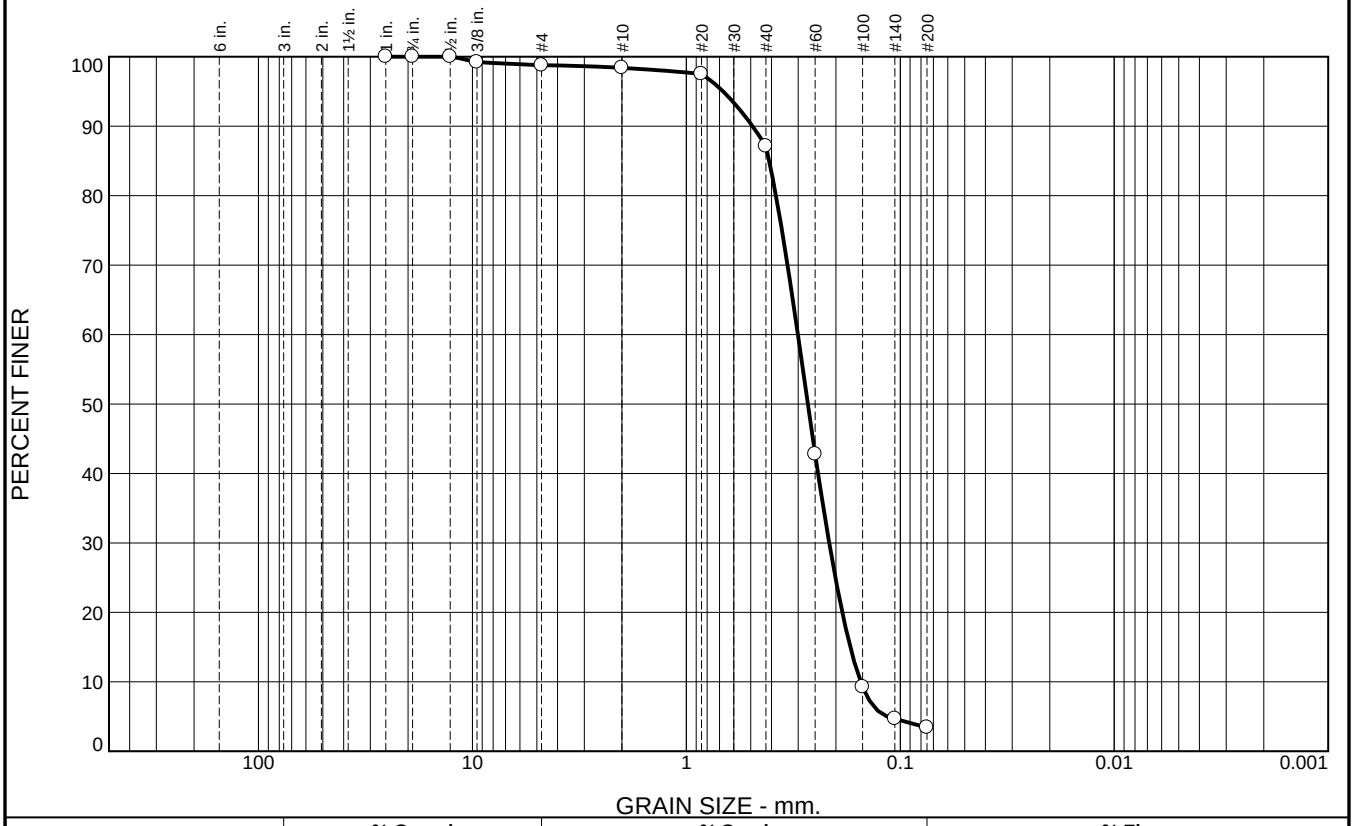
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.2	0.4	11.3	83.7	3.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.2		
#4	98.8		
#10	98.4		
#20	97.5		
#40	87.1		
#60	42.8		
#100	9.3		
#140	4.7		
#200	3.4		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4908 D_{85}= 0.4100 D_{60}= 0.3012
D_{50}= 0.2705 D_{30}= 0.2149 D_{15}= 0.1715
D_{10}= 0.1532 C_u= 1.97 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-30-12 B
Sample Number: 6480 (9) **Depth:** 2.4' **Date:** 12/07/12

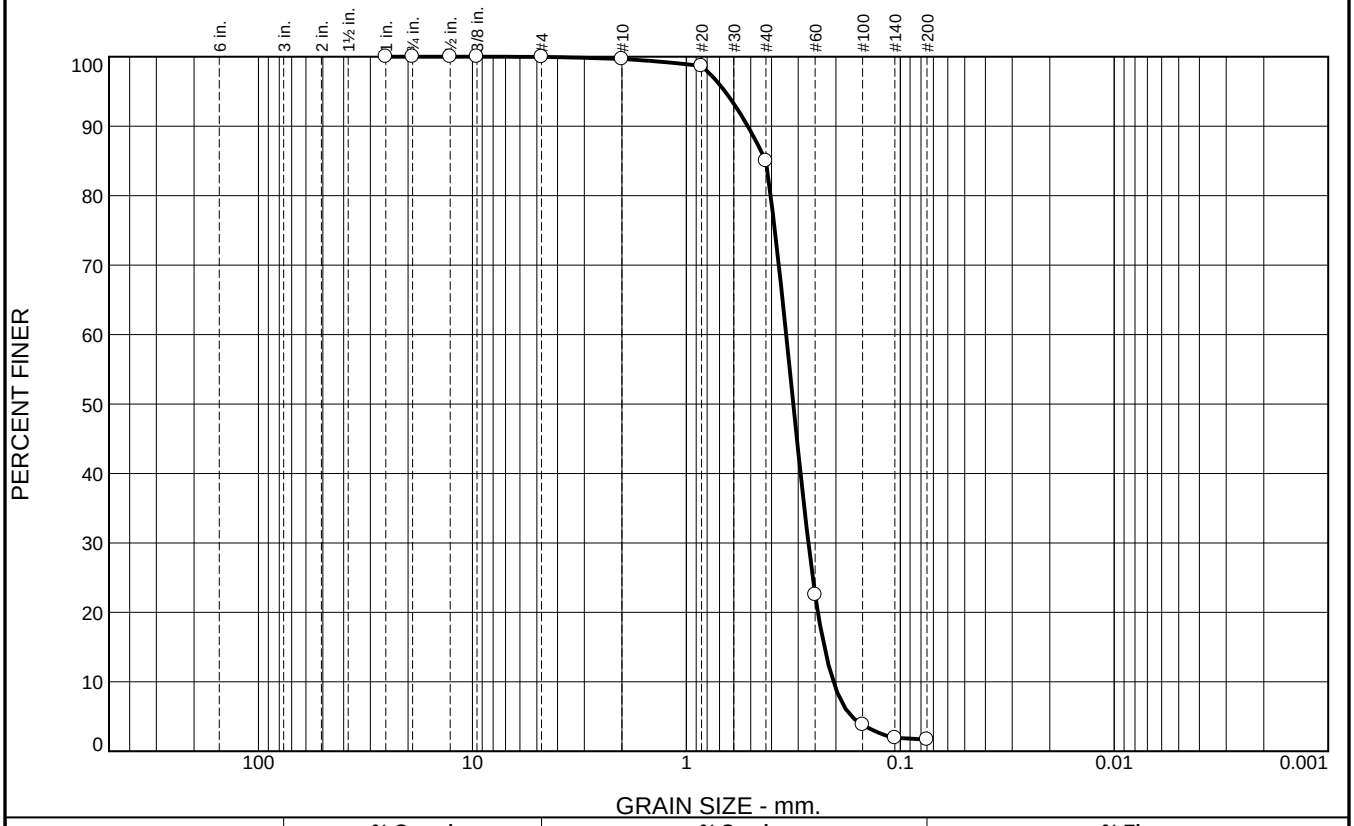
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	14.7	83.3	1.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.7		
#20	98.7		
#40	85.0		
#60	22.6		
#100	3.8		
#140	1.9		
#200	1.7		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5164 D_{85}= 0.4251 D_{60}= 0.3415
D_{50}= 0.3164 D_{30}= 0.2691 D_{15}= 0.2265
D_{10}= 0.2055 C_u= 1.66 C_c= 1.03

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-30-12 C
Sample Number: 6480 (10) **Depth:** 5.4' **Date:** 12/07/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-HP-31-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-31-12	LOCATION COORDINATES: E = 1,065,036 N = 251,010	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 30.3 Ft.	
		15. DATE BORING	STARTED: 12-04-12 / COMPLETED: 12-04-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -29.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 13.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-29.1	0.0				
-29.5	0.4		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, lt. brownish gray (SP)		
-30.3	1.2		CLAY, lean, mostly clay, little silt, little fine-grained sand-sized quartz, trace shell fragments, dark gray (CL)		
-31.7	2.6		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace silt, high plasticity, brown, greenish gray, and gray mottle (CH)		
-32.1	3.0		CLAY, lean, mostly clay, some silt, some fine-grained sand-sized quartz, low to medium plasticity, dark gray (CL)	NS	
-32.4	3.3		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, brown and gray mottle (SC)		
-32.9	3.8		CLAY, fat, mostly clay, high plasticity, brown and gray mottle (CH)		
-42.1	13.0		CLAY, lean, some clay, some fine-grained sand-sized quartz, alternating 0.6 ft.-thick beds of clayey sand and generally clean SP, gray and dark gray (CL)		
			At El. -35.1 Ft., mostly clay, some fine-grained sand-sized quartz, some silt, trace shell fragments, low plasticity, dark gray		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18998° Long = -88.57763°

Project Mississippi Barrier Island Restoration Project

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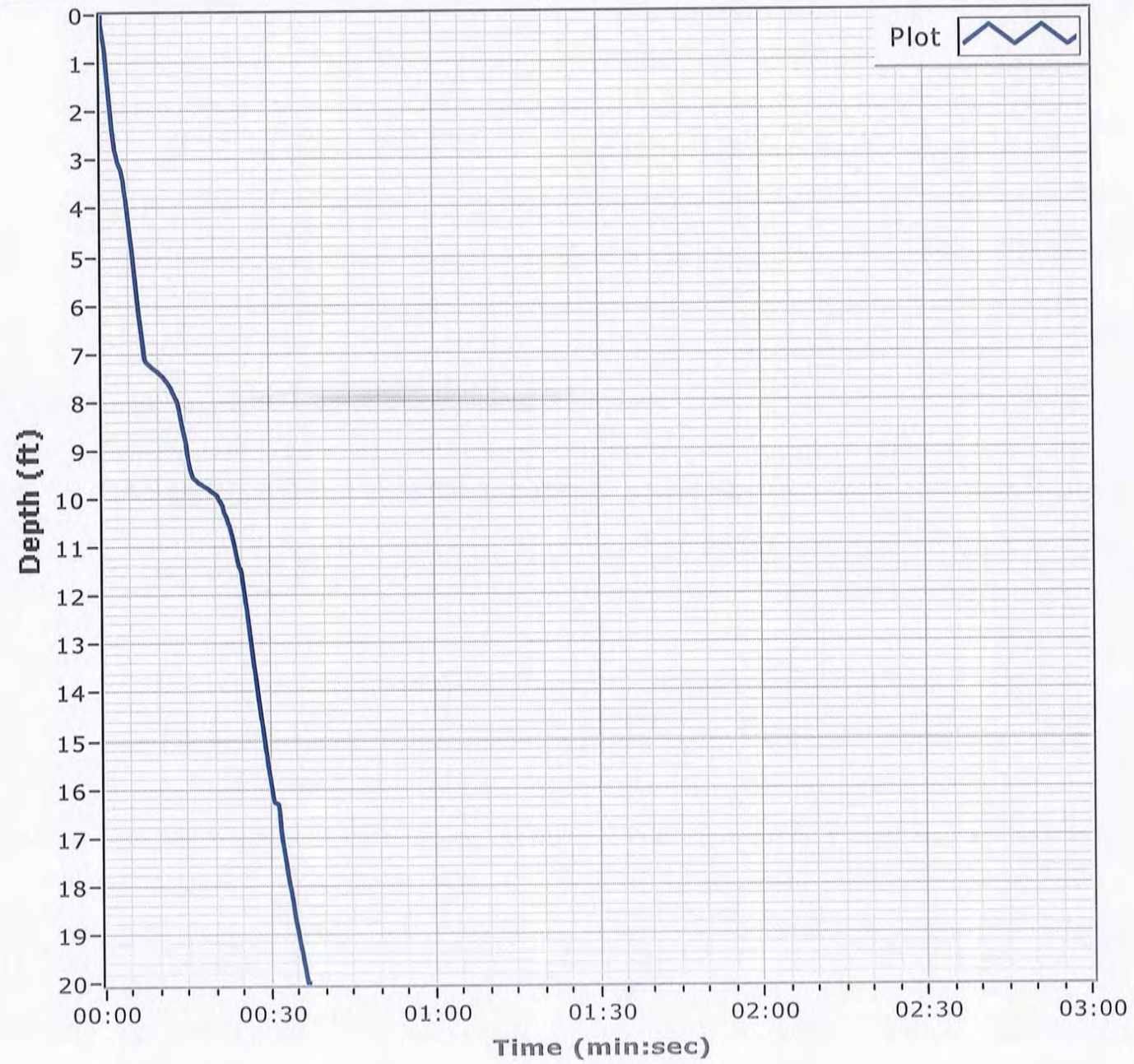
Core Identifier BI-HP-31-12
Coordinate System
Latitude / Longitude

Date 12/04/2012
Start Time 14:12:54
End Time 14:13:32
Total Time 00:00:37

Water Depth 30.3'
Penetration 20.0'
Recovery 13.0'

Latitude 30 11.399
Longitude 088 34.658

Comments



Boring Designation BI-HP-32-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-32-12	LOCATION COORDINATES: E = 1,064,260 N = 248,724	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 32.3 Ft.	
		15. DATE BORING	STARTED: 12-04-12 / COMPLETED: 12-04-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -31.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 11.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-31.1	0.0				
-32.1	1.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, trace shell fragments, lt to dark gray (SP)	NS	
-33.2	2.1				
-34.1	3.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, band of poorly graded sand at 1.7 ft, dark gray (SC)		
			CLAY, lean, mostly clay, some fine-grained sand-sized quartz, gray (CL)		
-37.5	6.4		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace silt, high plasticity, dark gray (CH)		
-38.3	7.2				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace shell fragments, gray (SP-SM)		
-42.1	11.0		CLAY, lean, mostly clay, little silt, trace fine-grained sand-sized quartz, trace shell fragments, gray (CL)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18370° Long = -88.58010°

Project Mississippi Barrier Island Restoration Project

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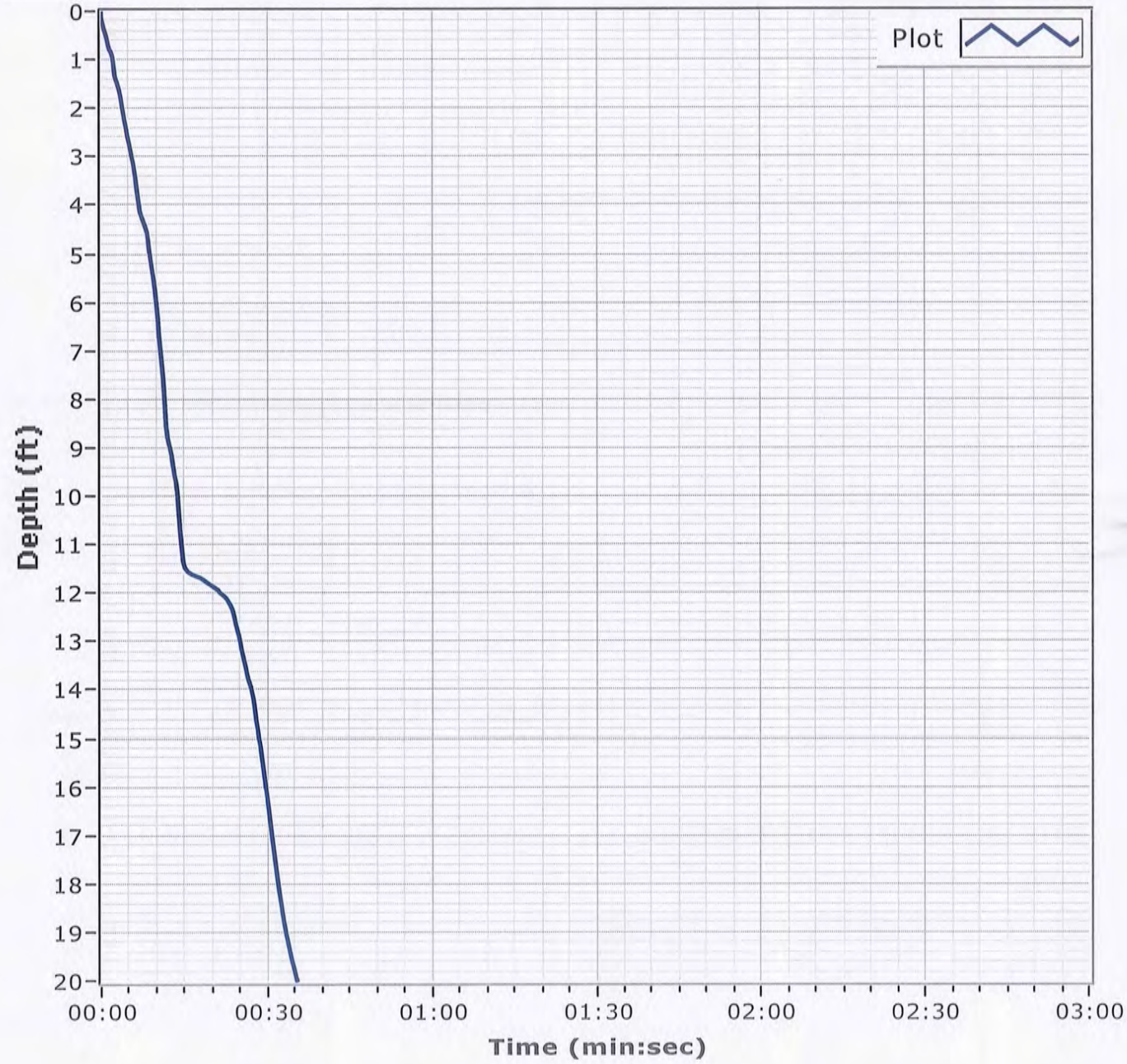
Core Identifier BI-HP-32-12
Coordinate System
Latitude / Longitude

Latitude 30 11.022
Longitude 088 34.806

Date 12/04/2012
Start Time 14:48:06
End Time 14:48:42
Total Time 00:00:35

Water Depth 32.3'
Penetration 20.0'
Recovery 11.0'

Comments



Boring Designation BI-HP-33-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-33-12	LOCATION COORDINATES: E = 1,062,259 N = 249,484	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 31.7 Ft.
		15. DATE BORING	STARTED: 12-04-12 / COMPLETED: 12-04-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -30.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 10.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-30.4	0.0				
-32.6	2.2		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace clay, lt. gray (SP)	A	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.2133 mm % Fines: 2.1
-33.5	3.1		SILT, inorganic-L, mostly silt, some clay, dark gray (ML)		
-41.1	10.7		CLAY, lean, mostly clay, some fine-grained sand-sized quartz, trace shell fragments, sandy clay/clayey sand strata, dark gray (CL)	NS	

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18580° Long = -88.58643°

Project Mississippi Barrier Island Restoration Project

AVS
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S E R V I C E S

Core Identifier BI-HP-33-12

Coordinate System
Latitude / Longitude

Latitude 30 11.148

Longitude 088 35.186

Date 12/04/2012

Start Time 15:24:42

End Time 15:25:43

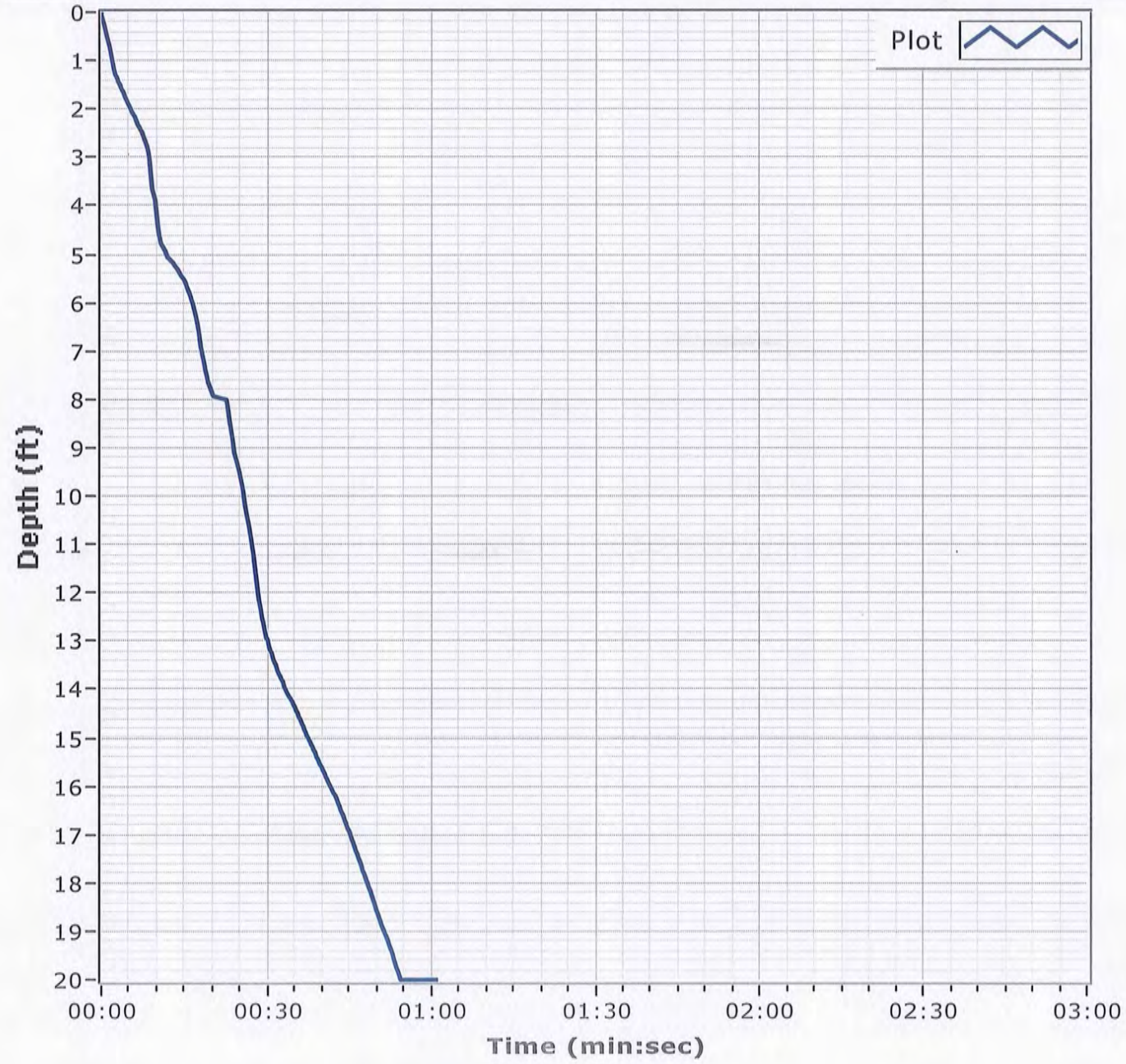
Total Time 00:01:01

Water Depth 31.7

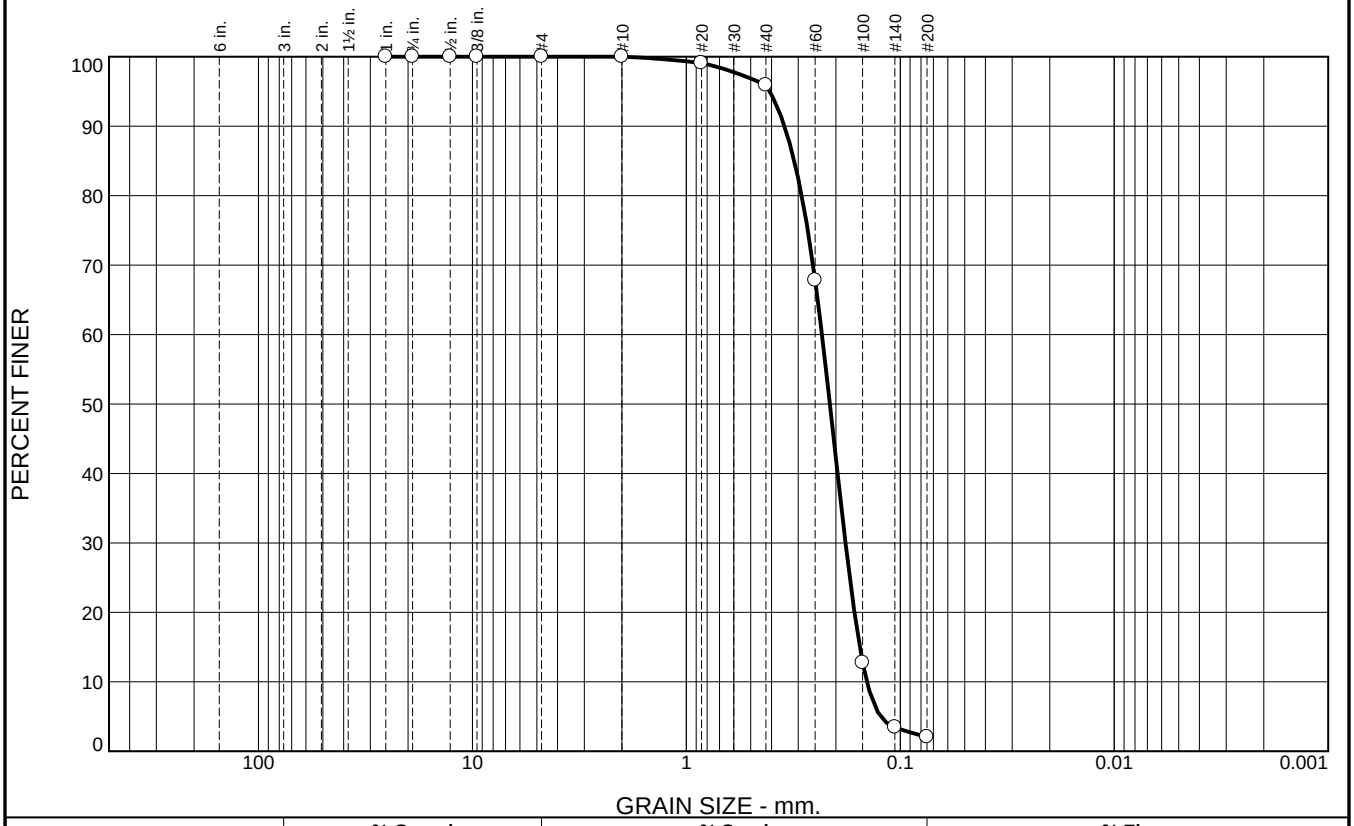
Penetration 20.0'

Recovery 10.7'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	4.1	93.8	2.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.1		
#40	95.9		
#60	67.8		
#100	12.7		
#140	3.5		
#200	2.1		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3476 D_{85}= 0.3132 D_{60}= 0.2323
D_{50}= 0.2133 D_{30}= 0.1804 D_{15}= 0.1547
D_{10}= 0.1433 C_u= 1.62 C_c= 0.98

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-33-12 A
Sample Number: 6480 (11) **Depth:** 0.0' **Date:** 12/07/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-HP-34-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-34-12	LOCATION COORDINATES: E = 1,072,199 N = 251,954	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 30.1 Ft.	
		15. DATE BORING	STARTED: 12-21-12 / COMPLETED: 12-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -29.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-29.5	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, clay ban at 7.9 ft., lt. pale brown to lt. gray (SP)	A	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.3284 mm % Fines: 0.7
				B	Classification: SP Color: 5Y 7/2-light gray D50: 0.2909 mm % Fines: 2.9
-40.2	10.7			C	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2948 mm % Fines: 1.8
			SILT, inorganic-L, mostly silt, some clay, few fine-grained sand-sized quartz, few shell fragments, soft, dark gray (ML)	NS	
-49.0	19.5				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.19253° Long = -88.55495°

Project Mississippi Barrier Island Restoration Project

AVS
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SERVICES

Core Identifier BI-HP-34-12

Coordinate System
Latitude / Longitude

Latitude 30 11.552 N

Longitude 088 33.297 W

Date 12/21/2012

Start Time 15:28:34

End Time 15:30:20

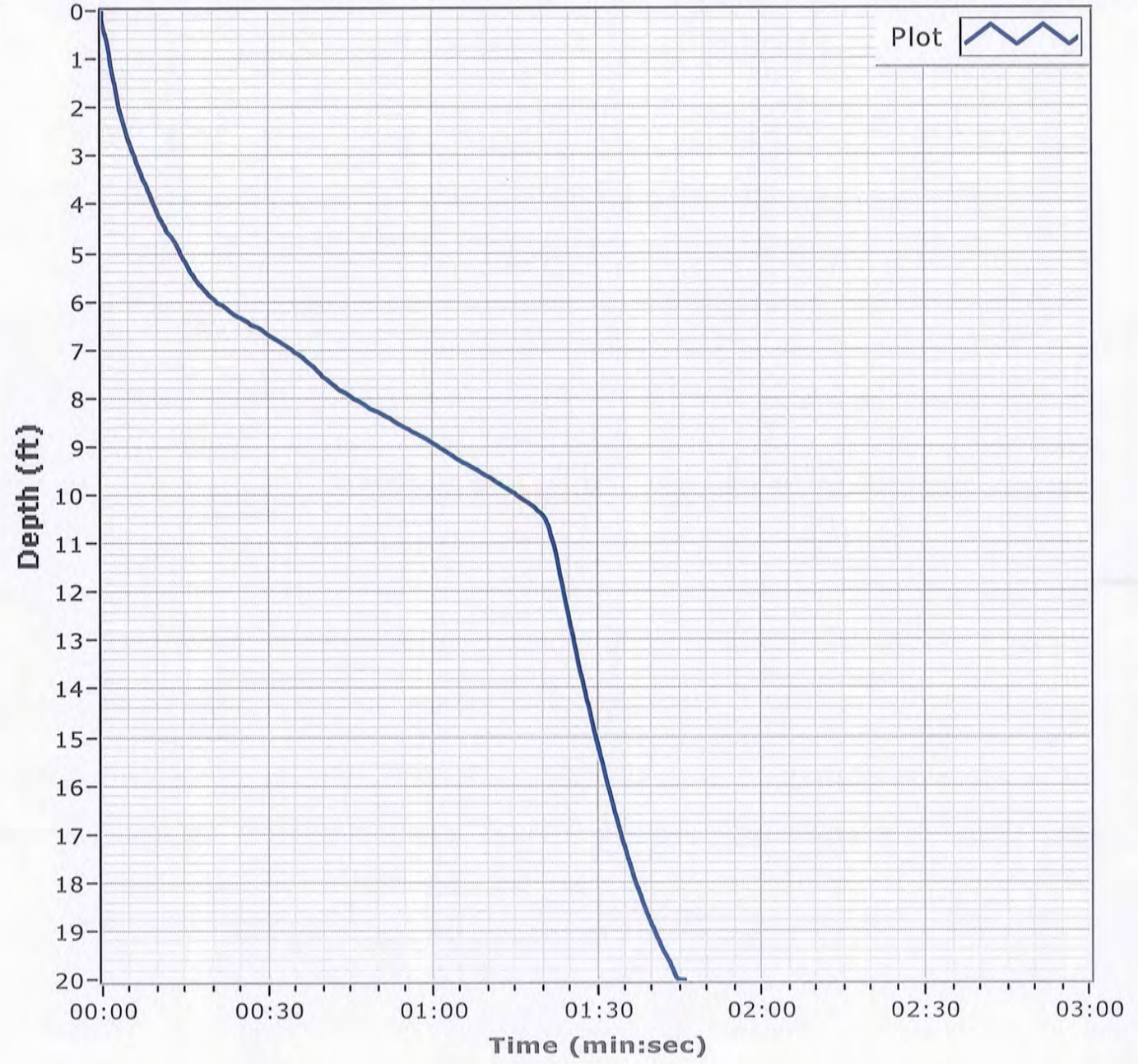
Total Time 00:01:46

Water Depth 30.1'

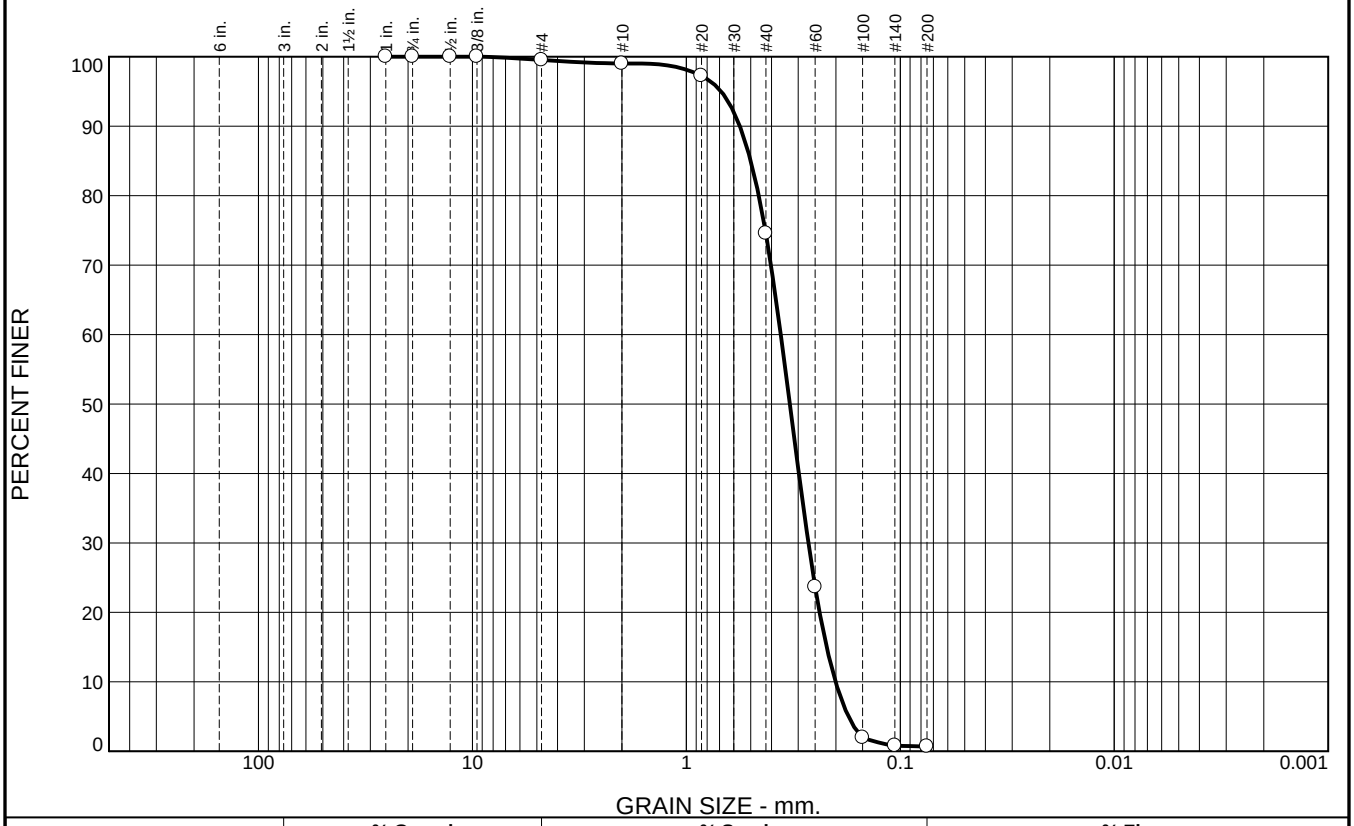
Penetration 20.0'

Recovery 19.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	0.5	24.4	73.9	0.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	99.0		
#20	97.2		
#40	74.6		
#60	23.6		
#100	2.0		
#140	0.8		
#200	0.7		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5621 D_{85}= 0.5002 D_{60}= 0.3620
D_{50}= 0.3284 D_{30}= 0.2690 D_{15}= 0.2209
D_{10}= 0.2007 C_u= 1.80 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-34-12 A
Sample Number: 6495 (1) **Depth:** 0.0' **Date:** 12/31/12

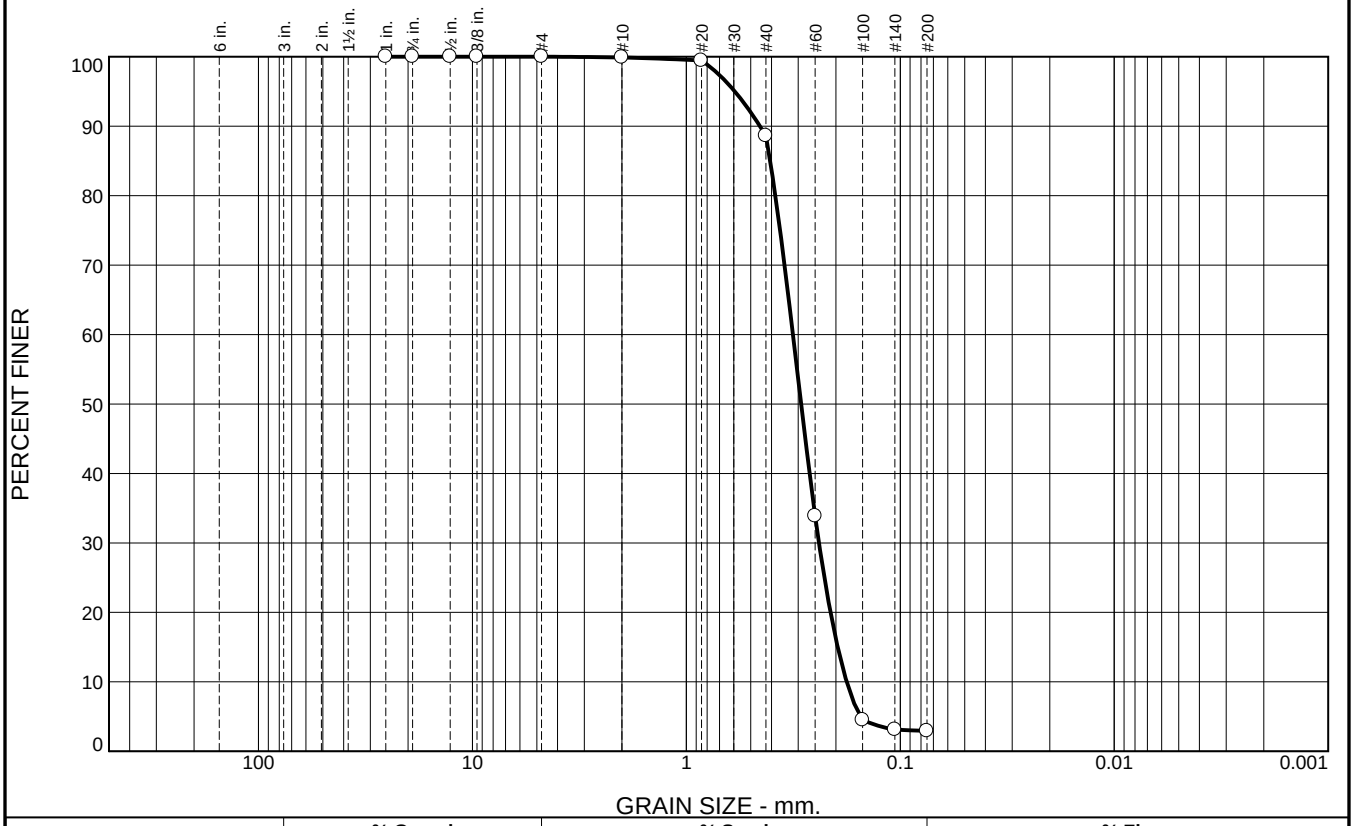
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	11.3	85.7	2.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.4		
#40	88.6		
#60	33.9		
#100	4.5		
#140	3.1		
#200	2.9		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4531 D_{85}= 0.4057 D_{60}= 0.3176
D_{50}= 0.2909 D_{30}= 0.2399 D_{15}= 0.1963
D_{10}= 0.1782 C_u= 1.78 C_c= 1.02

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-34-12 B
Sample Number: 6495 (2) **Depth:** 4.5' **Date:** 12/31/12

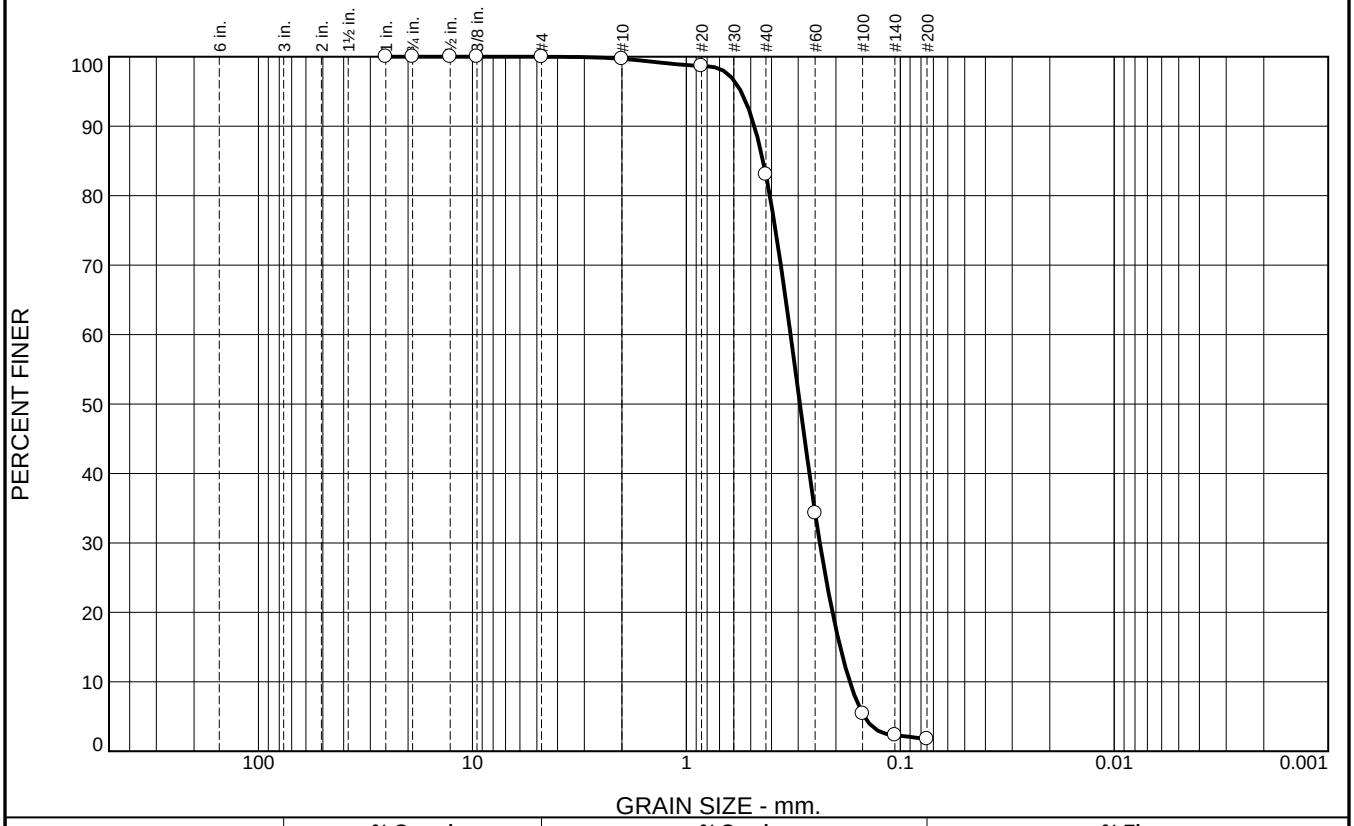
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	16.6	81.3	1.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.7		
#20	98.7		
#40	83.1		
#60	34.3		
#100	5.4		
#140	2.3		
#200	1.8		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4809 D_{85}= 0.4379 D_{60}= 0.3258
D_{50}= 0.2948 D_{30}= 0.2377 D_{15}= 0.1910
D_{10}= 0.1724 C_u= 1.89 C_c= 1.01

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-34-12 C
Sample Number: 6495 (3) **Depth:** 9.5' **Date:** 12/31/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-HP-36-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-36-12	LOCATION COORDINATES: E = 1,080,857 N = 255,020	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 19.8 Ft.
		15. DATE BORING	STARTED: 12-21-12 / COMPLETED: 12-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -19.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 18.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-19.2	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2577 mm % Fines: 1.6
				B	Classification: SP Color: 5Y 7/1-light gray D50: 0.2099 mm % Fines: 1.7
				C	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2072 mm % Fines: 2.5
-31.0	11.8				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, few clay bands and few pockets of poorly graded sand (SP) throughout interval, silt content increases with depth, gray to dark gray (SM)	NS	
-38.0	18.8				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.20090° Long = -88.52752°

Project Mississippi Barrier Island Restoration Project

AVS
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S E R V I C E S

Core Identifier BI-HP-36-12

Coordinate System
Latitude / Longitude

Latitude 30 12.054 N

Longitude 88 31.651 W

Date 12/21/2012

Start Time 14:14:41

End Time 14:16:43

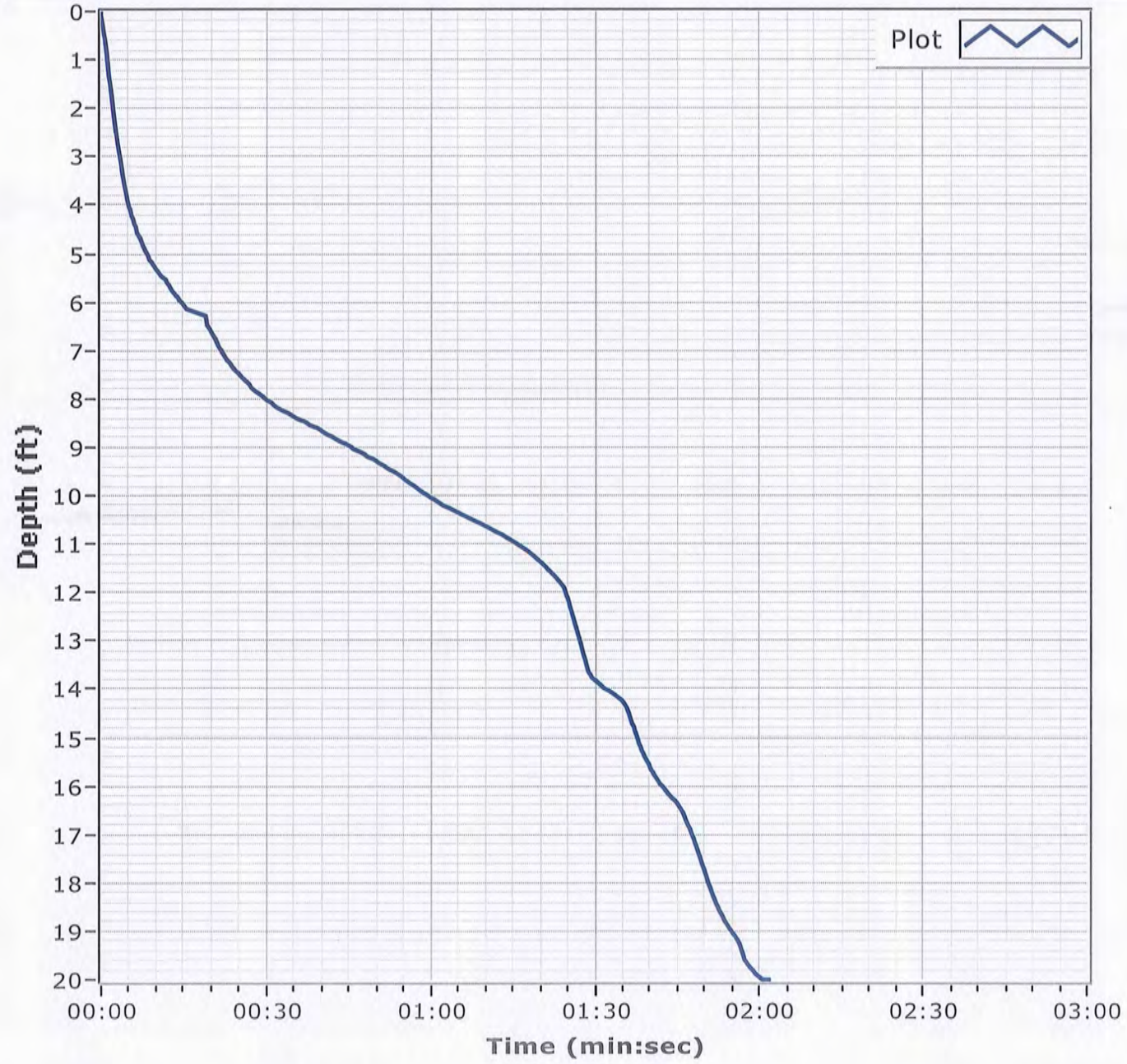
Total Time 00:02:02

Water Depth 19.8'

Penetration 20.0'

Recovery 18.8'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	6.3	92.1	1.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	93.7		
#60	46.7		
#100	4.0		
#140	1.8		
#200	1.6		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3989 D_{85}= 0.3715 D_{60}= 0.2833
D_{50}= 0.2577 D_{30}= 0.2132 D_{15}= 0.1808
D_{10}= 0.1687 C_u= 1.68 C_c= 0.95

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-36-12 A
Sample Number: 6495 (4) **Depth:** 0.0' **Date:** 12/31/12

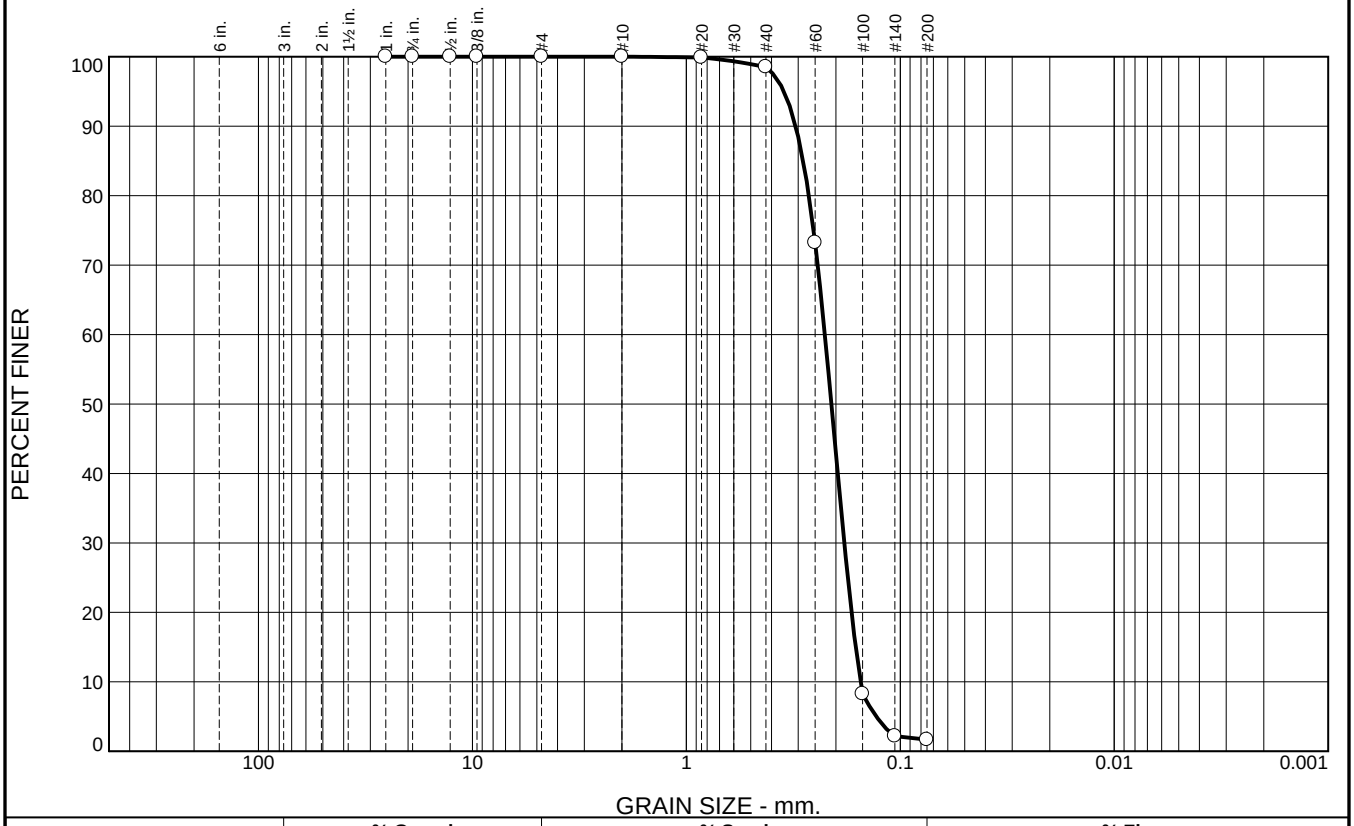
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.5	96.8	1.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	98.5		
#60	73.2		
#100	8.2		
#140	2.2		
#200	1.7		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3085 D_{85}= 0.2846 D_{60}= 0.2251
D_{50}= 0.2099 D_{30}= 0.1828 D_{15}= 0.1618
D_{10}= 0.1534 C_u= 1.47 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-36-12 B
Sample Number: 6495 (5) **Depth:** 3.8' **Date:** 12/31/12

