

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE J	PAGE OF PAGES 1 62	
2. AMENDMENT/MODIFICATION NO. P00004	3. EFFECTIVE DATE DATE See block 16c	4. REQUISITION/PURCHASE REQ. NO. W31XNJ92618206		5. PROJECT NO.(If applicable)	
6. ISSUED BY CODE ENDIST MOBILE CONTRACTING DIVISION 109 ST JOSEPH ST MOBILE AL 36602	W91278	7. ADMINISTERED BY (If other than item 6) CODE See Item 6			
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code) GREAT LAKES DREDGE & DOCK COMPANY, LLC STEVEN R. AUERNHAMER 1 PARKVIEW PLAZA STE 800 OAKBROOK TERRACE IL 60181-4730			9A. AMENDMENT OF SOLICITATION NO.		
			9B. DATED (SEE ITEM 11)		
			X	10A. MOD. OF CONTRACT/ORDER NO. W9127819C0029	
			X	10B. DATED (SEE ITEM 13) 20-Sep-2019	
CODE 1BSU5	FACILITY CODE				
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. ACCOUNTING AND APPROPRIATION DATA (If required)					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACT ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.					
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.					
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).					
X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: FAR 52.243-4 Changes					
D. OTHER (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>1</u> copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) Modification Control Number: k5ct9djf21289 The purpose of this modification is to : 1. Outline revisions to the Scope of Work per the attached specs at no cost to the Government. 2. Re-establish the completion date from 10 November 2020 to 4 December 2020 (24 additional days) due to the impact of numerous hurricanes and storms that passed through in the past 3 months. 3. All other terms and conditions remain unchanged. 4. In consideration of this modification agreed to herein as a complete equitable adjustment for the above changes, the Contractor hereby release the Government from any and all liability under this modification for further equitable adjustments attributable to such factors or circumstances giving rise to the proposal for adjustment.					
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.					
15A. NAME AND TITLE OF SIGNER (Type or print) Steven R. Auernhamer, Vice President			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) TEL: Sara G. Logsdon EMAIL: sara.g.logsdon@usace.army.mil		
15B. CONTRACTOR/OFFEROR Steven R. Auernhamer <small>Digitally signed by Steven R. Auernhamer Date: 2020.11.24 13:14:14 -06'00'</small> (Signature of person authorized to sign)		15C. DATE SIGNED November 24, 2020		16B. UNITED STATES OF AMERICA BY LOGSDON.SARA.G. (b)(6) <small>Digitally signed by LOGSDON.SARA.G. Date: 2020.11.30 14:21:14 -06'00'</small> (b)(6) (Signature of Contracting Officer)	
				16C. DATE SIGNED 11/30/2020	

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION 00 10 00 - SOLICITATION

The following Delivery Schedule item for CLIN 0001 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
10-NOV-2020	61,767,026.85	IRVINGTON SITE OFFICE STEPHEN REID 7861 13TH STREET IRVINGTON, AL 36544-2899 251-957-6019 FOB: Destination	964151

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
04-DEC-2020	61,767,026.85	IRVINGTON SITE OFFICE STEPHEN REID 7861 13TH STREET IRVINGTON, AL 36544-2899 251-957-6019 FOB: Destination	964151

(End of Summary of Changes)

PART I - REVISIONS MADE BY ADDED AND/OR REPLACEMENT PARAGRAPHS/PAGES/SECTIONS

The items listed below are to be replaced by the corresponding added and/or revised paragraphs/pages or sections. Added and/or revised paragraphs/pages or sections are indicated by a note in bottom right hand corner of each paragraph or page. Added sections are hereby made a part of the contract and are to be inserted in the specification in the proper numerical/alphabetical sequence.

Within the specifications, deletions from the specifications are indicated by strikethrough, e.g.: ~~deletions are marked with strikethrough~~ and additions to the specifications including revisions/substitutions are indicated in bold, italic and underlined, e.g.: **additions are indicated thus.**

<u>SECTION</u>	<u>Corresponding Added or Revised Paragraph Page, and/or Section</u>
<u>VOLUME 2</u>	
Appendix A	Pages added to Appendix A as indicated herein.
Appendix C	Page added to Appendix C as indicated herein.

PART II - NOTE: Revised and added drawings are listed below. These revised and added drawings are to be inserted into the folio in the proper numerical sequence. Drawings that have been revised by this amendment shall be deleted from the folio. All drawings listed below are revised unless indicated otherwise.

Sheet
Reference
Number

Title

	COVER SHEET
GI-001	INDEX OF DRAWINGS
CB123A	OCS PETIT BOIS PASS WEST 2 BORROW AREA (NEW)
CB124A	OCS PETIT BOIS PASS WEST 2 BORROW AREA OBSTRUCTION MAP (NEW)
CB125A	HORN ISLAND PASS BORROW AREA (NEW)
CB323A	CROSS SECTIONS PETIT BOIS PASS OSC WEST 2 BORROW AREA (NEW)
CB324A	CROSS SECTIONS PETIT BOIS PASS OSC WEST 2 BORROW AREA (NEW)
CB325A	CROSS SECTIONS PETIT BOIS PASS OSC WEST 2 BORROW AREA (NEW)
CB326A	CROSS SECTIONS OF HORN ISLAN PASS BORROW AREA (NEW)
CB327A	CROSS SECTIONS OF HORN ISLAN PASS BORROW (NEW)

Encl as stated:

Added pages of the specifications as indicated in Part I.
10 Revised and added drawings as indicated in Part II.

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SHEET CB-123A: PETIT BOIS PASS OUTER CONTINENTAL SHELF WEST 2
BORROW AREA DRILLING LOGS

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Boring Designation BI-PBS-095-12

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West			9. SIZE AND TYPE OF BIT N/A	
2. BORING DESIGNATION BI-PBS-095-12		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER American Vibracore Systems, Inc.		12. TOTAL SAMPLES		DISTURBED 0
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		LOCATION COORDINATES E = 1,102,745 N = 240,967	13. TOTAL NUMBER CORE BOXES	
6. THICKNESS OF OVERBURDEN N/A		14. WATER DEPTH 43.8 Ft.		15. DATE BORING
7. DEPTH DRILLED INTO ROCK N/A		16. ELEVATION TOP OF BORING -42.7 Ft.		STARTED 01-05-13
8. TOTAL DEPTH OF BORING 17.9 Ft.		17. TOTAL RECOVERY FOR BORING 100%		COMPLETED 01-05-13
18. SIGNATURE AND TITLE OF INSPECTOR Mike FitzHarris, Geologist				

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-42.7	0.0				
-44.9	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
-46.9	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
-51.7	9.0		SILT, inorganic-L, mostly silt, some sand, trace clay, trace shell fragments, gray (ML)	NS	
-54.4	11.7		CLAY, fat, mostly clay, trace shell fragments, trace pockets of fine-grained sand, high plasticity, gray (CH)		
-60.6	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)		
<p>NOTES:</p> <p>1. Soils are field visually classified in accordance with the Unified Soils Classification System.</p> <p>2. NS = Sample not submitted for laboratory analysis from this interval.</p> <p>3. Seafloor elevation determined from 10/28/2014 USACE survey.</p>					

Project

Mississippi Barrier Island
Restoration Project



Core Identifier BI-PBS-95-12

Date 01/05/2013

Water Depth 43.8'

Coordinate System

Start Time 14:55:29

Latitude / Longitude

End Time 14:56:33

Penetration 20.2'

