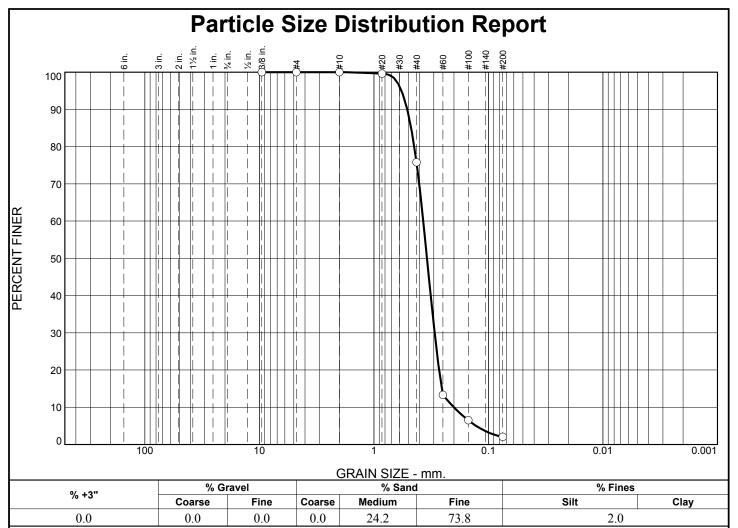
Boring Designation BI-PB-035-10

DDI	LLING	100	2	DIVISION	I			INS	STALLATIO	ON			SHEET	r 1
				South	Atlantic			-	Mobile Di				OF 1	SHEETS
1. PRO		اما مد	20 4 C	loot	_			_	_	NATE SYSTEM/DATUM	HORIZON	TAI	VERTIC	201
	∕IsCIP Barri∉ 'etit Bois Pa				n			10.		Plane, MSE (U.S. Ft.)	NAD83		 	/D88
	ING DESIGN				OCATION C	OORD	INATES	11.		ACTURER'S DESIGNATIO			UTO HA	
В	I-PB-035-1	0			E = 1,138	3,721	N = 252,855		Vibra	acore		_		HAMMER
_	LING AGEN					CONT	RACTOR FILE NO.	12.	. TOTAL S		DISTURBED	UN		BED (UD)
	orps of Eng	_	rs - C	ESAM		! !		⊢		!	2		0	
	Construction		tions	Internation	onal Inc			13.	. TOTAL I	NUMBER CORE BOXES				
	CTION OF E			THE THAT	DEG. FROM	И	BEARING	14.	WATER	DEPTH	30 Ft.			
	VERTICAL INCLINED				VERTICAL			15.	. DATE BO	DRING	STARTED 07-19-	10	COMPL 07-	.ETED 19-10
6. ТНІС	KNESS OF	OVER	BURE	DEN	N/A			16.	. ELEVAT	ION TOP OF BORING	-30.0 Ft.			
7. DEP1	TH DRILLED	INTO	ROC	K N	/A			17.	. TOTAL I	RECOVERY FOR BORING	100%			
								18.	. SIGNAT	URE AND TITLE OF INSP	ECTOR			
8. тот	AL DEPTH O	F BO	RING	18.0	O Ft.			Ц	Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND		CLA	ASSIFICATIO	ON OF	MATERIALS		SAMPLE	LABO	DRATORY RES	SULTS		
-30.0	0.0													
-31.0	10	╏┤╏┤╏	SA	AND, silt	y, mostly	fine	to medium-graine	d						Ė,
51.0			\ sa	nd-sized	quartz,	some	silt, trace she	ell						F
	<u>-</u>	$\parallel \parallel \parallel \parallel$	SA	ND, silty	dark brown , mostly m	edium	grained sand-size	d		Classification	on: SP Co	olor: 10	Y 5/3-	F
			qu	artz, som	ne silt, dark	brown	າັ(SM)		Α			% Fines		Ē
		Ĭ Ĭ†Ĭ†												E
	_	 												E
-35.0	5.0		K					ŀ						<u></u>
	_]}}}					-grained sand-size	d						E
	=	 	qu	artz, som	ne silt, tann	ish bro	own (SM)							F
	-								Б	Classification: SI	P Color: 2	2.5Y 7/	1-light g	ray
	<u> </u>	╏┼┆┼┆							В	D50: 0.31	141 mm %	Fines	1.1	· [-
	=	 												F
-40.0	10.0													F
-40.0	- 10.0		_					\dashv						
	<u> </u>		CL	-AY, fat, o	dark gray ((CH)								E
	=		1											F
	-		1											F
	-													F
	_		1					- [NS					E
	=								-					F.
	-													F'
	-		1											F
	_							- [E
-48.0	18.0							- [ŧ
	=							T						F
	F		NC	DTES:										F
	<u> </u>		1.	Soile	aro field	d vác	ially classified :	ຸ						E ₂
	Ē			cordance	with the U	্র visi Jnified	ually classified i Soils Classificatio	n						Į.
	<u> </u>			stem.										F
	-		2	NS = 5	Sample not	t subn	nitted for laborator	., I						F
	<u> </u>				m this inte			´						E
	Ē		٦	Seafloor	r elevation	calcul	ated using samplin	ا ۾						Ė
	<u> </u>		ve	ssel's fa	thometer v	water	depth reading an	ď						F
	-		ар	plying N	OAA tidal	gaug	e data conversio	n						-2
	<u> </u>		rac	ctor.										E
	-													

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19439° Long = -88.34438°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.6		
#40	75.8		
#60	13.3		
#100	6.5		
#200	2.0		
*	 		

Material Description SAND, (SP), medium to fine grained							
PL=	Atterberg Limits	PI=					
D ₉₀ = 0.5114 D ₅₀ = 0.3441 D ₁₀ = 0.2003	Coefficients D ₈₅ = 0.4727 D ₃₀ = 0.2950 C _u = 1.85	D ₆₀ = 0.3712 D ₁₅ = 0.2554 C _c = 1.17					
USCS= SP	Classification AASHT	O=					
CADD CODE =	Remarks CADD CODE = CH10D965						

Tested By: R.Martin

Location: USACE Sample # BI-PB-35-10A **Sample Number:** TE Lab ID: 4609.06

Depth: 0.0 - 5.0 (ft.)

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

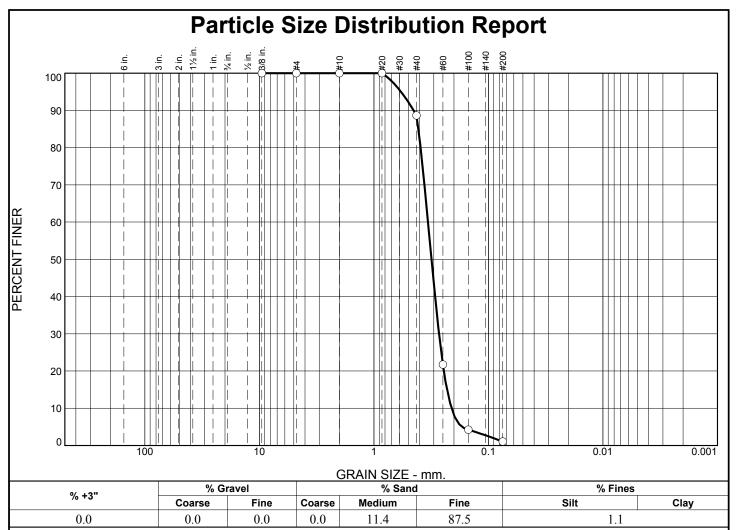
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No. Revised 8/20

Date: 8/4/10

Mobile, Alabama



S	IEVE	PERCENT	SPEC.*	PASS?
8	SIZE	FINER	PERCENT	(X=NO)
	375	100.0		
	#4	100.0		
1	#10	100.0		
;	#20	100.0		
	#40	88.6		
	#60	21.7		
#	100	4.3		
#	200	1.1		
	* /	· · · · · · · · · · · · · · · · · · ·		

· ·	Material Description SAND, (SM), medium to fine grained							
PL=	Atterberg Limits LL=	PI=						
D ₉₀ = 0.4506 D ₅₀ = 0.3141 D ₁₀ = 0.2100	Coefficients D ₈₅ = 0.4098 D ₃₀ = 0.2700 C _u = 1.60	D ₆₀ = 0.3370 D ₁₅ = 0.2300 C _c = 1.03						
USCS= SP	Classification AASHT	O=						
Remarks CADD CODE = CH10D965								

Tested By: R.Martin

Location: USACE Sample # BI-PB-35-10B **Sample Number:** TE Lab ID: 4609.07

Depth: 5.0 - 10.0 (ft.) **Date:** 8/4/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009 **Report No.** Revised 8/20

Mobile, Alabama

Boring Designation BI-PB-036-10

DBI	LLING	LOG	DIVISION	[1	INSTALLAT	ION	SHEET 1
		LUG	South Atlantic		Mobile D		OF 2 SHEETS
1. PRO						D TYPE OF BIT N/A	
			nd Restoration			HORIZON	: I
	etit Bois Pa			ORDINATES :		te Plane, MSE (U.S. Ft.) NAD83	NAVD88
Е	3I-PB-036-1	10	E = 1,138,9	96 N = 252,914		racore	MANUAL HAMMER
	LING AGEN		1	ONTRACTOR FILE NO.	12. TOTAL	SAMPLES	UNDISTURBED (UD)
	Corps of En		s - CESAM ;			3	0
			ons International, Inc.	<u> </u>	13. TOTAL	NUMBER CORE BOXES	
5. DIRE	ECTION OF			BEARING	14. WATEI	33.1	
_	VERTICAL INCLINED		VERTICAL	-	15. DATE	SORING STARTED	10 07-19-10
6. THI	CKNESS OF	OVERB	SURDEN N/A		16. ELEVA	TION TOP OF BORING -33.0 Ft.	•
7. DEP	TH DRILLE	OINTO	ROCK N/A		17. TOTAL	RECOVERY FOR BORING 100%	
8. TOT	AL DEPTH (OF BOR	ING 19.5 Ft.			TURE AND TITLE OF INSPECTOR	
ELEV.	DEPTH	EGEND	CLASSIFICATION	OF MATERIALS	SAMPLE	is Gillentine, Geologist LABORATORY RE	SULTS
		"					
-33.0	0.0						
	<u>E</u>		SAND, poorly-graded, n grained sand-sized	nostly fine to medium- quartz, trace shell			Ē
	Ē		fragments, tannish brow	n (SP)			Į.
	F	:·::			A	Classification: SP Color:	2.5Y 7/1-light gray
	F	-::-				D50: 0.2874 mm %	6 Fines: 1.9
	E						E.
	F						<u>F</u>
	E						E,
	E	$ \cdots $					F
	<u> </u>	$ \cdot \cdot $				Classification: SP Color:	2.5Y 7/1-light gray
	E	 .∵:			В	D50: 0.3231 mm	% Fines: 2
	E	 .∷.					Ė
	E	$ \cdots $					E E
	F	$ \cdots $			-		_ -
	E	::::					Ę.
	E					Classification: SP Color:	2.5Y 7/1-light gray
	E	$ \cdot \cdot $			С		Fines: 4.1
	E	::::					E
-47 5	- - 14.5	-::-					Ę
5	E		CLAY, fat, dark gray (Cl	⊔ \			<u></u>
	F		OLAT, Tal, dark gray (CI	'')			Ē
	E						F
	E				NS		F
	<u> </u>						<u>[</u> -
	E						Ē
-52.5	- 19.5 -				-		<u> </u>
	F		NOTES:				F ²
	F						F
	Ę.		 Soils are field accordance with the Uni 	visually classified in			E
	E		System.	neu Juis Ciassilication			ŧ
	Ē		2 NC = Comple net =	ubmitted for leberaters			F
	E		NS = Sample not s analysis from this interval	al.			E
	<u> </u>		Seafloor elevation cal				<u>-</u> -
	<u>E</u>		vessel's fathometer water	er depth reading and			Ę

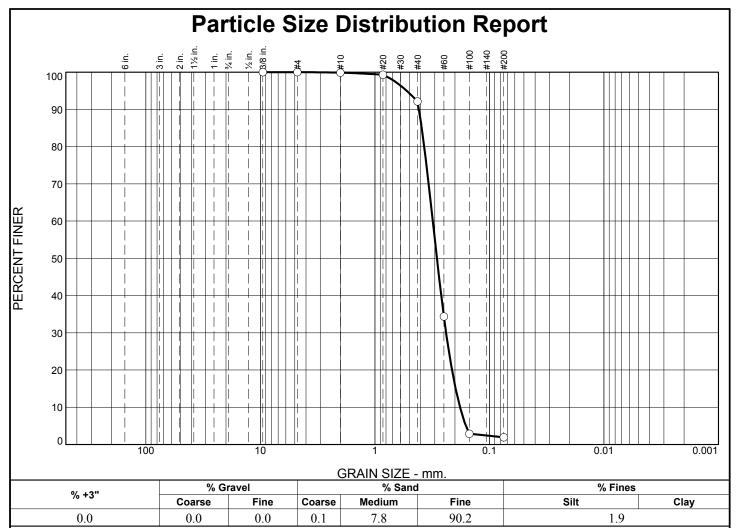
SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19455° Long = -88.34351°

Boring Designation BI-PB-036-10

DRILLING LOG (Cont. Sheet)				INSTALLATION SHEET 2					
DKI	LLING	LUC	(Cont. Sneet)	Mobile District OF 2 SHEE					3
PROJEC	т			COORDINA	TE SYSTEM	I/DATUM	HORIZONTAL	VERTICAL	
MsCl	P Barrier Is	land F	Restoration	State Pl	ane, MSE	(U.S. Ft.)	NAD83	NAVD88	
LOCATION	ON COORDIN	NATES	•	ELEVATION	N TOP OF B	ORING			
X = 1	,138,996	Y = 2	252,914	-33.0 F1	t.				
ELEV.	DEPTH	EGEND.	CLASSIFICATION OF MATERIAL	. \$	SAMPLE		LABORATORY RES	SULTS	
		LEGEND		_S			LABORATORY RES	SULTS	- I
									60
									_F

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19455° Long = -88.34351°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.3		
#40	92.1		
#60	34.4		
#100	2.9		
#200	1.9		
*			

	Material Description SAND, (SP), fine grained						
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.4135 D ₅₀ = 0.2874 D ₁₀ = 0.1807	Coefficients D ₈₅ = 0.3906 D ₃₀ = 0.2392 C _u = 1.73	D ₆₀ = 0.3122 D ₁₅ = 0.1974 C _c = 1.01					
USCS= SP	Classification AASHT	O=					
Remarks CADD CODE = CH10D965							

Location: USACE Sample # BI-PB-36-10A **Sample Number:** TE Lab ID: 4609.08

Depth: 0.0 - 5.0 (ft.)

Date: 8/4/10

Thompson Engineering

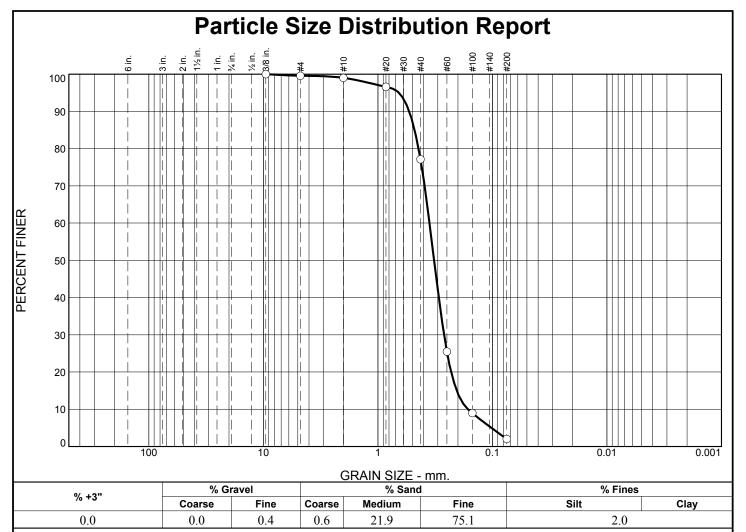
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 10-2123-0009 Report No. Revised 8/20

Tested By: R.Martin Checked By: R.Byrd



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.6		
#10	99.0		
#20	96.6		
#40	77.1		
#60	25.5		
#100	9.0		
#200	2.0		
*	oification provide	•	

Material Description SAND, (SP), medium to fine grained							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.5329 D ₅₀ = 0.3231 D ₁₀ = 0.1636	Coefficients D ₈₅ = 0.4780 D ₃₀ = 0.2645 C _u = 2.17	D ₆₀ = 0.3548 D ₁₅ = 0.2052 C _c = 1.20					
USCS= SP	Classification						
Remarks CADD CODE = CH10D965							

Tested By: R.Martin

Location: USACE Sample # BI-PB-36-10B **Sample Number:** TE Lab ID: 4609.09 **Date:** 8/4/10**Depth:** 5.0 - 10.0 (ft.)

Thompson Engineering

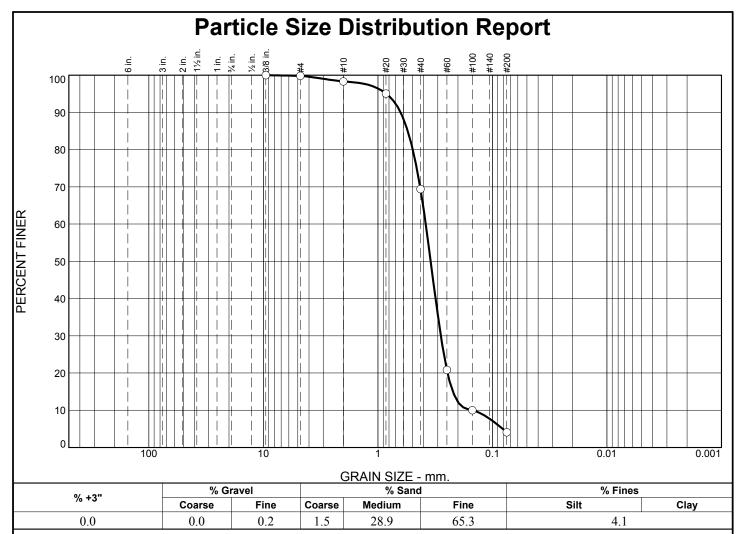
Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009 Report No. Revised 8/20



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.8		
#10	98.3		
#20	95.0		
#40	69.4		
#60	20.8		
#100	10.0		
#200	4.1		
*	acification provide		

Material Description SAND, (SP), medium to fine grained					
PL=	Atterberg Limits	PI=			
D ₉₀ = 0.6337 D ₅₀ = 0.3464 D ₁₀ = 0.1493	Coefficients D ₈₅ = 0.5486 D ₃₀ = 0.2821 C _u = 2.56	D ₆₀ = 0.3828 D ₁₅ = 0.2219 C _c = 1.39			
USCS= SP	Classification AASHT	O=			
Remarks CADD CODE = CH10D965					

Location: USACE Sample # BI-PB-36-10C **Sample Number:** TE Lab ID: 4609.10

Date: 8/4/10**Depth:** 10.0 - 14.5 (ft.)

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009 Report No. Revised 8/20

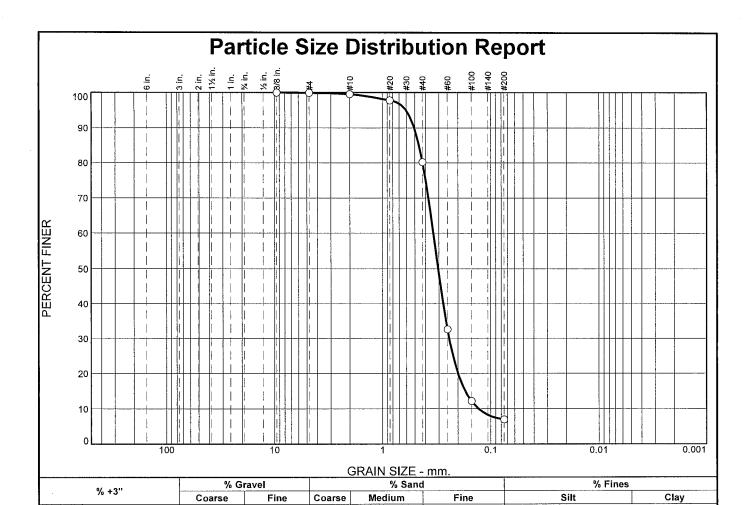
Tested By: R.Martin Checked By: R.Byrd

Boring Designation BI-PB-037-10

DBI	LLING	1.00	DIVISIO	N		INST	TALLATIO	ON		SHEET	r 1
		LUU	Sout	h Atlantic		Mobile District OF 1 SHEETS			SHEETS		
1. PRO						9. SIZE AND TYPE OF BIT N/A 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL					
			nd Restoration	on		10.			HORIZONTAL	VERTIC	
	etit Bois Pa			LOCATION CO	ORDINATES	State Plane, MSE (U.S. Ft.) NAD83 NAVD88 11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER					
	I-PB-037-1		•		25 N = 252,845	٠	Vibra				MMER HAMMER
	LING AGEN		<u> </u>		ONTRACTOR FILE NO.	40		¦ D			BED (UD)
	Corps of Engineers - CESAM				12.	TOTALS	SAMPLES	3	0		
	E OF DRILL			daniel lane		13.	TOTAL N	NUMBER CORE BOXES			
	ONSTRUCTION CTION OF E		ions Internat G		BEARING	14.	WATER	DEPTH	34 Ft.		
Ø۱	/ERTICAL NCLINED			DEG. FROM VERTICAL		15.	DATE BO	DRING	STARTED 07-27-10	COMPL 07-2	.ETED 27-10
6. THIC	KNESS OF	OVER	BURDEN	N/A	•	16.	ELEVAT	ION TOP OF BORING	-33.2 Ft.		
7 DEDI	'H DRILLED	INTO	BUCK V	N/A		17.	TOTAL F	RECOVERY FOR BORING	100%		
						18.	SIGNAT	URE AND TITLE OF INSPE	CTOR		
8. TOT/	AL DEPTH O	F BOR	RING 16.	.0 Ft.		Ц,	Chris	Gillentine, Geologist			
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION	OF MATERIALS	s	SAMPLE	LABO	RATORY RESULTS		
-33.2	0.0					ightharpoons					-0
	• •	-:::	SAND, poo	orly-graded, da	ark gray (SP)						ʰ
	<u>-</u> :	[∷::]									F
	<u>-</u>	-:i						Classification: SP-SM	Color: 2.5Y 6/2-I	iaht brov	vnish grav-
	_	<u> :::: </u>					Α	D50: 0.30		s: 7	E
		. : : .									F
F		<u> :::: </u>		2 Et trace shi	ell fragments, It. gray						F
	<u>.</u> -	[]	At Li07.2	z i t., trace sin	on magments, it. gray	-					5
F	_	·:::									E
 	- - -	<u> </u> :∵:									Ę
	-						В	Classification: SF		1-light g	ıray E
	-	::::						D50: 0.3.	385 mm % Fines	S: 2	F
	- -	: :::									E
	<u>.</u>	$ \cdot \cdot \cdot \cdot $									E
	-	<u>[∷:</u>]									E
	_	[····]									E
	<u>-</u>						С	Classification: SF	Color: 2.5Y 7/ 25 mm % Fines	/1-light g	ıray <u>-</u>
	-	<u> ::: </u>						100.0.30	20 mm /0 miles	. 0.9	E
-47.2	14 0										E
	<u> </u>		SAND do	yey, dark gray	(90)	\top					F
	<u>.</u> .		JAND, Ud	ycy, uair yidy	(00)		NS				15
-49.2	16.0					\perp					<u>F</u>
	• • -		NOTES:								E
[• •			.							E
	- - -		Soils accordance System.	s are field e with the Uni	visually classified in fied Soils Classification	า					<u> </u>
	- - - -			Sample not som this interval	ubmitted for laboratory	y					E 20
			3. Seafloo	or elevation ca	lculated using sampling	9					E
	- - -		vessel's fa applying N factor.	athometer wa NOAA tidal g	ter depth reading and lauge data conversion	d n					<u> </u>
	_										F
	_										E 25
	• • •										Ę ^z
	-										

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19434° Long = -88.33804°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.9		
#10	99.5		
#20	97.8		
#40	80.2		
#60	32.6		
#100	12.1		
#200	7.0		
1	1		

0.1

0.4

19.3

Material Description SAND, (SP-SM), medium to fine grained					
PL=	Atterberg Limits	PI=			
D ₉₀ = 0.5082 D ₅₀ = 0.3045 D ₁₀ = 0.1291	Coefficients D85= 0.4582 D30= 0.2411 Cu= 2.61	D ₆₀ = 0.3373 D ₁₅ = 0.1719 C _c = 1.34			
Classification USCS= SP-SM AASHTO=					
Remarks CADD CODE = CH10D965					

(no specification provided)

Location: USACE Sample # BI-PB-37-10A **Sample Number:** TE Lab ID: 4612.01

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

7.0

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

73.2

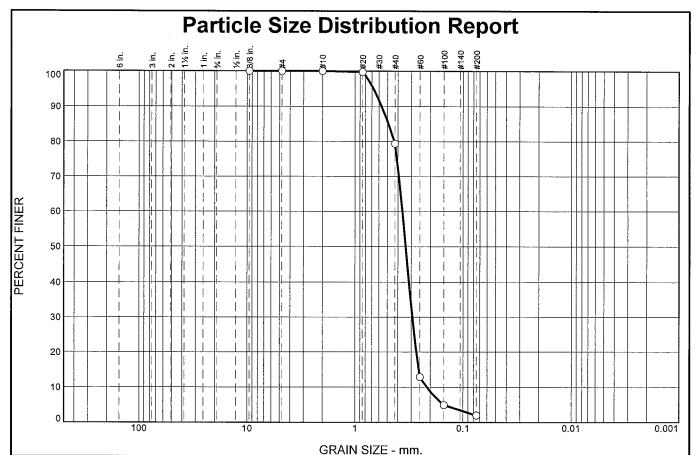
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: G.Fancher

0.0



% +3"	% Gr		·	% Sand		% Fines	
/6 +3	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	20.6	77.4	2.0	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.7		
#40	79.4		
#60	12.9		
#100	4.9		
#200	2.0		

Material Description SAND, (SP), medium to fine grained					
PL=	Atterberg Limits	Pl=			
D ₉₀ = 0.5668 D ₅₀ = 0.3385 D ₁₀ = 0.2148	Coefficients D85= 0.4900 D30= 0.2929 Cu= 1.69	D ₆₀ = 0.3634 D ₁₅ = 0.2563 C _c = 1.10			
USCS= SP	Classification AASHT	O=			
Remarks CADD CODE = CH10D965					

Location: USACE Sample # BI-PB-37-10B **Sample Number:** TE Lab ID: 4612.02

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

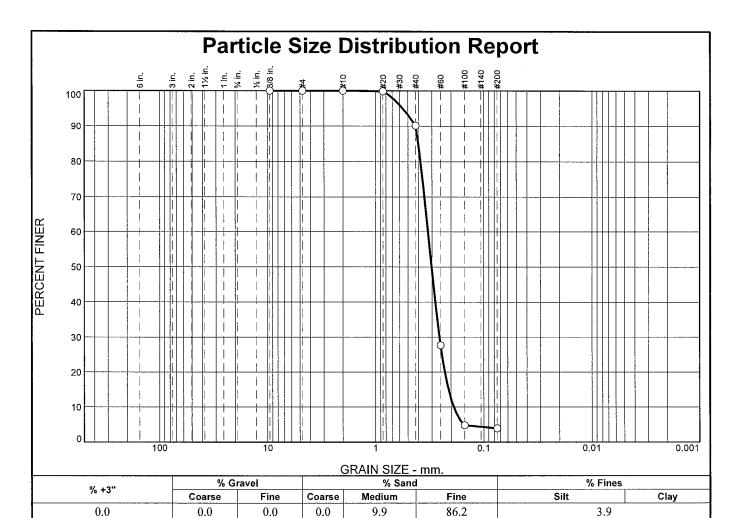
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: G.Fancher



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	90.1		
#60	27.7		
#100	4.8		r
#200	3.9		
•			
1		1	

Material Description SAND, (SP), fine grained					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.4243 D ₅₀ = 0.3025 D ₁₀ = 0.1893	Coefficients D85= 0.4021 D30= 0.2558 Cu= 1.72	D ₆₀ = 0.3265 D ₁₅ = 0.2112 C _c = 1.06			
USCS= SP	Classification AASHT	O=			
CADD CODE =	Remarks CADD CODE = CH10D965				

Location: USACE Sample # BI-PB-37-10C **Sample Number:** TE Lab ID: 4612.03

Depth: 10.0 - 15.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

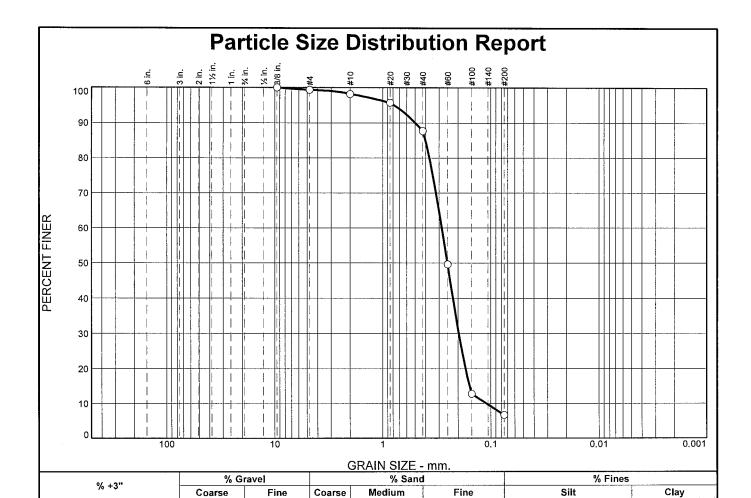
Mobile, Alabama

Tested By: G.Fancher

Boring Designation BI-PB-038-10

DRI	LLING	I OG	DIVISI	ON		INS	TALLATIO	ON		SHEET	1
			Sou	uth Atlantic			Mobile Dis			OF 1	SHEETS
1. PRO								NATE SYSTEM/DATUM	HORIZONTAL	VERTICA	
	IsCIP Barrio etit Bois Pa			ition		10.		Plane, MSE (U.S. Ft.)	-	<u> </u>	
	ING DESIGN			LOCATION C	OORDINATES	11.		ACTURER'S DESIGNATION	NAD83	NAVI AUTO HAM	
В	I-PB-038-1	0		E = 1,142	,128 N = 252,720		Vibra	core		MANUAL H	
-	LING AGEN				CONTRACTOR FILE NO.	12.	TOTAL S		i	UNDISTURB	ED (UD)
	orps of Eng		s - CESAM			4 0					
	construction		ons Intern	ational Inc		13.	TOTAL N	NUMBER CORE BOXES			
	CTION OF E			DEG. FROM	BEARING	14.	WATER	DEPTH	35 Ft.		
	VERTICAL INCLINED			VERTICAL		15.	DATE BO	DRING	STARTED	COMPLE	
						40	E1 E1/AE	1011 TOD OF DODING	07-28-10	07-28	5-10
6. IHIC	KNESS OF	OVERE	UKDEN	N/A		_		ION TOP OF BORING	-34.4 Ft . 100%		
7. DEP	TH DRILLED	INTO	ROCK	N/A				URE AND TITLE OF INSPE			
8. ТОТ	AL DEPTH O	F BOR	ING 1	8.5 Ft.				Gillentine, Geologist			
ELEV.	DEPTH	LEGEND	c	CLASSIFICATIO	ON OF MATERIALS		SAMPLE	LABO	RATORY RESULT	s	
-34.4	0.0										
-35.9	- - - 1.5		CLAY, le	an, dark gray	(CL)		NS				Ě
	_		SAND r	oorly-graded	trace shell fragments, It						E
		: ::	gray (SF		trade crion fragmente, it			Classification: SP-SM	Color: 2 5V	5/2 gravish	brown E
	_						Α	D50: 0.25	Color: 2.5Y ! 11 mm % Fine	s: 6.7	E
	 	·.:-									E
	_	$ \cdots $				\vdash					5
	_	-::-									E
		[:::]									F
	=	-::: ₋					В	Classification		2.5Y7/2-	F
	_	:·::					_	D50: 0.27	21 mm % Fine	es: 2.6	F
	<u>-</u>	$ \cdots $									E
	_					L					10
		-::-									£ '°
	 										E
	_						0	Classification: SF	Color: 2.5Y	7/1-light gra	av E
	<u> </u>						С	D50: 0.30	004 mm % Fin	es: 3	Ĺ
		[.·:·]									E
	=	····									E
	-	[.·:									15
	<u>-</u>	::::								= (4 !!	F
	_	::::					D	Classification: SF D50: 0.30		7/1-light gra es: 3.3	ay E
	<u> </u>	$ \cdots $									E
-52.9	- 18.5					+					 [
	<u>-</u> - -		NOTES:								- -20
	<u>-</u> 		Scaccordar System.	oils are field nce with the U	I visually classified in nified Soils Classification	וו					20 - - - -
				= Sample not from this inter	submitted for laboratory	<i>,</i>					<u> </u>
			vessel's	fathometer v	calculated using sampling vater depth reading and gauge data conversion	l b					-25

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19398° Long = -88.3336°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.3		
#10	98.1		
#20	95.7		
#40	87.7		•
#60	49.6		
#100	12.7	·	
#200	6.7		
<u> </u>	L	1	<u> </u>

0.7

1.2

10.4

81.0

Material Description SAND, (SP-SM), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.4979 D ₅₀ = 0.2511 D ₁₀ = 0.1096	Coefficients D85= 0.4020 D30= 0.1972 Cu= 2.58	D ₆₀ = 0.2826 D ₁₅ = 0.1571 C _c = 1.26				
USCS= SP-SM	USCS= SP-SM Classification AASHTO=					
Remarks CADD CODE = CH10D965						
Same and the same						

(no specification provided)

0.0

Location: USACE Sample # BI-PB-38-10A **Sample Number:** TE Lab ID: 4612.04

Depth: 1.5 - 5.0 (ft.)

Date: 8/7/10

6.7

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

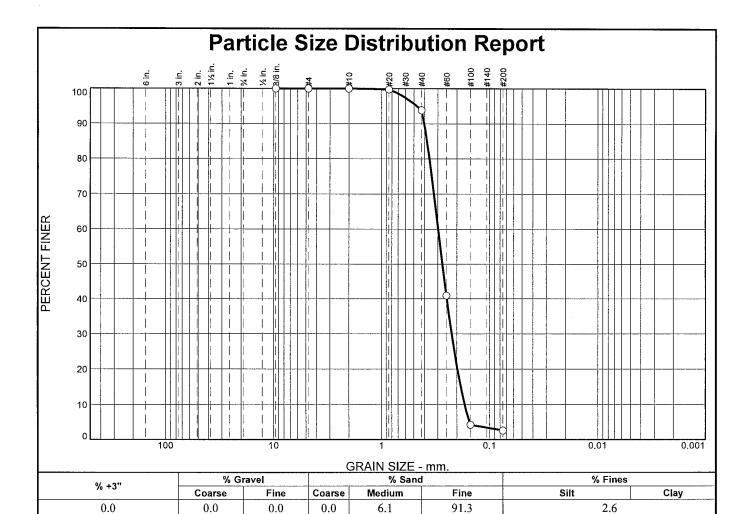
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Report No.

Project No: 10-2123-0009

Checked By: R.Byrd Tested By: G.Fancher



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.7	1	
#40	93.9		
#60	40.9		
#100	4.3		
#200	2.6		
L			

SAND, (SP), fine	Material Description grained	<u>n</u>							
PL=	Atterberg Limits	PI=							
D ₉₀ = 0.4021 D ₅₀ = 0.2721 D ₁₀ = 0.1699	Coefficients D ₈₅ = 0.3786 D ₃₀ = 0.2234 C _u = 1.75	D ₆₀ = 0.2976 D ₁₅ = 0.1845 C _c = 0.99							
USCS= SP	Classification AASHT	O=							
CADD CODE =	Remarks CADD CODE = CH10D965								

Location: USACE Sample # BI-PB-38-10B **Sample Number:** TE Lab ID: 4612.05

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

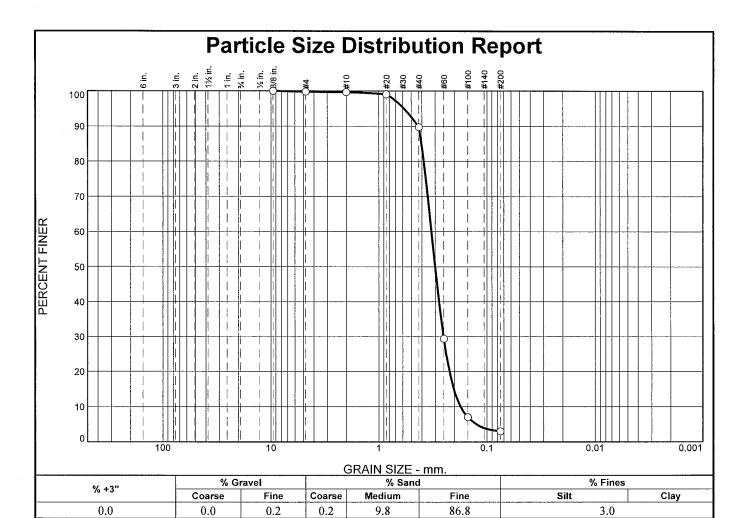
Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

Tested By: G.Fancher



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X≔NO)
.375	100.0		
#4	99.8		
#10	99.6		
#20	99.0		
#40	89.8		
#60	29.3		
#100	7.0	•	
#200	3.0		
		:	
	1		
i			

	Material Description SAND, (SP), fine grained											
PL=	Atterberg Limits LL=	PI=										
D ₉₀ = 0.4306 D ₅₀ = 0.3004 D ₁₀ = 0.1755	Coefficients D85= 0.4030 D30= 0.2518 Cu= 1.85	D ₆₀ = 0.3251 D ₁₅ = 0.2025 C _c = 1.11										
USCS= SP	<u>Classification</u> AASHT	-O=										
CADD CODE =	Remarks CADD CODE = CH10D965											

Location: USACE Sample # BI-PB-38-10C **Sample Number:** TE Lab ID: 4612.06

Depth: 10.0 - 15.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

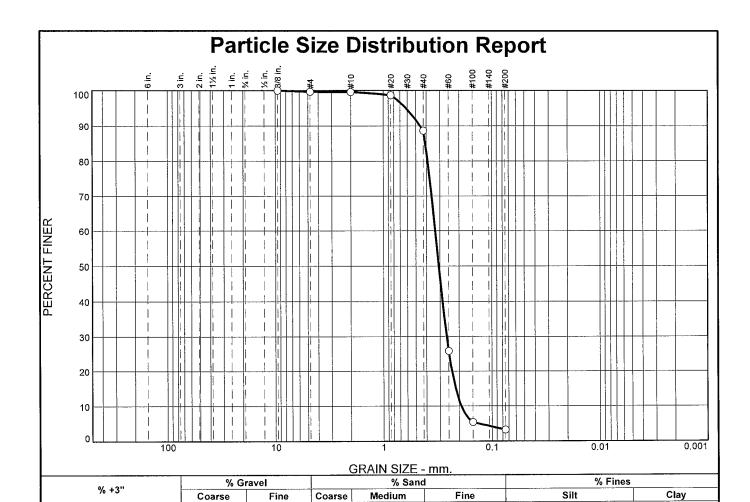
Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

Tested By: G.Fancher



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.6		
#10	99.5		
#20	98.6		
#40	88.6		
#60	25.9		
#100	5.4		
#200	3.3		

Material Description SAND, (SP), medium to fine grained										
PL=	Atterberg Limits	PI=								
D ₉₀ = 0.4555 D ₅₀ = 0.3073 D ₁₀ = 0.1923	Coefficients D85= 0.4086 D30= 0.2605 Cu= 1.72	D ₆₀ = 0.3314 D ₁₅ = 0.2157 C _c = 1.06								
USCS= SP	<u>Classification</u> AASHT	-O=								
Remarks CADD CODE = CH10D965										

(no specification provided)

0.0

Location: USACE Sample # BI-PB-38-10D **Sample Number:** TE Lab ID: 4612.07

Depth: 15.0 - 18.5 (ft.)

0.1

0.4

10.9

85.3

Date: 8/7/10

3.3

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: G.Fancher

Boring Designation BI-PB-039-10

DDI	LLING	106	DIVISIO	ON			INS	TALLATIO	ON			SHEET	T 1
		LUG	Sou	th Atlantic			_	Mobile Di				OF 1	SHEETS
1. PRO			d B ()						TYPE OF BIT N/A	HORIES	FA1	\/ED=:	
	/IsCIP Barri Petit Bois Pa		nd Restorat	ion			10.		NATE SYSTEM/DATUM	HORIZON1	1	VERTIC	/D88
	ING DESIG			LOCATION C	OORDIN	NATES	11.		e Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION			INAN ITO HA	
В	I-PB-039-1	10	 	E = 1,143		N = 252,847		Vibra	acore				HAMMER
	LING AGEN		050444		CONTE	RACTOR FILE NO.	12.	TOTAL S		STURBED	i		BED (UD)
	orps of En		s - CESAM		<u> </u>		⊢		 		-)	
			ions Interna	ational, Inc.			\vdash		NUMBER CORE BOXES				
5. DIRE	CTION OF			DEG. FROM	М	BEARING	14.	WATER	DEPTH	35 Ft.	-		
	VERTICAL INCLINED			VERTICAL	i j		15.	DATE B	DRING	STARTED 07-28-	i	COMPL 07-2	28-10
	CKNESS OF	OVER	BURDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-34.3 Ft.		<u> </u>	
							17.	TOTAL I	RECOVERY FOR BORING	100%			
	TH DRILLED			N/A			18.	SIGNAT	URE AND TITLE OF INSPE	CTOR			
8. ТОТ	AL DEPTH (OF BOR	RING 13	3.0 Ft.			<u> </u>	Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CI	LASSIFICATIO	ON OF N	MATERIALS		SAMPLE	LABO	RATORY RES	BULTS		
-34.3	0.0												
	<u>-</u>		CLAY, fat	t, gray (CH)									<u> </u>
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	-												F
													E
													E
	Ē												E
													<u>-</u>
	-												F
	Ē							NS					E
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	-												F
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													E
													E
													E
-47.3	13.0						\dashv						
	<u> </u>		NOTES:										E
	Ē												ŧ
	Ē		Soi accordance	Is are field	d visua	ally classified i Soils Classificatio	n						E
	<u> </u>		System.	oo waaa aac C	Zimicu (Jone Glassificalio							E
	<u> </u>		2 NS =	Sample not	t suhmi	tted for laborator	.,						E
	<u> </u>		analysis f	rom this inter	rval.	IOI IUDOI UIOI	,						E
	Ē		3. Seaflo	or elevation	calculat	ed using samplin	a						ŧ
	Ē		vessel's 1	fathometer v	water d	lepth reading an	ď						F
	<u></u>		applying factor.	NOAA tidal	gauge	data conversio	n						<u>-</u>
	<u> </u>		140101.										E
	<u> </u>												E
	<u> </u>												F
	<u> </u>												F
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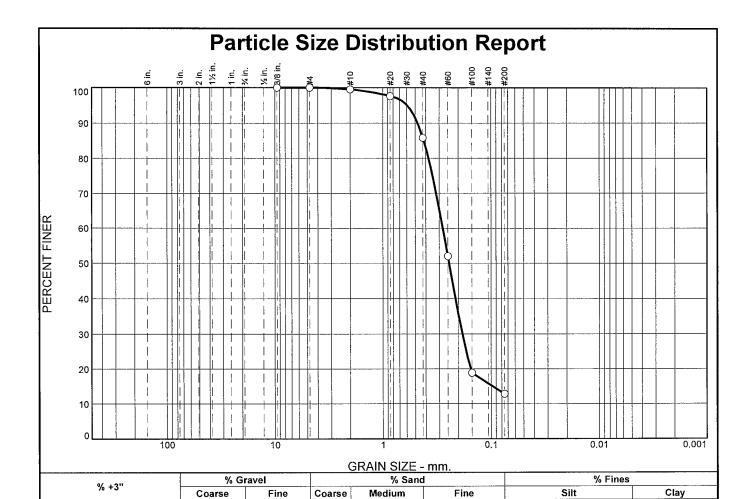
SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19431° Long = -88.32868°

Boring Designation BI-PB-040-10

DR	LLING	I OG	DIVISIO				IN	STALLATIO					SHEE	Г 1
1. PRO			Sou	th Atlantic			+	Mobile Di					OF 1	SHEETS
_									TYPE OF BIT	N/A			:	
	AsCIP Barri			ion			10		NATE SYSTEM/DA		HORIZON		VERTI	
	Petit Bois Pa			LOCATION C	OOPD	INATES	11		Plane, MSE (U.S		NAD83			VD88
	3I-PB-040-1		į	E = 1,145			''		acore	MAIIO	TOP DRILL	_	UTO HA	MMER HAMMER
	LLING AGEN		<u>'</u>	_ 1,110		RACTOR FILE N	o.			¦ D	ISTURBED			RBED (UD)
(Corps of Eng	gineers	- CESAM		:		12	. TOTAL	SAMPLES		1		0	
4. NAN	E OF DRILL	ER					13	. TOTAL	NUMBER CORE BO	XES		•		
	Construction		ns Interna					. WATER	DEPTH		33 Ft.			
-	ECTION OF I	BORING		DEG. FROM	MI.	BEARING	<u> </u>	WAILK	DEF III		STARTED		COMPI	ETED
	INCLINED					1	15	. DATE B	DRING		07-28-	10	i	28-10
	CKNESS OF	OVERBU	JRDEN	N/A		i	16	. ELEVAT	ION TOP OF BORI	NG	-32.2 Ft.			20 10
7. DEP	TH DRILLED	INTO R	OCK	N/A			17	. TOTAL	RECOVERY FOR B	ORING	100%			
							18		URE AND TITLE O		CTOR			
8. 101	AL DEPTH C	F BORI	NG 14	1.0 Ft.				Chris	Gillentine, Geol	logist				
ELEV.	DEPTH	LEGEND	CI	LASSIFICATIO	ON OF	MATERIALS		SAMPLE		LABO	RATORY RE	SULTS		
-32.2	0.0													
-34.2	E 2.0		SAND, p dark gray		l, trac	e shell fragme	ents,	Α	Classification D5	: SM 0: 0.243	Color: 2.5° 32 mm %	Y 5/3-I Fines:	ight olive 12.8	L L
-46.2			CLAY, fat	t, gray (CH)				NS						
			accordance System. 2. NS = analysis fi 3. Seaflovessel's fi	Sample not rom this interpretation of elevation of fathometer v	Jnified t subm rval. calcula water	ually classified Soils Classifica nitted for labora ated using samp depth reading e data convers	tion tory oling and							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19423° Long = -88.3237°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.5		ļ
#20	97.6		
#40	85.9		
#60	52.1		
#100	18.9		
#200	12.8		
			•

<u>Material Description</u>											
SILTY SAND, (S	SILTY SAND, (SM), medium to fine grained										
	Atterberg Limits										
PL=	LL=	PI=									
D ₉₀ = 0.4750 D ₅₀ = 0.2432 D ₁₀ =	Coefficients D85= 0.4168 D30= 0.1842 Cu=	$D_{60} = 0.2781$ $D_{15} = 0.0961$ $C_{c} = 0.0961$									
USCS= SM	Classification AASHTO	=									
Remarks CADD CODE = CH10D965											

(no specification provided)

Location: USACE Sample # BI-PB-40-10A **Sample Number:** TE Lab ID: 4612.08

Depth: 0.0 - 2.0 (ft.)

0.5

13.6

73.1

Date: 8/7/10

12.8

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

Tested By: G.Fancher

0.0

Boring Designation BI-PB-041-10

п	RILLING	LOG	DIVISIO				ı	TALLATIO					HEET	
			Sout	h Atlantic			-	Mobile Dis				0	F 2	SHEETS
1. 1	PROJECT									/A				
	MsCIP Barri			on			10.		NATE SYSTEM/DATUM	!	ZONTAL	VI	ERTIC	
2	Petit Bois Pa			LOCATION	.00000	ATES	44		Plane, MSE (U.S. Ft		\D83	<u> </u>	NAV	
2.	BI-PB-041-1			LOCATION C		ATES N = 252,846	11.	MANUFA Vibra	ACTURER'S DESIGNAT	IUN UF DR	<u>"-</u>	=	MAH C	MER AMMER
3. 1	DRILLING AGEN		i	L = 1,140		ACTOR FILE NO.	\vdash	VIDIA	icore	DISTURB	ED :			ED (UD)
	Corps of Eng		- CESAM				12.	TOTAL S	SAMPLES	0		0		(,
4. 1	NAME OF DRILL						13.	TOTAL N	NUMBER CORE BOXES					
	Construction	Solutio	ns Internat	tional, Inc.			\vdash	WATER						
	DIRECTION OF I	BORING		DEG. FROM	И	BEARING	14.	WAIER	DEPIN	38 Ft.		100		
	▼ VERTICAL INCLINED			TERRITORE			15.	DATE BO	DRING	STAR	-28-10		0 MPLE 07-2	
							10			- '		i	07-20	3-10
6.	THICKNESS OF	OVERBU	JRDEN	N/A			⊢		ION TOP OF BORING	-37.1				
7. 1	DEPTH DRILLED	INTO R	ock	N/A			$\overline{}$		RECOVERY FOR BORIN		%			
8.	TOTAL DEPTH O)F ROPII	IG 2∩	.0 Ft.			18.		URE AND TITLE OF IN					
٠.	J.AL DEFIN		 20.	. .			Ц,	Chris	Gillentine, Geologis	[
ELE		LEGEND	CL	ASSIFICATIO	ON OF M	ATERIALS		SAMPLE	LA	BORATOR	resul	тѕ		
-37	7.1 0.0						\perp							
	F		CLAY, fat,	gray (CH)										Ē
	F			- ' '										E
	<u>F</u>													Ŀ
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-57	7.1 = 20.0													Ė
Ť	<u> </u>						十							
	<u>F</u>		NOTES:											Ŀ
	E													F
	F		1. Soils	s are field	d visua	lly classified i	n							E
	<u>F</u>		accordance System.	e with the U	initied S	oils Classification	n							F
	Ė		•											F
	F		2. NS =	Sample not	t submit	ted for laborator	у							E
	F		analysis fro	om this inter	rval.									E
	Ę.		3. Seafloo	or elevation o	calculate	d using sampling	9							E

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19427° Long = -88.31903°

Boring Designation BI-PB-041-10

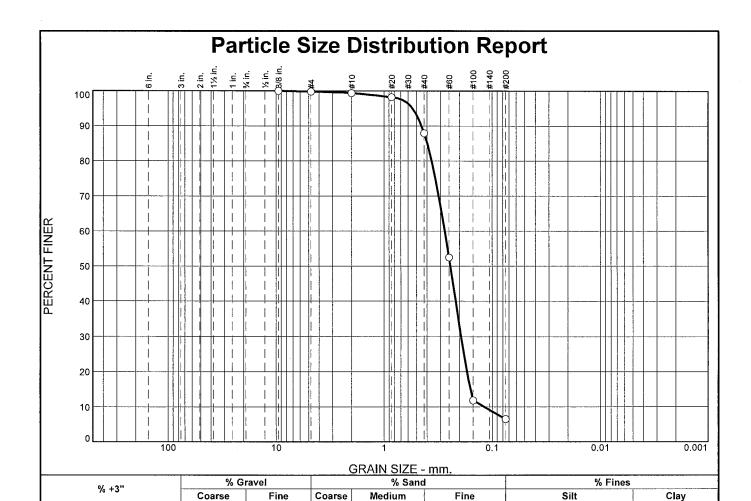
SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19427° Long = -88.31903°

Boring Designation BI-PB-042-10

			DIVISION	1		INS	TALLATIO	ON CONTRACTOR		s	HEET	1
DRI	LLING	LOG	South	n Atlantic			Mobile Dis					SHEETS
1. PRO	JECT					9.	SIZE AND	TYPE OF BIT	/A			
N	IsCIP Barrie	er Isla	nd Restoratio	n		10.	COORDI	NATE SYSTEM/DATUM	HORIZONT	TAL V	ERTIC	AL
	etit Bois Pa							Plane, MSE (U.S. Ft			NAV	
	ING DESIGN		N L	OCATION COOF		11.		ACTURER'S DESIGNAT	ION OF DRILL		о нам	
	I-PB-042-1		i		7 N = 252,784 NTRACTOR FILE NO.		Vibra	icore	DISTURBED			AMMER SED (UD)
	orps of Eng		s - CESAM		NINACION I ILL NO.	12.	TOTAL S	SAMPLES	3	0	J. O.K.	,25 (05)
	E OF DRILL		0 020/ 111			13.	TOTAL I	NUMBER CORE BOXES				
С	onstruction	Solut	ions Internati	onal, Inc.	ŀ				00.54			
	CTION OF E	ORIN	G	DEG. FROM VERTICAL	BEARING	14.	WATER	DEPIH	33 Ft.	100	OMPLE	TED
	VERTICAL INCLINED			!		15.	DATE BO	DRING	07-28-	i	07-2	
		01/50	DUDDEN	N/A	'	46	EL EVAT	ION TOP OF BORING		10 ;	01-2	0-10
6. IHIC	KNESS OF	OVER	BUKDEN	N/A					-32.2 Ft.			
7. DEPTH DRILLED INTO ROCK N/A								RECOVERY FOR BORIN				
8. TOT	AL DEPTH O	F BOF	RING 15.5	5 Ft.		10.		Gillentine, Geologist				
		0				Т	Office	Gillertine, Geologisi	•			
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATION O	F MATERIALS		SAMPLE	LA	BORATORY RES	BULTS		
-32.2	0.0					丁						
	_ 	$ \cdot $	SAND nor	orly-graded mo	ostly medium-grained	ıΤ			<u> </u>			E
	_	:::	sand-sized	quartz, dark gra	ay (SP)							F
	_	[:::]						Classification: CD	Onlaw O) EV [/0 =	novis-l-	brown E
	=						Α	Classification: SP-9 D50: 0.	51VI COIOT: 2 2428 mm %	2.5Y 5/2-g Fines: 6.	rayısn 5	brown E
	-								,.			F
	<u>-</u>											F
	- - -					L						
	-											Ε°
	_											E
	<u>-</u>							Classification: SP-SM	Color: 2 E	V 6/2 light	t brow	nich grou
	_						В			Fines: 5.	t brow 2	nish graye
44.0	- - 9.0											F
-41.2	- 9.0 -		~									F
	_		SAND, poo	orly-graded, mos	stly fine-grained sand- fragments, It. gray	, L						<u> </u>
	=	. : : .	(SP)	LE, LIGUE SIICII	naginents, it. glay	'						Į į
	-	· · :	, ,									E
	<u>-</u>	[:::							o= -			F
	_	.::: <u> </u>					С	Classification		r: 5Y 8/1- Fines: 3.7		Ē
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-47.7	<u>-</u> - 15.5	-∷										-15
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	_		NOTES:									Ė
	_			ana Cala	iaallale1611							F
	<u>-</u>				isually classified ir ed Soils Classificatior							F
	_		System.	, which the Offill	ono Olassinication	.						E
	<u>-</u>			Sample not sul om this interval.	omitted for laboratory	,						-20
	<u>-</u>		,									E
	=		3. Seafloon	r elevation calc	ulated using sampling]						Ė
	-		vessel's fa applying N	ımometer wate IOAA tidal dal	r depth reading and uge data conversion	ן ג						F
	_		factor.	uda ga	-05 2014 00114010101	•						E
	_											ŧ
	-											F
	<u>-</u>											-25
	<u>-</u>											E
	-		i e			- 1		ı				L

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19408° Long = -88.31458°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.8		
#10	99.3		
#20	98.2		
#40	87.9		
#60	52.5		
#100	11.9		
#200	6.5		

0.2

0.5

11.4

Material Description SAND, (SP-SM), medium to fine grained								
PL=	Atterberg Limits LL=	PI=						
D ₉₀ = 0.4495 D ₅₀ = 0.2428 D ₁₀ = 0.1178	Coefficients $D_{85} = 0.3988$ $D_{30} = 0.1937$ $C_{u} = 2.32$	D ₆₀ = 0.2733 D ₁₅ = 0.1585 C _c = 1.17						
USCS= SP-SM	Classification AASHTO)=						
CADD CODE = C	Remarks CADD CODE = CH10D965							

* (no specification provided)

0.0

Location: USACE Sample # BI-PB-42-10A **Sample Number:** TE Lab ID: 4612.09

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

6.5

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

81.4

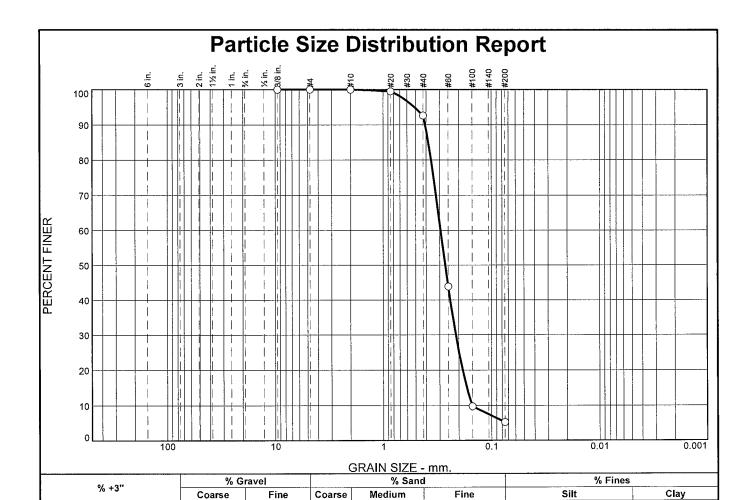
Project No: 10-2123-0009

Report No.

Mobile, Alabama

Checked By: R.Byrd

Tested By: <u>J.Maddox</u>



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.5		
#40	92.6		
#60	43.9		
#100	9.8		
#200	5.2		
			1

	Material Description SAND, (SP-SM), fine grained									
PL=	Atterberg Limits LL=	PI=								
D ₉₀ = 0.4078 D ₅₀ = 0.2663 D ₁₀ = 0.1509	Coefficients D85= 0.3815 D30= 0.2130 Cu= 1.95	D ₆₀ = 0.2937 D ₁₅ = 0.1690 C _c = 1.02								
USCS= SP-SM	Classification AASHTO	=								
CADD CODE = C	$\frac{\mathbf{Remarks}}{\mathbf{CADD}\ \mathbf{CODE} = \mathbf{CH10D965}}$									

(no specification provided)

0.0

Location: USACE Sample # BI-PB-42-10B **Sample Number:** TE Lab ID: 4612.10

Depth: 5.0 - 10.0 (ft.)

0.0

7.4

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

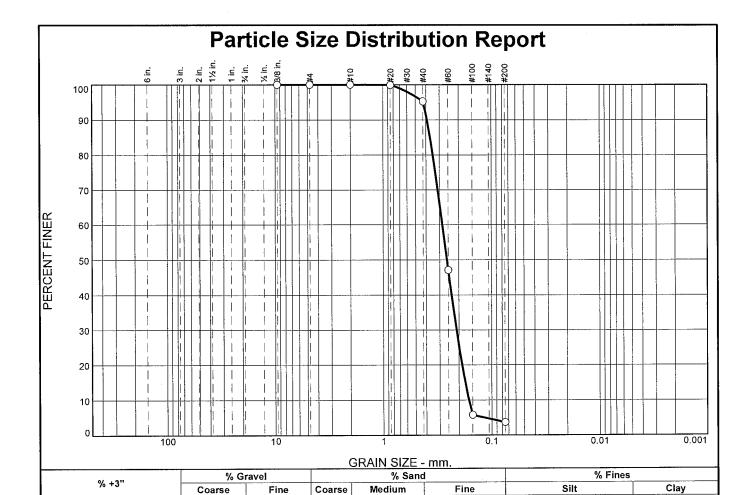
Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

87.4

Project No: 10-2123-0009

Report No.

Checked By: R.Byrd Tested By: J.Maddox



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	95.3		
#60	47.1		
#100	5.8		
#200	3.7		
			1
[

0.0

0.0

4.7

	Attaulanum Limpita	
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.3909 D ₅₀ = 0.2570 D ₁₀ = 0.1623	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D}_{85} = 0.3663 \\ \text{D}_{30} = 0.2101 \\ \text{C}_{u} = 1.74 \end{array}$	D ₆₀ = 0.2827 D ₁₅ = 0.1752 C _c = 0.96
USCS= SP	Classification AASHT()=
CADD CODE =	Remarks	

(no specification provided)

Tested By: J.Maddox

0.0

Location: USACE Sample # BI-PB-42-10C **Sample Number:** TE Lab ID: 4612.11

Depth: 10.0 - 15.0 (ft.)

Date: 8/7/10

3.7

Thompson Engineering

Project: Contract No. W91278-10-D-0026 - Task 03

91.6

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Client: US Army Corps of Engineers

Report No.

Mobile, Alabama

Boring Designation BI-PB-043-10

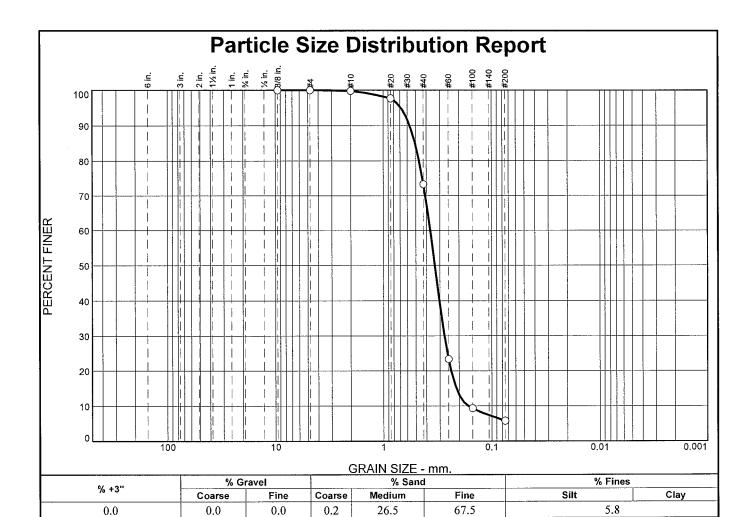
DDI	DRILLING LOG DIVISION					INSTALLATION SHEET 1						1
		LUG	Sout	th Atlantic		Mobile District OF 2 SHEE					SHEETS	
1. PRO						9. SIZE AND TYPE OF BIT N/A 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL						
			nd Restorati	on		10.			HORIZON		VERTIC	
	etit Bois Pa			LOCATION COOR	DINATES	11.		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NA\ UTO HAI	/D88
	I-PB-043-1		· .		N = 252,849	` `	Vibra		0	_		HAMMER
	LING AGEN			CON	TRACTOR FILE NO.	12	. TOTAL S		STURBED	UN	DISTUR	BED (UD)
	orps of Eng	_	s - CESAM			<u> </u>	· IOIAL	AMP ELO		i	0	
			ions Interna	tional Inc		13.	. TOTAL I	NUMBER CORE BOXES				
	CTION OF E			DEG. FROM VERTICAL	BEARING	14.	. WATER	DEPTH	38 Ft.			
_	VERTICAL INCLINED			VERTICAL		15.	. DATE BO	PRING	STARTED 07-28-	10	COMPL 07-2	ETED 28-10
6. THIC	KNESS OF	OVERE	BURDEN	N/A		16.	. ELEVAT	ION TOP OF BORING	-39.0 Ft.			
7. DEP	TH DRILLED	INTO	ROCK	N/A		17.	. TOTAL F	RECOVERY FOR BORING	100%			
	AL DEPTH O			0.0 Ft.		18.		URE AND TITLE OF INSPE	CTOR			
8. 101	AL DEPTH O		ing 20	7.0 Ft.		Ц	Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION O	F MATERIALS		SAMPLE	LABOI	RATORY RES	BULTS		
-39.0	0.0											-0
	=				tly fine-grained sand							ĔŤ
	-	$ \cdots $		artz, trace shell	fragments, It. gray	у						F
	-	-:.:·	(SP)					Classification: SP-S	M Color	: 2.5Y	7/2-light	grav
							Α	D50: 0.33	4 mm %	Fines:	5.8	E .
	-											F
	-											F
						╌						5
		$ \cdot \cdot $										E
	-	<u> </u> :∵:										F
		·					В	Classification: SM D50: 0.306	Color: 2	2.5Y 7/	2-light g 12.4	ray
								D50: 0.300	5 MM % 1	-ines:	12.4	F
	-											F
-49.0	10.0	<u> </u>										
	-		CLAY, lea	an, trace shell f	ragments, dark gra	y						₽ "
	-		(CL)									F
							NO					F
	_						NS					E
	Ē											E
-54.0	- - 15.0											E
54.0	-		CAND at	avov troce chelli	frogmonto dorle	T						1
	-		(SC)	ayey, irace sileli	fragments, dark gra	^y						F
	<u> </u>							01:5" " 07	0 1		4 15-1-4	E
	=						С	Classification: SP D50: 0.215		2.5Y 7/ :Fines	1-light g 3.7	ray
	-											F
	-											F
-59.0	20.0					4						<u> </u>
	Ē		NOTES									E
	Ē		NOTES:									E
	<u> </u>		1. Soil	s are field vi	sually classified in	n						E
	-		accordance System.	ce with the Unifie	d Soils Classification	n						ļ.
	<u> </u>		-									Ē
	Ē		 NS = analysis fr 	Sample not sub om this interval.	mitted for laboratory	У						F
			•		mined from 2010							-2

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19424° Long = -88.30964°

Boring Designation BI-PB-043-10

DDI	LLING	100	G (Cont. Sheet)	INSTALLAT	TION			SHEET	2	
DKI	LLING	LUC	G (Cont. Sneet)	Mobile District OF 2 SHEE						
PROJEC				COORDINA	TE SYSTEN	I/DATUM	HORIZONTAL	VERTICAL		
MsCl	P Barrier Is	land F	Restoration	State Pl	ane, MSE	(U.S. Ft.)	NAD83	NAVD88		
LOCATION	ON COORDIN	NATES	•	ELEVATION TOP OF BORING						
X = 1	,149,697	Y = 2	252,849	-39.0 F1	t.					
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIAL	.s	SAMPLE		LABORATORY RES	SULTS		
		_							 	
			USACE survey.						E	
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									F 60	

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19424° Long = -88.30964°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.8		
#20	97.6		
#40	73.3		
#60	23.4		
#100	9.4		
#200	5.8		
	1		
* .			

	Atterberg Limits	
PL=	LL=	PI=
D ₉₀ = 0.5693 D ₅₀ = 0.3340 D ₁₀ = 0.1642	Coefficients $D_{85} = 0.5078$ $D_{30} = 0.2722$ $C_u = 2.24$	D ₆₀ = 0.3682 D ₁₅ = 0.2121 C _c = 1.23
USCS= SP-SM	Classification AASHTC)=
CADD CODE = C	<u>Remarks</u>	

Location: USACE Sample # BI-PB-43-10A **Sample Number:** TE Lab ID: 4612.12

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

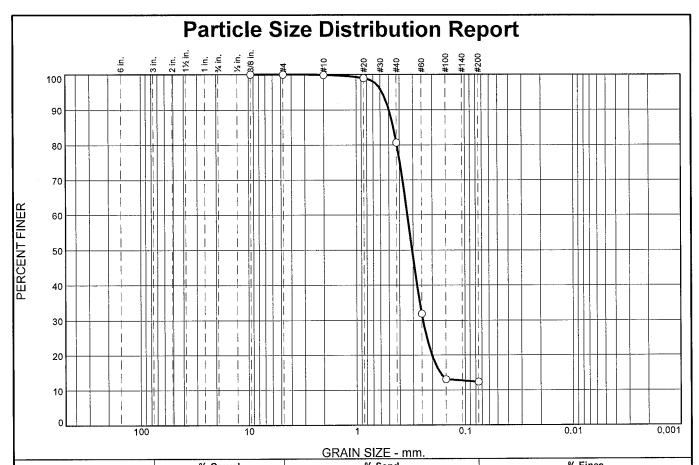
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox



% +3"			% Grave	I.		% Sand	<u> </u>	% Fines	5
		· ·	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
	0.0		0.0	0.0	0.1	19.3	68.2	12.4	
	SIEVE	PERCENT	SPEC.*	PASS	3?		Material	Description	
	SIZE	FINER	PERCENT	(X=N	0)	SILTY S	SAND, (SM), med	ium to fine grained	
	.375	100.0							

SIEVE	FLICEITI	SFLO.	1 700:
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	98.9		
#40	80.6		
#60	31.9		
#100	13.1		
#200	12.4		
I	I	i .	ı

PL=	Atterberg Limits LL=	Pi=		
D ₉₀ = 0.4985 D ₅₀ = 0.3060 D ₁₀ =	Coefficients D85= 0.4534 D30= 0.2435 Cu=	D ₆₀ = 0.3381 D ₁₅ = 0.1698 C _c =		
USCS= SM	Classification AASHTC)=		
$\frac{\text{Remarks}}{\text{CADD CODE} = \text{CH10D965}}$				

Location: USACE Sample # BI-PB-43-10B **Sample Number:** TE Lab ID: 4612.13

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

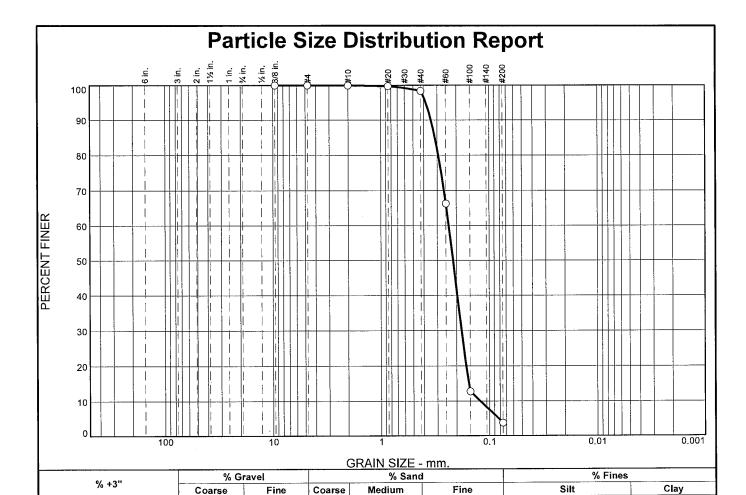
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox Checked By: R.Byrd



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.7		
#40	98.3		
#60	66.3		
#100	12.8		
#200	3.7		
1			
			1
1			

0.0

0.1

1.6

94.6

SAND, (SP), fine	<u>Material Descriptio</u> grained	<u>n</u>		
, , , ,		•		
PL=	Atterberg Limits	PI=		
D ₉₀ = 0.3426 D ₅₀ = 0.2151 D ₁₀ = 0.1212	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D}_{85} = 0.3145 \\ \text{D}_{30} = 0.1804 \\ \text{C}_{\text{U}} = 1.94 \end{array}$	$D_{60} = 0.2353$ $D_{15} = 0.1544$ $C_{c} = 1.14$		
USCS= SP	<u>Classification</u> AASHT	O=		
Remarks CADD CODE = CH10D965				

(no specification provided)

0.0

Location: USACE Sample # BI-PB-43-10C **Sample Number:** TE Lab ID: 4612.14

Depth: 15.0 - 20.0 (ft.)?

Date: 8/7/10

3.7

Thompson Engineering

Client: US Army Corps of Engineers

Project No: 10-2123-0009

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Report No.

Tested By: G.Fancher Checked By: R.Byrd

Boring Designation BI-PB-044-10

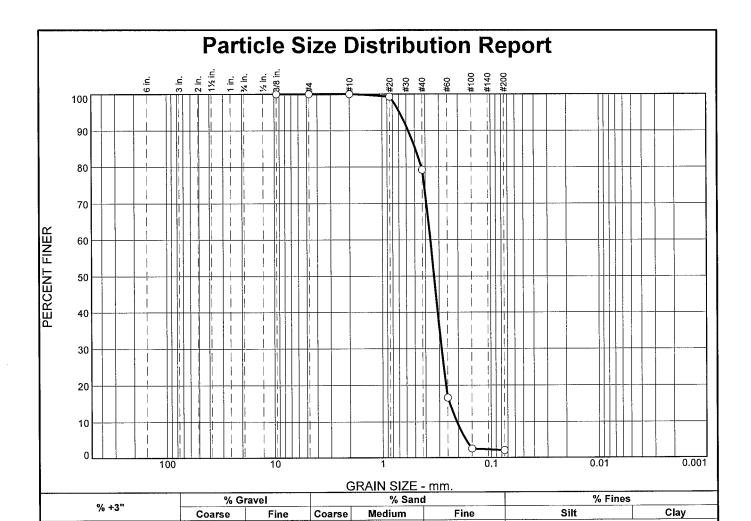
npi	LLING	106	DIVISIO	N		INS	STALLATIO	DN			SHEET	1
		LUG	South	h Atlantic			Mobile Dis	strict			OF 2	SHEETS
1. PRO								TYPE OF BIT N/A	·			
			nd Restoration	on		10.		NATE SYSTEM/DATUM	HORIZON		VERTIC	
	etit Bois Pa			LOCATION COORD	INATES	11.		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NAV JTO HAN	/D88
	I-PB-044-1		`		N = 252,917	l · · ·	Vibra		0. 5	=		IAMMER
3. DRIL	LING AGEN	CY	<u>'</u>	CONT	RACTOR FILE NO.	12	. TOTAL S		STURBED	UN	DISTURI	BED (UD)
	Corps of Engineers - CESAM				12.	. IOIAL	SAMPLES	3	i	0		
	NAME OF DRILLER Construction Solutions International, Inc.				13.	. TOTAL I	NUMBER CORE BOXES					
	CTION OF E			DEG. FROM	BEARING	14.	WATER	DEPTH	38 Ft.			
	VERTICAL INCLINED			VERTICAL		15.	. DATE BO	DRING	STARTED 07-28-	10	COMPL 07-2	ETED 28-10
6. THIC	KNESS OF	OVERE	BURDEN	N/A		16.	. ELEVAT	ION TOP OF BORING	-38.6 Ft.			
7. DEP	TH DRILLED	INTO	ROCK N	√A		17.	. TOTAL F	RECOVERY FOR BORING	100%			
	AL DEDTIL 6					18.		URE AND TITLE OF INSPE	CTOR			
8. 101	AL DEPTH O	F BOR	ing 20.	.0 Ft.		Ļ	Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION OF	MATERIALS		SAMPLE	LABO	RATORY RES	BULTS		
-38.6	0.0											-0
	=	: : :			tly fine to medium	ı-						ĔŤ
	-	[::::]	grained	sand-sized qua , It. gray (SP)	artz, trace she	11						E
	-	$ \cdot \cdot $	nagments,	, it. gray (SP)				Classification:	SP Colo	r: 2.5Y	6/1-gray	, F
							Α	D50: 0.33	331 mm 9	6 Fines	: 2	E
	-	$ \cdots $										Ē
	_	$ \cdot \cdot $										E
	_					╌						5
	_	$ \cdots $										E
	-	$ \cdot \cdot $										F
	-	<u> : :: </u>					Б	Classification: SP	Color: 2	2.5Y 7/	1-light gr	rav F
	_						В	D50: 0.34	Color: 2 28 mm %	Fines:	2.1	Ĺ
	-	$ \cdots $										F
	-	[:::]										F
		$ \cdots $				ł						 1
	_	····										E
	-	[:::]										F
	Ē	-∵-					С	Classification: SP				ray
	-	<u> : : : </u>					~	D50: 0.33	22 mm %	Fines:	2.3	F
	<u> </u>	. ::										E
	Ē	·::·										ŧ.
	<u> </u>	: :::				t						1
	-											F
	<u>E</u>	: ::							_			E
	<u> </u>	[∷∷]					D	Classification: SP D50: 0.35	Color: 2	2.5Y 7/ <i>°</i> Fines:	1-light gr 3.6	ray
	- -	- <u> - - </u>						D30. 0.33	50 Hill 70	11165.	5.0	F
	<u>-</u>	:::										E
-58.6	20.0	:·::										
			NOTES:									<u></u>
	_											F
	Ē		1. Soils	s are field visi	ually classified in Soils Classification	n						F
	-		System.	e with the Offined	Julia Ciassification	''						F
	<u>E</u>		-	Camandat t	althout four leterant							E
			analysis fro	Sample not subnom this interval.	nitted for laboratory	y						-2
	Ē		3. Seafloo	or elevation determ	nined from 2010							E

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19441° Long = -88.30499°

Boring Designation BI-PB-044-10

DRILLING LOG (Cont. Sheet)					ATION			SHEET 2
ROJEC			,		District ATE SYSTEM/DAT	FIIM	HORIZONTAL	OF 2 SHEETS
		sland I	Restoration		Plane, MSE (U.S.		NAD83	NAVD88
	ON COORDI				ON TOP OF BORIN			13.1200
	1,151,166		252,917	-38.6				
LEV.	DEPTH	LEGEND	CLASSIFICATION OF MA	TERIALS	SAMPLE		LABORATORY RE	ESULTS
			USACE survey.					
		1						

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19441° Long = -88.30499°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.3		
#40	79.2		
#60	16.6		
#100	2.5		
#200	2.0		
L		<u>l</u>	

0.0

0.0

20.8

77.2

_	Material Description discrimination Material Description discrimination of the Material Description of the Materia	<u>on</u>		
PL=	Atterberg Limits	PI=		
D ₉₀ = 0.5732 D ₅₀ = 0.3331 D ₁₀ = 0.2068	Coefficients D85= 0.4935 D30= 0.2847 Cu= 1.74	$D_{60} = 0.3595$ $D_{15} = 0.2398$ $C_{c} = 1.09$		
USCS= SP	Classification AASHT	-O=		
Remarks CADD CODE = CH10D965				

* (no specification provided)

0.0

Location: USACE Sample # BI-PB-44-10A **Sample Number:** TE Lab ID: 4612.15

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

2.0

Thompson Engineering

Client: US Army Corps of Engineers

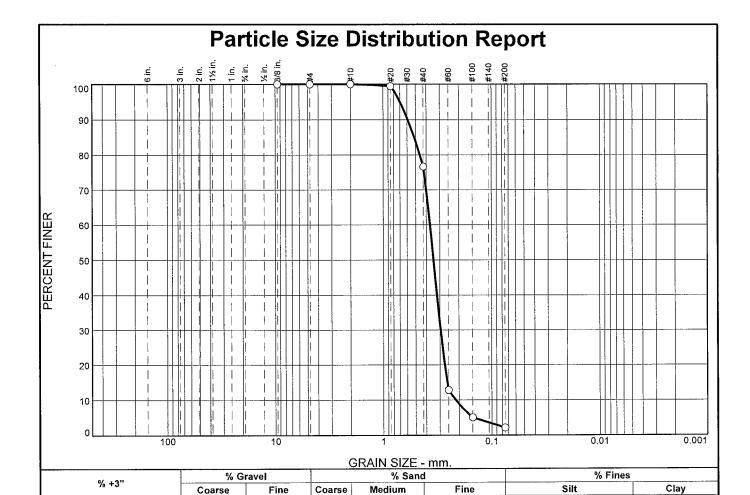
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.4		
#40	76.6		
#60	12.9		
#100	5.1		
#200	2.1		
			1
			İ

0.0

0.0

23.4

74.5

SAND, (SF), me	dium to fine grained			
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.5914 D ₅₀ = 0.3428 D ₁₀ = 0.2143	Coefficients D85= 0.5155 D30= 0.2949 Cu= 1.72	D ₆₀ = 0.3694 D ₁₅ = 0.2566 C _c = 1.10		
USCS= SP	Classification AASHT)=		
Remarks CADD CODE = CH10D965				

0.0

Location: USACE Sample # BI-PB-44-10B **Sample Number:** TE Lab ID: 4612.16

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

2.1

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

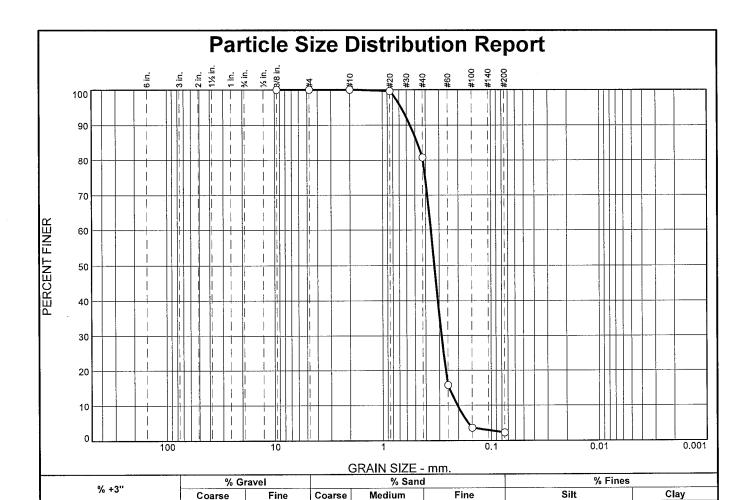
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox Checked By: R.Byrd

⁽no specification provided)



	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	.375	100.0		
	#4	100.0		
	#10	100.0		
	#20	99.6		
ļ	#40	80.8		
	#60	15.8		
	#100	3.7		
	#200	2.3		
			!	
				[
	*	l	<u> </u>	

0.0

0.0

19.2

78.5

Material Description SAND, (SP), medium to fine grained					
PL=	Atterberg Limits	PI=			
D ₉₀ = 0.5555 D ₅₀ = 0.3322 D ₁₀ = 0.2053	Coefficients D85= 0.4763 D30= 0.2858 Cu= 1.74	D ₆₀ = 0.3574 D ₁₅ = 0.2439 C _c = 1.11			
USCS= SP	<u>Classification</u> AASHT	O=			
Remarks CADD CODE = CH10D965					

* (no specification provided)

Location: USACE Sample # BI-PB-44-10C **Sample Number:** TE Lab ID: 4612.17

Depth: 10.0 - 15.0 (ft.)

Date: 8/7/10

2.3

Thompson Engineering

Client: US Army Corps of Engineers

Pr

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

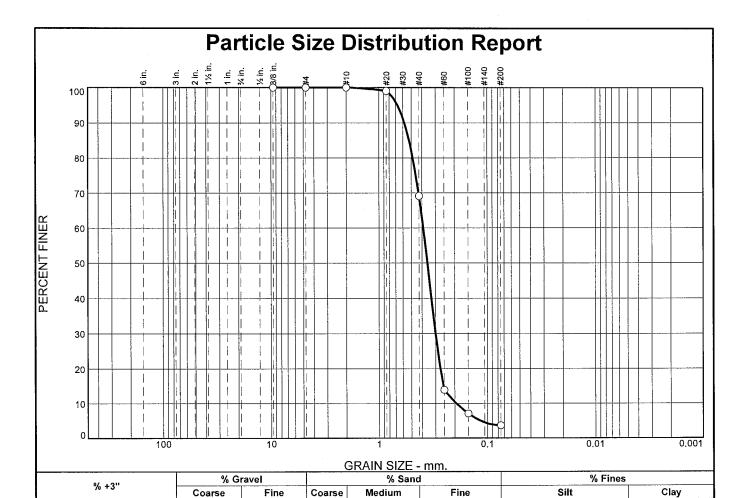
Mobile, Alabama

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox

0.0



 0.0		0.0	0.0	0.0	30.9	65.5		3.6
SIEVE SIZE	PERCENT FINER	SPEC.*	PASS (X=N		SAND	· · · · · · · · · · · · · · · · · · ·	aterial Description m to fine grained	1
.375 #4 #10 #20 #40 #60 #100 #200	100.0 100.0 100.0 99.0 69.1 13.9 7.1 3.6	LINGENT	(X-1)	5)	PL=	<i>``'</i>	Atterberg Limits LL= Coefficients D85= 0.5243 D30= 0.2996 Cu= 2.01	PI= D ₆₀ = 0.3892 D ₁₅ = 0.2541 C _c = 1.19
<i>"200</i>	3.0				D ₁₀ = (0.1934	$C_{u}^{39} = 2.01$	C_{c}^{13} 1.19

(no specification provided)

Location: USACE Sample # BI-PB-44-10D **Sample Number:** TE Lab ID: 4612.18

Depth: 15.0 - 20.0 (ft.)

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

USCS= SP

Project: Contract No. W91278-10-D-0026 - Task 03

CADD CODE = CH10D965

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

AASHTO=

Remarks

Tested By: J.Maddox Checked By: R.Byrd

Boring Designation BI-PB-045-10

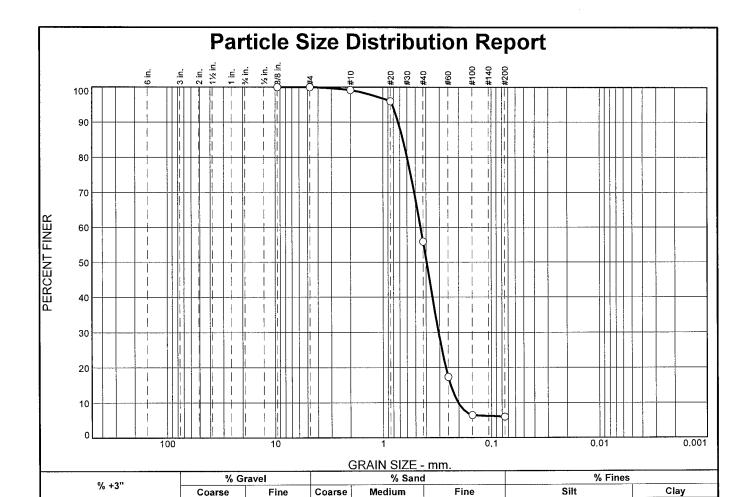
DDI	LLING	1.06	DIVISIO	N			IN	STALLATIO	ON O				SHEE	T 1
		LUG	South	n Atlantic			┸	Mobile Dis	strict				OF 2	SHEETS
1. PRO							_		TYPE OF BIT	N/A				
			d Restoration	on			10		NATE SYSTEM/DA		HORIZON		VERTI	
	etit Bois Pa			OCATION	COOPD	INATES	11		Plane, MSE (U.:		NAD8			VD88
	31-PB-045-1					N = 252,702	1	Vibra		MATION	OF DRILL		NUTO HA	MMER HAMMER
	LING AGEN		<u> </u>			RACTOR FILE NO.				DI	STURBED			RBED (UD)
	Corps of Eng		- CESAM				12	. TOTAL S	SAMPLES		1		0	
	IE OF DRILL						13	. TOTAL I	NUMBER CORE BO	OXES				
	Construction		ns Internat			BEARING	14	. WATER	DEPTH		37 Ft.			
	VERTICAL INCLINED	BURING		DEG. FROM	-	BEARING	15	. DATE BO	DRING		STARTED 07-29-		i	LETED -29-10
6. THI	CKNESS OF	OVERB	JRDEN	N/A		•	16	. ELEVAT	ION TOP OF BOR	ING	-38.8 Ft.			
7. DEP	TH DRILLED	INTO F	OCK N	I/A			17	. TOTAL F	RECOVERY FOR B	ORING	100%			
	AL DEPTH C			0 Ft.			18		URE AND TITLE OF Gillentine, Geo		CTOR			
ELEV.	DEPTH	EGEND			ON OF	MATERIALS		SAMPLE	o Gillerturie, Geo		RATORY RE	SULTS		
20.0	0.0	-												
-38.8	0.0	 					\dashv							-
	Ę.		SAND, po	orly-graded	, mos	tly medium-graine ell fragments, da	ed							E
-40.8	E 2.0	:::	gray (SP)	quaitz, li	JUU 311	on magnificities, de								Ę
	=]:::: `	-	orly-araded	mos	tly medium-grain		Α	Classificati			or: 5Y	5/2-olive	gray
	-			l quartz, dar			⁵⁰	,,	D	050: 0.39	949 mm	% Fine	s: 6	
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	Ė	:-::												E
	E						ŀ							E
	_	·::												E
	Ę	:-::												F
-46.8	F 8.0													F
-40.0	- 0.0													F
	Ę		CLAY, lear	n, dark gray	(CL)									E
	F	<i>V//</i>												F
	F	<i>V//</i>												F
	F													F
	_	V/A												E
	Ē	<i>V//</i> A`	- At El50	.8 Ft., trad	ce me	dium-grained san	d-	NS						E
	Ē	<i>V/A</i>	sized quart	z, It. gray		-								E
	-	V/A												Ŀ
-53.8	15.0	<u> </u>												Ė
	E	:::T	SAND no	orly-araded	. mos	tly medium-grain	$_{\rm ed}$							F
	E		sand-sized	quartz, It. (gray (S	SP)	-							F
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	F	$[\cdots]$												ļ.
-58.8	20.0	<u> </u>												F
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	Ē		NOTES:											E
	<u>F</u>		1. Soils	are fiel	d visi	ually classified	_{in}							Ŀ
	Ė		accordance	e with the l	Jnified	Soils Classification	on							F
	E		System.											F
	F		2. NS =	Sample no	t subn	nitted for laborato	_{rv}							ļ.
	Ē			om this inte			,							Ė
	Ē		3. Seafloo	r elevation	determ	nined from 2010								E

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19380° Long = -88.30038°

Boring Designation BI-PB-045-10

DRI	LLING	LOC	G (Cont. Sheet)	I	INSTALLATION SHEET 2 Mobile District OF 2 SHEETS							
ROJEC			• -1		e District NATE SYSTEM/E	ATUM	HORIZONTAL	VERTICAL				
		sland I	Restoration	I	Plane, MSE (U		NAD83	NAVD88				
	ON COORDI				ON TOP OF BOI		; 10.200	13.1200				
	,152,623		252,702	I	-38.8 Ft.							
LEV.	DEPTH	LEGEND	CLASSIFICATION OF MAT	ERIALS	SAMPLE		LABORATORY RE	ESULTS				
			USACE survey.									

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19380° Long = -88.30038°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.2		
#20	96.0		
#40	55.9		
#60	17.3		
#100	6.5		
#200	6.0		
		1	1

0.0

	Attaulana Limita				
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.7241 D ₅₀ = 0.3949 D ₁₀ = 0.2025	Coefficients D ₈₅ = 0.6540 D ₃₀ = 0.3064 C _u = 2.21	D ₆₀ = 0.4480 D ₁₅ = 0.2374 C _c = 1.04			
USCS= SP-SM	Classification AASHTC)=			
<u>Remarks</u>					

(no specification provided)

Tested By: J.Maddox

0.0

Location: USACE Sample # BI-PB-45-10A **Sample Number:** TE Lab ID: 4612.19

Depth: 0.0 - 5.0 (ft.)

0.8

0.0

43.3

49.9

Date: 8/7/10

6.0

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama

Boring Designation BI-PB-046-10

DR	ILLING	LOG	DIVISION				1	TALLATIO				SHEET	
1. PRO			Sou	ıth Atlantic			_	Mobile Dis				OF 2	SHEETS
							_			/A			
	MsCIP Barri			tion			10.		NATE SYSTEM/DATUM			VERTIC	
	Petit Bois Pa			LOCATION	COOPDI	NATES	11		Plane, MSE (U.S. Ft	,			/D88
	BI-PB-046-1			E = 1,13		N = 251,286	١	Vibra		ION OF DRILL		JTO HAN ANUAL F	IAMMER
	LLING AGEN			1 - 1,10		RACTOR FILE NO.	┢			DISTURBED			BED (UD)
	Corps of En	gineers	- CESAM		!		12.	TOTAL S	SAMPLES	į	i	0	` ′
	IE OF DRILL						13.	TOTAL I	NUMBER CORE BOXES	•			
(Construction	n Solutio	ons Interna	ational, Inc.			144	WATER	DEDTU	37 Ft.			
	ECTION OF	BORING	i	DEG. FRO	М	BEARING	<u> </u>	WAIER	DEPIN	STARTED		COMPL	ETED
	VERTICAL INCLINED				-		15.	DATE BO	DRING	08-06-	10)6-10
6. THI	CKNESS OF	OVERB	URDEN	N/A		•	16.	ELEVAT	ION TOP OF BORING	-35.8 Ft.			
7. DEP	TH DRILLE	O INTO F	ROCK	N/A			17.	TOTAL F	RECOVERY FOR BORIN	IG 100%			
							18.		URE AND TITLE OF IN				
8. TOT	AL DEPTH (OF BORI	NG 20	0.0 Ft.			<u>L</u>	Chris	Gillentine, Geologist	t			
ELEV.	DEPTH	LEGEND	С	LASSIFICATI	ON OF	MATERIALS		SAMPLE	LA	BORATORY RES	BULTS		
-35.8	0.0						コ						
	E		CLAY. fa	t, dark gray	(CH)								E
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	E												E
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	F												F
	F												F
-41.8	6.0												E
	F	\cdots	SAND n	oorly-graded	most	ly fine to mediun	\Box						F
	F	:::	grained s	and-sized qu	ıartz, da	ark gray (SP)	.						F
	Ė			·	•	0 , , ,							E
-44.8	E ₀₀	$ \cdots $											F
-44.0	- 9.0	//											F
	E		CLAY, fa	t, dark gray	(CH)			NS					E
	F							NO					F
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	<u> </u>												E
-55.8	20.0												Ė
55.5	E						\dashv						
	<u> </u>		NOTES:										E
	E		NOTES.										Ē
	Ė		1. So	ils are fiel	d visu	ually classified i	n						F
	E		accordan	ce with the l	Jnified	Soils Classification	n						E
	Ė		System.										ŧ
	F		2. NS =	Sample no	t suhm	nitted for laborator	_v						F
	E			from this inte			'						E
	Ē		3. Seafin	oor elevation	calcula	ted using sampling	a						ŧ
	F		J. Count		Jarouid	acing camping	<u>-</u> ا						F

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19009° Long = -88.34798°

Boring Designation BI-PB-046-10

DRILLING	LOG (Cont. Sheet)	INSTALLA			SHEET 2
OJECT	(District ATE SYSTEM/DATUM	HORIZONTAL	OF 2 SHEETS
	sland Restoration	ı	Plane, MSE (U.S. Ft.)	NAD83	NAVD88
CATION COOR			N TOP OF BORING	10.000	1010200
X = 1,137,591		-35.8 F			
LEV. DEPTH	CLASSIFICATION OF MATE		SAMPLE	LABORATORY RI	ESULTS
LEV. DEPTH	vessel's fathometer water depth applying NOAA tidal gauge dat factor.		SAMPLE	LABORATORY RI	ESULTS

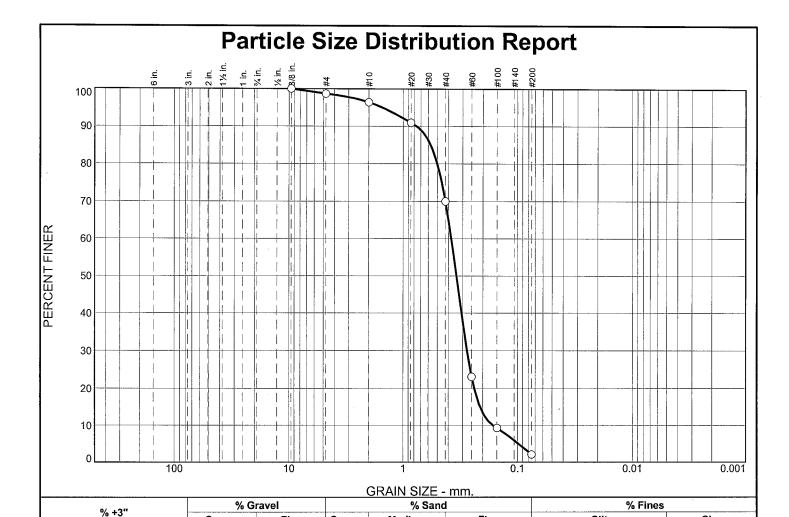
SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19009° Long = -88.34798°

Boring Designation BI-PB-047-10

PROJECT PROJ	DDI	LLING	LOG	DIVISION	N			INS	STALLATIO	ON			SHEET	1
MSCIP Barrier Island Restoration MSCIP Barrier Island Restoration MSCIP Barrier Island Restoration 10. COORDINATE 9 WETGRADATUM MORIZONTAL VERTICAL NAVIDAB 11. MANIFACTURES DESIGNATION OF DRILL AND			LUG	South	n Atlantic			_					OF 1	SHEETS
Belliting Agency Deliting														
2. BORNO CESIGNATION LOCATION COORDINATES March MANUAL HAMMER BI-PS-0.710 E = 1.13 (0.04 M = 25.13.7 MANUAL HAMMER March MANUAL HAMMER MANUA					on			10.			-			
BIPD-047-10 E = 1,139 034 N = 251 372 Viprocore MANUAL HAMMER D BLASSERY CONTRACTOR FILE N 12. TOTAL SAMPLES DISTURBED (UN) TOTAL SAMPLES DISTUR					OCATION C	OOPDIA	JATES	11						
3. DRILING AGENCY CONTRACTOR FILE NO. 12. TOTAL BAMPLES DISTURBED UNDISTURBED (UD)				-				١			N OF DRILL			
4. NAME OF DELIGIORES - CLESSAM CONSTRUCTION SOLUTION INTERNETIONAL, INC. DIRECTION OF DEBING CONSTRUCTION SOLUTION STATEMENT OF BORING DIRECTION OF DEBING CONSTRUCTION STATEMENT OF BORING DIRECTION OF DEBING THE CONTROL OF STATEMENT OF SOURCE THE CONTROL OF STATEMENT OF SOURCE TO STATE SOURCE TO STAT				· ·				42		¦ D	ISTURBED			
Construction Solutions International, Inc. Direction to Boiline □ CHAP, Fall, dark gray (CH) Solution Solution Solutions International Line 14. WATER BORING 15. DATE BORING 15. DATE BORING 16. THICKNESS OF OVERBURDEN NIA 16. ELEVATION TOP OF BORING 17. TOTAL BECOVERY FOR BORING 18. OTAL DEPTH OF BORING 19. SIGNATURE AND TITLE OF INSPECTOR 19. SIGNATURE AND TITLE OF BORING 19. SOLOR SIGNATURE 10. SIGNATURE AND TITLE OF BORING 19. SOLOR SIGNATURE OF BORING 19. SOLOR SIGNATURE OF BORING				- CESAM	i			12.	IOIAL	SAMPLES !	2		0	
5. DIRECTION OF BORING STATED STATE								13.	TOTAL	NUMBER CORE BOXES				
INCLINES 15. DATE BORING 16. OB-06-10 08-06-10						л :	BEARING	14.	WATER	DEPTH	36 Ft.			
7. DEPTH DRILLED INTO ROCK N/A 8. TOTAL DEPTH OF BORING 18.0 Ft. CLASSIFICATION OF MATERIALS SAMPLE CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS Classification: SP Color: 2.5Y 6/2-light brownish gray grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) B Classification: SP Color: 2.5Y 4/2-dark gray/sh brown D50: 0.1913 mm % Fines: 2.1 B Classification: SM Color: 2.5Y 4/2-dark gray/sh brown D50: 0.1913 mm % Fines: 23.4 NS NS NS NS NS NS NOTES: 1. Solls are field visually classified in accordance with the Unified Solis Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	\boxtimes	VERTICAL			VERTICAL			15.	DATE BO	DRING	i	10		
8. TOTAL DEPTH OF BORING 8. TOTAL DEPTH OF BORING 18.0 FL CLASSIFICATION OF MATERIALS 3AMPLE LABORATORY RESULTS A Classification: SP Color: 2.5V 6/2-light brownish gray D50: 0.3398 mm % Fines: 2.1 SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) B Classification: SP Color: 2.5V 6/2-light brownish gray D50: 0.3398 mm % Fines: 2.1 CLAY, fat, dark gray (CH) NS NS NS NS NS NS NS NS NS N	6. THI	CKNESS OF	OVERBU	JRDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-35.0 Ft.			
8. TOTAL DEPTH OF BORING 18.0 Ft. CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS 35.0 0.0 SAMD, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) B Classification: SP Color: 2.5Y 6/2-light brownish gray D50: 0.3398 mm % Fines: 2.1 SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) B Classification: SM Color: 2.5Y 4/2-dark gray/sh brown D50: 0.1913 mm % Fines: 23.4 A1.0 6.0 SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (CH) CLAY, fat, dark gray (CH) NS NS NS NS NS NS NS SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) B Classification: SM Color: 2.5Y 4/2-dark gray/sh brown D50: 0.1913 mm % Fines: 23.4 NS NS NS SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) B Classification: SM Color: 2.5Y 4/2-dark gray/sh brown D50: 0.1913 mm % Fines: 23.4 NS NS SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) B Classification: SM Color: 2.5Y 4/2-dark gray/sh brown D50: 0.1913 mm % Fines: 23.4 NS NS SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) B Classification: SP Color: 2.5Y 6/2-light brownish gray 7. DEP	TH DRILLED	INTO R	OCK N	J/A			17.	TOTAL	RECOVERY FOR BORING	100%				
BLEV. DEPTH				• •				18.	SIGNAT	URE AND TITLE OF INSPI	ECTOR			
-35.0 0.0 SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) Classification: SM Color: 2.5Y 4/2-dark gray/sh brown D50: 0.1913 mm % Fines: 23.4 CLAY, fat, 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. 3. Seafloor elevation calculated using sampling vessel's fathorneter water depth reading and applying NOAA tidal gauge data conversion	8. ТОТ	AL DEPTH (OF BORII	NG 18.	0 Ft.			L,	Chris	Gillentine, Geologist				
SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 2.1 A Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 23.4 A Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 23.4 A Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 23.4 A Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 23.4 A Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 23.4 A Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 2.1 A Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 2.1 B Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 2.1 NS NS NS A Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 2.1 NS NS SanD, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) B Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 2.1 NS NS NS SanD, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) B Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 2.1 NS NS SanD, poorly-graded, mostly fine to medium-grained sand-sized guartz, gray (SP) B Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 2.1 NS NS SanD, poorly-graded, mostly fine to medium-grained sand-sized guartz, gray (SP) B Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 2.1 NS SanD, poorly-graded, gray (SP) SanD, poor	ELEV.	DEPTH	LEGEND	CLA	ASSIFICATIO	ON OF W	IATERIALS		SAMPLE	LABO	PRATORY RE	SULTS		
SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) B Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 23.4 A Classification: SM Color: 2.5Y 4/2-dark grayish brown D50: 0.1913 mm % Fines: 23.4 NNS NS 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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tital gauge data conversion	-35.0	0.0												
SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) B Classification: SM Color: 2.5Y 4/2-dark gray/sh brown D50: 0.1913 mm % Fines: 23.4 CLAY, fat, dark 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. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	27.0							1-	Α			6/2-ligh Fines:	t brown 2.1	L L
Classification: SM Color: 2.5Y 4/2-dark gray/sh brown D50: 0.1913 mm % Fines: 23.4 A1.0 6.0 CLAY, fat, dark gray (CH) NS NS 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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	-37.0	- 2.0 -	╂┈┼	_				╌						-
B Classification: SM Color: 2.5Y 4/2-dark gray/sh brown D50: 0.1913 mm % Fines: 23.4 CLAY, fat, dark gray (CH) NS NS 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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		Ē.						1-						E
D50: 0.1913 mm % Fines: 23.4 CLAY, fat, dark gray (CH) NS NS NS NS NS NS NS NS NS N		Ė		grained sai	na-sizea qua	artz, gra	ay (SP)		_	Classification: SM	Color: 2 5Y	4/2-dar	k aravis	sh brown
-41.0 6.0 CLAY, fat, dark gray (CH) NS NS NS NS NS NS NS NS NS N		E	-::-						В	D50: 0.19	13 mm %	Fines:	23.4	E
CLAY, fat, dark gray (CH) NS NS NS NS NS NS NS NS NS N		_												E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	-41.0	E 6.0	$[\cdots]$											F
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E		CLAY fat	dark gray (CH)								F
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		F		OLAT, Idi,	dark gray (OI I)								F
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		<u>E</u>												E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		Ē												E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E												E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		<u> </u>												Ŀ
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		F												F
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		F												F
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		-							NS					F
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		Ē												E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		Ė												E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		F												F
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E												E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		Ē												F
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E												E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		<u> </u>												E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	-53.0	18.0												E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		Ė												E
accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E		NOTES:										E
accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E		1 Soile	are field	l vieus	ally classified i	_n						E
2. NS = Sample not submitted for laboratory analysis from this interval. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		F		accordance	e with the U	Inified S	Soils Classificatio	''						F
analysis from this interval. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		F												E
3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		<u> </u>					tted for laborator	у						E
vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E		analysis IIC	JIII GII III III	vai.								F
L applying NOAA tidal gauge data conversion		E												E
		F		vessel's fa	atnometer w	vater d	epth reading an	d						į.
<u> </u>		E			NOMA (IUdl	yauge	uata CUTVEISIO	"						E
	L	<u> </u>						_						E

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19031° Long = -88.34341°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	98.7		
#10	96.4		
#20	90.9		
#40	70.0		
#60	23.1		
#100	9.3		
#200	2.1		

Coarse

0.0

Fine

1.3

Coarse

2.3

Medium

26.4

Fine

67.9

PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.7598 D ₅₀ = 0.3398 D ₁₀ = 0.1624	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D}_{85} = 0.5732 \\ \text{D}_{30} = 0.2743 \\ \text{C}_{\text{U}} = 2.32 \end{array}$	D ₆₀ = 0.3773 D ₁₅ = 0.2115 C _c = 1.23			
USCS= SP	Classification AASHT()=			
Remarks CADD CODE = CH10D965					

Silt

2.1

Clay

(no specification provided)

Tested By: G.Fancher

0.0

Location: USACE Sample # BI-PB-47-10A **Sample Number:** TE Lab ID: 4622.31

Depth: 0.0 - 2.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

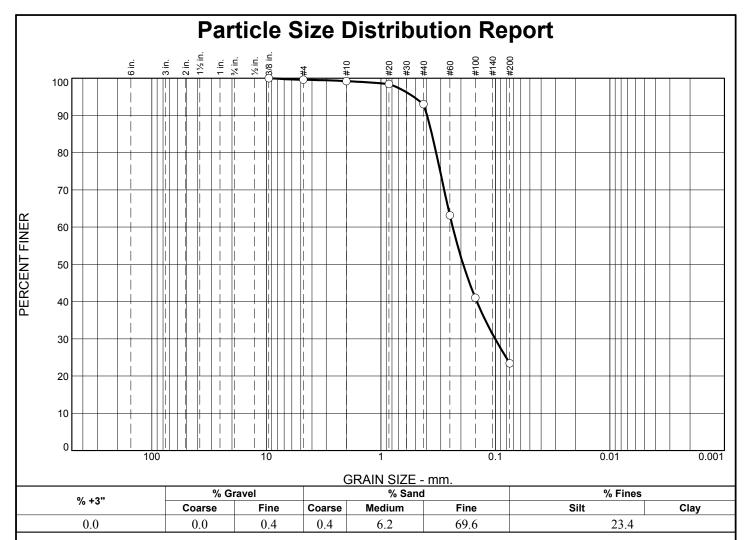
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.6		
#10	99.2		
#20	98.4		
#40	93.0		
#60	63.2		
#100	41.0		
#200	23.4		
*			

·	Material Description SILTY SAND, (SM), fine grained, with clay pockets							
PL=	Atterberg Limits	PI=						
D ₉₀ = 0.3956 D ₅₀ = 0.1913 D ₁₀ =	Coefficients D ₈₅ = 0.3589 D ₃₀ = 0.1006 C _u =	D ₆₀ = 0.2361 D ₁₅ = C _c =						
USCS= SM	Classification AASHT	O=						
CADD CODE =	Remarks CADD CODE = CH10D965							

* (no specification provided)

Location: USACE Sample # BI-PB-47-10B **Sample Number:** TE Lab ID: 4622.32

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 10-2123-0009 Report No.

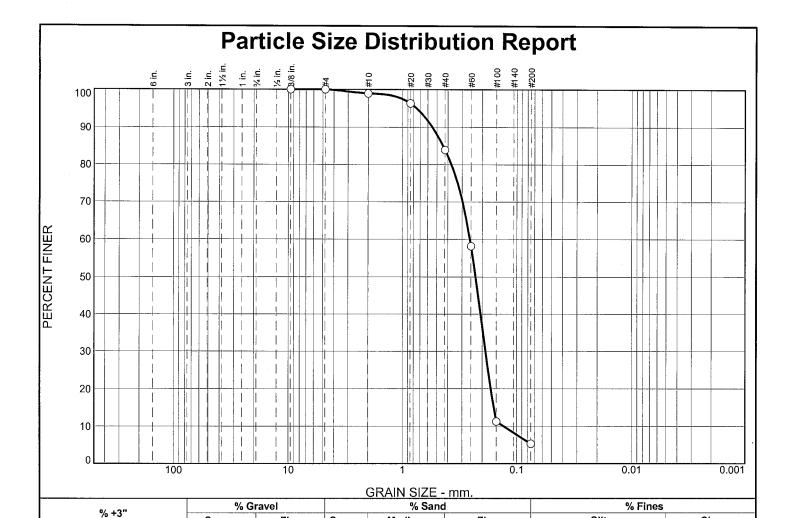
Tested By: G.Fancher Checked By: R.Byrd

Boring Designation BI-PB-051-10

NDI	LLING	LOG	DIVISION			INS	TALLATIO	ON			HEET	1
		LUG	South Atlantic			_	Mobile Dis			- 0	OF 1	SHEETS
1. PRO						$\overline{}$		TYPE OF BIT N/A				
			Restoration			10.		NATE SYSTEM/DATUM	HORIZONT		ERTIC	
	etit Bois Pa		East LOCATION	I COOPD	INATES	11		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83			D88
	3I-PB-051-1		1		N = 251,351	١	Vibra		OF DRILL	_	O HAN	IMER IAMMER
	LING AGEN		1		RACTOR FILE NO.	42		¦ D	ISTURBED			BED (UD)
	Corps of Eng		· CESAM	<u>i</u>		12.	TOTAL	SAMPLES	1	0		
	E OF DRILL					13.	TOTAL I	NUMBER CORE BOXES				
	CONSTRUCTION OF E		ns International, Inc		BEARING	14.	WATER	DEPTH	36 Ft.			
\boxtimes	VERTICAL INCLINED		VERTIC	AL		15.	DATE B	DRING	STARTED 08-06-	i	OMPL 08-0	ETED 16-10
6. THI	CKNESS OF	OVERBU	IRDEN N/A			16.	ELEVAT	ION TOP OF BORING	-35.4 Ft.			
7. DEP	TH DRILLED	INTO R	OCK N/A			17.	TOTAL I	RECOVERY FOR BORING	100%			
						18.	SIGNAT	URE AND TITLE OF INSPE	CTOR			
8. TOT	AL DEPTH C	F BORIN	IG 14.7 Ft.			L,	Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CLASSIFICA	TION OF	MATERIALS		SAMPLE	LABO	RATORY RES	BULTS		
-35.4	0.0				-	\Box			•			
			SAND, poorly-grade grained sand-size fragments, It. tan/gr	ed qua			А	Classification: SP-SM D50: 0.22		Y 6/2-ligh Fines: 5		nish gray
-39.4	4.0											
-50.1			CLAY, fat, dark gra	y (GII)			NS					
			NOTES: 1. Soils are f accordance with the System. 2. NS = Sample analysis from this in 3. Seafloor elevation vessel's fathomete applying NOAA tighted factor.	e Unified not subn iterval. on calcular water	nitted for laborator ated using samplin depth reading an	ry g						

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19016° Long = -88.31949°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	98.9		
#20	96.3		
#40	83.9		
#60	58.2		
#100	11.3		
#200	5.3		

Coarse

0.0

Fine

0.0

Coarse

1.1

Medium

15.0

Fine

78.6

	laterial Description									
SAND, (SP-SM), n	SAND, (SP-SM), medium to fine grained, with clay pockets									
PL=	Atterberg Limits LL=	PI=								
D ₉₀ = 0.5482 D ₅₀ = 0.2282 D ₁₀ = 0.1292	Coefficients D85= 0.4420 D30= 0.1868 Cu= 1.98	D ₆₀ = 0.2558 D ₁₅ = 0.1580 C _c = 1.06								
USCS= SP-SM	<u>Classification</u> AASHTO	=								
Remarks CADD CODE = CH10D965										

Silt

5.3

(no specification provided)

Tested By: G.Fancher

0.0

Location: USACE Sample # BI-PB-51-10A **Sample Number:** TE Lab ID: 4622.34

Depth: 0.0 - 4.0 (ft.)

Date: 8/15/10

Clay

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama

Boring Designation BI-PB-052-10

DDI	LLING	106	DIVISION	N		INST	TALLATIO	ON			SHEET 1	
		LUG	South	n Atlantic		Mobile District OF 2 SHEETS					IEETS	
1. PRO								TYPE OF BIT N/A	,			
			nd Restoratio	on		10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, MSE (U.S. Ft.) NAD83 NAVD88						
	etit Bois Pa			OCATION COO	RDINATES	State Plane, MSE (U.S. Ft.) NAD83						
	I-PB-052-1				29 N = 251,332	l	Vibra		N OF DRILL		TO HAMME	
	LING AGEN		<u> </u>		ONTRACTOR FILE NO.							(UD)
	orps of Eng		- CESAM	<u> </u>		12.	TOTALS	AMPLES	2)	
	E OF DRILL			land lan		13.	TOTAL N	NUMBER CORE BOXES				
	CTION OF		ons Internati		BEARING	14.	WATER	DEPTH	40 Ft.			
	VERTICAL INCLINED			DEG. FROM VERTICAL		15.	DATE BO	DRING	STARTED 08-06-1	i	COMPLETE 08-06-1	
6. ТНІС	KNESS OF	OVERE	BURDEN	N/A		16.	ELEVAT	ION TOP OF BORING	-40.1 Ft.			
7. DEP	TH DRILLED	INTO	ROCK N	I/A		17.	TOTAL F	RECOVERY FOR BORING	100%			
						18.		URE AND TITLE OF INSPI	ECTOR			
8. TOT	AL DEPTH C	F BOR	ing 20.0	0 Ft.		Ц_	Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATION	OF MATERIALS	s	SAMPLE	LABO	PRATORY RES	ULTS		
-40.1	0.0					T						
	=		CLAY, fat,	dark gray (CH	ł)							ŧŤ
	-											F
	_											F
	_						NS					Ē.
	_											E
<u>, </u>	<u> </u>											F
-45.1	5.0					+						5
	-		SAND, we	ell-graded, mos	stly fine-grained sand	I-						E
	-	ه ٥ ٥	sized quart	z, İt gray/tan (SW)							Ė
		000					^	Classification: SF	Color: 2	.5Y 7/1	-light gray	E
	<u> </u>						Α	D50: 0.21	89 mm %	Fines:	1.2	E
		٥٥٥										E
	-	000										E
	-	0 0 0				\vdash						 1
	<u> </u>	٥٥٥										E
		000										F
	Ē	0000					В	Classification: SF				F
	<u></u>	000						D50: 0.19	937 mm %	rines:	υ. Ι	F
	<u> </u>	<i>°°°°</i>										E
	<u> </u>	000										F <i>_</i>
	Ē	000							<u> </u>			<u>_</u> 1
	- E	000										F
-57.1	17.0	• • •				_						E
	<u> </u>	[:::	SAND, poo	orly-graded, da	rk gray (SP)		NS					E
	Ē	$ \cdots $										F
	-	-::-										F
-60.1	20.0					\perp						<u> </u>
	<u>-</u> -		NOTES:									E -
	E		1. Soils	are field	visually classified in	n						E
	<u> </u>		accordance System.	e with the Unif	ied Soils Classification	n						E
	<u>-</u>		2. NS = S analysis fro	Sample not su om this interval	ubmitted for laborator	у						<u>-</u> -2
	- - - -		•		culated using sampling	3						

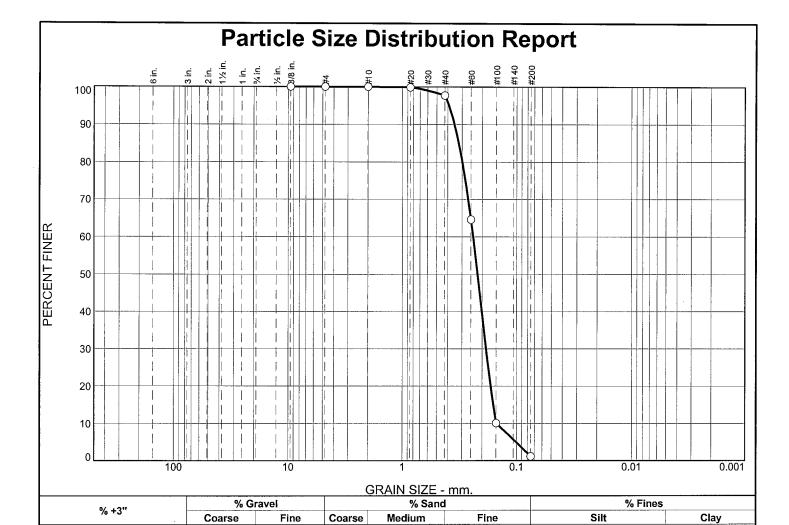
SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19009° Long = -88.31494°

Boring Designation BI-PB-052-10

DRILLII	RILLING LOG (Cont Sheet)						SHEET 2 OF 2 SHEETS		
OJECT		,	Wobile District						
MSCIP Barrier Island Restoration			COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, MSE (U.S. Ft.) NAD83 NAVD88						
				N TOP OF BORING			1011200		
X = 1,148,0		251,332	-40.1 F						
LEV. DEPTH			IALS	SAMPLE	LABOR	ATORY RESU	LTS		
EV. DEP	LEGEN	vessel's fathometer water depth applying NOAA tidal gauge data factor.		SAMPLE	LABOR	ATORY RESU	ILTS		

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19009° Long = -88.31494°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	97.7		
#60	64.6		
#100	10.1		
#200	1.2		

0.0

0.0

0.0

2.3

96.5

	Material Description	<u>n</u>					
SAND, (SP), fine	grained						
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.3492 D ₅₀ = 0.2189 D ₁₀ = 0.1486	Coefficients D ₈₅ = 0.3203 D ₃₀ = 0.1843 C _u = 1.61	D ₆₀ = 0.2393 D ₁₅ = 0.1592 C _c = 0.96					
USCS= SP	Classification AASHT()=					
Remarks CADD CODE = CH10D965							

(no specification provided)

0.0

Location: USACE Sample # BI-PB-52-10A **Sample Number:** TE Lab ID: 4622.35

Depth: 5.0 - 10.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

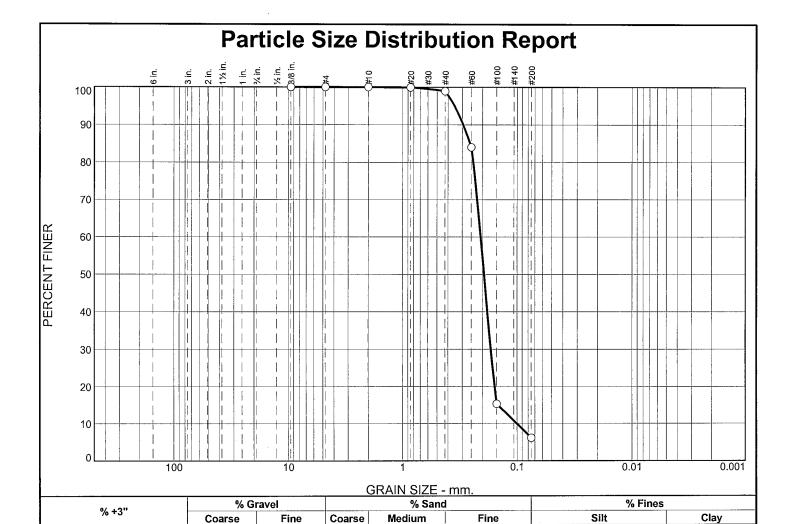
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009 Report No.

Mobile, Alabama

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Tested By: G.Fancher Checked By: R.Byrd



	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	.375	100.0	·	
ı	#4	100.0		
į	#10	100.0		
	#20	99.9		
	#40	98.9		
	#60	84.0		
	#100	15.3		
	#200	6.1		

0.0

0.0

0.0

M SAND, (SP-SM), fi	aterial Description ne grained	1				
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.2952 D ₅₀ = 0.1937 D ₁₀ = 0.1004	Coefficients D85= 0.2564 D30= 0.1691 Cu= 2.06	D ₆₀ = 0.2070 D ₁₅ = 0.1467 C _c = 1.38				
USCS= SP-SM	Classification AASHTC)=				
Remarks CADD CODE = CH10D965						

(no specification provided)

0.0

Location: USACE Sample # BI-PB-52-10B **Sample Number:** TE Lab ID: 4622.36

Depth: 10.0 - 15.0 (ft.)

Date: 8/15/10

6.1

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

92.8

Project No: 10-2123-0009

Report No.

Mobile, Alabama

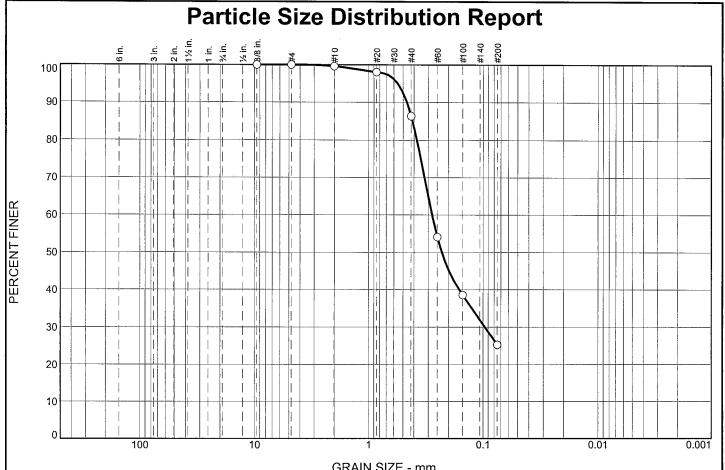
Tested By: G.Fancher

Boring Designation BI-PB-053-10

ופת	LLING	I UG	DIVISION	ON			IN	STALLATIO	ON		SHEET	Г 1
			Sou	uth Atlantic			-	Mobile Dis			OF 1	SHEETS
1. PRO		on lal-	nd Danter	tion			$\overline{}$		TYPE OF BIT N/A NATE SYSTEM/DATUM HORIZON	rai .	VERTIC	201
	IsCIP Barri etit Bois Pa			tion			'''		Plane, MSE (U.S. Ft.) NAD83	-		/D88
	ING DESIGN			LOCATION C	OORDI	NATES	11.		ACTURER'S DESIGNATION OF DRILL		TO HA	
В	I-PB-053-1	0		E = 1,149	9,681	N = 251,438		Vibra	icore			HAMMER
_	LING AGEN				CONT	RACTOR FILE NO.	12	. TOTAL S	DISTURBED	i		BED (UD)
	orps of Eng	_	s - CESAM		! !		⊢		4	()	
			ons Interna	ational, Inc.			13	. TOTAL I	NUMBER CORE BOXES			
5. DIRE	CTION OF I			DEG. FROM	VI	BEARING	14	. WATER				
	VERTICAL INCLINED			VERTICAL			15	. DATE BO	DRING STARTED 08-07-	i	COMPL 08-	07-10
6. THIC	KNESS OF	OVERB	URDEN	N/A			⊢		ION TOP OF BORING -37.1 Ft.			
7. DEP	TH DRILLED	INTO	ROCK	N/A					RECOVERY FOR BORING 100%			
8. ТОТ	AL DEPTH C	F BOR	ING 1	8.0 Ft.			18		URE AND TITLE OF INSPECTOR Gillentine, Geologist			
ELEV.	DEPTH	LEGEND	c	LASSIFICATIO	ON OF I	MATERIALS		SAMPLE	LABORATORY RES	SULTS		
-37.1	0.0	+ - +					\dashv					
	=	::::	SAND 2	oorly-graded,	dark o	rav (SP)	1					0
	<u>-</u>	:::	ORIND, PI	oony-graucu,	uain gi	ay (Oi)						F
	<u> </u>								Classification: SM Color: 2.5	V E/2 c	rovich	brown E
-40.1	3.0]: ::[Α	Classification: SM Color: 2.5 D50: 0.2292 mm %	Fines: 2	25.3	biowii E
	=]::::[SAND. p	oorly-graded.	mostl	y fine to medium	ı-					E
	<u></u> _			and-sized qua								E
	<u>-</u>	:::					ŀ					5
	_	 .∵.										E
	_											E
	- -							В		: 2.5Y 8		e E
	- - -	ŀ∷·∣						5	D50: 0.2843 mm %	Fines:	3.1	F
	_	::::										E
		- : :										Ē,
	=						Ī					
	<u></u> _											E
	<u>-</u>	[∷:]							Classification: SP Color	: 2.5Y 8	1/1-whit	· -
	_	.::.						С	D50: 0.25 mm % I			Ĕ.
	<u> </u>	<u> ::: </u>										ŧ
	Ē	····										E
	<u> </u>	<u> : : : </u>					ł					 1
	-	- : :						_	Classification: SP-SM Col	lor: 2.5Y	′ 8/1-w	hite E
		:::						D		Fines:		E
-55.1	- - 18.0											F
												E
	_		NOTES:									F
	<u>-</u> -		1. So	ils are field	d visu	ally classified i	n					E-20
	_		accordan	ice with the U	Jnified	Soils Classificatio	n					E
	_		System.									E
			2. NS = analysis t	 Sample not from this inter 	t subm rval.	itted for laborator	у					Ē
	_		3 Seefle	oor elevation (calcula	ted using samplin	a					Ė
			vessel's	fathometer v	water c	depth reading an e data conversion	d					- - - - 29
	-											E

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19036° Long = -88.30971°



				JIVAIN SIZE -	1111111.			
% +3"	% Gı	ravel		% Sand		% Fines		
<i>7</i> ₀ +3	Coarse Fine		Coarse Medium		Fine	Silt	Clay	
0.0	0.0	0.0	0.4	13.2	61.1	25.3		

(X=NO)
(V-140)

Material Description											
SILTY SAND, (SM), medium to fine grained, with clay pockets											
PL=	Atterberg Limits LL=	PI=									
D ₉₀ = 0.4627 D ₅₀ = 0.2292 D ₁₀ =	Coefficients D ₈₅ = 0.4132 D ₃₀ = 0.0962 C _u =	D ₆₀ = 0.2777 D ₁₅ = C _c =									
USCS= SM	Classification AASHTO=										
CADD CODE = CH	Remarks 110D965										

(no specification provided)

Location: USACE Sample # BI-PB-53-10A **Sample Number:** TE Lab ID: 4622.37

Depth: 0.0 - 5.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

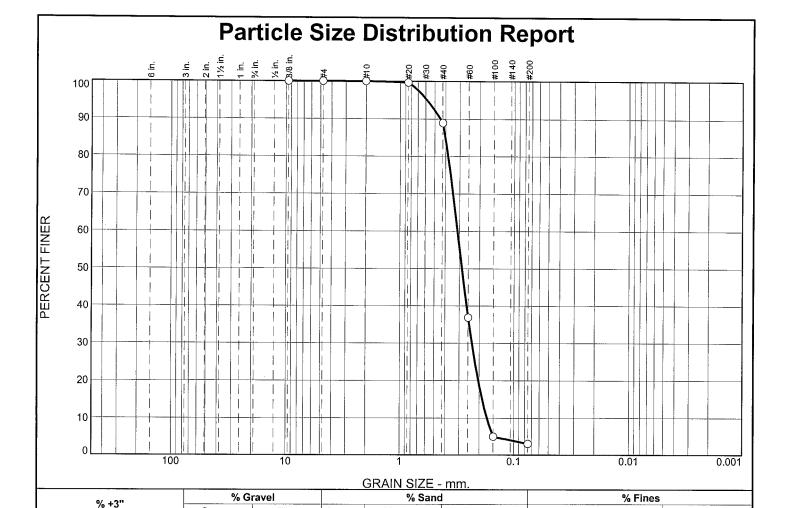
Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

Tested By: G.Fancher Checker



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.7		
#40	88.9		
#60	36.8		
#100	5.0		
#200	3.1		

Coarse

0.0

Material Description SAND, (SP), medium to fine grained										
PL=	Atterberg Limits LL=	PI=								
D ₉₀ = 0.4462 D ₅₀ = 0.2843 D ₁₀ = 0.1710	Coefficients D85= 0.4029 D30= 0.2318 Cu= 1.82	D ₆₀ = 0.3119 D ₁₅ = 0.1881 C _c = 1.01								
USCS= SP	Classification AASHT	O=								
Remarks CADD CODE = CH10D965										

Silt

3.1

Clay

(no specification provided)

0.0

Location: USACE Sample # BI-PB-53-10B **Sample Number:** TE Lab ID: 4622.38

Depth: 5.0 - 10.0 (ft.)

Coarse

0.0

Fine

0.0

Medium

11.1

Fine

85.8

Date: 8/15/10

Thompson Engineering

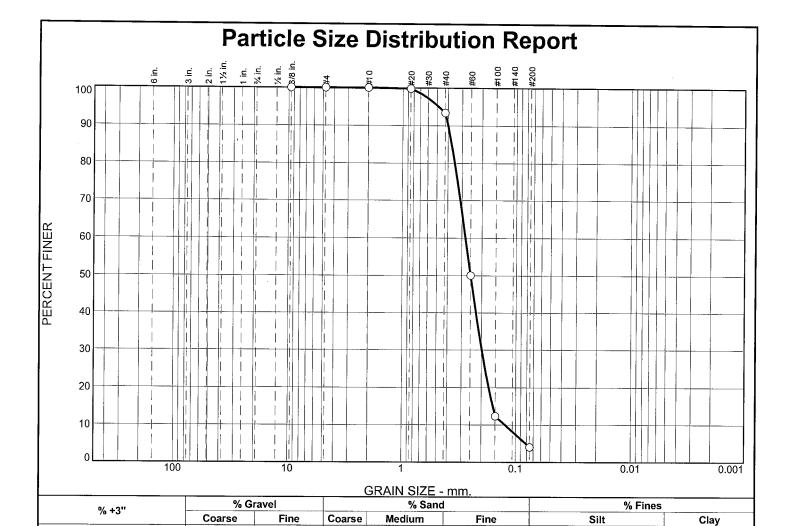
Client: US Army Corps of Engineers

Mobile, Alabama

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009 **Report No.**

Tested By: G.Fancher Checked By: R.Byrd



	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
i	.375	100.0		
	#4	100.0		
	#10	100.0		
	#20	99.8		
	#40	93.4		
	#60	50.0		
	#100	12.3		
	#200	4.1		
ı				
١				
١				
-				
L	*			

0.0

0.0

0.0

6.6

89.3

	Material Description SAND, (SP), fine grained										
PL=	Atterberg Limits	Pl=									
D ₉₀ = 0.3998 D ₅₀ = 0.2500 D ₁₀ = 0.1234	Coefficients D85= 0.3713 D30= 0.1983 Cu= 2.25	D ₆₀ = 0.2781 D ₁₅ = 0.1583 C _c = 1.15									
USCS= SP	<u>Classification</u> AASHT	O=									
CADD CODE = 0	Remarks CH10D965										

(no specification provided)

0.0

Location: USACE Sample # BI-PB-53-10C **Sample Number:** TE Lab ID: 4622.39

Depth: 10.0 - 15.0 (ft.)

Date: 8/15/10

Clay

4.1

Thompson Engineering

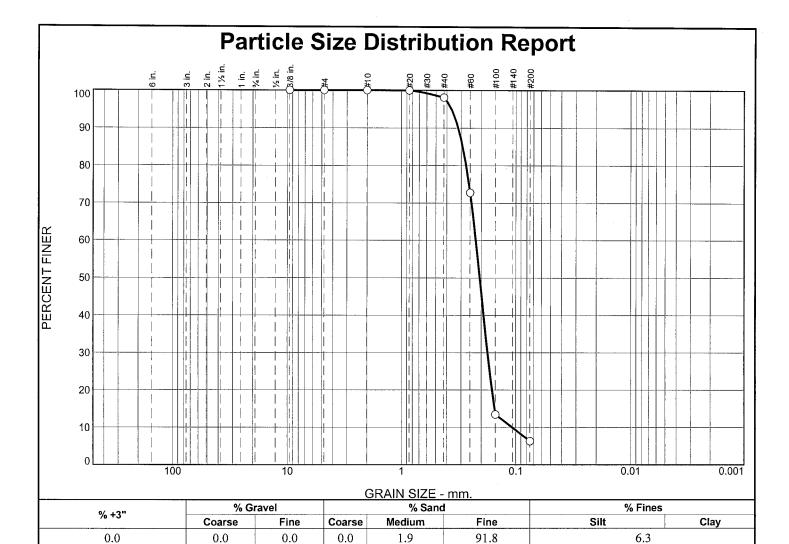
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mobile, Alabama

Mississippi Barrier Island Restoration Project **Project No:** 10-2123-0009 Report No.

Tested By: G.Fancher Checked By: R.Byrd



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	98.1		
#60	72.8		
#100	13.4		
#200	6.3		
İ			

M SAND, (SP-SM), fi	aterial Description ne grained	<u>n</u>
PL=	Atterberg Limits	PI=
D ₉₀ = 0.3188 D ₅₀ = 0.2058 D ₁₀ = 0.1077	Coefficients D85= 0.2910 D30= 0.1758 Cu= 2.07	D ₆₀ = 0.2229 D ₁₅ = 0.1528 C _c = 1.29
USCS= SP-SM	Classification AASHTO	
CADD CODE = Cl	Remarks H10D965	

(no specification provided)

Location: USACE Sample # BI-PB-53-10D **Sample Number:** TE Lab ID: 4622.40

Depth: 15.0 - 18.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Report No.

Mobile, Alabama

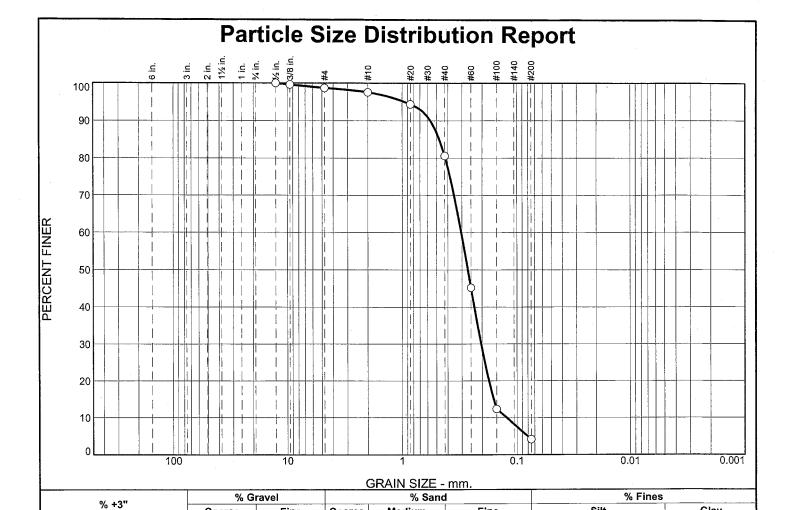
Project No: 10-2123-0009

Tested By: G.Fancher

Boring Designation BI-PB-054-10

DRIL	LING I	LOG	DIVISIO				IN	STALLATIO				SHEET	
1. PROJE			Sout	h Atlantic			+	Mobile Di				OF 1	SHEETS
			-				_			N/A			
			Restoration	on			10		NATE SYSTEM/DATU			VERTIC	
2. BORING	it Bois Pa			LOCATION C	COOPD	INATES	11		Plane, MSE (U.S. FACTURER'S DESIGNA				/D88
	PB-054-10					N = 251,371	''	Vibra		TION OF BRILE		UTO HAI	MMER HAMMER
3. DRILLI						RACTOR FILE NO				DISTURBED			BED (UD)
	ps of Eng		CESAM		! !		12	. TOTAL S	SAMPLES	1	!	0	
4. NAME							13	. TOTAL I	NUMBER CORE BOXE	:S			
			s Internat	ional, Inc.		1	14	. WATER	DEPTH	40 Ft.			
_	FION OF B RTICAL CLINED	ORING		DEG. FROI VERTICAL	M	BEARING	\vdash	. DATE BO		STARTED 08-09-	10	COMPL	. ETED 09-10
6. THICK		OVERBU	RDEN	: N/A		<u>'</u>	16	. ELEVAT	ION TOP OF BORING		10	; 00-1	09-10
7. DEPTH	DBILLED	INTO DO	ock v	V/A			17	. TOTAL I	RECOVERY FOR BOR	ING 100%			
7. DEFIN	DRILLED	IN TO KC	TOR	W/A			18	. SIGNAT	URE AND TITLE OF I	NSPECTOR			
8. TOTAL	DEPTH O	F BORIN	G 17.	.5 Ft.				Chris	Gillentine, Geologi	ist			
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION	ON OF	MATERIALS		SAMPLE	ι	ABORATORY RE	SULTS		
-38.6	0.0				_						_		
-40.1	1.5	::: c	coarse-gra	ined sand-	sized	ostly medium quartz, trace sh	to ell	Α	Classification: SP D50:	Color: 2.5Y 0.2663 mm %	6/2-lig Fines	ht brown : 4.2	
-56.1	17.5					d sand-sized quar	ttz,	NS					
		1 2 2 3 3 3 4 3 5 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	accordanc System. 2. NS = analysis from the second	Sample no om this inte or elevation athometer	Jnified t subm rval. calcula water	ually classified Soils Classificati nitted for laborate ated using sampli depth reading a e data conversi	on ory ng nd						

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19016° Long = -88.30524°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.500	100.0		
.375	99.6		
#4	98.7		
#10	97.5		
#20	94.4		
#40	80.6		
#60	45.2		
#100	12.4		
#200	4.2		
	}		
	.500 .375 #4 #10 #20 #40 #60 #100	SIZE FINER .500 100.0 .375 99.6 #4 98.7 #10 97.5 #20 94.4 #40 80.6 #60 45.2 #100 12.4 #200 4.2	SIZE FINER PERCENT .500 100.0 .375 99.6 #4 98.7 #10 97.5 #20 94.4 #40 80.6 #60 45.2 #100 12.4 #200 4.2 4.2

Coarse

0.0

PL=	Atterberg Limits LL=	PI=							
D ₉₀ = 0.5663 D ₅₀ = 0.2663 D ₁₀ = 0.1227	Coefficients D ₈₅ = 0.4726 D ₃₀ = 0.2035 C _u = 2.48	D ₆₀ = 0.3044 D ₁₅ = 0.1589 C _c = 1.11							
USCS= SP	Classification AASHTO)=							
Remarks CADD CODE = CH10D965									

Material Description

Silt

4.2

(no specification provided)

0.0

Location: USACE Sample # BI-PB-54-10A **Sample Number:** TE Lab ID: 4636.01

Depth: 0.0 - 1.5 (ft.)