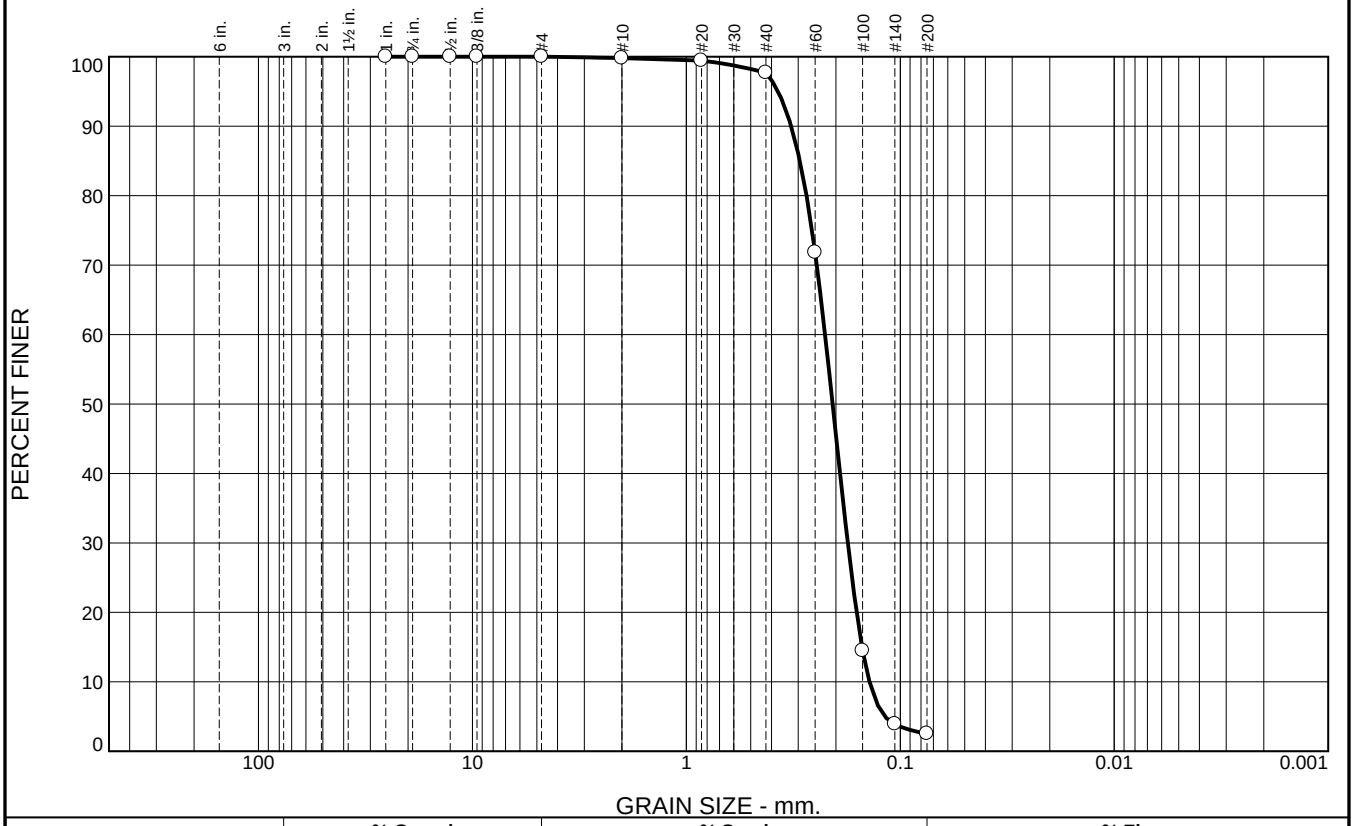
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	2.1	95.2	2.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.8		
#20	99.4		
#40	97.7		
#60	71.8		
#100	14.5		
#140	3.9		
#200	2.5		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3237 D_{85}= 0.2949 D_{60}= 0.2247
D_{50}= 0.2072 D_{30}= 0.1761 D_{15}= 0.1510
D_{10}= 0.1393 C_u= 1.61 C_c= 0.99

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-36-12 C
Sample Number: 6495 (6) **Depth:** 8.8' **Date:** 12/31/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-HP-37-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-37-12	LOCATION COORDINATES: E = 1,070,872 N = 249,140	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 39.8 Ft.
		15. DATE BORING	STARTED: 01-05-13 / COMPLETED: 01-05-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -38.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 14.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-38.8	0.0				
-41.8	3.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, trace silty pockets, lt. gray (SP)	A	Classification: SP Color: 5Y 6/3-pale olive D50: 0.2458 mm % Fines: 3.3
-53.2	14.4		SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, little clay, trace shell fragments, soft, gray (ML)	NS	
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18480° Long = -88.55917°

Project Mississippi Barrier Island Restoration Project

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SERVICES

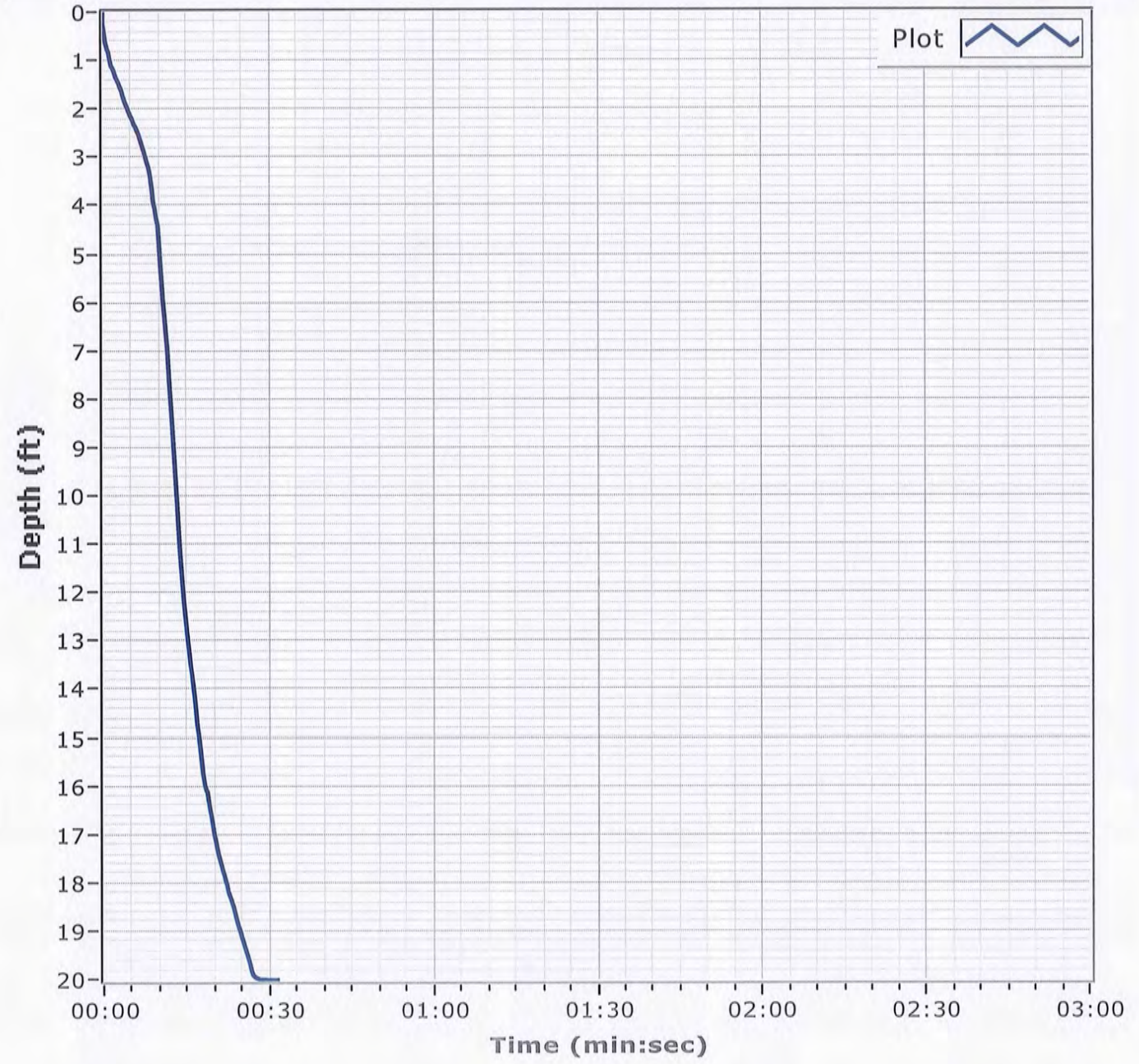
Core Identifier BI-HP-37-12
Coordinate System
Latitude / Longitude

Latitude 30 11.088 N
Longitude 088 33.550 W

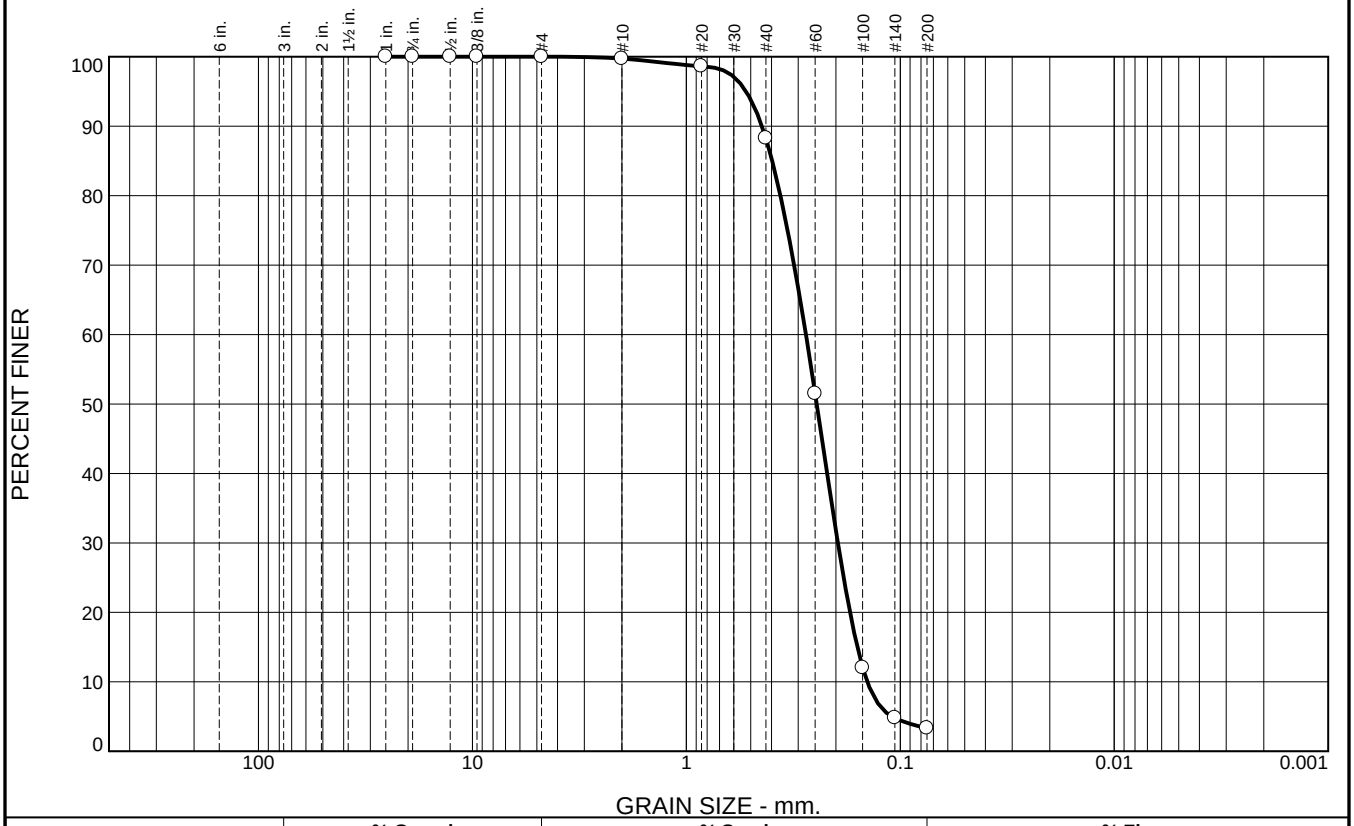
Date 01/05/2013
Start Time 12:42:36
End Time 12:43:07
Total Time 00:00:31

Water Depth 39.8'
Penetration 20.0'
Recovery 14.4'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	11.4	85.0	3.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.7		
#20	98.6		
#40	88.3		
#60	51.5		
#100	12.0		
#140	4.8		
#200	3.3		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4434 D_{85}= 0.3969 D_{60}= 0.2762
D_{50}= 0.2458 D_{30}= 0.1958 D_{15}= 0.1589
D_{10}= 0.1427 C_u= 1.94 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-37-12 A
Sample Number: 6503 (31) **Depth:** 0.0' **Date:** 1/08/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-HP-38-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-38-12	LOCATION COORDINATES: E = 1,078,463 N = 254,494	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 29.2 Ft.	
		15. DATE BORING	STARTED: 12-21-12 / COMPLETED: 12-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -28.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.1 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-28.7	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, trace clayey bands, pale lt. brown (SP)	A	Classification: SP-SM Color: 5Y 7/2-light gray D50: 0.3044 mm % Fines: 5.3
-32.3	3.6				
			SILT, inorganic-L, mostly silt, some clay, trace fine-grained sand-sized quartz, trace shell fragments, dark gray (ML)		
-36.7	8.0				
-38.4	9.7		SAND, silty, mostly fine-grained sand-sized quartz, some silt, few shell fragments, trace clay, dark gray (SM)	NS	
			SILT, inorganic-L, mostly silt, some clay, some fine-grained sand-sized quartz, little shell fragments, dark gray (ML)		
-44.8	16.1				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.19947° Long = -88.53510°

Project Mississippi Barrier Island Restoration Project

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S E R V I C E S

Core Identifier BI-HP-38-12

Coordinate System
Latitude / Longitude

Latitude 30 11.968 N

Longitude 088 32.106 W

Date 12/21/2012

Start Time 14:57:56

End Time 14:58:26

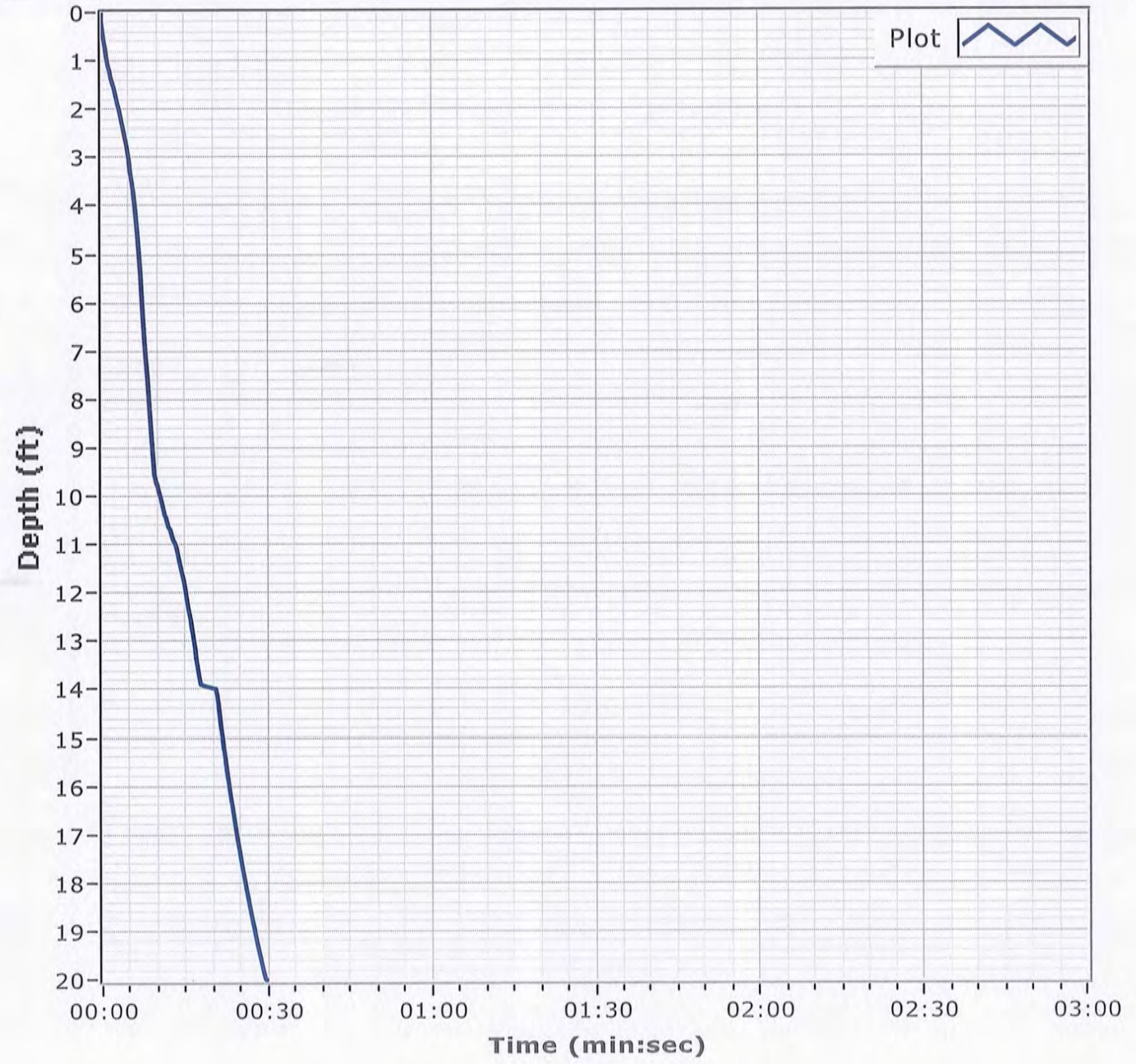
Total Time 00:00:30

Water Depth 29.2'

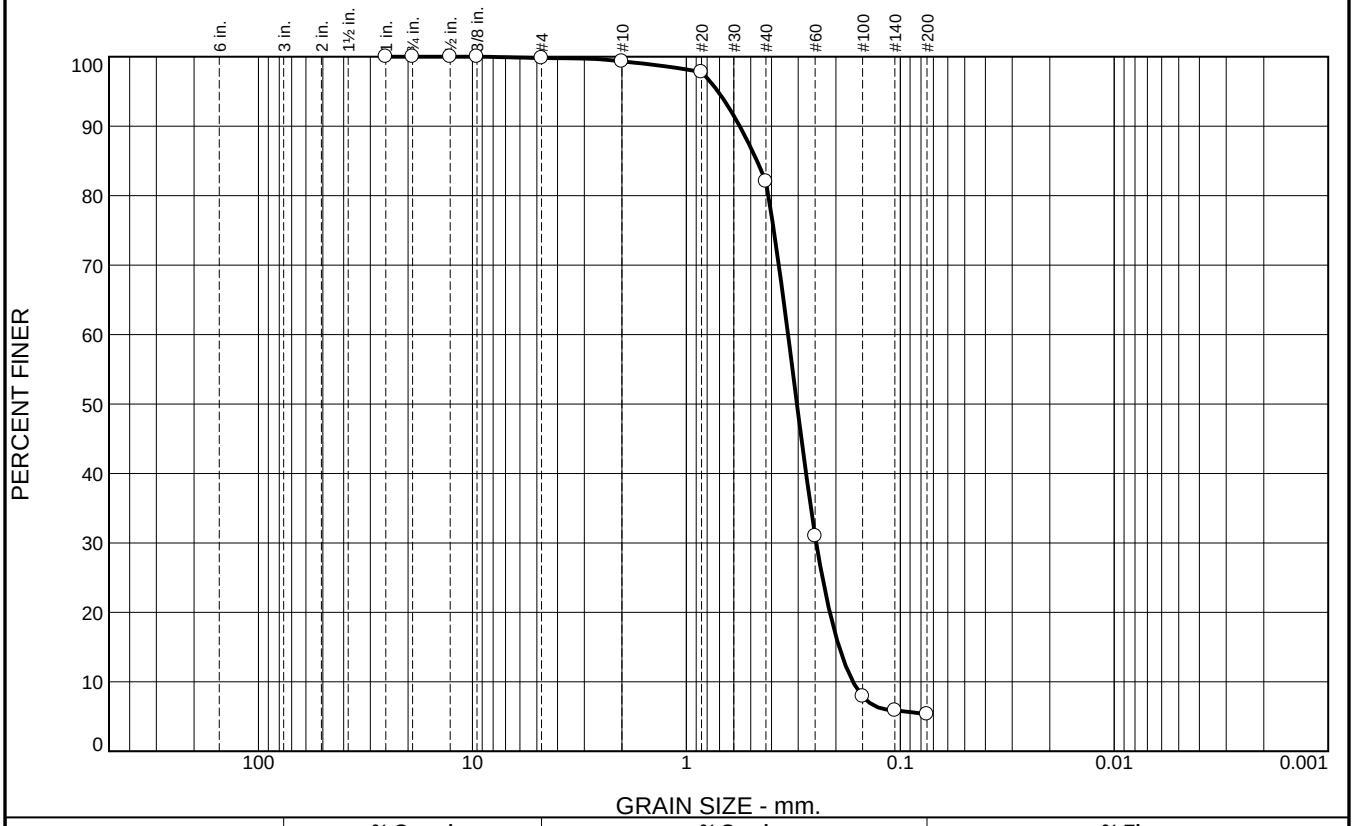
Penetration 20.0'

Recovery 16.1'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.5	17.3	76.7	5.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.3		
#20	97.8		
#40	82.0		
#60	31.0		
#100	7.9		
#140	5.9		
#200	5.3		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5631 D_{85}= 0.4679 D_{60}= 0.3347
D_{50}= 0.3044 D_{30}= 0.2470 D_{15}= 0.1932
D_{10}= 0.1665 C_u= 2.01 C_c= 1.09

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-HP-38-12 A
Sample Number: 6495 (7) **Depth:** 0.0' **Date:** 12/31/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-HP-39-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-39-12	LOCATION COORDINATES: E = 1,071,547 N = 251,312	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 32 Ft.	
		15. DATE BORING	STARTED: 12-21-12 / COMPLETED: 12-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -31.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 17.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-31.4	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, trace clayey bands and silty zones, lt. pale brown to lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2983 mm % Fines: 1.2
				B	Classification: SP Color: 5Y 7/2-light gray D50: 0.2688 mm % Fines: 1.8
				C	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2974 mm % Fines: 2.1
-40.9	9.5				
			SILT, inorganic-L, mostly silt, some clay, some fine-grained sand-sized quartz, little shell fragments, soft, dark gray (ML)	NS	
-48.8	17.4				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.19077° Long = -88.55702°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-HP-39-12

Coordinate System
Latitude / Longitude

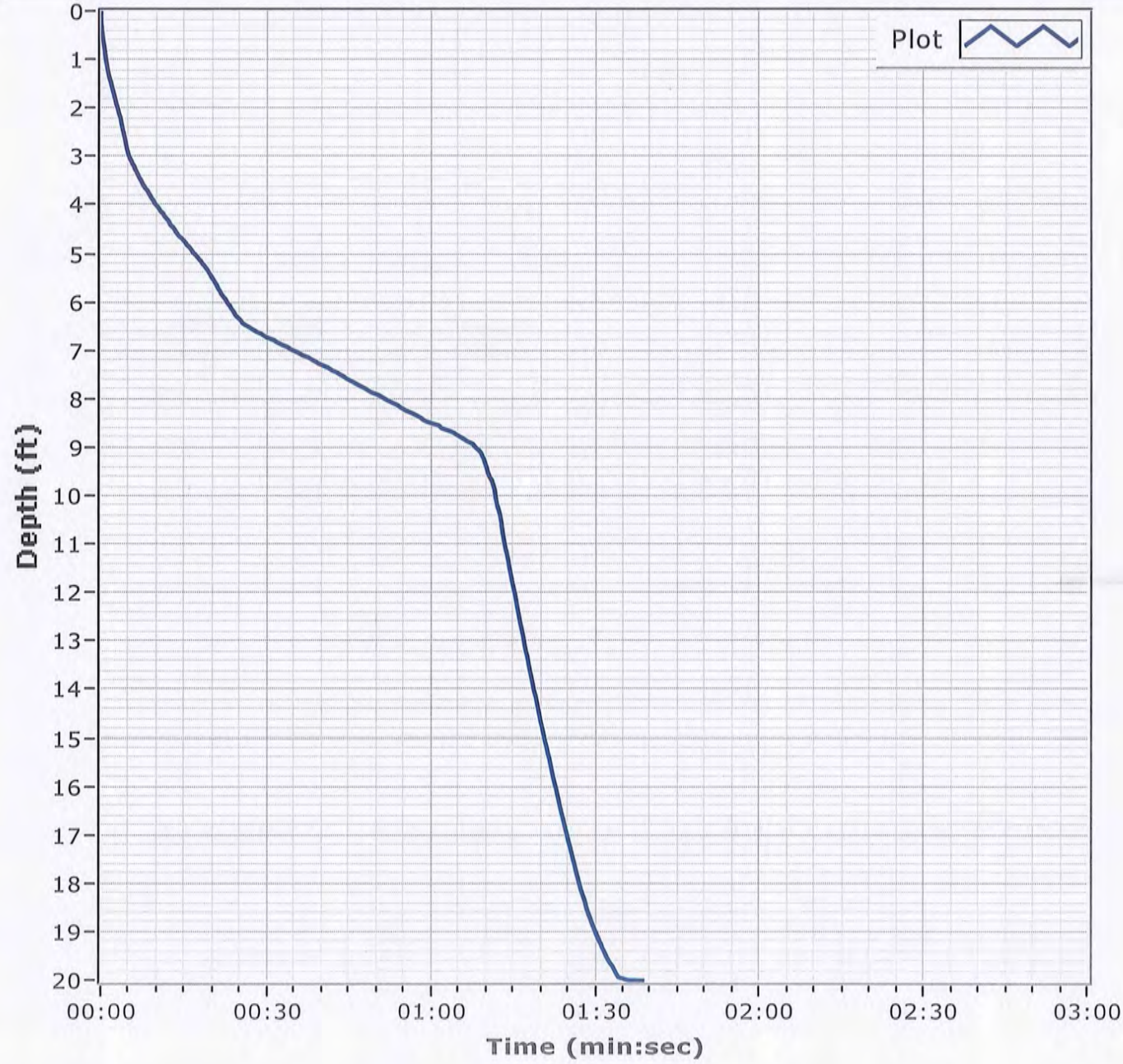
Latitude 30 11.446 N

Longitude 088 33.421 W

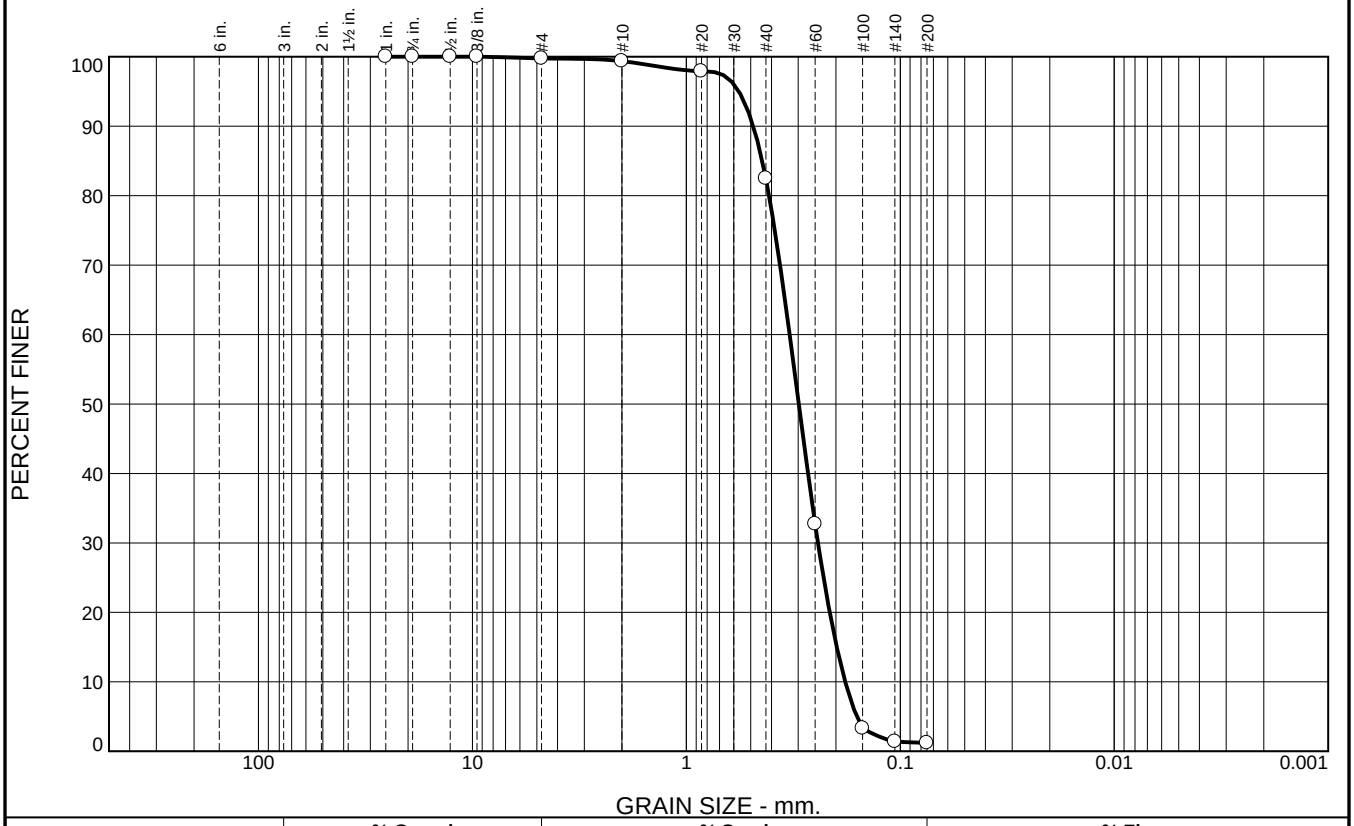
Date 12/21/2012
Start Time 15:57:37
End Time 15:59:16
Total Time 00:01:38

Water Depth 32.0'
Penetration 20.0'
Recovery 17.4'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.4	16.9	81.3	1.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.4		
#20	97.9		
#40	82.5		
#60	32.7		
#100	3.3		
#140	1.4		
#200	1.2		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4867 D_{85}= 0.4420 D_{60}= 0.3290
D_{50}= 0.2983 D_{30}= 0.2425 D_{15}= 0.1982
D_{10}= 0.1810 C_u= 1.82 C_c= 0.99

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-39-12 A
Sample Number: 6495 (8) **Depth:** 0.0' **Date:** 12/31/12

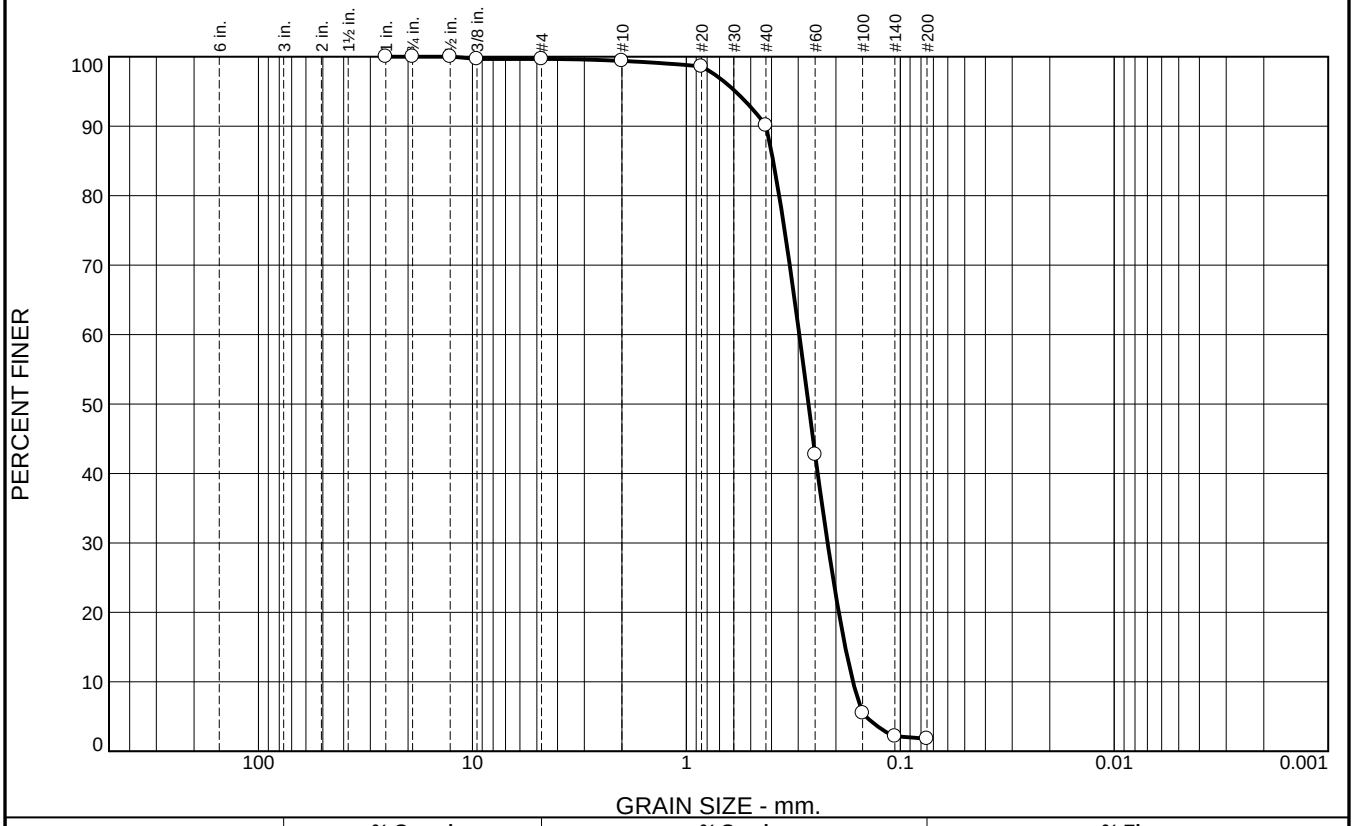
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.3	9.3	88.3	1.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.7		
#4	99.7		
#10	99.4		
#20	98.6		
#40	90.1		
#60	42.7		
#100	5.5		
#140	2.2		
#200	1.8		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4241 D_{85}= 0.3927 D_{60}= 0.2967
D_{50}= 0.2688 D_{30}= 0.2186 D_{15}= 0.1809
D_{10}= 0.1665 C_u= 1.78 C_c= 0.97

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-39-12 B
Sample Number: 6495 (9) **Depth:** 2.1' **Date:** 12/31/12

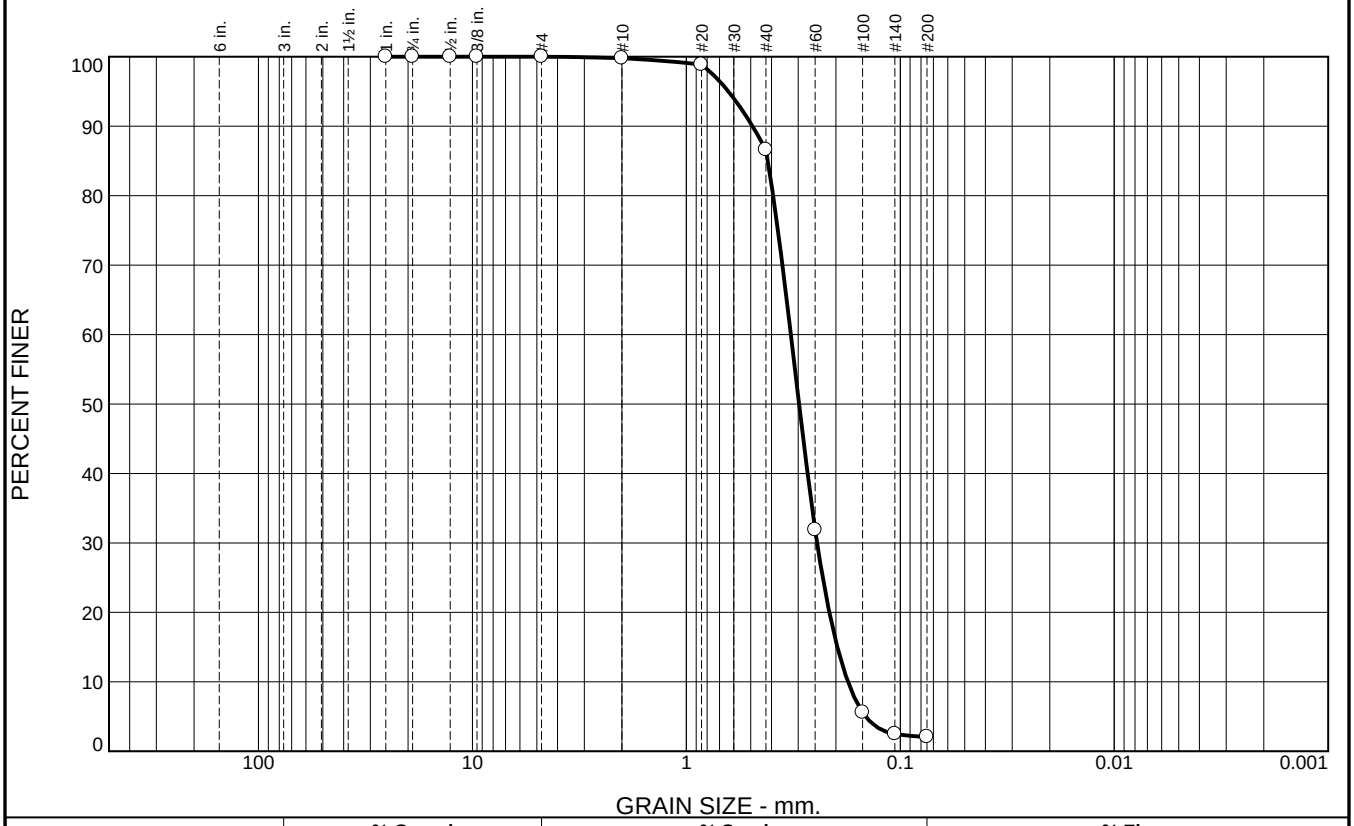
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	13.2	84.5	2.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.8		
#20	98.9		
#40	86.6		
#60	31.9		
#100	5.6		
#140	2.5		
#200	2.1		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4909 D_{85}= 0.4163 D_{60}= 0.3248
D_{50}= 0.2974 D_{30}= 0.2448 D_{15}= 0.1970
D_{10}= 0.1758 C_u= 1.85 C_c= 1.05

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-39-12 C
Sample Number: 6495 (10) **Depth:** 7.2' **Date:** 12/31/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-HP-40-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-40-12	LOCATION COORDINATES: E = 1,071,644 N = 250,178	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 34.2 Ft.	
		15. DATE BORING	STARTED: 12-21-12 / COMPLETED: 12-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -33.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-33.6	0.0				
-35.2	1.6		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, lt. pale brown (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2302 mm % Fines: 2.4
-38.5	4.9		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, shelly at 3.7 ft., lt. gray (SP)	B	Classification: SP Color: 5Y 6/2-light olive gray D50: 0.2819 mm % Fines: 3.8
-50.2	16.6		SILT, inorganic-L, mostly silt, some clay, some fine-grained sand-sized quartz, some shell fragments, soft, gray (ML)	NS	
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18765° Long = -88.55672°

Project Mississippi Barrier Island Restoration Project

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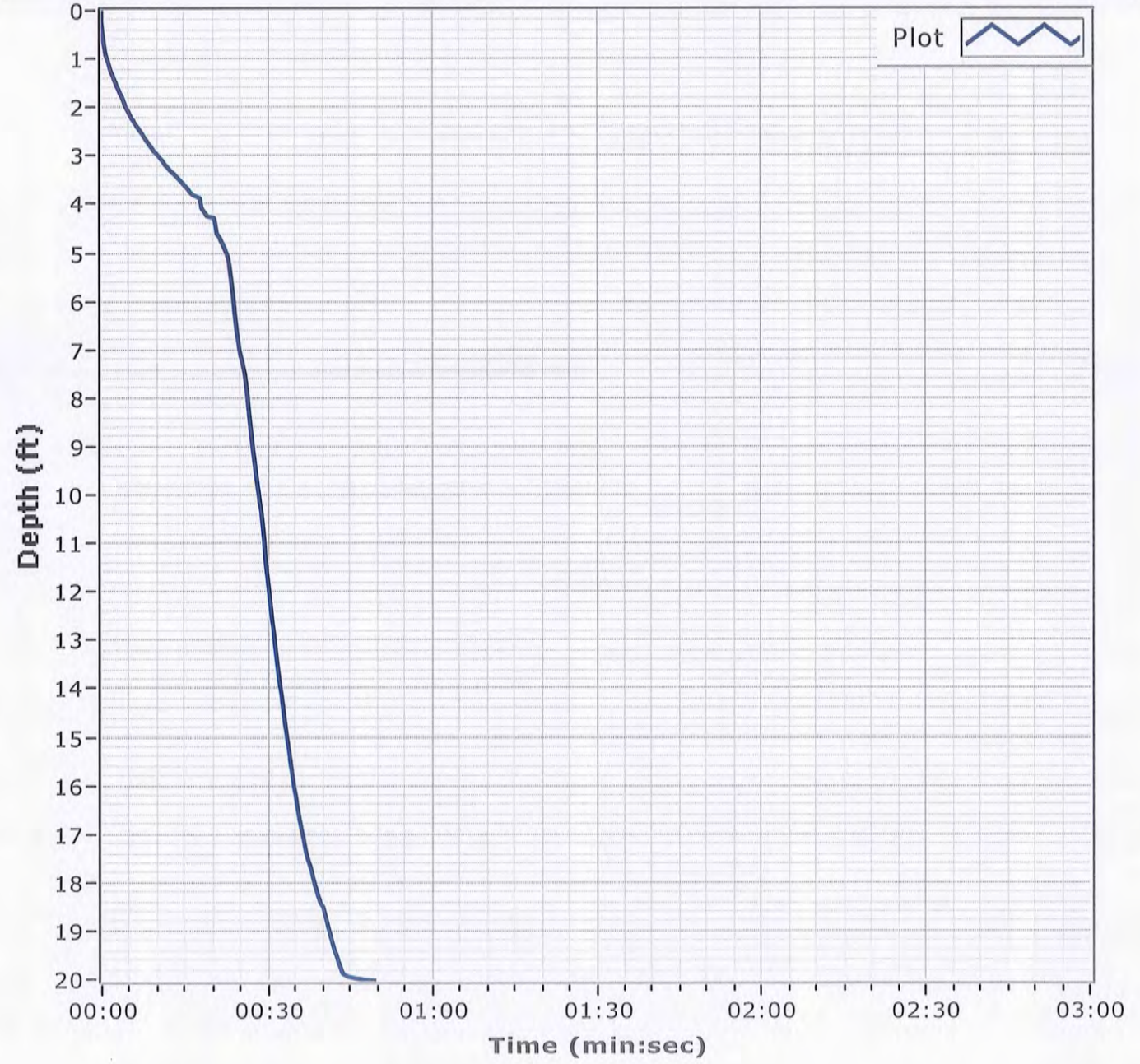
Core Identifier BI-HP-40-12
Coordinate System
Latitude / Longitude

Latitude 30 11.259 N
Longitude 088 33.403 W

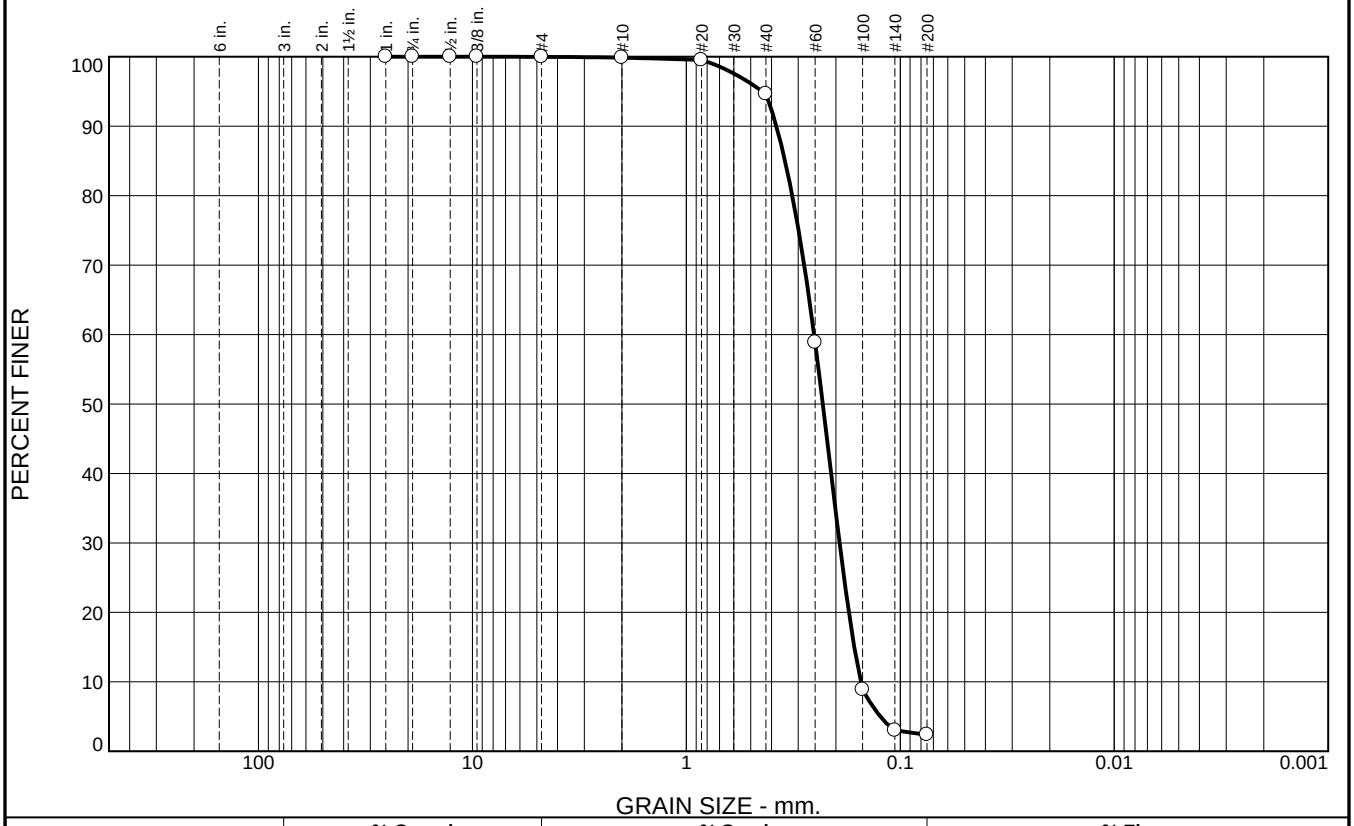
Date 12/21/2012
Start Time 16:22:32
End Time 16:23:21
Total Time 00:00:49

Water Depth 34.2'
Penetration 20.0'
Recovery 16.6'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	5.2	92.2	2.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.8		
#20	99.5		
#40	94.6		
#60	58.8		
#100	8.9		
#140	3.0		
#200	2.4		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3793 D_{85}= 0.3456 D_{60}= 0.2529
D_{50}= 0.2302 D_{30}= 0.1923 D_{15}= 0.1643
D_{10}= 0.1530 C_u= 1.65 C_c= 0.96

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-40-12 A
Sample Number: 6495 (11) **Depth:** 0.0' **Date:** 12/31/12

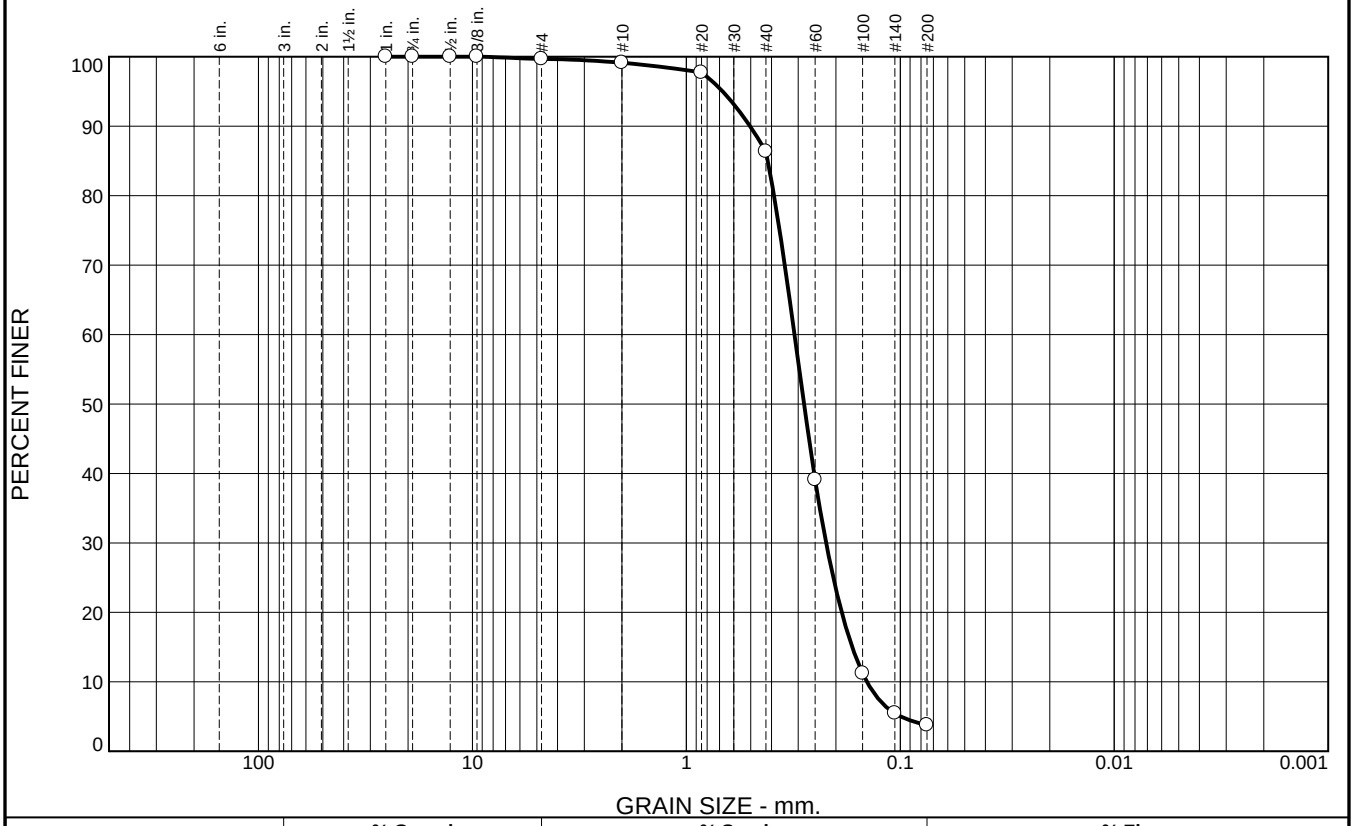
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.6	12.7	82.6	3.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	99.1		
#20	97.7		
#40	86.4		
#60	39.1		
#100	11.2		
#140	5.5		
#200	3.8		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5040 D_{85}= 0.4163 D_{60}= 0.3124
D_{50}= 0.2819 D_{30}= 0.2222 D_{15}= 0.1680
D_{10}= 0.1433 C_u= 2.18 C_c= 1.10