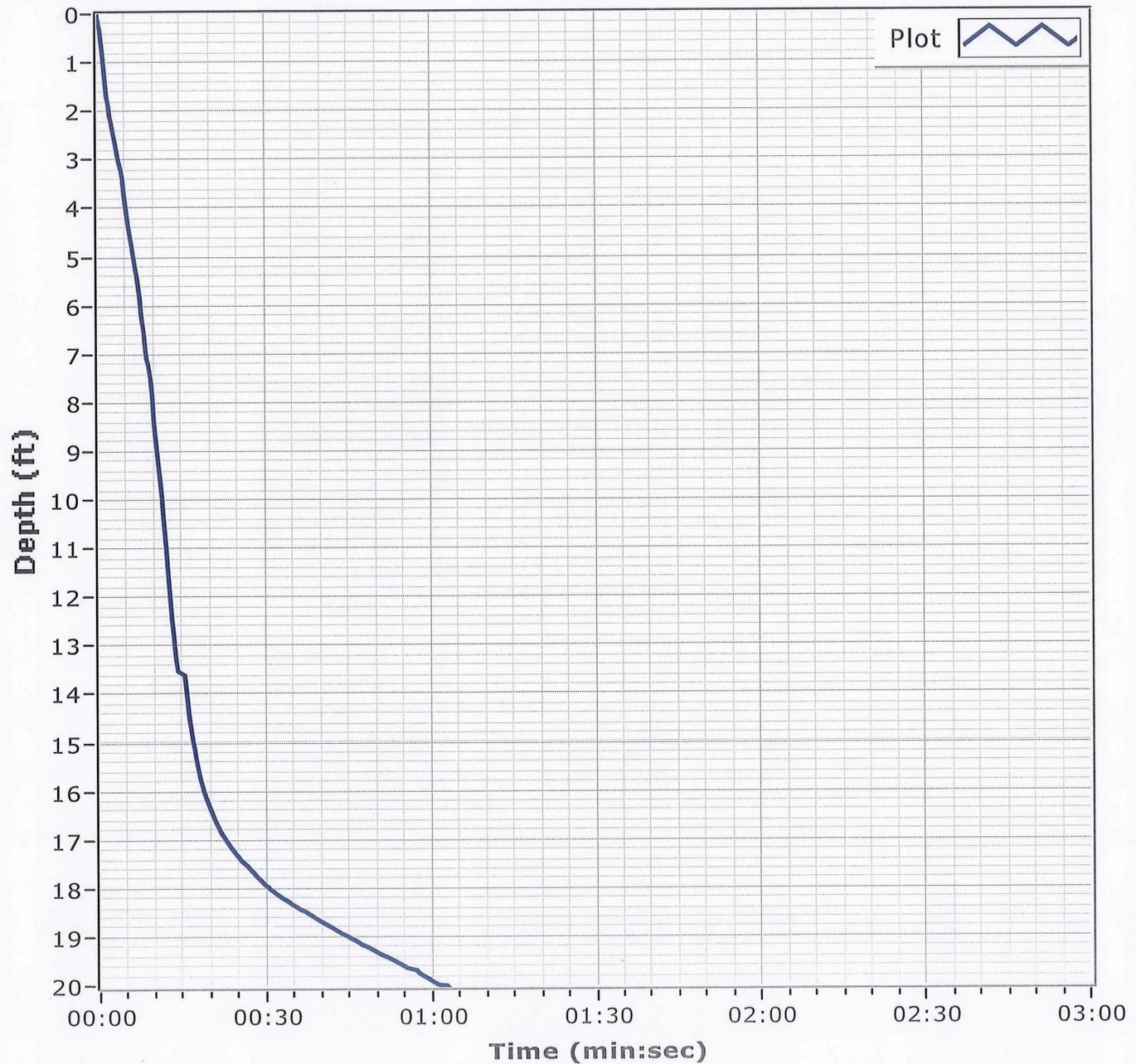
Latitude 30 09.725 N

Total Time 00:01:04

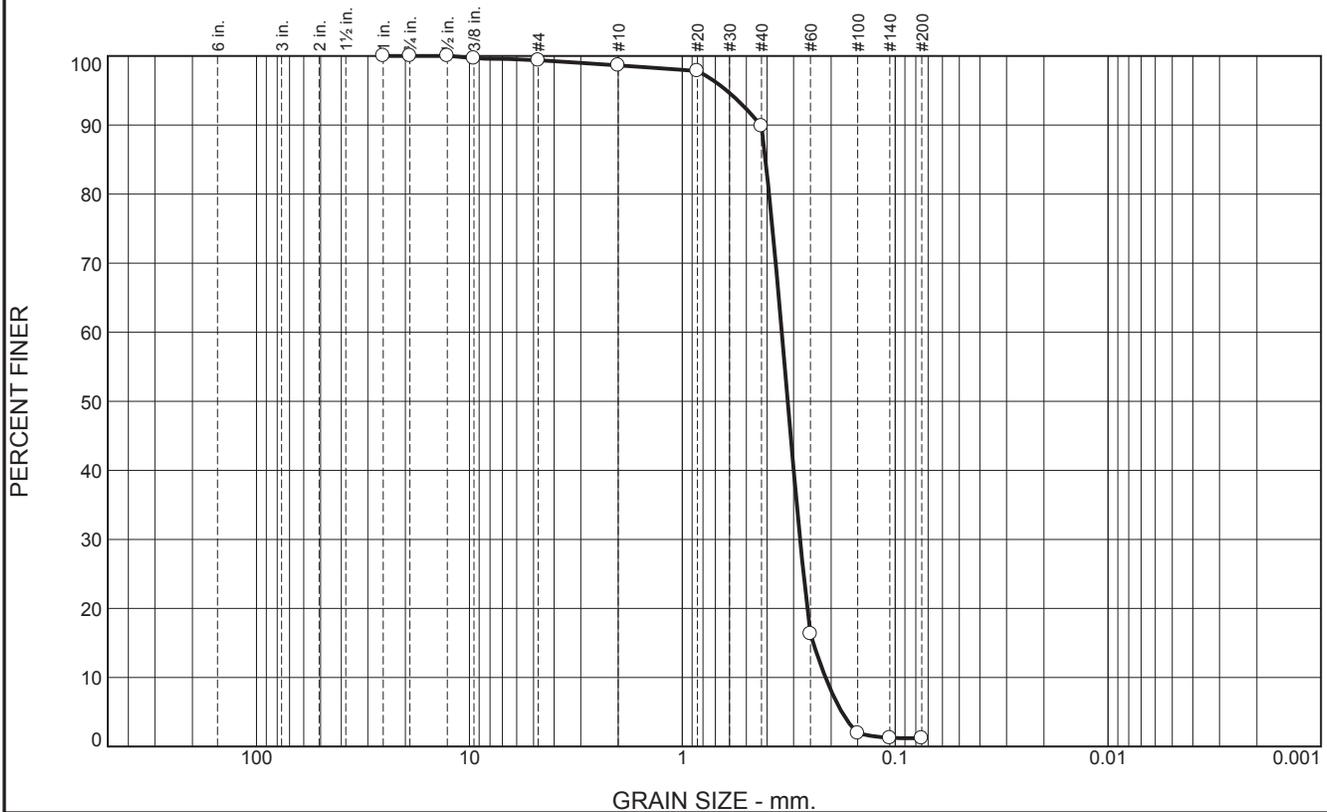
Recovery 17.8'

Longitude 088 27.503 W

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		

Material Description

Fine grained, SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4292 D₈₅= 0.4067 D₆₀= 0.3409
D₅₀= 0.3200 D₃₀= 0.2801 D₁₅= 0.2424
D₁₀= 0.2124 C_u= 1.61 C_c= 1.08

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Location: BI-PBS-95-12 A
Sample Number: 6503 (18)

Depth: 0.0'

Date: 1/08/13

Thompson Engineering

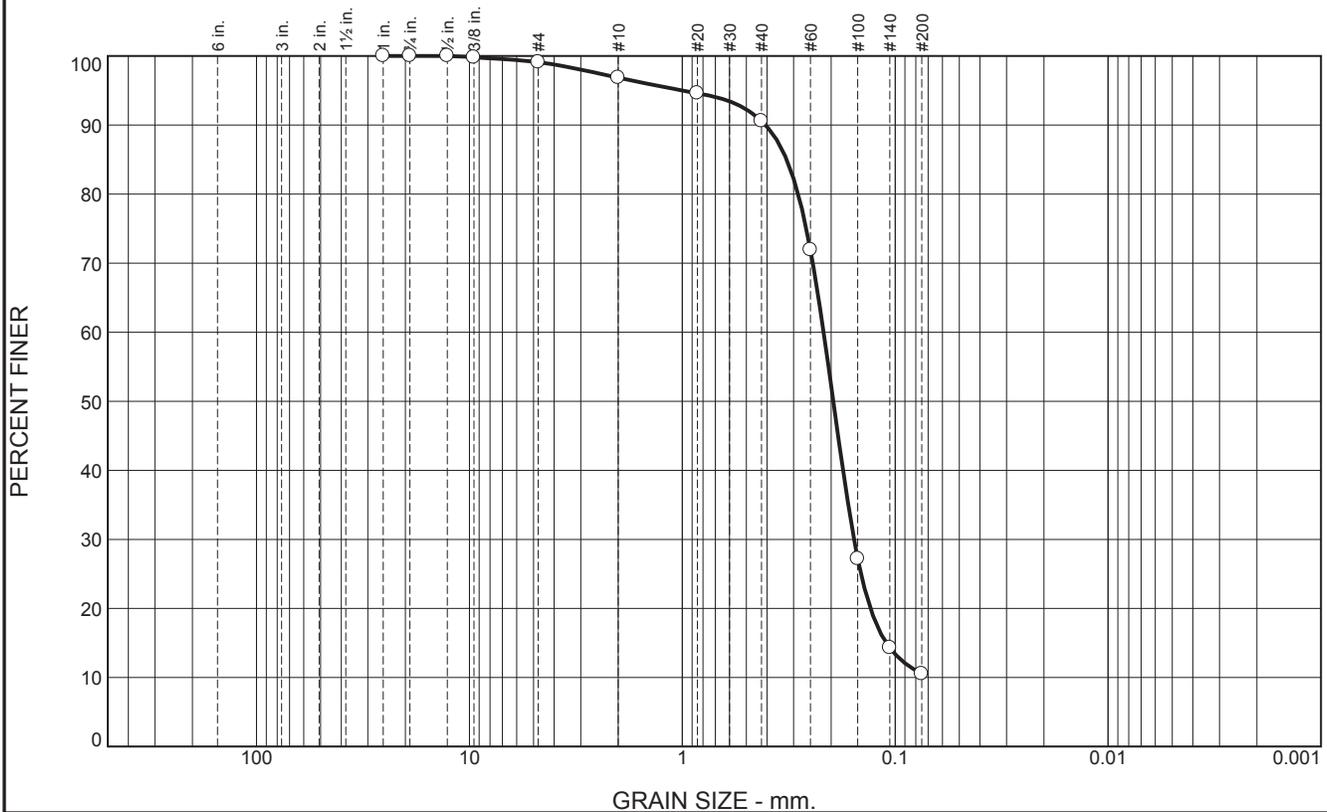
Mobile, Alabama

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		

Material Description

Fine grained, SLIGHTLY SILTY SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4074 D₈₅= 0.3235 D₆₀= 0.2170
D₅₀= 0.1954 D₃₀= 0.1561 D₁₅= 0.1100
D₁₀= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

* (no specification provided)

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-171-13

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West		9. SIZE AND TYPE OF BIT N/A		
2. BORING DESIGNATION BI-PBS-171-13		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER Construction Solutions International, Inc.		12. TOTAL SAMPLES 2		
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		UNDISTURBED (UD) 0
6. THICKNESS OF OVERBURDEN N/A		14. WATER DEPTH 46.8 Ft.		
7. DEPTH DRILLED INTO ROCK N/A		15. DATE BORING		STARTED 12-27-13 COMPLETED 12-27-13
8. TOTAL DEPTH OF BORING 9.8 Ft.		16. ELEVATION TOP OF BORING -45.2 Ft.		
		17. TOTAL RECOVERY FOR BORING 100%		
		18. SIGNATURE AND TITLE OF INSPECTOR Tom Powers, Geologist		

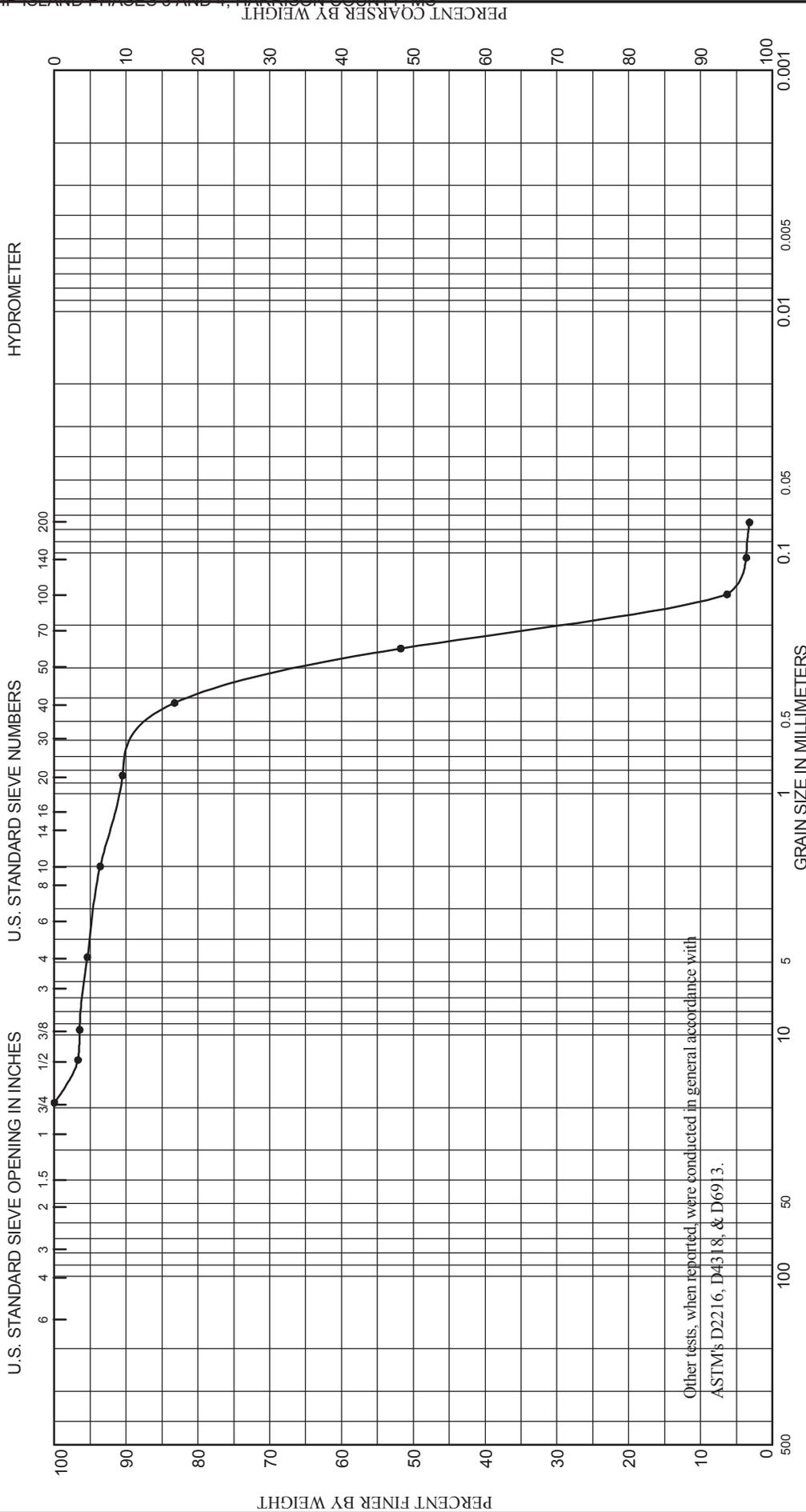
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-45.2	0.0				
-46.0	0.8		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little shell fragments, lt. gray (SP)	A	Classification: SP Color: GLEY1 10Y 6/1- D50: 0.245 mm % Fines: 3.2
-46.7	1.5			B	Classification: SP-SM Color: GLEY1 10Y 5/1- D50: 0.204 mm % Fines: 9.8
-48.8	3.6		SAND, silty, mostly fine-grained sand-sized quartz, few shell fragments, medium gray (SM)		
-51.5	6.3		SILT, inorganic-L, few shell fragments, medium gray (ML)	NS	
			CLAY, lean, few shell fragments, sandy, medium gray (CL)		
			CLAY, fat, sandy, lt. and medium gray and pale orange (CH)		
-54.5	9.3				
-55.0	9.8		SAND, silty, mostly fine to medium-grained sand-sized quartz, medium brown (SM)		
<p>NOTES:</p> <p>1. Soils are field visually classified in accordance with the Unified Soils Classification System.</p> <p>2. NS = Sample not submitted for laboratory analysis from this interval.</p> <p>3. Seafloor elevation determined from 10/28/2014 USACE survey.</p>					



**DEPARTMENT OF THE ARMY, SAVANNAH DISTRICT, ENVIRONMENTAL AND MATERIALS UNIT
CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e

REQUISITION: W33SJG32900192



Sample No.	Depth (ft)	ASTM D2487 Classification	Nat w%	LL	PL	PI	Project
A	0.0 to 0.8	Greenish Gray, Poorly Graded Sand (SP), with a trace of gravel size shell.					MsCIP Barrier Island Restoration
							Vibracore Sampling Pascagoula, MS
							Lab No. K5/4054
							Hole No. BI-PBS-171-13
							Date 4/23/14