Coarse

1.2

Fine

1.3

Medium

16.9

Date: 8/18/10

Clay

Thompson Engineering

Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Fine

76.4

Mobile, Alabama

Project No: 10-2123-0009

Client: US Army Corps of Engineers

Report #:

Tested By: R.Martin

Boring Designation BI-PB-057-10

DDI	LLING	LOG	DIVISION		INSTAL	LATIC	ON		SH	IEET 1
		LUG	South Atlantic			le Dis			OF	1 SHEETS
1. PRO							TYPE OF BIT N/A			
			nd Restoration				NATE SYSTEM/DATUM	HORIZON	ł	RTICAL
	etit Bois Pa			COORDINATES			Plane, MSE (U.S. Ft.)	NAD83		NAVD88 HAMMER
В	II-PB-057-1	10	E = 1,1	30,175 N = 249,800		Vibra	core		_	IAL HAMMER
	LING AGEN			CONTRACTOR FILE NO.	12. TO	TAL S	AMPLES	STURBED	i	TURBED (UD)
	Corps of En		s - CESAM	1				0	0	
			ons International, Inc.		13. TO	TAL N	IUMBER CORE BOXES			
5. DIRE	CTION OF			OM BEARING	14. WA	TER	DEPTH	38 Ft.		
_	VERTICAL INCLINED		VERTICA	AL	15. DA	TE BO	DRING	STARTED 08-06-	i	MPLETED 08-06-10
6. THIC	CKNESS OF	OVERE	SURDEN N/A		16. ELI	EVAT	ION TOP OF BORING	-36.7 Ft.		
7. DEP	TH DRILLE	INTO	ROCK N/A				RECOVERY FOR BORING	100%		
8 TOT	AL DEPTH (DE POP	ING 15.3 Ft.				URE AND TITLE OF INSPE	CTOR		
0. 101	AL DEFIN		10.511.		1	Chris	Gillentine, Geologist			
ELEV.	DEPTH	LEGEND	CLASSIFICAT	TION OF MATERIALS	SAM	IPLE	LABO	RATORY RES	BULTS	
-36.7	0.0									
			CLAY, fat, dark gray	(CH)						į.
	Ē									F
										F
										E
										E
	Ē									E
	Ē									F
										E
-43.7	7.0									E
	Ē		SAND, poorly-grade	ed, mostly fine to medium-	- N	S				E
	<u> </u>	 ∷:	grained sand-sized o	quartz, gray (SP)						F
	-	-::-								F
		$ \cdots $								E-
-47.7	11.0	<u> : : : </u>								E
	_		CLAY, fat, dark gray	(CH)						E
	Ē			,						F
	-									ļ.
	Ē									E
E0.0	15.3									Ē
-5Z.U	_ 13.3 - -				+-					 [
	<u> </u>		NOTES:							F
	-			-14 -3						ļ.
	Ē		Soils are fit accordance with the	eld visually classified in Unified Soils Classification	ו					E
	E		System.							ŧ
	Ē			ot submitted for laboratory	,					F
	Ē		analysis from this int							F
	-		Seafloor elevation	n calculated using sampling	,					Ę.
	<u> </u>		vessel's fathometer	water depth reading and	i					E
	<u> </u>		applying NOAA tida factor.	al gauge data conversion	'					ŧ
	Ē									F
	F									F
	Ē									E
	Ē									ŧ

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.18609° Long = -88.37147°

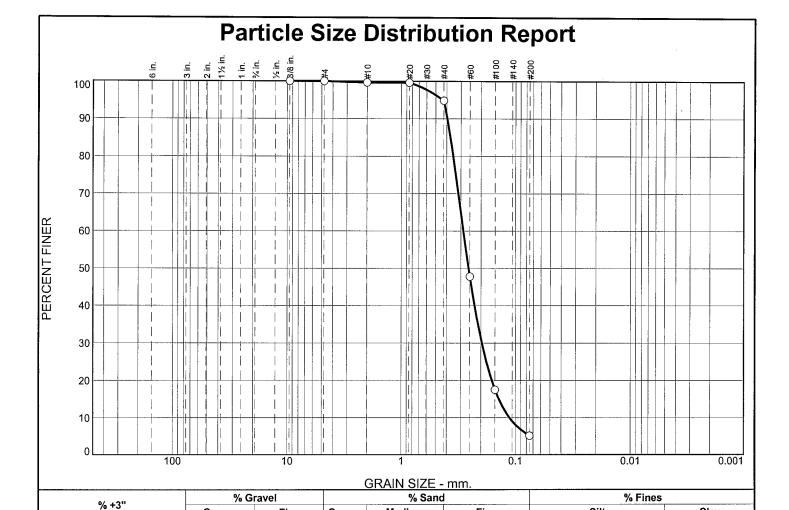
Boring Designation BI-PB-058-10

DRI	LLING	LOG	DIVISIO				1	TALLATIO				SHEET	
1. PRO			Sout	h Atlantic			_	Mobile Dis				OF 2	SHEETS
							_			V/A			
	AsCIP Barr			on			10.		NATE SYSTEM/DATU	!		VERTIC	
	Petit Bois Pa			LOCATION C	COOPDI	NATES	11		Plane, MSE (U.S. F ACTURER'S DESIGNA			-	/D88
	3I-PB-058-1			E = 1,13			١	Vibra		HON OF BRILL	_	UTO HAI IANUAL	MMER HAMMER
	LING AGE		<u> </u>	L 1,10		RACTOR FILE NO.	┢			DISTURBED			BED (UD)
	Corps of En	gineers	- CESAM		!		12.	TOTAL S	SAMPLES	1	į	0	` '
4. NAN	E OF DRILL	.ER					13.	TOTAL I	NUMBER CORE BOXES	s ·			
	Construction	n Solutio	ons Internat	tional, Inc.			144	WATER	DERTU	36 Ft.			
	ECTION OF	BORING		DEG. FROI	М	BEARING	<u> </u>	WAIER	DEPIN	STARTED		COMPL	ETED
=	VERTICAL INCLINED				-	 	15.	DATE BO	ORING	08-04-	10	i	04-10
6. THI	CKNESS OF	OVERB	URDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-36.8 Ft.			
7. DEP	TH DRILLEI	D INTO F	ROCK	V/A			17.	TOTAL F	RECOVERY FOR BORI	NG 100%			
	A. DEDT.	05 0001	NO 20	0.54			18.		URE AND TITLE OF IN				
8. 101	AL DEPTH	OF BORI	NG 20	.0 Ft.			<u>L</u>	Chris	Gillentine, Geologis	st			
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION	ON OF	MATERIALS		SAMPLE	L	ABORATORY RES	SULTS		
-36.8	0.0												
	Ė		CLAY fat	. trace fine-	grained	l sand-sized quart	_{z.}						ŧ
	F		trace shell	fragments,	dark g	ray (CH)	<u> </u>						F
	E												E
	F												F
	F												F
	E												Ė
	E												F
	-							NS					F
	F												F
	E												E
	E												E
	F												F
	E												E
	Ė.												F
-46.8	10.0												F
	E		CAND no	orly graded	It ares	, (SD)							E
	Ė	·```	SAND, PO	orly-graded,	it. gray	/ (SP)							F
	F	:::						^	Classification: SP-SI	M Color: 2.5	Y 6/2-I	ight brov	vnish gray
	F	::::						Α	D50: 0		Fines		Ě
	F	.::											F
-50.8	14.0	$ \cdot $											F
	F		CLAV fat	, dark gray	(CH)		T						F
	F		JEAT, Ial,	, dan gray	(311)								F
	E												F
	ŧ .												F
	F							NS					F
	E												ŧ
	F												E
	F												<u>F</u>
-56.8	20.0												_
	F						T						=
	F		NOTES:										F
	Ė												ŧ
	F		1. Soil	s are field	d visu	ally classified i	n						E
	<u>F</u>		accordance System.	e with the U	nified	Soils Classification	n						F
	þ		Oysiciii.										Ę
	E		2. NS =	Sample no	t subm	nitted for laborator	у						E
	Ė		analysis fr	om this inte	rval.								Ę.
	<u> </u>		3. Seafloo	or elevation	calcula	ted using sampling	g						Ę

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.18622° Long = -88.3665°

Boring Designation BI-PB-058-10

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.18622° Long = -88.3665°



Medium

4.9

Fine

89.6

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.7		
#20	99.6		
#40	94.8		
#60	47.7		
#100	17.5		
#200	5.2		

Coarse

0.0

Fine

0.0

Coarse

0.3

	Material Description SAND, (SP-SM), fine grained										
PL=	Atterberg Limits LL=	PI=									
D ₉₀ = 0.3948 D ₅₀ = 0.2564 D ₁₀ = 0.1124	Coefficients D85= 0.3706 D30= 0.1960 Cu= 2.53	D ₆₀ = 0.2849 D ₁₅ = 0.1390 C _c = 1.20									
USCS= SP-SM	Classification AASHTO	=									
CADD CODE = C	Remarks CADD CODE = CH10D965										

Silt

5.2

(no specification provided)

0.0

Location: USACE Sample # BI-PB-58-10A **Sample Number:** TE Lab ID: 4622.21

Depth: 10.0 - 14.0 (ft.)

Date: 8/15/10

Clay

Thompson Engineering

Client: US Army Corps of Engineers

Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Report No.

Mobile, Alabama

Project No: 10-2123-0009

Tested By: R.Martin Checked By: R.Byrd

Boring Designation BI-PB-059-10

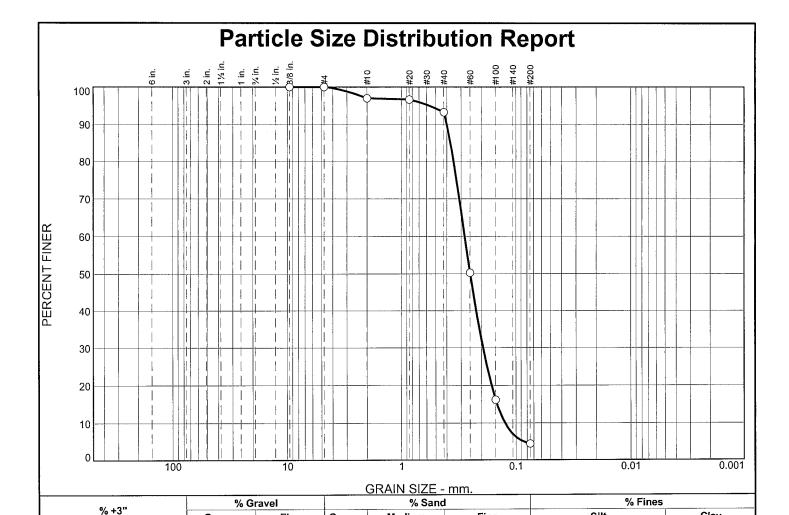
DR	ILLING	LOG	DIVISIO				1	STALLATIO				SHEET	Г 1
1. PRO			Sou	th Atlantic			_	Mobile Dis				OF 2	SHEETS
							_			V/A			
	MsCIP Barri			ion			10.		NATE SYSTEM/DATU	:		VERTI	
	Petit Bois Pa			LOCATION (COORDI	INATES	144		Plane, MSE (U.S. F				VD88
	81-PB-059-1		ļ	E = 1,13			'''	Vibra		IION OF DRILL		UTO ΗΑ ΙΔΝΙΙΔΙ	MMER HAMMER
	LLING AGEN			L = 1,13		RACTOR FILE NO.	+	VIDIC	icoi e	DISTURBED			BED (UD)
	Corps of En	gineers	- CESAM		!		12.	TOTALS	SAMPLES	1	į	0	`
	NE OF DRILL						13.	TOTAL I	NUMBER CORE BOXES	 S			
(Construction	n Solutio	ons Interna	ational, Inc.			144	WATER	DERTU	25.54			
	ECTION OF	BORING		DEG. FRO	М	BEARING	14.	WATER	DEPIH	35 Ft.		l	
_	VERTICAL INCLINED			VERTIOAL	-		15.	DATE BO	ORING	STARTED 08-04-	10	COMPL 08-	04-10
6. THI	CKNESS OF	OVERB	URDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-35.8 Ft.			
7. DEP	TH DRILLEI	INTO F	ROCK	N/A			17.	TOTAL F	RECOVERY FOR BORI	NG 100%			
							18.	SIGNAT	URE AND TITLE OF IN	ISPECTOR			
8. TOT	AL DEPTH (OF BORI	NG 19	9.0 Ft.			<u> </u>	Chris	Gillentine, Geologis	st			
ELEV.	DEPTH	LEGEND	CI	LASSIFICATI	ON OF	MATERIALS		SAMPLE	L	ABORATORY RES	SULTS		
-35.8	0.0												
			CLAY, fat dark gray		grained	l sand-sized quart	z,						<u> </u>
													<u> </u>
	Ē												E
	Ē		At El39	.8 Ft.									E
	Ē							NS					E
	E												E
	Ē												E
	E												F
	E												E
	Ē												E
	Ē												E
-45.8	F 10.0	///					_						<u>_</u>
	E		SAND, po	orly-graded,	It. gray	y (SP)							F
	Ē							Α	Classification	: SP Color: 2	2.5Y 7	1-light c	gray
	<u>F</u>	::::						, · ·	D50: 0	0.2494 mm %	Fines	: 4.4	F
-48.8	13.0												F
	-		CLAY, fat dark gray		grained	I sand-sized quart	Z,						
	F												F
	E							NS					E
	Ė							140					F
	F												F
	E												E
-54 8	19.0												E
<u> </u>	<u> </u>						\dashv						E
	Ė		NOTES:										E
	F												F
	E		1. Soi	ls are fiel	d visu	ually classified i	in						F
	Ė		accordance System.	ce with the l	Jnitied	Soils Classification	n						F
	F		Gystein.										F
	E					nitted for laborator	ry						E
	<u> </u>			rom this inte									E
	F		3 Seaflo	or elevation	calcula	ated using samplin	₁₀						E
	E		vessel's 1	fathometer ·	water	depth reading an ata conversion	id						

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.18615° Long = -88.36133°

Boring Designation BI-PB-059-10

DRI	LLING	LO	G (Cont. Sheet)	l l	INSTALLATION SHEET 2 Mobile District OF 2 SHEETS							
ROJEC			•		COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, MSE (U.S. Ft.) NAD83 NAVD88							
		land I	Restoration									
	ON COORDI				ON TOP OF BORIN		<u>· </u>					
	1,133,379		249,835	-35.8								
LEV.	DEPTH	LEGEND	CLASSIFICATION OF MA	TERIALS	SAMPLE LABORATORY RESULTS							
			factor.									

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.18615° Long = -88.36133°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	97.0		
#20	96.6		
#40	93.3	į	
#60	50.2		
#100	16.2		
#200	4.4		
L			

Coarse

0.0

Fine

0.0

Coarse

3.0

Medium

3.7

Fine

88.9

SAND (SP) fine	Material Description	<u>n</u>							
SAND, (SP), fine grained									
PL=	Atterberg Limits LL=	PI=							
D ₉₀ = 0.4007 D ₅₀ = 0.2494 D ₁₀ = 0.1242	Coefficients D85= 0.3720 D30= 0.1928 Cu= 2.24	D ₆₀ = 0.2785 D ₁₅ = 0.1457 C _c = 1.07							
USCS= SP	Classification AASHT()=							
Remarks CADD CODE = CH10D965									

Silt

4.4

(no specification provided)

Location: USACE Sample # BI-PB-59-10A **Sample Number:** TE Lab ID: 4622.20

Depth: 10.0 - 13.0 (ft.)

Date: 8/15/10

Clay

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: R.Martin

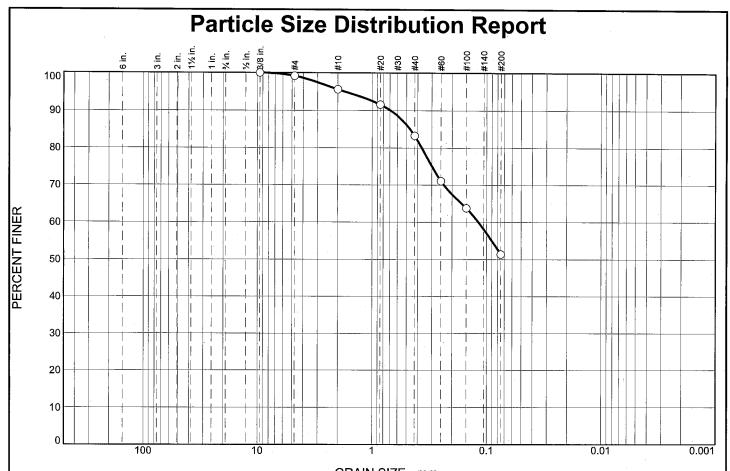
0.0

Boring Designation BI-PB-060-10

DR	ILLING	LOG	DIVISION		ı	TALLATIO				SHEET	
1. PRO			South Atlantic		-	Mobile Dis				OF 1	SHEETS
		or Iolond	Restoration		_		N/A NATE SYSTEM/DATUM	HORIZONT	Δι ί	VERTIC	Δ1
	Petit Bois Pa						Plane, MSE (U.S. Ft.)	NAD83			/D88
	RING DESIGN		LOCATION C	OORDINATES	11.		ACTURER'S DESIGNATION			JTO HAN	
6	3I-PB-060-1	0	E = 1,134	,921 N = 249,820		Vibra	core		_		IAMMER
	LLING AGEN			CONTRACTOR FILE NO.	12.	TOTAL S		ISTURBED	i		BED (UD)
	Corps of Eng		CESAM ;		_		 	0	- !	0	
			ns International, Inc.		┢		NUMBER CORE BOXES				
5. DIR	ECTION OF I		DEG. FROM VERTICAL	BEARING	14.	WATER	DEPTH	37 Ft.			
_	VERTICAL INCLINED		VERTICAL		15.	DATE BO	DRING	STARTED 08-04-1	10	COMPL 08-0)4-10
6. THI	CKNESS OF	OVERBU	RDEN N/A		16.	ELEVAT	ION TOP OF BORING	-37.7 Ft.			
7. DEP	TH DRILLED	INTO RO	OCK N/A		17.	TOTAL F	RECOVERY FOR BORING	100%			
	AL DEPTH O	E BORIN	10.0 54		18.		URE AND TITLE OF INSP	ECTOR			
8. 101	AL DEPIR C		18.0 Ft.		Ц,	Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CLASSIFICATIO	ON OF MATERIALS		SAMPLE	LABO	DRATORY RES	BULTS		
-37.7	0.0		SAND, poorly-graded, dark gray (SP)	trace shell fragments	5,	Α	Classification: CL D50: r	Color: 2.5Y 4	4/2-darl es: 51.4	k grayisl	h brown
-55.7	18.0		CLAY, fat, dark gray(CH)		NS					
		3	accordance with the U System. 2. NS = Sample not analysis from this inter 3. Seafloor elevation of vessel's fathometer w	I visually classified in initied Soils Classification submitted for laborator val. calculated using sampling vater depth reading an gauge data conversion	y g d						

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.18609° Long = -88.35645°



GRAIN SIZE - mm.										
% +3"	% Gı	ravel		% Sano	i	% Fines	·			
/6 +3	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay			
0.0	0.0	0.8	3.6	12.3	31.9	51.4				

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.2		
#10	95.6		
#20	91.6		
#40	83.3		
#60	71.1		
#100	63.8		
#200	51.4		
			,

<u>Material Description</u> SANDY CLAY, (CL)									
PL=	Atterberg Limits	PI=							
D ₉₀ = 0.6874 D ₅₀ = D ₁₀ =	Coefficients D ₈₅ = 0.4654 D ₃₀ = C _u =	D ₆₀ = 0.1178 D ₁₅ = C _c =							
USCS= CL	Classification AASHT	O=							
CADD CODE = 0 Note: Placticity b	Remarks CH10D965 ased off of visual exan	nination.							

(no specification provided)

Location: USACE Sample # BI-PB-60-10A **Sample Number:** TE Lab ID: 4622.19

Depth: 0.0 - 2.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama

Tested By: R.Martin

Boring Designation BI-PB-061-10

DBI	DRILLING LOG						INSTALLATION SHEET 1						1
		LUG	Sou	th Atlantic			_	Mobile Dis				OF 1	SHEETS
1. PRO									TYPE OF BIT N/A	···			
	AsCIP Barri			ion			10.		NATE SYSTEM/DATUM	HORIZON	i	VERTIC	
	Petit Bois Pa			LOCATION C	OORDI	NATES	11.		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NA\ I TO HA	/D88
	3I-PB-061-1		į			N = 249,858		Vibra					HAMMER
	LING AGEN				CONT	RACTOR FILE NO.	12	TOTALS		ISTURBED	UN	DISTUR	BED (UD)
	Corps of En		- CESAM				╀			0	į ()	
	Construction		one Interna	ational Inc			13.	TOTAL I	NUMBER CORE BOXES				
	ECTION OF			DEG. FROM	л	BEARING	14.	WATER	DEPTH	36 Ft.			
_	VERTICAL INCLINED			VERTICAL		 	15.	DATE BO	DRING	STARTED 08-04-	10	08-0	ETED 04-10
6. THI	CKNESS OF	OVERB	URDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-36.6 Ft.			
7. DEP	TH DRILLEI	INTO I	ROCK	N/A			17.	TOTAL F	RECOVERY FOR BORING	100%			
							18.		URE AND TITLE OF INSPI	ECTOR			
8. тот	AL DEPTH	OF BORI	ING 18	3.5 Ft.			Ц,	Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CI	LASSIFICATIO	ON OF	MATERIALS		SAMPLE	LABO	RATORY RES	BULTS		
-36.6	0.0												
	Ė			at, trace she	ell fraç	gments, dark gra	ıy						E `
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-55.1	18.5												
	<u> </u>		NOTES:										F
	E												<u> </u>
	<u> </u>		 Soil accordance System. 	Is are field ce with the U	d visu Inified	ally classified i Soils Classificatio	n n						E
	E		•										F
	F		2. NS =	Sample not rom this inter	: subm ·val	itted for laborator	У						F
	Ē		•										E
			vessel's f applying	fathometer v	vater (ted using samplin depth reading an e data conversio	d						-2 -2
	<u> </u>		factor.										F

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.18618° Long = -88.35209°

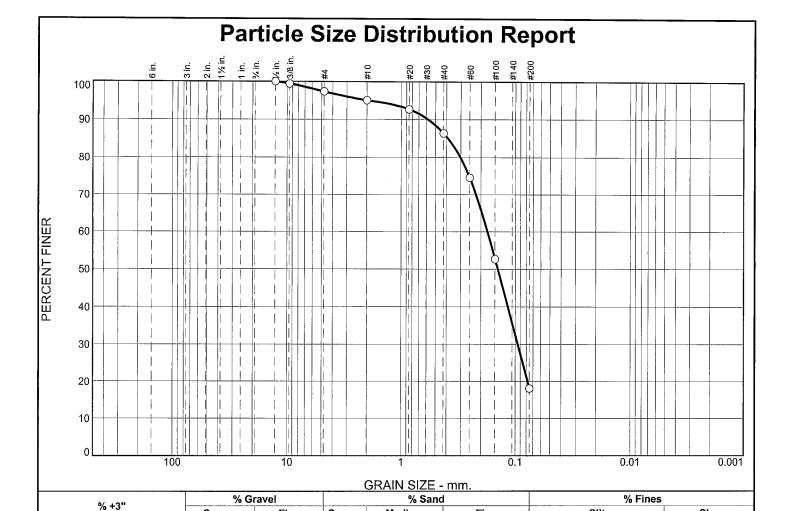
Boring Designation BI-PB-062-10

DDI	LLING	100	DIVISION	N			INS	TALLATIC	ON			SHEET 1			
		LUG	South	n Atlantic			1	Mobile Dis	strict			OF 2 SHEETS			
1. PROJECT							9. SIZE AND TYPE OF BIT N/A								
N	IsCIP Barrie	er Isla	nd Restoration	on			10.	COORDI	NATE SYSTEM/DATUM	HORIZO	NTAL	VERTICAL			
Petit Bois Pass- AL West									State Plane, MSE (U.S. Ft.) NAD83 NAVD88						
2. BORING DESIGNATION LOCATION COORDINATES BI-PB-062-10 E = 1,137,556 N = 249,860								11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER							
	I-PB-062-1		i_	E = 1,137		N = 249,860 RACTOR FILE NO.	Vibracore MANUAL HAMMER DISTURBED UNDISTURBED (UD)								
			s - CESAM		00.41	MAGTOR TILL NO.	12. TOTAL SAMPLES								
	Corps of Engineers - CESAM 4. NAME OF DRILLER								NUMBER CORE BOXES						
Construction Solutions International Inc							_	WATER		20 Ft					
5. DIRECTION OF BORING DEG. FROM BEARING							14.	WAIER	DEPIN	38 Ft.		COMPLETED			
						15.	DATE BO	DRING	08-0		08-06-10				
	KNESS OF	OVER	RIIPDEN	N/A		<u>i</u>	16.	FI FVAT	ION TOP OF BORING	-38.0 Ft.	, .0	00 00 10			
0. IIIIC	ANESS OF	OVER	BORDEN	IW/A			⊢								
7. DEPTH DRILLED INTO ROCK N/A						17. TOTAL RECOVERY FOR BORING 100% 18. SIGNATURE AND TITLE OF INSPECTOR									
00.0 5/								Gillentine, Geologist							
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATIO	ON OF	MATERIALS		SAMPLE	_	DRATORY R	ESULTS				
-38.0	0.0						\dashv								
	- - -			orly-graded, nd-sized qua		y fine to medium	1-	А	Classification: SM D50: 0.1	Color: 2 421 mm	2.5Y 5/2-g % Fines:	grayish brown			
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	-											Į.			
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	-											<u>F</u>			
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		.:::										<u>E</u>			
-58.0	- - 20.0	· · · ·										Ė			
30.0			NOTES:									20			
	Ē											ŧ			
			Soils accordance System.	are field e with the U	l visu Inified	ially classified i Soils Classificatio	n n								
	- - - -		2. NS = 3 analysis fro	Sample not om this inter	subm val.	iitted for laborator	у					<u>-</u> -2!			
	<u> </u>		3. Seafloo	r elevation o	alcula	ted using sampling	9								

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.18617° Long = -88.34811°

Boring Designation BI-PB-062-10

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.18617° Long = -88.34811°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.500	100.0		
.375	99.4		
#4	97.4		
#10	95.1		
#20	92.7		
#40	86.4		
#60	74.6		
#100	52.6		
#200	18.0		

Coarse

0.0

Fine

2.6

Coarse

2.3

Medium

8.7

Fine

68.4

PL=	Atterberg Limits LL=	PI=						
D ₉₀ = 0.5797 D ₅₀ = 0.1421 D ₁₀ =	Coefficients D85= 0.3881 D30= 0.0950 Cu=	D ₆₀ = 0.1750 D ₁₅ = C _c =						
USCS= SM	Classification AASHT	O=						
Remarks CADD CODE = CH10D965								

Silt

18.0

(no specification provided)

0.0

Location: USACE Sample # BI-PB-62-10A **Sample Number:** TE Lab ID: 4622.33

Depth: 0.0 - 1.5 (ft.)

Date: 8/15/10

Clay

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009 Report No.

Tested By: G.Fancher Checked By: R.Byrd

Boring Designation BI-PB-063-10

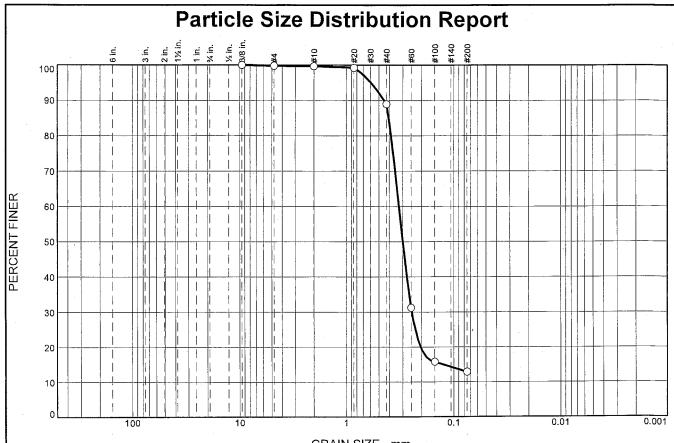
DR	ILLING	LOG	DIVISIO				- 1	STALLATIO				SHEET	
South Atlantic 1. PROJECT						Mobile District					OF 1	SHEETS	
PROJECT MsCIP Barrier Island Restoration									V/A				
				tion			10		NATE SYSTEM/DATU	:		VERTIC	
	Petit Bois Pa			LOCATION C	COOPD	INATES	11		e Plane, MSE (U.S. F ACTURER'S DESIGNA				√D88
	3I-PB-063-1			E = 1,139			1	Vibra		HON OF BRILE	=	UTO HAI	HAMMER
	LLING AGEN					RACTOR FILE NO				DISTURBED			BED (UD)
(Corps of En	gineers	- CESAM		!		12	. TOTAL	SAMPLES	0		0	, ,
4. NAN	IE OF DRILL	ER.					13	. TOTAL	NUMBER CORE BOXE	s			
(Construction	n Solutio	ons Interna	ational, Inc.				. WATER	DEDTU	20 Ft			
	ECTION OF	BORING	i	DEG. FROI	М	BEARING	<u> </u>	. WAIER	DEFIN	39 Ft.		COMPL	ETED
_	VERTICAL INCLINED						15	. DATE B	DRING	08-06-	10	COMPL 08-0	06-10
6. THI	CKNESS OF	OVERB	URDEN	N/A			16	. ELEVAT	ION TOP OF BORING	-38.8 Ft.		•	
7. DEP	TH DRILLED	INTO F	ROCK	N/A			17	. TOTAL	RECOVERY FOR BORI	NG 100%			
							18	. SIGNAT	URE AND TITLE OF IN	NSPECTOR			
8. ТОТ	AL DEPTH (OF BORI	NG 16	6.0 Ft.			Щ	Chris	Gillentine, Geologis	st			
ELEV.	DEPTH	LEGEND	С	LASSIFICATION	ON OF	MATERIALS		SAMPLE	L	ABORATORY RES	BULTS		
-38.8	0.0												\Box
	=		CLAV for	t trace fine	arainea	d sand-sized quar	t ₇						+
	-		dark gray		graniec	i sariu-sizeu quai	۱۷,						F
	E		3 - 7	(-)									Ė
	E												E
	Ė.												į.
	E												E
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44.0	6.0												į `
-44.8	- 0.0	7.7.4											F
	F	[:::]	SAND, po	oorly-graded,	traces	silt, dark gray (S	P)						F
	E	.·.·.											F
	Ė	-:::						NS					F
-47.8	9.0	1:::1											ļ.
	E		CLAV for	t dork arou	(CLI)								E
	-		CLAY, Ta	t, dark gray	(CH)								L 1
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	F												F
	Ē												E
	=												F
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-54.8	16.0												_
	E						一						F
	F		NOTES:										Ę
	F												Ę
	E					ually classified							E
	<u> </u>			ce with the L	Jnified	Soils Classificati	on						É
	E		System.										Ē
	Ė		2. NS =	Sample no	t subn	nitted for laborate	ory						F-2
	E			from this inte			, l						E
	Ė		2 0:-4	on also sette	استحامه	atodc!.a.a "	_						Ė
	F					ated using sampli							F
	Ė					depth reading a e data conversi							ŧ
	F		factor.	u tidal	gaag		···						E
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	E												Ę
	Ė												F-2
	E												E
	-								<u> </u>				-

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.18615° Long = -88.34326°

Boring Designation BI-PB-064-10

DRI	LLING	I OG	DIVISIO				IN	STALLATIO					SHEE	T 1
1. PRO			Sou	th Atlantic			+	Mobile Di					OF 1	SHEETS
									TYPE OF BIT	N/A				
	AsCIP Barri			ion			10		NATE SYSTEM/DA		HORIZON		VERTI	
	etit Bois Pa			LOCATION O	OOPDI	NATES	11		Plane, MSE (U.S		NAD83			VD88
_	3I-PB-064-1		į			N = 248,369	Ι	Vibra		MAIION	OF DRILL	=	UTO HA	HAMMER
	LING AGEN		<u> </u>	L 1,12		RACTOR FILE NO				¦ DI	STURBED			RBED (UD)
C	Corps of Eng	gineers -	CESAM		!		12	. TOTAL	SAMPLES	İ	3	į	0	`
	E OF DRILL	_					13	. TOTAL I	NUMBER CORE BO	XES				
C	Construction	Solutio	ns Interna	tional, Inc.			14	WATER	DERTU		00.54			
	CTION OF	BORING		DEG. FRO	М	BEARING	74	. WATER	DEPIH		39 Ft.		1	
_	VERTICAL INCLINED			VERTICAL			15	. DATE B	ORING		STARTED 07-09-	10	COMPI 07-	09-10
6. THI	CKNESS OF	OVERBU	IRDEN	N/A			16	. ELEVAT	ION TOP OF BORI	NG	-38.6 Ft.			
7. DEP	TH DRILLED	INTO R	оск	N/A			17	. TOTAL I	RECOVERY FOR B	ORING	100%			
			40	:			18	. SIGNAT	URE AND TITLE O	F INSPE	CTOR			
8. ТОТ	AL DEPTH C	F BORIN	1G 18	3.5 Ft.			Ш,	Vale	rie Morrow, Geot	echnica	l Engineer			
ELEV.	DEPTH	LEGEND	CI	LASSIFICATI	ON OF	MATERIALS		SAMPLE		LABO	RATORY RE	SULTS		
-38.6	0.0													
	=		CLAV les	an, dark gray	(CL)	·								E
	-		OLAT, ICC	ari, uark gray	(OL)									F
	Ė													E
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-49.6	F 11.0	<u> </u>												
	Ē	11111	SAND, s	silty, mostly	fine-g	rained sand-siz	zed		Classification	n: SM	Color: 2.	5Y 5/2	-aravish	brown E
E1 1	E 12 0		quartz, gra			,		Α			7 mm %	Fines:	12.9	E
-51.4	12.8						-							
	Ē					fine-grained sa	nd-							E
	-	.·.·.	sized qua	rtz, trace silt	, It. gra	y (SP)		В	Classificatio				7/2-ligh	it gray
	E	-::-						_	D5	0: 0.29	91 mm %	Fines	: 9.3	E
	Ē	:::												E
	F	$ \cdots $					1							
	E	[.::]							Classifica	tion: SP	Color:	2.5Y 7	/2-light o	_{gray} E
	Ė	$ \cdot \cdot $						С				% Fine	s: 3	´´
-57.1	_ - 18.5	<u> - :</u>					_							F
	_													ŧ
	E		NOTES:											E
	Ė													E
	E		1. Soi	ls are fiel	d visu	ally classified	in							E
	Ē		accordano System.	e with the l	edוזווזע	Soils Classificat	IOU							E
	F		Oyalem.											F
	Ē					itted for laborat	ory							E
	‡			rom this inte										F
	F		2 Coofie	or alovation	calcula	tod using sampl								E
	Ė					ited using sampl depth reading a								F
	F					e data convers								F
	<u>F</u>		factor.											E

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.18222° Long = -88.39075°



			(KAIN SIZE -	- mm		
	% Gravel % San		1	% Fines			
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.1	10.7	76.1	12.9	

	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	.375	100.0		
	#4	99.8		
	#10	99.7		
	#20	99.2		
ľ	#40	89.0		
	#60	31.2		
	#100	15.7		
	#200	12.9		
			3	

Material Description SILTY SAND, (SM), medium to fine grained								
PL=	Atterberg Limits	PI=						
D ₉₀ = 0.4460 D ₅₀ = 0.2997 D ₁₀ =	<u>Coefficients</u> D85= 0.4061 D30= 0.2462 C _U =	D ₆₀ = 0.3254 D ₁₅ = 0.1256 C _c =						
USCS= SM	Classification AASHT)=						
CADD CODE =	<u>Remarks</u> CH10D965							

(no specification provided)

Location: USACE Sample # BI-PB-64-10A **Sample Number:** TE Lab ID: 4578.05

Depth: 11.0 - 12.8 (ft.)

Date: 7/16/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

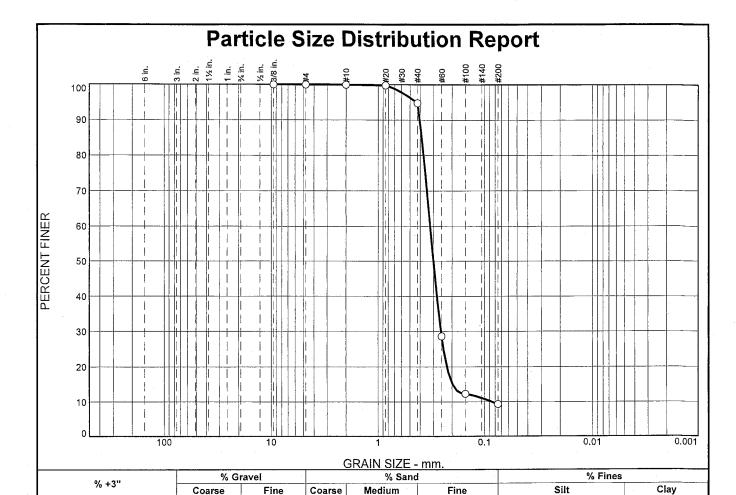
Project No: 10-2123-0009

Figure

Mobile, Alabama

Checked By: R.Byrd

Tested By: G.Fancher



	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
375	100.0		
#4	100.0		
#10	99.9		
¥20	99.8		
¥40	94.8		
¥60	28.6		
100	12.3		•
200	9.3		
	v.		
	375 #4 #10 #20 #40 #60 100 200	375 100.0 #4 100.0 #10 99.9 #20 99.8 #40 94.8 #60 28.6	375 100.0 #4 100.0 #10 99.9 #20 99.8 #40 94.8 #60 28.6 1100 12.3

0.0

0.0

0.1

5.1

85.5

M SAND, (SP-SM), f	aterial Description	o <u>n</u>					
0/11/05, (01 0/1/), 1	mo gramou						
PL=	Atterberg Limits	PI=					
D ₉₀ = 0.4046 D ₅₀ = 0.2991 D ₁₀ = 0.0853	Coefficients D85= 0.3870 D30= 0.2537 Cu= 3.77	D ₆₀ = 0.3212 D ₁₅ = 0.1970 C _c = 2.35					
USCS= SP-SM	Classification AASHT	O=					
CADD CODE = C	Remarks CADD CODE = CH10D965						

(no specification provided)

0.0

Location: USACE Sample # BI-PB-64-10B **Sample Number:** TE Lab ID: 4578.06

Depth: 12.8 - 15.8 (ft.)

Date: 7/16/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

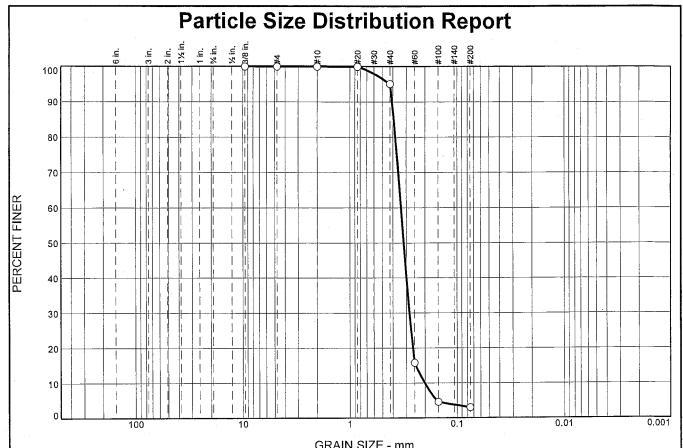
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Figure

9.3

Tested By: G.Fancher



	% Gr	avel		% Sand		% Fines		
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0	0.0	0.0	0.0	4.9	92.1	3.0		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	95.1		
#60	15.7		·
#100	4.6		-
#200	3.0		
-			

DI -	Atterberg Limits	Pl=
PL=	LL=	L1-
D ₉₀ = 0.4069 D ₅₀ = 0.3164 D ₁₀ = 0.2015	Coefficients D85= 0.3921 D30= 0.2796 Cu= 1.66	D ₆₀ = 0.3354 D ₁₅ = 0.2438 C _c = 1.16
USCS= SP	<u>Classification</u> AASHT)=

(no specification provided)

Location: USACE Sample # BI-PB-64-10C **Sample Number:** TE Lab ID: 4578.07

Depth: 15.8 - 18.8 (ft.)

Date: 7/16/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Figure

Mobile, Alabama

Project No: 10-2123-0009

Checked By: R.Byrd Tested By: G.Fancher

Boring Designation BI-PB-067-10

DDI	LLING	LOG	DIVISION	N		INST	ALLATIC	ON		SHEET 1
		LUG	South	n Atlantic		М	obile Dis	strict		OF 2 SHEETS
1. PRO								TYPE OF BIT N/A		
			nd Restoration	on		10.		NATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
	etit Bois Pa			OCATION CO	ORDINATES	11. 1		Plane, MSE (U.S. Ft.)	NAD83	NAVD88
_	I-PB-067-1		` ¦*		573 N = 248,430	l	Vibra			IANUAL HAMMER
	LING AGEN		1		ONTRACTOR FILE NO.	40.		¦ D	ISTURBED U	NDISTURBED (UD)
	orps of Eng		- CESAM	<u>i</u>		12.	TOTALS	SAMPLES	2	0
	E OF DRILL			in a la la c		13. 1	TOTAL N	NUMBER CORE BOXES		
	CTION OF E		ons Internati		BEARING	14. 1	WATER I	DEPTH	37 Ft.	
\boxtimes	VERTICAL INCLINED			DEG. FROM VERTICAL		15. I	DATE BO	DRING	STARTED 08-05-10	COMPLETED 08-05-10
6. THIC	KNESS OF	OVERB	URDEN	N/A		16. I	ELEVAT	ION TOP OF BORING	-35.8 Ft.	
7. DEP	TH DRILLED	INTO	ROCK N	J/A		17. 1	TOTAL F	RECOVERY FOR BORING	100%	
						18. \$		URE AND TITLE OF INSPI	ECTOR	
o. 101	AL DEPTH O		ing 19.	5 Ft.			Chris	Gillentine, Geologist		
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATION	OF MATERIALS	S	AMPLE	LABO	PRATORY RESULTS	
-35.8	0.0									-(
	=		CLAY, fat,	dark gray (C	H)					į į
										F
	_									F
	_						NS			E
	-									E
4.5.5										E
-40.8	- 5.0 -					+				
	<u> </u>	[:::]	SAND, poo	orly-graded, It	gray (SP)					E
	Ė	-::-								E
	-	$ \cdots $					^	Classification: SF	Color: 2.5Y 7	/1-light gray
	_	[. · · ·]					Α	D50: 0.30	25 mm % Fines	: 2.4
		ŀ∷·l								E
	-	···:								E
	-	.∵.								
	E	:::								Ę.
	Ē	[::::								Ę.
	Ē	-∵-					В	Classification: SP	Color: 2.5Y 6/2-lig	ht brownish gray
	<u></u>	:::						D50: 0.26	347 mm % Fines	. 4.0
	<u> </u>	[∷::								Ę
	<u> </u>	:::								F .
-51.8	16.0	<u> ::: </u>								
-31.0	10.0					\dashv				F
	<u> </u>		CLAY, fat,	dark gray (C	H)		NC			E
							NS			F
	Ē									F
-55.3	_ - 19.5									+
		7								-2
	Ē		NOTES:							Į į
	<u> </u>			oro fiol-	vioually classified :	_				F
	Ė		accordance	s are field e with the Un	visually classified i ified Soils Classificatio	n				F
	<u> </u>		System.							E
	<u> </u>		2. NS = 3	Sample not s	submitted for laborator	y				Ę
			analysis fro	om this interv	al.					
			Seafloo vessel's fat	r elevation ca thometer wate	alculated using samplin er depth reading and	g				

SAM FORM 1836 - MsCIP MAY 2010

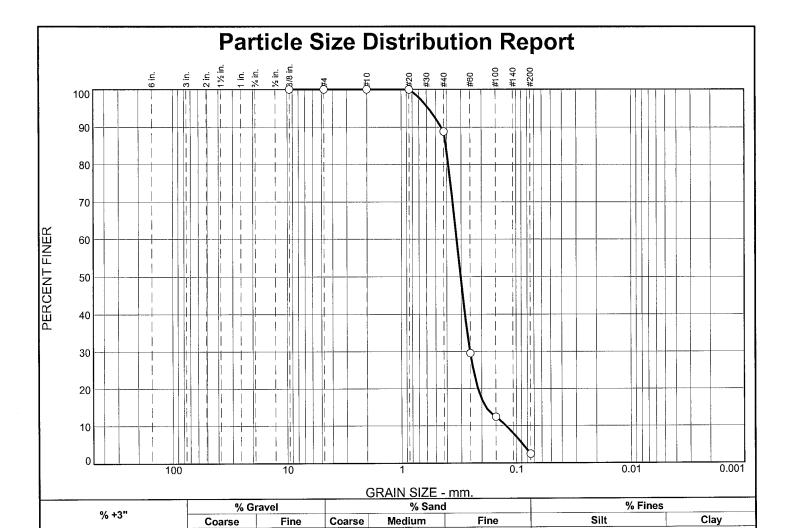
Lat = 30.18234° Long = -88.37656°

Boring Designation BI-PB-067-10

ORILLING LOG (Cont. Sheet)	•	INSTALLATION Mobile District SHEET 2 OF 2 SHEE					
DJECT		COORDINATE SYSTEM/DATUM HORIZONTAL VERTICA					
MsCIP Barrier Island Restoration		MSE (U.S. Ft.)	NAD83	NAVD88			
CATION COORDINATES	ELEVATION TOP						
X = 1,128,573 Y = 248,430	-35.8 Ft.						
		IPLE	LABORATORY RI	ESULTS			
EV. DEPTH Sun applying NOAA tidal gaug factor.		IPLE	LABORATORY RI	ESULTS			

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.18234° Long = -88.37656°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	88.8		
#60	29.6		
#100	12.4		
#200	2.4		
	1		

0.0

0.0

0.0

11.2

86.4

	Material Descriptio	<u>n</u>
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.4479 D ₅₀ = 0.3025 D ₁₀ = 0.1229	Coefficients D85= 0.4074 D30= 0.2512 Cu= 2.67	D ₆₀ = 0.3278 D ₁₅ = 0.1837 C _c = 1.57
USCS= SP	<u>Classification</u> AASHT	O=
CADD CODE =	Remarks CH10D965	

(no specification provided)

Tested By: G.Fancher

0.0

Location: USACE Sample # BI-PB-67-10A Sample Number: TE Lab ID: 4622.22

Depth: 5.0 - 10.0 (ft.)

Date: 8/15/10

2.4

Thompson Engineering

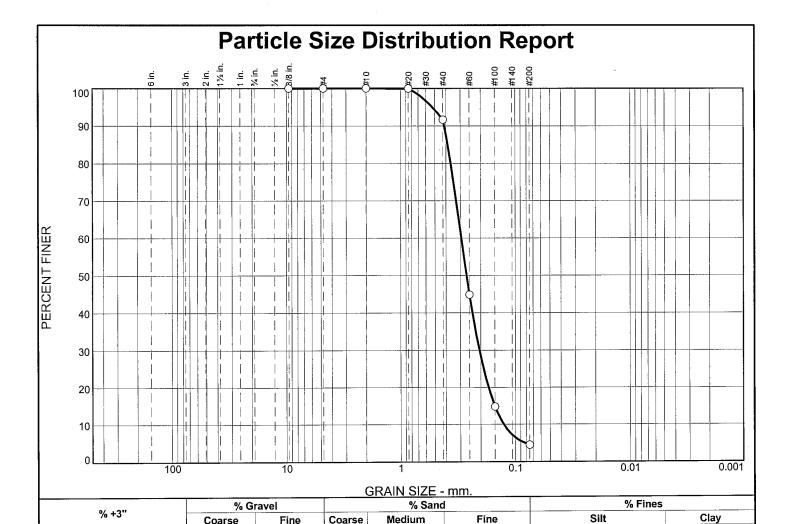
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	91.7		
#60	44.9		
#100	14.8		
#200	4.5		

Coarse

0.0

Fine

0.0

Coarse

0.0

8.3

ained	
Atterberg Limits LL=	Pl=
Coefficients D85= 0.3860 D30= 0.2051 Cu= 2.33	D ₆₀ = 0.2939 D ₁₅ = 0.1509 C _c = 1.13
Classification AASHTO=	
Remarks [10D965	
	Coefficients D85= 0.3860 D30= 0.2051 Cu= 2.33 Classification AASHTO=

(no specification provided)

Tested By: G.Fancher

0.0

Location: USACE Sample # BI-PB-67-10B **Sample Number:** TE Lab ID: 4622.23

Depth: 10.0 - 15.0 (ft.)

Date: 8/15/10

4.5

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

87.2

Project No: 10-2123-0009

Report No.

Mobile, Alabama

Boring Designation BI-PB-068-10

DBI	LLING	LOG	DIVISION	Į.	INSTALLATIO	ON	SHEET 1
		LUG	South Atlantic		Mobile Di		OF 2 SHEETS
1. PRO						TYPE OF BIT N/A	
			d Restoration	[1		NATE SYSTEM/DATUM HORIZ	<u> </u>
	etit Bois Pa			COORDINATES		Plane, MSE (U.S. Ft.) NAI	
	81-PB-068-1		E = 1,13			acore	-L AUTO HAMMER MANUAL HAMMER
	LING AGEN	-		CONTRACTOR FILE NO.		DISTURBE	D UNDISTURBED (UD)
	Corps of En		- CESAM	1	12. TOTAL	SAMPLES 3	0
	E OF DRILL			_1	13. TOTAL I	NUMBER CORE BOXES	
	CTION OF		ons International, Inc.	M BEARING	14. WATER	DEPTH 36 Ft.	
\boxtimes	VERTICAL INCLINED		DEG. FRO VERTICAL		15. DATE B	DRING START	ED COMPLETED 05-10 08-05-10
6. THI	CKNESS OF	OVERB	URDEN N/A	1	16. ELEVAT	ION TOP OF BORING -34.9 Ft	<u>.</u>
7. DEP	TH DRILLEI	D INTO F	ROCK N/A	1	17. TOTAL I	RECOVERY FOR BORING 100%	, D
					18. SIGNAT	URE AND TITLE OF INSPECTOR	
8. ТОТ	AL DEPTH (OF BORI	NG 20.0 Ft.		Chris	s Gillentine, Geologist	
ELEV.	DEPTH	LEGEND	CLASSIFICATI	ON OF MATERIALS	SAMPLE	LABORATORY	RESULTS
-34.9	0.0						
	Ē		CLAY, fat, trace fine-	grained sand-sized quartz,			Ė
	Ē		trace shell fragments,	dark gray (CH)			E
	-						<u> </u>
	Ē						E
	Ė				NS		Ė
	E						Ē
	E						Ę.
	Ę						Ę
44.0	F _{zo}						F
-41.9	7.0 -				1		-
	Ē.		SAND, poorly-graded grained sand-sized qu	, mostly fine to medium-		Olassifications OM Colons	0.57/.5/0
	Ē	$ \cdot \cdot $	granieu sanu-sizeu qu	laitz (Si)	Α	Classification: SM Color: D50: 0.1633 mm	2.5Y 5/2-grayish brown - Fines: 16
	F		⊂ At Fl -43.9 Ft most	ly fine to medium-grained			F
	F	-::-	sand-sized quartz, It.	gray			
	Ē	:::					Ę
	Ē						Ę.
	-	-::-			В	Classification: SP Colo	
	-	:::				D50: 0.255 mm	% Fines: 2.5
	Ē	[:::]					E
	Ē						Ė
	Ē	$ \cdot \cdot $					
	F	-::-					<u>F</u>
	Ė	: : :					<u> </u>
	Ė	 :∴			С	Classification: SP Colo D50: 0.2504 mm	or: 2.5Y 7/1-light gray % Fines: 4.4
	Ė	-::-				D30. 0.2304 IIIII	/0 1 IIICS. 4.4
	<u> </u>						Ę.
-54.9	20.0	<u> </u>					F .
	<u> </u>						<u>_</u>
	E		NOTES:				F
	<u> </u>		Soils are fiel	d visually classified in			Ę
	E		accordance with the l	Unified Soils Classification			Ę
	F		System.				F
	F		2. NS = Sample no	t submitted for laboratory			<u>F</u>
	<u> </u>		analysis from this inte	rval.			<u> </u>
	<u> </u>		3. Seafloor elevation	calculated using sampling			Ę.

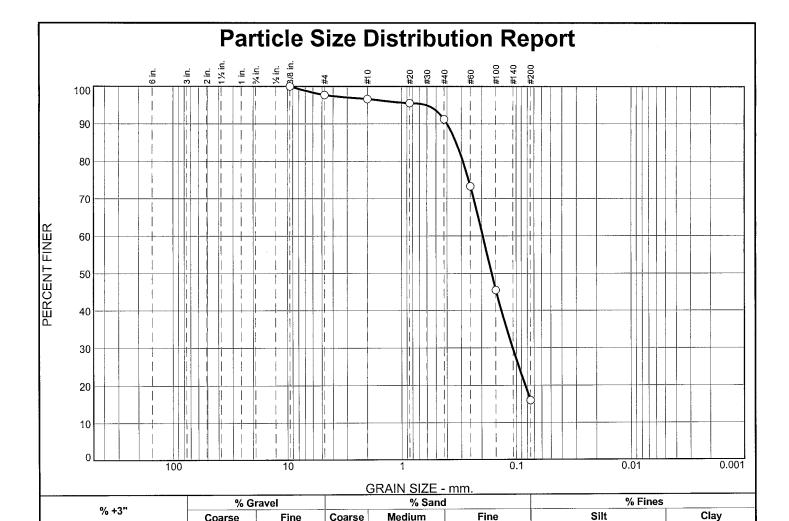
SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.18195° Long = -88.36682°

Boring Designation BI-PB-068-10

DKIL	LING LO	G (Cont. Sheet)	INSTALLA			SHEET 2
ROJECT			Mobile		HODIZONIZA	OF 2 SHEETS
	Barrier Island	Restoration		ane, MSE (U.S. Ft.)	HORIZONTAL NAD83	VERTICAL NAVD88
	COORDINATE			N TOP OF BORING		: .3.0200
		248,301	-34.9 F			
	DEPTH DEPTH	CLASSIFICATION OF MATER	·	SAMPLE	LABORATORY RI	ESULTS
LEV.	DEPTH 991	vessel's fathometer water depth applying NOAA tidal gauge data factor.		SAMPLE	LABORATORY RI	ESULTS

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.18195° Long = -88.36682°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	97.7		
#10	96.6		
#20	95.5		
#40	91.2		
#60	73.3		
#100	45.5		
#200	16.0		
1			

Coarse

0.0

Fine

2.3

Coarse

Medium

5.4

Fine

75.2

	Material Description (M), fine grained, with			
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.4006 D ₅₀ = 0.1633 D ₁₀ =	Coefficients D85= 0.3337 D30= 0.1074 Cu=	D ₆₀ = 0.1950 D ₁₅ = C _c =		
USCS= SM	Classification AASHT0)=		
Remarks CADD CODE = CH10D965				

(no specification provided)

0.0

Location: USACE Sample # BI-PB-68-10A Sample Number: TE Lab ID: 4622.24

Depth: 7.0 - 10.0 (ft.)

Date: 8/15/10

Clay

16.0

Thompson Engineering

Mobile, Alabama

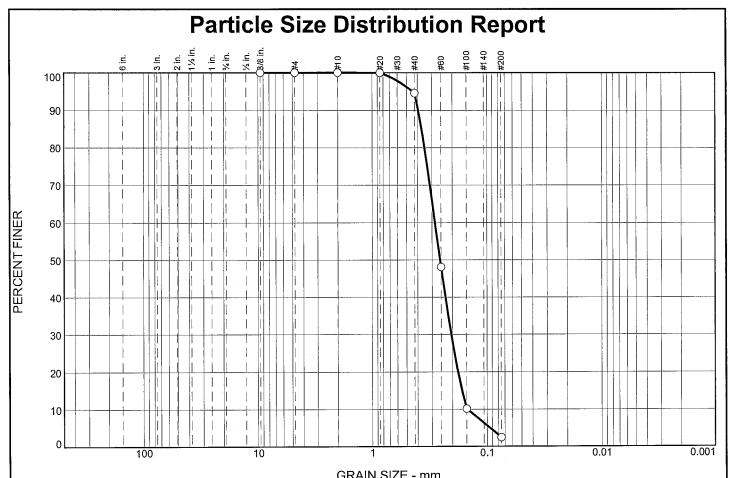
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: G.Fancher



	GIVAIN SIZL - IIIII.						
	% Gr	avel	% Sand			% Fine	es
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	5.4	92.1	2.5	

ĺ	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	.375	100.0		
	#4	100.0		
	#10	100.0		
	#20	99.9		
	#40	94.6		
	#60	48.1		
	#100	10.2		
	#200	2.5		

SAND, (SP), fine	Material Description grained	<u>n</u>
PL=	Atterberg Limits	PI=
D ₉₀ = 0.3946 D ₅₀ = 0.2550 D ₁₀ = 0.1475	Coefficients D ₈₅ = 0.3690 D ₃₀ = 0.2043 C _u = 1.91	D ₆₀ = 0.2821 D ₁₅ = 0.1648 C _c = 1.00
USCS= SP	Classification AASHT)=
CADD CODE =	Remarks CH10D965	

(no specification provided)

Tested By: G.Fancher

Location: USACE Sample # BI-PB-68-10B **Sample Number:** TE Lab ID: 4622.25

Depth: 10.0 - 15.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

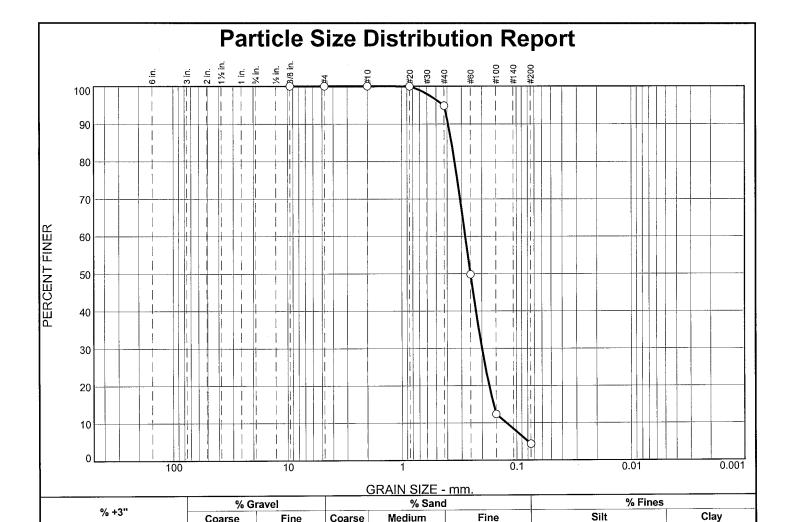
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	94.9		
#60	49.8		
#100	12.3		
#200	4.4		

Coarse

0.0

Fine

0.0

Coarse

0.0

Medium

5.1

Fine

90.5

SAND, (SP), fine	Material Description grained	1
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.3920 D ₅₀ = 0.2504 D ₁₀ = 0.1224	$\begin{array}{c} \textbf{Coefficients} \\ \textbf{D85} = 0.3661 \\ \textbf{D30} = 0.1990 \\ \textbf{C_u} = 2.27 \end{array}$	D ₆₀ = 0.2779 D ₁₅ = 0.1585 C _c = 1.16
USCS= SP	Classification AASHT0)=
CADD CODE =	<u>Remarks</u> CH10D965	

(no specification provided)

0.0

Location: USACE Sample # BI-PB-68-10C **Sample Number:** TE Lab ID: 4622.26

Depth: 15.0 - 20.0 (ft.)

Date: 8/15/10

4.4

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama

Tested By: G.Fancher

Boring Designation BI-PB-069-10

DDI	LLING	LOG	DIVISION	li li	NSTALLATIO	ON		SHEET 1
		LUG	South Atlantic		Mobile Dis			OF 2 SHEETS
1. PRO				_		TYPE OF BIT N/A	•	
			d Restoration	1		NATE SYSTEM/DATUM	HORIZONT	
	Petit Bois Pa			COORDINATES 1		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83	NAVD88
	3I-PB-069-1		ı	3,344 N = 248,464	Vibra			MANUAL HAMMER
	LING AGEN		·	CONTRACTOR FILE NO.	2. TOTAL S		STURBED	UNDISTURBED (UD)
	Corps of En		- CESAM	<u> </u>		 	0	0
			ons International, Inc.	1	3. TOTAL	NUMBER CORE BOXES		
	ECTION OF			M BEARING 1	4. WATER	DEPTH	40 Ft.	
_	VERTICAL INCLINED		VERTICAL		5. DATE BO	DRING	STARTED 08-07-1	0 08-07-10
6. THI	CKNESS OF	OVERB	URDEN N/A	1	6. ELEVAT	ION TOP OF BORING	-39.8 Ft.	
7. DEP	TH DRILLEI	D INTO I	ROCK N/A	1	7. TOTAL F	RECOVERY FOR BORING	100%	
				1		URE AND TITLE OF INSPE	CTOR	
8. ТОТ	AL DEPTH	OF BORI	NG 20.0 Ft.		Chris	Gillentine, Geologist		
ELEV.	DEPTH	LEGEND	CLASSIFICATI	ION OF MATERIALS	SAMPLE	LABO	RATORY RES	ULTS
-39.8	0.0							-(
	Ę			nell fragments, dark gray				Ę`
	F		(CH)					F
	F							F
	Ē.							Ē
	Ē							E
	Ē							E
	-							<u> </u>
	E							<u>E</u>
-46.8	E 70							E
-40.0	_ <i>7.</i> 0		CAND					E
	E	$ \cdots $	grained sand-sized qu	I, mostly fine to medium-				E
	E		gramoa sana sizsa qe	aurez, gray (Or)				E
	E							E
	F	$ \cdots $			NS			F.
	E	:::						E
	Ē							Ę.
	F	$ \cdot \cdot $						F
	F	$ \cdot \cdot \cdot $						F
	E.	$ \cdot \cdot \cdot $						E
-54.8	- 15.0	:::						Ę.
	F		CLAY, fat, dark gray	(CH)	1			Ę.
	F		OLAT, Ial, Ualk glay	(011)				F
	Ē							E
	Ė							ŧ
	E							E
	<u> </u>							Ę
-59.8	20.0							
	Ė _							£'
	E		NOTES:					E
	Ė		1. Soils are fiel	ld visually classified in				<u>E</u>
	Ė		accordance with the	Unified Soils Classification				F
	Ē		System.					F
	F		2. NS = Sample no	ot submitted for laboratory				F
	E		analysis from this inte	erval.				<u> </u>
	E		3. Seafloor elevation	calculated using sampling				<u> </u>
	l-							

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.18238° Long = -88.36146°

Boring Designation BI-PB-069-10

RILLING LOG (cont. Sheet)	INSTALLA			SHEET 2					
JECT		_	District	HORIZONTAL	OF 2 SHEETS					
JECT ∕IsCIP Barrier Island Rest	oration	COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, MSE (U.S. Ft.) NAD83 NAVD88								
ATION COORDINATES		ELEVATION TOP OF BORING								
(= 1,133,344 Y = 248,	164		-39.8 Ft.							
EV. DEPTH	CLASSIFICATION OF MATE		SAMPLE	LABORATORY R	ESULTS					
Ve ar	ssel's fathometer water depth olying NOAA tidal gauge data tor.		SAMPLE	LABORATORY R	ESULTS					

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.18238° Long = -88.36146°

Boring Designation BI-PB-070-10

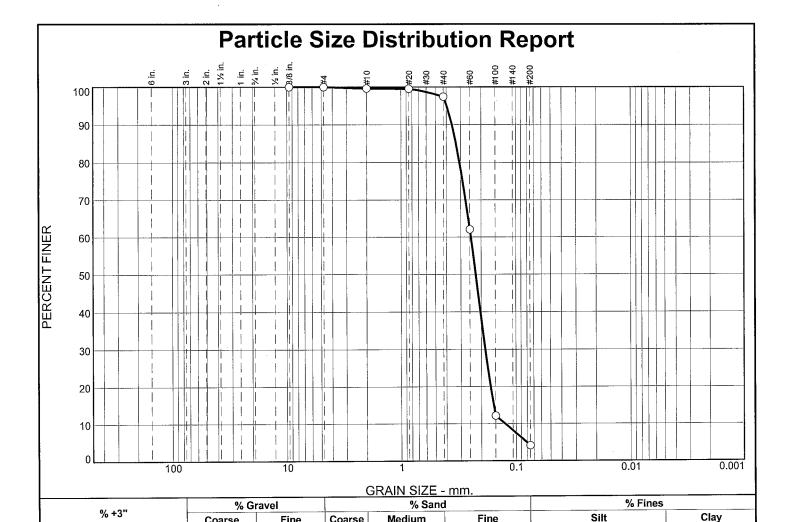
1. PROJECT MSCIP Barrier Island Restoration Petit Bois Pass- AL West 2. BORING DESIGNATION Petit Bois Pass- AL West 3. DRILLING AGENCY CORPS of Engineers - CESAM ANANCO FOR DRILLING UNERTIFICATION OF BORING UNERTIFICATION PETIT DRIVING PROJECT TOTAL SAMPLES DISTRIBED UNERTIFICATION OF BORING UNERTIFICATION OF BORING THICKNESS OF OVERBURDEN N/A 16. ELEVATION TOP OF BORING UNERTIFICATION OF MATERIALS 17. TOTAL RECOVERY FOR BORING UND 100% 18. TOTAL DEPTH OF BORING UND 100% 18. SIGNATURE AND TITLE OF INSPECTOR CHIS Gillentine, Geologist CLAY, fat, trace fine-grained sand-sized quartz CHAY, fat, dark gray (CH) NS CLAY, fat, dark gray (CH) NS NS	SHEET 1			<u> </u>	STALLATION	1			DIVISIO	OG	LLING I	DRI
MsCIP Barrier Island Restoration Petit Role Pass. A. Livest No. 2008	OF 2 SHEETS					-		n Atlantic	South			
Petit Bois Pass-AL West 2. BOING DESIGNATION BI-PB-070-10 E = 1,134,943 N = 248,332 3. DRILLING AGENCY CORPS of Engineers - CESAM 4. NAME OF DRILLER CONSTRUCTION OF BORING CORPS of Engineers - CESAM 5. DIRECTION OF BORING CORPS of Engineers - CESAM 6. THICKNESS OF OVERBUADEN N/A 7. DEPTH DRILLED INTO ROCK N/A 8. TOTAL DEPTH OF BORING CO.0.0 Ft. CLASSIFICATION OF MATERIALS SAMPLE CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESUL A CLASSIFICATION OF MATERIALS NS Classification: SP Color: 2.5Y 6/2-D50: 0.2226 mm % Fire STORE COLORS OF CLAY, fat, dark gray (CH) NS CLAY, fat, dark gray (CH) NS State Plane, MSE (U.S. Ft.) NAD83 11. MANUFACTURER'S DESIGNATION OF DRILLE Vibracore Vibracore 12. TOTAL SAMPLES 13. TOTAL NUMBER CORE BOXES 14. WATER DEPTH 40 Ft. 40 Ft. WATER DEPTH 40 Ft. 15. DATE BORING 15. DATE BORING 40.2 Ft. 17. TOTAL RECOVERY FOR BORING 40.2 Ft. 18. SIGNATURE AND TITLE OF INSPECTOR Chris Gillentine, Geologist LABORATORY RESUL A CLASSIFICATION OF MATERIALS NS CLAY, fat, trace fine-grained sand-sized quartz (CH) NS NS NS NS NS NS NS NS NS N						_						
2. BORING DESIGNATION LOCATION COGRINATES 11. MANUFACTURER'S DESIGNATION OF DRILL	<u> </u>		!			10.		on				
S. DRILLING AGENCY CORPS of Engineers - CESAM 4. NAME OF DRILLER CONSTRUCTION Solutions International, Inc. 5. DIRECTION OF BORING WERTICAL NICLINED 6. THICKNESS OF OVERBURDEN N/A 7. DEPTH DRILLED INTO ROCK N/A 8. TOTAL DEPTH OF BORING CLASSIFICATION OF MATERIALS CLAY, fat, trace fine-grained sand-sized quartz (CH) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH)	NAVD88		,	. , ,		١.,						
3. DRILLING AGENCY Corps of Engineers - CESAM 4. NAME OF DRILLER CONSTRUCTION SOLUTIONS International, Inc. S. DIRECTION OF BORING □ VERTICAL □ INCLINED 13. TOTAL NUMBER CORE BOXES CONSTRUCTION OF BORING □ VERTICAL □ INCLINED 15. DATE BORING □ 3TARTED □ 08-05-10 □ 08-05-	AUTO HAMMER MANUAL HAMMER		ION OF DRILL			111.			ļ.			_
12. TOTAL SAMPLES 1	UNDISTURBED (UD)		DISTURBED		VIDIACO	╁			i_			
4. NAME OF DRILLER Construction Solutions International, Inc. 5. DIRECTION OF BORING STARTED STARTE	0	i	i	PLES	. TOTAL SA	12.	ON TRACTOR FILE NO.	OOM	CESAM			_
Construction Solutions International, Inc. S. DIRECTION OF BORNING □ VERTICAL □ INCLINED N/A 15. DATE BORNING □ INCLINED N/A 16. ELEVATION TOP OF BORNING 8. TOTAL DEPTH OF BORNING □ OU PETH CLASSIFICATION OF MATERIALS CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULT CLAY, fat, trace fine-grained sand-sized quartz (CH) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) N/S 14. WATER DEPTH 40 Pt. 15. DATE BORNING 16. ELEVATION TOP OF BORNING 16. ELEVATION TOP OF BORNING 17. TOTAL RECOVERY FOR BORNING 100% 18. SIGNATURE AND TITLE OF INSPECTOR Chris Gillentine, Geologist LABORATORY RESULT N/S A Classification: SP Color: 2.5Y 6/2 D50: 0.2226 mm % Fire N/S N/S N/S N/S			1	IRED CODE BOYES	TOTAL NI	13			JE07 1111			
S. DIESCTION OF BORING DEG., FROM SEARING 15. DATE BORING OR-05-10 OR-05-10						\vdash		ional, Inc.	s Internati	Solutions	onstruction	C
SAND Dearly Sand				тн	. WATER DE	14.	BEARING					
7. DEPTH DRILLED INTO ROCK N/A 8. TOTAL DEPTH OF BORING 20.0 Ft. CLASSIFICATION OF MATERIALS CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULT CHAIR CHA	08-05-10	i	i	NG	. DATE BOR	15.		VERTICAL				
8. TOTAL DEPTH OF BORING 20.0 Ft. ELEV. DEPTH 2).2 Ft.	-40.2 Ft.	TOP OF BORING	. ELEVATIO	16.		N/A	DEN	VERBUR	KNESS OF	6. THIC
B. TOTAL DEPTH OF BORING 20.0 Ft. 19. SIGNATURE AND TITLE OF INSPECTOR Chris Gillentine, Geologist CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULT A40.2 0.0 CLAY, fat, trace fine-grained sand-sized quartz (CH) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, it. gray (SP) A Classification: SP Color: 2.5Y 6/2-D50: 0.2226 mm % Fire colors in the color of the color								√A	ck N	INTO RO	TH DRILLED	7. DEP
ELEV. DEPTH		DR				18.						
40.2 0.0 CLAY, fat, trace fine-grained sand-sized quartz (CH) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, lt. gray (SP) A Classification: SP Color: 2.5Y 6/2 D50: 0.2226 mm % Fine CLAY, fat, dark gray (CH)			t	llentine, Geologist	Chris (<u>L</u>		.U Ft.	20.	BORING	AL DEPTH O	8. ТОТ
CLAY, fat, trace fine-grained sand-sized quartz NS SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, lt. gray (SP) A Classification: SP Color: 2.5Y 6/2-D50: 0.2226 mm % Fire CLAY, fat, dark gray (CH) NS	LTS	ORY RESULTS	BORATORY RES	LAB	SAMPLE		I OF MATERIALS	ASSIFICATION OF	CL	LEGEND	DEPTH	ELEV.
A Classification: SP Color: 2.5Y 6/2- 50.2 10.0 CLAY, fat, dark gray (CH) NS NS A Classification: SP Color: 2.5Y 6/2- D50: 0.2226 mm % Fir						一					0.0	-40.2
SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, lt. gray (SP) A Classification: SP Color: 2.5Y 6/2-D50: 0.2226 mm % Fine colors and sand-sized quartz, lt. gray (SP) CLAY, fat, dark gray (CH) NS					NS	tz	ained sand-sized quart	trace fine-grained				
NS	2-light brownish gray ines: 4.1	or: 2.5Y 6/2-light mm % Fines: 4	Color: 2.5Y 6 .2226 mm %	Classification: SP D50: 0.2	A	า-	mostly fine to medium tz, lt. gray (SP)	orly-graded, most nd-sized quartz, It	AND, poor	S g		
-60 2 = 20 0					NS		H)	dark gray (CH)	LAY, fat,	°		
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.						n	ified Soils Classificatio	e with the Unified Sample not subm	Soils ccordance ystem.	1 a S	20.0	-60.2

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.18200° Long = -88.3564°

Boring Designation BI-PB-070-10

DRILLING	LOG (Cont. Sheet)	INSTALLATION SHEET 2 Mobile District OF 2 SHEET								
DJECT	· · · · · · · · · · · · · · · · · · ·			HORIZONTAL	OF 2 SHEETS					
	land Restoration	COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, MSE (U.S. Ft.) NAD83 NAVD88								
CATION COORDII		ELEVATION TOP OF BORING								
X = 1,134,943			-40.2 Ft.							
EV. DEPTH	CLASSIFICATION OF MATER	IALS								
EV. DEPTH	vessel's fathometer water depth is applying NOAA tidal gauge data factor.			LABORATORY RI	ESULTS					

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.18200° Long = -88.3564°



Medium

2.2

Fine

93.3

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.6		
#20	99.5		
#40	97.4		
#60	62.1		
#100	12.2		
#200	4.1		

Coarse

0.0

Fine

0.0

Coarse

0.4

SAND, (SP), fine	Material Description grained	<u>n</u>
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.3586 D ₅₀ = 0.2226 D ₁₀ = 0.1243	Coefficients D85= 0.3301 D30= 0.1844 Cu= 1.97	D ₆₀ = 0.2449 D ₁₅ = 0.1561 C _c = 1.12
USCS= SP	Classification AASHT	O=
CADD CODE =	<u>Remarks</u> CH10D965	

Silt

4.1

(no specification provided)

0.0

Location: USACE Sample # BI-PB-70-10A **Sample Number:** TE Lab ID: 4622.30

Depth: 7.0 - 10.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

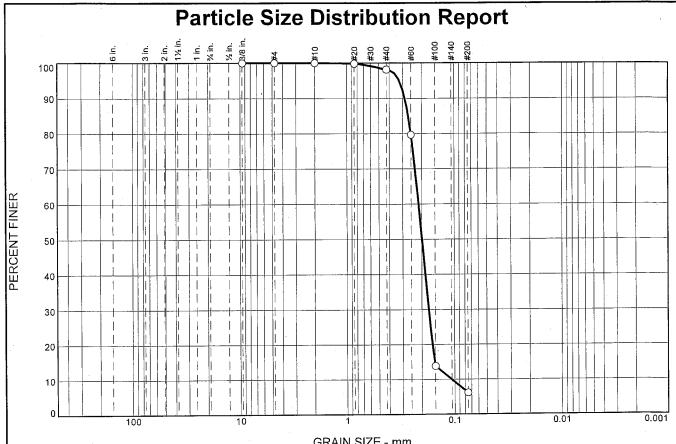
Mobile, Alabama

Tested By: G.Fancher

Boring Designation BI-PB-073-10

DR	ILLING	I OG	DIVISIO				IN	STALLATIO					SHEET	r 1
1. PRO			Sout	h Atlantic				Mobile Dis					OF 1	SHEETS
		ا جاماه	Docto						TYPE OF BIT		HORIZONT	٠٨١	VERTIC	201
	MsCIP Barrie			on			"				1		:	
	Petit Bois Pa			LOCATION C	OORDII	NATES	11		Plane, MSE		NAD83		NA\ UTO HAI	/D88
	BI-PB-073-1		į.			N = 247,10	- 1	Vibra		LOIGINATION	OI DIGE	=		HAMMER
	LLING AGEN					RACTOR FILE	E NO.			D	ISTURBED			BED (UD)
(Corps of Eng	gineers -	CESAM	i			12	. TOTAL S	SAMPLES	!	1		0	
4. NAI	NE OF DRILL	ER					13	. TOTAL	UMBER COR	E BOXES		•		
	Construction		ns Internat					. WATER	NEDTH		43 Ft.			
	ECTION OF E	BORING		DEG. FROM	1	BEARING	<u> </u>	. WAILK	DEF III		STARTED		COMPL	ETED
	VERTICAL INCLINED					 	15	. DATE BO	DRING		07-09-	10	i	09-10
	CKNESS OF	OVERBU	RDEN	N/A			16	. ELEVAT	ION TOP OF	BORING	-41.2 Ft.	-		
7. DEF	TH DRILLED	INTO RO	ock V	N/A			17	. TOTAL F	RECOVERY FO	OR BORING	100%			
			-	W/A			18	. SIGNAT	URE AND TIT	LE OF INSPE	CTOR			
8. TO	AL DEPTH O	F BORIN	I G 18.	.3 Ft.				Valer	rie Morrow, (Geotechnica	l Engineer			
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	N OF I	MATERIALS		SAMPLE		LABO	RATORY RES	ULTS		
-41.2	0.0													
-52.2	- - - - -		quartz, tr debris, dar At El42.3	an, trace ace shell k gray (CL) 3 Ft., trace s	r fine-ç	ents, trace	wood	NS						
	- 13.8 	<i>Y/J//</i>	SAND, poo	orly-graded, tz, gray (SP	mostly)	fine-grained	d sand-	A	Classifi	cation: SP-S D50: 0.19	SM Color 83 mm %	: 2.5Y Fines	7/1-light : 6.1	t gray
			accordance System. 2. NS = analysis from 3. Seafloor vessel's fa	s are field e with the U Sample not om this inter or elevation c athometer w NOAA tidal	submival.	Soils Classiful itted for labouted using safepth reading the soil is the soil is the soil in the soil is the soil in the soil is the soil in the soil	oratory impling							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.17877° Long = -88.39512°



				RAIN SIZE -	mm.		
	% G	ravel		% Sand	1	% Fine	s
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.9	92.0	6.1	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0	, ,	
#10	100.0		
#20	99.8		
#40	98.1		
#60	79.6		
#100	13.8		
#200	6.1		
			-
.		Ì	
i	1	4	1

SAND, (SP-SM), f	aterial Description ine grained	o <u>n</u> .
PL=	Atterberg Limits	PI=
D ₉₀ = 0.2863 D ₅₀ = 0.1983 D ₁₀ = 0.1063	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D85=} & 0.2657 \\ \text{D30=} & 0.1721 \\ \text{Cu=} & 2.00 \end{array}$	D ₆₀ = 0.2128 D ₁₅ = 0.1518 C _c = 1.31
USCS= SP-SM	Classification AASHT	O=
CADD CODE = C	Remarks H10D965	

(no specification provided)

Location: USACE Sample # BI-PB-73-10A **Sample Number:** TE Lab ID: 4578.01

Depth: 13.8 - 18.3 (ft.)

Date: 7/16/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Figure

Tested By: G.Fancher

Checked By: R.Martin

Boring Designation BI-PB-076-10

DBI	LLING	LOG	DIVISION			INSTA	LLATIC	N		SHI	EET 1
		LUG	South Atla	antic			bile Dis			OF	1 SHEETS
1. PRO								TYPE OF BIT N/A	•		
			d Restoration			10. C		NATE SYSTEM/DATUM	HORIZONT	:	RTICAL
	etit Bois Pa			TION COORD	INATES	11. M		Plane, MSE (U.S. Ft.)	NAD83		NAVD88 HAMMER
	BI-PB-076-1		1		N = 247,087		Vibra			=	AL HAMMER
	LING AGEN		·	CONT	RACTOR FILE NO.	12. T			STURBED	UNDIST	URBED (UD)
	Corps of En		- CESAM	<u> </u>				!	0	0	
			ons International,	Inc		13. T	OTAL N	IUMBER CORE BOXES			
	ECTION OF			G. FROM RTICAL	BEARING	14. W	ATER I	DEPTH	40 Ft.		
	VERTICAL INCLINED		VEF	RTICAL	 	15. D	ATE BO	PRING	STARTED 08-05-	1	MPLETED 08-05-10
6. тніс	CKNESS OF	OVERB	URDEN N/A			16. EI	LEVAT	ON TOP OF BORING	-40.2 Ft.		
7. DEP	TH DRILLE	INTO R	ROCK N/A			17. T	OTAL R	ECOVERY FOR BORING	100%		
						18. SI		JRE AND TITLE OF INSPE	CTOR		
8. тот	AL DEPTH (OF BORI	NG 18.0 Ft.				Chris	Gillentine, Geologist			
ELEV.	DEPTH	LEGEND	CLASSIF	FICATION OF	MATERIALS	SAI	MPLE	LABO	RATORY RES	SULTS	
-40.2	0.0										
	Ė .				l sand-sized quartz	,					Ė,
	=		dark gray (CH)								F
	-										F
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-58.2	- 18.0										Ė
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	F		NOTES:								F
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	Ē		 Soils are accordance with 	e tield visun the land the lan	ually classified in Soils Classification	: [<u> </u>
	Ē		System.		J.accinication						E
	<u>-</u> -		2. NS = Sampanalysis from the		nitted for laboratory	,					E
	E		anarysis HUIII [[]	no milti val.							F
	E		3. Seafloor ele	vation calcula	ated using sampling	!					E
	F		vessel's fathom	neter water A tidal gaug	depth reading and e data conversior	<u> </u>					Ē,
	F		factor.	. iidai yauy	c data conversion	·					-2
	<u> </u>										

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.17863° Long = -88.37138°

Boring Designation BI-PB-077-10

	RILLING	106	DIVISION		INSTA	LLATIC	ON		SHEET 1
		LUG	South Atlantic		Mol	oile Dis			OF 1 SHEETS
1. PF	OJECT						TYPE OF BIT N/A	1	
			d Restoration		10. C		NATE SYSTEM/DATUM	HORIZONT	i I
2. B	Petit Bois Pa			COORDINATES	11. M		Plane, MSE (U.S. Ft.)	NAD83	NAVD88
	BI-PB-077-1	0	E = 1,13	31,643 N = 247,104		Vibra	core		MANUAL HAMMER
3. DI	RILLING AGEN			CONTRACTOR FILE NO.	12. TO	OTAL S	AMPLES DI	STURBED	UNDISTURBED (UD)
4 N	Corps of En		- CESAM	1			1	0	<u> </u>
4. N			ons International, Inc.		13. TO	OTAL N	IUMBER CORE BOXES		
5. DI	RECTION OF		DEG. FRO	OM BEARING	14. W	ATER	DEPTH	41 Ft.	
	VERTICAL		VERTICA	AL	15. D	ATE BO	PRING	STARTED 08-05-1	COMPLETED 10 08-05-10
6. TI	IICKNESS OF	OVERBU	JRDEN N/A		16. EI	LEVAT	ION TOP OF BORING	-41.3 Ft.	
7. DI	PTH DRILLED	INTO R	OCK N/A				RECOVERY FOR BORING	100%	
8 T(TAL DEPTH (E BODII	NG 18.0 Ft.		18. SI		URE AND TITLE OF INSPE	CTOR	
6. 1	TAL DEFIN	т т	10.0 Ft.			Chris	Gillentine, Geologist		
ELEV	. DEPTH	LEGEND	CLASSIFICAT	TION OF MATERIALS	SAI	MPLE	LABOI	RATORY RES	SULTS
-41.	3 0.0								
	F			hell fragments, dark gray	y				•
	E		(CH)						
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-59.	3 = 18.0								
	<u> </u>								
	F		NOTES:						ŧ
	F		1. Soils are fie	eld visually classified in	n				ļ.
	E		accordance with the	Unified Soils Classification	n				ļ.
	Ē		System.						ļ
	E		2. NS = Sample no analysis from this int	ot submitted for laboratory erval.	у				
	Ē		Seafloor elevation	n calculated using sampling	a				ļ.
	F		vessel's fathometer	water depth reading and	d				Ė
	F		applying NOAA tida factor.	al gauge data conversion	n				ŀ
	_	1 1	racioi.		ı				

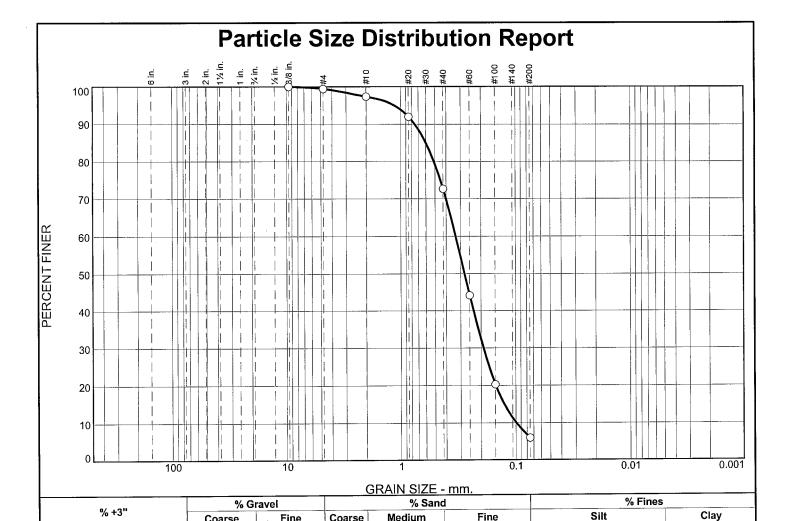
SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.17866° Long = -88.36686°

Boring Designation BI-PB-078-10

DRI	LLING	LOG	DIVISIO				- III		TALLATIO					SHEET	
1. PRO			Sou	th Atlantic					Nobile Dis					OF 1	SHEETS
										TYPE OF BIT	N/A				
	AsCIP Barrie			ion			1	Ο.		NATE SYSTEM/D		HORIZON		VERTIC	
	etit Bois Pa			LOCATION O	OOPD	INATES		1		Plane, MSE (U.		NAD83			/D88
_	3I-PB-078-1		İ			N = 247,0	- 1	••	Vibra		GNATIO	N OF DRILL	=	UTO HAI	MMER HAMMER
	LING AGEN					RACTOR FIL	E NO.				¦ D	ISTURBED			BED (UD)
	Corps of Eng	gineers -	CESAM		!		1	2.	TOTAL S	SAMPLES	į	3		0	` '
4. NAN	E OF DRILL	ER					1	3.	TOTAL I	UMBER CORE B	OXES				
	Construction	Solution	ns Interna	ational, Inc.				_	WATER	DEDTU		38 Ft.			
-	CTION OF E	BORING		DEG. FRO	М	BEARING	<u> </u> :	4.	WAIER	DEFIN		STARTED		COMPL	ETED
	VERTICAL INCLINED				-	!	1	5.	DATE BO	DRING		08-05-	10	i	05-10
6. THI	CKNESS OF	OVERBU	RDEN	N/A			1	6.	ELEVAT	ION TOP OF BOR	ING	-38.1 Ft.			
7. DEP	TH DRILLED	INTO RO	СК	N/A			1	7.	TOTAL F	RECOVERY FOR E	BORING	100%			
							1	8.	SIGNAT	URE AND TITLE	OF INSPI	ECTOR			
8. ТОТ	AL DEPTH O	F BORIN	G 18	3.5 Ft.					Chris	Gillentine, Geo	ologist				
ELEV.	DEPTH	LEGEND	CI	LASSIFICATI	ON OF	MATERIALS		5	SAMPLE		LABO	PRATORY RE	SULTS		
-38.1	0.0							Ţ							
-40.1	2.0	[∵∵] s	SAND, p sand-size gray (SP	oorly-graded d quartz, tra)	, most	tly medium- ell fragment	grained s, dark		Α	Classification: S			Y 6/2-I % Fine:		vnish gray
-45.1	7.0		CLAY, fat dark gray	t, trace fine-((CH)	grained	d sand-sized	quartz,		NS						
-45.1	- 7.0 - - - - - - - - - - - - -			oorly-graded and-sized qu			nedium-		В	Classification: S D			Y 6/2-I Fines		wnish gray
-51.6	- 13.5								С	Classificatio D5		Color: 2.5 69 mm %			E
	- 18.5		CLAY, fat	t, dark gray	(CH)				NS						
			accordano System. 2. NS = analysis f 3. Seaflo vessel's f	ils are fiel ce with the U Sample no rom this inte oor elevation fathometer NOAA tidal	Jnified t subm rval. calcula water	Soils Classi nitted for lab ated using sa depth readil	fication poratory ampling and								

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.178585° Long = -88.35692°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.4		
#10	97.4		
#20	92.0		
#40	72.6		
#60	44.1		
#100	20.2	1	
#200	6.0		
1			

Coarse

0.0

Fine

0.6

Coarse

2.0

Medium

24.8

Fine

66.6

Material Description SAND, (SP-SM), medium to fine grained										
PL=	Atterberg Limits LL=	Pl=								
D ₉₀ = 0.7524 D ₅₀ = 0.2775 D ₁₀ = 0.0987	$\begin{array}{c} \underline{\text{Coefficients}} \\ D_{85} = 0.6018 \\ D_{30} = 0.1902 \\ C_{\text{U}} = 3.36 \end{array}$	$D_{60} = 0.3314$ $D_{15} = 0.1258$ $C_{c} = 1.11$								
USCS= SP-SM	Classification AASHT	0=								
Remarks CADD CODE = CH10D965										

(no specification provided)

Location: USACE Sample # BI-PB-78-10A **Sample Number:** TE Lab ID: 4622.27

Depth: 0.0 - 2.0 (ft.)

Date: 8/15/10

Clay

6.0

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

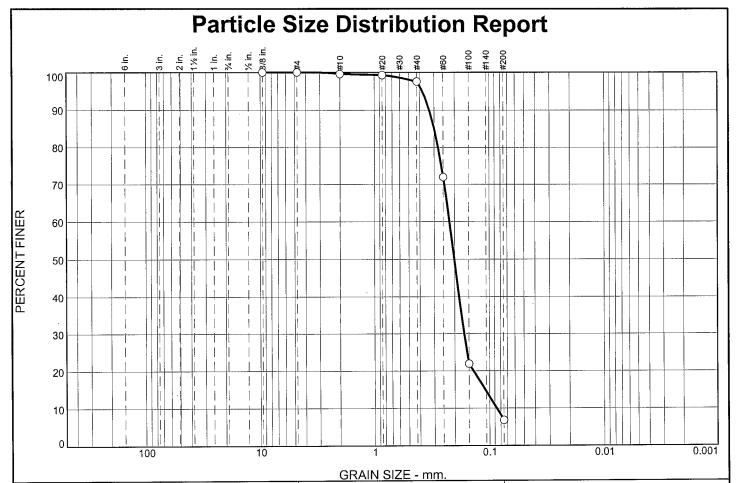
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: G.Fancher

0.0



		% Gra	vel		% Sand		% Fines			
% +3	"	Coarse Fine Coarse Med		Medium	Fine	Silt	Clay			
0.0	- 40			0.4	2.0	90.7	6.9			
SIEVE	PERCENT	SPEC.	PAS	SS?		Material	l Description			
SIZE	FINER PERO		PERCENT (X=NO		SAND	(SP-SM), fine grai	ned			

	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	.375	100.0		
	#4	100.0		
	#10	99.6		
ļ	#20	99.3		-
Ì	#40	97.6		
	#60	71.9		
	#100	21.9		
	#200	6.9		
ļ				
	I		1	1

	Material Description SAND, (SP-SM), fine grained										
PL=	Atterberg Limits LL=	PI=									
D ₉₀ = 0.3313 D ₅₀ = 0.2008 D ₁₀ = 0.0867	$\begin{array}{c} \textbf{Coefficients} \\ \textbf{D85=} & 0.3001 \\ \textbf{D30=} & 0.1651 \\ \textbf{C_{u}=} & 2.55 \end{array}$	D ₆₀ = 0.2207 D ₁₅ = 0.1091 C _c = 1.43									
USCS= SP-SM	Classification AASHTO	=									
CADD CODE = C	Remarks CADD CODE = CH10D965										

(no specification provided)

Location: USACE Sample # BI-PB-78-10B **Sample Number:** TE Lab ID: 4622.28

Depth: 7.0 - 10.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

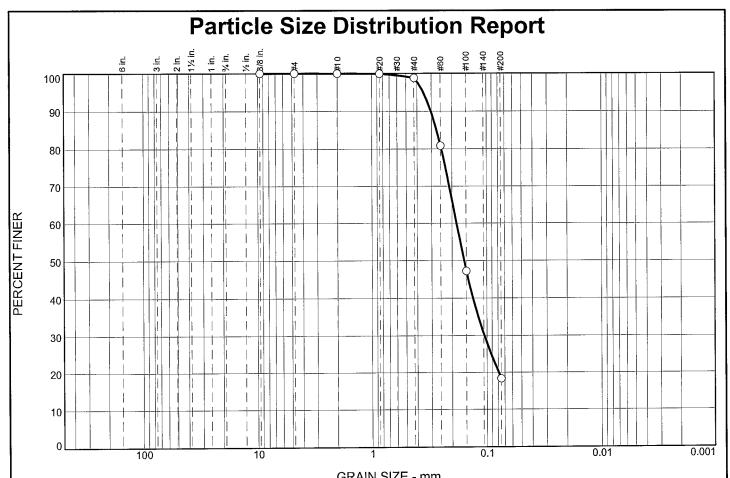
Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

Tested By: G.Fancher Checked By: R.Byrd



				KAIN SIZE -	1[1]11.			
	% Gı	ravel		% Sand		% Fines		
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0	0.0	0.0	0.0	1.2	80.5	18.3		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	98.8		
#60	80.8		
#100	47.2		
#200	18.3		
	1		

Material Description SILTY SAND, (SM), fine grained									
PL=	Atterberg Limits LL=	PI=							
D ₉₀ = 0.3035 D ₅₀ = 0.1569 D ₁₀ =	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D85= } 0.2707 \\ \text{D30= } 0.1052 \\ \text{C}_{\text{U}}^{=} \end{array}$	D ₆₀ = 0.1821 D ₁₅ = C _c =							
USCS= SM	Classification AASHT	O=							
CADD CODE = CH10D965									

(no specification provided)

Location: USACE Sample # BI-PB-78-10C **Sample Number:** TE Lab ID: 4622.29

Depth: 10.0 - 13.5 (ft.)

Date: 8/15/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: G.Fancher

Boring Designation BI-PB-079-10

DBI	LLING	106	DIVISION			INSTALLATION SHEET 1						
		LUG	South .	Atlantic		Mobile District OF 1 SHEETS						ETS
1. PRO								TYPE OF BIT N/A				
	/IsCIP Barri Petit Bois Pa		d Restoration	1		10.		NATE SYSTEM/DATUM	HORIZONT	- :	NAVD88	
	ING DESIG			CATION COOR	DINATES	11.		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		HAMMER	
Е	BI-PB-079-1	10		E = 1,136,298	N = 247,040		Vibra	icore			UAL HAMM	
	LING AGEN			CON	TRACTOR FILE NO.	12.	TOTAL S		STURBED	i	STURBED (UD)
	Corps of En		- CESAM						0	0		
			ons Internatio	nal Inc		13.	TOTAL P	NUMBER CORE BOXES				
5. DIRE	ECTION OF		;	DEG. FROM	BEARING	14.	WATER	DEPTH	43 Ft.			
	VERTICAL INCLINED			VERTICAL		15.	DATE BO	DRING	STARTED 08-05-1	i	08-05-10	
6. THI	CKNESS OF	OVERB	URDEN	N/A		16.	ELEVAT	ION TOP OF BORING	-42.8 Ft.			
7. DEP	TH DRILLE	D INTO F	ROCK N//	Α		17.	TOTAL F	RECOVERY FOR BORING	100%			
	A. DEDT.		NO 47.5			18.		URE AND TITLE OF INSPE	CTOR			
8. 101	AL DEPTH (NG 17.5	Ft.		Ц,	Chris	Gillentine, Geologist				_
ELEV.	DEPTH	LEGEND	CLAS	SSIFICATION OF	MATERIALS		SAMPLE	LABO	RATORY RES	SULTS		
-42.8	0.0											
	Ē		CLAY, fat, d	lark gray (CH)								Ε̈́
	Ē											F
	F											F
	Ē											E
	E											E
	F											F
	F											- 5
	<u> </u>											E
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	-											-1
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	E											F
-60.3	17.5					\perp						_F
	E		NOTES									F
	<u> </u>		NOTES:									E
	E		1. Soils	are field vis	sually classified in	ո						E -2
	Ė		accordance System.	with the Unified	d Soils Classification	۱ ا						E
	Ē		-									F
	<u>F</u>			ample not sub n this interval.	mitted for laboratory	у						Ė
	Ē		-									E
	Ē		3. Seafloor	elevation calcul	lated using sampling	g						E
	Ė		applying NC	nometer water DAA tidal gau	depth reading and ge data conversion	ս 1						Ė
	<u> </u>		factor.	Jau	<u> </u>							-2
	Ė											E
	<u> </u>							ļ				

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.17843° Long = -88.35213°

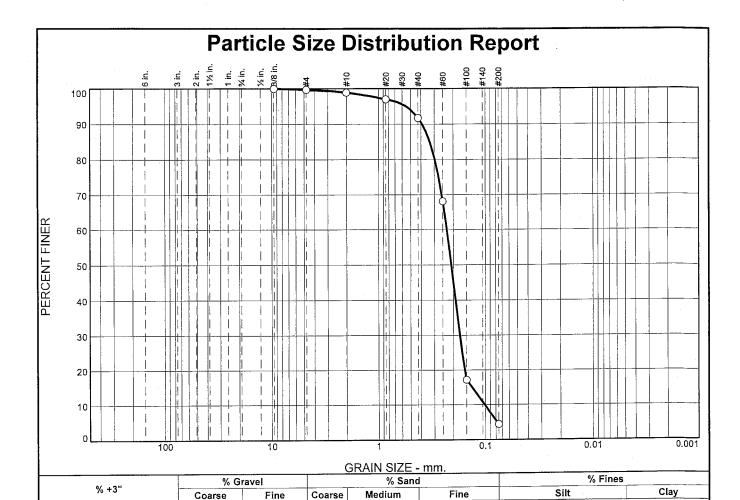
Boring Designation BI-PB-080-10

DBI	LLING	100	DIVISIO	N			IN	STALLATIO	ON			SHEET	1
		LUG	Sout	h Atlantic				Mobile Di	strict			OF 2	SHEETS
1. PRO							_	_	TYPE OF BIT N/A				
	/IsCIP Barri			on			10		NATE SYSTEM/DATUM	HORIZON	:	VERTIC	
	etit Bois Pa			LOCATION C		INATES	144		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83			/D88
	31-PB-080-1					N = 245,508	11	. WANUFA Vibra		N OF DRILL	=	ANUAL H	MMER HAMMER
	LING AGEN		<u> </u>	L = 1,122		RACTOR FILE NO.	+		¦ D	ISTURBED			BED (UD)
	Corps of Eng	gineers -	- CESAM				12	. TOTAL S	SAMPLES	2	i)	` '
4. NAN	E OF DRILL	ER					13	. TOTAL I	NUMBER CORE BOXES		•		
	Construction		ns Internat				14	. WATER	DEPTH	43.5 Ft.			
	ECTION OF I	BORING		DEG. FROM	М	BEARING	H			STARTED	!	COMPL	ETED
	INCLINED			į		į	15	. DATE BO	DRING	07-09-	10		09-10
6. THI	CKNESS OF	OVERBU	JRDEN	N/A		•	16	. ELEVAT	ION TOP OF BORING	-42.2 Ft.			
							ᅪ		RECOVERY FOR BORING	100%			
7. DEP	TH DRILLED	INTO R	OCK N	V/A			\vdash		URE AND TITLE OF INSP				
8. тот	AL DEPTH C	F BORIN	NG 19.	.4 Ft.					rie Morrow, Geotechnica				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	ON OF	MATERIALS		SAMPLE		DRATORY RE	SULTS		
-42.2	0.0	-					_						
-42.2	 E		01.437.1	, ,									<u>F</u> -c
	-			in, trace she rk gray (CL)		gments, trace woo	od						<u>F</u>
	F		acono, aa	it glay (OL)									F
	Ē												F
	-												F
	Ė												Ė
	F							NS					F
	-							INS					F-5
	Ē												Ė
	 												F
-49.9	F , ,												F
-49.9													E
-51.6	9.4			ayey, mostly ce shell frag		grained sand-size , gray (SC)	ed						
	-		SAND, poo	orly-graded,	mostly	y fine-grained sand	d-						<u>-</u> 1
	Ė		sized quar	tz, trace she	ell frag	ments, gray (SP)							Ė
	Ė	.:							Classification: SI	P Color: 1	2.5Y 7/1	-liaht a	rav E
	-							Α		084 mm %			F
	Ē.	[:::]											E
	Ē	.:.:											E
	Ē	:::					ļ						<u>_</u>
	<u>F</u>	$[\cdot \cdot \cdot]$											<u>-</u> 1
	Ė	.::.											ļ.
	F								Classification: SP-	SM Color	r: 2.5Y 7	7/1_liabt	rav F
	F							В	D50: 0.16		Fines:		y ay
	Ē												E
	Ē	·:::											E
-61.6	19.4	:::											F
	E _												-2
	Ę		NOTES:										₽ ¯
	Ē		1 901	e are field	٠,٠,٠	ually algorified	. l						F
	<u> </u>		 Soils accordance 	s are tield se with the l	u visi Jnified	ually classified i Soils Classification	n l						F
	F		System.										F
	F		0 NC-	Comple n=1	ouh-	sitted for laborate	۱ ,						F
	<u>F</u>			Sample not om this inter		nitted for laborator	У						F
	Ē		-										-2
	<u>-</u>		Seafloovessel's fa	or elevation of the state of th	calcula ater de	ated using samplin opth reading and	ıg						E'

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.17437° Long = -88.39525°

Boring Designation BI-PB-080-10

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.17437° Long = -88.39525°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.7		
#10	98.9		
#20	97.1		
#40	91.7		
#60	68.1		
#100	17.1		
#200	4.4		
	,	*	

0.0

0.3

0.8

7.2

87.3

•	Material Description SAND, (SP), fine grained											
PL=	Atterberg Limits	Pl=										
D ₉₀ = 0.3906 D ₅₀ = 0.2084 D ₁₀ = 0.1016	Coefficients D ₈₅ = 0.3311 D ₃₀ = 0.1730 C _u = 2.25	D ₆₀ = 0.2292 D ₁₅ = 0.1335 C _c = 1.29										
USCS= SP	Classification AASHT	O=										
CADD CODE =	Remarks CADD CODE = CH10D965											

(no specification provided)

0.0

Location: USACE Sample # BI-PB-80-10A Sample Number: TE Lab ID: 4578.02

Depth: 9.4 - 14.4 (ft.)

Date: 7/16/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

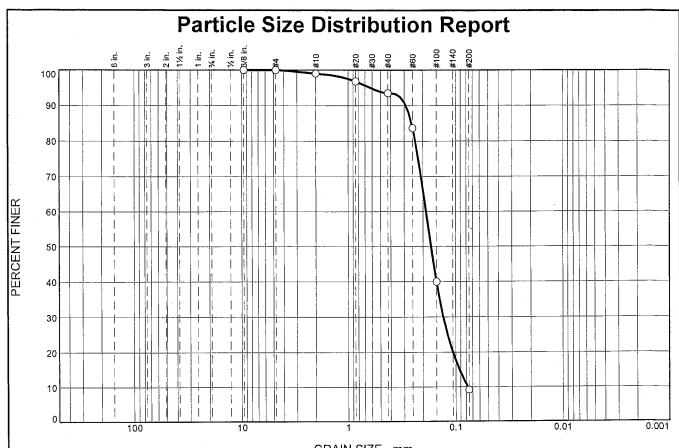
Figure

4.4

Mobile, Alabama

Checked By: R.Byrd

Tested By: G.Fancher



			(-	RAIN SIZE -	mm.				
0/ -"	% Gı	ravel		% Sand		% Fines			
% +3"	Coarse		Coarse	Medium	Fine	Silt	Clay		
0.0	0.0	0.0	1.0	5.6	84.3	9.1			

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.0		
#20	96.8		İ
#40	93.4		
#60	83.7		Į
#100	39.9	·	
#200	9.1		1
i			
[

SAND, (SP-SM), f	aterial Descriptic ine grained	<u>on</u>								
PL=	Atterberg Limits LL=	PI=								
D ₉₀ = 0.2897 D ₅₀ = 0.1684 D ₁₀ = 0.0774	Coefficients D85= 0.2559 D30= 0.1301 Cu= 2.42	D ₆₀ = 0.1872 D ₁₅ = 0.0922 C _c = 1.17								
USCS= SP-SM	Classification AASHT	-O=								
Remarks CADD CODE = CH10D965										

(no specification provided)

Location: USACE Sample # BI-PB-80-10B **Sample Number:** TE Lab ID: 4578.03

Depth: 14.4 - 19.4 (ft.)

Date: 7/16/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Figure

Tested By: G.Fancher

Boring Designation BI-PB-085-10

1. PROJECT MSCIP Barrier Island Restoration Polit Bods Pass AL West 2. BORING DESIGNATION POLIT Bods Pass AL West 3. DISLING ACERCY CONTRACTOR FILE NO COMPACT FOR MINE BI-PQ-050-10 E-1,131,599 N = 245,599 COMPACT FILE NO	DR	ILLING	LOG	DIVISIO				1	TALLATIO					SHEET	
MSCIP Barrier Island Restoration				Sout	h Atlantic			_						OF 2	SHEETS
Depth Bose Pass AL West Series State Plane, MSE (U.S. Ft.) NABS MANUAL MARKER MAN				LD- 1 "								OD/2011	•	: \/FB=:-	
2. BORNO DESIGNATION LOCATION COORDINATES 11. MANUFACTURETS DESIGNATION OF DRILL AUTO NAMEER AUTON NAMEER AUTON NAM					on			10.			!			1	
B-B-B-B-S-10					LOCATION	OOPDI	NATES	11							
3. DRILLING AGENCY CONTRACTOR FILE NO.								l			1014 01	DRILL			
4. NAME OF PRINCES CONSTRUCTION OF PORTING CONSTRUCTION OF PORTING CONSTRUCTION CON								†			DIST	JRBED			
Source Trans of Parlines Source Trans of Parlines See From		Corps of Eng	gineers -	CESAM				12.	TOTAL S	SAMPLES	0		!	0	
S. DIRECTION OF BORING DEBRING DEFIN DATE BORING STARTED COMPLETED 08-10-10 08-10-1								13.	TOTAL N	NUMBER CORE BOXES					
SENTICAL SENTICAL				ns Internat			T=======	14.	WATER	DEPTH	46	Ft.			
6. THICKNESS OF OVERBURDEN N/A 7. DEPTH DRILLED INTO ROCK N/A 8. TOTAL DEPTH OF BORING 20.0 Ft. ELEV. DEPTH	\boxtimes	VERTICAL	BORING		VERTICAL	И	BEARING	15.	DATE BO	DRING	S		10	i	
7. DEPTH DRILLED INTO ROCK NI/A 8. TOTAL DEPTH F BORING 2.0 Ft. CLASSIFICATION OF MATERIALS At El. 50.6 Ft., trace fine-grained sand-sized quartz, dark gray (CH) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP) At El. 50.6 Ft., trace fine-grained sand-sized quartz, gray (SP)		_	OVERBU	IRDEN	N/A		•	16.	ELEVAT	ION TOP OF BORING	-45				
8. TOTAL DEPTH OF BORING 20.0 Ft. CLASSIFICATION OF MATERIALS At El50.6 Ft., trace fine-grained sand-sized quartz, dark gray At El50.6 Ft., trace fine-grained sand-sized quartz, dark gray (CH) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz gray (SP) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz gray (SP) NS NS NS NS NS NS NS NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory								\vdash							
ELEV. DEPTH 9 CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS -45.6 0.0 CLAY, fat, dark gray (CH) At El50.6 Ft, trace fine-grained sand-sized quartz, dark gray SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (CH) CLAY, fat, dark gray (CH) NS NS NS NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory	/. DE	r in DRILLED	INIUR	OUR [N/A										
At El50.6 Ft., trace fine-grained sand-sized quartz, dark gray SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) NS NS NS NS NS NS 2. Sils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory	8. TO	TAL DEPTH O	F BORIN	IG 20	.0 Ft.			L	Chris	Gillentine, Geologist	<u> </u>				
CLAY, fat, dark gray (CH) At El50.6 Ft., trace fine-grained sand-sized quartz, dark gray SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) NS CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) NOTES: 1. Solls are field visually classified in accordance with the Unified Solis Classification System. 2. NS = Sample not submitted for laboratory	ELEV.	DEPTH	LEGEND	CL	.ASSIFICATIO	ON OF	MATERIALS		SAMPLE	LA	BORAT	ORY RES	ULTS		
At El50.6 Ft., trace fine-grained sand-sized quartz, dark gray SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) NS CLAY, fat, dark gray (CH) NOTES: 1. Solls are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory	-45.6	0.0						\perp							
quartz, dark gray SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) NS CLAY, fat, 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		F		CLAY, fat,	, dark gray (CH)									Ę
		F													F
		F													F
		E													Ē
		Ė													Ė
quartz, dark gray SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) NS CLAY, fat, 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		F													F
		E													E,
		Ė		At El50).6 Ft., trace	e fine-	grained sand-size	ed							E '
SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, gray (SP) NS CLAY, fat, dark gray (CH) CLAY, fat, 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		F					g. aoa oaa oo	~							F
grained sand-sized quartz, gray (SP) NS CLAY, fat, 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	-52.6	F 7.0													E
grained sand-sized quartz, gray (SP) NS CLAY, fat, 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		E	·.·.	SAND, po	orly-graded,	most	y fine to mediun	า-							E
-59.6 14.0 CLAY, fat, dark gray (CH) CLAY, fat, 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		E	[::::]	grained sa	and-sized qua	artz, gr	ay (SP)								E
-59.6 14.0 CLAY, fat, dark gray (CH) CLAY, fat, 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		E	.:.:.												F
-59.6 14.0 CLAY, fat, dark gray (CH) CLAY, fat, 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		F							NC						F
CLAY, fat, dark gray (CH) -65.6 20.0 NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory		F							N5						E
CLAY, fat, dark gray (CH) -65.6 20.0 NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory		F													F
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analysis from this interval.		<u> </u>		2. NS = analysis fr	Sample not	subm	itted for laborator	ту							
3. Seafloor elevation calculated using sampling		E		3. Seafloo	or elevation o	calcula	ted using samplin	g							E.

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.17444° Long = -88.36705°

Boring Designation BI-PB-085-10

DKILLING	LOG (Cont. Sheet)	INSTALLATION SHEET 2 Mobile District OF 2 SHE							
ROJECT	(_	-						
	sland Restoration		VERTICAL NAVD88						
CATION COORE			lane, MSE (U.S. Ft.) N TOP OF BORING	NAD83	: .3.0200				
X = 1,131,589		-45.6 F							
LEV. DEPTH	CLASSIFICATION OF MATER		SAMPLE	LABORATORY RI	ESULTS				
LEV. DEPTH	vessel's fathometer water depth applying NOAA tidal gauge data factor.		SAMPLE	LABORATORY RI	ESULTS				

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.17444° Long = -88.36705°

Boring Designation BI-PB-086-10

PROJECT PROJ	DDI	LLING	LOG	DIVISION	4		INS	STALLATIO	ON		;	SHEET	1
MSCIP Barrier Island Restoration 10. CORDINATE SYSTEMBATUM HORIZOTTAL VIETTCAL State Plane, MSE (U.S.F.) NAD88 NAD88			LUG	South	n Atlantic		上	Mobile Di			(OF 1	SHEETS
Detail Bos Place AL West										·			
1. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER No.					on		10.			:	- 1		
BIPR-0-86-10					OCATION CO	ORDINATES	11.						
3. DRILLER AGENCY													
4. NAME OF PRILLER CONSTITUTION SOLUTION International, Inc. DIRECTION OF BORNO DIRECTION OF BORNO DIRECTION OF BORNO DIRECTION OF BORNO DIRECTION OF BORNO DIRECTION OF BORNO DIRECTION OF BORNO TO BORN				•	i	CONTRACTOR FILE NO.			, Di		UND	ISTUR	BED (UD)
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S. DIRECTION OF BORING SECRET Sec. S				ne Internati	onal Inc		13.	. TOTAL I	NUMBER CORE BOXES				
S. DATE BORING 08-10-10 08-10-10						BEARING	14.	WATER	DEPTH				
7. DEPTH DRILLE INTO ROCK N/A 8. TOTAL DEPTH OF BORNE 17.0 Ft. ELEV. DEPTH 0					VERTICAL		15.	. DATE BO	DRING	i			
17. DEPTH 9 1 17.0 Pt. 17.0 Pt	6. THI	CKNESS OF	OVERB	URDEN	N/A		16.	. ELEVAT	ION TOP OF BORING	-44.4 Ft.			
B. TOTAL DEPTH DEPTH	7. DEP	TH DRILLE	INTO F	ROCK N	I/A		17.	. TOTAL I	RECOVERY FOR BORING	100%			
CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS CLAY, fat, trace fine-grained sand-sized quartz, dark gray (CH) CLAY, fat, trace fine-grained sand-sized quartz, dark gray (CH) NS NS NS NS NS NS NS NS NS N							18.			CTOR			
A4.4 0.0 CLAY, fat, trace fine-grained sand-sized quartz, dark gray (CH) NS NS NS NS NS NS NS Solis are field visually classified in accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval. 3. Seaffoor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion factor.	8. ТОТ	AL DEPTH (OF BORI	NG 17.0	U Ft.		ㅗ	Chris	Gillentine, Geologist				
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_ applying NOAA tidal gauge data conversion		<u>F</u>		3. Seafloo	r elevation c	alculated using samplin	ıg						E
E factor.		E											F
		F				J 30 GGG GG11701010	···						F
		F											F:
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SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.17434° Long = -88.36176°

Boring Designation BI-PB-087-10

DR	LLING	LOG	DIVISIO				1	TALLATIO				SHEET	г 1
1. PRO			Sou	th Atlantic			_	Mobile Dis				OF 2	SHEETS
							_			N/A			
	AsCIP Barri			ion			10.		NATE SYSTEM/DATU	:		VERTI	
	Petit Bois Pa			LOCATION O	OOPDI	NATES	11		Plane, MSE (U.S.			NA AUTO HA	/D88
	3I-PB-087-1		į			N = 245,502	١	Vibra		ATTOM OF DIVILE			HAMMER
	LLING AGEN			,.0		RACTOR FILE NO.	H			DISTURBED			BED (UD)
(Corps of Eng	gineers	- CESAM				12.	TOTAL S	SAMPLES	0	-	0	
4. NAN	IE OF DRILL	.ER					13.	TOTAL N	NUMBER CORE BOXE	:s			
	Construction		ns Interna				14.	WATER	DEPTH	46 Ft.			
	ECTION OF I	BORING		DEG. FRO	M	BEARING	H			STARTE	<u> </u>	COMPI	FTFD
	INCLINED			-		1 1 1	15.	DATE BO	DRING	08-10		i	10-10
6. THI	CKNESS OF	OVERBI	JRDEN	N/A			16.	ELEVAT	ION TOP OF BORING	<u> </u>			
							ᅪ		RECOVERY FOR BOR				
7. DEP	TH DRILLED	INTO R	OCK	N/A			\vdash		URE AND TITLE OF I				
8. ТОТ	AL DEPTH C	OF BORI	NG 20).0 Ft.					Gillentine, Geolog				
ELEV.	DEPTH	LEGEND	CI	LASSIFICATI	ON OF	MATERIALS		SAMPLE		LABORATORY R	ESULTS	•	
-44.7	0.0	+					\dashv						
				rganic-H, tra		-grained sand-size	d						E
-46.7	2.0		quartz, ua	an gray (IVIF	'/								Ē
	Ė		CLAY, fat	t, dark gray	(CH)								E
	F		02,	.,	(0)								F
	E												E
	Ė												E
	E												E
	E												E
-51.7	E 7 0												E
0	=		CAND			(CD)							F
	<u>F</u>	-::-	SAND, po	oorly-graded,	gray (SP)							F
	Ė	:::											E
-54.7	E 10.0	::::											E
-54.7	- 10.0						_	NS					F
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	<u> </u>		 Soi accordance System. 	is are fiel ce with the l	a visu Jnified	ially classified i Soils Classificatio	n n						
	<u> </u>			Sample no		nitted for laborator	у						<u> </u>
	<u> </u>		3. Seaflo	or elevation	calcula	ted using sampling	g						E

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.17422° Long = -88.35683°

Boring Designation BI-PB-087-10

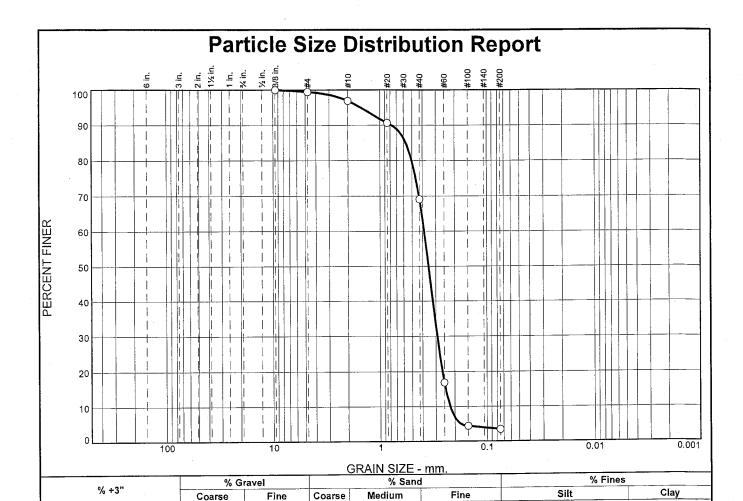
SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.17422° Long = -88.35683°

Boring Designation BI-PB-089-10

DBI	LLING	106	DIVISIO	N			INS	STALLATIO	DN			SHEE	Г 1
		LUG	Sout	h Atlantic			-	Mobile Dis				OF 1	SHEETS
1. PRO									TYPE OF BIT N/A				
			nd Restorati	on			10.		NATE SYSTEM/DATUM	HORIZON		VERTI	
	etit Bois Pa			LOCATION C	OORDI	NATES	11.		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD8		NA UTO HA	VD88
	I-PB-089-1		į			N = 244,126		Vibra					HAMMER
	LING AGEN				CONT	RACTOR FILE NO.	12	TOTALS	SAMPLES	ISTURBED	UI		RBED (UD)
	orps of En		s - CESAM		<u> </u>		╀		1	1	į	0	
			ons Interna	tional Inc			13.	TOTAL	NUMBER CORE BOXES				
	CTION OF			DEG. FROI	М	BEARING	14.	WATER	DEPTH	43 Ft.			
_	VERTICAL INCLINED			VERTICAL	•	 	15.	DATE BO	DRING	STARTE 07-09		COMPI 07-	19-10
6. THIC	KNESS OF	OVERE	BURDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-42.3 Ft.			
7. DEP	TH DRILLED	INTO	ROCK	V/A			17.	TOTAL F	RECOVERY FOR BORING	100%			
	A. DEDT		4C	C F4			18.		URE AND TITLE OF INSPI				
8. 101/	AL DEPTH (JF BUK	ING 16	.6 Ft.			ㅗ	Valer	rie Morrow, Geotechnica	l Engineer			
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	ON OF	MATERIALS		SAMPLE	LABO	RATORY RI	ESULTS		
-42.3	0.0												
	-					ostly medium t		Α	Classification: SF D50: 0.3		2.5Y 7. Fines:	/1-light o	
-43.7	1.4	77777	coarse-gra fragments	ained sand- , gray (SP)	sized (quartz, trace she	╢╫		D50. 0.3	3 111111 70	FILLES.	3.4	—— F
	<u> </u>		`				_						E
	-					grained sand-size ell fragments, dar							E
	_		gray (SC)			3,							Ē
	_												Ė
	-												<u>-</u> 5
													E
	=												F
	-												F
	_												F
								NS					Ē
	=												E,
	=												F ¹
	-												F
	_												E
-55.1	12.8												F
	=	<i>V//</i>	CLAY, lea	an, some o	clay, d	ark greenish gra	ıy						F
	<u>-</u>	<i>V//</i>	(CL)										F
	<u> </u>	1///											<u>-</u> 1
	Ē.												F
-58.9	16.6	1//											F
	- -		NOTES										F
	-		NOTES:										F
	<u> </u>		1. Soil	s are field	d visu	ally classified i	in						E
	Ē		accordance System.	e with the U	Jnified	Soils Classification	n						ŧ.
	Ē		•	_									-2
	<u>-</u> -		2. NS =	Sample not com this inte	t subm	itted for laborator	у						F
			-										E
	<u> </u>		3. Seafloo	or elevation	calcula	ted using samplin	g						Ė
	- -		vessel's f	atnometer \ NOAA tidal	vater (gallo	depth reading an e data conversio	n						F
	<u>-</u>		factor.		3449	3011101010	_						Ę
	<u> </u>												E ₂
	Ė												F
		<u> </u>											F

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.17057° Long = -88.39507°



ſ	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
Ī	.375	100.0		
1	#4	99.5		
1	#10	97.0		
1	#20	90.6		
1	#40	69.1		
	#60	16.9		
	#100	4.4		
	#200	3.4		
1				
1				
-				

Coarse

0.0

Fine

0.5

Coarse

2.5

27.9

65.7

•	Material Descriptio dium to fine grained	<u>n</u>
PL=	Atterberg Limits	PI=
D ₉₀ = 0.7737 D ₅₀ = 0.3500 D ₁₀ = 0.2206	Coefficients D85= 0.5704 D30= 0.2905 Cu= 1.75	D ₆₀ = 0.3850 D ₁₅ = 0.2431 C _c = 0.99
USCS= SP	Classification AASHT	O=
CADD CODE =	Remarks CH10D965	

(no specification provided)

Location: USACE Sample # BI-PB-89-10A **Sample Number:** TE Lab ID: 4578.04

Depth: 0.0 - 1.4 (ft.)

Date: 7/16/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 10-2123-0009 **Figure**

3.4

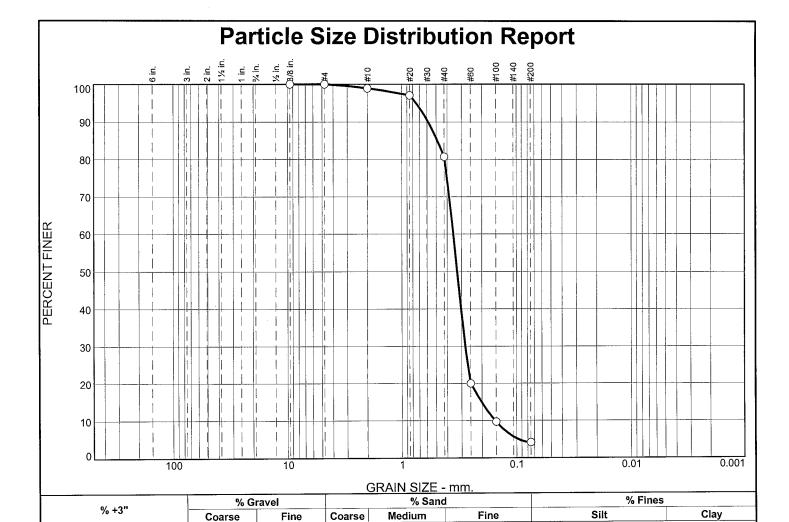
Tested By: G.Fancher

0.0

Boring Designation BI-PB-098-10

ומח	LLING	I OG	DIVISIO	N			INS	STALLATIO	ON		SHEET	Г 1
			South	n Atlantic			-	Mobile Dis			OF 1	SHEETS
1. PRO		1-1	ad Dacterer						TYPE OF BIT N/A NATE SYSTEM/DATUM HORIZO	NTA	VERTIC	201
	etit Bois Pa		nd Restoratio	on			10.		!		:	
	ING DESIGN			LOCATION C	OORDIN	ATES	11.		Plane, MSE (U.S. Ft.) NADA		UTO HA	VD88
В	I-PB-098-1	0		E = 1,130	0,183	N = 252,593		Vibra	icore			HAMMER
_	LING AGEN				CONTR	ACTOR FILE NO.	12.	. TOTAL S	DISTURBED	UN		BED (UD)
	Corps of Eng		s - CESAM		<u> </u>		⊢		4		0	
			ions Internati	ional Inc			13.	. TOTAL I	NUMBER CORE BOXES			
	CTION OF			DEG. FROM	M :	BEARING	14.	. WATER				
_	VERTICAL INCLINED			VERTICAL			15.	. DATE BO	DRING STARTE		COMPL 08-	03-10
6. THIC	CKNESS OF	OVERE	BURDEN	N/A			16	. ELEVAT	ion top of boring -25.1 Ft.			
7. DEP	TH DRILLED	INTO	ROCK N	I/A					RECOVERY FOR BORING 100%			
8. TOT	AL DEPTH C	F BOR	ING 17	5 Ft.			18.		URE AND TITLE OF INSPECTOR			
ELEV.	DEPTH	EGEND		ASSIFICATION	ON OF M	ATERIALS		SAMPLE	Gillentine, Geologist LABORATORY R	ESULTS		
		=					_					
-25.1 -30.1	0.0		grained fragments,	sand-sized gray (SP)	quartz		ell -	A	Classification: SP Color: 2.5' D50: 0.3274 mm	Y 6/2-ligh % Fines:	nt brown 4.2	oish gray
						fine to medium wn/tan (SP))- 	В	Classification: SP-SM Color D50: 0.2679 mm	: 2.5Y 5/; % Fines:	2-grayis 7.4	h brown
-39.1	14.0					fine to medium	1-	С	Classification: SP Color: 2.5' D50: 0.3191 mm	Y 6/2-ligh % Fines:	nt brown 4.5	iish gray
-42.6	17.5		grained sal	nd-sized qu	artz, It. g	ıray/tan (SP)		D	Classification: SP Color: 2.5' D50: 0.2906 mm	Y 6/2-ligh % Fines:	nt brown 4.9	E
			accordance System. 2. NS = analysis from	e with the U Sample not om this inter	Jnified S t submit rval.	Ily classified i oils Classificatio ted for laborator nined from 201	n Y					20
	<u>-</u>											-2 ¹

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19377° Long = -88.37141°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	98.9		
#20	97.1		
#40	80.7		
#60	20.0		
#100	9.7		
#200	4.2		
1			

Coarse

0.0

Fine

0.0

Coarse

1.1

Medium

18.2

	Material Description								
SAND, (SP), med	SAND, (SP), medium to fine grained, with trace clay pockets								
	Att 1 out toutte								
PL=	Atterberg Limits	Pi=							
D ₉₀ = 0.5875 D ₅₀ = 0.3274 D ₁₀ = 0.1534	Coefficients D85= 0.4875 D30= 0.2780 Cu= 2.31	$\begin{array}{c} D_{60} = 0.3538 \\ D_{15} = 0.2019 \\ C_{c} = 1.42 \end{array}$							
USCS= SP	<u>Classification</u> AASHTO)= 							
	Remarks								
CADD CODE = 0	CH10D965								

Silt

4.2

(no specification provided)

0.0

Location: USACE Sample # BI-PB-98-10A Sample Number: TE Lab ID: 4622.01

Depth: 0.0 - 5.0 (ft.)

Date: 8/15/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Contract No. W91278-10-D-0026 - Task 03

Fine

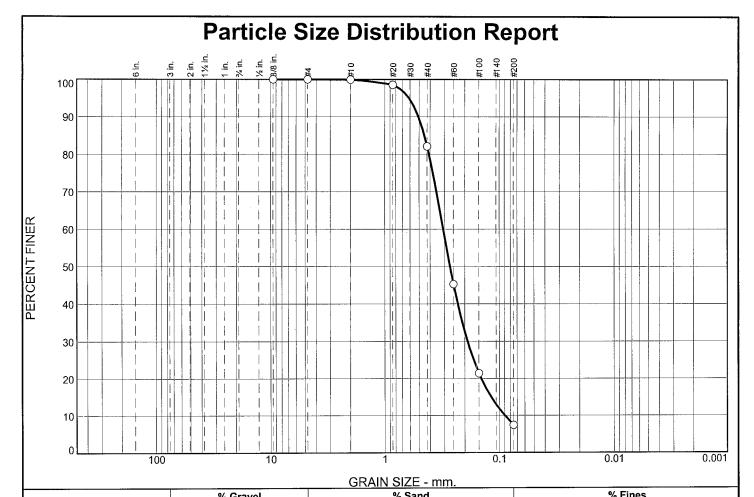
76.5

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: R.Martin



0/ .0		% Grave	l		% Sand		% Fines	
% +3	, –	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0		0.0	0.0	0.1	17.8	74.7	7.4	
SIEVE	PERCENT	SPEC.*	PAS	S?		<u>Material</u>	Description	
SIZE	FINER	PERCENT	(X=N	O)	SAND, (SP-SM), medium	to fine grained, with trace	clay
.375	100.0				pockets			
#4	100.0							

	OIL VL	LICOLINI	0. 20.	1,7,00.
	SIZE	FINER	PERCENT	(X=NO)
	.375	100.0		
	#4	100.0		
	#10	99.9		
	#20	98.5		
	#40	82.1		
	#60	45.3		
	#100	21.4		
	#200	7.4		
ļ				
Ì				

PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.5076 D ₅₀ = 0.2679 D ₁₀ = 0.0892	Coefficients D85= 0.4494 D30= 0.1888 Cu= 3.44	$D_{60} = 0.3072$ $D_{15} = 0.1174$ $C_{c} = 1.30$
USCS= SP-SM	Classification AASHTO=	=
CADD CODE = C	Remarks EH10D965	

(no specification provided)

Tested By: R.Martin

Location: USACE Sample # BI-PB-98-10B **Sample Number:** TE Lab ID: 4622.02

Depth: 5.0 - 10.0 (ft.)

Date: 8/15/10

Thompson Engineering

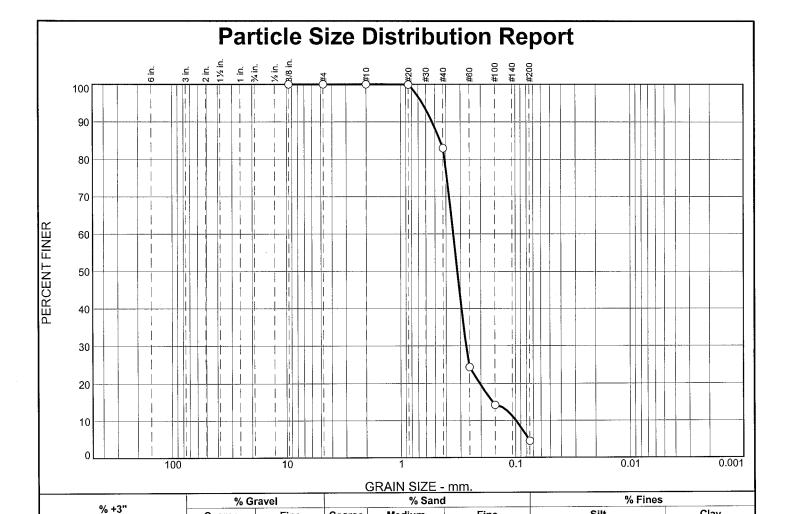
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama



Medium

17.0

Fine

78.5

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	83.0		
#60	24.3		
#100	14.2		
#200	4.5	*	

Coarse

0.0

Fine

0.0

Coarse

0.0

	Material Descriptio	<u>n</u>				
SAND, (SP), med	lium to fine grained					
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5296 D ₅₀ = 0.3191 D ₁₀ = 0.0991	Coefficients D ₈₅ = 0.4506 D ₃₀ = 0.2672 C _u = 3.49	D ₆₀ = 0.3458 D ₁₅ = 0.1572 C _c = 2.08				
USCS= SP	<u>Classification</u> AASHT	O=				
Remarks CADD CODE = CH10D965						

Silt

4.5

(no specification provided)

0.0

Location: USACE Sample # BI-PB-98-10C **Sample Number:** TE Lab ID: 4622.03

Depth: 10.0 - 15.0 (ft.)

Date: 8/15/10

Clay

Thompson Engineering

Client: US Army Corps of Engineers

Contract No. W91278-10-D-0026 - Task 03

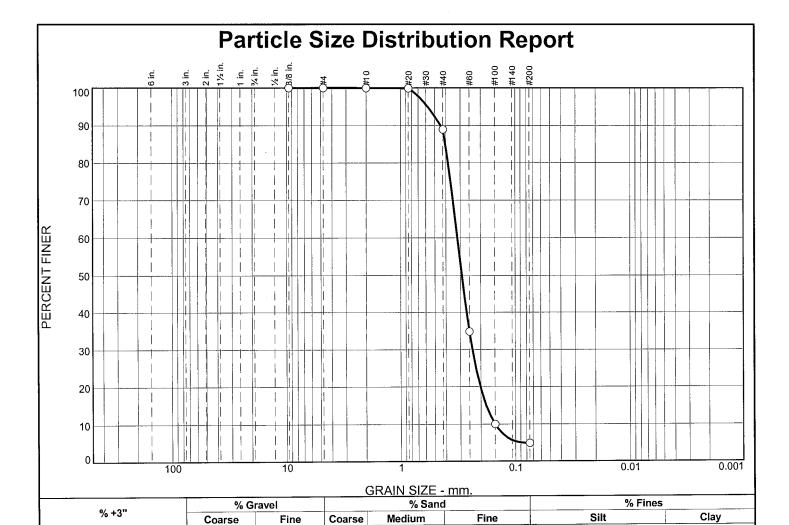
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama

Tested By: R.Martin



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	88.9		
#60	34.8		
#100	10.0		
#200	4.9		
			1

0.0

0.0

0.0

11.1

	Material Descriptio lium to fine grained	<u>n</u>
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.4455 D ₅₀ = 0.2906 D ₁₀ = 0.1499	Coefficients D85= 0.4045 D30= 0.2359 Cu= 2.12	D ₆₀ = 0.3177 D ₁₅ = 0.1796 C _c = 1.17
USCS= SP	<u>Classification</u> AASHT	O=
CADD CODE =	<u>Remarks</u> CH10D965	

* (no specification provided)

0.0

Location: USACE Sample # BI-PB-98-10D **Sample Number:** TE Lab ID: 4622.04

Depth: 15.0 - 17.5 (ft.)

Date: 8/15/10

4.9

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

84.0

Project No: 10-2123-0009 **Report No.**

Mobile, Alabama

Tested By: R.Martin

Boring Designation BI-PB-099-10

DBI	LLING	LOG	DIVISION			INS	TALLATIO	ON .		SHI	EET 1
		LUG	South Atlan	ntic		_	Mobile Dis			OF	2 SHEETS
1. PRO								TYPE OF BIT N/A			71041
			d Restoration			10.		NATE SYSTEM/DATUM	HORIZON	!	TICAL
	etit Bois Pa			ION COORDI	NATES	11.		Plane, MSE (U.S. Ft.)	NAD83		NAVD88 HAMMER
	8I-PB-099-1		E=	1,133,367	N = 252,679		Vibra				AL HAMMER
	LING AGEN		•	CONT	RACTOR FILE NO.	12.	TOTAL S		ISTURBED	i	URBED (UD)
	Corps of En		- CESAM	<u> </u>		_		!	2	0	
			ns International, I	Inc		13.	TOTAL P	IUMBER CORE BOXES			
	ECTION OF			FROM TICAL	BEARING	14.	WATER	DEPTH	30 Ft.		
_	VERTICAL INCLINED		VER	TICAL	 	15.	DATE BO	PRING	STARTED 08-03-	i	MPLETED 08-03-10
6. THI	CKNESS OF	OVERBU	JRDEN N/A			16.	ELEVAT	ION TOP OF BORING	-31.9 Ft.		
7. DEP	TH DRILLEI	D INTO R	OCK N/A			17.	TOTAL F	ECOVERY FOR BORING	100%		
	AL DEPTH (OE BOBII	NG 20.0 Ft.			18.		URE AND TITLE OF INSPI	ECTOR		
8. 101	AL DEPIR	т т	20.0 Ft.			ᄂ	Chris	Gillentine, Geologist			
ELEV.	DEPTH	LEGEND	CLASSIFI	ICATION OF	MATERIALS		SAMPLE	LABO	RATORY RES	BULTS	
-31.9	0.0					\Box				_	
-32.9	1.0		CLAY, fat, dark g	gray (CH)			NS				Į į
			SAND, poorly-gr grained sand-size	raded, mosti ed quartz, It.	ly fine to medium gray (SP)	ı- 	Α	Classification: SP-SM D50: 0.30	l Color: 2 01 mm %	2.5Y 5/2-gra Fines: 5.5	yish brown
-41.9							В	Classification: SP-SM D50: 0.28	Color: 2.5 22 mm %	Y 6/2-light b Fines: 5.4	orownish gray-
			CLAY, fat, dark g	gray (CH)			NS				
-51.9	20.0		accordance with System.	the Unified le not subm	ually classified in Soils Classification nitted for laborator	n					
	- - -		3. Seafloor eleva	ation determ	ined from 2010						

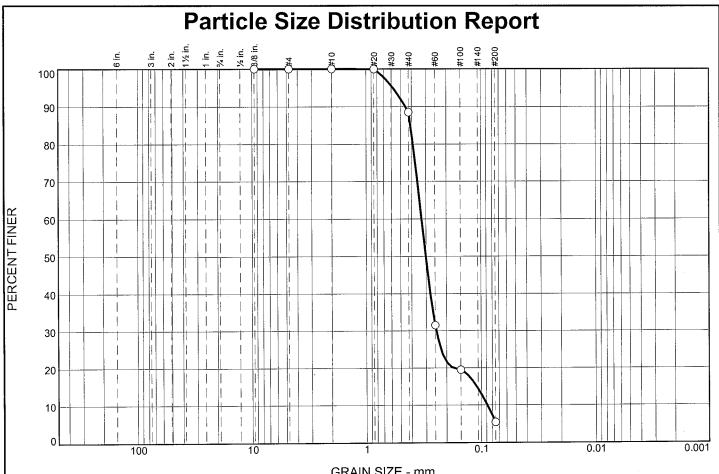
SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19397° Long = -88.36133°

Boring Designation BI-PB-099-10

MCGIOL DEPTI SIAND REGIONAL STATEMENT STATEMEN	DRILLING	G LO	G (Cont. Sheet)	I	INSTALLATION SHEET 2 Mobile District OF 2 SHEETS						
MsCIP Barrier Island Restoration State Plane, MSE (U.S. Ft.) NAD83 NAVD88 ELEVATION TOP OF BORING -31.9 Ft. ELEV. DEPTH DEPTH CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS			,								
CCATION COORDINATES X = 1,133,367 Y = 252,679 -31.9 Ft. CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS	MsCIP Barrier Island Restoration			ı		l l	ı				
X = 1,133,367 Y = 252,679 -31.9 Ft. LEV. DEPTH DEPTH CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS						;500	; :::::::::::::::::::::::::::::::::::::				
LEV. DEPTH CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS				ı							
	LEV. DEPTH	EGEND	CLASSIFICATION OF MAT	TERIALS	SAMPLE	LABORATORY R	ESULTS				
		97	USACE survey.								