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-40-12 B
Sample Number: 6495 (12) **Depth:** 1.6' **Date:** 12/31/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-HP-41-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-41-12	LOCATION COORDINATES: E = 1,078,900 N = 254,215	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 28.5 Ft.	
		15. DATE BORING	STARTED: 01-05-13 / COMPLETED: 01-05-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -27.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 14.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-27.6	0.0				
-29.1	1.5		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, lt. pale brown (SP)	A	Classification: SP Color: 2.5Y 8/1-white D50: 0.3021 mm % Fines: 1.9
-31.8	4.2		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, few clay lenses, lt. gray (SP)	B	Classification: SP-SM Color: 2.5Y 6/2-light brownish gray D50: 0.286 mm % Fines: 6.4
-34.7	7.1		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, trace clay lenses, lt. gray (SP)	C	Classification: SP Color: 2.5Y 7/2-light gray D50: 0.2785 mm % Fines: 4.1
-37.6	10.0		SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, trace clay, trace shell fragments, soft, gray (ML)		
-38.7	11.1		SAND, silty, mostly fine-grained sand-sized quartz, some silt, few shell fragments, gray (SM)	NS	
-42.4	14.8		SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, few shell fragments, trace clay, soft, gray (ML)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.19870° Long = -88.53372°

Project Mississippi Barrier Island Restoration Project

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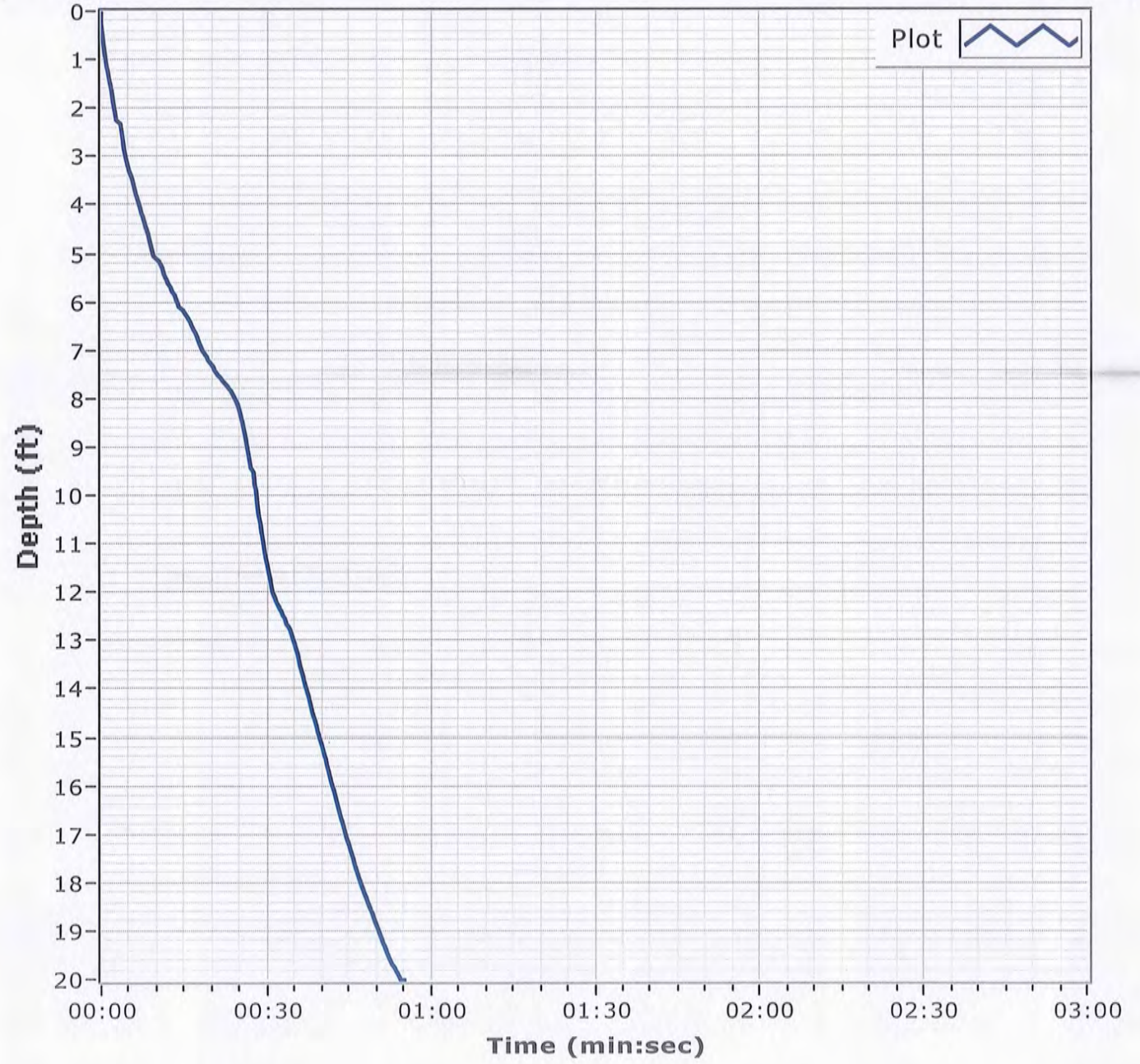
Core Identifier BI-HP-41-12
Coordinate System
Latitude / Longitude

Latitude 30 11.922 N
Longitude 088 32.023 W

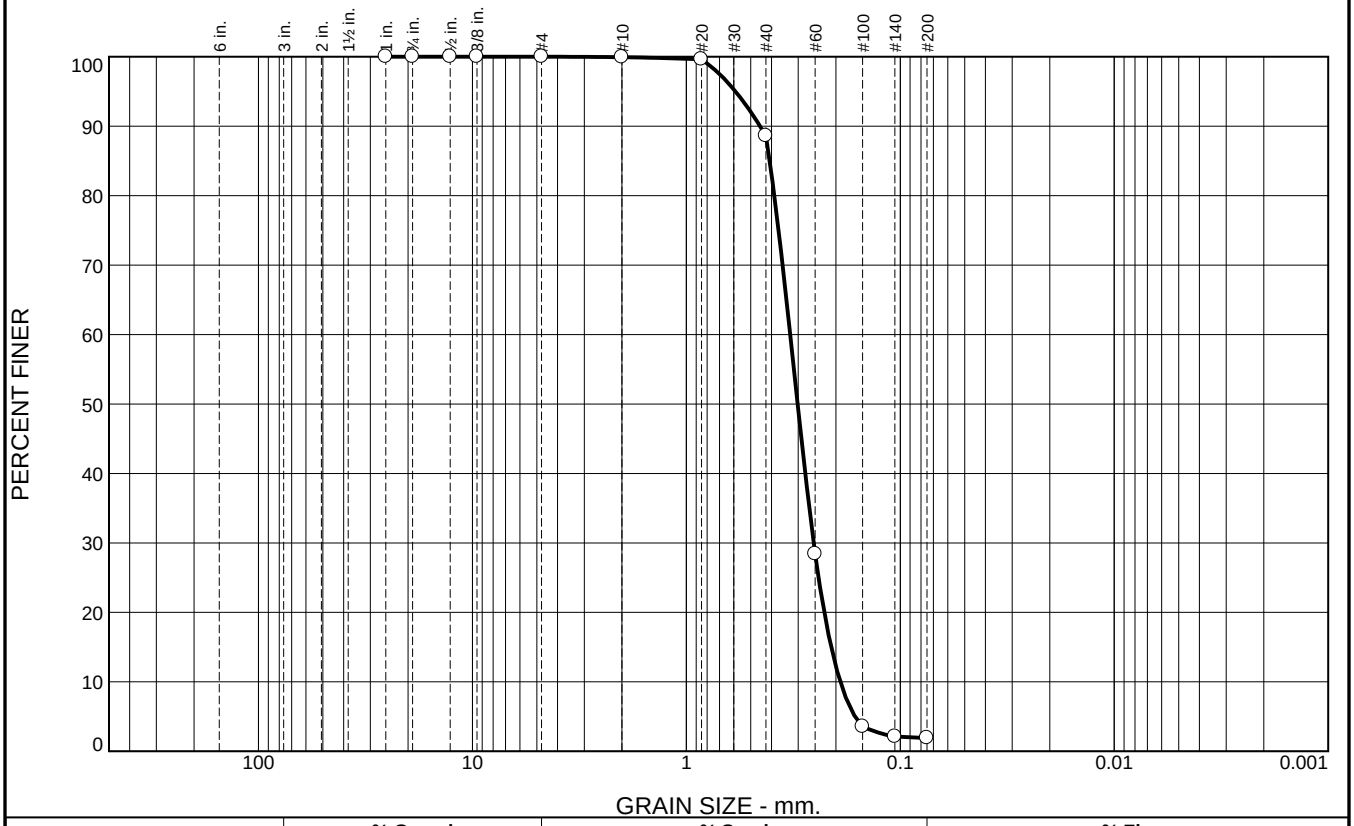
Date 01/05/2013
Start Time 11:40:13
End Time 11:41:09
Total Time 00:00:55

Water Depth 28.5'
Penetration 20.0'
Recovery 14.8'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	11.3	86.7	1.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.6		
#40	88.6		
#60	28.4		
#100	3.6		
#140	2.1		
#200	1.9		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4528 D_{85}= 0.4078 D_{60}= 0.3271
D_{50}= 0.3021 D_{30}= 0.2540 D_{15}= 0.2104
D_{10}= 0.1908 C_u= 1.71 C_c= 1.03

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-41-12 A
Sample Number: 6503 (32) **Depth:** 0.0' **Date:** 1/08/13

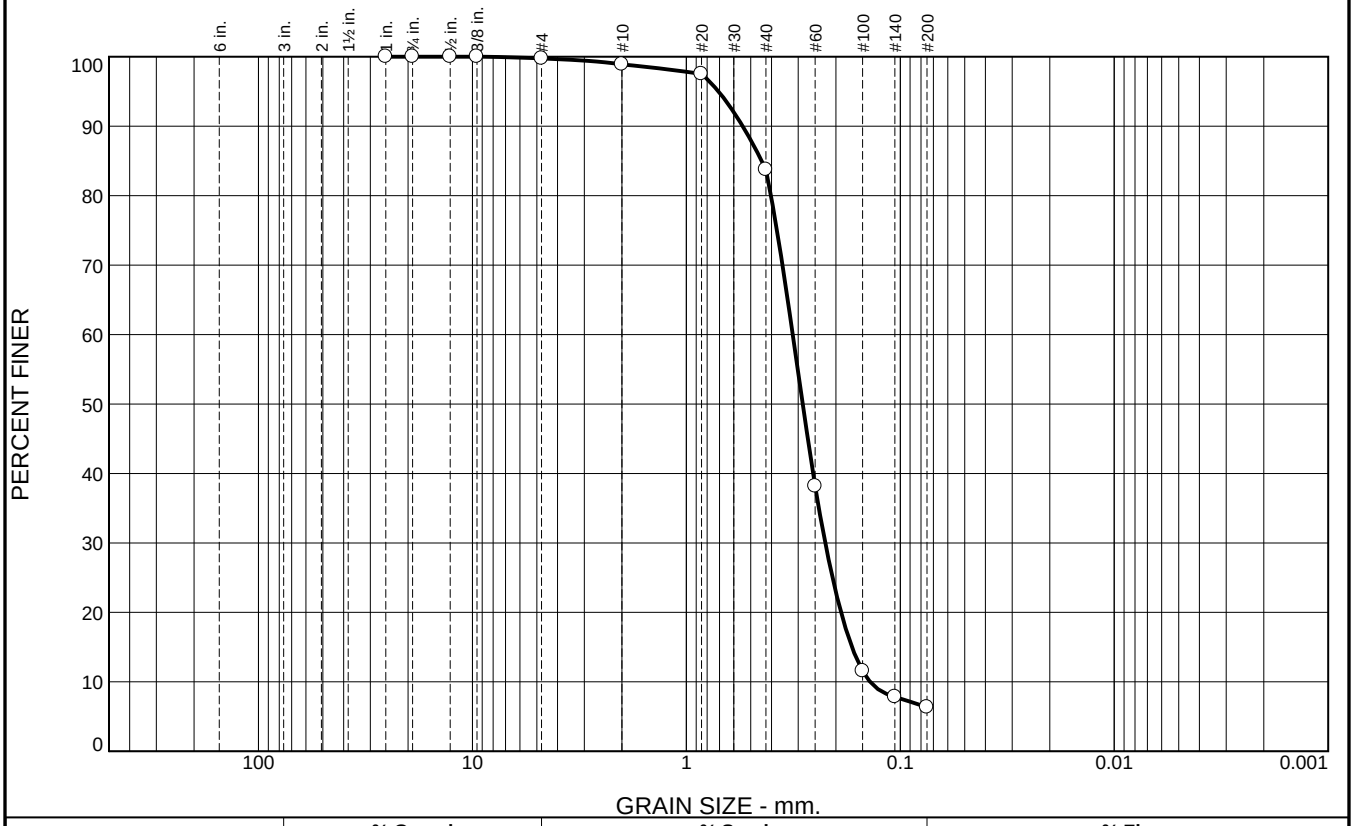
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.8	15.2	77.3	6.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.9		
#20	97.5		
#40	83.7		
#60	38.2		
#100	11.6		
#140	7.8		
#200	6.4		

* (no specification provided)

Material Description

Fine to medium grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.5452 D_{85}= 0.4450 D_{60}= 0.3183
D_{50}= 0.2860 D_{30}= 0.2242 D_{15}= 0.1684
D_{10}= 0.1384 C_u= 2.30 C_c= 1.14

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-HP-41-12 B
Sample Number: 6503 (33) **Depth:** 1.5' **Date:** 1/08/13

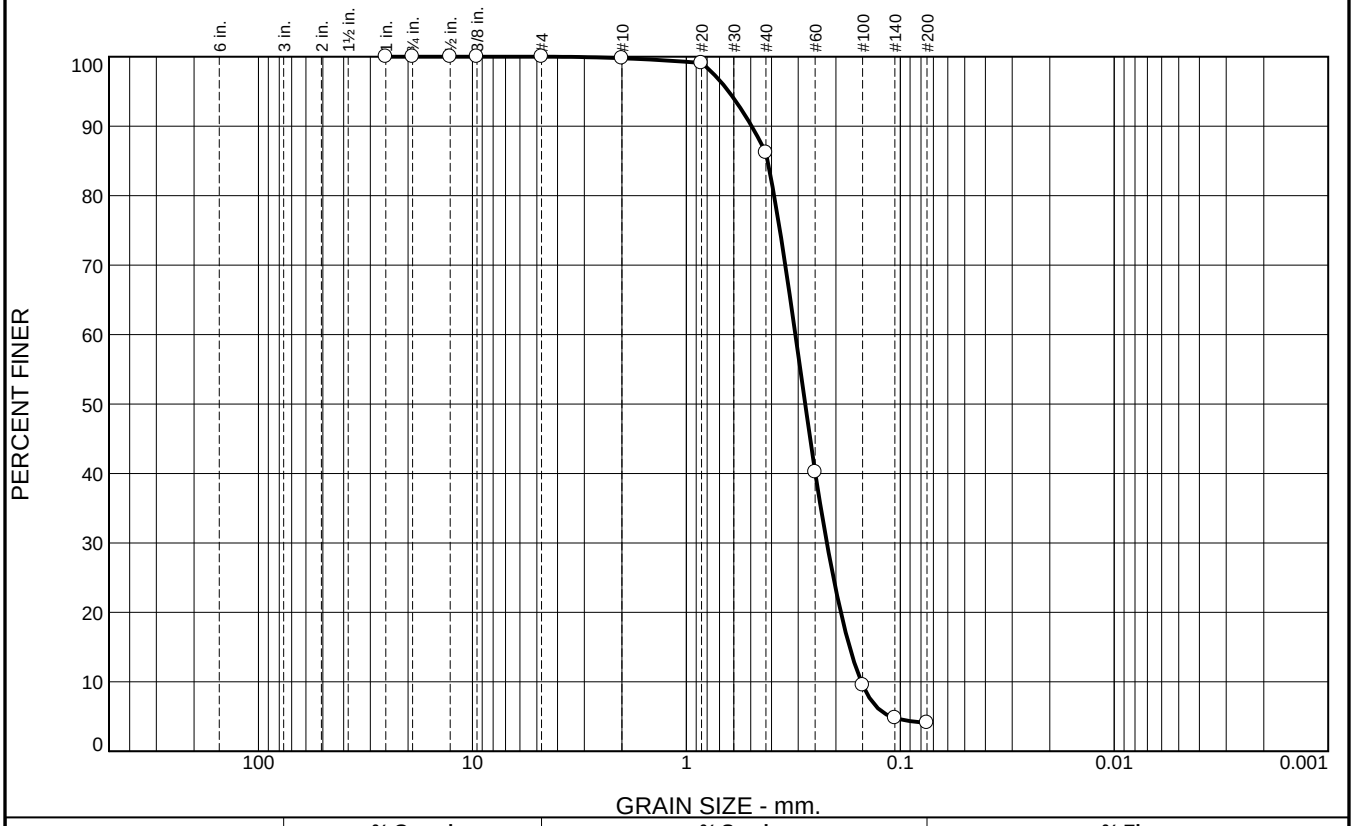
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	13.6	82.1	4.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.8		
#20	99.1		
#40	86.2		
#60	40.2		
#100	9.5		
#140	4.8		
#200	4.1		

* (no specification provided)

Material Description

Fine to medium grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4954 D_{85}= 0.4170 D_{60}= 0.3094
D_{50}= 0.2785 D_{30}= 0.2204 D_{15}= 0.1727
D_{10}= 0.1522 C_u= 2.03 C_c= 1.03

Classification

USCS= SP AASHTO=

Remarks

Location: BI-HP-41-12 C
Sample Number: 6503 (34) **Depth:** 4.2' **Date:** 1/08/13

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-HP-42-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Horn Island Pass		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-HP-42-12	LOCATION COORDINATES: E = 1,072,671 N = 252,654	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 32.4 Ft.
		15. DATE BORING	STARTED: 01-05-13 / COMPLETED: 01-05-13
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -31.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-31.5	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few shell fragments, trace fines, lt. gray (SP)	A	Classification: SP Color: 5Y 7/2-light gray D50: 0.2961 mm % Fines: 1.9
-36.5	5.0				
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	B	Classification: SP Color: 5Y 7/2-light gray D50: 0.276 mm % Fines: 2.3
-37.9	6.4				
			SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, few clay, trace shell fragments, soft, gray (ML)	NS	
-50.9	19.4				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.19445° Long = -88.55345°

Project Mississippi Barrier Island Restoration Project

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Core Identifier BI-HP-42-12

Coordinate System
Latitude / Longitude

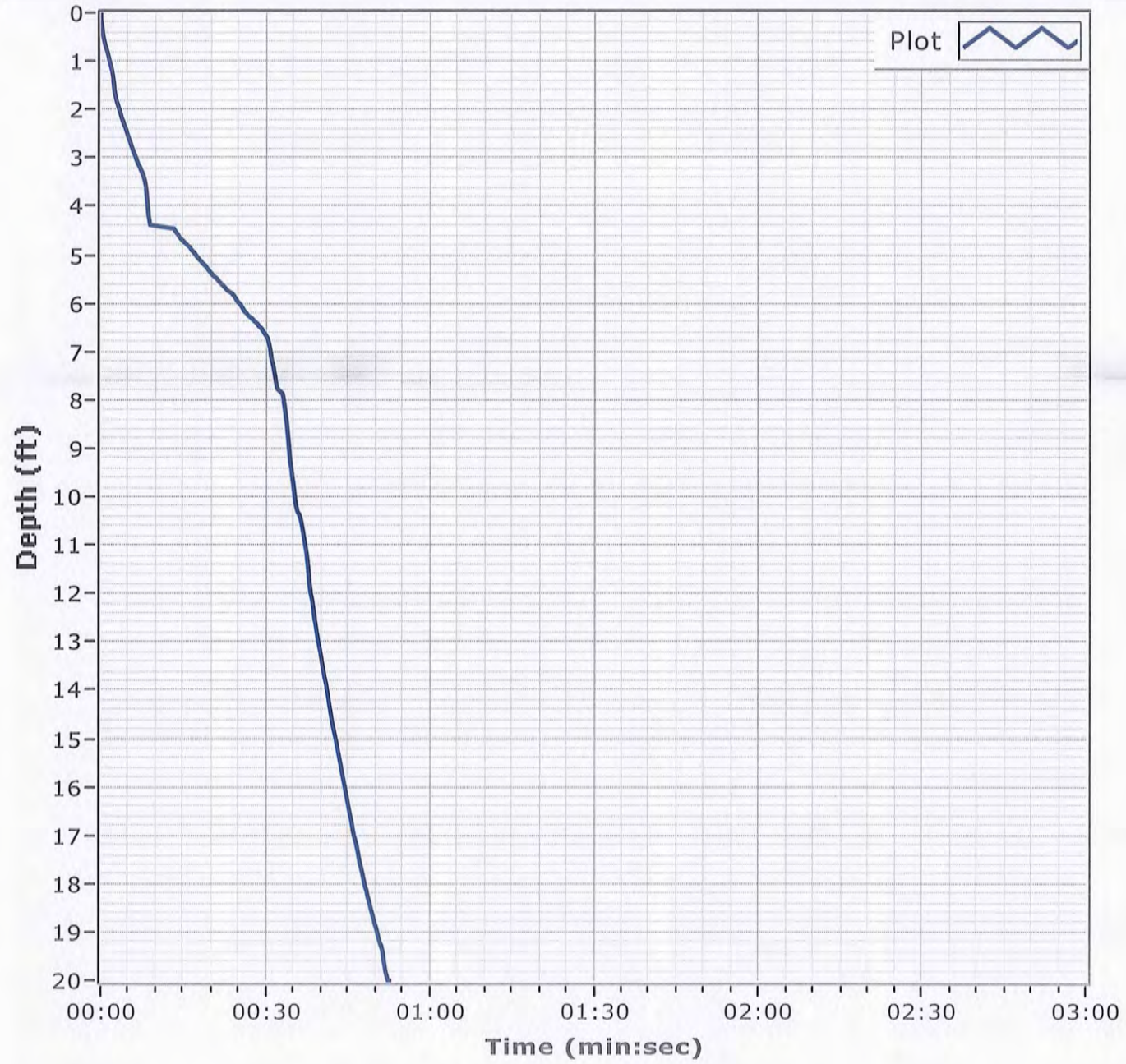
Latitude 30 11.667 N

Longitude 088 33.207 W

Date 01/05/2013
Start Time 12:11:02
End Time 12:11:55
Total Time 00:00:53

Water Depth 32.4'
Penetration 20.0'
Recovery 19.4'

Comments



Boring Designation BI-PBC-01-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-01-12	LOCATION COORDINATES: E = 1,084,501 N = 256,601	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 49.8 Ft.
		15. DATE BORING	STARTED: 12-21-12 / COMPLETED: 12-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -49.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.1 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-49.5	0.0				
			SILT, inorganic-L, mostly silt, some clay, few fine-grained sand-sized quartz, trace shell fragments, gray (ML)		
-56.0	6.5				
			CLAY, fat, mostly clay, trace silt, trace shell fragments, medium to high plasticity, greenish gray (CH)	NS	
-59.7	10.2				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace clay, gray and orange mottle (SM)		
-62.3	12.8				
			SILT, inorganic-L, mostly silt, trace clay, gray (ML)		
-65.6	16.1				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.20522° Long = -88.51597°

Project Mississippi Barrier Island Restoration Project

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S E R V I C E S

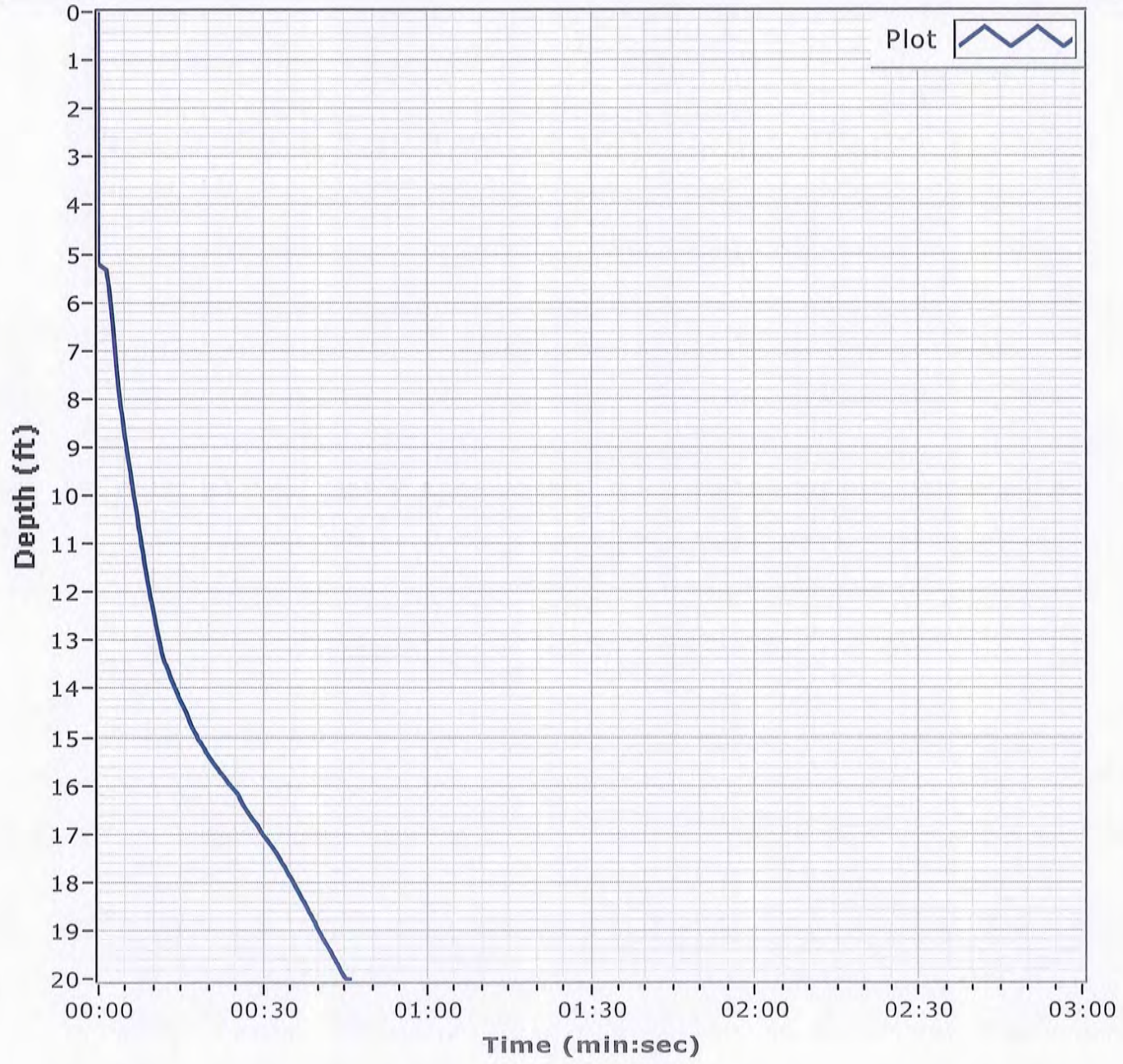
Core Identifier BI-PBC-1-12
Coordinate System
Latitude / Longitude

Date 12/21/2012
Start Time 12:58:54
End Time 12:59:40
Total Time 00:00:46

Water Depth 49.8'
Penetration 20.0'
Recovery 16.1'

Latitude 30 12.313 N
Longitude 88 30.958 W

Comments



Boring Designation BI-PBC-02-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-02-12	LOCATION COORDINATES: E = 1,084,047 N = 255,000	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 38.2 Ft.
		15. DATE BORING	STARTED: 12-21-12 / COMPLETED: 12-21-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -37.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 13.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mike FitzHarris, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-37.7	0.0				
-37.8	0.1		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)		
-43.1	5.4		SILT, inorganic-L, mostly silt, little shell fragments, few clay, trace fine-grained sand-sized quartz, slightly clayey, gray (ML)		
-47.0	9.3		CLAY, fat, mostly clay, few shell fragments, trace silt, medium to high plasticity, gray (CH)	NS	
-50.9	13.2		CLAY, lean, mostly clay, trace fine-grained sand-sized quartz, trace shell fragments, low to medium plasticity, stiff, orange and gray mottle (CL)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.20082° Long = -88.51742°

Project Mississippi Barrier Island Restoration Project

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S E R V I C E S

Core Identifier BI-PBC-2-12

Coordinate System
Latitude / Longitude

Latitude 30 12.049 N

Longitude 88 31.045 W

Date 12/21/2012

Start Time 13:47:50

End Time 13:48:54

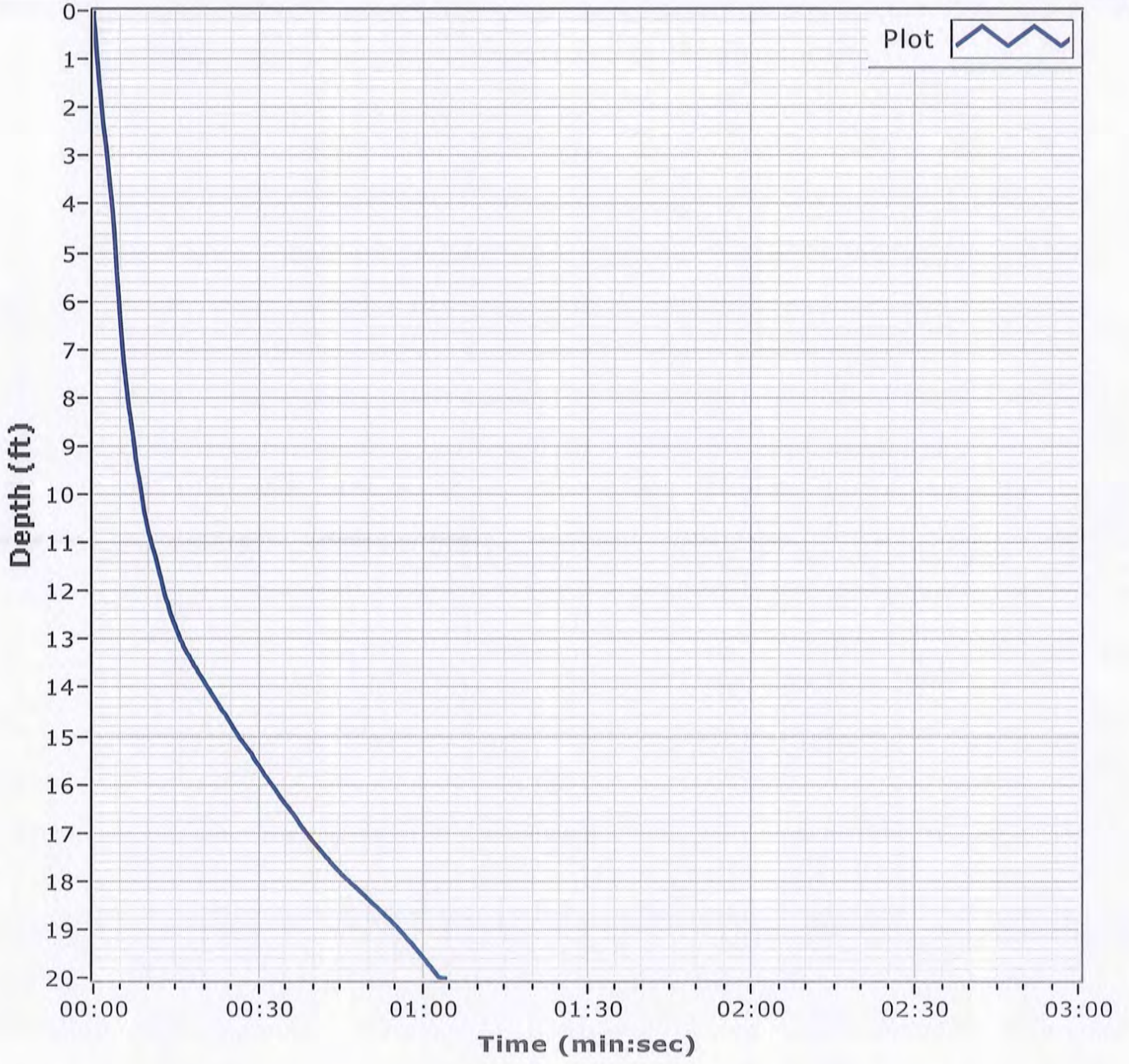
Total Time 00:01:04

Water Depth 38.2'

Penetration 20.0'

Recovery 13.2'

Comments



Boring Designation BI-PBC-06-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-06-12	LOCATION COORDINATES: E = 1,081,103 N = 251,602	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 42.3 Ft.
		15. DATE BORING	STARTED: 12-16-12 / COMPLETED: 12-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -41.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 13.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-41.4	0.0				
-42.4	1.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, lt. gray (SP)	A	Classification: SP-SM Color: 5Y 5/3-olive D50: 0.1722 mm % Fines: 6.6
-49.6	8.2		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, lenses of silty sand and trace shell fragments, gray (SC)	NS	
-52.4	11.0		SILT, inorganic-L, mostly silt, trace fine-grained sand-sized quartz, lt. gray and yellowish orange mottle (ML)		
-55.3	13.9		CLAY, lean, mostly clay, trace fine-grained sand-sized quartz, firm, some plasticity, lt. gray and orange mottle (CL)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.19150° Long = -88.52677°

Project Missiissippi Barrier Island Restoration Project

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Core Identifier BI-PBC-6-12

Coordinate System
Latitude / Longitude

Latitude 30 11.490

Longitude 088 31.606

Date 12/16/2012

Start Time 14:23:50

End Time 14:25:19

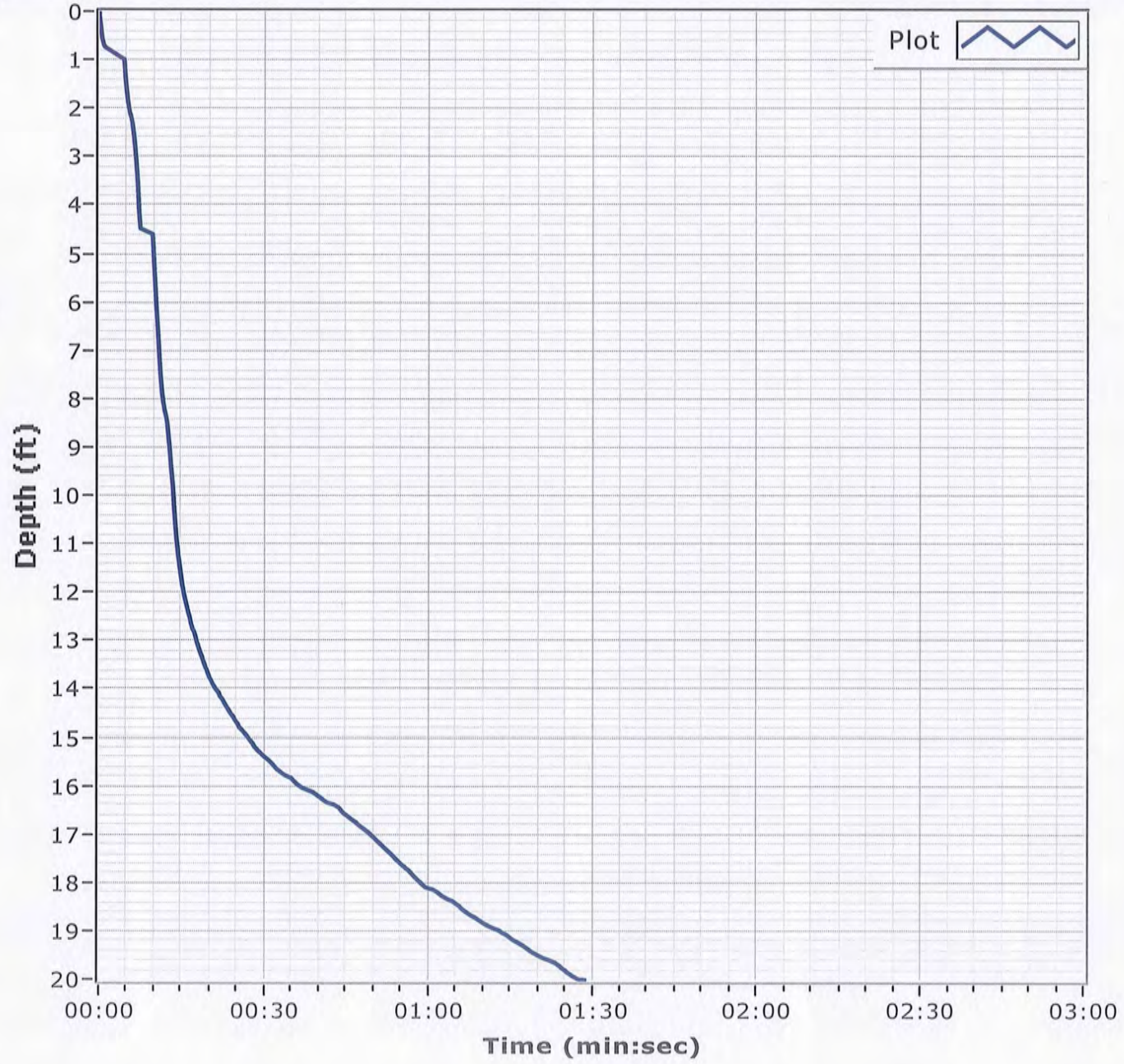
Total Time 00:01:29

Water Depth 42.3'

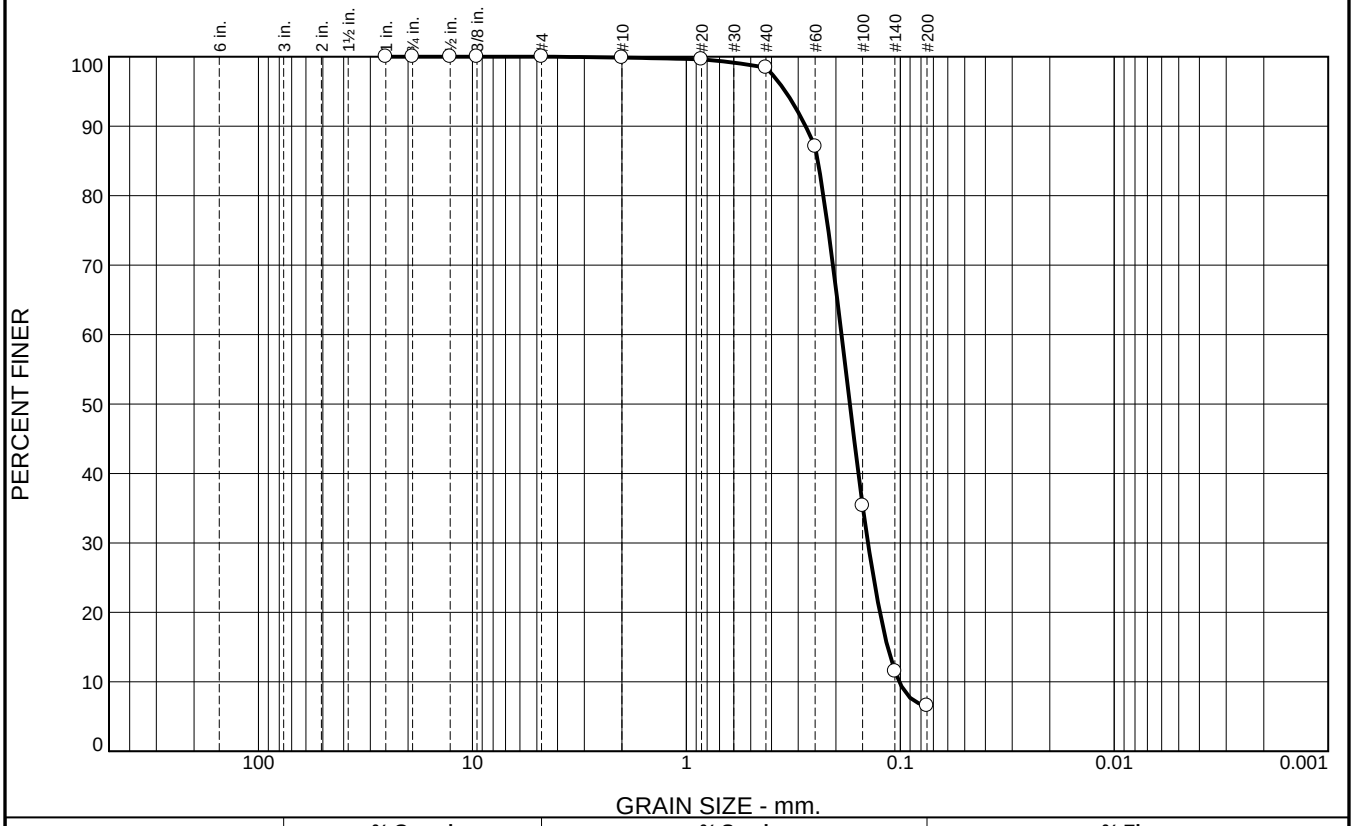
Penetration 20.0'

Recovery 14.0

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	1.5	91.8	6.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.6		
#40	98.4		
#60	87.1		
#100	35.4		
#140	11.5		
#200	6.6		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2773 D_{85}= 0.2429 D_{60}= 0.1883
D_{50}= 0.1722 D_{30}= 0.1416 D_{15}= 0.1146
D_{10}= 0.1011 C_u= 1.86 C_c= 1.05

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBC-6-12 A
Sample Number: 6494 (1) **Depth:** 0.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-07-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-07-12	LOCATION COORDINATES: E = 1,080,133 N = 250,461	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 41.2 Ft.
		15. DATE BORING	STARTED: 12-16-12 / COMPLETED: 12-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -40.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 19.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-40.4	0.0				
-40.9	0.5		CLAY, organic-H, mostly organic matter, some clay, some silt, trace fine-grained sand-sized quartz, trace shell fragments, gray to dark gray (OH)	NS	
-41.9	1.5		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, trace silt, gray (SP)	A	Classification: SP Color: 5Y 6/3-pale olive D50: 0.2002 mm % Fines: 3
-45.4	5.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	NS	
-46.4	6.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, clay lenses, gray (SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1965 mm % Fines: 15.7
-49.4	9.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)		
-51.6	11.2		SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, lt. gray and orange mottle (ML)	NS	
-59.6	19.2		CLAY, fat, mostly clay, firm to soft, dark gray (CH)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

Lat = 30.18837° Long = -88.52985°

Project Missiissippi Barrier Island Restoration Project

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Core Identifier BI-PBC-7-12

Coordinate System
Latitude / Longitude

Latitude 30 11.303

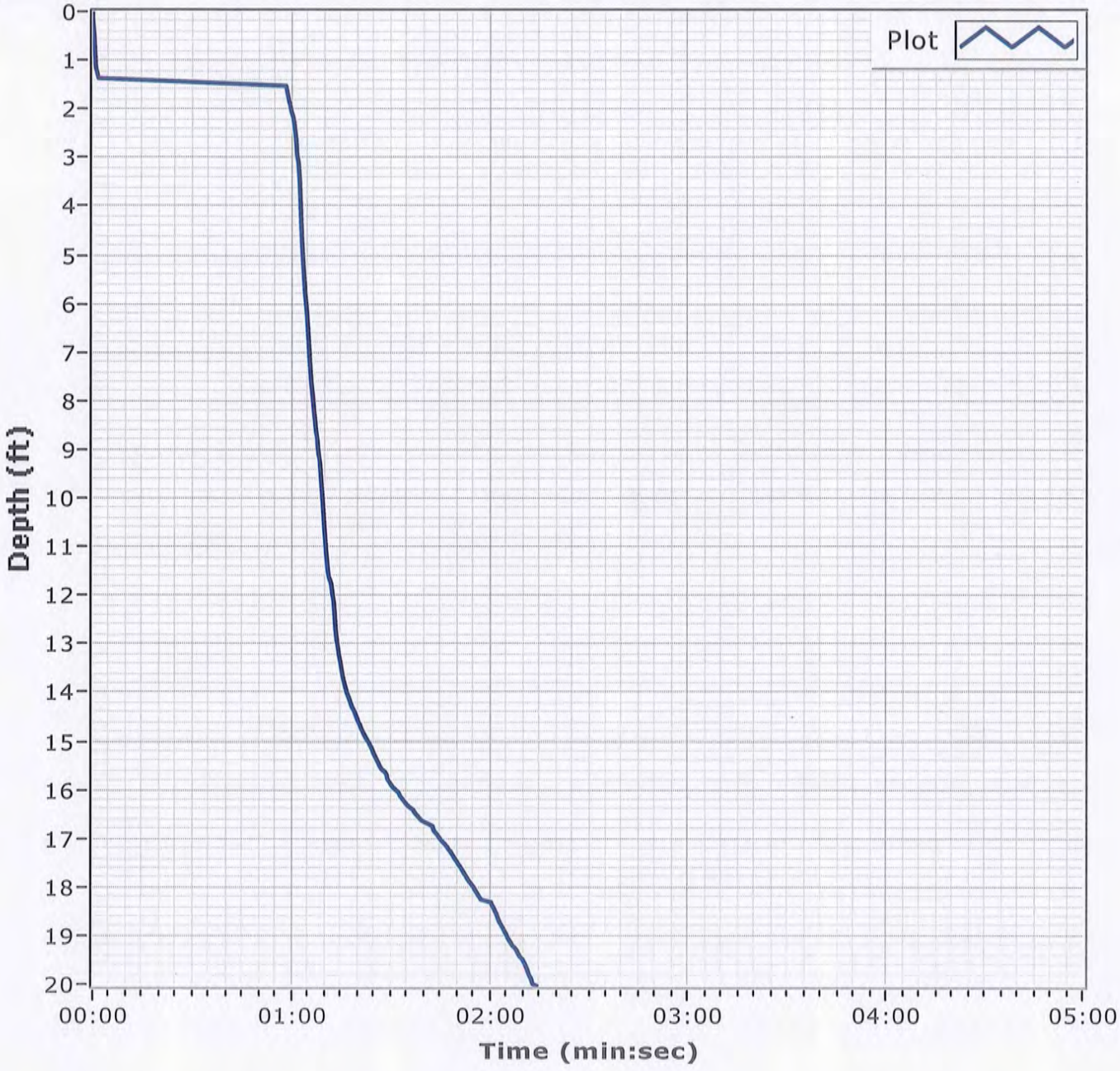
Longitude 088 31.791

Date 12/16/2012
Start Time 13:25:25
End Time 13:27:39
Total Time 00:02:14

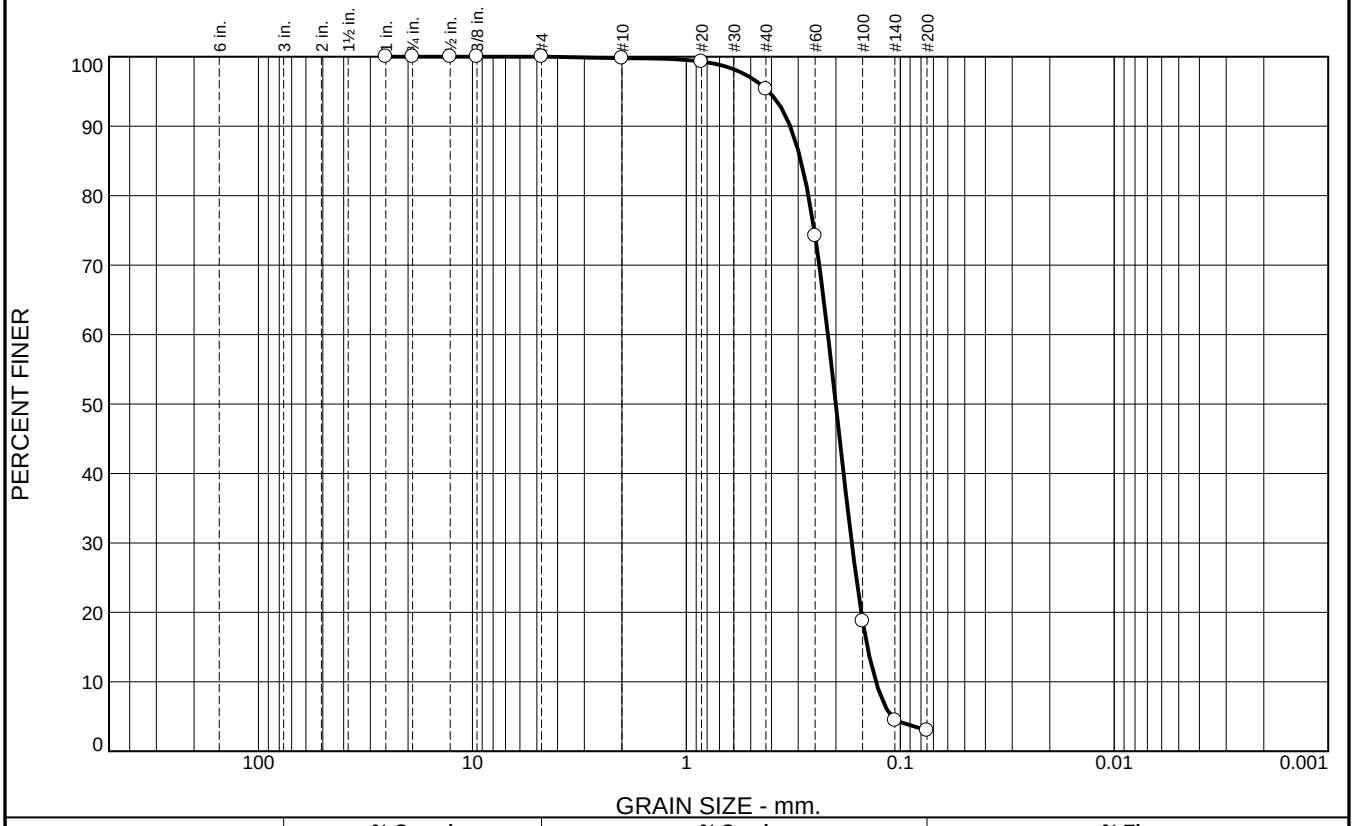
Water Depth 41.2'
Penetration 20.0'
Recovery 19.0'

Comments

Note: vibrator stopped and restarted at 1.4'



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	4.5	92.3	3.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.8		
#20	99.3		
#40	95.3		
#60	74.2		
#100	18.8		
#140	4.4		
#200	3.0		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3271 D_{85}= 0.2914 D_{60}= 0.2179
D_{50}= 0.2002 D_{30}= 0.1687 D_{15}= 0.1425
D_{10}= 0.1301 C_u= 1.68 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBC-7-12 A
Sample Number: 6494 (2) **Depth:** 0.5' **Date:** 12/26/12