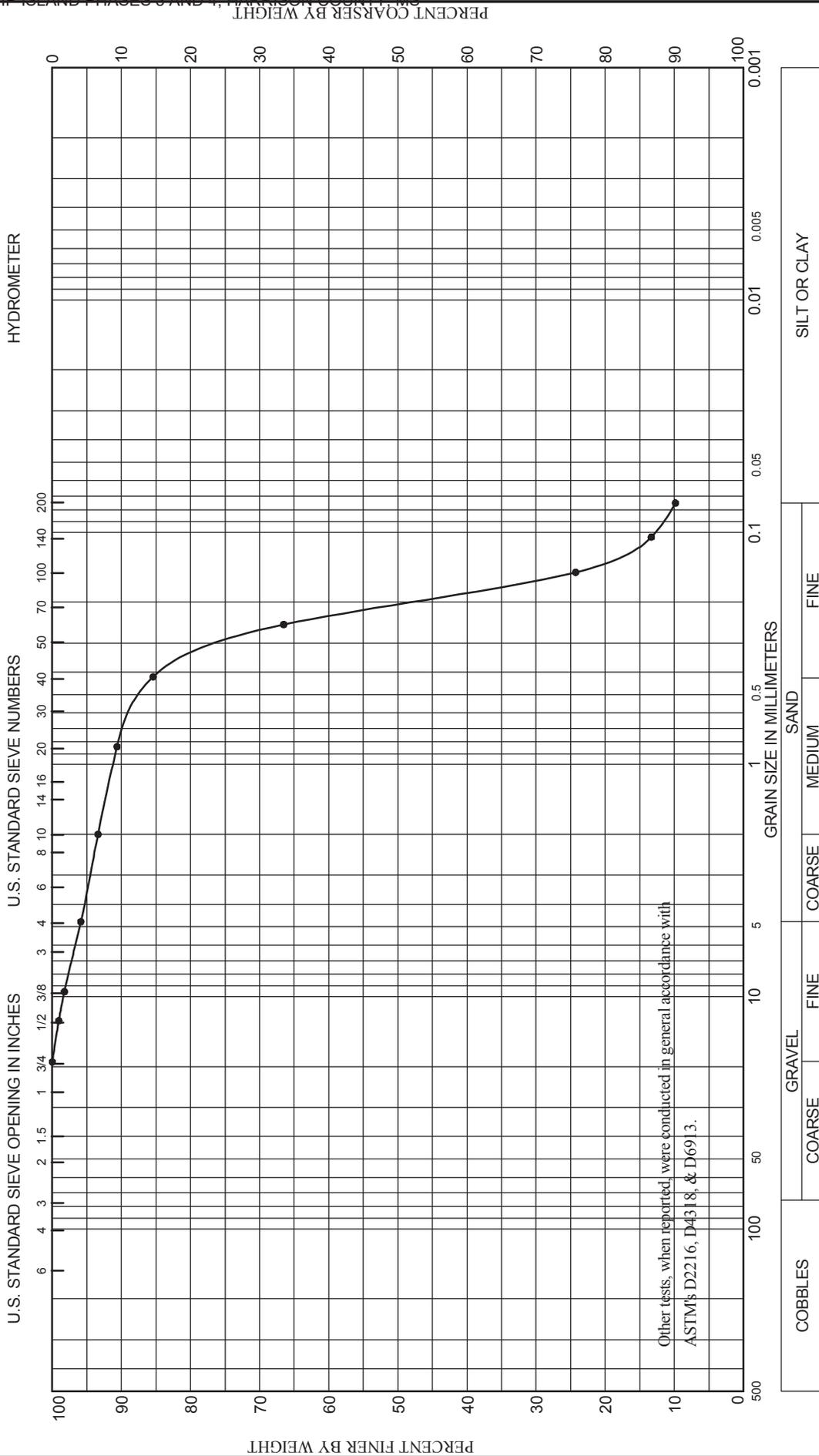
GRADATION CURVES



**DEPARTMENT OF THE ARMY, SAVANNAH DISTRICT, ENVIRONMENTAL AND MATERIALS UNIT
CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e

REQUISITION: W33SUG32900192



Other tests, when reported, were conducted in general accordance with ASTM's D2216, D4318, & D6913.

Sample No.	Depth (ft)	ASTM D2487 Classification	GRAVEL				SAND				PI									
			COARSE	FINE	COARSE	MEDIUM	FINE	LL	PL	Nat w%										
B	0.8 to 1.5	Greenish Gray, Poorly Graded Silty Sand (SP-SM), with a trace of gravel size shell.																		

GRADATION CURVES

Boring Designation BI-PBS-173-13

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West			9. SIZE AND TYPE OF BIT N/A	
2. BORING DESIGNATION BI-PBS-173-13		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		VERTICAL NAVD88
4. NAME OF DRILLER Construction Solutions International, Inc.		12. TOTAL SAMPLES		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		LOCATION COORDINATES E = 1,103,469 N = 240,675	13. TOTAL NUMBER CORE BOXES	14. WATER DEPTH 45 Ft.
6. THICKNESS OF OVERBURDEN N/A		CONTRACTOR FILE NO.	15. DATE BORING	STARTED 12-29-13 COMPLETED 12-29-13
7. DEPTH DRILLED INTO ROCK N/A		16. ELEVATION TOP OF BORING -42.7 Ft.	17. TOTAL RECOVERY FOR BORING 100%	
8. TOTAL DEPTH OF BORING 15.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR Tom Powers, Geologist		

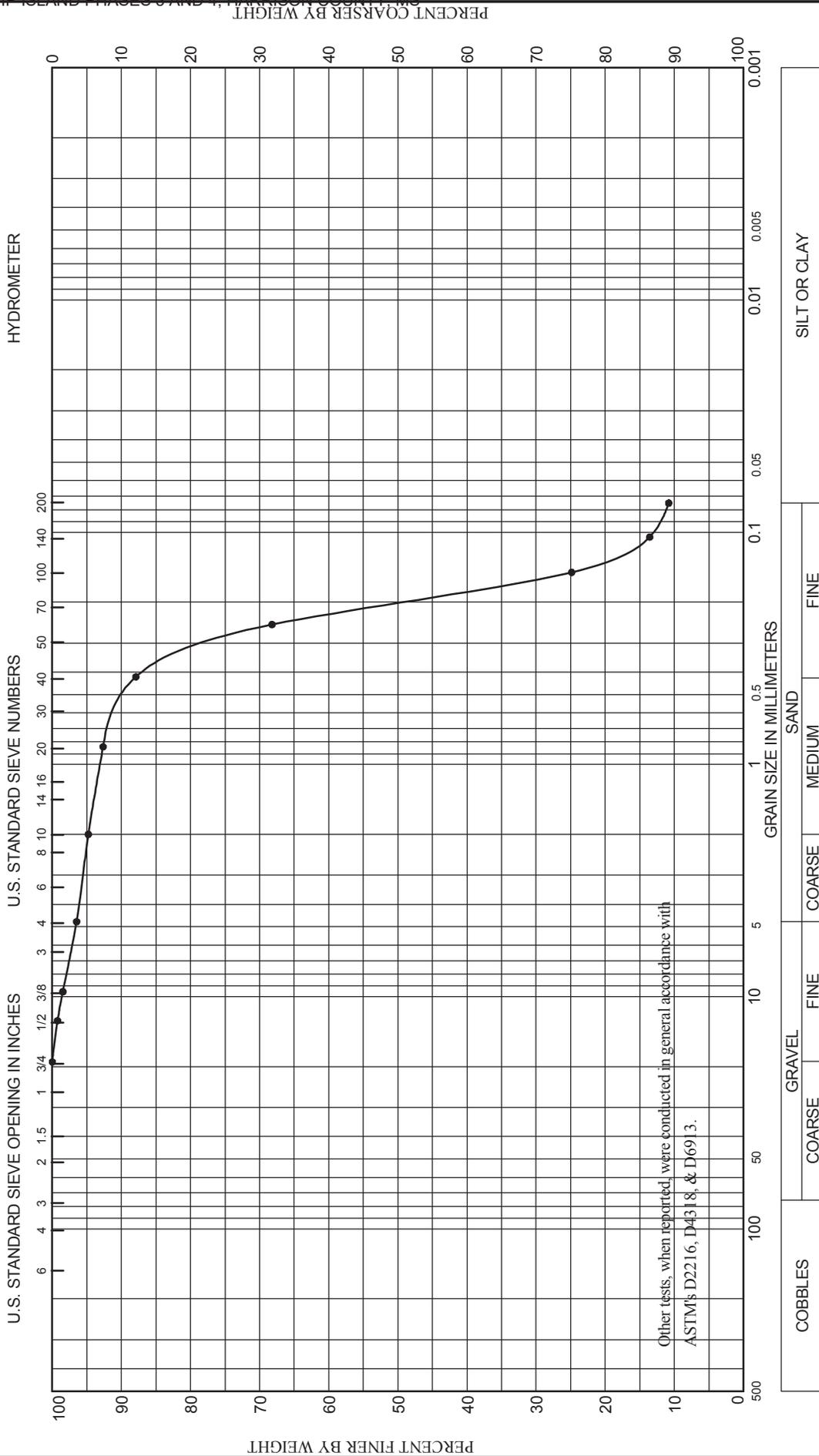
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-42.7	0.0				
-45.0	2.3		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few shell fragments, lt. gray (SP)	A	Classification: SP Color: 2.5Y 6/1-gray D50: 0.305 mm % Fines: 1.3
-46.9	4.2		SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, medium gray (SM)	B	Classification: SP-SM Color: GLEY1 10Y 7/1- D50: 0.201 mm % Fines: 10.8
-50.3	7.6		SAND, clayey, mostly fine-grained sand-sized quartz, little shell fragments, medium gray (SC)	NS	
-51.9	9.2		CLAY, lean, sandy, medium to dark gray (CL)		
-58.0	15.3		CLAY, fat, sandy, pale orange, lt. gray, pale green, and pale 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.					
3. Seafloor elevation determined from 10/28/2014 USACE survey.					



**DEPARTMENT OF THE ARMY, SAVANNAH DISTRICT, ENVIRONMENTAL AND MATERIALS UNIT
CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e

REQUISITION: W33SUG32900192



Sample No.	Depth (ft)	ASTM D2487	Classification	Nat w%	LL	PL	PI	Project	MscIP Barrier Island Restoration
B	2.3 to 4.2	Light Greenish Gray, Poorly Graded Silty Sand (SP-SM), with a trace of gravel size shell.						Vibracore Sampling Pascagoula, MS	
								Lab No.	K5/4063
								Hole No.	BI-PBS-173-13
								Date	4/23/14

GRADATION CURVES

Boring Designation BI-PBS-174-13

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West			9. SIZE AND TYPE OF BIT N/A	
2. BORING DESIGNATION BI-PBS-174-13		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		VERTICAL NAVD88
4. NAME OF DRILLER Construction Solutions International, Inc.		12. TOTAL SAMPLES		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		DISTURBED 1
6. THICKNESS OF OVERBURDEN N/A		14. WATER DEPTH 49 Ft.		UNDISTURBED (UD) 0
7. DEPTH DRILLED INTO ROCK N/A		15. DATE BORING		STARTED 12-27-13
8. TOTAL DEPTH OF BORING 14.7 Ft.		16. ELEVATION TOP OF BORING -50.4 Ft.		COMPLETED 12-27-13
		17. TOTAL RECOVERY FOR BORING 100%		
		18. SIGNATURE AND TITLE OF INSPECTOR Tom Powers, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-50.4	0.0				
-50.9	0.5				
-51.4	1.0		CLAY, lean, sandy, medium gray (CL)		
-52.2	1.8		SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, medium gray (SM)	A	Classification: SM Color: 2.5Y 6/1-gray D50: 0.219 mm % Fines: 15.3
-53.8	3.4		SAND, clayey, mostly fine-grained sand-sized quartz, little shell fragments, medium gray (SC)		
-55.0	4.6		CLAY, lean, sandy, medium gray (CL)		
			SAND, clayey, mostly fine-grained sand-sized quartz, medium gray (SC)		
			CLAY, fat, lt. and medium gray and pale orange (CH)	NS	
-62.8	12.4				
-65.1	14.7		SAND, clayey, mostly fine-grained sand-sized quartz, trace wood fragments at 14.0, little oyster shell fragments from 14.1 ft. down, medium and lt. gray (SC)		
<p>NOTES:</p> <p>1. Soils are field visually classified in accordance with the Unified Soils Classification System.</p> <p>2. NS = Sample not submitted for laboratory analysis from this interval.</p> <p>3. Seafloor elevation determined from 2013 USGS geophysical survey.</p>					