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19397° Long = -88.36133°



			G	MAIN SIZE -	111111.			
	% Gravel			% Sand		% Fines		
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0	0.0	0.0	0.0	11.5	83.0	5.5		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	88.5		
#60	31.5		
#100	19.5		
#200	5.5		

	Naterial Description nedium to fine grained	
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.4529 D ₅₀ = 0.3010 D ₁₀ = 0.0887	Coefficients D ₈₅ = 0.4084 D ₃₀ = 0.2447 C _u = 3.69	D ₆₀ = 0.3272 D ₁₅ = 0.1093 C _c = 2.06
USCS= SP-SM	Classification AASHTC)=
CADD CODE = C	<u>Remarks</u> H10D965	

(no specification provided)

Location: USACE Sample # BI-PB-99-10A Sample Number: TE Lab ID: 4622.08

Depth: 1.0 - 5.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

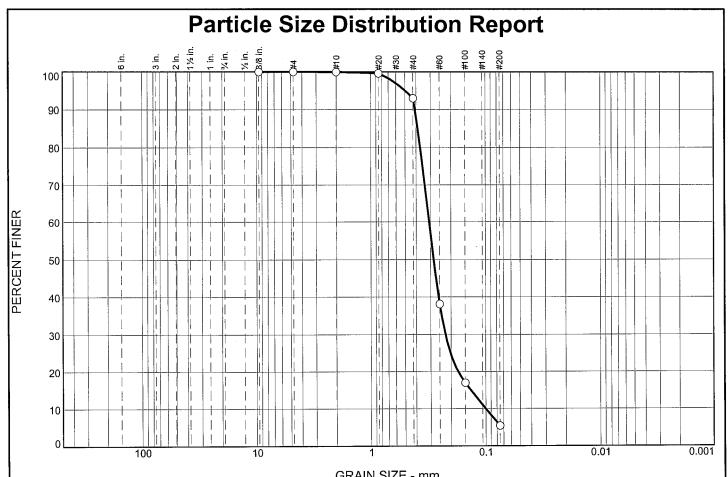
Mississippi Barrier Island Restoration Project

Report No.

Mobile, Alabama

Project No: 10-2123-0009

Tested By: R.Martin Checked By: R.Byrd



	GRAIN SIZE - IIIII.								
	% Gravel			% Sand		% Fines			
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
0.0	0.0	0.0	0.1	6.9	87.6	5.4			

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.6		1
#40	93.0		
#60	38.1		
#100	17.0		
#200	5.4		

<u> </u> SAND, (SP-SM),	Material Description fine grained	<u>1</u>
, , ,	C	
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.4090 D ₅₀ = 0.2822 D ₁₀ = 0.1001	Coefficients D85= 0.3869 D30= 0.2233 Cu= 3.08	$D_{60} = 0.3085$ $D_{15} = 0.1346$ $C_{c} = 1.62$
USCS= SP-SM	Classification AASHT)=
CADD CODE = 0	Remarks CH10D965	

(no specification provided)

Location: USACE Sample # BI-PB-99-10B **Sample Number:** TE Lab ID: 4622.09

Depth: 5.0 - 10.0 (ft.)

Date: 8/15/10

Report No.

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 10-2123-0009

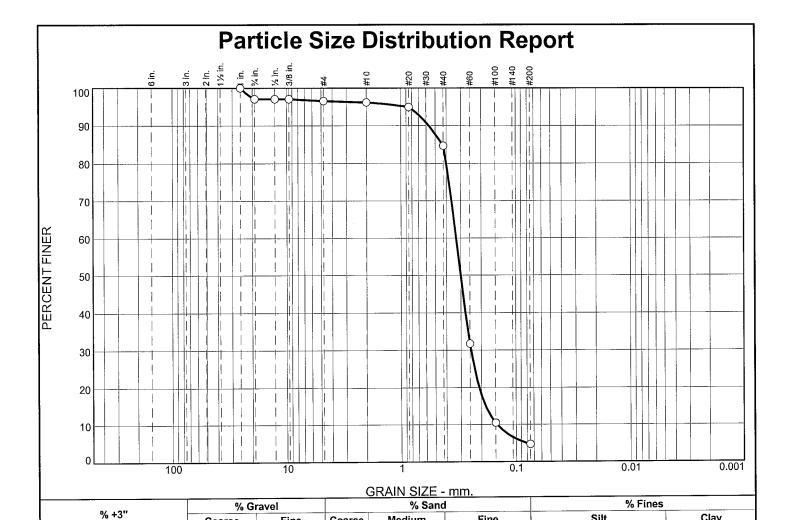
Tested By: R.Martin Checked By: R.Byrd

Boring Designation BI-PB-100-10

DDI	LLING	I OG	DIVISION	ON			IN	STALLATIO	ON			SHEET	Г 1
			Sou	uth Atlantic			-	Mobile Dis				OF 1	SHEETS
1. PRO							$\overline{}$		TYPE OF BIT N				
	IsCIP Barrie			ition			10		NATE SYSTEM/DATUM		1	VERTIC	
	etit Bois Pa			LOCATION	COORDINA	TES	11		Plane, MSE (U.S. Ft.			NA JTO HA	VD88
_	I-PB-100-1		-	1		N = 254,357		Vibra			_		HAMMER
_	LING AGEN				CONTRA	CTOR FILE NO.	12	. TOTAL S	SAMDI ES	DISTURBED	i		RBED (UD)
	orps of Eng		s - CESAM		<u> </u>		'-	. IOIAL	PAMPLES	3		0	
	E OF DRILL		one Intern	ational, Inc.			13	. TOTAL	NUMBER CORE BOXES				
	CTION OF E			DEG. FRO	м в	EARING	14	. WATER	DEPTH	25 Ft.			
	VERTICAL INCLINED			VERTICAL	-		15	. DATE BO	DRING	STARTED 08-03-	10	COMPL 08-	03-10
6. THIC	KNESS OF	OVERE	BURDEN	N/A			16	. ELEVAT	ION TOP OF BORING	-26.4 Ft.			
7. DEP	TH DRILLED	INTO	ROCK	N/A			17.	. TOTAL F	RECOVERY FOR BORIN	G 100%			
	AL DEDTIL 6		1:	205			18		URE AND TITLE OF INS				
8. 101	AL DEPTH O		ING	3.0 Ft.			ᄂ	Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	С	CLASSIFICATI	ON OF MA	TERIALS		SAMPLE	LAI	BORATORY RES	SULTS		
-26.4	0.0												-0
	=		SAND, p	oorly-graded	l, mostly	fine to medium	1-						ĔŤ
-27.9	- 1.5	[.∵.]		sand-sized ts, gray (SP)		trace she	ell						F
	-	$ \cdots $	SAND, p	poorly-graded	l, mostly t	fine to medium	1-		Classification: SP	Color: 2.5Y	4/2-dar	k aravis	sh brown
		<u> </u> : ::	grained s	sand-sized qu	ıartz, dark	brown (SP)		Α		3007 mm %	Fines:	4.7	<u> </u>
		.∵.											Ē
04.4		$ \cdots $											F
-31.4	- 5.0 -	{∷}	_				ŀ						5
		.:::				fine to medium	1-						Ē
	-	::::	grained s	sand-sized qu	iartz, trace	e silt, tan (SP)							Ė
	-							В	Classification: SP-S	SM Color: 2	2.5Y 5/2	2-grayis	h brown
	-	·:::						2	D50: 0.	2993 mm %	Fines:	6.5	F
-35.4	9.0	∷::											Ē
	-	- ::				fine to medium	1-						Ē,
	-	···	grained s	sand-sized qu	ıartz, gray	(SP)	Ī		01:6:	OM	5\/ 5	- (4	
	-	:::						С	Classification D50: 0.2		or: 5Y 5 Fines:	5/1-gray 16.4	′ F
-38.4	12.0						_						<u>_</u>
-39.4	13.0		CLAY, fa	at, gray (CH)				NS					<u> </u>
	-												E
	<u> </u>		NOTES:										F
	<u> </u>		1. So	oils are fiel	d visuall	y classified i	_n						E 1
	<u> </u>		accordan	nce with the l	Unified So	ils Classificatio	n						E
	_		System.										ŧ
	<u>-</u> - - -		2. NS = analysis t	= Sample no from this inte	ot submitte erval.	ed for laborator	у						- - -
	=		3. Seaf	floor elevatio	n determ	ined from 201	0						ŧ
	=		USACE s										F
	-												-2
	<u> </u>												E
	-												ŧ
	<u> </u>												F
	-												F
	<u>E</u>												Ē
	<u> </u>												Ę
	- -												-2 ¹
	<u>-</u>	L ∣					_						<u>F</u>

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19860° Long = -88.36634°



Medium

11.5

Fine

80.0

	SIEVE	PERCENT	SPEC.*	PASS?
1	SIZE	FINER	PERCENT	(X=NO)
1	1"	100.0		
	.750	97.1		
	.50	97.1		
	.375	97.1		
-	#4	96.6		
	#10	96.2		
	#20	94.9		
-	#40	84.7		
-	#60	31.7		
	#100	10.5		
	#200	4.7		
١				
ļ				
- 1				

Coarse

2.9

Fine

0.5

Coarse

0.4

-	Material Description lium to fine grained, wit	
57 111D, (51), med	num to ime grames, wa	
PL=	Atterberg Limits	Pl=
D ₉₀ = 0.5691 D ₅₀ = 0.3007 D ₁₀ = 0.1455	Coefficients D85= 0.4314 D30= 0.2448 C _u = 2.26	D ₆₀ = 0.3292 D ₁₅ = 0.1836 C _c = 1.25
USCS= SP	Classification AASHTO)=
CADD CODE = 0	Remarks CH10D965	

Silt

4.7

(no specification provided)

0.0

Location: USACE Sample # BI-PB-100-10A **Sample Number:** TE Lab ID: 4622.05

Depth: 0.0 - 5.0 (ft.)

Date: 8/15/10

Clay

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

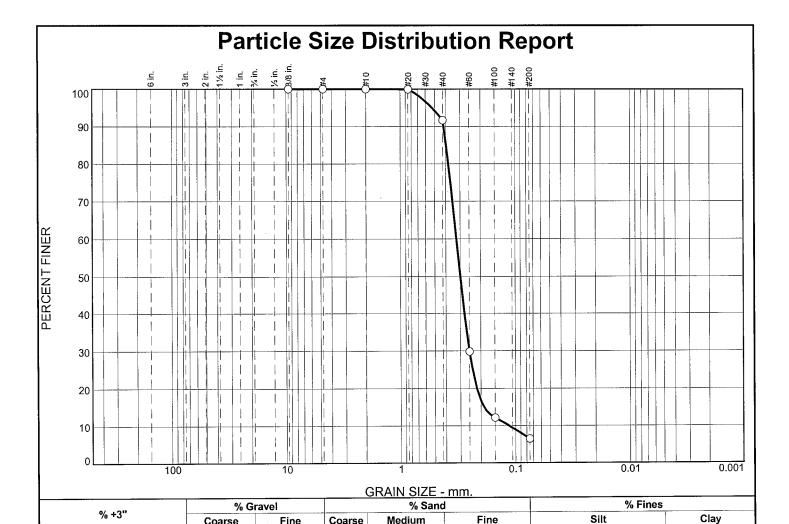
Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

Checked By: R.Byrd Tested By: R.Martin



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	91.7		
#60	29.8		
#100	12.2		
#200	6.5		
1			

Coarse

0.0

Fine

0.0

Coarse

0.0

Medium

8.3

<u>N</u>	<u>Material Description</u>						
SAND, (SP-SM), f	SAND, (SP-SM), fine grained, with trace clay pockets						
PL=	Atterberg Limits	PI=					
FL-	LL-	· '-					
D 0.445	Coefficients	D = 0.2022					
D ₉₀ = 0.4167	D85= 0.3961 Dao= 0.2505	D ₆₀ = 0.3232 D ₁₅ = 0.1880 C _c = 1.71					
D ₉₀ = 0.4167 D ₅₀ = 0.2993 D ₁₀ = 0.1136	D ₈₅ = 0.3961 D ₃₀ = 0.2505 C _u = 2.85	$C_{c}^{15} = 1.71$					
	Classification						
USCS= SP-SM	AASHT	·O=					
	Remarks						
CADD CODE = C	CADD CODE = CH10D965						

(no specification provided)

0.0

Location: USACE Sample # BI-PB-100-10B

Sample Number: TE Lab ID: 4622.06

Depth: 5.0 - 10.0 (ft.)

Date: 8/15/10

6.5

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Fine

85.2

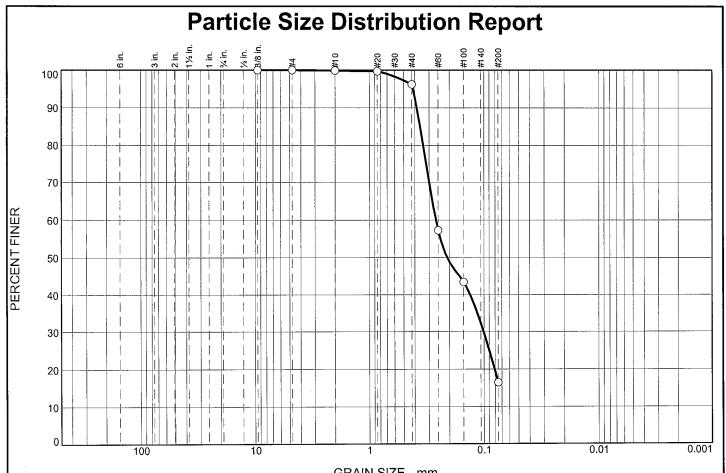
Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

Checked By: R.Byrd Tested By: R.Martin



GRAIN SIZE - IIIII.							
% +3"	% Gravel			% Sand	[% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	3.7	79.8	16.4	

ļ	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	.375	100.0		
	#4	100.0		
	#10	99.9		
	#20	99.7		
	#40	96.2		
	#60	57.3		
	#100	43.4		
	#200	16.4		
		•		
		1		

PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.3843 D ₅₀ = 0.2091 D ₁₀ =	Coefficients D ₈₅ = 0.3595 D ₃₀ = 0.1009 C _u =	D ₆₀ = 0.2615 D ₁₅ = C _c =		
USCS= SC	Classification AASHTO)=		
Remarks CADD CODE = CH10D965				

(no specification provided)

Tested By: R.Martin

Location: USACE Sample # BI-PB-100-10C **Sample Number:** TE Lab ID: 4622.07

Depth: 10.0 - 15.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

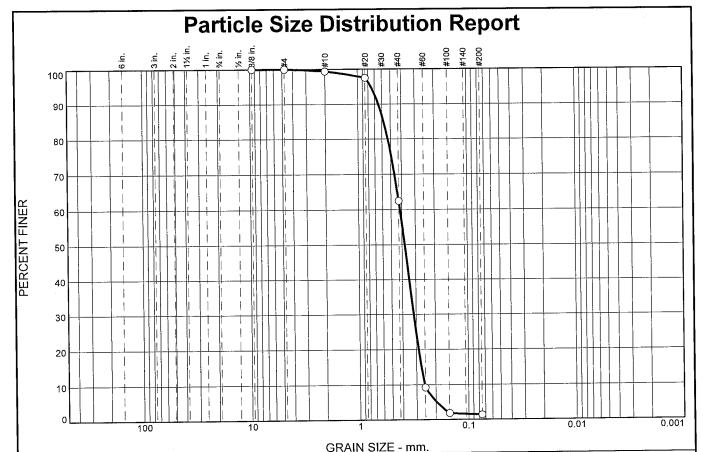
Mobile, Alabama

Boring Designation BI-PB-101-10

npi	LLING	1.06	DIVISIO	N		INST	ALLATIC	ON		SH	IEET 1
		LUC	Sout	h Atlantic			lobile Dis			OF	1 SHEETS
1. PRO								TYPE OF BIT N/A			
	/IsCIP Barri Petit Bois Pa		nd Restoration	on		10.		NATE SYSTEM/DATUM	HORIZONT		RTICAL
	ING DESIGN			LOCATION COORD	INATES	11.		Plane, MSE (U.S. Ft.)	OF DRILL		NAVD88 HAMMER
	I-PB-101-1		-	E = 1,133,423	N = 254,374		Vibra	core		=	IAL HAMMER
	LING AGEN			CONT	RACTOR FILE NO.	12.	TOTAL S	AMPLES DI	STURBED	i	TURBED (UD)
	Corps of Eng	_	s - CESAM	<u> </u>				IUMBER CORE BOXES	3	0	
С	Construction	Solut	ions Internat	tional, Inc.	}						
5. DIRE	CTION OF I			DEG. FROM VERTICAL	BEARING	14.	WATER	DEPTH	27 Ft.	'.co	MPLETED
_	VERTICAL INCLINED					15.	DATE BO	DRING	07-31-1	i	07-31-10
6. THIC	CKNESS OF	OVER	BURDEN	N/A		16.	ELEVAT	ION TOP OF BORING	-27.9 Ft.		
7. DEP	TH DRILLED	INTO	ROCK N	V/A				RECOVERY FOR BORING	100%		
8. TOT.	AL DEPTH C	F BOR	RING 16.	.0 Ft.		18.		URE AND TITLE OF INSPE	CTOR		
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION OF	MATERIALS	s	AMPLE		RATORY RES	ULTS	
-27.9	0.0										-0
			SAND. po	oorly-graded, mos	tly medium-grained						E
				d quartz, dark brov							E
	-	-:						Classification: SP	Color: 2.5Y	3/3-dark (blive brown
	<u> </u>						Α		73 mm % l		
	-										Ē
											F
	-					\vdash					5
	<u> </u>	$ \cdot \cdot $									E.
		:·::	_								E
	Ē	- : : ·[At El34.9	9 Ft., It. tan			В	Classification: SP-9	SM Color 39 mm % l	: 2.5Y 2.5	
				- · · · · · · · · · · · · · · · · · · ·				D30. 0.270	9 111111 /0 1	1 11165. 3.3	<u> </u>
	-										F
-37.9	10.0					_		Oleanification OD	014 0-1	O F\/ F	10
	Ē		CLAY, fat,	, dark gray (CH)			С	Classification: SP D50: 0.286	-SM COM 32 mm % l	or: 2.5Y 5. Fines: 5.4	/1-gray
	Ē										E
											<u> </u>
	-										F
							NS				Ē
											Ē.,
-43 Q	16.0										F-15
70.0	-					十					<u> </u>
	F		NOTES:								F
	-		1. Soils	s are field vis	ually classified in						E
			accordanc		Soils Classification						E
	Ė		System.								E
	<u> </u>				nitted for laboratory	,					E-20
	-		analysis fr	om this interval.							F
					ermined from 2010						E
	Ē		USACE su	urvey.							ŧ
	Ē										F
	<u>-</u>										F
	-										-2
	<u> </u>										Ē
	-	$\overline{}$									-

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19863° Long = -88.36113°



-	% Gravel		% Sand		% Fines		
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.6	36.9	61.1	1.4	

	SIEVE	PERCENT	SPEC.*	PASS?
١	SIZE	FINER	PERCENT	(X≍NO)
Ī	.375	100.0		
	#4	100.0		
	#10	99.4		
-	#20	97.5		i
١	#40	62.5		
	#60	9.2		
	#100	1.8		
	#200	1.4		
- 1				
		,		i
				1

Material Description SAND, (SP), medium to fine grained					
PL=	Atterberg Limits	PI=			
D ₉₀ = 0.6465 D ₅₀ = 0.3773 D ₁₀ = 0.2530	Coefficients D85= 0.5791 D30= 0.3154 Cu= 1.64	$\begin{array}{c} D_{60} = 0.4146 \\ D_{15} = 0.2704 \\ C_{c} = 0.95 \end{array}$			
USCS= SP	<u>Classification</u> AASHT	-O=			
Remarks CADD CODE = CH10D965					

Location: USACE Sample # BI-PB-101-10A **Sample Number:** TE Lab ID: 4612.65

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

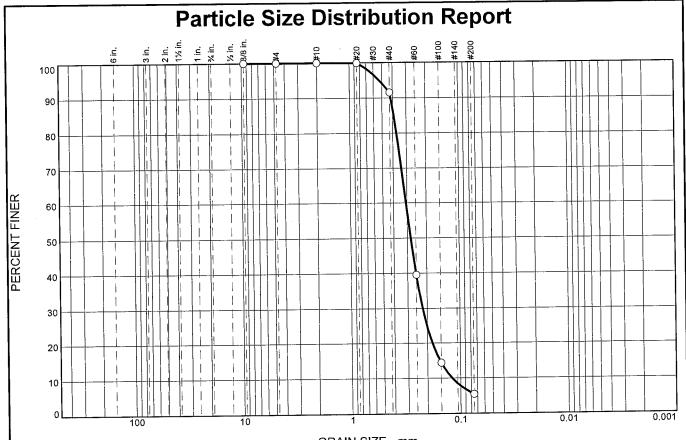
Mobile, Alabama

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox

⁽no specification provided)



			G	KAIN SIZE -	mm.		
	% Gı	avel	1	% Sand		% Fine	es
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	8.4	86.1	5.5	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0	Į	
#10	100.0		
#20	99.9		
#40	91.6		
#60	39.5	1	
#100	14.4		
#200	5.5		
ļ			
			1
ł			

SAND, (SP-SM), fi	aterial Description ine grained				
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.4157 D ₅₀ = 0.2789 D ₁₀ = 0.1193	Coefficients $D_{85} = 0.3909$ $D_{30} = 0.2203$ $C_{u} = 2.57$	D ₆₀ = 0.3064 D ₁₅ = 0.1537 C _c = 1.33			
USCS= SP-SM	Classification AASHTC)=			
Remarks CADD CODE = CH10D965					

(no specification provided)

Location: USACE Sample # BI-PB-101-10B **Sample Number:** TE Lab ID: 4612.66

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

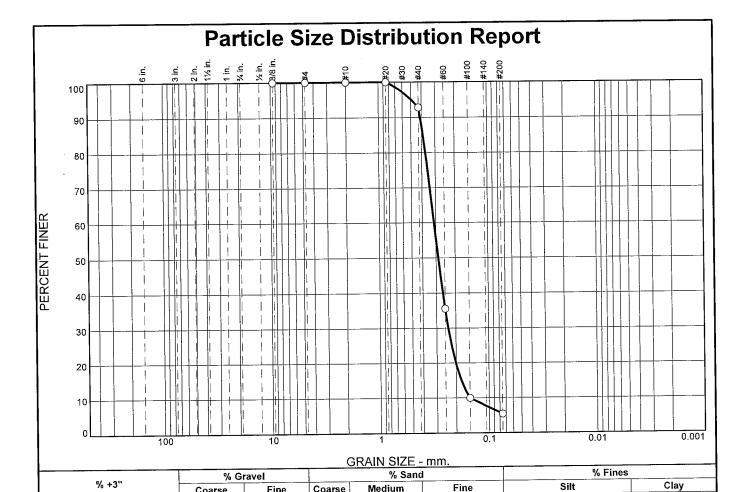
Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox



.,		Coarse	Fine	Coarse	weatum	Fille	- Oill	
 0.0		0.0	0.0	0.0	7.2	87.4		5.4
SIEVE	PERCENT FINER	SPEC.*	PAS		SAND	_	Material Description fine grained	1
.375 #4 #10 #20 #40 #60 #100 #200	100.0 100.0 100.0 100.0 92.8 35.6 10.0 5.4				PL= D ₉₀ = D ₅₀ = D ₁₀ =	0.4103 0.2862 0.1504	$\begin{array}{c} \underline{\textbf{Atterberg Limits}} \\ \underline{\textbf{LL=}} \\ \underline{\textbf{Coefficients}} \\ \underline{\textbf{D85=}} \begin{array}{c} 0.3884 \\ \underline{\textbf{D30=}} \begin{array}{c} 0.2345 \\ \underline{\textbf{Cu=}} \end{array} \\ \underline{\textbf{Cu=}} \begin{array}{c} 2.07 \end{array}$	PI= D60= 0.311 D15= 0.186 C _C = 1.17

Remarks CADD CODE = CH10D965

USCS= SP-SM

Classification

AASHTO=

(no specification provided)

Location: USACE Sample # BI-PB-101-10C **Sample Number:** TE Lab ID: 4612.67

Depth: 10.0 - 11.0 (ft.)

Date: 8/7/10

0.3114 0.1800

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox

Boring Designation BI-PB-102-10

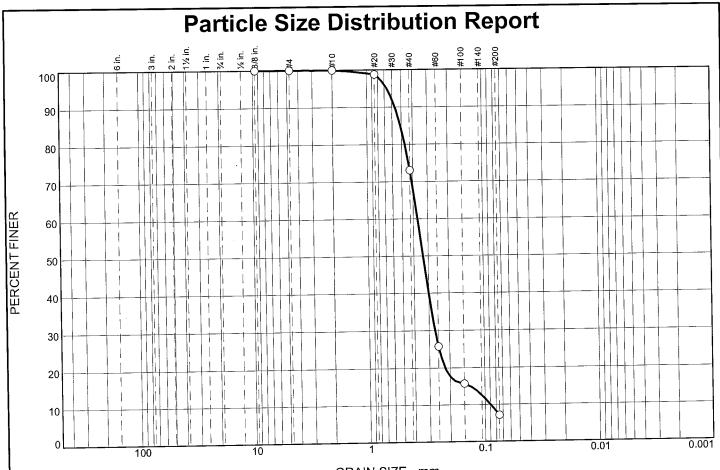
			DIVISION	١			INS	STALLATIO	ON				SHEET	1
DR	ILLING	LOG		n Atlantic			1	Mobile Dis						SHEETS
1. PRO	JECT						9.	SIZE AND	TYPE OF BIT	N/A				
N	MsCIP Barrie	er Islan	d Restoratio	n			10.	COORDI	NATE SYSTEM/DATE		HORIZONTA	L	VERTIC	AL
F	Petit Bois Pa	ss- AL	West					State	Plane, MSE (U.S.	Ft.)	NAD83		NAV	'D88
2. BOR	RING DESIGN	IATION	L	OCATION C	OORD	INATES	11.		CTURER'S DESIGN			Al	JTO HAN	IMER
	3I-PB-102-1		<u> </u>	E = 1,134		N = 252,813		Vibra	core]		ANUAL H	
	LLING AGEN				CONT	RACTOR FILE NO.	12.	TOTALS	SAMPLES	DI	STURBED	i		BED (UD)
	Corps of Eng		- CESAM		<u> </u>		ļ			_ [3		0	
	ME OF DRILL						13.	TOTAL I	NUMBER CORE BOX	ES				
	CONSTRUCTION OF E		ons Internati		va .	BEARING	14.	WATER	DEPTH		31 Ft.			
\boxtimes	VERTICAL INCLINED	JORING	•	DEG. FROM VERTICAL	••	I I I	15.	DATE BO	DRING		STARTED 08-03-10)	COMPLI 08-0	ETED 13-10
6. THI	CKNESS OF	OVERB	URDEN	N/A			16.	ELEVAT	ION TOP OF BORING	G	-32.6 Ft.			
7 DED	TH DRILLED	INTO	DOCK N	1/^			17.	TOTAL F	RECOVERY FOR BOF	RING	100%			
7. DEP	TH DRILLED	INIU	TOCK N	I/A			18.	SIGNAT	URE AND TITLE OF	INSPE	CTOR			
8. ТОТ	AL DEPTH O	F BORI	NG 20.	0 Ft.				Chris	Gillentine, Geolog	gist				
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATIO	ON OF	MATERIALS		SAMPLE		LABOI	RATORY RESU	ILTS		
-32.6	0.0						十							
			SAND, poo grained sar	orly-graded, nd-sized qu	, most artz, lt.	ly fine to medium gray (SP)	1-	Α	Classification: S D50:		Color: 2.5 7 mm % F	SY 5/2 ines:	?-grayish 7.1	brown
								В	Classification: SI D50:	⊃ (: 0.329	Color: 2.5Y 6/ 95 mm % F	2-ligh ines:	t browni 3.1	sh gray
-43.6	- - - - - - - - - - 11.0							С	Classification: SP- D50:			6/2-li ines:	ght brow 7.3	nish gray
-52.6			CLAY, fat,	dark gray ((CH)			NS						
			accordance System. 2. NS = Sanalysis from	e with the U Sample not om this inter	Jnified t subm rval.	ually classified i Soils Classificatio nitted for laborator ined from 2010	n							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19432° Long = -88.35639°

Boring Designation BI-PB-102-10

DR	ILLING	LOC	G (Cont. Sheet)	INSTALL				SHEET 2 OF 2 SHEETS		
ROJEC			,		Mobile District OF 2 S COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL					
MsCIP Barrier Island Restoration LOCATION COORDINATES			COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, MSE (U.S. Ft.) NAD83 NAVD88							
				ON TOP OF BO		: ::====				
	1,134,927		252,813	-32.6						
LEV.	DEPTH	LEGEND	CLASSIFICATION OF MATE	ERIALS	SAMPLE		LABORATORY RE	ESULTS		
			USACE survey.							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19432° Long = -88.35639°



			G	RAIN SIZE - J	mm.		
	% Gr	avel	<u>_</u>	% Sand		% Fine	s
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
	 	0.0	0.1	26.9	65.9	7.1	
0.0	0.0	0.0	0.1	20.5			

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	98.7		
#40	73.0		ļ
#60	25.7	1	
#100	15.7		
#200	7.1		

	<u>aterial Descriptior</u>	
SAND, (SP-SM), n	nedium to fine graine	d
	Atterberg Limits	
PL=	LL=	Pl=
	Coefficients	
$D_{90} = 0.5679$	$D_{85} = 0.5092$	D ₆₀ = 0.3681 D ₁₅ = 0.1341 C _c = 2.15
D ₉₀ = 0.5679 D ₅₀ = 0.3327 D ₁₀ = 0.0895	D85= 0.5092 D30= 0.2664 C _u = 4.11	$C_c = 2.15$
	Classification	_
USCS= SP-SM	AASHT	O=
	<u>Remarks</u>	
CADD CODE = C	H10D965	

(no specification provided)

Tested By: R.Martin

Location: USACE Sample # BI-PB-102-10A Sample Number: TE Lab ID: 4622.10

Depth: 0.0 - 4.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

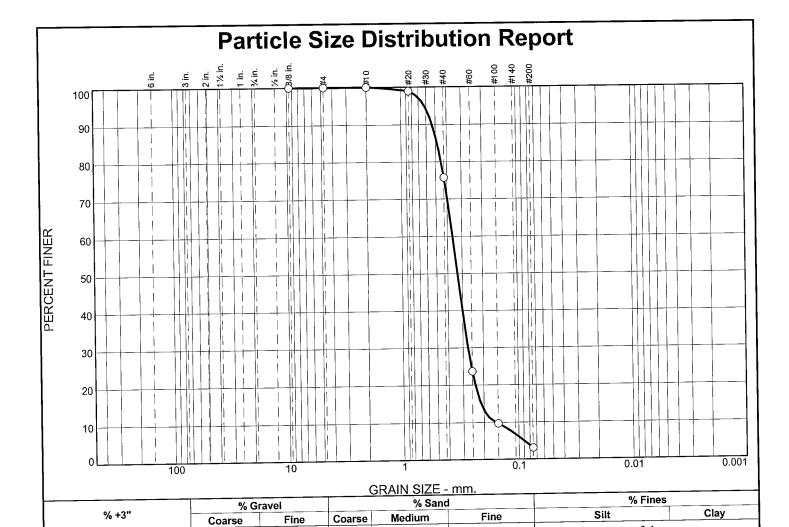
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		ļ
#10	100.0		
#20	98.9		
#40	75.8		
#60	23.6	Ì	
#100	9.7	1	
#200	3.1		
i			
1		3	
		1	

0.0

	Material Descriptio	n
PL=	Atterberg Limits	Pl=
D ₉₀ = 0.5342 D ₅₀ = 0.3295 D ₁₀ = 0.1559	Coefficients D85= 0.4841 D30= 0.2707 Cu= 2.32	D ₆₀ = 0.3614 D ₁₅ = 0.2112 C _c = 1.30
USCS= SP	<u>Classification</u> AASHT	-O=
CADD CODE =	Remarks CH10D965	,

(no specification provided)

Location: USACE Sample # BI-PB-102-10B Sample Number: TE Lab ID: 4622.11

Depth: 4.0 - 8.0 (ft.)

0.0

0.0

24.2

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

72.7

Mississippi Barrier Island Restoration Project

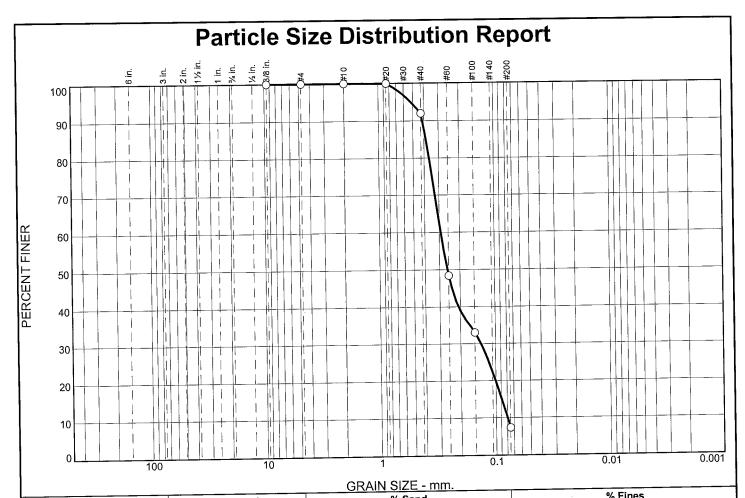
Report No.

Mobile,	Alabama

Project No: 10-2123-0009

Tested By: R.Martin

0.0



	***		% Gra	vel		% Sand		% FINE	
	% +3		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
	0.0		0.0	0.0	0.0	8.0	84.7	7.3	
-	SIEVE SIZE	PERCENT FINER	SPEC.*	PAS		SAND,	Materia (SP-SM), fine grai	Description	
	.375	100.0					,		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	92.0		
#60	48.4		
#100	33.0		
#200	7.3	!	
			1
1			
į			

SAND, (SP-SM), fi	ne grained	
PL=	Atterberg Limits	PI=
D ₉₀ = 0.4123 D ₅₀ = 0.2562 D ₁₀ = 0.0796	Coefficients D85= 0.3854 D30= 0.1333 Cu= 3.65	D ₆₀ = 0.2909 D ₁₅ = 0.0892 C _c = 0.77
USCS= SP-SM	Classification AASHT	O=
CADD CODE = C	Remarks H10D965	

(no specification provided)

Location: USACE Sample # BI-PB-102-10C **Sample Number:** TE Lab ID: 4622.12

Depth: 8.0 - 11.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile,	Alabama

10 Oct No.

Tested By: R.Martin Checked By: R.Byrd

Boring Designation BI-PB-103-10

)PI	LLING	106	DIVIS	ION			INS	STALLATIO	ON O			SHEET	1
				So	uth Atlantic			_	Mobile Di				OF 2	SHEETS
1.		JECT									I/A			
		IsCIP Barr			ation			10.		NATE SYSTEM/DATUR	-		VERTIC	
Ļ		etit Bois P			LOCATION			1		e Plane, MSE (U.S. Fi				/D88
2.		I ng desig i I-PB-103-1		·	E = 1,128			11.	. MANUFA Vibra		ION OF DRILL		JTO HAI	MMER HAMMER
3.		LING AGE					RACTOR FILE NO.	+	VIDIC	icore	DISTURBED			BED (UD)
		orps of En		s - CESAN	1				. TOTAL S	SAMPLES	0	i	0	(,
4.		E OF DRILL				·		13.	. TOTAL I	NUMBER CORE BOXES	<u> </u>			
	С	onstruction	n Soluti	ions Intern	ational, Inc.			\vdash						
		CTION OF	BORIN	G	DEG. FROI	М	BEARING	14.	WATER	DEPIH	33 Ft.			
	=	VERTICAL INCLINED			LINTIOAL			15.	. DATE BO	DRING	STARTED 08-04-	10	COMPL 08-0)4-10
6.	тніс	KNESS OF	OVERE	BURDEN	N/A		•	16.	. ELEVAT	ION TOP OF BORING	-32.4 Ft.			
7.	DEP	TH DRILLEI	D INTO	ROCK	N/A			17.	. TOTAL I	RECOVERY FOR BORIS	NG 100%			
_								18.		URE AND TITLE OF IN				
8.	тот	AL DEPTH (OF BOR	RING 1	19.0 Ft.			Ц,	Chris	Gillentine, Geologis	t			
ELI	EV.	DEPTH	LEGEND	C	CLASSIFICATION	ON OF	MATERIALS		SAMPLE	L	ABORATORY RES	SULTS		
-3	2.4	0.0												
		=		CLAY, fa	at, trace of s	hell fra	gments in upper	1						E `
		-		ft., dark	gray (CH)									F
		<u>-</u> -												į.
		_												E
		=												F
		<u>-</u>												F
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		_												E
-5	1.4	- 19.0												ŧ
Ť		-												一丰
		_		NOTES:										-2
		_												E
				1. So	oils are field	d visu	ually classified	in						F
		<u>-</u>		System.		HITIEC	Soils Classification	ווע						F
														<u>E</u>
		_					nitted for laborato	ry						F
		_		anaiysis	from this inte	ı val.								F
		_		3. Seafl	oor elevation	calcula	ated using samplin	ng						<u> </u>
		_		vessel's	fathometer v	water	depth reading ar ata conversion	nd						Ę

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.1876° Long = -88.37637°

Boring Designation BI-PB-103-10

DRI	LLING	LOC	G (Cont. Sheet)	INSTALL			SHEET 2			
ROJEC			,	_	e District	UM HORIZONTAL	OF 2 SHEETS			
	. I IP Barrier Is	land I	Restoration	COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, MSE (U.S. Ft.) NAD83 NAVD88						
	ON COORDI				ON TOP OF BORIN					
	1,128,625		250,343	-32.4						
LEV.	DEPTH	LEGEND	CLASSIFICATION OF MAT	ERIALS	SAMPLE	LABORATOR	Y RESULTS			
			factor.							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.1876° Long = -88.37637°

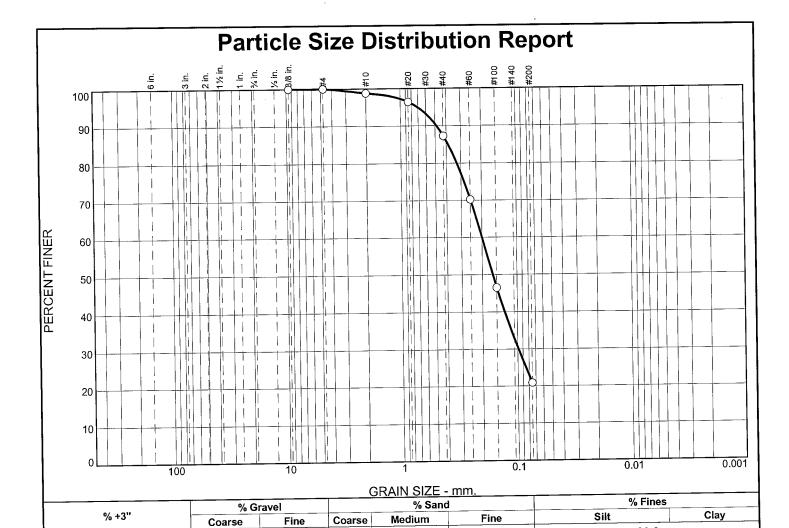
Boring Designation BI-PB-104-10

DR	LLING	LOG	DIVISIO				1	STALLATIO					SHEE	
1. PRO			Sou	th Atlantic			_	Mobile Di					OF 2	SHEETS
							_		TYPE OF BIT	N/A				
			nd Restorat	ion			10.		NATE SYSTEM/DAT	:	HORIZON		VERTI	
	Petit Bois P			LOCATION (COOPD	INATES	11		Plane, MSE (U.S.		NAD83			VD88
	31-PB-104-		•	E = 1,13			'''	Vibra		MIION	OF DRILL		UTO HA	MMER HAMMER
	LLING AGEI					RACTOR FILE NO.	+			DIS	TURBED			RBED (UD)
(Corps of En	ngineers	s - CESAM		!		12.	. TOTAL S	SAMPLES		2	į	0	` /
	IE OF DRILI						13.	. TOTAL I	NUMBER CORE BOX	(ES				
(Construction	n Soluti	ons Interna	ational, Inc.			144		DEDTU		00.54			
	ECTION OF	BORING	3	DEG. FRO	М	BEARING	14	WATER	DEPIH		33 Ft.		I	
	VERTICAL INCLINED			VERTIOAL		i ! !	15.	. DATE BO	ORING		STARTED 08-04-	10	COMP 08-	04-10
6. THI	CKNESS OF	OVERE	BURDEN	N/A			┵		ION TOP OF BORIN		32.6 Ft.			
7. DEP	TH DRILLE	D INTO	ROCK	N/A			\vdash		RECOVERY FOR BO		100%			
				2.0.54			18.		URE AND TITLE OF		TOR			
8. ТОТ	AL DEPTH	OF BOR	ING 20	0.0 Ft.			<u> Ц</u>	Chris	Gillentine, Geolog	gist				
ELEV.	DEPTH	LEGEND	C	LASSIFICATI	ON OF	MATERIALS		SAMPLE		LABOR	ATORY RES	BULTS		
-32.6	0.0													
	=		CLAV fa	t trace fine	araine	d sand-sized quart	_							F
	F		trace she	ll fragments,	dark c	ray (CH)	<u>-</u> ,	NS						F
-34.6	2.0													
	=		SAND n	oorly graded	moc	tly medium-graine	<u>Д</u>							Ē
	<u>F</u>	$ \cdot \cdot $		ed quartz, dai			² u		Classification: S	м	olor: 2.5Y	1/2 da	rk aravi	ch brown
	=		00.10 0.20	-a qua. :=, aa.		(3.)		Α			mm %			SILDIOWII
	E		\ 	0.51]	0.1021	70		20.0	E
	_		At El36	.6 Ft., mostly	y quart	z, trace silt, lt. gra	y							-
	E													[
	-	-:						В	Classification: S	SM (Color: 2.5Y	′ 3/2-v	ery dark	grayish
	E							В	D50.	: 0.1077	brown mm %	Fines:	37.5	E
-40.6	E 8.0]	. 0. 1077	111111 /0	1 11103.	57.5	E
-40.0	- 0.0						<u>_</u>							
	E		CLAY, fa	t, trace fine-	graine	d sand-sized quart	z,							E
	E		gray (CH	1)										Ė
	-													F
	E													E
	Ė.													į.
	<u>-</u>													E
	Ē													Ė
	Ė.													F
	F							NS						F
	Ė													F
40.0	F.,													F
-48.6	F 16.0						\dashv							F
	E	$ \cdot \cdot $				ly fine to mediur	n-							F
	Ē.	$ \cdot\cdot\cdot $	grained s	and-sized qu	ıartz, g	ray (SP)								E
	F	:::												F
-51.6	F 19.0	:::												F
	-		CLAV f-	t grov (CLI)			\neg							E
-52.6	20.0		CLAY, fai	t, gray (CH)			\dashv							<u> </u>
	F													E
	E		NOTES:											E
	Ė.		1 0~	le ara fial	d vic	ially classified	.							E
	E		Soi accordance	ns are 1161 ce with the l	u VISI Jnified	ually classified Soils Classification	n l							E
	F		System.	with the t	JCU	CONT CIGOSITICALI	"							F
	E		•											F
	 					nitted for laborato	ry							E
	<u>F</u>		analysis f	rom this inte	rval.									Ŀ
	ţ.		3. Seaflo	or elevation	calcula	ated using samplin								E
	F		J. Courio	J.O. G.O. I	Jarouit	woming ourniplin	9		I					F

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19001° Long = -88.37107°

Boring Designation BI-PB-104-10

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19001° Long = -88.37107°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	98.8		
#20	96.4		ŀ
#40	87.3		
#60	70.2		
#100	46.5		\
#200	20.8		
			1
		1	
		.	
	1		

0.0

PL=	Atterberg Limits	PI=
D ₉₀ = 0.4856 D ₅₀ = 0.1621 D ₁₀ =	<u>Coefficients</u> D ₈₅ = 0.3867 D ₃₀ = 0.0983 C _u =	D ₆₀ = 0.1999 D ₁₅ = C _c =
USCS= SC	Classification AASHT	O=
CADD CODE =	Remarks	

Material Description

(no specification provided)

Location: USACE Sample # BI-PB-104-10A **Sample Number:** TE Lab ID: 4622.13

Depth: 2.0 - 5.0 (ft.)

1.2

0.0

11.5

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

66.5

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

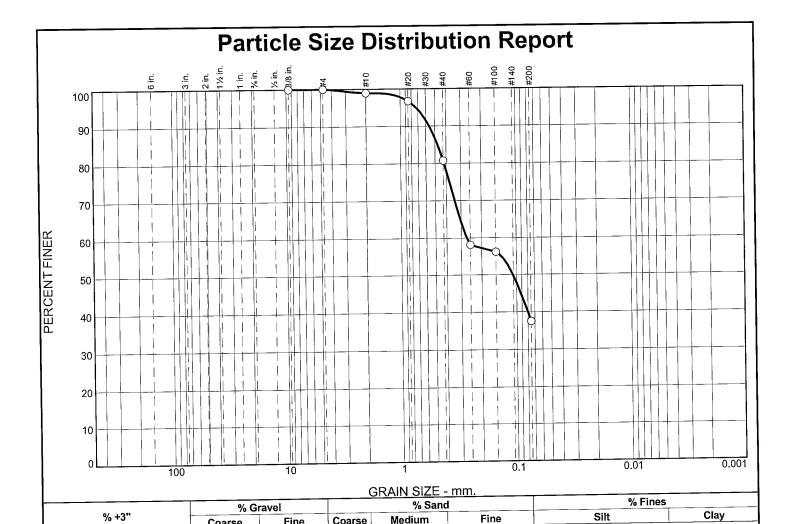
Mobile, Alabama

Report No.

20.8

Tested By: R.Martin

0.0



Medium

18.2

Fine

Coarse

1.1

0.0		0.0		0.0	1.
SIEVE	PERCENT	r s	PEC.*	PASS	
SIZE	FINER	PE	RCENT	(X=N	0)
.375 #4 #10 #20 #40 #60 #100 #200	100.0 100.0 98.9 96.7 80.7 58.1 56.2 37.5				

Coarse

$\begin{array}{c} \text{D}_{90} = \ 0.5605 \\ \text{D}_{50} = \ 0.1077 \\ \text{D}_{10} = \end{array} \begin{array}{c} \text{Coefficients} \\ \text{D}_{85} = \ 0.4746 \\ \text{D}_{30} = \\ \text{C}_{u} = \end{array}$	
	D ₆₀ = 0.2682 D ₁₅ = C _c =
USCS= SC Classification AASHTO)=

Material Description

(no specification provided)

Location: USACE Sample # BI-PB-104-10B **Sample Number:** TE Lab ID: 4622.14

Depth: 5.0 - 8.0 (ft.)

Date: 8/15/10

37.5

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

43.2

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

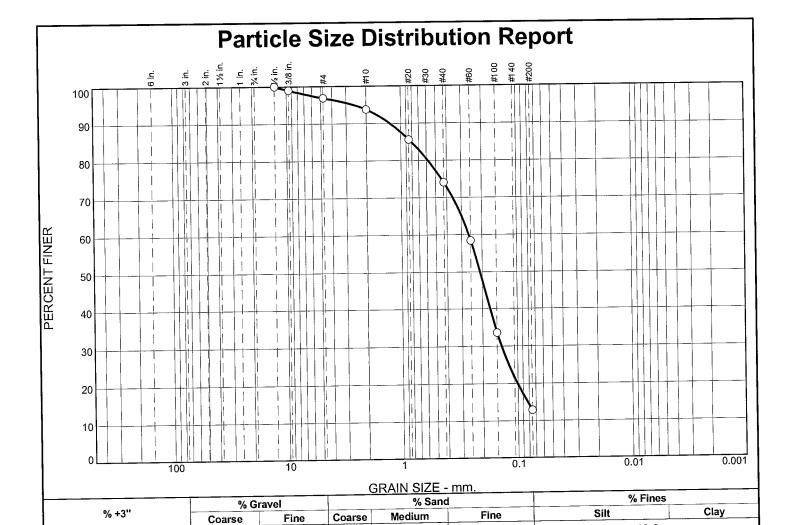
Mobile, Alabama

Tested By: R.Martin

Boring Designation BI-PB-105-10

DRI	LLING	LOG	DIVISIO				1	STALLATIO				SHEET	
1. PRO			Sou	th Atlantic			+-	Mobile Di				OF 1	SHEETS
							_			N/A			
	AsCIP Barrie			ion			10.		NATE SYSTEM/DATU	:		VERTIC	
	Petit Bois Pa			LOCATION C	COOPD	INATES	11		Plane, MSE (U.S. I				VD88
	3I-PB-105-1		į			N = 251,312	'''	Vibra		ATION OF BRILE		AUTO HA MANUAL	MMER HAMMER
	LING AGEN					RACTOR FILE NO.	T			DISTURBED			BED (UD)
C	Corps of Eng	gineers	- CESAM		!		12.	. TOTAL S	SAMPLES	2		0	
4. NAN	E OF DRILL	ER					13.	. TOTAL I	NUMBER CORE BOXE	ES	•		
	Construction		ns Interna				14	. WATER	DEPTH	31 Ft.			
	ECTION OF E VERTICAL	BORING		DEG. FROI VERTICAL	M ·	BEARING	H			STARTE	<u> </u>	COMPL	FTFD
	INCLINED			-			15.	. DATE BO	ORING	08-04		i	04-10
6. THI	CKNESS OF	OVERBL	JRDEN	N/A		•	16.	. ELEVAT	ION TOP OF BORING	<u> </u>			
7 DED	TU DDU I ED	INTO B	OCK				17.	. TOTAL I	RECOVERY FOR BOR				
7. DEP	TH DRILLED	INIOR	UCK	N/A			18.	. SIGNAT	URE AND TITLE OF I	INSPECTOR			
8. ТОТ	AL DEPTH O	F BORII	NG 18	3.0 Ft.				Chris	Gillentine, Geolog	ist			
ELEV.	DEPTH	LEGEND	CI	LASSIFICATIO	ON OF	MATERIALS		SAMPLE		LABORATORY RI	SULTS	3	
-31.5	0.0												
	-		SAND, po	oorly-graded,	dark g	ray (SP)							-
	<u>-</u>							Α	Classificat D50: (or: 2.5` 6 Fines	Y 6/1-gra : 12.8	y E
	-												E
	E							Б	Classification:	SM Color: 2	.5Y 5/2	-grayish	brown E
	<u> </u>	.:						В	D50:	0.1917 mm	% Fine	s: 23	F
	-	:::											F
-39.5	8.0												<u>_</u> <u>_</u>
	Ē		CLAY, fat	t, dark gray	(CH)								E
	E		,	J.,	(-)								E
	E												E
	Ē												F
	Ē												E
	-												E
	Ė							NS					E
	F							INS					F
	F												F
	Ē												E
	Ē												E
	Ē												F
	<u> </u>												E
-49.5	18.0												F
	E												F
	F		NOTES:										F
	Ē		1 0	lo e e '	- ا ا	rolly classicist	_						E
	Ē		 Soi accordant 	is are field ce with the l	u VISI Jnified	ually classified Soils Classification	ırı						E
	Ė		System.										F
	<u> </u>		2 NC =	Cample no	t auba	nitted for laborate	", I						E
	Ę			rom this inte		nitted for laborato	ı y						E
	F		-										E
	<u>F</u>		3. Seaflo	or elevation	calcula	ated using sampling	ng						<u>F</u>
	Ė					depth reading ar e data conversion							E
	F		factor.	2. 2	38								F
	-												F

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19023° Long = -88.36653°



19.8

3.1

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.500	100.0		
.375	99.0		
#4	96.9		
#10	93.8	1	
#20	85.6		i
#40	74.0		
#60	58.4		
#100	33.6		
#200	12.8		
			1
	.500 .375 #4 #10 #20 #40 #60 #100	SIZE FINER .500 100.0 .375 99.0 #4 96.9 #10 93.8 #20 85.6 #40 74.0 #60 58.4 #100 33.6	SIZE FINER PERCENT .500 100.0 .375 99.0 #4 96.9 #10 93.8 #20 85.6 #40 74.0 #60 58.4 #100 33.6

0.0

SILTY SAND, (S CLAY pockets	SM), medium to fine gra	ained, trace shell and
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 1.2465 D ₅₀ = 0.2091 D ₁₀ =	Coefficients D ₈₅ = 0.8129 D ₃₀ = 0.1374 C _u =	D ₆₀ = 0.2599 D ₁₅ = 0.0823 C _c =
USCS= SM	Classification AASHTO)=
CADD CODE =	<u>Remarks</u> CH10D965	

Material Description

(no specification provided)

Tested By: R.Martin

0.0

Location: USACE Sample # BI-PB-105-10A Sample Number: TE Lab ID: 4622.15

Depth: 0.0 - 4.0 (ft.)

Date: 8/15/10

12.8

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

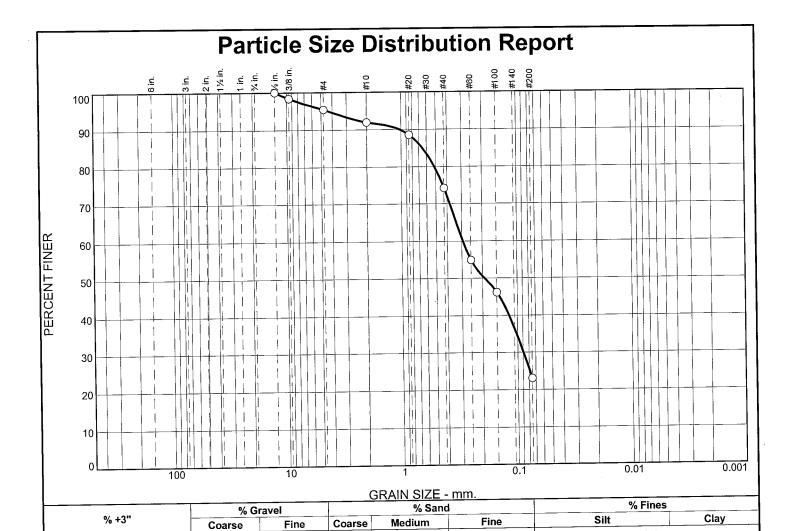
61.2

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama



17.7

3.5

4.6

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.500	100.0		
.375	98.4		
#4	95.4		
#10	91.9		
#20	88.6		
#40	74.2		•
#60	54.9		
#100	46.2		
#200	23.0		
l			
[

0.0

	<u> Material Descriptio</u>						
CLAYEY SAND, (SC), medium to fine grained, with trace shell							
PL=	Atterberg Limits	Pi=					
D ₉₀ = 1.0238 D ₅₀ = 0.1917 D ₁₀ =	<u>Coefficients</u> D ₈₅ = 0.6492 D ₃₀ = 0.0894 C _u =	D ₆₀ = 0.2938 D ₁₅ = C _c =					
	Classification						
USCS= SC	AASHT	O=					
	Remarks						
CADD CODE = CH10D965							
		<u> </u>					

(no specification provided)

Tested By: R.Martin

0.0

Location: USACE Sample # BI-PB-105-10B **Sample Number:** TE Lab ID: 4622.16

Depth: 4.0 - 8.0 (ft.)

Date: 8/15/10

23.0

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

51.2

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama

Boring Designation BI-PB-106-10

DRILLING LOG	npi	II I ING	106	DIVISIO	N			INS	STALLATIO	ON			SHEET	г 1
Barrier Island Restoration			LUG	South	n Atlantic			_					OF 1	SHEETS
Petil Bois State Plane, MSE (U.S. Pt.) NAD83 NAVD88						_	_			TAL	VEDTI	201		
2. BORING DESIGNATION LOCATION COORDINATES SE-1.133.338 N = 251.293 Vibracore MANUAL HAMME MANUAL HAM			na Resto	oration				10.					!	
Being Bei						11.								
Corps of Engineers - CESAM 12. TOTAL SAMPLES 2 0	1						Vibra	acore						
A MAME OF BRILLER CONSTRUCTION SOLUTION SOLUTION SOLUTION OF POINING VERTICAL S. DIRECTION OF POINING VERTICAL INCLINES OF OVERBURDEN N/A T. DEPTH DRILLED INTO ROCK N/A T. DEPTH DRILLED INTO BORING S. TOTAL DEPTH OF BORING CLASSIFICATION OF MATERIALS CLASSIFICATION OF MATERIALS CLASSIFICATION OF MATERIALS CLAY, fat, dark gray (CH) SAMPLE CLAY, fat, dark gray (CH) A CLAY, fat, dark gray (CH) A CLAY, fat, dark brown (SP) At El37.5 Ft., trace silt, gray A Classification: SP-SM Color: 2.5Y 4/2-dark grayish brown D50: 0.2503 mm % Fines: 9.2 CLASSIFICATION OF MATERIALS B Classification: SP-SM Color: 2.5Y 4/2-dark grayish brown D50: 0.2503 mm % Fines: 9.2 CLAY, fat, dark brown (SP) At El37.5 Ft., trace silt, gray CLAY, fat, dark brown (SP) At El37.5 Ft., brace silt, gray CLAY, fat, dark brown (SP) At El37.5 Ft., brace silt, gray CLAY, fat, dark brown (SP) At El37.5 Ft., brace silt, gray A Classification: SM Color: 5Y 5/2-dive gray D50: 0.2584 mm % Fines: 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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	3. DRILLING AGENCY CONTRACTOR FILE NO.				12.	TOTAL			i		BED (UD)			
Construction Solutions International, Inc. 5. DIRECTION OF DORING DEG. FROM DEG. TROM			s - CESAM	<u> </u>	}		_		!	2		0		
S. DIECTION OF BORING DEG. FROM DEG. FROM STARTED COMPLETED MCLINED MCLI				ons Internati	ional Inc			13.	. TOTAL I	NUMBER CORE BOXES				
SAND SAND						VI BI	EARING	14.	WATER	DEPTH				
7. DEPTH DRILLED INTO ROCK N/A 8. TOTAL DEPTH OF BORING 9.5 Ft. CLASSIFICATION OF MATERIALS CLAY, fat, dark gray (CH) 35.5					VERTICAL			15.	. DATE BO	ORING	1		i	
8. TOTAL DEPTH OF BORING 9.5 Ft. CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS CLAY, fat, dark gray (CH) SAND, poorly-graded, mostly medium-grained sand-sized quartz, dark brown (SP) At El37.5 Ft., trace silt, gray At El37.5 Ft., trace silt, 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. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	6. THI	CKNESS OF	OVERB	URDEN	N/A			16.	. ELEVAT	ION TOP OF BORING	-33.5 Ft.			
B. TOTAL DEPTH OF BORING 9.5 Ft. 18. SIGNATURE AND TITLE OF INSPECTOR Chris Gillentine, Geologist CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS CLAY, fat, dark gray (CH) 33.5 0.0 CLAY, fat, dark gray (CH) SAND, poorly-graded, mostly medium-grained sand-sized quartz, dark brown (SP) At El37.5 Ft., trace silt, gray At El37.5 Ft., trace silt, 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. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidd gauge data conversion	7. DEP	TH DRILLE	D INTO	ROCK N	J/A			17.	. TOTAL I	RECOVERY FOR BORING	100%			
ELEV. DEPTH By CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS CLAY, fat, dark gray (CH) CLAY, fat, dark gray (CH) SAND, poorly-graded, mostly medium-grained sand-sized quartz, dark brown (SP) At El37.5 Ft., trace silt, gray At El37.5 Ft., trace silt, 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. 3. Seafloor elevation calculated using sampling vessel's fathorneter water depth reading and applying NOAh tidal gauge data conversion			05 000					18.			PECTOR			
-33.5 0.0 CLAY, fat, dark gray (CH) SAND, poorly-graded, mostly medium-grained sand-sized quartz, dark brown (SP) At El37.5 Ft., trace silt, gray NOTES: 1. Solts 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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	8. 101	AL DEPTH	OF BOR	ING 9.5	FT.			ᄂ	Chris	s Gillentine, Geologist				
CLAY, fat, dark gray (CH) SAND, poorly-graded, mostly medium-grained sand-sized quartz, dark brown (SP) At El37.5 Ft., trace silt, gray At El37.5 Ft., trace silt, 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. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	ON OF MA	TERIALS		SAMPLE	LAB	ORATORY RE	SULTS		
SAND, poorly-graded, mostly medium-grained sand-sized quartz, dark brown (SP) At El37.5 Ft., trace silt, gray A Classification: SP-SM Color: 2.5Y 4/2-dark grayish brown D50: 0.2503 mm % Fines: 9.2 At El37.5 Ft., trace silt, gray B Classification: SM Color: 5Y 5/2-olive gray D50: 0.2584 mm % Fines: 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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	-33.5	0.0						\Box						
SAND, poorly-graded, mostly medium-grained sand-sized quartz, dark brown (SP) At El37.5 Ft., trace silt, gray At El37.5 Ft., trace silt, gray B Classification: SM Color: 5Y 5/2-olive gray D50: 0.2584 mm % Fines: 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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E		CLAY, fat,	dark gray ((CH)								F
SAND, poorly-graded, mostly medium-grained sand-sized quartz, dark brown (SP) At El37.5 Ft., trace silt, gray At El37.5 Ft., trace silt, gray B Classification: SM Color: 5Y 5/2-olive gray D50: 0.2584 mm % Fines: 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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	25.5	F ₂												F
sand-sized quartz, dark brown (SP) At El37.5 Ft., trace silt, gray At El37.5 Ft., trace silt, gray B Classification: SM Color: 5Y 5/2-olive gray D50: 0.2584 mm % Fines: 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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	-35.5	- 2.0						_	•	Classification: SP-S		2.5Y 4	/2-dark	grayish 📙
At El37.5 Ft., trace silt, gray B Classification: SM Color: 5Y 5/2-olive gray D50: 0.2584 mm % Fines: 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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E						d	А	D50: 0.2		% Fines:	9.2	E
B Classification: SM Color: 5Y 5/2-olive gray D50: 0.2584 mm % Fines: 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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E		3414 31264	quartz, uari	K BIOWII (Oi)							E
B Classification: SM Color: 5Y 5/2-olive gray D50: 0.2584 mm % Fines: 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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E		C At El37.5	5 Ft., trace s	silt. grav								E
-43.0 9.5 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. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E	$ \cdot \cdot $,	, 3,		ŀ						 E
-43.0 9.5 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. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E												E
-43.0 9.5 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. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E								Classification:	SM Color	· 5V 5/2	olivo a	_{rav} E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E							В		584 mm %	Fines:	011ve gi 19.3	E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E												E
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	-43 0	<u>-</u> 9.5												F
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 calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion	10.0	E	1											E
accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		Ē		NOTES:										F
accordance with the Unified Soils Classification System. 2. NS = Sample not submitted for laboratory analysis from this interval. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E		1 Soile	oro field	المينونير ال	, alassified i	_						F
analysis from this interval. 3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		<u>-</u>		accordance	e with the U	Inified So	ls Classificatio	'n						-
3. Seafloor elevation calculated using sampling vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		Ē		2. NS = 1	Sample not	t submitte	d for laborator	у						E
vessel's fathometer water depth reading and applying NOAA tidal gauge data conversion		E		•										E
applying NOAA tidal gauge data conversion		E												E
factor.		E												E
		E		factor.										F
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SAM FORM 1836 - MsCIP MAY 2010

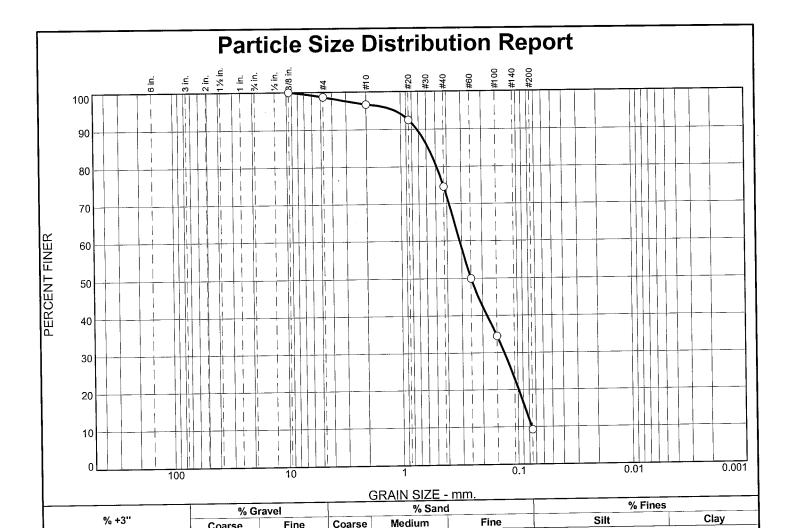
Lat = 30.19016° Long = -88.36144°

Boring Designation BI-PB-106-10

DDI	LLING	100	DIVISI	ON			INS	STALLATIO	ON .		;	SHEET	1
		LUC	Sou	uth Atlantic			_	Mobile Di			(OF 1	SHEETS
	NsCIP Barrier Island Restoration				_	_	TYPE OF BIT N/A						
				tion			10.		NATE SYSTEM/DATUM	HORIZON		/ERTIC	
Petit Bois Pass- AL West 2. BORING DESIGNATION LOCATION COORDINATES						11.		e Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NAV	/D88	
BI-PB-106-10 E = 1,133,338 N = 251,293						Vibra					HAMMER		
3. DRILLING AGENCY CONTRACTOR FILE NO.					12	. TOTAL S		ISTURBED	i		BED (UD)		
	Corps of En		s - CESAM		!		╄			2	0		
			ione Intern	ational, Inc.			13.	. TOTAL I	NUMBER CORE BOXES				
	CTION OF			DEG. FRO	М	BEARING	14.	WATER	DEPTH	33 Ft.			
	VERTICAL INCLINED			VERTICAL	-		15.	. DATE BO	DRING	STARTED 08-04-		OMPL 08-0	ETED 04-10
6. THI	CKNESS OF	OVERI	BURDEN	N/A			16.	. ELEVAT	ION TOP OF BORING	-33.5 Ft.			
7. DEP	TH DRILLEI	D INTO	ROCK	N/A			17.	. TOTAL I	RECOVERY FOR BORING	100%			
	A. DEDT.	05 005		- F-1			18.		URE AND TITLE OF INSPI	ECTOR			
8. 101	AL DEPTH (OF BOR	ing 9	.5 Ft.			ㅗ	Chris	s Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	c	CLASSIFICATI	ON OF N	IATERIALS		SAMPLE	LABO	RATORY RES	BULTS		
-33.5	0.0												
			CLAY, fa	it, dark gray	(CH)								Į į
25.5	F ₂₀												F
-35.5	- 2.0 -						\dashv	•	Classification: SP-SI		2.5Y 4/2	-dark g	grayish -
	<u> </u>			ooorly-graded ed quartz, da		y medium-graine v (SP)	d	Α	D50: 0.25	brown 603 mm %	Fines: 9	.2	E
			Juliu Jizk	oa quai iz, aa	III DIOWI	(01)							E
	Ē		 At El37	7.5 Ft., trace	silt. grav	,							E
	Ē	-:::		,,	, 3,		ŀ						 5
	-												F
	<u> </u>								Classification: S	M Color:	5Y 5/2-c	dive ar	<u>,</u>
	Ē	$ \cdot \cdot \cdot $						В	D50: 0.25	84 mm %	Fines: 19	9.3	ay E
													E
-43.0	<u>-</u> - 95												F
	_	1											
	E		NOTES:										F
	Ē		1. So	nile are fiel	d vieus	ally classified i	. I						E
	-		accordan System	ice with the l	Unified S	Soils Classification	n						E
			2. NS =	= Sample no	t submi	tted for laborator	.y						E
	Ē		analysis	from this inte	erval.								F .
			3. Seafle	oor elevation	calculat	ed using samplin	g						F-1
	<u>-</u>					epth reading an data conversion							F
	Ε		factor.	110701 1100	guugu	data conversion	"						E
	Ē_												Ę
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	L								ļ				F

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19016° Long = -88.36144°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	98.7		
#10	96.7		
#20	92.5		
#40	74.6		
#60	49.9		
#100	34.5	į.	
#200	9.2		
		İ	

Coarse

0.0

Material Description SAND, (SP-SM), medium to fine grained								
PL=	<u>Atterberg Limits</u> LL=	Pl=						
D ₉₀ = 0.7219 D ₅₀ = 0.2503 D ₁₀ = 0.0765	Coefficients D85= 0.5758 D30= 0.1302 Cu= 4.09	D ₆₀ = 0.3124 D ₁₅ = 0.0867 C _c = 0.71						
USCS= SP-SM	Classification AASHTO=	=						
CADD CODE = Cl	Remarks H10D965							

(no specification provided)

Tested By: R.Martin

0.0

Location: USACE Sample # BI-PB-106-10A Sample Number: TE Lab ID: 4622.17

Depth: 2.0 - 5.0 (ft.)

Coarse

2.0

22.1

Fine

1.3

Date: 8/15/10

9.2

Thompson Engineering

Client: US Army Corps of Engineers

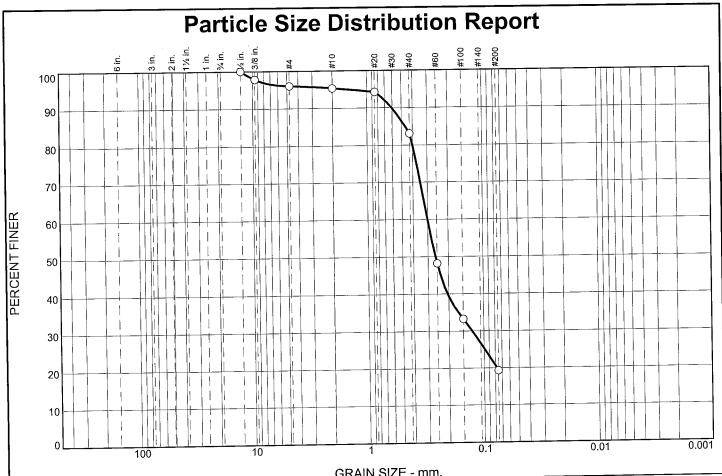
Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

65.4

Project No: 10-2123-0009

Report No.

Mobile, Alabama



	% Gr	111111.	% Fines				
% +3"	Coarse	Fine	Coarse	% Sand Medium	Fine	Silt	Clay
0.0	0.0	4.0	0.7	12.2	63.8	19.3	

and clay pockets

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.500	100.0		
.375	97.8		
#4	96.0		
#10	95.3		
#20	94.2	ł.	
#40	83.1		
#60	48.2		
#100	33.3		
#200	19.3		
		1	•
1			

PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.6086 D ₅₀ = 0.2584 D ₁₀ =	Coefficients D85= 0.4631 D30= 0.1260 Cu=	D ₆₀ = 0.3008 D ₁₅ = C _c =
USCS= SM	<u>Classification</u> AASHTO=	

Material Description SILTY SAND, (SM), medium to fine grained, with trace shell

Remarks

CADD CODE = CH10D965

(no specification provided)

Tested By: R.Martin

Location: USACE Sample # BI-PB-106-10B Sample Number: TE Lab ID: 4622.18

Depth: 5.0 - 9.5 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama

Boring Designation BI-PB-107-10

DR	ILLING	LOG	DIVISIO				1	STALLATIO					SHEET	
1. PRO			Sou	th Atlantic			+	Mobile Dis					OF 1	SHEETS
										N/A				
	MsCIP Barri			ion			10.		NATE SYSTEM/DATU	!	IZONTAI	• i	VERTIC	
	Petit Bois Pa			LOCATION C	OOPD	INATES	11		Plane, MSE (U.S.		IAD83	 :	NA\ I TO HA I	/D88
	3I-PB-107-1		į			N = 251,631	'''	Vibra		ATTOR OF D	[_		MINIER HAMMER
	LLING AGEN		······			RACTOR FILE NO.	+			DISTUR	BED			BED (UD)
(Corps of Eng	gineers	- CESAM		:		12.	TOTALS	SAMPLES	0		-	0	
4. NAI	NE OF DRILL	.ER					13.	TOTAL I	NUMBER CORE BOXE	S				
	Construction		ns Interna	tional, Inc.			14	WATER	NEDTH	32 F	+			
	ECTION OF I	BORING		DEG. FROI	M	BEARING	<u> </u>	WAILK	JEF III		RTED	-	COMPL	ETED
_	INCLINED			-		1	15.	DATE BO	DRING	i	8-03-10			03-10
	THICKNESS OF OVERBURDEN N/A						16.	ELEVAT	ION TOP OF BORING			i	- 00 1	30 10
							\bot		RECOVERY FOR BOR		0%			
7. DEF	DEPTH DRILLED INTO ROCK N/A						18.	SIGNAT	URE AND TITLE OF I	NSPECTOR				
8. TOT	AL DEPTH C	OF BORII	NG 13	3.5 Ft.				Chris	Gillentine, Geolog	ist				
ELEV.	DEPTH	LEGEND	CI	LASSIFICATIO	ON OF	MATERIALS								
-32.3	0.0													
			CLAY, fat dark gray		grainec	l sand-sized quart	z,	NS						
-45.8	13.5		accordance System. 2. NS = analysis from the state of th	Sample not rom this interpretation fathometer v	Jnified t subm rval. calcula water	ually classified Soils Classification nitted for laborato ated using samplindepth reading are data conversion	ry ng nd							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19107° Long = -88.35654°

Boring Designation BI-PB-108-10

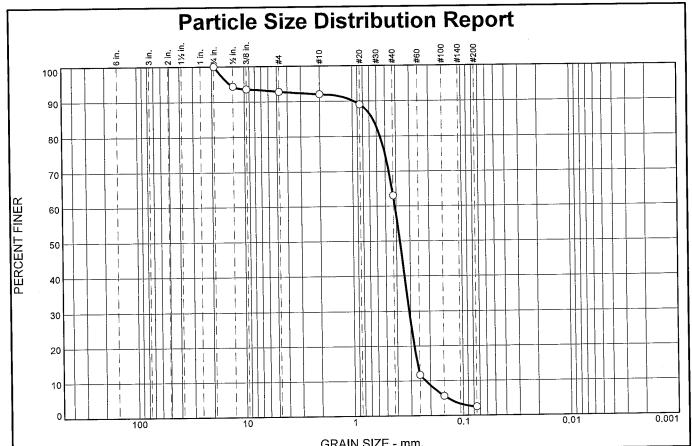
DRI	LLING	LOG	DIVISIO				1	TALLATIO				SHEET	
			Sout	h Atlantic			-	Mobile Dis				OF 1	SHEETS
1. PRO										N/A			
	IsCIP Barri			on			10.		NATE SYSTEM/DATU	!		VERTIC	
	etit Bois Pa			LOCATION C	COOPDI	NATES	11		Plane, MSE (U.S. FACTURER'S DESIGNA				√D88
	II-PB-108-1		į	E = 1,14;			١	Vibra		TION OF BRILE	_	AUTO HAI MANUAL I	
	LING AGEN		<u>'</u>			RACTOR FILE NO.	+			DISTURBED			BED (UD)
C	Corps of En	gineers	- CESAM		!		12.	TOTAL S	SAMPLES	0		0	
4. NAN	E OF DRILL	.ER					13.	TOTAL I	NUMBER CORE BOXE	s	•		
	Construction		ns Interna				14	WATER	DEPTH	31 Ft.			
	CTION OF	BORING		DEG. FRO	M	BEARING	<u> </u>	WA! 210		STARTE	•	COMPL	ETED
_	INCLINED			:			15.	DATE BO	DRING	07-29		i	29-10
	THICKNESS OF OVERBURDEN N/A						16.	ELEVAT	ION TOP OF BORING	<u> </u>		0	
							ᅪ		RECOVERY FOR BORI				
7. DEP	. DEPTH DRILLED INTO ROCK N/A						18.	SIGNAT	URE AND TITLE OF II	NSPECTOR			
8. ТОТ	AL DEPTH (OF BORII	NG 16	.0 Ft.				Chris	Gillentine, Geologi	st			
ELEV.							ABORATORY RI	ESULTS	•				
-30.6	0.0						\Box						
	Ė		CLAY fat	, black/gray	(CH)								Ė,
	-		-										F
	E		At El31.	6 Ft., dark g	gray								E
	Ē												E
													F
													E
													E.
													<u>-</u>
													F
	Ē												F
													E
	-							NS					F
													E
	Ē												F
	-												F
													E
126	12.0												Ė
-42.0	- 12.0 -	[// 4					-						F
	<u>E</u>	$ \cdot\cdot\cdot $	SAND, po	orly-graded,	dark g	ray (SP)							E
	Ē	$ \cdot \cdot $											E
	Ė												F
	<u>E</u>	$[\cdots]$											E.
-46.6	16.0	$ \cdot,\cdot $											Ę
1		+ + +					\dashv						ŧ
	Ė		NOTES:										F
	<u> </u>												F
	E		1. Soil	s are field	d visu	ally classified	in						F
	F		accordance System.	e with the L	edוזווזע	Soils Classification	חר						F
			•										<u> </u>
	Ė					nitted for laborato	ry						F'
	F		analysis fr	om this inte	ı val.								F
	Ē		3. Seafloo	or elevation	calcula	ted using samplir	ıg						E
	Ė		vessel's f	athometer v	water	depth reading ar	id						F
	F		applying I factor.	NUAA tidal	gaug	e data conversion	n						F
	Ē		IdoloI.										E
	Ė												F
	F												<u>-</u> -:
	<u>E</u>												E
	-	1 1											L-

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20020° Long = -88.32870°

Boring Designation BI-PB-109-10

DR	ILLING	LOG	DIVISIO				IN	STALLATIO				SHEET	
1. PR			Sout	h Atlantic			+	Mobile Di				OF 1	SHEETS
		an Ial	d Daster-"				_		TYPE OF BIT NATE SYSTEM/DATU	N/A HORIZON	FAI	VERTIC	·A1
	MsCIP Barrie			on			10			:		:	
	Petit Bois Pa			LOCATION C	OOPDII	NATES	11		Plane, MSE (U.S. I				/D88
	BI-PB-109-1		- '			N = 254,430	'''	Vibra		ATION OF DRILL	_	UTO HAI ANUAL I	MMER HAMMER
	LLING AGEN	-	<u>I</u> _			RACTOR FILE NO.	+	VIDIC	icor c	DISTURBED			BED (UD)
	Corps of Eng	ineers	- CESAM				12	. TOTAL S	SAMPLES	3	i	0	`
	ME OF DRILL			•			13	. TOTAL I	NUMBER CORE BOXE	 !S			
	Construction	Solutio	ns Internat	ional, Inc.			-						
	ECTION OF E	BORING		DEG. FROM	1	BEARING	14	WATER	DEPIH	32 Ft.			
	VERTICAL INCLINED			VERTICAL			15	. DATE BO	DRING	STARTED 07-29-	10	COMPL	29-10
	CKNESS OF	OVERBL	JRDEN	N/A			16	. ELEVAT	ION TOP OF BORING		10	01-2	23-10
	TH DRILLED			V/A			17	. TOTAL I	RECOVERY FOR BOR				
			•				18	SIGNAT	URE AND TITLE OF I	NSPECTOR			
8. TO	3. TOTAL DEPTH OF BORING 16.5 Ft.						\perp	Chris	Gillentine, Geologi	ist			
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	ON OF N	MATERIALS	SAMPLE LABORATORY RESULTS						
-33.6	0.0												
			SAND, pograined sa (SP)	orly-graded, and-sized qu	mostly ıartz, tı	/ fine to mediur race shell, lt. gr	n- ay	Α	Classificatio D50:	on: SP Color: 0.3721 mm %	5Y 7/2 Fines:	-light gra 2.5	ay :
-40.6	7.0 - 7.0 		- SAND, po grained sa	orly-graded, nd-sized qua	mostly artz, lt.	/ fine to mediur gray (SP)	n-	В	Classification D50:		2.5Y 7/ Fines:	1-light g 2.4	ray
								С	Classification D50:	n: SP Color: 2 0.3316 mm %	2.5Y 7/ Fines:	1-light g 2.8	ray -
-50.1	- - - - - - - - - - - - - - - - - - -		- At El46.	6 Ft., trace s	silt, dark	k gray		NS					
			accordanc System. 2. NS = analysis fr	e with the U Sample not om this interpor elevation	Inified \$ submival.	ally classified Soils Classification tted for laborate mined from 20°	ory						

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19865° Long = -88.32584°



	% Gr	avel	1	% Sand	111111	% Fines			
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
0.0	0.0	7.2	0.8	28.9	60.6	2.5			

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.750	100.0		
.500	94.4		
.375	93.6		
#4	92.8		
#10	92.0		
#20	89.0	1	
#40	63.1		
#60	11.7		
#100	5.6		
#200	2.5	1	
			t

Material Description SAND, (SP), medium to fine grained, with trace shell							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.9643 D ₅₀ = 0.3721 D ₁₀ = 0.2217	Coefficients D85= 0.6495 D30= 0.3092 Cu= 1.85	D ₆₀ = 0.4109 D ₁₅ = 0.2624 C _c = 1.05					
USCS= SP	Classification AASHT	O=					
Remarks CADD CODE = CH10D965							

Location: USACE Sample # BI-PB-109-10A **Sample Number:** TE Lab ID: 4612.20

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

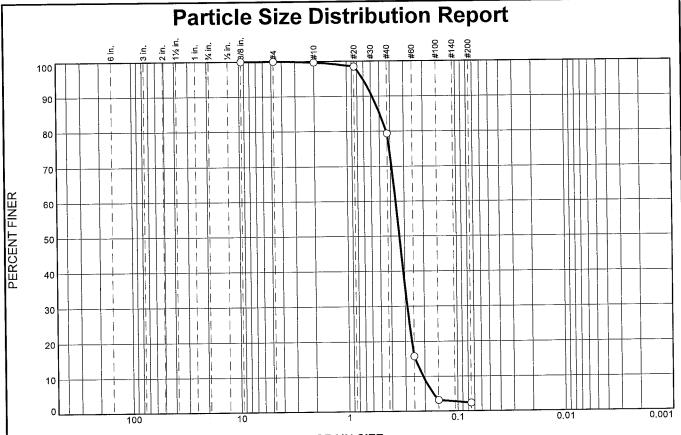
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Report No. **Project No:** 10-2123-0009

Checked By: R.Byrd Tested By: J.Maddox

⁽no specification provided)



			G	RAIN SIZE -	mm.			
	% Gravel			% Sand		% Fines		
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0	0.0	0.0	0.3	20.4	76.9	2.4		

	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
-	.375	100.0		
	#4	100.0		
	#10	99.7		
	#20	98.4		
	#40	79.3		
	#60	15.8		
	#100	3.2		
	#200	2.4		l
				1
	<u> </u>		1	1
	}			

•	Material Description SAND, (SP), medium to fine grained								
PL=	Atterberg Limits LL=	PI=							
D ₉₀ = 0.5823 D ₅₀ = 0.3340 D ₁₀ = 0.2074	Coefficients D ₈₅ = 0.4964 D ₃₀ = 0.2864 C _u = 1.74	D ₆₀ = 0.3601 D ₁₅ = 0.2442 C _c = 1.10							
USCS= SP	<u>Classification</u> AASHT	O=							
CADD CODE =	Remarks CADD CODE = CH10D965								

Location: USACE Sample # BI-PB-109-10B **Sample Number:** TE Lab ID: 4612.21

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

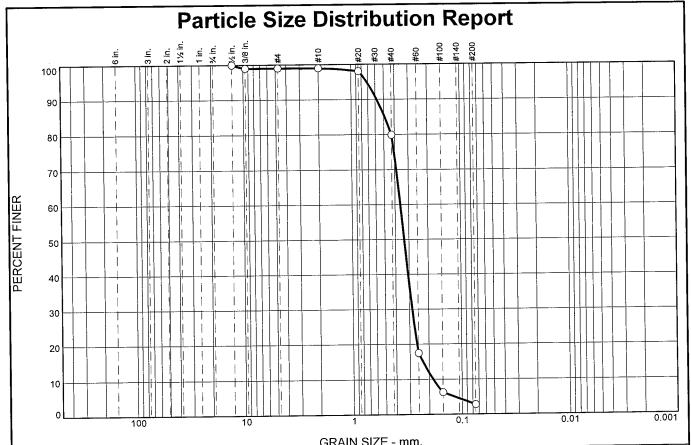
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Checked By: R.Byrd Tested By: J.Maddox

⁽no specification provided)



			C	NAIN OILL -	1111111.		
	% G	ravel		% Sand		% Fines	
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.0	0.1	19.0	77.1	2.8	
υ.υ	1 0.0	1.0	1 0.1		l		

	SIEVE	PERCENT	SPEC.*	PASS?
١	SIZE	FINER	PERCENT	(X≃NO)
ı	.500	100.0		
١	.375	99.0		
1	#4	99.0		
١	#10	98.9		
١	#20	98.1		
ı	#40	79.9		
	#60	17.5		
	#100	6.4		
1	#200	2.8	•	•
		•		
				1

SAND, (SP), medium to fine grained							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.5807 D ₅₀ = 0.3316 D ₁₀ = 0.1845	Coefficients D85= 0.4918 D30= 0.2833 Cu= 1.94	D ₆₀ = 0.3578 D ₁₅ = 0.2284 C _c = 1.22					
USCS= SP	Classification AASHT	O=					
CADD CODE = CH10D965							

(no specification provided)

Location: USACE Sample # BI-PB-109-10C **Sample Number:** TE Lab ID: 4612.22

Depth: 10.0 - 13.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox

Boring Designation BI-PB-110-10

DR	ILLING	LOG	DIVISIO				IN	STALLATI					SHEET	r 1
			Sout	h Atlantic			_	Mobile D					OF 1	SHEETS
1. PRO									TYPE OF BIT	N/A				
	MsCIP Barri			on			10		INATE SYSTEM		HORIZONT		VERTIC	
	Petit Bois Pa			LOCATION C	OOBD	INATES			e Plane, MSE (I		NAD83			/D88
	31-PB-110-1		-	E = 1,143			"		actorer 5 des	IGNATIO	N OF DRILL	_	UTO HAI	MMER HAMMER
	LLING AGEN			L - 1,140		RACTOR FILE N	10.	VIDI	acore	¦ D	ISTURBED			BED (UD)
	Corps of Eng		CESAM		!			. TOTAL	SAMPLES	į	0		0	(- ,
	NE OF DRILL						13	. TOTAL	NUMBER CORE	BOXES				
(Construction	Solution	ns Interna	tional, Inc.			\vdash				04.54			
	ECTION OF I	BORING		DEG. FROI	И	BEARING		. WATER	DEPIH		31 Ft.		1	
=	VERTICAL INCLINED			VERTICAL		i !	15	. DATE B	ORING		STARTED 07-30-	10	COMPL 07-	30-10
	CKNESS OF	OVERBU	RDEN	N/A		i	16	6. ELEVA	TION TOP OF BO	RING	-31.1 Ft.		, 07	50 10
7. DFP	TH DRILLED	INTO R	ock i	V/A			17	. TOTAL	RECOVERY FOR	BORING	100%			
7. DEF	THI DRILLED	- INTO IN	JOK	W/A			18	. SIGNAT	URE AND TITLE	OF INSPI	ECTOR			
8. TOT	AL DEPTH C	F BORIN	IG 12	.0 Ft.				Chri	s Gillentine, Ge	eologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	ON OF	MATERIALS		SAMPLE		LABO	RATORY RES	ULTS		
-31.1	0.0													
-43.1	12.0		CLAY, fa (CH)	t, trace sh	ell fra	gments, dark	gray	NS						
			accordance System. 2. NS = analysis frection 3. Seafloor vessel's frection	Sample not com this interpretation athometer v	Jnified t subm rval. calcula water	ually classified Soils Classifica nitted for labora ated using sample depth reading e data conver	ation atory oling and							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19708° Long = -88.32862°

Boring Designation BI-PB-111-10

DR	LLING	LOG	DIVISIO	ON			INS	TALLATIO	ON O			SHEET	г 1
			Sou	th Atlantic			-	Mobile Dis				OF 2	SHEETS
1. PRO										N/A			
	/IsCIP Barr			ion			10.		NATE SYSTEM/DATU	!		VERTIC	
	Petit Bois P			LOCATION (144		Plane, MSE (U.S. I				√D88
	RING DESIG BI-PB-111-1			E = 1,14		N = 254,408	111.	Vibra		ATION OF DRILL	_	UTO HA	MMER Hammer
	LLING AGE		i	L = 1,14.		RACTOR FILE NO.	+	VIDIC	icoi e	DISTURBED			BED (UD)
	Corps of En		- CESAM				12.	TOTAL	SAMPLES	0		0	(5)
	E OF DRILL						13.	TOTAL I	NUMBER CORE BOXE	 :s		-	
(Construction	n Solutio	ons Interna	ational, Inc.			-						
	ECTION OF	BORING		DEG. FRO	М	BEARING	<u> 14.</u>	WATER	DEPIR	31 Ft.		COMPL	
=	VERTICAL INCLINED					i ! !	15.	DATE BO	DRING	07-29-		i	29-10
6. THI	CKNESS OF	OVERB	URDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-			
7. DEP	TH DRILLEI	D INTO F	юск	N/A			17.	TOTAL F	RECOVERY FOR BOR				
				IN/A			18.	SIGNAT	URE AND TITLE OF I	NSPECTOR			
8. ТОТ	AL DEPTH	OF BORI	NG 20).0 Ft.				Chris	Gillentine, Geologi	ist			
ELEV.	DEPTH	LEGEND	CI	LASSIFICATI	ON OF	MATERIALS		SAMPLE	ı	LABORATORY RE	SULTS		
-30.6	0.0												
	Ė		CLAY. fa	at. trace she	ell frac	gments, trace fine	g_						Ė
	Ė		grained sa	and-sized qu	artz, It	gray (CH)							F
	E												E
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	E		_ ^+ =	.6 Ft., gray				NS					E
	<u>F</u>		AL EI40	.o rt., gray									F
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	E												E
	F												F
	E												E
-50.6	20.0												ŧ
-30.0	- 20.0	7/1					\dashv						
	E		NOTES:										E
	E		NOTES.										E
	F		1. Soi	ls are fiel	d visi	ually classified	in						F
	E		accordance	ce with the l	Jnified	Soils Classification	n						E
	F		System.										F
	F		2 NS =	Sample no	t subn	nitted for laborator	., I						F
	E			rom this inte		oa ioi iaboratoi	'						E
	Ē		3. Seaflo	or elevation	calcula	ated using samplin	g						E
	L	1 1				• .	-		Ī				

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19861° Long = -88.33113°

Boring Designation BI-PB-111-10

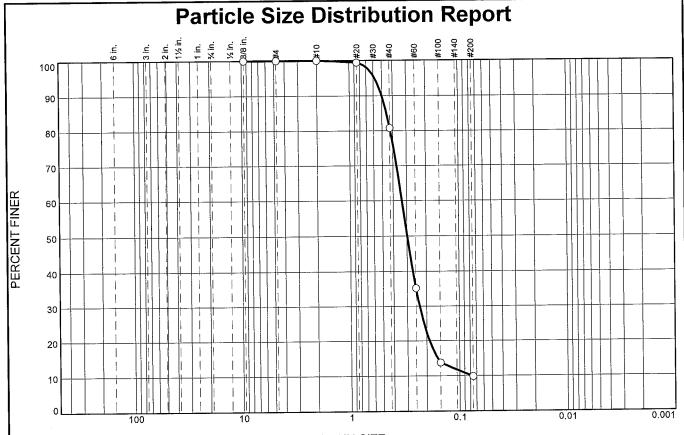
DRILLI	DRILLING LOG (Cont. Sheet) INSTALLATION Mobile District SHEET 2 OF 2 SHI								
OJECT		,	_		HORIZONTAL	OF 2 SHEETS			
	er Island	Restoration	ı	COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, MSE (U.S. Ft.) NAD83 NAVD88					
CATION CO				ELEVATION TOP OF BORING					
X = 1,142,		254,408	-30.6 F						
.EV. DEI	Q	CLASSIFICATION OF MATE							
EV. DEI	H H H H H H H H H H	vessel's fathometer water depth applying NOAA tidal gauge dat factor.		SAMPLE	LABORATORY R	ESULTS			

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19861° Long = -88.33113°

Boring Designation BI-PB-112-10

DRILLING LOG	DIVISION	INSTALLATION		EET 1
1. PROJECT	South Atlantic	Mobile District		1 SHEETS
	Destauration	9. SIZE AND TYPE O	- ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	RTICAL
MsCIP Barrier Island F			!	
Petit Bois Pass- AL Ea 2. BORING DESIGNATION	LOCATION COORDINATES		,	NAVD88 HAMMER
BI-PB-112-10	E = 1,147,813 N = 255,790	Vibracore		AL HAMMER
3. DRILLING AGENCY	CONTRACTOR FILE NO.	40 70741 04401 5	DISTURBED UNDIST	URBED (UD)
Corps of Engineers - C	CESAM	12. TOTAL SAMPLE	3 0	
4. NAME OF DRILLER		13. TOTAL NUMBER	R CORE BOXES	
Construction Solutions 5. DIRECTION OF BORING	s International, Inc. DEG. FROM BEARING	14. WATER DEPTH	31 Ft.	
S. DIRECTION OF BORING VERTICAL INCLINED	VERTICAL BEARING	15. DATE BORING		MPLETED 07-30-10
6. THICKNESS OF OVERBUR	RDEN N/A	16. ELEVATION TO	P OF BORING -30.9 Ft.	
7. DEPTH DRILLED INTO ROO	CK N/A	17. TOTAL RECOVE	ERY FOR BORING 100%	
			ID TITLE OF INSPECTOR	
8. TOTAL DEPTH OF BORING	3 11.0 Ft.	Chris Gillent	tine, Geologist	
ELEV. DEPTH	CLASSIFICATION OF MATERIALS	SAMPLE	LABORATORY RESULTS	
-30.9 0.0				
-31.9 - 1.0 C	CLAY, fat, black/brown (CH)	NS		
	AND, poorly-graded, mostly fine to mediur rained sand-sized quartz, trace silt, lt. gra SP)	y	lassification: SP-SM Color: 2.5Y 7/1-I D50: 0.2982 mm % Fines: 9.8	ight gray
		B CI:	lassification: SP-SM Color: 2.5Y 7/2-I D50: 0.3341 mm % Fines: 6.2	ight gray
-41.9 = 11.0 : . · ·		C CI	lassification: SP-SM Color: 2.5Y 7/2-l D50: 0.3282 mm % Fines: 6.6	ight gray
1. ac s:	OTES: Soils are field visually classified ccordance with the Unified Soils Classificationystem. NS = Sample not submitted for laborated nalysis from this interval. Seafloor elevation calculated using samplinessel's fathometer water depth reading an applying NOAA tidal gauge data conversionactor.	n y g d		

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20235° Long = -88.31556°



			G	RAIN SIZE -	- mm.			
	% Gr	avel	1	% Sand		% Fines		
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0	0.0	0.0	0.0	19.2	71.0	9.8		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.4		
#40	80.8		
#60	35.2		
#100	13.8		
#200	9.8		
		1	
1			

	medium to fine grained Atterberg Limits	d					
DI							
Di							
		DI.					
PL=	LL=	PI=					
	Coefficients						
$D_{90} = 0.5023$		D ₆₀ = 0.3320 D ₁₅ = 0.1592 C _C = 2.09					
D ₉₀ = 0.5023 D ₅₀ = 0.2982 D ₁₀ = 0.0775	$D_{85} = 0.4545$ $D_{30} = 0.2317$ $C_{U} = 4.28$	$D_{15} = 0.1592$					
$D_{10} = 0.07/3$	Cu- 4.28	Cc= 2.09					
	<u>Classification</u>	_					
USCS= SP-SM	AASHTO)=					
	Remarks						
CADD CODE = CH10D965							
							

Location: USACE Sample # BI-PB-112-10A **Sample Number:** TE Lab ID: 4612.57

Depth: 1.0 - 5.0 (ft.)

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

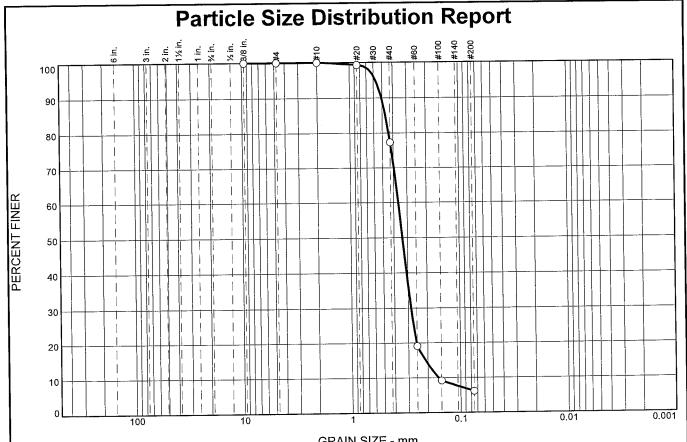
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox

⁽no specification provided)



	GRAIN SIZE - IIIII.									
	% Gravel		% Sand			% Fines				
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay			
.,,,,	Course				71.2	()				
0.0	0.0	0.0	0.0	22.6	71.2	6.2				

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.3		
#40	77.4		
#60	19.1		
#100	9.2		
#200	6.2		
1			l
1			

2.2.2, (2.2.2.2.)	nedium to fine grain				
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.5076 D ₅₀ = 0.3341 D ₁₀ = 0.1593	$\begin{array}{c} \underline{\text{Coefficients}} \\ D_85 = 0.4672 \\ D_30 = 0.2817 \\ C_u = 2.27 \end{array}$	$D_{60} = 0.3624$ $D_{15} = 0.2102$ $C_{c} = 1.37$			
USCS= SP-SM Classification AASHTO=					
Remarks CADD CODE = CH10D965					

(no specification provided)

Location: USACE Sample # BI-PB-112-10B **Sample Number:** TE Lab ID: 4612.58

Depth: 5.0 - 9.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project No: 10-2123-0009

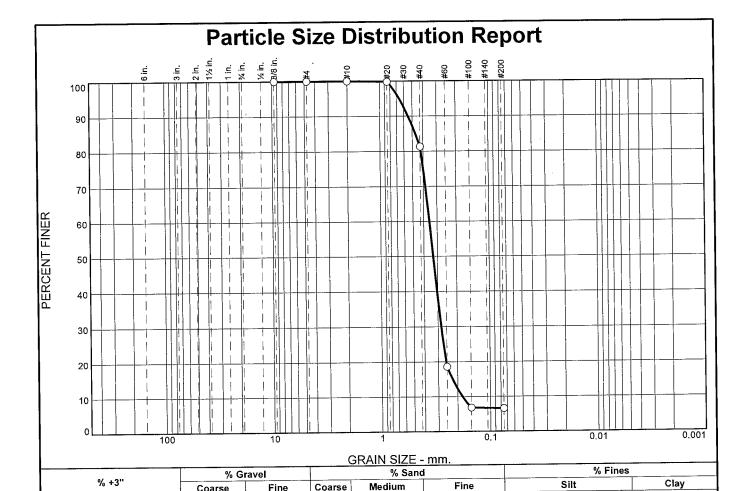
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Report No.

Tested By: J.Maddox



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		}
#40	81.3	-	
#60	18.6		
#100	6.8		
#200	6.6		1
			1
ì			
			1

Coarse

0.0

Fine

0.0

Coarse

0.0

18.7

<u>Material Description</u>						
SAND, (SP-SM), n	nedium to fine graine	ed				
PL=	Atterberg Limits LL=	PI≕				
D ₉₀ = 0.5476 D ₅₀ = 0.3282 D ₁₀ = 0.1814	Coefficients D85= 0.4694 D30= 0.2802 Cu= 1.95	D ₆₀ = 0.3539 D ₁₅ = 0.2223 C _c = 1.22				
USCS= SP-SM Classification AASHTO=						
Remarks						
CADD CODE = $CH10D965$						

(no specification provided)

Tested By: J.Maddox

0.0

Location: USACE Sample # BI-PB-112-10C **Sample Number:** TE Lab ID: 4612.59

Depth: 9.0 - 11.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

74.7

Project No: 10-2123-0009

Report No.

6.6

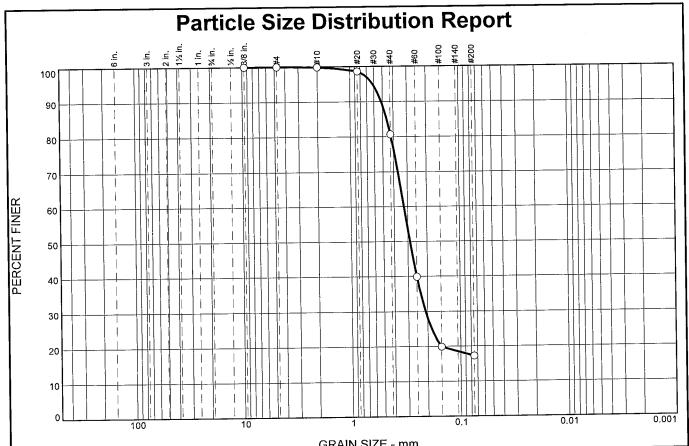
Mobile, Alabama

Boring Designation BI-PB-113-10

DDI	LLING	106	DIVISIO	N	[1	INST	ALLATIC	DN .		SH	EET 1
			South	h Atlantic			obile Dis			OF	1 SHEETS
1. PRO					_			TYPE OF BIT N/A		. :	
			nd Restoration	on	[10. (HORIZONTA	1	RTICAL
	etit Bois Pa			LOCATION COORD	INATES :	11. 1		Plane, MSE (U.S. Ft.)	NAD83		NAVD88 HAMMER
	I-PB-113-1		` !	E = 1,148,125		••••	Vibra		OI DIVILL		AL HAMMER
	LING AGEN				RACTOR FILE NO.			DIS	TURBED	UNDIST	TURBED (UD)
	orps of Eng		s - CESAM			12.	TOTAL S	AMPLES	4	0	
	E OF DRILL					13. 1	TOTAL N	IUMBER CORE BOXES			
	Construction		ions Internat		BEARING	14. V	WATER I	DEPTH	32 Ft.		
	VERTICAL	SURING	G	DEG. FROM VERTICAL	·				STARTED	COI	MPLETED
	INCLINED			!	!	15. I	DATE BO	PRING	07-30-10) (07-30-10
6. THIC	KNESS OF	OVERE	BURDEN	N/A		16. I	ELEVAT	ON TOP OF BORING -	33.6 Ft.		
7. DEP	TH DRILLED	INTO	ROCK N	N/A		17. 1	TOTAL F	ECOVERY FOR BORING	100%		
					-	18. \$	SIGNAT	JRE AND TITLE OF INSPEC	TOR		
8. ТОТ	AL DEPTH C	F BOR	RING 17.	.5 Ft.			Chris	Gillentine, Geologist			
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION OF	MATERIALS	Si	AMPLE	LABOR	ATORY RESU	JLTS	
-33.6	0.0										-0
-34.6	- 1.0	$ \cdot \cdot $	SAND nor	orly-graded, dark g	ırav (SP)						F
-34.0	- 1.0	t∷:¦	<u> </u>		, , ,						F
			SAND, po	orly-graded, most	ly fine to medium- trace silt, It. gray			Classification, CM	Oalam 0.5\	(0 /4	<u>-</u>
	-		(SP)	aria-sizea quartz,	trace siit, it. gray		Α	Classification: SM D50: 0.2867	Color: 2.5Y mm % F	3/1-very ines: 17.2	dark gray
	-										F
	-										F
		-:									
	-	[::::]									Ę
	_										E
	-	: : :						Classification: SM	Color: 5	Y 5/2-oliv	e gray
	_	<u> </u> ::::					В	D50: 0.2881	mm % F	ines: 19.4	E
		.:.:.									Ė
	_	::::									E
	-	$[\cdots]$				\vdash					
											E
	=										F
	-	[.·:·]					•	Classification: SI	M Color:	2.5Y 6/1-	gray
	<u> </u>	-::-					С	D50: 0.2677			
		<u>[::: </u>									F
	<u> </u>	.::.									F
	Ė	<u> : </u>				\vdash					 1
	<u> </u>	. ::					D	Classification: SP-	SM Cold	or: 2.5Y 6/	1-gray
	<u> </u>	ŀ∷·∣					U	D50: 0.3099		Fines: 9.9	E
-51.1	- 17.5 -	<u> · · · · </u>				+-					——— <u>F</u>
	-		NOTES								F
	<u>-</u>		NOTES:								E
	Ē		1. Soils	s are field visu	ually classified in						E
	Ē		accordanc	e with the Unified	Soils Classification						F-2
	F		System.								F
	Ε		2. NS =	Sample not subm	nitted for laboratory						Ē
	Ē		analysis fro	om this interval.							ŧ
	Ē				ermined from 2010						F
	-		USACE su	ırvey.							F
											<u>-</u> 2
	<u> </u>										٤
	-										F

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20109° Long = -88.31458°



			G	KAIN SIZE -	1111111		
	% G	ravol	% Sand			% Fines	
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
	Coarse		0.2	19.2	63.4	17.2	
0.0	0.0	0.0	0.2	19.2	05.4		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.8		
#20	98.6		
#40	80.6	1	
#60	39.9		
#100	19.9		
#200	17.2		
1			1
			1
Ì			
[ļ

Material Description							
SILTY SAND, (S	SM), medium to fine gra	ained, with clay pockets					
PL=	Atterberg Limits	PI=					
PL-	<u></u>						
	<u>Coefficients</u>	D - 0.2229					
D ₉₀ = 0.5144	D ₈₅ = 0.4591 D ₃₀ = 0.2095	D ₆₀ = 0.3238					
D ₉₀ = 0.5144 D ₅₀ = 0.2867 D ₁₀ =	D30- 0.2093	C _C =					
D-10	•u						
11000 014	<u>Classification</u> AASHTC	\ -					
USCS= SM	AASHIC	/ -					
	<u>Remarks</u>						
CADD CODE = CH10D965							

(no specification provided)

Tested By: J.Maddox

Location: USACE Sample # BI-PB-113-10A **Sample Number:** TE Lab ID: 4612.49

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

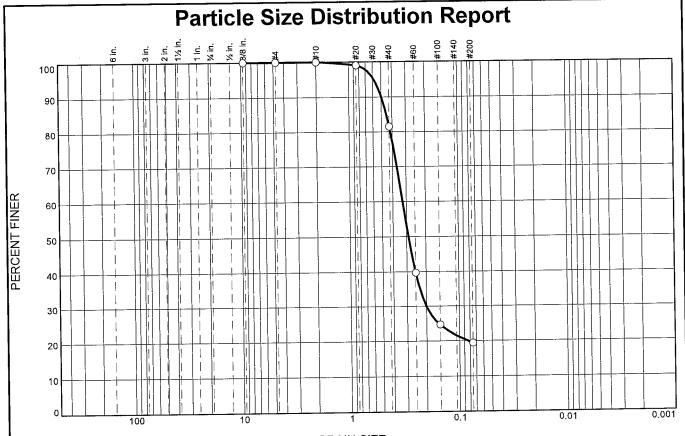
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama



			G	RAIN SIZE -	· mm.		
% Gravel				% Sano		% Fines	
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	18.5	62.1	19.4	
	1 0.0	0.0	0.0	10.0	0=		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.0		
#40	81.5		
#60	39.8		
#100	24.6		
#200	19.4		
		•	\
ì			

	Material Description							
,	SILTY SAND, (SM), medium to fine grain	ned, with clay pockets					
	PL=	Atterberg Limits LL=	PI=					
!	D ₉₀ = 0.4998 D ₅₀ = 0.2881 D ₁₀ =	Coefficients D85= 0.4504 D30= 0.2008 Cu=	D ₆₀ = 0.3244 D ₁₅ = C _c =					
	USCS= SM	Classification AASHTO=	:					
	Remarks CADD CODE = CH10D965							

(no specification provided)

Location: USACE Sample # BI-PB-113-10B **Sample Number:** TE Lab ID: 4612.50

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

Thompson Engineering

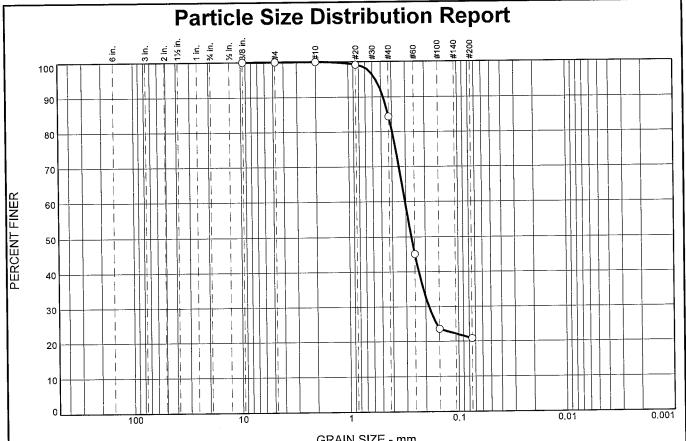
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 10-2123-0009 Report No.

Tested By: J.Maddox



			G	IKAIN SIZE -	· [[][[][
	% Gr	avel		% Sano	1	% Fines	
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	15.7	63.5	20.8	
0.0	0.0	0.0	0.0				

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0	1	
#20	99.1		
#40	84.3		
#60	45.1		
#100	23.6	İ	
#200	20.8		
		1	
l .			

<u>Material Description</u>					
SILTY SAND, (SM	(), medium to fine grai	ned			
		•			
	Atterberg Limits	DI-			
PL=	LL=	PI=			
	Coefficients				
D ₉₀ = 0.4773 D ₅₀ = 0.2677	D ₈₅ = 0.4300 D ₃₀ = 0.1872	$D_{60} = 0.3045$			
$D_{50} = 0.2677$	$D_{30} = 0.1872$	D15=			
D ₁₀ =	ou−	00			
	Classification	_			
USCS= SM	AASHTO=	-			
<u>Remarks</u>					
CADD CODE = $CH10D965$					

Location: USACE Sample # BI-PB-113-10C **Sample Number:** TE Lab ID: 4612.51

Depth: 10.0 - 15.0 (ft.)

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

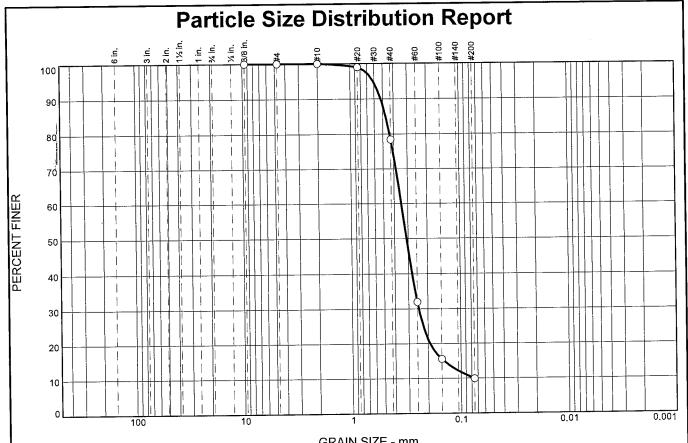
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Checked By: R.Byrd Tested By: J.Maddox

⁽no specification provided)



			G	IVAIN OILL	1111111		
	% Gr	avel		% Sand		% Fines	
% +3"	Coarse	u.u.		Medium	Fine	Silt	Clay
		, ,,,,,		21.6	60.5	0.0	
0.0	0.0	0.0	0.0	21.6	68.5	7.7	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0	1	
#10	100.0		
#20	99.0		
#40	78.4		
#60	32.0		
#100	15.5		
#200	9.9		
			ļ
			1
1	\		

	Material Description				
SAND, (SP-SM), 1	nedium to fine grai	ned			
PL=	Atterberg Limits	<u>s</u> PI=			
FL-	LL-	, .			
D ₉₀ = 0.5222 D ₅₀ = 0.3099 D ₁₀ = 0.0761	Coefficients D85= 0.4709 D30= 0.2426 Cu= 4.52	D ₆₀ = 0.3440 D ₁₅ = 0.1432 C _c = 2.25			
USCS= SP-SM	Classification AASH	TO=			
CADD CODE = C	$\frac{\mathbf{Remarks}}{\mathbf{CADD}\ \mathbf{CODE} = \mathbf{CH10D965}}$				

Location: USACE Sample # BI-PB-113-10D **Sample Number:** TE Lab ID: 4612.52

Depth: 15.0 - 17.5 (ft.)

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

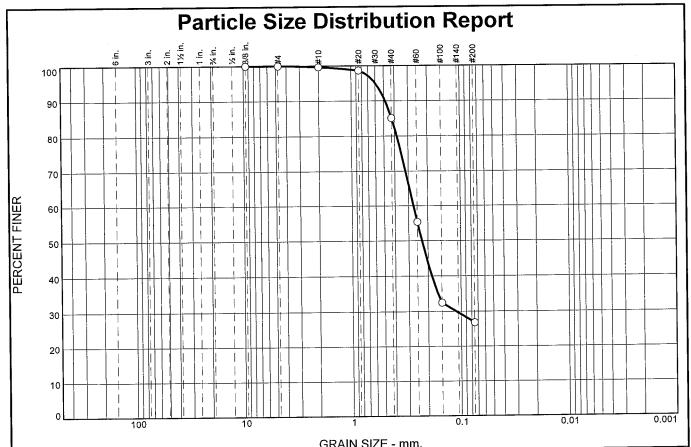
Checked By: R.Byrd Tested By: J.Maddox

⁽no specification provided)

Boring Designation BI-PB-114-10

DDI			DIVISIO	N		INSTALLATI	ON	SHEET 1
	LLING	LU	South	h Atlantic		Mobile Di	strict	OF 1 SHEETS
1. PRO	JECT						TYPE OF BIT N/A	
N	IsCIP Barrie	er Isla	nd Restoration	estoration 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL				
	Petit Bois Pass- AL East						e Plane, MSE (U.S. Ft.) NAD83	NAVD88
	ING DESIGN		N į	LOCATION COO	-		ACTURER'S DESIGNATION OF DRILL	AUTO HAMMER
	I-PB-114-1 LING AGEN		· ·		6 N = 255,746 NTRACTOR FILE NO.	Vibra	acore DISTURBED	MANUAL HAMMER
			s - CESAM	60	NIKACION FILE NO.	12. TOTAL		UNDISTURBED (UD)
	E OF DRILL		3 - OLOAW	t		42 TOTAL	NUMBER CORE BOXES	; °
C	onstruction	Solu	tions Internat	ional. Inc.				
5. DIRECTION OF BORING DEG. FROM BEARING 14. WATER DEPTH 30 Ft.								
	VERTICAL INCLINED			VERTICAL		15. DATE B	ORING STARTED 07-30-	COMPLETED 10 07-30-10
6. THIC	KNESS OF	OVER	BURDEN	N/A	·	16. ELEVAT	TION TOP OF BORING -31.1 Ft.	·
7. DEP	TH DRILLED	INTO	ROCK	I/A		17. TOTAL	RECOVERY FOR BORING 100%	
o TAT	AI DERT!! 0	E DO:	DING 40	0 Et			URE AND TITLE OF INSPECTOR	7
6. TOT	AL DEPTH O	r BOI	ting 19.	.0 Ft.		Chri	s Gillentine, Geologist	
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION (OF MATERIALS	SAMPLE	LABORATORY RES	BULTS
-31.1	0.0							-0
		$ \cdot\overline{\cdot\cdot}$	SAND nor	orly-graded trad	ce silt, dark gray (SP)			<u>_</u>
	=		, poc	. ,,				F
-33.1	2.0	 ∵∷						E
		-:::·	SAND, po	orly-graded, mo	ostly fine to medium	- A	Classification: SM Color: D50: 0.2271 mm %	5Y 5/2-olive gray Fines: 26.9
	-		grained sa	and-sized quar	tz, trace silt, It. gray	/	550. 0.227 1 11111 /0	T IIIC3. 20.0
	_	· · · ·	(SP)					-
	<u>-</u>	:·::						E _
	_	- ::						5
	_	· ·						<u>E</u>
		:·::						Ę
	-					В	Classification: SP-SM Color	: 2.5Y 7/2-light gray
	-	·:::					D50: 0.3357 mm %	Fines: 6.7
	- - -	:·::						<u>E</u>
-41.1	- - 10.0							Ė
-41.1	- 10.0		\					
	_	- : · : ·			ostly fine to medium			E
	<u>-</u> -	[:::	grained sa (SP)	ıııu-sızeu quartz	z, trace silt, dark gray	′		ŧ
	-	.	` ′			С		lor: 2.5Y 5/1-gray
	<u>-</u>	· ·						Fines: 6.6
	-	[::::						Ę
	=	 						F
	-	-:.·-				 		
	_							E
	-	ļ. :					Classification: SM Colo	r: 2.5Y 6/1-gray
	-	· ·				D	D50: 0.3039 mm %	Fines: 13.8
	<u>-</u>							Ę
-50.1	- - 19.0	[.·:·						Ę
20.1	-							<u> </u>
	<u>-</u>		NOTES:					<u>-</u> 2
	_							F
	=		1. Soils	s are field \	visually classified in	יַ		F
	<u>-</u>		System.	e with the Unifi	ed Soils Classification	1		Ę
			-					E
	-		2. NS =	Sample not su	bmitted for laboratory	/		F
	-		analysis fro	om this interval.				F
	_				etermined from 2010			-2
	_		USACE su	ırvey.				E
	<u> </u>							-

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20222° Long = -88.31305°



	% Gr	avel		% Sand		% Fine	es
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	14.5	58.2	26.9	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.6		
#20	98.7		
#40	85.1		
#60	55.4		
#100	32.5		
#200	26.9		
1			
1			1

Material Description SILTY SAND, (SM), medium to fine grained, with clay pockets				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.4855 D ₅₀ = 0.2271 D ₁₀ =	Coefficients D ₈₅ = 0.4242 D ₃₀ = 0.1105 C _u =	D ₆₀ = 0.2703 D ₁₅ = C _c =		
USCS= SM	Classification AASHT	O=		
$\frac{\mathbf{Remarks}}{\mathbf{CADD\ CODE} = \mathbf{CH10D965}}$				

(no specification provided)

Location: USACE Sample # BI-PB-114-10A **Sample Number:** TE Lab ID: 4612.53

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

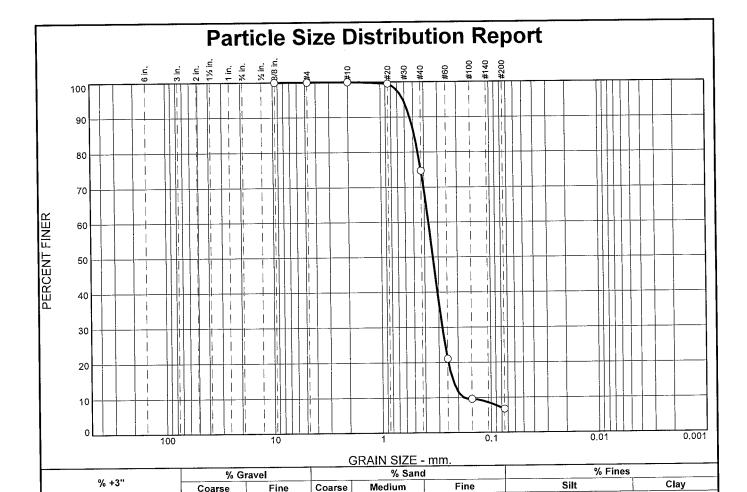
Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox Checked By: R.Byrd



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.5		
#40	74.7		
#60	21.1		
#100	9.6		
#200	6.7		
Ì			
İ			
1			
1			
			,
1			

Coarse

0.0

Fine

0.0

Coarse

0.0

25.3

Material Description SAND, (SP-SM), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5371 D ₅₀ = 0.3357 D ₁₀ = 0.1771	Coefficients D85= 0.4886 D30= 0.2782 Cu= 2.07	$\begin{array}{c} D_{60} = 0.3672 \\ D_{15} = 0.2238 \\ C_{C} = 1.19 \end{array}$				
USCS= SP-SM	Classification AASHT	-O=				
CADD CODE = C	Remarks CADD CODE = CH10D965					

(no specification provided)

Tested By: J.Maddox

0.0

Location: USACE Sample # BI-PB-114-10B **Sample Number:** TE Lab ID: 4612.54

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

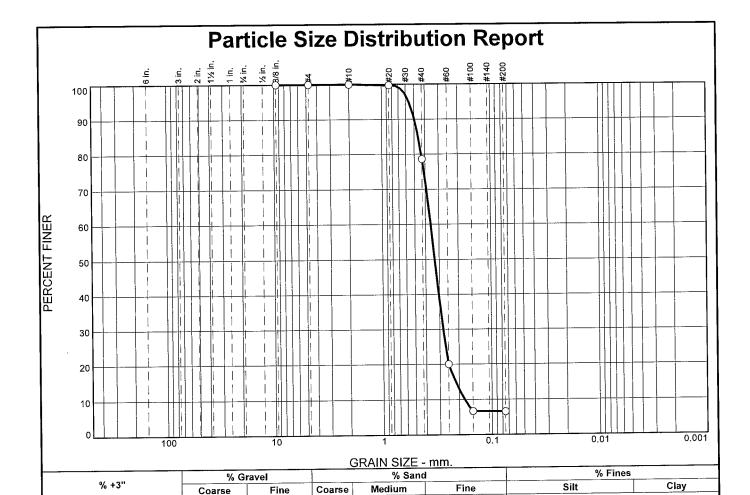
Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

68.0

Project No: 10-2123-0009

Report No.

Mobile, Alabama



	SIEVE	PERCENT	SPEC.*	PASS?
١	SIZE	FINER	PERCENT	(X=NO)
-	.375	100.0		
	#4	100.0		, i
	#10	100.0		
	#20	99.7		
	#40	78.6		
ļ	#60	20.0		
i	#100	6.7		
	#200	6.6		
				1

0.0

0.0

0.0

21.4

Material Description SAND, (SP-SM), medium to fine grained				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.4982 D ₅₀ = 0.3300 D ₁₀ = 0.1784	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D}_{85} = 0.4600 \\ \text{D}_{30} = 0.2782 \\ \text{C}_{u} = 2.01 \end{array}$	D ₆₀ = 0.3581 D ₁₅ = 0.2154 C _c = 1.21		
USCS= SP-SM	Classification AASHTO=	:		
Remarks CADD CODE = CH10D965				

(no specification provided)

0,0

Location: USACE Sample # BI-PB-114-10C **Sample Number:** TE Lab ID: 4612.55

Depth: 10.0 - 15.0 (ft.)

Date: 8/7/10

6.6

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

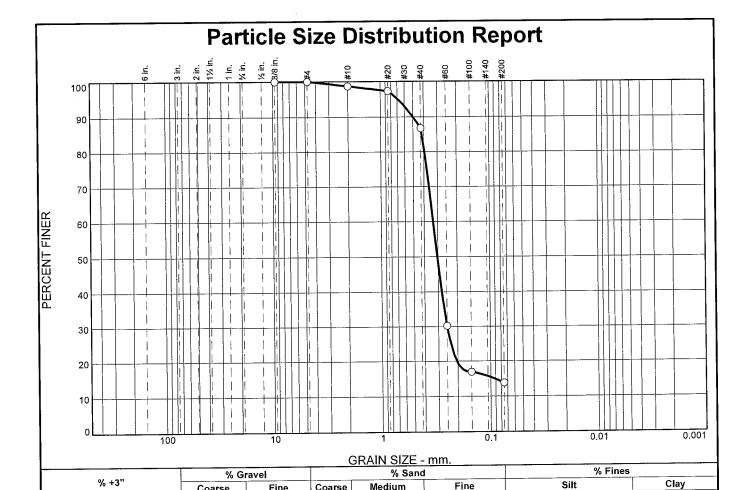
72.0

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X≃NO)
.375	100.0		
#4	100.0		
#10	98.7		
#20	97.3		
#40	86.8		
#60	30.2		
#100	16.9		
#200	13.8		

Coarse

0.0

SILTY SAND, (SM), medium to fine grained, with clay pocket							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.5005 D ₅₀ = 0.3039 D ₁₀ =	Coefficients D85= 0.4161 D30= 0.2493 Cu=	D ₆₀ = 0.3304 D ₁₅ = 0.0920 C _c =					
USCS= SM	Classification AASHT	O=					
Remarks CADD CODE = CH10D965							

Material Description

(no specification provided)

Location: USACE Sample # BI-PB-114-10D **Sample Number:** TE Lab ID: 4612.56

Depth: 15.0 - 19.0 (ft.)

Coarse

1.3

0.0

Medium

11.9

Date: 8/7/10

13.8

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

73.0

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

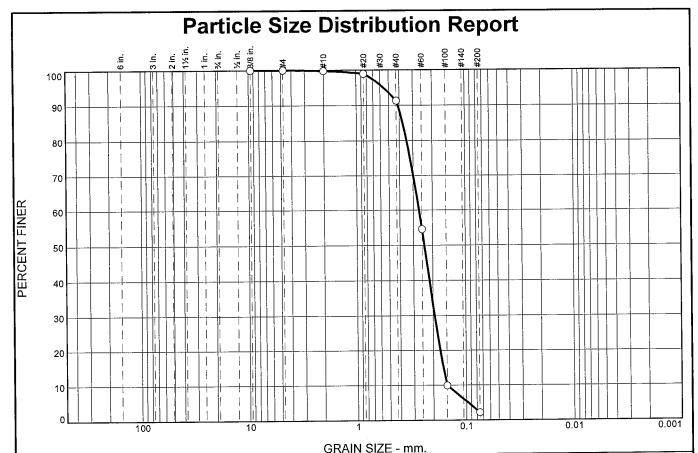
Tested By: J.Maddox

0.0

Boring Designation BI-PB-115-10

	LINIC		DIVISIO	N			IN	STALLATIO	ON			SHEET	1
	LING	LUG	South	n Atlantic				Mobile Dis	strict			OF 1	SHEETS
1. PROJE							_	_		/A			
			d Restoration	on			10		NATE SYSTEM/DATUM	- !		VERTIC	
Pet 2. BORIN	tit Bois Pa			OCATION C	OODDI	NATEC	144		Plane, MSE (U.S. Ft.				/D88
	PB-115-1		"			N = 257,104	'''	. WANDEZ Vibra		ION OF DRILL	=	JTO HAI ANUAL I	MMER HAMMER
3. DRILLI		-	<u> </u>			RACTOR FILE NO.				DISTURBED			BED (UD)
	rps of Eng		- CESAM				12	. TOTAL S	SAMPLES	3		0	
4. NAME							13	. TOTAL I	NUMBER CORE BOXES				
Cor 5. DIREC			ns Internati	ional, Inc.	_	BEARING	14	WATER	DEPTH	18 Ft.			
⊠ VE	ERTICAL ICLINED	OKING		VERTICAL	n	BEARING - -	15.	. DATE BO	DRING	STARTED 07-29-		COMPL 07-2	ETED 29-10
6. THICK	NESS OF	OVERBL	JRDEN	N/A		•	16	. ELEVAT	ION TOP OF BORING	-17.6 Ft.			
7. DEPTH	I DRII I ED	INTO P	OCK V	I/A			17.	. TOTAL F	RECOVERY FOR BORIN	G 100%			
7. DEPIR	1 DKILLED	INIOR	OCK IV	1/A			18	SIGNAT	URE AND TITLE OF INS	SPECTOR			
8. TOTAL	L DEPTH O	F BORII	NG 15.	0 Ft.				Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	ON OF	MATERIALS		SAMPLE	LA	BORATORY RE	SULTS		
-17.6	0.0												
-21.6	4.0	∵∵		sand-sized		y fine to mediun rtz, trace she		A	Classification: SP D50: 0.	Color: 2.5Y 2381 mm %	6/2-ligh 6 Fines:	it brown 2.2	ish gray
			grained	orly-graded, sand-sized It. gray (SF	qua	y fine to mediun rtz, trace she		В	Classification: SP D50: 0.		6/2-ligh 6 Fines:	t brown 4.8	ish gray
-29.1	11.5							С	Classification: SP- D50: 0.		5Y 6/2- % Fines:		ve gray
-32.6			CLAY, fat,	dark gray (CH)			NS					
			accordance System. 2. NS = 3 analysis from the state of	Sample not om this inter or elevation of athometer v	Inified submarval. calcula	ally classified Soils Classification itted for laborator ted using samplindepth reading and data conversions.	ry ng nd						

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20605° Long = -88.33801°



	_			TO THE CITE						
	% Gi	% Gravel		% Gravel % Sand				% Fines		
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay			
0.0	0.0 0.0 0.2 8.5		8.5	89.1 2.2						
SIEVE DEDO	PENT SPEC	* РА	262		Matarial	Description				

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.8		
#20	98.9		
#40	91.3		
#60	54.6		
#100	9.9		
#200	2.2		
			ļ
•			
			1

-	SAND, (SP), fine grained						
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.4121 D ₅₀ = 0.2381 D ₁₀ = 0.1502	Coefficients D85= 0.3729 D30= 0.1935 Cu= 1.77	$D_{60} = 0.2653$ $D_{15} = 0.1620$ $C_{c} = 0.94$					
USCS= SP	<u>Classification</u> AASHT	O=					
Remarks CADD CODE = CH10D965							

Location: USACE Sample # BI-PB-115-10A **Sample Number:** TE Lab ID: 4612.29

Depth: 0.0 - 4.0 (ft.)

Date: 8/7/10

Report No.

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

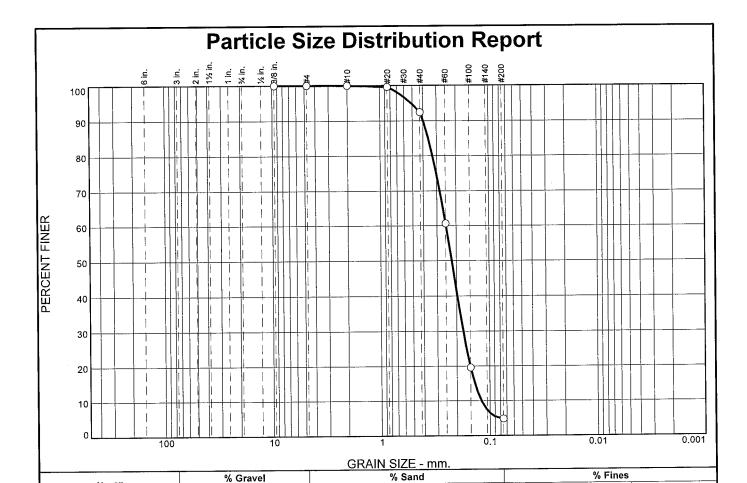
Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 10-2123-0009

Checked By: R.Byrd

Tested By: J.Maddox

⁽no specification provided)



Medium

7.5

Fine

0.0

Coarse

0.1

Fine

87.6

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.5		
#40	92.4		
#60	60.7		
#100	19.6	1	
#200	4.8		
			1

Coarse

0.0

	Material Description SAND, (SP), fine grained								
PL=	Atterberg Limits	Pl=							
D ₉₀ = 0.3989 D ₅₀ = 0.2206 D ₁₀ = 0.1196	Coefficients D85= 0.3583 D30= 0.1743 Cu= 2.07	D ₆₀ = 0.2480 D ₁₅ = 0.1372 C _c = 1.02							
USCS= SP	Classification AASH1	ГО=							
Remarks CADD CODE = CH10D965									
		<u></u>							

Silt

4.8

(no specification provided)

% +3"

0.0

Location: USACE Sample # BI-PB-115-10B **Sample Number:** TE Lab ID: 4612.30

Depth: 4.0 - 8.0 (ft.)

Date: 8/7/10

Clay

Thompson Engineering

Mobile, Alabama

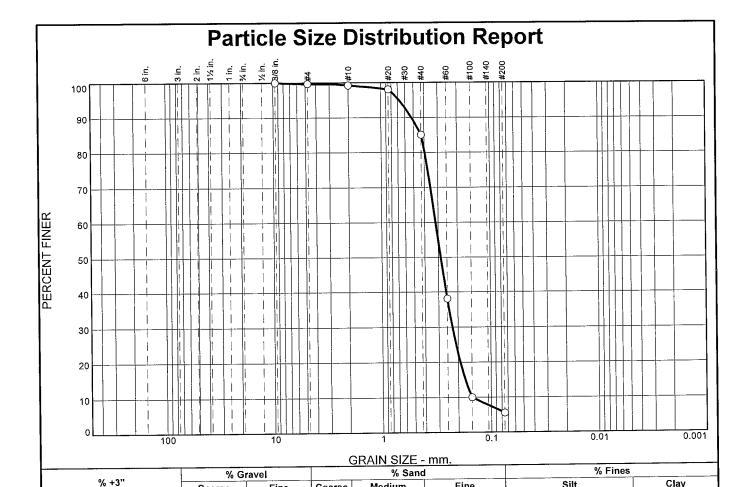
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox



% +3	"	Coarse	Fine	Coars	se Mediun	n Fine	Silt
0.0		0.0		0.5	14.2	79.:	5
SIEVE	PERCENT FINER	SPEC PERCE		PASS? (X=NO)	SA		Material Description , medium to fine grained
.375 #4 #10 #20 #40	100.0 99.7 99.2 98.0 85.0				PL	=	Atterberg Limits
#60 #100 #200	38.1 10.0 5.5				Do De D	00= 0.5226 60= 0.2853 0= 0.1490	Coefficients D ₈₅ = 0.4255 D ₃₀ = 0.2254 C _u = 2.12
					US	SCS= SP-SN	Classification AASHTO=

(no specification provided)

Location: USACE Sample # BI-PB-115-10C Sample Number: TE Lab ID: 4612.31

Depth: 8.0 - 11.5 (ft.)

Date: 8/7/10

 $\begin{array}{c} D_{60} = \ 0.3164 \\ D_{15} = \ 0.1728 \\ C_{c} = \ 1.08 \end{array}$

Clay

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

CADD CODE = CH10D965

Mississippi Barrier Island Restoration Project

Remarks

Mobile, Alabama

Project No: 10-2123-0009

Report No.