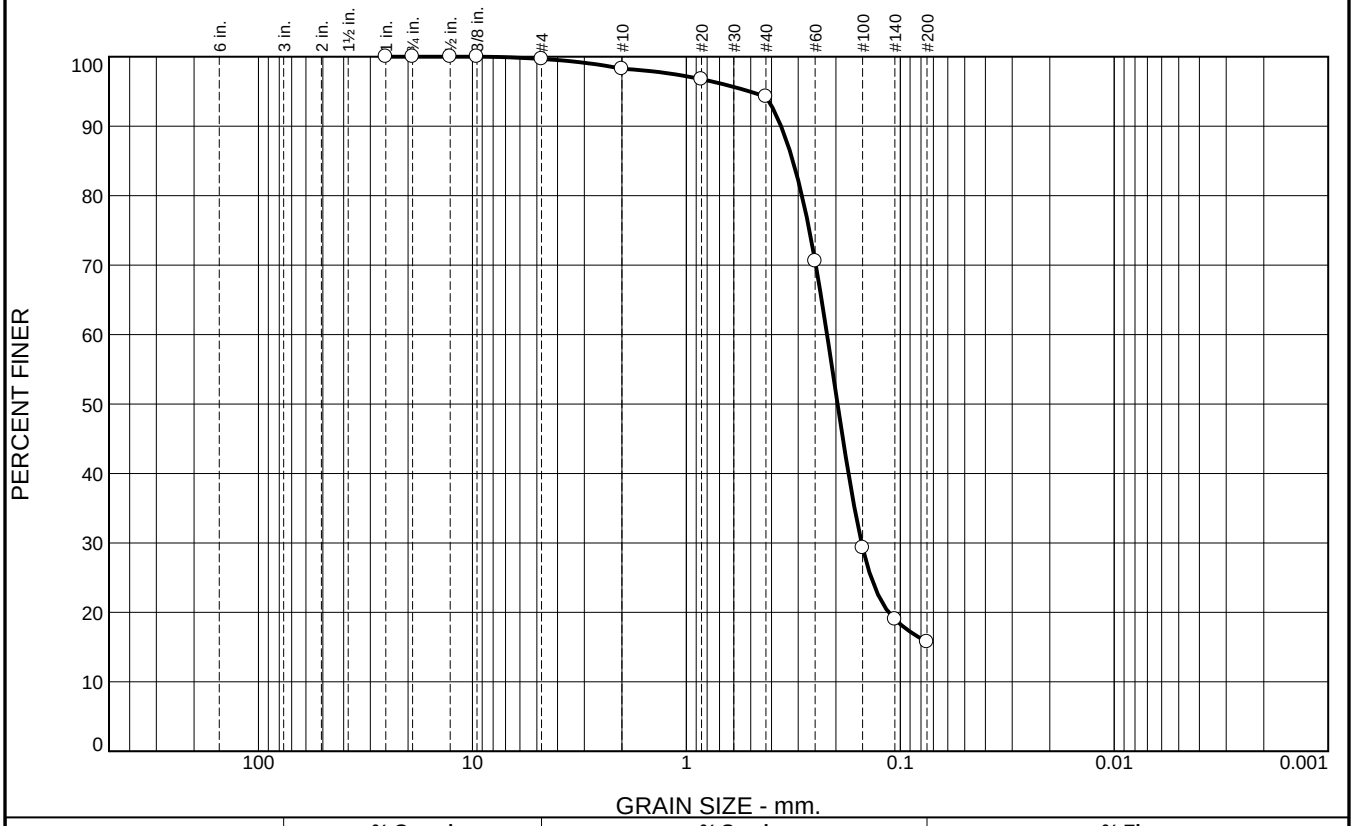
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	1.5	4.0	78.5	15.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.2		
#20	96.8		
#40	94.2		
#60	70.6		
#100	29.3		
#140	19.0		
#200	15.7		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3608 D_{85}= 0.3177 D_{60}= 0.2199
D_{50}= 0.1965 D_{30}= 0.1518 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-7-12 B
Sample Number: 6494 (3) **Depth:** 5.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-08-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-08-12	LOCATION COORDINATES: E = 1,079,712 N = 250,824	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 41.3 Ft.
		15. DATE BORING	STARTED: 12-16-12 / COMPLETED: 12-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -40.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-40.7	0.0				
-41.7	1.0		CLAY, organic-H, mostly organic matter, some clay, some silt, soft, gray and dark gray (OH)	NS	
-43.2	2.5		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, soft, gray (CH)		
-44.7	4.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace clayey lenses, gray (SM)	A	Classification: SP Color: 5Y 5/2-olive gray D50: 0.2045 mm % Fines: 0.4
-48.7	8.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)		
-49.7	9.0		SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, lt. gray and orange (ML)		
-57.2	16.5		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, lt. gray and orange mottle (CH)	NS	

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18937° Long = -88.53118°

Project Missiissippi Barrier Island Restoration Project

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Core Identifier BI-PBC-8-12

Coordinate System
Latitude / Longitude

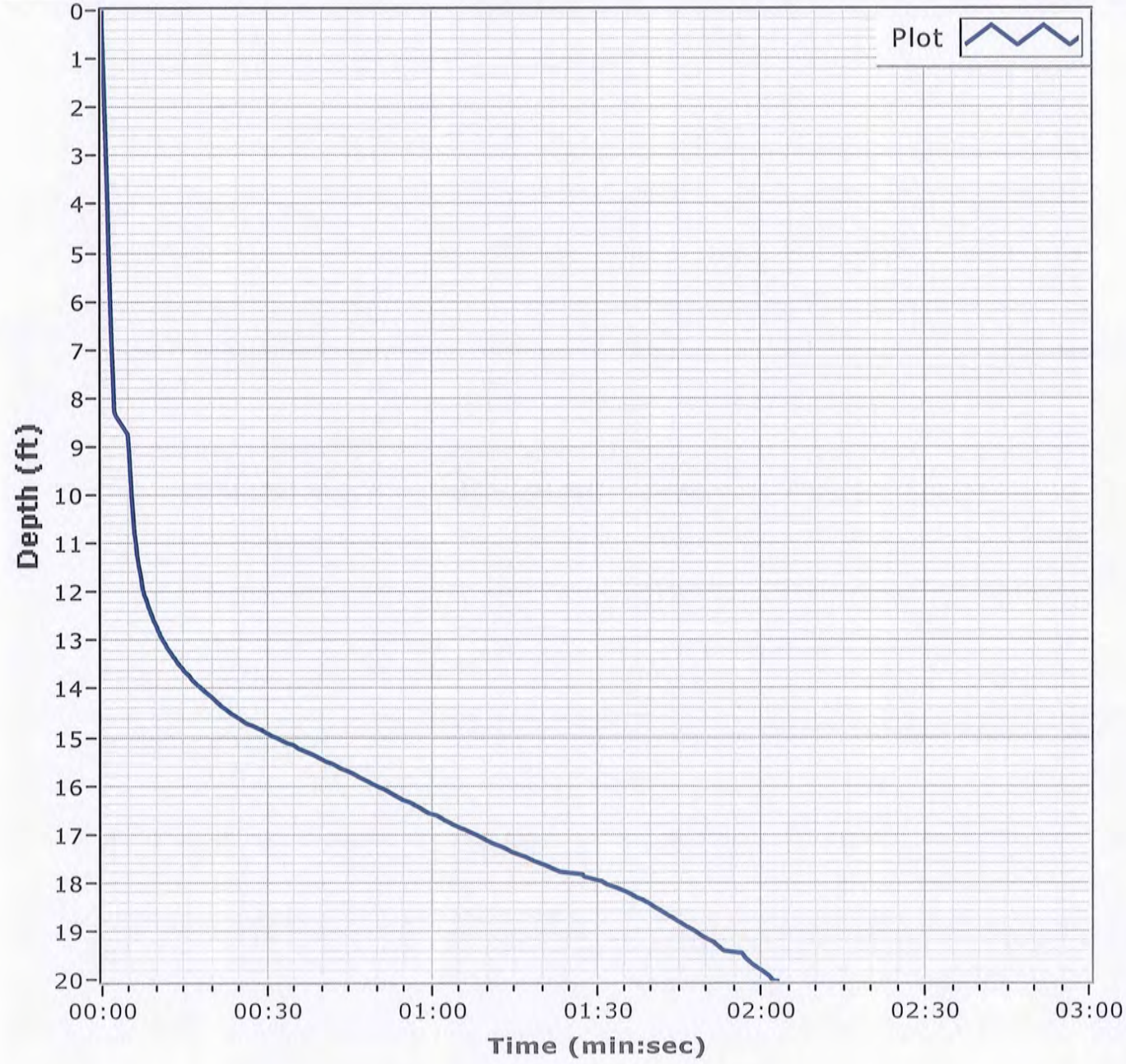
Latitude 30 11.362

Longitude 088 31.871

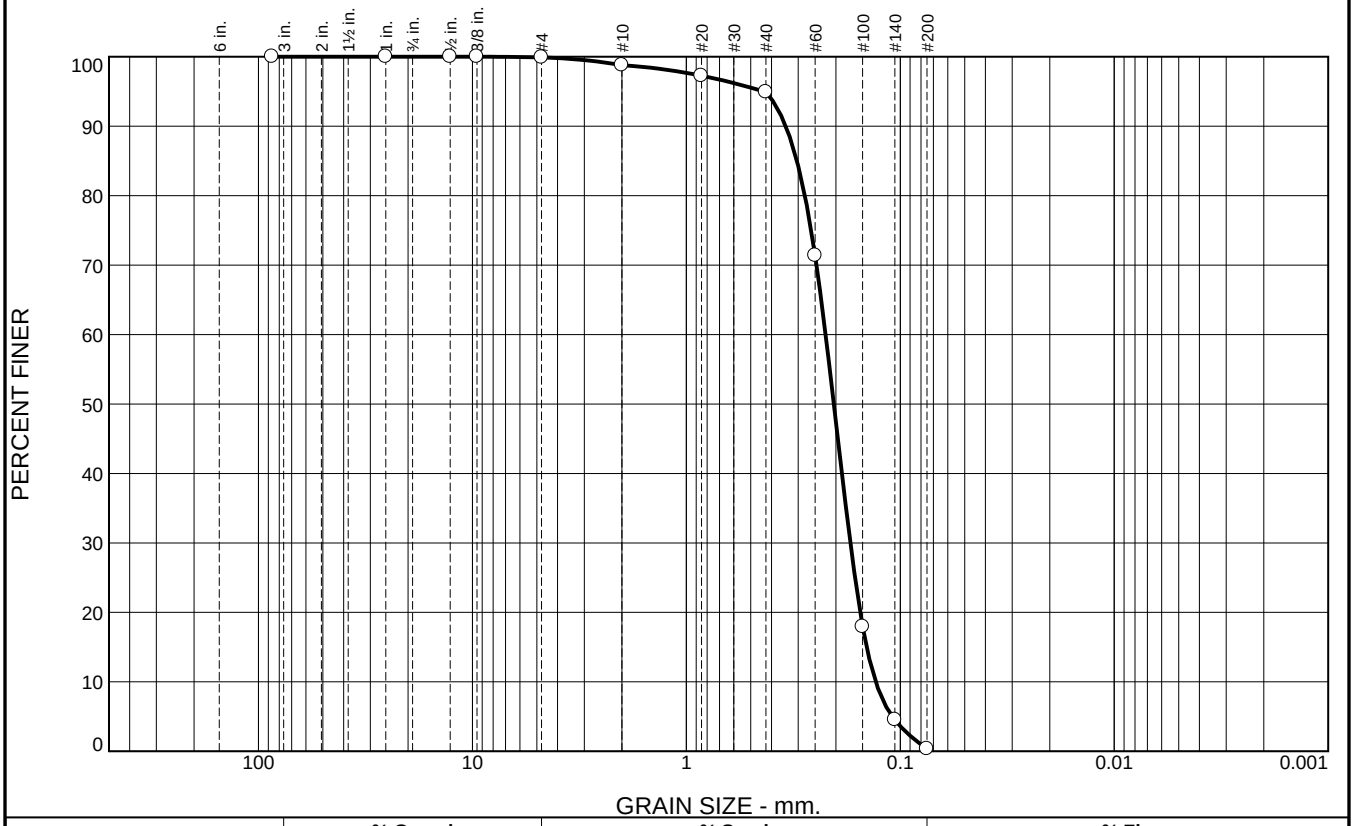
Date 12/16/2012
Start Time 12:06:54
End Time 12:08:57
Total Time 00:02:03

Water Depth 41.3'
Penetration 20.0'
Recovery 16.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	1.1	3.9	94.5	0.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3.4	100.0		
1	100.0		
1/2	100.0		
.375	100.0		
#4	99.9		
#10	98.8		
#20	97.3		
#40	94.9		
#60	71.4		
#100	17.9		
#140	4.5		
#200	0.4		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3429 D_{85}= 0.3043 D_{60}= 0.2234
D_{50}= 0.2045 D_{30}= 0.1712 D_{15}= 0.1437
D_{10}= 0.1304 C_u= 1.71 C_c= 1.01

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBC-8-12 A
Sample Number: 6494 (4) **Depth:** 2.5' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-09-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-09-12	LOCATION COORDINATES: E = 1,078,729 N = 249,687	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 41.2 Ft.	
		15. DATE BORING	STARTED: 12-16-12 / COMPLETED: 12-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -40.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-40.7	0.0				
-42.7	2.0		CLAY, organic-H, mostly organic matter, some clay, some silt, dark gray to black (OH)	NS	
-45.7	5.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, little clay, little shell fragments, clayey lenses, gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1804 mm % Fines: 15.9
-50.7	10.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	NS	
-52.2	11.5		CLAY, lean, mostly clay, trace fine-grained sand-sized quartz, lean, firm, lt. gray (CL)		
-57.5	16.8		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, firm, gray, yellow-orange mottle (CH)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18625° Long = -88.53430°

Project Missiissippi Barrier Island Restoration Project

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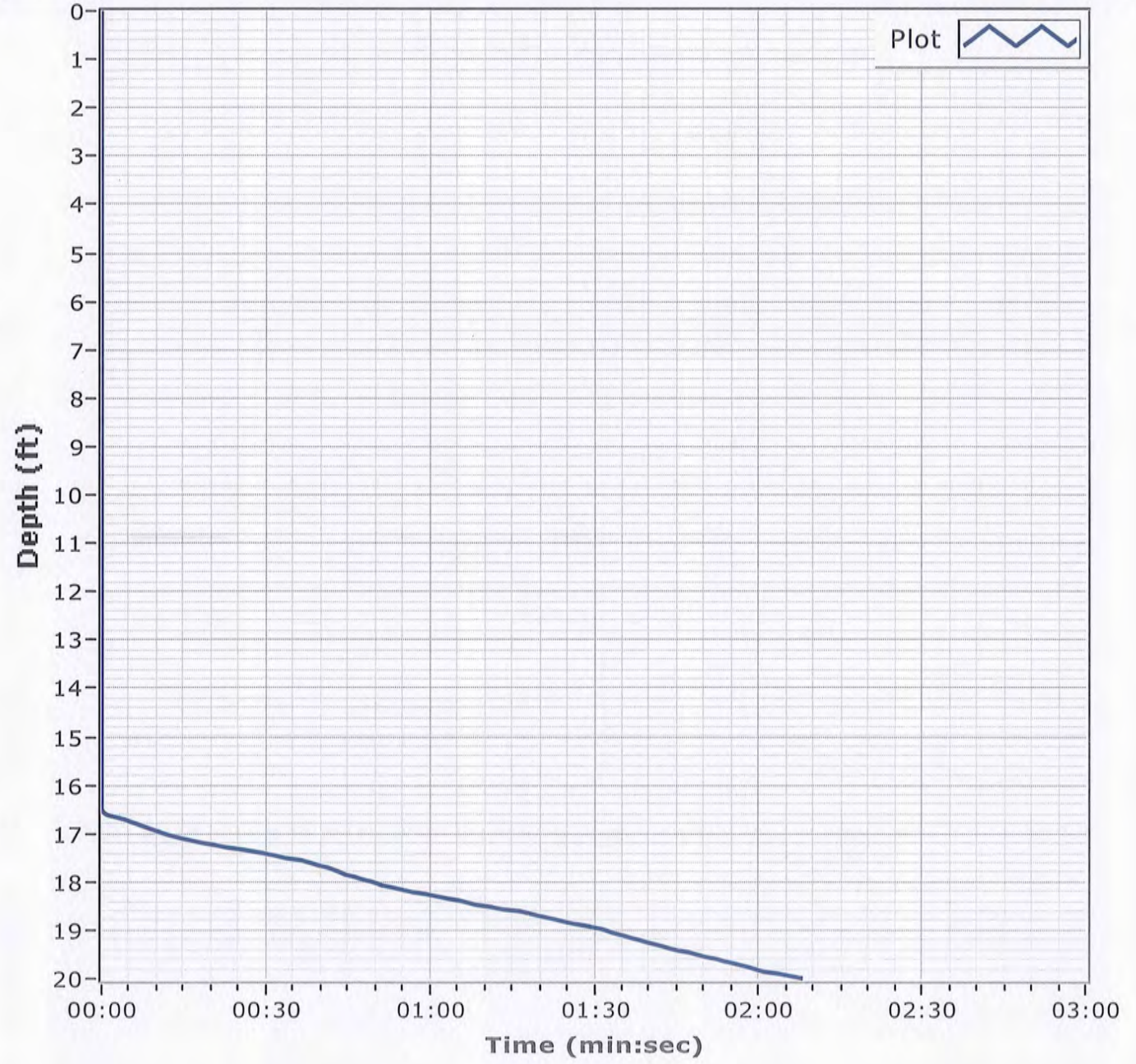
Core Identifier BI-PBC-9-12
Coordinate System
Latitude / Longitude

Date 12/16/2012
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End Time 09:57:37
Total Time 00:02:08

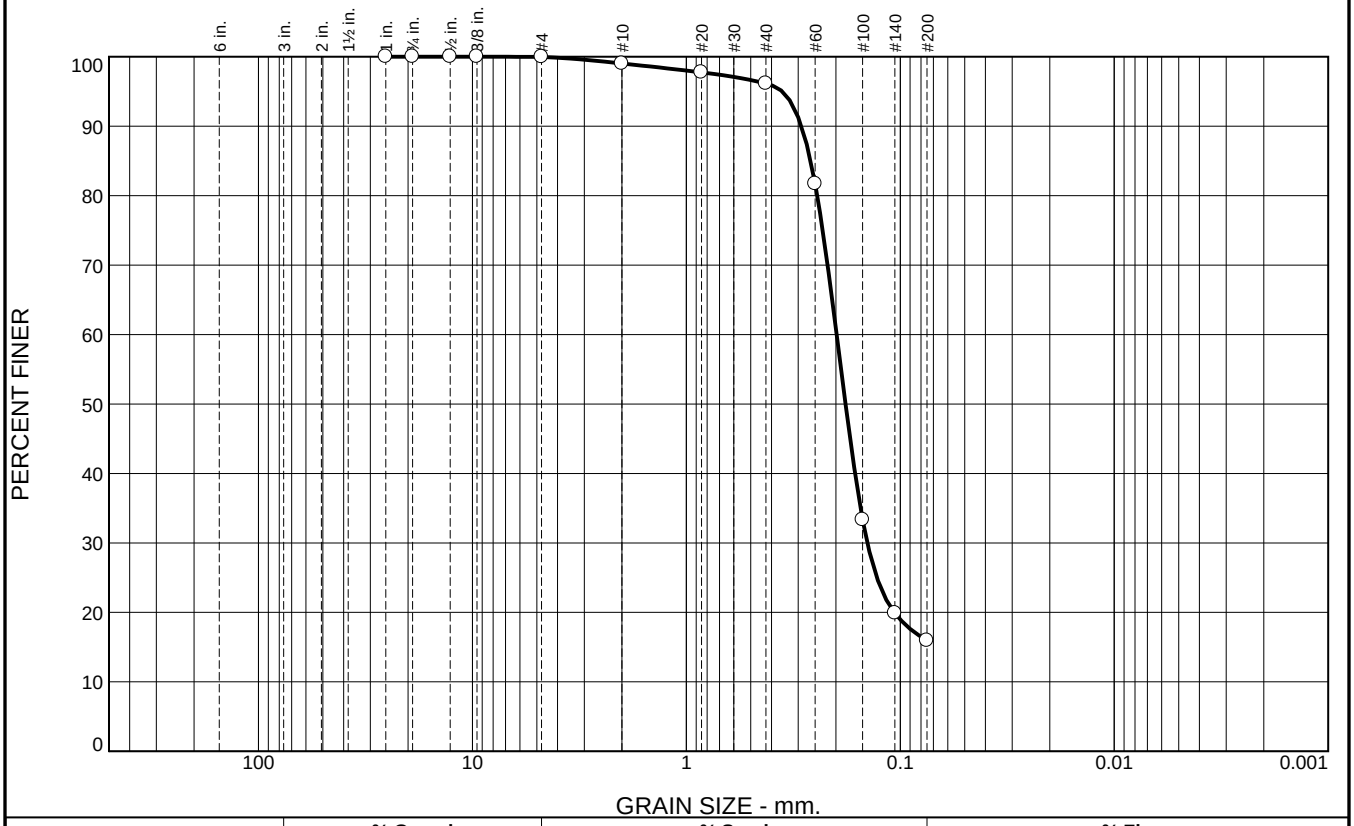
Water Depth 41.2'
Penetration 20.0'
Recovery 16.6'

Latitude 30 11.175
Longitude 088 32.058

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.0	2.9	80.2	15.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.0		
#20	97.7		
#40	96.1		
#60	81.7		
#100	33.3		
#140	19.9		
#200	15.9		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2900 D_{85}= 0.2625 D_{60}= 0.1984
D_{50}= 0.1804 D_{30}= 0.1426 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-9-12 A
Sample Number: 6494 (5) **Depth:** 2.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-10-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-10-12	LOCATION COORDINATES: E = 1,079,134 N = 249,331	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 42.7 Ft.	
		15. DATE BORING	STARTED: 12-16-12 / COMPLETED: 12-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -42.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-42.2	0.0				
-43.0	0.8		CLAY, organic-H, mostly organic matter, some clay, some silt, soft, dark gray (OH)	NS	
-44.0	1.8		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fines, trace shell fragments, gray (SP)	A	Classification: SP-SM Color: 5Y 5/3-olive D50: 0.1764 mm % Fines: 10.2
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)		
-51.2	9.0			NS	
			CLAY, lean, mostly clay, trace fine-grained sand-sized quartz, very stiff, lt. gray and orange mottle (CL)		
-57.2	15.0				

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18527° Long = -88.53302°

Project Missiissippi Barrier Island Restoration Project

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Core Identifier BI-PBC-10-12

Coordinate System
Latitude / Longitude

Latitude 30 11.116

Longitude 088 31.981

Date 12/16/2012

Start Time 10:27:33

End Time 10:29:27

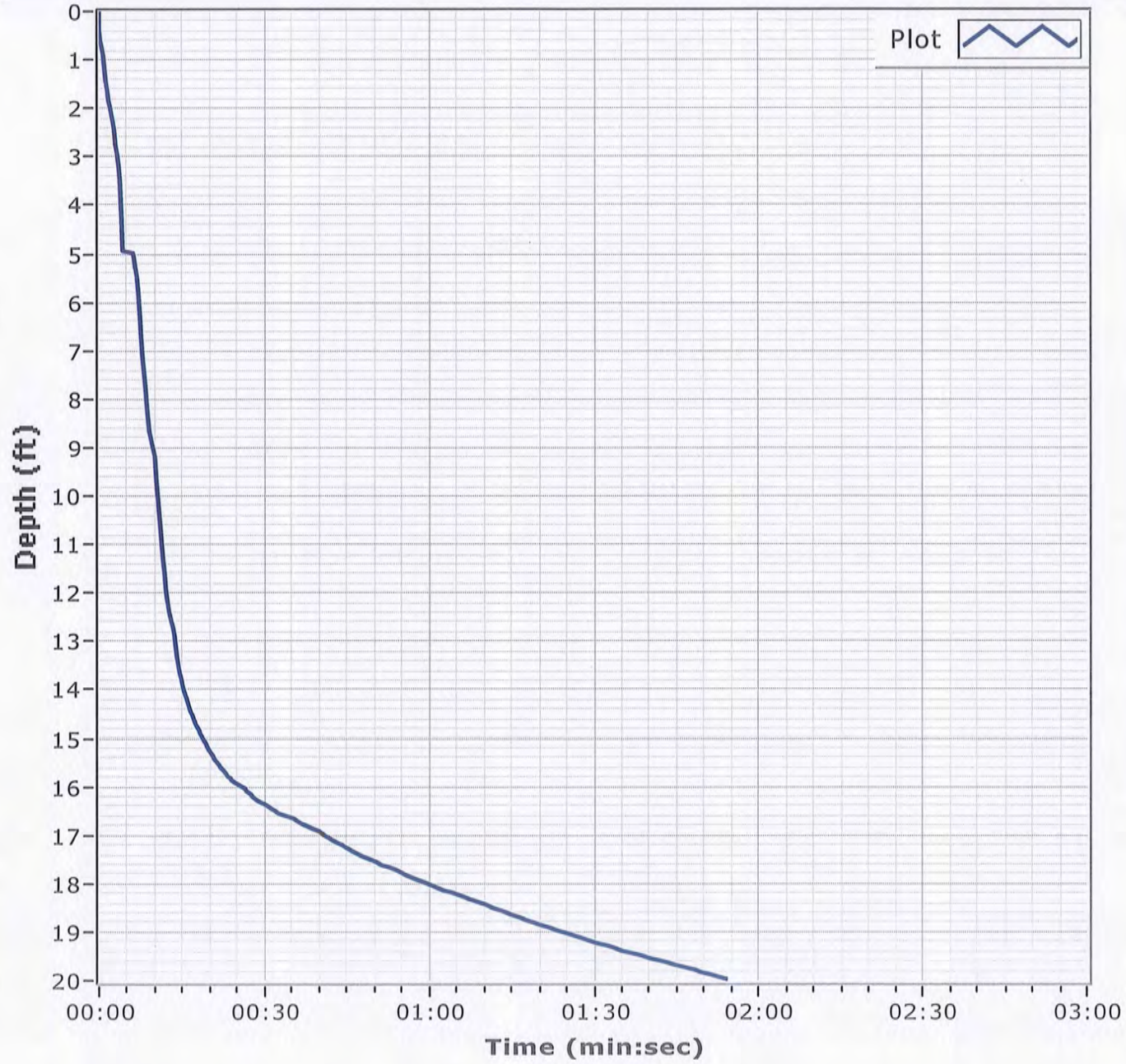
Total Time 00:01:54

Water Depth 42.7

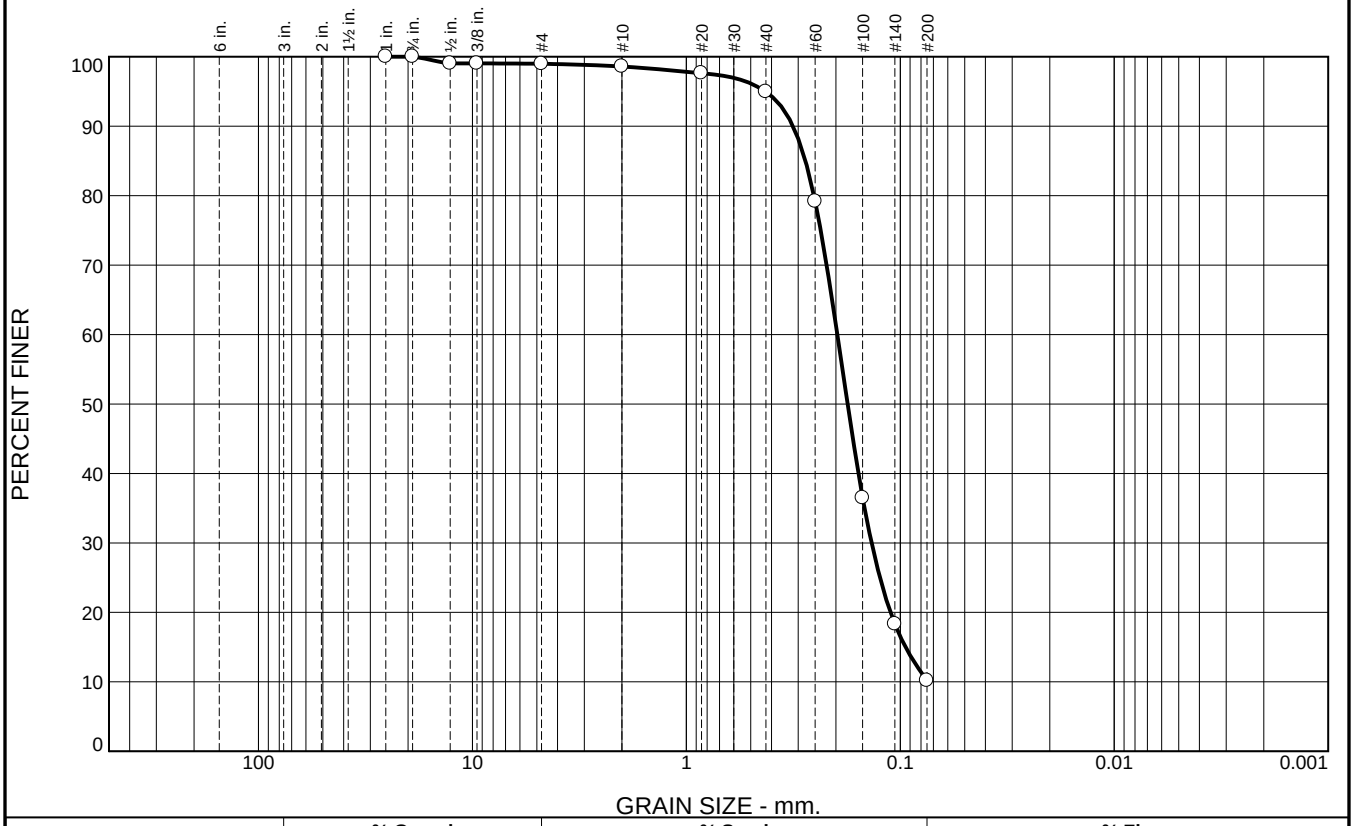
Penetration 20.0'

Recovery 15.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.0	0.4	3.7	84.7	10.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.0		
.375	99.0		
#4	99.0		
#10	98.6		
#20	97.6		
#40	94.9		
#60	79.2		
#100	36.5		
#140	18.3		
#200	10.2		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3175 D_{85}= 0.2777 D_{60}= 0.1970
D_{50}= 0.1764 D_{30}= 0.1363 D_{15}= 0.0946
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBC-10-12 A
Sample Number: 6494 (6) **Depth:** 0.8' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-11-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-11-12	LOCATION COORDINATES: E = 1,077,743 N = 248,564	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 42.3 Ft.
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -41.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-41.5	0.0				
-43.5	2.0		CLAY, fat, mostly clay, soft, gray to brown (CH)	NS	
-45.5	4.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, gray (SP)	A	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.1992 mm % Fines: 7.3
-47.5	6.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace clayey lenses, gray (SM)	C	Classification: SM Color: 5Y 5/2-olive gray D50: 0.173 mm % Fines: 16.1
-53.5	12.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)	NS	
-56.8	15.3		CLAY, fat, mostly clay, little fine-grained sand-sized quartz, gray (CH)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18317° Long = -88.53743°

Project Mississippi Barrier Island Restoration Project

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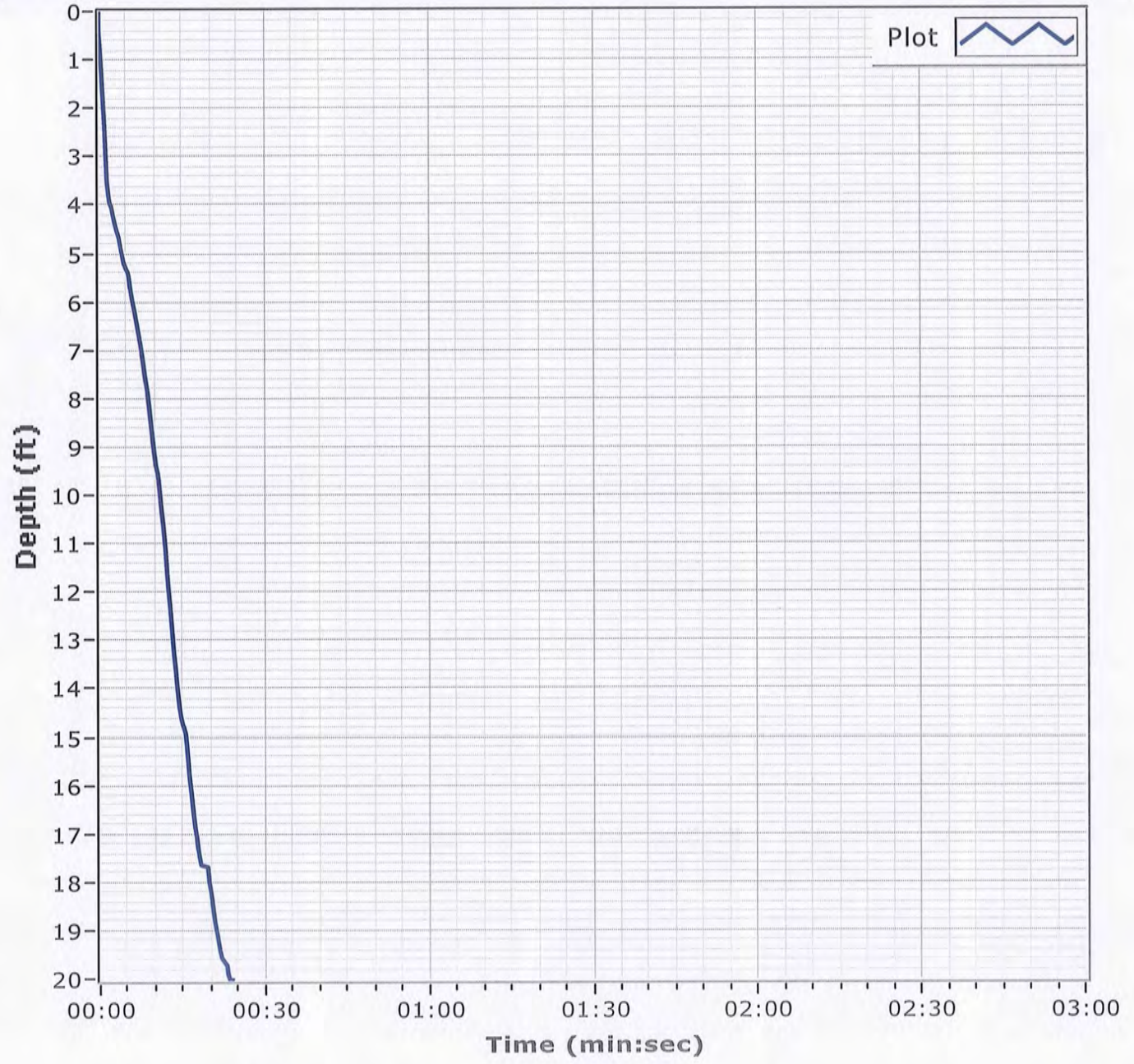
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Coordinate System
Latitude / Longitude

Date 12/15/2012
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Total Time 00:00:24

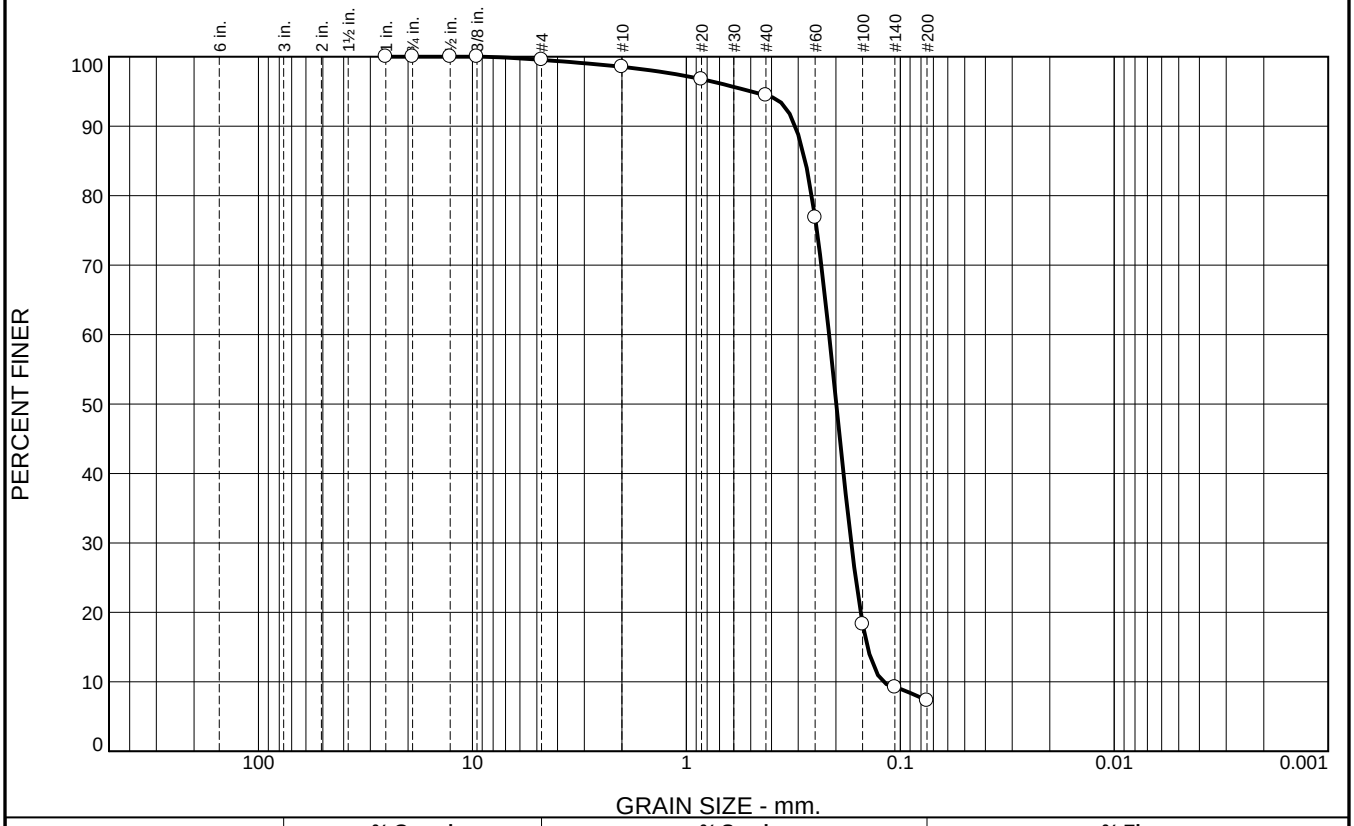
Water Depth 42.3'
Penetration 20.0'
Recovery 15.5'

Latitude 30 10.990
Longitude 088 32.246

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	1.0	4.1	87.1	7.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	98.5		
#20	96.8		
#40	94.4		
#60	76.8		
#100	18.3		
#140	9.2		
#200	7.3		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3098 D_{85}= 0.2785 D_{60}= 0.2152
D_{50}= 0.1992 D_{30}= 0.1697 D_{15}= 0.1423
D_{10}= 0.1201 C_u= 1.79 C_c= 1.12

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBC-11-12 A
Sample Number: 6494 (7) **Depth:** 2.0' **Date:** 12/26/12

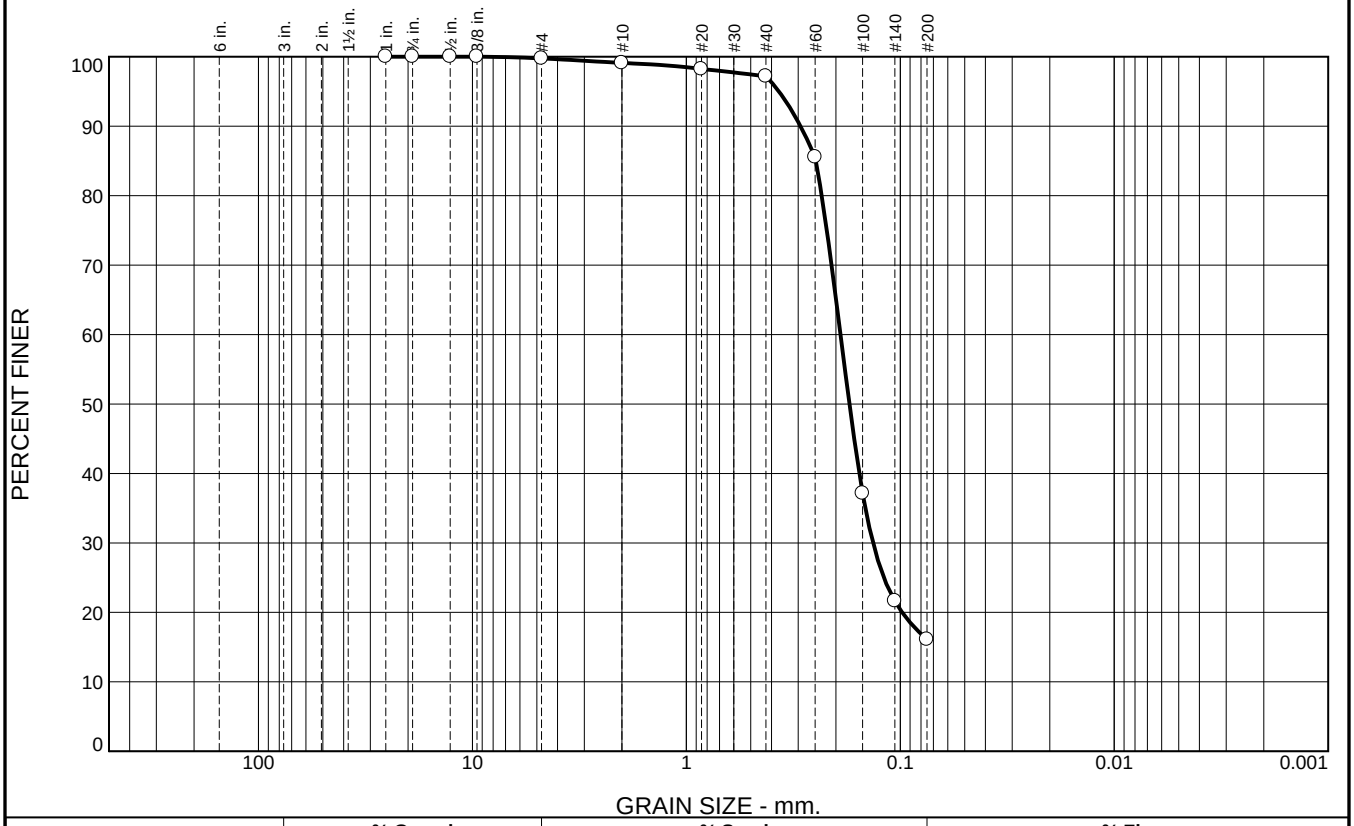
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.7	1.9	81.1	16.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.1		
#20	98.2		
#40	97.2		
#60	85.5		
#100	37.1		
#140	21.6		
#200	16.1		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2930 D_{85}= 0.2481 D_{60}= 0.1904
D_{50}= 0.1730 D_{30}= 0.1342 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-11-12 B
Sample Number: 6494 (8) **Depth:** 4.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-12-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-12-12	LOCATION COORDINATES: E = 1,077,178 N = 247,064	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 43.9 Ft.	
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -43.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-43.3	0.0				
-46.3	3.0		CLAY, organic-H, mostly organic matter, highly plastic clay/silt, dark gray to black (OH)	NS	
-47.3	4.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, some shell fragments, trace silt, gray (SP)	A	Classification: SP-SM Color: 5Y 5/2-olive gray D50: 0.2037 mm % Fines: 10.6
-51.3	8.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace clayey lenses, greenish gray (SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1606 mm % Fines: 18.6
-55.3	12.0		SAND, clayey, mostly fine-grained sand-sized quartz, trace shell fragments, gray (SC)	NS	
-59.5	16.2		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, gray and grayish brown (CH)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.17905° Long = -88.53923°

Project Mississippi Barrier Island Restoration Project

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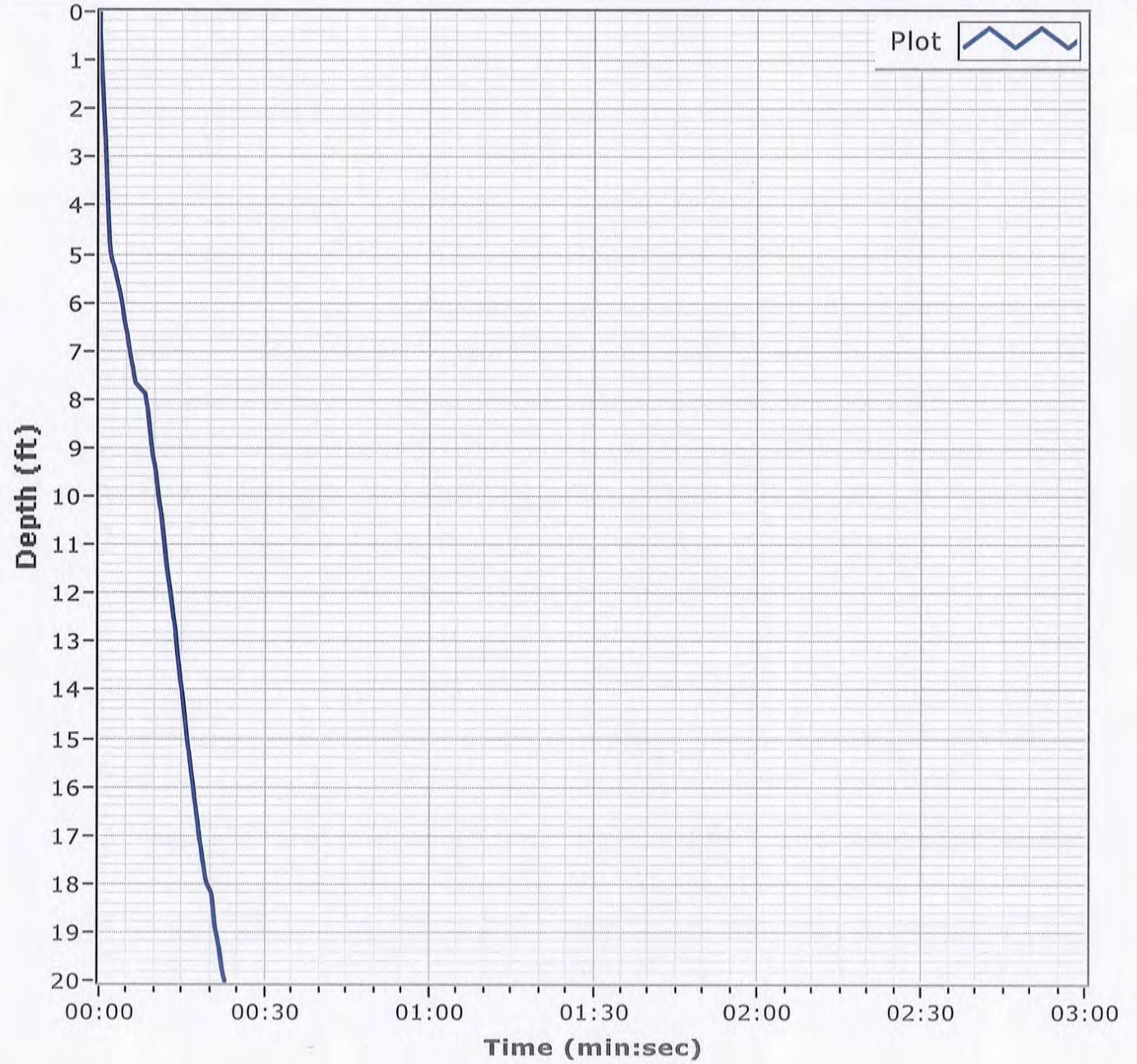
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Coordinate System
Latitude / Longitude

Latitude 30 10.743
Longitude 088 32.354

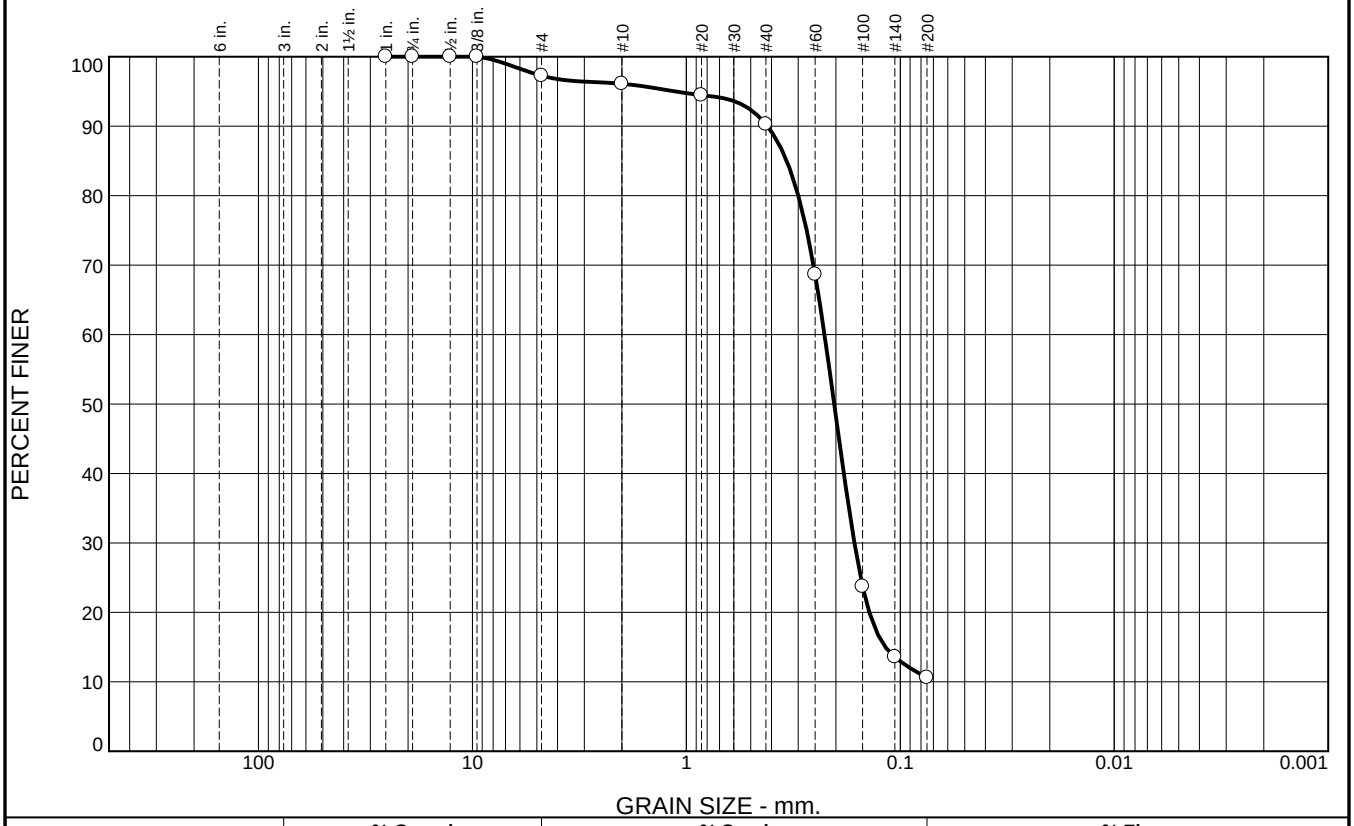
Date 12/15/2012
Start Time 13:52:52
End Time 13:53:15
Total Time 00:00:22