Boring Designation BI-PBS-175-13

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West			9. SIZE AND TYPE OF BIT N/A	
2. BORING DESIGNATION BI-PBS-175-13		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER Construction Solutions International, Inc.		12. TOTAL SAMPLES		DISTURBED 3
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		UNDISTURBED (UD) 0
6. THICKNESS OF OVERBURDEN N/A		14. WATER DEPTH 44.8 Ft.		15. DATE BORING
7. DEPTH DRILLED INTO ROCK N/A		16. ELEVATION TOP OF BORING -42.9 Ft.		STARTED 12-27-13
8. TOTAL DEPTH OF BORING 16.6 Ft.		17. TOTAL RECOVERY FOR BORING 100%		COMPLETED 12-27-13
18. SIGNATURE AND TITLE OF INSPECTOR Tom Powers, Geologist				

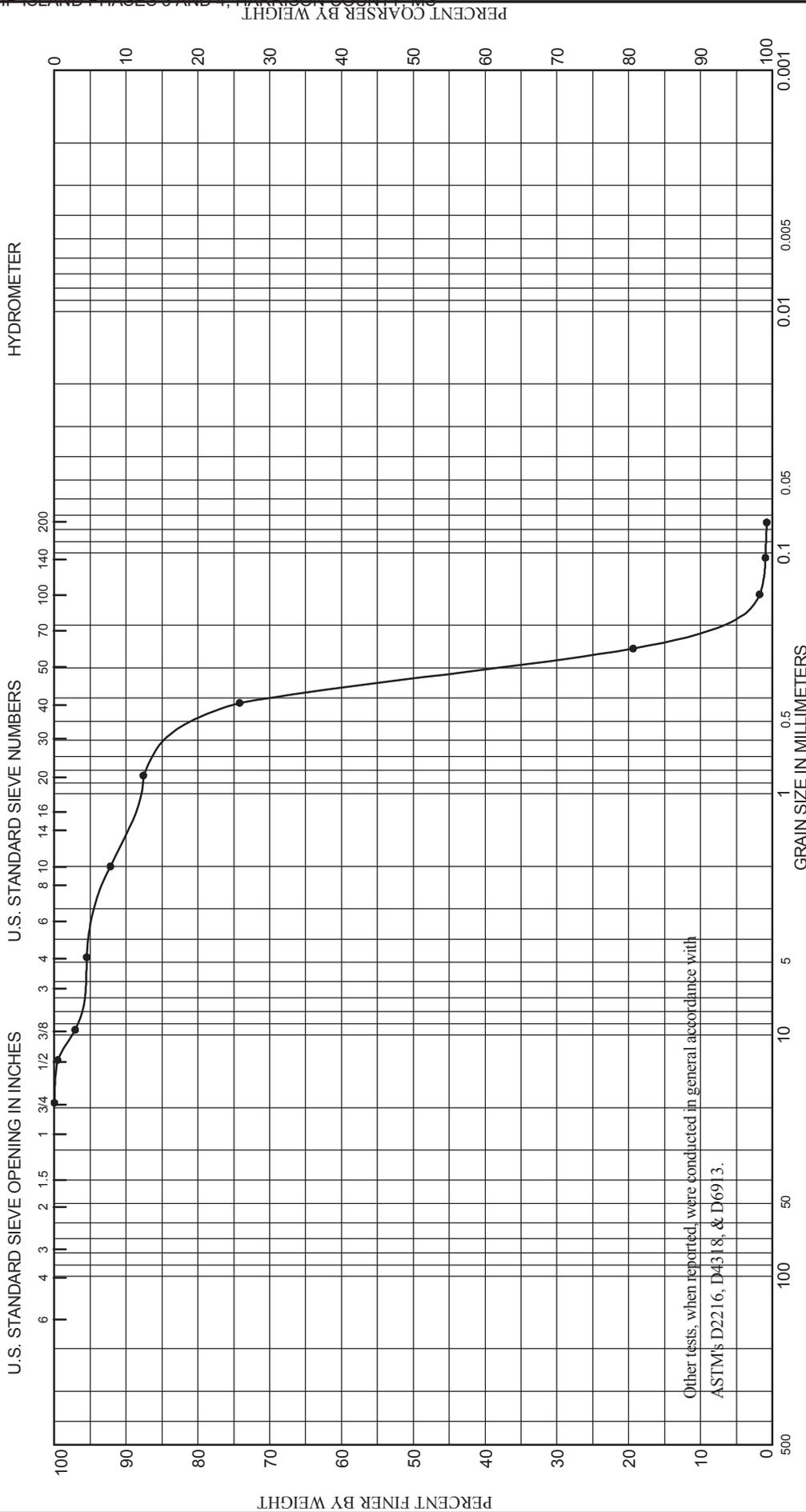
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-42.9	0.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few shell fragments, lt. gray (SP)	A	Classification: SP Color: GLEY1 10Y 7/1- D50: 0.315 mm % Fines: 0.8
-48.3	5.4		At El. -46.4 Ft., little shell fragments	B	Classification: SP Color: GLEY1 10Y 7/1- D50: 0.334 mm % Fines: 0.8
-51.9	9.0		SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, medium gray (SM)	C	Classification: SM Color: GLEY1 10Y 5/1- D50: 0.176 mm % Fines: 15.4
-57.6	14.7		CLAY, lean, trace shell fragments, sandy, medium gray (CL)	NS	
-59.5	16.6		CLAY, fat, sandy, lt. to medium gray (CH)		
<p>NOTES:</p> <p>1. Soils are field visually classified in accordance with the Unified Soils Classification System.</p> <p>2. NS = Sample not submitted for laboratory analysis from this interval.</p> <p>3. Seafloor elevation determined from 10/28/2014 USACE survey.</p>					



**DEPARTMENT OF THE ARMY, SAVANNAH DISTRICT, ENVIRONMENTAL AND MATERIALS UNIT
CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e

REQUISITION: W33SUG32900192

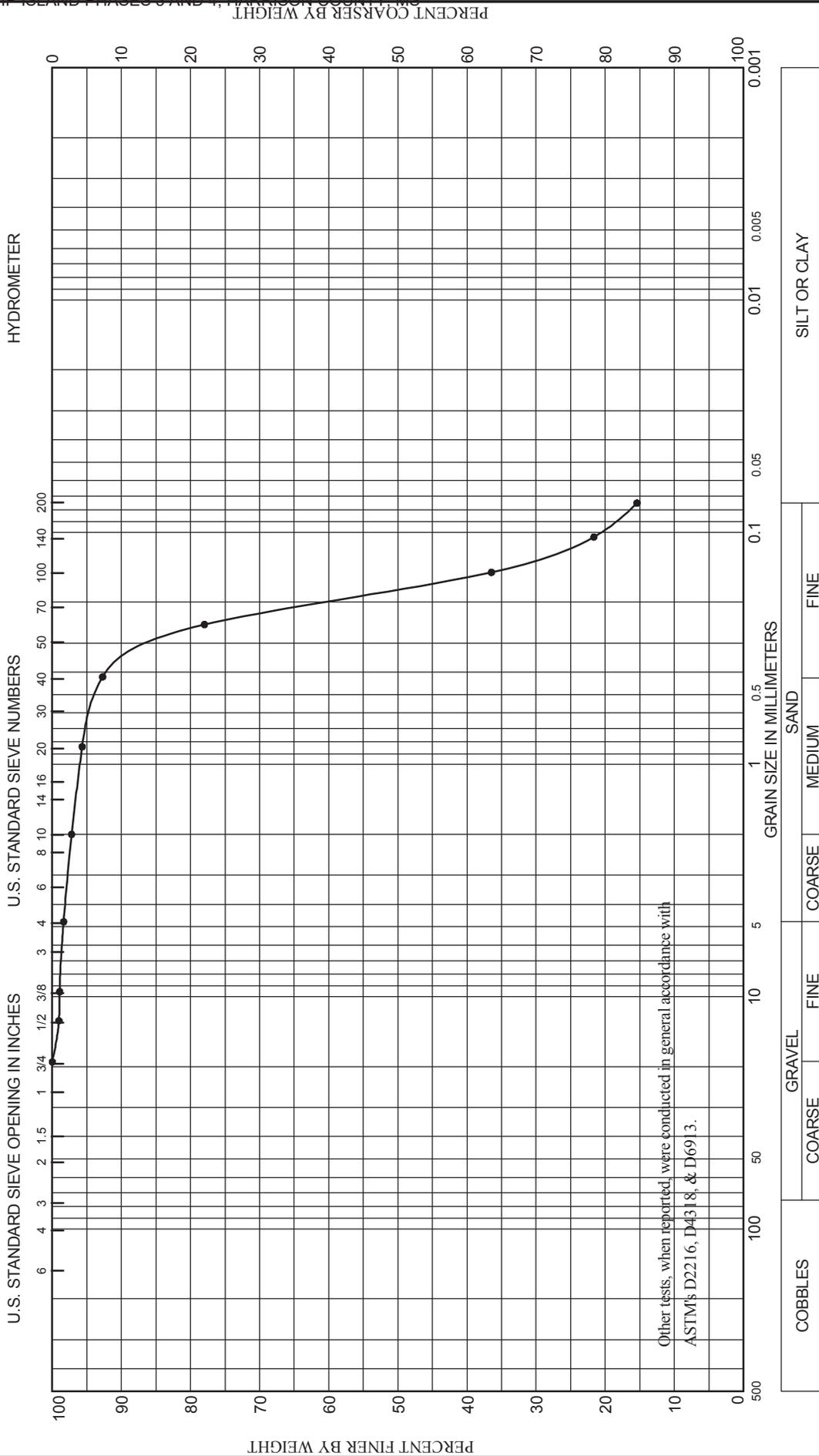




**DEPARTMENT OF THE ARMY, SAVANNAH DISTRICT, ENVIRONMENTAL AND MATERIALS UNIT
CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e

REQUISITION: W33SUG32900192



Project: MsCIP Barrier Island Restoration
 Vibracore Sampling Pascagoula, MS
 Lab No. K5/4058
 Hole No. BI-PBS-175-13
 Date 4/23/14

GRADATION CURVES

Boring Designation BI-PBS-176-13

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West			9. SIZE AND TYPE OF BIT N/A	
2. BORING DESIGNATION BI-PBS-176-13		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER Construction Solutions International, Inc.		12. TOTAL SAMPLES		DISTURBED 1
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		UNDISTURBED (UD) 0
6. THICKNESS OF OVERBURDEN N/A		14. WATER DEPTH 50.1 Ft.		15. DATE BORING
7. DEPTH DRILLED INTO ROCK N/A		16. ELEVATION TOP OF BORING -48.6 Ft.		STARTED 12-29-13
8. TOTAL DEPTH OF BORING 19.8 Ft.		17. TOTAL RECOVERY FOR BORING 100%		COMPLETED 12-29-13
		18. SIGNATURE AND TITLE OF INSPECTOR Tom Powers, Geologist		