Silt

5.5

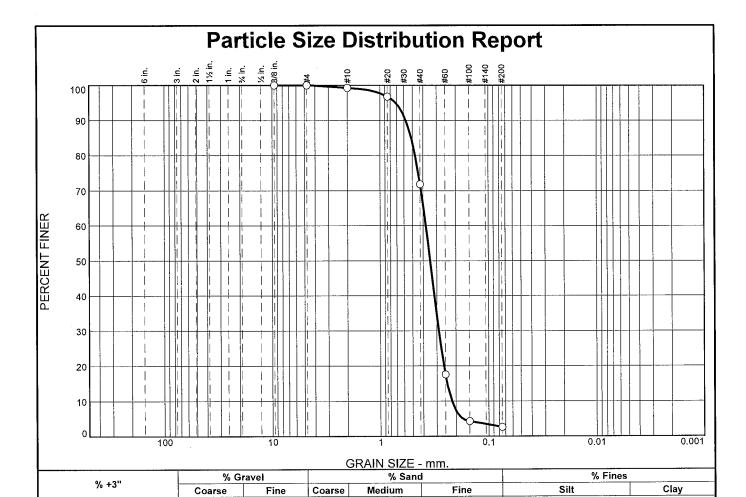
PI=

Checked By: R.Byrd Tested By: J.Maddox

Boring Designation BI-PB-116-10

DR	LLING	LOG	DIVISIO				IN	STALLATIO				SHEE	
			Sout	th Atlantic			+	Mobile Di				OF 1	SHEETS
	PROJECT MsCIP Barrier Island Restoration							TYPE OF BIT	N/A				
				ion			10		NATE SYSTEM/DAT	!		VERTI	
	Petit Bois Pa			LOCATION C	OOPD	INATES	-		Plane, MSE (U.S.				VD88
	31-PB-116-1		į			N = 257,056	1	Vibra		ATION OF DRIE		Αυτο ΗΑ Μανιμαί	MMER HAMMER
	LLING AGEN		<u> </u>	L 1,172		RACTOR FILE N	o.			DISTURBE			RBED (UD)
(Corps of Eng	gineers -	CESAM		!		12	. TOTAL	SAMPLES	2		0	` ′
	IE OF DRILL						13	. TOTAL I	NUMBER CORE BOX	ES			
(Construction	Solution	ns Interna	tional, Inc.			-	. WATER					
	ECTION OF E	BORING		DEG. FROI	M	BEARING	714	. WAIEK	DEPIH	16 Ft.			
	VERTICAL INCLINED			VERTICAL			15	. DATE B	ORING	START 07-2	29-10	COMP I 07-	29-10
6. THI	CKNESS OF	OVERBU	RDEN	N/A			16	. ELEVAT	ION TOP OF BORIN				
7. DEP	TH DRILLED	INTO R	OCK	N/A					RECOVERY FOR BO)		
				0.54			18		URE AND TITLE OF				
8. TOT	AL DEPTH O	F BORIN	IG 15	5.0 Ft.				Chris	Gillentine, Geolog	gist			
ELEV.	DEPTH	LEGEND	CL	LASSIFICATIO	ON OF	MATERIALS		SAMPLE		LABORATORY	RESULT	5	
-15.6	0.0												
		_!	grained			ly fine to medi rtz, trace s	um- hell	Α	Classification: S D50	P Color: 2. : 0.3445 mm	5Y 6/2-li % Fine	ght browr s: 2.7	
-22.6	7.0							В	Classification D50	on: SP Colo : 0.2828 mm	or: 2.5Y % Fine	7/1-light (s: 4.6	Ė
-30.6	15.0		CLAY, fat	, dark gray ((CH)			NS					
			accordand System. 2. NS = analysis from the second	Sample not rom this interpretation or elevation fathometer v	Jnified t subm rval. calcula water	ually classified Soils Classifica nitted for labora ated using samp depth reading e data convers	tion tory ling and						

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20590° Long = -88.33345°



27.4

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.2		
#20	96.8		
#40	71.8		1
#60	17.6		
#100	4.3		
#200	2.7		
			1

0.0

0.0

0.8

Material Description SAND, (SP), medium to fine grained									
PL=	Atterberg Limits	Pl=							
D ₉₀ = 0.5772 D ₅₀ = 0.3445 D ₁₀ = 0.2181	Coefficients D ₈₅ = 0.5141 D ₃₀ = 0.2874 C _u = 1.73	D ₆₀ = 0.3770 D ₁₅ = 0.2406 C _c = 1.00							
USCS= SP	Classification AASHT	O=							
Remarks CADD CODE = CH10D965									

(no specification provided)

0.0

Location: USACE Sample # BI-PB-116-10A **Sample Number:** TE Lab ID: 4612.27

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

2.7

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

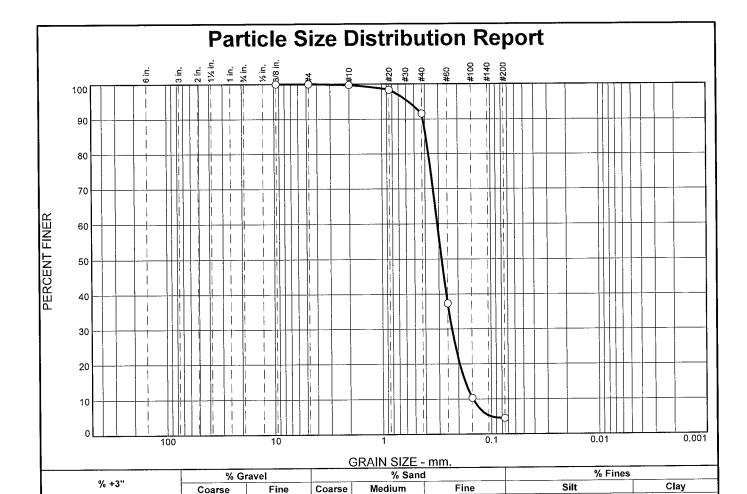
Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

69.1

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox



ſ	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
I	.375	100.0		
1	#4	100.0		
١	#10	99.7		
١	#20	98.4		
١	#40	91.6		
1	#60	37.4		
١	#100	10.4		
	#200	4.6		
				İ
			ļ	
				1

Coarse

0.0

Fine

0.0

Coarse

0.3

8.1

Material Description SAND, (SP), fine grained						
<u>/</u> PL=	<u>Atterberg Limits</u> LL=	PI=				
D ₉₀ = 0.4159 D ₅₀ = 0.2828 D ₁₀ = 0.1478	Coefficients D85= 0.3915 D30= 0.2289 Cu= 2.09	D ₆₀ = 0.3092 D ₁₅ = 0.1746 C _c = 1.15				
USCS= SP	Classification AASHTO=					
CADD CODE = CH	<u>Remarks</u> I10D965					

(no specification provided)

Location: USACE Sample # BI-PB-116-10B **Sample Number:** TE Lab ID: 4612.28

Depth: 5.0 - 7.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

87.0

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

4.6

Tested By: <u>J.Maddox</u>

0.0

Boring Designation BI-PB-117-10

DDI	LLING	LOG	DIVISIO	N		INS	TALLATIO	ON			SHEET	1
		LUG	South	h Atlantic		ı	Mobile Dis	strict			OF 2	SHEETS
1. PRO					ļ			TYPE OF BIT N/A	1		.,	
			d Restoratio	on		10.		NATE SYSTEM/DATUM	HORIZONT		VERTICA	
	etit Bois Pa			LOCATION COORD	INATES	11.		Plane, MSE (U.S. Ft.)	NAD83		NAVE JTO HAMI	
	I-PB-117-1				N = 257,160		Vibra		01 211122	_	ANUAL H	
	LING AGEN		· · · · · · · · · · · · · · · · · · ·		TRACTOR FILE NO.	42		¦ DI:	STURBED	UN	DISTURB	ED (UD)
	orps of Eng		- CESAM			12.	TOTAL	AMPLES	4		0	
	NAME OF DRILLER Construction Solutions International, Inc.				13.	TOTAL I	NUMBER CORE BOXES					
	CTION OF E				BEARING	14.	WATER	DEPTH	16 Ft.			
5. DIRECTION OF BORING VERTICAL INCLINED DEG. FROM VERTICAL BEARING				15.	DATE BO	DRING	STARTED 07-29-	10	07-29			
6. THICKNESS OF OVERBURDEN N/A				16.	ELEVAT	ION TOP OF BORING	-15.6 Ft.					
7. DEPTH DRILLED INTO ROCK N/A					17.	TOTAL F	RECOVERY FOR BORING	100%				
						18.	SIGNAT	URE AND TITLE OF INSPE	CTOR			
8. ТОТ	AL DEPTH O	F BORI	NG 20.	.0 Ft.			Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION OF	MATERIALS		SAMPLE	LABOF	RATORY RES	BULTS		
-15.6	0.0					\Box						
	-		SAND, po	orly-graded, mos	tly fine to medium-	-						ĔŤ
	-	[:::]	grained	sand-sized qua	artz, trace shel	1						E
	-	-::-	rragments,	, It. gray (SP)				Classification: SP	Color: 2	5Y 7/	1-liaht ara	
	-						Α	D50: 0.318	Color: 2 35 mm %	Fines:	1.7	'' E
		[:::]										E
	-	-::-										E
	<u>-</u>					ŀ						<u>F</u> 5
	=	[:::]										F
	-											F
	-						5	Classification: SF	Color:	5Y 7/1	-liaht arav	, F
							В	D50: 0.314	l6 mm %	Fines:	-light gray 1.8	E
	-	- : - ·										F
	-	: ::										F
	-	-::-				H						<u> </u>
		l::::										E
	-				ace shell fragments	,						F
	-	·:::	dark gray				С	Classification: SP				ay E
	-	:∵:					="	D50: 0.260	06 mm %	rines:	4.5	F
	<u> </u>	.::										E
	Ē	:::										ŧ.
	<u> </u>	:·::				T						1:
	-	-::-										F
	_	:::						0 7 7	<u> </u>	. = =		. E
	Ē	$ \cdots $					D	Classification: SP-SM D50: 0.204	Color: 2 2 mm %	5/2 5/2. :Fines	2-grayish 9.8	brown E
	Ē	-::-						250. 0.20-	/0		3.5	F
	-											-
-35.6	- 20.0					\perp						
	<u>-</u>											<u></u>
	- -		NOTES:									F
	_		1. Soils	s are field vis	ually classified ir	,						E
	<u> </u>		accordance	e with the Unified	Soils Classification	۱						E
	Ė		System.									E
	<u> </u>		2. NS =	Sample not subr	mitted for laboratory	,						F
	<u>-</u>		analysis fro	om this interval.	Ĩ							-2
	E		3. Seafloo	or elevation calcula	ated using sampling	,						E

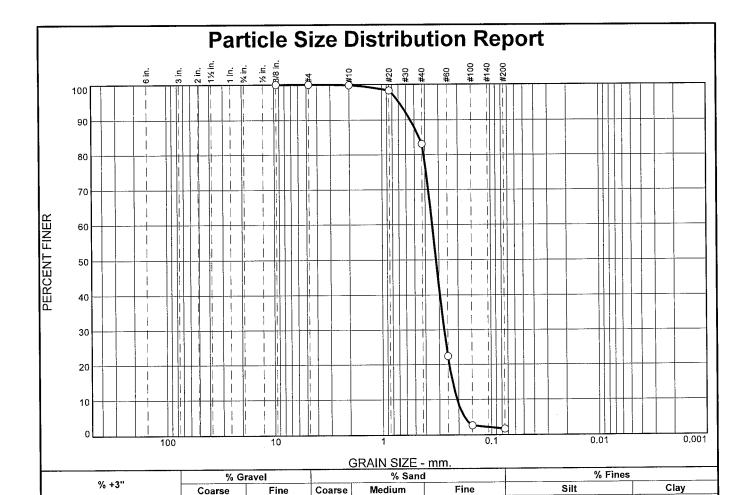
SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20617° Long = -88.32869°

Boring Designation BI-PB-117-10

DRILLING LOG (Cont. Sheet)			TION District		signation bi-i b-	SHEET 2 OF 2 SHEETS
ROJECT	COORDINA	VERTICAL				
MsCIP Barrier Isla	_			NAVD88		
OCATION COORDINA			N TOP OF BO			
X = 1,143,659		-15.6 F				
	CLASSIFICATION OF MATERIA					SULTS
ELEV. DEPTH	vessel's fathometer water depth reapplying NOAA tidal gauge data factor.	eading and	SAMPLE		LABORATORY RE	SULTS

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20617° Long = -88.32869°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.8		
#20	98.3		-
#40	83.1		
#60	22.4		
#100	2.7		
#200	1.7		
İ			
1		1	

0.0

0.0

0.2

16.7

SAND, (SP), me	dium to fine grained	
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.5457 D ₅₀ = 0.3185 D ₁₀ = 0.2072	Coefficients D85= 0.4527 D30= 0.2697 Cu= 1.66	$D_{60} = 0.3446$ $D_{15} = 0.2271$ $C_{c} = 1.02$
USCS= SP	Classification AASHT	O=
CADD CODE =	Remarks CH10D965	

Location: USACE Sample # BI-PB-117-10A **Sample Number:** TE Lab ID: 4612.23

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

Report No.

1.7

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

81.4

Mississippi Barrier Island Restoration Project

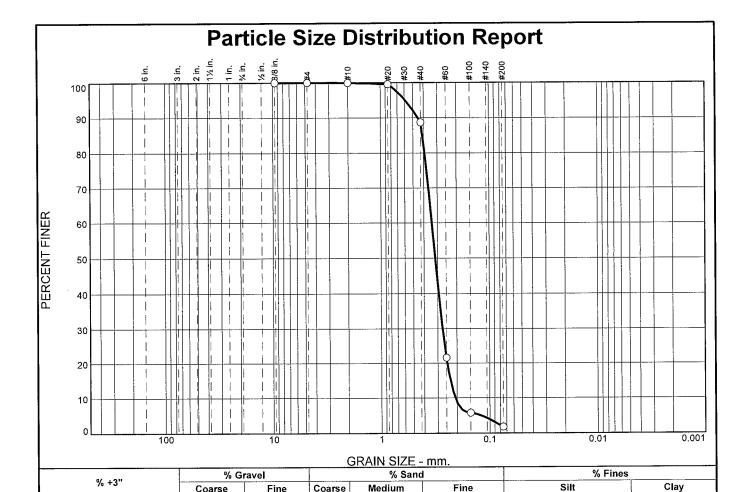
Mobile, Alabama Project No: 10-2123-0009

Checked By: R.Byrd

Tested By: J.Maddox

0.0

⁽no specification provided)



Medium

11.2

Fine

86.9

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.5		
#40	88.7		
#60	21.6		
#100	5.8		
#200	1.8		
			1

Coarse

0.0

Material Description SAND, (SP), medium to fine grained						
PL=	Atterberg Limits	PI=				
D ₉₀ = 0.4516 D ₅₀ = 0.3146 D ₁₀ = 0.2079	Coefficients D85= 0.4098 D30= 0.2706 Cu= 1.62	D ₆₀ = 0.3375 D ₁₅ = 0.2298 C _c = 1.04				
USCS= SP	USCS= SP Classification AASHTO=					
CADD CODE =	Remarks CH10D965					

* (no specification provided)

0.0

Location: USACE Sample # BI-PB-117-10B **Sample Number:** TE Lab ID: 4612.24

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

1.8

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama

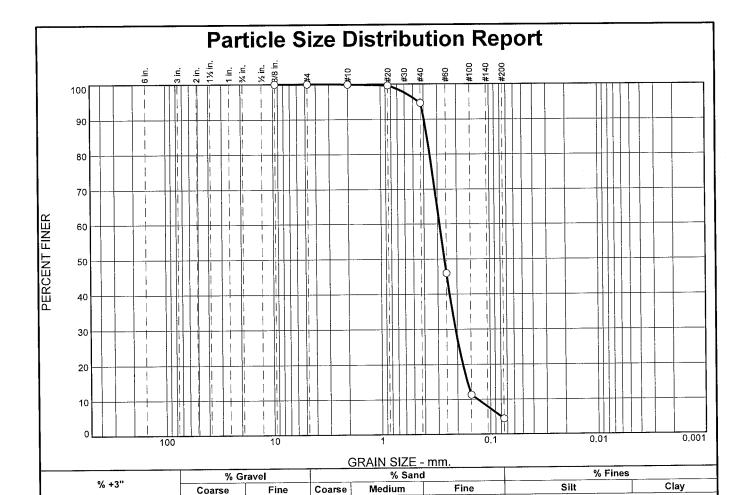
Report No. **Project No:** 10-2123-0009

Checked By: R.Byrd Tested By: J.Maddox

Fine

Coarse

0.1



5.3

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.6		
#40	94.6		
#60	45.9		
#100	11.4		
#200	4.5		
1			
		1	

Coarse

0.0

0.0

0.1

PL= $\frac{\text{Atterberg Limits}}{\text{LL=}}$ PI= $\frac{\text{Coefficients}}{\text{D}_{80}=\ 0.3962}$ D ₈₅ = 0.3719 D ₆₀ = 0.2876	Material Description SAND, (SP-SM), fine grained							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Coefficients 35= 0.3719 D60= 0.2876 30= 0.2075 D15= 0.1632 J= 2.20 Cc= 1.14							
Classification USCS= SP AASHTO=								
Remarks CADD CODE = CH10D965								

(no specification provided)

0.0

Location: USACE Sample # BI-PB-117-10C **Sample Number:** TE Lab ID: 4612.25

Depth: 10.0 - 15.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

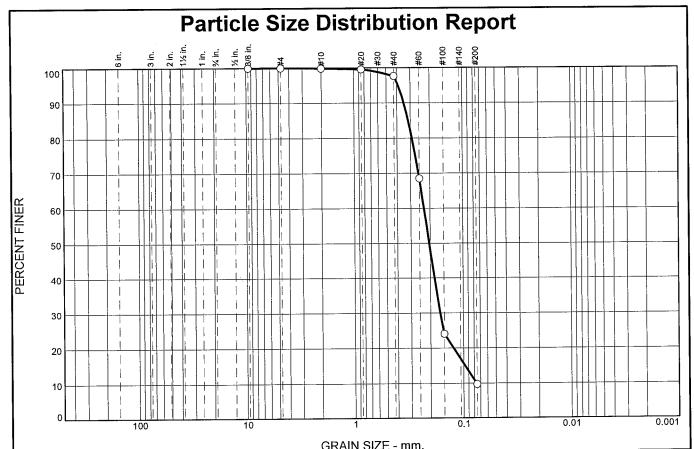
90.1

Project No: 10-2123-0009

Mobile, Alabama

Report No.

Checked By: R.Byrd Tested By: J.Maddox



	% Gr	avel		% Sand		% Fin	es
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	2.1	87.9	9.8	

	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	.375	100.0		
	#4	100.0		
	#10	99.8		
	#20	99.6		
İ	#40	97.7		
	#60	68.5		
	#100	24.0		
	#200	9.8		
	#60 #100	68.5 24.0		

Material Description						
SAND, (SP-SM), fi	ne grained					
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.3457 D ₅₀ = 0.2042 D ₁₀ = 0.0759	Coefficients D85= 0.3149 D30= 0.1631 Cu= 2.99	D ₆₀ = 0.2272 D ₁₅ = 0.0967 C _c = 1.54				
USCS= SP-SM	Classification AASHTO=					
Remarks CADD CODE = CH10D965						

(no specification provided)

Location: USACE Sample # BI-PB-117-10D **Sample Number:** TE Lab ID: 4612.26

Depth: 15.0 - 20.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox Checked By: R.Byrd

Boring Designation BI-PB-118-10

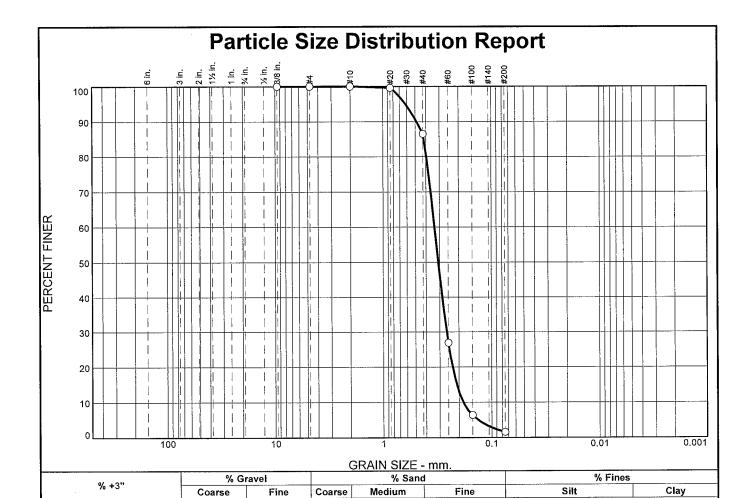
DBI	LLING	100	DIVISIO	N			IN	STALLATIO	ON			SHEET	1
		LUG	Sout	h Atlantic				Mobile Di				OF 2	SHEETS
1. PRO							$\overline{}$		TYPE OF BIT N/A				
			nd Restoration	on			10		NATE SYSTEM/DATUM	HORIZONT		VERTIC	
	etit Bois Pa			LOCATION C	OOPDIA	JATES	11		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATIO	NAD83		NAV	
	31-PB-118-1		' '			N = 257,119	'''	Vibra		N OF DRILL		TO HAN	IMER AMMER
	LING AGEN		I_			RACTOR FILE NO.	\vdash		¦ c	DISTURBED			BED (UD)
	Corps of Eng		- CESAM	!			12	. TOTAL S	SAMPLES	4)	
	IE OF DRILL						13	. TOTAL I	NUMBER CORE BOXES				
			ons Internat				14	WATER	DEPTH	16 Ft.			
\boxtimes	ECTION OF I VERTICAL INCLINED	BORING	3	DEG. FROM VERTICAL	n :	BEARING	15	. DATE BO	DRING	STARTED	i	COMPLI	
	CKNESS OF	OVERB	URDEN	! N/A			16	. ELEVAT	ION TOP OF BORING	-15.9 Ft.	10 ;	07-3	0-10
7 DED	TH DRILLED	INTO	BUCK V				17.	. TOTAL I	RECOVERY FOR BORING	100%			
7. DEF	THI DRILLE		•				18	SIGNAT	URE AND TITLE OF INSP	ECTOR			
8. TOT	AL DEPTH C	F BOR	ING 20	.0 Ft.				Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	ON OF N	MATERIALS		SAMPLE	LABC	ORATORY RES	BULTS		
-15.9	0.0												$\overline{}$
				d quartz, tra		medium-graine nell fragments, l		А	Classification: SI D50: 0.3	P Color: 2 08 mm %	2.5Y 7/1 Fines: 1	-light gr .6	ay
								В	Classification: SP- D50: 0.30	SM Color 077 mm %	: 2.5Y 7 Fines: (7/1-light 6.1	gray =
								С	Classification: S D50: 0.35		5Y 7/1- Fines:		ay E
-35.9	20.0							D	Classification: \$ D50: 0.29	SP Color: 905 mm %	5Y 7/1- Fines: :	light gra 2.5	
			accordance System. 2. NS = analysis from	se with the U Sample not com this inter	nified \$ submi val.	ally classified i Soils Classificatio tted for laborator ed using sampling	n Ty						2

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20604° Long = -88.32426°

Boring Designation BI-PB-118-10

DRILLING LOG (Cont. Sheet) INSTALLATION Mobile District SHEET 2 OF 2 SHEETS							
PROJECT					// HORIZONTAL	OF 2 SHEETS	
	er Island	d Restoration	COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, MSE (U.S. Ft.) NAD83 NAVD88				
CATION C				N TOP OF BORING	., 10.200	1000	
X = 1,145,059 Y = 257,119			-15.9 F				
.EV. DI	Q			SAMPLE	LABORATORY R	ESULTS	
EV. DI		vessel's fathometer water depth applying NOAA tidal gauge da factor.		SAMPLE	LABORATORY R	ESULTS	

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20604° Long = -88.32426°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.6		
#40	86.5		
#60	26.9		
#100	6.4		
#200	1.6		
			1

0.0

Material Description SAND, (SP), medium to fine grained						
PL=	Atterberg Limits	PI=				
D ₉₀ = 0.4874 D ₅₀ = 0.3080 D ₁₀ = 0.1830	Coefficients D85= 0.4177 D30= 0.2584 Cu= 1.82	D ₆₀ = 0.3337 D ₁₅ = 0.2096 C _C = 1.09				
USCS= SP	Classification AASHT	ГО=				
Remarks CADD CODE = CH10D965						

(no specification provided)

Location: USACE Sample # BI-PB-118-10A **Sample Number:** TE Lab ID: 4612.60

Depth: 0.0 - 5.0 (ft.)

0.0

0.0

13.5

Date: 8/7/10

1.6

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

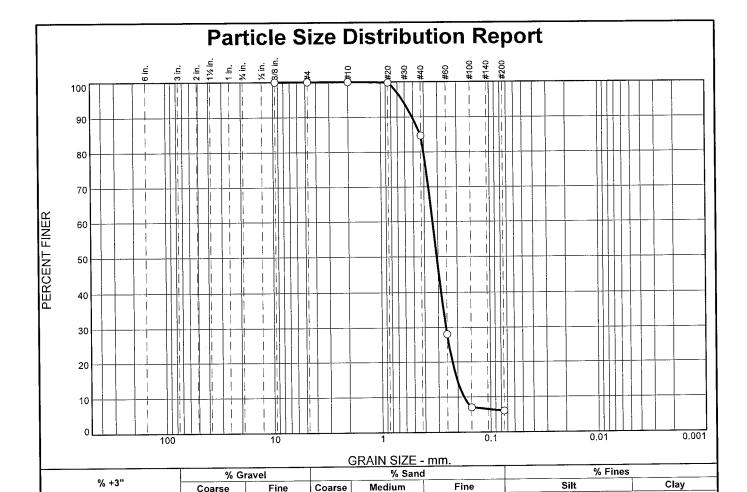
84.9

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox

0.0



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	84.7		
#60	28.1		
#100	7.1		
#200	6.1		
			1
1			
-			
1			

0.0

SAND, (SP	Material Description SAND, (SP-SM), medium to fine grained							
PL=	<u>Atterberg Limi</u> LL=	i <u>ts</u> Pl=						
D ₉₀ = 0.51 D ₅₀ = 0.30 D ₁₀ = 0.17	Coefficients 10 D85= 0.4293 077 D30= 0.2554 Cu= 1.90	D ₆₀ = 0.3350 D ₁₅ = 0.2042 C _c = 1.10						
USCS= S	SP-SM Classification AAS	<u>n</u> HTO=						
CADD CO	Remarks CADD CODE = CH10D965							

(no specification provided)

Tested By: J.Maddox

0.0

Location: USACE Sample # BI-PB-118-10B Sample Number: TE Lab ID: 4612.61

Depth: 5.0 - 10.0 (ft.)

Coarse

0.0

15.3

Fine

0.0

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

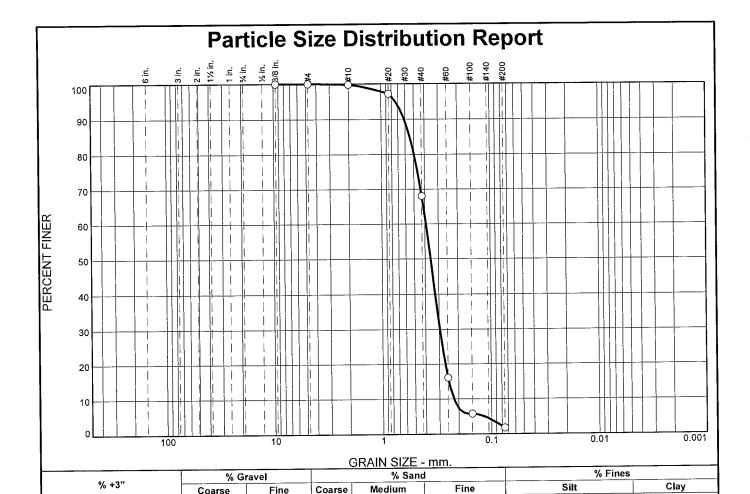
Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

78.6

Project No: 10-2123-0009

Report No.

Mobile, Alabama



	SIEVE	PERCENT	SPEC.*	PASS?
ŀ	SIZE	FINER	PERCENT	(X=NO)
	.375	100.0		
-	#4	100.0		
	#10	99.8		
	#20	97.2		
	#40	68.1		
	#60	16.1		
ļ	#100	5.8		
	#200	1.8		
	Ì	1		

0.0

Material Description SAND, (SP), medium to fine grained				
PL=	Atterberg Limits	PI=		
D ₉₀ = 0.6129 D ₅₀ = 0.3556 D ₁₀ = 0.2212	Coefficients D85= 0.5445 D30= 0.2947 Cu= 1.77	D ₆₀ = 0.3908 D ₁₅ = 0.2456 C _c = 1.01		
USCS= SP	Classification AASHT	ГО=		
Remarks CADD CODE = CH10D965				

(no specification provided)

0.0

Location: USACE Sample # BI-PB-118-10C **Sample Number:** TE Lab ID: 4612.62

Depth: 10.0-15.0 (ft.)

Coarse

0.2

Fine

0.0

Medium

31.7

Date: 8/7/10

Report No.

1.8

Thompson Engineering

Client: US Army Corps of Engineers

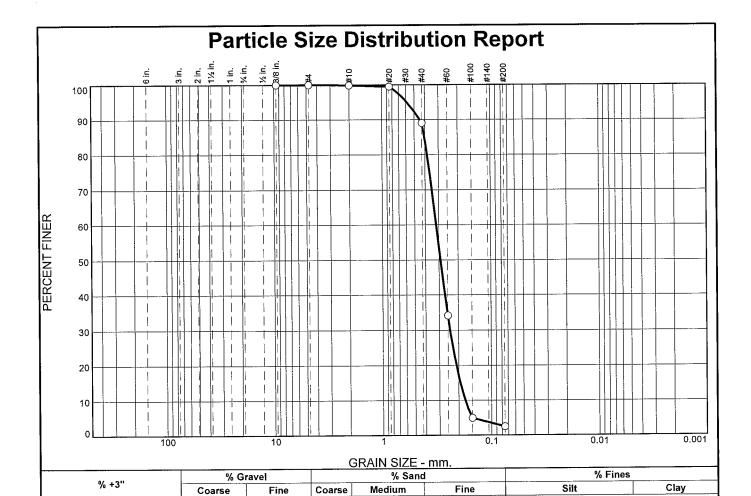
Project: Contract No. W91278-10-D-0026 - Task 03

66.3

Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 10-2123-0009

Checked By: R.Byrd Tested By: J.Maddox



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.5	1	
#40	89.0		
#60	34.1		
#100	5.0		
#200	2.5		
		1	1
L			1

0.0

0.0

0.1

10.9

86.5

SAND, (Sr), IIIC	dium to fine grained	
PL=	Atterberg Limits LL=	P i=
D ₉₀ = 0.4452 D ₅₀ = 0.2905 D ₁₀ = 0.1743	Coefficients D85= 0.4038 D30= 0.2389 Cu= 1.82	$D_{60} = 0.3171$ $D_{15} = 0.1933$ $C_{c} = 1.03$
USCS= SP	Classification AASHT	O=
CADD CODE =	Remarks CH10D965	

0.0

Location: USACE Sample # BI-PB-118-10D **Sample Number:** TE Lab ID: 4612.63

Depth: 15.0 - 20.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

2.5

Tested By: J.Maddox Checked By: R.Byrd

^{* (}no specification provided)

Boring Designation BI-PB-119-10

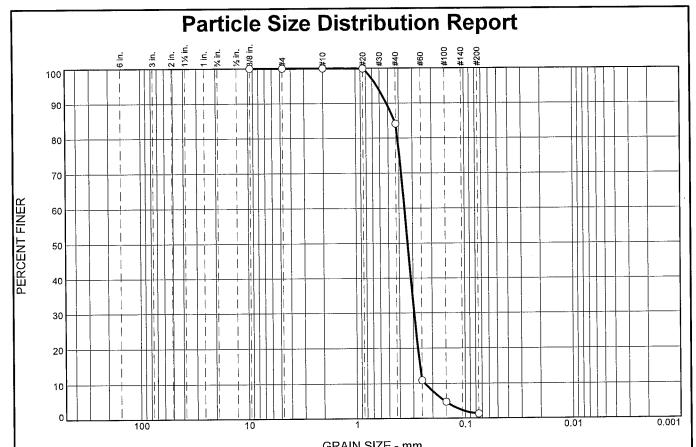
DDI	LLING	1.00	DIVISION	N		IN	STALLATIO	ON CONTRACTOR OF THE CONTRACTO	SHEET 1
		LOG	South	n Atlantic			Mobile Dis	strict	OF 2 SHEETS
1. PRO	JECT						_	TYPE OF BIT N/A	
			d Restoration	on		10		NATE SYSTEM/DATUM HORIZON	<u> </u>
	etit Bois Pa				OORDINATES			Plane, MSE (U.S. Ft.) NAD8	
	II-PB-119-1		L		,626 N = 257,188		Vibra		☐ AUTO HAMMER ☐ MANUAL HAMMER
	LING AGEN		<u> </u>		CONTRACTOR FILE N	10.		DISTURBED	UNDISTURBED (UD)
C	orps of Eng	gineers	- CESAM	-		12	. TOTAL	SAMPLES 4	0
4. NAM	E OF DRILL	ER				13	. TOTAL I	NUMBER CORE BOXES	
			ons Internati			14	. WATER	DEPTH 16 Ft.	
	CTION OF I	BORING	i	DEG. FROM VERTICAL	BEARING	-		STARTED	COMPLETED
	INCLINED				j	15	. DATE BO	ORING 07-30	-10 07-30-10
6. THI	KNESS OF	OVERB	URDEN	N/A		16	. ELEVAT	ION TOP OF BORING -15.8 Ft.	
7 DED	TH DRILLED	INTO	BOCK N	1/ A		17	. TOTAL I	RECOVERY FOR BORING 100%	
7. DEP	IN DRILLED	INIO	KOCK IV	I/A		18	. SIGNAT	URE AND TITLE OF INSPECTOR	
8. TOT	AL DEPTH C	F BORI	NG 20.	0 Ft.			Chris	Gillentine, Geologist	
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATIO	N OF MATERIALS		SAMPLE	LABORATORY RE	ESULTS
-15.8	0.0								
	=	-:::	SAND no	orly-graded	mostly fine to med	ium-			-0
	-		grained	sand-sized	quartz. trace	shell			F
			fragments,	It. gray (SP)			Classification: CD Colon	0.5\/ 7/4 liabt ana.
	-	-::-					Α	Classification: SP Color: D50: 0.3342 mm	2.5Y 7/1-light gray
	-							,	
	-	$ \cdot\cdot\cdot $							<u> </u>
	-	-::-							5
									Ĕ
									<u> </u>
	-							Classification: SP Color	: 5Y 7/1-light gray
		<u>[</u> ∷:]					В	D50: 0.3066 mm	% Fines: 1.9
		.::.							Ē
	_	:::							E
	-	[···]							1
	_	-::-							<u> </u>
	_	 ∷:							E
	-	.···					С	Classification: SP Color	
	_	····						D50: 0.2323 mm %	% Fines: 2.3
	<u>E</u>	$[\cdots]$							E
	<u> </u>	$ \cdot;\cdot $							E
	<u> </u>	<u> : : : </u>							1
	<u>-</u>	 ∴∴ 							E
	<u> </u>	:::							E
	Ė	:·::					D	Classification: SP Color: 2.5Y D50: 0.3417 mm	6/2-light brownish gray Fines: 4.6
	Ė								70 FINES. 4.0
	<u> </u>	:::							E
-35.8	20.0	<u> :::: </u>							F ,
			NOTES:						-2
			1 0=!!-	oro field	vioually alassifis	: ۱			E
	<u> </u>		Soils accordance	are field with the Ur	visually classified nified Soils Classifica	ı ın ation			Ė
	- -		System.						E
	<u> </u>		2 NS = 9	Sample not	submitted for labora	atory			<u> </u>
	<u>-</u> -		analysis fro	om this interv	/al.	-			-2
	-		3. Seafloo	r elevation ca	alculated using samp	oling			E-

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20621° Long = -88.3193°

Boring Designation BI-PB-119-10

DRILLING LOG (Cont. Sheet)	INSTALL		SHEET 2 OF 2 SHEET:			
OJECT		e District	VERTICAL			
MsCIP Barrier Island Restoration				NAVD88		
CATION COORDINATES		ON TOP OF BORING				
X = 1,146,626 Y = 257,188	-15.8					
LEV. DEPTH U CLASSIFICATION OF N	MATERIALS	SAMPLE	LABORATORY R	ESULTS		
LEV. DEPTH Survey Services and			LABORATORY R	ESULTS		

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20621° Long = -88.3193°



	GIVAIN SIZE - IIIII.						
	% Gravel % Sand % Fi		% Fine	s			
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	15.9	82.8	1.3	

	SIEVE	PERCENT	SPEC.*	PASS?
١	SIZE	FINER	PERCENT	(X=NO)
	.375	100.0		
	#4	100.0		
	#10	100.0		
	#20	99.9		
	#40	84.1		
	#60	11.0		
	#100	4.7		
	#200	1.3		
		1		
		!		

	Material Description dium to fine grained	1
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.5172 D ₅₀ = 0.3342 D ₁₀ = 0.2346	Coefficients D ₈₅ = 0.4370 D ₃₀ = 0.2933 C _u = 1.52	D ₆₀ = 0.3562 D ₁₅ = 0.2606 C _c = 1.03
USCS= SP	Classification AASHTO)=
CADD CODE =	Remarks CH10D965	

Location: USACE Sample # BI-PB-119-10A **Sample Number:** TE Lab ID: 4612.32

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

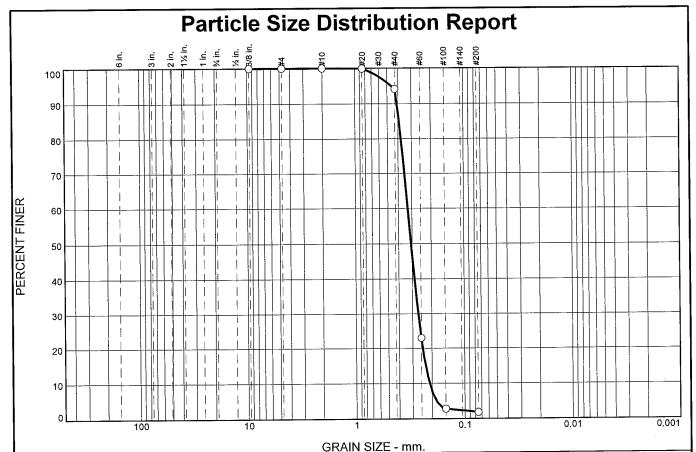
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Checked By: R.Byrd Tested By: <u>J.Maddox</u>

⁽no specification provided)



	% Gravel			% Sand		% Fines	
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	5.8	92.3	1.9	
CIEVE DED	SENT SPEC	* 50	222		Bartoriol	Description	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	94.2		
#60	23.0		
#100	2.9		
#200	1.9	1	
[

SAND, (SP), fine	Material Descriptio grained	<u>n</u>
PL≒	Atterberg Limits	Pl=
D ₉₀ = 0.4080 D ₅₀ = 0.3066 D ₁₀ = 0.2107	Coefficients D85= 0.3909 D30= 0.2658 Cu= 1.55	D ₆₀ = 0.3276 D ₁₅ = 0.2285 C _c = 1.02
USCS= SP	Classification AASHT	O=
CADD CODE =	Remarks CH10D965	

Location: USACE Sample # BI-PB-119-10B **Sample Number:** TE Lab ID: 4612.33

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

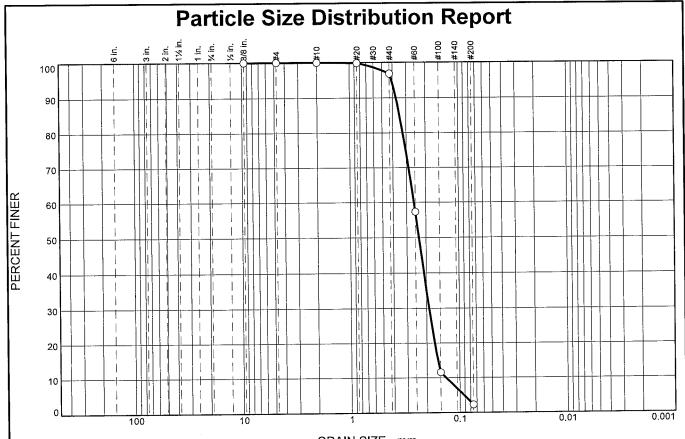
Mobile, Alabama

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox

⁽no specification provided)



			G	IKAIN SIZE -	mm.		
	% G	ravel		% Sand		% Fine	es
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.2	94.5	2.3	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	96.8		
#60	57.3		
#100	11.6		
#200	2.3		
1			
			1

PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.3716 D ₅₀ = 0.2323 D ₁₀ = 0.1335	Coefficients D85= 0.3444 D30= 0.1896 Cu= 1.93	D ₆₀ = 0.2570 D ₁₅ = 0.1582 C _c = 1.05
USCS= SP	Classification AASHT	O=
CADD CODE =	Remarks	

(no specification provided)

Location: USACE Sample # BI-PB-119-10C **Sample Number:** TE Lab ID: 4612.34

Depth: 10 - 15.0 (ft.)

Date: 8/7/10

Thompson Engineering

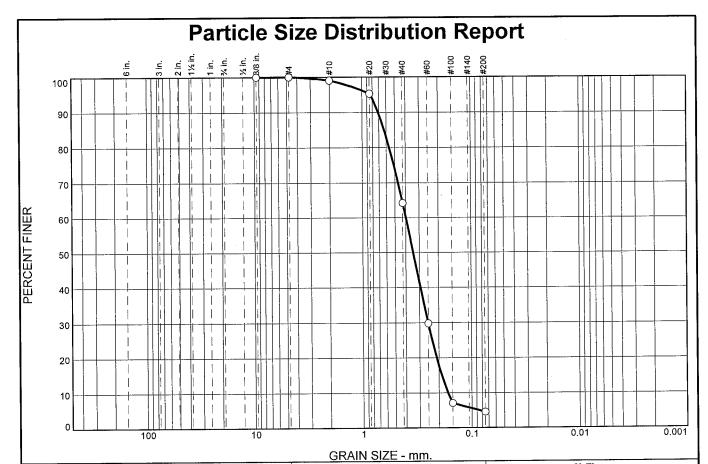
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 10-2123-0009 Report No.

Tested By: J.Maddox



		% Gra	vel		% Sand		% Fines		
% +3"		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0)	0.0	0.0	1.0	34.8	59.6	4.6		
SIEVE	PERCENT	SPEC.*	PA	ss?		Material	Description		
SIZE	FINER	PERCEN	T (X=	NO)	SAND,	(SP), medium to fi	ne grained		
.375	100.0								

	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	.375	100.0		
ì	#4	100.0		
	#10	99.0		
	#20	95.3		
	#40	64.2		
	#60	29.8		
	#100	7.1		
	#200	4.6		
			1	

PL=	Atterberg Limits	PI=
D ₉₀ = 0.7115 D ₅₀ = 0.3417 D ₁₀ = 0.1656	Coefficients D85= 0.6274 D30= 0.2507 Cu= 2.40	D ₆₀ = 0.3978 D ₁₅ = 0.1884 C _c = 0.95
USCS= SP	Classification AASHT	O=
CADD CODE =	Remarks CH10D965	

(no specification provided)

Location: USACE Sample # BI-PB-119-10D **Sample Number:** TE Lab ID: 4612.35

Depth: 15.0 - 20.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

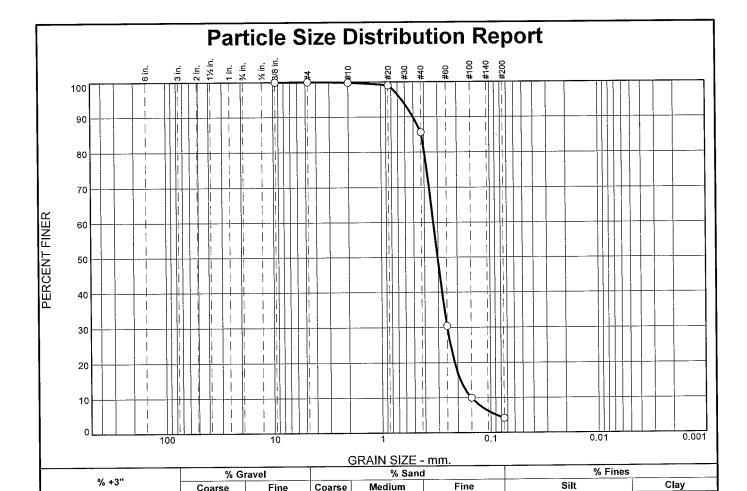
Report No.

Tested By: J.Maddox

Boring Designation BI-PB-120-10

DBI	DRILLING LOG						INSTALLATION SHEET 1					
		LUC	South	h Atlantic			Mobile Dis	strict			OF 1	SHEETS
1. PRO								TYPE OF BIT N/A				
			nd Restoration	on		10.			HORIZONT		VERTIC	
	Petit Bois Pass- AL East BORING DESIGNATION LOCATION COORDINATES							Plane, MSE (U.S. Ft.)	NAD83		NA\ IAH OT	/D88
	BI-PB-120-10						Vibra		0. 52			HAMMER
	LING AGEN				RACTOR FILE NO.	40		¦ DI:	STURBED	UND	ISTUR	BED (UD)
	orps of Eng		s - CESAM	<u> </u>		12.	TOTALS	AMPLES	3	<u> </u>)	
	. NAME OF DRILLER					13.	TOTAL P	NUMBER CORE BOXES				
			ions Internati		BEADING	14.	WATER	DEPTH	23 Ft.			
\boxtimes	5. DIRECTION OF BORING VERTICAL INCLINED						DATE BO	DRING	STARTED 07-30-1	i	COMPL 07-3	ETED 30-10
6. THIC	KNESS OF	OVER	BURDEN	N/A	•	16.	ELEVAT	ION TOP OF BORING	-22.7 Ft.			
7. DEP	TH DRILLED	INTO	BOCK V	 √A		17.	TOTAL F	RECOVERY FOR BORING	100%			
						18.	SIGNAT	URE AND TITLE OF INSPE	CTOR			
8. ТОТ	AL DEPTH O	F BOR	ring 15.	.0 Ft.		<u> </u>	Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION OF	MATERIALS		SAMPLE	LABOF	RATORY RES	SULTS		
-22.7	0.0					I						
	- -				tly fine to medium							E`
	- - -	ŀ∷⊹l	grained fragments.	sand-sized qua , It. gray (SP)	artz, trace shel	"						E
	_	<u> : : : </u>	3,	, - 3 - , (- ,			Α	Classification: SP (Color: 2.5Y	6/2-light	brown	ish gray
	-						Α	D50: 0.30	3 mm % l	Fines: 4	.1	Ę.
		ŀ∷·∣										E
	=	<u> : : : </u>										F
	-					╌						 5
		ŀ∷·l										E
	=	<u> </u> :-::										E
	1						В	Classification: SP (Color: 2.5Y	6/2-light	brown	ish gray
	-	ŀ∷·∣					Б	D50: 0.29	9 mm % l	Fines: 3	.5	F
	_	:·::										E
	-	- : :										E,
	-					ı						
	-	[::::										F
	_	$ \cdot \cdot \cdot $						01 :5 1: 05	0.1.0	. =\/ =/4		Ē
		[:∵: <u> </u>					С	Classification: SP D50: 0.268	Color: 2 84 mm %			ray E
	-											F
	-	·.::										F
-37.7	15.0					\dashv						
	<u> </u>		NOTEO									E
	-		NOTES:									Ē
	- -		1. Soils	s are field visi	ually classified in	۱						E
	<u>-</u>		accordance System.	e with the Unified	Soils Classification	۱						F
	<u>-</u>		•									É
	_		2. NS =	Sample not subnom this interval.	nitted for laboratory	y						Ē
	<u>-</u>		,									<u>-</u> 2
	<u> </u>		3. Seafloo	or elevation calcula	ated using sampling	g						Ę
	<u> </u>		vessers ta applying N	amometer water NOAA tidal qaud	depth reading and ge data conversion	ս 1						E
	<u> </u>		factor.		,							F
	<u> </u>											F
	<u> </u>											Ę
	Ē											Ē,
	=											F-2
	<u> </u>											F

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20604° Long = -88.31503°



SIZE FINER PERCENT (X=N) .375 100.0 (X=N) (X=	S?	PASS1	SPEC.*	PERCENT	SIEVE
#4 100.0 #10 99.8 #20 99.0 #40 85.6 #60 30.4 #100 10.0	10)	(X=NO	PERCENT	FINER	SIZE
#10 99.8 #20 99.0 #40 85.6 #60 30.4 #100 10.0				100.0	.375
#20				100.0	#4
#40 85.6 #60 30.4 #100 10.0		1		99.8	#10
#60 #100 30.4 10.0				99.0	#20
#100 10.0				85.6	#40
1				30.4	#60
#200 4.1				10.0	#100
			ŀ	4.1	#200
		l .			
					ľ

0.0

Fine

0.0

Coarse

0.2

14.2

	Material Description SAND, (SP), medium to fine grained										
PL=	Atterberg Limits LL=	PI=									
D ₉₀ = 0.5049 D ₅₀ = 0.3030 D ₁₀ = 0.1501	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D}_{85} = 0.4218 \\ \text{D}_{30} = 0.2488 \\ \text{C}_{u} = 2.20 \end{array}$	D ₆₀ = 0.3305 D ₁₅ = 0.1894 C _c = 1.25									
USCS= SP	<u>Classification</u> AASHT	-O=									
CADD CODE =	$\frac{\text{Remarks}}{\text{CADD CODE} = \text{CH10D965}}$										

(no specification provided)

0.0

Location: USACE Sample # BI-PB-120-10A **Sample Number:** TE Lab ID: 4612.36

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

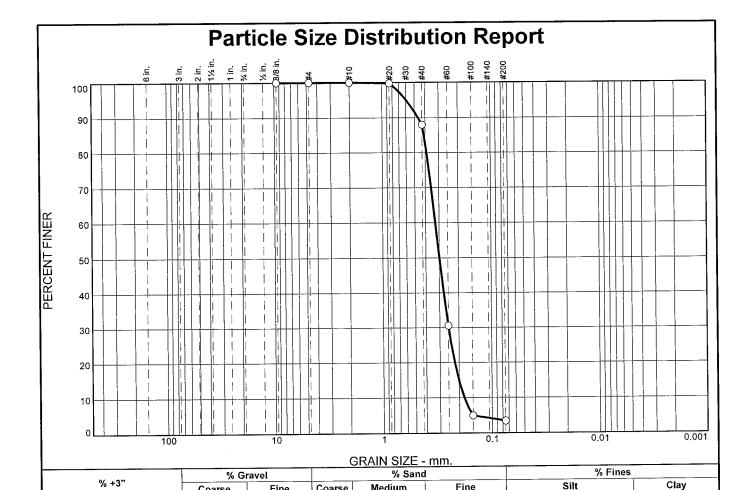
Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

81.5

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.7		
#40	88.0		
#60	30.5		
#100	5.0		
#200	3.5	ļ	
			1

0.0

Material Description SAND, (SP), medium to fine grained									
PL=	Atterberg Limits	Pl=							
D ₉₀ = 0.4633 D ₅₀ = 0.2990 D ₁₀ = 0.1803	Coefficients D85= 0.4100 D30= 0.2486 Cu= 1.80	D ₆₀ = 0.3251 D ₁₅ = 0.2017 C _c = 1.05							
USCS= SP	Classification AASHT	O=							
Remarks CADD CODE = CH10D965									

(no specification provided)

Location: USACE Sample # BI-PB-120-10B **Sample Number:** TE Lab ID: 4612.37

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

3.5

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 10-2123-0009

Fine

0.0

Coarse

0.0

Medium

12.0

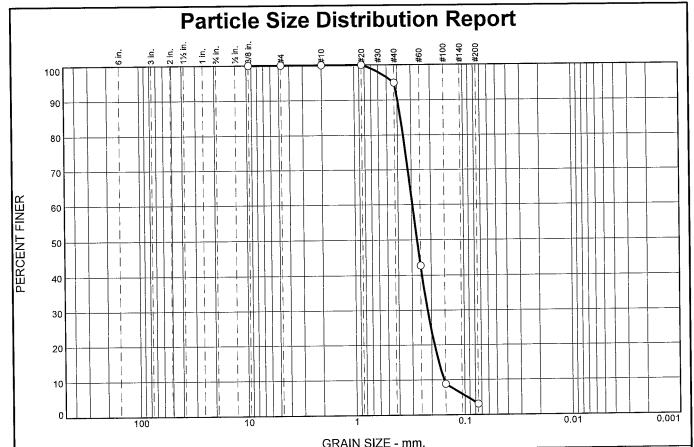
Fine

84.5

Report No.

Tested By: J.Maddox

0.0



	% Gr	avel		% Sand		% Fines		
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0	0.0	0.0	0.0	5.1	91.8	3.1		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	94.9		
#60	42.7		
#100	8.8		
#200	3.1		1
			}
1			

PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.3968 D ₅₀ = 0.2684 D ₁₀ = 0.1548	Coefficients D85= 0.3742 D30= 0.2169 Cu= 1.90	D ₆₀ = 0.2943 D ₁₅ = 0.1728 C _c = 1.03
USCS= SP	Classification AASHT	O=
CADD CODE =	Remarks CH10D965	

(no specification provided)

Location: USACE Sample # BI-PB-120-10C **Sample Number:** TE Lab ID: 4612.38

Depth: 10.0 15.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 10-2123-0009

Report No.

Tested By: J.Maddox

Boring Designation BI-PB-121-10

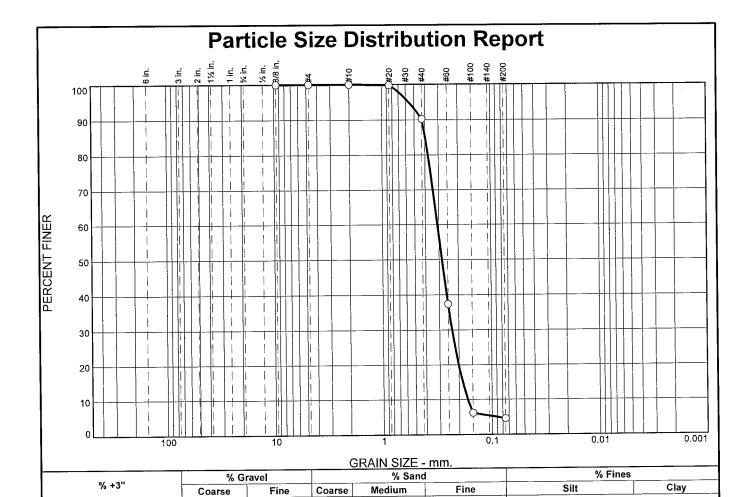
DBI	LLING	100	DIVISIO	N		INSTALLATION SHEET 1					
		LUG	South	h Atlantic		ı	Mobile Dis	strict		OF 2	SHEETS
1. PRO					ļ			TYPE OF BIT N/A			
			nd Restoration	on		10.		!	RIZONTAL	VERTIC	
	Petit Bois Pa			LOCATION COORD	INATES	11.		Plane, MSE (U.S. Ft.)	NAD83	NA\ I AUTO HAI	/D88
	31-PB-121-1		' '	E = 1,149,586		• • •	Vibra			MANUAL I	
	LING AGEN				RACTOR FILE NO.			DISTU	RBED ;	UNDISTUR	
	Corps of Eng	_	s - CESAM			12.	TOTAL	SAMPLES 4		0	
	IE OF DRILL					13.	TOTAL I	NUMBER CORE BOXES			
	Construction		ions Internat		BEARING	14.	WATER	DEPTH 29 I	Ft.		
	VERTICAL	BUKIN	G	DEG. FROM VERTICAL	BEARING				ARTED	COMPL	ETED
	INCLINED					15.	DATE BO	DRING	07-31-10	07-3	31-10
6. THI	CKNESS OF	OVERE	BURDEN	N/A		16.	ELEVAT	ION TOP OF BORING -30.9	9 Ft.		
7. DEP	TH DRILLED	INTO	ROCK	N/A		17.	TOTAL F	RECOVERY FOR BORING 10	00%		
	AL DEPTH O		200	0.54		18.		URE AND TITLE OF INSPECTO	R		
8. 101	AL DEPTH O		20.	.0 Ft.		_	Chris	Gillentine, Geologist			
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION OF	MATERIALS		SAMPLE	LABORATO	RY RESULT	·s	
-30.9	0.0										-0
	Ė	°°°	SAND. we	ell-araded. mostly	fine-grained sand-	-					Ε°
	E		sized quar	tz, It. gray (SW)	3						E
	Ė	000						Classification: SP	Color: 2.5Y	7/1 light a	rav
	E	° ° °					Α	D50: 0.2825 m		771-light g es: 4.6	lay E
	F										F
	-	٥٥٥									F
	Ē.	000				F					<u>F</u> _5
	Ē										F '
	-	٥٥٥									F
	-	000					_	Classification: SP-SM	Color: 2.5	SY 7/1-light	r grav
	Ε.						В	D50: 0.2726 mr	n % Fine	s: 10.4	E
	Ē	°°°									F
	Ē										F
	F	٥٥٥				H					
	Ē	0000									E
	Ę	000									F
	E	, ° ° °					С	Classification: SP-SM			gray
	E	000						D50: 0.3128 m	III 70 FIN€	ნა. ∪.∠	F
	<u> </u>	°°°°									E
-45.9	E 15.0	000									E
	<u> </u>	$ \overline{\cdots} $	SAND no	orly-graded most	tly fine to medium-	_ T					1:
	Ė	<u> :::: </u>	grained sa	ind-sized quartz, It	gray (SP)						F
	<u> </u>	<u> ::: </u>						Classification: SP-SM	Color: 2 5	V 7/2 liabt	t gray
	Ė						D	D50: 0.3051 m	m % Fine	5Y 7/2-light es: 6.1	l gray
	Ė	<u>[∷∷</u>]									E
	Ė	.:.:.									F
-50.9	20.0	····				4					
	E										Ē
	Ė		NOTES:								F
	E		1. Soils	s are field visi	ually classified in	۱					F
	<u>E</u>		accordanc	e with the Unified	Soils Classification	۱					E
	E		System.								Ę
	F		2. NS =	Sample not subn	nitted for laboratory	/					F
	E		analysis fro	om this interval.							E-2!
	<u>E</u>		Seafloo	or elevation determ	nined from 2010						E

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20603° Long = -88.30993°

Boring Designation BI-PB-121-10

DDI	LLING	100	G (Cont. Sheet)	INSTALLAT	TION			SHEET	2		
DKI	LLING	LUC	G (Cont. Sneet)	Mobile [District			OF 2	SHEETS		
PROJEC				COORDINA	TE SYSTEM	I/DATUM	HORIZONTAL	VERTICAL			
MsCl	P Barrier Is	land F	Restoration	State Pl	ane, MSE	(U.S. Ft.)	NAD83	NAVD88			
LOCATIO	ON COORDIN	NATES	5	ELEVATION	N TOP OF B	ORING					
X = 1	,149,586	Y = 2	257,136	-30.9 Ft.							
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIAL	.s	SAMPLE		LABORATORY RES	SULTS			
		_									
			USACE survey.						E		
									E		
									F		
									F		
									-30		
									E		
									E		
									F		
									E		
									F		
									F		
									-35		
									E		
									F		
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									-40		
									E		
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									F		
									F		
									F		
									<u>-</u> 60		
									Ε°°		

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20603° Long = -88.30993°



9.8

0.0

0.0

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0	1	1
#10	100.0		
#20	99.8		
#40	90.2		
#60	37.4		
#100	6.2		
#200	4.6		
	1		
			1
1			
1			

0.0

SAND, (SP), fine	Material Description grained	<u>.</u>						
PL=	Atterberg Limits LL=	PI=						
D ₉₀ = 0.4235 D ₅₀ = 0.2825 D ₁₀ = 0.1672	Coefficients D85= 0.3967 D30= 0.2303 Cu= 1.85	D ₆₀ = 0.3095 D ₁₅ = 0.1854 C _c = 1.02						
USCS= SP	Classification AASHT)=						
CADD CODE =	Remarks CADD CODE = CH10D965							

(no specification provided)

Tested By: J.Maddox

0.0

Location: USACE Sample # BI-PB-121-10A **Sample Number:** TE Lab ID: 4612.39

Depth: 0.0 - 5.0 (ft.)

Date: 8/7/10

4.6

Thompson Engineering

Client: US Army Corps of Engineers

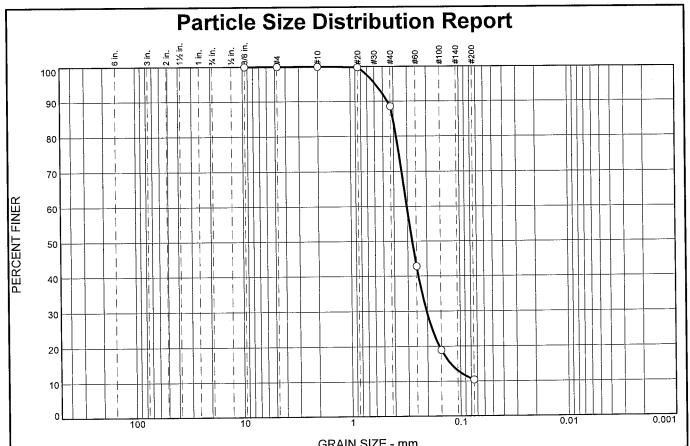
Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

85.6

Project No: 10-2123-0009

Report No.

Mobile, Alabama



	% Gr		% Sand		% Fines		
% +3"	Coarse	Fine	Coarse Medium		Fine	Silt	Clay
0.0	0.0	0.0	0.0	11.5	78.1	10.4	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	88.5		
#60	42.8		
#100	18.9		
#200	10.4		
1			
i			

Material Description SAND, (SP-SM), medium to fine grained								
PL=	Atterberg Limits LL=	Pl=						
D ₉₀ = 0.4537 D ₅₀ = 0.2726 D ₁₀ =	Coefficients D85= 0.4035 D30= 0.2041 Cu=	D ₆₀ = 0.3039 D ₁₅ = 0.1228 C _c =						
USCS= SP-SM	Classification AASHT	-O=						
Remarks CADD CODE = CH10D965								

(no specification provided)

Location: USACE Sample # BI-PB-121-10B **Sample Number:** TE Lab ID: 4612.40

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

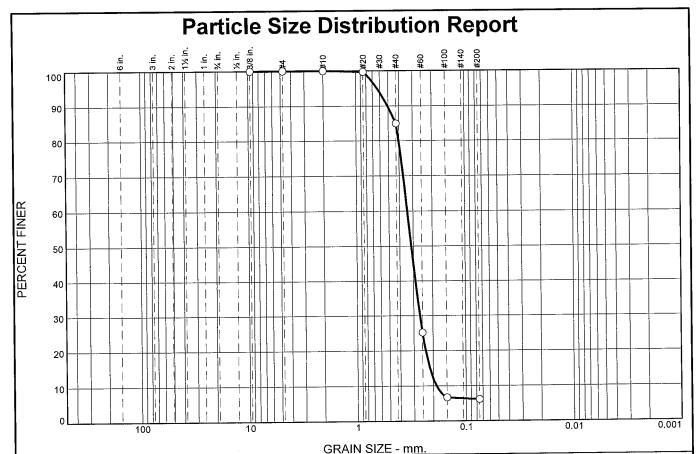
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 10-2123-0009

Report No.

Tested By: J.Maddox



	% Gr	avel		% Sand		% Fines		
% +3"	Coarse Fine		Coarse	Medium	Fine	Silt	Clay	
0.0	0.0	0.0	0.0	15.1	78.7	6.2		

ſ	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
١	.375	100.0		
-	#4	100.0		
	#10	100.0]	
-	#20	99.7		
	#40	84.9		
	#60	25.2		
	#100	6.7		
	#200	6.2		
				1
		1	1	1

<u>Ma</u>	<u>aterial Description</u>	
SAND, (SP-SM), m	nedium to fine grained	
,		
	Atterberg Limits	
PL=	LL=	PI=
	Coefficients	
$D_{90} = 0.5090$		$D_{60} = 0.3388$
D ₉₀ = 0.5090 D ₅₀ = 0.3128 D ₁₀ = 0.1880	$D_{85} = 0.4264$ $D_{30} = 0.2630$ $C_{U} = 1.80$	$D_{60} = 0.3388$ $D_{15} = 0.2150$ $C_{c} = 1.09$
D-10- 0.1000	_	-6
USCS= SP-SM	Classification AASHTO=	=
	Remarks	
CADD CODE = CI		

(no specification provided)

Location: USACE Sample # BI-PB-121-10C **Sample Number:** TE Lab ID: 4612.41

Depth: 10.0 - 15.0 (ft.)

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

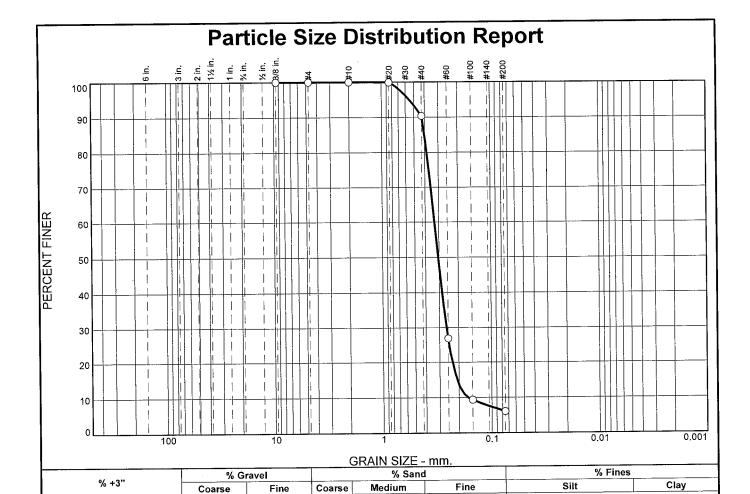
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Tested By: J.Maddox



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	90.4		
#60	26.9		
#100	9.4		
#200	6.1		
ì			
ļ			ı
		1	
1			

0.0

<u>N</u>	Material Description									
SAND, (SP-SM), fine grained										
	Atterberg Limits									
PL=	LL=	PI=								
	Coefficients									
D ₉₀ = 0.4232	$D_{85} = 0.4020$	D ₆₀ = 0.3287								
D ₉₀ = 0.4232 D ₅₀ = 0.3051 D ₁₀ = 0.1654	D_{85} = 0.4020 D_{30} = 0.2582 C_{U} = 1.99	D ₆₀ = 0.3287 D ₁₅ = 0.2078 C _c = 1.23								
210 0.700	Classification	Ŭ								
USCS= SP-SM	AASHT	O=								
	<u>Remarks</u>									
CADD CODE = 0	CH10D965									

(no specification provided)

Tested By: J.Maddox

0.0

Location: USACE Sample # BI-PB-121-10D **Sample Number:** TE Lab ID: 4612.42

Depth: 15.0 - 20.0 (ft.)

0.0

0.0

9.6

84.3

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

6.1

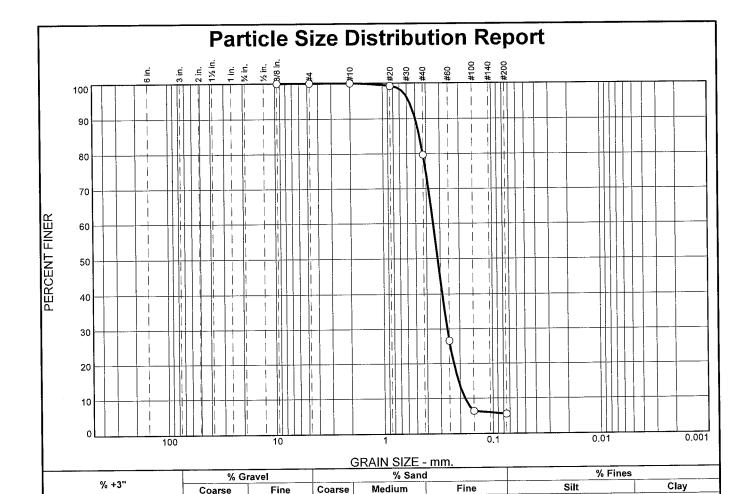
Mobile, Alabama

Boring Designation BI-PB-122-10

DR	ILLING	LOG	DIVISION			1	STALLATIO				SHEET	
1. PRO			South Atla	antic		-	Mobile Di				OF 1	SHEETS
		ior Iolon-	1 Doctoration			_		NATE SYSTEM/DATUM	HORIZONT	ΔΙ	VERTIC	ΔΙ
	viscip Barr Petit Bois P		d Restoration			'0.		Plane, MSE (U.S. Ft.)	- !			
	RING DESIG			TION COORD	INATES	11.		ACTURER'S DESIGNATION			JTO HAN	/D88
	BI-PB-122-		1		N = 257,165	' ''	Vibra					IAMMER
	LLING AGEI				TRACTOR FILE NO.	1			DISTURBED	UN	DISTUR	BED (UD)
	Corps of En		- CESAM			12.	TOTAL	SAMPLES	4	-	0	
	NE OF DRILI					13.	TOTAL I	NUMBER CORE BOXES				
			ns International		T	14.	WATER	DEPTH	30 Ft.			
	ECTION OF VERTICAL	BORING	VE	G. FROM RTICAL	BEARING	\vdash			STARTED		COMPL	ETED
	INCLINED		į			15.	DATE BO	DRING	07-31-	10	07-3	31-10
6. THI	CKNESS OF	OVERBU	JRDEN N/A			16.	ELEVAT	ION TOP OF BORING	-31.5 Ft.			
						17.	TOTAL I	RECOVERY FOR BORING				
7. DEP	TH DRILLE	DINTOR	OCK N/A			_		URE AND TITLE OF INSI				
8. ТОТ	AL DEPTH	OF BORIN	NG 18.5 Ft.				Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CLASSII	FICATION OF	MATERIALS		SAMPLE		ORATORY RES	BULTS		
-31.5	0.0											
-32.5	1.0		CLAY, fat, dark	gray (CH)		T	NS					<u>_</u>
			SAND, well-gra sized quartz, It.		fine-grained sand	d- -	A	Classification: SP-SM D50: 0.3	165 mm %	Fines:	Š.5 	vnish gray
							В	Classification: S D50: 0.2	6M Color: 2 :59 mm % F	2.5Y 7/: Fines: 1	1-light g 2.8	ray
							С		229 mm %	Fines:		
-47.5	16.0	000				\perp	D	Classification: S D50: 0.3		Fines:	1-light gı 4.3	E E
-50.0	- - - - - 18.5		CLAY, fat, dark	gray (CH)			NS					
			accordance with System. 2. NS = Samanalysis from the	h the Unified ple not subr nis interval.	ually classified i Soils Classification nitted for laborator ermined from 201	n Ty						
	<u>-</u> - - -		USACE survey.		201							

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20609° Long = -88.30508°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.2		
#40	79.7		
#60	26.6		
#100	6.4		
#200	5.5		
1		1	1
			1

0.0

	Material Description				
SAND, (SP-SM), 1	nedium to fine grained	d			
	Atterberg Limits				
PL=	LL=	PI=			
	Coefficients				
$D_{90} = 0.5002$		$D_{60} = 0.3468$			
D ₉₀ = 0.5002 D ₅₀ = 0.3165 D ₁₀ = 0.1811	D ₈₅ = 0.4574 D ₃₀ = 0.2602 C _U = 1.91	D ₆₀ = 0.3468 D ₁₅ = 0.2078 C _c = 1.08			
D10- 0.1811	-	OC 1.00			
USCS= SP-SM	Classification AASHTC)=			
0303- 31-3M		, in the second of the second			
CLED CODE	Remarks				
CADD CODE = C	HIUDAOS				

* (no specification provided)

0.0

Location: USACE Sample # BI-PB-122-10A **Sample Number:** TE Lab ID: 4612.43

Depth: 1.0 - 5.0 (ft.)

Coarse

0.0

Fine

0.0

Medium

20.3

74.2

Date: 8/7/10

5.5

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

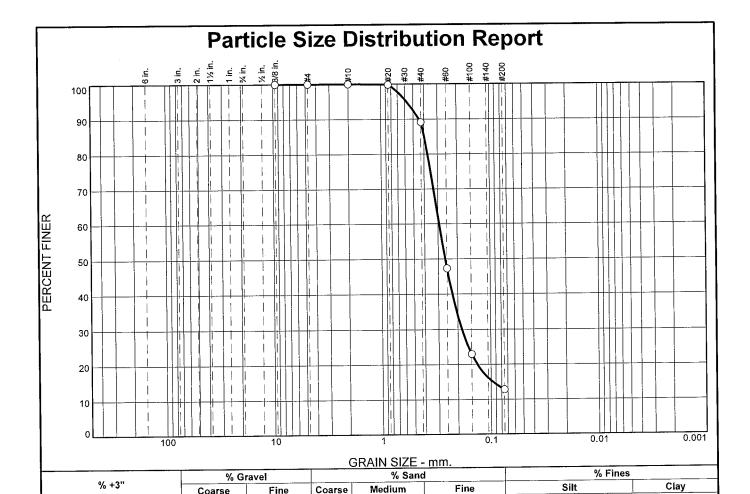
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama

Tested By: J.Maddox



SIEVE	PERCENT	SPEC.*	PASS?	
SIZE	FINER	PERCENT	(X=NO)	
.375	100.0			
#4	100.0			
#10	100.0			
#20	99.8			
#40	89.1			
#60	47.3			
#100	23.0	1		
#200	12.8			
			ĺ	
1	1	1		

0.0

PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.4429 D ₅₀ = 0.2590 D ₁₀ =	Coefficients D85= 0.3980 D30= 0.1841 Cu=	D ₆₀ = 0.2925 D ₁₅ = 0.0956 C _c =
USCS= SM	Classification AASHT)=
CADD CODE ==	Remarks	

(no specification provided)

Location: USACE Sample # BI-PB-122-10B **Sample Number:** TE Lab ID: 4612.44

Depth: 5.0 - 10.0 (ft.)

Coarse

0.0

Fine

0.0

Medium

10.9

Date: 8/7/10

12.8

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

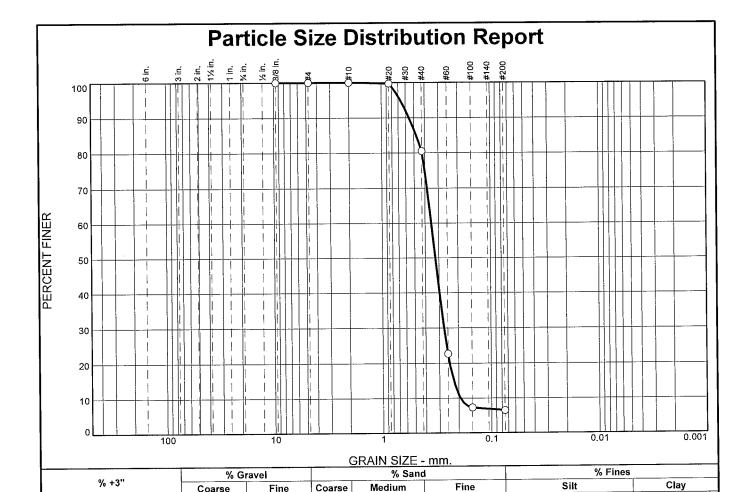
76.3

Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 10-2123-0009 Report No.

Tested By: J.Maddox

0.0



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.7		
#40	80.5		
#60	22.7		
#100	7.3		
#200	6.5		
			1

0.0

Fine

0.0

Coarse

0.0

Medium

19.5

<u>M</u>	Material Description				
SAND, (SP-SM), r	nedium to fine grained				
	Atterberg Limits				
PL=	LL=	PI=			
	Coefficients				
$D_{90} = 0.5568$	$D_{85} = 0.4785$	D ₆₀ = 0.3508			
D ₉₀ = 0.5568 D ₅₀ = 0.3229 D ₁₀ = 0.1931	D ₈₅ = 0.4785 D ₃₀ = 0.2707 C _u = 1.82	D ₆₀ = 0.3508 D ₁₅ = 0.2219 C _C = 1.08			
- 10	Classification				
USCS= SP-SM	AASHTO	=			
	Remarks				
CADD CODE = C	CADD CODE = CH10D965				
		•			

(no specification provided)

0.0

Location: USACE Sample # BI-PB-122-10C **Sample Number:** TE Lab ID: 4612.45

Depth: 10.0 - 15.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

74.0

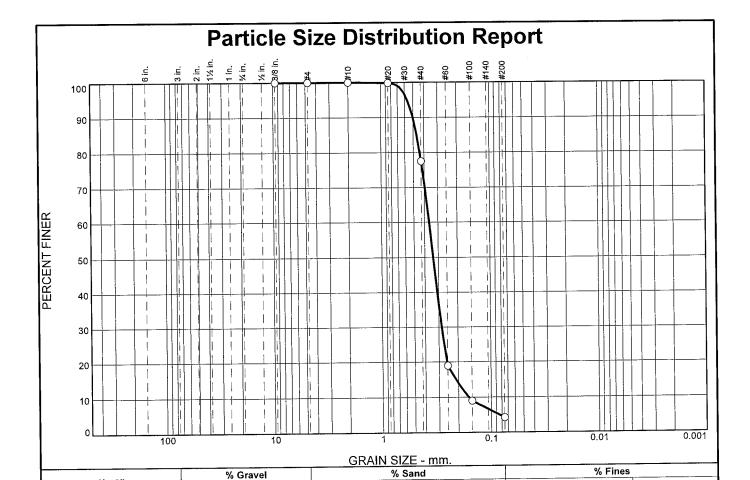
Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 10-2123-0009

Report No.

6.5

Tested By: J.Maddox



% +3	" [Coarse		Fine	Coarse	Medium	Fine		Silt
0.0		0.0		0.0	0.0	22.5	73.2		
SIEVE	PERCENT FINER	SPEC	-	PASS (X=N	- 1	SAND	_	Material Descrip	
.375 #4 #10 #20 #40	100.0 100.0 100.0 99.8 77.5					PL=		Atterberg Limi	ts
#60 #100 #200	18.9 9.0 4.3					D ₉₀ = D ₅₀ = D ₁₀ =	0.5046 0.3342 0.1603	Coefficients D ₈₅ = 0.4656 D ₃₀ = 0.2822 C _u = 2.26	 -
					:	USCS	S= SP	Classification AASI	<u>n</u> HTO=

(no specification provided)

Tested By: J.Maddox

% +3"

Location: USACE Sample # BI-PB-122-10D **Sample Number:** TE Lab ID: 4612.46

Depth: 15.0 - 16.5 (ft.)

Date: 8/7/10

 $\begin{array}{c} D_{60} = \ 0.3624 \\ D_{15} = \ 0.2106 \\ C_{c} = \ 1.37 \end{array}$

Clay

Thompson Engineering

Client: US Army Corps of Engineers

Remarks

Silt

4.3

PI=

Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

CADD CODE = CH10D965

Fine

Project No: 10-2123-0009

Report No.

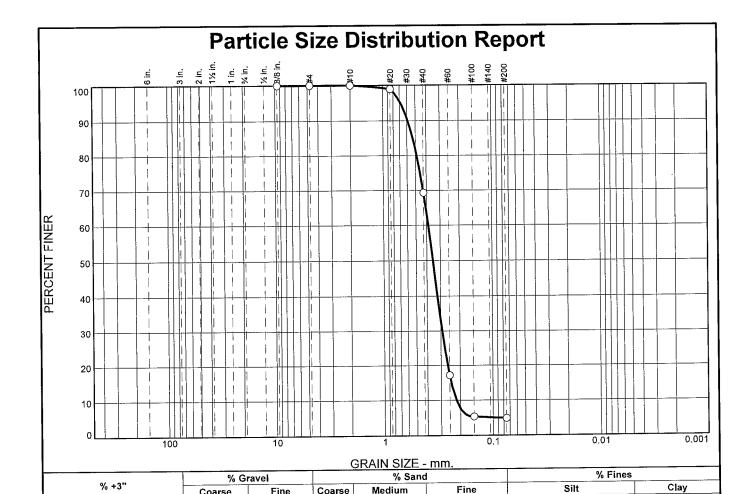
Mobile, Alabama

Boring Designation BI-PB-123-10

npi	LLING	1 06	DIVISION	N		INST	ALLATIC	N		SHEET	Г 1
			South	n Atlantic			obile Dis			OF 1	SHEETS
1. PRO					Ļ			TYPE OF BIT N/A			
			nd Restoratio	on		10. (ADOO	VERTIC	
	etit Bois Pa			LOCATION COORE	DINATES	11.		Plane, MSE (U.S. Ft.) N	AD83	NAV AUTO HA	VD88
	II-PB-123-1		·		N = 257,201		Vibra			MANUAL	
3. DRIL	LING AGEN	CY			TRACTOR FILE NO.	40 -	TOTAL 6	DISTUR	BED U	INDISTUR	RBED (UD)
	Corps of Eng		s - CESAM	i		12.	IUIALS	AMPLES 3		0	
	 NAME OF DRILLER Construction Solutions International, Inc. 				13.	TOTAL N	IUMBER CORE BOXES				
	CTION OF				BEARING	14. V	WATER I	DEPTH 31 F			
	VERTICAL	OKIN	G	DEG. FROM VERTICAL	·	45 1	DATE DO		RTED	COMPL	.ETED
	INCLINED				!	15. 1	DATE BO	0	7-31-10	07-	31-10
6. THIC	CKNESS OF	OVER	BURDEN	N/A		16. I	ELEVAT	ON TOP OF BORING -32.4	Ft.		
7. DEP	7. DEPTH DRILLED INTO ROCK N/A 17. TOTAL RECOVERY FOR BORING 100%										
						18. 3	SIGNAT	JRE AND TITLE OF INSPECTOR			
8. TOT	AL DEPTH C	F BOR	ring 16.	0 Ft.			Chris	Gillentine, Geologist			
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION OF	MATERIALS	SA	AMPLE	LABORATOR	Y RESULTS	5	
-32.4	0.0										
	Ē	。。。 。。。	SAND. we	ell-araded, mostl	y fine to medium-	.					Ε̈́
	Ē	000		nd-sized quartz, l							E
		000						Classification: SP C	olor: 2 EV	7/2 light o	E
		000					Α	Classification: SP C D50: 0.3514 mm	Side 1.2.31	s: 4.9	li ay -
	Ē										F
	_	ه م									F
		000									F_5
	-										F
		000									F
	-	000					_	Classification: SP	Color: 2.5	/ 8/1-whit	te E
							В	D50: 0.3001 mm			Ĭ E
		°°°									F
	-										F
		٥٥٥				\vdash					
	_	000									E
		000									Ę
	-	٥٥٥					С		Color: 2.5		te E
		000						D50: 0.295 mm	% Fines	3: 4.5	F
		000									Ē
-47.4	15.0	٥٥٥									Ē,
	_		SAND non	orly-graded some	e silt, dark gray (SP)		NS				<u></u>
-48.4	- 16.0 -	┝╌┤	5, 44D, pot	, gradou, sorrie	on, dan gray (OI)	+					
	<u> </u>		NOTES:								E
	Ę										E
	<u> </u>		1. Soils	s are field vis	sually classified in d Soils Classification						E
	<u></u>		System.	e with the Onlinet	a Julia Ciassilicaliuri	'					F
	E		•	Comple net enter	mitted for laborates	,					-2
				Sample not subtom this interval.	mitted for laboratory	'					Ę ¯
	Ē		-		amada ad f						F
	F		Seaflo USACE su		ermined from 2010	'					F
	Ē		30, 10L 3u								E
	Ē										Ę
	Ē										F
	F										-2
	<u> </u>										Ē
	-										

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20617° Long = -88.30053°



1	SIEVE	PERCENT	SPEC.*	PASS?
ļ	SIZE	FINER	PERCENT	(X=NO)
	.375	100.0		
	#4	100.0		
ľ	#10	100.0		
	#20	98.9		
	#40	69.3		
	#60	17.2		
	#100	5.3		
	#200	4.9		
			1	
	ļ			
	ĺ			
	1			

0.0

<u>Material Description</u>				
SAND, (SP), med	ium to fine grained			
	Attaubana Limita			
PL=	Atterberg Limits LL=	PI=		
· -	Coefficients			
$D_{90} = 0.5888$		D ₆₀ = 0.3860		
D ₉₀ = 0.5888 D ₅₀ = 0.3514 D ₁₀ = 0.2173	D_{85} = 0.5299 D_{30} = 0.2909 C_{U} = 1.78	D ₆₀ = 0.3860 D ₁₅ = 0.2416 C _C = 1.01		
D10- 0.2173	-	O _C - 1.01		
USCS= SP	Classification AASHTC)=		
03C3- 3F		,		
	<u>Remarks</u>			
CADD CODE = 0	CH10D965			

0.0

Location: USACE Sample # BI-PB-123-10A **Sample Number:** TE Lab ID: 4612.47

Depth: 0.0 - 5.0 (ft.)

Coarse

0.0

Medium

30.7

Date: 8/7/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

64.4

Mississippi Barrier Island Restoration Project

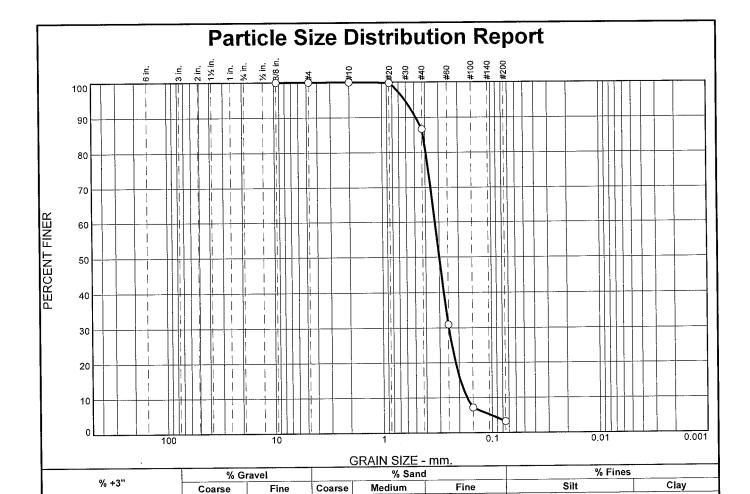
Project No: 10-2123-0009

Report No.

4.9

Checked By: R.Byrd Tested By: J.Maddox

⁽no specification provided)



13.4

S?	PASS	SPEC.*	PERCENT	SIEVE
10)	(X=N	PERCENT	FINER	SIZE
		1	100.0	.375
			100.0	#4
			100.0	#10
			99.8	#20
			86.6	#40
			31.0	#60
			7.1	#100
			3.2	#200

0.0

0.0

0.0

-	Material Description lium to fine grained	<u>on</u>
PL=	Atterberg Limits	PI=
D ₉₀ = 0.4845 D ₅₀ = 0.3001 D ₁₀ = 0.1701	Coefficients D ₈₅ = 0.4165 D ₃₀ = 0.2473 C _u = 1.92	D ₆₀ = 0.3272 D ₁₅ = 0.1957 C _c = 1.10
USCS= SP	Classification AASHT	·O=
CADD CODE =	<u>Remarks</u> CH10D965	

(no specification provided)

Tested By: J.Maddox

0.0

Location: USACE Sample # BI-PB-123-10B **Sample Number:** TE Lab ID: 4612.48

Depth: 5.0 - 10.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

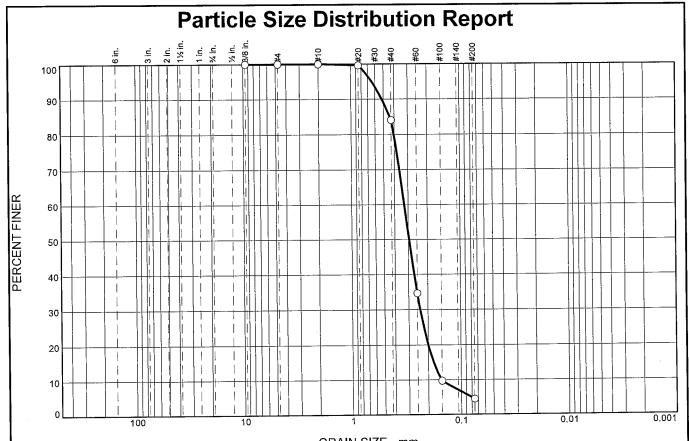
Project: Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

83.4

Project No: 10-2123-0009

Report No.

Mobile, Alabama



			G	KAIN SIZE -	· IIIII.		
	% Gr	avel		% Sano		% Fines	
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	15.9	79.6	4.5	

	SIEVE	PERCENT	SPEC.*	PASS?	
	SIZE	FINER	PERCENT	(X=NO)	_
1	.375	100.0			
	#4	100.0			
	#10	100.0		l	
	#20	99.6			
	#40	84.1			
	#60	34.6		1	
ļ	#100	9.7			
	#200	4.5	1		
				•	
	I				

	Atterberg Limits	
PL=	LL=	PI=
D ₉₀ = 0.5202 D ₅₀ = 0.2950 D ₁₀ = 0.1517	Coefficients D85= 0.4377 D30= 0.2356 Cu= 2.15	D ₆₀ = 0.3255 D ₁₅ = 0.1788 C _c = 1.12
USCS= SP	Classification AASHTO)=

(no specification provided)

Location: USACE Sample # BI-PB-123-10C **Sample Number:** TE Lab ID: 4612.64

Depth: 10.0 - 15.0 (ft.)

Date: 8/7/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

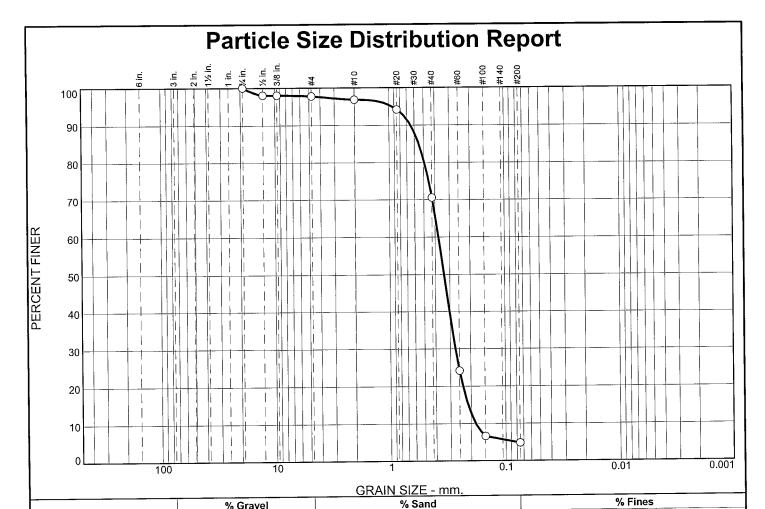
Mobile, Alabama **Project No:** 10-2123-0009 Report No.

Tested By: <u>J.Maddox</u>

Boring Designation BI-PB-124-10

DRILLING	LOG	DIVISIO				- 1	STALLATIO				SHEE	
1. PROJECT		Sout	h Atlantic			_	Mobile Dis				OF 1	SHEETS
									N/A			
MsCIP Barri			on			10		NATE SYSTEM/DATU	:		VERTI	
Petit Bois Pa			LOCATION C	COOPD	INATES	11		Plane, MSE (U.S. I				VD88
BI-PB-124-1					N = 257,121	1	Vibra		ATION OF DRILL		AUTO HA	MMER HAMMER
3. DRILLING AGEN		<u> </u>	L 1,10		RACTOR FILE NO	. -			DISTURBED			RBED (UD)
Corps of Eng	gineers -	CESAM		!		12	. TOTAL S	SAMPLES	2	į	0	` ′
4. NAME OF DRILL						13	. TOTAL I	NUMBER CORE BOXE	ES			
Construction	Solution	ns Internat	ional, Inc.			<u> </u>						
5. DIRECTION OF	BORING		DEG. FROI	М	BEARING	14	. WATER	DEPIH	32 Ft.		1	
□ VERTICAL □ INCLINED			VERTIOAL			15	. DATE BO	DRING	STARTE 08-07		COMP 08-	07-10
6. THICKNESS OF	OVERBU	RDEN	N/A			┵		ION TOP OF BORING				
7. DEPTH DRILLED	INTO RO	OCK N	N/A					RECOVERY FOR BOR				
			0.54			18		URE AND TITLE OF I				
8. TOTAL DEPTH C	F BORIN	G 13.	.6 Ft.			Щ,	Chris	Gillentine, Geolog	ist			
ELEV. DEPTH	LEGEND	CL	ASSIFICATION	ON OF	MATERIALS		SAMPLE		LABORATORY RI	ESULTS	;	
-32.5 0.0						1						
		SAND, po grained sa	orly-graded nd-sized qu	, most artz, It	ly fine to mediu gray (SP)	m-	Α	Classification D50:		2.5Y 7 % Fines	7/2-light (s: 4.8	gray - - - - - - - - - - - - - - - - - - -
-40.5 - 8.0							В	Classification D50:	n: SP Color: 0.3274 mm ^{- (}	2.5Y 7 % Fines	7/2-light (s: 3.8	gray -
-46.1 1 13.6		CLAY, fat,	dark gray	(CH)			NS					
	2	accordanc System. 2. NS = analysis fro	e with the U Sample no om this inte	Jnified t subn rval.	ually classified Soils Classificat nitted for laborat ermined from 20	ory						

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20593° Long = -88.29567°



		/0 010						
% +3	Ϊ Γ	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0		0.0	2.2	1.0	26.2	65.8	4.8	
 SIEVE SIZE	PERCENT FINER	SPEC.*		ASS? (=NO)	SAND,		I Description ine grained, with trace she	ell
.750 .500 .375	100.0 98.0 98.0					Atter	oerg Limits	
#4	97.8				PL=	LL=	PI=	

(no specification provided)

Location: USACE Sample # BI-PB-124-10A

Sample Number: TE Lab ID: 4622.46

Depth: 0.0 - 4.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

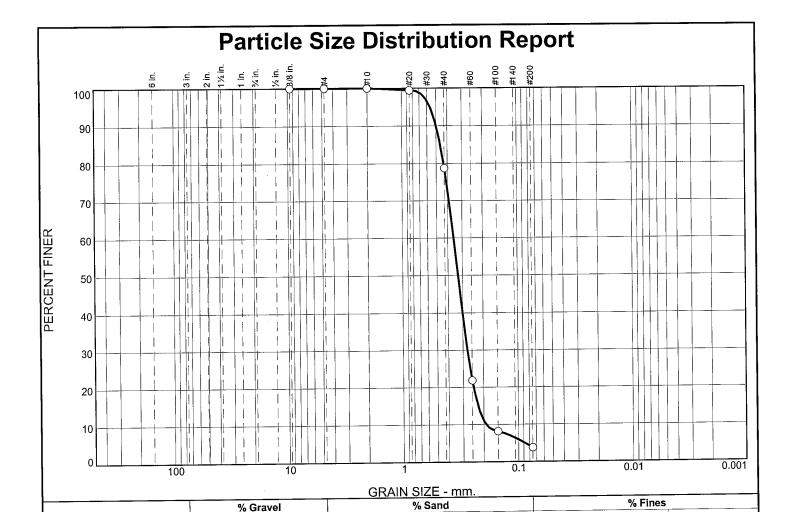
Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama

Tested By: G.Fancher Checked By: R.Byrd



Medium

21.3

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.4		
#40	78.7		
#60	21.8		
#100	8.2		
#200	3.8		
		ļ	
1			

Coarse

0.0

Fine

0.0

Coarse

0.0

PL=	Atterberg Limits	 1
		Pl=
D ₉₀ = 0.4996 D ₅₀ = 0.3274 D ₁₀ = 0.1903	<u>Coefficients</u> D ₈₅ = 0.4602 D ₃₀ = 0.2740 C _u = 1.87	D ₆₀ = 0.3560 D ₁₅ = 0.2236 C _c = 1.11
USCS= SP	Classification AASHTC)=

Silt

3.8

(no specification provided)

% +3"

0.0

Location: USACE Sample # BI-PB-124-10B Sample Number: TE Lab ID: 4622.47

Depth: 4.0 - 8.0 (ft.)

Date: 8/15/10

Clay

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Fine

74.9

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

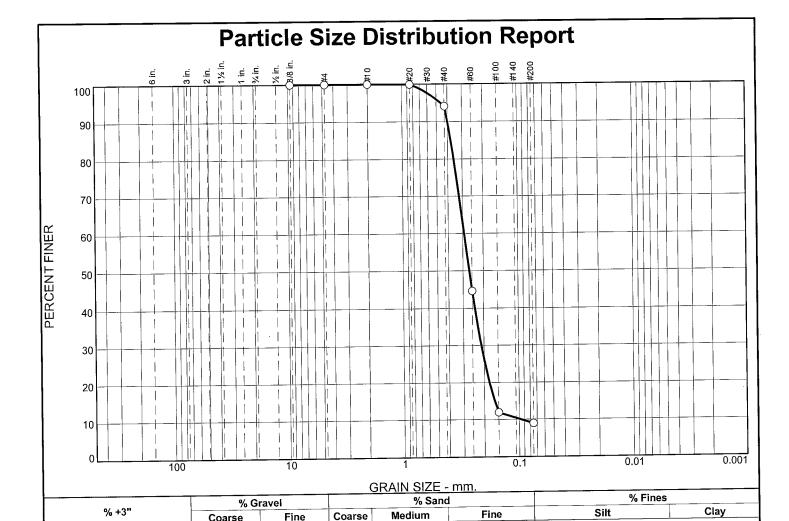
Mobile, Alabama

Checked By: R.Byrd Tested By: G.Fancher

Boring Designation BI-PB-125-10

DRII	LING	LOG	DIVISIO						TALLATIO		<u>J</u>			SHEE	T 1
1. PROJ			Sou	th Atlantic					Nobile Dis					OF 1	SHEETS
							⊢			TYPE OF BIT					
	SCIP Barrie			ion				10.		NATE SYSTEM		HORIZOI		VERTI	
	etit Bois Pa			LOCATION O	COOPD	INATES		11		Plane, MSE	, ,			NA AUTO HA	VD88
	-PB-125-1		į	E = 1,15				• • •	Vibra		SIGNATIO	N OF DRILL			HAMMER
	ING AGEN					RACTOR FI	LE NO.				- 1	DISTURBED			RBED (UD)
Co	orps of Eng	ineers -	- CESAM		!			12.	TOTAL S	SAMPLES	į	2	į	0	` ′
	OF DRILL							13.	TOTAL N	UMBER CORE	BOXES				
Co	onstruction	Solutio	ns Interna	ational, Inc.				4.4	WATER	DEDTU		37 Ft.			
-	CTION OF E	BORING		DEG. FRO	М	BEARING		14.	WAIER	DEPIN		STARTE		COMP	LETED
_	ERTICAL NCLINED			January	-			15.	DATE BO	RING		08-07		i	·07-10
6. THICE	KNESS OF	OVERBL	IRDEN	N/A		•		16.	ELEVAT	ION TOP OF B	ORING	-36.8 Ft.		•	
7. DEPT	H DRILLED	INTO R	оск	N/A				17.	TOTAL F	RECOVERY FO	R BORING	100%			
	L DERTH O	E BODII	16 16) F [t				18.		URE AND TITL		ECTOR			
8. IOIA	L DEPTH O	F BORII	10).5 Ft.				_	Chris	Gillentine, C	Seologist				
ELEV.	DEPTH	LEGEND	CI	LASSIFICATI	ON OF	MATERIALS	•	,	SAMPLE		LAB	DRATORY R	ESULTS		
-36.8	0.0							İ							
	-		SAND, pograined sa	oorly-graded and-sized qu	, most lartz, tr	ly fine to r ace silt, gra	medium- ly (SP)		Α	Classificati	ion: SP-SN D50: 0.20	/I Color: 642 mm	2.5Y 5 % Fines	/2-grayis s: 8.9	sh brown
	- - -								В	Class	ification: S D50: 0.30	P-SM (004 mm	Color: 2. % Fines	5Y 5/1-ç s: 9.4	gray -
-47.3	10.5							+	<u>NS</u>						<u>_</u>
	- - - - - - - -		accordand System. 2. NS = analysis f	Is are fiel ce with the U Sample no rom this inte loor elevatio urvey.	Jnified t subm rval.	Soils Class	sification boratory								

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20216° Long = -88.29599°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	94.1		
#60	44.6		
#100	11.9		
#200	8.9		1
	}		

Coarse

0.0

SAND, (SP-SM), fi	aterial Description ne grained					
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.3999 D ₅₀ = 0.2642 D ₁₀ = 0.0964	Coefficients D85= 0.3756 D30= 0.2102 Cu= 3.02	D ₆₀ = 0.2913 D ₁₅ = 0.1627 C _c = 1.57				
USCS= SP-SM	Classification AASHTO)=				
Remarks CADD CODE = CH10D965						
	_					

(no specification provided)

Tested By: G.Fancher

0.0

Location: USACE Sample # BI-PB-125-10A Sample Number: TE Lab ID: 4622.44

Depth: 0.0 - 5.0 (ft.)

Coarse

0.0

5.9

Fine

0.0

Date: 8/15/10

8.9

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Fine

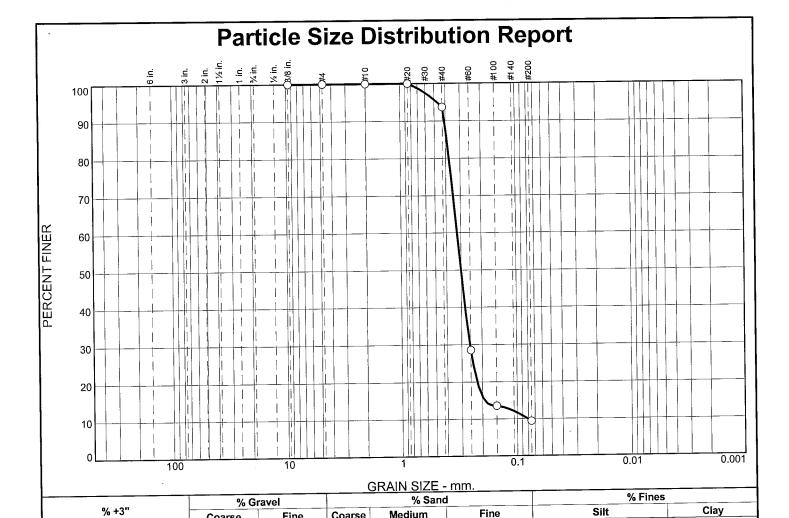
85.2

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama



Medium

6.3

Fine

0.0

Coarse

0.0

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	93.7		
#60	28.5		
#100	13.5		
#200	9.4		

Coarse

0.0

_	Material Description SAND, (SP-SM), fine grained							
PL=	Atterberg Limits	PI=						
1 L								
D ₉₀ = 0.4088 D ₅₀ = 0.3004 D ₁₀ = 0.0804	<u>Coefficients</u> D ₈₅ = 0.3905 D ₃₀ = 0.2539 C _u = 4.02	D60= 0.3230 D15= 0.1906 Cc= 2.48						
USCS= SP-SM	Classification AASHT	-O=						
Remarks CADD CODE = CH10D965								

* (no specification provided)

0.0

Location: USACE Sample # BI-PB-125-10B **Sample Number:** TE Lab ID: 4622.45

Depth: 5.0 - 10.0 (ft.)

Date: 8/15/10

9.4

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

84.3

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report No.

Mobile, Alabama

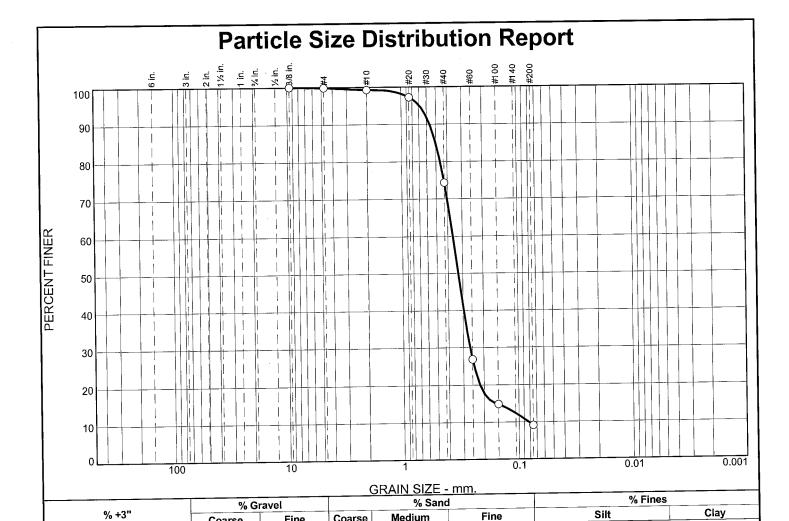
Tested By: G.Fancher

Boring Designation BI-PB-126-10

			DIVISION				INS	TALLATIC	ON .				SHEET	1
	LLING	LUG	South	Atlantic				Mobile Dis	strict				OF 1	SHEETS
1. PRO	JECT						9.	SIZE AND	TYPE OF BIT	N/A				
M	1sCIP Barrie	er Islar	nd Restoratio	n			10.	COORDI	NATE SYSTEM/	DATUM	HORIZO	NTAL	VERTIC	AL
	etit Bois Pa						$ldsymbol{ld}}}}}}$		Plane, MSE (l		NAD		NA\	/D88
	ING DESIGN		l L	OCATION CO			11.		CTURER'S DES	SIGNATION	OF DRILL		UTO HAI	
	I-PB-126-10					N = 254,378 CTOR FILE NO.	┝	Vibra	core	' DI	STURBED		MANUAL I	HAMMER BED (UD)
	corps of Eng		s - CESAM		ONIKA	CTOR FILE NO.	12.	TOTAL S	AMPLES	-	3	0	0	BED (OD)
	E OF DRILLE		020,				13.	TOTAL N	IUMBER CORE	BOXES				
C	construction	Soluti	ons Internation	onal, Inc.			H				00.54			
	CTION OF B	ORING	3	DEG. FROM VERTICAL	В	EARING	14.	WATER	DEPIH		36 Ft.		COMPL	ETED
_	VERTICAL INCLINED			i i	Ì		15.	DATE BO	RING		08-0		COMPL)7-10
				NI/A	i_		40	EL EVAT	ION TOP OF BO	DINC		1-10	1 00-0	57-10
6. IHIC	CKNESS OF	OVERE	UKDEN	N/A			⊢				-36.1 Ft.			
7. DEP	TH DRILLED	INTO	ROCK N	/A					JRE AND TITLE		100%			
8. ТОТ	AL DEPTH O	F BOR	ING 14.7	7 Ft.] '°.		Gillentine, Ge		CIOR			
ELEV.	DEPTH	EGEND	CLA	ASSIFICATION	OF MA	TERIALS		SAMPLE	Cincranio, Co		RATORY R	ESULTS		
-36.1	0.0						+							
-30.1			grained s	orly-graded, r sand-sized trace silt, lt. ç	quartz,	fine to medium , trace she P)		Α	Classificatio I	on: SP-SM D50: 0.32	Color 72 mm	: 2.5Y 5/ % Fines	/2-grayisl : 9.1	n brown =
								В		ication: SF D50: 0.320	P-SM (05 mm	Color: 2.: % Fines	5Y 5/1-gi :: 6.2	
-50.8	- - - - - - - - - - - - - - - - - - -							C		ication: SF D50: 0.31	?-SM (73 mm	Color: 2.4 % Fines	5Y 5/1-gi s: 11	ray = 10
			accordance System. 2. NS = Sanalysis fro	e with the Unice Sample not somethic intervals or elevation	ified So submitte al.	y classified i iils Classificatio ed for laborator ined from 201	n y							- 15 - 20 - 21 - 21 - 21

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19839° Long = -88.29581°



Medium

25.0

Fine

0.1

Coarse

0.6

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.9		
#10	99.3		ļ
#20	97.2		
#40	74.3	ļ	
#60	26.9		
#100	14.9		
#200	9.1		
			1

Coarse

0.0

0.0

Material Description SAND, (SP-SM), medium to fine grained								
PL=	Atterberg Limits LL=	PI=						
D ₉₀ = 0.5662 D ₅₀ = 0.3272 D ₁₀ = 0.0822	$\begin{array}{c} \textbf{Coefficients} \\ \textbf{D85=} & 0.5029 \\ \textbf{D30=} & 0.2617 \\ \textbf{Cu=} & 4.41 \end{array}$	D ₆₀ = 0.3621 D ₁₅ = 0.1538 C _c = 2.30						
USCS= SP-SM	Classification AASHT	O=						
Remarks CADD CODE = CH10D965								

Location: USACE Sample # BI-PB-126-10A **Sample Number:** TE Lab ID: 4622.41

(no specification provided)

Depth: 0.0 - 5.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

65.2

Mississippi Barrier Island Restoration Project

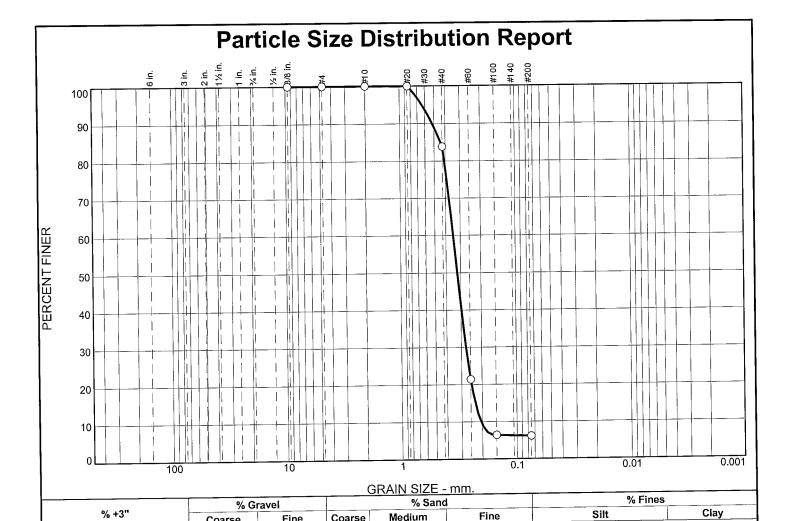
Project No: 10-2123-0009

Report No.

9.1

Mobile, Alabama

Tested By: G.Fancher



Medium

16.1

77.7

Fine

0.0

Coarse

0.0

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	83.9		
#60	21.4	ŀ	
#100	6.4		ļ
#200	6.2		
			ļ
			1

Coarse

0.0

	Atterberg Limits	
PL=	LL=	PI=
D ₉₀ = 0.5195 D ₅₀ = 0.3205 D ₁₀ = 0.2051	Coefficients D ₈₅ = 0.4399 D ₃₀ = 0.2727 C _u = 1.69	D ₆₀ = 0.3458 D ₁₅ = 0.2289 C _c = 1.05
USCS= SP-S	<u>Classification</u> SM AASHT	O=

(no specification provided)

0.0

Location: USACE Sample # BI-PB-126-10B **Sample Number:** TE Lab ID: 4622.42

Depth: 5.0 - 10.0 (ft.)

Date: 8/15/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

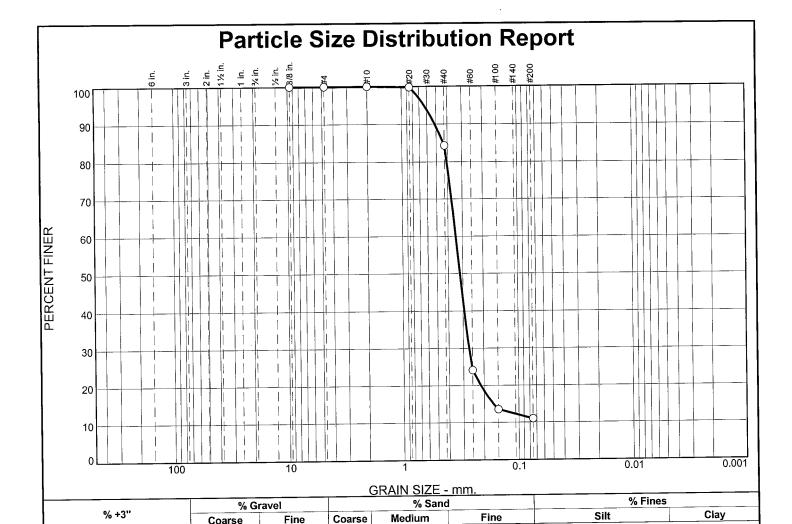
Project No: 10-2123-0009

Report No.

6.2

Mobile, Alabama

Tested By: G.Fancher



15.6

	0.0		0.0	0	.0	0.
[SIEVE	PERCENT	Γ SPEC	*	PASS	?
١	SIZE	FINER	PERCE	NT _	(X=NC))
	375 #4 #10 #20 #40 #60 #100 #200	100.0 100.0 100.0 99.8 84.4 24.1 13.5 11.0	T EKOL			
	I	1	1			

Coarse

Fine

0.0

Material Description SAND, (SP-SM), medium to fine grained									
PL=	Atterberg Limits	PI=							
D ₉₀ = 0.5148 D ₅₀ = 0.3173 D ₁₀ =	$\begin{array}{c} \underline{\textbf{Coefficients}} \\ \textbf{D_{85}} = \ 0.4335 \\ \textbf{D_{30}} = \ 0.2671 \\ \textbf{C_{u}} = \end{array}$	D ₆₀ = 0.3431 D ₁₅ = 0.1659 C _c =							
USCS= SP-SM	Classification AASHT	-O=							
CADD CODE = C	Remarks CADD CODE = CH10D965								

(no specification provided)

Location: USACE Sample # BI-PB-126-10C **Sample Number:** TE Lab ID: 4622.43

Depth: 10.0 - 14.7 (ft.)

Date: 8/15/10

11.0

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

73.4

Report No.

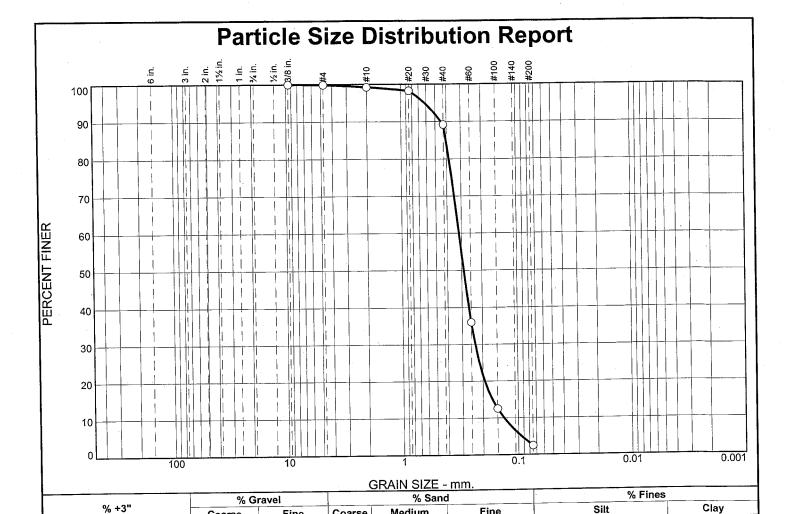
Project No: 10-2123-0009

Tested By: G.Fancher

Boring Designation BI-PB-127-10

DRILLING LOG						INSTALLATION SHEET 1						1
		LUG	South	n Atlantic		ᆫ	Mobile Di	strict			OF 1	SHEETS
1. PRO								TYPE OF BIT N/A			\ 	
			nd Restoratio	on		10.		NATE SYSTEM/DATUM	HORIZON	:	VERTIC	
	Petit Bois Pa			OCATION COOR	DINATES	11.		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NA\ I TO HA I	/D88
	3I-PB-127-1				N = 254,377	` `	Vibra					HAMMER
3. DRII	LING AGEN	CY	'		TRACTOR FILE NO.	42	. TOTAL S		ISTURBED	UN	DISTUR	BED (UD)
	Corps of Eng		- CESAM	<u> </u>		'2	· IOIAL	DAINIPLES	2		0	
	E OF DRILL		one Internet	ional Inc		13.	. TOTAL I	NUMBER CORE BOXES				
	ECTION OF E		ons Internat	DEG. FROM	BEARING	14.	WATER	DEPTH	29 Ft.			
_	VERTICAL INCLINED			VERTICAL		15.	DATE B	DRING	STARTED 08-09-	10	COMPL 08-0	. ETED 09-10
6. THI	CKNESS OF	OVERB	URDEN	N/A		16	. ELEVAT	ION TOP OF BORING	-29.5 Ft.			
7. DEP	TH DRILLED	INTO	ROCK N	I/A		17.	. TOTAL I	RECOVERY FOR BORING	100%			
	A. DEDT		.NO 45	r ==		18.		URE AND TITLE OF INSP	ECTOR			
8. 101	AL DEPTH O		ING 15.	5 Ft.		ᄂ	Chris	Gillentine, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION OF	MATERIALS		SAMPLE	LABO	PRATORY RE	SULTS		
-29.5	0.0											
			grained		etly fine to medium artz, trace she)			Classification: SP	Color: 10YR	1/2_dar	k aravis	
							Α	D50: 0.28	383 mm %	Fines:	2.4	SILDIOWILE
-34.5	5.0 -		SAND, po	orly-graded, mos	tly fine to medium	1-						5
-39.5			grained sal	nd-sized quartz, I	t. gray (SP)		В	Classification: SP D50: 0.27	Color: 2.5 755 mm %	iY 5/2-g Fines:	rayish t 4.5	
	- 15.5		CLAY, fat,	dark gray (CH)			NS					
45.0	13.5		accordance System. 2. NS = analysis from	e with the Unified Sample not subsom this interval.	sually classified in Soils Classification mitted for laborator ermined from 2010	n y						22

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19862° Long = -88.35651°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.8		
#10	99.2		
#20	98.2		
#40	89.2		
#60	36.0	1	
#100	12.5		-
#200	2.4		

Coarse

0.0

	Material Description	1
SAND, (SP), med	lium to fine grained	
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.4451 D ₅₀ = 0.2883 D ₁₀ = 0.1322	Coefficients D ₈₅ = 0.4029 D ₃₀ = 0.2314 C _u = 2.39	D ₆₀ = 0.3157 D ₁₅ = 0.1661 C _c = 1.28
USCS= SP	Classification AASHTO)=
CADD CODE =	Remarks CH10D965	

(no specification provided)

Location: USACE Sample # BI-PB-127-10A Sample Number: TE Lab ID: 4636.05

Depth: 0.0 - 5.0 (ft.)

Coarse

0.6

Fine

0.2

Medium

10.0

Fine

86.8

Date: 8/17/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

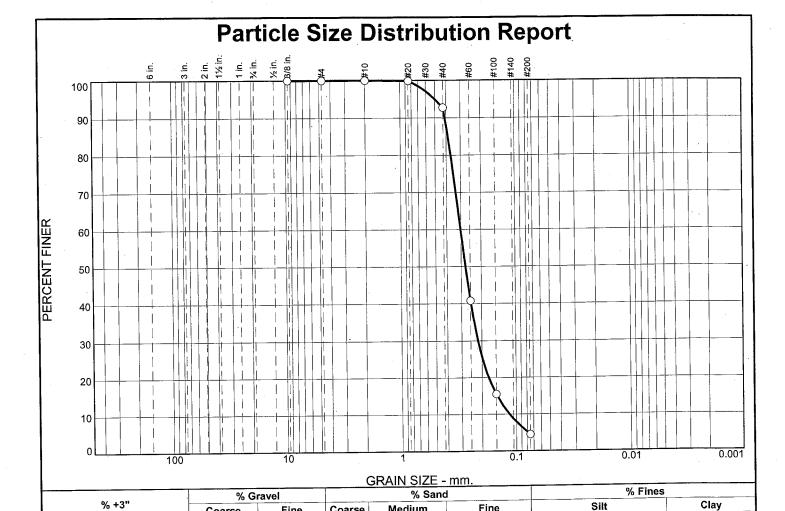
Mobile, Alabama

Project No: 10-2123-0009

Report #:

2.4

0.0



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0	-	Ì
#10	100.0		
#20	99.9		
#40	92.8		
#60	40.8		
#100	15.5	ļ	
#200	4.5		

Coarse

0.0

	Material Description	<u>n</u>
SAND, (SP), fine	grained	
PL=	Atterberg Limits LL=	P!=
D ₉₀ = 0.4091 D ₅₀ = 0.2755 D ₁₀ = 0.1149	Coefficients D85= 0.3854 D30= 0.2158 Cu= 2.64	D ₆₀ = 0.3027 D ₁₅ = 0.1470 C _c = 1.34
USCS= SP	Classification AASHT	O=
CADD CODE =	Remarks CH10D965	

(no specification provided)

Location: USACE Sample # BI-PB-127-10B **Sample Number:** TE Lab ID: 4636.06

Depth: 5.0 - 10.0 (ft.)

Coarse

0.0

Fine

0.0

Medium

7.2

Fine

88.3

Date: 8/17/10

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Contract No. W91278-10-D-0026 - Task 03 Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report #:

4.5

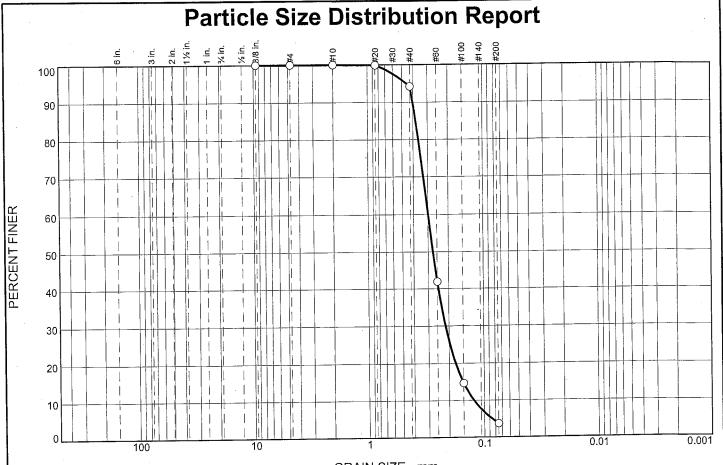
Tested By: R.Martin

0.0

Boring Designation BI-PB-128-10

DRILLING	LOG	DIVISIO				IN	STALLATIO	ON			SHEE	
		Sout	th Atlantic			_	Mobile Dis				OF 1	SHEETS
1. PROJECT								TYPE OF BIT	N/A			
MsCIP Barri			on			10		NATE SYSTEM/DATU	!		VERT	
Petit Bois Pa								Plane, MSE (U.S.				VD88
2. BORING DESIGN BI-PB-128-1			LOCATION C		N = 254,404		. MANUFA Vibra	ACTURER'S DESIGNA	ATION OF DRILL		AUTO HA	MMER HAMMER
3. DRILLING AGEN		i	E = 1,130		RACTOR FILE N		VIDIA	lcore	DISTURBED			RBED (UD)
Corps of En		CESAM				12	. TOTAL S	SAMPLES	1		0	(,
4. NAME OF DRILL						13	. TOTAL P	NUMBER CORE BOX	ES		-	
Construction	Solution	s Interna	tional, Inc.			-						
5. DIRECTION OF	BORING		DEG. FROI	M	BEARING	<u> </u> "	. WATER	DEPIR	30 Ft.		100110	
□ VERTICAL □ INCLINED						15	. DATE BO	DRING	08-0		i	-09-10
6. THICKNESS OF	OVERBUI	RDEN	N/A			16	. ELEVAT	ION TOP OF BORING	s -29.7 Ft.			
7. DEPTH DRILLED	INTO RO	CK 1	N/A			17	. TOTAL F	RECOVERY FOR BOR	RING 100%			
		-				18	. SIGNAT	URE AND TITLE OF	INSPECTOR			
8. TOTAL DEPTH (F BORIN	G 14	.0 Ft.			Ш,	Chris	Gillentine, Geolog	gist			
ELEV. DEPTH	LEGEND	CL	.ASSIFICATIO	ON OF	MATERIALS		SAMPLE		LABORATORY R	ESULT	5	
-29.7 0.0	11111											
-30.7 - 1.0	S	SAND, silt	ty (SM)				NS					E
-36.2 - 6.5			orly-graded				A	Classification: D50:	SP Color: 2 0.2718 mm	2.5Y 5/2 % Fine	?-grayish s: 3.8	brown -
-43.7 - 14.0			,	(0,			NS					
-45.7 14.0	1 2 2 2	accordanc System. 2. NS = analysis fr	Sample not com this interport elevation	Jnified t subm rval.	ually classified Soils Classificanitted for labora ermined from 2	ation atory						

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19868° Long = -88.35211°



			G	BRAIN SIZE -	mm		
	% Gr	avel		% Sand		% Fines	S
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	On	0.0	0.0	50	90.4	3.8	
1111	1 (1.1)	0.0	1 0.0 1	5.0			

[SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
Ì	.375	100.0		
	#4	100.0		
	#10	100.0		
	#20	99.9		
	#40	94.2		
	#60	41.9		
	#100	14.7		1
	#200	3.8		
				ļ ·
	ļ			
			,	
	1			
	1			
	ı	1		1

	<u>Material Description</u>	<u>.</u>
SAND, (SP), fine	grained, with trace clay	y pockets
PL=	Atterberg Limits	PI=
r L -		
Doo= 0.4014	<u>Coefficients</u> D ₈₅ = 0.3789	D ₆₀ = 0.2986
D ₉₀ = 0.4014 D ₅₀ = 0.2718 D ₁₀ = 0.1224	$D_{85} = 0.3789$ $D_{30} = 0.2138$ $C_{u} = 2.44$	D ₆₀ = 0.2986 D ₁₅ = 0.1515 C _C = 1.25
D10- 0.1224	Ou- 2.44	OC 1,=0
	Classification AASHTO	\ -
USCS= SP	AASHIC)-
	<u>Remarks</u>	
CADD CODE =	CH10D965	

Location: USACE Sample # BI-PB-128-10A Sample Number: TE Lab ID: 4636.04

Depth: 1.0 - 6.0 (ft.)

Date: 8/17/10

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 10-2123-0009

Report No.

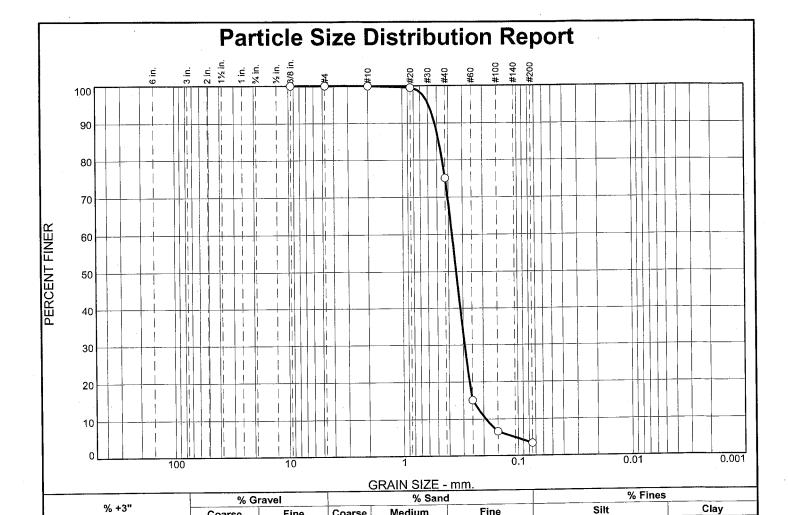
Checked By: R.Byrd Tested By: R.Martin

L-381

Boring Designation BI-PB-129-10

DR	ILLING	LOG	DIVISIO				1	STALLATIO				SHEET	r 1
1. PRO			Sout	th Atlantic			+	Mobile Dis				OF 1	SHEETS
							_			N/A			
	MsCIP Barri			on			10.		NATE SYSTEM/DATU	!		VERTIC	
	Petit Bois Pa			LOCATION C	COOPD	INATES	11		Plane, MSE (U.S. I				VD88
	BI-PB-129-1		į	E = 1,130			'''	Vibra		THOR OF BRILE		UTO HAI	HAMMER
	LLING AGEN		<u>'</u>			RACTOR FILE NO.	+			DISTURBED			RBED (UD)
(Corps of Eng	gineers -	CESAM		!		12.	TOTALS	SAMPLES	2	-	0	
4. NAN	NE OF DRILL	.ER					13.	TOTAL	NUMBER CORE BOXE	S			
	Construction		ns Interna				14	WATER	DEPTH	33 Ft.			
	ECTION OF	BORING		DEG. FROI	M	BEARING	<u> </u>	WAILK	JEF III	STARTED		COMPL	ETED
	VERTICAL INCLINED					 	15.	DATE BO	DRING	08-09-	10	i	09-10
	CKNESS OF	OVERBU	RDEN	N/A		i	16.	ELEVAT	ION TOP OF BORING			, 00	30 10
7. DEP	TH DRILLED	INTO R	ock i	N/A			17.	TOTAL F	RECOVERY FOR BOR	ING 100%			
52.			,	11/7			18.	SIGNAT	URE AND TITLE OF I	NSPECTOR			
8. TOT	AL DEPTH C	OF BORIN	IG 17	'.8 Ft.				Chris	Gillentine, Geologi	ist			
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION	ON OF	MATERIALS		SAMPLE	ı	LABORATORY RE	SULTS		
-33.6	0.0						コ						
-34.6	E 10		SILT, inor	ganic-H, trad	ce fine	-grained sand-size	ed	NS					Ė,
UT.0	E '	 **** \	quartz, da	rk gray (MH	1)		_/t						
	- - - - - -		SAND, po	orly-graded,	lt. tan	'gray (SP)		Α	Classification: SF D50:		6/2-lig Fines:	ht brown 3.4	ish gray
-41.6	- - - - - - - - - - - - - - - - - - -							В	Classification: SF D50:	Color: 2.5Y 0.2957 mm %	6/2-lig 5 Fines	ht brown : 4.7	nish gray
-51.4	17.8		CLAY, fat,	, dark gray ((CH)			NS					
			accordanc System. 2. NS = analysis fr	Sample no rom this inte	Jnified t subn rval.	ually classified Soils Classification nitted for laboraton ermined from 20°	on ry						

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19426° Long = -88.35211°



Medium

Coarse

0.1

Fine

0.0

Fine

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375 #4 #10 #20 #40 #60 #100 #200	100.0 100.0 99.9 99.5 75.1 15.1 6.6 3.4		

Coarse

0.0

24.8	71.7		3.4
SAND,	Mate (SP), medium to	<u>n</u>	
PL=		erberg Limits _=	Pl=
D ₉₀ = D ₅₀ = D ₁₀ =		Coefficients 85= 0.4791 30= 0.2918 u= 1.94	D ₆₀ = 0.3713 D ₁₅ = 0.2487 C _c = 1.20
USCS:		lassification AASHT	O=
CADD	CODE = CH10	Remarks D965	

(no specification provided)

Tested By: R.Martin

0.0

Location: USACE Sample # BI-PB-129-10A Sample Number: TE Lab ID: 4636.02

Depth: 1.0 - 4.0 (ft.)

Date: 8/17/10

Thompson Engineering

Client: US Army Corps of Engineers

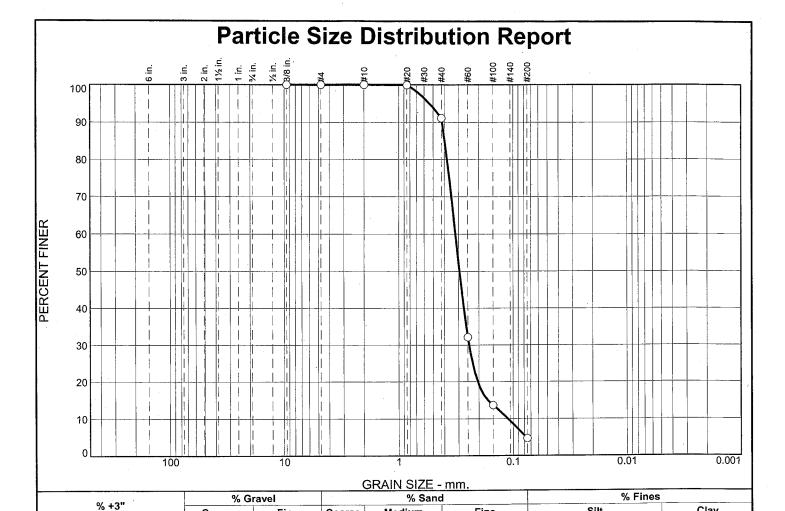
Project: Contract No. W91278-10-D-0026 - Task 03

Mississippi Barrier Island Restoration Project

Project No: 10-2123-0009

Report #:

Mobile, Alabama



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	91.2	,	
#60	32.2		
#100	13.7		
#200	4.7		

Coarse

0.0

Fine

Coarse

 0.0°

Medium

8.8

•	Material Description SAND, (SP), fine grained					
PL=	Atterberg Limits	PI=				
D ₉₀ = 0.4190 D ₅₀ = 0.2957 D ₁₀ = 0.1111	Coefficients D ₈₅ = 0.3970 D ₃₀ = 0.2435 C _u = 2.89	D ₆₀ = 0.3206 D ₁₅ = 0.1664 C _c = 1.66				
USCS= SP	Classification AASHT	O=				
CADD CODE = 0	Remarks CADD CODE = CH10D965					

Silt

4.7

(no specification provided)

Location: USACE Sample # BI-PB-129-10B **Sample Number:** TE Lab ID: 4636.03

Depth: 4.0 - 8.0 (ft.)