Water Depth 43.9'
Penetration 20.0'
Recovery 16.2'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.7	1.2	5.8	79.7	10.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	97.3		
#10	96.1		
#20	94.5		
#40	90.3		
#60	68.6		
#100	23.7		
#140	13.6		
#200	10.6		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4179 D_{85}= 0.3396 D_{60}= 0.2261
D_{50}= 0.2037 D_{30}= 0.1640 D_{15}= 0.1174
D_{10}= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBC-12-12 A
Sample Number: 6494 (9) **Depth:** 3.0' **Date:** 12/26/12

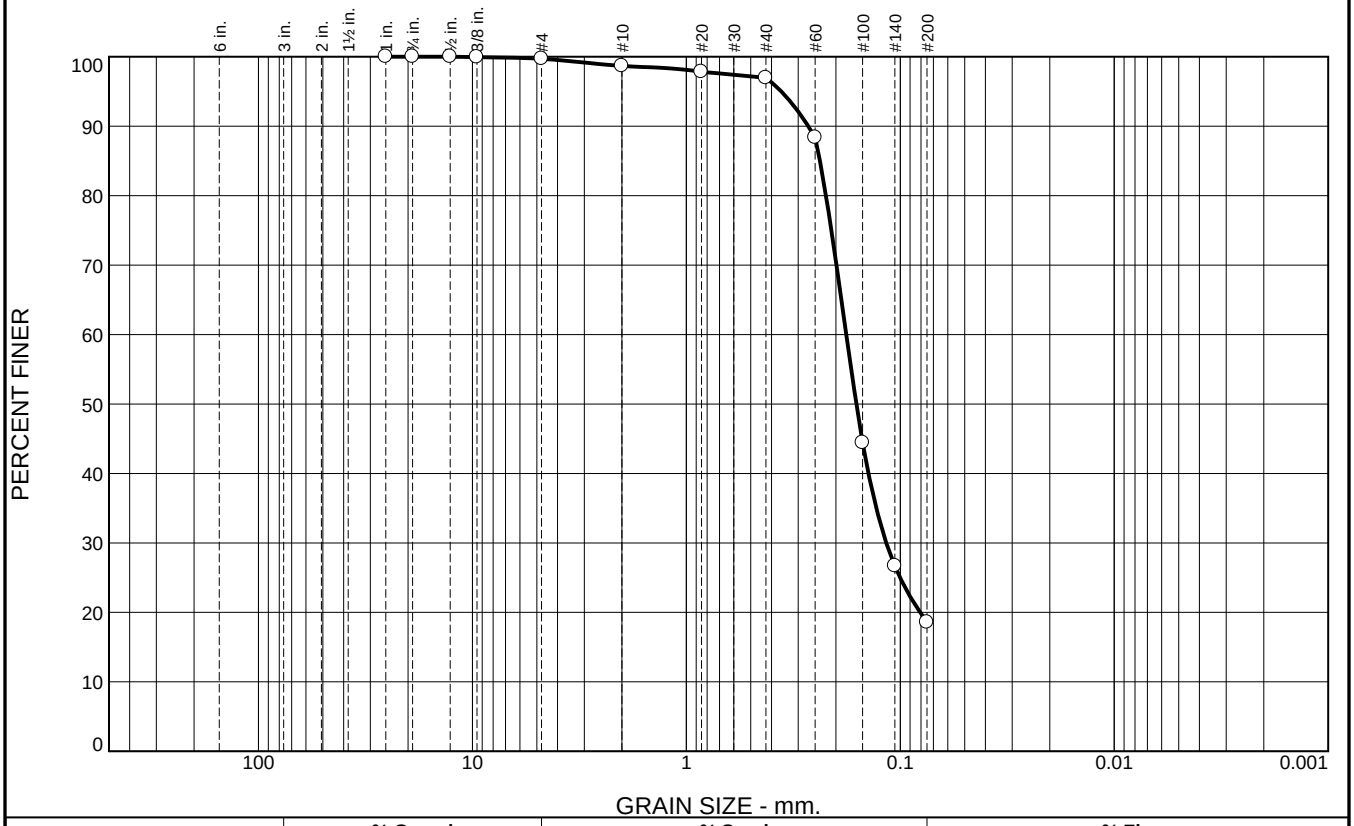
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	1.0	1.8	78.3	18.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.9		
#4	99.7		
#10	98.7		
#20	97.8		
#40	96.9		
#60	88.4		
#100	44.4		
#140	26.7		
#200	18.6		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2696 D_{85}= 0.2374 D_{60}= 0.1790
D_{50}= 0.1606 D_{30}= 0.1163 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-12-12 B
Sample Number: 6494 (10) **Depth:** 4.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-13-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-13-12	LOCATION COORDINATES: E = 1,075,777 N = 246,290	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 42.3 Ft.
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -41.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-41.8	0.0				
-42.6	0.8		CLAY, fat, mostly clay, very soft, gray (CH)	NS	
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace clay lenses, gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1674 mm % Fines: 17.4
				B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1486 mm % Fines: 19.2
-50.8	9.0				
-52.8	11.0		SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, trace shell fragments, gray (ML)	NS	
-55.3	13.5		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)		
-57.5	15.7		CLAY, fat, mostly clay, soft, gray and brown (CH)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.17693° Long = -88.54367°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

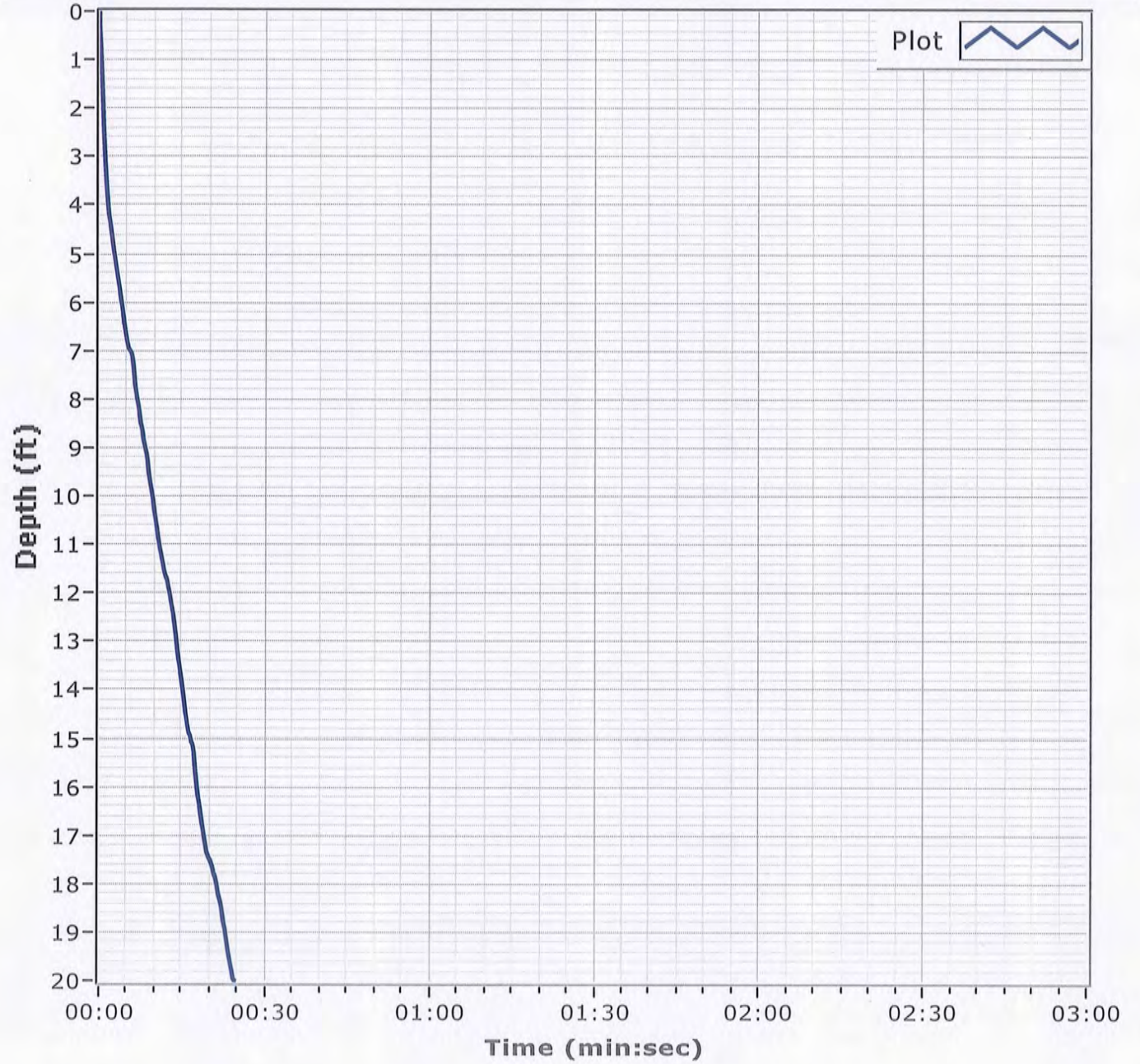
Core Identifier BI-PBC-13-12
Coordinate System
Latitude / Longitude

Latitude 30 10.616
Longitude 088 32.620

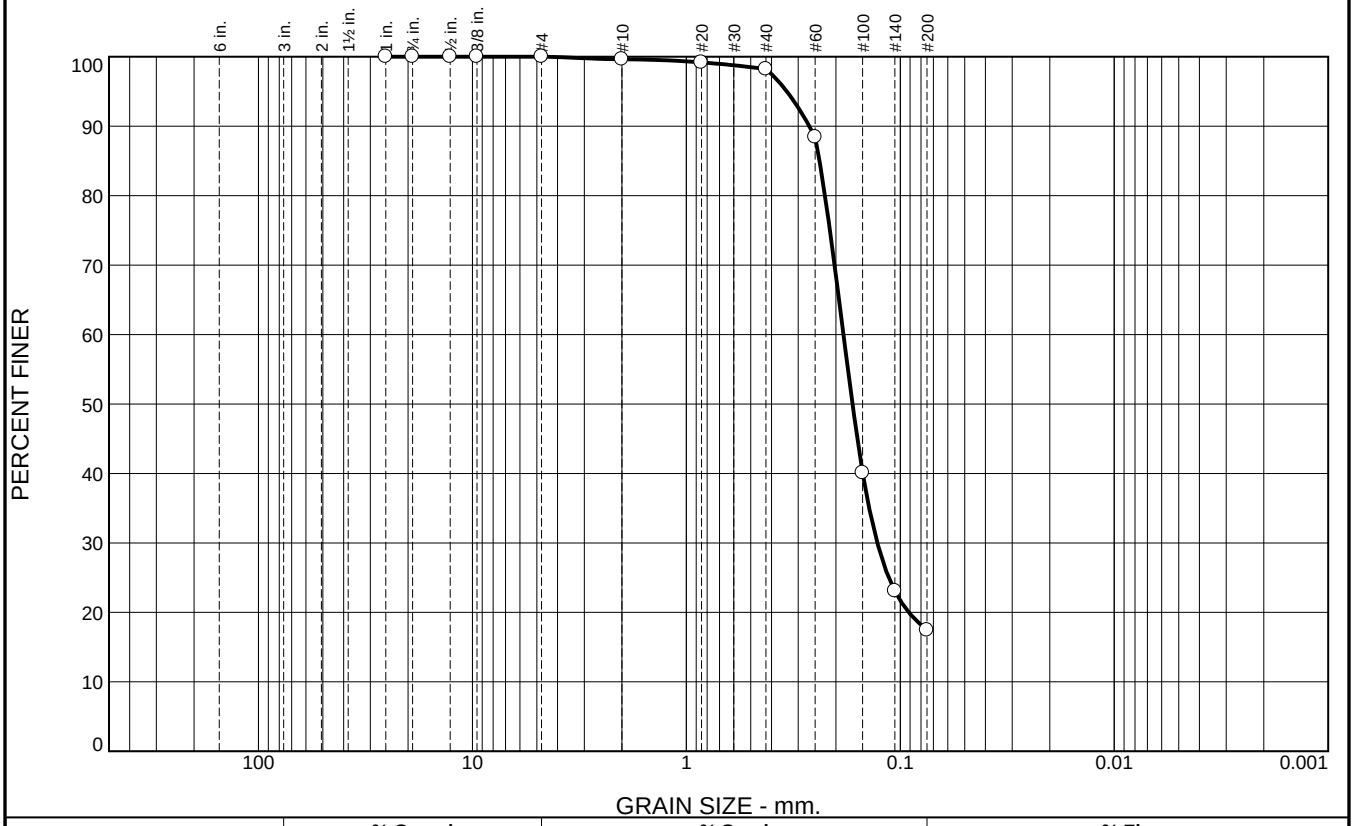
Date 12/15/2012
Start Time 13:05:20
End Time 13:05:45
Total Time 00:00:24

Water Depth 42.3'
Penetration 20.0'
Recovery 15.6'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	1.4	80.8	17.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.6		
#20	99.2		
#40	98.2		
#60	88.4		
#100	40.1		
#140	23.1		
#200	17.4		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2663 D_{85}= 0.2385 D_{60}= 0.1845
D_{50}= 0.1674 D_{30}= 0.1281 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-13-12 A
Sample Number: 6494 (11) **Depth:** 0.8' **Date:** 12/26/12

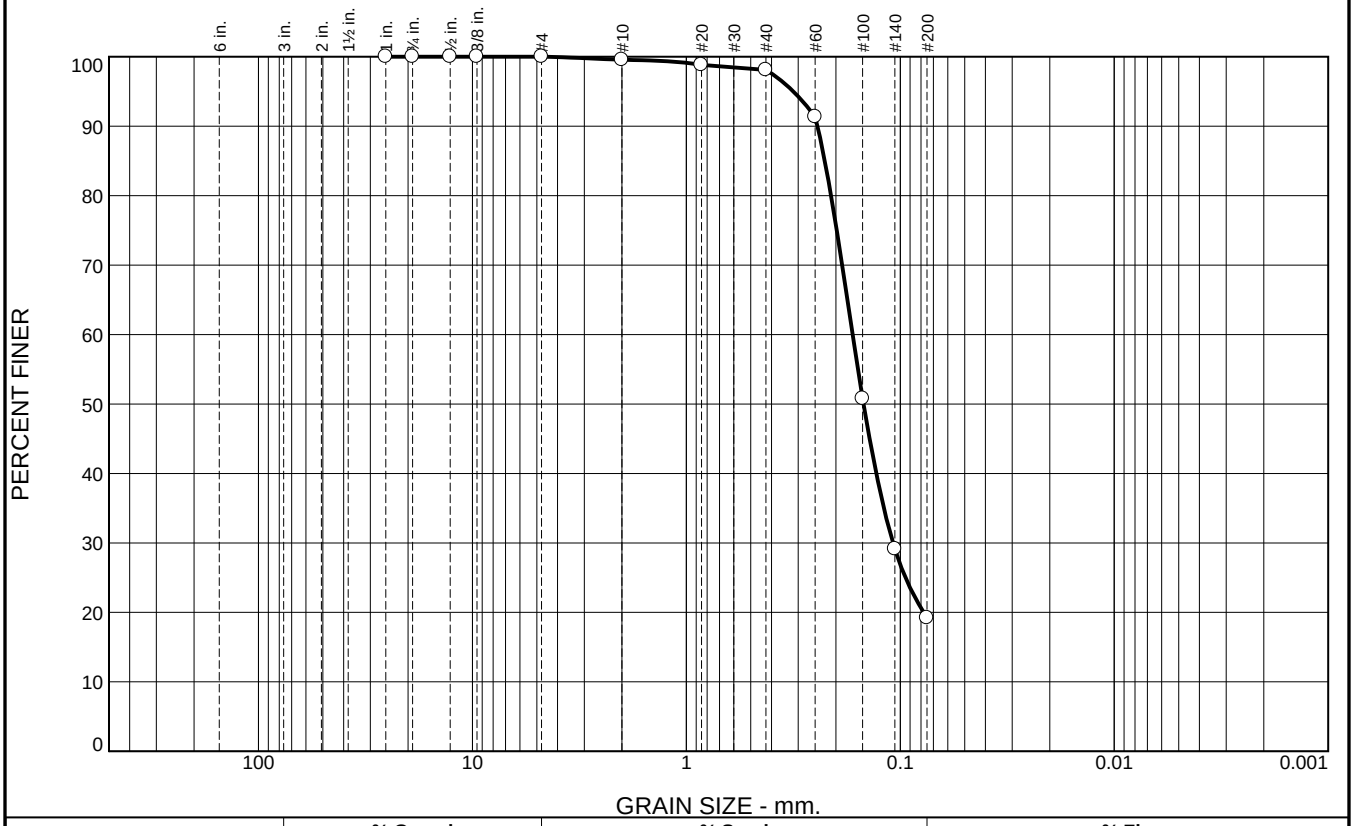
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	1.5	78.9	19.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.6		
#20	98.8		
#40	98.1		
#60	91.3		
#100	50.8		
#140	29.1		
#200	19.2		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2438 D_{85}= 0.2252 D_{60}= 0.1671
D_{50}= 0.1486 D_{30}= 0.1081 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-13-12 B
Sample Number: 6494 (12) **Depth:** 5.8' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-14-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-14-12	LOCATION COORDINATES: E = 1,075,212 N = 244,797	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 42.6 Ft.
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -42.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-42.5	0.0				
-42.8	0.3		CLAY, fat, mostly clay, soft, gray (CH)	NS	
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, little shell fragments, clay lenses, gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1681 mm % Fines: 15.4
				B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.152 mm % Fines: 19.9
-53.5	11.0				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace fine-grained sand-sized quartz, trace shell fragments, gray (SC)	NS	
-55.5	13.0		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace shell fragments, gray (CH)		
-58.8	16.3				

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.17283° Long = -88.54547°

Project Mississippi Barrier Island Restoration Project

AVS
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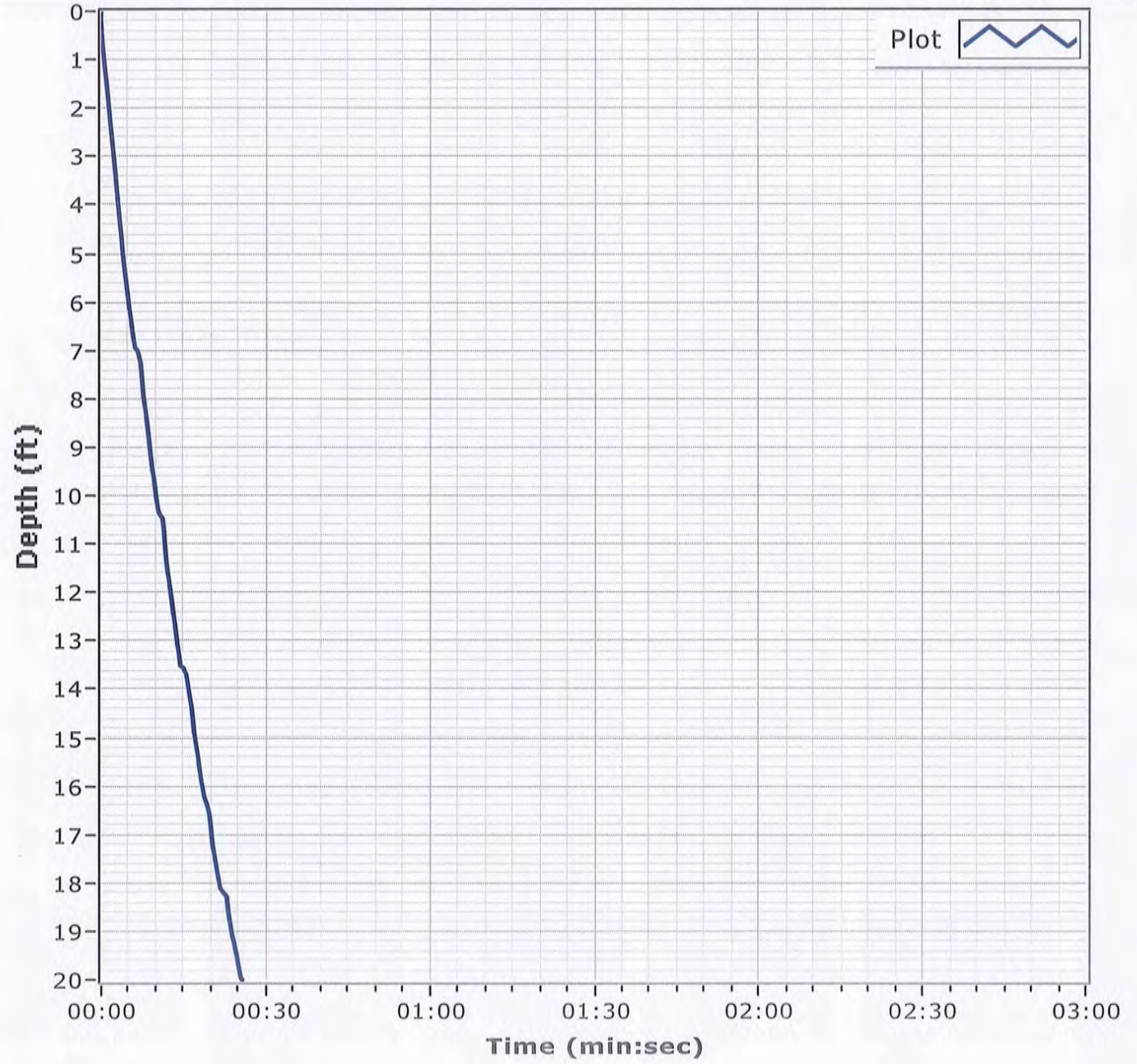
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Coordinate System
Latitude / Longitude

Latitude 30 10.370
Longitude 088 32.728

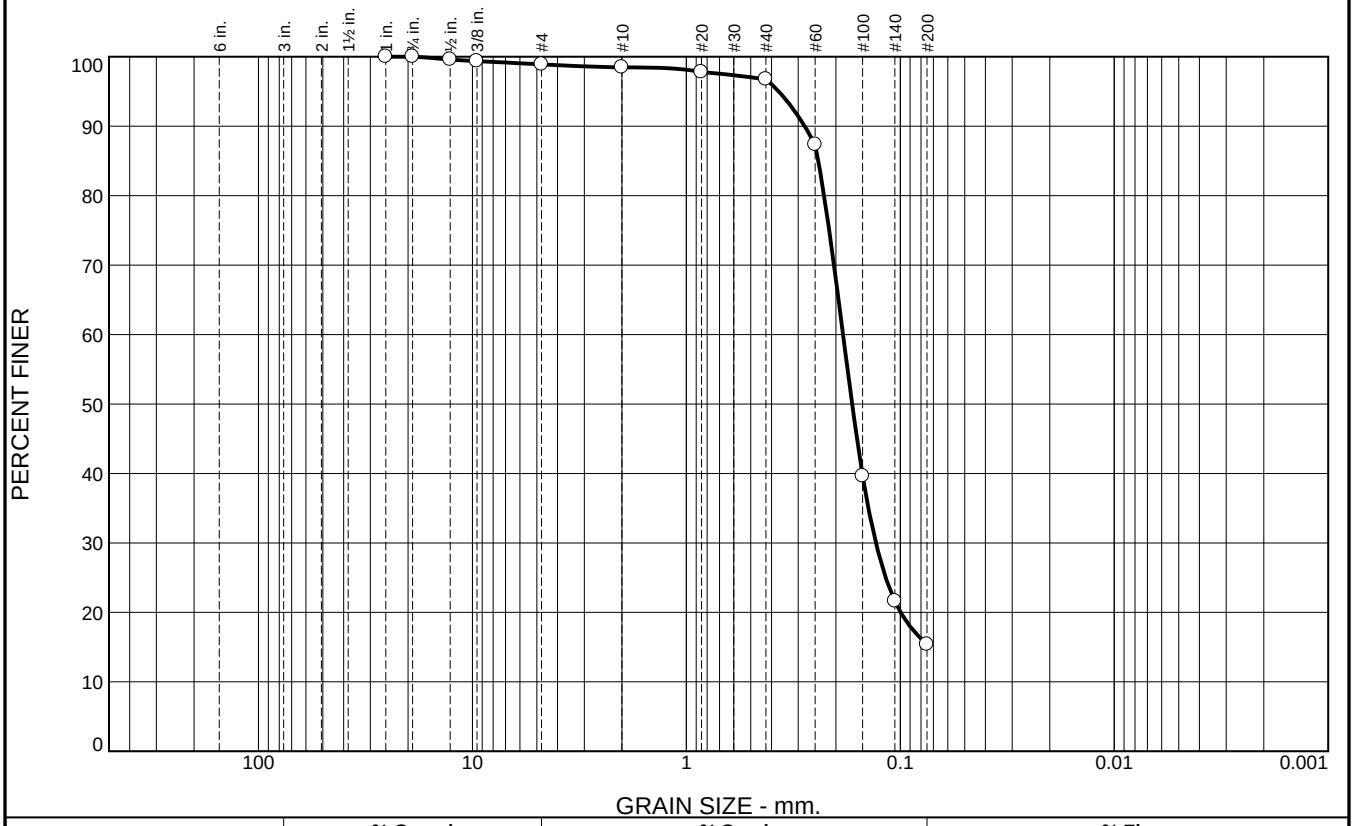
Date 12/15/2012
Start Time 11:01:28
End Time 11:01:54
Total Time 00:00:26

Water Depth 42.6'
Penetration 20.0'
Recovery 16.2'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.1	0.4	1.8	81.3	15.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.6		
.375	99.4		
#4	98.9		
#10	98.5		
#20	97.8		
#40	96.7		
#60	87.4		
#100	39.6		
#140	21.6		
#200	15.4		

* (no specification provided)

Material Description

Fine grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2802 D_{85}= 0.2416 D_{60}= 0.1853
D_{50}= 0.1681 D_{30}= 0.1301 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-14-12 A
Sample Number: 6494 (13) **Depth:** 0.25' **Date:** 12/26/12

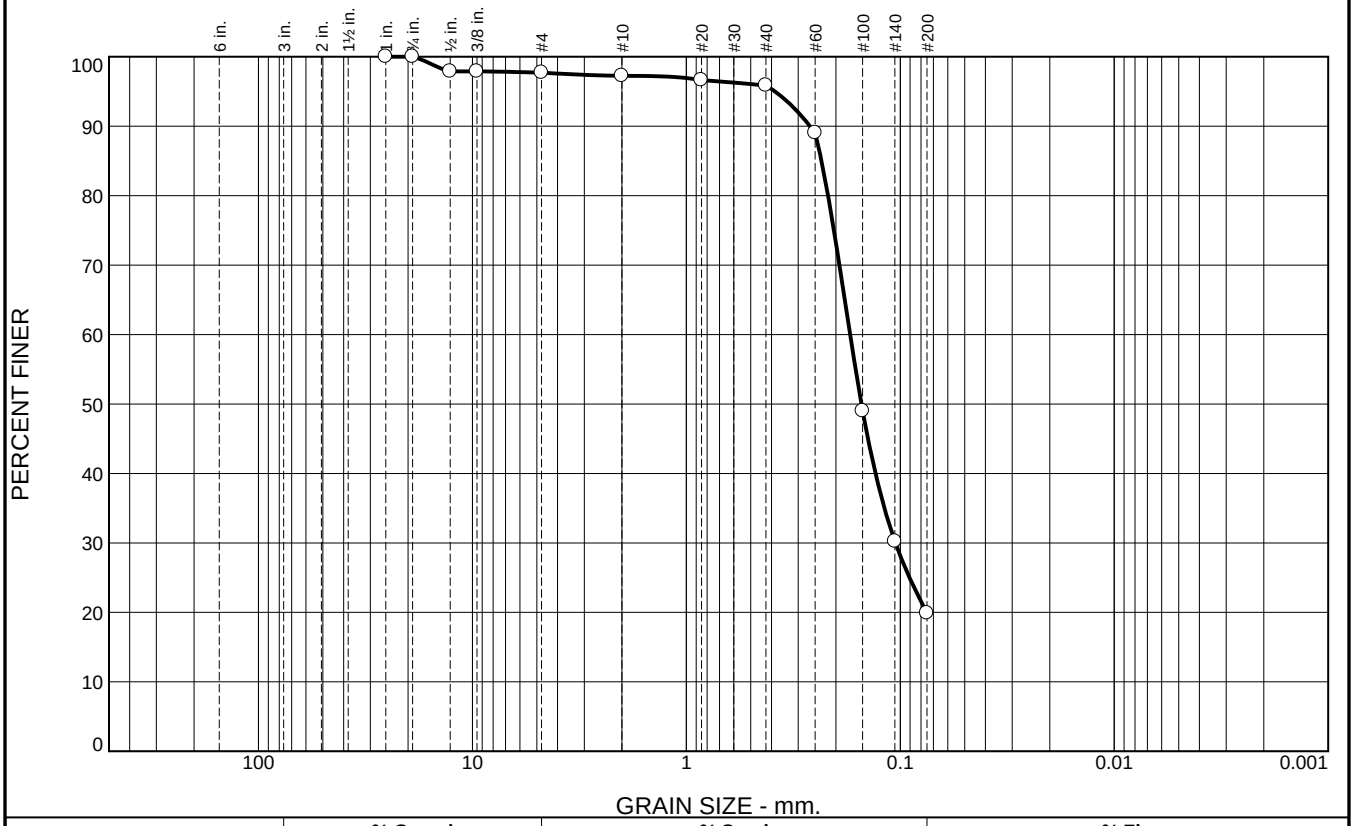
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.3	0.5	1.3	76.0	19.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	97.9		
.375	97.9		
#4	97.7		
#10	97.2		
#20	96.6		
#40	95.9		
#60	89.0		
#100	49.0		
#140	30.2		
#200	19.9		

* (no specification provided)

Material Description

Fine grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2644 D_{85}= 0.2334 D_{60}= 0.1717
D_{50}= 0.1520 D_{30}= 0.1054 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-14-12 B
Sample Number: 6494 (14) **Depth:** 5.25' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-15-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-15-12	LOCATION COORDINATES: E = 1,073,808 N = 244,019	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 41.4 Ft.
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -41.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-41.4	0.0				
-41.9	0.5		CLAY, fat, mostly clay, soft, grayish brown (CH)	NS	
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, little shell fragments, trace clay, silt predominant 10-12 ft., gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1566 mm % Fines: 16.5
				B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1526 mm % Fines: 17.8
-53.4	12.0				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)	NS	
-55.4	14.0				
-56.8	15.4		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace shell fragments, soft, gray (CH)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.17070° Long = -88.54992°

Project Mississippi Barrier Island Restoration Project

AVS
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SERVICES

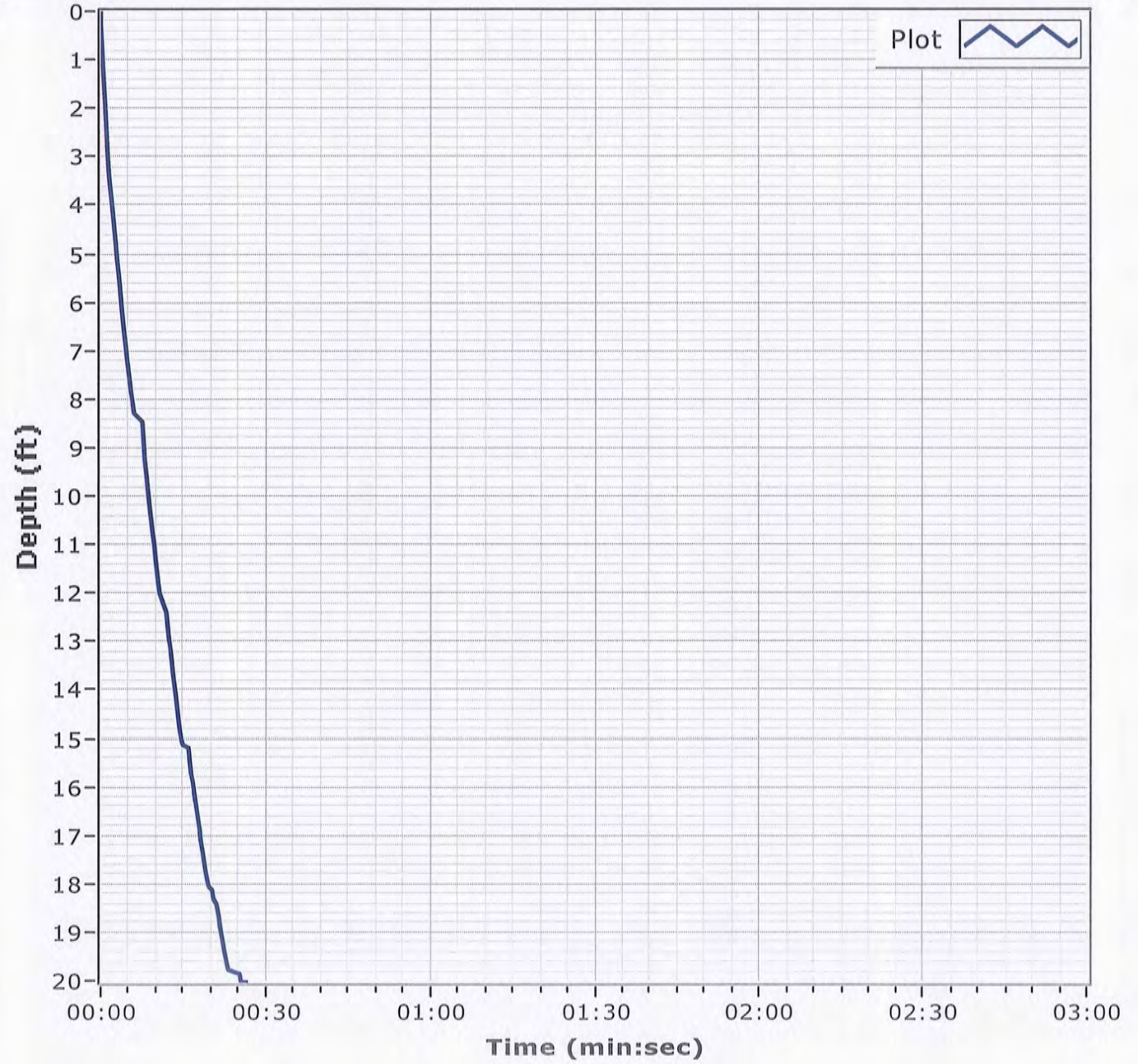
Core Identifier BI-PBC-15-12
Coordinate System
Latitude / Longitude

Latitude 30 10.242
Longitude 088 32.995

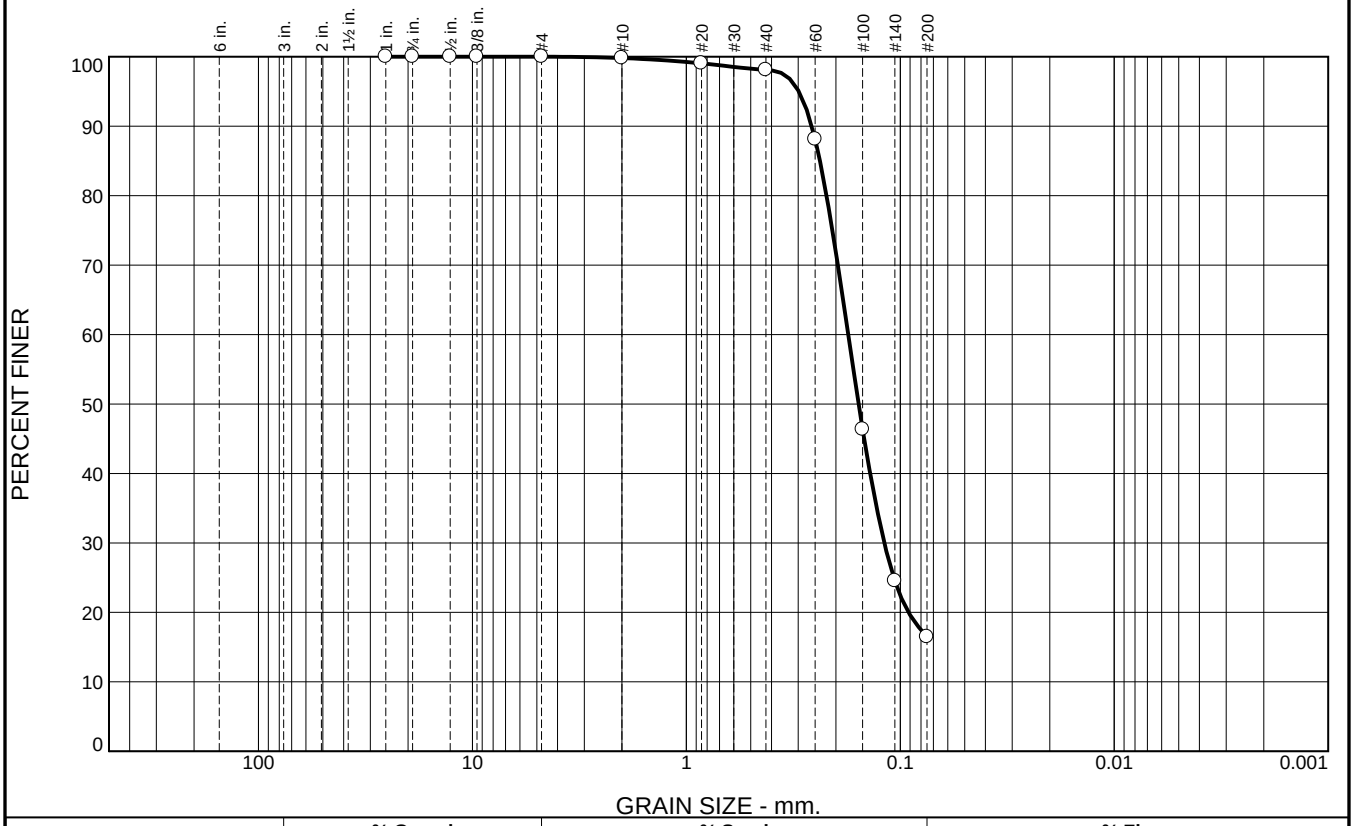
Date 12/15/2012
Start Time 10:03:12
End Time 10:03:39
Total Time 00:00:26

Water Depth 41.4'
Penetration 20.0'
Recovery 15.4'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	1.7	81.6	16.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.8		
#20	99.0		
#40	98.1		
#60	88.1		
#100	46.3		
#140	24.5		
#200	16.5		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2593 D_{85}= 0.2373 D_{60}= 0.1752
D_{50}= 0.1566 D_{30}= 0.1188 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-15-12 A
Sample Number: 6494 (15) **Depth:** 0.5' **Date:** 12/26/12

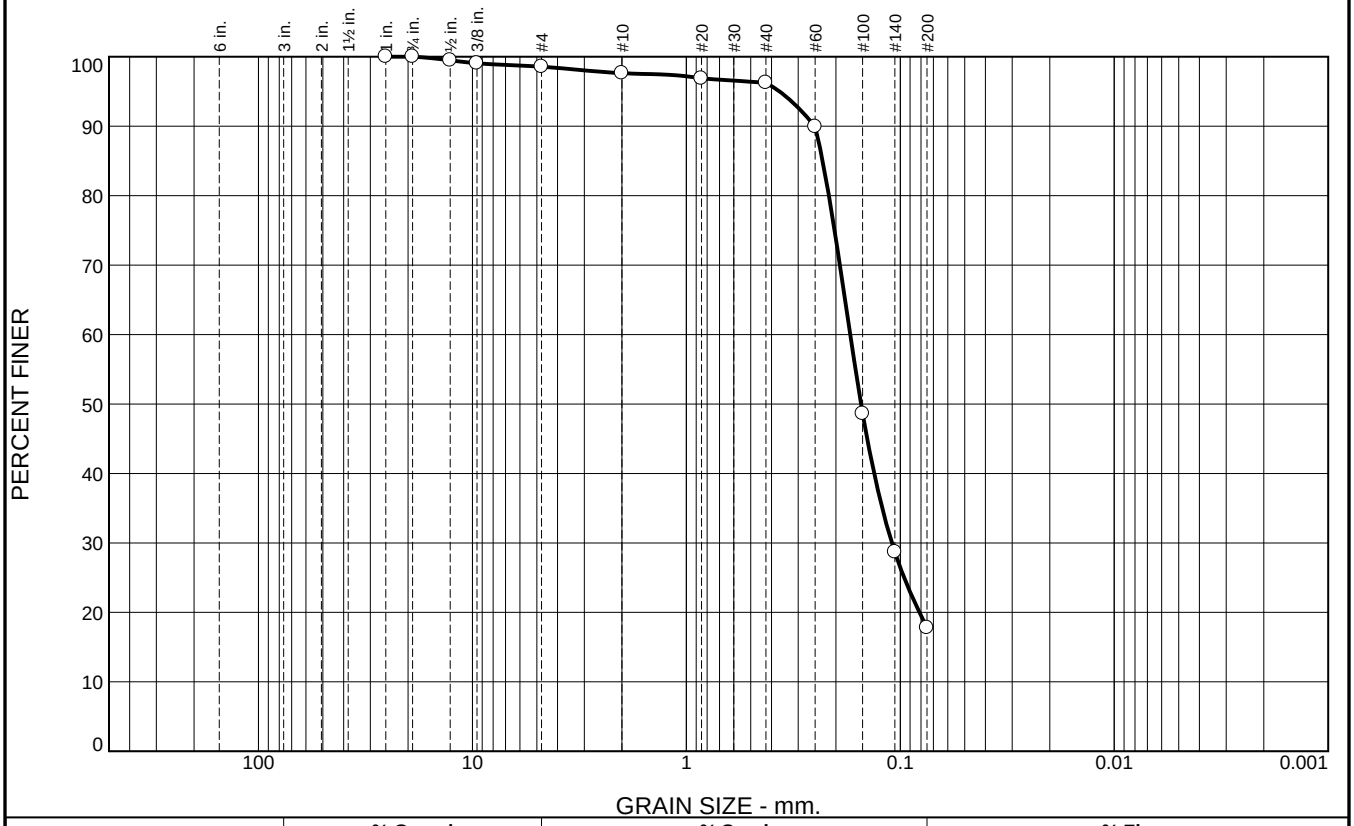
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.4	1.0	1.4	78.4	17.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	99.5		
.375	99.1		
#4	98.6		
#10	97.6		
#20	96.9		
#40	96.2		
#60	89.9		
#100	48.6		
#140	28.7		
#200	17.8		

* (no specification provided)

Material Description

Fine grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2514 D_{85}= 0.2306 D_{60}= 0.1715
D_{50}= 0.1526 D_{30}= 0.1094 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-15-12 B
Sample Number: 6494 (16) **Depth:** 5.5' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-16-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-16-12	LOCATION COORDINATES: E = 1,073,243 N = 242,519	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL: / BEARING:	14. WATER DEPTH: 42.7 Ft.	
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -42.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-42.7	0.0				
-44.7	2.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, greenish gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1672 mm % Fines: 14.4
-45.2	2.5		CLAY, fat, mostly clay, trace shell fragments, clay lenses, greenish gray (CH)	NS	
-47.7	5.0		SAND, silty, clayey, mostly fine-grained sand-sized quartz, some clay, some silt, greenish gray (SC-SM)		
-52.7	10.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, some shell fragments, some clayey lenses, greenish gray (SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1549 mm % Fines: 16
-58.4	15.7		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace silt, trace shell fragments, greenish gray (SC)	NS	
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.16658° Long = -88.55172°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

Core Identifier BI-PBC-16-12

Coordinate System
Latitude / Longitude

Latitude 30 09.995

Longitude 088 33.103

Date 12/15/2012

Start Time 09:00:32

End Time 09:01:04

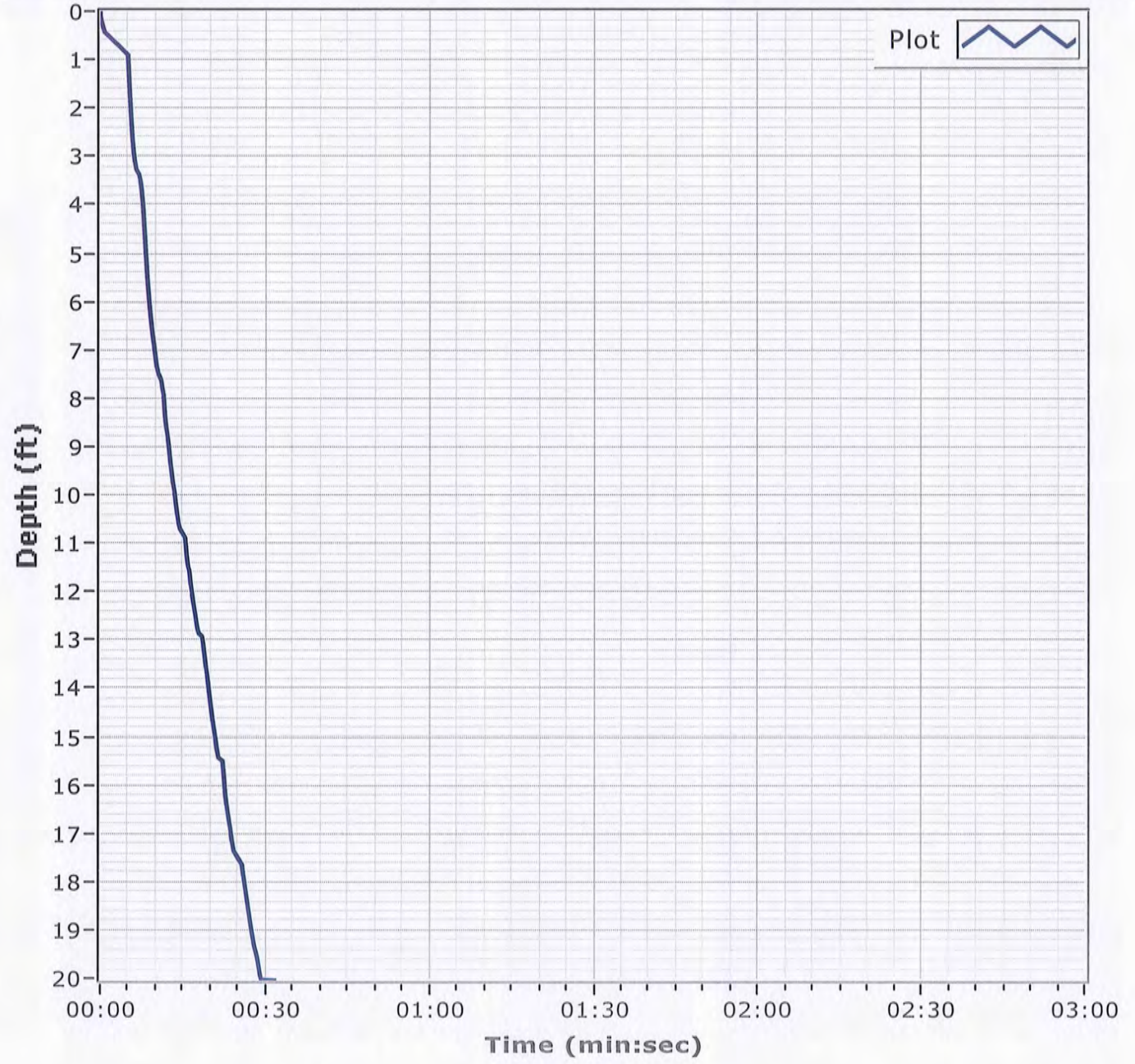
Total Time 00:00:32

Water Depth 42.7'

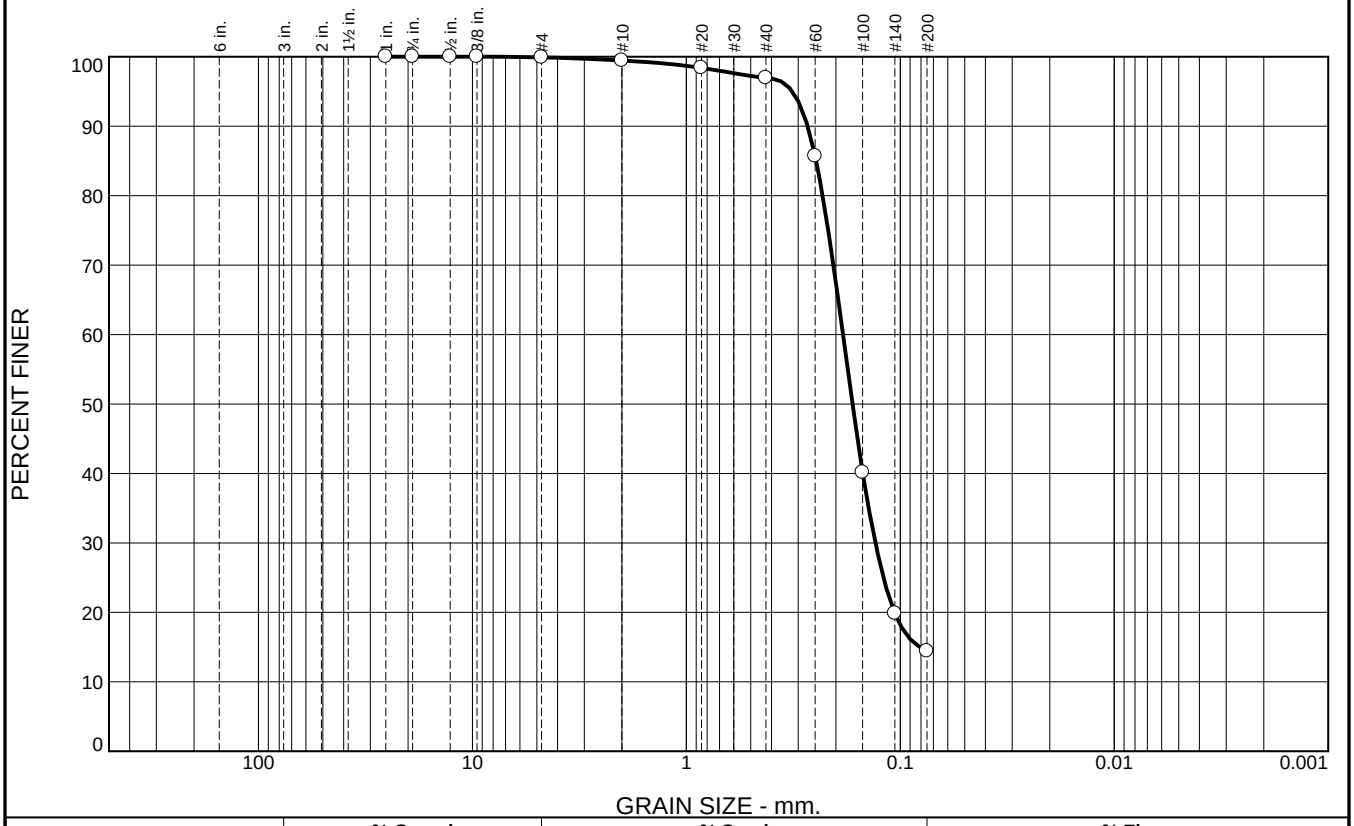
Penetration 20.0'

Recovery 15.6'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.5	2.4	82.6	14.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.4		
#20	98.4		
#40	97.0		
#60	85.7		
#100	40.1		
#140	19.8		
#200	14.4		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2712 D_{85}= 0.2473 D_{60}= 0.1853
D_{50}= 0.1672 D_{30}= 0.1308 D_{15}= 0.0810
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-16-12 A
Sample Number: 6494 (17) **Depth:** 0.0' **Date:** 12/26/12