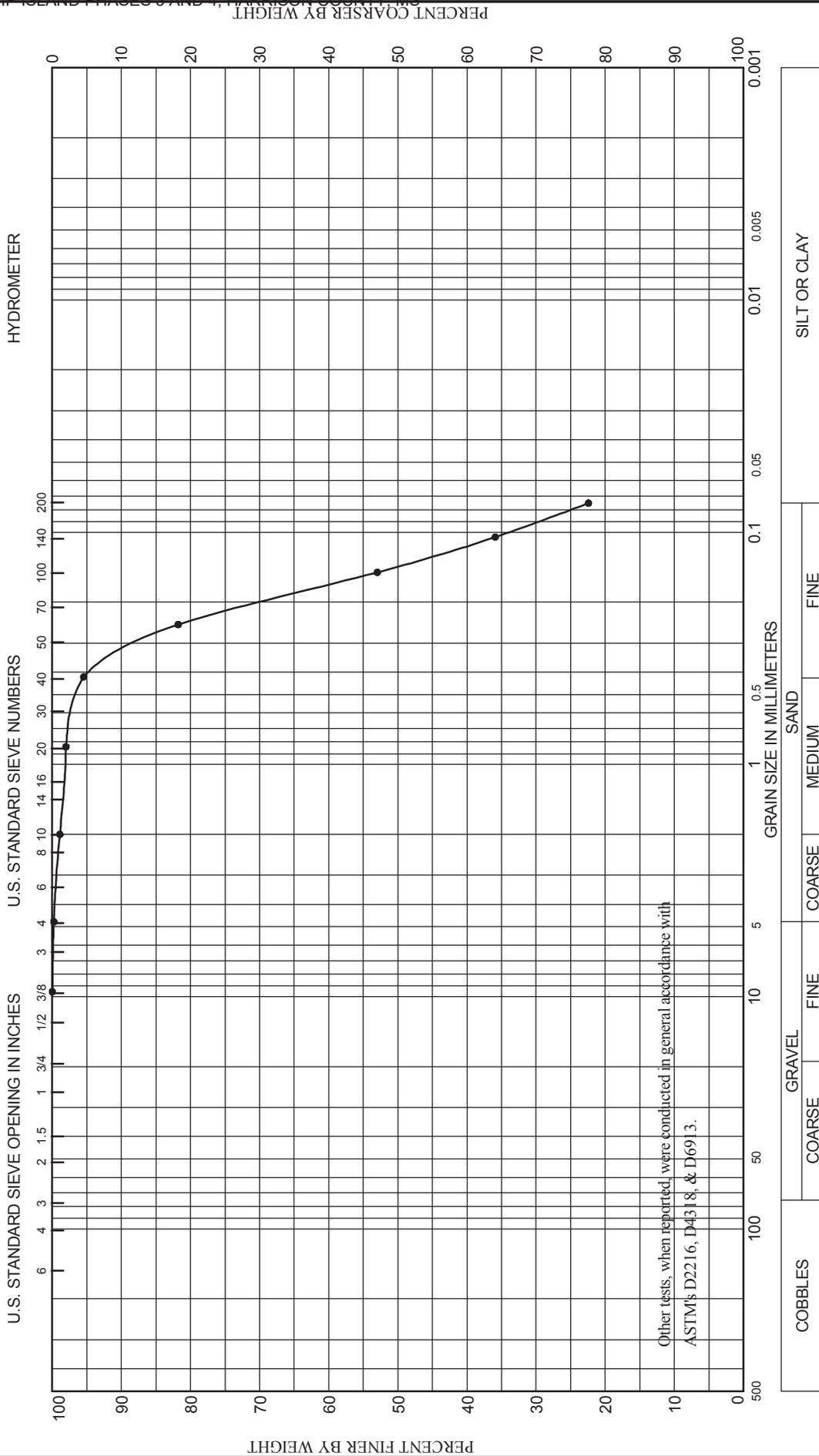
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-48.6	0.0				
-51.8	3.2		SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, medium gray (SM)	A	Classification: SM Color: GLEY1 10Y 5/1- D50: 0.14 mm % Fines: 22.4
-53.3	4.7		SAND, clayey, mostly fine-grained sand-sized quartz, little shell fragments, medium gray (SC)		
-59.1	10.5		CLAY, lean, few shell fragments, medium gray (CL)		
-68.4	19.8		CLAY, fat, sandy, lt. gray, pale green, pale orange, and pale 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. 3. Seafloor elevation determined from 10/28/2014 USACE survey.		



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CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e

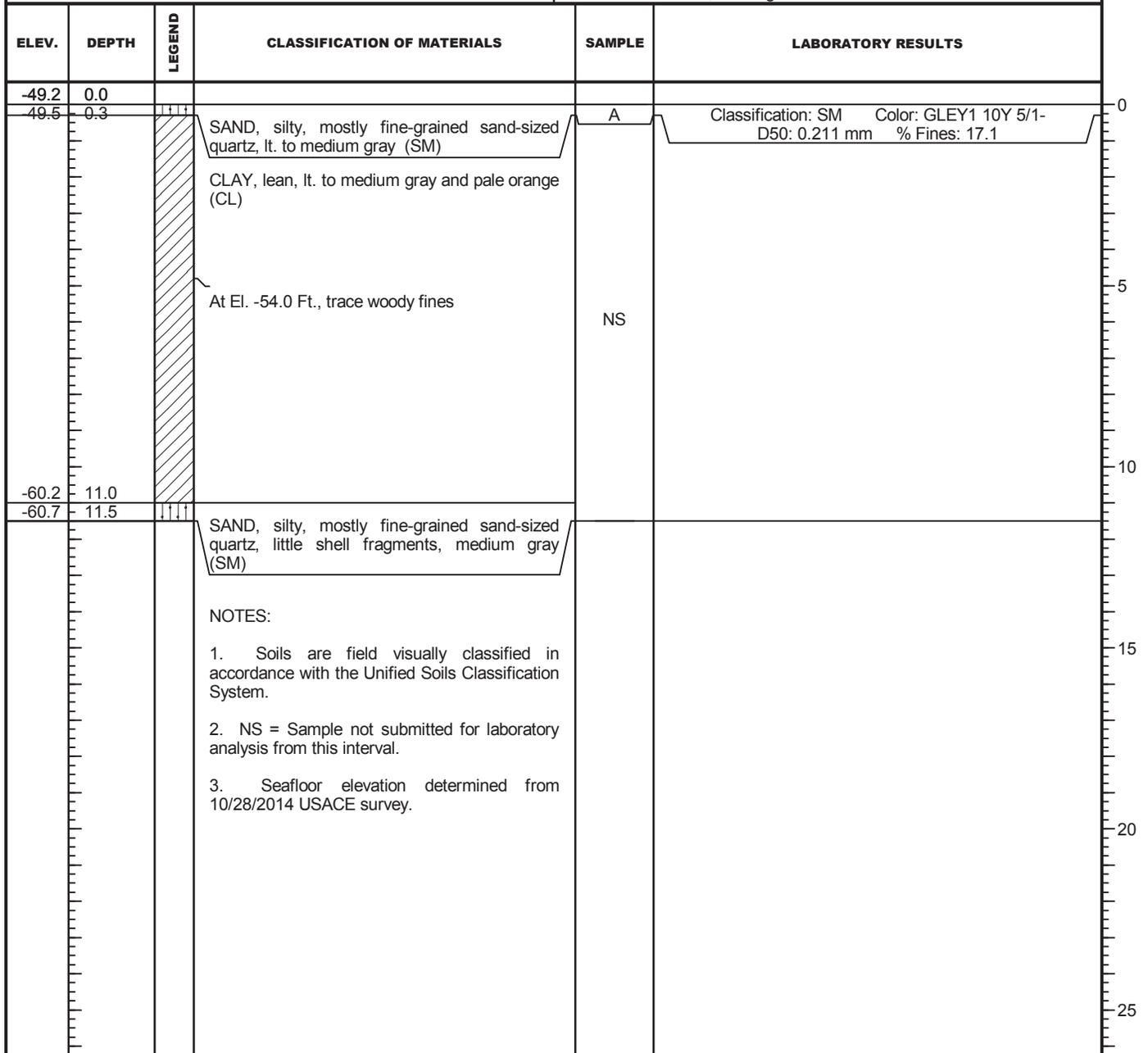
REQUISITION: W33SUG32900192



GRADATION CURVES

Boring Designation BI-PBS-177-13

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West			9. SIZE AND TYPE OF BIT N/A	
2. BORING DESIGNATION BI-PBS-177-13		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER Construction Solutions International, Inc.		12. TOTAL SAMPLES		DISTURBED 1
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		UNDISTURBED (UD) 0
6. THICKNESS OF OVERBURDEN N/A		14. WATER DEPTH 50.4 Ft.		15. DATE BORING
7. DEPTH DRILLED INTO ROCK N/A		16. ELEVATION TOP OF BORING -49.2 Ft.		STARTED 12-16-13
8. TOTAL DEPTH OF BORING 11.5 Ft.		17. TOTAL RECOVERY FOR BORING 100%		COMPLETED 12-16-13
18. SIGNATURE AND TITLE OF INSPECTOR Tom Powers, Geologist				

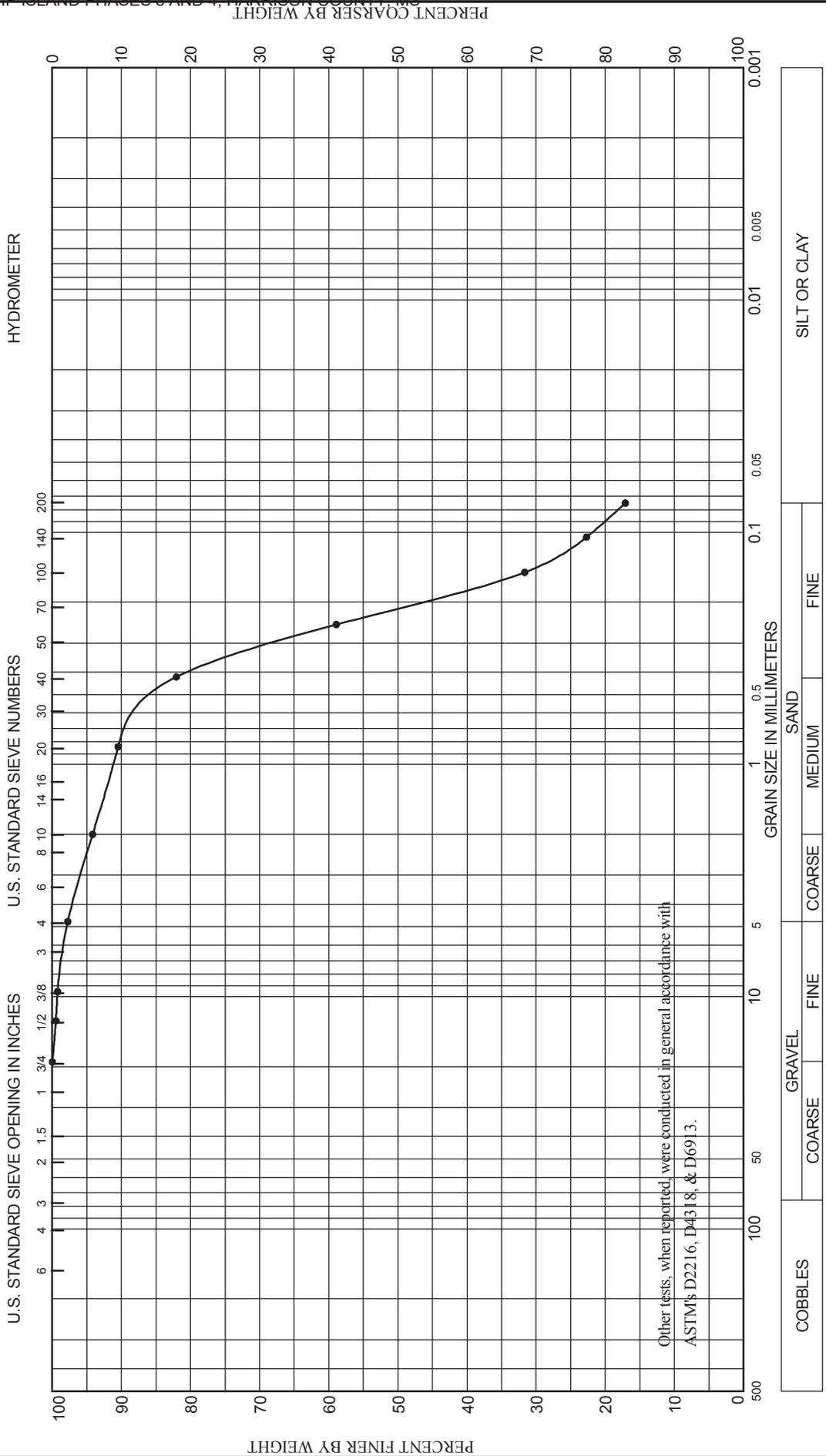




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CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e

REQUISITION: W33SUG32900192



Other tests, when reported, were conducted in general accordance with ASTM's D2216, D4318, & D6913.