Date: 8/17/10

Clay

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 03

Fine

86.5

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 10-2123-0009

Report #:

Tested By: G.Fancher

0.0

Boring Designation BI-PB-130-10

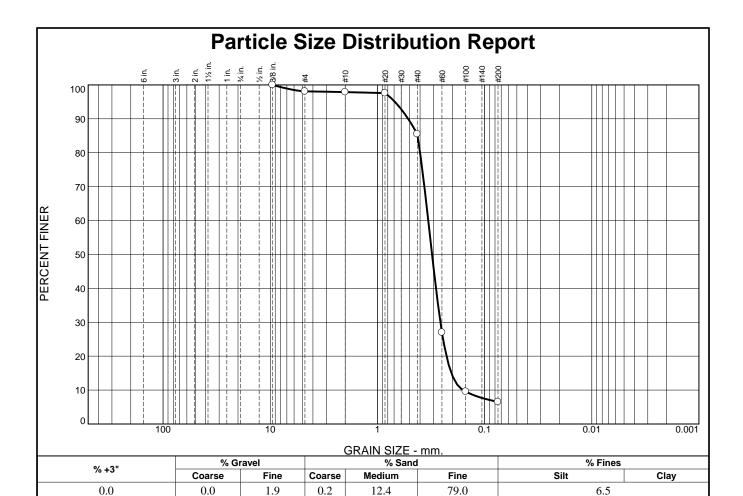
			DIVISIO	N		INS	STALLATIO	on		SHEET 1
	ILLING	LOG	Sout	h Atlantic			Mobile Dis	strict		OF 1 SHEETS
1. PRO	JECT								/A	
N	MsCIP Barr	ier Islaı	nd Restoration	on		10.	COORDI	NATE SYSTEM/DATUM	HORIZONT	AL VERTICAL
	Petit Bois Pa					_		Plane, MSE (U.S. Ft	<i>,</i>	NAVD88
	RING DESIG		1	LOCATION CO		11.		ACTURER'S DESIGNAT	ION OF DRILL	AUTO HAMMER
	3I-PB-130-1		i		276 N = 251,346 CONTRACTOR FILE NO.	╀	Vibra	acore	DISTURBED	UNDISTURBED (UD)
	Corps of En		s - CESAM	i i	, , , , , , , , , , , , , , , , , , ,	12.	. TOTAL S	SAMPLES	0	0
	E OF DRILL	<u> </u>				13.	. TOTAL I	NUMBER CORE BOXES		
(Construction	n Soluti	ions Internat			\vdash	WATER		36 Ft.	
	ECTION OF	BORIN	G	DEG. FROM	BEARING	 -	WAIER	DEFIN	STARTED	COMPLETED
_	VERTICAL INCLINED					15.	. DATE BO	DRING	08-09-1	i l
	CKNESS OF	OVERE	RURDEN	N/A	<u> </u>	16.	ELEVAT	ION TOP OF BORING	-34.7 Ft.	, 55 55 15
-						┵		RECOVERY FOR BORIN		
7. DEP	TH DRILLEI	отито	ROCK	V/A		\perp		URE AND TITLE OF IN		
8. тот	AL DEPTH	OF BOR	i ng 16	.9 Ft.				Gillentine, Geologist		
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION	N OF MATERIALS		SAMPLE		BORATORY RES	ULTS
-34.7	0.0									
	=		CLAY fat	, dark gray (C	;H)					F-0
	F		J. 11, 101,	, san gruy (C	···,					F
	E									E
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	Ē									E
	Ė									Ė.
	F									-5
	E									F°
	-									F.
	Ė									Ę
	Ė									Ė.
	F						NS			F
	E						INS			<u>E</u>
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	Ē									F ¹
	E									<u> </u>
	E									Ę
	Ē									F
	-									<u>F</u>
	Ē									Ē
	Ė									Ė
	F									F-1
	E									E
-51.6	16.9									
	F					7				-
	F		NOTES:							<u>F</u>
	E		1 Call	o oro fiol-l	vioually alassified	<u>. </u>				Ę
	Ė		Soil: accordance	s are field se with the Un	visually classified ified Soils Classification	n				F
	F		System.		,					-2
	E		2 NC -	Sample not	submitted for laborate	_{r,}				E
	E		analysis fr	om this interv	submitted for laboratoral.	y				E
	Ē		•							E
	<u>F</u>		3. Seafloo	or elevation ca	alculated using sampling	ng				E
	E		applying I	NOAA tidal	ater depth reading ar gauge data conversio	on I				Ę
	F		factor.		J 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					F
	F									-2
	Ė									F
	F									-

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19027° Long = -88.35215°

Boring Designation BI-PB-131-11

DRILLING	LOG	DIVISI				IN	STALLATIO					SHEET	Г 1
1. PROJECT		Sou	uth Atlantic			_	Mobile Di					OF 1	SHEETS
	mian Irl-	nd Danter	tion					TYPE OF BIT	N/A	ORIZONT		VERTI	CAL
MsCIP Bar			ition			"			!			1	
Petit Bois F			LOCATION	COORDI	NATES	11		Plane, MSE (U.S		NAD83		NA UTO HA	VD88
BI-PB-131		-	1		N = 253,747		Vibra						HAMMER
3. DRILLING AGE			1,		RACTOR FILE	NO.			DIST	URBED			BED (UD)
Corps of E		- CESAM		<u> </u>		12	. TOTAL S	SAMPLES	2			0	
4. NAME OF DRIL						13	. TOTAL I	NUMBER CORE BO	XES				
			ational, Inc.		T DE A DINIO	14	. WATER	DEPTH	28	3.5 Ft.			
5. DIRECTION OF VERTICAL INCLINED		,	DEG. FRO	- -	BEARING	15	. DATE BO	ORING	¦s	TARTED 06-30-1	11	COMPL	.ETED 30-11
6. THICKNESS O	F OVERE	URDEN	N/A			16	. ELEVAT	ION TOP OF BORII	NG -2	6.8 Ft.			
7. DEPTH DRILLE	D INTO	ROCK	N/A			17	. TOTAL I	RECOVERY FOR BO	DRING	100%			
						18	. SIGNAT	URE AND TITLE OI	FINSPECT	OR			
8. TOTAL DEPTH	OF BOR	ING 1	4.3 Ft.				Mich	ele Johnson, Geo	ologist				
ELEV. DEPTH	LEGEND	c	CLASSIFICATI	ON OF	MATERIALS		SAMPLE		LABORA'	TORY RES	BULTS		
-26.8 0.0													
-30.1 = 3.3		SAND, p gray (SP		, trace	shell fragmen	its, It.	А	Classificatio D50	on: SP-SM 0: 0.3095	Colc mm %	r: 5Y Fines	7/1-light : 6.5	E
		SAND, fragment	poorly-graded s, gray (SP-	d with SM)	silt, trace	shell	В	Classification: SF D5	P-SM C 0: 0.2957	Color: 2.5' mm %	Y 6/2- Fines	light brov : 7.2	wnish gray
-41.1 <u>-</u> 14.3							NS						
17.0	-114	accordan System. 2. NS = analysis	oils are fiel nce with the U = Sample no from this inte	Jnified et subm erval.	ially classifie Soils Classific hitted for labor rmined from	ratory							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19693° Long = -88.36834°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	98.1		
#10	97.9		
#20	97.6		
#40	85.5		
#60	27.0		
#100	9.5		
#200	6.5		
L	 	<u> </u>	

Material Description Slightly silty SAND (SP-SM), medium to fine grained				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.5168 D ₅₀ = 0.3095 D ₁₀ = 0.1590	Coefficients D ₈₅ = 0.4223 D ₃₀ = 0.2586 C _u = 2.11	D ₆₀ = 0.3356 D ₁₅ = 0.2042 C _c = 1.25		
USCS= SP-SM	Classification AASHTO	=		
	<u>Remarks</u>			

Location: USACE Sample # BI-PB-131A-11 **Sample Number:** TE Lab ID: 5054.106

Depth: 0.0 - 3.3 (ft) **Date:** 7/18/11

Thompson Engineering

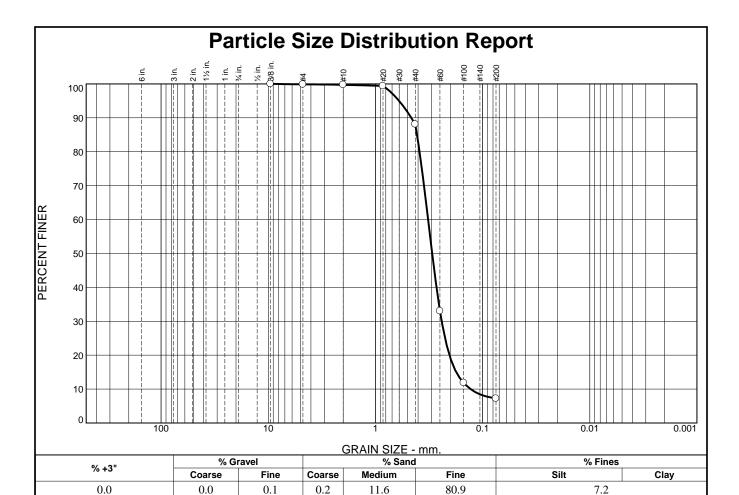
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 11-2116-0057 **Figure**



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.9		
#10	99.7		
#20	99.4		
#40	88.1		
#60	33.0		
#100	11.8		
#200	7.2		
* (20.00)	cification provided	1)	

	Material Description Slightly silty SAND (SP-SM), medium to fine grained					
PL=	Atterberg Limits LL=	Pl=				
D ₉₀ = 0.4625 D ₅₀ = 0.2957 D ₁₀ = 0.1294	Coefficients D ₈₅ = 0.4092 D ₃₀ = 0.2409 C _u = 2.49	D ₆₀ = 0.3227 D ₁₅ = 0.1764 C _c = 1.39				
USCS= SP-SM	Classification AASHTO Remarks	=				

Location: USACE Sample # BI-PB-131B-11 **Sample Number:** TE Lab ID: 5054.107

Depth: 3.3 - 8.3 (ft) **Date:** 7/18/11

Thompson Engineering

Client: US Army Corps of Engineers **Project:** Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057

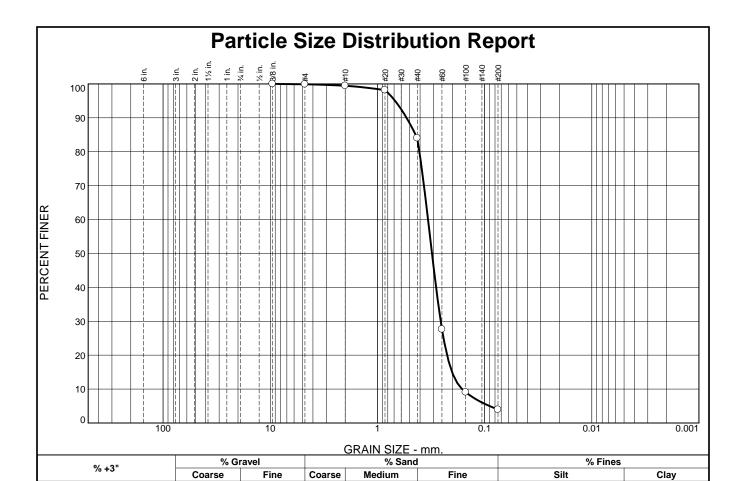
Figure

Boring Designation BI-PB-132-11

DBII	LING	106	DIVISION	4		INSTA	LLATIC	ON		SHEET	г 1
		LUG	South	n Atlantic		Mok	bile Dis	strict		OF 1	SHEETS
1. PROJ								TYPE OF BIT N/A			
			nd Restoration	on		10. C		NATE SYSTEM/DATUM	HORIZONTAL	VERTIC	
	etit Bois Pa			OCATION CO	OPDINATES	11 M		Plane, MSE (U.S. Ft.)	NAD83	NA\ AUTO HAI	√D88
	-PB-132-1				712 N = 252,560	' ' ' '''	Vibra			MANUAL I	
	ING AGEN		I		CONTRACTOR FILE NO.	42 -		¦ Di	ISTURBED U	NDISTUR	BED (UD)
			- CESAM	<u> </u>		12. 10	UIALS	SAMPLES	3	0	
	OF DRILL			and the		13. T	OTAL N	IUMBER CORE BOXES			
	CTION OF E		ons Internati	DEG. FROM VERTICAL	BEARING	14. W	ATER	DEPTH	33 Ft.		
⊠v	ERTICAL NCLINED			VERTICAL		15. D	ATE BO	PRING	STARTED 06-30-11	COMPL 06-3	.ETED 30-11
6. THICE	KNESS OF	OVERE	BURDEN	N/A		16. EI	LEVAT	ION TOP OF BORING	-31.6 Ft.		
7. DEPTI	H DRILLED	INTO	BUCK V	I/A		17. TO	OTAL F	RECOVERY FOR BORING	100%		
						18. SI	IGNAT	URE AND TITLE OF INSPE	CTOR		
8. TOTA	L DEPTH O	F BOR	ING 18.	0 Ft.		<u> </u>	Mich	ele Johnson, Geologist			
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATION	OF MATERIALS	SAI	MPLE	LABO	RATORY RESULTS	;	
-31.6	0.0										-0
ļ Ē					mostly medium-graine	b					Ĕ
F	-	[. · · ·]	sand-sized	quartz, gray	(SP)						F
F	-	-::-						Classification: SP	Color: 2.5Y 6/2-lig	aht brown	ish gray
E	_	::					Α	D50: 0.30	099 mm % Fine	es: 4	£
E		ŀ∷⊹l									E
E	_	: · · :									E
E	-	. : :	\ 								5
<u> </u>	-	·:::	At El36.6	i Ft., trace sh	ell fragments, lt. gray						Ę.
E	_	[::::									Ę
E		· · ·					В	Classification: SP-SM	-Color: 2.5Y 6/2 122 mm % Fine	-light brov	wnish gray
l E	-	<u> </u> :::						500. 0.0	701111		E
	=	ŀ∷·∣									F
E	_	<u> </u> ∷::									<u> </u>
E	_	.∷									E
E		<u> </u> : ::									E
E	-	. · · ·					С	Classification: SF		7/1-light g	ıray -
	-	<u> : ::: </u>					-	D50: 0.31	52 mm % Fines	s. 2.5	F
E	_	. ::									Ē
		· : :				<u> </u>					F
F	-	: ::									- 15
E	-						NS				E
E	-	[:::]					-				F
-49.6	18.0										<u>_</u> _ <u>_</u>
	-		NOTES:								<u> </u>
E	_			oro field	vioually alassified t						E ₋₂₀
	_		 Soils accordance System. 	e with the Un	visually classified in ified Soils Classification	n					[²]
	_			Sample not :	submitted for laborator al.	y					Ę.
	-		-	or elevation	determined from 201	0					<u> </u>
l E	_		OUNCE SU	ı vey.							- -25
l E											Eza
F	-										F

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19366° Long = -88.36657°



PERCENT	SPEC.*	PASS?
FINER	PERCENT	(X=NO)
100.0		
99.9		
99.5		
98.2		
84.0		
27.6		
9.1		
4.0		
	FINER 100.0 99.9 99.5 98.2 84.0 27.6 9.1	FINER PERCENT 100.0 99.9 99.5 98.2 84.0 27.6 9.1

0.0

Material Description					
Slightly silty SANL	O (SP-SM), medium to	fine grained			
	Atterberg Limits				
PL=	LL=	PI=			
D ₉₀ = 0.5347 D ₅₀ = 0.3099 D ₁₀ = 0.1622	Coefficients D85= 0.4401 D30= 0.2569 Cu= 2.08	D ₆₀ = 0.3373 D ₁₅ = 0.2011 C _c = 1.21			
USCS= SP-SM	Classification AASHTO=	=			
<u>Remarks</u>					

4.0

* (no specification provided)

0.0

Location: USACE Sample # BI-PB-132A-11 **Sample Number:** TE Lab ID: 5054.103

Depth: 0.0 - 5.0 (ft) **Date:** 7/18/11

0.4

0.1

15.5

80.0

Thompson Engineering

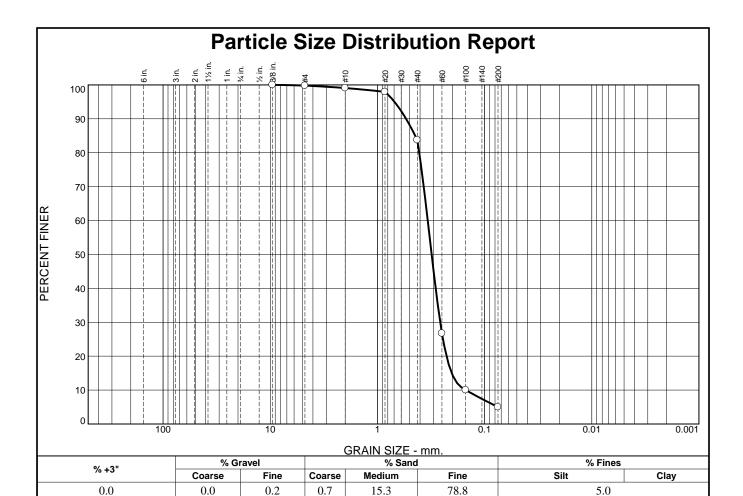
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 11-2116-0057 **Figure**



0.7

0.2

15.3

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.8		
#10	99.1		
#20	97.9		
#40	83.8		
#60	26.7		
#100	10.0		
#200	5.0		

0.0

	<u>Material Description</u>					
Slightly silty SANI	O (SP-SM), medium to	fine grained				
	Atterberg Limits					
PL=	LL=	PI=				
D ₉₀ = 0.5400 D ₅₀ = 0.3122 D ₁₀ = 0.1502	Coefficients D ₈₅ = 0.4440 D ₃₀ = 0.2597 C _U = 2.26	D ₆₀ = 0.3394 D ₁₅ = 0.2027 C _c = 1.32				
USCS= SP-SM	Classification AASHTO=	=				
	Remarks					

* (no specification provided)

Location: USACE Sample # BI-PB-132B-11 **Sample Number:** TE Lab ID: 5054.104

Depth: 5.0 - 10.0 (ft) **Date:** 7/18/11

78.8

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

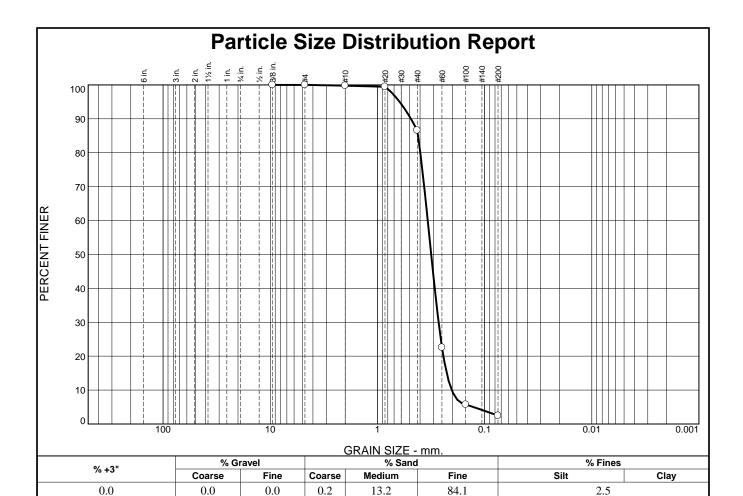
Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Project No: 11-2116-0057

Figure

5.0



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.8		
#20	99.5		
#40	86.6		
#60	22.6		
#100	5.7		
#200	2.5		
L*	aifiaction provided		

Material Description SAND (SP), medium to fine grained				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.4868 D ₅₀ = 0.3152 D ₁₀ = 0.2027	Coefficients D ₈₅ = 0.4179 D ₃₀ = 0.2690 C _u = 1.67	D ₆₀ = 0.3394 D ₁₅ = 0.2258 C _c = 1.05		
USCS= SP	Classification AASHT	O=		
	Remarks			

Location: USACE Sample # BI-PB-132C-11 **Sample Number:** TE Lab ID: 5054.105

Depth: 10.0 - 14.8 (ft) **Date:** 7/18/11

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

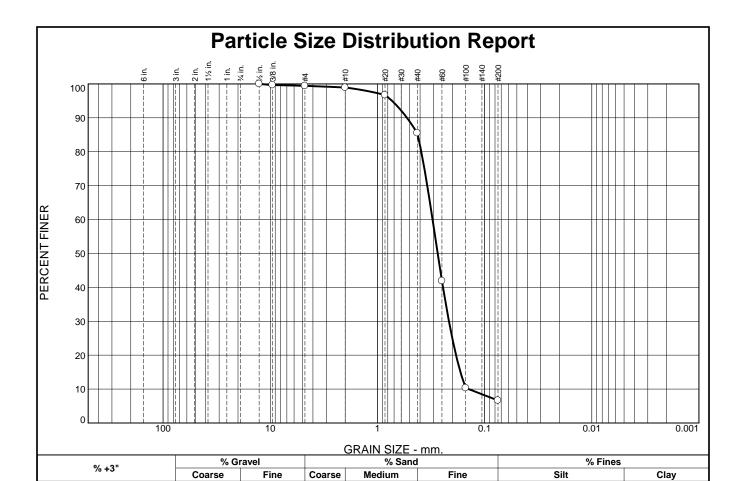
Mobile, Alabama **Project No:** 11-2116-0057

Figure

Boring Designation BI-PB-133-11

IIIING	OG	DIVISIO	ON			IN	STALLATIO	ON					SHEET	1
		Sou	th Atlantic			_							OF 1	SHEETS
1. PROJECT														
					10				l I		<u>'</u>			
			LOCATION C	OOBD	NATES	144								
		į				'''			IION	OF DKI		_		
		ı							DIS	TURBE	D _			
Corps of Eng	ineers -	CESAM				12	. TOTAL S	SAMPLES	į	3		i		`
ME OF DRILLI	ER		<u> </u>			13	. TOTAL N	IUMBER CORE BOXE	s					
Construction	Solution	ns Interna	ational, Inc.			14	WATER	DEDTU		20 E E				
	ORING		DEG. FROM	VI	BEARING]	WAIER	JEP I II			_	1.	COMPL	ETED
			!			15	. DATE BO	RING		-		- !'		
	OVEDBU	DDEN			·	16	EL EVAT	ION TOP OF POPING				<u> </u>	00-0)O=11
CKNESS OF	UVERBU	KDEN	IN/A			\bot								
TH DRILLED	INTO R	ОСК	N/A			_					0			
TAL DEPTH O	F BORIN	IG 18	3.4 Ft.			٦'°				IUK				
DEPTH	LEGEND	CI	LASSIFICATIO	ON OF	MATERIALS		SAMPLE			ATORY	RESU	LTS		
0.0														
- 4.0	;	sand-size	d quartz, tra	ce she	ell fragments, Fro		Α							gray
- - - - - - - - - - - - - - - - - - -						ed	В		0.284	Color: 2. 8 mm	5Y 6/2 % Fi	2-light ines: 3	browni 3.6	sh gray
		SAND, p sand-size	oorly-graded, d quartz, son	, mosi ne san	ly medium-grain d, lt. gray (SP)	ed	С	Classification: SP D50: 0	0.285	Color: 2. 4 mm	5Y 6/2 % Fi	2-light ines: 2	browni 2.8	sh gray =
18.4							NS							
		1. Soi accordand System. 2. NS = analysis f 3. Seafl	Sample not rom this inter	Jnified subm	Soils Classificati	on								
	MSCIP Barrie Petit Bois Pa RING DESIGN BI-PB-133-1 LLING AGEN Corps of Eng WE OF DRILLI Construction ECTION OF B VERTICAL INCLINED CKNESS OF C PTH DRILLED TAL DEPTH O	MSCIP Barrier Island Petit Bois Pass- AL \ RING DESIGNATION BI-PB-133-11 LLING AGENCY Corps of Engineers - ME OF DRILLER Construction Solution ECTION OF BORING VERTICAL INCLINED CKNESS OF OVERBU DEPTH D	DEPTH DE	MSCIP Barrier Island Restoration Petit Bois Pass- AL West RING DESIGNATION Petit Bois Pass- AL West RING DESIGNATION Petit Bois Pass- AL West RING DESIGNATION RECTION OF BORING WE OF DRILLER Construction Solutions International, Inc. ECTION OF BORING VERTICAL INCLINED CKNESS OF OVERBURDEN N/A PITH DRILLED INTO ROCK N/A TAL DEPTH DEPTH DEPTH SAND, poorly-graded, sand-sized quartz, tra 2.3 to 5 tan to brown, sand-sized quartz, tra 2.3 to 5 tan to brown, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son SAND, poorly-graded, sand-sized quartz, son	South Atlantic DJECT MSCIP Barrier Island Restoration Petit Bois Pass- AL West RING DESIGNATION BI-PB-133-11 LING AGENCY Corps of Engineers - CESAM ME OF DRILLER Construction Solutions International, Inc. ECTION OF BORING VERTICAL INCLINED CKNESS OF OVERBURDEN N/A TAL DEPTH OF BORING SAND, poorly-graded, most sand-sized quartz, trace she 2.3 to 5 tan to brown, gray (5 sand-sized quartz, it. gray (5 sand-sized quartz, it. gray (5 sand-sized quartz, some sand-sized quartz, s	MSCIP Barrier Island Restoration Petit Bois Pass- AL West RING DESIGNATION BI-PB-133-11 LIING AGENCY Corps of Engineers - CESAM WE OF DRILLER Construction Solutions International, Inc. ECTION OF BORING VERTICAL INCLINED CKNESS OF OVERBURDEN N/A TAL DEPTH DRILLED INTO ROCK N/A TAL DEPTH OF BORING SAND, poorly-graded, mostly medium-grains sand-sized quartz, trace shell fragments, From 2.3 to 5 tan to brown, gray (SP) SAND, poorly-graded, mostly medium-grains sand-sized quartz, it. gray (SP) SAND, poorly-graded, mostly medium-grains sand-sized quartz, trace shell fragments, From 2.3 to 5 tan to brown, gray (SP) SAND, poorly-graded, mostly medium-grains sand-sized quartz, it. gray (SP) SAND, poorly-graded, mostly medium-grains sand-sized quartz, some sand, it. gray (SP) NOTES: 1. Soils are field visually classified accordance with the Unified Soils Classificating System. 2. NS = Sample not submitted for laborate analysis from this interval. 3. Seafloor elevation determined from 20	MSCIP Barrier Island Restoration Petit Bois Pass- AL West RING DESIGNATION BI-PB-133-11 BI-PB-133-11 CONTRACTOR FILE NO. COPY COPYS OF DRILLER CONSTRUCTION Solutions International, Inc. ECTION OF BORING VERTICAL INCLINED DEPTH	SOUTH Attantic South Attantic South Attantic South Attantic South Attantic South Attantic South Attantic South McCIP Barrier Island Restoration State Stat	South Atlantic Sout	DEPTH SAND, poorly-graded, mostly medium-grained sand-sized quartz, fi. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, fi. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, poorly-graded, mostly medium-grained sand-sized quartz, some sand, it. gray (SP) SAND, some sand, it. gray (SP) SAND, some sand, it. gray (SP) SAND, some sand, it. gray (SP) SAND, some sand, it. gray (SP) SAND, some sand, it. gray (SP) SAND, some sand, it. gray (SP) SAND, some sand, it. gray (SP) SAND, some sand, it. gray (SP) SAND, some san	South Atlantic Sout	South Atlantic Sout	Mobile District Mobile Dis	Mobile District South Atlantic Mobile District State Planning Restoration State Planning Restoration 10. COORDINATE SYSTEMBOATUM MORIZONTAL VERTICAL Mobile District Mobile

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19686° Long = -88.36402°



13.4

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.5	100.0		
.375	99.7		
#4	99.4		
#10	98.9		
#20	96.7		
#40	85.5		
#60	41.9		
#100	10.3		
#200	6.6		

0.0

0.6

0.5

Material Description Slightly silty SAND (SP-SM), medium to fine grained					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.5301 D ₅₀ = 0.2741 D ₁₀ = 0.1411	Coefficients D ₈₅ = 0.4213 D ₃₀ = 0.2151 C _u = 2.17	D ₆₀ = 0.3061 D ₁₅ = 0.1681 C _c = 1.07			
USCS= SP-SM	Classification AASHTC)=			
	<u>Remarks</u>				

* (no specification provided)

0.0

Location: USACE Sample # BI-PB-133A-11 **Sample Number:** TE Lab ID: 5054.108

Depth: 0.0 - 4.0 (ft) **Date:** 7/18/11

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

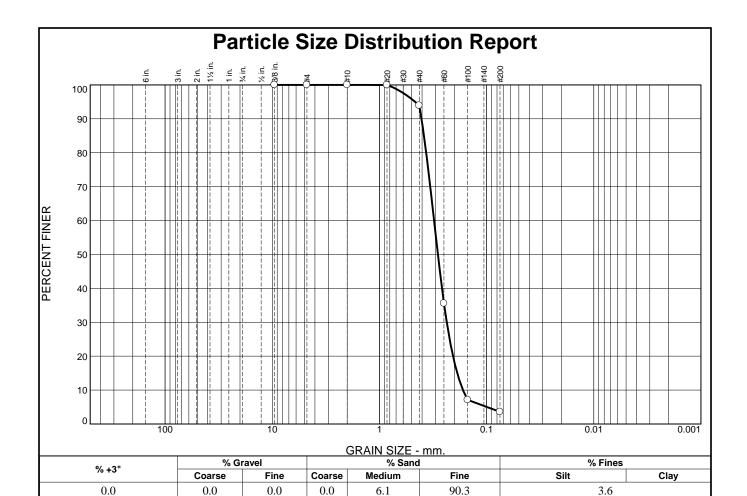
78.9

Project No: 11-2116-0057

L-394

Figure

6.6



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	93.9		
#60	35.6		
#100	7.1		
#200	3.6		
* /	cification provided	1	

Material Description SAND (SP), fine grained				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.4049 D ₅₀ = 0.2848 D ₁₀ = 0.1662	Coefficients D85= 0.3840 D30= 0.2354 Cu= 1.86	D ₆₀ = 0.3093 D ₁₅ = 0.1880 C _c = 1.08		
USCS= SP	Classification AASHT	O=		
	<u>Remarks</u>			

Location: USACE Sample # BI-PB-133B-11 **Sample Number:** TE Lab ID: 5054.109

Depth: 4.0 - 8.0 (ft)

Date: 7/18/11

Thompson Engineering

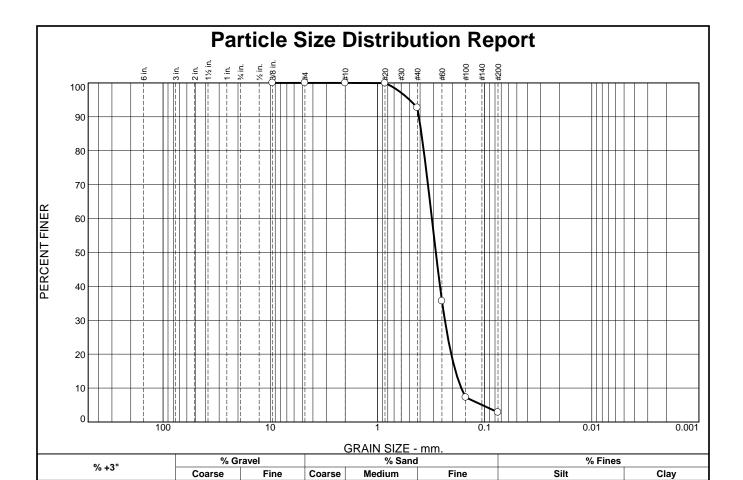
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009 Mississippi Barrier Island Restoration Project

Project No: 11-2116-0057

Figure

Mobile, Alabama



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	92.7		
#60	35.7		
#100	7.2		
#200	2.8		
*	cification provided		

0.0

0.0

0.0

7.3

Material Description SAND (SP), fine grained				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.4106 D ₅₀ = 0.2854 D ₁₀ = 0.1650	Coefficients D ₈₅ = 0.3883 D ₃₀ = 0.2349 C _u = 1.88	D ₆₀ = 0.3105 D ₁₅ = 0.1868 C _C = 1.08		
USCS= SP	Classification AASHT	O=		
	<u>Remarks</u>			

(no specification provided)

0.0

Location: USACE Sample # BI-PB-133C-11 **Sample Number:** TE Lab ID: 5054.110

Depth: 8.0 - 13.0 (ft) **Date:** 7/18/11

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

89.9

Mississippi Barrier Island Restoration Project

Project No: 11-2116-0057

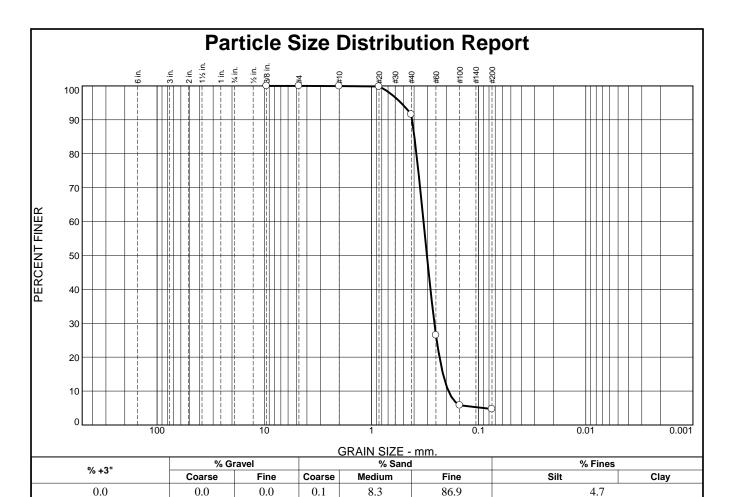
Figure

2.8

Boring Designation BI-PB-134-11

DRI	LLING	LOG	DIVISIO				- 1	STALLATIO					SHEET	
1. PRO			Sou	th Atlantic			-	Mobile Dis		K1/A			OF 1	SHEETS
	MsCIP Barrier Island Restoration							TYPE OF BIT	N/A TUM	HORIZO	NTAL	VERTI	CAL	
	etit Bois Pa			uOI I			"		Plane, MSE (U.S		!		1	VD88
	ING DESIGN			LOCATION C	OORD	INATES	11		ACTURER'S DESIG				UTO HA	
В	8I-PB-134-1	1	;	E = 1,13	5,605	N = 253,852		Vibra	icore					HAMMER
3. DRIL	LING AGEN	CY			CONT	RACTOR FILE NO	. 42	. TOTAL S	SAMDI ES	DI	STURBED	ļυ	NDISTUR	RBED (UD)
	Corps of Eng		CESAM		<u>i</u>			. IUIAL	PAMPLES	į	2	<u>i_</u>	0	
	E OF DRILLI						13	. TOTAL I	NUMBER CORE BO	XES				
	Construction		is interna	DEG. FROI	м	BEARING	14	. WATER	DEPTH		32.5 Ft.			
\boxtimes	VERTICAL INCLINED	OKINO		VERTICAL	-	I	15	. DATE BO	DRING		STARTE		COMPI 06-	LETED 30-11
6. THIC	CKNESS OF	OVERBU	RDEN	N/A		•	16	. ELEVAT	ION TOP OF BORII	NG	-31.0 Ft.		•	
7. DEP	TH DRILLED	INTO RO	оск	N/A			17	. TOTAL I	RECOVERY FOR BO	DRING	100%			
							18	. SIGNAT	URE AND TITLE O	F INSPE	CTOR			
8. ТОТ	AL DEPTH O	F BORIN	I G 16	6.4 Ft.			Щ	Mich	ele Johnson, Geo	ologist				
ELEV.	DEPTH	LEGEND	C	LASSIFICATIO	ON OF	MATERIALS		SAMPLE		LABO	RATORY R	ESULTS		
-31.0	0.0													
-36.0	5.0		medium-ç gray/brow	grained sa vn (SP-SM)	nd-size	silt, mostly fine ed quartz, da	ark	A	Classification: \$	SP 0: 0.303	Color: 2.5 37 mm	Y 4/2-da % Fines	ark grayis s: 4.7	
			medium-g	grained sa n (SP-SM)	and-siz		lt.	B	Classification: D5		Color 66 mm	: 2.5Y 5 % Fines	/2-grayis :: 5.9	h brown
-47.4	16.4	<u> -: - </u>												
			accordan System. 2. NS = analysis f	se with the Use Sample no from this inte	Jnified t subm rval.	ually classified Soils Classificati nitted for laborato ermined from 20	on							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19717° Long = -88.35423°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.8		
#40	91.6		
#60	26.5		
#100	5.8		
#200	4.7		
*	cification provided		

	Motorial Description				
Material Description SAND (SP), fine grained					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.4175 D ₅₀ = 0.3037 D ₁₀ = 0.1911	Coefficients D ₈₅ = 0.3975 D ₃₀ = 0.2587 C _u = 1.71	D ₆₀ = 0.3266 D ₁₅ = 0.2147 C _C = 1.07			
USCS= SP	Classification AASHT	O=			
	<u>Remarks</u>				

Location: USACE Sample # BI-PB-134A-11 **Sample Number:** TE Lab ID: 5054.111

Depth: 0.0 - 5.0 (ft) **Date:** 7/18/11

Thompson Engineering

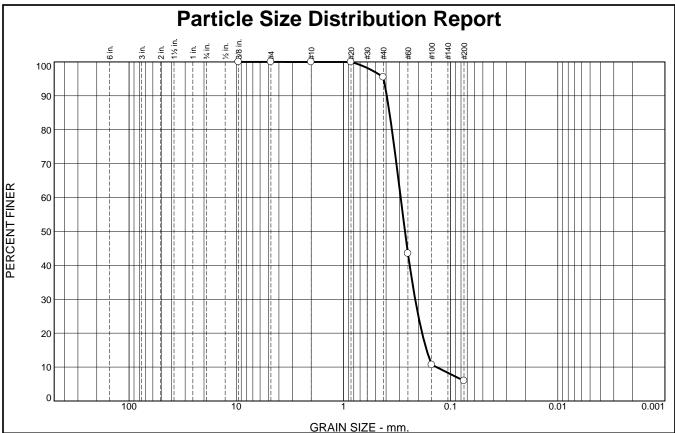
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057

Figure



% +3 "	% G	ravel		% Sand		% Fines		
76 +3	Coarse	Fine	Coarse	oarse Medium Fine		Silt	Clay	
0.0	0.0	0.0	0.0	4.5	89.6	5.9		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	95.5		
#60	43.5		
#100	10.7		
#200	5.9		

Slightly silty SA	Material Description Slightly silty SAND (SP-SM), fine grained								
PL=	Atterberg Limits	<u>s</u> Pl=							
D ₉₀ = 0.3938 D ₅₀ = 0.2666 D ₁₀ = 0.1358	D ₈₅ = 0.3717 D ₃₀ = 0.2140 C _u = 2.15	D ₆₀ = 0.2925 D ₁₅ = 0.1674 C _c = 1.15							
USCS= SP-S	Classification M AASH	TO=							
	<u>Remarks</u>								

Location: USACE Sample # BI-PB-134B-11 **Sample Number:** TE Lab ID: 5054.112

Date: 7/18/11 **Depth:** 5.0 - 8.0 (ft)

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

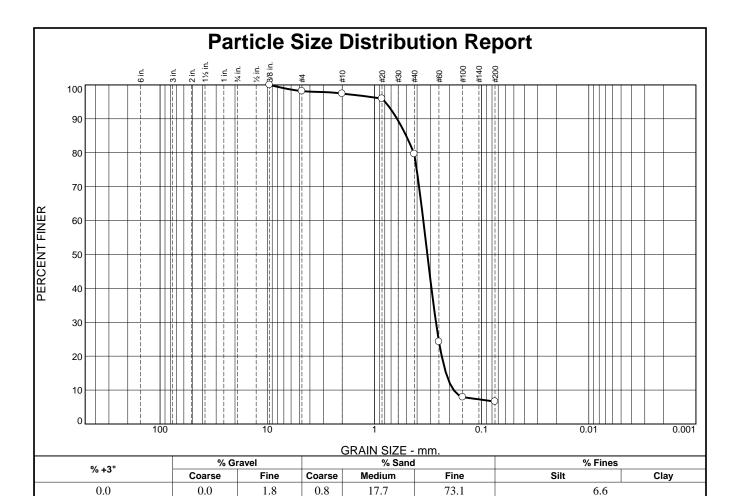
Mobile, Alabama **Project No:** 11-2116-0057

Figure

Boring Designation BI-PB-135-11

DDI	LLING	1 06	DI	IVISIO	N			IN	STALLATIC	ON		s	HEET	1
				Sou	th Atlantic			-	Mobile Dis			O	F 1	SHEETS
1. PRO										TYPE OF BIT N/A	,			
	IsCIP Barrie				tion			10		NATE SYSTEM/DATUM	HORIZONTAL	. V	ERTIC	
	etit Bois Pa							ļ.,		Plane, MSE (U.S. Ft.)	NAD83	i_	NAV	
	ING DESIGN 31-PB-135-1		N	ļ	LOCATION (N = 253,892	111	. MANUFA Vibra		N OF DRILL	_	MAH C	MER AMMER
	LING AGEN			i	L = 1,13		TRACTOR FILE NO.	╁	VIDIA		ISTURBED			SED (UD)
C	Corps of Eng	gineers	s - CE	SAM				12	. TOTAL S	SAMPLES	2	0		(- /
	E OF DRILL							13.	. TOTAL N	UMBER CORE BOXES				
	Construction			terna				14	. WATER I	DEPTH	32.5 Ft.			
-	ECTION OF E	BORIN	G		DEG. FRO VERTICAL	M -	BEARING	H			STARTED	! c	OMPLE	TED
	INCLINED							15	. DATE BO	DRING	06-30-11		06-3	
6. THIC	CKNESS OF	OVERI	BURDE	N	N/A		•	16	. ELEVAT	ION TOP OF BORING	-31.4 Ft.			
								17	. TOTAL F	RECOVERY FOR BORING	100%			
7. DEP	TH DRILLED	INTO	ROCK		N/A			_		URE AND TITLE OF INSPE				
8. ТОТ	AL DEPTH O	F BOR	RING	12	2.2 Ft.				Mich	ele Johnson, Geologist				
ELEV.	DEPTH	LEGEND		CI	LASSIFICATI	ON OF	MATERIALS		SAMPLE	LABO	RATORY RESUL	.TS		
-31.4	0.0													
-	-		med	ium-c		and-siz	silt, mostly fine t zed quartz, c	to Ik	Α	Classification: SP-SM D50: 0.32		/ 5/2-g nes: 6.	rayish 6	brown
-35.4	4.0								В	Classification: SP-SM D50: 0.24	l Color: 2.5\ 45 mm % Fii	/ 5/2-g nes: 8.	rayish 4	brown
-37.0	5.6		SAN grair	ID, poned sa	oorly-graded and-sized qu	, mos ıartz, d	tly fine to mediun lk gray (SP)	n-						5
40.0			CLA (CL)		an, trace fi	ne-gra	ined sand, dk gra	ay	NS					
-43.6	<u> </u>	///						\dashv						
			Syst 2. anal 3.	Soi ordand em. NS = ysis f Seafl	ce with the leading sample no from this inte	Jnified t subr erval.	ually classified Soils Classification	on ry						
														-25 -

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19726° Long = -88.34927°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	98.2		
#10	97.4		
#20	95.9		
#40	79.7		
#60	24.3		
#100	7.9		
#200	6.6		
* (cification provided	1)	

Material Description Slightly silty SAND (SP-SM), medium to fine grained							
PL=	Atterberg Limits	PI=					
D ₉₀ = 0.6143 D ₅₀ = 0.3209 D ₁₀ = 0.1822	Coefficients D ₈₅ = 0.5054 D ₃₀ = 0.2669 C _u = 1.92	D ₆₀ = 0.3499 D ₁₅ = 0.2148 C _c = 1.12					
USCS= SP-SM	Classification AASHTO	=					
	<u>Remarks</u>						

Figure

(no specification provided)

Location: USACE Sample # BI-PB-135A-11 **Sample Number:** TE Lab ID: 5054.113

Depth: 0.0 - 2.0 (ft) **Date:** 7/18/11

Thompson Engineering

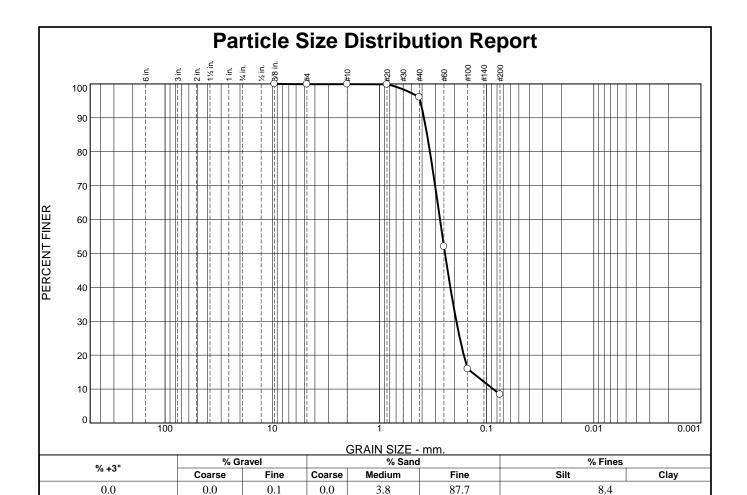
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 11-2116-0057



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.9		
#10	99.9		
#20	99.9		
#40	96.1		
#60	52.0		
#100	15.9		
#200	8.4		
* ,	cification provide	•	

	Material Description Slightly silty SAND (SP-SM), fine grained								
PL=	Atterberg Limits LL=	PI=							
D ₉₀ = 0.3841 D ₅₀ = 0.2445 D ₁₀ = 0.0868	Coefficients D ₈₅ = 0.3591 D ₃₀ = 0.1914 C _u = 3.14	D ₆₀ = 0.2721 D ₁₅ = 0.1377 C _c = 1.55							
USCS= SP-SM	Classification AASHTO:	=							
	<u>Remarks</u>								

Figure

(no specification provided)

Location: USACE Sample # BI-PB-135B-11 **Sample Number:** TE Lab ID: 5054.114

Date: 7/18/11 **Depth:** 2.0 - 5.6 (ft)

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

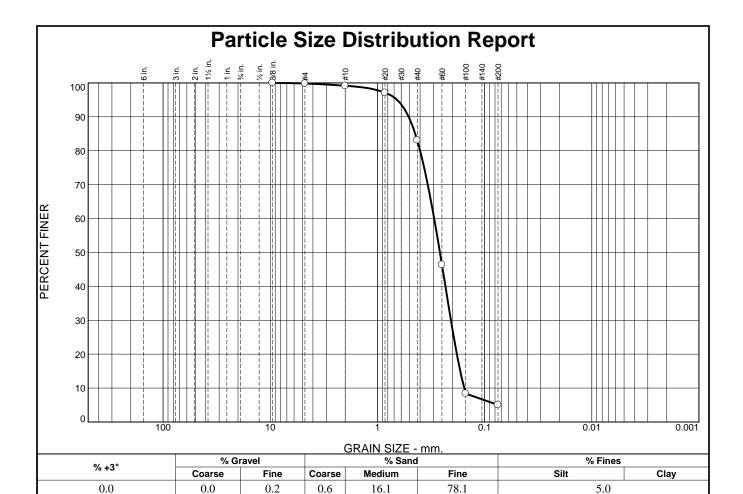
Mobile, Alabama

Project No: 11-2116-0057

Boring Designation BI-PB-136-11

	RILLING	l OG	DIVISIO	DN			IN	STALLATIO	ON O					SHEET	
			Sou	th Atlantic			+	Mobile Dis						OF 1	SHEETS
1.	1. PROJECT							TYPE OF BIT	N/A						
	MsCIP Barrie			tion			10		NATE SYSTEM/DATE		HORIZ		-	VERTIC	
•	Petit Bois Pa			LOCATION C	OOBD	INATES	44		Plane, MSE (U.S.			D83			/D88
2.	BI-PB-136-1		ļ			N = 253,716	1	Vibra		AIION	OF DRI	יי <u>ר</u>		JTO HAI ANUAL I	MMER HAMMER
3.	DRILLING AGEN					RACTOR FILE NO	5.			¦ DI	STURBE	D _	_		BED (UD)
	Corps of Eng	ineers	- CESAM		!		12	. TOTAL S	AMPLES	į	2		i	0	`
4.	NAME OF DRILLI						13	. TOTAL N	IUMBER CORE BOX	ES			·		
	Construction	Solutio	ns Interna	ational, Inc.			-	. WATER			32 Ft.				
_	DIRECTION OF B	ORING		DEG. FROM	И	BEARING	74	. WAIER	DEPIH				-		
				LINIOAL		į	15	. DATE BO	RING		STAR	30-11		COMPL	30-11
	THICKNESS OF	OVEDBI	IDDEN	_: N/A		1	16	ELEWAT	ION TOP OF BORING		-33.7 F		i	00-0	50-11
							_		RECOVERY FOR BOR		1009				
7.	DEPTH DRILLED	INTO R	OCK	N/A					URE AND TITLE OF						
8.	TOTAL DEPTH O	F BORI	NG 14	4.9 Ft.			."		ele Johnson, Geol						
ELE	EV. DEPTH	LEGEND	C	LASSIFICATIO	ON OF	MATERIALS	,	SAMPLE			RATORY	RESU	LTS		
-3	3.7 0.0														
24	5.7 F 3.0		SAND, pragments	poorly-graded s, gray (SP-S	d with SM)	ı silt, trace si	hell	Α	Classification: S D5		1 Co 61 mm	lor: 5Y % F	' 6/2- ines:	light oliv 5	E
-31	5.7 = 5.0		SAND, p sand-size gray (SP	ed quartz, tra	, mosi	tly medium-grair ell fragments, d	ned lark	В	Classification: S D50:		1 Co 35 mm		′ 6/2- ines:	light oliv 7.2	/e gray
-41	3.6 : 14.9							NS							
70	- 17.0														<u>F</u>
			accordand System. 2. NS = analysis f	ce with the Use Sample not from this inter	Jnified t subn rval.	ually classified Soils Classificat nitted for laborat ermined from 20	tion								
	<u> </u>														

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19666° Long = -88.31871°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.8		
#10	99.2		
#20	97.1		
#40	83.1		
#60	46.4		
#100	8.4		
#200	5.0		
* /	cification provided	1)	

	Material Description Slightly silty SAND (SP-SM), medium to fine grained								
PL=	Atterberg Limits LL=	PI=							
D ₉₀ = 0.5105 D ₅₀ = 0.2610 D ₁₀ = 0.1550	Coefficients D85= 0.4433 D30= 0.2061 Cu= 1.91	D_{60} = 0.2957 D_{15} = 0.1688 C_{c} = 0.93							
USCS= SP-SM	Classification AASHTO:	=							
	<u>Remarks</u>								

Location: USACE Sample # BI-PB-136A-11 **Sample Number:** TE Lab ID: 5054.124

Depth: 0.0 - 3.0 (ft) **Date:** 7/18/11

Thompson Engineering

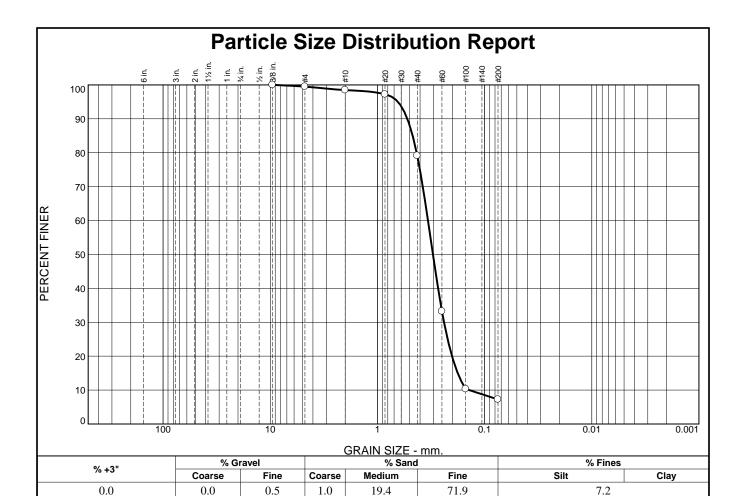
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 11-2116-0057 **Figure**



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.5		
#10	98.5		
#20	97.2		
#40	79.1		
#60	33.2		
#100	10.3		
#200	7.2		
* ,	aification provided		

Material Description Sligthly silty SAND (SP-SM), medium to fine grained									
onguny sitty of it.	o (SI Sivi), medium to	ime gramed							
PL=	Atterberg Limits	PI=							
D ₉₀ = 0.5256 D ₅₀ = 0.3035 D ₁₀ = 0.1393	Coefficients D85= 0.4687 D30= 0.2392 Cu= 2.42	D ₆₀ = 0.3377 D ₁₅ = 0.1782 C _c = 1.22							
USCS= SP-SM	Classification AASHTO=	=							
<u>Remarks</u>									

Location: USACE Sample # BI-PB-136B-11 **Sample Number:** TE Lab ID: 5054.125

Depth: 3.0 - 6.5 (ft) **Date:** 7/18/11

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

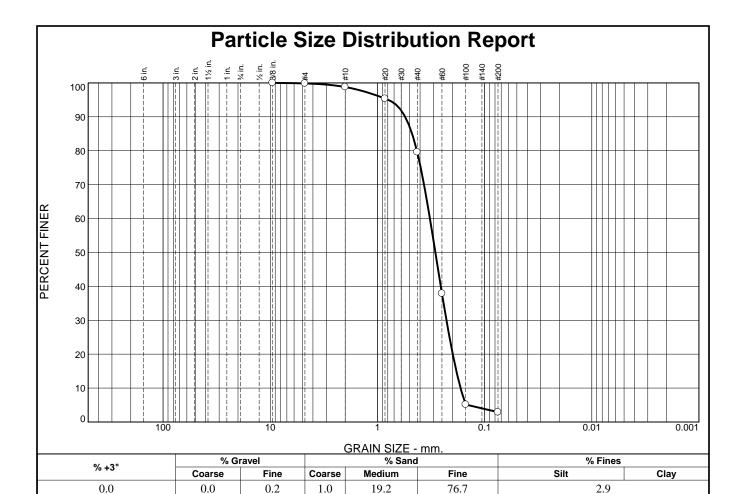
Mobile, Alabama

Project No: 11-2116-0057 **Figure**

Boring Designation BI-PB-137-11

DRILLING LOG DIVISION						INSTALLATION						1		
DRILLING LOG South Atlantic						Mobile District						SHEETS		
1. PROJECT								TYPE OF BIT N/A						
MsCIP Barrier Island Restoration						10.		NATE SYSTEM/DATUM	HORIZON		VERTIC			
Petit Bois Pass- AL East 2. BORING DESIGNATION LOCATION COORDINATES						11		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION				/D88		
	31-PB-137-1		i			N = 253,783	'''	Vibra		ON OF DRILL	_	JTO HAI	MMER HAMMER	
	LLING AGEN		<u> </u>	L 1,177		RACTOR FILE NO.	T		<u> </u>	DISTURBED			BED (UD)	
Corps of Engineers - CESAM						12. TOTAL SAMPLES 4 0								
	4. NAME OF DRILLER						13. TOTAL NUMBER CORE BOXES							
Construction Solutions International, Inc.						14.	WATER	DEPTH	32 Ft.					
5. DIRECTION OF BORING VERTICAL DEG. FROM VERTICAL							<u> </u>			STARTED	<u></u>	COMPL	.ETED	
☐ INCLINED							15.	. DATE BO	DRING	06-30-	11	06-	30-11	
6. THICKNESS OF OVERBURDEN N/A						16.	. ELEVAT	ION TOP OF BORING	-31.7 Ft.					
7. DEP	7. DEPTH DRILLED INTO ROCK N/A							17. TOTAL RECOVERY FOR BORING 100%						
				0.54			18. SIGNATURE AND TITLE OF INSPECTOR							
8. тот	AL DEPTH C	OF BOR	ING 16	i.9 Ft.			Ц,	Mich	ele Johnson, Geologist	t				
ELEV.	DEPTH	LEGEND	CL	.ASSIFICATIO	ON OF	MATERIALS		SAMPLE	LAB	ORATORY RES	SULTS			
-31.7	0.0													
-35.7	4.0		sand-size		ce she	tly medium-graine ell fragments, trac		Α	Classification: 5 D50: 0.2		5Y 7/1. Fines:		E .	
						silt, some fine t lt. gray (SP-SM)	to	В	Classification: SP-SM D50: 0.2	Color: 2.5 613 mm %	Y 6/2-li Fines:	ght brov 6.6	wnish gray	
-43.7	- - - - - - - - - - - - - - - - - - -		At El39 sand-sized		e fine	to medium-graine	ed .	С	Classification: S D50: 0.3		2.5Y 7/2 Fines:		ray - ,	
-48.6	16.9		SAND, p sand-sized	oorly-graded d, gray (SP)	l, trac	e medium-graine	ed .	D	Classification: D50: 0.2		:: 2.5Y 8 Fines:		e -	
			accordance System. 2. NS = analysis fr	Sample not com this interport elevation	Jnified t subn rval.	ually classified i Soils Classification nitted for laborator ermined from 201	n Ty							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19683° Long = -88.31532°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.8		
#10	98.8		
#20	95.4		
#40	79.6		
#60	37.9		
#100	5.1		
#200	2.9		
* .	cification provided		

Material Description SAND (SP), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5508 D ₅₀ = 0.2881 D ₁₀ = 0.1677	Coefficients D ₈₅ = 0.4746 D ₃₀ = 0.2269 C _u = 1.93	D ₆₀ = 0.3240 D ₁₅ = 0.1834 C _c = 0.95				
USCS= SP	USCS= SP Classification AASHTO=					
	Remarks					

Location: USACE Sample # BI-PB-137A-11 **Sample Number:** TE Lab ID: 5054.120

Depth: 0.0 - 4.0 (ft) **Date:** 7/18/11

Thompson Engineering

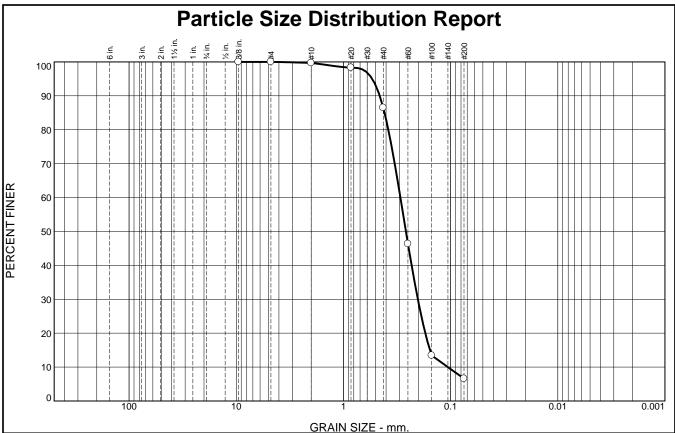
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 11-2116-0057



				OTO INTO DIEL TITLE						
% +3"	% Gravel		% Sand			% Fines				
^{76 +3} Co	oarse	Fine	Coarse	Medium	Fine	Silt	Clay			
0.0	0.0	0.0	0.3	13.2	79.9	6.6				

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.7		
#20	98.3		
#40	86.5		
#60	46.3		
#100	13.4		
#200	6.6		
*			

Material Description Sightly silty SAND (SP-SM), medium to fine grained					
PL=	Atterberg Limits	Pl=			
D ₉₀ = 0.4583 D ₅₀ = 0.2613 D ₁₀ = 0.1060	Coefficients D ₈₅ = 0.4134 D ₃₀ = 0.2020 C _u = 2.77	D ₆₀ = 0.2942 D ₁₅ = 0.1558 C _c = 1.31			
USCS= SP-SM Classification AASHTO=					
<u>Remarks</u>					

Date: 7/18/11

(no specification provided)

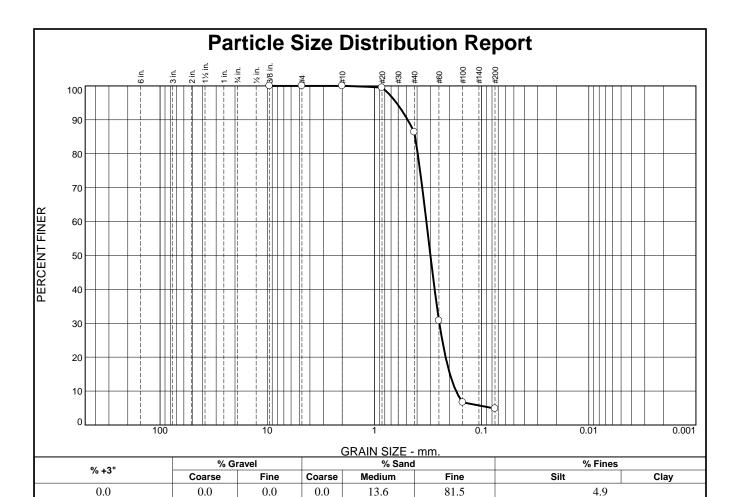
Location: USACE Sample # BI-PB-137B-11 **Sample Number:** TE Lab ID: 5054.121

Depth: 4.0 - 8.0 (ft)

Thompson Engineering Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009 Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 11-2116-0057 Figure



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.5		
#40	86.4		
#60	30.8		
#100	6.7		
#200	4.9		
*	cification provided		

Material Description SAND (SP), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.4898 D ₅₀ = 0.3004 D ₁₀ = 0.1731	Coefficients D85= 0.4176 D30= 0.2478 Cu= 1.89	D ₆₀ = 0.3276 D ₁₅ = 0.1975 C _C = 1.08				
USCS= SP	Classification USCS= SP AASHTO=					
	<u>Remarks</u>					

Location: USACE Sample # BI-PB-137C-11 **Sample Number:** TE Lab ID: 5054.122

Depth: 8.0 - 12.0 (ft) **Date:** 7/18/11

Thompson Engineering

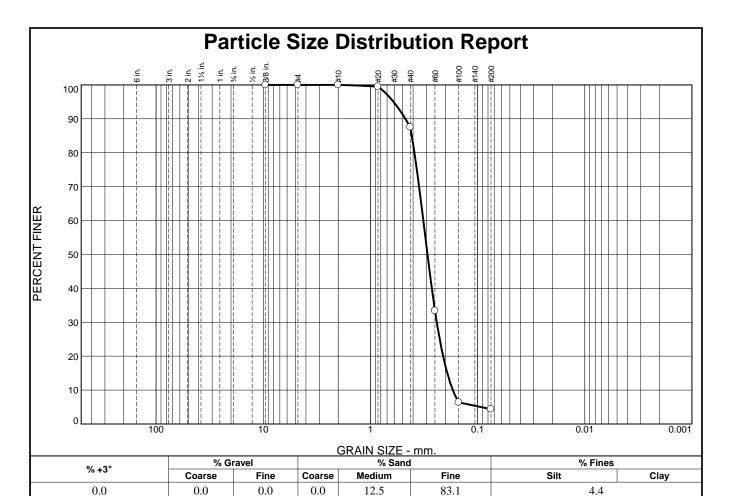
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 11-2116-0057 **Figure**



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.5		
#40	87.5		
#60	33.4		
#100	6.4		
#200	4.4		
* .	cification provided		

Material Description SAND (SP), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.4718 D ₅₀ = 0.2937 D ₁₀ = 0.1704	Coefficients D ₈₅ = 0.4113 D ₃₀ = 0.2406 C _u = 1.88	D ₆₀ = 0.3211 D ₁₅ = 0.1919 C _C = 1.06				
USCS= SP	USCS= SP Classification AASHTO=					
<u>Remarks</u>						

Location: USACE Sample # BI-PB-137D-11 **Sample Number:** TE Lab ID: 5054.123

Depth: 12.0 - 16.9 (ft) **Date:** 7/18/11

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

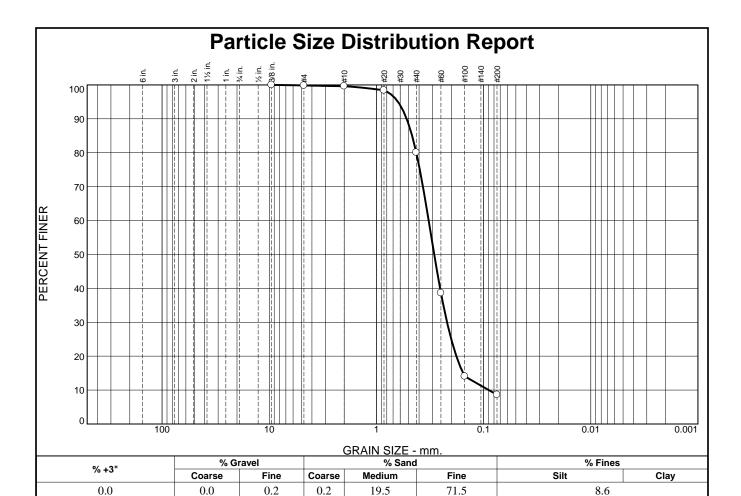
Mobile, Alabama

Project No: 11-2116-0057 **Figure**

Boring Designation BI-PB-138-11

DBILL	LING	06	DIVISION	N		INS	TALLATIC	ON CONTRACTOR OF THE PROPERTY		SHE	ET 1
			South	n Atlantic		Ν	Mobile Dis	strict		OF	1 SHEETS
1. PROJEC								TYPE OF BIT N/A			
			d Restoratio	on		10.		NATE SYSTEM/DATUM	HORIZONTAL		
	t Bois Pa				DINATES	State Plane, MSE (U.S. Ft.) NAD83 NAVD88 11. MANUFACTURER'S DESIGNATION OF DRILL ALITO HAMMER					
	ING DESIGNATION LOCATION COORDINATES BI-PB-138-11 E = 1,149,013 N = 253,235			11.	Vibra		N OF DRILL	=	IAMMER L HAMMER		
3. DRILLII			<u> </u>		ITRACTOR FILE NO.			¦ c	DISTURBED		JRBED (UD)
Corp	ps of Eng	ineers	- CESAM			12.	TOTAL S	SAMPLES	5	0	
4. NAME (13.	TOTAL N	NUMBER CORE BOXES			
			ons Internati		T=======	14.	WATER	DEPTH	37.5 Ft.		
	FION OF B RTICAL CLINED	ORING	i	DEG. FROM VERTICAL	BEARING	15.	DATE BO	DRING	STARTED 06-30-11	1	PLETED 6-30-11
6. THICK	NESS OF (OVERB	URDEN	N/A		16.	ELEVAT	ION TOP OF BORING	-36.3 Ft.	, ,	
7. DEPTH						17.	TOTAL F	RECOVERY FOR BORING	100%		
7. DEPIR	DRILLED	INIO	KOCK N	I/A		18.	SIGNAT	URE AND TITLE OF INSP	ECTOR		
8. TOTAL	DEPTH O	F BORI	NG 18.	5 Ft.			Mich	ele Johnson, Geologist			
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATION O	F MATERIALS	;	SAMPLE	LABO	DRATORY RESUL	LTS	
-36.3	0.0										-0
E		·.::			stly medium-grained	ı					Ę
F		\cdots	sand-sized	quartz, It. gray	(SP)						F
F							_	Classification: S	SP-SM Colo	r: 5Y 6/1-	grav -
E		\cdots					Α	D50: 0.2	89 mm % Fir	nes: 8.6	E
Ė		\cdots									E
E											E
F			_			┝					5
E		\cdots	At El41.3	Ft., trace shell	fragments, It. gray						E
F											F
F		\cdots						Classification	: SP Color:	5Y 6/1-gra	av E
E							В	D50: 0.32	247 mm % Fi	nes: 3.2	Ĺ
F		\cdots									F
-46.3 F 1	10.0										F
-40.3 -	10.0	: 111				+					
E					n silt, trace fine to d, gray (SP-SM)	1					E
E		•.	modium gi	anioa dana dizo	a, gray (or own)						E
E							С	Classification: SI	P Color: 2.5 269 mm % Fi		t gray
E								D30. 0.32	209 111111 /0111	1165. 2.9	E
Į.											E
-51.3 - 1	15.0										15
E		⊬∷T	SAND. por	orly-graded mo	stly medium-grained	ı T	D	Classification: SP-		.5Y 7/1-lig	
E			sand-sized	quartz, dark gra	y (SP)	L	<i>-</i>	D50: 0.3 ²		nes: 5.7	F
E		::: `	At El52 8	8 Ft., mostlv m	edium-grained sand	_ [Classification: SP-	SM Color 2	.5Y 7/1-lig	aht grav
<u> </u>			sized quart	z, dark gray	5 - 3		E	D50: 0.26		es: 11.4	gin gray
-54.8 - 1	18.5	$\stackrel{\dots}{-}$				+					
E			NOTES								F
E			NOTES:								E-20
E			1. Soils	are field vi	sually classified ir	۱					E
E			accordance System.	e with the Unifie	d Soils Classification	ן י					E
F			•								F
E			2. NS = 3	Sample not sub	mitted for laboratory	/					E
F			analysis fro	om this interval.							Ę
F					termined from 2010						F
			USACE sur	rvey.							-25
E											Ę

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19531° Long = -88.31180°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.8		
#10	99.6		
#20	98.4		
#40	80.1		
#60	38.6		
#100	14.0		
#200	8.6		
* (cification provided	1)	

Material Description Slightly silty SAND (SP-SM), medium to fine grained							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.5222 D ₅₀ = 0.2890 D ₁₀ = 0.0896	D ₈₅ = 0.4643 D ₃₀ = 0.2193 C _u = 3.64	D ₆₀ = 0.3257 D ₁₅ = 0.1553 C _c = 1.65					
USCS= SP-SM	USCS= SP-SM Classification AASHTO=						
	<u>Remarks</u>						

Location: USACE Sample # BI-PB-138A-11 **Sample Number:** TE Lab ID: 5054.126

Depth: 0.0 - 5.0 (ft) **Date:** 7/18/11

Thompson Engineering

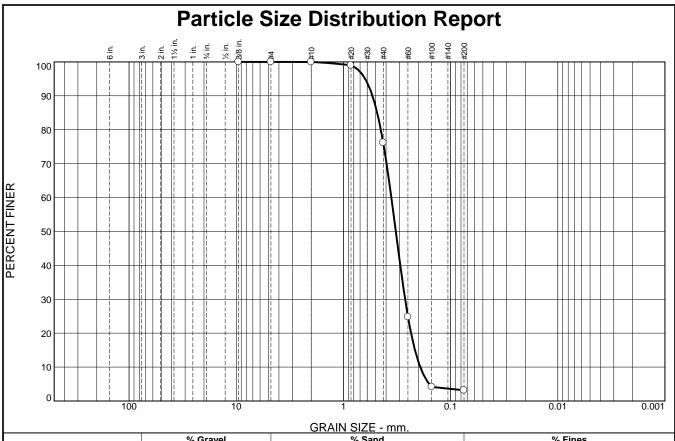
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 11-2116-0057 **Figure**



% +3"	% Gı	avel	% Sand			% Fines	
% +3	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	23.8	73.0	3.2	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.0		
#40	76.2		
#60	24.8		
#100	4.1		
#200	3.2		
*			

Material Description SAND (SP), medium to fine grained							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.5356 D ₅₀ = 0.3247 D ₁₀ = 0.1919	Coefficients D ₈₅ = 0.4838 D ₃₀ = 0.2659 C _u = 1.86	D ₆₀ = 0.3573 D ₁₅ = 0.2150 C _c = 1.03					
USCS= SP	USCS= SP AASHTO=						
	<u>Remarks</u>						

Location: USACE Sample # BI-PB-138B-11 **Sample Number:** TE Lab ID: 5054.127

Depth: 5.0 - 10.0 (ft) **Date:** 7/18/11

Thompson Engineering

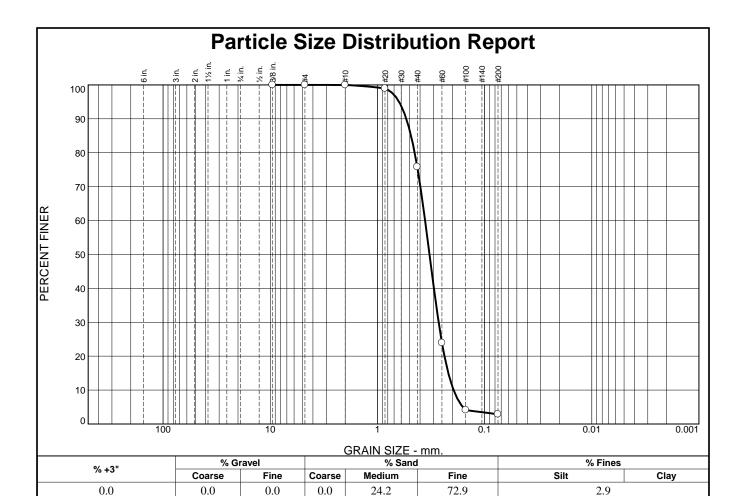
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 11-2116-0057 **Figure**



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.0		
#40	75.8		
#60	23.9		
#100	4.1		
#200	2.9		
* ,	aification provided		

Material Description SAND (SP), medium to fine grained							
Atterberg Limits PL= LL= PI=							
D ₉₀ = 0.5372 D ₅₀ = 0.3269 D ₁₀ = 0.1947	Coefficients D ₈₅ = 0.4855 D ₃₀ = 0.2685 C _u = 1.85	D ₆₀ = 0.3593 D ₁₅ = 0.2180 C _c = 1.03					
USCS= SP	Classification USCS= SP AASHTO=						
	<u>Remarks</u>						

Location: USACE Sample # BI-PB-138C-11 **Sample Number:** TE Lab ID: 5054.128

Depth: 10.0 - 15.0 (ft) **Date:** 7/18/11

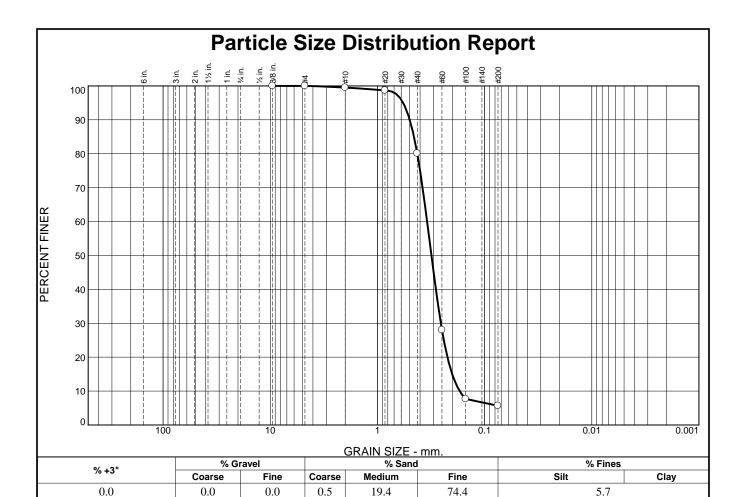
Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.5		
#20	98.7		
#40	80.1		
#60	28.0		
#100	7.7		
#200	5.7		
* (=====	cification provided	1)	

Material Description Slightly silty SAND (SP-SM), medium to fine grained							
PL=	Atterberg Limits	PI=					
D ₉₀ = 0.4992 D ₅₀ = 0.3135 D ₁₀ = 0.1710	Coefficients D ₈₅ = 0.4556 D ₃₀ = 0.2561 C _U = 2.01	D ₆₀ = 0.3441 D ₁₅ = 0.2008 C _c = 1.11					
USCS= SP-SM AASHTO=							
<u>Remarks</u>							

Location: USACE Sample # BI-PB-138D-11 **Sample Number:** TE Lab ID: 5054.129

Depth: 15.0 - 16.5 (ft) **Date:** 7/18/11

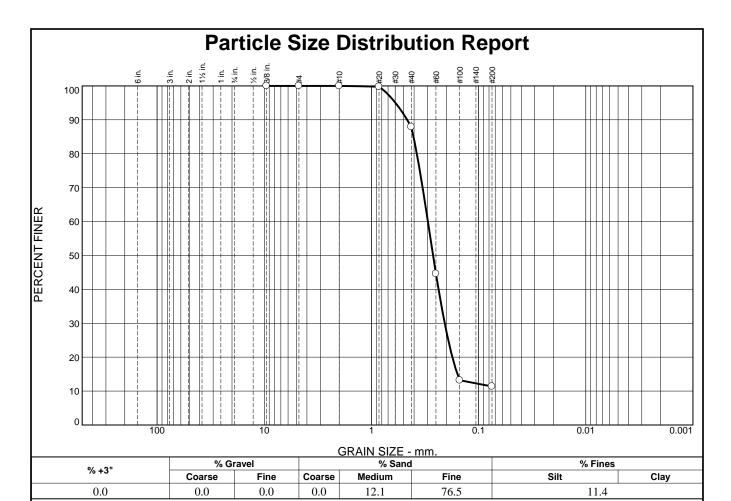
Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	87.9		
#60	44.6		
#100	13.2		
#200	11.4		
* ,	aifiaction provided		

Material Description Slighlty silty SAND (SP-SM), medium to fine grained							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.4640 D ₅₀ = 0.2660 D ₁₀ =	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D}_{85} = \ 0.4051 \\ \text{D}_{30} = \ 0.2070 \\ \text{C}_{u} = \end{array}$	D ₆₀ = 0.2975 D ₁₅ = 0.1577 C _c =					
USCS= SP-SM	Classification AASHT	-O=					
	<u>Remarks</u>						

Location: USACE Sample # BI-PB-138E-11 **Sample Number:** TE Lab ID: 5054.130

Date: 7/18/11 **Depth:** 16.5 - 18.5 (ft)

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

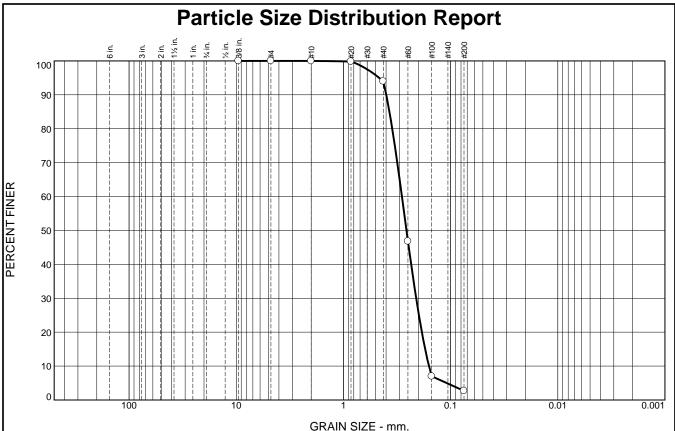
Mobile, Alabama

Project No: 11-2116-0057 **Figure**

Boring Designation BI-PB-139-11

DΒ	LLING	100	DIVISI	ON		INS	TALLATIC	ON		SHEET 1	
			Soi	uth Atlantic			Mobile Dis			OF 1 SHEET	s
1. PRO								TYPE OF BIT N/A	•	•	_
	/IsCIP Barrie			ition		10.		NATE SYSTEM/DATUM	HORIZONTAL	VERTICAL	
	Petit Bois Pa			'				Plane, MSE (U.S. Ft.)	NAD83	NAVD88	_
	ING DESIGN BI-PB-139-1		N	E = 1,148	OORDINATES 3,957 N = 251,729	11.	Vibra	ACTURER'S DESIGNATION		AUTO HAMMER MANUAL HAMMER	,
	LLING AGEN			; E = 1,140	CONTRACTOR FILE NO.		VIDIA			JNDISTURBED (UD	_
(Corps of Eng	gineer	s - CESAM	ı		12.	TOTAL S	SAMPLES	3	0	´
	E OF DRILL			•		13.	TOTAL N	IUMBER CORE BOXES	'		
	Construction					14.	WATER	DEPTH	39 Ft.		_
	ECTION OF E VERTICAL	BORIN	G	DEG. FROM	BEARING				STARTED	COMPLETED	-
	INCLINED					15.	DATE BO	DRING	07-01-11	07-01-11	
6. THI	CKNESS OF	OVER	BURDEN	N/A		16.	ELEVAT	ION TOP OF BORING	-38.3 Ft.		
						_		RECOVERY FOR BORING	100%		
7. DEP	TH DRILLED	INTO	ROCK	N/A				URE AND TITLE OF INSPE			-
8. ТОТ	AL DEPTH O	F BOF	RING 6	.0 Ft.			Mich	ele Johnson, Geologist			
ELEV.	DEPTH	LEGEND	C	CLASSIFICATIO	ON OF MATERIALS		SAMPLE		RATORY RESULTS	S	
-38.3	0.0					寸					\exists
	- - - - -			ooorly-graded, ed, It. gray (S	mostly medium-grained P)	t	Α	Classification: S D50: 0.25		Y 8/1-white s: 2.7	0
			At El4 sized, lt.		ly medium-grained sand	-	В	Classification: 9 D50: 0.26		Y 8/1-white s: 1.6	
-44.3	6.0		At El4 sized, lt.		lly medium-grained sand	-	С	Classification: S D50: 0.26		Y 8/1-white s: 2.9	5
	-		NOTES:								
	- - - - - -		Scordar System.	oils are field nce with the U	d visually classified in Inified Soils Classification	וו					
	<u>-</u>			= Sample not from this inter	submitted for laboratory	/					F-10
	- - - - -		vessel's	fathometer v	calculated using sampling vater depth reading and gauge data conversion	Ŀ					
											15
	<u>-</u> -										
	-										
	- - -										-20
	<u>E</u>										E
	E										_ _ 25
											F 23

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19117° Long = -88.31200°



GRAIN SIZE - MM.							
% +3"	% Gravel % Sand			i	% Fines		
76 +3	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	6.0	91.3	2.7	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	94.0		
#60	46.8		
#100	7.0		
#200	2.7		

Material Description SAND (SP), medium to fine grained					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.3983 D ₅₀ = 0.2581 D ₁₀ = 0.1593	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D}_{85} = \ 0.3721 \\ \text{D}_{30} = \ 0.2094 \\ \text{C}_{u} = \ 1.79 \end{array}$	D ₆₀ = 0.2847 D ₁₅ = 0.1729 C _C = 0.97			
USCS= SP	Classification AASHT	O=			
	<u>Remarks</u>				

Location: USACE Sample # BI-PB-139A-11 **Sample Number:** TE Lab ID: 5054.148

Date: 7/18/11 **Depth:** 0.0 - 2.0 (ft)

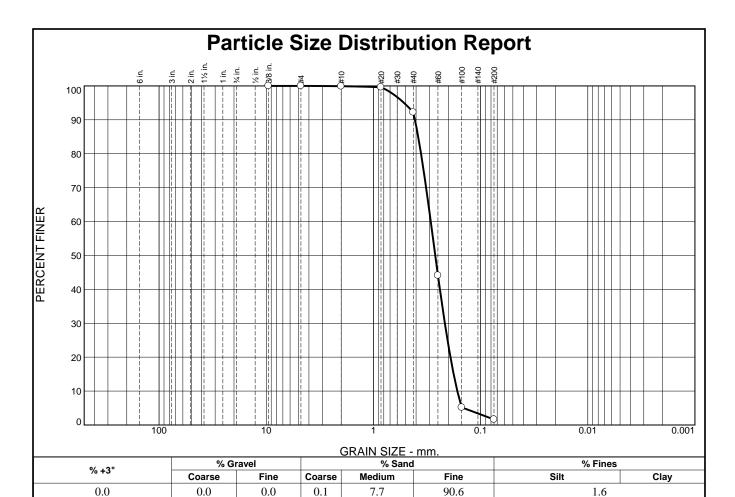
Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.6		
#40	92.2		
#60	44.1		
#100	5.2		
#200	1.6		
*	cification provided		

Material Description SAND (SP), fine grained				
PL=	Atterberg Limits	PI=		
D ₉₀ = 0.4099 D ₅₀ = 0.2650 D ₁₀ = 0.1649	Coefficients D ₈₅ = 0.3821 D ₃₀ = 0.2155 C _u = 1.77	D ₆₀ = 0.2921 D ₁₅ = 0.1785 C _C = 0.96		
USCS= SP	Classification AASHT	O=		
	<u>Remarks</u>			

Location: USACE Sample # BI-PB-139B-11 **Sample Number:** TE Lab ID: 5054.149

Depth: 2.0 - 4.0 (ft) **Date:** 7/18/11

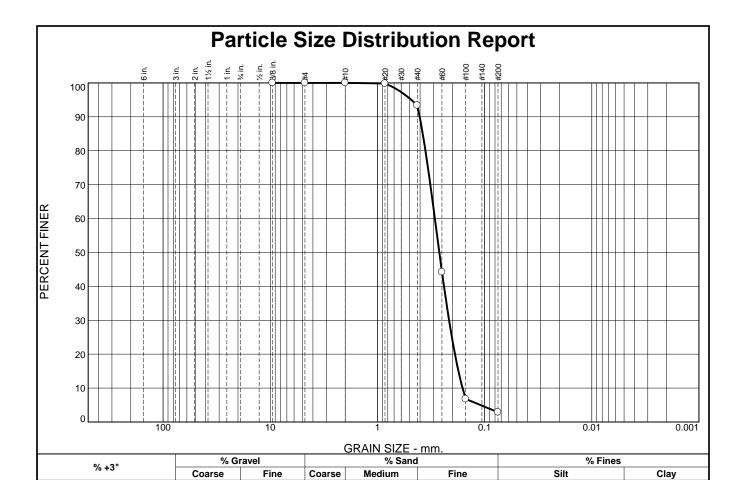
Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	93.4		
#60	44.2		
#100	6.8		
#200	2.9		
* (.:C:		

0.0

0.0

6.6

Material Description SAND (SP), fine grained				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.4032 D ₅₀ = 0.2646 D ₁₀ = 0.1609	Coefficients D ₈₅ = 0.3775 D ₃₀ = 0.2145 C _u = 1.81	D ₆₀ = 0.2913 D ₁₅ = 0.1756 C _C = 0.98		
USCS= SP	Classification AASHT	O=		
	<u>Remarks</u>			

(no specification provided)

0.0

Location: USACE Sample # BI-PB-139C-11 **Sample Number:** TE Lab ID: 5054.150

Depth: 4.0 - 6.0 (ft)

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

90.5

Mississippi Barrier Island Restoration Project

Project No: 11-2116-0057

Figure

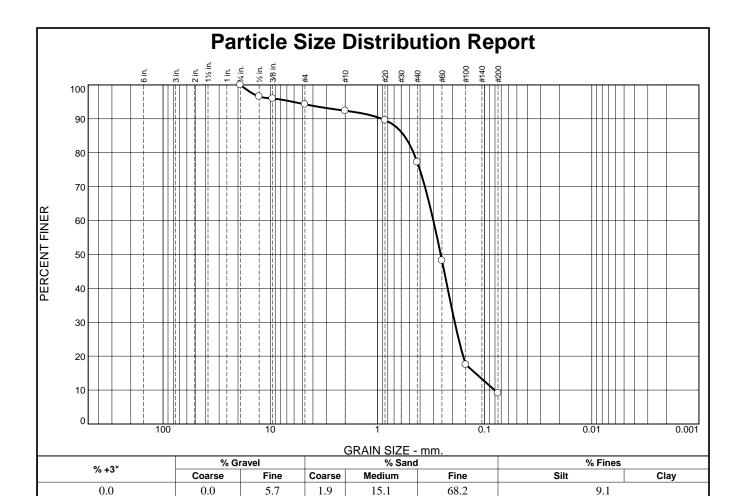
Date: 7/18/11

2.9

Boring Designation BI-PB-140-11

DR	LLING	LOG	DIVISI				1	STALLATIO					SHEET	
1. PRO			Sou	uth Atlantic			-	Mobile Di		NI/A			OF 1	SHEETS
	/IsCIP Barri	or Ielan	d Restora	tion					NATE SYSTEM/DAT	N/A UM HOF	RIZONTA	AL.	VERTIC	AL
	Petit Bois Pa			ILIOIT					Plane, MSE (U.S.		NAD83	-		/D88
	ING DESIGN			LOCATION	COORD	INATES	11.		ACTURER'S DESIGN			ПА	JTO HAI	
E	3I-PB-140-1	1		E = 1,14	9,808	N = 252,155		Vibra	acore		į			HAMMER
_	LLING AGEN				CONT	RACTOR FILE NO.	12.	. TOTAL S	SAMPLES	DISTUR	BED	i		BED (UD)
	Corps of Eng		- CESAM		<u> </u>		+			3		-	0	
	Construction		one Intern	ational Inc			13.	. TOTAL I	NUMBER CORE BOX	ES				
	ECTION OF E			DEG. FRO	M	BEARING	14.	WATER	DEPTH	38 F	t.			
_	VERTICAL INCLINED			VERTICAL	=		15.	. DATE B	ORING	i	RTED)7-01-1	1	COMPL 07-0	ETED 01-11
6. THI	CKNESS OF	OVERB	URDEN	N/A			16.	. ELEVAT	ION TOP OF BORIN	G -37.7	Ft.			
7. DEP	TH DRILLED	INTO F	ROCK	N/A			17.	. TOTAL I	RECOVERY FOR BOR	RING 10	0%			
							18.		URE AND TITLE OF					
8. TOT	AL DEPTH C	F BORI	NG 1	9.4 Ft.			Ц,	Mich	ele Johnson, Geol	ogist				
ELEV.	DEPTH	LEGEND	c	CLASSIFICATI	ON OF	MATERIALS		SAMPLE		LABORATO	RY RESU	JLTS		
-37.7	0.0													
	<u> </u>		SAND, p (SP)	oorly-graded	, mostl	y quartz, dark gra	ау	Α	Classification: SP- D50:	SM Cold : 0.2568 mr	or: 2.5Y n % F	6/2-li ines:	ght brov 9.1	vnish gray
-39.9	_2.2													-
	<u> </u>			silty, mostly . gray (SM)	fine-ç	grained sand-size	ed	В	Classificatio	on: SP C : 0.3158 mn	Color: 2.	5Y 7/2 -ines:	2-light g	ray =
	F]								. 0.01001111	11 /01	ii ics.	0.0	F
	E	\!\!\												
	Ę	\prod												F
	E][[[[At El4:	3.5 Ft., most	ly fine-	grained sand-size	ed							E
	F	 	quartz, lt.		•									F
	E							С	Classification	on: SP	Color: 2.	5Y 7/2 Fines:	2-light g २०	ray
	Ē	: :								. 0.2551 1111	11 /01	11103.	0.0	E
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	-	+ +												F
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	E													E
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E7 1	- 19.4	[+]+]												E
-::/.l	F 19.4	 					-							 [
	F		NOTES:											F
	F													F
	E		1. So	oils are fiel	d vist	ually classified Soils Classification	in							E
	Ę		System.	ice will life (שאוווויכ	Julia Cidasilicali	"							E
	Ē		•	- 0	4	sitted for total t	_							E
	F			= Sample no from this inte		nitted for laborato	гу							F
	Ē.		-			rmined from 201	, [Ē
			USACE s		ıı uele	minicu nom 20								E

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19233° Long = -88.30930°



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.75	100.0		
.5	96.6		
.375	96.0		
#4	94.3		
#10	92.4		
#20	89.6		
#40	77.3		
#60	48.2		
#100	17.5		
#200	9.1		
* (no on	 	1/	

5.7

1.9

15.1

Material Description Slightly silty SAND (SP-SM), medium to fine grained					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.9113 D ₅₀ = 0.2568 D ₁₀ = 0.0808	D ₈₅ = 0.5612 D ₃₀ = 0.1898 C _u = 3.72	D ₆₀ = 0.3009 D ₁₅ = 0.1219 C _c = 1.48			
USCS= SP-SM	Classification AASHTC)=			
	Remarks				

9.1

68.2

(no specification provided)

Location: USACE Sample # BI-PB-140A-11 **Sample Number:** TE Lab ID: 5054.131

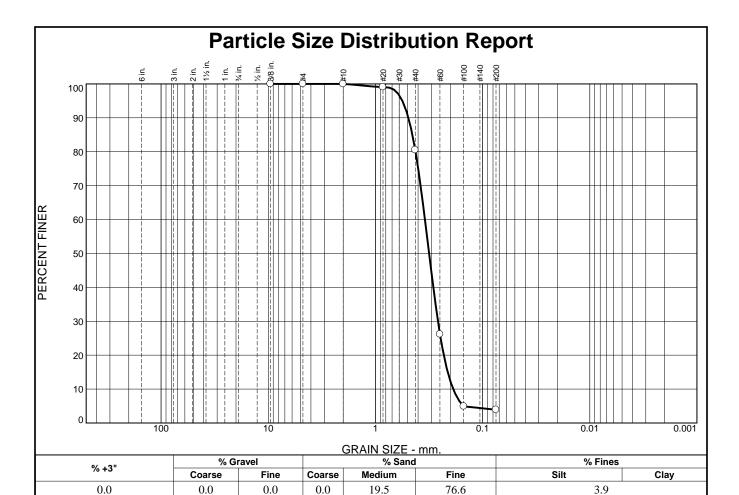
Depth: 0.0- 1.5 (ft) **Date:** 7/18/11

Client: US Army Corps of Engineers

Thompson Engineering

Project: Contract No. W91278-10-D-0026 - Task 009 Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057 **Figure**



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.1		
#40	80.5		
#60	26.2		
#100	4.9		
#200	3.9		
* .	cification provided		

Material Description SAND (SP), medium to fine grained				
PL=	Atterberg Limit	<u>s</u> Pl=		
D ₉₀ = 0.49 D ₅₀ = 0.33 D ₁₀ = 0.18	Coefficients D85= 0.4518 D30= 0.2611 Cu= 1.84	D ₆₀ = 0.3453 D ₁₅ = 0.2116 C _c = 1.05		
USCS=	Classification AASH	TO=		
	<u>Remarks</u>			

Location: USACE Sample # BI-PB-140B-11 **Sample Number:** TE Lab ID: 5054.132

Date: 7/18/11 **Depth:** 2.2 - 5.8 (ft)

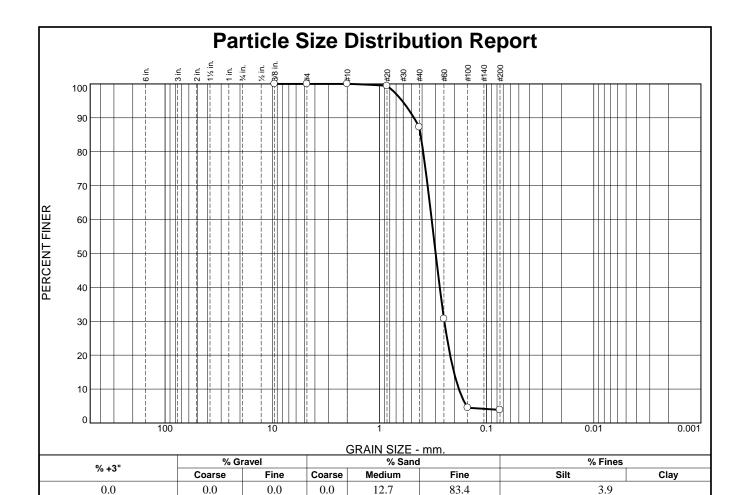
Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.4		
#40	87.3		
#60	30.7		
#100	4.5		
#200	3.9		

Material Description SAND (SP), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.4763 D ₅₀ = 0.2991 D ₁₀ = 0.1814	Coefficients D ₈₅ = 0.4131 D ₃₀ = 0.2481 C _u = 1.79	D ₆₀ = 0.3256 D ₁₅ = 0.2018 C _c = 1.04				
USCS= SP	Classification AASHT	0=				
	<u>Remarks</u>					

Figure

* (no specification provided)

Location: USACE Sample # BI-PB-140C-11 **Sample Number:** TE Lab ID: 5054.133

Depth: 5.8 - 10.5 (ft) **Date:** 7/18/11

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 11-2116-0057

Boring Designation BI-PB-141-11

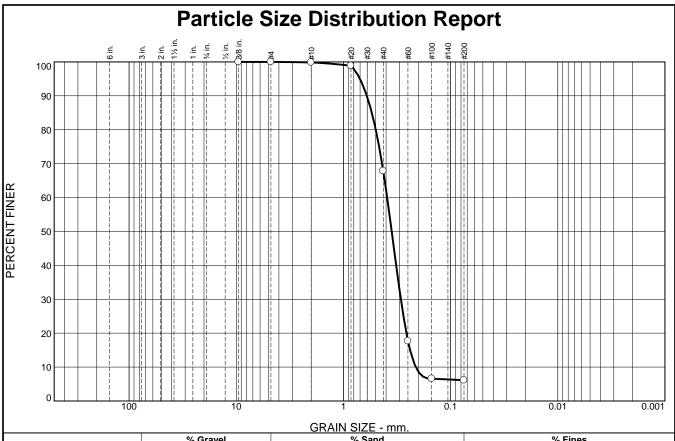
ופת	LLING	I OG	DIVISIO	ON			INS	STALLATIO	ON			SHEET	Г 1]
1. PRO			Sou	ıth Atlantic			-	Mobile Dis				OF 1	SHEETS	l
		on leter:	d Doctor-t	tian			_	_	NATE SYSTEM/DATUM	HORIZON	- A I	VERTIC	CAL	1
	/IsCIP Barrio Petit Bois Pa			tion			10.		Plane, MSE (U.S. Ft.)	NAD83		!	VD88	
	ING DESIGN			LOCATION	COORD	INATES	11.		ACTURER'S DESIGNATION			UTO HA		ł
В	I-PB-141-1	1	ļ	E = 1,15	0,656	N = 251,751		Vibra	icore				HAMMER	
	LING AGEN				CONT	TRACTOR FILE NO.	12.	TOTAL	SAMPLES	ISTURBED	i		RBED (UD)	
	Corps of Eng		- CESAM		<u> </u>		⊢		1			0		ŀ
	Construction		ns Interna	ational Inc			13.	TOTAL	NUMBER CORE BOXES					
	CTION OF E		no micini	DEG. FRO	М	BEARING	14.	WATER	DEPTH	40.5 Ft.				
	VERTICAL INCLINED			VERTICAL	-		15.	DATE BO	DRING	STARTED 07-01-	11	COMPL 07-	01-11	
6. THI	CKNESS OF	OVERBL	JRDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-36.9 Ft.				
7. DEP	TH DRILLED	INTO R	оск	N/A			_		RECOVERY FOR BORING	100%				
8 TOT	AL DEPTH O	E BODII	NG 19	8.1 Ft.			18.		URE AND TITLE OF INSPE	CTOR				
0. 101	AL DEPTH O		10 10	0.111.			┺	Mich	ele Johnson, Geologist I					ł
ELEV.	DEPTH	LEGEND	C	LASSIFICATI	ON OF	MATERIALS		SAMPLE	LABO	RATORY RES	SULTS			
-36.9	0.0													
	Ē		CLAY, lea	an, trace fin	e-grair	ned sand, Some C	L							Εĭ
	Ē		interbedd	ed, dark gray	(CL)									F
	-													F
	_													E
														E
														E
														-5
-42.9	6.0	<u> </u>												E
	Ē		SAND, p	oorly-graded	d, son	ne medium-graine	d							E
	Ē		sand-size	ed, dark gray	(SP)									E
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-51.9	- 15.0	:::												E
31.0	- 10.0		CLAV In	an trace fin	o aroir	and cand dark are								- 15
	-		(CLAY, lea	an, nace in	e-grair	ned sand, dark gra	y							F
	<u>E</u>		•											E
-55.0	_ 18.1													E
50.0	<u> </u>						\dashv							E
	<u> </u>		NOTES:											E
	<u> </u>		1 00	ile oro fi-l	ط بناد	ually classified :	_							E 20
	<u> </u>		 Soi accordant 	ns are fiel ce with the l	u visi Jnified	ually classified i Soils Classificatio	n							É
	<u> </u>		System.											Ē
	Ē		2. NS =	Sample no	t subn	nitted for laborator	_v [Ē
	Ė		analysis f	from this inte	rval.		´							F
	<u>E</u>		3. Seaflo	or elevation	calcula	ated using samplin	a							Ė
	<u>-</u>		vessel's	fathometer v	water	depth reading an	d							ŧ
	<u> </u>		applying factor.	NOAA tidal	gaug	ge data conversio	n							-25
														E

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19121° Long = -88.30662°

Boring Designation BI-PB-142-11

DRILLING LOG						INSTALLATION SHEET 1					
DKILLIN	G L	.UG	Sou	uth Atlantic			Mobile Dis	strict		OF 1	SHEETS
1. PROJECT						9.	SIZE AND	TYPE OF BIT N/A	\		
MsCIP Ba	arrie	r Islar	nd Restorat	tion		10.	COORDII	NATE SYSTEM/DATUM	HORIZONTAL	VERTI	CAL
Petit Bois		-						Plane, MSE (U.S. Ft.)		NA'	VD88
	2. BORING DESIGNATION LOCATION COORDINATES							CTURER'S DESIGNATION		AUTO HA	
	BI-PB-142-11						Vibra			MANUAL	
	Corps of Engineers - CESAM					12.	TOTAL S		DISTURBED L	O O	RBED (UD)
	4. NAME OF DRILLER					-			4 !	0	
Construction Solutions International, Inc.					13.	TOTAL N	IUMBER CORE BOXES				
5. DIRECTION O				DEG. FROM	BEARING	14.	WATER I	DEPTH	41 Ft.		
⊠ VERTICA □ INCLINE				VERTICAL		15.	DATE BO	PRING	STARTED 07-01-11	COMPL 07-	.ETED 01-11
6. THICKNESS	OF O	VERE	BURDEN	N/A		16.	ELEVAT	ION TOP OF BORING	-39.9 Ft.		
7. DEPTH DRIL	LED I	NTO	ROCK	N/A		17.	TOTAL R	ECOVERY FOR BORING	100%		
						18.	SIGNATI	URE AND TITLE OF INSF	PECTOR		
8. TOTAL DEPT	H OF	BOR	ING 1	5.1 Ft.			Miche	ele Johnson, Geologist	t		
ELEV. DEPTI	н	LEGEND	С	LASSIFICATIO	N OF MATERIALS		SAMPLE	LAB	ORATORY RESULT:	s	
-39.9 0.0											-0
E	ŀ	·			with silt, mostly fine to		NS				Ε°
E		:-][medium-		sized quartz, gray (SP						<u></u>
E			SM)								E
E	ŀ	·					Α	Classification: SP-S		/2-light oli	ve gray
E	ŀ	·. ∤∦						D50: 0.3	546 mm % Fine	S. O. I	E
-43.9 F 4.0	— '	`-	\			L					<u>F</u> _
E	:				with silt, mostly fine to						F_
E	-	. [grained sand-s	sized quartz, gray (SP	-					- 5
l E	-	·.	SM)					Classification	CD Color: EV E	/O aliva au	<u>E</u>
E		:					В	Classification: S	SP Color: 5Y 5. 862 mm % Fine		ray E
E	.	.						200. 0.0	701 1110	0. 1.0	F
E	-	·									E
-48.9 ⁼ 9.0	ŀ	$\cdot \cdot \cdot $									E
-			SAND n	oorly-graded	mostly medium-grained	7					F
F	ŀ		sand-size	ed quartz, gray	(SP)	1	_	Classification: SF	P-SM Color: 5Y	5/2-olive	gray = 10
Ē		· · · ·		, ,	,		С		635 mm % Fine	s: 7.5	E
 	:										F
F	-	∵⊹ŀ	\			H					
E	-				y medium-grained sand	-					<u>E</u>
Ė	:		sized qua	artz, gray			D	Classification			' E
F	.	· · · .						D50: 0.v	3628 mm % Fin	es: 4	F
-55.0 <u>15.1</u>		····				4					E15
ļ Ē	- 1										F
F			NOTES:								F
F			1. So	ile are field	visually classified in	,					<u>F</u>
E	- 1				nified Soils Classification						<u>E</u>
F			System.								F
F			2 NC -	- Cample not	submitted for laborator	, [F
E	- 1			from this interv	submitted for laborator	y					E ₋₂₀
ļ ļ			-								F ²⁰
F	- 1				determined from 2010	0					F
E			USACE s	outvey.							<u>E</u>
ļ ļ											F
F	- 1										F
Ł											<u>E</u>
ļ ļ											F
F											-25
l E											Ė
L	- 1					- 1					L

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19382° Long = -88.29568°



% +3"	% Gravel			% Sand	l	% Fines		
% +3	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0	0.0	0.0	0.1	32.1	61.7	6.1		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	98.9		
#40	67.8		
#60	17.7		
#100	6.6		
#200	6.1		
*			

Material Description							
Slightly silty SAND (SP-SM), medium to fine grained							
D.	Atterberg Limits	D.					
PL=	LL=	PI=					
D ₉₀ = 0.6045 D ₅₀ = 0.3546 D ₁₀ = 0.2113	Coefficients D85= 0.5434 D30= 0.2913 Cu= 1.85	D ₆₀ = 0.3910 D ₁₅ = 0.2389 C _c = 1.03					
USCS= SP-SM	Classification AASHTO=	=					
	Remarks						

Location: USACE Sample # BI-PB-142A-11 **Sample Number:** TE Lab ID: 5054.137 **Depth:** 1.2 - 4.0 (ft) **Date:** 7/18/11

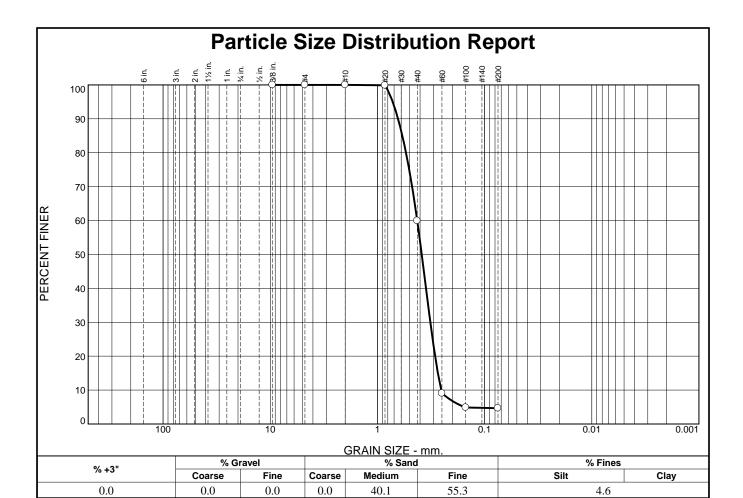
Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	59.9		
#60	9.0		
#100	4.9		
#200	4.6		
* (no sn	cification provided	1)	

0.0

0.0

Material Description SAND (SP), medium to fine grained							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.6416 D ₅₀ = 0.3862 D ₁₀ = 0.2542	Coefficients D ₈₅ = 0.5851 D ₃₀ = 0.3210 C _u = 1.67	D ₆₀ = 0.4253 D ₁₅ = 0.2732 C _c = 0.95					
USCS= SP	Classification AASHT	O=					
	<u>Remarks</u>						

4.6

(no specification provided)

Location: USACE Sample # BI-PB-142B-11 **Sample Number:** TE Lab ID: 5054.138

Depth: 4.0 - 9.0 (ft)

Date: 7/18/11

Thompson Engineering

Project: Contract No. W91278-10-D-0026 - Task 009

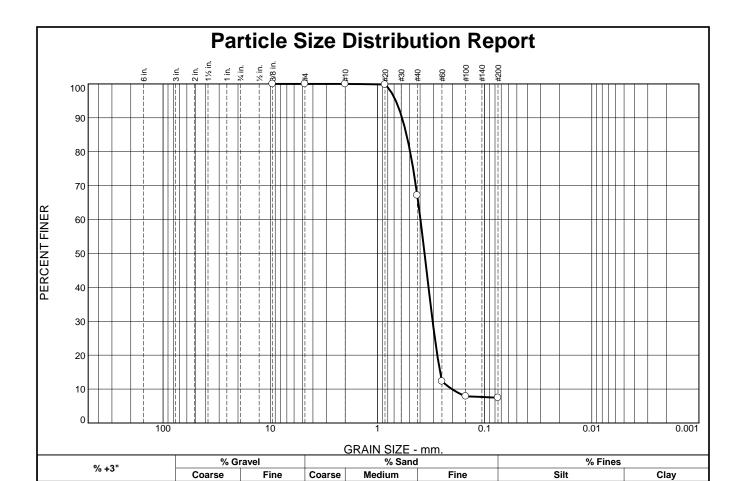
Client: US Army Corps of Engineers

55.3

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 11-2116-0057 **Figure**



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	67.1		
#60	12.3		
#100	7.9		
#200	7.5		
*		1	

0.0

0.0

32.9

59.6

PL=	Material Description Slighlty silty SAND (SP-SM), medium to fine grained							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$								
	0.3969 0.2602 1.17							
<u>Remarks</u>	USCS= SP-SM AASHTO=							

* (no specification provided)

0.0

Location: USACE Sample # BI-PB-142C-11 **Sample Number:** TE Lab ID: 5054.139

Depth: 9.0 - 12.0 (ft) **Date:** 7/18/11

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

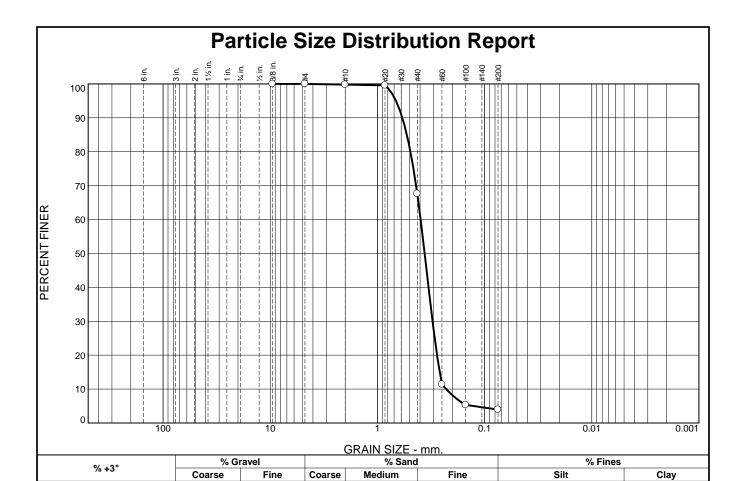
Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Project No: 11-2116-0057

Figure

7.5



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.8		
#20	99.6		
#40	67.6		
#60	11.4		
#100	5.3		
#200	4.0		
			l

0.0

0.2

32.2

Material Description SAND (SP), medium to fine grained								
PL=		Atterberg Limits LL=	PI=					
D ₉₀ = D ₅₀ = D ₁₀ =	0.5851 0.3628 0.2283	Coefficients D ₈₅ = 0.5312 D ₃₀ = 0.3061 C _U = 1.73	D ₆₀ = 0.3955 D ₁₅ = 0.2627 C _C = 1.04					
USCS	= SP	Classification AASHTO=	:					
		<u>Remarks</u>						

4.0

(no specification provided)

0.0

Location: USACE Sample # BI-PB-142D-11 **Sample Number:** TE Lab ID: 5054.140

Date: 7/18/11 **Depth:** 12.0 - 15.1 (ft)

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

63.6

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057

Boring Designation BI-PB-143-11

DRILLING LOG DIVISION						INSTALLATION SHEET 1						
		LUG	South	n Atlantic		Mobile District OF 2 SHEETS						
1. PROJI	ECT					9. SIZE AND TYPE OF BIT N/A						
Ms	CIP Barrie	er Islaı	nd Restoration	on		10.	COORDI	NATE SYSTEM/DATUM	HORIZONTAL	VERTICAL		
	tit Bois Pa					State Plane, MSE (U.S. Ft.) NAD83 NAVD88						
	NG DESIGN		۱ <u>۱</u>	LOCATION CO		11.		ACTURER'S DESIGNATIO		AUTO HAMMER		
	-PB-143-1 .ing agen		<u> </u>		03 N = 254,302 ONTRACTOR FILE NO.	_	Vibracore MANUAL HAMMER					
			s - CESAM		ON I RACTOR FILE NO.	12.	TOTAL S		DISTURBED L	JNDISTURBED (I	,	
	A. NAME OF DRILLER						TOTAL N	NUMBER CORE BOXES	i			
Co	nstruction	Soluti	ions Internati	ional, Inc.		⊢						
5. DIREC	TION OF E			DEG. FROM VERTICAL	BEARING	14.	WATER	DEPTH	41.5 Ft.			
	ERTICAL ICLINED			VERTICAL		15.	DATE BO	DRING	STARTED 07-01-11	07-01-11		
				N//A	<u>'</u>	40	E1 E1/AT	10N TOD OF BODING		07-01-11		
6. THICK	(NESS OF	OVERE	BURDEN	N/A		⊢		ION TOP OF BORING	-39.7 Ft.		-	
7. DEPTI	H DRILLED	INTO	ROCK N	I/A				RECOVERY FOR BORING URE AND TITLE OF INSP	100%		_	
8. TOTAI	L DEPTH O	F BOR	ING 19.	5 Ft.		10.		ele Johnson, Geologist				
		П				┰	IVIICII	ele Johnson, Geologist			\dashv	
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATION	OF MATERIALS		SAMPLE	LABC	DRATORY RESULT:	s		
-39.7	0.0											
l E			CLAY, fat.	some sand. d	ark gray (CH)						Ε°	
l E	_		- ,,	., .	3 - 7 (- 7						E	
E	=										E	
l E											E	
F	-										F	
	-										F	
l E	_										<u> </u>	
	_										F	
F	-										F	
-47.1 -47.1	-7 <i>1</i>										E	
-47.1	7.4					\blacksquare					Ė	
	-	. .	SAND, po	orly-graded, r l quartz, gray	mostly medium-graine	d					E	
l E	-	ŀ∷·∣	3ai iu-3i26u	i quartz, gray	(31)						E	
l F		l: ∷:					NS				- ₁₀	
l F	_	.									F'	
F	-	ŀ∷·l									F	
-52.1 E	12.4	∷::									E	
-52.1	12.4	//				\dashv					F	
l E	-		CLAY, fat,	dark gray (Cl	⊣)						F	
l E	-										F	
l É	_										-15	
l F											E '3	
F	-										Ė	
E	-										E	
E											E	
l E	-										E	
-59.2	19.5										F	
55.2	-	///				\dashv					-20	
l E			NOTES:								Ε´°	
l E	-										E	
E	-		1. Soils	s are field	visually classified in fied Soils Classification	n					E	
			System.	e with the Uni	neu sons ciassificatio	''					ŧ	
	-		•	_							F	
	-			Sample not som this interva	ubmitted for laborator II.	у					E	
	-		3. Seafloo	or elevation cal	culated using sampling	g					<u>-</u> 25	
<u> </u>	-		vessel's fat	thometer wate	r depth reading and						F	

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19816° Long = -88.29124°

Boring Designation BI-PB-143-11

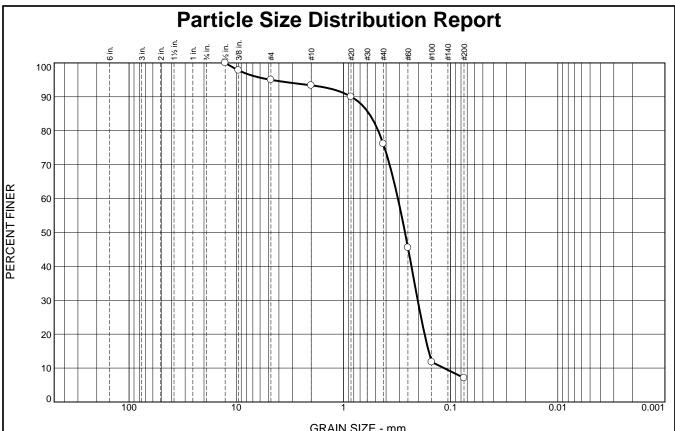
DRILLING LOG (Cont. Sheet) Mobile District COORDINATE SYSTEM/DATUM State Plane, MSE (U.S. Ft.) MSCIP Barrier Island Restoration State Plane, MSE (U.S. Ft.) NADB3 NAV/D88 LOCATION COORDINATES X = 1,155,503 Y = 254,302 CLASSIFICATION OF MATERIALS Applying NOAA tidal gauge data conversion factor. Applying NOAA tidal gauge data conversion factor.
MSCIP Barrier Island Restoration State Plane, MSE (U.S. Ft.) NAD83 NAVD88 ELEVATION TOP OF BORING -39.7 Ft. CLASSIFICATION OF MATERIALS Applying NOAA tidal gauge data conversion
CATION COORDINATES X = 1,155,503 Y = 254,302 LEV. DEPTH DEPTH CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS Applying NOAA tidal gauge data conversion
X = 1,155,503 Y = 254,302 -39.7 Ft. LEV. DEPTH B CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS Applying NOAA tidal gauge data conversion
LEV. DEPTH S CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RESULTS Applying NOAA tidal gauge data conversion
applying NOAA tidal gauge data conversion

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19816° Long = -88.29124°

Boring Designation BI-PB-144-11

DRI	LLING	LOG	DIVISION				1	STALLATIO				SHEET	1
			Sou	uth Atlantic			_	Mobile Di				OF 1	SHEETS
1. PRO		! - !	ad Dard	4: a.a			_			VA	Λ1	VERT	`AI
	IsCIP Barrie			tion			10.		NATE SYSTEM/DATUM	!	AL	VERTIC	
	etit Bois Pa			LOCATION C	OOPD	INATES	11		Plane, MSE (U.S. F	, ,			/D88
	I-PB-144-1		•	1		N = 255,866	'''	Vibra		IION OF DRILL	=	UTO HAI	MMER HAMMER
	LING AGEN					RACTOR FILE NO.	+	VIDIC	icor c	DISTURBED			BED (UD)
C	orps of Eng	ineers	s - CESAM		!		12.	. TOTAL	SAMPLES	4		0	(- /
	E OF DRILL						13.	. TOTAL I	NUMBER CORE BOXES	<u> </u>			
C	onstruction	Soluti	ons Interna	ational, Inc.			\vdash	. WATER					
	CTION OF E	BORING	3	DEG. FROM	И	BEARING	14.	. WAIER	DEPIH	35 Ft.		1	
=	VERTICAL INCLINED			LINIOAL		i	15.	. DATE BO	ORING	STARTED 07-01-1	4	COMPL)1-11
						1	10		ION TOP OF POPING	1 4. 4	<u>'</u>	07-0	71-11
6. THIC	KNESS OF	OVERE	BURDEN	N/A			\bot		ION TOP OF BORING	-33.1 Ft.			
7. DEP	TH DRILLED	INTO	ROCK	N/A			_		RECOVERY FOR BORII				
8. TOT	AL DEPTH O	F BOP	ING 1	6.2 Ft.			7 18.		URE AND TITLE OF IN				
0. 101	A2 52: 11: 0	П		0.211.			<u> Т</u>	IVIICN	ele Johnson, Geolog T	JIST			
ELEV.	DEPTH	LEGEND	С	LASSIFICATIO	ON OF	MATERIALS		SAMPLE	L	ABORATORY RES	ULTS		
-33.1	0.0	\prod					Ţ						
	Ē	:.::	SAND, r	poorly-graded	l, mos	stly coarse-graine	ed						E
	<u>-</u>	[.∵I		ed quartz, gra									F
	<u> </u>	$ \cdot\cdot\cdot $						Α	Classification: S	SP-SM Color:	2.5Y	7/1-light	gray E
	<u> </u>	· : ·						,,	D50: 0).2664 mm %	Fines	: 7.1	E
	-	- <u> </u>											F
-37.1	4.0	<u> </u>					ļ						<u>E</u>
	<u> </u>		SAND	poorly-graded	d with	silt, trace sh	_{ell}						F
	-	 •.†∤∥		s, dark gray			···						F
	_		•			•		В	Classification: SP-SI	M Color: 2.5\			vnish gray
	_	::						Ь	D50: 0).2519 mm %	Fines	: 5.9	Ť
	_	-											F
	-	-											ļ.
	-	- [Λ+ ⊑I _ /1	I.1 Ft., trace of	alav d	ark gray	Γ						F
	_		AL LI41	i. i i i., ii ace i	Jay, u	aik glay							F
	=	[.·						0	Classification	on: SM Color	: 2.5Y	′ 5/1-gra	v F
	-	$ \cdot $						С			ines:		F
	_	·.											F
	<u> </u>	[:.[]]											E
	Ē	·	\ \ \	E 1 E 1 1	H.,	dium ambias d	, t						E
	Ė			5.1 Ft., mosi artz, dark grav		dium-grained san	u-						E
	Ē	-: <u> </u>	oizeu que	, uain yia)	,				Classification: S	M Color: 2.5	V 5/2	aravich l	brown E
	<u> </u>							D		.3375 mm % F	ines:	17.9	E
	<u> </u>	::								. •			F
-49.3	162	.:											F
-+3.3	- 10.2	•					\dashv						 F
	-		NOTES:										F
	<u> </u>												E
	<u> </u>		1. So	ils are field	d visi	ually classified	in						E
	-			ice with the L	unified	Soils Classification	on						F
	<u>E</u>		System.										E
	<u> </u>			Sample not from this inter		nitted for laborato	ry						<u> </u>
	<u> </u>					ated using samplir depth reading ar							E
	<u>-</u>					e data conversio							F
			factor.		5 9								E
	-												F
	<u>L</u>												E
	-												E
	-												E

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20246° Long = -88.29115°



	GRAIN SIZE - MM.								
% +3"	% G	ravel	% Sand			% Fines			
% +3	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
0.0	0.0	5.0	1.6	17.3	69.0	7.1			

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.5	100.0		
.375	97.8		
#4	95.0		
#10	93.4		
#20	90.0		
#40	76.1		
#60	45.5		
#100	11.8		
#200	7.1		

Material Description Slightly silty SAND (SP-SM), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.8462 D ₅₀ = 0.2664 D ₁₀ = 0.1152	Coefficients D ₈₅ = 0.5744 D ₃₀ = 0.2026 C _u = 2.69	D ₆₀ = 0.3103 D ₁₅ = 0.1604 C _c = 1.15				
USCS= SP-SM	Classification AASHTO)=				
Remarks There are two samples marked BI-PB-144A-11, 0 - 4 ft and no						
sample marked BI-I		mples were tested and				

Location: USACE Sample # BI-PB-144A-1-11 Sample Number: TE Lab ID: 5054.141 **Depth:** 0.0 - 4.0 (ft) **Date:** 7/18/11

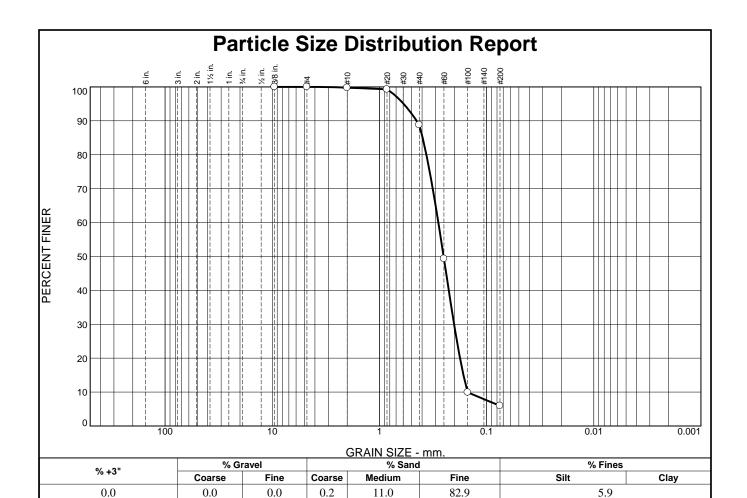
Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.8		
#20	99.3		
#40	88.8		
#60	49.3		
#100	9.9		
#200	5.9		
* ,	aification provided		

Material Description Slightly silty SAND (SP-SM), medium to fine grained							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.4496 D ₅₀ = 0.2519 D ₁₀ = 0.1503	Coefficients D85= 0.3953 D30= 0.2010 Cu= 1.88	D ₆₀ = 0.2821 D ₁₅ = 0.1645 C _c = 0.95					
USCS= SP-SM	Classification AASHTO= Remarks	=					
	<u>Remarks</u>						

Location: USACE Sample # BI-PB-144B-11 **Sample Number:** TE Lab ID: 5054.142

Depth: 4.0 - 8.0 (ft)

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

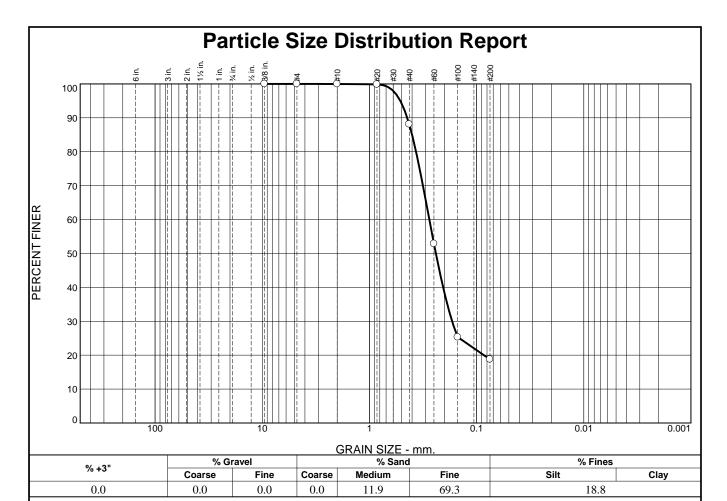
Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Project No: 11-2116-0057

Figure

Date: 7/18/11



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	88.1		
#60	52.8		
#100	25.3		
#200	18.8		
* ,	aifiaction provided	<u> </u>	

Material Description Silty SAND (SM), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.4434 D ₅₀ = 0.2399 D ₁₀ =	Coefficients D ₈₅ = 0.4000 D ₃₀ = 0.1693 C _U =	D ₆₀ = 0.2762 D ₁₅ = C _c =				
USCS= SM	Classification AASHT	O=				
	Remarks					

Location: USACE Sample # BI-PB-144C-11 **Sample Number:** TE Lab ID: 5054.143

Depth: 8.0 - 12.0 (ft) **Date:** 7/18/11

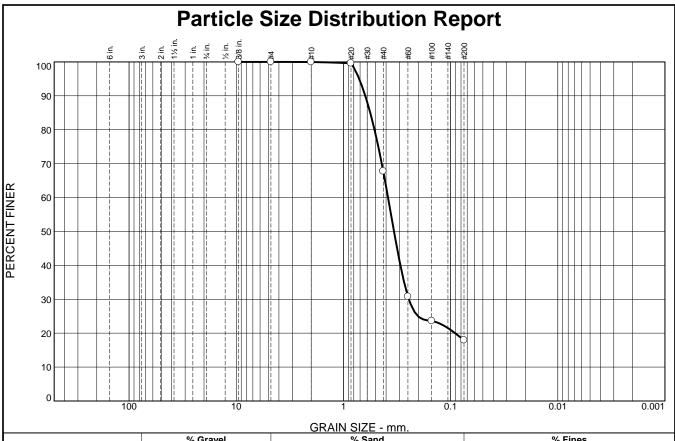
Thompson Engineering

Project: Contract No. W91278-10-D-0026 - Task 009

Client: US Army Corps of Engineers

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057



	GRAIN SIZE - IIIIII.								
9/ .2"	% G	ravel	% Sand			% Fines			
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
0.0	0.0	0.0	0.0	32.2	49.9	17.9			

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.6		
#40	67.8		
#60	30.8		
#100	23.6		
#200	17.9		

Material Description Silty SAND (SM), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.6247 D ₅₀ = 0.3375 D ₁₀ =	Coefficients D ₈₅ = 0.5617 D ₃₀ = 0.2455 C _u =	D ₆₀ = 0.3836 D ₁₅ = C _c =				
USCS= SM	Classification AASHT	O=				
	<u>Remarks</u>					

Location: USACE Sample # BI-PB-144D-11 **Sample Number:** TE Lab ID: 5054.144

Depth: 12.0 - 16.2 (ft) **Date:** 7/18/11

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

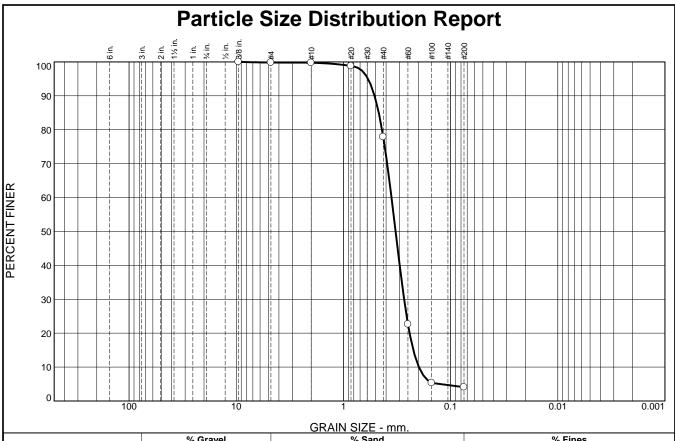
Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057

Boring Designation BI-PB-145-11

DRILL	INC	-	DIVISION	N		INS	STALLATIO	ON O		SHE	ET 1	
		LUG	South	n Atlantic			Mobile Dis	strict		OF	1 SHEETS	
1. PROJEC						9. SIZE AND TYPE OF BIT N/A						
			d Restoratio	on		10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL						
Petit 2. BORING	Bois Pas			OCATION CO	OPDINATES	11	State Plane, MSE (U.S. Ft.) NAD83 NAVD88 11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER					
	BI-PB-145-11							11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER Vibracore MANUAL HAMMER				
3. DRILLIN	IG AGEN	CY		C	ONTRACTOR FILE NO.	42	TOTAL S		DISTURBED	UNDIST	URBED (UD)	
			- CESAM	<u> </u>		12.	IOIALS	SAMPLES	3	0		
4. NAME O			ons Internati	ional Inc		13.	TOTAL N	NUMBER CORE BOXES				
5. DIRECTI				DEG. FROM VERTICAL	BEARING	14.	WATER	DEPTH	36.6 Ft.			
⊠ VER □ INC				VERTICAL		15.	DATE BO	DRING	STARTED 07-01-11	1	7-01-11	
6. THICKN	IESS OF C	OVERB	URDEN	N/A		16.	ELEVAT	ION TOP OF BORING	-34.5 Ft.			
7. DEPTH I	DRILLED	INTO I	ROCK N	I/A		17.	TOTAL F	RECOVERY FOR BORING	100%			
	DEDTII 0					18.		URE AND TITLE OF INSF				
8. TOTAL I	DEPTH O		ING 16.	4 Ft.		ᄂ	Mich	ele Johnson, Geologist	t			
ELEV. D	DEPTH	LEGEND	CLA	ASSIFICATION	OF MATERIALS		SAMPLE	LAB	ORATORY RESUI	LTS		
-34.5 0).0										-0	
E					mostly medium-graine	d					E	
E		.::	sand-sized	quartz, gray	(SP)			Classif	ication: SP C	Color: -	E	
E							Α			nes: 4.1	E	
-											Ė.	
-38.5 - 4	.0	\cdots				L					<u>F</u>	
ļ Ē					mostly medium-graine	d					F _	
F		\cdots	sand-sized	quartz, gray	(SP)		В	Classification:	SP Color: 5Y	7/1-light	gray = 5	
F		$ \cdot $					ь	D50: 0.3	541 mm % Fi	nes: 2.9	· · · · · · · · · · · · · · · · · · ·	
-41.8 - 7	'.3										Ę.	
E			SAND. cla	vev. trace s	hell fragments, claye	v.					E	
E			gray (SC)	, , , , , , , , , ,		´					ŧ	
F							С	Classification: D50: 0.1		2.5Y 5/1-g es: 21.2	gray	
F								D30. 0.1	701111	C3. Z1.Z	-10	
E											E	
E						Ī					E	
E											ŧ	
F											F	
E							NS				F	
<u> </u>											15	
-50.9 - 1	6.4										E	
-50.8 - 1	U. T	(/////				\dashv					 ‡	
			NOTES:								<u> </u>	
			1. Soils	are field	visually classified i	n					ŧ	
F			accordance System.	e with the Uni	fied Soils Classification	n					F	
E			-	0	and the second second						-20	
 			analysis fro	Sample not som this interva	submitted for laborator al.	У					<u> </u>	
 			3. Seafloo	r elevation ca	lculated using samplin	g					F	
E			vessel's fa	athometer wa	ter depth reading an gauge data conversio	d					Ę.	
E			factor.	NOMA LIUAI (gauge uata conversio	"'					E	
E											ŧ	
F											-25 -	
l E											E	

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20616° Long = -88.29102°



% +3"	% Gı	avel		% Sand		Fine Silt 73.8 4.1	
% +3	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	0.0	21.9	/ 4 X	4.1	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.8		
#10	99.8		
#20	98.8		
#40	77.9		
#60	22.6		
#100	5.3		
#200	4.1		

Material Description SAND (SP), medium to fine grained										
PL=	Atterberg Limits LL=	PI=								
D ₉₀ = 0.5122 D ₅₀ = 0.3263 D ₁₀ = 0.1977	Coefficients D ₈₅ = 0.4678 D ₃₀ = 0.2716 C _U = 1.80	D ₆₀ = 0.3562 D ₁₅ = 0.2227 C _c = 1.05								
USCS= SP	Classification AASHT	O=								
	<u>Remarks</u>									
sample marked Bl	1	44A-11, 0 - 4 ft and no amples were tested and 44A-2-11.								