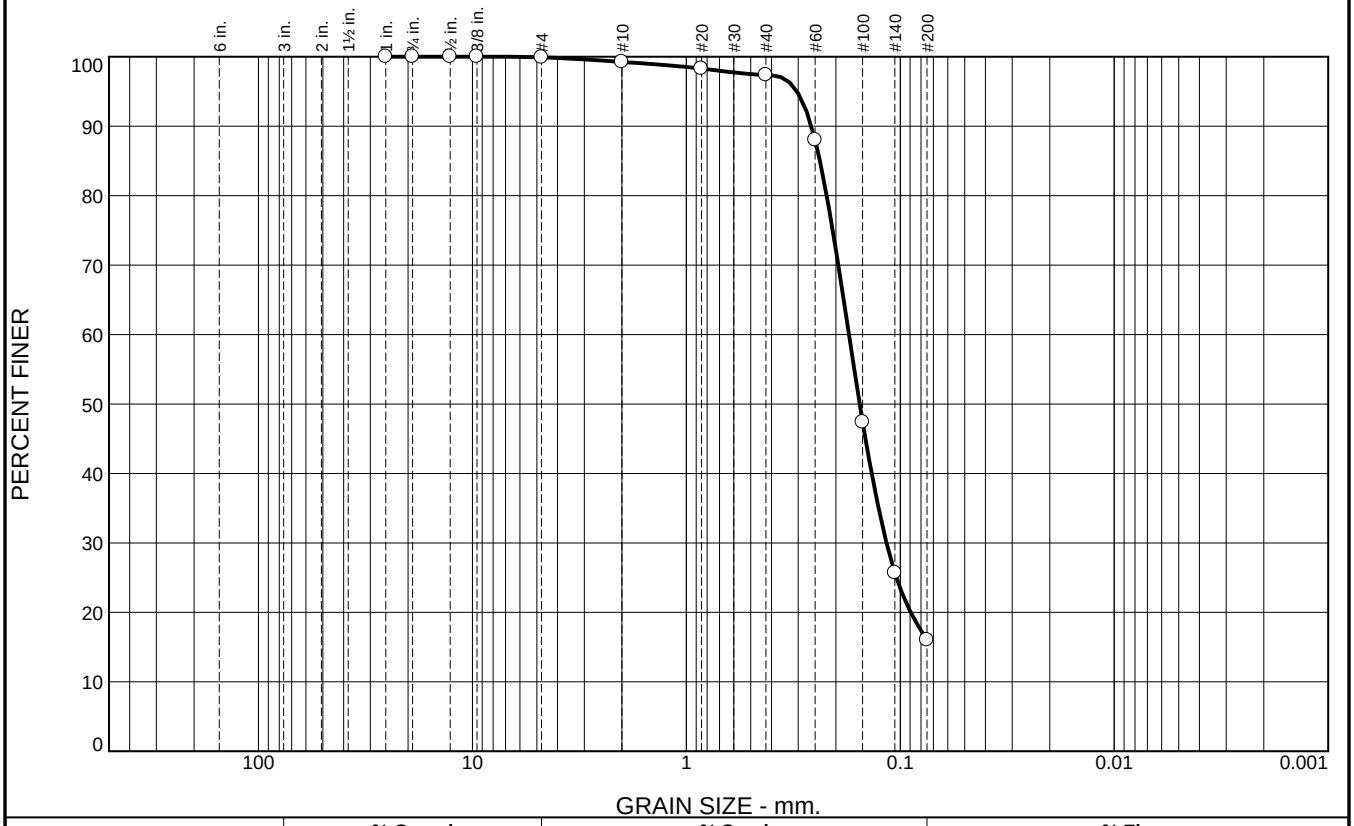
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.7	1.8	81.4	16.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.2		
#20	98.3		
#40	97.4		
#60	88.0		
#100	47.4		
#140	25.7		
#200	16.0		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2604 D_{85}= 0.2374 D_{60}= 0.1738
D_{50}= 0.1549 D_{30}= 0.1160 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-16-12 B
Sample Number: 6494 (18) **Depth:** 5.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-18-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-18-12	LOCATION COORDINATES: E = 1,078,796 N = 250,643	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 37.8 Ft.
		15. DATE BORING	STARTED: 12-16-12 / COMPLETED: 12-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -37.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-37.2	0.0				
-39.2	2.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	NS	
-41.2	4.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace clay lenses, gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1852 mm % Fines: 16.3
-42.2	5.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little silt, little shell fragments, gray (SP)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2122 mm % Fines: 12.4
-44.2	7.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace clay lenses, gray (SM)	C	Classification: SM Color: 5Y 5/2-olive gray D50: 0.178 mm % Fines: 15.9
-47.2	10.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)	NS	
-49.2	12.0		CLAY, fat, mostly clay, gray (CH)		
-53.0	15.8		CLAY, lean, mostly clay, trace fine-grained sand-sized quartz, stiff, gray and yellow-orange mottle (CL)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.18888° Long = -88.53408°

Project Missiissippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE SERVICES

Core Identifier BI-PBC-18-12

Coordinate System
Latitude / Longitude

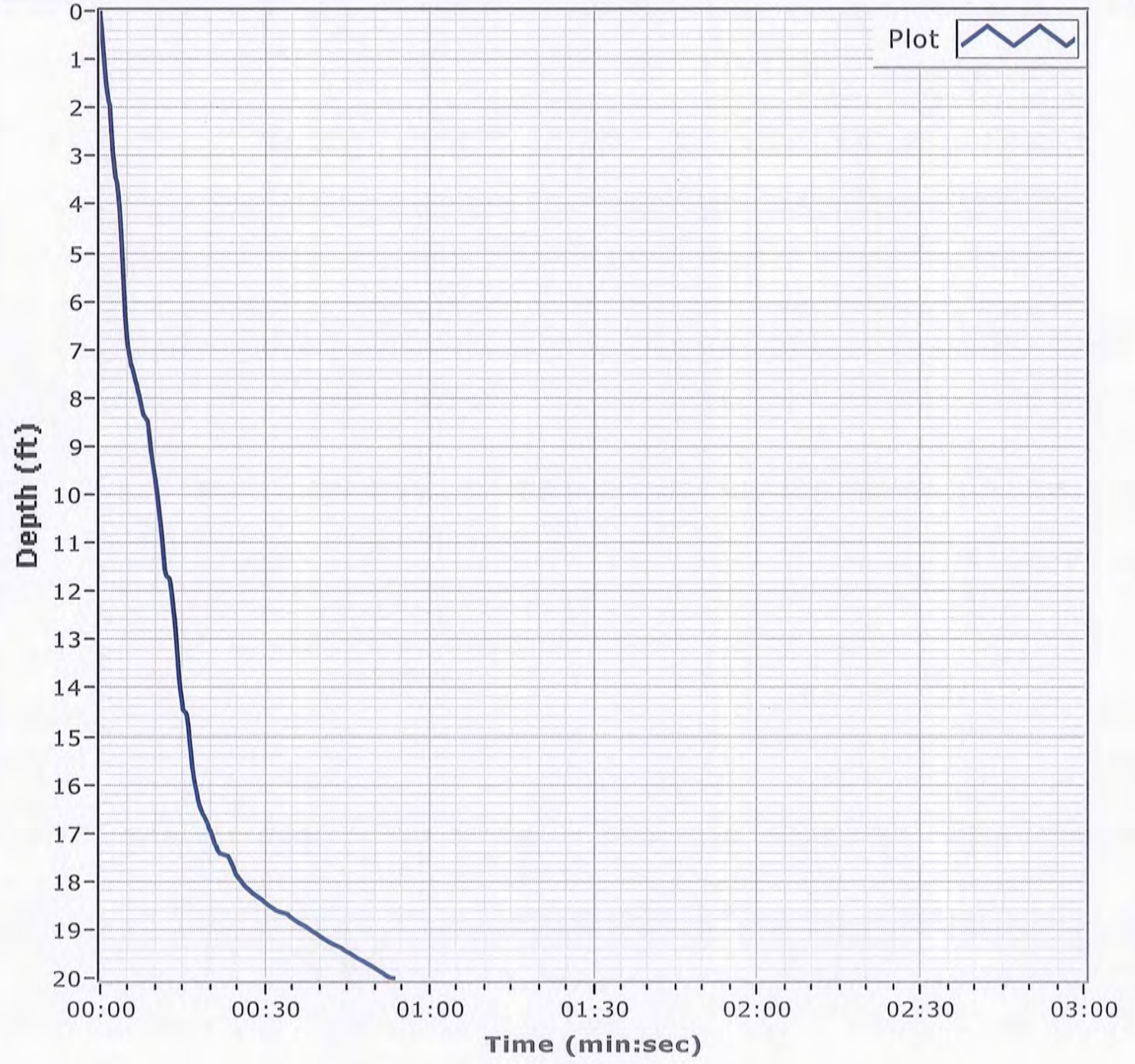
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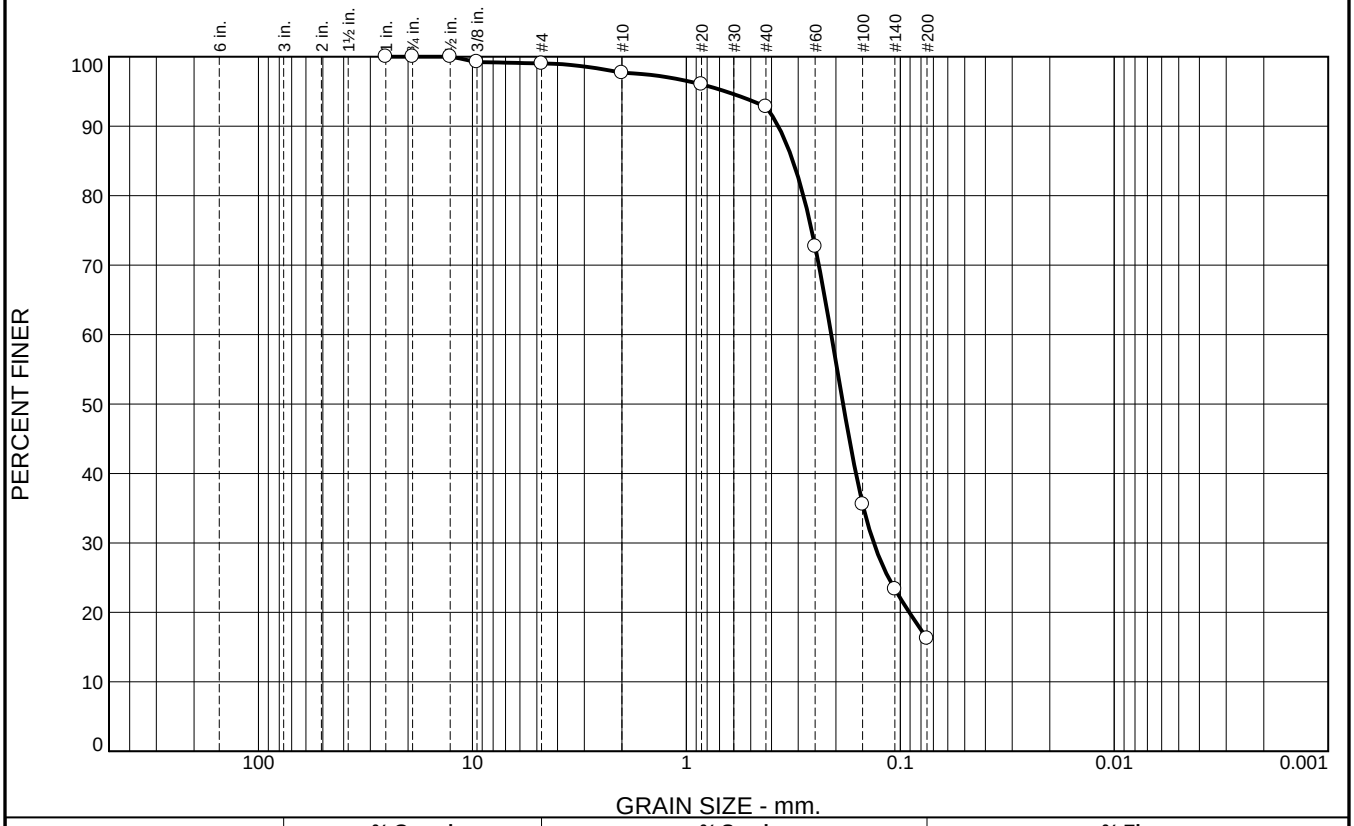
Date 12/16/2012
Start Time 11:35:59
End Time 11:36:53
Total Time 00:00:53

Water Depth 37.8'
Penetration 20.0'
Recovery 15.8'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.0	1.3	4.9	76.5	16.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.2		
#4	99.0		
#10	97.7		
#20	96.0		
#40	92.8		
#60	72.7		
#100	35.6		
#140	23.3		
#200	16.3		

* (no specification provided)

Material Description

Fine grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3719 D_{85}= 0.3178 D_{60}= 0.2102
D_{50}= 0.1852 D_{30}= 0.1332 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-18-12 A
Sample Number: 6494 (19) **Depth:** 2.0' **Date:** 12/26/12

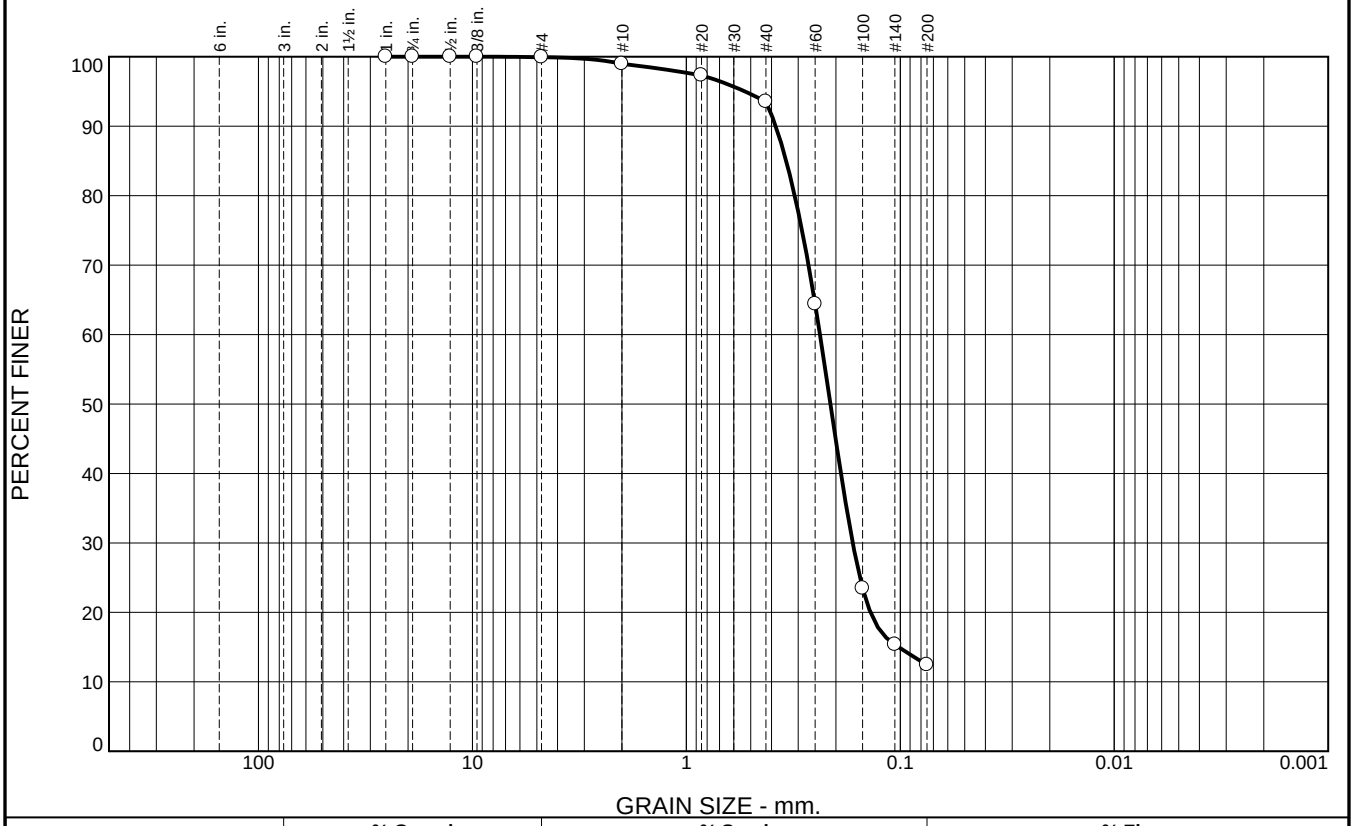
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.9	5.5	81.1	12.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.0		
#20	97.3		
#40	93.5		
#60	64.4		
#100	23.5		
#140	15.4		
#200	12.4		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3821 D_{85}= 0.3414 D_{60}= 0.2374
D_{50}= 0.2122 D_{30}= 0.1670 D_{15}= 0.1017
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-18-12 B
Sample Number: 6494 (20) **Depth:** 4.0' **Date:** 12/26/12

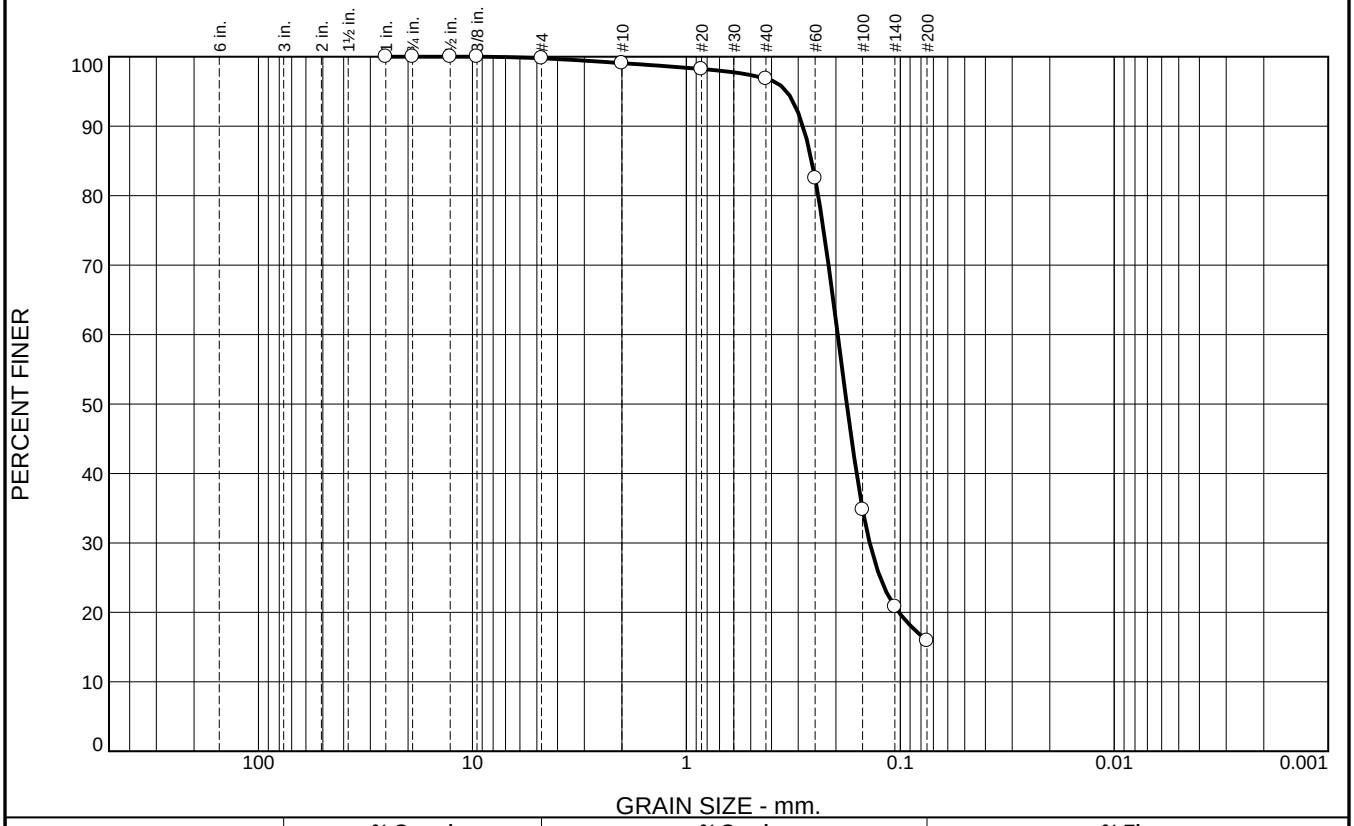
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.7	2.3	80.9	15.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.1		
#20	98.2		
#40	96.8		
#60	82.5		
#100	34.8		
#140	20.8		
#200	15.9		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2853 D_{85}= 0.2594 D_{60}= 0.1962
D_{50}= 0.1780 D_{30}= 0.1390 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-18-12 C
Sample Number: 6494 (21) **Depth:** 5.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-19-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-19-12	LOCATION COORDINATES: E = 1,077,851 N = 249,466	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 39.4 Ft.
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -38.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-38.4	0.0				
-42.6	4.2		SAND, silty, mostly fine-grained sand-sized quartz, mostly clay, mostly silt, few shell fragments, silty, clayey, gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1915 mm % Fines: 16.8
-44.4	6.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, gray (SP)	B	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.2168 mm % Fines: 5.1
-47.4	9.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, trace clayey lenses, gray (SM)	C	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1742 mm % Fines: 16.2
-50.4	12.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, some larger shells, gray (SC)	NS	
-53.9	15.5		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace shell fragments, soft, gray (CH)		
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18565° Long = -88.53708°

Project Mississippi Barrier Island Restoration Project

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AMERICAN VIBRACORE SERVICES

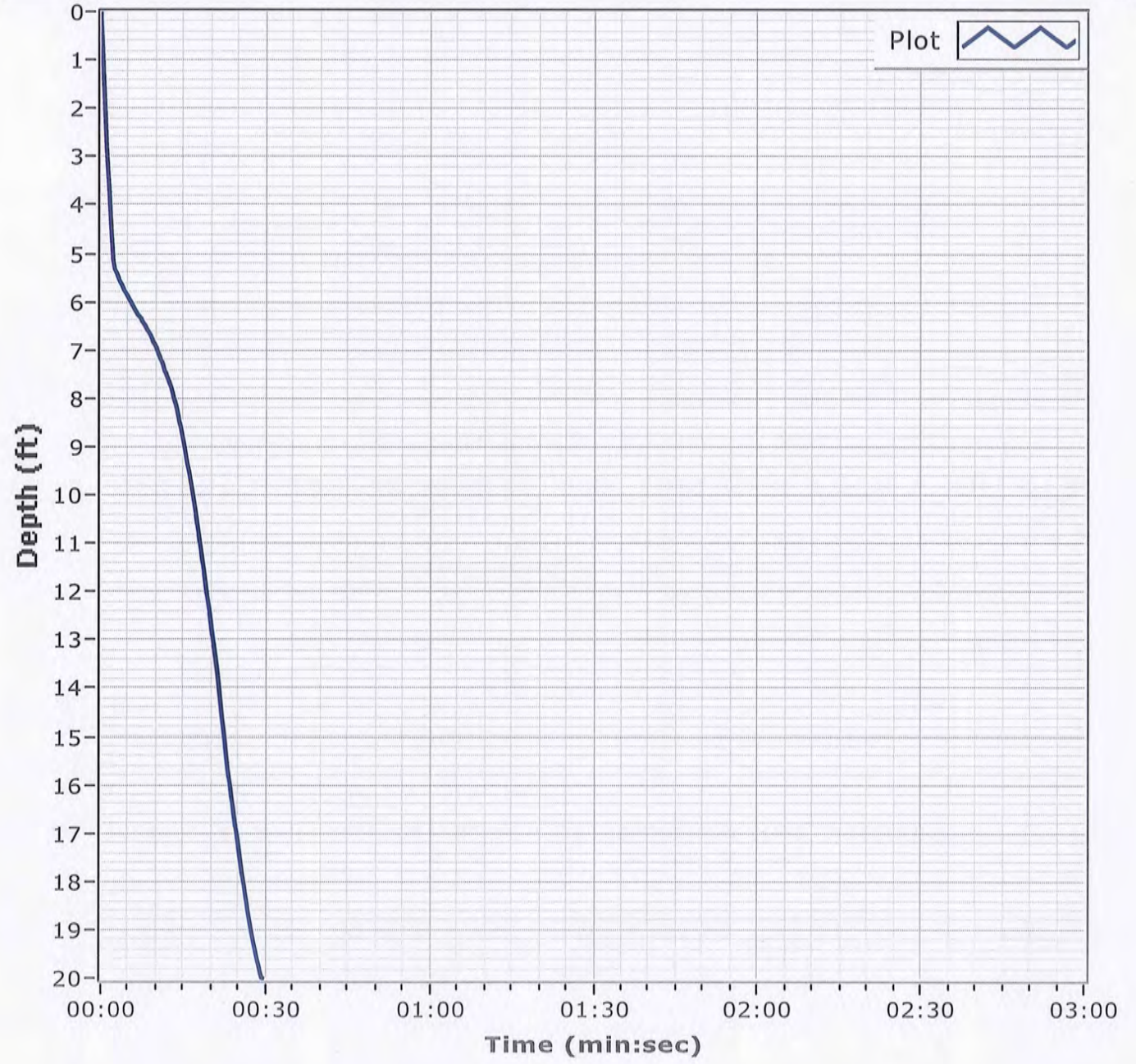
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Longitude 088 32.225

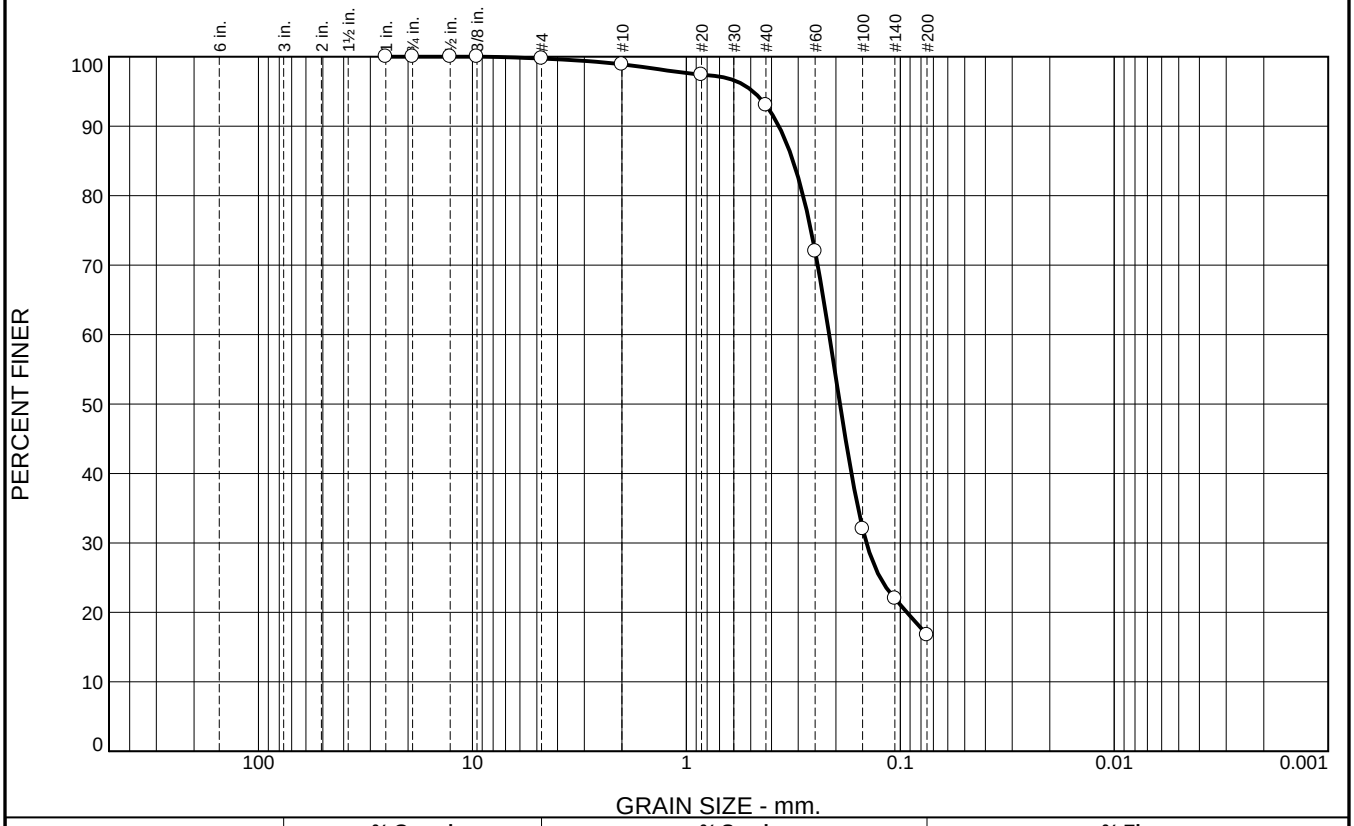
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End Time 15:17:22
Total Time 00:00:29

Water Depth 39.4'
Penetration 20.0'
Recovery 15.5'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.8	5.9	76.2	16.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.9		
#20	97.4		
#40	93.0		
#60	72.0		
#100	32.0		
#140	22.0		
#200	16.8		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3694 D_{85}= 0.3172 D_{60}= 0.2150
D_{50}= 0.1915 D_{30}= 0.1440 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-19-12 A
Sample Number: 6494 (22) **Depth:** 0.0' **Date:** 12/26/12

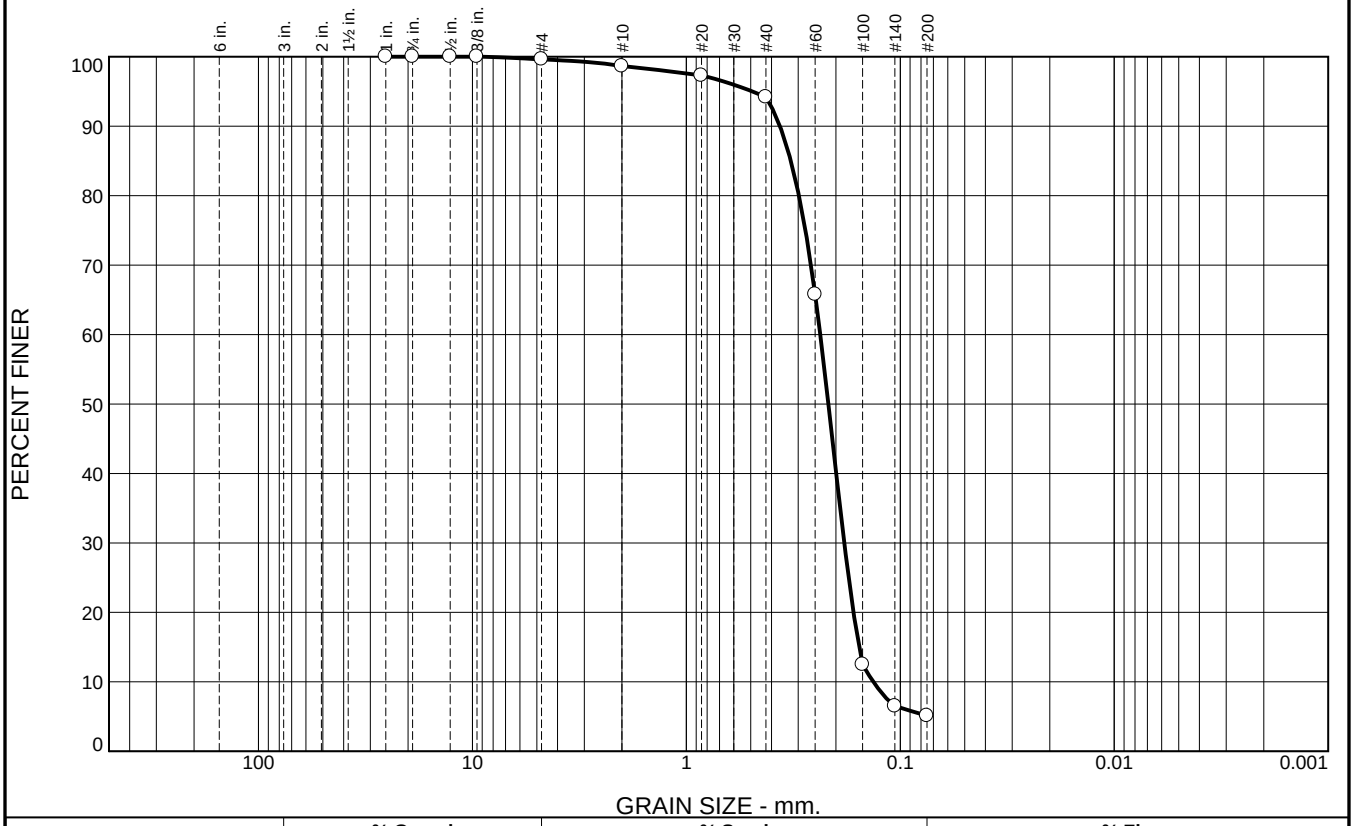
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	1.0	4.4	89.1	5.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.6		
#10	98.6		
#20	97.3		
#40	94.2		
#60	65.8		
#100	12.5		
#140	6.5		
#200	5.1		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3650 D_{85}= 0.3248 D_{60}= 0.2366
D_{50}= 0.2168 D_{30}= 0.1828 D_{15}= 0.1558
D_{10}= 0.1337 C_u= 1.77 C_c= 1.06

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBC-19-12 B
Sample Number: 6494 (23) **Depth:** 4.2' **Date:** 12/26/12

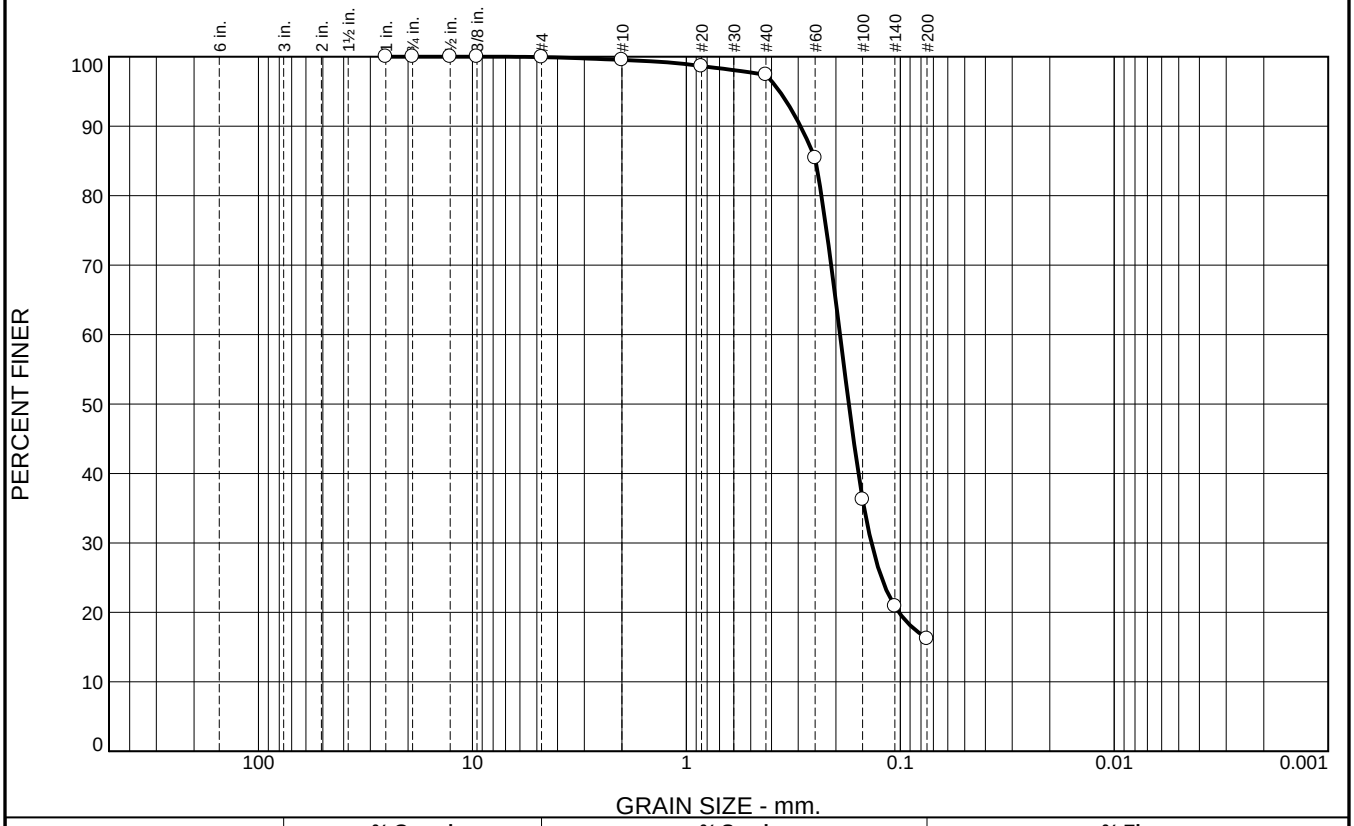
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.4	2.1	81.2	16.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.5		
#20	98.6		
#40	97.4		
#60	85.4		
#100	36.2		
#140	20.9		
#200	16.2		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2931 D_{85}= 0.2486 D_{60}= 0.1914
D_{50}= 0.1742 D_{30}= 0.1365 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-19-12 C
Sample Number: 6494 (24) **Depth:** 6.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-20-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-20-12	LOCATION COORDINATES: E = 1,076,522 N = 247,979	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 40.8 Ft.	
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -40.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 14.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-40.2	0.0				
-40.6	0.4		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 5/2-olive gray D50: 0.278 mm % Fines: 3
-46.2	6.0		SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, trace clayey lenses, gray (SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1746 mm % Fines: 14.9
-52.2	12.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	NS	
-54.9	14.7		CLAY, fat, mostly clay, trace shell fragments, slight organic odor, gray and brown (CH)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.18157° Long = -88.54130°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

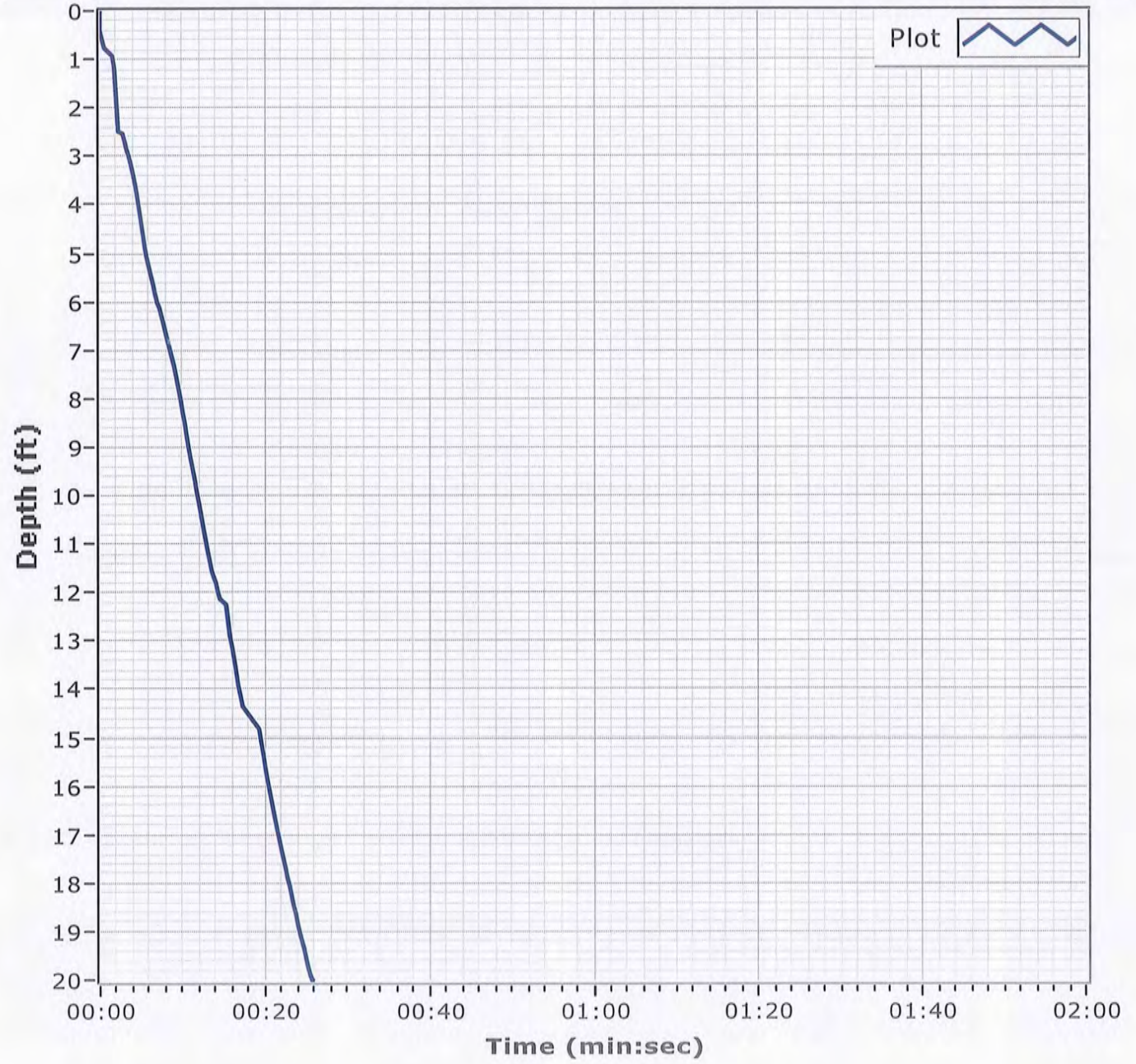
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Coordinate System
Latitude / Longitude

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Longitude 088 32.478

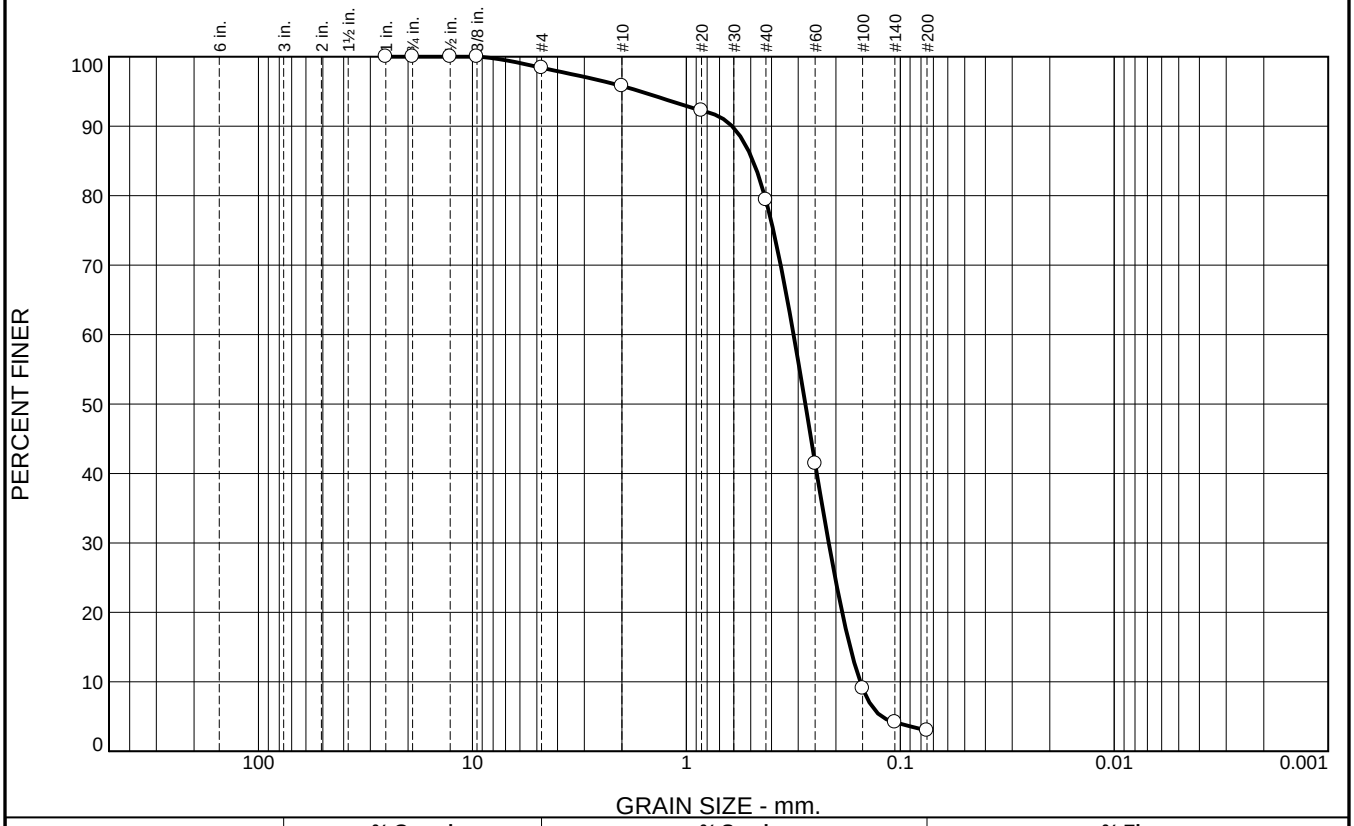
Date 12/15/2012
Start Time 13:30:43
End Time 13:31:09
Total Time 00:00:26

Water Depth 40.8'
Penetration 20.0'
Recovery 14.6'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.6	2.6	16.4	76.4	3.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	98.4		
#10	95.8		
#20	92.3		
#40	79.4		
#60	41.4		
#100	9.1		
#140	4.2		
#200	3.0		

* (no specification provided)

Material Description

Fine to medium grained, SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6110 D_{85}= 0.4880 D_{60}= 0.3155
D_{50}= 0.2780 D_{30}= 0.2160 D_{15}= 0.1717
D_{10}= 0.1540 C_u= 2.05 C_c= 0.96

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBC-20-12 A
Sample Number: 6494 (25) **Depth:** 0.0' **Date:** 12/26/12

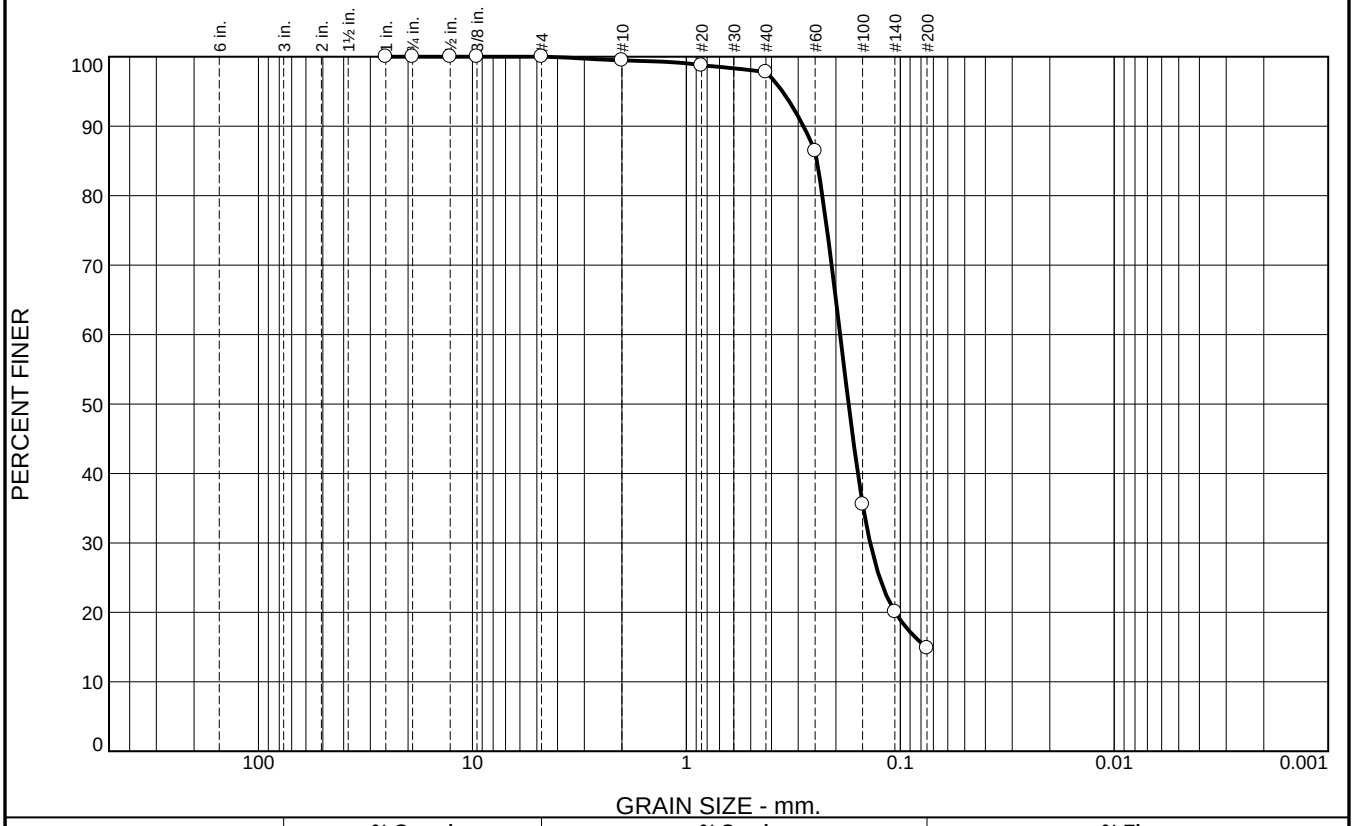
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.5	1.7	82.9	14.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.5		
#20	98.8		
#40	97.8		
#60	86.4		
#100	35.5		
#140	20.1		
#200	14.9		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2839 D_{85}= 0.2453 D_{60}= 0.1912
D_{50}= 0.1746 D_{30}= 0.1384 D_{15}= 0.0758
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-20-12 B
Sample Number: 6494 (26) **Depth:** 0.4' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-21-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-21-12	LOCATION COORDINATES: E = 1,074,385 N = 245,522	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 40.6 Ft.
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -40.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-40.4	0.0				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, some shell fragments, trace clay lenses, gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1844 mm % Fines: 14.9
				B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.162 mm % Fines: 15.5
-52.4	12.0				
-53.9	13.5		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	NS	
-55.4	15.0		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, trace shell fragments, gray (CH)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.17483° Long = -88.54808°

Project Mississippi Barrier Island Restoration Project

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Core Identifier BI-PBC-21-12

Coordinate System
Latitude / Longitude

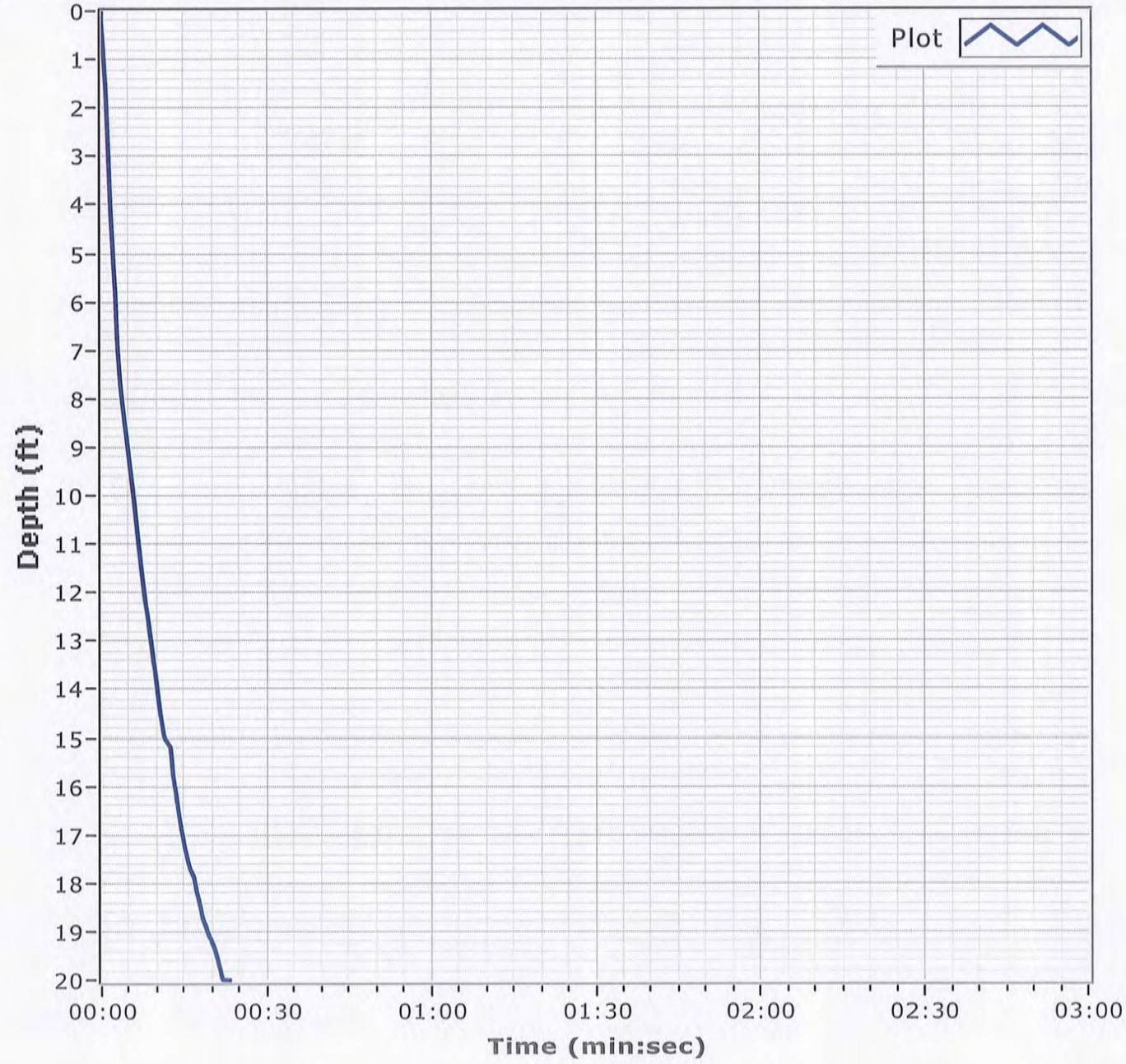
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Longitude 088 32.885