Project	MsCIP Barrier Island Restoration
Lab No.	K5/4019
Hole No.	BI-PBS-177-13
Date	4/23/14

GRADATION CURVES

Boring Designation BI-PBS-178-13

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West			9. SIZE AND TYPE OF BIT N/A	
2. BORING DESIGNATION BI-PBS-178-13		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		VERTICAL NAVD88
4. NAME OF DRILLER Construction Solutions International, Inc.		12. TOTAL SAMPLES		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		DISTURBED 2
6. THICKNESS OF OVERBURDEN N/A		14. WATER DEPTH 44.8 Ft.		UNDISTURBED (UD) 0
7. DEPTH DRILLED INTO ROCK N/A		15. DATE BORING		STARTED 12-16-13
8. TOTAL DEPTH OF BORING 19.3 Ft.		16. ELEVATION TOP OF BORING -43.4 Ft.		COMPLETED 12-16-13
		17. TOTAL RECOVERY FOR BORING 100%		
		18. SIGNATURE AND TITLE OF INSPECTOR Tom Powers, Geologist		

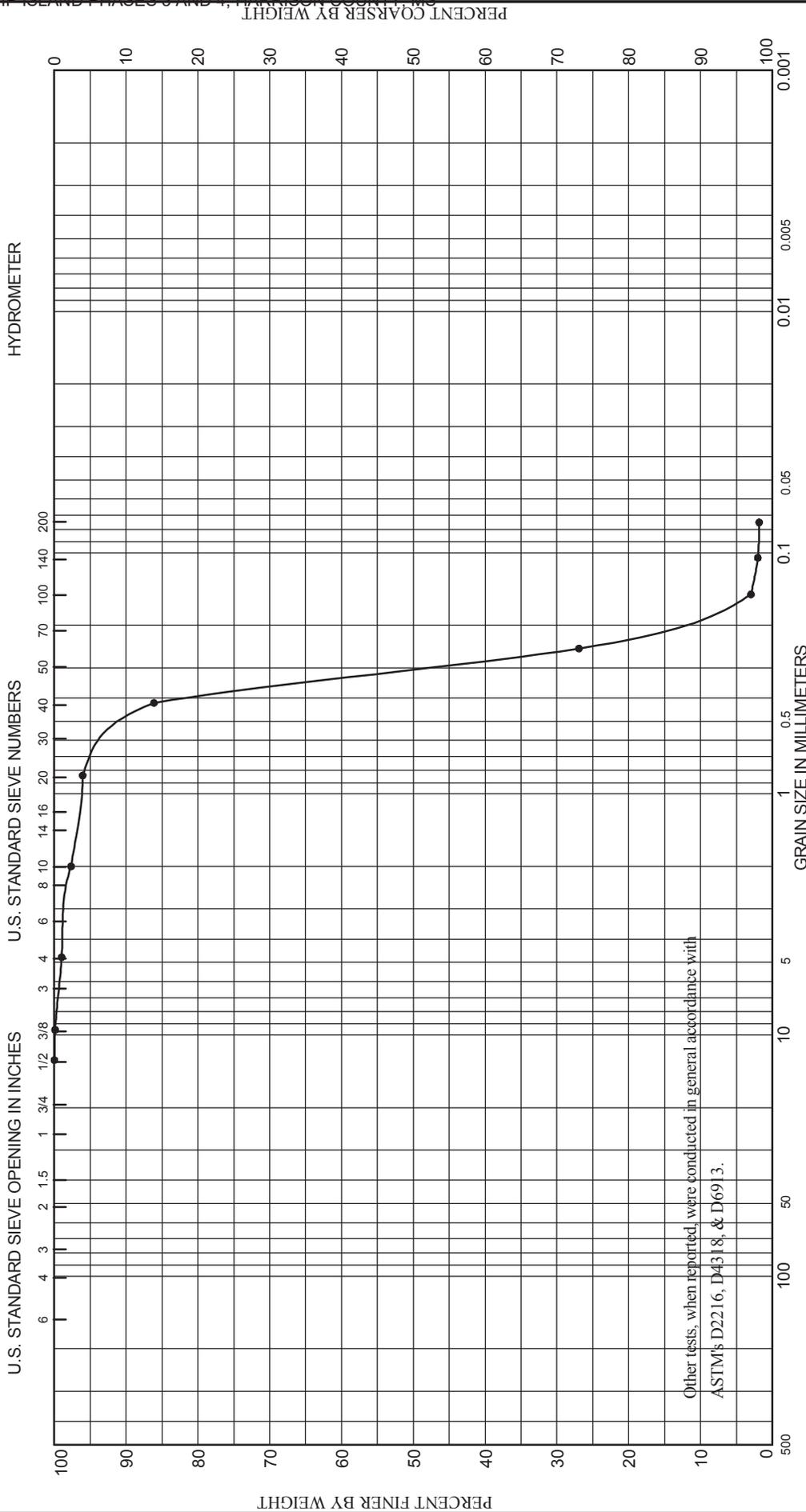
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-43.4	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few shell fragments, lt. gray (SP)	A	Classification: SP Color: GLEY1 10Y 6/1- D50: 0.306 mm % Fines: 1.8
-48.4	5.0		SAND, silty, mostly fine-grained sand-sized quartz, trace shell fragments, lt. gray (SM)	B	Classification: SM Color: 2.5Y 6/1-gray D50: 0.164 mm % Fines: 18.1
-49.9	6.5		CLAY, lean, sandy, medium gray (CL) At El. -50.9 Ft., medium gray At El. -52.4 Ft., sandy and silty, medium gray		
-58.4	15.0		CLAY, fat, lt. gray and pale orange (CH) At El. -55.9 Ft., trace woody fines	NS	
-62.7	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. 3. Seafloor elevation determined from 2014 USACE survey.		



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CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e

REQUISITION: W33SUG32900192



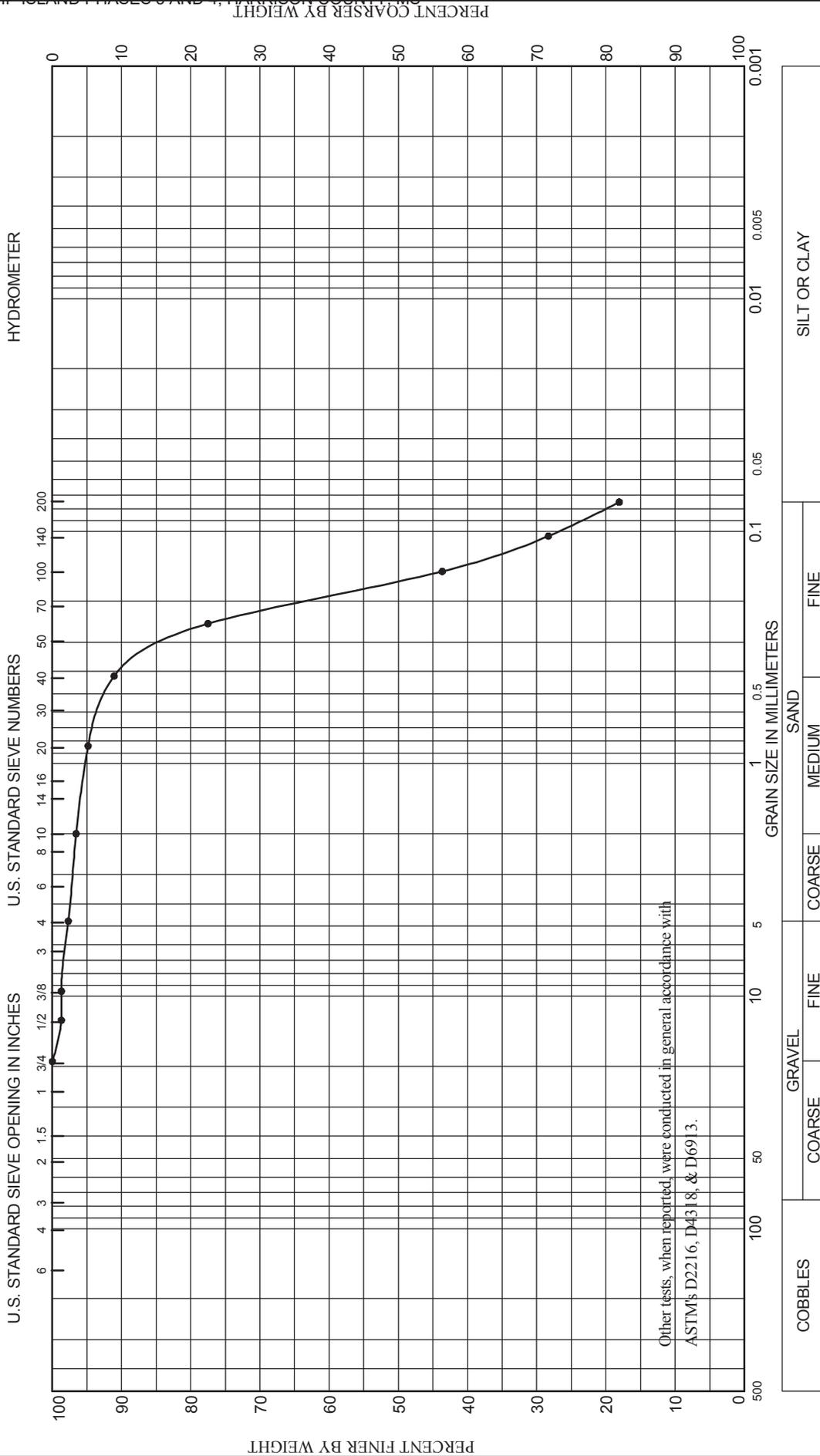
Project	MsCIP Barrier Island Restoration
Lab No.	K5/4020
Hole No.	BI-PBS-178-13
Date	4/23/14

GRADATION CURVES



**DEPARTMENT OF THE ARMY, SAVANNAH DISTRICT, ENVIRONMENTAL AND MATERIALS UNIT
CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e
REQUISITION: W33SUG32900192



Sample No.	Depth (ft)	ASTM D2487 Classification	Nat w%	LL	PL	PI	Project
B	5.0 to 6.5	Greenish Gray, Silty Sand (SM), with a trace of gravel size shell.					MsCIP Barrier Island Restoration
							Vibracore Sampling Pascagoula, MS
							Lab No. K5/4021
							Hole No. BI-PBS-178-13
							Date 4/23/14

GRADATION CURVES

Boring Designation BI-PBS-179-13

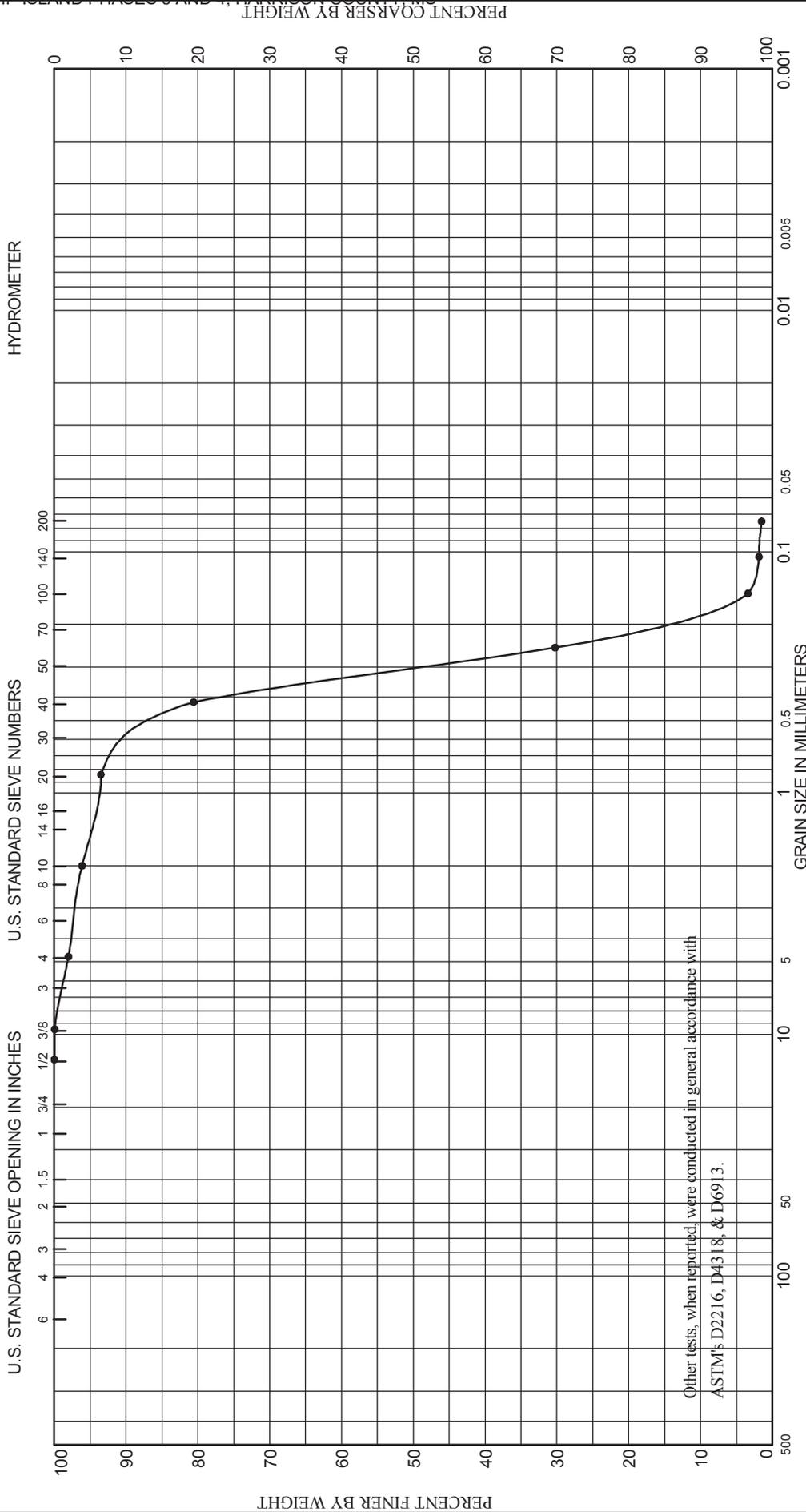
DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West			9. SIZE AND TYPE OF BIT N/A	
2. BORING DESIGNATION BI-PBS-179-13		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER Construction Solutions International, Inc.		12. TOTAL SAMPLES		DISTURBED 1
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		UNDISTURBED (UD) 0
6. THICKNESS OF OVERBURDEN N/A		14. WATER DEPTH 47.4 Ft.		
7. DEPTH DRILLED INTO ROCK N/A		15. DATE BORING		STARTED 12-16-13
8. TOTAL DEPTH OF BORING 13.6 Ft.		16. ELEVATION TOP OF BORING -46.3 Ft.		COMPLETED 12-16-13
		17. TOTAL RECOVERY FOR BORING 100%		
		18. SIGNATURE AND TITLE OF INSPECTOR Tom Powers, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-46.3	0.0				
-50.1	3.8		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell fragments, lt. gray (SP)	A	Classification: SP Color: 2.5Y 6/1-gray D50: 0.306 mm % Fines: 1.5
-50.5	4.2		SAND, silty, mostly fine-grained sand-sized quartz, medium gray (SM)		
-55.5	9.2		CLAY, lean, sandy down to 5 ft., lt. to medium gray (CL)		
-56.7	10.4		At El. -54.9 Ft., oyster shell	NS	
-59.6	13.3		SAND, clayey, mostly fine-grained sand-sized quartz, medium gray and pale orange (SC)		
-59.8	13.8		CLAY, lean, sandy, lt. to medium gray (CL)		
			SAND, silty, mostly fine-grained sand-sized quartz, medium gray (SM)		
<p>NOTES:</p> <p>1. Soils are field visually classified in accordance with the Unified Soils Classification System.</p> <p>2. NS = Sample not submitted for laboratory analysis from this interval.</p> <p>3. Seafloor elevation determined from 2014 USACE survey.</p>					