Should be labeled BI-PB-145A-11

Location: USACE Sample # BI-PB-144A-2-11 Sample Number: TE Lab ID: 5054.145

Depth: 0.0 - 4.0 (ft)

Date: 7/18/11

Thompson Engineering

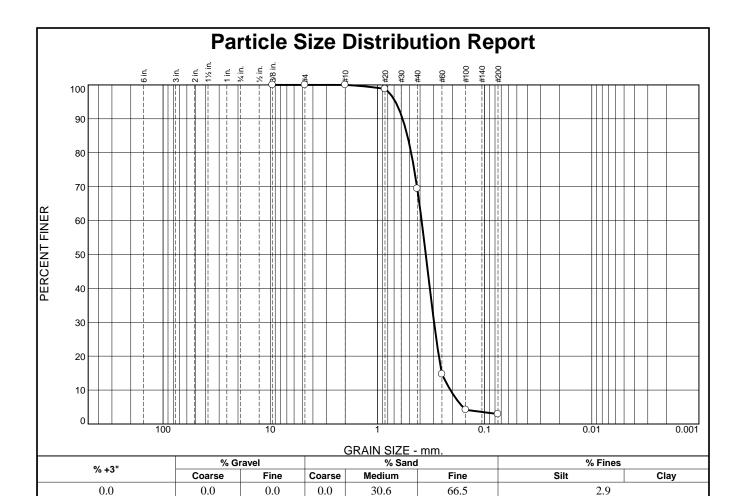
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 11-2116-0057



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	98.8		
#40	69.4		
#60	14.7		
#100	4.2		
#200	2.9		
* (no sn	cification provided	1)	

0.0

0.0

30.6

Material Description SAND (SP), medium to fine grained									
PL=	Atterberg Limits LL=	PI=							
D ₉₀ = 0.5818 D ₅₀ = 0.3541 D ₁₀ = 0.2083	Coefficients D ₈₅ = 0.5249 D ₃₀ = 0.2965 C _u = 1.86	D ₆₀ = 0.3872 D ₁₅ = 0.2511 C _c = 1.09							
USCS= SP	Classification AASHT	O=							
	<u>Remarks</u>								

(no specification provided)

Location: USACE Sample # BI-PB-145B-11 **Sample Number:** TE Lab ID: 5054.146

Date: 7/18/11 **Depth:** 4.0 - 7.3 (ft)

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

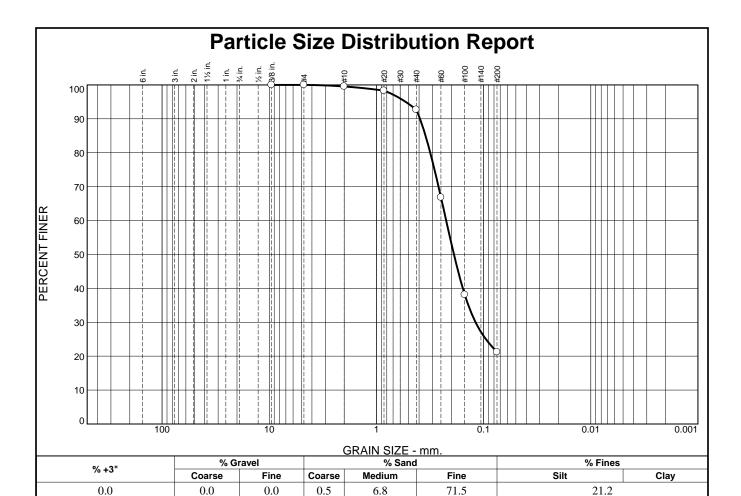
66.5

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057

Figure

2.9



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.5		
#20	98.3		
#40	92.7		
#60	66.8		
#100	38.1		
#200	21.2		
* /	cification provided	<u> </u>	

Material Description Silty SAND (SM), fine grained										
PL=	Atterberg Limits	PI=								
D ₉₀ = 0.3921 D ₅₀ = 0.1890 D ₁₀ =	Coefficients D ₈₅ = 0.3481 D ₃₀ = 0.1189 C _u =	D ₆₀ = 0.2235 D ₁₅ = C _c =								
USCS= SM	Classification AASHT	O=								
	<u>Remarks</u>									

Location: USACE Sample # BI-PB-145C-11 **Sample Number:** TE Lab ID: 5054.147

Depth: 7.3 - 11.4 (ft) **Date:** 7/18/11

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

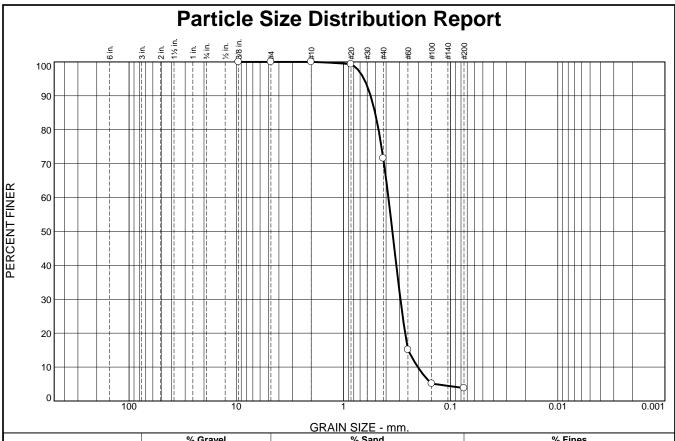
Mobile, Alabama **Project No:** 11-2116-0057

Boring Designation BI-PB-146-11

DBI	LLING	100	DIVISION	N		INST	ALLATIC	ON		SHEET	r 1		
		LUC	South	n Atlantic		Mobile District OF 1 SHE					SHEETS		
1. PRO						9. SIZE AND TYPE OF BIT N/A							
			nd Restoration	on		10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL							
	etit Bois Pa			OCATION CO	OPDINATES	State Plane, MSE (U.S. Ft.) NAD83 NAVD88 11. MANUFACTURER'S DESIGNATION OF DRILL DAMMER							
	BI-PB-146-11							11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER Vibracore MANUAL HAMMER					
	LING AGEN		I		CONTRACTOR FILE NO.	40 .		¦ D	ISTURBED UN	IDISTUR	BED (UD)		
			s - CESAM	<u>i</u>		12.	TOTALS	SAMPLES	5	0			
	E OF DRILL			: l		13.	TOTAL N	NUMBER CORE BOXES					
	CTION OF E		ions Internati G	DEG. FROM VERTICAL	BEARING	14.	WATER I	DEPTH	35 Ft.				
	VERTICAL INCLINED			VERTICAL		15.	DATE BO	PRING	STARTED 06-30-11	COMPL 06-3	.ETED 30-11		
6. THIC	KNESS OF	OVER	BURDEN	N/A		16.	ELEVAT	ION TOP OF BORING	-34.0 Ft.				
7. DEP1	TH DRILLED	INTO	ROCK N	I/A		17.	TOTAL F	RECOVERY FOR BORING	100%				
0 TOT	AL DERTU C	E POT				18.		URE AND TITLE OF INSPI	ECTOR				
o. 101/	AL DEPTH O		18.	9 Ft.			Mich	ele Johnson, Geologist					
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION	OF MATERIALS	S	AMPLE	LABO	RATORY RESULTS				
-34.0	0.0												
			SAND, po	orly-graded,	mostly medium-grained	b					Ę.		
		$ \cdots $	sand-sized	quartz, It. gra	ay (SP)			Classification: SF	Color: 0 EV 7	1 liabt -	F F		
	-	·					Α	D50: 0.34		1-light g : 3.8	ray E		
	<u>-</u>										E		
	_	·:::											
											E		
	_										E,		
	-	·:::					В	Classification: SP-9 D50: 0.34		7/1-light	t gray		
	_	:·::						D50. 0.34	94 mm % rines	5.3	E		
											E		
į	=	· '									<u>_</u>		
	<u>-</u>										Ŀ		
	<u>-</u>						С	Classification: SF			ray = .		
-	<u>-</u>	[:::]					O	D50: 0.35	02 mm % Fines:	3.5	Ė		
	-	·:·:									E		
	-	[.∵I				\vdash							
	<u>-</u>	.::.									E		
	- - -	$ \cdots $						Classification: SF	Color: 2.5Y 7/	1-light o	_{irav} E		
	-	$ \cdots $					D	D50: 0.35			F		
	-	$ \cdot \cdot $									F-		
	_	[:::									E		
	=	$ \cdots $									ŧ		
	-	<u> </u> :-::					Е	Classification: S			e F		
	<u>-</u>	$ \ldots $						D50: 0.36	06 mm % Fines:	. ∠ . I	F		
-52.9	18.9	 ` ` ` 				+							
	- - -		NOTES:								<u> </u>		
	-		NOTES:								E'		
	<u>-</u>		1. Soils	are field	visually classified in	n					F		
	<u>-</u>		accordance System.	e with the Un	ified Soils Classification	n					F		
	- - -										F		
	<u>-</u>		2. NS = 3	Sample not som this intervented	submitted for laboratory	у					F		
	-		-								F		
	- - 				determined from 2010	0					<u> </u>		
	=		USACE su	ı vey.							Į.		
	-												

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20093° Long = -88.31710°



OTO WIT OILL THINK							
% +3"	% Gı	avel	% Sand		% Fines		
% +3	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	28.4	67.8	3.8	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.3		
#40	71.6		
#60	15.1		
#100	5.1		
#200	3.8		
*			

Material Description SAND (SP), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5572 D ₅₀ = 0.3493 D ₁₀ = 0.2020	Coefficients D ₈₅ = 0.5063 D ₃₀ = 0.2941 C _u = 1.88	D ₆₀ = 0.3806 D ₁₅ = 0.2491 C _C = 1.12				
USCS= SP	Classification AASHT	O=				
	<u>Remarks</u>					

Location: USACE Sample # BI-PB-146A-11 **Sample Number:** TE Lab ID: 5054.115

Depth: 0.0 - 4.0 (ft) **Date:** 7/18/11

Thompson Engineering

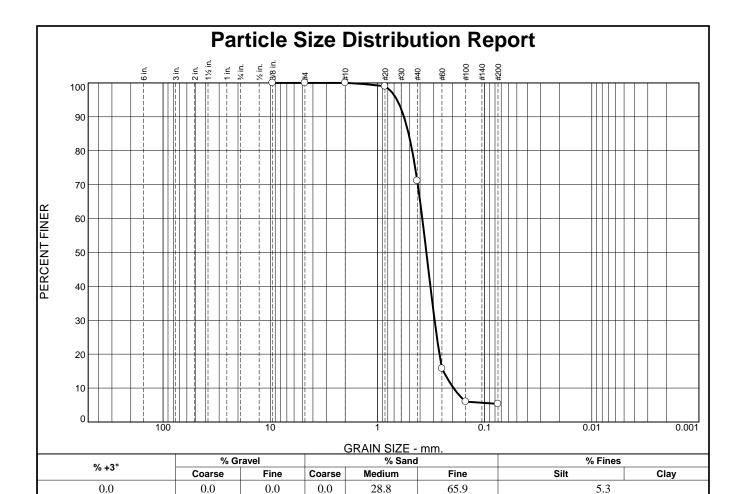
Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama

Project No: 11-2116-0057 **Figure**



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.0		
#40	71.2		
#60	15.8		
#100	6.0		
#200	5.3		
* (no en	ecification provided	1/	

Material Description Slightly silty SAND (SP-SM), medium to fine grained					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.5648 D ₅₀ = 0.3494 D ₁₀ = 0.1947	Coefficients D ₈₅ = 0.5113 D ₃₀ = 0.2930 C _u = 1.96	D ₆₀ = 0.3814 D ₁₅ = 0.2428 C _C = 1.16			
USCS= SP-SM	Classification AASHT0)=			
<u>Remarks</u>					

Location: USACE Sample # BI-PB-146B-11 **Sample Number:** TE Lab ID: 5054.116

Depth: 4.0 - 8.0 (ft) **Date:** 7/18/11

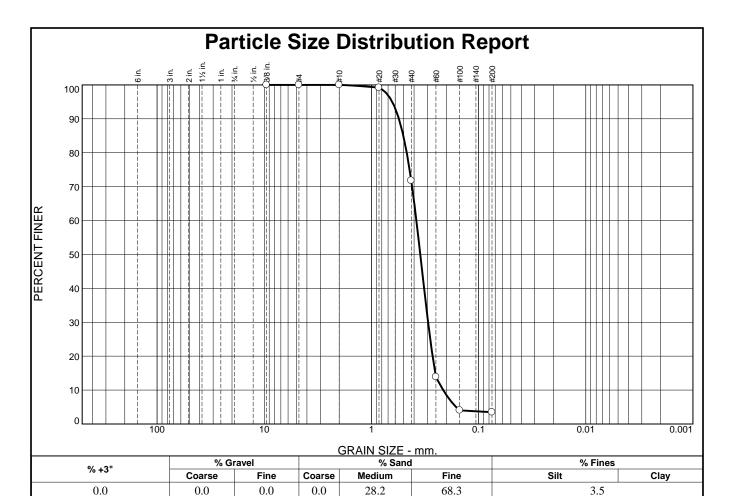
Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009 Mississippi Barrier Island Restoration Project

Project No: 11-2116-0057



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.2		
#40	71.8		
#60	13.9		
#100	4.0		
#200	3.5		
* /	cification provided	1	

Material Description SAND (SP), medium to fine grained					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.5537 D ₅₀ = 0.3502 D ₁₀ = 0.2138	Coefficients D ₈₅ = 0.5037 D ₃₀ = 0.2963 C _u = 1.78	D ₆₀ = 0.3808 D ₁₅ = 0.2538 C _C = 1.08			
USCS= SP	Classification AASHT	·O=			
	<u>Remarks</u>				

Location: USACE Sample # BI-PB-146C-11 **Sample Number:** TE Lab ID: 5054.117 **Depth:** 8.0 - 12.0 (ft) **Date:** 7/18/11

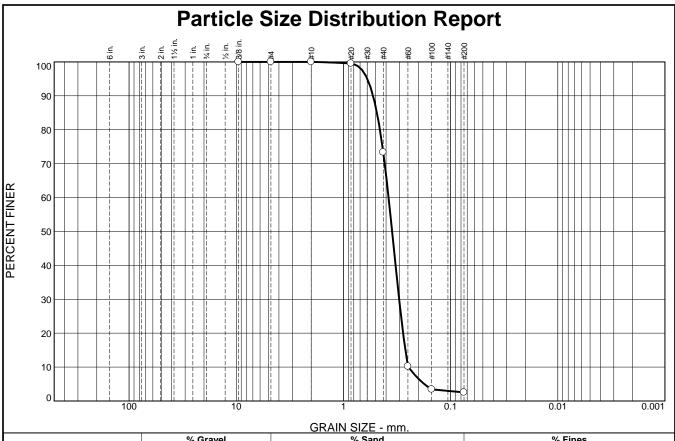
Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057



% +3"	% Gr	avel	% Sand		% Fines		
% +3	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	26.6	70.9	2.5	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.5		
#40	73.4		
#60	10.2		
#100	3.4		
#200	2.5		
*			

Material Description SAND (SP), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5287 D ₅₀ = 0.3514 D ₁₀ = 0.2475	Coefficients D ₈₅ = 0.4866 D ₃₀ = 0.3023 C _U = 1.53	D ₆₀ = 0.3792 D ₁₅ = 0.2645 C _c = 0.97				
USCS= SP	Classification AASHT	0=				
	<u>Remarks</u>					

Location: USACE Sample # BI-PB-146D-11 **Sample Number:** TE Lab ID: 5054.118

Depth: 12.0 - 16.0 (ft) **Date:** 7/18/11

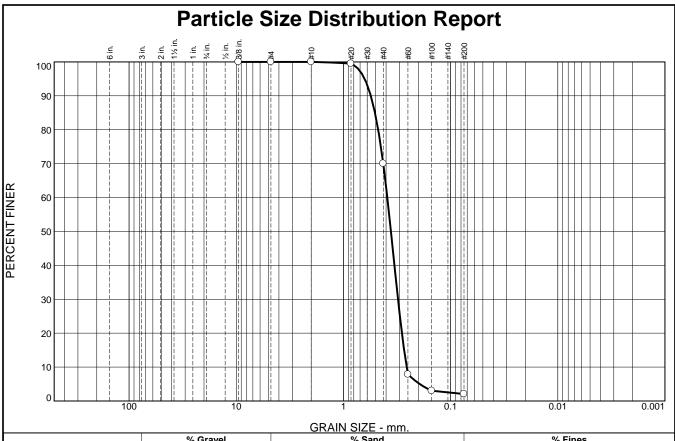
Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama **Project No:** 11-2116-0057



% +3"	% Gı	avel	% Sand		% Fines		
% +3	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	30.0	67.9	2.1	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.5		
#40	70.0		
#60	7.8		
#100	3.0		
#200	2.1		
*			

Material Description SAND (SP), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5550 D ₅₀ = 0.3606 D ₁₀ = 0.2572	Coefficients D ₈₅ = 0.5078 D ₃₀ = 0.3098 C _u = 1.52	D ₆₀ = 0.3897 D ₁₅ = 0.2718 C _c = 0.96				
USCS= SP	Classification AASHT	O=				
	Remarks					

Location: USACE Sample # BI-PB-146E-11 **Sample Number:** TE Lab ID: 5054.119

Depth: 16.0 - 18.9 (ft) **Date:** 7/18/11

Thompson Engineering

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

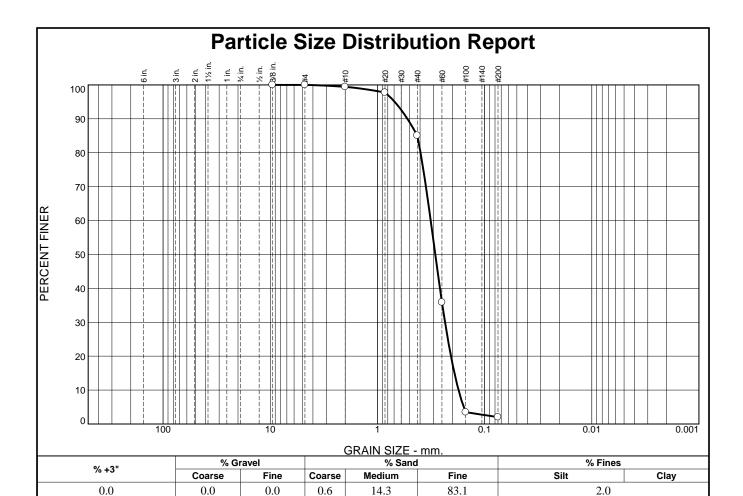
Mobile, Alabama

Project No: 11-2116-0057 **Figure**

Boring Designation BI-PB-147-11

DR	ILLING	LOG	DIVISION				IN	STALLATI						SHEET	
	South Atlantic Mobile					Mobile Di						OF 1	SHEETS		
	1. PROJECT						TYPE OF BIT	N/A	i HODITA	NTAL	1 24	EDTIC	A1		
	MsCIP Barrie			tion			10		INATE SYSTEM/DAT		HORIZO		٧	ERTIC	
	Petit Bois Pa			LOCATION C	OOPP	INATES			e Plane, MSE (U.S. ACTURER'S DESIGN				1	NAV	
	BI-PB-147-1		•	E = 1,147					actorer's design	AIION	OF DRIL	՝ ⊨	-	O HAN	IMER IAMMER
	LLING AGEN					RACTOR FILE		VIDIO	acore	¦ DI	STURBE	-			BED (UD)
	Corps of Eng		s - CESAM					. TOTAL	SAMPLES		3		0		(02)
	ME OF DRILL				<u> </u>		13	. TOTAL	NUMBER CORE BOX	ES	-				
	Construction	Soluti	ons Interna	ational, Inc.			-				22.51				
	ECTION OF E	BORING	3	DEG. FROM	VI	BEARING	14	. WATER	DEPTH		33 Ft.				
	VERTICAL INCLINED			VERTICAL			15	. DATE B	ORING		STARTE	≣D)1-11	C	OMPLI 07-0	1-11
6. TH	CKNESS OF	OVERE	BURDEN	N/A		·I	16	. ELEVA	ION TOP OF BORING	G	-32.1 Ft.				
7. DEI	TH DRILLED	INTO	ROCK	N/A			17	. TOTAL	RECOVERY FOR BOI	RING	100%				
				- 4 Ft			18		URE AND TITLE OF		CTOR				
8. 10	TAL DEPTH O	F BUK	ING T	5.4 Ft.				Mich	ele Johnson, Geol	ogist					
ELEV.	DEPTH	LEGEND	c	LASSIFICATIO	ON OF	MATERIALS		SAMPLE		LABO	RATORY I	RESULT	rs		
-32.1	0.0														
-34.1	2.0			ooorly-graded, ed quartz, gra		tly medium-gra)	ained	Α	Classification: SI		Color: 2.5 387 mm	5Y 6/2- % Fi	light l nes: 2	orowni 2	E
-38.1			SAND, pmedium-gray (SP	grained sand	with d-sized	silt, trace fir I shell fragm	ne to nents,	В	Classification: SP- D50:	SM : 0.20	Color: 2 33 mm	2.5Y 6/ % Fin	'2-ligh es: 6	nt brow 2	nish gray
			SAND, si fragment	ilty, trace fine s, gray (SM)	e-grain	ed sand-sized	shell	С	Classification: D50:		Color: 1 13 mm	2.5Y 5/ % Fin	/2-gra	ayish b .4	rown
-47.5	- - - - - - - - - - - - - - - - - - -							NS							
			NOTES:												
						ually classifie Soils Classific									<u> </u>
	<u> </u>		2. NS = analysis t	Sample not from this inter	t subn rval.	nitted for labor	ratory								[
	- - - - -		3. Seaf USACE s		n dete	ermined from	2010								
															- - - - - -
	<u> </u>														

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19646° Long = -88.31718°



14.3

83.1

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.4		
#20	97.8		
#40	85.1		
#60	35.9		
#100	3.5		
#200	2.0		
* .	cification provided		

0.0

0.0

0.6

Material Description SAND (SP), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5248 D ₅₀ = 0.2887 D ₁₀ = 0.1751	Coefficients D ₈₅ = 0.4246 D ₃₀ = 0.2340 C _u = 1.82	D ₆₀ = 0.3185 D ₁₅ = 0.1911 C _c = 0.98				
USCS= SP	Classification AASHT	O=				
	<u>Remarks</u>					

(no specification provided)

Location: USACE Sample # BI-PB-147A-11 **Sample Number:** TE Lab ID: 5054.134

Depth: 0.0 - 2.0 (ft)

Thompson Engineering

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

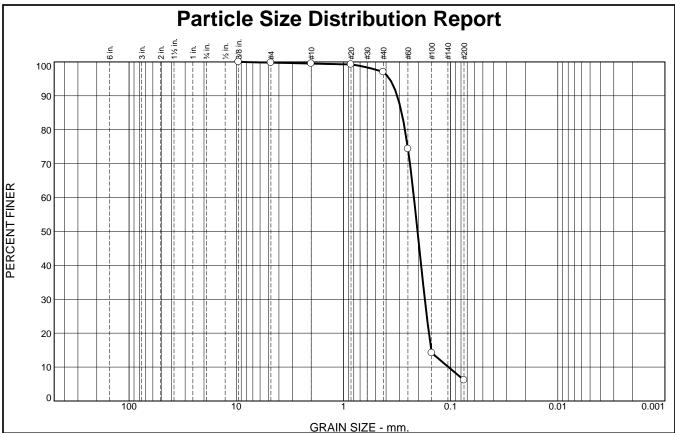
Mississippi Barrier Island Restoration Project

Project No: 11-2116-0057

Figure

Date: 7/18/11

2.0



% +3"	% Gı	avel		% Sand		% Fines		
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0	0.0	0.2	0.3	2.5	90.8	6.2		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	99.8		
#10	99.5		
#20	99.3		
#40	97.0		
#60	74.4		
#100	14.2		
#200	6.2		

Material Description Slightly silty SAND (SP-SM), fine grained							
PL=	Atterberg Limits	<u>s</u> Pl=					
D ₉₀ = 0.3150 D ₅₀ = 0.2033 D ₁₀ = 0.1046	Coefficients D ₈₅ = 0.2862 D ₃₀ = 0.1740 C _u = 2.10	D ₆₀ = 0.2199 D ₁₅ = 0.1514 C _c = 1.32					
USCS= SP-SM	Classification AASHT	ГО=					
	<u>Remarks</u>						

Location: USACE Sample # BI-PB-147B-11 **Sample Number:** TE Lab ID: 5054.135

Sample Number: TE Lab ID: 5054.135 **Depth:** 2.0 - 6.0 (ft)

Thompson Engineering

Client: US Army Corps of Engineers

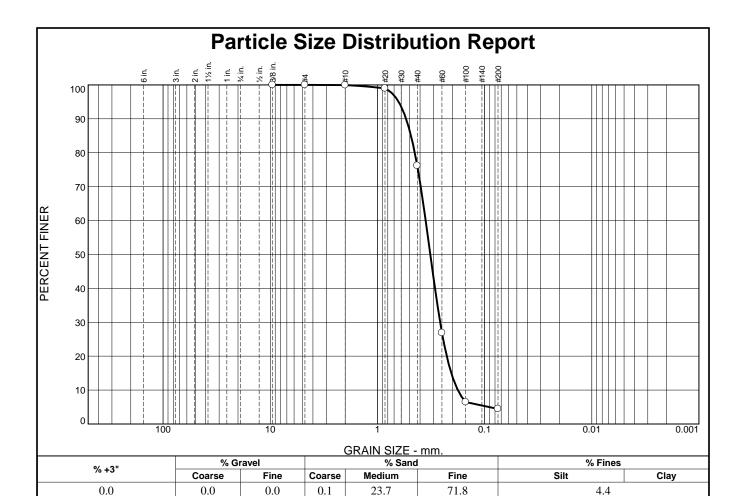
Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Mobile, Alabama Project No: 11-2116-0057

Figure

Date: 7/18/11



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.0		
#40	76.2		
#60	26.9		
#100	6.5		
#200	4.4		
L	 		

Material Description SAND (SP), medium to fine grained						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5397 D ₅₀ = 0.3213 D ₁₀ = 0.1777	Coefficients D ₈₅ = 0.4859 D ₃₀ = 0.2600 C _u = 2.00	D ₆₀ = 0.3550 D ₁₅ = 0.2046 C _C = 1.07				
USCS= SP	Classification AASHT	O=				
	<u>Remarks</u>					

Location: USACE Sample # BI-PB-147C-11 **Sample Number:** TE Lab ID: 5054.136

Depth: 6.0 - 8.2 (ft) **Date:** 7/18/11

Thompson Engineering

|| • • •

Mobile, Alabama

Client: US Army Corps of Engineers

Project: Contract No. W91278-10-D-0026 - Task 009

Mississippi Barrier Island Restoration Project

Project No: 11-2116-0057

Boring Designation BI-PB-148-12

DDI	LLING	1 06	DIVIS	ION			INS	TALLATIO	ON			SHEET	1
		South Atlantic			Mobile District OF 1 SHE			SHEETS					
1. PRO		1-1-		- t'			_	-	N/A NATE SYSTEM/DATUM	HORIZON	ITAI	VERTIC	NA1
	/IsCIP Barri Petit Bois Pa			ation			10.			NAD8		1	
	ING DESIGN			LOCATION	COORDI	INATES	11.		e Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION			UTO HA	/D88 MMFR
Е	3I-PB-148-1	2		E = 1,15	3,719	N = 255,435		Vibra					HAMMER
_	LING AGEN				CONT	RACTOR FILE NO.	12.	TOTAL S		STURBED	UN		BED (UD)
	Corps of Eng		s - CESAN	<u>/</u>	!		_				<u> </u>	0	
	American Vil		a Svetame	e Inc			13.	TOTAL I	NUMBER CORE BOXES				
	ECTION OF E			DEG. FRO	M	BEARING	14.	WATER	DEPTH	38.4 Ft.			
	VERTICAL INCLINED			VERTICAL	•		15.	DATE BO	DRING	STARTED 12-06		COMPL 12-0	. ETED 06-12
6. THI	CKNESS OF	OVERI	BURDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-37.2 Ft.			
7. DEP	TH DRILLED	INTO	ROCK	N/A			17.	TOTAL I	RECOVERY FOR BORING	100%			
							18.	SIGNAT	URE AND TITLE OF INSPE	CTOR			
8. TOT	AL DEPTH C	F BOR	RING	17.1 Ft.			ᄂ	Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	,	CLASSIFICATI	ON OF	MATERIALS		SAMPLE	LABO	RATORY RI	SULTS		
-37.2	0.0						\Box						
-39.3	- - - - - - 2.1			zed quartz, śc		to medium-graine t, some clay, trac		NS					
			medium		d-sized	silt, mostly fine t I quartz, few sil y (SP-SM)		Α	Classification: SP-SM D50: 0.293	Color: 2. 38 mm °	5Y 6/2-I % Fines:	ight brov : 7.2	vnish gray
						to medium-graine trace clay stringers		В	Classification: SP-SM D50: 0.31	Color: 2. 79 mm	5Y 6/2-I % Fines	ight brov : 6.2	vnish gray
-53.7			At El4 sand-siz gray	49.3 Ft., most zed quartz, fev	ly fine w silt, t	to medium-graine rrace clay stringers	d s,	С	Classification: SF D50: 0.320	2-SM C	olor: 2.5 % Fines	5Y 6/1-g : 6.1	ray
-54.3	17.1		CLAY.	lean. mostly	clav.	some fine-graine	_d I	NS					<u>_</u>
			sand-siz gray (C NOTES: 1. Si accorda System. 2. NS analysis	ed quartz, k L) coils are fiel nce with the L = Sample no from this inte	d visu Unified t subm	medium plasticity ually classified i Soils Classificatio nitted for laborator ermined from 201	n n y						

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20130° Long = -88.29687°

Project

Mississippi Barrier Island Restoration Project

AVS **AMERICAN VIBRACORE** SERVICES

Core Identifier BI-PB-148-12

Coordinate System

Date 12/06/2012

Water Depth 38.4'

Latitude / Longitude

Start Time 11:27:47

Penetration 20.0'

Latitude 30 12.078

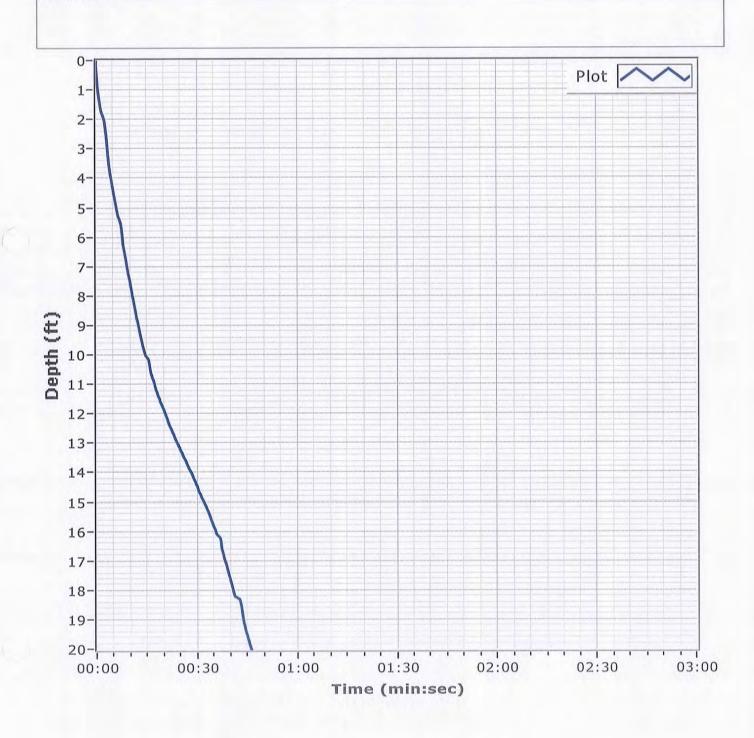
Total Time 00:00:46

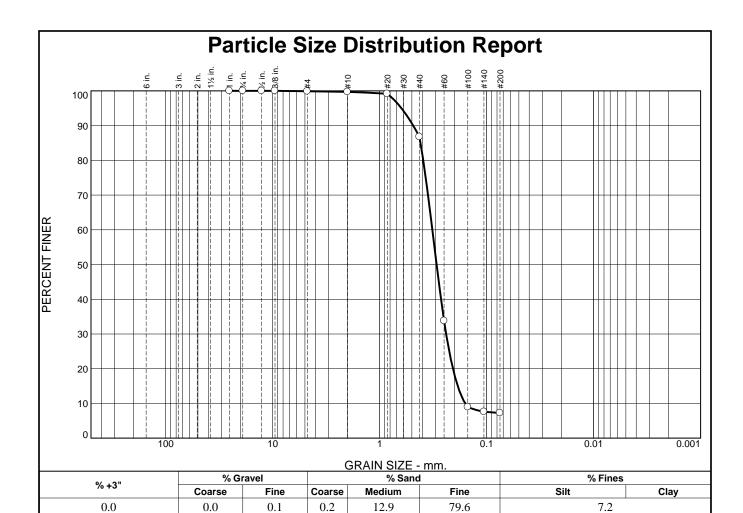
End Time 11:28:34

Recovery 17.1'

Longitude 088 17.812

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.7		
#20	99.2		
#40	86.8		
#60	33.8		
#100	9.0		
#140	7.6		
#200	7.2		

Material Description Fine to medium grained, SLIGHTLY SILTY SAND							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.4863 D ₅₀ = 0.2938 D ₁₀ = 0.1589	Coefficients D ₈₅ = 0.4152 D ₃₀ = 0.2391 C _u = 2.03	D ₆₀ = 0.3219 D ₁₅ = 0.1866 C _c = 1.12					
USCS= SP-SM	Classification AASHT	O=					
	<u>Remarks</u>						

Location: BI-PB-148-12 A **Sample Number:** 6480 (12)

Date: 12/07/12 **Depth:** 2.1'

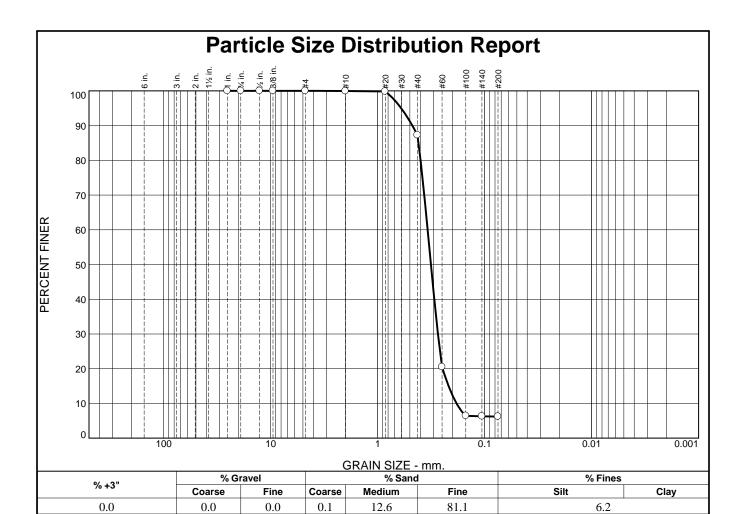
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.8		
#40	87.3		
#60	20.5		
#100	6.4		
#140	6.3		
#200	6.2		

	Material Description Fine to medium grained, SLIGHTLY SILTY SAND					
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.4743 D ₅₀ = 0.3179 D ₁₀ = 0.1833	Coefficients D ₈₅ = 0.4154 D ₃₀ = 0.2735 C _u = 1.86	D ₆₀ = 0.3411 D ₁₅ = 0.2173 C _c = 1.20				
USCS= SP-SM	Classification AASHTO)=				
	<u>Remarks</u>					

Location: BI-PB-148-12 B **Sample Number:** 6480 (13)

Date: 12/07/12 **Depth:** 7.1'

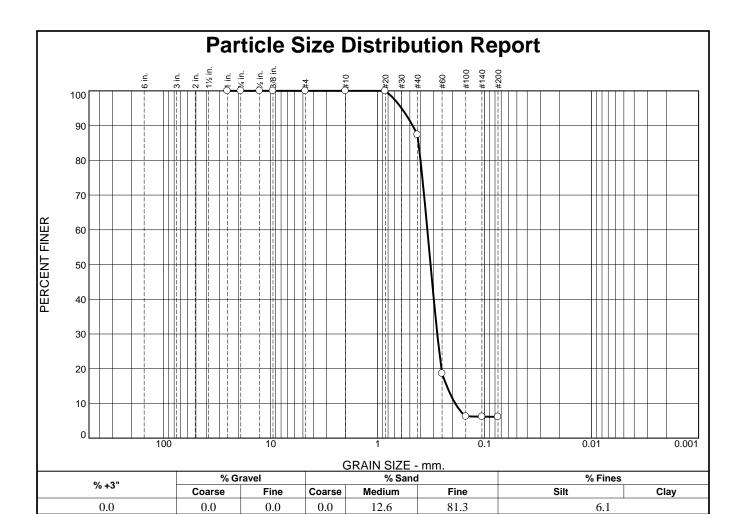
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	87.4		
#60	18.6		
#100	6.3		
#140	6.2		
#200	6.1		

	Material Description Fine to medium grained, SLIGHTLY SILTY SAND					
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.4716 D ₅₀ = 0.3206 D ₁₀ = 0.1885	Coefficients D ₈₅ = 0.4153 D ₃₀ = 0.2775 C _U = 1.82	D ₆₀ = 0.3432 D ₁₅ = 0.2258 C _c = 1.19				
USCS= SP-SM	Classification AASHTO	D=				
	<u>Remarks</u>					

Location: BI-PB-148-12 C **Sample Number:** 6480 (14) **Depth:** 12.1' **Date:** 12/07/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-149-12

DRI	LLING	ı og	DIVISI				IN	STALLATI				SHEET	r 1
1. PRO			Sou	uth Atlantic			_	Mobile D				OF 1	SHEETS
										I/A			
	AsCIP Barri			tion			10		INATE SYSTEM/DATUM			VERTIC	
	etit Bois Pa			LOCATION	OOPD	INATES			e Plane, MSE (U.S. F ACTURER'S DESIGNAT	,			√D88
	BI-PB-149-12 E = 1,147,143 N = 253,186				- 1		acore	TION OF BRILL		AUTO HAI	MMER HAMMER		
	LING AGEN					RACTOR FILE	NO.			DISTURBED			BED (UD)
	Corps of Eng	gineers	- CESAM		!		12	. TOTAL	SAMPLES		į	0	, ,
4. NAN	NAME OF DRILLER				13	. TOTAL	NUMBER CORE BOXES	5					
P	merican Vil	oracore	e Systems,	, Inc.				. WATER	DEDTU	37.6 Ft.			
	CTION OF I	BORING	3	DEG. FROI	М	BEARING	<u> "</u>	. WAIER	DEPIN	STARTED		COMPL	ETED
	VERTICAL INCLINED				-	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	15	. DATE B	ORING	12-12-	12	i	12-12
6. THI	CKNESS OF	OVERB	URDEN	N/A		•	16	6. ELEVA	TION TOP OF BORING	-38.1 Ft.		·	
7. DEP	TH DRILLED	INTO	ROCK	N/A			17	. TOTAL	RECOVERY FOR BORII	NG 100%			
8. TOT	AL DEPTH C	F ROP	ING 1	4.7 Ft.			18		URE AND TITLE OF IN				
J. 101	AL PER IN C			⊤. <i>1</i> 1 l.				Mike	e FitzHarris, Geologis T	τ			
ELEV.	DEPTH	LEGEND	c	CLASSIFICATION	ON OF	MATERIALS		SAMPLE	L	ABORATORY RES	SULTS		
-38.1	0.0												
-39.1	E 1.0	:.	SAND, p	oorly-graded	with	silt, mostly fi	ne to						E
55.1	E		medium-	grained sand	d-sized	quartz, some	e silt, /						F
	<u> </u>		gray (SF	Y-SM)									E
	F					grained sand-	-sized						E
	Ē		quartz, tr	ace shell frag	gments	s, gray (SC)							E
	-												į.
	Ē												E
	E												E
-44.1	6.0												E
	Ē		CLAY.	fat, mostly	clav.	medium to	hiah						E
	F		plasticity,	, stiff, dark gr	ay (Cl	H)	J	NS					F
	E							'•					E
-47.0	8.9												E
	Ē		CVVID	oorly graded	mac	tly modium	ainad						F
	<u> </u>	- : -	sand-size	ed guartz. tr	, mos ace si	tly medium-gr lt, lt. grav to	white						E
	Ę	:::	(SP)			., g. w _j to							Ė
	Ė	[∷:]	•										F
	<u> </u>	 .∵. 											E
54 6	Ē 40.0	$ \cdot \cdot $											Ė
-51.3	13.2 												F
	E		CLAY, fa	nt, mostly clay	, some	e fine-grained	sand-						E
-52.8	14.7				n to h	nigh plasticity,	dark						<u>_</u>
	Ē		∖gray (C⊦	1)			/						E
	<u> </u>												E
	E		NOTES:										Ė
	Ė		1. So	ils are field	d visi	ually classifie	ed in						F
	E		accordan	ice with the U	Jnified	Soils Classific	cation						E
	Ē		System.										E
	Ė		2 NC -	= Sample no	t eubn	nitted for labor	ratory						F
	E			from this inte		iiilleu iui iabul	atol y						E
	Ē		-										E
	Ė		3. Seaflo	oor elevation	calcula	ated using sam	npling						F
	E		vessel's applying	NOAA tidal	water	depth reading le data conve	y and ersion						E
	Ė		factor.	NOAA IIUdi	gaug	o uala CUTIVE	J1 U1U1 I						ŧ
	F												F
	Ė												Ė
	ŧ ⁻												F
	F												F
	ŧ												E
	F												F

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19520° Long = -88.31773°

Project

Mississippi Barrier Island Restoration Project

AVS **AMERICAN VIBRACORE** SERVICES

Core Identifier BI-PB-149-12

Coordinate System

Date 12/12/2012

Water Depth 37.6

Latitude / Longitude

Start Time 11:26:11

Penetration 20.0'

Latitude 30 11.712

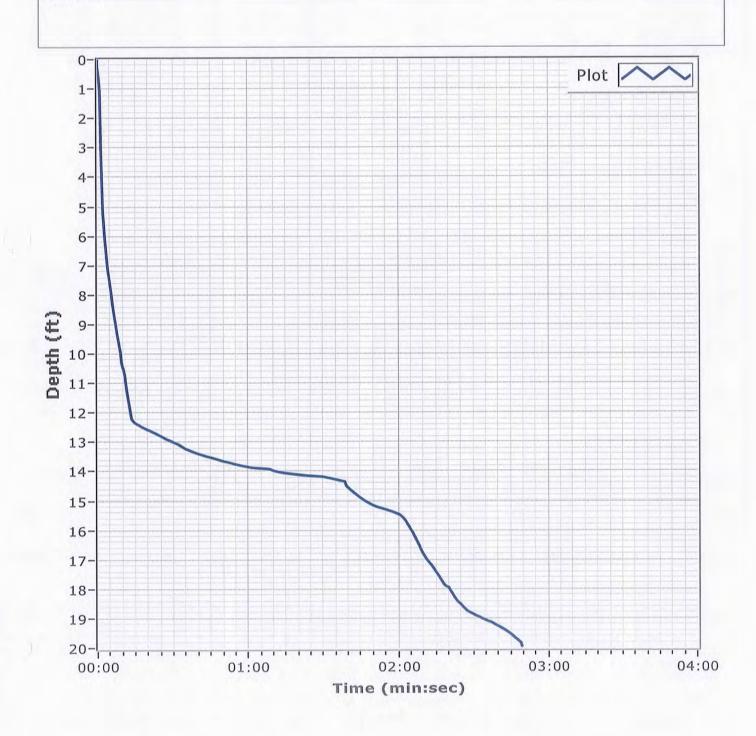
Total Time 00:02:49

End Time 11:29:01

Recovery 14.7'

Longitude 088 19.064

Comments



Boring Designation BI-PB-150-12

DBI	LLING	106	DIVISIO	N			INS	TALLATIO	ON			SHEET	1
			South	h Atlantic			_	Mobile Dis				OF 1	SHEETS
1. PRO									TYPE OF BIT N/A				
			nd Restoratio	on			10.		NATE SYSTEM/DATUM	HORIZON	1	VERTIC	
	etit Bois Pa			LOCATION C	OORDIN	NATES	11.		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NA\	/D88
	BI-PB-150-12 E = 1,145,974 N = 253,217						Vibra					HAMMER	
	DRILLING AGENCY CONTRACTOR FILE N				RACTOR FILE NO.	12.	TOTAL S		ISTURBED	UNI	DISTUR	BED (UD)	
	Corps of Engineers - CESAM ;					⊢		!		į ()		
			e Systems, I	no			13.	TOTAL I	NUMBER CORE BOXES				
	ECTION OF			DEG. FRON	1	BEARING	14.	WATER	DEPTH	39.2 Ft.			
_	VERTICAL INCLINED			VERTICAL			15.	DATE BO	DRING	STARTED 12-19-	i	COMPL 12-	. ETED 19-12
6. THI	CKNESS OF	OVERE	URDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-39.0 Ft.			
7. DEP	TH DRILLEI	D INTO	ROCK N	√A			17.	TOTAL F	RECOVERY FOR BORING	100%			
							18.	SIGNAT	URE AND TITLE OF INSPE	CTOR			
8. ТОТ	AL DEPTH (OF BOR	ING 17.	.4 Ft.			<u>L</u>	Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	ON OF N	MATERIALS		SAMPLE	LABO	RATORY RES	BULTS		
-39.0	0.0												
	Ė		CLAY, fat,	, mostly cla	y, trace	e shell fragments	s,						E'
	Ē		medium to	high plastic	ity, trac	ce shell fragments	s,						F
	-		stiff, green	ish gray (Cl	H)								F
	E												E
	F												F
	F												F
	Ē.												E,
	Ē												E 1
	Ē												E
	-												F
	_												E
	F							NS					F
	F							INO					F
	Ē.												E.
	Ē												E
	Ē												E
	-												F
	Ė												<u>E</u>
	Ė												F
	F												F
-53.9	14.9		_										Ę.
	E		CLAY, fat	, mostly cla	y, som	ne silt, trace she							F
	F					s, medium to hig aded, fine-graine							F
-56.4	17.4			es, greenish									
	E						T						F
	F		NOTES:										F
	F		1. Soils	s are field	yisu:	ally classified i	_n						F
	F		accordance	e with the U	Inified S	Soils Classification	n						F:
	Ē.		System.										E
	Ē		2. NS =	Sample not	submi	tted for laborator	y						E
	Ē		analysis fro	om this inter	val.		´						F
	<u>F</u>		3 Seafloo	or elevation o	calculat	ed using samplin	a						F
	<u>E</u>		vessel's fa	athometer w	vater d	epth reading an	d						F
	Ē.		applying N	NOAA tidal	gauge	data conversio	n						F
	F		factor.										F:
	Ē												E
	-												

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19530° Long = -88.32142°

Project

Mississippi Barrier Island Restoration Project

AVS SERVICES

Core Identifier BI-PB-150-12

Coordinate System

Date 12/19/2012

Water Depth 39.2'

Latitude / Longitude

Start Time 12:32:23

Penetration 20.0'

Latitude 30 11.718

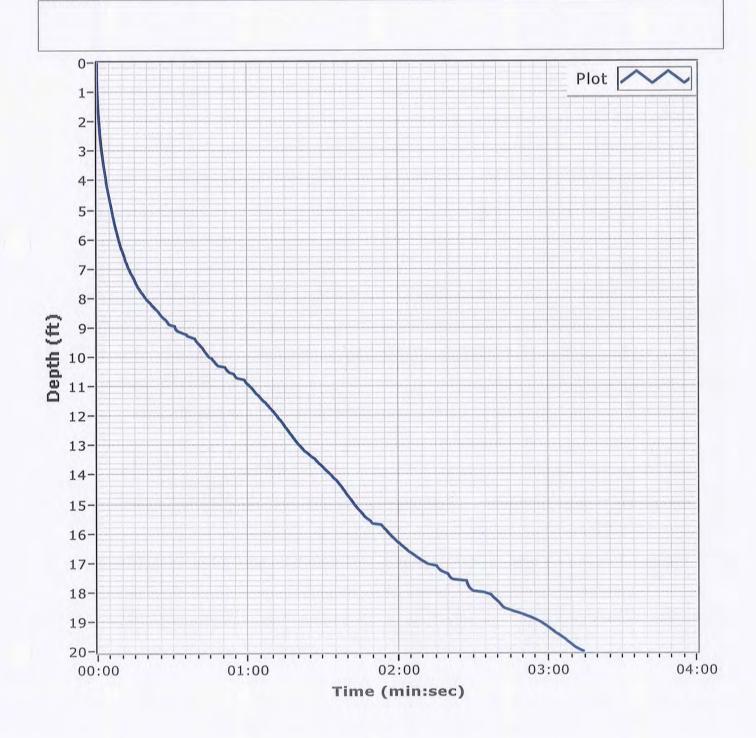
Total Time 00:03:14

End Time 12:35:38

Recovery 17.4'

Longitude 88 19.285

Comments



Boring Designation BI-PB-151-12

DD	LLING	100	DIVISIO	N			IN	STALLATIO	ON			SHEET	1
		LUG	South	h Atlantic			-	Mobile Di				OF 2	SHEETS
1. PRO		_					_	_		/A			
			d Restoration	on			10		NATE SYSTEM/DATUM	- 1		VERTIC	
	Petit Bois Pa			LOCATION C	OOBD	INATES	144		Plane, MSE (U.S. Ft				/D88
	31-PB-151-1		!"			N = 253,738	'''	Vibra		ION OF DRILL	_	UTO HAI	MMER HAMMER
	LLING AGE		I			RACTOR FILE NO.	 _			DISTURBED			BED (UD)
	Corps of En		- CESAM				12	. TOTAL S	SAMPLES	! !		0	
	IE OF DRILL						13	. TOTAL I	NUMBER CORE BOXES				
	American V		Systems, I		_	BEARING	14	. WATER	DEPTH	35.9 Ft.			
	VERTICAL INCLINED	BURING		DEG. FROM VERTICAL	И	BEARING	15.	. DATE BO	DRING	STARTED 12-12-		COMPL	ETED 12-12
6. THI	CKNESS OF	OVERB	URDEN	N/A		•	16	. ELEVAT	ION TOP OF BORING	-35.7 Ft.			
7 DED	TH DRILLEI	D INTO E	OCK V	J/A			17.	. TOTAL I	RECOVERY FOR BORIN	IG 100%			
	THI DIGILLE						18	. SIGNAT	URE AND TITLE OF IN	SPECTOR			
8. TOT	AL DEPTH	OF BORI	NG 20.	0 Ft.				Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	ON OF	MATERIALS		SAMPLE	LA	BORATORY RE	SULTS		
-35.7	0.0												-0
-37.2	- - - 1.5			mostly clay sticity, gray		e silt, soft, mediui	m	NS					
			grained sa	and-sized q	uartz,	ly fine to mediun trace fines, trac ingers, gray (SP)	n- ce	Α	Classification D50: 0.		: 5Y 7/2 6 Fines	2-light gr : 4.3	ay
-45.5			sand-sized	7 Ft., mostl I quartz, t trace clay s	race	to medium-graine fines, trace she rs, lt. gray	ed ell	В	Classificatio D50: (or: 5Y 8 % Fines	3/1-white s: 2	;
-55.7	20.0		CLAY, fat, sized quar gray (CH)	tz, stiff, trac	y, few e san	fine-grained sand dy lenses, greenis	d- :h	NS					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
20.7			accordance System. 2. NS = analysis from	e with the U Sample not om this inter	Inified subn	ually classified i Soils Classification nitted for laborator nined from 2010	on						2

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19673° Long = -88.32087°

Boring Designation BI-PB-151-12

DRI	ILLING	LO	G (Cont. Sheet)	INSTALL			SHEET 2
ROJEC					District	JM HORIZONTAL	OF 2 SHEETS
		sland I	Restoration		Plane, MSE (U.S.	l l	NAVD88
MsCIP Barrier Island Restoration LOCATION COORDINATES				ON TOP OF BORING		1.4.4.000	
X = 1,146,145 Y = 253,738			-35.7		- 		
LEV.	DEPTH	LEGEND	CLASSIFICATION OF MAT	TERIALS	SAMPLE	LABORATORY R	ESULTS
		<u> </u>	USACE survey.				
	1						

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19673° Long = -88.32087°

Project

Mississippi Barrier Island Restoration Project

AVS **AMERICAN VIBRACORE** SERVICES

Core Identifier BI-PB-151-12

Coordinate System

Date 12/12/2012

Water Depth 35.9

Latitude / Longitude

Start Time 10:31:10 End Time 10:32:53

Penetration 20.0'

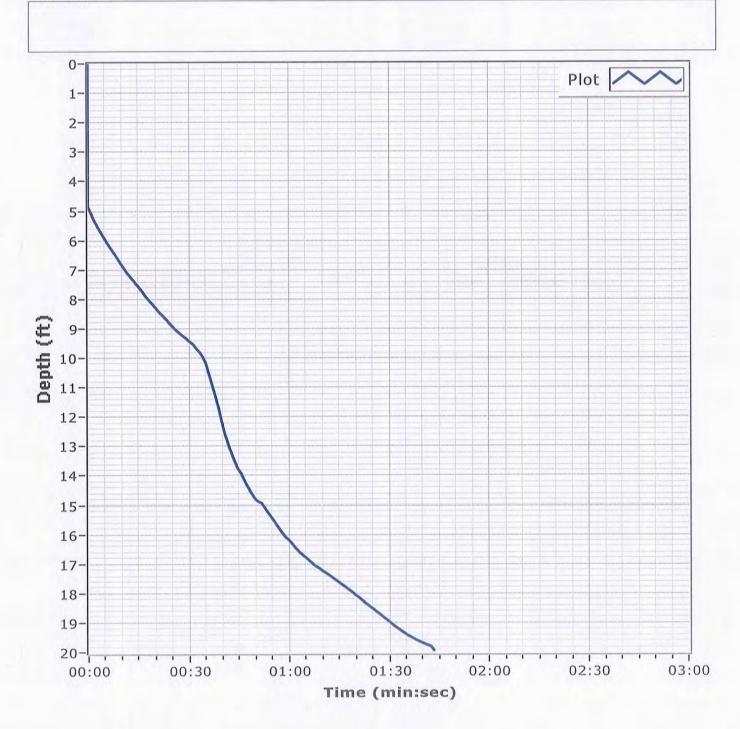
Latitude 30 11.804

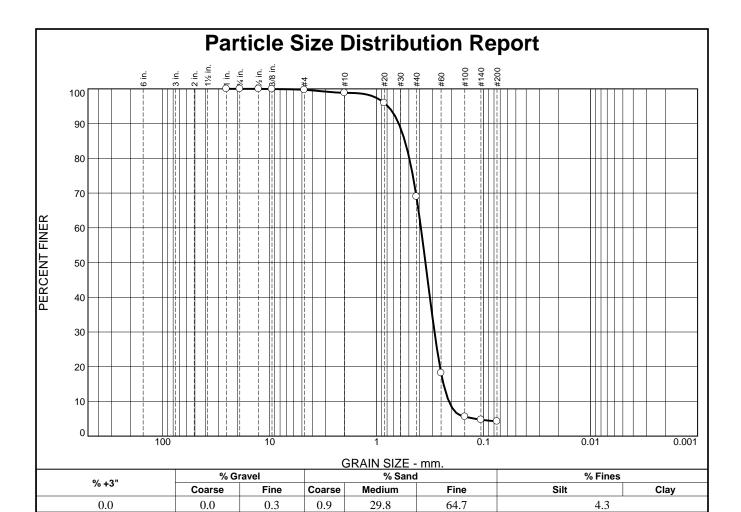
Total Time 00:01:43

Recovery 20.0'

Longitude 088 19.252

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.9		
#4	99.7		
#10	98.8		
#20	95.9		
#40	69.0		
#60	18.2		
#100	5.6		
#140	4.7		
#200	4.3		

Material Description Fine to medium grained, SAND					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.6218 D ₅₀ = 0.3501 D ₁₀ = 0.2112	Coefficients D ₈₅ = 0.5451 D ₃₀ = 0.2883 C _u = 1.83	D ₆₀ = 0.3857 D ₁₅ = 0.2372 C _C = 1.02			
USCS= SP	Classification AASHT	·O=			
	<u>Remarks</u>				

Location: BI-PB-151-12 A **Sample Number:** 6485 (1) **Depth:** 1.5' **Date:** 12/07/12

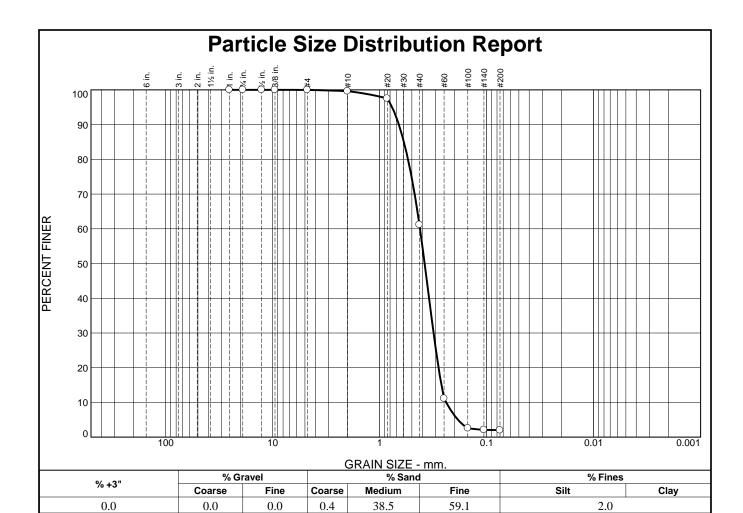
Thompson Engineering

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

Mobile, Alabama

Project No: 1221110095

Figure



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.6		
#20	97.5		
#40	61.1		
#60	11.1		
#100	2.6		
#140	2.1		
#200	2.0		

Material Description Fine to medium grained, SAND					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.6615 D ₅₀ = 0.3798 D ₁₀ = 0.2389	Coefficients D ₈₅ = 0.5936 D ₃₀ = 0.3136 C _u = 1.76	D ₆₀ = 0.4198 D ₁₅ = 0.2649 C _c = 0.98			
USCS= SP	Classification AASHT	O=			
	<u>Remarks</u>				

Location: BI-PB-151-12 B **Sample Number:** 6485 (2)

Sample Number: 6485 (2) Depth: 5.0' Date: 12/07/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-152-12

npi	LLING	LOG	DIVISION	ı		IN	STALLATIO	ON		SH	IEET 1
			South	Atlantic		-	Mobile Di			OF	1 SHEETS
1. PRO						_		TYPE OF BIT N/A			
			nd Restoration	n		10		NATE SYSTEM/DATUM	HORIZONT	- 1	RTICAL
	etit Bois Pa			OCATION C	OORDINATES	11		e Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NAVD88 HAMMER
	II-PB-152-1		. [-		,007 N = 254,174	'	Vibra		0. 5		JAL HAMMER
3. DRIL	LING AGEN	ICY	I	- , -	CONTRACTOR FILE NO.		. TOTAL S		STURBED	UNDIS	TURBED (UD)
	orps of En		s - CESAM	į		<u> ''</u>	. IUIAL	SAMPLES		0	
	E OF DRILL		o Cuatama Im			13	. TOTALI	NUMBER CORE BOXES			
	CTION OF I		e Systems, In	DEG. FROM	BEARING	14	. WATER	DEPTH	33.6 Ft.		
_	VERTICAL INCLINED			VERTICAL		15	. DATE BO	DRING	STARTED 12-12-1	1	MPLETED 12-12-12
6. THIC	CKNESS OF	OVERE	BURDEN	N/A		16	. ELEVAT	ION TOP OF BORING	-32.7 Ft.		
7. DEP	TH DRILLED	INTO	ROCK N	/A		17	. TOTAL I	RECOVERY FOR BORING	100%		
	A. DEDT		10.0	2 54		18		URE AND TITLE OF INSPE	CTOR		
8. 101	AL DEPTH C	F BOR	ING 18.8	8 Ft.		Ц,	Mike	FitzHarris, Geologist			
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATIO	N OF MATERIALS		SAMPLE	LABO	RATORY RES	ULTS	
-32.7	0.0	\prod				耳					
-33.9	_ _ 1 2	<u> ::: </u>			mostly fine to mediur		Α	Classification: SI D50: 0.28		5Y 7/2-ligh 5 Fines: 2	nt gray
-55.5	- 1.2	\Box	grained s		quartz, trace she It. gray (SP)	^{ell} /		500. 0.20	/(
-35.5	_ - 28						NS				
-35.5		╫╨╫			stly silt, some clay, son ed quartz, trace she						
		. · · ·	fragments,	brownish g	ray (ML)			01 '5 ': 01		E) (= (0 !' !	
	Ē	· · · ·	SAND poo	orly-graded	mostly fine to mediur	n-	В	Classification: SI D50: 0.340		5Y 7/2-ligh Fines: 3.1	
	-	 ∷∷ 	grained san	nd-sized qua	artz, trace coarse-graine	ed		200. 0.0 1	70	1 11100: 0:1	
		 .∵.	sand-sized fragments,		race fines, trace sh	ell					
	-	:::			r) y fine-grained sand-size	ed					F
	1	∷∷	quartz, trac	e fines, trad	e shells, dense, It. gray	'					-
		ŀ∷·l					С	Classification: SI		5Y 7/1-ligh	
							C	D50: 0.34	17 mm %	Fines: 2.5	
	=										
-43.6	10.9										F
-40.0	- 10.9	hiiil	04110 ::		·	\exists	NC				
-44.7	12.0				fine-grained sand-size ce organic matter, trad		NS				
	E	1:-			dk. brown (SM)	_/	D	Classification: SP-		r: 5Y 7/1-li	
-46.5	13.8	.	SAND, poo	orly-graded	with silt, mostly fin	e-	ט	D50: 0.289	12 mm % I	Fines: 10.7	7
-47.3			grained san		artz, some silt, gray (Sl						F
			\SM)			-//					
	<u>E</u>		SAND, clay quartz, som		fine-grained sand-size	ed /					
	Ė					<u> </u>	NS				
	Ē		CLAY, fat	, mostly	clay, medium to hig fine grain sand lense	gh					
	<u> </u>		throughout,								
-51.5	18.8					\dashv					
	Ė										
	Ē		NOTES:								
	<u> </u>				visually classified						
	<u>E</u>		accordance System.	with the U	nified Soils Classification	on					
	Ė		System.								
	Ė				submitted for laborato	ry					
	E		analysis fro	m this inter	vai.						F
	Ē				determined from 20°	10					F
	Ē		USACE sur	vey.							E
	<u> </u>										

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19793° Long = -88.32130°

Project

Mississippi Barrier Island Restoration Project

AVS AMERICAN VIBRACORE S E R V I C E S

Core Identifier BI-PB-152-12

Coordinate System

Latitude / Longitude

Latitude 30 11.876

Longitude 088 19.278

Date 12/12/2012

Start Time 09:52:51

End Time 09:55:15

Total Time 00:02:24

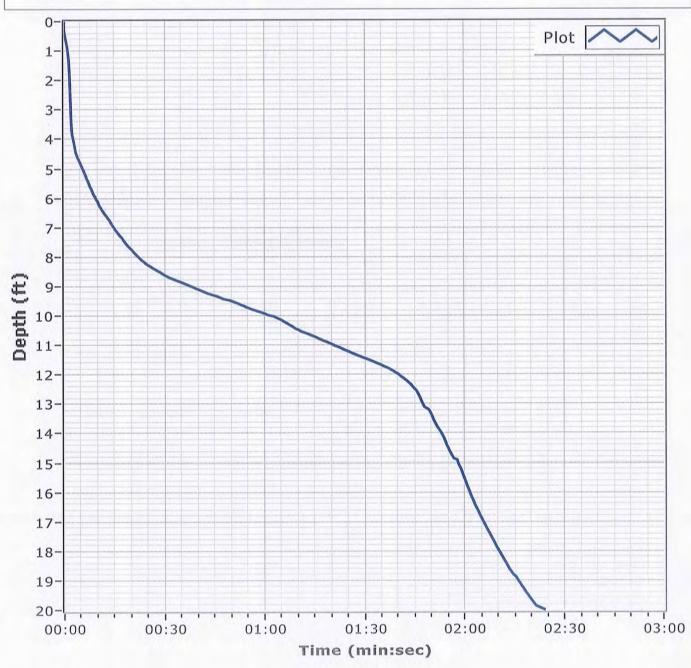
Water Depth 33.6'

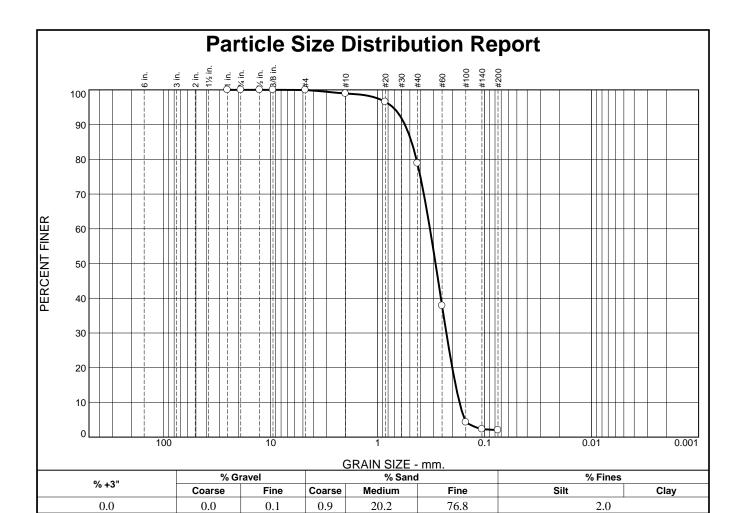
Penetration 20.0'

Recovery 18.7'









SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.0		
#20	96.6		
#40	78.8		
#60	37.8		
#100	4.3		
#140	2.3		
#200	2.0		

	Material Description Fine to medium grained, SAND											
PL=	Atterberg Limits	PI=										
D ₉₀ = 0.5565 D ₅₀ = 0.2879 D ₁₀ = 0.1720	Coefficients D ₈₅ = 0.4820 D ₃₀ = 0.2279 C _u = 1.89	D ₆₀ = 0.3247 D ₁₅ = 0.1869 C _c = 0.93										
USCS= SP	Classification AASHT	-O=										
	<u>Remarks</u>											

Location: BI-PB-152-12 A **Sample Number:** 6485 (3)

Depth: 0.0'

Date: 12/07/12

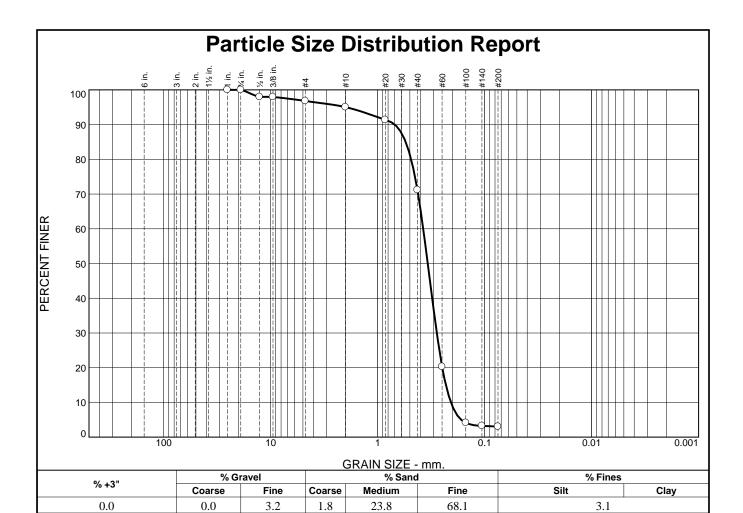
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	98.0		
.375	98.0		
#4	96.8		
#10	95.0		
#20	91.4		
#40	71.2		
#60	20.3		
#100	4.1		
#140	3.3		
#200	3.1		

	Material Description Fine to medium grained, SAND, with trace SHELL											
PL=	Atterberg Limits LL=	PI=										
D ₉₀ = 0.6928 D ₅₀ = 0.3404 D ₁₀ = 0.2067	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D}_{85} = \ 0.5471 \\ \text{D}_{30} = \ 0.2802 \\ \text{C}_{\text{U}} = \ 1.81 \end{array}$	D ₆₀ = 0.3752 D ₁₅ = 0.2304 C _c = 1.01										
USCS= SP	Classification AASHTO)=										
	<u>Remarks</u>											

Location: BI-PB-152-12 B **Sample Number:** 6485 (4)

Date: 12/07/12 **Depth:** 2.8'

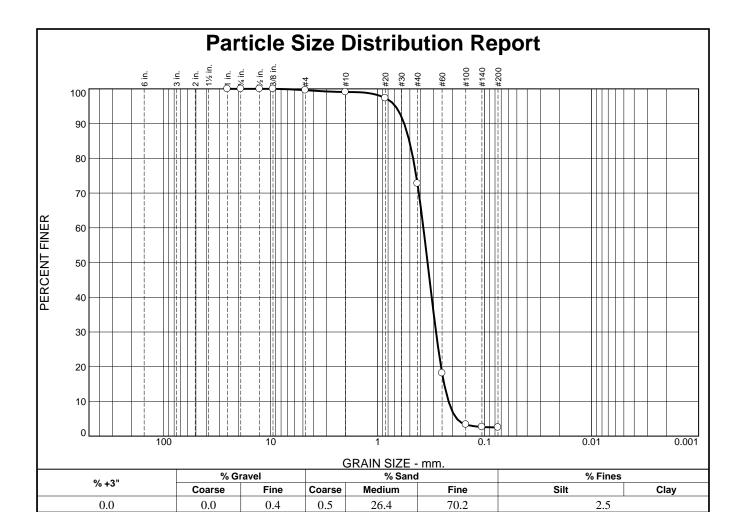
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.6		
#10	99.1		
#20	97.3		
#40	72.7		
#60	18.2		
#100	3.4		
#140	2.7		
#200	2.5		

Fine to medium	Material Description Fine to medium grained, SAND											
PL=	Atterberg Limits	PI=										
D ₉₀ = 0.5649 D ₅₀ = 0.3417 D ₁₀ = 0.2173	Coefficients D ₈₅ = 0.5061 D ₃₀ = 0.2851 C _u = 1.72	D ₆₀ = 0.3738 D ₁₅ = 0.2388 C _c = 1.00										
USCS= SP	Classification AASHT	-O=										
	<u>Remarks</u>											

Location: BI-PB-152-12 C **Sample Number:** 6485 (5)

Date: 12/07/12**Depth:** 5.9'

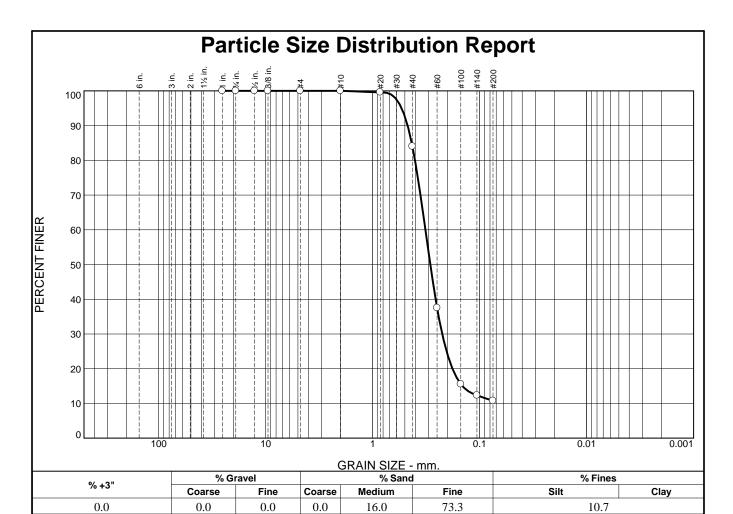
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.6		
#40	84.0		
#60	37.5		
#100	15.6		
#140	12.3		
#200	10.7		

	Material Description Fine to medium grained, SLIGHTLY SILTY SAND											
PL=	Atterberg Limits LL=	PI=										
D ₉₀ = 0.4714 D ₅₀ = 0.2892 D ₁₀ =	Coefficients D ₈₅ = 0.4314 D ₃₀ = 0.2238 C _u =	D ₆₀ = 0.3214 D ₁₅ = 0.1449 C _c =										
USCS= SP-SM	Classification AASHTC)=										
	<u>Remarks</u>											

Location: BI-PB-152-12 D **Sample Number:** 6485 (6)

Date: 12/07/12 **Depth:** 12.0'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-153-12

DR	ILLING	I OG	DIVISIO				INS	TALLATIC	ON CONTRACTOR			5	HEET	1
			Sout	h Atlantic			_	Mobile Dis				(OF 2	SHEETS
1. PRO									TYPE OF BIT N/					
	MsCIP Barrie			on			10.		NATE SYSTEM/DATUM	-	ZONTAL	٧	ERTIC	
	Petit Bois Pa			LOCATION C	OOPE	INATES	44		Plane, MSE (U.S. Ft.		ND83	1	NAV	
_	3I-PB-153-1					N = 253,184	l '''	Vibra		ON OF DR	"` ⊨	=	O HAM	IMER AMMER
	LLING AGEN		<u>I</u>			RACTOR FILE NO.	\vdash			DISTURB	ED ;			BED (UD)
(Corps of Eng	gineers -	CESAM				12.	TOTAL S	SAMPLES		į	0		, ,
4. NAN	NE OF DRILL	ER					13.	TOTAL N	NUMBER CORE BOXES		•			
	American Vil		Systems, I				14	WATER	DEPTH	38.7 F	:+			
\boxtimes	ECTION OF E VERTICAL INCLINED	BORING		DEG. FROM VERTICAL	Λ	BEARING		DATE BO		STAR		C	OMPLE	ETED 2-12
	CKNESS OF	OVERRII	PDEN	.: N/A		<u> </u>	16.	FI FVAT	ION TOP OF BORING	-39.2 F		i_	12-1	2-12
							┢──		RECOVERY FOR BORIN					
/. DEP	TH DRILLED	INTO RO	JUK	N/A					URE AND TITLE OF INS					
8. тот	AL DEPTH O	F BORIN	G 20	.0 Ft.					FitzHarris, Geologist					
ELEV.	DEPTH	LEGEND	CL	.ASSIFICATIO	ON OF	MATERIALS		SAMPLE	LAI	BORATORY	resul	тѕ		
-39.2	0.0						Ţ							
			sandy clay plasticity,	y between 5 some sand	5-10 f y poc	ce shell fragments t., medium to hig kets, fine grained of ft., greenish gra	h J-	NS						
-59.2	F 20.0	2	accordanc System. 2. NS = analysis fr	se with the U Sample not rom this inter	subn	ually classified i Soils Classificatio nitted for laborator	n Y							
] 3	3. Seafloo	or elevation o	alcula	ated using sampling	g							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19520° Long = -88.31947°

Boring Designation BI-PB-153-12

DRILLING LO	G (Cont. Sheet)	INSTALLATION Mobile District Mobile 2 \$								
ROJECT		_	TE SYSTEM	/DATUM	HORIZONTAL	VERTICAL				
MsCIP Barrier Islan	d Restoration	State Pl	NAVD88							
OCATION COORDINAT			N TOP OF BO		NAD83					
	= 253,184	-39.2 F		-						
ELEV. DEPTH		CLASSIFICATION OF MATERIALS SAMPLE LABORATORY RES								
ELEV. DEPTH SHE	vessel's fathometer water depth reapplying NOAA tidal gauge data factor.	eading and	SAMPLE		LABORATORY RE	SULTS				

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19520° Long = -88.31947°

Project

Mississippi Barrier Island Restoration Project

AVS AMERICAN VIBRACORE SERVICES

Core Identifier BI-PB-153-12

Coordinate System

Latitude / Longitude

Latitude 30 11.712

Longitude 088 19.168

Date 12/12/2012

Start Time 10:58:53

End Time 11:01:13

Total Time 00:02:19

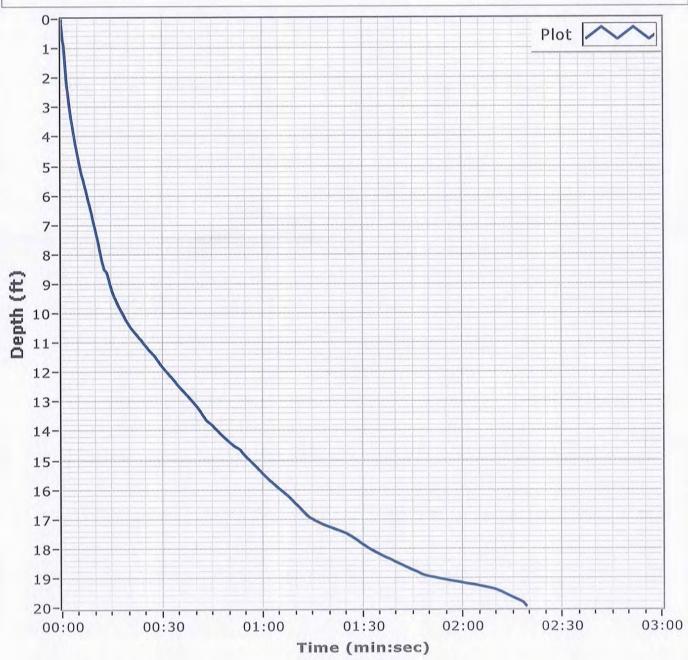
Water Depth 38.7'

Penetration 20.0'

Recovery 20.0'







Boring Designation BI-PB-154-12

DR	LLING	I OG	DIVISI						TALLATIO					SHEET	г 1
1. PRO			Sou	uth Atlantic					Mobile Dis					OF 1	SHEETS
										TYPE OF BIT	N/A				
	AsCIP Barri			tion				10.		NATE SYSTEM/D		HORIZON		VERTIC	
	Petit Bois Pa			LOCATION	OOPD	INATES		11		Plane, MSE (L					√D88
	31-PB-154-1			E = 1,144				• • •	Vibra		GNATIO	N OF DRILL	_	UTO HAI	MMER HAMMER
	LLING AGEN					TRACTOR FI	LE NO.				; 0	ISTURBED			BED (UD)
	Corps of Eng	gineers	- CESAM		!			12.	TOTAL S	SAMPLES	į		į	0	`
	IE OF DRILL							13.	TOTAL N	NUMBER CORE E	OXES				
F	American Vil	bracore	Systems,	, Inc.			ŀ		WATER			00.4.54			
	ECTION OF I	BORING)	DEG. FROI	М	BEARING		14.	WATER	DEPIH		33.4 Ft.		1	
	VERTICAL INCLINED			VERTIOAL		<u>.</u>		15.	DATE BO	RING		STARTED 12-11-	12	COMPL 12-	11-12
6. THI	CKNESS OF	OVERB	URDEN	N/A				16.	ELEVAT	ION TOP OF BOI	RING	-32.9 Ft.			
7. DEP	TH DRILLED	INTO	ROCK	N/A			L			RECOVERY FOR		100%			
				F 0 F4				18.		URE AND TITLE		ECTOR			
8. 101	AL DEPTH C)F BOR	NG 1	5.0 Ft.					Mike	FitzHarris, Geo	ologist				
ELEV.	DEPTH	LEGEND	c	CLASSIFICATION	ON OF	MATERIALS	6		SAMPLE		LABO	PRATORY RES	SULTS		
-32.9	0.0							T							
-35.2	- - - -2.3		grained	ooorly-graded, sand-sized o gments, gray	guartz.				Α		cation: S D50: 0.2	SP Color: 96 mm %	5Y 7/2 Fines:	2-light gr 2.9	F
-46.8			medium (CH)	at, mostly cla to high plas	ticity,	stiff, green	ish gray		NS						
<u>-47.9</u>	F 15.0		quartz, greenish NOTES: 1. So accordan System. 2. NS = analysis = 3. Seafla	oils are field not with the L = Sample not from this inter oor elevation	trace d visa Jnified t subn	ually class Soils Class	agments, sified in sification aboratory								
			vessel's applying factor.	fathometer v NOAA tidal	water gaug	depth read ge data co	ang and Inversion								

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19668° Long = -88.32627°

Project

Mississippi Barrier Island Restoration Project



Core Identifier BI-PB-154-12

Coordinate System

Date 12/11/2012

Water Depth 33.4

Latitude / Longitude

Start Time 14:05:25 End Time 14:07:19

Penetration 20.0'

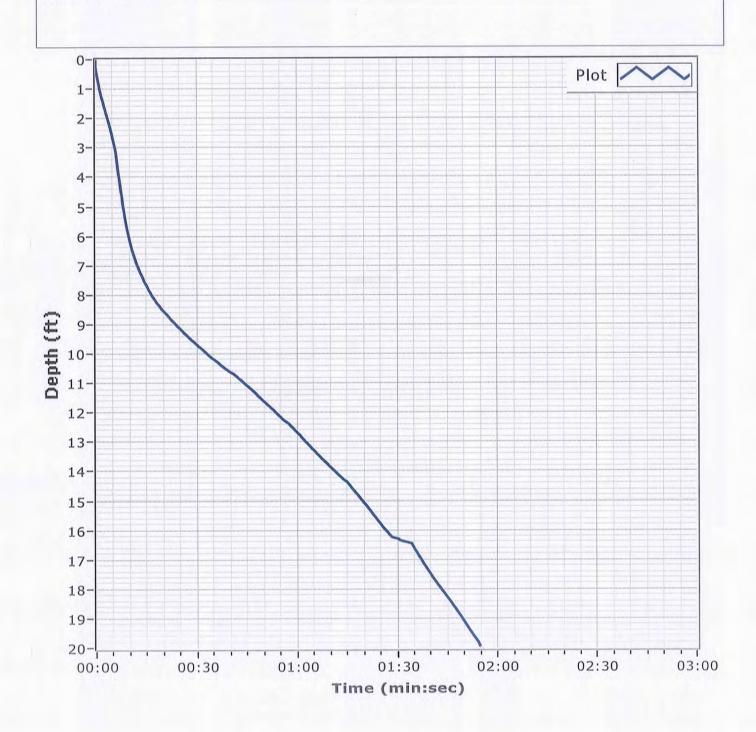
Latitude 33 11.801

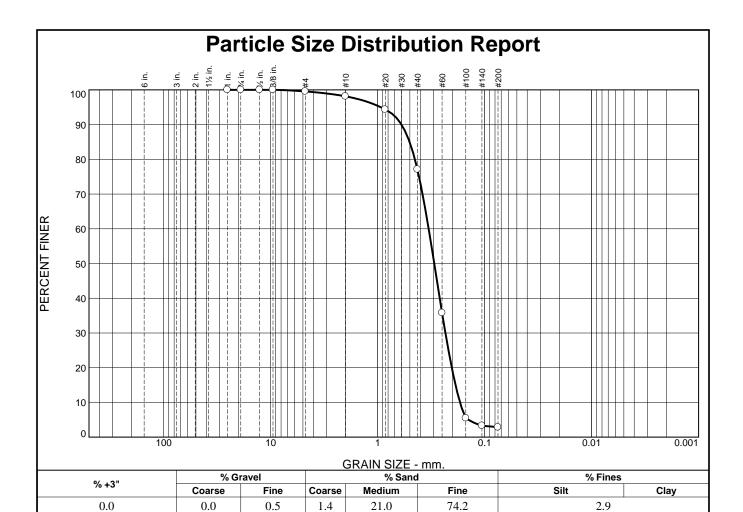
Total Time 00:01:54

Recovery 15.0'

Longitude 088 19.576

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	98.1		
#20	94.3		
#40	77.1		
#60	35.8		
#100	5.5		
#140	3.3		
#200	2.9		

Material Description Fine to medium grained, SAND								
PL=	Atterberg Limits LL=	PI=						
D ₉₀ = 0.5988 D ₅₀ = 0.2960 D ₁₀ = 0.1702	Coefficients D ₈₅ = 0.5033 D ₃₀ = 0.2326 C _u = 1.96	D ₆₀ = 0.3339 D ₁₅ = 0.1873 C _c = 0.95						
USCS= SP	Classification AASHT	·O=						
	<u>Remarks</u>							

Location: BI-PB-154-12 A **Sample Number:** 6485 (7)

Date: 12/07/12 **Depth:** 0.0'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-155-12

DRILLING LOG DIVISION				IN	STALLATIO	SHEE							
South Atlantic					+	Mobile District OF 1 SHE							
					9. SIZE AND TYPE OF BIT N/A 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL								
MsCIP Barrier Island Restoration Petit Bois Pass- AL East					'"	! !							
Petit Bois Pass- AL East 2. BORING DESIGNATION LOCATION COORDINATES						11	State Plane, MSE (U.S. Ft.) NAD83 NAVD88 11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER						
BI-PB-155-12							Vibra					. HAMMER	
3. DRILLING AGENCY CONTRACTOR FILE NO.					D. 40		244DI E0	DISTURBE	D U	UNDISTU	RBED (UD)		
	Corps of Engineers - CESAM				12	. TOTAL	SAMPLES	 		0			
	4. NAME OF DRILLER				13	. TOTAL	NUMBER CORE BOX	ES					
American Vibracore Systems, Inc.						14	. WATER	DEPTH	35.1 Ft	_			
5. DIRECTION OF BORING VERTICAL INCLINED							15	. DATE B	DRING	START	ED 07-12	1	PLETED -07-12
	CKNESS OF	OVERB	JRDEN	N/A		<u>:</u>	16	. ELEVAT	ION TOP OF BORING	<u> </u>			. 07 12
7. DEP	TH DRILLED	INTO	OCK	N/A			17	. TOTAL	RECOVERY FOR BOR	RING 100%	· D		
52.				IN/A			18	. SIGNAT	URE AND TITLE OF	INSPECTOR			
8. ТОТ	AL DEPTH C	F BORI	NG 1	3.4 Ft.				Mike	FitzHarris, Geolog	gist			
ELEV.	DEPTH	LEGEND	c	CLASSIFICATION	ON OF	MATERIALS		SAMPLE		LABORATORY	RESULT	s	
-34.2	0.0												
-34.4			sand-size (ML) CLAY, fa	ed quartz, tra at, mostly cla	ace sh ay, ve	t, trace fine-grainell fragments, general fragments, general fragments, general fragments, greenish general fragments, greenish general fragments, greenish general fragments, greenish general fragments, greenish general fragments, greenish general fragments, greenish general fragments, greenish general fragments, greenish general fragments, greenish general fragments, greenish general fragments, greenish general fragments, greenish general fragments, greenish general fragments, greenish greeni	ray/ to	NS					
-40.8 -42.6	-		quartz,			grained sand-si shell fragme							
-47.6			SAND, p sized qua	oorly-graded, artz, trace fine	mostl es, It. ç	y fine-grained sa gray (SP)	ind-	A	Classification: SP Color: 5Y 6/4-pale olive D50: 0.2932 mm % Fines: 3.3				blive -
			accordan System. 2. NS = analysis 3. Seaflovessel's	esils are field ance with the U = Sample not from this intection for elevation fathometer v	Jnified t subn rval. calcula water	ually classified Soils Classifica nitted for laboral ated using samp depth reading a le data convers	tion tory ling and						

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19898° Long = -88.32765°

Mississippi Barrier Island Restoration Project

AVS SERVICES

Core Identifier BI-PB-155-12

Coordinate System

Latitude / Longitude

Date 12/07/2012

Start Time 14:40:19

End Time 14:48:24

Total Time 00:08:05

Water Depth 35.1'

Penetration 14.9'

Recovery 13.4'

Latitude 30 11.939

Longitude 088 19.659

Comments

15-

16-

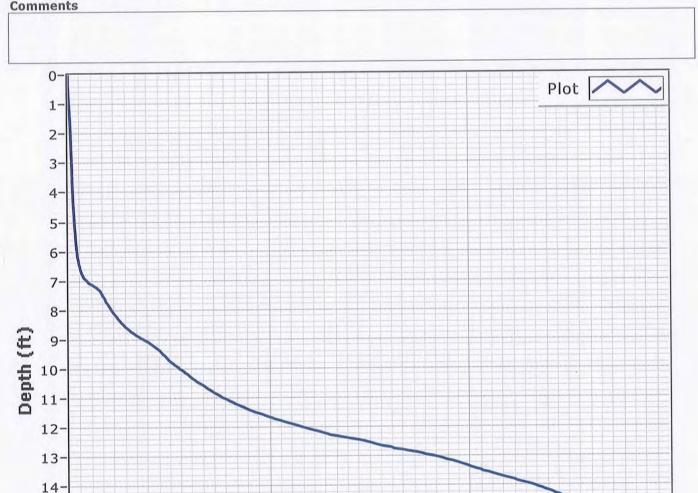
17-

18-

19-

20-

00:00

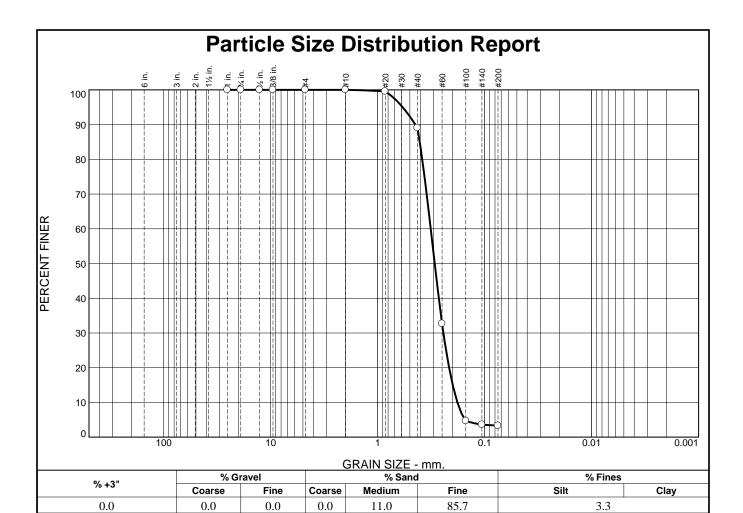


Time (min:sec)

06:00

09:00

03:00



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.6		
#40	89.0		
#60	32.7		
#100	4.7		
#140	3.6		
#200	3.3		

	Material Description Fine to medium grained, SAND										
PL=	Atterberg Limits LL=	PI=									
D ₉₀ = 0.4446 D ₅₀ = 0.2932 D ₁₀ = 0.1799	Coefficients D ₈₅ = 0.4043 D ₃₀ = 0.2430 C _u = 1.78	D ₆₀ = 0.3193 D ₁₅ = 0.1988 C _C = 1.03									
USCS= SP	USCS= SP Classification AASHTO=										
<u>Remarks</u>											

Location: BI-PB-155-12 A Sample Number: 6482 (1)

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-156-12

DRII	LING	I OG	DIVISIO				IN	STALLATIO					SHEET	1
1. PROJE			Sou	th Atlantic			_	Mobile Di					OF 1	SHEETS
									TYPE OF BIT	N/A				
	CIP Barrie			ion			10		NATE SYSTEM/D		HORIZONT		VERTIC	
	tit Bois Pa			LOCATION C	OOPD	INATES	11		Plane, MSE (U					/D88
	PB-156-1		ļ			N = 253,193	- 1	Vibra		GNATIO	N OF DRILL		UTO HAI IANUAL I	MMER HAMMER
	ING AGEN					RACTOR FILE	NO.			¦ D	ISTURBED			BED (UD)
Co	rps of Eng	gineers -	CESAM		:		12	. TOTAL S	SAMPLES			į	0	` '
4. NAME	OF DRILL	ER					13	. TOTAL I	NUMBER CORE B	OXES				
Am	nerican Vil	oracore	Systems,	Inc.				. WATER	DEDTU		35.4 Ft.			
	TION OF E	BORING		DEG. FROI	M	BEARING		. WAIER	DEFIN		STARTED		COMPL	ETED
_	ERTICAL ICLINED					!	15	. DATE BO	DRING		12-19-	12	i	19-12
6. ТНІСК	(NESS OF	OVERBU	IRDEN	N/A			16	. ELEVAT	ION TOP OF BOR	ING	-35.1 Ft.			
7. DEPTH	H DRILLED	INTO R	оск	N/A			17	. TOTAL I	RECOVERY FOR I	BORING	100%			
							18	. SIGNAT	URE AND TITLE	OF INSPI	ECTOR			
8. TOTAL	L DEPTH O	F BORIN	IG 15	5.6 Ft.				Mike	FitzHarris, Geo	logist				
ELEV.	DEPTH	LEGEND	CI	LASSIFICATIO	ON OF	MATERIALS		SAMPLE		LABO	PRATORY RES	BULTS		
-35.1	0.0													
-36.7 <u>-</u> -37.1 -	- 1.6 2.0		grained		qua	tly fine to med artz, trace	dium- shell	Α	Classifio D	cation: S 50: 0.29		5Y 7/2 Fines	2-light gr : 1.5	- 1
			quartz, s fragments CLAY, fa medium t	some silt, s, brownish g t, mostly cla	trace gray (s ay, tra city, st	ce shell fragm	shell nents,	NS						
	-		accordand System. 2. NS = analysis f 3. Seaflovessel's	Sample no rom this inte our elevation fathometer v	Jnified t subn rval. calcula water	ually classifie Soils Classific nitted for labor ated using sam depth reading le data conve	ration ratory npling and							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19525° Long = -88.32573°

Mississippi Barrier Island Restoration Project

AVS SERVICES

Core Identifier BI-PB-156-12

Coordinate System

Date 12/19/2012

Water Depth 33.7'

Latitude / Longitude

Start Time 13:31:36

Penetration 20.0'

Latitude 30 11.722

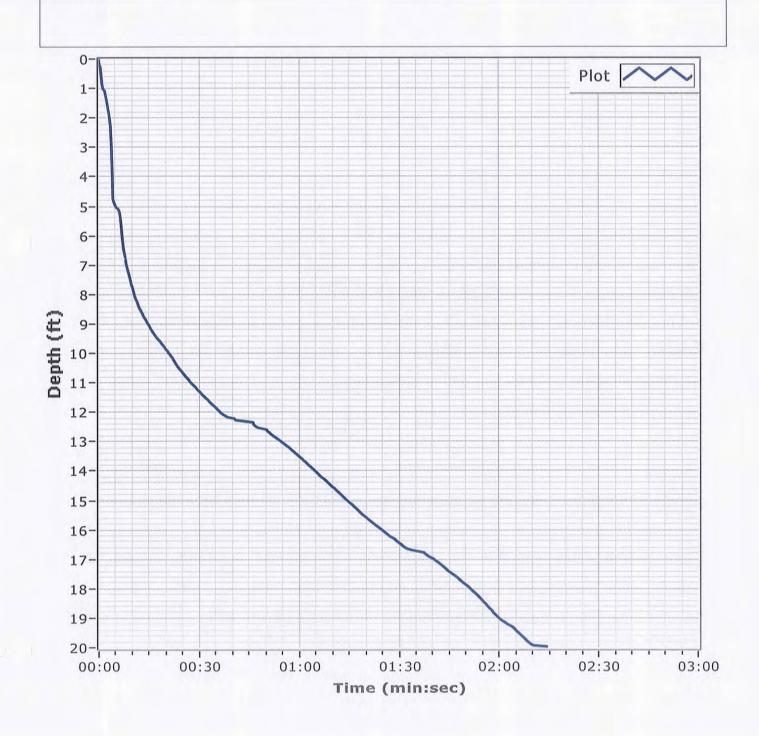
Total Time 00:02:14

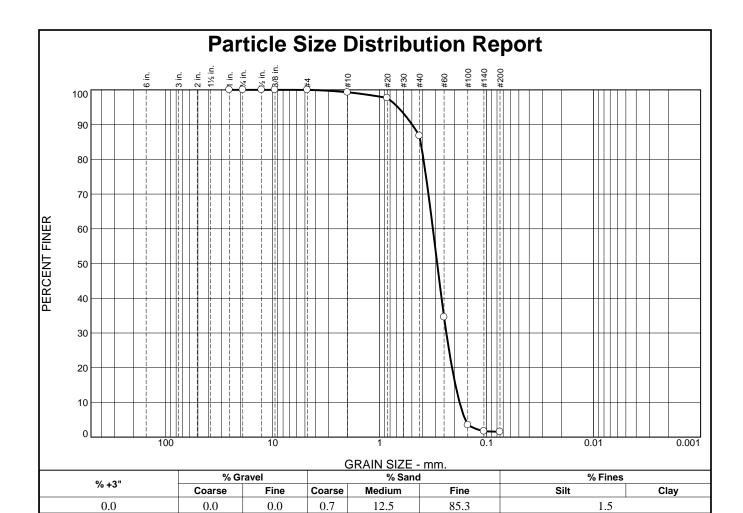
End Time 13:33:50

Recovery 15.6'

Longitude 88 19.544

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.3		
#20	97.7		
#40	86.8		
#60	34.6		
#100	3.5		
#140	1.7		
#200	1.5		

Fine to medium	Material Description Fine to medium grained, SAND										
PL=	Atterberg Limits	PI=									
D ₉₀ = 0.4975 D ₅₀ = 0.2901 D ₁₀ = 0.1792	Coefficients D ₈₅ = 0.4145 D ₃₀ = 0.2381 C _u = 1.78	D ₆₀ = 0.3182 D ₁₅ = 0.1958 C _C = 0.99									
USCS= SP	Classification AASHT	·O=									
	<u>Remarks</u>										

Location: BI-PB-156-12 A **Sample Number:** 6494 (63)

Sample Number: 6494 (63) Depth: 0.0' Date: 12/26/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095 Figure

Boring Designation BI-PB-157-12

DDI	LLING	LOG	DIVISION		INS	STALLATIO	ON		SHE	EET 1
		LUG	South Atlantic	;	_	Mobile Dis			OF	1 SHEETS
1. PRO			d Deede - "				TYPE OF BIT N/A	. HODITO:-	A1 :	TICAL
	/IsCIP Barri Petit Bois Pa		d Restoration		10.		NATE SYSTEM/DATUM	HORIZONT		TICAL
	ING DESIGN			N COORDINATES	11.		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NAVD88
В	I-PB-157-1	12	E = 1,	144,871 N = 253,965		Vibra				AL HAMMER
_	LING AGEN			CONTRACTOR FILE NO.	12.	TOTAL		STURBED	i	URBED (UD)
	Corps of English		- CESAM	1	╄				0	
			Systems, Inc.		13.	TOTAL I	NUMBER CORE BOXES			
5. DIRE	CTION OF			ROM BEARING	14.	WATER	DEPTH	36.7 Ft.		
	VERTICAL INCLINED		VERTIC	AL	15.	DATE BO	DRING	STARTED 12-11-1	i	1PLETED 2-11-12
6. THIC	CKNESS OF	OVERBU	JRDEN N/A		16.	ELEVAT	ION TOP OF BORING	-34.8 Ft.		
7. DEP	TH DRILLED	INTO R	OCK N/A		17.	TOTAL F	RECOVERY FOR BORING	100%		
	AL DEPTH (DE PORI	NG 19.8 Ft.		18.		URE AND TITLE OF INSPE	CTOR		
8. 101	AL DEPIR	т т	19.0 Ft.		┷	Mike	FitzHarris, Geologist			
ELEV.	DEPTH	LEGEND	CLASSIFICA	TION OF MATERIALS		SAMPLE	LABO	RATORY RES	ULTS	
-34.8	0.0									
	Ē			ed, mostly fine to mediun						Į į
	<u> </u>			d quartz, trace silt, trac	е					F
	-	-:::	clayey nodules, gra	y to light gray (SP)		_	Classification: SP	Color: 2	.5Y 7/2-ligh	nt grav
		:::				Α	D50: 0.340		Fines: 2.4	E
	=	$ \cdots $								E
	E	-:::								F
	<u> </u>	$ \cdot \cdot $								<u>F</u>
	_	[:::]					01- '6' ''	ND 0 1	0.51/.0//	F
	F	-::-				В	Classification: S D50: 0.352		2.5Y 8/1-w Fines: 1.9	mite F
-42.4	_ - 7.6									F
		11111	SAND, silty, mos quartz, some silt fragments, greenish	tly fine-grained sand-size , trace clay, trace she n gray (SM)	ed ell					
-49.1	- 14.3					NS				E.
			CLAY, fat, mostl plasticity, trace sai (CH)	y clay, medium to hig ndy pockets, greenish gra	gh ay					
-54.6	- - 19.8									F
2	-		NOTES:							
	<u> </u>			2.14 .2 0						E
	- 		 Soils are f accordance with the System. 	ield visually classified e Unified Soils Classification	in on					
			2. NS = Sample analysis from this in	not submitted for laborator nterval.	ry					-
	- - -		Seafloor eleva USACE survey.	tion determined from 201	0					

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19737° Long = -88.32490°

Mississippi Barrier Island Restoration Project



Core Identifier BI-PB-157-12

Coordinate System

Latitude / Longitude

Latitude 33 11.842 **Longitude** 088 19.494

Date 12/11/2012

Start Time 14:33:57

End Time 14:36:28

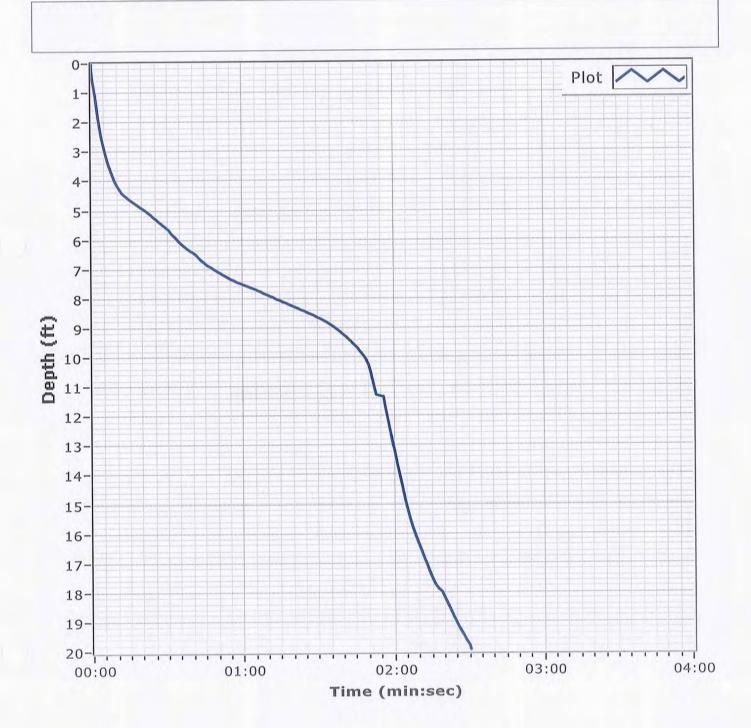
Total Time 00:02:30

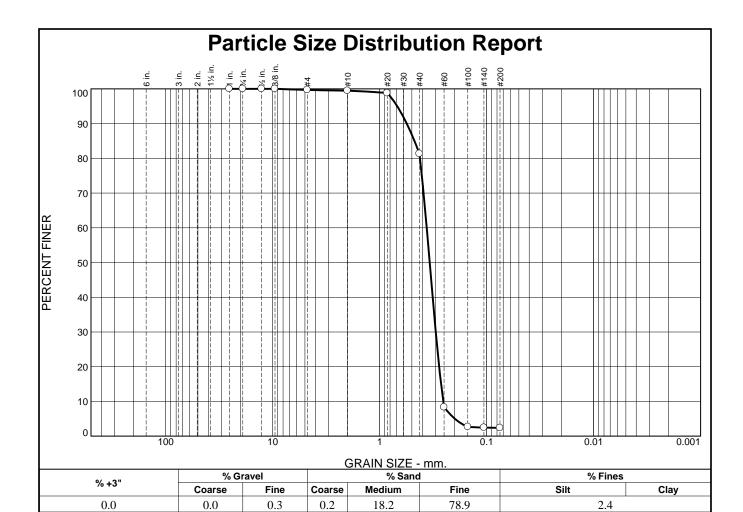
Water Depth 36.7'

Penetration 20.0'

Recovery 19.8'







SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	99.5		
#20	98.8		
#40	81.3		
#60	8.3		
#100	2.7		
#140	2.5		
#200	2.4		

Fine to medium	Material Description Fine to medium grained, SAND										
PL=	Atterberg Limits	PI=									
D ₉₀ = 0.5583 D ₅₀ = 0.3406 D ₁₀ = 0.2547	Coefficients D ₈₅ = 0.4730 D ₃₀ = 0.2992 C _U = 1.43	D ₆₀ = 0.3631 D ₁₅ = 0.2671 C _C = 0.97									
USCS= SP	Classification										
	<u>Remarks</u>										

Location: BI-PB-157-12 A **Sample Number:** 6485 (8)

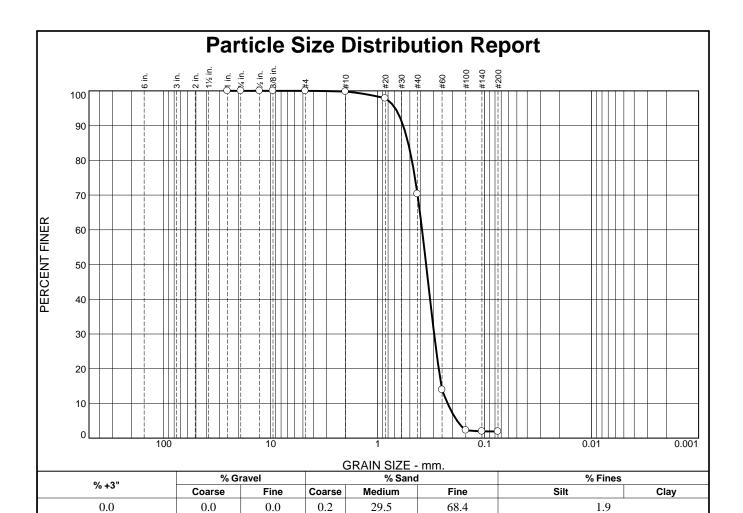
Date: 12/07/12**Depth:** 0.0'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama **Project No:** 1221110095 **Figure**



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.8		
#20	97.9		
#40	70.3		
#60	13.9		
#100	2.3		
#140	2.0		
#200	1.9		

Material Description Fine to medium grained, SAND									
PL=	Atterberg Limits LL=	PI=							
D ₉₀ = 0.5774 D ₅₀ = 0.3525 D ₁₀ = 0.2217	Coefficients D ₈₅ = 0.5190 D ₃₀ = 0.2968 C _u = 1.73	D ₆₀ = 0.3845 D ₁₅ = 0.2536 C _c = 1.03							
USCS= SP	Classification AASHT	O=							
<u>Remarks</u>									

Location: BI-PB-157-12 B **Sample Number:** 6485 (9)

Sample Number: 6485 (9) Depth: 5.0' Date: 12/07/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-158-12

DR	ILLING	LOG	DIVISI				IN	ISTALLATI					SHEE	
1. PRO			Sou	uth Atlantic			_	Mobile Di					OF 1	SHEETS
			I D 1	<i>v</i>			_		TYPE OF BIT		HODIZON	TA1	VEDTI	CAL
	MsCIP Barri			ition			10		NATE SYSTEM		HORIZON		VERTI	
	Petit Bois Pa			LOCATION	COOPE	INATES			e Plane, MSE ACTURER'S DE	, ,				VD88
_	31-PB-158-1		•	E = 1,14			- 1		acore	SIGNATIO	N OF DRILL		AUTO HA	MMER HAMMER
	LLING AGEN					RACTOR FILE	NO.			; c	ISTURBED			RBED (UD)
(Corps of Eng	gineers	s - CESAM		-		12	2. TOTAL	SAMPLES	į		į	0	`
4. NAN	NE OF DRILL	ER.					13	3. TOTAL	NUMBER CORI	E BOXES				
A	American Vi	bracore	e Systems	, Inc.				1. WATER	DERTH		36.4 Ft.			
	ECTION OF I	BORING	3	DEG. FRO	M	BEARING	<u> </u> .	+. WAIER	DEPIN		STARTED		COMPI	ETED
_	VERTICAL INCLINED				_		15	5. DATE B	ORING		12-12-			12-12
	CKNESS OF	OVERE	BURDEN	: N/A		_i	10	6. ELEVAT	ION TOP OF B	ORING	-36.1 Ft.	12	12-	12-12
7. DEP	TH DRILLED	INTO	ROCK	N/A			17	7. TOTAL	RECOVERY FO	R BORING	100%			
							18	3. SIGNAT	URE AND TITE	E OF INSP	ECTOR			
8. ТОТ	AL DEPTH C	F BOR	ING 1	9.7 Ft.				Mike	FitzHarris, G	Geologist				
ELEV.	DEPTH	LEGEND	c	CLASSIFICATI	ON OF	MATERIALS		SAMPLE		LABO	DRATORY RE	SULTS	i	
-36.1	0.0													
	Ė	: :	SAND. r	oorly-graded	, mos	tly fine to med	dium-	A	Class	sification: S			2-light gr	
-37.5	1.4]∷∷[grained s	sand-sized qu	iartz, t	race silt, trace	shell			D50: 0.4	123 mm 9	6 Fines	s: 2.1	
	E	$[\cdots]$	\fragment	ts, It. gray (S	P)	tly fine to med	dium							E
	Ē	$ \cdots $				trace fines, c			Classi	fication: SI	D_SM C	olor: 2	5Y 8/1-w	hita
	Ē			1.7 ft., lt. gray			, -,	В	Ciassi	D50: 0.35		6 Fines		''''E
	E	:::												E
-40.8	4.7													
	E	·.	SAND,	poorly-graded	d with	silt, mostly	fine-							E
	E	1:-11#	grained	sand-sized q	uartz,	few silt, trace		С	Clas	sification:			' 8/1-whi	te E
	E	<u> </u> -	fragment	ts, gray (SP-	SM)					D50: 0.33	364 mm %	6 Fines	s: 1.8	E
-43.4	- 7.3	1												E
	<u>F</u>	11+1+1				grained sand-			Clossifi	cation: SP	SM Cal	or: EV	5/2-olive	grav, E
	E		quartz, s	ome silt, with	clay s	tringers, gray	(SM)	D	Classiii	D50: 0.2		Fines		gray -
	F													E
	F	11111												-
	Ė													E
	E													F
	Ė.	141411												E
	ŧ.	$[\uparrow]\uparrow]$												ļ.
	F	11111												F
	E	$\prod \prod i \prod i$												E
	Ė	<u> </u>						NS						E
	 	 												F
-52.6	E 16.5	111111												F
	17.3		SVND .	alayov masti	v fino	grained sand-	cizod	1						Ė
55.7	<u> </u>					-grained sand- enish gray (SC		1						E
	E													-
	E		CLAY,	fat, mostly , stiff, dark gr	Clay,	medium to	nigh							E
-55.8	19.7		piasilotty	, Juli, dain gi	JOI1 (J. 1)								<u>_</u>
	E													E
	F		NOTES:											F
	ŧ		1. Sc	nile are fiel	d vic	ually classifie	d in							Ę
	Ē					Soils Classific								E
	<u> </u>		System.			5.3001110								F
	E		•	0	4 - 1		_4							E
	E			= Sample no from this inte		nitted for labor	atory							F
	E		ananysis		ı val.									E
	Ē		Seat USACE :		n dete	ermined from	2010							Ē

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19712° Long = -88.32303°

Mississippi Barrier Island Restoration Project



Core Identifier BI-PB-158-12

Coordinate System

Latitude / Longitude

Date 12/12/2012

Water Depth 36.4'

Start Time 09:16:27

End Time 09:18:56 Total Time 00:02:29

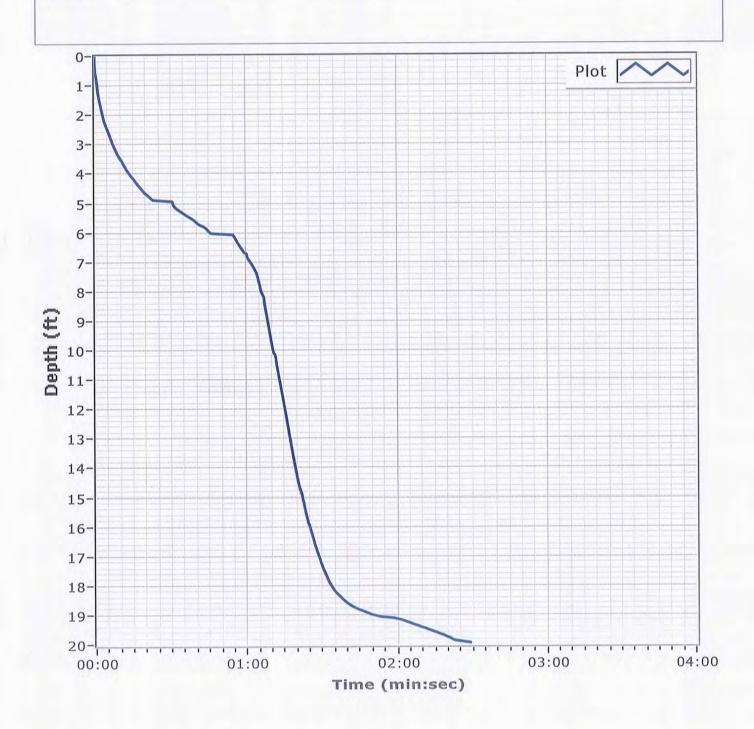
Penetration 20.0'

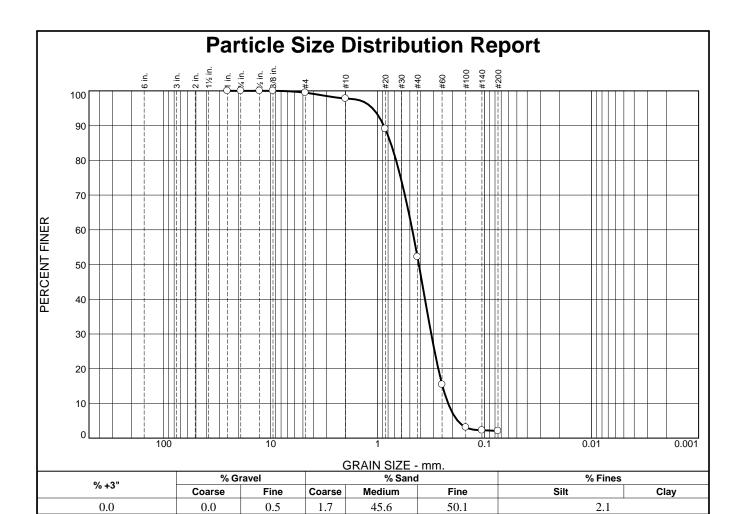
Recovery 19.7'

Latitude 30 11.827

Longitude 088 19.382

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	97.8		
#20	89.1		
#40	52.2		
#60	15.5		
#100	3.1		
#140	2.3		
#200	2.1		

Material Description Fine to medium grained, SAND												
PL=	Atterberg Limits LL=	PI=										
D ₉₀ = 0.8772 D ₅₀ = 0.4123 D ₁₀ = 0.2194	$\begin{array}{ccc} & & \underline{\text{Coefficients}} \\ \text{D}_{90} = \ 0.8772 & & \text{D}_{85} = \ 0.7562 \\ \text{D}_{50} = \ 0.4123 & & \text{D}_{30} = \ 0.3157 \\ \text{D}_{10} = \ 0.2194 & & \text{C}_{\text{U}} = \ 2.16 \\ \end{array}$											
USCS= SP	Classification AASHT	-O=										
	<u>Remarks</u>											

Location: BI-PB-158-12 A
Sample Number: 6485 (10)
Depth: 0.0'

Thompson Engineering

Client: CDM/Thompson Engineering JV

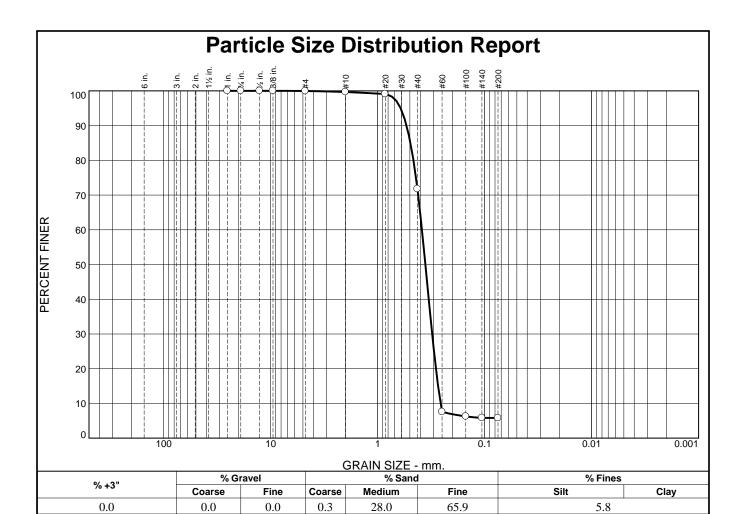
Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Figure

Date: 12/07/12



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.7		
#20	99.1		
#40	71.7		
#60	7.6		
#100	6.3		
#140	5.8		
#200	5.8		

Fir	Material Description Fine to medium grained, SLIGHTLY SILTY SAND												
PL	.=		Atterberg Lin		Pl=								
Dg Dg D ₁	90= 0.5 60= 0.5 10= 0.5	5373 3581 2583	Coefficien D ₈₅ = 0.494 D ₃₀ = 0.309 C _u = 1.49		D ₆₀ = 0.3856 D ₁₅ = 0.2728 C _c = 0.96								
US	SCS=	SP-SM	Classificati AA	on SHTO=									
			Remarks	<u> </u>									

Location: BI-PB-158-12 B **Sample Number:** 6485 (11) **Date:** 12/07/12 **Depth:** 1.4'

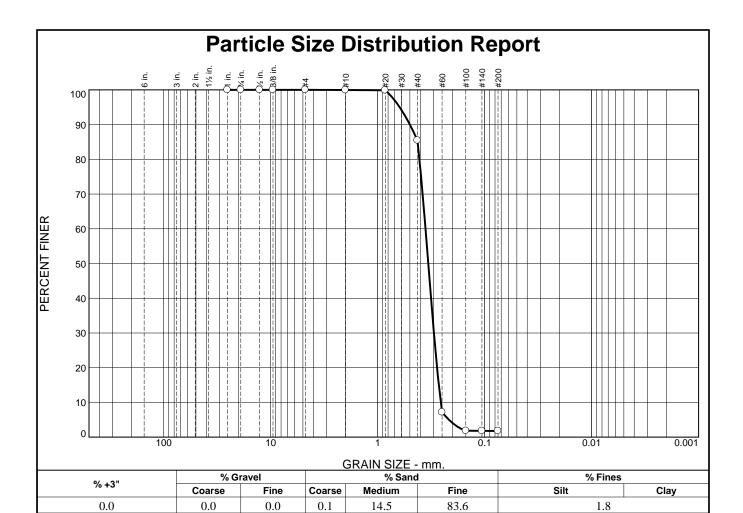
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.9		
#40	85.4		
#60	7.2		
#100	1.9		
#140	1.8		
#200	1.8		

Material Description Fine to medium grained, SAND												
PL=	Atterberg Limits LL=	PI=										
D ₉₀ = 0.5003 D ₅₀ = 0.3364 D ₁₀ = 0.2572	$\begin{array}{c} \textbf{D}_{90} = 0.5003 \\ \textbf{D}_{50} = 0.3364 \\ \textbf{D}_{10} = 0.2572 \\ \end{array} \begin{array}{c} \textbf{Coefficients} \\ \textbf{D}_{85} = 0.4234 \\ \textbf{D}_{30} = 0.2982 \\ \textbf{C}_{\textbf{U}} = 1.39 \\ \end{array}$											
USCS= SP	Classification AASHT	O=										
	<u>Remarks</u>											

Location: BI-PB-158-12 C **Sample Number:** 6485 (12) **Depth:** 4.7' **Date:** 12/07/12

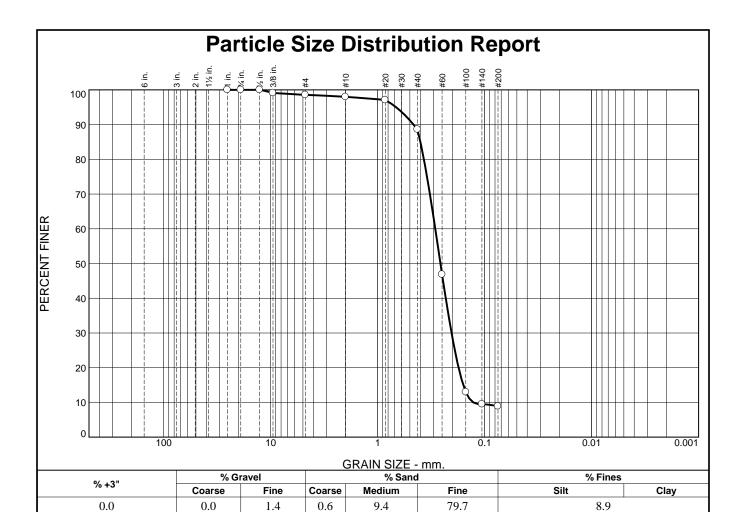
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.1		
#4	98.6		
#10	98.0		
#20	97.1		
#40	88.6		
#60	46.9		
#100	13.0		
#140	9.5		
#200	8.9		

Material Description Fine grained, SLIGHTLY SILTY SAND, with trace SHELL											
PL=	Atterberg Limits LL=	PI=									
D ₉₀ = 0.4624 D ₅₀ = 0.2590 D ₁₀ = 0.1277	Coefficients D ₈₅ = 0.3985 D ₃₀ = 0.2039 C _u = 2.27	D ₆₀ = 0.2896 D ₁₅ = 0.1586 C _c = 1.12									
USCS= SP-SM	Classification AASHTO	=									
	<u>Remarks</u>										

Location: BI-PB-158-12 D **Sample Number:** 6485 (13) **Date:** 12/07/12 **Depth:** 7.3'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-159-12

DRILLING LOG DIVISION								TALLATIO	ON .			SHEET	Г 1
		LUG	South	n Atlantic			_	Mobile Dis				OF 1	SHEETS
1. PRO									TYPE OF BIT N/A				
			d Restoratio	on			10.		NATE SYSTEM/DATUM	HORIZON		VERTIC	
	etit Bois Pa			OCATION C	OORDIN	IATES	11.		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NA\ I TO HA	VD88
	8I-PB-159-1		-			N = 253,240		Vibra			_		HAMMER
	LING AGEN			i	CONTR	ACTOR FILE NO.	12.	TOTAL S		STURBED	i		BED (UD)
	Corps of En		- CESAM	!			┝		!		į ()	
			e Systems, Ir	no			13.	TOTAL P	NUMBER CORE BOXES				
	ECTION OF			DEG. FRON	1	BEARING	14.	WATER	DEPTH	36.2 Ft.			
_	VERTICAL INCLINED			VERTICAL			15.	DATE BO	PRING	STARTED 12-19-	i	COMPL 12-	.ETED 19-12
6. THI	CKNESS OF	OVERB	URDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-36.0 Ft.			
7. DEP	TH DRILLEI	D INTO I	ROCK N	I/A			17.	TOTAL F	RECOVERY FOR BORING	100%			
			•				18.	SIGNAT	URE AND TITLE OF INSPE	CTOR			
8. ТОТ	AL DEPTH (OF BOR	ING 17.	0 Ft.			Ц	Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATIO	ON OF W	IATERIALS		SAMPLE	LABO	RATORY RE	SULTS		
-36.0	0.0		·		_		\Box						
-36.5	- 0.5 -					ilt, mostly fine t							Į,
	F		medium-gr	rained sand	d-sized	quartz, few sil ay (SP-SM)	t,/						F
	-						-/						F
	<u> </u>					e shell fragments and 17.0 ft., stif							E
	Ē		greenish gr	ray (CH)	1 13.0	and 17.0 n., sui	',						Ē
	Ē			, , ,									E
	-												-5
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	F												F-1
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	-												F
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	Ē												- 1
	<u>F</u>												F
-53.0	17.0												<u>E</u>
I	<u> </u>	$ \ $					T						Ŧ
	Ē		NOTES:										Ė
	<u>F</u>		1. Soils	are field	visus	ally classified i	_n						É
	Ē		accordance	e with the U	nified S	Soils Classification	n						-2
	Ė		System.										E
	E					tted for laborator	y						F
	<u> </u>			om this inter									E
	F		3. Seafloo	r elevation o	calculat	ed using samplin	a						ŧ
	F		vessel's fa	athometer w	vater d	epth reading an	d						F
	F		applying N factor.	NOAA tidal	gauge	data conversio	n						F
	Ē		racioi.										<u> </u>
	Ē												ŧ'
	-												

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19537° Long = -88.32348°

Mississippi Barrier Island Restoration Project

AVS SERVICES

Core Identifier BI-PB-159-12

Coordinate System

Latitude / Longitude

Latitude 30 11.722

Longitude 88 19.409

Date 12/19/2012

Start Time 13:00:41

End Time 13:03:24

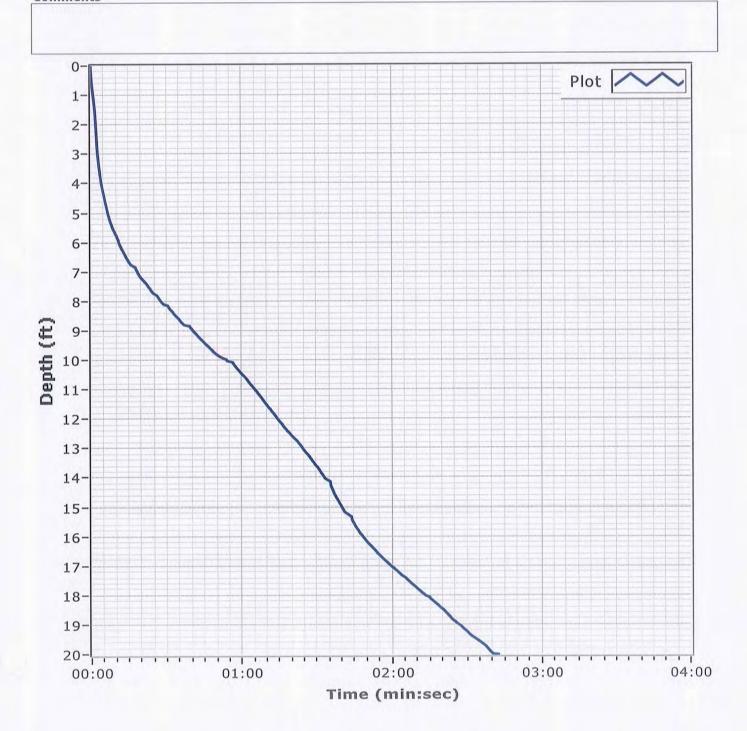
Total Time 00:02:43

Water Depth 36.2'

Penetration 20.0'

Recovery 17.0'





Boring Designation BI-PB-160-12

DR	ILLING	LOG	DIVISI				IN	STALLA						SHEE	T 1
1. PRO			Soi	uth Atlantic				Mobile						OF 2	SHEETS
											N/A			:	
	MsCIP Barri			ition			10			IATE SYSTEM/DATU		HORIZON		VERT	
	Petit Bois Pa			LOCATION	COOPD	INATES	11			Plane, MSE (U.S. I				N/AUTO HA	VD88
_	BI-PB-160-1			1		N = 252,508	- 1			core		OI DIVILL			HAMMER
	LLING AGEN			,		TRACTOR FILE	NO.				DI	STURBED			RBED (UD)
(Corps of En	gineers	- CESAM	l	!		12	. TOTA	L S	AMPLES	-		-	0	
4. NAI	ME OF DRILL	.ER					13	. TOTA	LN	UMBER CORE BOXE	ES				
	American Vi							. WATI	R D	FPTH		39.8 Ft.			
	ECTION OF VERTICAL	BORING	ì	DEG. FRO	M -	BEARING	F					STARTED		COMP	LETED
	INCLINED						15	. DATE	ВО	RING		12-12-		i	-12-12
6. THI	CKNESS OF	OVERB	URDEN	N/A			16	. ELEV	ATI	ON TOP OF BORING	3	-39.9 Ft.		<u> </u>	
							—⊢			ECOVERY FOR BOR		100%			
7. DEF	TH DRILLEI	DINTO	ROCK	N/A						RE AND TITLE OF I					
8. TO	TAL DEPTH (OF BOR	NG 1	9.2 Ft.				M	ike I	FitzHarris, Geologi	ist_				
ELEV.	DEPTH	LEGEND	C	CLASSIFICATI	ON OF	MATERIALS		SAMPL	.E		LABOI	RATORY RE	SULTS	3	
-39.9									\dashv						
-40.3	- 0.4		SAND	silty mostly	fine	grained sand-	sized [\Box						Ē
	F		quartz,	some silt, tr	ace c	granieu sanu- lay, grayish b	orown /								ļ.
	E		(SM)												Ė
	Ē		CLAY,	fat, mostly	clay,	medium to	high								E
	E		plasticity	, clayey sa	and p	ockets throu	ghout								E
	E		interval,	dark gray (C	H)										E
-44.8	4.9														E
	E		SAND (clavev mosti	v fine	grained sand-	cizod								E
	Ė					nell fragments,									Ŀ
	F		(SC)	•			0 ,								F
-47.5	7.6														F
	F		SAND. p	oorly-graded.	mostl	y fine-grained	sand-								F
	E		sized q	uartz, trace		s, occasional									E
	Ė		lenses, It	t. gray (SP)				NS							E
	F	:::													F
	E	:::													E
	E	$[\cdots]$													F
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-59 1	E 19.2	$ \cdot \cdot $													F
55.1	<u> </u>	\dagger							\top						E
	E		NOTES:												E
	É														E
	F		1. So	oils are fiel	d vis	ually classifie	ed in								Ę
	E		accordar System.	ice with the l	eoוווווכ	Soils Classific	Jauon								E
	F		•												Ę
	É					nitted for labor	ratory								Ę
	F		analysis	from this inte	ı val.										E
	F					ated using sam									Ė
	E					depth reading data conversion									E

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19333° Long = -88.31678°

Boring Designation BI-PB-160-12

DRI	LLING	LOC	G (Cont. Sheet)	INSTALLA Mobile					SHEET 2 OF 2 SHEETS			
PROJEC			•	_	TE SYSTEM	A/DATUS	HORIZONTAL	¦ \/=-	RTICAL			
		land I	Restoration				NAD83		NAVD88			
					lane, MSE		i INADO2	!	14V A D 00			
	on coordi ,147,443		s 252,508		ELEVATION TOP OF BORING -39.9 Ft.							
	, 147,443		232,306	-39.91	ι. 							
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERI	ALS	SAMPLE		LABORATORY RI	SULTS				
			factor.									
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SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19333° Long = -88.31678°

Mississippi Barrier Island Restoration Project

AVS

Core Identifier BI-PB-160-12

Coordinate System

Date 12/12/2012

Water Depth 39.8'

Latitude / Longitude

Start Time 14:15:27

Penetration 20.0'

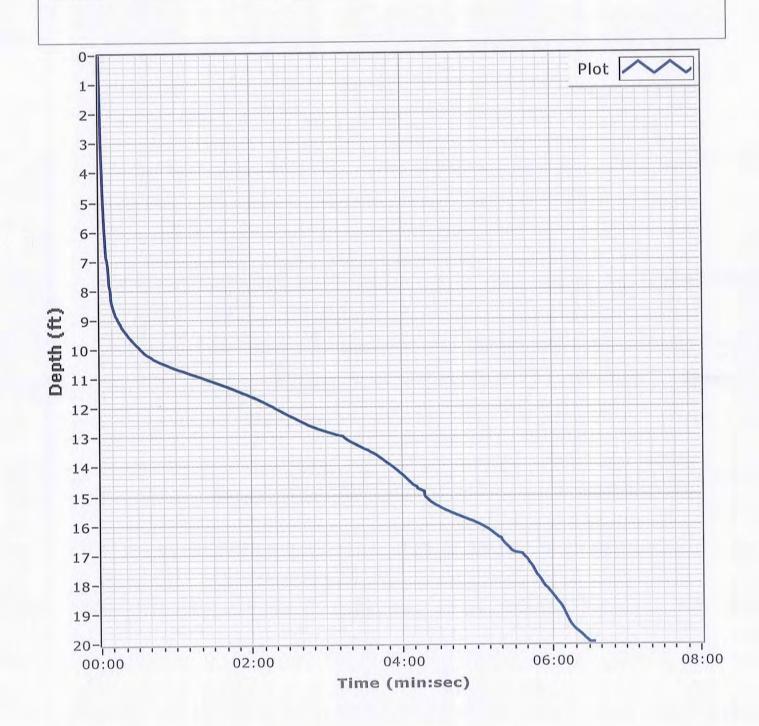
Latitude 30 11.600

End Time 14:22:02 Total Time 00:06:34

Recovery 19.3'

Longitude 088 19.007

Comments



Boring Designation BI-PB-161-12

DRILLING I	06	DIVISION	1		INS	TALLATIC	ON .		SHEET	r 1
	LUG	South	Atlantic			Mobile Dis	strict		OF 1	SHEETS
1. PROJECT							TYPE OF BIT N/A			
MsCIP Barrie			n		10.		NATE SYSTEM/DATUM	HORIZONTAL	VERTIC	
Petit Bois Pas					ļ.,		Plane, MSE (U.S. Ft.)	NAD83		√D88
2. BORING DESIGN. BI-PB-161-12		L	OCATION COO	RDINATES 02 N = 252,019	11.	WANUFA	ACTURER'S DESIGNATION	^	UTO HAI	MMER HAMMER
3. DRILLING AGEN		i_		NTRACTOR FILE NO.	┢	VIDIA				BED (UD)
Corps of Eng		- CESAM			12.	TOTAL S	AMPLES		0	()
4. NAME OF DRILLE			•		13.	TOTAL N	IUMBER CORE BOXES	•		
American Vib					14.	WATER I	DEPTH	41.7 Ft.		
5. DIRECTION OF B VERTICAL	ORING	•	DEG. FROM VERTICAL	BEARING				STARTED	COMPL	FTFD
INCLINED			! ! !		15.	DATE BO	RING	12-12-12		12-12
6. THICKNESS OF C	OVERB	URDEN	N/A		16.	ELEVAT	ION TOP OF BORING	-41.7 Ft.		
					⊢		RECOVERY FOR BORING	100%		
7. DEPTH DRILLED	INTO	ROCK N	/A				URE AND TITLE OF INSPE			
8. TOTAL DEPTH O	F BOR	ING 11.6	6 Ft.				FitzHarris, Geologist			
ELEV. DEPTH	LEGEND	CLA	ASSIFICATION (OF MATERIALS		SAMPLE		RATORY RESULTS		
-41.7 0.0					+					
-42.5 - 0.8		CLAV loar	n moetly clay	some silt, little she	,					<u></u> 0
		fragments,	trace fine-grain	ned sand-sized quartz						-
E I		\soft, grayisl	h brown (ČL)	<u> </u>][<u>E</u>
l E I		CLAY, fat,	mostly clay, so	me fine-grained sand	-					E
		sized qua	rtz, trace sh	nell fragments, stiff	i,					F
-45.9 - 4.2		medium to	high plasticity,	gray (CH)						E
-46.9 - 5.2		SAND. clay	vev. mostly fir	ne-grained sand-size						<u>-</u> 5
F 5.2	7777	quartz, sor		shell fragments, gra						F°
F		\(SC)			/	NS				F
	\cdots			stly fine-grained sand						E
	::::			s, trace clay lense y to white (SP)	s					E
		unougnout	iritei vai, it. gra	y to write (SF)						E
										-
L L										E ₋₁₀
l E l	-:::									E '
-53.3 E 11.6										E
-					T					
		NOTES:								E
l E l		1 001-	oro field :	ioughy alassified :-						E
[isually classified in ed Soils Classification						F
[-		System.								E ₋₁₅
[2. NS = 5	Sample not su	bmitted for laborator	, l					E
E			m this interval.		´					F
[3 Seafloor	r elevation calc	culated using sampling	,					F
[vessel's fa	thometer water	er depth reading and	ď					E
[applying N	IOAA tidal ga	iuge data conversion	n					ŧ
[factor.								F
										-20
[Ē
[Ė
[E
[-										E
[Ę
[F
										-25
[Ē
F										

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19198° Long = -88.31505°

Mississippi Barrier Island Restoration Project

AVS SERVICES

Core Identifier BI-PB-161-12

Coordinate System

Latitude / Longitude

Latitude 30 11.895

Longitude 088 18.903

Date 12/12/2012

Start Time 14:48:57

End Time 14:56:02

Total Time 00:07:04

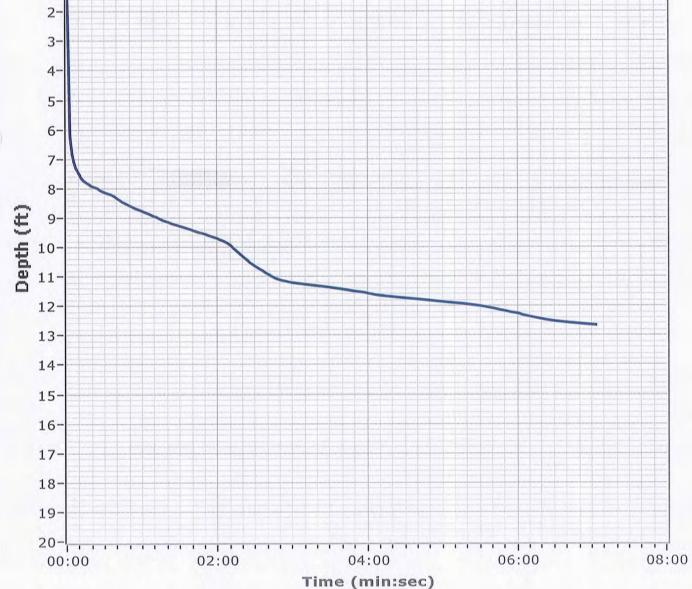
Water Depth 41.7'

Penetration 12.7'

Recovery 11.6'







Boring Designation BI-PB-162-12

DDI	LLING	LOG	DIVISIO	N			INS	STALLATIO	ON			SHEET	1
		LUG	South	n Atlantic			-	Mobile Di				OF 2	SHEETS
1. PRO									TYPE OF BIT N/A				
			d Restoratio	on			10.		NATE SYSTEM/DATUM	HORIZON		VERTIC	
	etit Bois Pa			OCATION CO	OPPINAT	ES	44		e Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD8			/D88
	II-PB-162-1		"	E = 1,154,			'''	. WANDEZ Vibra		N OF DRILL		JTO HAN ANUAL F	MMER IAMMER
	LING AGEN		I			TOR FILE NO.	H		¦ D	ISTURBED			BED (UD)
	orps of Eng		- CESAM	!			12.	. TOTAL S	SAMPLES			0	
	E OF DRILL						13.	. TOTAL I	NUMBER CORE BOXES				
			Systems, I				14.	WATER	DEPTH	40.6 Ft.			
	ECTION OF I VERTICAL INCLINED	BORING		DEG. FROM VERTICAL	BE. - 	ARING	15.	. DATE BO	ORING	STARTED		COMPL 12-0	ETED 06-12
6. THIC	KNESS OF	OVERB	URDEN	N/A			16.	. ELEVAT	ION TOP OF BORING	-40.1 Ft.			
7 DED	TH DRILLED	INTO	OCK V	I/A			17.	. TOTAL I	RECOVERY FOR BORING	100%			
7. DEP	IN DRILLED	INIO	lock	I/A			18.	SIGNAT	URE AND TITLE OF INSPI	ECTOR			
8. TOT	AL DEPTH C	OF BORI	NG 20.	0 Ft.				Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	N OF MAT	ERIALS		SAMPLE	LABO	RATORY RE	SULTS		
-40.1	0.0						一						
-41.4	-1.3		grained saturace silt, to SAND, po medium-gr	nd-sized qua race clay, gra orly-graded	artz, few s ay (SP) with silt, -sized qu	ne to medium hell fragments mostly fine t lartz, few sil SM)	s, 0	А	Classification: SP D50: 0.3	Color: 2.5Y 3 mm %	6/2-ligh Fines: 4	nt browni 1.8	sh gray
								В	Classification: SP D50: 0.3	Color: 2. 16 mm %	5Y 5/2-(Fines:	grayish b 4.7	prown
-55.1								С	Classification: SI D50: 0.30		olor: 2.5 6 Fines:		-
			SAND, cla	yey, mostly	fine-grain	ned sand-size	d						
-56.8	 - 16.7		quartz, son	ne clay, gray	(SC)		_						F
-60.1	20.0					dium to hig 7 ft., stiff, gra		NS					
-00.1	- 20.0	7//4					\dashv						2
			accordance System. 2. NS = analysis from	e with the Ur Sample not om this interv	nified Soil: submitted val.	classified is Classification	n						2
	<u> </u>		3. Seafloo	r elevation de	etermined	from 2010							E

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19825° Long = -88.29327°

Boring Designation BI-PB-162-12

DRILLING LOG (Cont. Sheet)					INSTALLATION SHEET 2 Mobile District OF 2 SHEETS					
PROJECT MsCIP Barrier Island Restoration										
			ı	COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, MSE (U.S. Ft.) NAD83 NAVD88						
	ON COORDI				ON TOP OF BOR		10.000	10.00		
X = 1,154,862 Y = 254,331			-40.1							
LEV.	DEPTH	LEGEND	CLASSIFICATION OF MAT		SAMPLE		LABORATORY RE	ESULTS		
			USACE survey.							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19825° Long = -88.29327°

Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
SERVICES

Core Identifier BI-PB-162-12

Coordinate System
Latitude / Longitude

Date 12/06/2012

Water Depth 40.6'

Start Time 13:24:22

End Time 13:26:11

Total Time 00:01:48

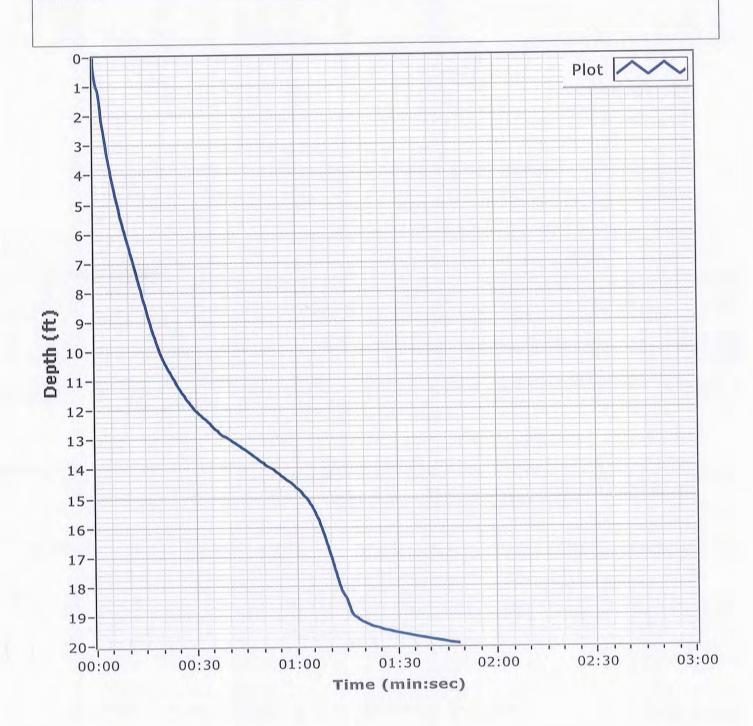
Penetration 20.0'

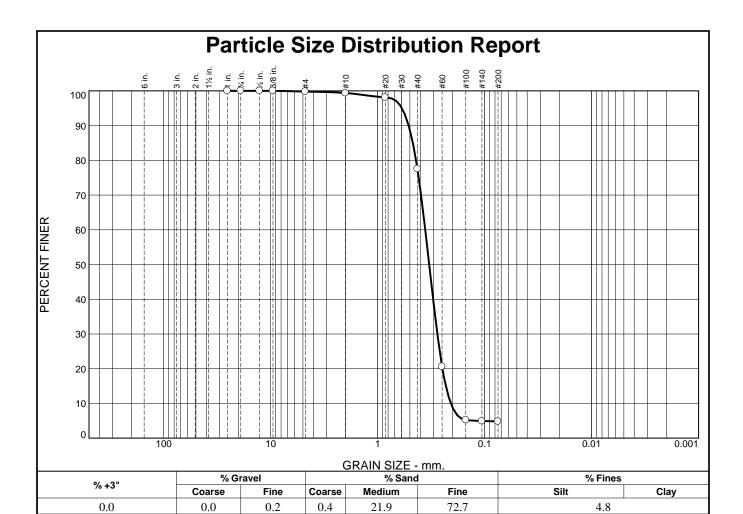
Recovery 20.0'

Latitude 30 11.895

Longitude 088 17.596

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.4		
#20	98.1		
#40	77.5		
#60	20.6		
#100	5.2		
#140	4.9		
#200	4.8		

Material Description Fine to medium grained, SAND							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.5134 D ₅₀ = 0.3300 D ₁₀ = 0.2071	Coefficients D ₈₅ = 0.4690 D ₃₀ = 0.2768 C _u = 1.73	D ₆₀ = 0.3592 D ₁₅ = 0.2305 C _C = 1.03					
USCS= SP	Classification AASHT	O=					
	<u>Remarks</u>						

Location: BI-PB-162-12 A **Sample Number:** 6480 (15)

Date: 12/07/12**Depth:** 0.0'

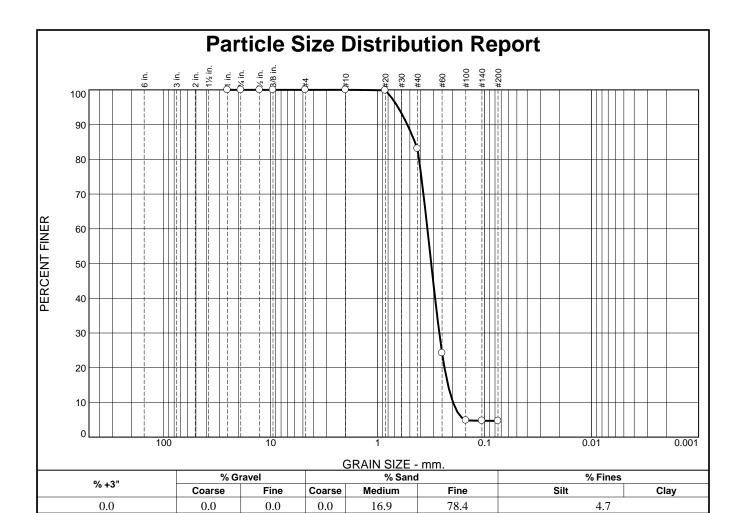
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	83.1		
#60	24.2		
#100	4.8		
#140	4.7		
#200	4.7		
* .	acification masside		

Material Description Fine to medium grained, SAND						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5289 D ₅₀ = 0.3160 D ₁₀ = 0.1976	Coefficients D ₈₅ = 0.4494 D ₃₀ = 0.2656 C _u = 1.74	D ₆₀ = 0.3429 D ₁₅ = 0.2199 C _c = 1.04				
USCS= SP	Classification AASHT	O=				
	<u>Remarks</u>					

Location: BI-PB-162-12 B **Sample Number:** 6480 (16) **Depth:** 5.0' **Date:** 12/07/12

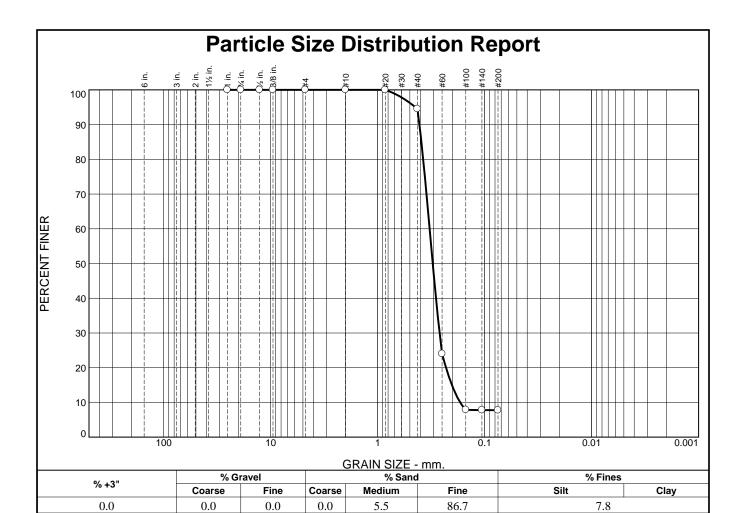
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
Г	1	100.0		
	.75	100.0		
	.5	100.0		
	.375	100.0		
	#4	100.0		
	#10	100.0		
	#20	100.0		
	#40	94.5		
	#60	24.0		
	#100	7.9		
	#140	7.8		
	#200	7.8		
ᆫ	*			

Material Description Fine grained, SLIGHTLY SILTY SAND							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.4068 D ₅₀ = 0.3059 D ₁₀ = 0.1696	Coefficients D85= 0.3900 D30= 0.2641 Cu= 1.93	D ₆₀ = 0.3269 D ₁₅ = 0.2023 C _c = 1.26					
USCS= SP-SM	Classification AASHTO	=					
	<u>Remarks</u>						

Location: BI-PB-162-12 C **Sample Number:** 6480 (17)

Sample Number: 6480 (17) Depth: 10.0' Date: 12/07/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-163-12

DBI	LLING	LOG	DIVISION	1		IN	STALLATIO	ON			SHEET	1
	South Atlantic					\perp	Mobile Di				OF 2	SHEETS
1. PRO							_	TYPE OF BIT N/A	•			
			d Restoratio	n		10		NATE SYSTEM/DATUM	HORIZON		VERTICA	
	etit Bois Pa			OCATION CO	OORDINATES	11		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD8		NAV UTO HAM	
	BI-PB-163-12 E = 1,154,858 N = 255,102						Vibra		0. 522	=	ANUAL H	
3. DRIL	3. DRILLING AGENCY CONTRACTOR FILE NO						. TOTAL		STURBED	UN	DISTURB	ED (UD)
	Corps of Engineers - CESAM				<u> ''</u>	. IOIAL	SAMPLES			0		
	 NAME OF DRILLER American Vibracore Systems, Inc. 					13	. TOTAL	NUMBER CORE BOXES				
	CTION OF			DEG. FROM	BEARING	14	. WATER	DEPTH	38.2 Ft.			
_	VERTICAL INCLINED			VERTICAL		15	. DATE B	DRING	STARTED 12-06		COMPLE 12-0	
6. THIC	KNESS OF	OVERB	URDEN	N/A		16	. ELEVAT	ION TOP OF BORING	-38.7 Ft.			
7. DEP	TH DRILLED	INTO	ROCK N	//A		17	. TOTAL	RECOVERY FOR BORING	100%			
						18	. SIGNAT	URE AND TITLE OF INSPE	CTOR			
8. 101	AL DEPTH C	F BORI	NG 20.0	0 Ft.		Щ,	Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATIO	N OF MATERIALS		SAMPLE	LABO	RATORY RE	SULTS		
-38.7	0.0						_					
	=		SAND, po	orly-graded	with silt, mostly fir	ne-						Ĕ
	-		grained sar	nd-sized qu ay (SP-SM)	artz, few silt, trace c	lay						F
	-	-: <u> </u>	streaks, gra	ay (SP-SIVI)				Classification: SP-SM	Color: 2 !	5Y 6/2-li	aht brow	nish gray
							Α	D50: 0.30	4 mm %	Fines:	7.2	E
	-	$\ \cdot\ \ $										E
	-	$\ \cdot\ \ $										E
	-					ŀ						
	_	$ \cdot $										Ė
	-	$\ \cdot\ \ $										Ė
							В	Classification: SP-SM	Color:	2.5Y 5/2	2-grayish	brown
		-: 					Ь	D50: 0.300	62 mm %	% Fines:	5.7	F
												E
	_											Ė
	-	·:				İ						<u></u> 1
	-	:-						Classification, CF) CM _ C	-l 0 F	V C/4	
	_	<u> </u>					С	Classification: SF D50: 0.31	7-SIVI C 21 mm 9	olor: 2.5 6 Fines:	Y 6/1-gra 6.9	^{ay} E
		$\ \cdot\ _{\ \cdot\ }$										E
-51.9	<u>13.2</u>											
	-		CLAY, fat,	, mostly cl	ay, few sandy pock	ets						E
	_		(CH)	, mealum to	high plasticity, stiff, g	ay						<u> </u>
			()									E'
	-											F
	<u> </u>						NS					E
	<u>E</u>											F
	<u> </u>											F
	<u></u>											F
-58.7	20.0											
	Ē_											F
	Ē		NOTES:									F
	-		1. Soils	are field	visually classified	in						F
	_		accordance	with the U	nified Soils Classificat	ion						E
	Ē		System.									ŧ
	Ē		2. NS = S	Sample not	submitted for laborate	ory						F
	<u>-</u> E		•	om this inter								-2
			J. Seatloon	elevation d	etermined from 2010							F

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20037° Long = -88.29327°

Boring Designation BI-PB-163-12

DDI	LLING	100	G (Cont. Sheet)	INSTALLAT	TION		_ 	SHEET 2	
DKI	LLING	LUC	G (Cont. Sneet)	Mobile [District			OF 2 SHEE	гs
PROJEC				COORDINA	TE SYSTEN	I/DATUM	HORIZONTAL	VERTICAL	
MsCl	P Barrier Is	land F	Restoration	State Pl	ane, MSE	(U.S. Ft.)	NAD83	NAVD88	
LOCATIO	ON COORDIN	NATES	3	ELEVATION	TOP OF B	ORING			
X = 1	,154,858	Y = 2	255,102	-38.7 Ft	t.				
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIAL	.s	SAMPLE		LABORATORY RES	BULTS	
		-							- }
			USACE survey.						E
									E
									F
									F
									-30
									E
									E
									E
									F
									E
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									-35
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									-40
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SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20037° Long = -88.29327°

Mississippi Barrier Island Restoration Project

AVS RVICES

Core Identifier BI-PB-163-12

Coordinate System

Date 12/06/2012

Water Depth 38.2'

Latitude / Longitude

Start Time 12:16:39

Total Time 00:00:55

Penetration 20.0'

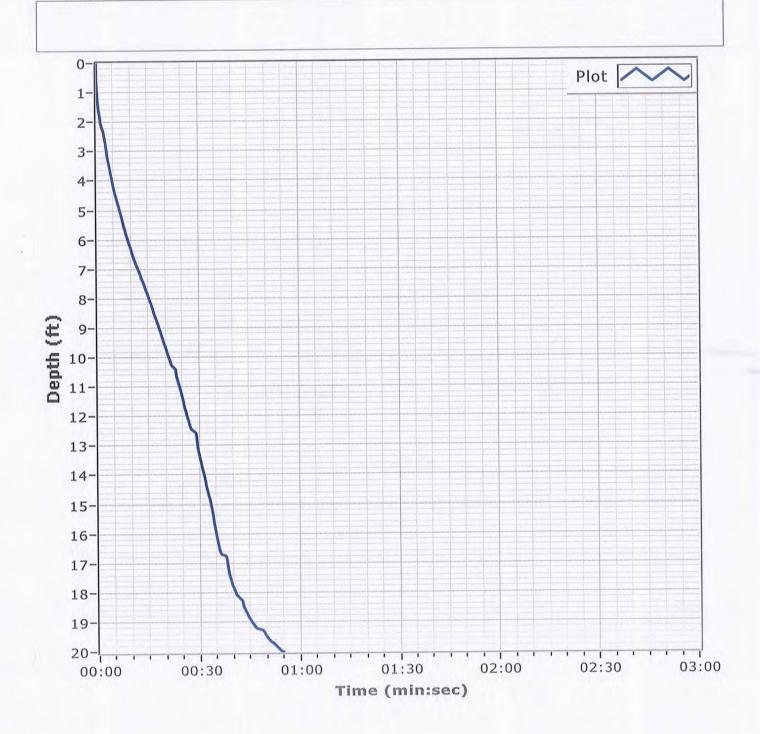
End Time 12:17:34

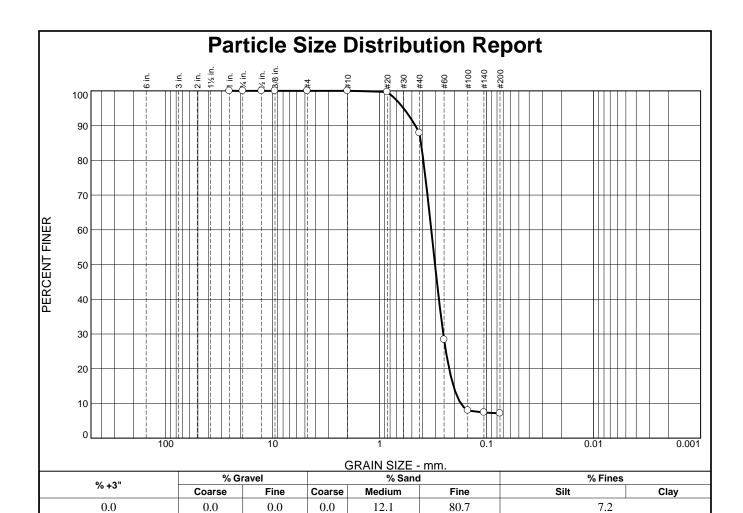
Recovery 20.0'