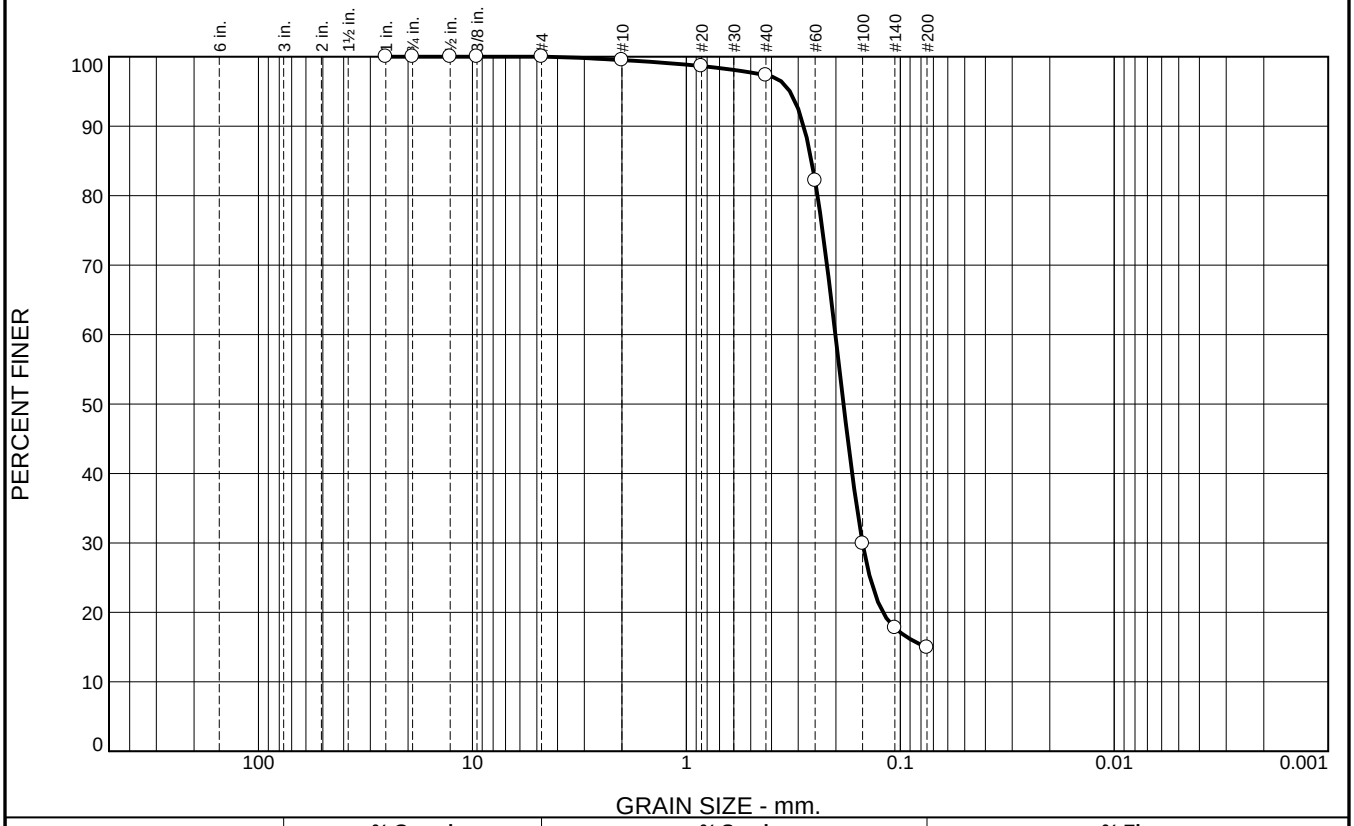
Date 12/15/2012
Start Time 11:30:38
End Time 11:31:02
Total Time 00:00:23

Water Depth 40.6'
Penetration 20.0'
Recovery 15.0

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.5	2.2	82.4	14.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.5		
#20	98.7		
#40	97.3		
#60	82.2		
#100	29.9		
#140	17.8		
#200	14.9		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2829 D_{85}= 0.2597 D_{60}= 0.2012
D_{50}= 0.1844 D_{30}= 0.1502 D_{15}= 0.0757
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-21-12 A
Sample Number: 6494 (27) **Depth:** 0.0' **Date:** 12/26/12

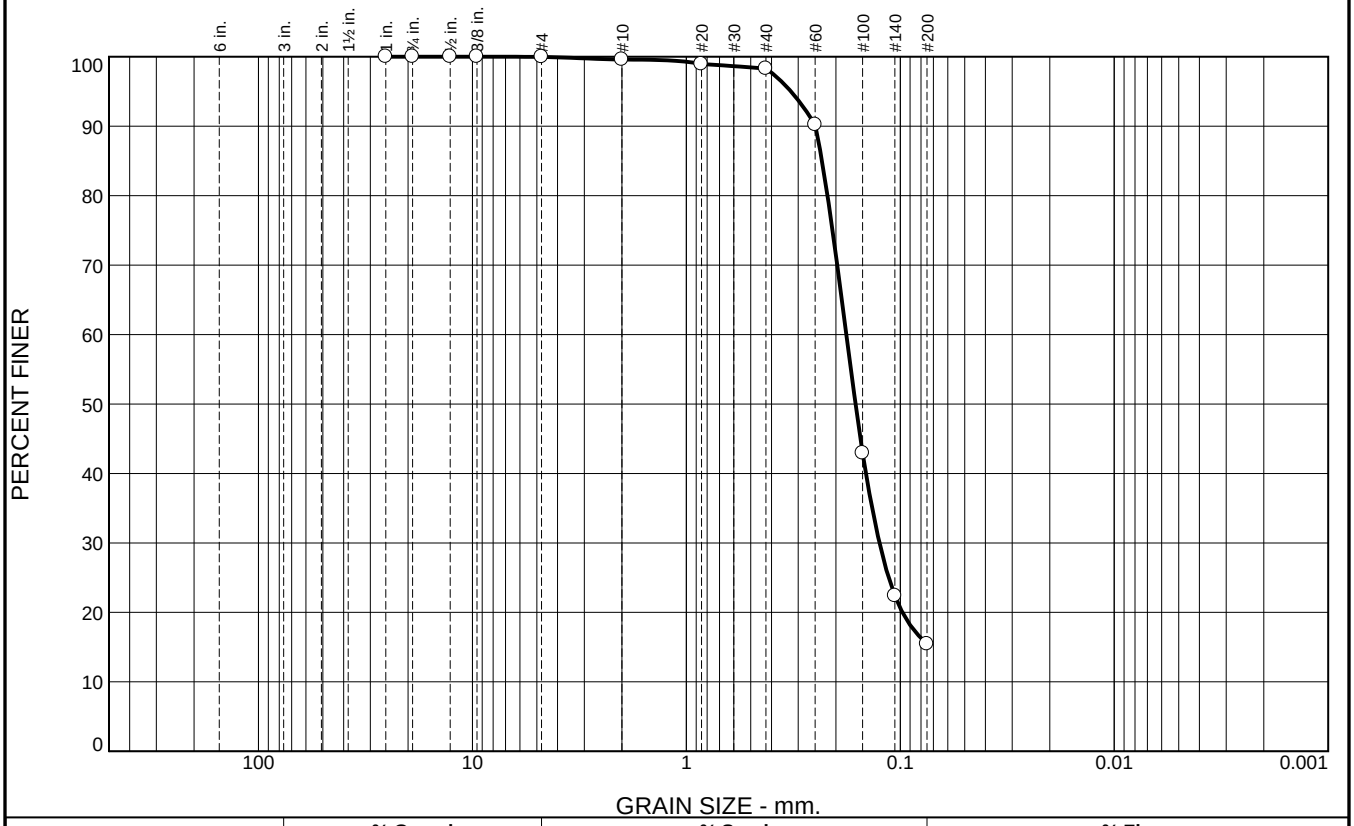
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	1.3	82.8	15.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.6		
#20	99.0		
#40	98.3		
#60	90.2		
#100	42.9		
#140	22.4		
#200	15.5		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2492 D_{85}= 0.2322 D_{60}= 0.1789
D_{50}= 0.1620 D_{30}= 0.1252 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-21-12 B
Sample Number: 6494 (28) **Depth:** 5.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-22-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Mobile District	

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-22-12	LOCATION COORDINATES: E = 1,072,416 N = 243,379	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 41.7 Ft.	
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -41.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 14.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-41.7	0.0				
-45.2	3.5		SAND, silty, mostly fine-grained sand-sized quartz, some silt, little shell fragments, greenish gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1715 mm % Fines: 13.2
-45.7	4.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, greenish gray (SC)	NS	
-50.7	9.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, greenish gray (SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1556 mm % Fines: 15.5
-54.7	13.0		SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, trace shell fragments, greenish gray (ML)	NS	
-56.1	14.4		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, trace fat clay lenses, gray (SC)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.16895° Long = -88.55433°

Project Mississippi Barrier Island Restoration Project

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SERVICES

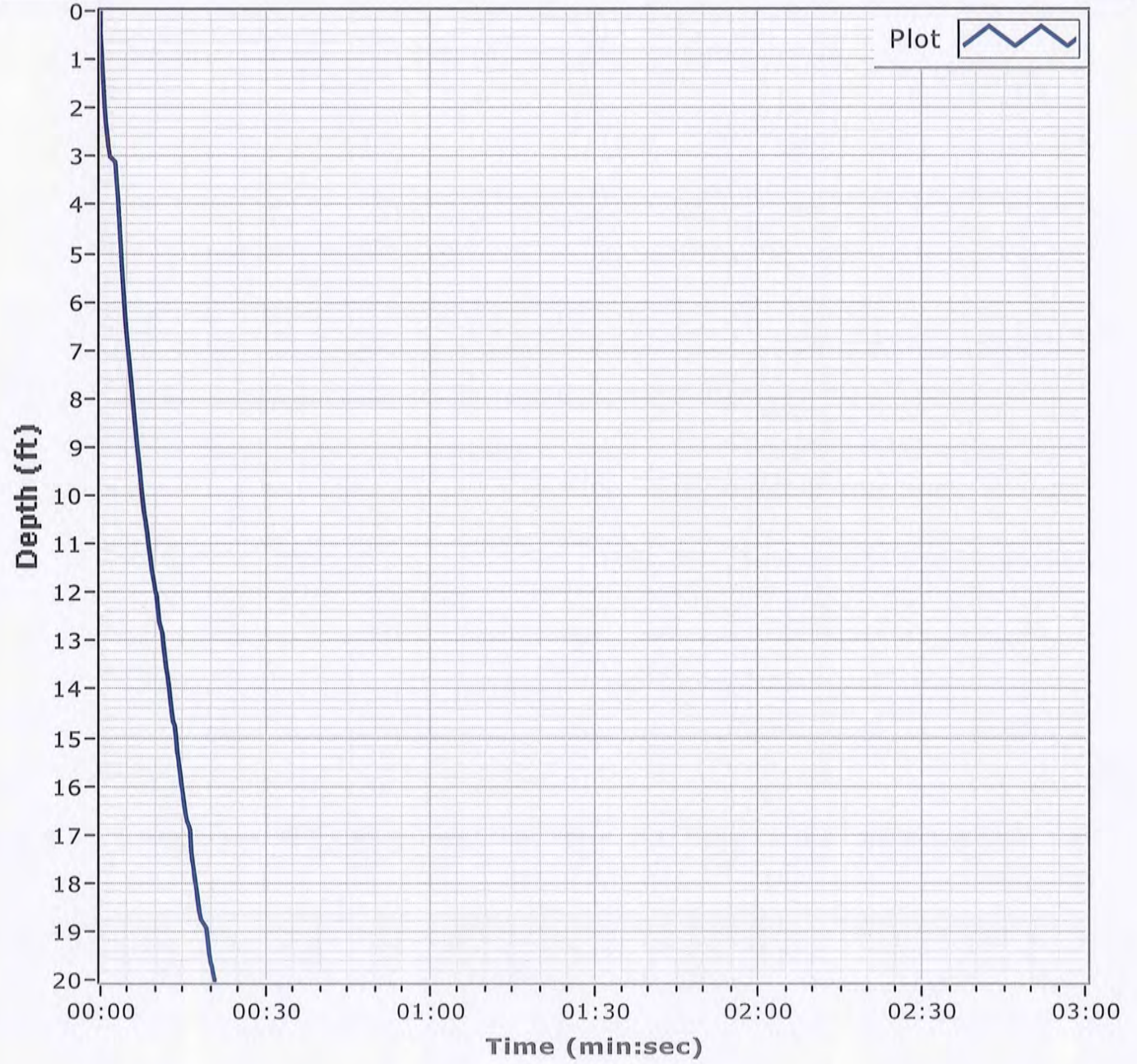
Core Identifier BI-PBC-22-12
Coordinate System
Latitude / Longitude

Date 12/15/2012
Start Time 09:30:44
End Time 09:31:05
Total Time 00:00:21

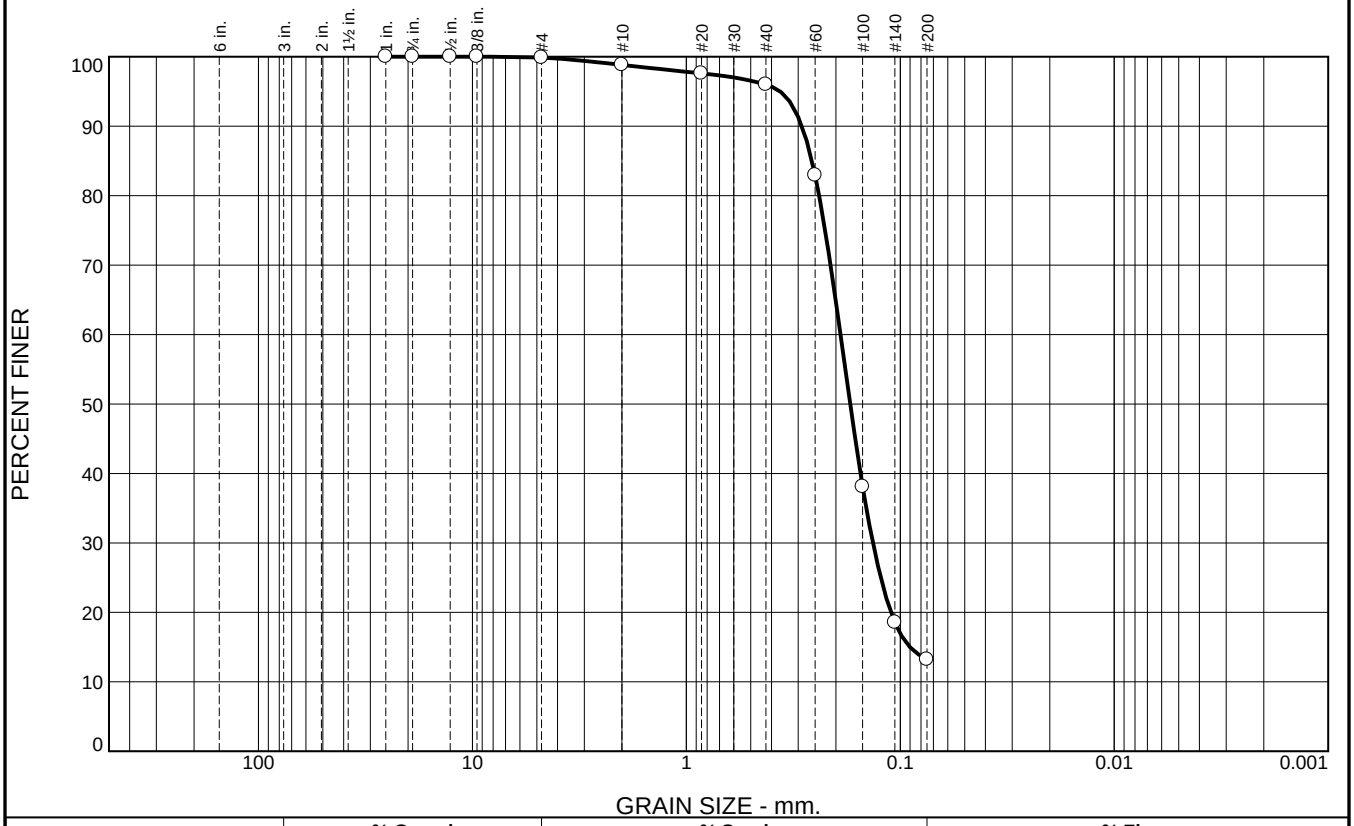
Water Depth 41.7'
Penetration 20.0'
Recovery 14.4'

Latitude 30 10.137
Longitude 088 33.260

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	1.1	2.8	82.8	13.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	98.8		
#20	97.6		
#40	96.0		
#60	82.9		
#100	38.1		
#140	18.6		
#200	13.2		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2886 D_{85}= 0.2588 D_{60}= 0.1904
D_{50}= 0.1715 D_{30}= 0.1343 D_{15}= 0.0902
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-22-12 A
Sample Number: 6494 (29) **Depth:** 0.0' **Date:** 12/26/12

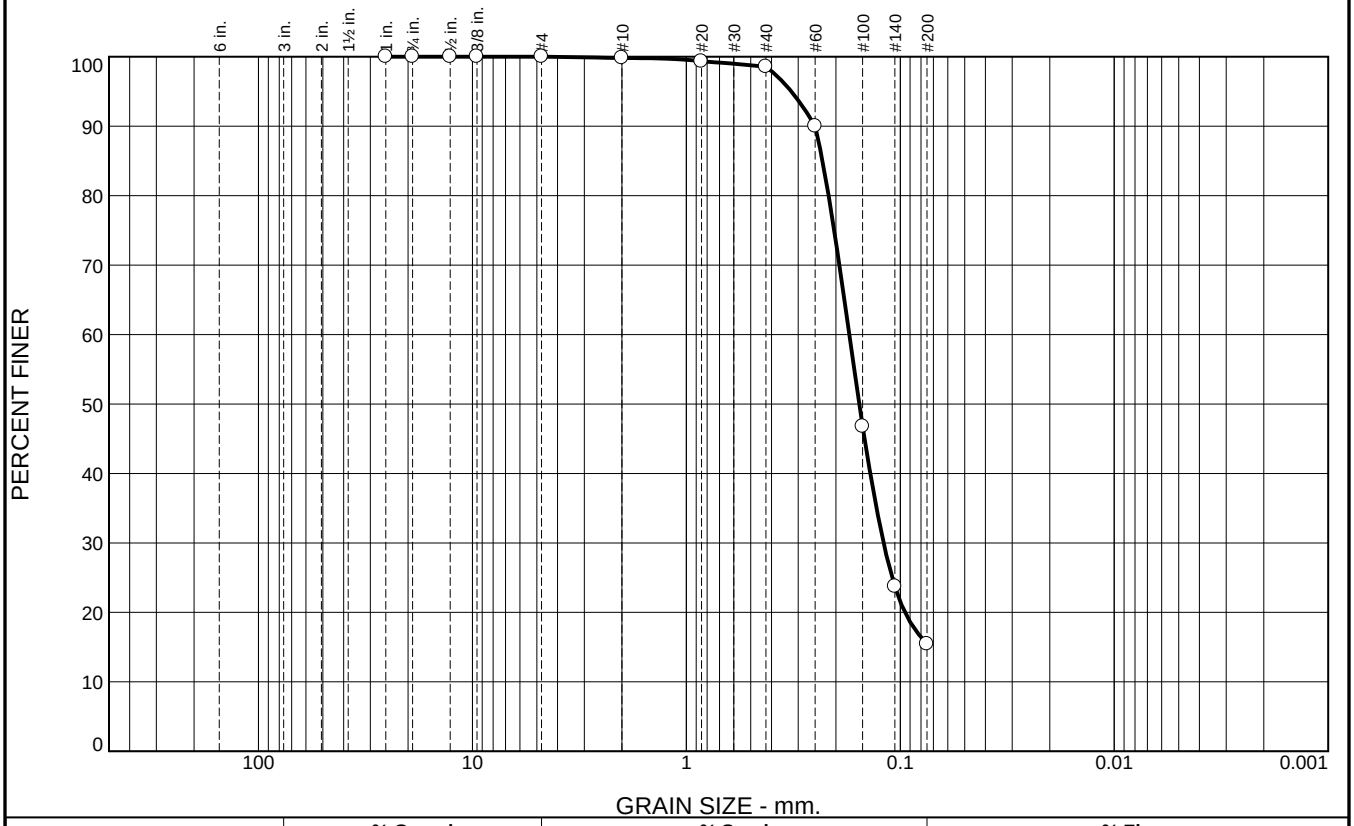
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	1.2	83.1	15.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.8		
#20	99.3		
#40	98.6		
#60	90.0		
#100	46.8		
#140	23.7		
#200	15.5		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2501 D_{85}= 0.2309 D_{60}= 0.1732
D_{50}= 0.1556 D_{30}= 0.1197 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-22-12 B
Sample Number: 6494 (30) **Depth:** 4.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-23-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-23-12	LOCATION COORDINATES: E = 1,073,116 N = 241,417	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 42 Ft.	
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -42.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 16.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-42.0	0.0				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, little shell fragments, trace clay, lt. to dark green-gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1679 mm % Fines: 15
				B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1626 mm % Fines: 13.9
-52.0	10.0				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little shell fragments, lt. to dark greenish gray (SC)	NS	
-58.4	16.4				
			NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval.		

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.16355° Long = -88.55213°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

Core Identifier BI-PBC-23-12

Coordinate System
Latitude / Longitude

Latitude 30 09.813

Longitude 088 33.128

Date 12/15/2012

Start Time 08:24:14

End Time 08:25:58

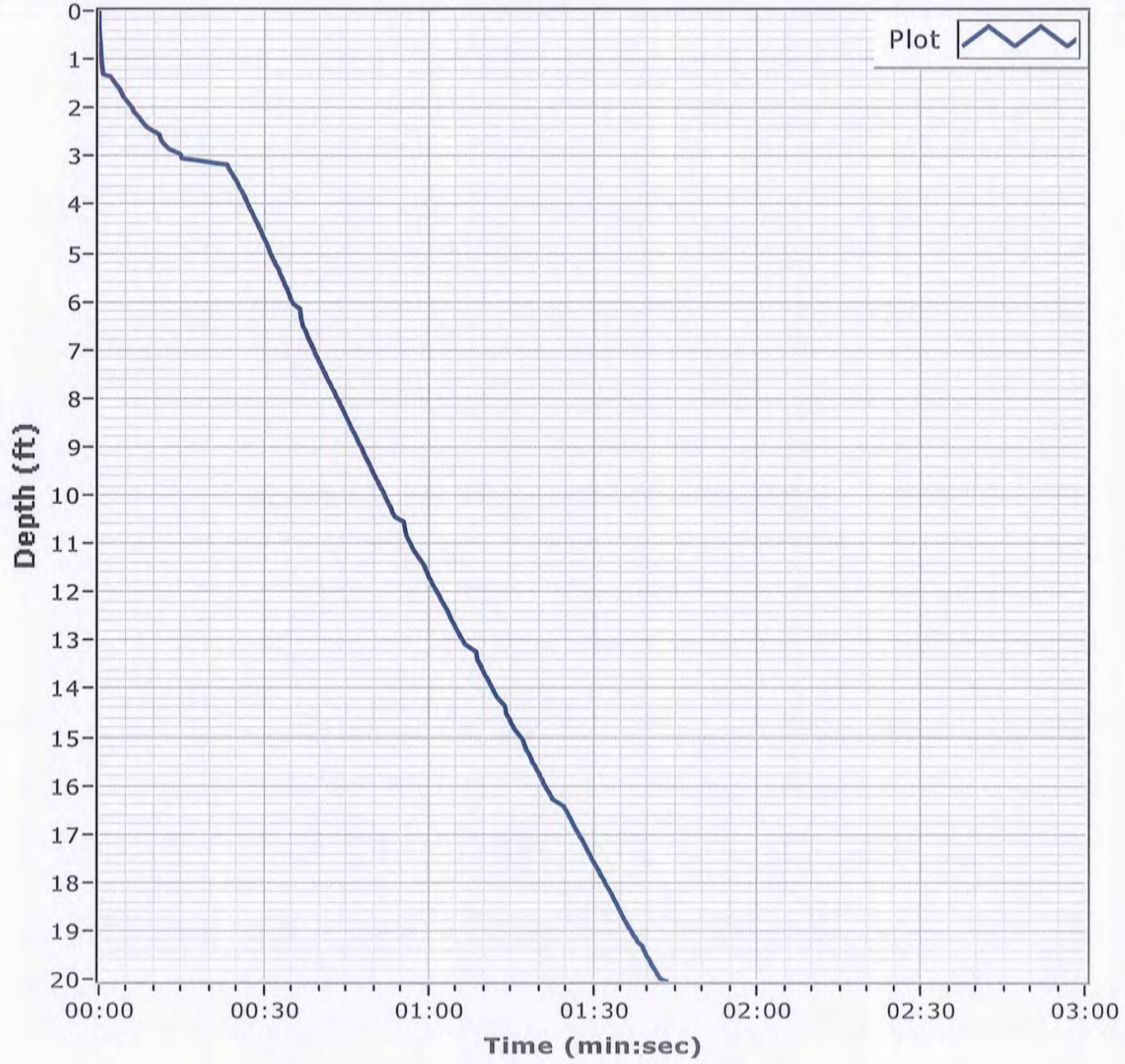
Total Time 00:01:43

Water Depth 42.0'

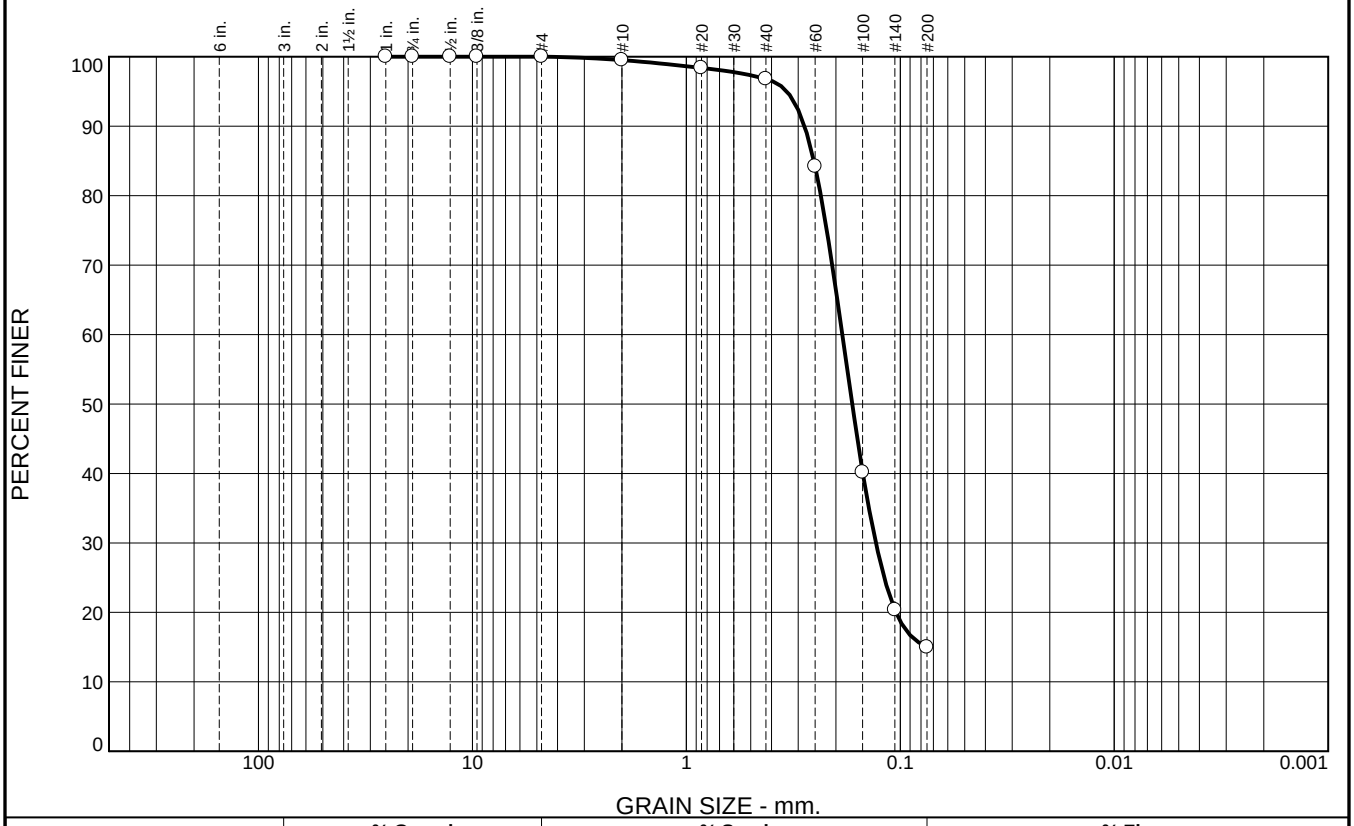
Penetration 20.0'

Recovery 16.3'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.5	2.7	81.8	15.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.5		
#20	98.4		
#40	96.8		
#60	84.2		
#100	40.2		
#140	20.4		
#200	15.0		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2805 D_{85}= 0.2533 D_{60}= 0.1867
D_{50}= 0.1679 D_{30}= 0.1301 D_{15}= 0.0751
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-23-12 A
Sample Number: 6494 (31) **Depth:** 0.0' **Date:** 12/26/12

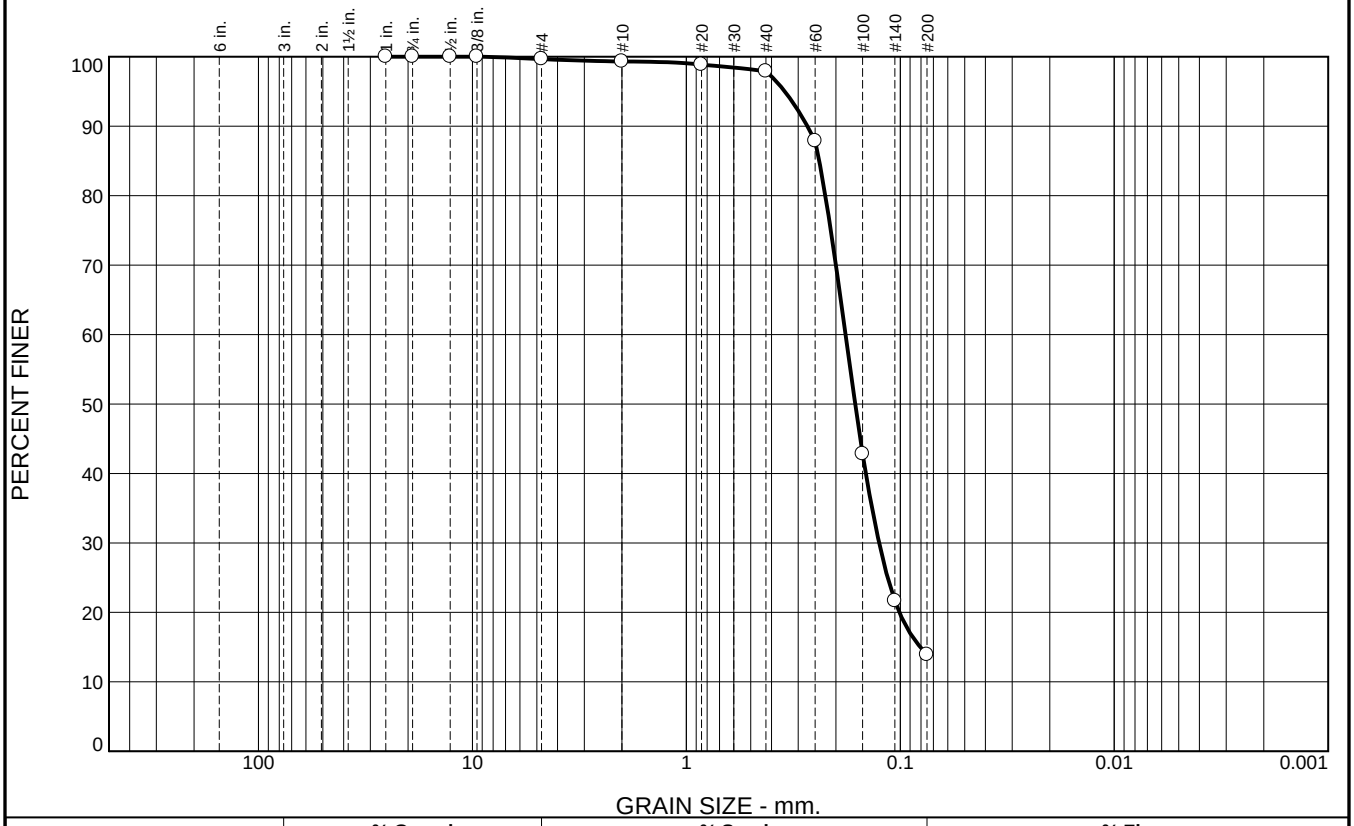
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.4	1.4	84.0	13.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	99.3		
#20	98.8		
#40	97.9		
#60	87.9		
#100	42.8		
#140	21.7		
#200	13.9		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2720 D_{85}= 0.2392 D_{60}= 0.1804
D_{50}= 0.1626 D_{30}= 0.1257 D_{15}= 0.0806
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-23-12 B
Sample Number: 6494 (32) **Depth:** 5.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-24-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-24-12	LOCATION COORDINATES: E = 1,074,660 N = 243,101	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 40.3 Ft.
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -40.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-40.2	0.0				
-40.7	0.5		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little silt, trace shell fragments, gray (SP)	A	Classification: SP Color: 5Y 5/3-olive D50: 0.2062 mm % Fines: 4.2
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, little shell fragments, gray (SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1763 mm % Fines: 15.1
				C	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1575 mm % Fines: 15.1
-51.2	11.0		SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, trace shell fragments, gray (ML)	NS	
-53.7	13.5		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)		
-55.5	15.3				

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.16817° Long = -88.54723°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBC-24-12

Coordinate System
Latitude / Longitude

Latitude 30 10.090

Longitude 088 32.834

Date 12/15/2012

Start Time 10:34:24

End Time 10:34:52

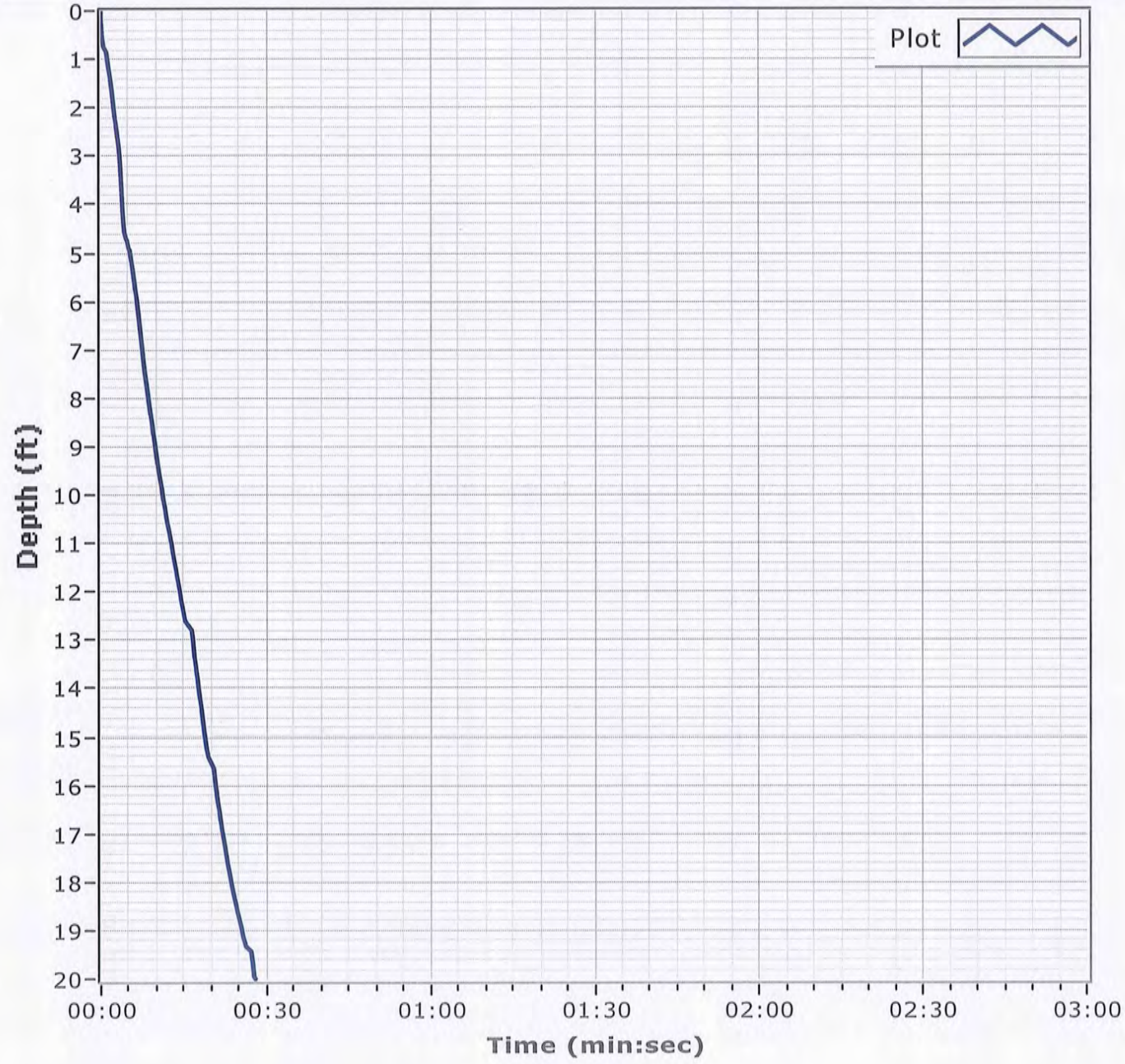
Total Time 00:00:28

Water Depth 40.3'

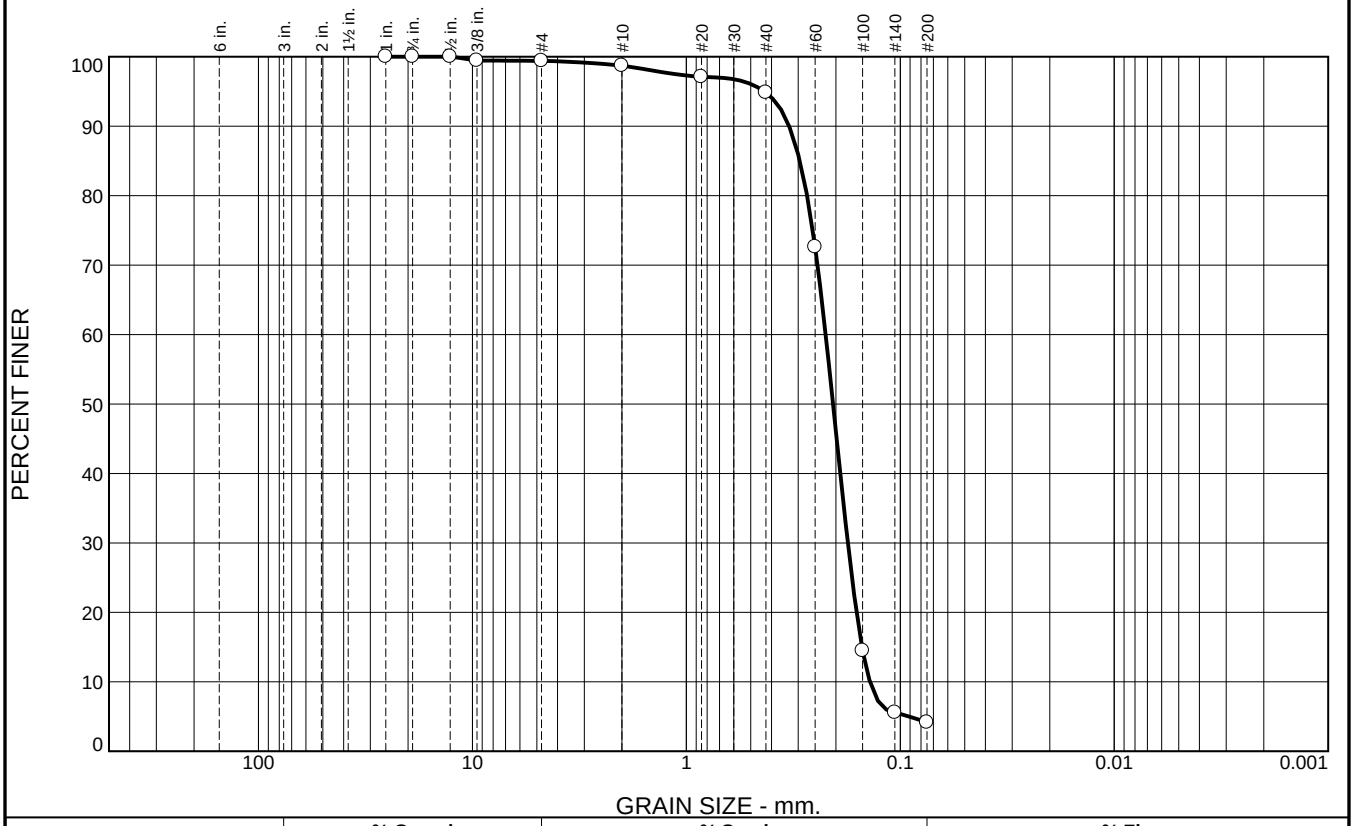
Penetration 20.0'

Recovery 15.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.6	0.7	3.9	90.6	4.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.4		
#4	99.4		
#10	98.7		
#20	97.1		
#40	94.8		
#60	72.6		
#100	14.5		
#140	5.6		
#200	4.2		

* (no specification provided)

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3309 D_{85}= 0.2951 D_{60}= 0.2232
D_{50}= 0.2062 D_{30}= 0.1760 D_{15}= 0.1511
D_{10}= 0.1387 C_u= 1.61 C_c= 1.00

Classification

USCS= SP AASHTO=

Remarks

Location: BI-PBC-24-12 A
Sample Number: 6494 (33) **Depth:** 0.0' **Date:** 12/26/12

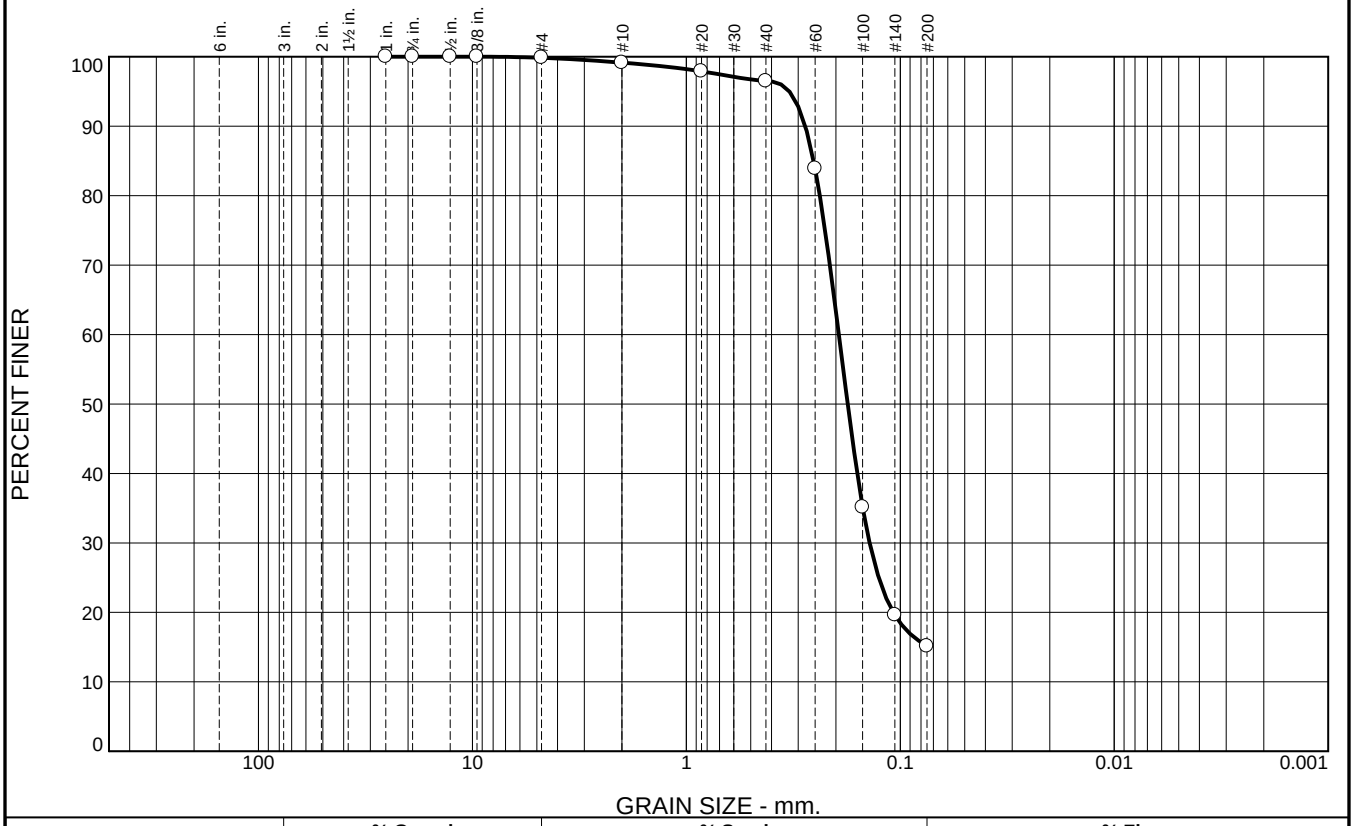
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.7	2.6	81.4	15.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.1		
#20	97.9		
#40	96.5		
#60	83.9		
#100	35.1		
#140	19.6		
#200	15.1		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2782 D_{85}= 0.2542 D_{60}= 0.1938
D_{50}= 0.1763 D_{30}= 0.1392 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-24-12 B
Sample Number: 6494 (34) **Depth:** 0.5' **Date:** 12/26/12

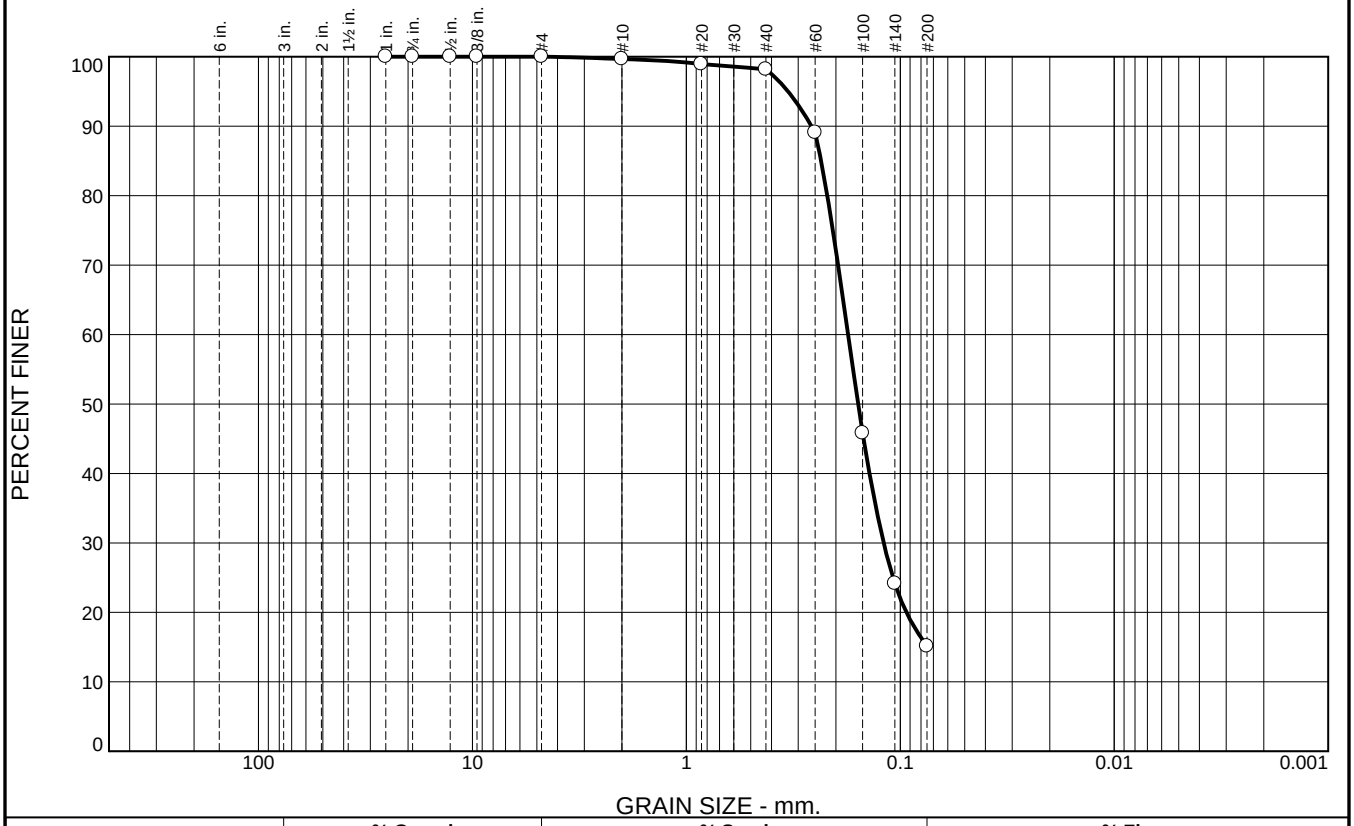
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	1.5	83.1	15.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.7		
#20	98.9		
#40	98.2		
#60	89.1		
#100	45.8		
#140	24.2		
#200	15.1		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2601 D_{85}= 0.2344 D_{60}= 0.1755
D_{50}= 0.1575 D_{30}= 0.1196 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-24-12 C
Sample Number: 6494 (35) **Depth:** 5.5' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-25-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF SHEETS
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-25-12	LOCATION COORDINATES: E = 1,076,601 N = 245,401	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 41.2 Ft.	
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -40.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 14.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-40.9	0.0				
			SAND, silty, mostly fine-grained sand-sized quartz, trace shell fragments, trace clay lenses, gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1861 mm % Fines: 13.7
				B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1801 mm % Fines: 12
-49.9	9.0				
			SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, trace shell fragments, gray (ML)	NS	
-52.9	12.0				
-53.9	13.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)		
-55.2	14.3		CLAY, fat, mostly clay, gray (CH)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