**DEPARTMENT OF THE ARMY, SAVANNAH DISTRICT, ENVIRONMENTAL AND MATERIALS UNIT
CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e
REQUISITION: W33SUG32900192



Sample No.	Depth (ft)	ASTM D2487 Classification	SAND		FINE		PI	Project
			Nat w%	LL	PL	PI		
A	0.0 to 4.2	Gray, Poorly Graded Sand (SP), with a trace of gravel size shell.						MsCIP Barrier Island Restoration
								Vibracore Sampling Pascagoula, MS
								Lab No. K5/4022
								Hole No. BI-PBS-179-13
								Date 4/23/14

GRADATION CURVES

Boring Designation BI-PBS-181-13

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West			9. SIZE AND TYPE OF BIT N/A	
2. BORING DESIGNATION BI-PBS-181-13		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER Construction Solutions International, Inc.		12. TOTAL SAMPLES		DISTURBED 1
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		UNDISTURBED (UD) 0
6. THICKNESS OF OVERBURDEN N/A		14. WATER DEPTH 49.4 Ft.		15. DATE BORING
7. DEPTH DRILLED INTO ROCK N/A		16. ELEVATION TOP OF BORING -50.8 Ft.		STARTED 12-16-13
8. TOTAL DEPTH OF BORING 18.8 Ft.		17. TOTAL RECOVERY FOR BORING 100%		COMPLETED 12-16-13
18. SIGNATURE AND TITLE OF INSPECTOR Tom Powers, Geologist				

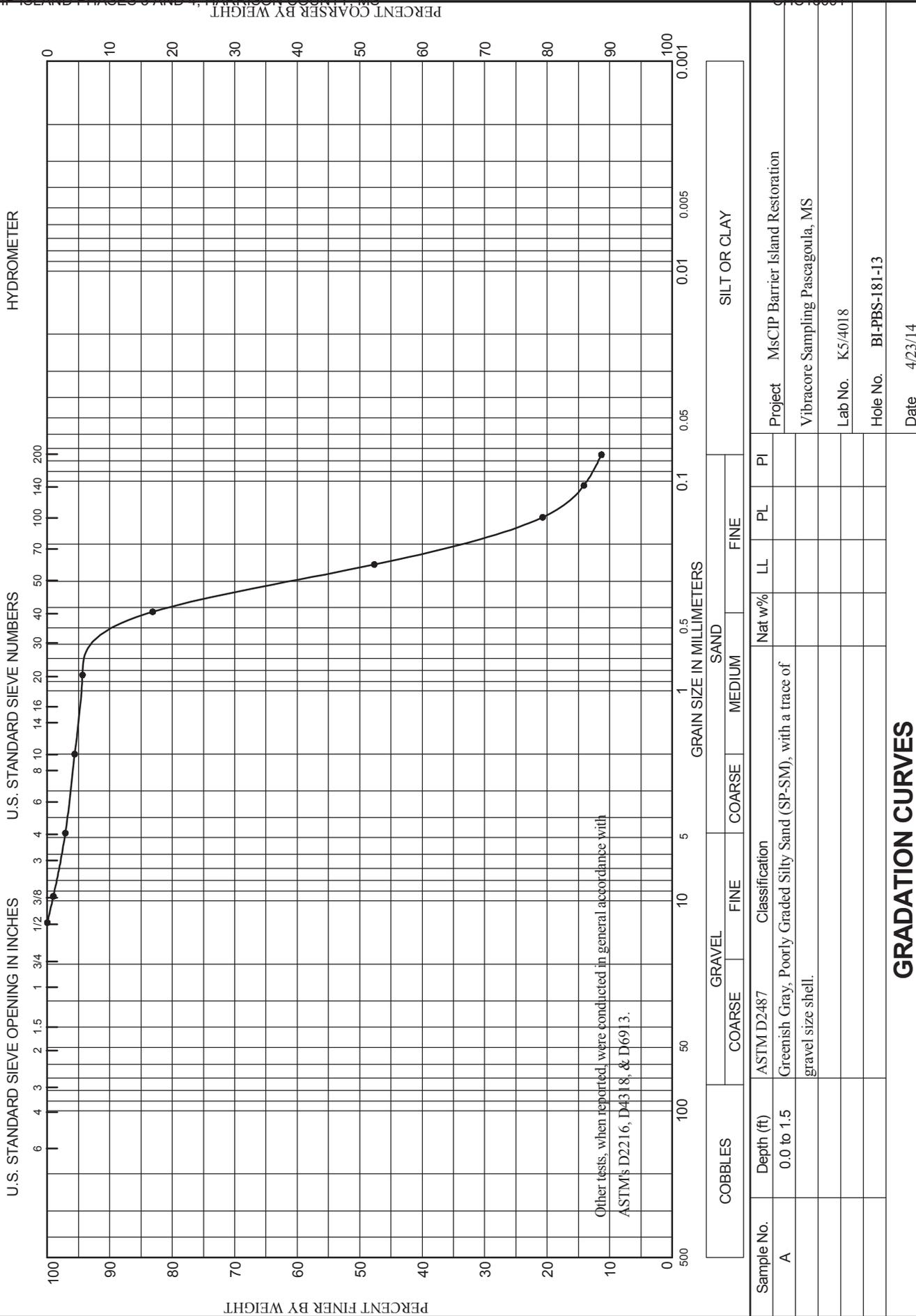
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-50.8	0.0				
-52.3	1.5		SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, medium gray (SM)	A	Classification: SP-SM Color: 2.5Y 5/1-gray D50: 0.259 mm % Fines: 11.3
-53.3	2.5		SAND, clayey, mostly fine-grained sand-sized quartz, trace shell fragments, medium gray (SC)		
-56.6	5.8		CLAY, lean, trace wood and oyster shell, sandy, medium gray (CL)		
-57.6	6.8		SILT, inorganic-L, sandy, pale brown, medium gray (ML)		
-59.1	8.3		SAND, silty, mostly fine-grained sand-sized quartz, medium brown (SM)		
-59.8	9.0		SILT, inorganic-L, sandy, organic fines, pale brown, medium gray (ML)		
-60.8	10.0		SILT, inorganic-L, sandy, organic fines, pale brown, medium gray (ML)	NS	
			SAND, silty, mostly fine-grained sand-sized quartz, medium dark gray (SM)		
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, medium gray (SP) At El. -61.3 Ft., fine grained woody material		
-69.6	18.8				
<p>NOTES:</p> <p>1. Soils are field visually classified in accordance with the Unified Soils Classification System.</p> <p>2. NS = Sample not submitted for laboratory analysis from this interval.</p> <p>3. Seafloor elevation determined from 2013 USGS geophysical survey.</p>					



**DEPARTMENT OF THE ARMY, SAVANNAH DISTRICT, ENVIRONMENTAL AND MATERIALS UNIT
CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e

REQUISITION: W33SUG32900192



PERCENT FINER BY WEIGHT

HYDROMETER

U.S. STANDARD SIEVE NUMBERS

U.S. STANDARD SIEVE OPENING IN INCHES

GRAIN SIZE IN MILLIMETERS

SILT OR CLAY

Other tests, when reported, were conducted in general accordance with ASTM's D2216, D4318, & D6913.

GRADATION CURVES

Boring Designation BI-PBS-235-13

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West			9. SIZE AND TYPE OF BIT N/A	
2. BORING DESIGNATION BI-PBS-235-13		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		VERTICAL NAVD88
4. NAME OF DRILLER Construction Solutions International, Inc.		12. TOTAL SAMPLES		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		DISTURBED 2
6. THICKNESS OF OVERBURDEN N/A		14. WATER DEPTH 45.6 Ft.		UNDISTURBED (UD) 0
7. DEPTH DRILLED INTO ROCK N/A		15. DATE BORING		STARTED 12-27-13
8. TOTAL DEPTH OF BORING 18.2 Ft.		16. ELEVATION TOP OF BORING -42.5 Ft.		COMPLETED 12-27-13
		17. TOTAL RECOVERY FOR BORING 100%		
		18. SIGNATURE AND TITLE OF INSPECTOR Tom Powers, Geologist		

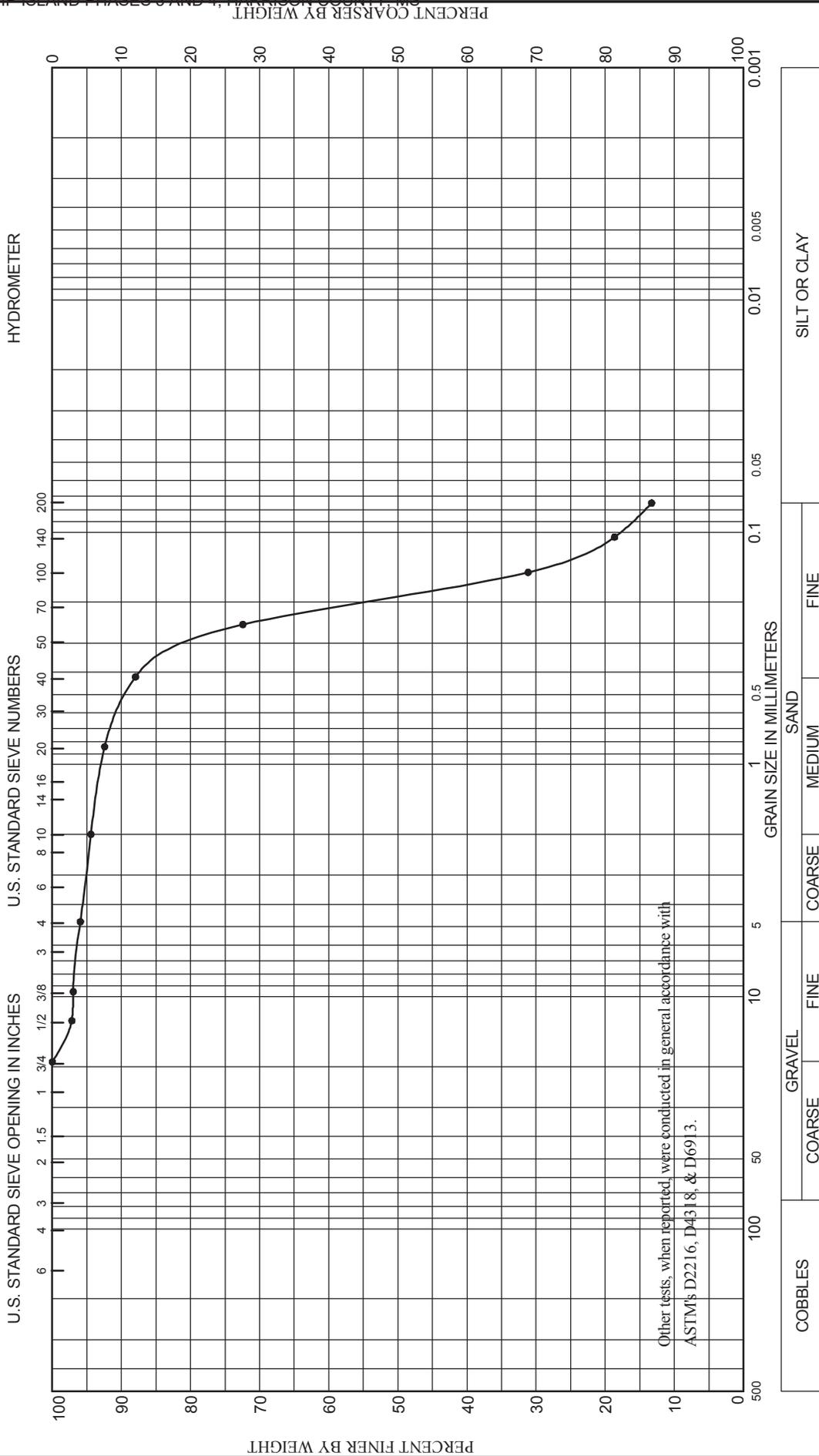
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-42.5	0.0				
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few shell fragments, lt. gray (SP)	A	Classification: SP Color: GLEY1 10Y 7/1- D50: 0.329 mm % Fines: 0.7
-47.5	5.0		SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, medium gray (SM)	B	Classification: SM Color: GLEY1 10Y 5/1- D50: 0.189 mm % Fines: 13.3
-50.1	7.6		CLAY, lean, few shell fragments, sandy, medium gray (CL)		
-54.7	12.2		CLAY, fat, sandy, lt. and medium gray and pale green and pale orange (CH)	NS	
-60.7	18.2				
			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. 3. Seafloor elevation determined from 10/28/2014 USACE survey.		