Latitude 30 12.022

Longitude 088 17.596

Comments





PERCENT	SPEC.*	PASS?
FINER	PERCENT	(X=NO)
100.0		
100.0		
100.0		
100.0		
100.0		
100.0		
99.7		
87.9		
28.4		
8.0		
7.4		
7.2		
	FINER 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.7 87.9 28.4 8.0 7.4	FINER PERCENT 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.7 87.9 28.4 8.0 7.4

	Material Description Fine to medium grained, SLIGHTLY SILTY SAND							
PL=	Atterberg Limits LL=	PI=						
D ₉₀ = 0.4649 D ₅₀ = 0.3040 D ₁₀ = 0.1745	Coefficients D ₈₅ = 0.4111 D ₃₀ = 0.2544 C _u = 1.89	D ₆₀ = 0.3294 D ₁₅ = 0.2043 C _c = 1.13						
USCS= SP-SM	Classification AASHTO)=						
	<u>Remarks</u>							

Location: BI-PB-163-12 A **Sample Number:** 6480 (18) **Date:** 12/07/12 **Depth:** 0.0'

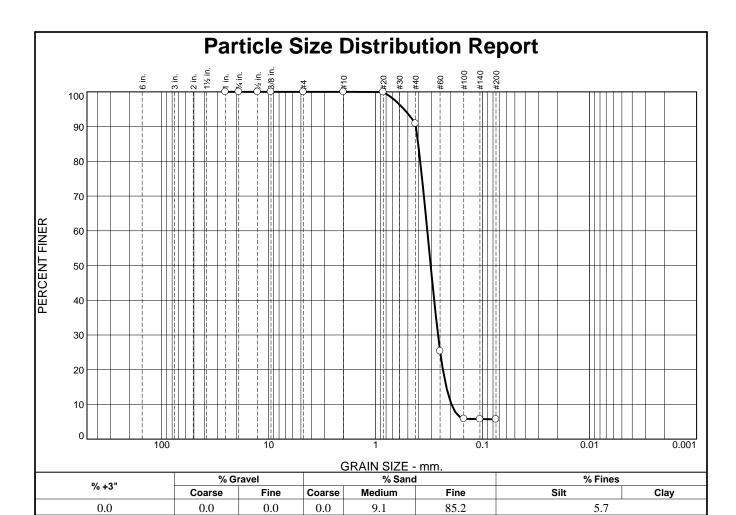
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	90.9		
#60	25.3		
#100	5.9		
#140	5.8		
#200	5.7		

Material Description Fine grained, SLIGHTLY SILTY SAND							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.4209 D ₅₀ = 0.3062 D ₁₀ = 0.1957	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D}_{85} = \ 0.4005 \\ \text{D}_{30} = \ 0.2614 \\ \text{C}_{\text{U}} = \ 1.68 \end{array}$	D ₆₀ = 0.3292 D ₁₅ = 0.2185 C _c = 1.06					
USCS= SP-SM	Classification AASHTO)=					
	<u>Remarks</u>						

Location: BI-PB-163-12 B **Sample Number:** 6480 (19) **Date:** 12/07/12 **Depth:** 5.0'

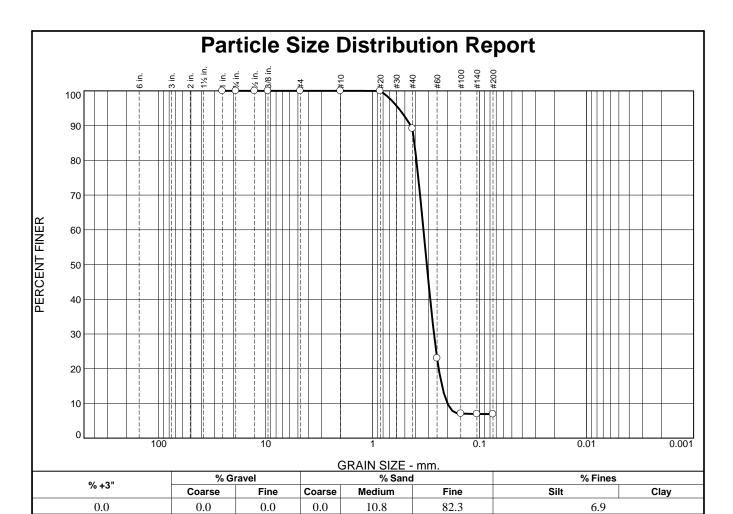
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	89.2		
#60	23.0		
#100	7.1		
#140	7.0		
#200	6.9		

Material Description Fine to medium grained, SLIGHTLY SILTY SAND								
PL=	Atterberg Limits LL=	PI=						
D ₉₀ = 0.4416 D ₅₀ = 0.3121 D ₁₀ = 0.1999	$\begin{array}{c} \textbf{Coefficients} \\ \textbf{D_{85}} = 0.4077 \\ \textbf{D_{30}} = 0.2674 \\ \textbf{C_{u}} = 1.68 \end{array}$	D ₆₀ = 0.3352 D ₁₅ = 0.2245 C _c = 1.07						
USCS= SP-SM	Classification AASHTO)=						
	<u>Remarks</u>							

Date: 12/07/12 **Depth:** 10.0'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-164-12

DBI		100	DIVISIO	N			INS	STALLATIO	ON			SHEET	1
	DRILLING LOG South Atlantic Mobile District OF 2 SHEETS												
1. PROJECT				9. SIZE AND TYPE OF BIT N/A									
			nd Restoration	on			10.	COORDI	NATE SYSTEM/DATUM	HORIZON	ITAL	VERTIC	AL
	etit Bois Pa						<u> </u>		Plane, MSE (U.S. Ft.)	NAD8		NAV	
	ING DESIGN 31-PB-164-1		• !	LOCATION C			11.		ACTURER'S DESIGNATION	OF DRILL		UTO HAN ANUAL H	
_			i	E = 1,154		N = 256,670 ACTOR FILE NO.	⊢	Vibra		ISTURBED			BED (UD)
	3. DRILLING AGENCY CONTRACTOR FILE NO Corps of Engineers - CESAM					12.	TOTAL				0	(32)	
4. NAM	E OF DRILL	ER					13.	TOTAL	NUMBER CORE BOXES		-		
			e Systems, I				14	WATER	DEPTH	34 Ft.			
	CTION OF I	BORIN	G	DEG. FROM VERTICAL	Л	BEARING	F			STARTED)	COMPL	ETED
_	INCLINED			-	į		15.	DATE BO	DRING	12-06			6-12
6. THIC	CKNESS OF	OVERE	BURDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-32.4 Ft.		ı	
							17.	TOTALI	RECOVERY FOR BORING	100%			
7. DEP	TH DRILLED	INTO	ROCK	V/A					URE AND TITLE OF INSPE				
8. ТОТ	AL DEPTH C	F BOR	ing 20	.0 Ft.					FitzHarris, Geologist				
ELEV.	DEPTH	-EGEND	CL	ASSIFICATIO	ON OF M	ATERIALS		SAMPLE	LABO	RATORY RE	SULTS		
-32.4	0.0	+-+					\dashv						
-35.0	-		grained sa		artz, trá	fine to medium ce silt, trace she ay (SP)		A	Classification: SP D50: 0.33	Color: 5 369 mm	Y 6/2-liç % Fines	ght olive	gray
-37.4	5.0		grained sa	oorly-graded, and-sized qu , It. gray (SF	artz, tra	fine to medium ce silt, trace she	n- ell	В	Classification: SF D50: 0.33		2.5Y 7/ % Fines:	2-light gr 4.2	ray -
44.4	- - - - - - - - - - - - - - - - - - -		grained sa			fine to medium ace clay stringers		С	Classification: S D50: 0.32		: 5Y 7/2 % Fines	-light gra s: 3	<u> </u>
-41.1	- 0.7		04110				+		Classification: SP-SM	Color: 2 !	5Y 6/2-I	aht brow	nish gray
-42.4			grained s content in (SP-SC) SAND, cla quartz, s	sand-sized acreases with ayey, mostly	quartz, h depth / fine-gr	clay, mostly fine few clay, cla , It. gray to gra rained sand-size silt, few she	iy iy d	D NS	D50: 0.30		6 Fines:		
-48.5	16.1						_						Ę
-49.4	17.0					ome fine-graine							Ė
	_		\ sand-sized \clay, gray	d quartz, trad (CL)	ce shell	fragments, sand	^{ly} /						Į.
	-18.3 - - - 20.0		SAND, cla	ayey, mostly me clay, trac	/ fine-gr ce shell	rained sand-size fragments, claye	d y						
				d, trace she		ome fine-graine ents, sandy clay							
			NOTES: 1. Soil: accordance System.	s are field te with the U	d visua Inified S	ally classified i soils Classificatio	n n						- - - - - - - - -

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20468° Long = -88.29327°

Boring Designation BI-PB-164-12

DRILLING LO	OG (Cont. Sheet) INSTALLATION Mobile District SHEET 2 OF 2 SHEET				SHEET 2 OF 2 SHEETS				
PROJECT		COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL			, .				
MsCIP Barrier Island	sCIP Barrier Island Restoration State Plane, MSE (U.S		l l						
OCATION COORDINATE		TOP OF BO							
	256,670	-32.4 Ft.							
ELEV. DEPTH	CLASSIFICATION OF MATERIAL	als	SAMPLE		LABORATORY RE	LABORATORY RESULTS			
AM FORM 1836 -	2. NS = Sample not submitted for analysis from this interval. 3. Seafloor elevation determined fr USACE survey.					Long = -88.29327°			

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20468° Long = -88.29327°

Mississippi Barrier Island Restoration Project

AVS AMERICAN VIBRACORE SERVICES

Core Identifier BI-PB-164-12

Coordinate System

Latitude / Longitude

Date 12/06/2012

Start Time 10:37:41

End Time 10:38:28

Total Time 00:00:46

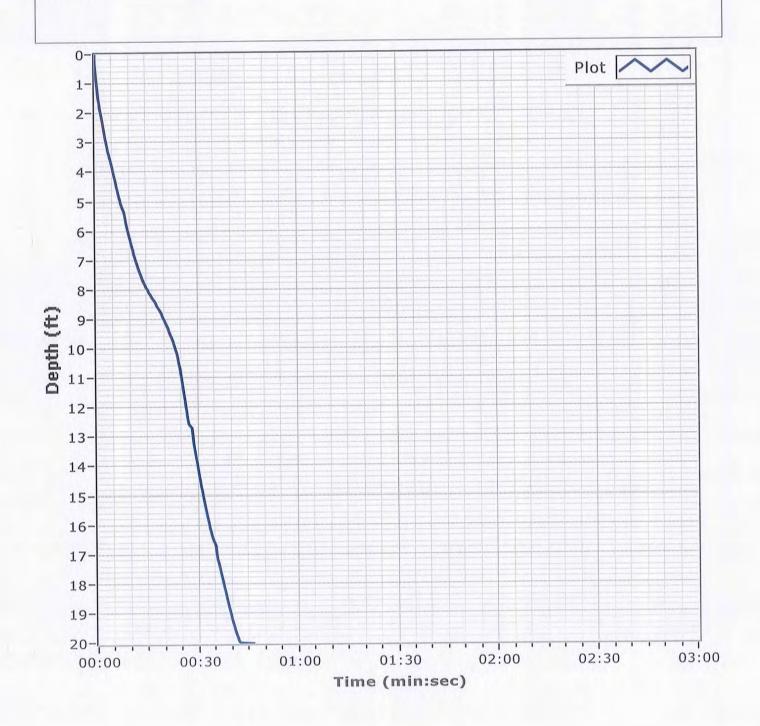
Water Depth 34.0'

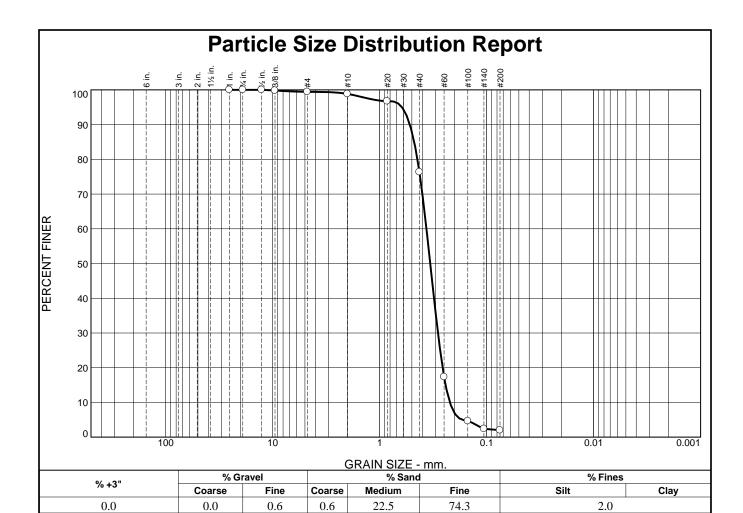
Penetration 20.0'

Recovery 20.0'

Latitude 30 12.281 Longitude 088 17.596

Comments





FINER 100.0	PERCENT	(X=NO)
100.0		(77-140)
100.0		
100.0		
100.0		
99.8		
99.4		
98.8		
96.7		
76.3		
17.3		
4.7		
2.4		
2.0		
	100.0 99.8 99.4 98.8 96.7 76.3 17.3 4.7 2.4 2.0	100.0 99.8 99.4 98.8 96.7 76.3 17.3 4.7 2.4

Material Description Fine to medium grained, SAND					
PL=	Atterberg Limits	PI=			
D ₉₀ = 0.5225 D ₅₀ = 0.3369 D ₁₀ = 0.2206	Coefficients D ₈₅ = 0.4756 D ₃₀ = 0.2853 C _u = 1.66	D ₆₀ = 0.3654 D ₁₅ = 0.2420 C _c = 1.01			
USCS= SP	Classification AASHT	O=			
	<u>Remarks</u>				

Location: BI-PB-164-12 A **Sample Number:** 6480 (21) **Depth:** 0.0' **Date:** 12/07/12

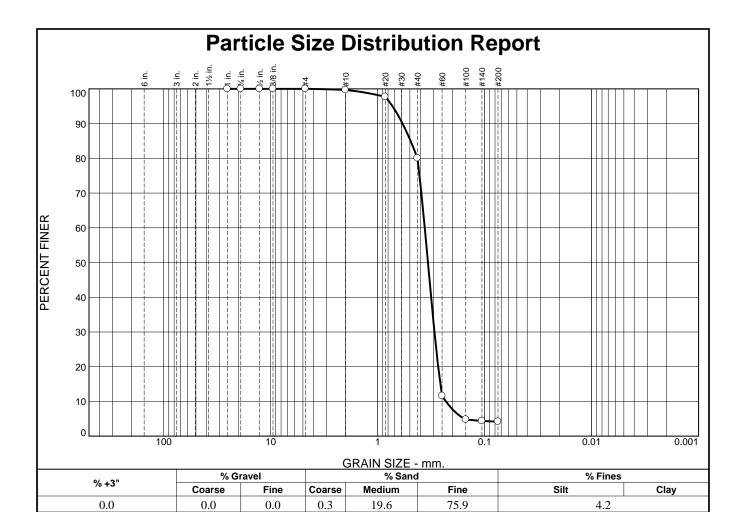
Thompson Engineering

 $\begin{tabular}{ll} \textbf{Client:} & CDM/Thompson Engineering JV \\ \end{tabular}$

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.7		
#20	97.7		
#40	80.1		
#60	11.6		
#100	4.8		
#140	4.4		
#200	4.2		

Material Description Fine to medium grained, SAND						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5855 D ₅₀ = 0.3388 D ₁₀ = 0.2302	Coefficients D ₈₅ = 0.4923 D ₃₀ = 0.2948 C _u = 1.58	D ₆₀ = 0.3629 D ₁₅ = 0.2597 C _c = 1.04				
USCS= SP	USCS= SP Classification AASHTO=					
	<u>Remarks</u>					

Location: BI-PB-164-12 B **Sample Number:** 6480 (22) **Depth: 2.6' Date:** 12/07/12

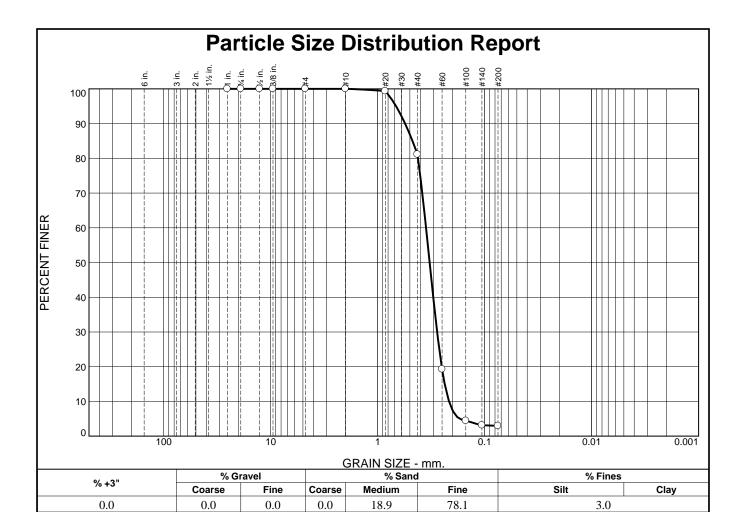
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



PERCENT	SPEC.*	PASS?
FINER	PERCENT	(X=NO)
100.0		
100.0		
100.0		
100.0		
100.0		
100.0		
99.4		
81.1		
19.3		
4.4		
3.1		
3.0		
	FINER 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.4 81.1 19.3 4.4 3.1	FINER PERCENT 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.4 81.1 19.3 4.4 3.1

Material Description Fine to medium grained, SAND					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.5543 D ₅₀ = 0.3269 D ₁₀ = 0.2153	Coefficients D ₈₅ = 0.4731 D ₃₀ = 0.2783 C _u = 1.64	D ₆₀ = 0.3530 D ₁₅ = 0.2362 C _C = 1.02			
USCS= SP	Classification AASHT	-O=			
	<u>Remarks</u>				

Location: BI-PB-164-12 C **Sample Number:** 6480 (23)

Date: 12/07/12**Depth:** 5.0'

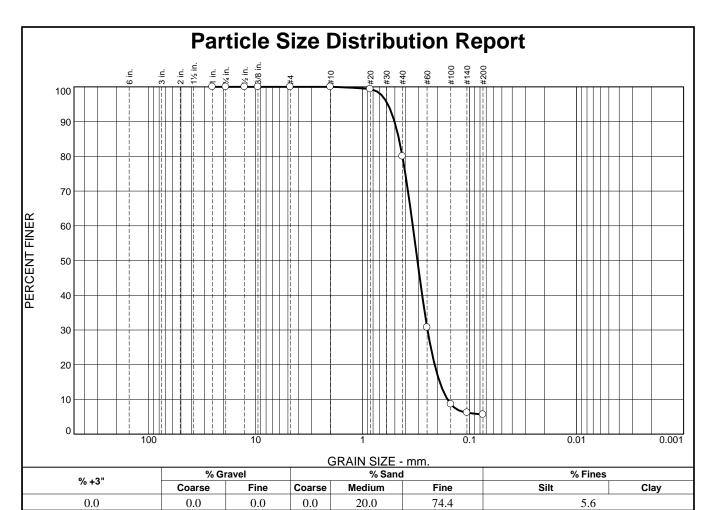
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



0.0		0.0	0.0	U.	.0	20.0	/4.4
SIEVE	PERCENT	SPEC	.* Р	ASS?			Ma
SIZE	FINER	PERCE	NT ()	(=NO)		Fine to	medium grai
1	100.0						C
.75	100.0						
.5	100.0						
.375	100.0					PL=	
#4	100.0					rL=	
#10	100.0						
#20	99.4					Dan=	0.5041
#40	80.0					D ₉₀ = 0 D ₅₀ = 0 D ₁₀ = 0	0.3079
#60	30.8					$D_{10}^{30} = 0$	0.1612
#100	8.7						
#140	6.2					USCS:	= SP-SM
#200	5.6					0303	- 31 -3M

Material Description Fine to medium grained, SLIGHTLY SILTY SAND					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.5041 D ₅₀ = 0.3079 D ₁₀ = 0.1612	Coefficients D ₈₅ = 0.4580 D ₃₀ = 0.2476 C _u = 2.11	D ₆₀ = 0.3401 D ₁₅ = 0.1905 C _c = 1.12			
USCS= SP-SM	Classification AASHTO)=			
	<u>Remarks</u>				

Location: BI-PB-164-12 D **Sample Number:** 6480 (24)

Date: 12/07/12**Depth:** 8.7'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

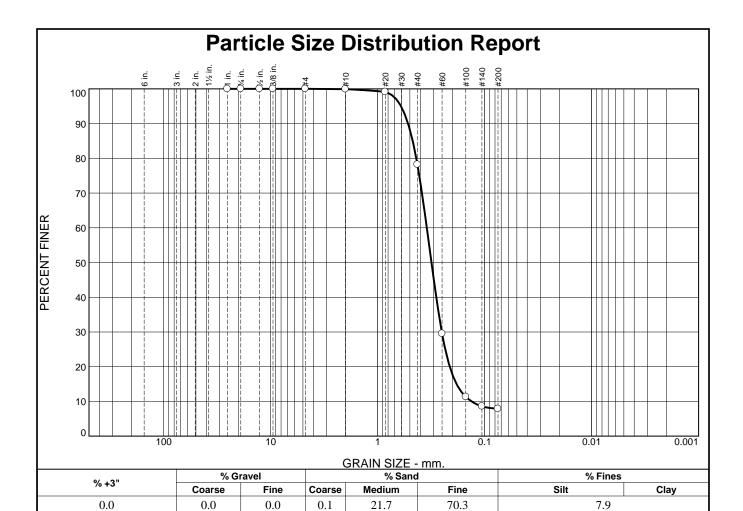
Project No: 1221110095

Boring Designation BI-PB-165-12

ŊΡ	ILLING	LOG	DIVISION	N		I	NST	TALLATIC	ON		SHEET	1
			South	n Atlantic			N	lobile Dis	strict		OF 1	SHEETS
1. PRO									TYPE OF BIT N/A			
			nd Restoratio	on		[1	10.		NATE SYSTEM/DATUM	HORIZONTAL	VERTIC	
	Petit Bois Pa								Plane, MSE (U.S. Ft.)	NAD83		/D88
	RING DESIGN		· įL	OCATION CO	ordinates 799 N = 257.		11.		ACTURER'S DESIGNATION		AUTO HAN	
	BI-PB-165-12		<u> i </u>		ONTRACTOR F			Vibra			UNDISTUR	
	Corps of Eng		s - CESAM	ľ			12.	TOTAL S		.0101122	0	
	ME OF DRILLI			<u> </u>		1	13.	TOTAL N	IUMBER CORE BOXES			
			e Systems, Ir	nc.		<u></u> ⊢		WATER I		33.1 Ft.		
	ECTION OF B	BORING	G	DEG. FROM	BEARING	·	14.	WAIERI	JEP I H	STARTED	COMPL	ETEN
	VERTICAL INCLINED					1	15.	DATE BO	RING	12-06-12		06-12
6 THI	CKNESS OF	OVER	RIIDDEN	N/A	•	<u> </u>	16.	FI FVAT	ION TOP OF BORING	-32.5 Ft.		
									RECOVERY FOR BORING	100%		
7. DEF	TH DRILLED	INTO	ROCK N	I/A					URE AND TITLE OF INSPE			
8. TO	TAL DEPTH O	F BOR	ING 15.0	0 Ft.					FitzHarris, Geologist			
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATION	OF MATERIAL	s	s	SAMPLE		RATORY RESULT	s	
-32.5	0.0	\vdash					$^{+}$					
-33.1	5.6		SAND da	vev moetly	fine-grained sa	nd-eized	1	NIC				0
-33.8	1.3	ЩД		ne clay, gray		11 1U-31∠€U /	/_	NS	Classification: SP-5	SM Color 3 =	Y 7/2-light	- Crav
	Ē		\		ly silt, trace fine	a-drained	$/\!\!\!\perp$	Α	Classification: SP-3	5101 C0101 . 2.5 43 mm	58:7.9.6:40	y ay
	Ė	$[\cdots]$	sand-sized	quartz, med	dium to high	plasticity,	/L	В	D50: 0.37			
	Ē	.:.:.	brownish g	ray (ML)					Classification	. CD Colom 2	EV 0 E/4	
	<u>F</u>		SAND, poo	orly-graded, i	mostly fine to	medium-		С	Classification: D50: 0.33		.5Y 8.5/1- es: 1.3	<u>F</u>
	E	$ \cdots $		nd-sized qua	rtz, clay band a	at 1.7 ft.,	L					
	E	.∷	Lgray (SP) At El34.4	4 Ft., mostly	fine to medium	n-grained						Ě
	E	$ \cdot \cdot \cdot $	sand-sized	quartz, tr	ace silt, trad	ce shell						E
	-	$[\cdots]$	Lfragments,		fine to medium	n-grained			Classification: SF	Color: 2.5Y	7/1_light g	rav E
	E	∷∴	sand-sized		e silt, dense, It			D	D50: 0.33			E E
	E	$[\cdots]$	white									E
	E	$ \cdots $										E
	-	::::					\vdash					10
	E	. : :										E
	E	:∷-										E
	Ė l	<u> </u> : · · :						_	Classification: S			e E
	<u> </u>	.∵.						E	D50: 0.32	37 mm % Fine	es: 1.9	E
	<u>E</u>	:∷-										E
-47 5	15.0	[∷::										E
77.5	- 10.0						t	NS				15
	<u> </u>		NOTES:									F
	E I			C 1:	. 4	-:e: ·						E
			Soils accordance System.	are field with the Un	visually class ified Soils Clas	sified in sification						
			2. NS = S analysis fro	Sample not som this interv	submitted for la al.	aboratory						
			vessel's fa	thometer wa	alculated using ater depth read gauge data co	ding and						
	-											

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20750° Long = -88.29342°



ſ	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
ſ	1	100.0		
1	.75	100.0		
	.5	100.0		
	.375	100.0		
	#4	100.0		
1	#10	99.9		
	#20	99.1		
1	#40	78.2		
	#60	29.5		
	#100	11.3		
	#140	8.6		
	#200	7.9		
L	*			

Material Description Fine to medium grained, SLIGHTLY SILTY SAND						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5199 D ₅₀ = 0.3143 D ₁₀ = 0.1325	Coefficients D ₈₅ = 0.4705 D ₃₀ = 0.2516 C _u = 2.62	D ₆₀ = 0.3473 D ₁₅ = 0.1833 C _c = 1.38				
USCS= SP-SM	USCS= SP-SM Classification AASHTO=					
	<u>Remarks</u>					

Location: BI-PB-165-12 A **Sample Number:** 6480 (25) **Date:** 12/07/12 **Depth:** 1.3'

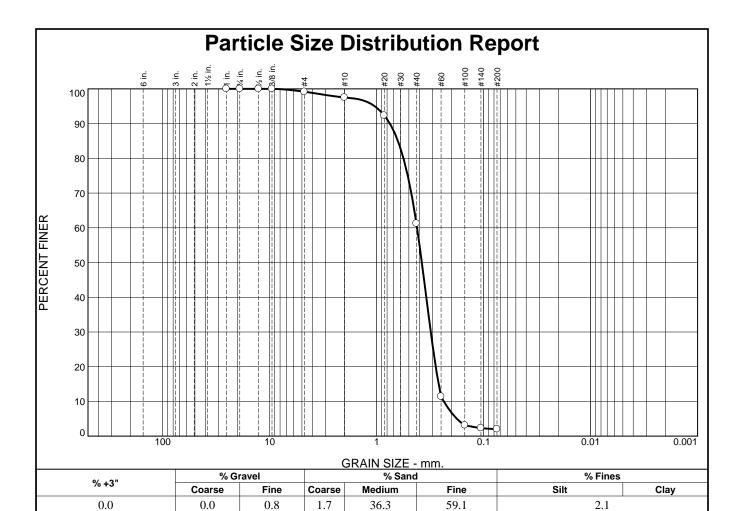
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.2		
#10	97.5		
#20	92.3		
#40	61.2		
#60	11.4		
#100	3.2		
#140	2.3		
#200	2.1		
* ,			

Fine to medium	Material Description	<u>on</u>
PL=	Atterberg Limits	PI=
D ₉₀ = 0.7529 D ₅₀ = 0.3783 D ₁₀ = 0.2355	Coefficients D ₈₅ = 0.6329 D ₃₀ = 0.3122 C _u = 1.78	D ₆₀ = 0.4192 D ₁₅ = 0.2638 C _c = 0.99
USCS= SP	Classification AASHT	O=
	<u>Remarks</u>	

Location: BI-PB-165-12 B **Sample Number:** 6480 (26)

Depth: 1.9'

Thompson Engineering

Client: CDM/Thompson Engineering JV

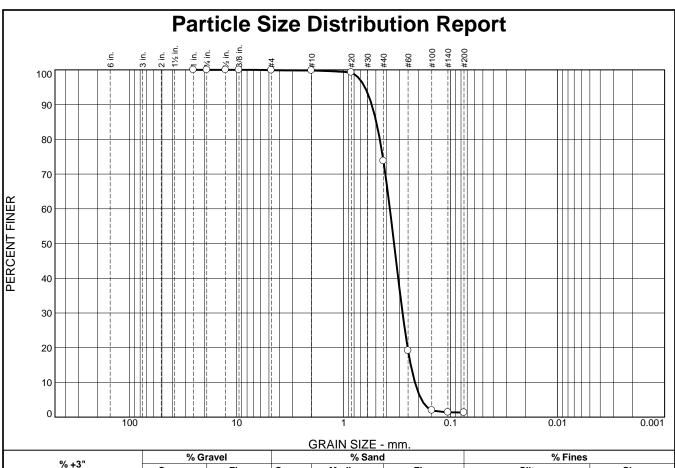
Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Figure

Date: 12/07/12



				SKAIN SIZE .	· 1111111.			
9/ .3"	% G	ravel		% Sand	% Fines			
% +3"	Coarse	Fine	Coarse	Coarse Medium Fine		Silt	Clay	
0.0	0.0	0.1	0.1	26.0	72.5	1.3		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.8		
#20	99.3		
#40	73.8		
#60	19.2		
#100	2.0		
#140	1.4		
#200	1.3		

Fine to medium §	Material Description grained, SAND	<u>on</u>
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.5469 D ₅₀ = 0.3381 D ₁₀ = 0.2157	Coefficients D ₈₅ = 0.4958 D ₃₀ = 0.2817 C _u = 1.72	D ₆₀ = 0.3699 D ₁₅ = 0.2359 C _C = 0.99
USCS= SP	Classification AASHT	O=
	<u>Remarks</u>	

Location: BI-PB-165-12 C **Sample Number:** 6480 (27)

Sample Number: 6480 (27) Depth: 2.8' Date: 12/07/12

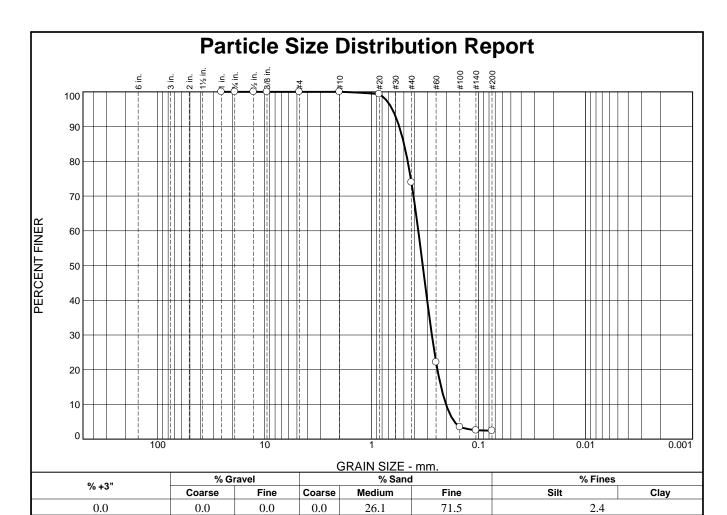
Thompson Engineering

 $\begin{tabular}{ll} \textbf{Client:} & CDM/Thompson Engineering JV \\ \end{tabular}$

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.4		
#40	73.9		
#60	22.2		
#100	3.5		
#140	2.6		
#200	2.4		

Fine to medium §	Material Description grained, SAND	<u>on</u>
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.5521 D ₅₀ = 0.3332 D ₁₀ = 0.2019	Coefficients D ₈₅ = 0.4986 D ₃₀ = 0.2739 C _u = 1.82	D ₆₀ = 0.3665 D ₁₅ = 0.2244 C _c = 1.01
USCS= SP	Classification AASHT	O=
	<u>Remarks</u>	

Location: BI-PB-165-12 D **Sample Number:** 6480 (28) **Depth:** 5.0' **Date:** 12/07/12

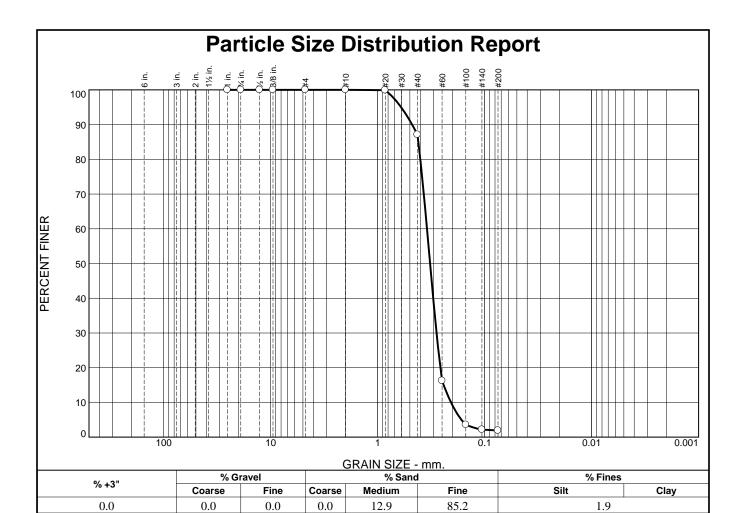
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	87.1		
#60	16.3		
#100	3.6		
#140	2.2		
#200	1.9		

Fine to medium §	Material Description grained, SAND	<u>on</u>
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.4765 D ₅₀ = 0.3237 D ₁₀ = 0.2063	Coefficients D ₈₅ = 0.4166 D ₃₀ = 0.2819 C _u = 1.68	D ₆₀ = 0.3459 D ₁₅ = 0.2415 C _C = 1.11
USCS= SP	Classification AASHT	O=
	<u>Remarks</u>	

Location: BI-PB-165-12 E **Sample Number:** 6480 (29)

Depth: 10.0' **Date:** 12/07/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-166-12

ופח	LLING	100	DIVISIO	N		IN	ISTALLATIO	ON .		SH	IEET 1
			Sout	h Atlantic			Mobile Di			OF	1 SHEETS
1. PRO		: ! . !						NATE SYSTEM/DATUM	HORIZON	FA1	RTICAL
	/IsCIP Barr Petit Bois Pa		nd Restoration	on		10			1	1	
	ING DESIG			LOCATION C	OORDINATES	11		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NAVD88 HAMMER
В	I-PB-166-1	12	-	E = 1,154	,688 N = 259,1°		Vibra			=	AL HAMMER
	LING AGEN			i	CONTRACTOR FILE		2. TOTAL		STURBED	i	TURBED (UD)
	Corps of En		s - CESAM	<u> </u>						, 0	
			e Systems, I	nc		13	3. TOTAL	NUMBER CORE BOXES			
5. DIRE	CTION OF			DEG. FROM	BEARING	14	4. WATER	DEPTH	32.3 Ft.		
_	VERTICAL INCLINED			VERTICAL		15	5. DATE B	DRING	STARTED 11-29-	i	MPLETED 11-29-12
6. THI	CKNESS OF	OVER	BURDEN	N/A		10	6. ELEVAT	ION TOP OF BORING	-32.1 Ft.		
7. DEP	TH DRILLEI	D INTO	ROCK	V/A		17	7. TOTAL I	RECOVERY FOR BORING	100%		
	AL DEPTH (OF BOI	NNC 10	2 [18		URE AND TITLE OF INSPE	CTOR		
8. 101	AL DEPIR	_	ING 10.	.2 Ft.			Mike	FitzHarris, Geologist			
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	ON OF MATERIALS		SAMPLE	LABO	RATORY RES	BULTS	
-32.1	0.0										
-32.3	0.2		\SAND, po	orly-graded,	mostly fine to m	edium- /]				F
	Ē		\grained sa √(SP)	and-sized qu	artz, trace silt, lt.	brown					F
	<u> </u>		/								F
	<u> </u>		Lplasticity, g	t, mostly c grav (CH)	lay, trace silt, m	nedium					E
			At El33.	8 Ft., mostly	clay, trace wood	debris,					E
			high plasti	city, gray mo	ttled with brown						E
	-						NS				<u>-</u>
-38.6	- 65										F
-39.5	_		SAND no	orly graded	mostly fine to m	odium	1				E
-39.5	- 1. 4	//	∖ grained sa	and-sized qua	mostly fine to martz, trace silt, trace	edium- ce clay, /	1				ŧ
	-		∖it. gray (S	P)							F
	<u>-</u>		CLAY, fat	, mostly cla	y, trace silt, trace	wood					E
-42.3	_10.2		debris, me	dium to high	plasticity, gray (C	H)					
											E
			NOTES:								ŧ
	Ē				l visually classif						F
	F				nified Soils Classif						F
	<u> </u>										E
	<u> </u>		2. NS =	Sample not om this inter	submitted for lab	oratory					E
	Ė										E
	-				calculated using sa vater depth readir						E
	-		applying 1	NOAA tidal	gauge data con	version					F
	<u>-</u>		factor.								E
	=										ŧ
	Ē										F
	F										<u> </u>
	Ē.										E
	Ē										ŧ
	Ē										F
	<u>F</u>										F
	<u> </u>										E
	<u> </u>										<u>F</u>
	- -										F :
											F

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.21140° Long = -88.29375°

Mississippi Barrier Island Restoration Project

AVS SERVICES

Core Identifier BI-PB-166-12

Coordinate System

Date 11/29/2012

Water Depth 32.3'

Latitude / Longitude

Start Time 14:34:13

Penetration 20.0'

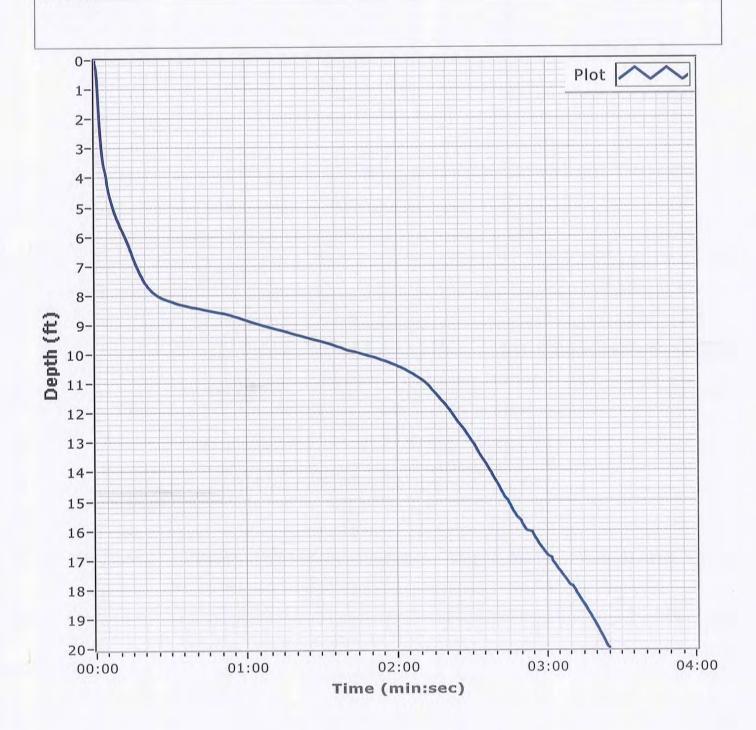
Latitude 30 12.684

End Time 14:37:39 Total Time 00:03:25

Recovery 10.3'

Longitude 088 17.625





Boring Designation BI-PB-167-12

DRI	LLING	LOG	DIVIS				IN	STALLATI				SHEET	
			So	uth Atlantic			+	Mobile Di				OF 1	SHEETS
1. PRO										V/A			
	AsCIP Barri			ation			10		INATE SYSTEM/DATU			VERTIC	
	etit Bois Pa			LOCATION	OOBD	INATES	-		e Plane, MSE (U.S. F ACTURER'S DESIGNA				√D88
	31-PB-167-1		•	1		N = 259,169	- ''		acore	TION OF DRILL	=	AUTO HAI	MMER HAMMER
	LING AGEN			1 L 1,100		RACTOR FILE NO				DISTURBED			BED (UD)
C	Corps of Eng	gineers	s - CESAN	Л	!		12	. TOTAL	SAMPLES	į		0	
4. NAN	E OF DRILL	.ER					13	. TOTAL	NUMBER CORE BOXE	s			
	merican Vi					_	14	. WATER	DEPTH	29.7 Ft.			
\boxtimes	ECTION OF I	BORING	G	DEG. FROI VERTICAL	M	BEARING	\vdash	. DATE B		STARTED		COMPL	
	INCLINED CKNESS OF	OVER	RIIPNEN	 N/A		!	+		TION TOP OF BORING	-29.6 Ft.	12	11-	29-12
	TH DRILLED			N/A			+		RECOVERY FOR BORI				
7. DEF	TIII DIKILLED		- Itook	IN/A			18	. SIGNAT	URE AND TITLE OF I	NSPECTOR			
8. TOT	AL DEPTH C	OF BOR	ING 1	15.5 Ft.				Mike	FitzHarris, Geologis	st			
ELEV.	DEPTH	LEGEND	•	CLASSIFICATIO	ON OF	MATERIALS		SAMPLE	L	ABORATORY RE	SULTS	1	
-29.6	0.0												
-30.3	0.7		SAND.	poorly-graded	, most	ly fine to mediu	ım						E
-31.0	1.4		grained	sand-sized qu	artz, tr	ace silt, lt. brown	ı to /ˌ						F
	<u> </u>		\\It. gray	(SP)			_/						E
	F					grained sand-siz	zed						F
	F		quartz, t	race silt, gray	(SC)								F
	-					ce silt, medium	to						F
	Ē		high plas	sticity, gray to	brown	ish gray (CH)							E
	Ė												F
	F												F
	Ē												E
	Ē							NS					E
	F							INO					F
	E												E
	Ē												F
	10.4												E
-40.5	10.9		\ SAND,	clayey, mostl	y fine-	grained sand-siz	zed /						Ŀ
	Ė	$\ \cdot\ \ $		race silt, brow			/						F
	F	-: <u> </u>	SAND,	poorly-graded	d with	silt, mostly fi	ne-						F
	F	1::	grained	sand-sized qu	uartz,	little silt, little wo	ood						F
-43.5	13.9	1:11		trace organion with brown (S		ter, brownish g	ray ⁄						E
_11 7	<u> </u>	<u> </u> :.:											E
-44.7 -45.1	- 15.1 - 15.5	/////		ooorly-graded, artz, trace silt		y fine-grained sa ay (SP)	nd- /,						
	F		/			, ,	_/						F
	Ē		SAND,	ciayey, mostl some clay tra	y tine- ace sh	·grained sand-siz nell fragments, g	rav						E
	Ē		(SC)										E
	Ė												F
	<u> </u>		NOTES:										E
	F		4 ^	-11 6 1	a		:						F
	Ē					ually classified Soils Classificat							F
	<u>F</u>		System.		., ICU	Cono Ciaconical	.011						Ę.
	Ė		,										F
	Ē			= Sample no from this inte		nitted for laborat	ory						E
	Ė		3. Seafl	loor elevation	calcula	ated using sampl	ina						F
	F		vessel's	fathometer v	water	depth reading a	and						F
	Ē		applying			je data convers							E
	Ė		factor.										F
	-												F

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.21157° Long = -88.29777°

Mississippi Barrier Island Restoration Project

AVS RVICES

Core Identifier BI-PB-167-12

Coordinate System

Date 11/29/2012

Water Depth 29.7'

Latitude / Longitude

Start Time 13:51:18

Penetration 20.0'

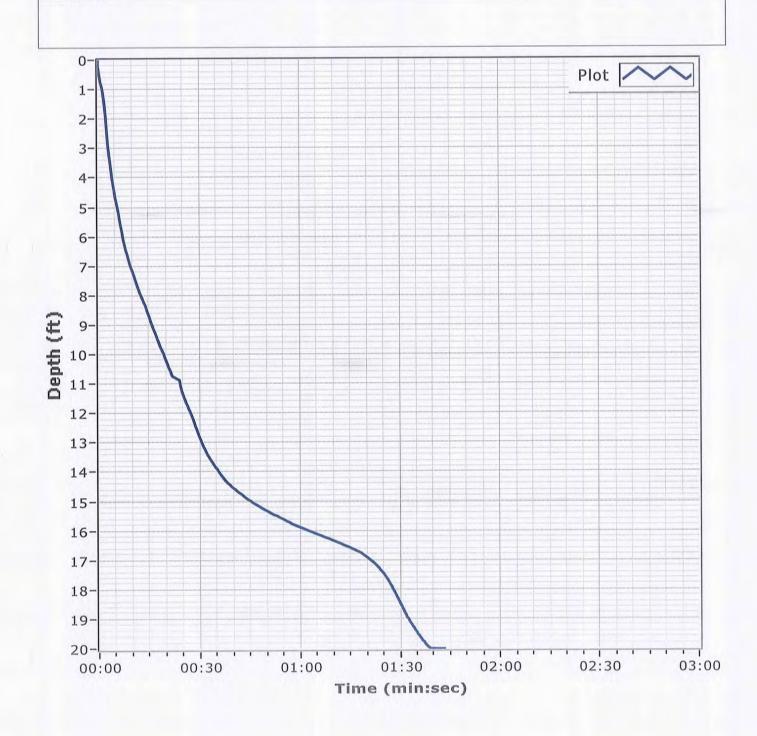
Latitude 30 12.694

End Time 13:53:01 Total Time 00:01:43

Recovery 15.5'

Longitude 088 17.866

Comments



Boring Designation BI-PB-168-12

DDI	LLING	100	DIVISIO	N			INS	STALLATIO	ON			SHEET	г 1
		LUC	Souti	h Atlantic			-	Mobile Dis				OF 1	SHEETS
1. PRO			ado ()				_	_	TYPE OF BIT N/A	HORIZO	FAI :	/ED=: -	NAI
	/IsCIP Barri Petit Bois Pa		nd Restoration	on			10.		Plane, MSE (U.S. Ft.)	HORIZON	;	VERTIC	
	ING DESIGN			LOCATION C	OORDI	INATES	11.		CTURER'S DESIGNATION	NAD83		TO HAI	/D88 MMER
Е	I-PB-168-1	2		E = 1,152	2,128	N = 259,258		Vibra	core				HAMMER
_	LING AGEN		050444		CONT	RACTOR FILE NO.	12.	. TOTAL S		STURBED	i		BED (UD)
	orps of En		s - CESAM		<u> </u>		 _				0	1	
Α	merican Vi	bracor	e Systems, I	nc.			\vdash		NUMBER CORE BOXES				
	CTION OF	BORIN	G	DEG. FROM	VI	BEARING	14.	WATER	DEPTH 	29.2 Ft.	1.	201171	
_	VERTICAL INCLINED						15.	. DATE BO	DRING	11-29-	i	COMPL 11-2	29-12
6. THI	CKNESS OF	OVER	BURDEN	N/A		•	16.	. ELEVAT	ION TOP OF BORING	-29.2 Ft.	I		
7. DEP	TH DRILLED	INTO	ROCK N	V/A			17.	. TOTAL F	RECOVERY FOR BORING	100%			
			·				18.	. SIGNAT	URE AND TITLE OF INSPE	CTOR			
8. 101	AL DEPTH C	_	RING 16.	.6 Ft.			ㅗ	Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	ON OF	MATERIALS		SAMPLE	LABO	RATORY RE	SULTS		
-29.2	0.0												
-29.4	0.2					ly fine to mediun							ŧ
-31.0	 - 1.8		∖grained sa √gray (SP)		uartz, 1	trace silt, brownis	h/						F
	<u> </u>		/		<i>c</i> :		-//						E
				ayey, mostiy ce silt, gray		grained sand-size	^{ea} /						E
	_					medium to hig	_						E
	Ē			gray to brow			"'						E
	Ē												F
	-												F
								NS					E
													E
	Ē												E
	<u> </u>												E
-39.4	_10.2												
	-		SAND, si	Ity, mostly	fine-g	grained sand-size	ed						E
-413	<u> </u>			ome silt, tra brownish gra		ood debris, claye	у						E
	- · - · ·	1:	`			,	\neg						F
-42.7	_ - 13.5	<u> </u>	grained sa	ınd-sized qu	ıartz, li	silt, mostly fine ttle silt, trace woo	d ↓						
	-		∖debris, It b	rown mottle	d with	brown (SP-SM)	_/[E
	<u> </u>	 	SAND, po	orly-graded,	most	ly fine to mediun	n-	Α		Color: 2.5Y 61 mm %			ish gray
	Ē	·	grained sa brown to g		artz, tr	ace wood debris,	lt.		المال المال	ZI IIIII 70	, , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	r. I	ŧ
-45.8	16.6	···		, (=. /				<u>NS</u>					F
	<u>-</u>		NOTES										E
	-		NOTES:										F
			1. Soils	s are field	d visu	ually classified	in						E
	E E		accordance System.	e with the L	riitied	Soils Classification	on						Ē
	Ė			Comple := -	· out	sitted for laborate	,						E
	<u> </u>			Sample not om this inte		nitted for laborator	У						E
	-					atod using samelin	_						E
	_		J. Seation vessel's fa	or elevation (athometer v	caicula vater	ated using samplin depth reading an	ıg ıd						E
	‡		applying N	NOAA tidal	gaug	e data conversion	n						E
	<u> </u>		factor.										E
	-												F
	<u> </u>												E
	-	1											

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.21183° Long = -88.30185°

Mississippi Barrier Island Restoration Project

AVS SERVICES

Core Identifier BI-PB-168-12

Coordinate System

Date 11/29/2012

Water Depth 29.2'

Latitude / Longitude

Start Time 12:57:52

Penetration 20.0'

Latitude 30 12.710

End Time 13:01:58

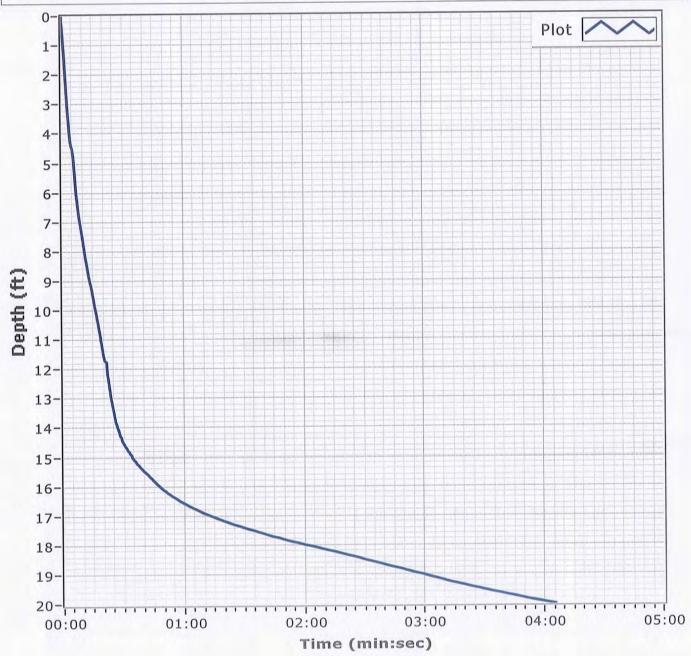
Longitude 088 18.111

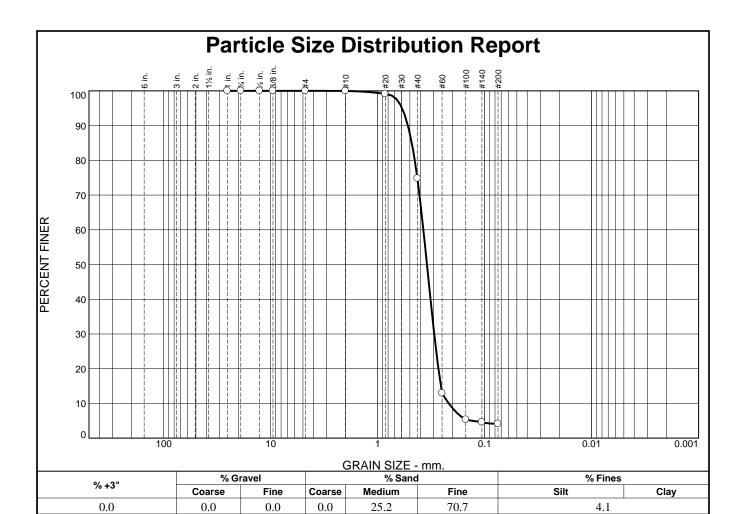
Total Time 00:04:06

Recovery 16.6'

Comments







SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.1		
#40	74.8		
#60	12.9		
#100	5.3		
#140	4.6		
#200	4.1		

Material Description Fine to medium grained, SAND						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5213 D ₅₀ = 0.3461 D ₁₀ = 0.2164	Coefficients D ₈₅ = 0.4797 D ₃₀ = 0.2963 C _u = 1.73	D ₆₀ = 0.3738 D ₁₅ = 0.2566 C _C = 1.09				
USCS= SP	Classification AASHT	·O=				
	<u>Remarks</u>					

Location: BI-PB-168-12 A Sample Number: 6471 (39)

Sample Number: 6471 (39) Depth: 13.5' Date: 12/03/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-169-12

DRIL	LING	LOG	DIVISIO				l	TALLATIO				SHEET	
1. PROJI			South	n Atlantic			_	Mobile Dis				OF 1	SHEETS
							_		TYPE OF BIT N/A			VEDTIO	
			nd Restoratio	on			10.		NATE SYSTEM/DATUM	HORIZONT	AL	VERTIC	
	tit Bois Pa			OCATION C	CORDINAT	FS	11.		Plane, MSE (U.S. Ft.)	NAD83		NAV JTO HAN	/D88
	BI-PB-169-12 E = 1,151,127 N = 259,267						l '''	Vibra		NOI DILLE	=	ANUAL H	
	ING AGEN		ı			TOR FILE NO.	1		¦ D	ISTURBED	UN	DISTURI	BED (UD)
			- CESAM				12.	TOTAL S	SAMPLES			0	
	OF DRILL						13.	TOTAL N	IUMBER CORE BOXES				
			e Systems, I		- '		14.	WATER	DEPTH	28.7 Ft.			
⊠ vı	TION OF E ERTICAL ICLINED	SORING	j	DEG. FROM	VI BE	ARING	15.	DATE BO	PRING	STARTED 11-29-1	2	COMPLI	ETED 29-12
	(NESS OF	OVERE	URDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-28.8 Ft.			
							┝		RECOVERY FOR BORING	100%			
7. DEPTI	H DRILLED	INTO	ROCK N	I/A					URE AND TITLE OF INSP				
8. TOTAL	L DEPTH O	F BOR	ING 14.	9 Ft.					FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	ON OF MAT	ERIALS		SAMPLE		DRATORY RES	ULTS		
	0.0												
-29.0 E	0.2	hiiih	SAND. po	orly-graded.	mostly fir	ne to medium	╌/┡	NS					E`
F	-	 				silt, gray (SP)		Α	Classification: S		5Y 5/2	-olive gra	ay 🗜
-31.2	24		SAND si	ltv mostly	fine-grain	ed sand-size	- -		D50: 0.18	74 mm % F	ines:	17.3	E
-01.2	2.7		\quartz, trad	ce clay, trac	e wood det	oris, gray (SM	<u> </u>						
F	•		CLAY fa	t mostly	clay med	dium to hig	_						F
F	-		plasticity, g	ray (CH)	ciay, Trick	alam to mg	'						F
E				, , ,									<u> </u>
F	-		At El33	.7 Ft., mos	stly clay, m	edium to hig	h						F
F	-			rownish gra									F
E													E
E													Ė
F	-												F
E	-							NS					E
E													Ē,
E	-		Λ+ ⊑I 3Ω	7 Et mos	ethy clay t	race silt, trac	<u>,</u>						F ¹
-	-		wood debri	s, medium	to high plas	sticity, greenis	h						E
F			gray mottle	ed with brow	nish gray	37.0							F
F	•												F
-42.3 -	13.5												Į.
			CAND :		. £: ·		\exists						<u>E</u>
-43.7	14.9		SAND, Cla	iyey, mostly me clav f	y tine-grair trace woor	ned sand-size d debris, gra	u						E
		Y 17/17	\(SC)				<u>/</u> /						<u></u> -
l E							⁻						E
E			NOTES:										Ę
E	-		4 0 "		a	-1							E
F	-		Soils accordance	s are field with the l	d visually Inified Soile	classified in Classification	n						E
F			System.	S WILLI LIE C	micu Juli	o olassiii (allu	'						Ę
F	•		•	0									F
<u> </u>	=		2. NS =	Sample not om this inter	t submitted	I for laborator	У						-2
F	_		ai iaiyələ II (ا ال دان الدار الدار الدار الدار الدار الدار الدار الدار الدار الدار الدار الدار الدار الدار الدار الدار الدار	val.								E
F	-		3. Seafloo	r elevation	calculated	using samplin	g						F
<u>F</u>	-		vessel's fa	athometer v	water depti	h reading an ata conversio	d						F
l E			factor.	NOMA IIUAI	yauge 0	ala CUITVEISIO	'						E
F			'										F
	•												F
l E													<u> </u>
E													Ę́
	-												

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.21187° Long = -88.30502°

Mississippi Barrier Island Restoration Project

AVS AMERICAN VIBRACORE S E R V I C E S

Core Identifier BI-PB-169-12

Coordinate System
Latitude / Longitude

Latitude 30 12.712

Date 11/29/2012

Start Time 12:18:55

End Time 12:20:21

Total Time 00:01:25

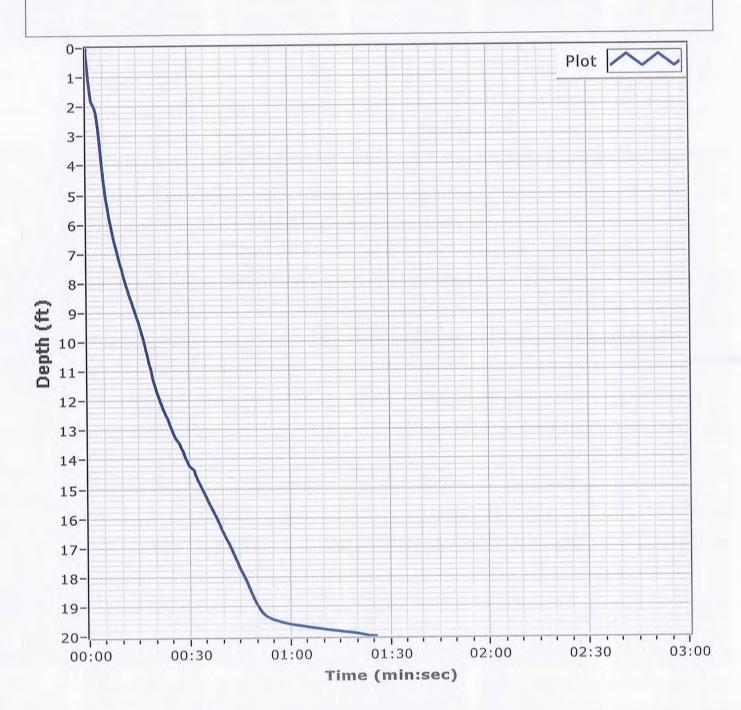
Water Depth 28.7'

Penetration 20.0'

Recovery 15.0'

Longitude 088 18.301





Boring Designation BI-PB-170-12

DBI	LLING	100	DIVISIO	N			INSTALLATION SHEET 1				r 1		
			Sout	h Atlantic			-	Mobile Dis				OF 1	SHEETS
1. PRO							_	_	TYPE OF BIT N/A	:c=:==			
			nd Restoration	on			10.		NATE SYSTEM/DATUM	HORIZON		VERTIC	
	etit Bois Pa			LOCATION C	OORD	INATES	11.		e Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NA' UTO HA	VD88
_	BI-PB-170-12 E = 1,151,421 N = 258,614				l	Vibra		. 0. 5			HAMMER		
	LING AGEN		,	·	CONT	RACTOR FILE NO.	12	TOTAL S		ISTURBED	UN	DISTUR	RBED (UD)
	Corps of Engineers - CESAM . NAME OF DRILLER			'2'	TOTAL	SAMPLES		i	0				
	American Vibracore Systems, Inc.				13.	TOTAL I	NUMBER CORE BOXES						
	ECTION OF			DEG. FRO	M	BEARING	14.	WATER	DEPTH	31.7 Ft.			
_	VERTICAL INCLINED			VERTICAL STARTED COMPLETED 15. DATE BORING 12-05-12 12-05-12									
6. THIC	CKNESS OF	OVER	BURDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-31.4 Ft.			
7. DEP	TH DRILLE	O INTO	ROCK N	V/A			17.	TOTAL F	RECOVERY FOR BORING	100%			
			•				18.	SIGNAT	URE AND TITLE OF INSP	ECTOR			
8. ТОТ	AL DEPTH (OF BOF	RING 11.	.5 Ft.			Ц	Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATION	ON OF	MATERIALS		SAMPLE	LABO	RATORY RE	SULTS		
-31.4 -31.6	0.0	<u>[</u>]					Ţ						
-31.0	- 0.2		SAND, po	orly-graded	, most	ly fine to medium	1- /						F
	Ē		∖grained sa ∖(SP)	and-sized o	luartz,	trace silt, It. gra	^y /						F
	-		<u> </u>				-						F
	_		CLAY, fat,	, mostly clay artz medii	y, trace um to	e fine-grained sand high plascticit	d-						E
	Ē					to gray (CH)	,						E
	-												F
	-		∼										<u> </u>
			At El36	6.3 Ft., mo	ostly c	slay, little silt, hig silty bands, lt. gra	h	NS					Ē
	_		mottled wit	th brown an	d gree	siity barius, it. gra N	y						E
	-				•								E
													E
-40.1	8.7						_						E
		[···				ly fine to medium							Ė
	Ē	-:::·	grained sa brown stre	and-sized qu eaking (SP)	uaπz, i	trace silt, gray w/l	τ.						E
<u>-42.8</u>	- 11: 2	·.··		, ,									E
-42.9	- 11.5	1//	CLAY, lea	an, mostly	clay.	some fine-graine	a ∕t						 [
	Ė		sand-sized	d quartz,	sandy,	low to mediur	/ 1						F
	<u> </u>		lplasticity, ξ	greenish gra	ay (CL	.)	⊿						F
	<u> </u>		NOTEO										F
	<u>E</u>		NOTES:										E
	Ė		1. Soils	s are fiel	d visi	ually classified i	n						E
	-		accordanc System.	e with the L	unitied	Soils Classification	n						F
	<u> </u>			_									E
	<u>E</u>		2. NS =	Sample no om this inte	t subn	nitted for laborator	У						E
	Ė												E
	Ė					ated using samplin depth reading an							F
	<u> </u>					depth reading an Je data conversio							E,
	<u>E</u>		factor.		5 0								F
	Ē												F
	F												F
	E.												E
	Ē												ŧ
	<u> </u>												F
	-												<u> </u>
	<u>E</u>												E
	_	1											F

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.21007° Long = -88.30410°

Mississippi Barrier Island Restoration Project

AVS AMERICAN VIBRACORE SERVICES

Core Identifier BI-PB-170-12

Coordinate System

Latitude / Longitude

Latitude 30 12.604

Longitude 088 18.246

Date 12/05/2012

Start Time 10:05:13

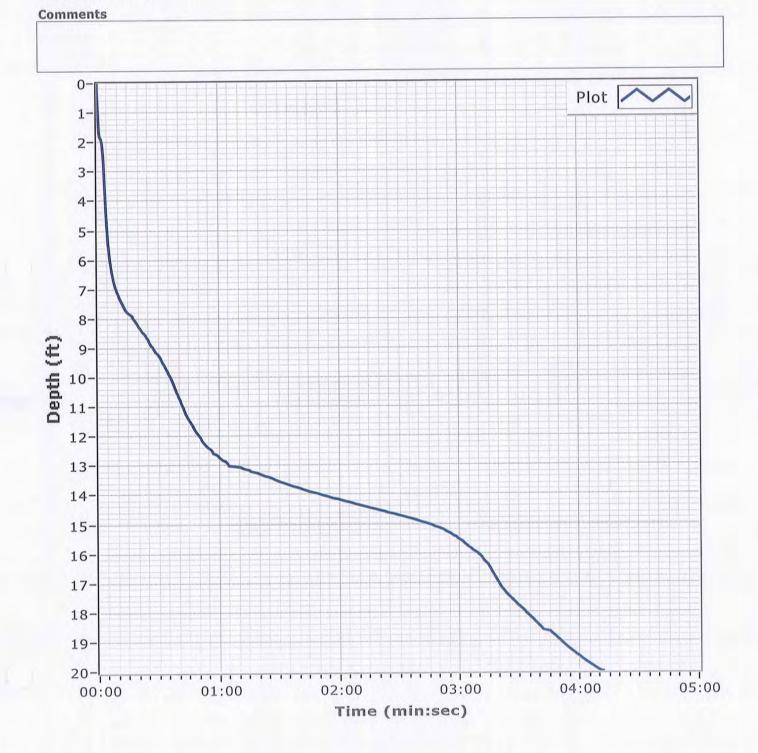
End Time 10:09:25

Total Time 00:04:12

Water Depth 31.7'

Penetration 20.0'

Recovery 11.5'



Boring Designation BI-PB-171-12

DRI	LLING	LOG	DIVISIO				1	STALLATIO				SHEET	
1. PRO			Sou	th Atlantic			-	Mobile Dis				OF 2	SHEETS
		on la! -	ad Daateer 1	ion			_		NATE SYSTEM/DATU	N/A W HORIZO	UTA!	VERTI	CAL
	AsCIP Barrie			ion			10.			!		1	
	Petit Bois Pa			LOCATION C	OOPD	INATES	11		e Plane, MSE (U.S. F ACTURER'S DESIGNA			NAY AUTO HA	VD88
	31-PB-171-1		•			N = 257,974	l	Vibra		HON OF DRILL			MMER HAMMER
	LING AGEN		l	L 1,102		TRACTOR FILE NO.	T			DISTURBED			RBED (UD)
	Corps of Engineers - CESAM					12.	TOTAL	SAMPLES	1	į	0	` '	
4. NAN	E OF DRILL	ER					13.	TOTAL I	NUMBER CORE BOXES	s ·			
P	merican Vil	oracore	e Systems,	Inc.			144	WATER	DEDTU	31.6 Ft.			
	CTION OF E	BORING	3	DEG. FROI	М	BEARING	<u> </u>	WAIER	DEFIN			COMPI	ETED
	VERTICAL INCLINED			VERTICAL STARTED COMPLETED 15. DATE BORING 12-05-12 12-05-12									
	THICKNESS OF OVERBURDEN N/A							ELEVAT	ION TOP OF BORING	-31.1 Ft.	<i>-</i> 12	; 12-	03-12
							┢		RECOVERY FOR BORI				
7. DEP	TH DRILLED	INTO	ROCK	N/A					URE AND TITLE OF IN				
8. ТОТ	AL DEPTH O	F BOR	ING 20	0.0 Ft.					FitzHarris, Geologis				
ELEV.	DEPTH	LEGEND	C	LASSIFICATIO	ON OF	MATERIALS		SAMPLE	L	ABORATORY R	ESULTS		
-31.1	0.0						二						
	Ē					trace fine-graine		NS					E'
-32.8	1.7	\mathbb{Z}/\mathbb{A}				ilt, moderately stif enish gray (CL)	f,						F
00.0							-1	Α	Classification: SN				sh gray
-33.8	2.7 	· · · //	SAND, p	oorly-graded	l with	clay, mostly fine	╬╶╟	- •	D50: 0	.3161 mm 9	6 Fines	: 14.8	<u> </u>
	Ė	[:::]	grained s		Jartz,	some clay, few sil	τ,/	_	Classification	r SP-SM (Color: 2	5Y 6/1-g	ırav E
	<u> </u>	.··.	giay (SF-SC)		-/	В			% Fines		-		
	Ē	ŀ∷⊹Ļ	SAND, p	oorly-graded	, most	tly fine to medium	ո-						<u>F</u> ,
	Ē	[∵∵]`		and-sized qu ise at 4.7 ft.,		race silt, trace cla (SP)	^{y,}						Ė,
	F	[∷:]	At El36	3.1 Ft., most	ly fine	to medium-graine	ed						F
	E.	:.	sand-size	ed quartz, trad	ce silt,	gray					=> / 0 / 0		E
	Ē							С	Classification: SP-SI	M Color: 2.).3267 mm	5Y 6/2- % Fines	light brov	wnish gray
	-								D30. (J.5207 IIIIII	/0 1 IIICC	5. U.Z	E
	<u> </u>	$[\cdots]$											F
-41.1	F 10.0	$ \cdots $											F
			CLAV I	on mostly	olov.	some fine areine	_						<u> </u>
	F	<i>[//]</i>				some fine-graine medium plasticit							F
	Ė	<i>V//</i> A	gray (CL)		.5	piacion,	´´	NO					F
	ŧ [¯]	<i>V//</i>						NS					F
	F	<i>[//\</i>]											F
-45.3	14.2	<i>V//</i>											E
	E	[CVND -	oorly gradad	mac	thy fine to madi-	, †						
	Ė	ŀ∷·l	grained s	oony-graded sand-sized d	, mosi guartz	tly fine to mediun , trace silt, claye	'-	D	Classificatio		Color: 2 % Fines	2.5Y 7.5/	2-
-47.4	- 16.3	:::		15.6 ft., lt. g			´		D50. 0	.0000 111111	o i iiieS	. 10.0	F
-48.1	17.0		SAND ~	oorly-grades	\ \a/ith	eilt moetly fin							Ŧ
	=	$\Pi\Pi\Pi$				silt, mostly fine few silt, gray (SF							F
	F	 	SM)		,		_/	NS					F
	Ė	[[]	SAND	silty mostly	fine	grained sand-size	- l						F
	19.5	ЩЦ	quartz, s	some silt, s	some	wood debris, littl							F
-51.1	- 20.0 -	 · · · \		natter, brown			_/∤						
	Ē		SAND. no	oorly-araded	mostl	y fine-grained sand	 -						<u>E</u>
	Ė			rtz, trace silt]						F
	F			·		•	_						F
	Ē		NOTES:										E
	Ė												F
	F		1. Soi	ls are field	d vis	ually classified i	in						F
	Ē		System.	ce with the C	edוווור	Soils Classification	7f 1						<u> </u>
	Ė		•										E,
	-		2. NS = S	Sample not s	ubmitt	ted for laboratory							F

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20830° Long = -88.30163°

Boring Designation BI-PB-171-12

DKILI	.ING LO	G (Cont. Sheet)	INSTALLA			SHEET 2				
ROJECT		,	Mobile District OF 2 SHE COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, MSE (U.S. Ft.) NAD83 NAVD88							
	Barrier Island	Restoration								
	COORDINATE			N TOP OF BORING	1.0.000					
X = 1,15		257,974		-31.1 Ft.						
	EV. DEPTH B CLASSIFICATION OF MATE									
LEV. C	EPTH FIGURE 1 FIGU	analysis from this interval. 3. Seafloor elevation calculated universel's fathometer water depth applying NOAA tidal gauge dat factor.	sing sampling reading and	SAMPLE	LABORATORY RE	ESULTS				

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20830° Long = -88.30163°

Mississippi Barrier Island Restoration Project

AVS ERVICES

Core Identifier BI-PB-171-12

Coordinate System

16-

17-

18-

19-

20-

00:00

Latitude / Longitude

Date 12/05/2012

Start Time 15:04:46

End Time 15:07:45

Total Time 00:02:59

Water Depth 31.6'

Penetration 19.5'

Recovery 19.5'

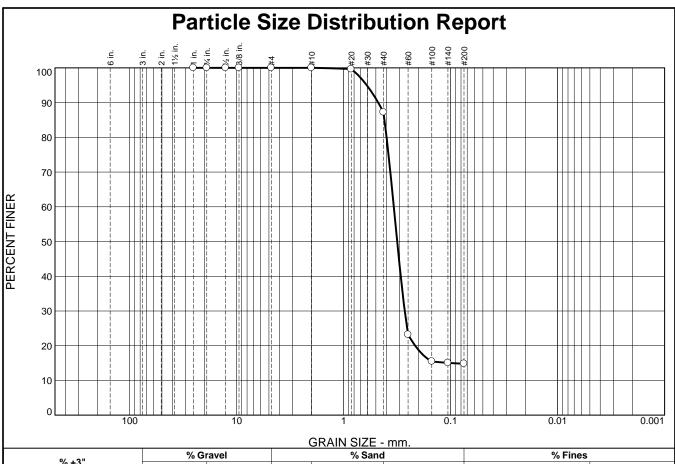
04:00



02:00

03:00

01:00



% +3	. "	76 G1 a	ivei		% Salid % Filles				
% +3		Coarse	Fine	Coarse Medium Fine			Silt	Clay	
0.0		0.0	0.0	0.0	12.8	72.4	14.8		
SIEVE	PERCENT	SPEC.*	PASS	3?	Material Description				
SIZE	FINER	PERCEN	T (X=N	0)	Fine to	medium grained.	, SILTY SAND		
1	100.0								
.75	100.0								
I _			1		1				

SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.6		
#40	87.2		
#60	23.2		
#100	15.5		
#140	15.1		
#200	14.8		

PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.4759 D ₅₀ = 0.3161 D ₁₀ =	Coefficients D ₈₅ = 0.4155 D ₃₀ = 0.2690 C _u =	D ₆₀ = 0.3400 D ₁₅ = 0.0998 C _c =
USCS= SM	Classification AASHTO) =
	<u>Remarks</u>	

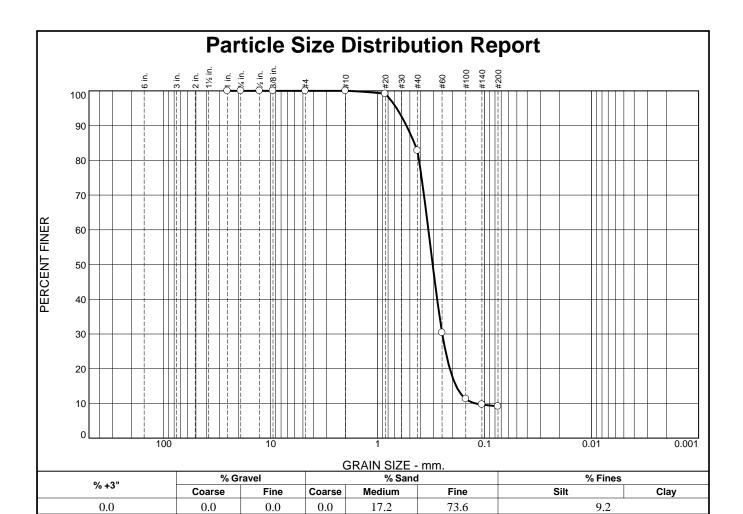
Thompson Engineering

 $\begin{tabular}{ll} \textbf{Client:} & CDM/Thompson Engineering JV \\ \end{tabular}$

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.2		
#40	82.8		
#60	30.4		
#100	11.3		
#140	9.7		
#200	9.2		

Material Description Fine to medium grained, SLIGHTLY SILTY SAND						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5391 D ₅₀ = 0.3062 D ₁₀ = 0.1222	Coefficients D ₈₅ = 0.4545 D ₃₀ = 0.2488 C _u = 2.75	D ₆₀ = 0.3358 D ₁₅ = 0.1850 C _c = 1.51				
USCS= SP-SM	Classification AASHT	O=				
	<u>Remarks</u>					

Location: BI-PB-171-12 B **Sample Number:** 6480 (31)

Sample Number: 6480 (31) Depth: 2.7' Date: 12/07/12

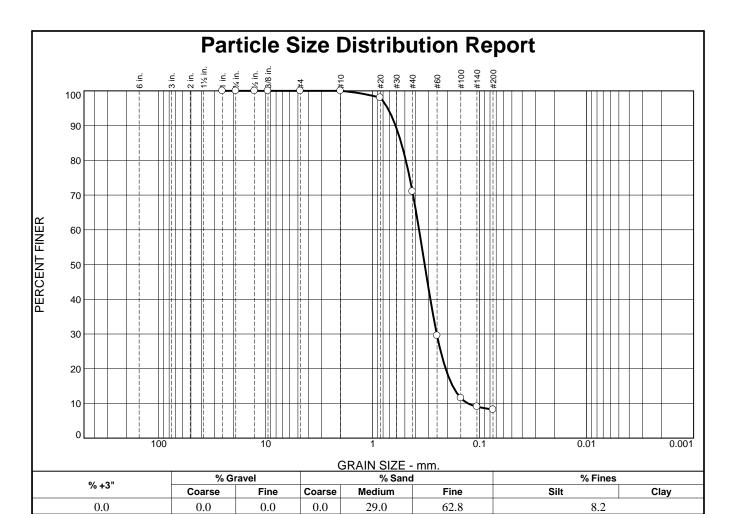
Thompson Engineering

 $\begin{tabular}{ll} \textbf{Client:} & CDM/Thompson Engineering JV \\ \end{tabular}$

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	98.0		
#40	71.0		
#60	29.5		
#100	11.6		
#140	9.1		
#200	8.2		

Material Description Fine to medium grained, SLIGHTLY SILTY SAND						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.6114 D ₅₀ = 0.3267 D ₁₀ = 0.1287	Coefficients D ₈₅ = 0.5409 D ₃₀ = 0.2518 C _u = 2.86	D ₆₀ = 0.3683 D ₁₅ = 0.1787 C _c = 1.34				
USCS= SP-SM	Classification AASHTO)=				
	<u>Remarks</u>					

Location: BI-PB-171-12 C **Sample Number:** 6480 (32) **Date:** 12/07/12 **Depth:** 5.0'

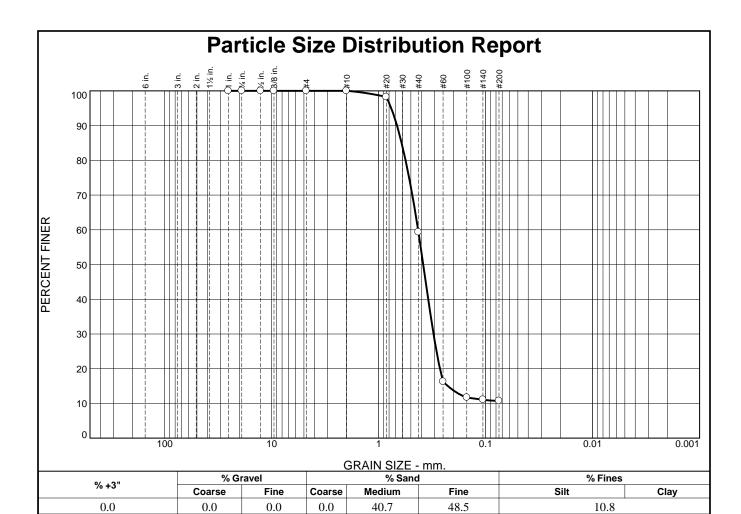
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	98.2		
#40	59.3		
#60	16.3		
#100	11.7		
#140	11.1		
#200	10.8		
* ,			

Material Description Fine to medium grained, SLIGHTLY SILTY SAND				
PL=	Atterberg Limits	PI=		
D ₉₀ = 0.6739 D ₅₀ = 0.3833 D ₁₀ =	$\begin{array}{c} \underline{\text{Coefficients}} \\ \text{D}_{85} = \ 0.6102 \\ \text{D}_{30} = \ 0.3072 \\ \text{C}_{\text{U}} = \end{array}$	D ₆₀ = 0.4283 D ₁₅ = 0.2255 C _C =		
USCS= SP-SM	Classification AASHT	-O=		
	<u>Remarks</u>			

Location: BI-PB-171-12 D **Sample Number:** 6480 (33) **Date:** 12/07/12 **Depth:** 14.2'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-172-12

DRILLING LOG			INS	TALLATIO	ON		SH	EET 1				
			S	outh Atlant	ic		-	Mobile Di			OF	1 SHEETS
1. PRO							$\overline{}$		TYPE OF BIT N/A			
	IsCIP Barri			ration			10.		NATE SYSTEM/DATUM	HORIZONT	ł	RTICAL
	Petit Bois Pass- AL East 2. BORING DESIGNATION LOCATION COORDINATES			DINATES	11.		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NAVD88 HAMMER		
	BI-PB-172-12 E = 1,150,328 N = 257,845					Vibra		0. 5		AL HAMMER		
3. DRIL	LING AGEN	ICY			CON	TRACTOR FILE NO.	12	TOTAL		STURBED	UNDIST	TURBED (UD)
	Corps of Engineers - CESAM ,			12.	IOIAL	SAMPLES		0				
			a Cuatam	a laa			13.	TOTAL	NUMBER CORE BOXES			
	merican Vi			DEG. F	ROM	BEARING	14.	WATER	DEPTH	30.1 Ft.		
\boxtimes	VERTICAL INCLINED			VERTI	CAL		15.	DATE B	DRING	STARTED 12-05-1	1	MPLETED 12-05-12
6. THIC	KNESS OF	OVER	BURDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-29.8 Ft.		
7. DEP	TH DRILLED	INTO	ROCK	N/A			17.	TOTAL I	RECOVERY FOR BORING	100%		
							18.	SIGNAT	URE AND TITLE OF INSPE	CTOR		
8. тот	AL DEPTH C	OF BOR	ING	10.9 Ft.			ᄂ	Mike	FitzHarris, Geologist			
ELEV.	DEPTH	LEGEND		CLASSIFIC	ATION OF	MATERIALS		SAMPLE	LABO	RATORY RES	SULTS	
-29.8	0.0											
-30.3	- 0.5 -	1	SAND,	poorly-gra	ded, mos	stly fine to medium	╌┟	Α	Classification: SP D50: 0.35		2.5Y 7/2-ligl Fines: 0.3	ht gray / L
	-			d sand-si		artz, trace she	#I/		D30. 0.30	/ 1 111111 /0	1 11103. U.J	
	-			nts, pale br			۱ ا	NS				F
-32.9	3.1		CLAY,	lean, mostl	y clay, fe	w fine-grained sand icity, SP layer at 1.	<u>ا</u> ا		Classification: SC	Color: 2 5V	(5 5/2 brow	thich grav
-33.4	3.6		∖ft., gets	s sandier n	ear 3.1 f	t., gray mottled wit	'n/	В	D50: 0.297	'3 mm %	Fines: 19.9)
	-		brownis	sh gray (Cl	_)]	С		Color: 2.5Y (58 mm %		ownish gray
-35.0	5.2	<u> ∴</u> ;;	SAND,	poorly-gra	ded with	clay, mostly fine	÷//⊦		D30. 0.29	JO 111111 /0	1 11165. 2.9	F:
		<u> ::: </u>	grained	d sand-sized clay band a	d quartz, t	few clay, trace woo gray (SP-SC)	d//					E
	-	.···	1				-/					F
			SAND,	poorly-gra sand-size	aded with d guartz	n silt, mostly fine few silt, trace woo	- -€	D	Classification: SP-S	SM Color	: 2.5Y 7/1-I	light gray
	-	$ \cdots $	debris,	gray (SP-S	SM)	TOW CIRC, GLOCO WOO		D	D50: 0.28	86 mm %	Fines: 7.1	· · · · F
	_	$ \cdots $	SAND.	poorly-gra	ded. mos	stly fine to medium	_ -					E
	<u> </u>	:·::	grained	d sand-siz	ed quart	z, trace silt, ver						E
-40.7	10.9	-::-	dense,	It. gray (SI	رح)		t	NS				
	-						T					<u>_</u> _
	-		NOTES	S :								F
	<u> </u>		1. \$	Soils are	field vis	sually classified i	<u>,</u>					<u>E</u>
	-					d Soils Classification						E
	<u> </u>		System	۱.								F
	<u>-</u>					mitted for laborator	у					E-
	_		analysi	s from this	interval.							E
	<u> </u>		3. Sa	nd was ver	y dense.	Stopped vibracor	e					E
	Ē		machin penetra		minute	s due to lack of	of					E
	<u></u>		•									E
	<u> </u>					lated using samplin depth reading an						E
	<u> </u>		applyin			ge data conversio						<u> </u>
	-		factor.									Ė.
	- -											F
	_											<u>F</u>
	<u>-</u>											E
	Ė											E
	-											F
	<u> </u>											E:
	-											Į.
	1.						\perp					

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20797° Long = -88.30757°

Mississippi Barrier Island Restoration Project

AVS

AMERICAN VIBRACORE

S E R V I C E S

Core Identifier BI-PB-172-12

Coordinate System

Latitude / Longitude

Latitude 30 12.478

Longitude 088 18.454

Date 12/05/2012

Start Time 13:10:32

End Time 13:15:34

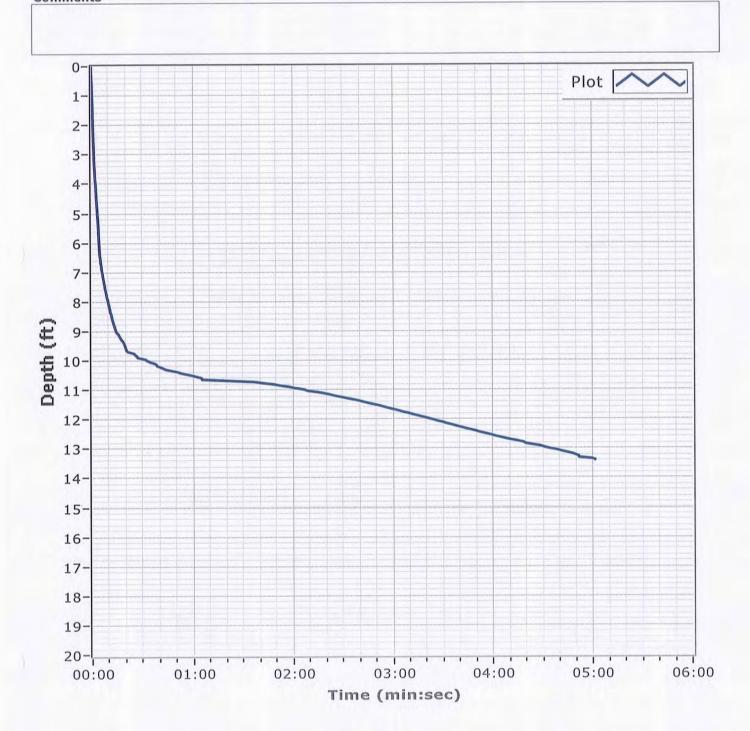
Total Time 00:05:02

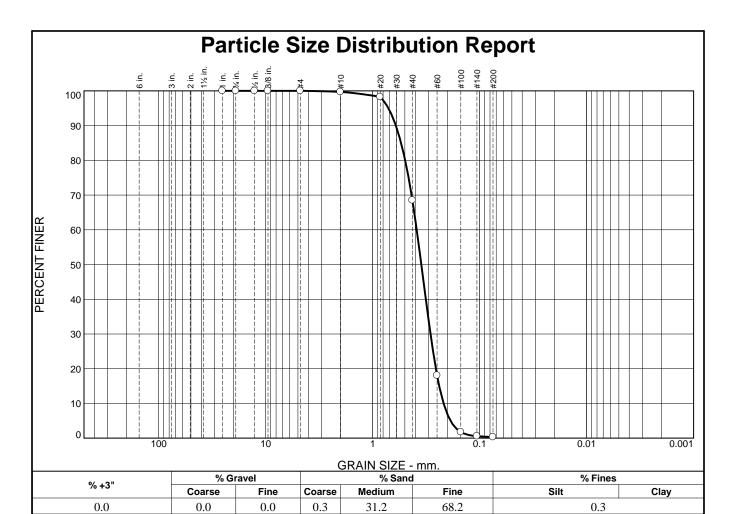
Water Depth 30.1'

Penetration 13.4'

Recovery 10.9'







SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.7		
#20	98.3		
#40	68.5		
#60	18.1		
#100	1.8		
#140	0.6		
#200	0.3		

Material Description Fine to medium grained, SAND				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.6071 D ₅₀ = 0.3510 D ₁₀ = 0.2173	Coefficients D ₈₅ = 0.5428 D ₃₀ = 0.2881 C _u = 1.78	D ₆₀ = 0.3875 D ₁₅ = 0.2388 C _C = 0.99		
USCS= SP	Classification AASHT	·O=		
<u>Remarks</u>				

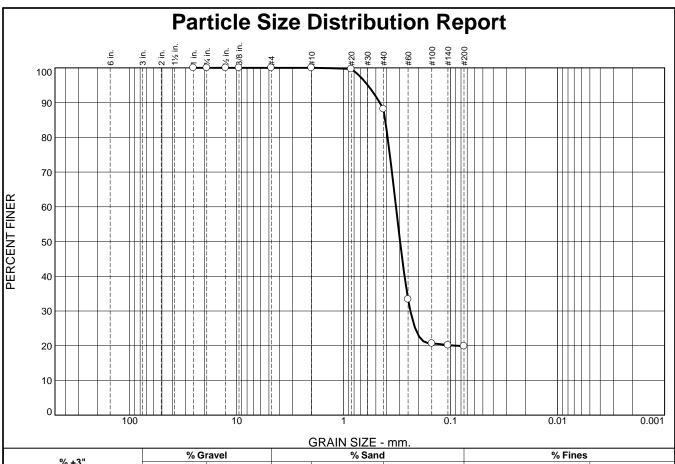
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



% +3		% Grave	el .	% Sand			% Fines	
% +3	1	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0		0.0	0.0	0.0	11.9	68.2	19.9	
SIEVE	PERCENT	SPEC.*	PASS	3?		Mater	ial Description	
SIZE	FINER	PERCENT	(X=N	0)	Fine to	medium grained	, CLAYEY SAND	
1	100.0					_		
75	100.0							

SIEVE	PERCENT	SPEC.	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.7		
#40	88.1		
#60	33.4		
#100	20.7		
#140	20.2		
#200	19.9		

PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.4608 D ₅₀ = 0.2973 D ₁₀ =	Coefficients D ₈₅ = 0.4095 D ₃₀ = 0.2379 C _U =	D ₆₀ = 0.3245 D ₁₅ = C _c =
USCS= SC	Classification AASHTO)=
	<u>Remarks</u>	

Location: BI-PB-172-12 B **Sample Number:** 6480 (35) **Depth:** 3.1' **Date:** 12/07/12

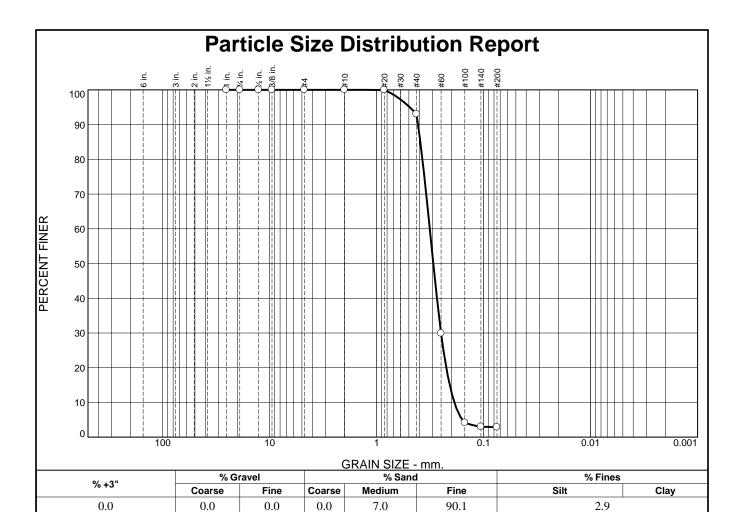
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	93.0		
#60	29.9		
#100	4.1		
#140	3.0		
#200	2.9		
* .	: <i>C</i> :		

Material Description Fine grained, SAND				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.4105 D ₅₀ = 0.2958 D ₁₀ = 0.1880	Coefficients D ₈₅ = 0.3905 D ₃₀ = 0.2502 C _u = 1.70	D ₆₀ = 0.3190 D ₁₅ = 0.2076 C _C = 1.04		
USCS= SP	Classification AASHT	O=		
	<u>Remarks</u>			

Location: BI-PB-172-12 C **Sample Number:** 6480 (36) **Depth:** 3.6' **Date:** 12/07/12

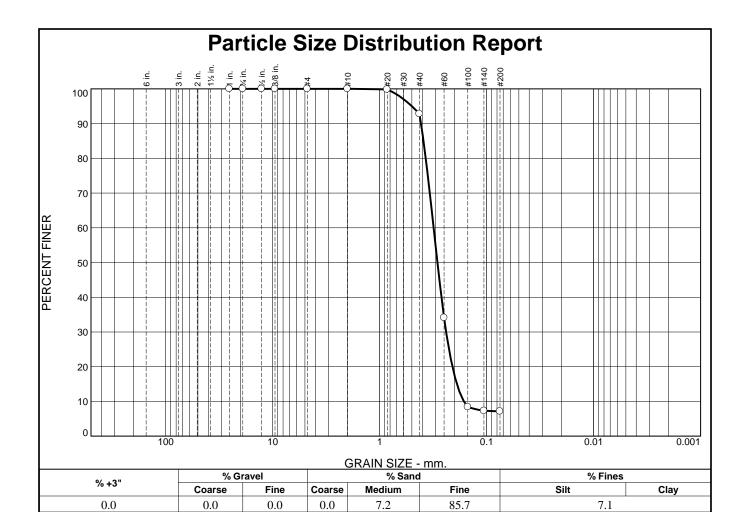
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	92.8		
#60	34.1		
#100	8.4		
#140	7.3		
#200	7.1		
* ,			

Material Description Fine to medium grained, SLIGHTLY SILTY SAND				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.4107 D ₅₀ = 0.2886 D ₁₀ = 0.1635	Coefficients D85= 0.3891 D30= 0.2392 Cu= 1.92	D ₆₀ = 0.3132 D ₁₅ = 0.1898 C _c = 1.12		
USCS= SP-SM	Classification AASHT	O=		
	<u>Remarks</u>			

Location: BI-PB-172-12 D **Sample Number:** 6480 (37)

Date: 12/07/12 **Depth:** 5.2'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-173-12

DRILLING LOG						INSTALLATION					SHEET	1	
South Atlantic							Mobile District					SHEETS	
1. PROJECT								TYPE OF BIT N/A					
MsCIP Barrier Island Restoration								NATE SYSTEM/DATUM	HORIZONT	AL ¦	/ERTIC		
Petit Bois Pass- AL East 2. BORING DESIGNATION LOCATION COORDINATES								Plane, MSE (U.S. Ft.)	NAD83			/D88	
BI-PB-173-12 E = 1,154,122 N = 258,503							Vibra		OF DRILL	_	TO HAN	IAMMER	
3. DRILLING AGENCY CONTRACTOR FILE NO.								¦ D	ISTURBED			BED (UD)	
Corps of Engineers - CESAM						12. TOTAL SAMPLES							
4. NAME OF DRILLER							. TOTAL I	NUMBER CORE BOXES					
American Vibracore Systems, Inc. 5. DIRECTION OF BORING DEG. FROM BEARING							WATER	DEPTH	31.1 Ft.				
5. DIRECTION OF BORING VERTICAL INCLINED							15. DATE BORING STARTED COMPLETED 11-29-12 11-29-12						
6. THICKNESS OF OVERBURDEN N/A							. ELEVAT	ION TOP OF BORING	-30.9 Ft.				
7. DEPTH DRILLED INTO ROCK N/A							17. TOTAL RECOVERY FOR BORING 100%						
. ***							18. SIGNATURE AND TITLE OF INSPECTOR						
8. TOTAL DEPTH OF BORING 13.6 Ft.							Mike FitzHarris, Geologist						
ELEV.	V. DEPTH U CLASSIFICATION OF MATERIALS				F MATERIALS		SAMPLE	LABORATORY RESULTS					
-30.9	0.0					\Box						-0	
-31.7	0.8	• • •	SAND, poorly-graded, mostly fine to medi				Α	Classification: SF D50: 0.36		.5Y 7/2- Fines: 1	·light gi	ray	
22.0	-		grained sa	d sand-sized quartz, trace silt, lt. brown t		∘/[NS	D30. 0.30	43 111111 /0	i iiics.			
-32.8	1.9		\gray (SP)			┚┸	В	Classification: SM	Color: 2.5Y 6	6/2-light	brown	ish gray	
-34.0	3.1		SAND, clayey, mostly fine-grained sand-siz quartz, trace silt, gray (SC)				В	D50: 0.30	ines: 1	7.8	<u> </u>		
		· · · \				┚╟	NS					E	
	<u> </u>				n clay, mostly fine							=	
	grained sand-sized quartz, little clay, trace (SP-SC)				illie clay, trace sin	١,/					-5		
	_	· ·					0	Classification: SP Color: 2.5Y 8/2-pale yellow				llow E	
	_	. ∷	SAND, poorly-graded, mostly fine to mediun grained sand-sized quartz, trace silt, orang staining from 3.6 to 4.9 ft., lt. gray to whi				С	D50: 0.3	463 mm %	Fines:	2 1	E	
		.:.:.				e						E	
			(SP)									F	
						t						<u> </u>	
		-:.··										Ē,	
	<u> </u>											F-10	
	}					D		Classification: SP Color: 5Y 8/1-white D50: 0.3297 mm % Fines: 1.7			· F		
	_							D30. 0.32	97 111111 /0	1 11165.	.1	E	
												Ē	
-44.5	_ 13.6											F	
	_						NS					F	
	E		NOTES:									E E-1	
	Ē		1. Soils	s are field vi	sually classified in	_n						Ę ¨	
	Ē		accordanc		d Soils Classification							F	
	<u></u>		System.									F	
	<u> </u>				mitted for laborator	у						Ē	
			analysis fr	om this interval.								ŧ	
	Ē				lated using sampling							F	
	<u> </u>				· depth reading and ige data conversion							E-2	
	<u> </u>		factor.	TOTAL IIIdai yat	190 data 00114613101	"						E	
	<u>E</u>											E.	
	Ē											F	
	<u>-</u>											F	
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	Ē											ŧ,	
	Ē											-2: -	
	<u>-</u>												

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20973° Long = -88.29555°

Project

Mississippi Barrier Island Restoration Project



Core Identifier BI-PB-173-12

Coordinate System

Latitude / Longitude

Date 11/29/2012

Water

Water Depth 31.1'

Start Time 15:10:11

End Time 15:18:16

Total Time 00:08:05

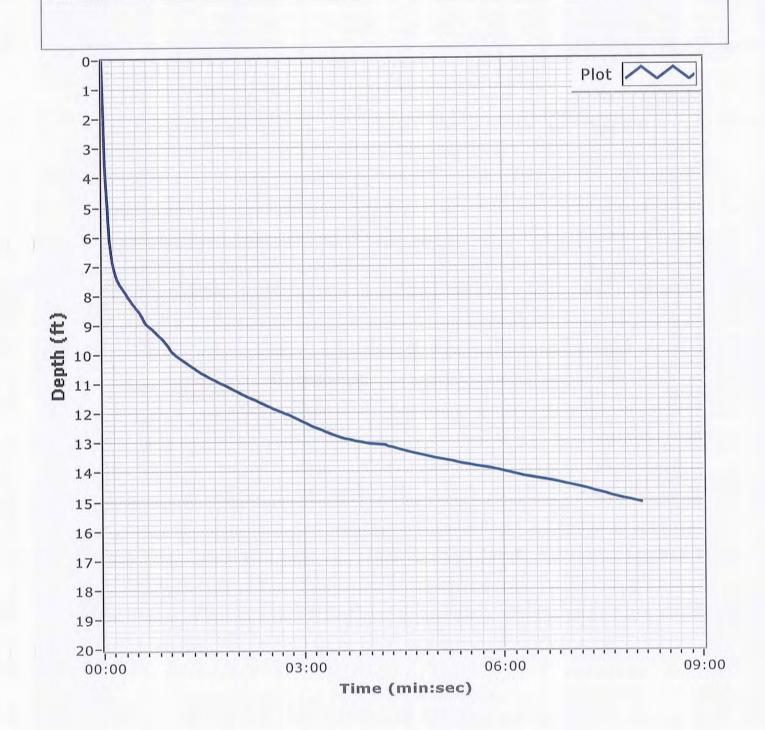
Penetration 15.1'

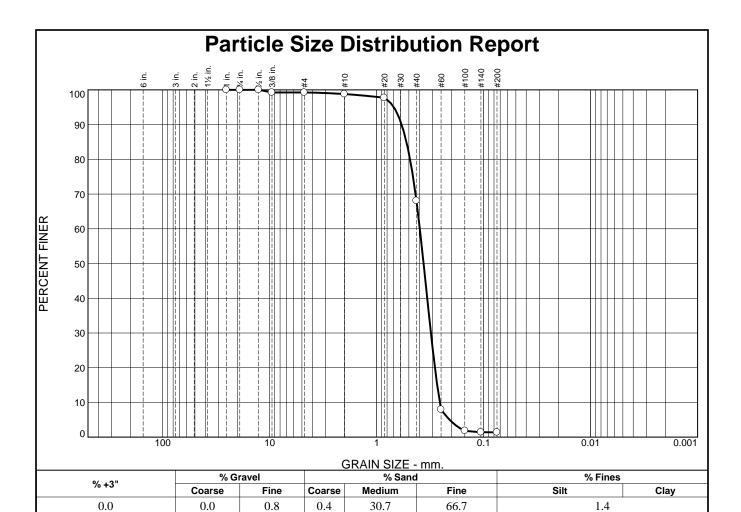
Recovery 13.6'

Latitude 30 12.584

Longitude 088 17.733

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	99.2		
#4	99.2		
#10	98.8		
#20	97.7		
#40	68.1		
#60	7.9		
#100	1.9		
#140	1.4		
#200	1.4		
* /	· c· · · · · · · · · · · · · · · · · ·		

Material Description Fine to medium grained, SAND										
PL=	Atterberg Limits LL=	PI=								
D ₉₀ = 0.5839 D ₅₀ = 0.3643 D ₁₀ = 0.2570	Coefficients D ₈₅ = 0.5268 D ₃₀ = 0.3113 C _u = 1.54	D ₆₀ = 0.3951 D ₁₅ = 0.2721 C _c = 0.95								
USCS= SP	Classification AASHT	O=								
	<u>Remarks</u>									

Location: BI-PB-173-12 A Sample Number: 6471 (41) De

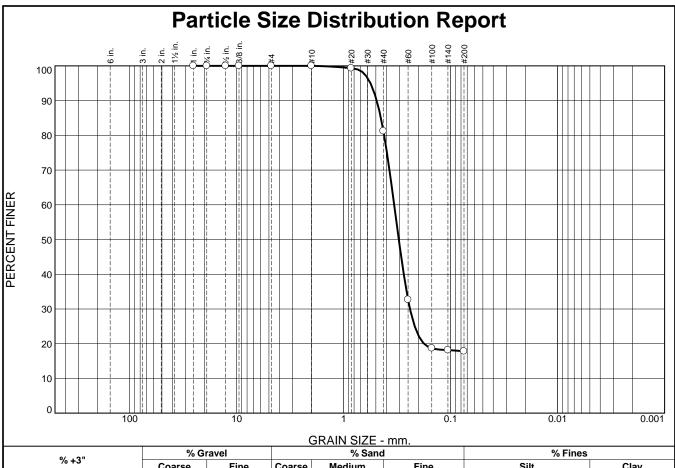
Sample Number: 6471 (41) Depth: 0.0' Date: 12/03/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama Project No: 1221110095 Figure



% +3		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
0.0		0.0	0.0	0.0	18.8	63.4	17.8			
SIEVE	PERCENT	SPEC.*	PASS	5?	Material Description					
SIZE	FINER	PERCEN	T (X=N	O)	Fine to	medium grained	, SILTY SAND			
1	100.0									
.75	100.0									
5	100.0									

SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.3		
#40	81.2		
#60	32.7		
#100	18.7		
#140	18.2		
#200	17.8		

PL=	Atterberg Limits	Pl=
D ₉₀ = 0.4912 D ₅₀ = 0.3054 D ₁₀ =	Coefficients D ₈₅ = 0.4489 D ₃₀ = 0.2398 C _u =	D ₆₀ = 0.3373 D ₁₅ = C _c =
USCS= SM	Classification AASHTO) =
	<u>Remarks</u>	

Location: BI-PB-173-12 B **Sample Number:** 6471 (42) **Date:** 12/03/12**Depth:** 1.9'

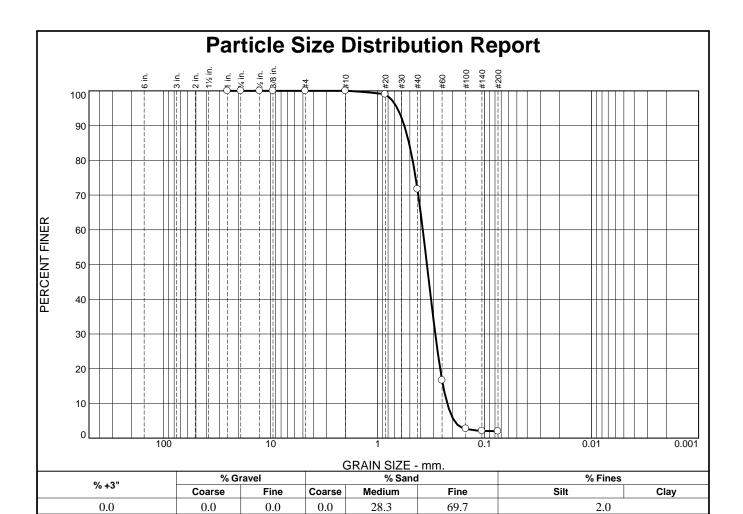
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.0		
#40	71.7		
#60	16.7		
#100	2.7		
#140	2.1		
#200	2.0		

Material Description Fine to medium grained, SAND												
PL=	Atterberg Limits LL=	PI=										
D ₉₀ = 0.5635 D ₅₀ = 0.3463 D ₁₀ = 0.2238	Coefficients D ₈₅ = 0.5096 D ₃₀ = 0.2896 C _u = 1.69	D ₆₀ = 0.3785 D ₁₅ = 0.2442 C _c = 0.99										
USCS= SP	Classification AASHT	O=										
	<u>Remarks</u>											

Location: BI-PB-173-12 C **Sample Number:** 6471 (43) **Depth:** 3.6' **Date:** 12/03/12

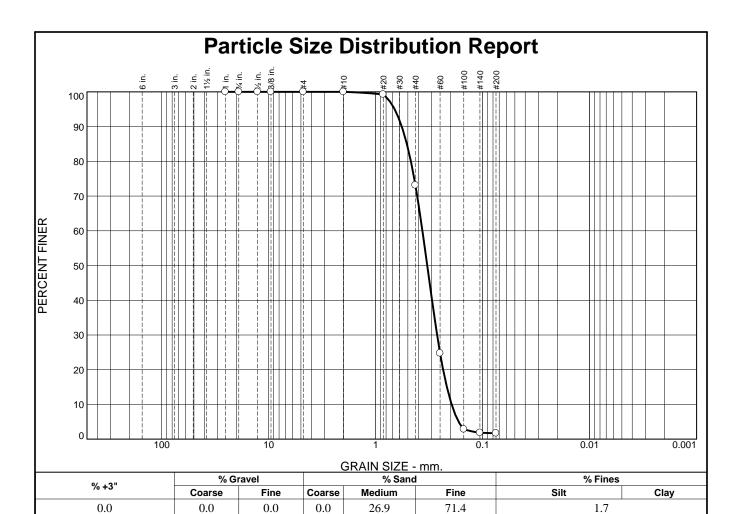
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.3		
#40	73.1		
#60	24.7		
#100	2.9		
#140	1.8		
#200	1.7		

Material Description Fine to medium grained, SAND										
PL=	Atterberg Limits LL=	PI=								
D ₉₀ = 0.5699 D ₅₀ = 0.3297 D ₁₀ = 0.1950	Coefficients D ₈₅ = 0.5111 D ₃₀ = 0.2666 C _u = 1.88	D ₆₀ = 0.3656 D ₁₅ = 0.2159 C _c = 1.00								
USCS= SP	Classification AASHT	O=								
<u>Remarks</u>										

Location: BI-PB-173-12 D **Sample Number:** 6471 (44) **Depth:** 8.6' **Date:** 12/03/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-174-12

DBI	LLING	106	DIVISIO	ON			INS	STALLATIO	ON			SHEET	r 1
		LUG	Sou	th Atlantic			┖	Mobile Dis	strict			OF 1	SHEETS
1. PRO							9. SIZE AND TYPE OF BIT N/A						
			nd Restorat	tion			10.		NATE SYSTEM/DATUM	HORIZON		VERTIC	
	etit Bois Pa			LOCATION (COORD	INATES	11.		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83		NA TO HA	VD88
_	I-PB-174-1		•			N = 258,565	1	Vibra		. 0. 5			HAMMER
	LING AGEN		'	•	CONT	RACTOR FILE NO.	12	TOTALS		ISTURBED	UN	DISTUR	RBED (UD)
	orps of En		s - CESAM		<u> </u>		'-	TOTAL	JAMPLES		<u>i_</u>	0	
			e Systems,	Inc			13.	TOTAL	NUMBER CORE BOXES				
	CTION OF			DEG. FRO	M	BEARING	14.	WATER	DEPTH	30.9 Ft.			
_	VERTICAL INCLINED			VERTICAL	-		15.	DATE BO	DRING	STARTED 11-29-	12	COMPL 11-	LETED 29-12
6. THIC	KNESS OF	OVERE	BURDEN	N/A			16.	ELEVAT	ION TOP OF BORING	-30.5 Ft.			
7. DEP	TH DRILLE	D INTO	ROCK	N/A			17.	TOTAL F	RECOVERY FOR BORING	100%			
							18.	SIGNAT	URE AND TITLE OF INSPE	CTOR			
8. ТОТ	AL DEPTH (OF BOR	RING 7.	3 Ft.			Ц	Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	CI	LASSIFICATI	ON OF	MATERIALS		SAMPLE	LABO	RATORY RE	SULTS		
-30.5													
-31.0	- 0.5 -		SAND, p	oorly-graded	, most	ly fine to medium	n- /						E `
	-		grained s	and-sized q	uartz,	trace silt, lt. brow	m/						F
	-		<u> </u>				-/						F
	_					e fine-grained sand race wood debris							E
			medium	to high pla	sticity,	gray mottled wit	h	NS					E
-35.1	4.6		orange ar	nd greenish (gray (C	CH)							E
	<u> </u>					ly fine to medium							E,
	<u> </u>	:::	grained s	and-sized qu	ıartz, tı	race silt, trace cla	у,						E
-37.8			(SP)	od debris, it	. gray	with orange stain	is						E
-37.0	_ 7.5 	† † †					\dashv						
	_		NOTES:										F
	-				a		.						F
						ually classified i Soils Classificatio							<u>.</u>
	- -		2 NS =	: Sample no	t euhm	nitted for laborator	.,						F
	<u>-</u>			rom this inte			,						F
	<u> </u>		3 Sand	was extren	nelv da	ense and vibracor	ر ۾						E
	<u>E</u>			advance pas			<u> </u>						F
	<u> </u>		4 Seaflo	or elevation	calcula	ated using samplin	a						E
	_		vessel's	fathometer	water	depth reading an	ď						F'
	<u>-</u>		applying factor.	NUAA tidal	gaug	e data conversio	n						F
	<u> </u>												E
	Ē												F
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	<u> </u>												F-2
													F

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20992° Long = -88.30038°

Project

Mississippi Barrier Island Restoration Project

AVS AMERICAN VIBRACORE SERVICES

Core Identifier BI-PB-174-12

Coordinate System

Latitude / Longitude

Date 11/29/2012

Start Time 15:52:22

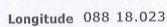
End Time 15:58:34

Total Time 00:06:12

Water Depth 30.9'

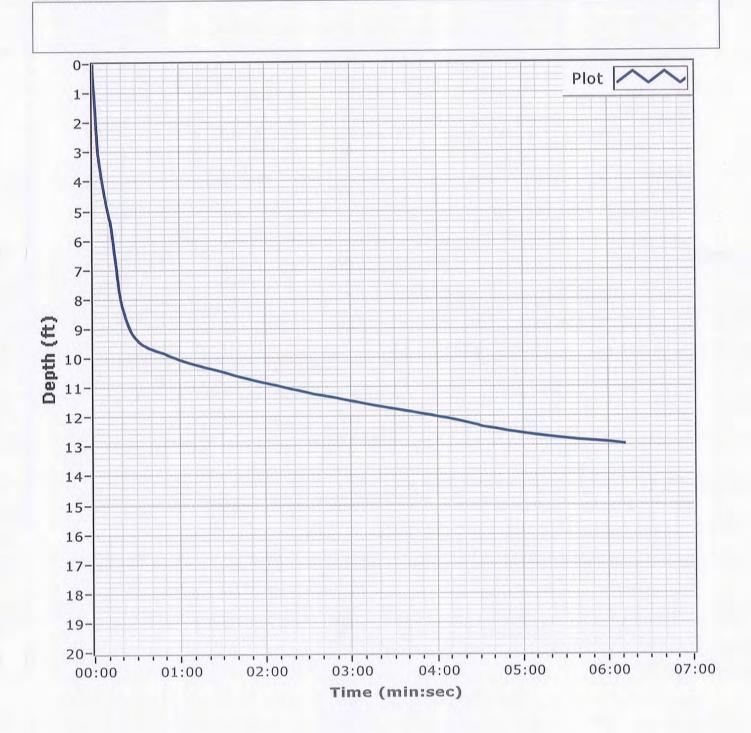
Penetration 13.0'

Recovery 7.3'



Latitude 30 12.595

Comments



Boring Designation BI-PB-175-12

DRI	LLING	LOG	DIVISI				ı	TALLATIO				SHEET	
			Sou	uth Atlantic			-	Mobile Dis				OF 1	SHEETS
1. PRO							_		TYPE OF BIT N//			\/===-	
	IsCIP Barrie			tion			10.		NATE SYSTEM/DATUM	HORIZONTA	\L	VERTIC	
	etit Bois Pa			LOCATION C	OOBD	NATES	14		Plane, MSE (U.S. Ft.)				/D88
_	ING DESIGN II-PB-175-1			1		N = 257,886	11.	Vibra		ON OF DRILL	=	ANUAL F	MMER HAMMER
	LING AGEN					RACTOR FILE NO.	┢	VIDIC	lcore !	DISTURBED			BED (UD)
_	corps of Eng		- CESAM				12.	TOTAL S	SAMPLES		i	0	(32)
	E OF DRILL						13.	TOTAL N	NUMBER CORE BOXES				
Д	merican Vit	oracore	Systems,	, Inc.			H			00.4.51			
-	CTION OF E	BORING	;	DEG. FROM		BEARING	14.	WATER	DEPTH	30.1 Ft.			
	VERTICAL INCLINED			VERTICAL		İ	15.	DATE BO	DRING	STARTED 40 OF 40	,	COMPL	
				<u> </u>		;	-			12-05-12		12-0)5-12
6. THIC	CKNESS OF	OVERB	URDEN	N/A			⊢		ION TOP OF BORING	-29.7 Ft.			
7. DEP	TH DRILLED	INTO	ROCK	N/A					RECOVERY FOR BORING				
° TOT	AL DEPTH O	E POP	ING 1	5.8 Ft.			18.		URE AND TITLE OF INS	PECTOR			
6. IOI	AL DEPIN O	F BUK	ING	J.0 Fl.			ᄂ	Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	c	CLASSIFICATION	ON OF	MATERIALS		SAMPLE	LAE	BORATORY RESU	JLTS		
-29.7	0.0												
-30.0		\lim	SAND r	oorly-araded	most	ly fine to medium	,_ /Ī						F
-30.7	- 1.0		grained s	sand-sized qu	artz, tı	ace silt, trace she							F
	<u>E</u>			s, pale brown				NO					E
	Ė		SAND	silty, mostly	fine-d	grained sand-size	$_{d}/ $	NS					F
	-			ome silt, gray		granica sana size	"						F
-33.9	E ₄₂				, ,	roop was all date to	_						Ė
-55.8	- 7.2		CLAY, f	at, mostly o	ay, tı itv tro	race wood debris ace fine grain sand	;, / 		Oleveriti ii Otti	0-1 0-1:	/O !! ·	. 4 1-	 F
	Ė	 .:		gray (CH)	nιy, ιι c	ice inic grain sallu	^y /	Α	Classification: SM	Color: 2.5Y 6 147 mm % F			ish gray
-35.5	5.8					-114 0 5 :	<u> </u>		טסט. ט.3	1+1 IIIII 70 F	ıı ıes.	14.1	F
	Ē	: : : \				silt, mostly fine t I quartz, few sil							E
	Ė	::::		grained sand y, gray (SP-S		ı quanz, rew sii	'/	В	Classification: SP	P-SM Color:	2.5Y	7/1-light	gray
		$ \cdot\cdot $					-	_	D50: 0.3	3027 mm % F	ines:	5./	E
	Ē	· ∷ : _\				ly fine to medium ace clay, trace cla							 -
	<u> </u>	- ∵ - \		sand-sized qui i. gray (SP)	aıı∠, [ſ	ace clay, trace cla	У						E
	Ē	:::	At El38	8.0 Ft., mostl		to medium-graine		С	Classification: S				ray E
	Ē	<u> :::: </u>	sand-size			, dense, It. gray t		C	D50: 0.3	3228 mm % F	ines:	2.7	Ĩ E
	<u>L</u>	. : :	white										E
	Ę	·∵.¦	^+ F1	1 O E4	, , £ :	to modified	<u>,</u>						
	Ē	·:·:				to medium-graine trace clay, dense							F
	<u>L</u>	[:::	clay band	d at 15.7 ft., It	. grav	adoc day, delist	"			00 5 :	0 => :	0/4	E
	Ē	[∷:]	,	-,	5 ,			D	Classification		2.5Y { -ines:	8/1-white วร	e E
	<u> </u>	:::							D50. 0.3	70 IIIII 70 F	11100.	5.0	F
	<u> </u>	·.:											E
-45.5	15.8	<u> : : : </u>					\perp						F
	Ē							NS					F
	-		NOTES:										F
	<u> </u>		1 0-	ilo oro fici	4	امال ماممه: الم	_						F
	Ē					ially classified i Soils Classificatio							E
	-		System.			Jana Jidoomodiio	"						F
	=		•										E
	Ē					itted for laborator	у						E
	Ė		analysis	from this inter	vai.								F
	=		3. Buoy	y approximate	ely 15	0 m SE of borin	g						E
	Ē		location.	,	•		-						F
	<u>E</u>		4 0	oon ole: := !! = ::	ool	stad union a second	_						E
	Ė					ited using samplin depth reading an							ŧ
	-					e data conversio							F
	Ē		factor.		5 - 3	- 212							E
	=												F
	<u> </u>												F

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20807° Long = -88.30473°

Project

Mississippi Barrier Island Restoration Project

AVS **AMERICAN VIBRACORE** CES

Core Identifier BI-PB-175-12

Coordinate System

Date 12/05/2012

Water Depth 30.1'

Latitude / Longitude

Start Time 14:03:56

Penetration 17.4'

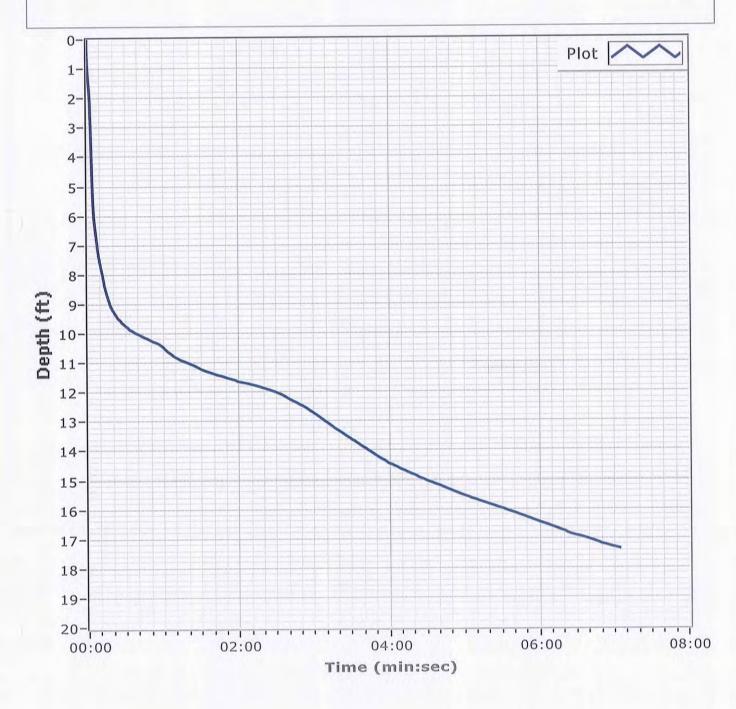
Latitude 30 12.484

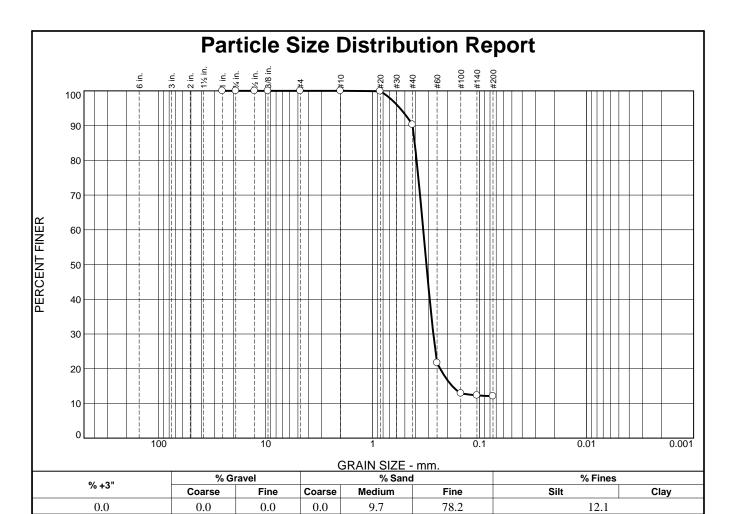
End Time 14:11:01 Total Time 00:07:05

Recovery 15.8'

Longitude 088 18.284

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	90.3		
#60	21.7		
#100	12.9		
#140	12.3		
#200	12.1		

Material Description Fine grained, SILTY SAND					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.4238 D ₅₀ = 0.3147 D ₁₀ =	Coefficients D85= 0.4046 D30= 0.2712 Cu=	D ₆₀ = 0.3368 D ₁₅ = 0.1806 C _c =			
USCS= SM	Classification AASHT	O=			
<u>Remarks</u>					

Date: 12/07/12

(no specification provided)

Location: BI-PB-175-12 A **Sample Number:** 6480 (38)

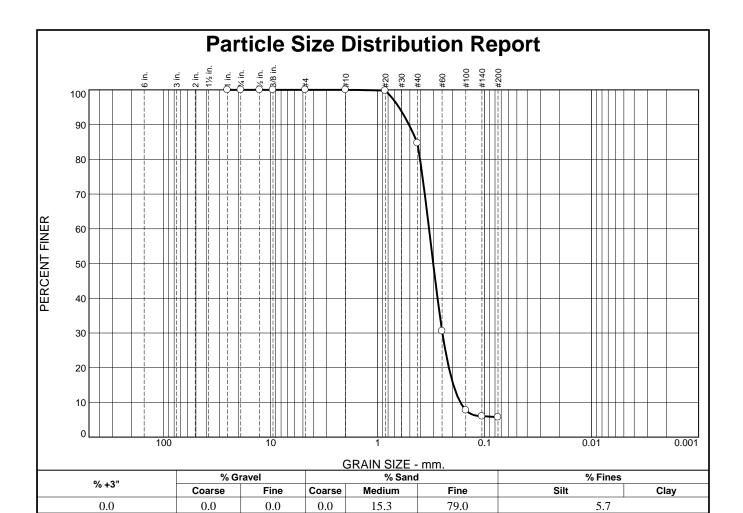
Depth: 4.2'

Thompson Engineering Client: CDM/Thompson Engineering JV

Mobile, Alabama

Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095 **Figure**



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	84.7		
#60	30.6		
#100	7.8		
#140	6.0		
#200	5.7		

Material Description Fine to medium grained, SLIGHTLY SILTY SAND					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.5108 D ₅₀ = 0.3027 D ₁₀ = 0.1688	Coefficients D ₈₅ = 0.4291 D ₃₀ = 0.2483 C _u = 1.96	D ₆₀ = 0.3310 D ₁₅ = 0.1959 C _c = 1.10			
USCS= SP-SM	Classification AASHTO	O=			
	<u>Remarks</u>				

Location: BI-PB-175-12 B **Sample Number:** 6480 (39) **Date:** 12/07/12 **Depth:** 5.8'

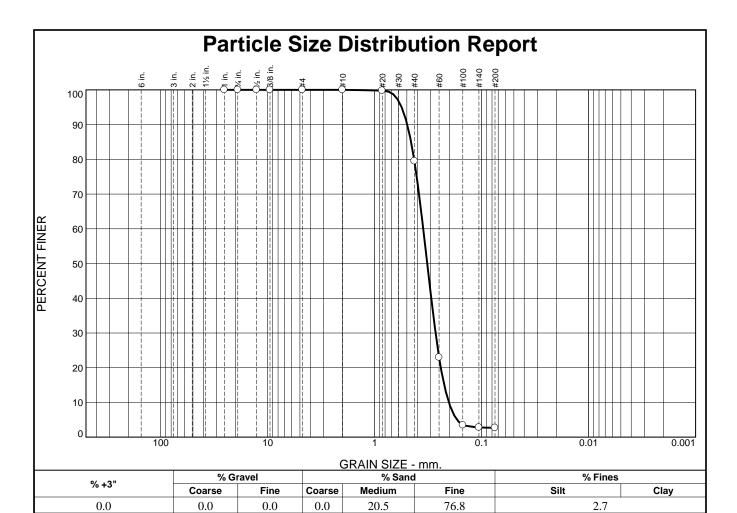
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	79.5		
#60	23.0		
#100	3.5		
#140	2.8		
#200	2.7		
*	· c · · · · · · · · · · · · · · · · · ·		

Material Description Fine to medium grained, SAND					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.4962 D ₅₀ = 0.3228 D ₁₀ = 0.2025	Coefficients D ₈₅ = 0.4567 D ₃₀ = 0.2697 C _u = 1.74	D ₆₀ = 0.3517 D ₁₅ = 0.2237 C _c = 1.02			
USCS= SP	<u>Classification</u> AASHT	O=			
<u>Remarks</u>					

Location: BI-PB-175-12 C **Sample Number:** 6480 (40) **Date:** 12/07/12 **Depth:** 8.3'

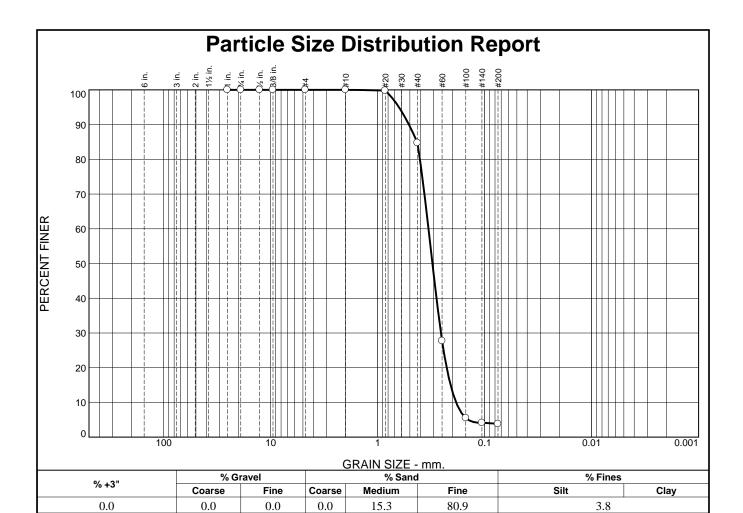
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	84.7		
#60	27.7		
#100	5.5		
#140	4.1		
#200	3.8		
* /	acification provide	1)	

Material Description Fine to medium grained, SAND					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.5104 D ₅₀ = 0.3078 D ₁₀ = 0.1850	Coefficients D ₈₅ = 0.4288 D ₃₀ = 0.2562 C _u = 1.81	D ₆₀ = 0.3349 D ₁₅ = 0.2083 C _C = 1.06			
USCS= SP	Classification AASHT	·O=			
<u>Remarks</u>					

Location: BI-PB-175-12 D **Sample Number:** 6480 (41) **Depth:** 11.3'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Figure

Date: 12/07/12

Boring Designation BI-PB-176-12

DDII		-	DIVISIO	N			INS	TALLATIC	DN C			SHEET	г 1
	LING I	LUG	South	h Atlantic				Mobile Dis	strict			OF 1	SHEETS
1. PROJE	1. PROJECT		9.	SIZE AND	TYPE OF BIT N/A	١							
MsC	CIP Barrie	er Islan	d Restoration	on			10.	COORDI	NATE SYSTEM/DATUM	HORIZONT	AL	VERTIC	CAL
Petit Bois Pass- AL East		L		Plane, MSE (U.S. Ft.)			NA\	/D88					
2. BORING			İ	LOCATION CO			11.		ACTURER'S DESIGNATIO	ON OF DRILL		то наг	
	PB-176-12		<u> </u>			N = 257,951	L	Vibra					HAMMER
3. DRILLII			050444		CONT	RACTOR FILE NO.	12.	TOTAL S		DISTURBED	i		BED (UD)
4. NAME (- CESAM	i			 		<u> </u>		- ; ')	
			Systems, I	nc			13.	TOTAL N	NUMBER CORE BOXES				
5. DIRECT				DEG. FROM		BEARING	14.	WATER	DEPTH	33.7 Ft.			
_	RTICAL CLINED			VERTICAL		i I I	15.	DATE BO	DRING	STARTED 12-05-1	12	COMPL 12-0	. ETED 05-12
6. THICK	NESS OF C	OVERB	URDEN	N/A		1	16.	ELEVAT	ION TOP OF BORING	-33.2 Ft.			
7. DEPTH	DRILLED	INTO F	ROCK N	V/A			17.	TOTAL F	RECOVERY FOR BORING	100%			
			·				18.	SIGNAT	URE AND TITLE OF INSF	PECTOR			
8. TOTAL	DEPTH O	F BORI	NG 14.	.3 Ft.			<u>L</u>	Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	CL	ASSIFICATIO	N OF	MATERIALS		SAMPLE	LAB	ORATORY RES	BULTS		
-33.2	0.0												-0
-34.2	10	·∷·T	SAND nor	orly-graded i	nostk	/ fine-grained sand	₁₋ T	Α	Classification: SP-		: 2.5Y 7	7/2-light	t gray E
-54.4	1.0	/// \	sized quar	tz, trace silt,		andt at 0.2 ft., pal			D50: 0.30	א וווווו שטע	Fines: 1	10.9	
<u> </u>	_	///)	brown to g	ray (SP)] [NS					E
-35.8 = 2	2.6		CLAY, lea	an, mostly	clay,	some fine-graine	d∤		Classification: S	D CM C-	lor: 2 E	V 6/1 ~	<u>-</u>
-36.9 F 3	3.7		sand-sized	d quartz, lov	w to	medium plasticity	/, /	В	D50: 0.31		lor: 2.5` Fines: ´		ray _
E		-1111	gray (CL)				┚/┞	С	Classification: SP-	-SM Color	: 2.5Y 7	7/1-light	t gray
-38.0 - 4	4.8	\				grained sand-size	d/⊩	<u> </u>	D50: 0.3	331 mm %	Fines:	6.3	-5
F		···· \	\quartz, sor	me silt, trace	clay,	gray (SM)	ᆀ.						F°
F		:::: <u> </u>				silt, mostly fine							F
l E		.:.:.	grained sa	and-sized qua	artz, f	ew silt, trace clay	/,	D	Classification:	SP Color:	: 2.5Y 8	3/1-whit	e <u>E</u>
			gray (SP-	SIVI)			۱ ا	D	D50: 0.3	417 mm %	Fines:	0.5	Ė
F						ly fine to medium							F
E			grained sa white (SP		artz, t	race silt, lt. gray t	°						E
l E			William (OI	,			T						-
E		· . : .											- 10
l E		$[\cdot \cdot \cdot]$											Ŀ
E		\cdots						Е	Classification:		2.5Y 8		e <u>-</u>
l F		·.::							D50: 0.3	202 mm %	rines:	1.8	F
l F		[∷:]											F
-47.5 E	14.3	$ \cdots $											E
E	-						十	NS					 ‡
l E			NOTES:										F-18
F				<u>.</u>									F
l E						ially classified i Soils Classificatio							Ė
l E			System.	C WIGHT THE OF	mieu	Cons Classificatio	"						E
F			•	0		State of the state							F
l E			2. NS =	Sample not om this inter	subm val	nitted for laborator	У						E
l E			•										ŧ.
E						ated using samplin							E ⁻²⁰
<u> </u>						depth reading an e data conversio							F
l É			factor.		39	300.010							E
F													F
F													F
l E													Ė
l E													E
l E													-2 ^t
l E													E

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20822° Long = -88.29765°

Project

Mississippi Barrier Island Restoration Project



Core Identifier BI-PB-176-12

Coordinate System

Latitude / Longitude

Date 12/05/2012

5/2012 Water Depth 33.7

Start Time 16:05:12

End Time 16:12:16
Total Time 00:07:04

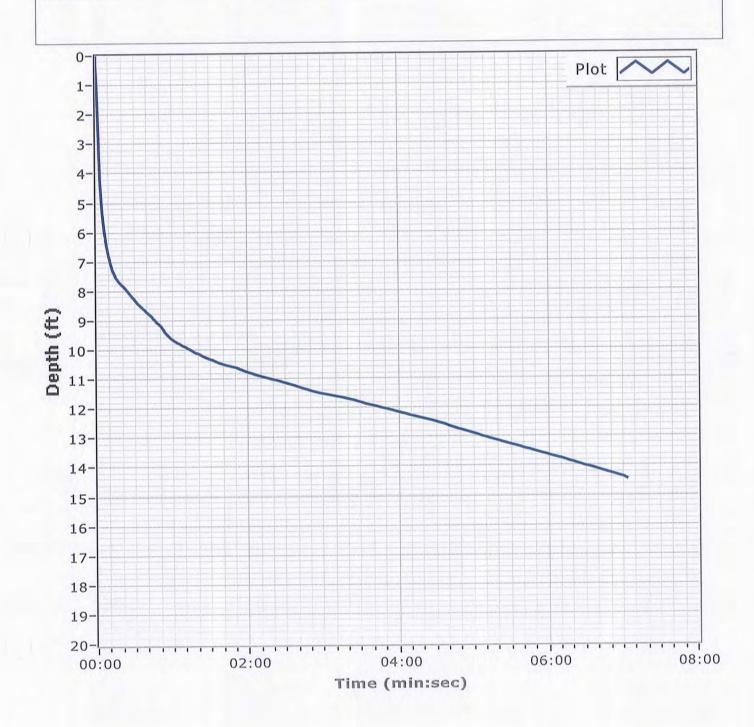
Penetration 14.5'

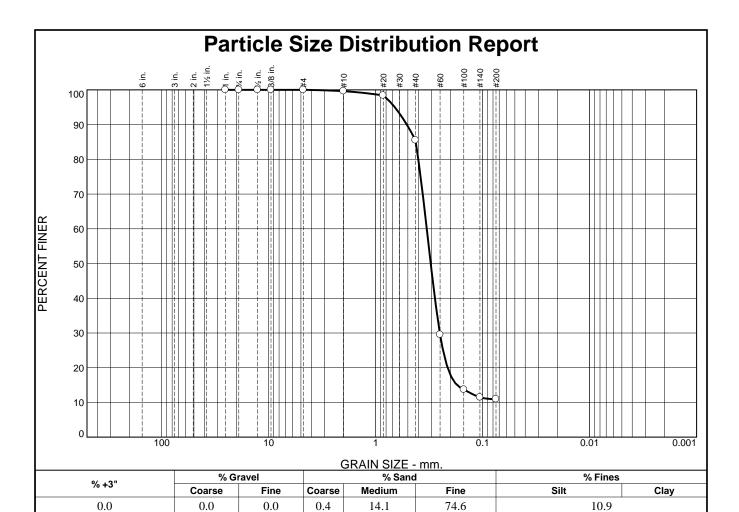
Recovery 14.3'

Latitude 30 12.493

Longitude 088 17.859

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.6		
#20	98.4		
#40	85.5		
#60	29.5		
#100	13.7		
#140	11.5		
#200	10.9		

Material Description Fine to medium grained, SLIGHTLY SILTY SAND					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.5117 D ₅₀ = 0.3059 D ₁₀ =	Coefficients D85= 0.4224 D30= 0.2515 Cu=	D ₆₀ = 0.3331 D ₁₅ = 0.1735 C _c =			
USCS= SP-SM	Classification AASHT	O=			
<u>Remarks</u>					

Location: BI-PB-176-12 A **Sample Number:** 6480 (42)

Date: 12/07/12 **Depth:** 0.0'

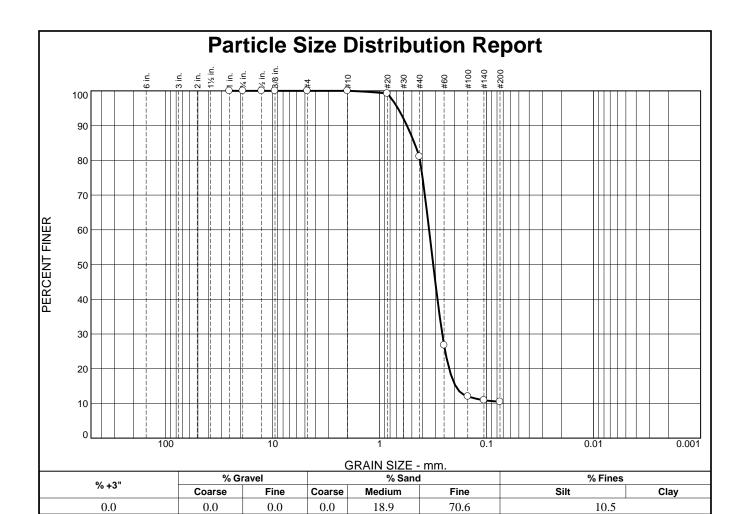
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.2		
#40	81.1		
#60	26.8		
#100	12.0		
#140	10.9		
#200	10.5		