Lat = 30.17448° Long = -88.54107°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

Core Identifier BI-PBC-25-12

Coordinate System
Latitude / Longitude

Latitude 30 10.469

Longitude 088 32.464

Date 12/15/2012

Start Time 11:57:13

End Time 11:57:43

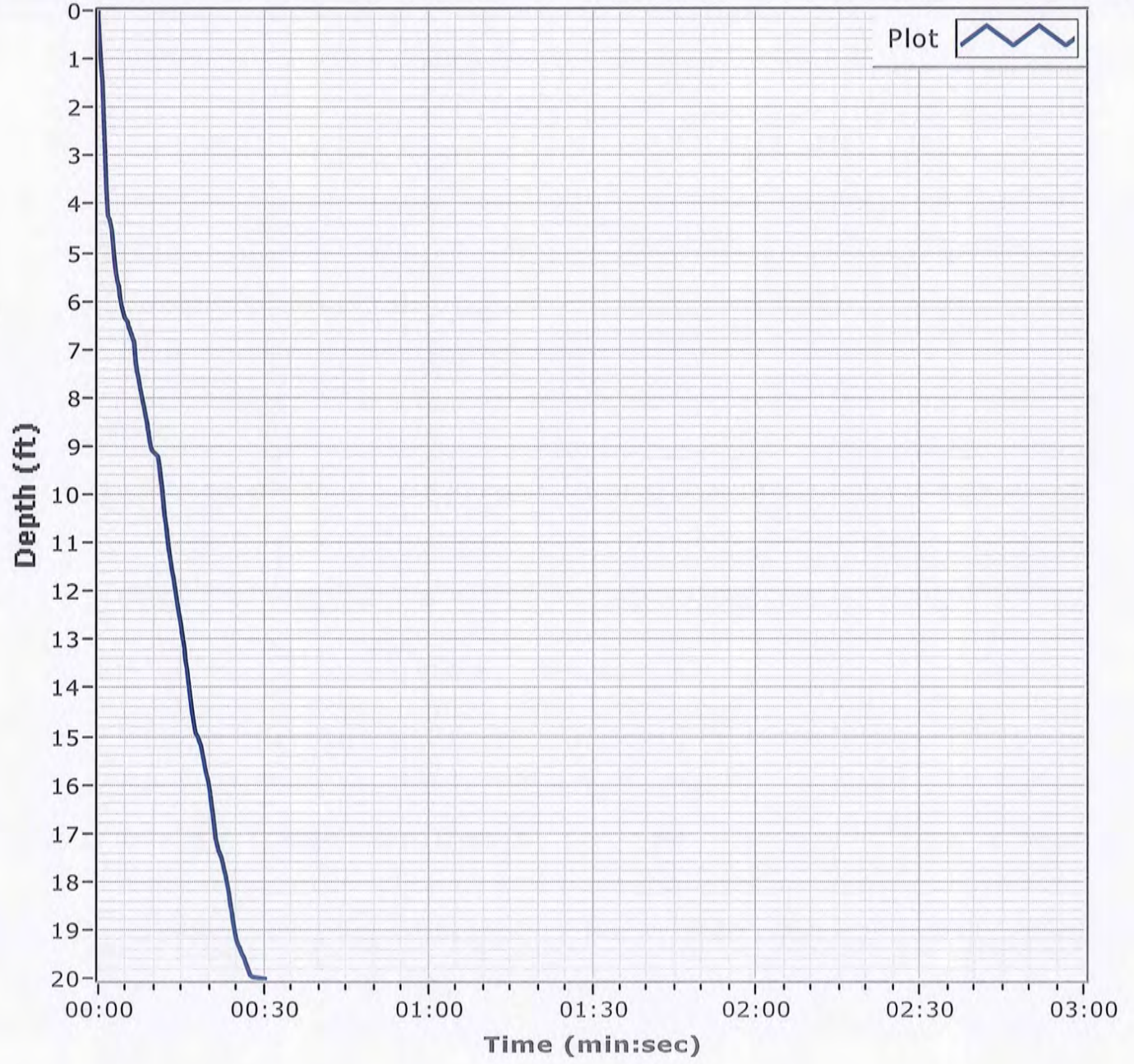
Total Time 00:00:30

Water Depth 41.2'

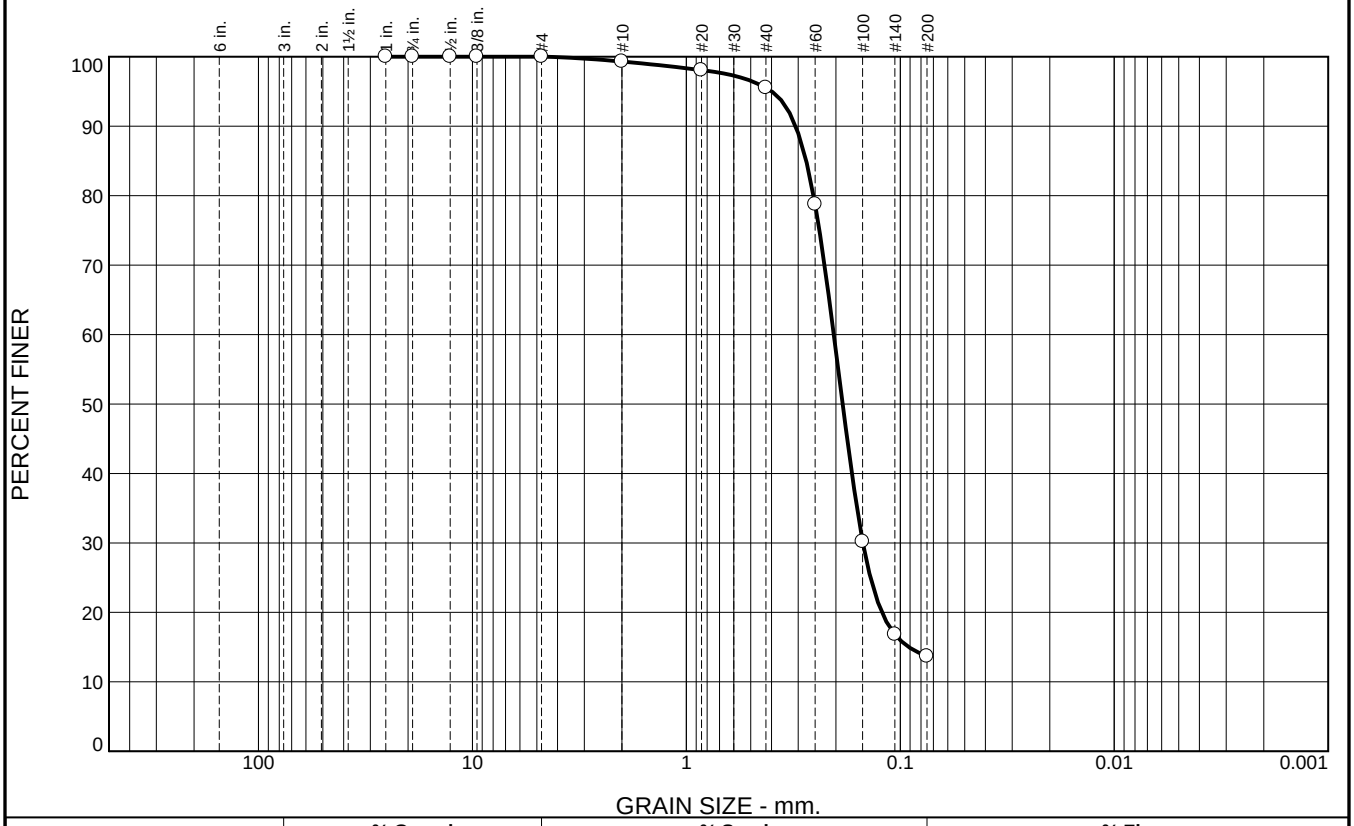
Penetration 20.0'

Recovery 14.4'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.7	3.8	81.8	13.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.3		
#20	98.1		
#40	95.5		
#60	78.7		
#100	30.2		
#140	16.8		
#200	13.7		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3087 D_{85}= 0.2754 D_{60}= 0.2046
D_{50}= 0.1861 D_{30}= 0.1496 D_{15}= 0.0913
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-25-12 A
Sample Number: 6494 (36) **Depth:** 0.0' **Date:** 12/26/12

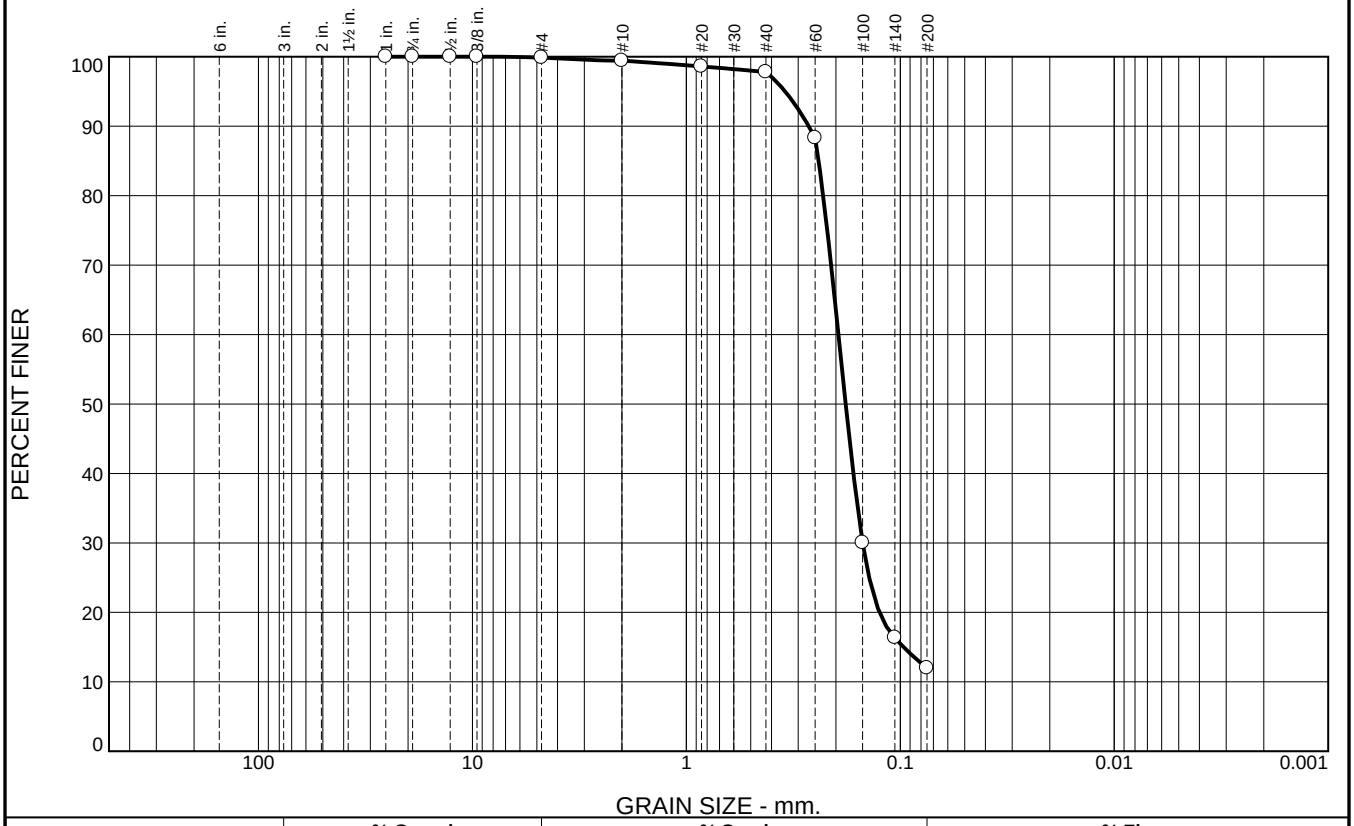
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.5	1.6	85.8	12.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.4		
#20	98.6		
#40	97.8		
#60	88.3		
#100	30.0		
#140	16.3		
#200	12.0		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2682 D_{85}= 0.2408 D_{60}= 0.1947
D_{50}= 0.1801 D_{30}= 0.1499 D_{15}= 0.0965
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-25-12 B
Sample Number: 6494 (37) **Depth:** 5.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-26-12

DRILLING LOG	DIVISION: South Atlantic	INSTALLATION: Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-26-12	LOCATION COORDINATES: E = 1,078,661 N = 247,748	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 40.1 Ft.
		15. DATE BORING	STARTED: 12-15-12 / COMPLETED: 12-15-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -39.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-39.3	0.0				
-40.3	1.0		CLAY, fat, mostly clay, soft, gray (CH)	NS	
-41.1	1.8		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little shell fragments, gray (SC)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.2016 mm % Fines: 15.6
-43.3	4.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, gray (SM)	B	Classification: SP-SM Color: 5Y 6/2-light olive gray D50: 0.2045 mm % Fines: 6.9
-45.3	6.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace shell fragments, gray (SP)	C	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1841 mm % Fines: 13.5
-48.3	9.0		SAND, silty, mostly fine-grained sand-sized quartz, trace shell fragments, gray (SM)		
-55.0	15.7		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, gray (SC)	NS	

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18092° Long = -88.53453°

Project Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBC-26-12

Coordinate System
Latitude / Longitude

Latitude 30 10.855

Longitude 088 32.072

Date 12/15/2012

Start Time 14:21:07

End Time 14:21:36

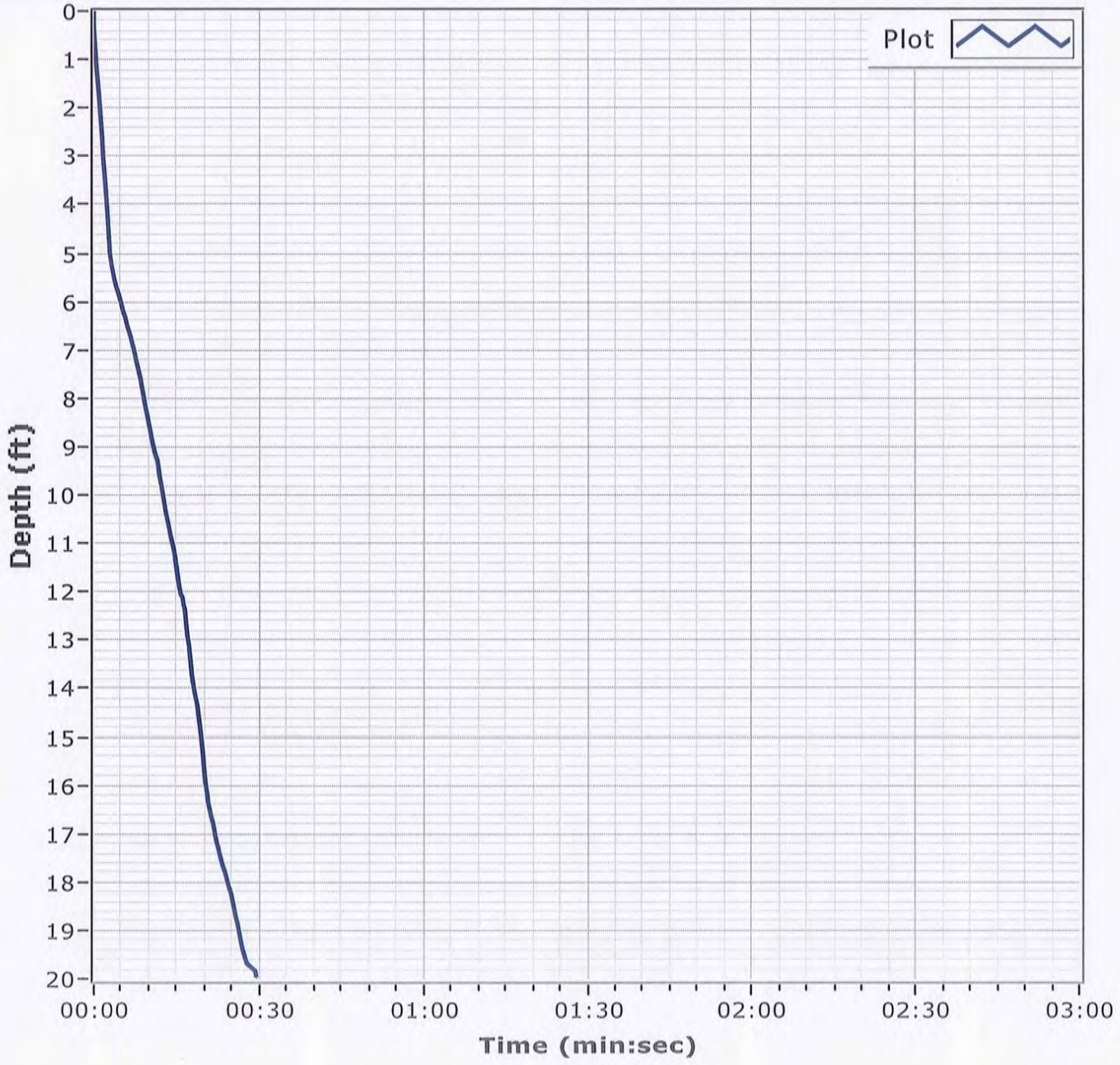
Total Time 00:00:29

Water Depth 40.1'

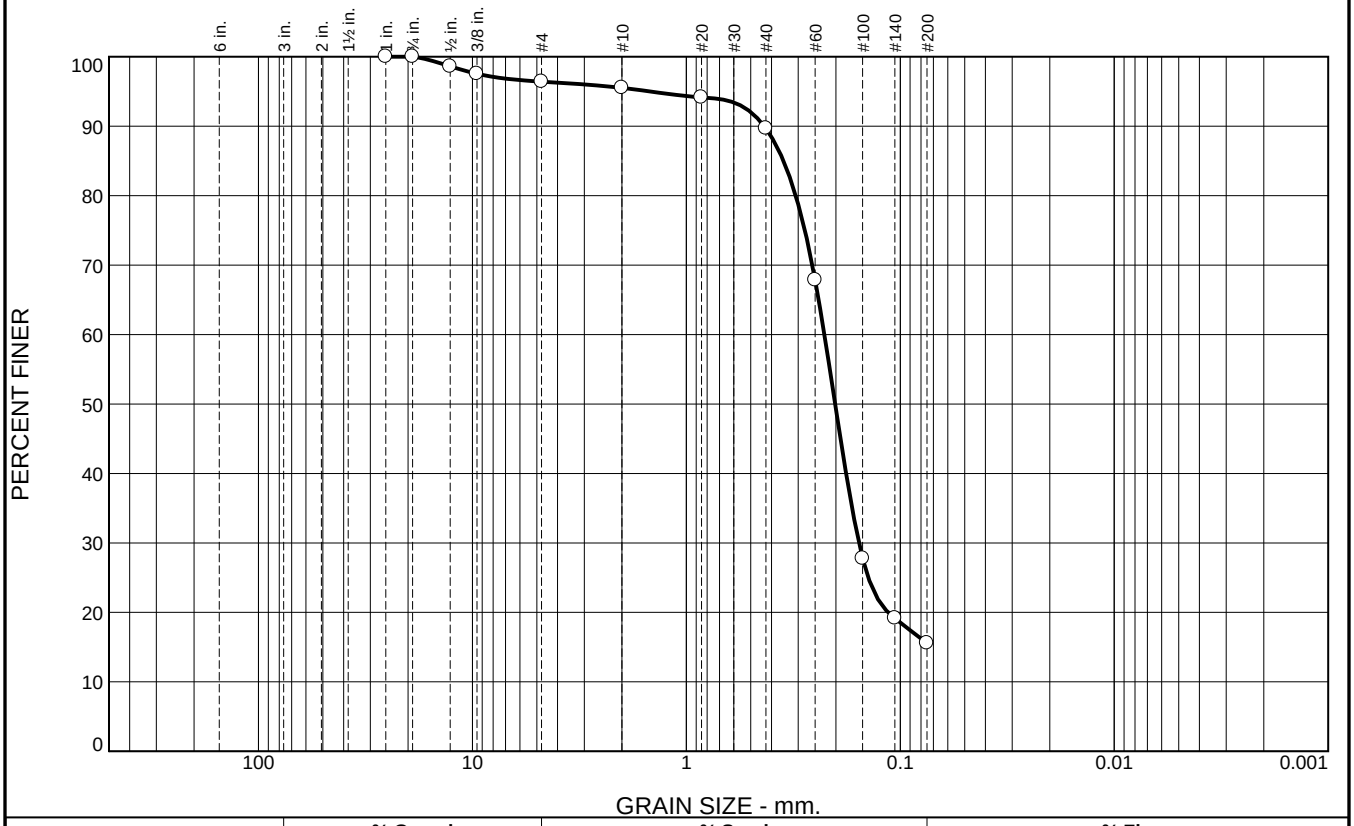
Penetration 20.0'

Recovery 15.9'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.6	0.9	5.8	74.1	15.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	98.6		
.375	97.5		
#4	96.4		
#10	95.5		
#20	94.1		
#40	89.7		
#60	67.8		
#100	27.8		
#140	19.2		
#200	15.6		

* (no specification provided)

Material Description

Fine grained, SILTY SAND, with trace SHELL

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.4328 D_{85}= 0.3514 D_{60}= 0.2263
D_{50}= 0.2016 D_{30}= 0.1561 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-26-12 A
Sample Number: 6494 (38) **Depth:** 1.8' **Date:** 12/26/12

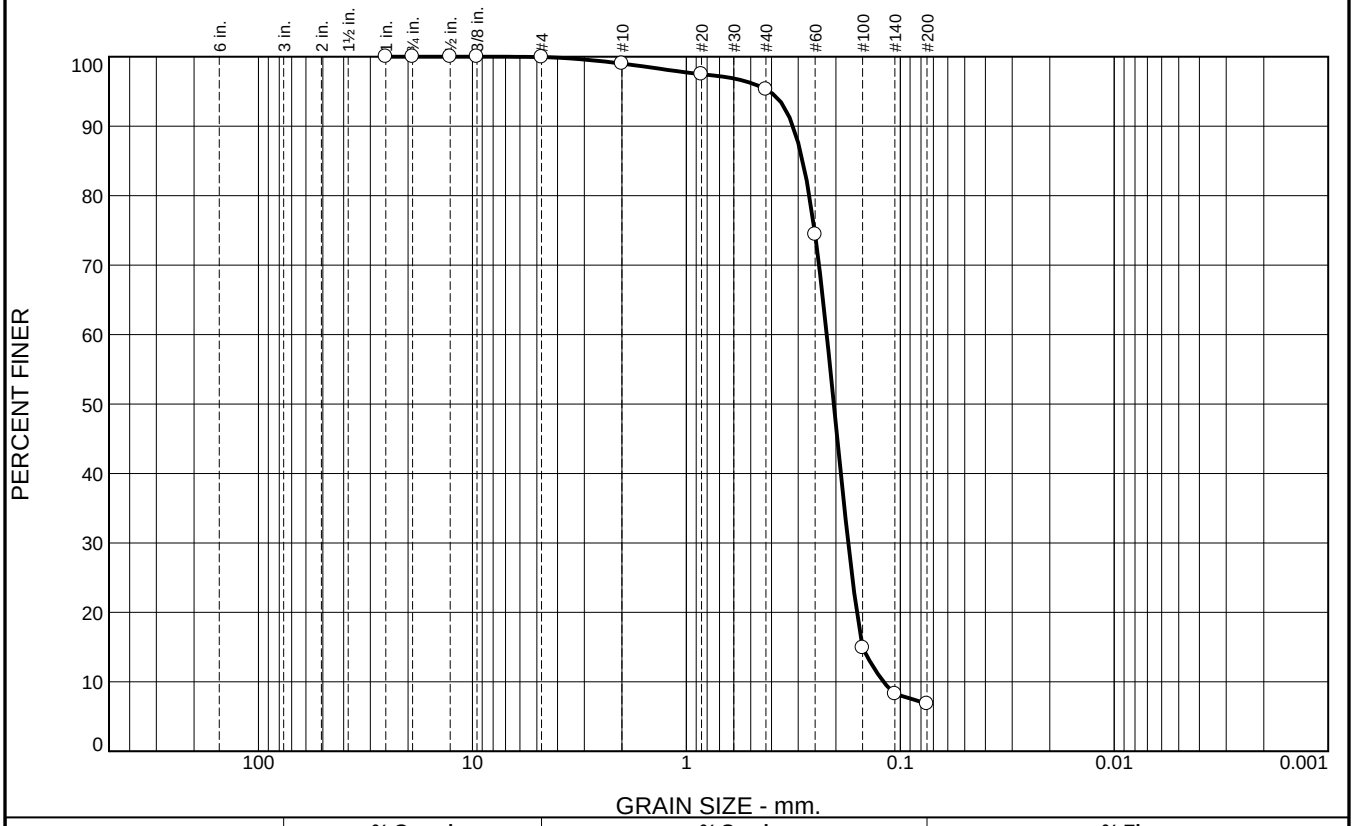
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.0	3.7	88.4	6.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.0		
#20	97.5		
#40	95.3		
#60	74.4		
#100	14.9		
#140	8.3		
#200	6.9		

* (no specification provided)

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3174 D_{85}= 0.2861 D_{60}= 0.2206
D_{50}= 0.2045 D_{30}= 0.1753 D_{15}= 0.1502
D_{10}= 0.1197 C_u= 1.84 C_c= 1.16

Classification

USCS= SP-SM AASHTO=

Remarks

Location: BI-PBC-26-12 B
Sample Number: 6494 (39) **Depth:** 4.0' **Date:** 12/26/12

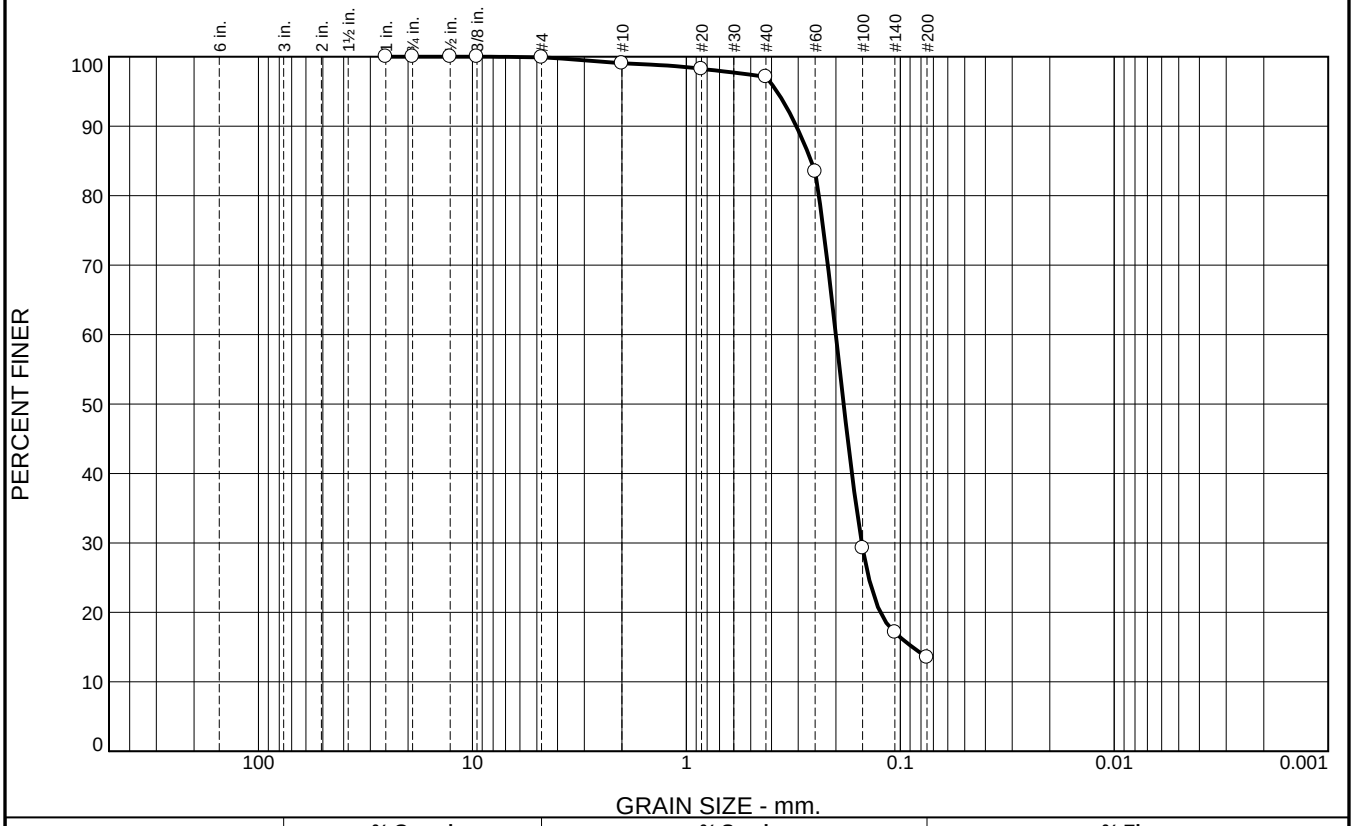
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.8	2.0	83.6	13.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.1		
#20	98.2		
#40	97.1		
#60	83.5		
#100	29.2		
#140	17.1		
#200	13.5		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3063 D_{85}= 0.2610 D_{60}= 0.2002
D_{50}= 0.1841 D_{30}= 0.1515 D_{15}= 0.0878
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-26-12 C
Sample Number: 6494 (40) **Depth:** 6.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-27-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-27-12	LOCATION COORDINATES: E = 1,081,181 N = 250,686	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. WATER DEPTH: 36.7 Ft.
		15. DATE BORING	STARTED: 12-16-12 / COMPLETED: 12-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -35.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 13.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-35.8	0.0				
-36.3	0.5		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, lt. gray (SP)	A	Classification: SM Color: 5Y 5/3-olive D50: 0.1657 mm % Fines: 19.8
			SAND, clayey, mostly quartz, some clay, little shell fragments, gray (SC)	NS	
-46.8	11.0				
-47.8	12.0		SILT, inorganic-L, mostly silt, some fine-grained sand-sized quartz, lt. gray (ML)		
-49.6	13.8		CLAY, lean, mostly clay, trace fine-grained sand-sized quartz, mottled lt. gray and yellowish orange (CL)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18898° Long = -88.52653°

Project Missiissippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PBC-27-12

Coordinate System
Latitude / Longitude

Latitude 30 11.339

Longitude 088 31.592

Date 12/16/2012

Start Time 13:57:54

End Time 13:58:35

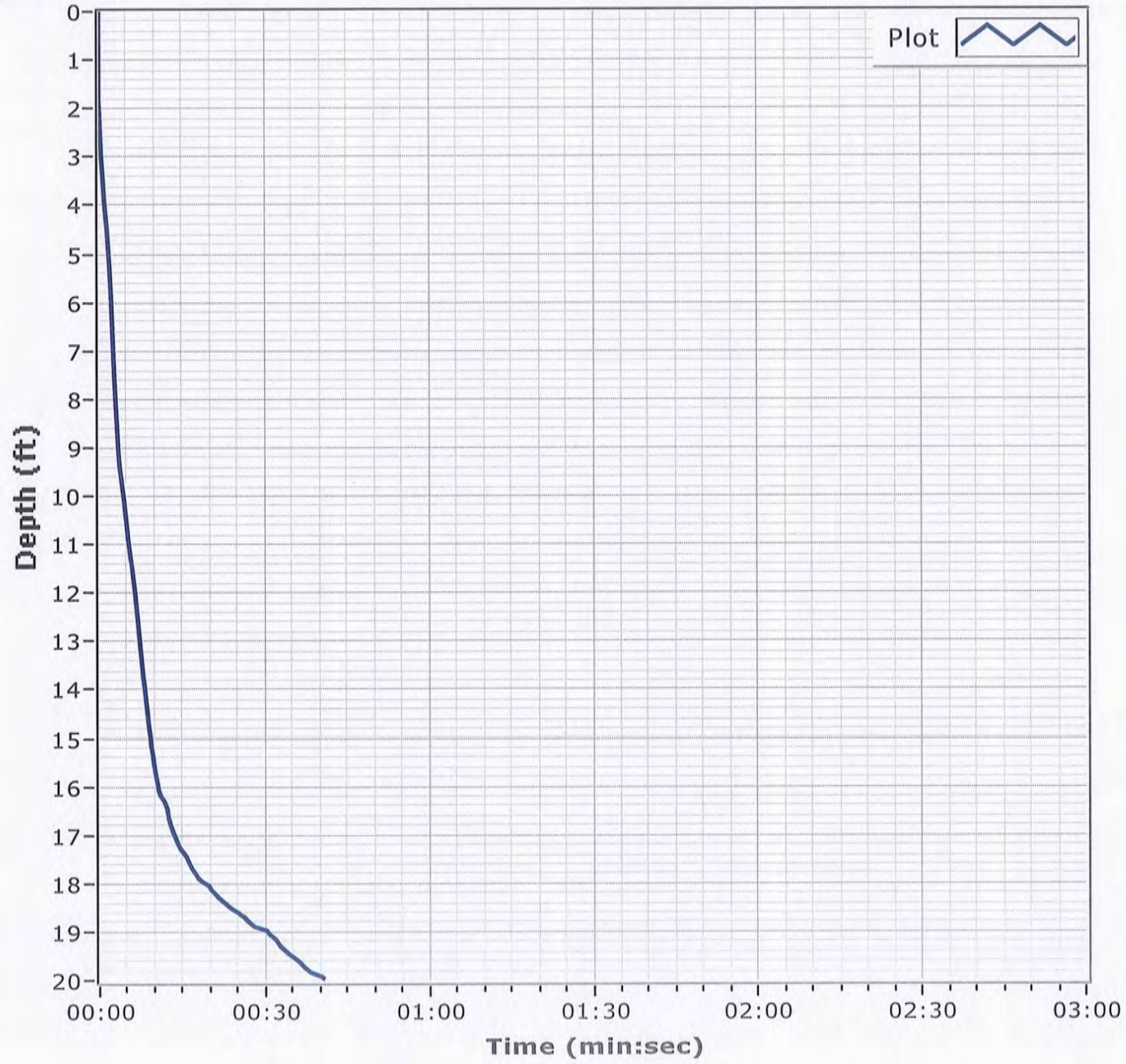
Total Time 00:00:40

Water Depth 36.7'

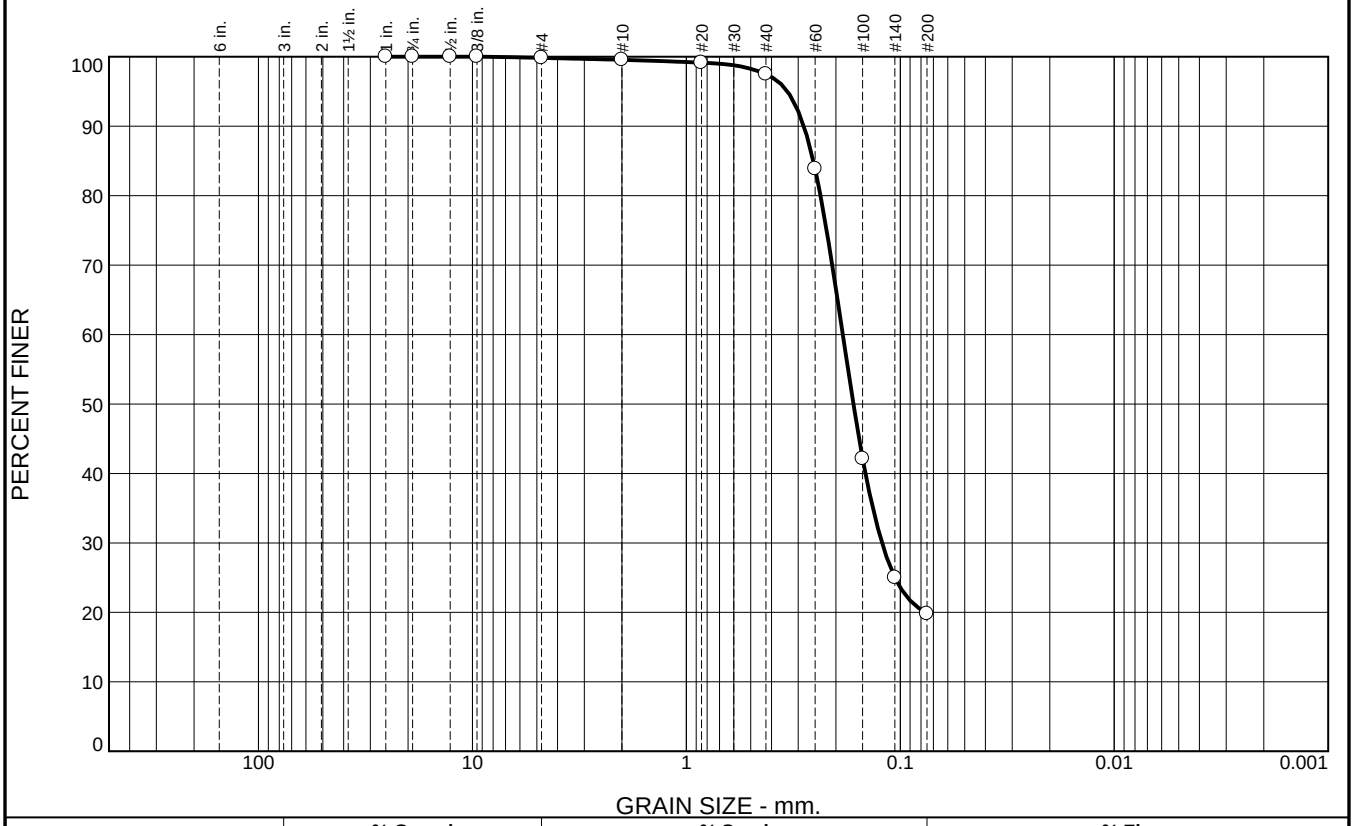
Penetration 20.0'

Recovery 14.0'

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.3	2.0	77.7	19.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.5		
#20	99.1		
#40	97.5		
#60	83.8		
#100	42.1		
#140	25.0		
#200	19.8		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.2825 D_{85}= 0.2549 D_{60}= 0.1857
D_{50}= 0.1657 D_{30}= 0.1218 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-27-12 A
Sample Number: 6494 (41) **Depth:** 0.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Boring Designation BI-PBC-28-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Mobile District	SHEET 1 OF 1 SHEETS

1. PROJECT: Barrier Island Restoration, Pascagoula Bar Channel		9. SIZE AND TYPE OF BIT: N/A	
		10. COORDINATE SYSTEM/DATUM: State Plane, MSE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: BI-PBC-28-12	LOCATION COORDINATES: E = 1,080,009 N = 249,417	11. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAM	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Systems, Inc.		13. TOTAL NUMBER CORE BOXES	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. WATER DEPTH: 37.8 Ft.	
		15. DATE BORING	STARTED: 12-16-12 / COMPLETED: 12-16-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -37.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100%	
8. TOTAL DEPTH OF BORING: 15.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Mark Green, Geotechnical Engineer	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-37.3	0.0				
-39.8	2.5		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	NS	
-41.3	4.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, clayey lenses, gray (SM)	A	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1894 mm % Fines: 15.8
-43.3	6.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	NS	
-46.3	9.0		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace shell fragments, clayey lenses, gray (SM)	B	Classification: SM Color: 5Y 5/2-olive gray D50: 0.1921 mm % Fines: 12.6
-51.3	14.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace shell fragments, gray (SC)	NS	
-52.6	15.3		CLAY, fat, mostly clay, trace fine-grained sand-sized quartz, soft, gray and brown (CH)		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. NS = Sample not submitted for laboratory analysis from this interval.

0 5 10 15 20 25

SAM FORM 1836 - MsCIP
MAY 2010

Lat = 30.18550° Long = -88.53025°

Project Missiissippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

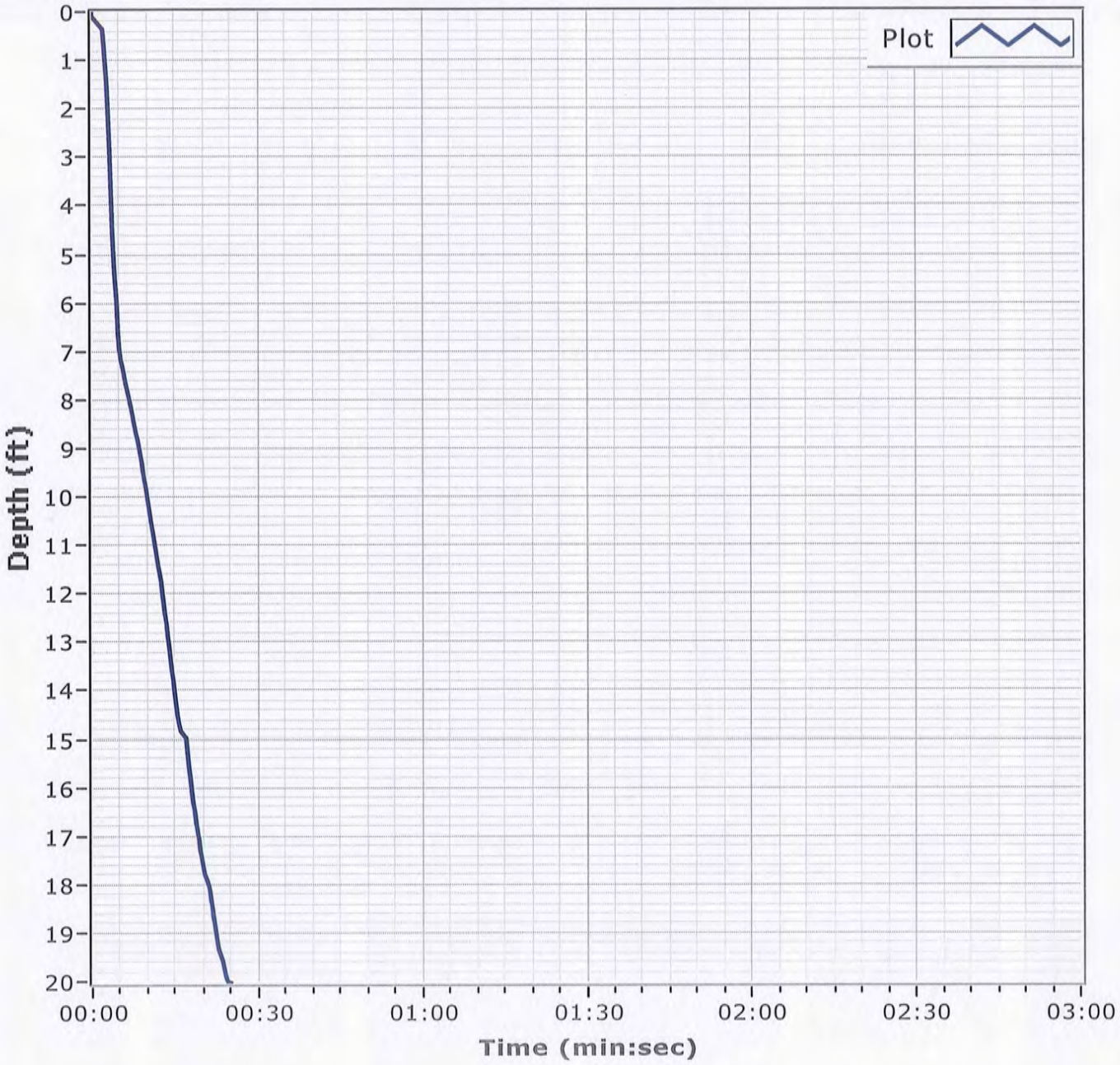
Core Identifier BI-PBC-28-12a
Coordinate System
Latitude / Longitude

Date 12/16/2012
Start Time 11:10:38
End Time 11:11:04
Total Time 00:00:25

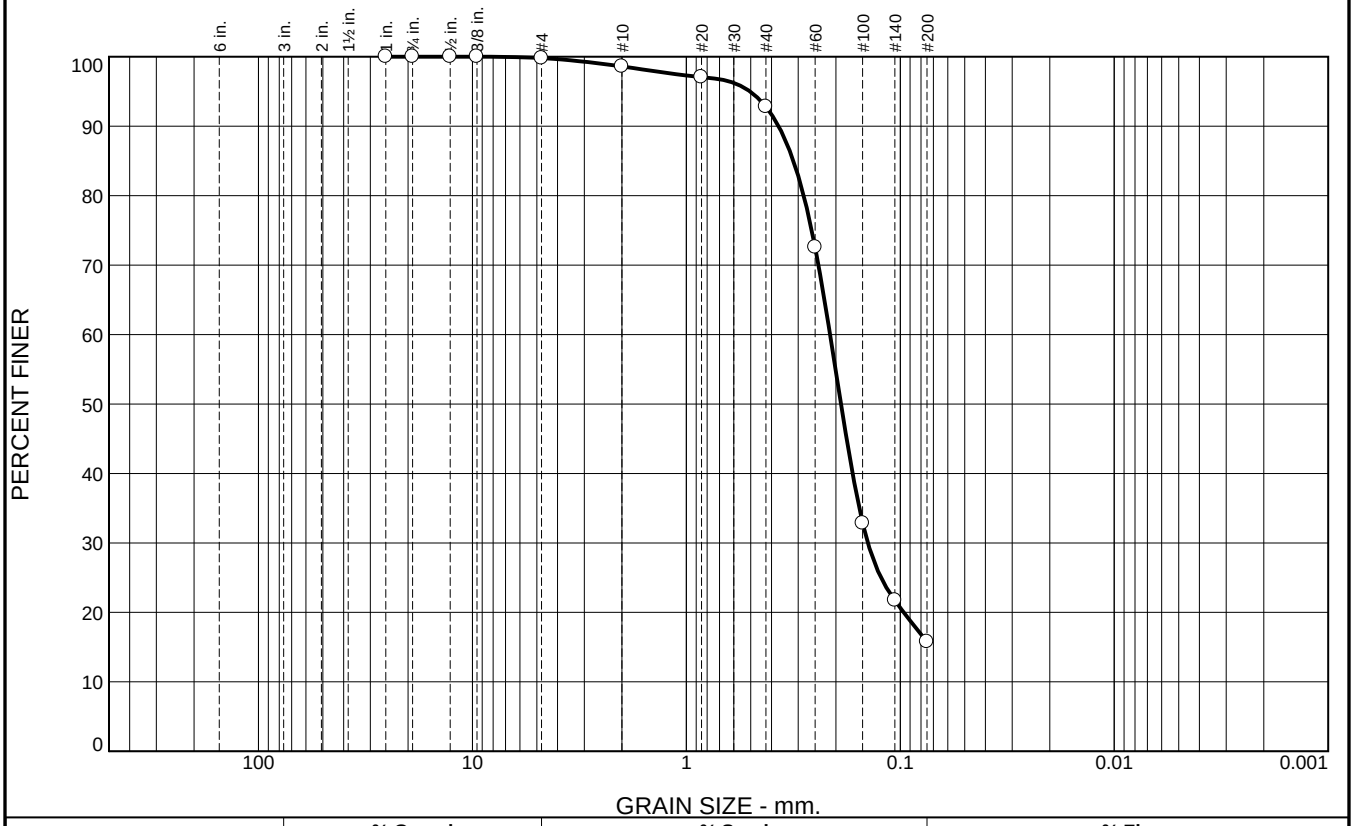
Water Depth 37.8
Penetration 20.0'
Recovery 15.5'

Latitude 30 11.130
Longitude 088 31.815

Comments



Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	1.2	5.8	77.0	15.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	98.6		
#20	97.1		
#40	92.8		
#60	72.6		
#100	32.8		
#140	21.7		
#200	15.8		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3705 D_{85}= 0.3160 D_{60}= 0.2130
D_{50}= 0.1894 D_{30}= 0.1418 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-28-12 A
Sample Number: 6494 (42) **Depth:** 2.5' **Date:** 12/26/12

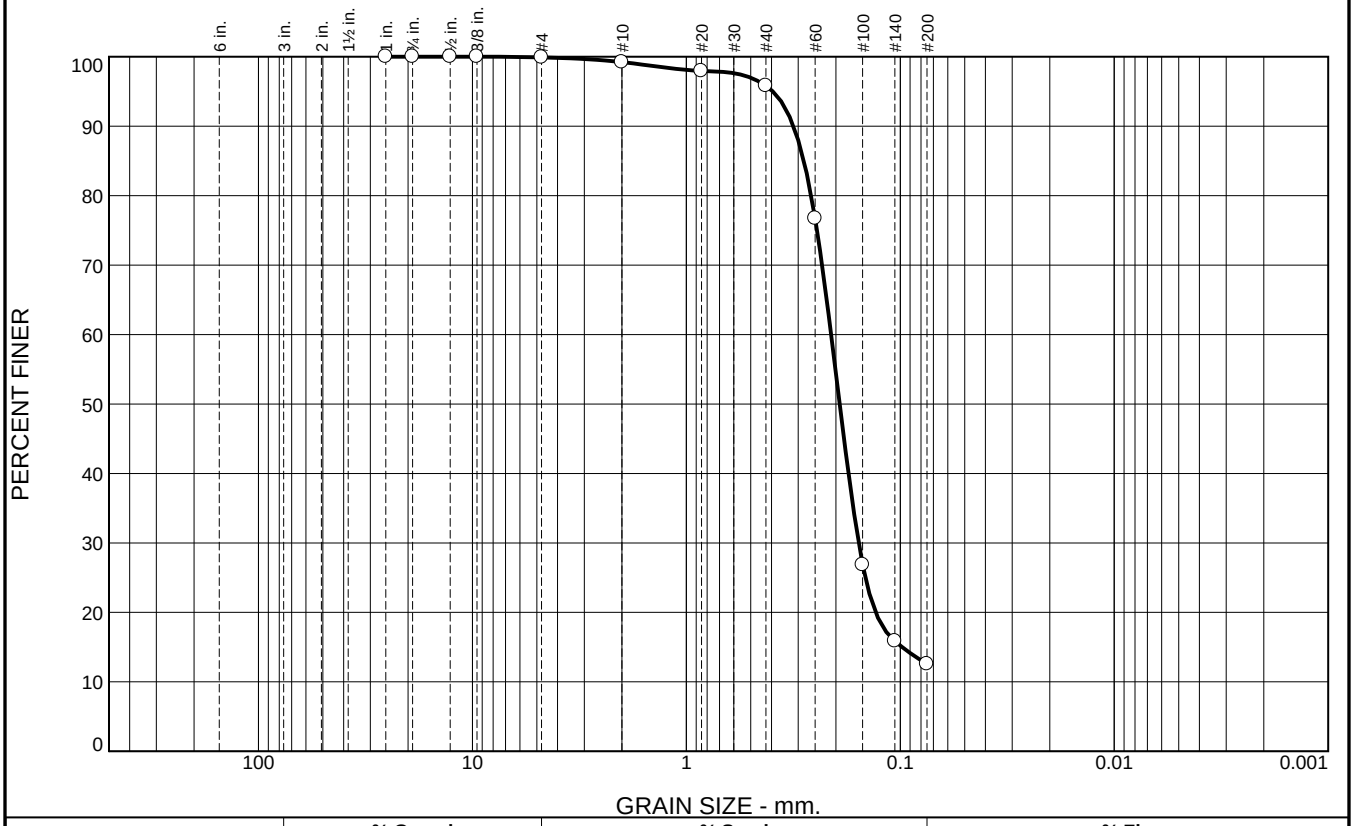
Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.7	3.4	83.2	12.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.2		
#20	97.9		
#40	95.8		
#60	76.7		
#100	26.9		
#140	15.9		
#200	12.6		

* (no specification provided)

Material Description

Fine grained, SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3158 D_{85}= 0.2825 D_{60}= 0.2105
D_{50}= 0.1921 D_{30}= 0.1566 D_{15}= 0.0980
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: BI-PBC-28-12 B
Sample Number: 6494 (43) **Depth:** 6.0' **Date:** 12/26/12

Thompson Engineering

Mobile, Alabama

Client: CDM/Thompson Engineering JV
Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**