**DEPARTMENT OF THE ARMY, SAVANNAH DISTRICT, ENVIRONMENTAL AND MATERIALS UNIT
CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e

REQUISITION: W33SUG32900192



Sample No.	Depth (ft)	ASTM D2487	Classification	Nat w%	LL	PL	PI	Project
B	5.0 to 7.6	Greenish Gray, Silty Sand (SM), with a trace of gravel size shell.						MsCIP Barrier Island Restoration
								Vibracore Sampling Pascagoula, MS
								Lab No. K5/4060
								Hole No. BI-PBS-235-13
								Date 4/23/14

GRADATION CURVES

Boring Designation BI-PBS-236-13

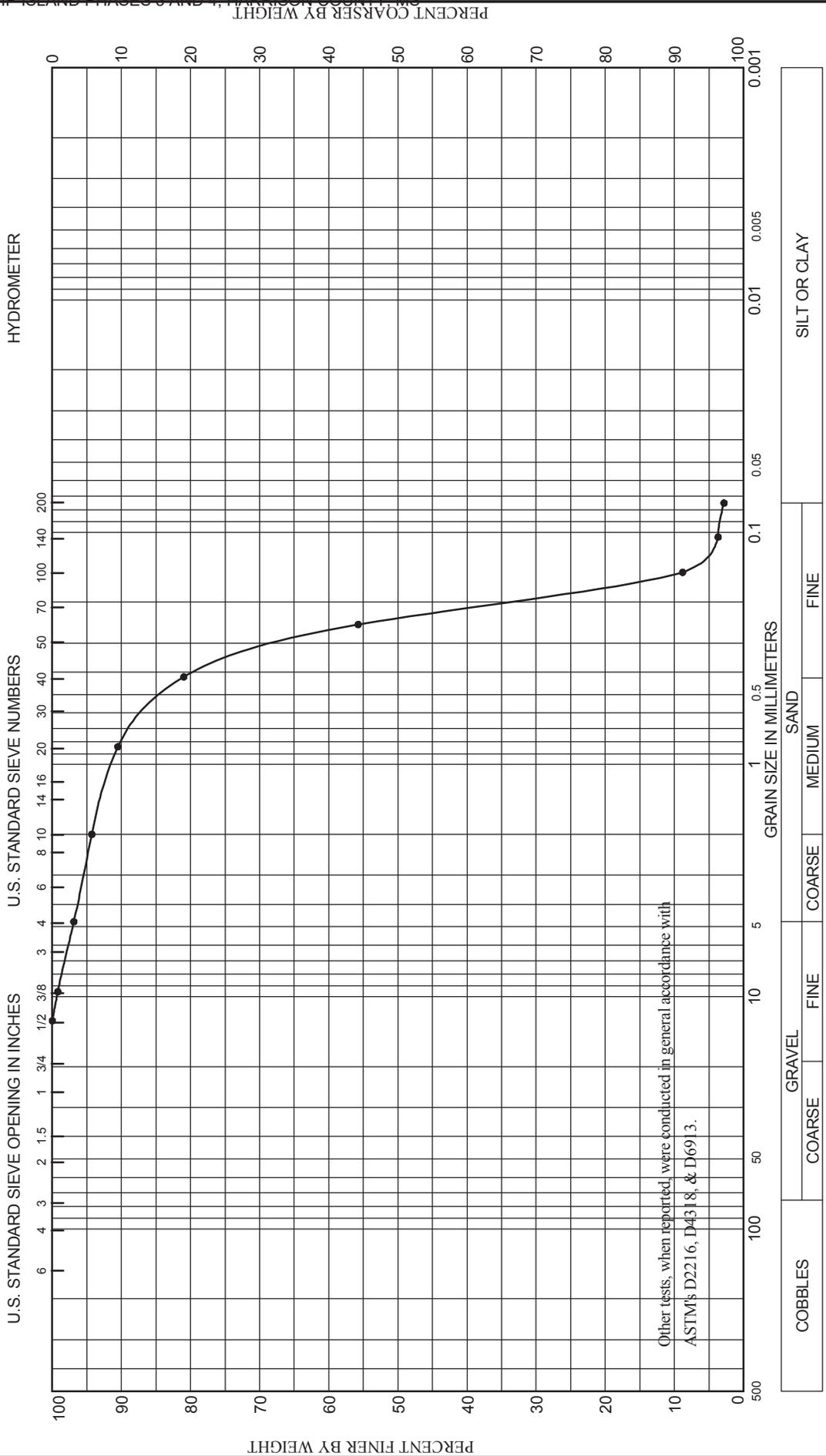
DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West			9. SIZE AND TYPE OF BIT N/A	
2. BORING DESIGNATION BI-PBS-236-13		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER Construction Solutions International, Inc.		12. TOTAL SAMPLES		DISTURBED 2
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		UNDISTURBED (UD) 0
6. THICKNESS OF OVERBURDEN N/A		14. WATER DEPTH 49.3 Ft.		15. DATE BORING
7. DEPTH DRILLED INTO ROCK N/A		16. ELEVATION TOP OF BORING -47.8 Ft.		STARTED 12-27-13
8. TOTAL DEPTH OF BORING 19.8 Ft.		17. TOTAL RECOVERY FOR BORING 100%		COMPLETED 12-27-13
18. SIGNATURE AND TITLE OF INSPECTOR Tom Powers, Geologist				

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-47.8	0.0				
-48.4	0.6		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little shell fragments, lt. gray (SP)	A	Classification: SP Color: GLEY1 10Y 6/1- D50: 0.235 mm % Fines: 2.8
-50.7	2.9		SAND, silty, mostly fine-grained sand-sized quartz, little shell fragments, lt. to medium gray (SM)	B	Classification: SM Color: 2.5Y 5/1-gray D50: 0.206 mm % Fines: 12.1
-52.7	4.9		SAND, clayey, mostly fine-grained sand-sized quartz, few shell fragments, lt. to medium gray (SC)		
-53.7	5.9		CLAY, lean, sandy, lt. gray (CL)		
-55.8	8.0		SAND, clayey, mostly fine-grained sand-sized quartz, little shell fragments, lt. to medium gray (SC)		
-56.6	8.8		CLAY, lean, sandy, lt. gray (CL)		
-58.0	10.2		SAND, clayey, mostly fine-grained sand-sized quartz, lt. to medium gray (SC)		
-59.8	12.0		CLAY, lean, lt. to medium gray (CL) At El. -59.1 Ft., sandy, very loose consistency, lt. gray	NS	
			CLAY, fat, sandy, lt. and medium gray and pale orange (CH)		
-67.6	19.8				
<p>NOTES:</p> <p>1. Soils are field visually classified in accordance with the Unified Soils Classification System.</p> <p>2. NS = Sample not submitted for laboratory analysis from this interval.</p> <p>3. Seafloor elevation determined from 10/28/2014 USACE survey.</p>					



**DEPARTMENT OF THE ARMY, SAVANNAH DISTRICT, ENVIRONMENTAL AND MATERIALS UNIT
CORPS OF ENGINEERS, 200 N. COBB PARKWAY, BLDG 400 SUITE 404, MARIETTA, GA. 30062**

WORK ORDER: 848e
REQUISITION: W33SUG32900192



Sample No.	Depth (ft)	ASTM D2487	Classification	Nat w%	LL	PL	PI	Project	MscIP Barrier Island Restoration
A	0.0 to 0.6	Greenish Gray, Poorly Graded Sand (SP), with a trace of gravel size shell.						Vibracore Sampling Pascagoula, MS	
								Lab No.	K5/4051
								Hole No.	BI-PBS-236-13
								Date	4/23/14

GRADATION CURVES

Boring Designation BI-PBS-237-13

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Mobile District	SHEET 1 OF 1 SHEETS
1. PROJECT MsCIP Barrier Island Restoration Petit Bois Pass-OCS West		9. SIZE AND TYPE OF BIT N/A		
2. BORING DESIGNATION BI-PBS-237-13		10. COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.)		HORIZONTAL NAD83
3. DRILLING AGENCY Corps of Engineers - CESAM		11. MANUFACTURER'S DESIGNATION OF DRILL Vibracore		<input type="checkbox"/> AUTO HAMMER <input type="checkbox"/> MANUAL HAMMER
4. NAME OF DRILLER Construction Solutions International, Inc.		12. TOTAL SAMPLES DISTURBED: 1 UNDISTURBED (UD): 0		
5. DIRECTION OF BORING <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		13. TOTAL NUMBER CORE BOXES		14. WATER DEPTH 49.7 Ft.
6. THICKNESS OF OVERBURDEN N/A		15. DATE BORING STARTED: 12-19-13 COMPLETED: 12-19-13		
7. DEPTH DRILLED INTO ROCK N/A		16. ELEVATION TOP OF BORING -47.5 Ft.		
8. TOTAL DEPTH OF BORING 19.7 Ft.		17. TOTAL RECOVERY FOR BORING 100%		
18. SIGNATURE AND TITLE OF INSPECTOR Tom Powers, Geologist				

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS
-47.5	0.0				
-48.8	1.3		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few shell fragments, lt. gray (SP-SM)	A	Classification: SP-SM D50: 0.228 mm Color: 2.5Y 6/1-gray % Fines: 7
			CLAY, lean, trace shell fragments, sandy, lt. to medium gray and pale orange (CL)	NS	
			At El. -60.0 Ft., trace wood		
-65.4	17.9		SAND, clayey, little shell fragments (SC)		
-67.2	19.7				
<p>NOTES:</p> <p>1. Soils are field visually classified in accordance with the Unified Soils Classification System.</p> <p>2. NS = Sample not submitted for laboratory analysis from this interval.</p> <p>3. Seafloor elevation determined from 2014 USACE survey.</p>					

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BORROW AREA VOLUME REPORT

MSCIP COMPREHENSIVE BARRIER ISLAND RESTORATION PLAN – SHIP ISLAND PHASE III & IV

	Required Dredge Volume (CY)	Allowable Dredge Volume (CY)
Petit Bois Pass – OCS West Borrow Areas (PBP-OCS-West)		
PBP-OCS-WEST 2		
PBP-OCS-WEST 2	796,317	451,601
PBP-OCS-WEST 2 North Allowable	0	109,673
PBP-OCS-WEST 2 South Allowable	0	67,079
Borrow Area Total	796,317	628,353
Horn Island Pass Borrow Area		
Horn Island Pass Borrow Area	0	466,687
Borrow Area Total	0	466,687

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