Material Description Fine to medium grained, SLIGHTLY SILTY SAND					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.5561 D ₅₀ = 0.3161 D ₁₀ =	Coefficients D85= 0.4740 D30= 0.2601 Cu=	D ₆₀ = 0.3451 D ₁₅ = 0.1950 C _c =			
USCS= SP-SM	Classification AASHT	O=			
	<u>Remarks</u>				

Location: BI-PB-176-12 B **Sample Number:** 6480 (43)

Date: 12/07/12 **Depth: 2.6'**

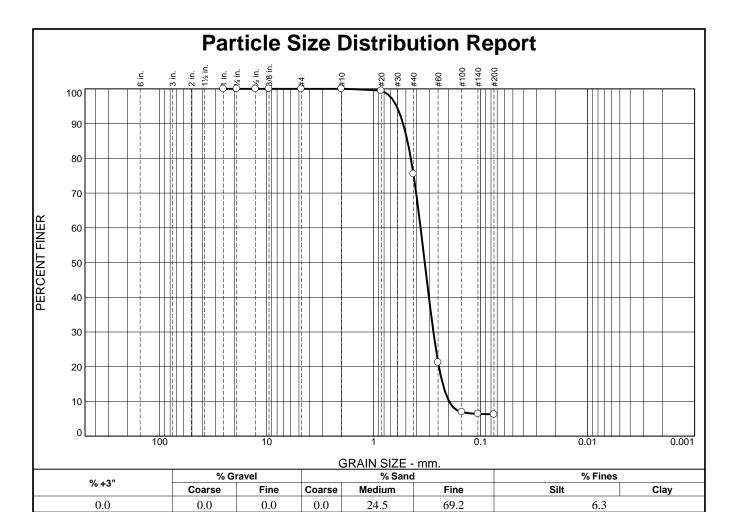
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.5		
#40	75.5		
#60	21.3		
#100	7.0		
#140	6.4		
#200	6.3		

	aterial Description nined, SLIGHTLY SI	
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.5307 D ₅₀ = 0.3331 D ₁₀ = 0.1973	Coefficients D ₈₅ = 0.4833 D ₃₀ = 0.2766 C _u = 1.85	D ₆₀ = 0.3642 D ₁₅ = 0.2259 C _c = 1.07
USCS= SP-SM	Classification AASHTC)=
	<u>Remarks</u>	

Location: BI-PB-176-12 C **Sample Number:** 6480 (44) **Date:** 12/07/12 **Depth:** 3.7'

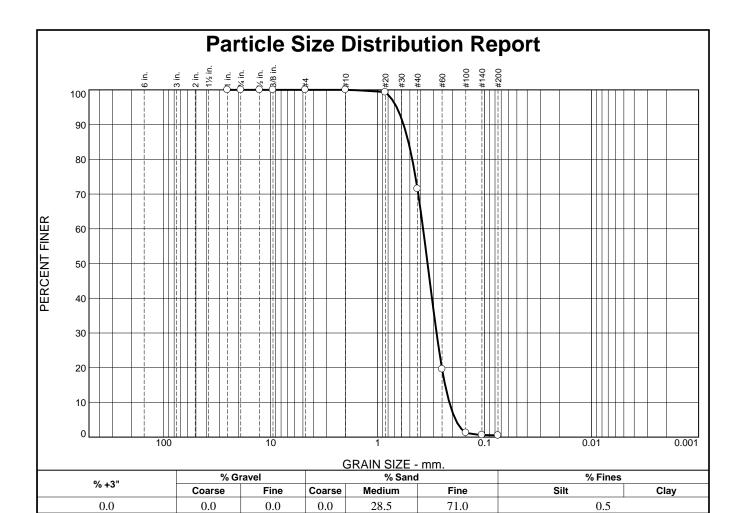
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



PERCENT	SPEC.*	PASS?
FINER	PERCENT	(X=NO)
100.0		
100.0		
100.0		
100.0		
100.0		
100.0		
99.3		
71.5		
19.6		
1.3		
0.6		
0.5		
	FINER 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.3 71.5 19.6 1.3 0.6	FINER PERCENT 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.3 71.5 19.6 1.3 0.6

Fine to medium	Material Description grained, SAND	<u>on</u>
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.5725 D ₅₀ = 0.3417 D ₁₀ = 0.2138	Coefficients D ₈₅ = 0.5159 D ₃₀ = 0.2817 C _u = 1.76	D ₆₀ = 0.3761 D ₁₅ = 0.2341 C _c = 0.99
USCS= SP	Classification AASHT	·O=
	<u>Remarks</u>	

Location: BI-PB-176-12 D **Sample Number:** 6480 (45) **Date:** 12/07/12**Depth:** 4.8'

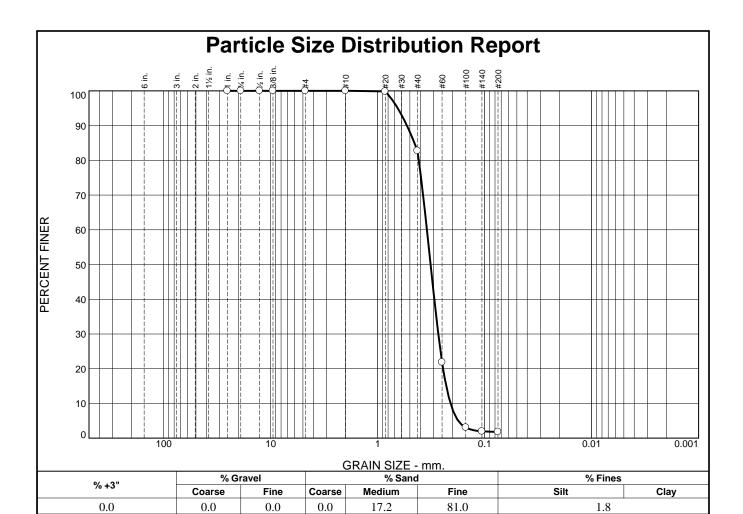
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



PERCENT	SPEC.*	PASS?
FINER	PERCENT	(X=NO)
100.0		
100.0		
100.0		
100.0		
100.0		
100.0		
99.8		
82.8		
21.8		
3.1		
2.0		
1.8		
	FINER 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.8 82.8 21.8 3.1 2.0	FINER PERCENT 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.8 82.8 21.8 3.1 2.0

Fine to medium g	Material Description grained, SAND	<u>on</u>
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.5330 D ₅₀ = 0.3202 D ₁₀ = 0.2085	Coefficients D ₈₅ = 0.4535 D ₃₀ = 0.2714 C _u = 1.66	D ₆₀ = 0.3464 D ₁₅ = 0.2286 C _C = 1.02
USCS= SP	Classification AASHT	O=
	<u>Remarks</u>	

Location: BI-PB-176-12 E **Sample Number:** 6480 (46)

Sample Number: 6480 (46) Depth: 9.3' Date: 12/07/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-177-12

PIXIL									
1. PROJ		LOG	Sou	uth Atlantic			Mobile Dis		OF 1 SHEETS
		or lole:	nd Dooter-	tion				TYPE OF BIT N/A NATE SYSTEM/DATUM HORIZONTAL	VERTICAL
	sCIP Barrie etit Bois Pa			tion		10		Plane, MSE (U.S. Ft.) NAD83	NAVD88
	NG DESIGN			LOCATION	COORDINATES	11		ACTURER'S DESIGNATION OF DRILL	AUTO HAMMER
BI-	-PB-177-1	2		E = 1,15	3,351 N = 253,05	1	Vibra	core	MANUAL HAMMER
	ING AGEN				CONTRACTOR FILE		. TOTAL S	DISTURBED	UNDISTURBED (UD)
	orps of Eng		s - CESAM		!				0
	nerican Vit		e Systems	Inc		13	. TOTAL I	IUMBER CORE BOXES	
5. DIREC	CTION OF E			DEG. FRO	M BEARING	14	. WATER	1011 1 11	
_	ERTICAL NCLINED			VERTICAL		15	. DATE BO	DRING STARTED 12-19-12	12-19-12
6. THICK	KNESS OF	OVERB	BURDEN	N/A		16	. ELEVAT	ion top of boring -40.3 Ft.	
7. DEPTI	H DRILLED	INTO	ROCK	N/A				RECOVERY FOR BORING 100%	
8. TOTA	L DEPTH O	F BOR	ING 1	9.3 Ft.		18		URE AND TITLE OF INSPECTOR FitzHarris, Geologist	
ELEV.	DEPTH	EGEND			ON OF MATERIALS		SAMPLE	LABORATORY RESUL	тѕ
40.3	0.0	┝┹┤							
-40.3 -40.7 -	0.0	<u> </u>							
-40.9 =	_0.6 -		grained (SP)	sand-sized o	, mostly fine to me quartz, trace fines, clay, some fine-gi	gray	A		/ 5/2-grayish brown hes: 5.9
-44.6	-4.3		sand-size SAND,	ed quartz, sof poorly-graded	t, dark gray (CL) with silt, mostly	fine-			
	- - -		SAND, p	oorly-graded sand-sized q	uartz, few silt, trace , mostly fine to me uartz, trace fines, g	edium-	В	Classification: SP Color: 2.5\ D50: 0.3615 mm % Fir	7 7/1-light gray es: 1.9
	- - - -				ly fine to medium-g ce fines, lt. gray	rained	С		7/1-light gray =
-59.6	- - - - -19.3						D		7/1-light gray enes: 1.6
	-		NOTES: 1. So accordant System.	oils are fiel nce with the U	d visually classifi Jnified Soils Classifi	ed in cation			
	-		analysis	from this inte floor elevatio	t submitted for laborval. n determined from	Ţ			

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19475° Long = -88.29807°

Project

Mississippi Barrier Island Restoration Project

AVS N VIBRACORE RVICES

Core Identifier BI-PB-177-12

Coordinate System

Latitude / Longitude

Latitude 30 11.685

Longitude 88 17.884

Date 12/19/2012

Start Time 09:51:25

End Time 09:56:40

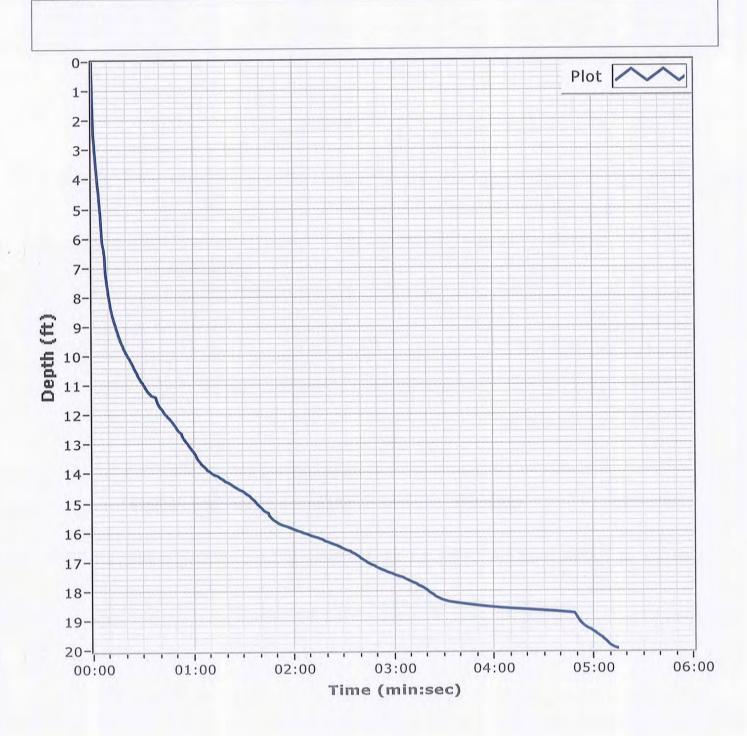
Total Time 00:05:15

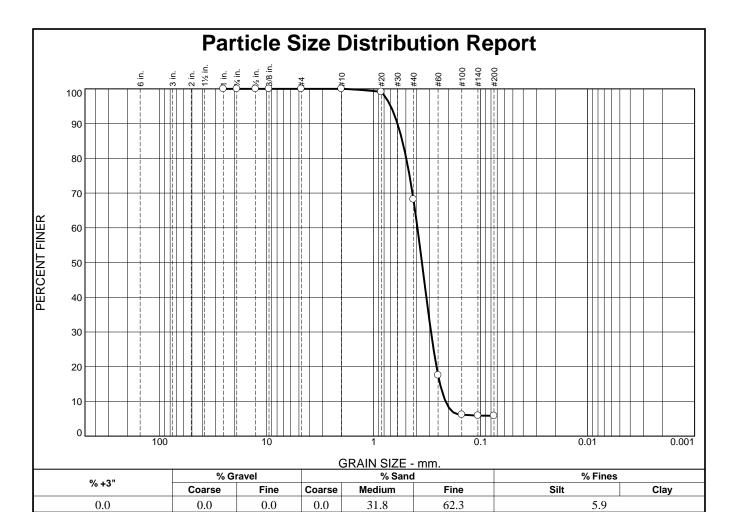
Water Depth 40.7'

Penetration 20.0'

Recovery 19.3'







SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.1		
#40	68.2		
#60	17.6		
#100	6.2		
#140	5.9		
#200	5.9		

	Material Description rained, SLIGHTLY S	
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.5992 D ₅₀ = 0.3539 D ₁₀ = 0.2129	Coefficients D ₈₅ = 0.5395 D ₃₀ = 0.2912 C _u = 1.83	D ₆₀ = 0.3899 D ₁₅ = 0.2396 C _C = 1.02
USCS= SP-SM	Classification AASHT	O=
	<u>Remarks</u>	

Location: BI-PB-177-12 A **Sample Number:** 6494 (64) **Depth:** 0.0' **Date:** 12/26/12

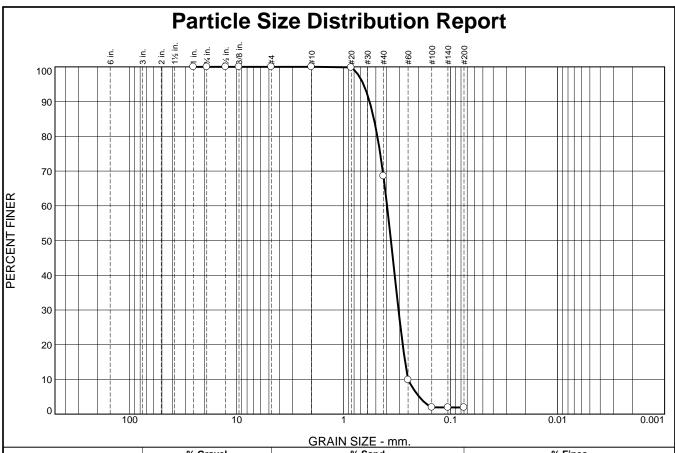
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



% +3		% Gra	ıvel		% Sand	l	% Fines	
% +3	'	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0		0.0	0.0	0.0	31.4	66.7	1.9	
SIEVE	PERCENT	SPEC.*	PASS	?		<u>Mater</u>	ial Description	
SIZE	FINER	PERCEN	T (X=NC)	Fine to	medium grained	, SAND	
1	100.0							
	4000	1	1		1			

SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	68.6		
#60	9.9		
#100	2.0		
#140	1.9		
#200	1.9		

PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.5724 D ₅₀ = 0.3615 D ₁₀ = 0.2504	Coefficients D ₈₅ = 0.5215 D ₃₀ = 0.3073 C _U = 1.57	D ₆₀ = 0.3929 D ₁₅ = 0.2665 C _C = 0.96
USCS= SP	Classification AASHTO	D=
	Remarks	

Location: BI-PB-177-12 B **Sample Number:** 6494 (65) **Depth:** 4.3' **Date:** 12/26/12

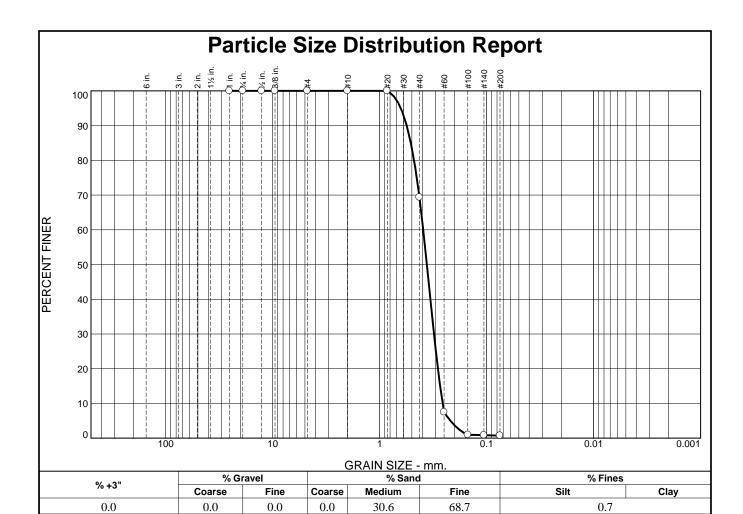
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	69.4		
#60	7.5		
#100	1.0		
#140	0.9		
#200	0.7		

Material Description Fine to medium grained, SAND				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.5587 D ₅₀ = 0.3621 D ₁₀ = 0.2582	Coefficients D ₈₅ = 0.5116 D ₃₀ = 0.3108 C _u = 1.52	D ₆₀ = 0.3917 D ₁₅ = 0.2727 C _C = 0.95		
USCS= SP	Classification AASHT	·O=		
	<u>Remarks</u>			

Location: BI-PB-177-12 C **Sample Number:** 6494 (66) **Depth:** 9.3' **Date:** 12/26/12

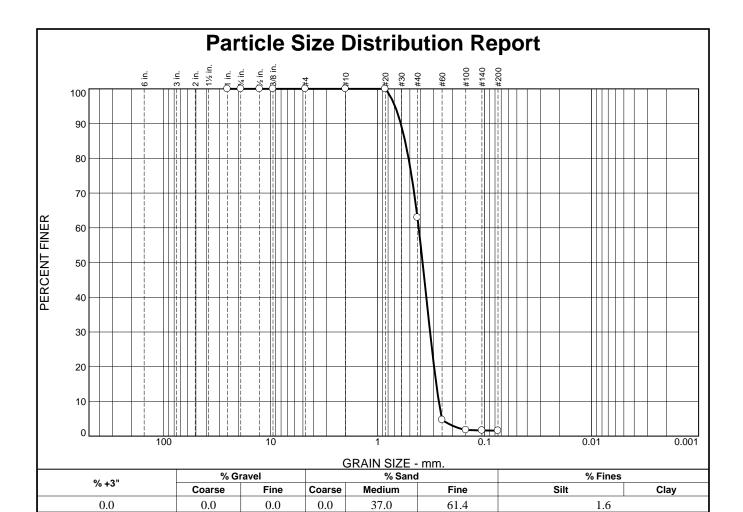
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	63.0		
#60	4.7		
#100	1.8		
#140	1.7		
#200	1.6		

Material Description Fine to medium grained, SAND				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.6081 D ₅₀ = 0.3802 D ₁₀ = 0.2687	Coefficients D ₈₅ = 0.5545 D ₃₀ = 0.3239 C _u = 1.54	D ₆₀ = 0.4137 D ₁₅ = 0.2835 C _c = 0.94		
USCS= SP	<u>Classification</u> AASHT	O=		
	<u>Remarks</u>			

Location: BI-PB-177-12 D **Sample Number:** 6494 (67)

Depth: 14.3'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Figure

Date: 12/26/12

Boring Designation BI-PB-179-12

DRII	LLING I	ng	DIVISIO	ON		INS	TALLATIO	ON			SHEET	1
			Sou	th Atlantic			Mobile Dis				OF 1	SHEETS
1. PROJ								TYPE OF BIT N/A				
	sCIP Barrie			ion		10.		NATE SYSTEM/DATUM	HORIZ		VERTIC	
	etit Bois Pa			LOGATION	CORRINATES	4.		Plane, MSE (U.S. Ft.)	NAI			/D88
_	ng design -PB-179-12		l ,	E = 1,154	OORDINATES	11.	Vibra	ACTURER'S DESIGNATION	N OF DRIL		AUTO HAI MANUAL I	
	LING AGEN		i	E = 1,104	1,461 N = 253,511 CONTRACTOR FILE NO.		VIDIA		ISTURBE		NDISTUR	
Co	orps of Eng	ineers	- CESAM			12. TOTAL SAMPLES			(- /			
4. NAME	OF DRILLE	ER				13. TOTAL NUMBER CORE BOXES						
	merican Vib					14.	WATER	DEPTH	37.1 Ft			
	CTION OF B	ORING	•	DEG. FROM	BEARING	-			START		COMPL	ETED
	NCLINED				1	15.	DATE BO	DRING	i -	 19-12	1	19-12
6. THIC	KNESS OF (OVERB	URDEN	N/A	•	16.	ELEVAT	ION TOP OF BORING	-36.5 Ft			
						_		RECOVERY FOR BORING	100%			
7. DEPT	H DRILLED	INTO	ROCK	N/A				URE AND TITLE OF INSPI				
8. TOTA	L DEPTH O	F BOR	ING 19	9.1 Ft.				FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	CI	LASSIFICATIO	ON OF MATERIALS		SAMPLE		RATORY	RESULTS	3	
-36.5	0.0					丁						
-38.7	- - -2.2		grained s	oorly-graded, sand-sized q ments, lt. gra	mostly fine to medium uartz, trace fines, trace y (SP)	-	Α	Classification: SF D50: 0.36	P Cold 79 mm	or: 2.5Y 7 % Fines	7/2-light g s: 0.9	L 1
			grained s		with silt, mostly fine artz, trace clay stringers SM)		В	Classification: SP-SM D50: 0.31	l Cold 87 mm	or: 2.5Y 5 % Fines	i/2-grayisł s: 8.2	n brown
							С	Classification: SI D50: 0.30		Color: 2. % Fines	.5Y 6/1-gr : 5.8	ray : -1
							D	Classification: S D50: 0.30		Color: 5 % Fines	5Y 5/1-gra : 5.9	ay - 1
-55.6	_19.1		At El53 quartz, tra	3.7 Ft., mostl ace thin clay l	y fine-grained sand-sized bands, lt. gray	d	NS					
			accordance System. 2. NS = analysis f	Sample not rom this inter	d visually classified in Inified Soils Classification submitted for laboratory val.	y						

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19600° Long = -88.29455°

Project

Mississippi Barrier Island Restoration Project

AVS AMERICAN VIBRACORE SERVICES

Core Identifier BI-PB-179-12

Coordinate System

Latitude / Longitude

Latitude 30 11.760

Longitude 88 17.673

Comments

Date 12/19/2012

Start Time 09:22:20

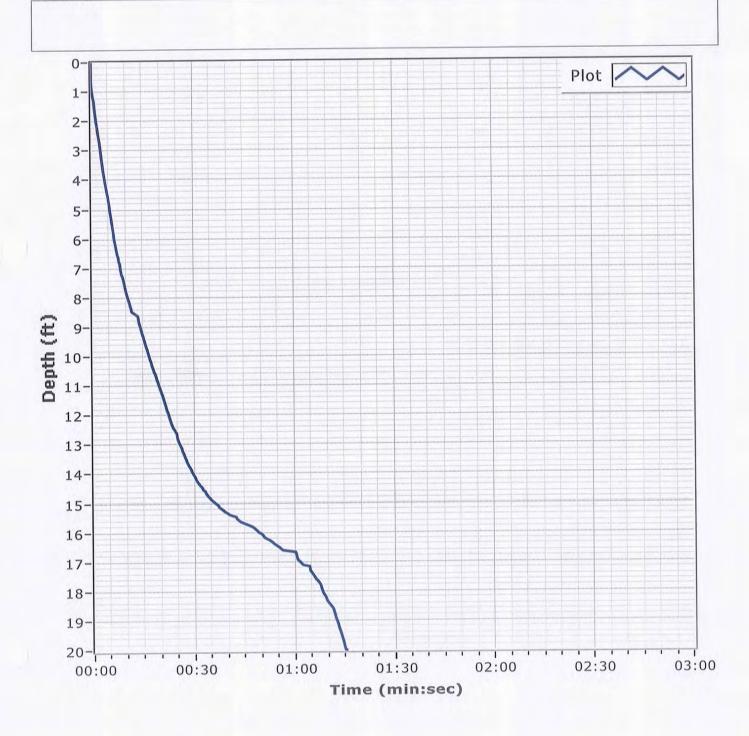
End Time 09:23:36

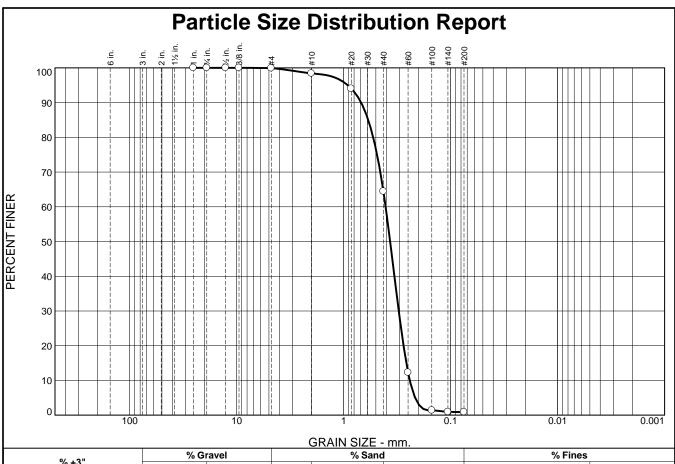
Total Time 00:01:15

Water Depth 37.1'

Penetration 20.0'

Recovery 19.1'





	% +3" % G		% Gravel			% Sand		% Fines	
% +3"			Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
	0.0		0.0	0.1	1.5	34.0	63.5	0.9	
	SIEVE SIZE	PERCENT FINER	SPEC.* PERCEN		PASS? Material Descriptio X=NO) Fine to medium grained, SAND		-		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	98.4		
#20	94.0		
#40	64.4		
#60	12.3		
#100	1.4		
#140	0.9		
#200	0.9		
	SIZE 1 .75 .5 .375 #4 #10 #20 #40 #60 #100 #140	SIZE FINER 1 100.0 .75 100.0 .5 100.0 .375 100.0 #4 99.9 #10 98.4 #20 94.0 #40 64.4 #60 12.3 #100 1.4 #140 0.9	SIZE FINER PERCENT 1 100.0 .75 100.0 .5 100.0 .375 100.0 #4 99.9 #10 98.4 #20 94.0 #40 64.4 #60 12.3 #100 1.4 #140 0.9

	Fine to medium grained, SAND					
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.6868 D ₅₀ = 0.3679 D ₁₀ = 0.2409	Coefficients D ₈₅ = 0.5894 D ₃₀ = 0.3057 C _u = 1.68	D ₆₀ = 0.4054 D ₁₅ = 0.2596 C _c = 0.96				
USCS= SP	Classification AASHT	O=				
	<u>Remarks</u>					

Location: BI-PB-179-12 A **Sample Number:** 6494 (68) **Depth:** 0.0' **Date:** 12/26/12

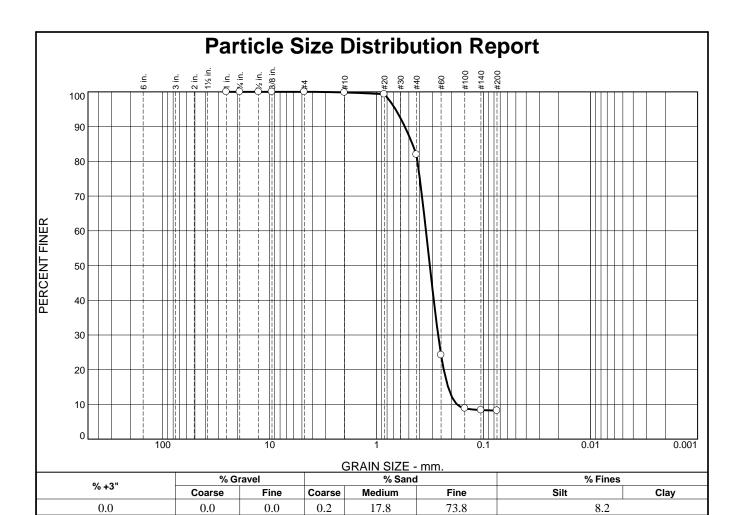
Thompson Engineering

 $\begin{tabular}{ll} \textbf{Client:} & CDM/Thompson Engineering JV \\ \end{tabular}$

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.8		
#20	99.3		
#40	82.0		
#60	24.2		
#100	8.9		
#140	8.4		
#200	8.2		

Material Description Fine to medium grained, SLIGHTLY SILTY SAND				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.5461 D ₅₀ = 0.3187 D ₁₀ = 0.1777	Coefficients D ₈₅ = 0.4639 D ₃₀ = 0.2666 C _u = 1.95	D ₆₀ = 0.3461 D ₁₅ = 0.2149 C _c = 1.16		
USCS= SP-SM	Classification AASHTC)=		
	<u>Remarks</u>			

Location: BI-PB-179-12 B **Sample Number:** 6494 (69) **Depth:** 2.2' **Date:** 12/26/12

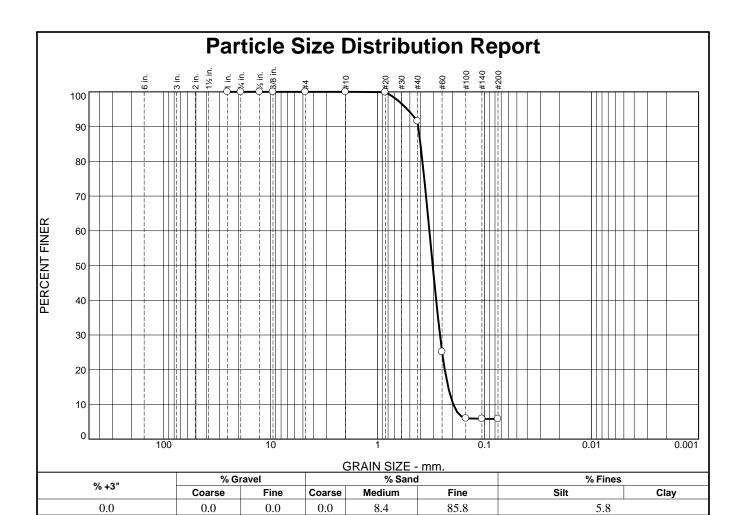
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



PERCENT	SPEC.*	PASS?
FINER	PERCENT	(X=NO)
100.0		
100.0		
100.0		
100.0		
100.0		
100.0		
99.9		
91.6		
25.1		
6.0		
5.9		
5.8		
	100.0 100.0 100.0 100.0 100.0 100.0 99.9 91.6 25.1 6.0 5.9	100.0 100.0 100.0 100.0 100.0 100.0 99.9 91.6 25.1 6.0 5.9

Material Description Fine grained, SLIGHTLY SILTY SAND				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.4179 D ₅₀ = 0.3060 D ₁₀ = 0.1964	Coefficients D ₈₅ = 0.3982 D ₃₀ = 0.2618 C _u = 1.67	D ₆₀ = 0.3285 D ₁₅ = 0.2193 C _c = 1.06		
USCS= SP-SM	Classification AASHTO)=		
	<u>Remarks</u>			

Location: BI-PB-179-12 C **Sample Number:** 6494 (70) **Depth:** 7.2' **Date:** 12/26/12

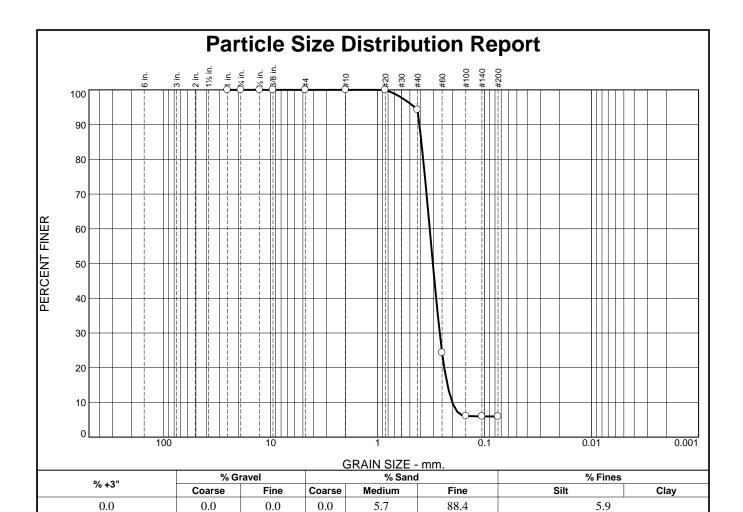
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	94.3		
#60	24.4		
#100	6.1		
#140	6.0		
#200	5.9		

Material Description Fine grained, SLIGHTLY SILTY SAND				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.4073 D ₅₀ = 0.3050 D ₁₀ = 0.2007	Coefficients D85= 0.3901 D30= 0.2631 Cu= 1.63	D ₆₀ = 0.3263 D ₁₅ = 0.2227 C _c = 1.06		
USCS= SP-SM	Classification AASHTO	=		
	<u>Remarks</u>			

Location: BI-PB-179-12 D **Sample Number:** 6494 (71)

Thompson Engineering

Depth: 12.2'

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Figure

Date: 12/26/12

Boring Designation BI-PB-181-12

ŊΡΙ	DRILLING LOG			INSTALLATION SHEET			1					
			Sou	th Atlantic			Mobile District OF 1 SHEETS			SHEETS		
1. PRO					9. SIZE AND TYPE							
Wideli Barrier Iolana (Gotoration)		10.		NATE SYSTEM/DATUM	HORIZONTAL	VERTIC						
	Petit Bois Pa						State Plane, MSE (U.S. Ft.) NAD83 NAVD88 11. MANUFACTURER'S DESIGNATION OF DRILL ALITO HAMMER					
	RING DESIGN BI-PB-181-1		'	LOCATION C		ATES N = 252,414	11.	WANUFA			AUTO HAN MANUAL F	
	LLING AGEN		<u>i</u>	L = 1,13		ACTOR FILE NO.	┢	VIDIC			NDISTUR	
	Corps of Eng	ineers	s - CESAM				12.	TOTAL S	SAMPLES		0	(- /
4. NAN	IE OF DRILL	ER					13.	TOTAL I	NUMBER CORE BOXES			
	American Vil						14	WATER	NEDTH	40.7 Ft.		
-	ECTION OF E VERTICAL	BORING	G	DEG. FROM	м і	BEARING		WAILK	DEF III	STARTED	COMPL	ETED
	INCLINED						15.	DATE BO	DRING	12-19-12	1	9-12
6 THI	CKNESS OF	OVER	RIIPDEN	N/A			16.	FI FVAT	ION TOP OF BORING	-40.3 Ft.		<u> </u>
							⊢		RECOVERY FOR BORING	100%		
7. DEP	TH DRILLED	INTO	ROCK	N/A					URE AND TITLE OF INSP			
8. тот	AL DEPTH O	F BOR	ING 15	5.4 Ft.					FitzHarris, Geologist			
ELEV.	DEPTH	LEGEND	C	LASSIFICATIO	ON OF MA	ATERIALS		SAMPLE		DRATORY RESULTS	3	
-40.3	0.0						\dashv					
-43.8	-		grained	sand-sized	quartz,	silt, mostly fine few silt, fev gray (SP-SM)	÷- N	Α	Classification: SP- D50: 0.32		5/2-olive (s: 7.8	gray -
-43.8	- 3.5 - - - - - -		SAND, p grained s gray to wl	and-sized qua	, mostly artz, trac	fine to medium e fines, dense, l	ı- t.	В	Classification: SF D50: 0.35		7/1-light gi s: 1.2	ray 5
								С	Classification: D50: 0.33	SP Color: 5Y 166 mm % Fines		- - - - - - - - - - - - - - - - - - -
-55.7	- - - - - - - - - - - - - - - - - - -							D	Classification D50: 0.32			- - - - - - - - - - - - - - - - - - -
			accordand System. 2. NS = analysis f	ce with the Use Sample not from this inter	Jnified S t submiti rval.	lly classified in oils Classification red for laborator nined from 2019	n y					- 20

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19302° Long = -88.30333°

Project

Mississippi Barrier Island Restoration Project

AVS N VIBRACORE SERVICES

Core Identifier BI-PB-181-12

Coordinate System

Latitude / Longitude

Date 12/19/2012

Start Time 10:22:41 End Time 10:29:22

Total Time 00:06:41

Water Depth 40.7'

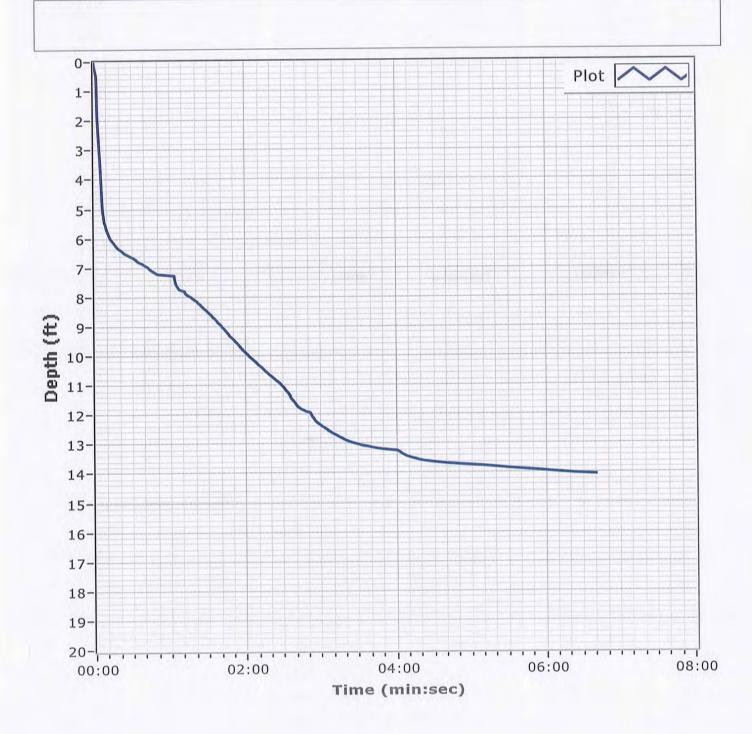
Penetration 14.1'

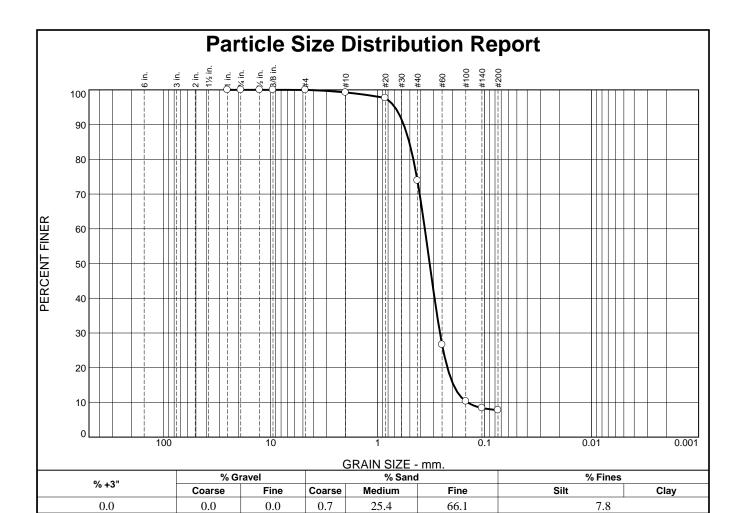
Recovery 15.3'

Latitude 30 11.581

Longitude 88 18.200

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.3		
#20	97.7		
#40	73.9		
#60	26.7		
#100	10.3		
#140	8.4		
#200	7.8		

Material Description Fine to medium grained, SLIGHTLY SILTY SAND				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.5710 D ₅₀ = 0.3268 D ₁₀ = 0.1444	Coefficients D ₈₅ = 0.5074 D ₃₀ = 0.2617 C _u = 2.51	D ₆₀ = 0.3624 D ₁₅ = 0.1954 C _c = 1.31		
USCS= SP-SM	Classification AASHTO) =		
	<u>Remarks</u>			

Location: BI-PB-181-12 A **Sample Number:** 6494 (72) **Depth:** 0.0' **Date:** 12/26/12

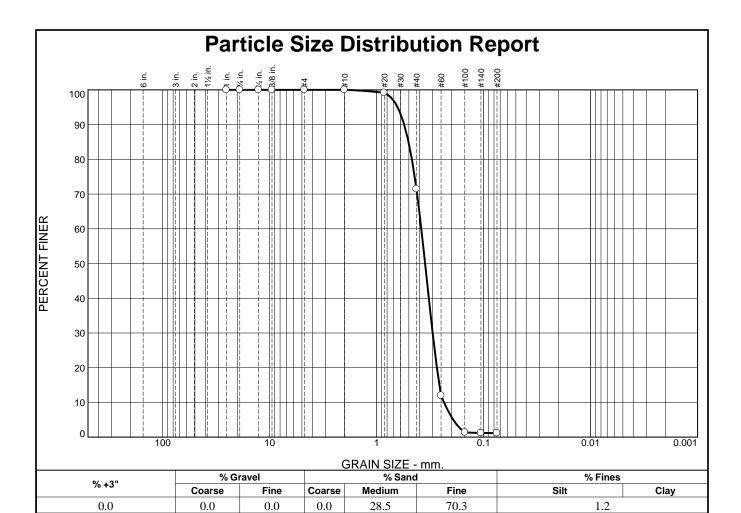
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.2		
#40	71.5		
#60	12.0		
#100	1.4		
#140	1.2		
#200	1.2		
* /			

Material Description Fine to medium grained, SAND				
PL=	Atterberg Limits LL=	PI=		
D ₉₀ = 0.5533 D ₅₀ = 0.3526 D ₁₀ = 0.2347	Coefficients D ₈₅ = 0.5040 D ₃₀ = 0.2999 C _u = 1.63	D ₆₀ = 0.3827 D ₁₅ = 0.2596 C _C = 1.00		
USCS= SP	Classification AASHT	O=		
	<u>Remarks</u>			

Location: BI-PB-181-12 B **Sample Number:** 6494 (73) **Depth:** 3.5' **Date:** 12/26/12

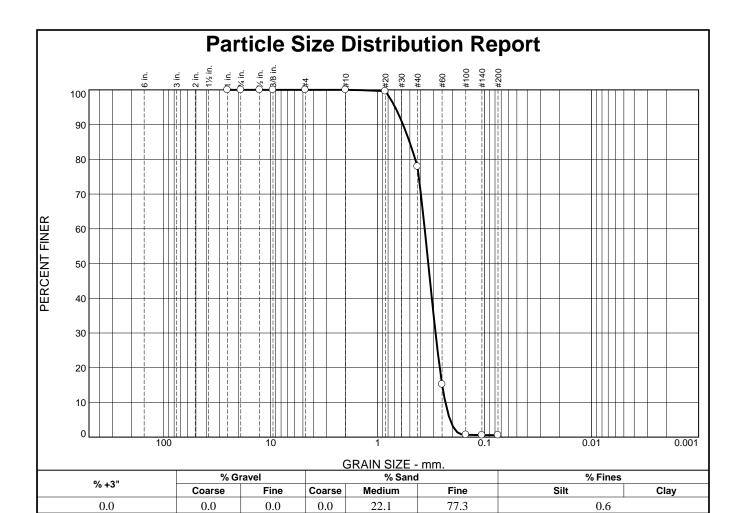
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.6		
#40	77.9		
#60	15.2		
#100	0.7		
#140	0.6		
#200	0.6		

Material Description Fine to medium grained, SAND										
PL=	Atterberg Limits PL= LL= PI=									
D ₉₀ = 0.5795 D ₅₀ = 0.3366 D ₁₀ = 0.2329	Coefficients D ₈₅ = 0.5035 D ₃₀ = 0.2880 C _u = 1.56	D ₆₀ = 0.3634 D ₁₅ = 0.2494 C _c = 0.98								
USCS= SP	Classification AASHT	O=								
	<u>Remarks</u>									

Location: BI-PB-181-12 C **Sample Number:** 6494 (74) **Depth:** 5.4' **Date:** 12/26/12

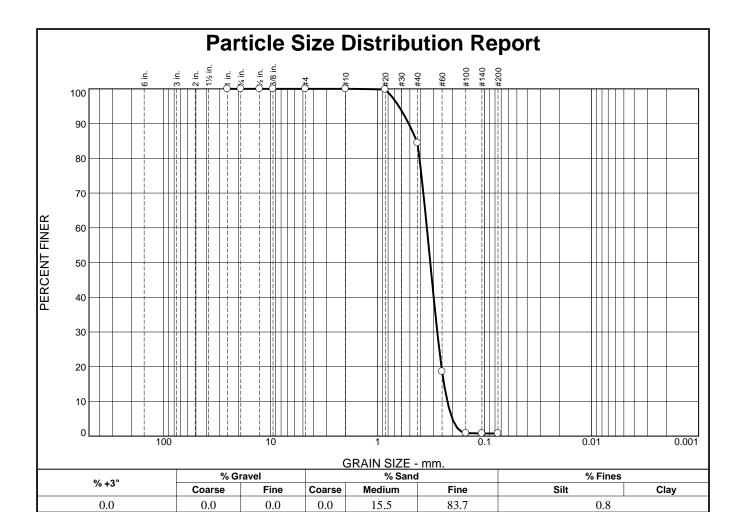
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	84.5		
#60	18.6		
#100	0.9		
#140	0.8		
#200	0.8		

Material Description Fine to medium grained, SAND										
PL=	Atterberg Limits PL= LL= PI=									
D ₉₀ = 0.5135 D ₅₀ = 0.3225 D ₁₀ = 0.2232	Coefficients D ₈₅ = 0.4323 D ₃₀ = 0.2774 C _u = 1.55	D ₆₀ = 0.3467 D ₁₅ = 0.2398 C _c = 0.99								
USCS= SP	Classification AASHT	O=								
	<u>Remarks</u>									

Location: BI-PB-181-12 D **Sample Number:** 6494 (75)

Sample Number: 6494 (75) Depth: 10.4'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Figure

Boring Designation BI-PB-182-12

DDI	LLING	LOG	DIVISION	1		IN	STALLATIO	ON			SHEET	r 1
		LUG	South	n Atlantic			Mobile Dis				OF 1	SHEETS
1. PRO			I D t t -	_				NATE SYSTEM/DATUM	HORIZON	TA1 :	VERTIC	NA1
	iscip Barri etit Bois Pa		nd Restoratio	on		10		Plane, MSE (U.S. Ft.)	1			
	ING DESIGN			OCATION CO	OORDINATES	11		ACTURER'S DESIGNATION	NAD8		INAN JTO HAI	/D88 MMFR
В	I-PB-182-1	2		E = 1,150	,793 N = 252,28	7	Vibra	acore				HAMMER
_	LING AGEN			i	CONTRACTOR FILE		. TOTAL S		STURBED	i		BED (UD)
	orps of Eng		s - CESAM	<u> </u>				 			0	
	American Vibracore Systems, Inc.					13	. TOTAL I	NUMBER CORE BOXES				
	DIRECTION OF BORING DEG. FROM BEARING						. WATER	DEPTH	38.4 Ft.			
	VERTICAL INCLINED			VERTICAL		15	. DATE BO	DRING	STARTED 12-12-	12	12-	12-12
6. THIC	KNESS OF	OVERB	BURDEN	N/A		16	. ELEVAT	ION TOP OF BORING	-38.8 Ft.			
7. DEP	TH DRILLED	INTO	ROCK N	I/A		17	. TOTAL F	RECOVERY FOR BORING	100%			
	A. DEDT		ING 40.	0.54		18		URE AND TITLE OF INSPE	CTOR			
8. 101	AL DEPTH C	JF BUK	ING 12.0	0 Ft.			Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	CLA	ASSIFICATIO	N OF MATERIALS		SAMPLE	LABO	RATORY RE	SULTS		
-38.8	0.0											
-40.8	- - - 2.0				mostly fine to me uartz, trace fines,		Α	Classification: SI D50: 0.32		5Y 6/3- 6 Fines:		E
-42.6	3.8		medium p	plasticity, so	clay, some silt, lo ome fine grain I dark gray (CL)		NS					
	-	F:::					В	Classification: S		Color: 5Y		ay E
-43.8 -45.8	-		sized quart ft., lt. gray CLAY, lea	z, trace fines (SP) n, mostly o	mostly fine-grained s, dense, clay lens clay, some fine-gra s, lt. brown (CL)	at 4.5	NS	D50: 0.28	26 mm	6 Fines:	6.9	
-50.8			sized quai	rtz, trace 7 to 10.3 ft.	mostly fine-grained fines, thin clay t , clay band at 11.6	bands	С	Classification: SI D50: 0.250		: 5Y 7/1- 6 Fines:	-light gr 2.7	ay
			NOTES:									E
	- - - - - - - - - - - - - - - - - - -		 Soils accordance System. NS = S 	e with the Ui	visually classified Soils Classified soils Classified submitted for laboral.	cation						
			3. Seaflor USACE sur		determined from	2010						

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.19268° Long = -88.30618°

Project

Mississippi Barrier Island Restoration Project



Core Identifier BI-PB-182-12

Coordinate System

Latitude / Longitude

Latitude 30 11.561

Longitude 088 18.371

Date 12/12/2012

Start Time 15:48:36

End Time 15:55:30

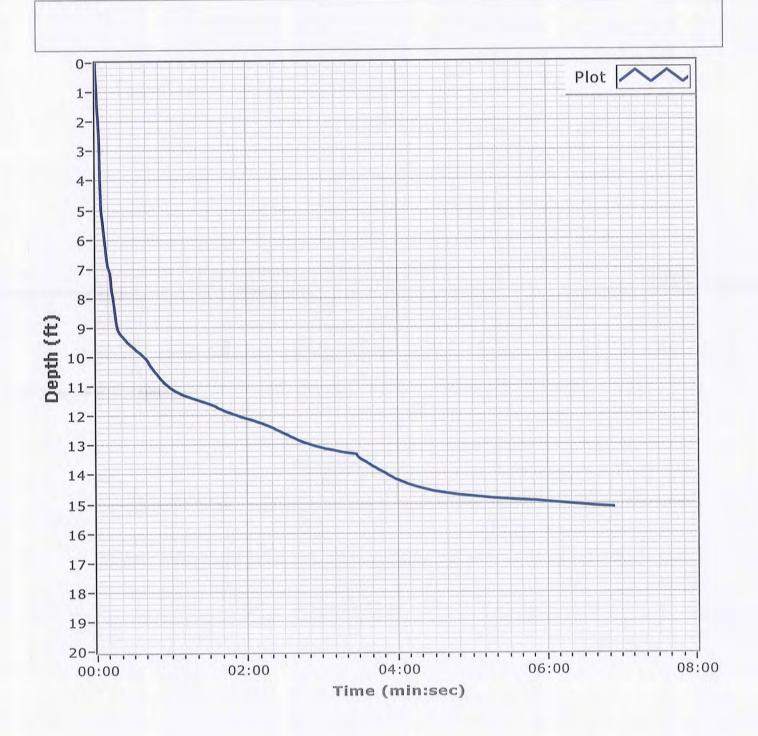
Total Time 00:06:54

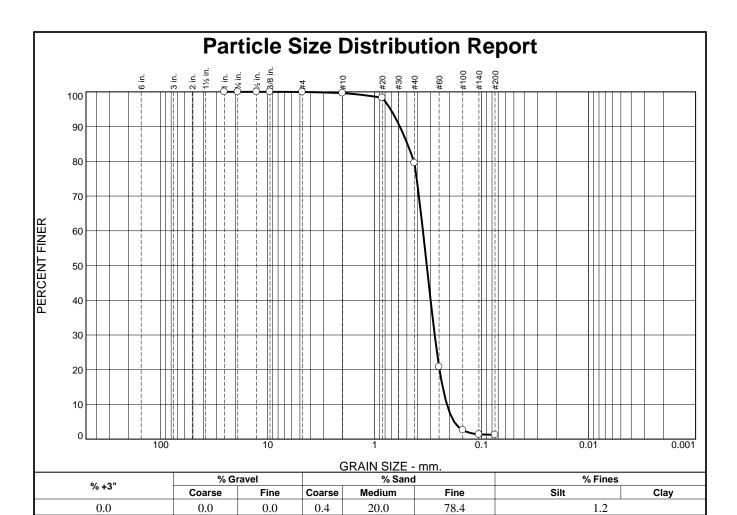
Water Depth 38.4'

Penetration 15.1'

Recovery 12.1'







SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.6		
#20	98.3		
#40	79.6		
#60	20.8		
#100	2.6		
#140	1.4		
#200	1.2		

Material Description Fine to medium grained, SAND										
PL=	Atterberg Limits PL= LL= PI=									
D ₉₀ = 0.5816 D ₅₀ = 0.3259 D ₁₀ = 0.2113	Coefficients D ₈₅ = 0.4944 D ₃₀ = 0.2749 C _u = 1.67	D ₆₀ = 0.3538 D ₁₅ = 0.2314 C _C = 1.01								
USCS= SP	Classification AASHT	O=								
	<u>Remarks</u>									

Location: BI-PB-182-12 A **Sample Number:** 6485 (14) **Date:** 12/07/12 **Depth:** 0.0'

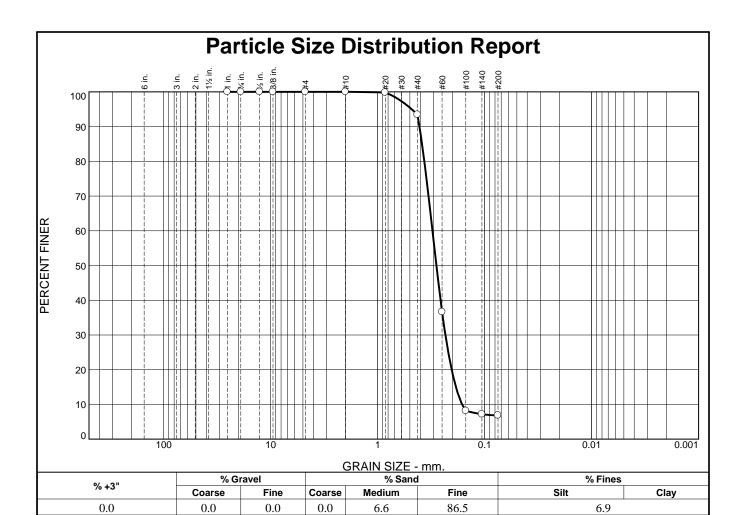
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	93.4		
#60	36.6		
#100	8.2		
#140	7.2		
#200	6.9		

Material Description Fine grained, SLIGHTLY SILTY SAND										
PL=	Atterberg Limits PL= LL= PI=									
D ₉₀ = 0.4066 D ₅₀ = 0.2826 D ₁₀ = 0.1628	D ₉₀ = 0.4066 D ₈₅ = 0.3847 D ₅₀ = 0.2826 D ₃₀ = 0.2327 D ₁₀ = 0.1628 C _u = 1.89									
USCS= SP-SM	Classification AASHT	-O=								
	<u>Remarks</u>									

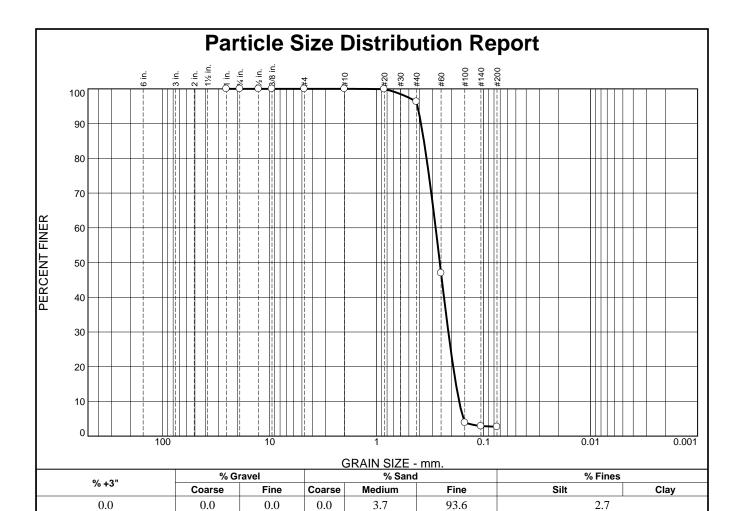
Location: BI-PB-182-12 B **Sample Number:** 6485 (15) **Date:** 12/07/12**Depth:** 3.8'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama **Project No:** 1221110095



PERCENT	SPEC.*	PASS?
FINER	PERCENT	(X=NO)
100.0		
100.0		
100.0		
100.0		
100.0		
100.0		
99.9		
96.3		
46.9		
3.9		
2.9		
2.7		
	FINER 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.9 96.3 46.9 3.9 2.9	FINER PERCENT 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.9 96.3 46.9 3.9 2.9

Material Description Fine grained, SAND									
PL=	Atterberg Limits LL=	PI=							
D ₉₀ = 0.3850 D ₅₀ = 0.2569 D ₁₀ = 0.1696	Coefficients D ₈₅ = 0.3615 D ₃₀ = 0.2138 C _u = 1.66	D ₆₀ = 0.2812 D ₁₅ = 0.1817 C _c = 0.96							
USCS= SP	Classification AASHT	O=							
	<u>Remarks</u>								

Location: BI-PB-182-12 C **Sample Number:** 6485 (16) **Date:** 12/07/12**Depth:** 7.0'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-183-12

			DIVIS	ION			IN	STALLATIO	ON			SHEET	1
	ILLING	LUG	So	outh Atlantic				Mobile Di	strict			OF 1	SHEETS
1. PRO	JECT						9.	SIZE AND	TYPE OF BIT N/A				
ľ	MsCIP Barri	er Isla	nd Restora	ation			10	. COORDI	NATE SYSTEM/DATUM	HORIZON	TAL	VERTIC	CAL
	Petit Bois Pa						$oxed{oxed}$		Plane, MSE (U.S. Ft.)	NAD83	3	NA۱	/D88
	RING DESIGN		N	LOCATION			11.		ACTURER'S DESIGNATION	N OF DRILL		JTO HAI	
	BI-PB-183-1			E = 1,14		N = 255,433	╄	Vibra					HAMMER
	LLING AGEN		o CECAN	4	CON	TRACTOR FILE NO.	12	. TOTAL S		ISTURBED	i	distur 0	BED (UD)
	Corps of Engineers - CESAM ; NAME OF DRILLER					12	TOTAL 1	WAREN CORE BOYES			0		
	American Vi		e Systems	s Inc			13	. IOIALI	NUMBER CORE BOXES				
	ECTION OF			DEG. FRO	М	BEARING	14	. WATER	DEPTH	27 Ft.			
_	VERTICAL INCLINED			VERTICAL	•		15.	. DATE BO	DRING	STARTED 12-07-	12	COMPL 12-0	. ETED 07-12
6. THI	CKNESS OF	OVERI	BURDEN	N/A			16	. ELEVAT	ION TOP OF BORING	-26.4 Ft.			
7 DED	TH DRILLED	INTO	BUCK	N/A			17.	. TOTAL I	RECOVERY FOR BORING	100%			
				11//			18	. SIGNAT	URE AND TITLE OF INSPE	ECTOR			
8. ТОТ	AL DEPTH C	F BOR	RING	12.6 Ft.				Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND	,	CLASSIFICATI	ON OF	MATERIALS		SAMPLE	LABO	RATORY RE	SULTS		
-26.4	0.0						\dashv						$\neg \neg \uparrow$
-28.6			grained		iartz, t	tly fine to mediun trace silt, trace she		А	Classification: S D50: 0.39		5Y 7/2 Fines:	-light gr 1.3	ay
-33.6			sized qu	ooorly-graded, uartz, trace sl at 1.4 ft., lt. gr	nell fra	y fine-grained sand agments, trace cla P)	d- ay	В	Classification: S D50: 0.2		5Y 7/2 % Fines	-light gr :: 2	ay :
				poorly-graded, lartz, lt. gray (y fine-grained sand	d-	С	Classification: 9 D50: 0.30		:: 2.5Y 8 Fines:	8/1-whit 1.2	e :
-30.0 -39.0	- 12.2 - 12.6	<u> </u>	_				ł	_NS_					
			grained fragment NOTES: 1. So accorda System. 2. NS analysis 3. Seaf vessel's applying	sand-sized quats, trace clayers oils are fiel new with the U = Sample not from this interport the sample not from this interport fathometer with the sample not from this interport fathometer with the sample not from this interport fathometer with the sample not fathometer with	d vis Unified t subr	tly fine to mediun trace silt, trace she ules, lt. gray (SP) ually classified I Soils Classification inted for laborator ated using samplindepth reading and ge data conversion	in on ry						
			factor.		J-13-8	,							

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20143° Long = -88.33120°

Project

Mississippi Barrier Island Restoration Project

AVS **AMERICAN VIBRACORE** CES

Core Identifier BI-PB-183-12

Coordinate System

Date 12/07/2012

Water Depth 27.0'

Latitude / Longitude

Start Time 11:43:49

Penetration 14.1'

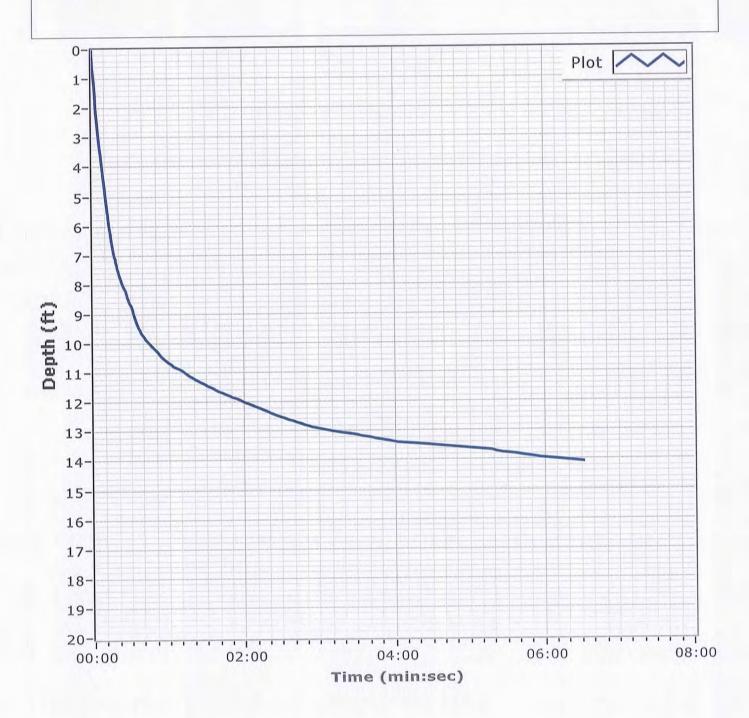
Latitude 30 12.086

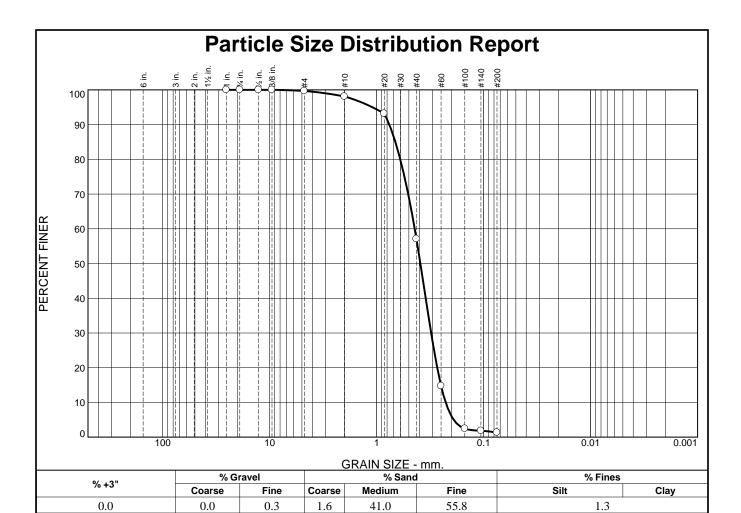
End Time 11:50:21 Total Time 00:06:32

Recovery 12.6

Longitude 088 19.872

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.7		
#10	98.1		
#20	93.2		
#40	57.1		
#60	14.7		
#100	2.5		
#140	1.9		
#200	1.3		
* /			

Material Description Fine to medium grained, SAND						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.7622 D ₅₀ = 0.3904 D ₁₀ = 0.2265	Coefficients D ₈₅ = 0.6689 D ₃₀ = 0.3097 C _u = 1.95	D ₆₀ = 0.4411 D ₁₅ = 0.2512 C _C = 0.96				
USCS= SP	USCS= SP Classification AASHTO=					
<u>Remarks</u>						

Location: BI-PB-183-12 A **Sample Number:** 6482 (2)

Depth: 0.0' **Thompson Engineering**

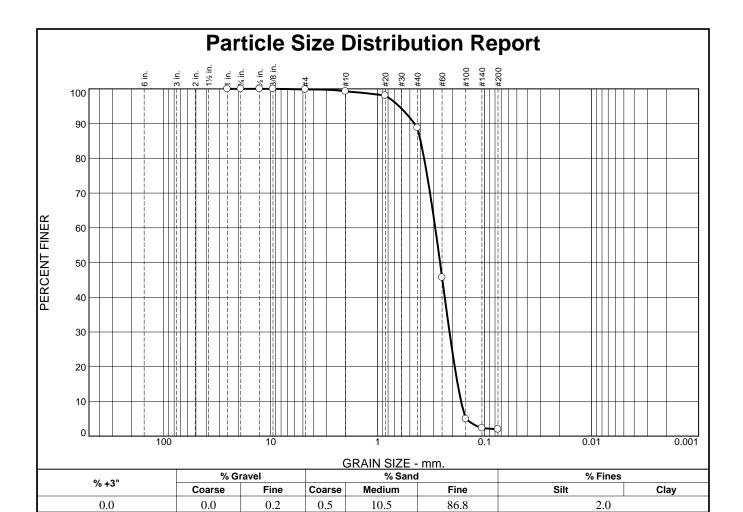
Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Figure



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.8		
#10	99.3		
#20	98.1		
#40	88.8		
#60	45.7		
#100	5.0		
#140	2.3		
#200	2.0		

Material Description Fine to medium grained, SAND						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.4535 D ₅₀ = 0.2611 D ₁₀ = 0.1663	Coefficients D ₈₅ = 0.3968 D ₃₀ = 0.2131 C _u = 1.74	D ₆₀ = 0.2898 D ₁₅ = 0.1790 C _C = 0.94				
USCS= SP	Classification AASHT	·O=				
	<u>Remarks</u>					

Date: 12/12/12

(no specification provided)

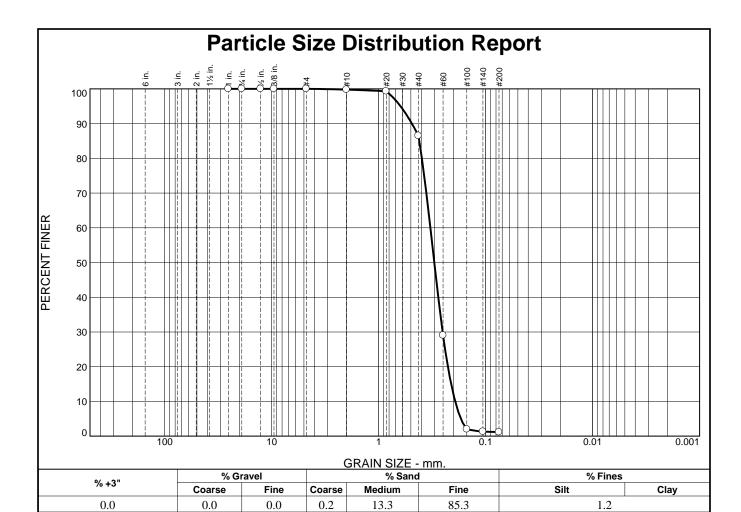
Location: BI-PB-183-12 B **Sample Number:** 6482 (3)

Depth: 2.2'

Thompson Engineering Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama **Project No:** 1221110095 **Figure**



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.8		
#20	99.3		
#40	86.5		
#60	29.0		
#100	2.0		
#140	1.3		
#200	1.2		
* ,			

Material Description Fine to medium grained, SAND						
PL=	Atterberg Limits	PI=				
D ₉₀ = 0.4893 D ₅₀ = 0.3022 D ₁₀ = 0.1927	Coefficients D ₈₅ = 0.4172 D ₃₀ = 0.2525 C _u = 1.71	D ₆₀ = 0.3286 D ₁₅ = 0.2101 C _c = 1.01				
USCS= SP	Classification AASHT	O=				
	<u>Remarks</u>					

Location: BI-PB-183-12 C **Sample Number:** 6482 (4)

Sample Number: 6482 (4) Depth: 7.2' Date: 12/12/12

Thompson Engineering

 $\begin{tabular}{ll} \textbf{Client:} & CDM/Thompson Engineering JV \\ \end{tabular}$

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-184-12

DDI	LLING		DIVISION	ON			INS	STALLATIO	ON O				SHEE	T 1
		LUG	Sou	ıth Atlantic				Mobile Dis	strict				OF 1	SHEETS
1. PRO							_			I/A				
	IsCIP Barrie			tion			10.		NATE SYSTEM/DATUN	- !	HORIZO		VERTI	
	etit Bois Pa			LOCATION C	0000	INATES	144		Plane, MSE (U.S. Ft ACTURER'S DESIGNAT		NAD			VD88
	ING DESIGN 31-PB-184-1		•			N = 255,414	111.	. MANUF Vibra		ION O	F DKILI		AUTO HA	MMER HAMMER
	LING AGEN			L = 1,143		RACTOR FILE NO.	+			DIST	URBED			RBED (UD)
C	Corps of Eng	gineers	s - CESAM				12.	. TOTAL S	SAMPLES	į		į	0	`
	E OF DRILL			•			13.	. TOTAL N	NUMBER CORE BOXES	;				
	merican Vit						14.	WATER	DEPTH		8.2 Ft.			
	ECTION OF E	BORING	G	DEG. FROM VERTICAL	Л	BEARING	H				STARTE	D	COMP	LETED
_	INCLINED			į		į	15.	. DATE BO	DRING		12-0	7-12	12-	-07-12
6. THIC	CKNESS OF	OVERE	BURDEN	N/A		•	16.	. ELEVAT	ION TOP OF BORING	-2	7.6 Ft.			
							17.	. TOTAL F	RECOVERY FOR BORIN		100%			
7. DEP	TH DRILLED	INTO	ROCK	N/A			18.	SIGNAT	URE AND TITLE OF IN	SPECT				
8. TOT	AL DEPTH O	F BOR	ING 1	8.5 Ft.				Mike	FitzHarris, Geologist	t				
ELEV.	DEPTH	LEGEND	С	LASSIFICATIO	ON OF	MATERIALS		SAMPLE	LA	ABORA	TORY F	ESULTS	•	
-27.6	0.0													-0
20.4			grained s		artz, tı	ly fine to mediur race silt, trace sho		Α	Classification D50: 0			or: 5Y 7/ % Fines	2-light g s: 1.6	į į
-30.4	<u>- 2.8</u>	· ///					\dashv							
-33.7	- - - - - - - - - - - - - - - - - - -		grained s	sand-sized qu II fragments, t	artz, 1	clay, mostly fin few clay, trace si ay stringers, gray	lt,	В	Classification D50: (n: SP 0.284		or: 5Y 6/ % Fine	3-pale o	live 5
				oorly-graded, artz, trace silt,		y fine-grained san y (SP)	d-	С	Classificati D50: 0			olor: 5Y % Fines	8/1-whit s: 1.6	e -
				6.1 Ft., mostly ace silt, lt. gra		-grained sand-size hite	ed	D	Classification: D50: 0		Color mm	": 2.5Y 7 % Fines	7/2-light (s: 1.9	gray -10
-40.0	12.4	$ \cdots $												E
-42.7			CLAY, 1 plasticity,	fat, mostly gray (CH)	clay,	medium to hiç	gh							- - - - - - - 15
-43.7	16.1			layey, mostly ome clay, gray		grained sand-size	ed_/	NS						
-46.1				oorly-graded, artz, trace clay		y fine-grained san (SP)	d-							
			NOTES:											<u>-</u> - -20
	- - - - - -		So accordan System.	ils are field ce with the U	d visu Inified	ually classified Soils Classification	in on							
	<u>-</u> 		2. NS = analysis f	Sample not from this inter	subm val.	nitted for laborato	ry							<u> </u>
			vessel's	fathometer w	vater	ated using samplir depth reading ar e data conversio	nd							-25

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20137° Long = -88.32958°

Project

Mississippi Barrier Island Restoration Project



Core Identifier BI-PB-184-12

Coordinate System

Latitude / Longitude

Date 12/07/2012

Start Time 10:53:48

End Time 10:59:39

Total Time 00:05:50

Water Depth 28.2'

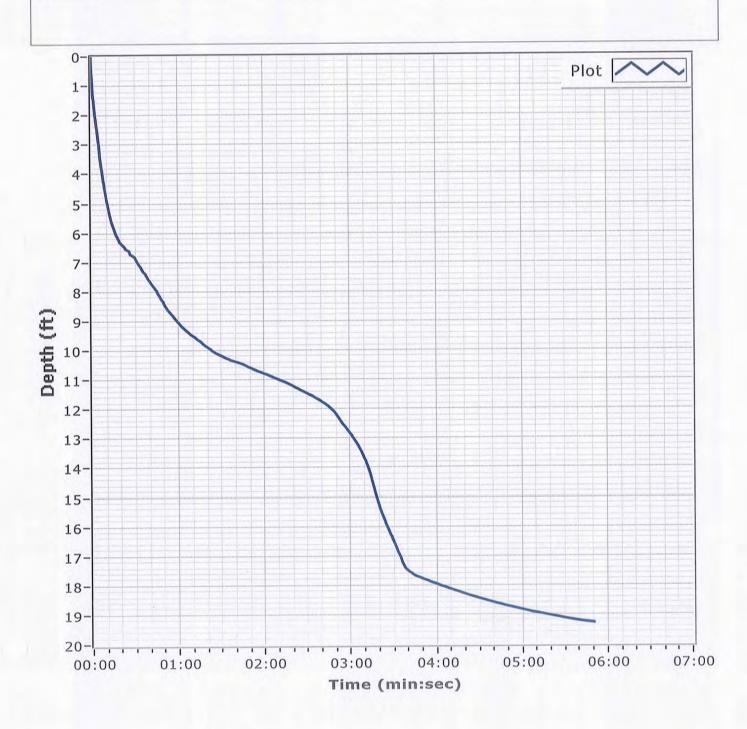
Penetration 19.3'

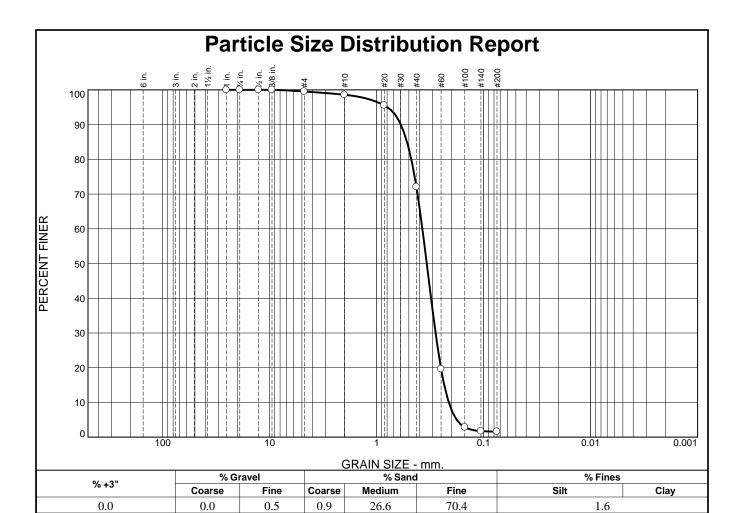
Recovery 18.5'

Latitude 30 12.082

Longitude 088 19.775

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.5		
#10	98.6		
#20	95.5		
#40	72.0		
#60	19.6		
#100	2.9		
#140	1.8		
#200	1.6		
* (" "	· · · · · · · · · · · · · · · · · · ·		

Material Description Fine to medium grained, SAND						
PL=	Atterberg Limits	PI=				
D ₉₀ = 0.5941 D ₅₀ = 0.3403 D ₁₀ = 0.2118	Coefficients D ₈₅ = 0.5205 D ₃₀ = 0.2815 C _u = 1.77	D ₆₀ = 0.3739 D ₁₅ = 0.2336 C _C = 1.00				
USCS= SP	USCS= SP Classification AASHTO=					
	<u>Remarks</u>					

Location: BI-PB-184-12 A **Sample Number:** 6482 (5)

Thompson Engineering

Depth: 0.0'

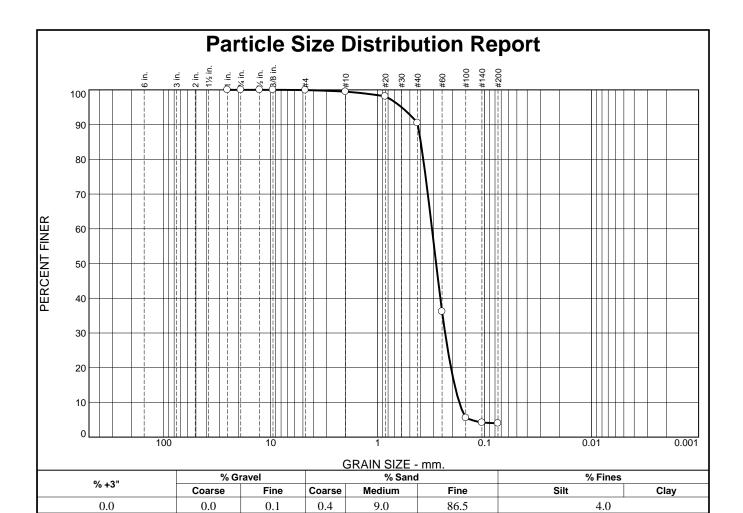
Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Figure



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.5		
#20	98.1		
#40	90.5		
#60	36.2		
#100	5.6		
#140	4.2		
#200	4.0		

Fine grained, SA	Material Description Fine grained, SAND					
PL=	Atterberg Limits	PI=				
D ₉₀ = 0.4219 D ₅₀ = 0.2845 D ₁₀ = 0.1728	Coefficients D ₈₅ = 0.3957 D ₃₀ = 0.2341 C _u = 1.80	D ₆₀ = 0.3107 D ₁₅ = 0.1909 C _c = 1.02				
USCS= SP	Classification AASHT	O=				
	<u>Remarks</u>					

Location: BI-PB-184-12 B **Sample Number:** 6482 (6)

Depth: 2.8'

Thompson Engineering

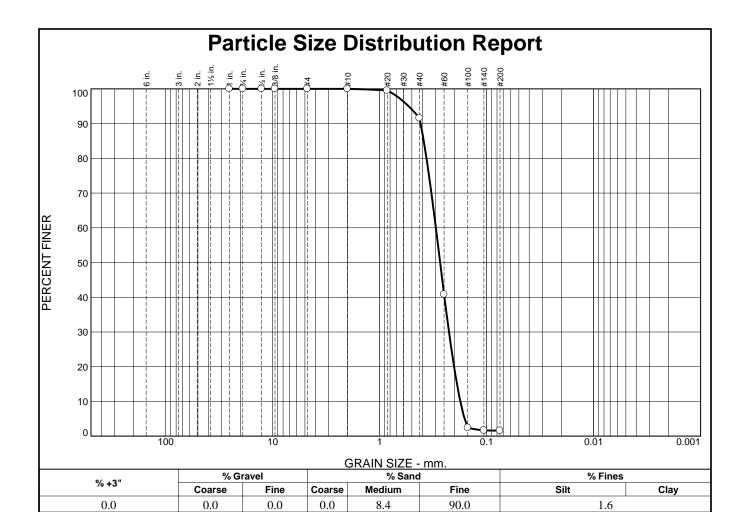
Mobile, Alabama

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Project No: 1221110095

Figure



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.5		
#40	91.6		
#60	40.8		
#100	2.4		
#140	1.7		
#200	1.6		

Fine grained, SA	Material Description	<u>on</u>
PL=	Atterberg Limits LL=	PI=
D ₉₀ = 0.4145 D ₅₀ = 0.2723 D ₁₀ = 0.1765	Coefficients D ₈₅ = 0.3870 D ₃₀ = 0.2249 C _u = 1.69	D ₆₀ = 0.2986 D ₁₅ = 0.1896 C _C = 0.96
USCS= SP	Classification AASHT	·O=
	<u>Remarks</u>	

Location: BI-PB-184-12 C **Sample Number:** 6482 (7)

Depth: 6.1'

Thompson Engineering

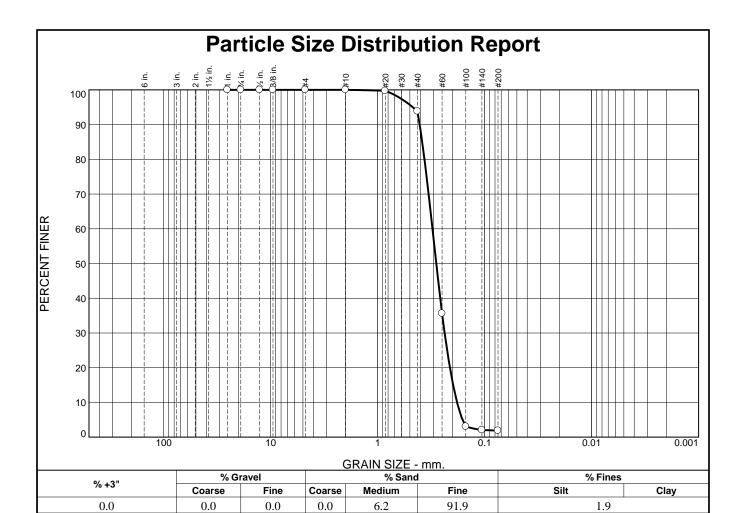
Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Figure



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	100.0		
#20	99.7		
#40	93.8		
#60	35.6		
#100	3.1		
#140	2.1		
#200	1.9		

Material Description Fine grained, SAND							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.4047 D ₅₀ = 0.2834 D ₁₀ = 0.1813	D ₈₅ = 0.3832 D ₃₀ = 0.2366 C _u = 1.70	D ₆₀ = 0.3076 D ₁₅ = 0.1971 C _c = 1.00					
USCS= SP	Classification AASHT	O=					
	<u>Remarks</u>						

Location: BI-PB-184-12 D **Sample Number:** 6482 (8)

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-185-12

DRII	LING	ı og	DIVISI				IN		ALLATIC					SHEET	
	South Atlantic				_		lobile Dis					OF 1	SHEETS		
PROJECT MsCIP Barrier Island Restoration							TYPE OF BIT	N/A		FA?					
				tion			10	U.		NATE SYSTEM		HORIZON		VERTIC	
2. BORIN	it Bois Pa			LOCATION	OOPD	INATES	14	1		Plane, MSE (I					√D88
	PB-185-12			1		N = 254,96		••	Vibra		IGNATIO	N OF DRILL		UTO HAI	MMER HAMMER
3. DRILLI						TRACTOR FILE	NO.				11	DISTURBED			BED (UD)
Cor	rps of Eng	ineers	- CESAM		!		12	2.	TOTAL S	AMPLES	j		į	0	` ′
4. NAME							13	3.	TOTAL N	IUMBER CORE	BOXES				
Ame	erican Vib	oracore	Systems,	Inc.			⊢		WATER			04.54			
5. DIRECT		BORING	i	DEG. FROI	М	BEARING		4.	WAIER	DEPIH		31 Ft.		1	
_	ERTICAL CLINED			VERTIOAL		i	15	5.	DATE BO	RING		STARTED 12-07-	12	COMPL 12-	07-12
6. THICK	NESS OF	OVERB	URDEN	N/A			10	6.	ELEVAT	ION TOP OF BO	RING	-30.3 Ft.			
7. DEPTH	I DRILLED	INTO F	госк	N/A			17	7.	TOTAL F	RECOVERY FOR	BORING	100%			
							18	В.	SIGNAT	URE AND TITLE	OF INSP	ECTOR			
8. TOTAL	. DEPTH O	F BORI	NG 5.	.1 Ft.					Mike	FitzHarris, Ge	eologist				
ELEV.	DEPTH	LEGEND	c	LASSIFICATION	ON OF	MATERIALS		s	SAMPLE		LAB	DRATORY RE	SULTS		
-30.3	0.0														
-32.4	2.1		grained		quartz	tly fine to me z, trace silt, ay (SP)			Α	Classifica	ation: SP D50: 0.2	Color: 5\ 2625 mm - 9	/ 6/2-li ⁄⁄6 Fine	ght olive s: 2	E
-35.4	5.1		sized qua		ilt, tra	y fine-grained ce shell fragn P)			В		ification: D50: 0.3	SP Color 152 mm %		8/1-whit : 1.3	ie :
			accordan System.	ice with the U	Jnified	ually classifie I Soils Classifie	cation								
		 NS = Sample not submitted for laborator analysis from this interval. Very dense sand prevented vibracore fror progressing deeper than 5.1 ft. Seafloor elevation calculated using samplin vessel's fathometer water depth reading an applying NOAA tidal gauge data conversion factor. 				e from									

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20015° Long = -88.33220°

Project

Mississippi Barrier Island Restoration Project

AVS **N VIBRACORE** SERVICES

Core Identifier BI-PB-185-12

Coordinate System

Latitude / Longitude

Latitude 30 12.009

Date 12/07/2012

Start Time 13:10:07

End Time 13:16:14

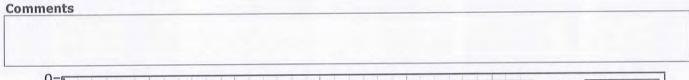
Total Time 00:06:06

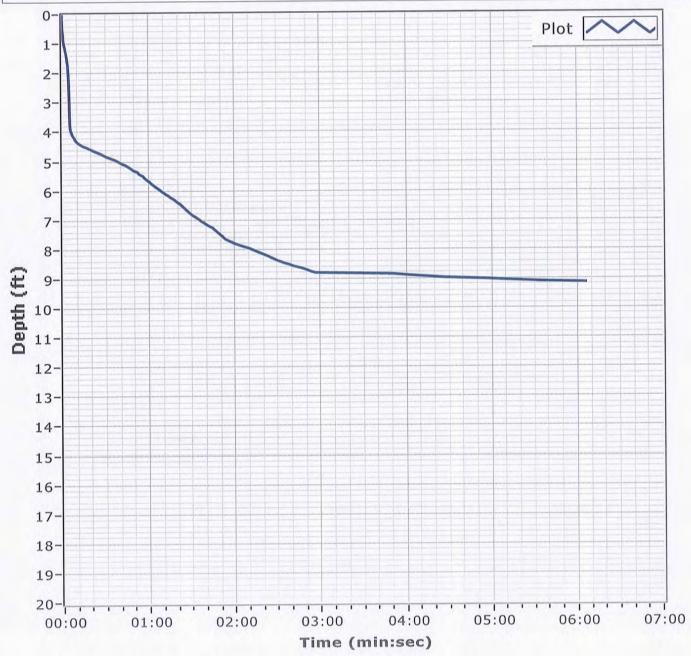
Water Depth 31.9'

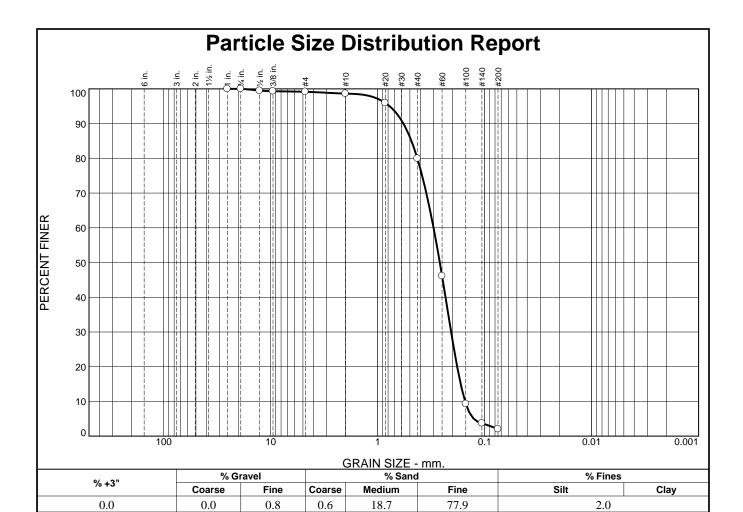
Penetration 9.1'

Recovery 5.1'

Longitude 088 19.932







SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	99.5		
.375	99.3		
#4	99.2		
#10	98.6		
#20	96.0		
#40	79.9		
#60	46.1		
#100	9.3		
#140	3.7		
#200	2.0		

Material Description Fine to medium grained, SAND							
PL=	Atterberg Limits	PI=					
D ₉₀ = 0.5747 D ₅₀ = 0.2625 D ₁₀ = 0.1525	Coefficients D ₈₅ = 0.4836 D ₃₀ = 0.2058 C _u = 1.97	D ₆₀ = 0.3005 D ₁₅ = 0.1676 C _C = 0.92					
USCS= SP	Classification AASHT	·O=					
	<u>Remarks</u>						

Location: BI-PB-185-12 A **Sample Number:** 6482 (9)

Depth: 0.0'

Client: CDM/Thompson Engineering JV

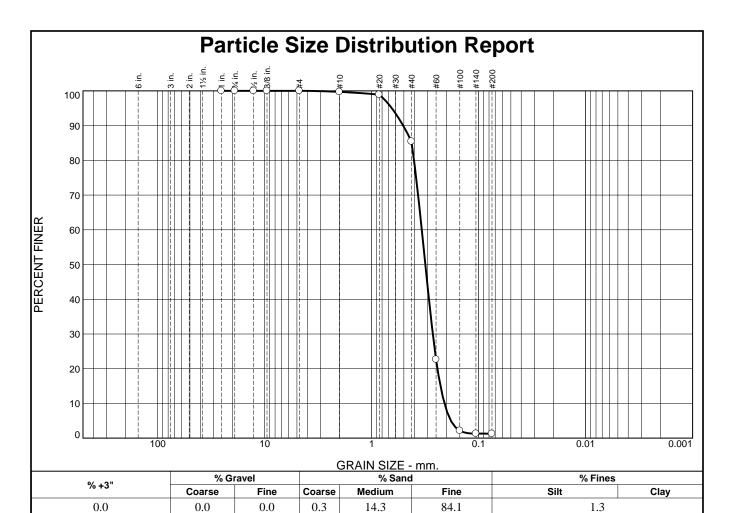
Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Thompson Engineering

Project No: 1221110095

Figure



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.7		
#20	98.9		
#40	85.4		
#60	22.6		
#100	2.2		
#140	1.3		
#200	1.3		

Material Description Fine to medium grained, SAND							
PL=	Atterberg Limits	PI=					
D ₉₀ = 0.5079 D ₅₀ = 0.3152 D ₁₀ = 0.2088	Coefficients D ₈₅ = 0.4229 D ₃₀ = 0.2684 C _U = 1.63	D ₆₀ = 0.3401 D ₁₅ = 0.2275 C _c = 1.01					
USCS= SP	Classification AASHT	O=					
	<u>Remarks</u>						

Location: BI-PB-185-12 B **Sample Number:** 6482 (10)

Depth: 2.1'

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Figure

Boring Designation BI-PB-186-12

DDI	LLING	100	DIV	ISION	1			INS	TALLATIO	ON			SHEET	1
				South	Atlantic			Mobile District OF 2 SHEETS			SHEETS			
1. PRO			. –							TYPE OF BIT N/A				
	IsCIP Barrie			oratio	n			10.		NATE SYSTEM/DATUM	HORIZ		VERTIC	
	etit Bois Pa			: -	OCATION C	OOPD	INATES	11		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATIO			-	/D88
	I-PB-186-1		N	- -			N = 254,950	١	Vibra		N OF BRIL		UTO HAI IANUAL I	
3. DRIL	LING AGEN	CY					RACTOR FILE NO.	40		¦ r	DISTURBE	יט ו	NDISTUR	BED (UD)
	orps of Eng		s - CES	AM	i			12.	TOTAL S	AMPLES			0	
	E OF DRILL		0 1					13.	TOTAL N	NUMBER CORE BOXES				
	merican Vil			ms, ir		1	BEARING	14.	WATER	DEPTH	28.8 Ft			
\boxtimes	VERTICAL INCLINED				DEG. FROM VERTICAL	-		15.	DATE BO	DRING	START 12-0	E D)7-12	COMPL 12-0	ETED)7-12
6. THIC	KNESS OF	OVER	BURDEN		N/A			16.	ELEVAT	ION TOP OF BORING	-27.9 Ft	-		
7. DEP1	TH DRILLED	INTO	ROCK	N	/A			17.	TOTAL F	RECOVERY FOR BORING	100%)		
								18.	SIGNAT	URE AND TITLE OF INSP	ECTOR			
8. TOT	AL DEPTH O	F BOI	RING	18.9	9 Ft.			L,	Mike	FitzHarris, Geologist				
ELEV.	DEPTH	LEGEND		CLA	ASSIFICATIO	N OF	MATERIALS		SAMPLE	LAB	DRATORY	RESULTS		
-27.9	0.0													-0
0.4.0			graine	d sar		artz, t	tly fine to medium race silt, trace she		Α	Classification: S D50: 0.30		or: 5Y 7/3 % Fines		F
-31.8 -34.8	-		sized	quart		ıy, tra	y fine-grained sand ce shell fragments (SP)		В	Classification: SP D50: 0.2	Color: 2.	5Y 6/2-lig % Fines	ht brown : 4.5	ish gray -5
-36.6	8.7		graine	d sa	nd-sized qu	artz,	tly fine to medium few silt, trace clay o lt. gray (SP)		С	Classification: SP D50: 0.32		5Y 6/2-li % Fines		gray
-46.5 -46.8	18:6		CLAY mediu 18.4 f	, fat, im to	mostly cla high plast eenish gray	y, traicity, (CH)	ce shell fragments very stiff, sandy a	at .	NS					-10
			NOTE 1. accord Syste 2. N	Sized Soils Soils dance m. S = {	quartz, gray are field with the U	y (SC I visi nified subn	y, few fine-graine ually classified i Soils Classificatio	n n						-20
			3. Se	afloor	elevation o	alcula	ated using sampling	9						

SAM FORM 1836 - MsCIP MAY 2010

Lat = 30.20010° Long = -88.33057°

Boring Designation BI-PB-186-12

DRILLING L	OG (Cont. Sheet)	INSTALLATION SHEET 2 Mobile District OF 2 SHEET							
PROJECT			Mobile District OF 2 COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL						
MsCIP Barrier Island Restoration LOCATION COORDINATES			Plane, MSE (U.S. Ft.)	NAD83	NAVD88				
			ON TOP OF BORING		,				
X = 1,143,075		-27.9							
	CLASSIFICATION OF MATER		SAMPLE	LABORATORY R	ESULTS				
LEV. DEPTH	vessel's fathometer water depth applying NOAA tidal gauge dat factor.			LABORATORY R	ESULTS				

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.20010° Long = -88.33057°

Project

Mississippi Barrier Island Restoration Project

AMERICAN VIBRACORE CES

Core Identifier BI-PB-186-12

Coordinate System

Date 12/07/2012

Water Depth 28.8'

Latitude / Longitude

Start Time 13:50:08

Penetration 20.0'

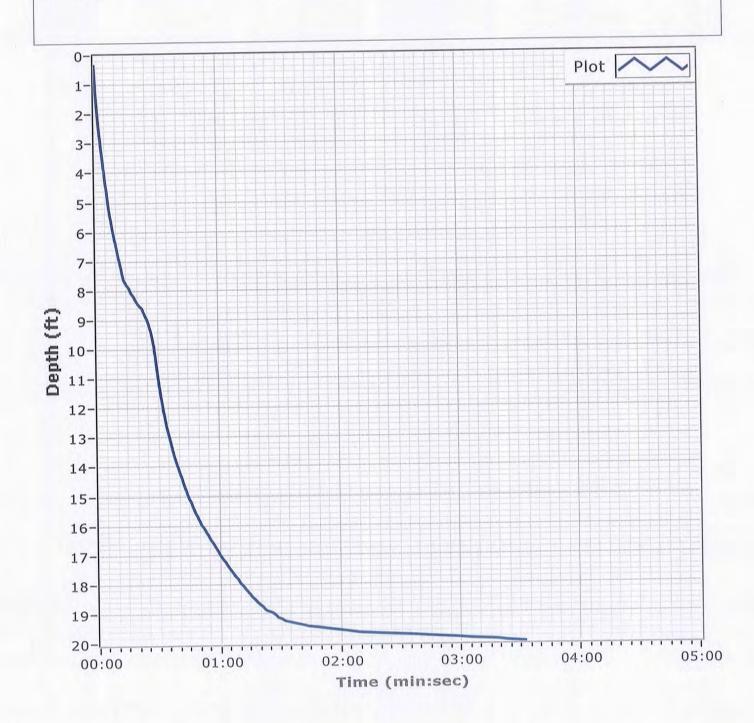
Latitude 30 12.006

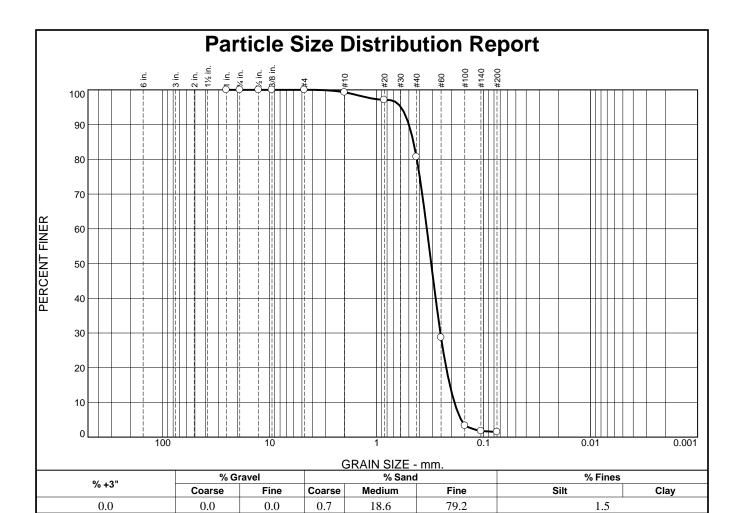
End Time 13:53:41 Total Time 00:03:32

Recovery 18.9'

Longitude 088 19.834

Comments





	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
ſ	1	100.0		
	.75	100.0		
	.5	100.0		
	.375	100.0		
	#4	100.0		
	#10	99.3		
	#20	97.1		
	#40	80.7		
	#60	28.7		
	#100	3.3		
	#140	1.8		
	#200	1.5		
L	* ,			

Material Description Fine to medium grained, SAND							
PL=	Atterberg Limits LL=	PI=					
D ₉₀ = 0.4998 D ₅₀ = 0.3092 D ₁₀ = 0.1877	Coefficients D ₈₅ = 0.4531 D ₃₀ = 0.2537 C _u = 1.81	D ₆₀ = 0.3397 D ₁₅ = 0.2070 C _c = 1.01					
USCS= SP	Classification AASHT	-O=					
	<u>Remarks</u>						

Location: BI-PB-186-12 A **Sample Number:** 6482 (11)

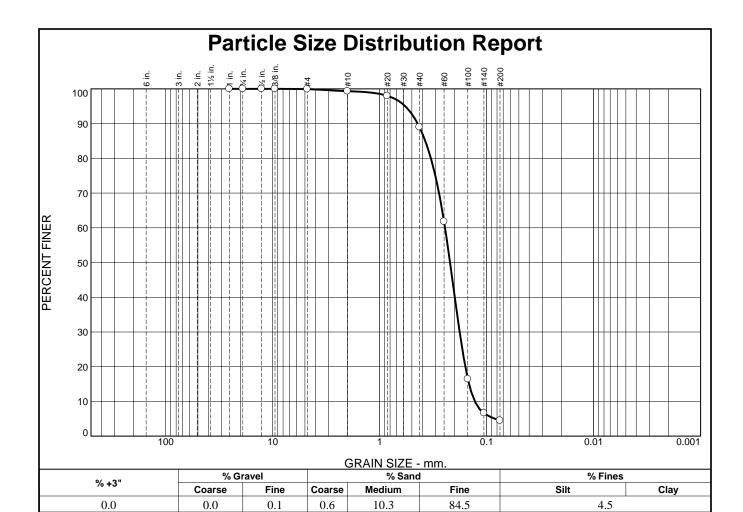
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.3		
#20	98.0		
#40	89.0		
#60	61.8		
#100	16.4		
#140	6.7		
#200	4.5		
* ,			

Material Description Fine to medium grained, SAND					
PL=	Atterberg Limits	PI=			
D ₉₀ = 0.4416 D ₅₀ = 0.2199 D ₁₀ = 0.1289	Coefficients D ₈₅ = 0.3745 D ₃₀ = 0.1789 C _u = 1.90	D ₆₀ = 0.2449 D ₁₅ = 0.1462 C _C = 1.01			
USCS= SP	Classification AASHT	-O=			
	<u>Remarks</u>				

Location: BI-PB-186-12 B **Sample Number:** 6482 (12) **Depth:** 3.9' **Date:** 12/12/12

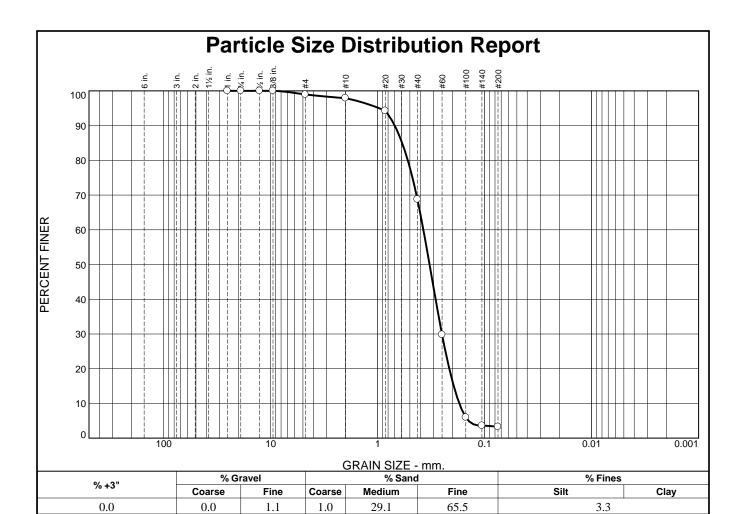
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	98.9		
#10	97.9		
#20	94.3		
#40	68.8		
#60	29.8		
#100	6.0		
#140	3.6		
#200	3.3		

Material Description Fine to medium grained, SAND, with trace SHELL					
PL=	Atterberg Limits LL=	PI=			
D ₉₀ = 0.6929 D ₅₀ = 0.3275 D ₁₀ = 0.1728	Coefficients D ₈₅ = 0.5907 D ₃₀ = 0.2508 C _u = 2.16	D ₆₀ = 0.3740 D ₁₅ = 0.1945 C _c = 0.97			
USCS= SP	Classification AASHTO=	=			
	<u>Remarks</u>				

Location: BI-PB-186-12 C **Sample Number:** 6482 (13) **Depth:** 6.9' **Date:** 12/12/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-187-12

DDIII	INC	-	DIVISIO	N		INS	STALLATIO	ON O		SHEE	Г 1
DRILL		LUG	Sout	h Atlantic			Mobile Dis	strict		OF 1	SHEETS
1. PROJEC	СТ					9.	SIZE AND	TYPE OF BIT N/A			
MsC	IP Barrie	er Islar	nd Restoration	on		10.	COORDI	NATE SYSTEM/DATUM	HORIZONTAL	VERTI	CAL
	Bois Pa					$ldsymbol{ld}}}}}}$		Plane, MSE (U.S. Ft.)		NA'	VD88
2. BORING			l [1	LOCATION COO		11.		ACTURER'S DESIGNATIO	N OF DRILL	AUTO HA	
BI-PI	B-187-12		<u> </u>		12 N = 254,231 INTRACTOR FILE NO.	_	Vibra		DISTURBED :	MANUAL UNDISTUR	
			- CESAM	"	ON I RACTOR FILE NO.	12.	TOTAL S		JISTURBED	0	(OD)
4. NAME O			- OLOAW			13	TOTAL N	IUMBER CORE BOXES	i		
Ame	erican Vib	racore	e Systems, I	nc.		<u> </u>					
5. DIRECTI	ION OF B			DEG. FROM VERTICAL	BEARING	14.	WATER	DEPTH ————————————————————————————————————	33.7 Ft.	1.00	
⊠ VER □ INC				VERTICAL		15.	DATE BO	RING	STARTED 12-11-12	COMPI	11-12
6. THICKN				. NI/A	i	46	EL EVAT	ION TOP OF BORING	-34.0 Ft.	12-	11-12
b. IHICKN	IESS OF C	JVERB	UKDEN	N/A		⊢					
7. DEPTH I	DRILLED	INTO	ROCK	N/A				RECOVERY FOR BORING URE AND TITLE OF INSP	100%		
8. TOTAL I	DEPTH O	F BOR	ING 15.	.5 Ft.		'°.		FitzHarris, Geologist	ECTOR		
						┰	IVIIIC	Titzi iai iis, ocologist			
ELEV. D	DEPTH	LEGEND	CL	ASSIFICATION	OF MATERIALS		SAMPLE	LABO	DRATORY RESUL	тs	
-34.0 0	0.0										
-35.1 <u>-</u> 1	,		SILT, inc	organic-L, mos	stly silt, some she	_{II}	NS				Ę`
-30.1 _ 1	. 1	╎┼┼┼┼╂	fragments	, trace fine-grai	ned sand-sized quartz	<u>,</u> /	•	Classification: SP	-SM Color: 5	Y 6/3-pale	olive
-36.2 -2	2.2	<u>.: </u>	\dark gray			JŢ	Α	D50: 0.28		es: 5.3	<u> </u>
E		:::: \	SAND, po	orly-graded wi	th silt, mostly fine to	e/					E
Ė		\cdots	gray (SP-	rained sand-si SM)	zed quartz, few sill	·/					Ė
F						۱ ۲		Classification: Cl	D Color: 2 EV	/ 7/0 liabt a	F
E					ostly fine to medium rtz, trace fines, trace		В	Classification: SI D50: 0.34	P Color: 2.5Y 162 mm % Fin	' //2-।।gnt ପ ıes: 1.2	gray E
Ė		· . · . ·		anu-sizeu quai nents, dense, It		٦		200. 0.0	,		E `
F		\cdots	o		. g. a.y (e.)						F
E											E
E		\cdots				Γ					E
l E											E
l E											E
l E							С	Classification:		5Y 8/1-whi	
E		\cdots						D50: 0.3	3258 mm % Fi	nes: 3	E-1
Ŀ		$ \cdots $									Ŀ
F		.∵.									F
l F		-::-				H					 F
F		· · ·									F
l E		$ \cdots $					D	Classification:		5Y 8/1-whi [.] ies: 1.6	te <u>E</u>
l E		-::-						D50. 0.30	70 HIII 70 FIII	ico. 1.0	Ė
-49.5 F 1	5.5	• • • •									
											F
l E			NOTES:								E
l E			1. Soils	s are field	visually classified in	,					E
F					ied Soils Classification						F
l E			System.								Ē
l E			2 NS =	Sample not su	ubmitted for laborator	,					Ė
l E				om this interval		,					F-2
l E			•								E
l E			3. Seafloo	or elevation cal	culated using sampling er depth reading and	g					Ę
l E					auge data conversion						E
<u> </u>			factor.	3	-						Ę
l E											Ę
l F											F
<u> </u>											-2
[E											E
		1									

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19813° Long = -88.33268°

Project

Mississippi Barrier Island Restoration Project

AMERICAN VIBRACORE RVICES

Core Identifier BI-PB-187-12

Coordinate System

Date 12/11/2012

Water Depth 33.7'

Latitude / Longitude

Start Time 09:17:37

Penetration 15.5'

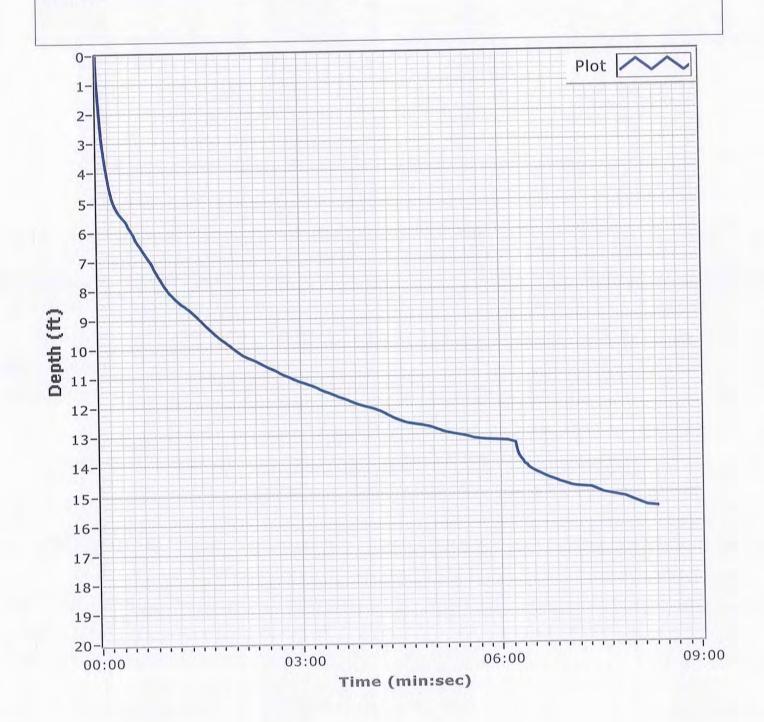
Latitude 33 11.888

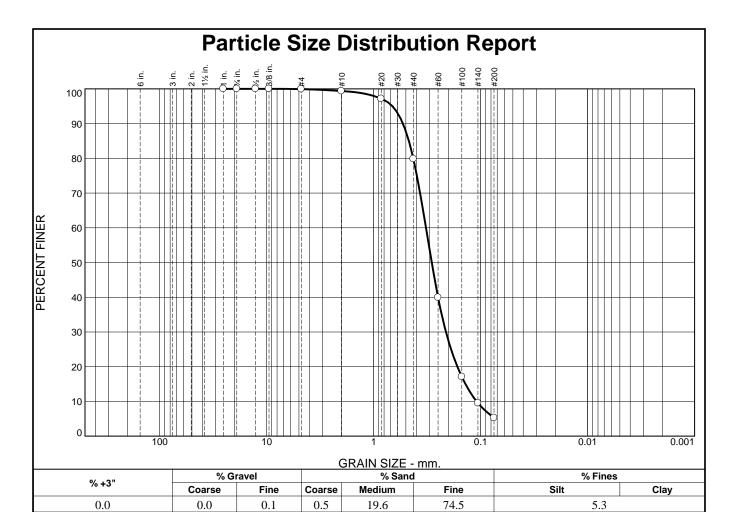
End Time 09:25:59 Total Time 00:08:22

Recovery 15.5'

Longitude 088 19.961

Comments





SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.4		
#20	97.2		
#40	79.8		
#60	39.9		
#100	17.1		
#140	9.5		
#200	5.3		

Material Description Fine to medium grained, SLIGHTLY SILTY SAND						
PL=	Atterberg Limits LL=	PI=				
D ₉₀ = 0.5330 D ₅₀ = 0.2865 D ₁₀ = 0.1091	$\begin{array}{c} \textbf{Coefficients} \\ \textbf{D_{85}} = 0.4687 \\ \textbf{D_{30}} = 0.2111 \\ \textbf{C_{u}} = 2.97 \end{array}$	D ₆₀ = 0.3244 D ₁₅ = 0.1387 C _c = 1.26				
USCS= SP-SM	Classification AASHTO)=				
	<u>Remarks</u>					

Location: BI-PB-187-12 A **Sample Number:** 6485 (17) **Depth:** 1.1' **Date:** 12/07/12

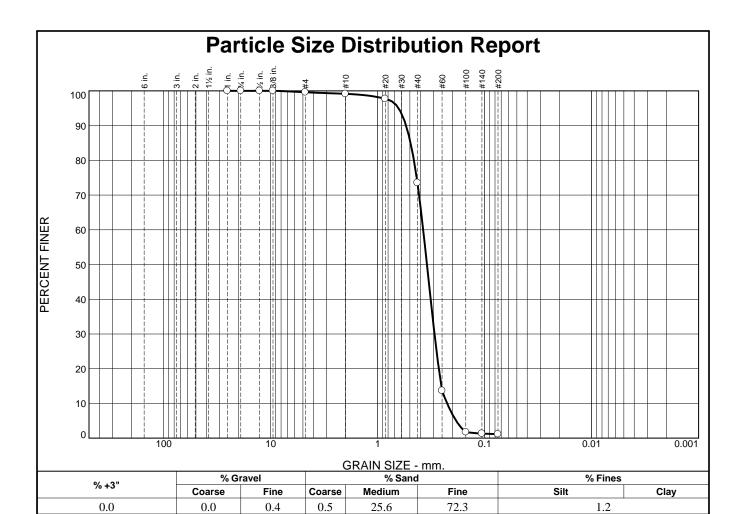
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.6		
#10	99.1		
#20	97.7		
#40	73.5		
#60	13.7		
#100	1.7		
#140	1.3		
#200	1.2		

Material Description Fine to medium grained, SAND					
PL=	Atterberg Limits	PI=			
D ₉₀ = 0.5422 D ₅₀ = 0.3462 D ₁₀ = 0.2241	Coefficients D ₈₅ = 0.4925 D ₃₀ = 0.2945 C _u = 1.68	D ₆₀ = 0.3755 D ₁₅ = 0.2541 C _c = 1.03			
USCS= SP	Classification AASHT	O=			
	<u>Remarks</u>				

Location: BI-PB-187-12 B **Sample Number:** 6485 (18) **Depth:** 2.2' **Date:** 12/07/12

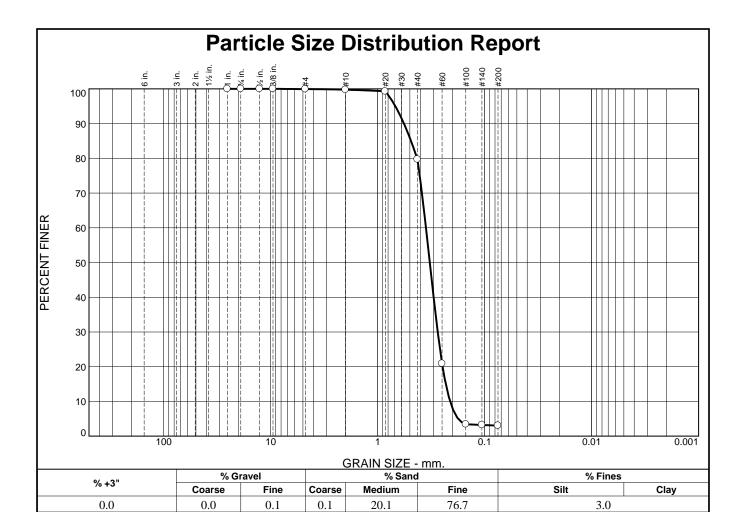
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
ſ	1	100.0		
	.75	100.0		
-	.5	100.0		
-	.375	100.0		
-	#4	99.9		
	#10	99.8		
-	#20	99.3		
	#40	79.7		
-	#60	20.9		
-	#100	3.4		
-	#140	3.2		
-	#200	3.0		
-				
-				
-				
-				
L	* ,			

Material Description Fine to medium grained, SAND					
PL=	Atterberg Limits	PI=			
D ₉₀ = 0.5681 D ₅₀ = 0.3258 D ₁₀ = 0.2103	Coefficients D ₈₅ = 0.4882 D ₃₀ = 0.2747 C _u = 1.68	D ₆₀ = 0.3537 D ₁₅ = 0.2309 C _c = 1.01			
USCS= SP	Classification AASHT	-O=			
	<u>Remarks</u>				

Location: BI-PB-187-12 C **Sample Number:** 6485 (19)

Sample Number: 6485 (19) Depth: 7.2' Date: 12/07/12

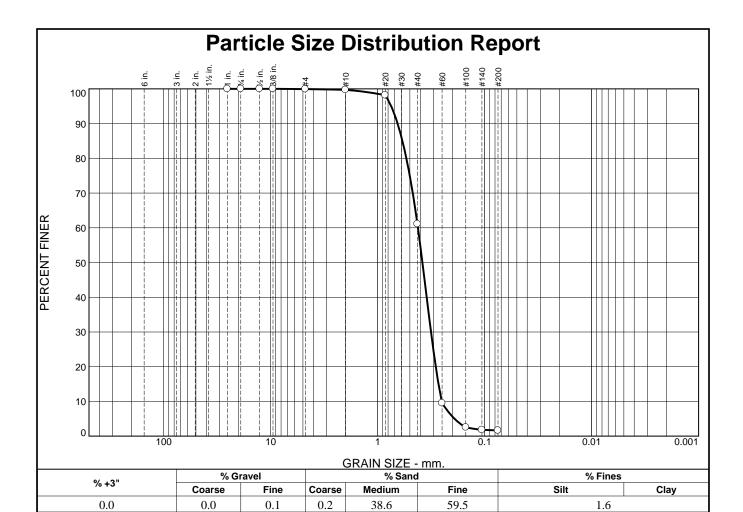
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	99.9		
#10	99.7		
#20	98.2		
#40	61.1		
#60	9.5		
#100	2.5		
#140	1.8		
#200	1.6		

Material Description Fine to medium grained, SAND										
PL=	Atterberg Limits LL=	PI=								
D ₉₀ = 0.6509 D ₅₀ = 0.3816 D ₁₀ = 0.2519	Coefficients D ₈₅ = 0.5868 D ₃₀ = 0.3174 C _u = 1.67	D ₆₀ = 0.4203 D ₁₅ = 0.2705 C _c = 0.95								
USCS= SP	Classification AASHT	-O=								
	<u>Remarks</u>									

Location: BI-PB-187-12 D **Sample Number:** 6485 (20) **Depth:** 12.2' **Date:** 12/07/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-189-12

DRI	LLING	LOG	DIVISIO				IN	STALLATI				SHEET	
			Sou	th Atlantic			\perp	Mobile Di				OF 1	SHEETS
1. PRO									TYPE OF BIT	N/A			
	AsCIP Barrie			ion			10		INATE SYSTEM/DATE	:		VERTIC	
	Petit Bois Pa			LOCATION C	COOPD	INATES	11		e Plane, MSE (U.S. ACTURER'S DESIGNA				√D88
	3I-PB-189-1		ļ			N = 253,269	- 1		acore	ATION OF DRILL	_	AUTO HAI MANUAL I	MMER HAMMER
	LING AGEN		l			RACTOR FILE N	10.			DISTURBED			BED (UD)
	Corps of Eng		- CESAM		<u> </u>		12	2. TOTAL	SAMPLES	!		0	
	IE OF DRILL						13	. TOTAL	NUMBER CORE BOX	ES			
	American Vil		Systems,			T=======	14	. WATER	DEPTH	36.4 Ft.			
\boxtimes	ECTION OF E VERTICAL INCLINED	BORING		DEG. FROI VERTICAL		BEARING	15	. DATE B	ORING	STARTED		COMPL	. ETED 11-12
	CKNESS OF	OVERBL	JRDEN	N/A		i	16	6. ELEVAT	TION TOP OF BORING				
7. DEP	TH DRILLED	INTO R	OCK	N/A			17	. TOTAL	RECOVERY FOR BOR	RING 100%			
							18	. SIGNAT	URE AND TITLE OF	INSPECTOR			
8. ТОТ	AL DEPTH O	F BORII	NG 15	5.6 Ft.				Mike	FitzHarris, Geolog	ist			
ELEV.	DEPTH	LEGEND	CI	LASSIFICATION	ON OF	MATERIALS		SAMPLE		LABORATORY RE	SULTS		
-36.4	0.0												
-37.9	- - 1.5		fine-grain	rganic-L, mo ed sand-siz s, brownish g	zeď q	lt, some clay, t uartz, trace : //L)	race shell						
			CLAY, f	at, mostly stiff, sandy	clay, lense	medium to s between 1.5	high and						-
	<u>E</u>		3.5 ft., gre	eenish gray	(CH)								Ė
	Ė												Ė.
	Ē												F-5
	-												į.
	Ė												E
	E							NO					F
	F							NS					F
	E												E
	Ę												E,
	F												- 1
	-												F
	Ė												Ē
	Ē												Ē
	E												E
	-												F
	E												<u> </u>
-52.0	15.6								1				F [*]
	E												E
	<u> </u>		NOTES:										Ę
	E		1. Soi	ls are fiel	d visı	ually classified	d in						E
	E		accordan	ce with the U	Jnified	Soils Classifica	ation						F
	F		System.										F
	E					nitted for labora	atory						E ₂
	Ę		analysis f	rom this inte	rval.								Į į
	F		3. Seaflo	or elevation	calcula	ated using sam	pling						F
	Ė		vessel's	fathometer v	water	depth reading	and						F
	Ė		applying factor.	NOAA tidal	gaug	e data conver	rsion						E_
	F		racioi.										F
	F												F
	E_												<u> </u>
	Ė												Ę
	F	1											F

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19548° Long = -88.33122°

Project

Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PB-189-12

Coordinate System

Latitude / Longitude

Date 12/11/2012

Water Depth 36.4'

Start Time 11:22:13

End Time 11:25:02

Total Time 00:02:49

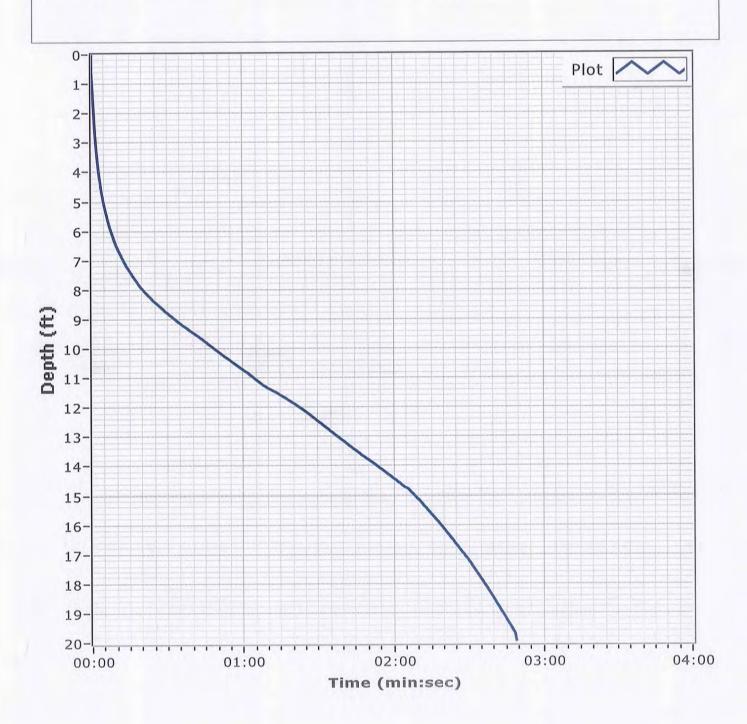
Penetration 20.0'

Recovery 15.5'

Latitude 33 11.729

Longitude 088 19.873

Comments



Boring Designation BI-PB-190-12

	DIVIS	ON		INS	STALLATIO	ON		SHEET 1
DRILLING LO	So	uth Atlantic			Mobile Di	strict		OF 2 SHEETS
1. PROJECT						TYPE OF BIT N/A		
MsCIP Barrier Is		ation		10.		NATE SYSTEM/DATUM	HORIZONT	: I
Petit Bois Pass-		LOCATION CO	CORDINATES	144		Plane, MSE (U.S. Ft.) ACTURER'S DESIGNATION	NAD83	
BI-PB-190-12	UN	1	,619 N = 253,730	11.	. MANUFA Vibra		OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY			CONTRACTOR FILE NO.	 _		¦ Di	STURBED	UNDISTURBED (UD)
Corps of Enginee	ers - CESAM	1		12.	. TOTAL S	SAMPLES		0
4. NAME OF DRILLER				13.	. TOTAL I	NUMBER CORE BOXES		
American Vibrac 5. DIRECTION OF BORI		•	BEARING	14.	. WATER	DEPTH	34.5 Ft.	
VERTICAL INCLINED		DEG. FROM VERTICAL)	15.	. DATE BO	DRING	STARTED 12-11-1	COMPLETED 12 12-11-12
6. THICKNESS OF OVE	RBURDEN	N/A		16.	. ELEVAT	ION TOP OF BORING	-34.7 Ft.	
7. DEPTH DRILLED INT	O BUCK	N/A		17.	. TOTAL I	RECOVERY FOR BORING	100%	
				18.	. SIGNAT	URE AND TITLE OF INSPE	CTOR	
8. TOTAL DEPTH OF BO	DRING 1	8.2 Ft.		Ц,	Mike	FitzHarris, Geologist		
ELEV. DEPTH		CLASSIFICATIO	N OF MATERIALS		SAMPLE	LABO	RATORY RES	BULTS
-34.7 0.0								-(
-36.1 = 1.4		ean, mostly o	clay, some fine-graine (CL)	ed	NS			[- -
-37.9 - 3.2	quartz,	silty, mostly some silt, t	fine-grained sand-size race clay, trace cla	ed ay	Α	Classification: SP-SN D50: 0.27		5Y 6/2-light olive gray Fines: 7.7
	SAND, prained	poorly-graded,	mostly fine to medium rtz, trace clay, trace cla y (SP)		В	Classification: D50: 0.30		r: 5Y 8/1-white Fines: 2.3
-45.0 = 10.3					С	Classification: 9 D50: 0.28		: 2.5Y 8/1-white Fines: 2.7
-52.4 - 17.7	sized sa	at, mostly clay, nd, trace shel sticity, greenish	trace fine-grained sand I fragments, medium t gray (CH)	d- co	NS			
-52.9 = 18.2 /// ₂ / ₂	∖ quartz,	clayey, mostly some clay, gray (SC)	fine-grained sand-size trace shell fragments	ed s,				
	accordar System. 2. NS analysis 3. Seafl	bils are field noe with the Ur = Sample not from this intervoor elevation c	visually classified in ified Soils Classification submitted for laborator val. alculated using sampling ter depth reading and	n Ty				

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19675° Long = -88.33203°

Boring Designation BI-PB-190-12

DRILLING	LO	G (Cont. Sheet)		INSTALLATION SHEET 2 Mobile District OF 2 SHEET						
ROJECT		•		Mobile District OF 2 S COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, MSE (U.S. Ft.) NAD83 NAVD88						
MsCIP Barrier	Island	Restoration								
CATION COOR				N TOP OF BO		10.200	13.1200			
X = 1,142,619			-34.7 F							
LEV. DEPTH		CLASSIFICATION OF MAT	•	SAMPLE		LABORATORY RE	ESULTS			
LEV. DEPTH	LEGEND	applying NOAA tidal gauge of factor.		SAMPLE		LABORATORY RE	ESULTS			

SAM FORM 1836 - MsCIP MAY 2010 Lat = 30.19675° Long = -88.33203°

Project

Mississippi Barrier Island Restoration Project

AVS
AMERICAN VIBRACORE
S E R V I C E S

Core Identifier BI-PB-190-12

Coordinate System

Latitude / Longitude

Date 12/11/2012

Water Depth 34.5'

Start Time 10:08:03

End Time 10:12:19

Total Time 00:04:16

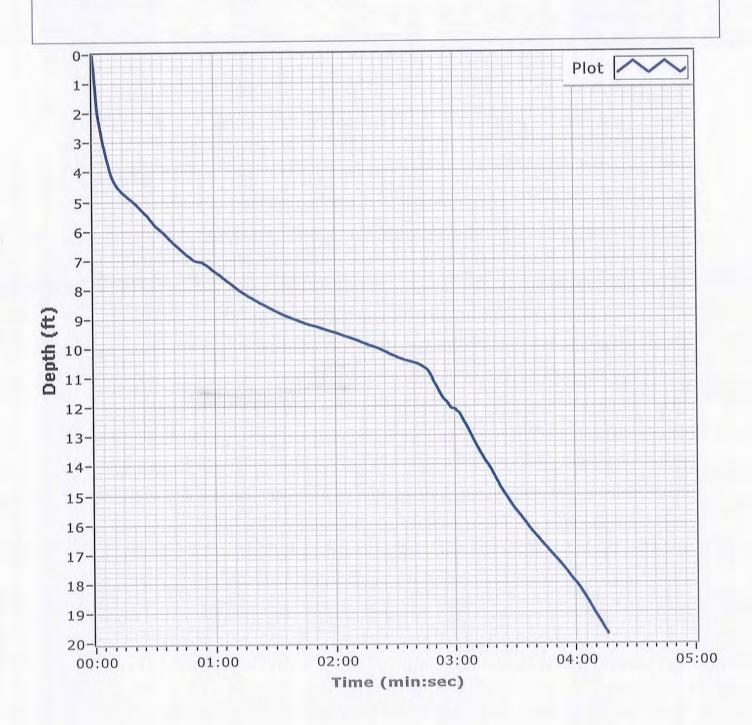
Penetration 19.8'

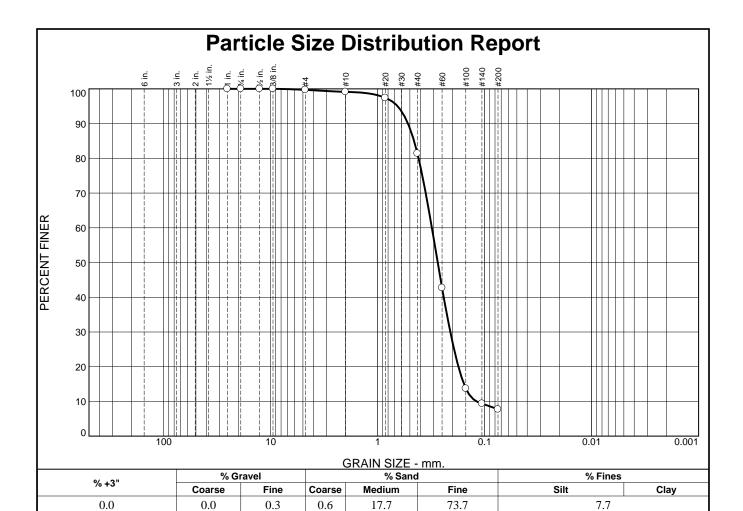
Recovery 18.2'

Latitude 33 11.805

Longitude 088 19.922

Comments





PERCENT	SPEC.*	PASS?
FINER	PERCENT	(X=NO)
100.0		
100.0		
100.0		
100.0		
99.7		
99.1		
97.4		
81.4		
42.7		
13.7		
9.4		
7.7		
	FINER 100.0 100.0 100.0 100.0 99.7 99.1 97.4 81.4 42.7 13.7 9.4	FINER PERCENT 100.0 100.0 100.0 100.0 99.7 99.1 97.4 81.4 42.7 13.7 9.4

Material Description Fine to medium grained, SLIGHTLY SILTY SAND											
PL=	Atterberg Limits LL=	PI=									
D ₉₀ = 0.5208 D ₅₀ = 0.2746 D ₁₀ = 0.1191	Coefficients D ₈₅ = 0.4570 D ₃₀ = 0.2093 C _u = 2.62	D ₆₀ = 0.3116 D ₁₅ = 0.1562 C _c = 1.18									
USCS= SP-SM	Classification AASHTO	D=									
	<u>Remarks</u>										

Location: BI-PB-190-12 A **Sample Number:** 6485 (21)

Sample Number: 6485 (21) Depth: 1.4' Date: 12/07/12

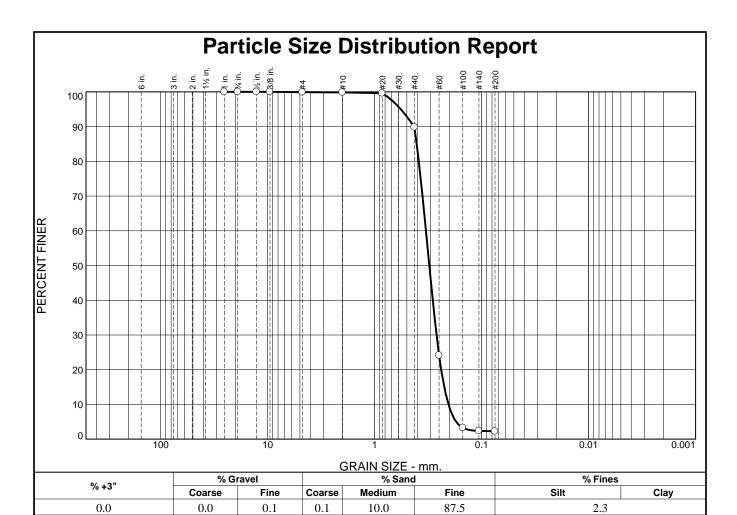
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



				_	
SIEVE	PERCENT	SPEC.*	PASS?		
SIZE	FINER	PERCENT	(X=NO)		Fine
1	100.0				
.75	100.0				
.5	100.0				
.375	100.0				PL=
#4	99.9				FL=
#10	99.8				
#20	99.6				D ₉₀ :
#40	89.8				D ₉₀ : D ₅₀ :
#60	24.1				D ₁₀ :
#100	3.3				
#140	2.4				USC
#200	2.3				000

Fine to medium	Material Description Fine to medium grained, SAND											
PL=	Atterberg Limits LL=	PI=										
D ₉₀ = 0.4290 D ₅₀ = 0.3087 D ₁₀ = 0.2044	Coefficients D ₈₅ = 0.4046 D ₃₀ = 0.2642 C _u = 1.62	D ₆₀ = 0.3318 D ₁₅ = 0.2237 C _c = 1.03										
USCS= SP	<u>Classification</u> AASHT	O=										
	<u>Remarks</u>											

Location: BI-PB-190-12 B **Sample Number:** 6485 (22) **Date:** 12/07/12**Depth:** 3.2'

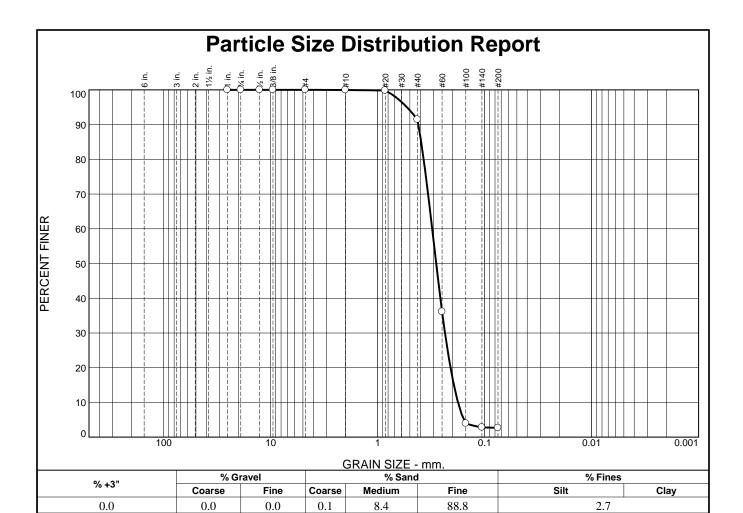
Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
#4	100.0		
#10	99.9		
#20	99.8		
#40	91.5		
#60	36.1		
#100	4.0		
#140	2.8		
#200	2.7		

Material Description Fine grained, SAND											
PL=	Atterberg Limits LL=	PI=									
D ₉₀ = 0.4165 D ₅₀ = 0.2838 D ₁₀ = 0.1777	D ₈₅ = 0.3919 D ₃₀ = 0.2348 C _u = 1.74	D ₆₀ = 0.3094 D ₁₅ = 0.1940 C _c = 1.00									
USCS= SP	Classification AASHT	O=									
	<u>Remarks</u>										

Location: BI-PB-190-12 C **Sample Number:** 6485 (23) **Depth:** 8.2' **Date:** 12/07/12

Thompson Engineering

Client: CDM/Thompson Engineering JV

Project: MsCIP Barrier Island Restoration GT

Mobile, Alabama

Project No: 1221110095

Boring Designation BI-PB-191-12

DRILLIN	G LO	G	DIVISION				- 1	TALLATIO				SHEET	
1. PROJECT		-	South	Atlantic			-	Mobile Dis				OF 1	SHEETS
	arrier lel	and E	Restoratio	n					NATE SYSTEM/DATUM	HORIZO	ITAL	VERTIC	AL
Petit Bois							'3'		Plane, MSE (U.S. Ft.)	1		1	/D88
2. BORING DES				OCATION C	COORD	INATES	11.		ACTURER'S DESIGNATION			UTO HAI	
BI-PB-19			<u> i i </u>	E = 1,14		N = 253,725		Vibra				MANUAL I	
3. DRILLING A		rc C	ECVM		CONT	TRACTOR FILE NO		TOTAL S		DISTURBED	UI	NDISTUR 0	BED (UD)
Corps of 4. NAME OF DR		15 - C	ESAIVI		<u>i </u>		13	TOTAL B	NUMBER CORE BOXES			0	
Americar	n Vibraco	ore Sy	stems, In	C.			-	WATER		0405			
5. DIRECTION		NG	ļ	DEG. FROI VERTICAL	M	BEARING	14.	WATER	DEPIH	34.8 Ft.		COMPL	ETED
□ VERTICA □ INCLINE						!	15.	DATE BO	DRING	12-11		i	11-12
6. THICKNESS	OF OVER	RBURI	DEN	N/A			16.	ELEVAT	ION TOP OF BORING	-34.9 Ft.			
7. DEPTH DRIL	I ED INT	n Por	K N	/Λ			17.	TOTAL F	RECOVERY FOR BORING	100%			
7. DEPTH DRIE	LED IN I	O ROC					18.	SIGNAT	URE AND TITLE OF INSF	PECTOR			
8. TOTAL DEPT	H OF BO	RING	15.8	3 Ft.			<u> </u>	Mike	FitzHarris, Geologist				
ELEV. DEPT	H FEEND		CLA	SSIFICATION	ON OF	MATERIALS		SAMPLE	LAB	ORATORY RI	ESULTS		
-34.9 0.0													
 		SI	LT, inorga	anic-L, mo	ostly s	ilt, little fine-grair	ned						Ę
-36.2 <u>-</u> 1.3		Ц sa	nd-sized 1L)	quartz, tr	ace c	ay, brownish g	ray /						F
F		_ <u>_</u>	,				-/						F
E		Cl	_AY, fat, ı zed quart:	mostly clay z trace sh	y, trace nell fra	e fine-grained sa gments, medium	nd- n to						E.
E		hiç	gh plastici	ty, stiff, gr	eenish	gray (CH)							E
F													F
F													F-5
E.		1											E
F F													Ē
F													F
 		1						NS					F
<u>E</u>													Ē.
E E		4											Ē,
F		2											F-1
<u> </u>													F
E		1											Ė
E													Ē
E													F
F													F
-50.3 = 15.4													<u> </u>
-50.3 = 15.4 -50.7 <u>=</u> 15.8		4	WID '			analis e d e d d							
F		\SA	anu, clay artz. soi	/ey, mostl∖ me clav	y tine- trace	-grained sand-siz e shell fragmer	zea / nts. /						F
 		\gr	eenish gra	ay (SC)	0.00								F
<u> </u>													Ę
E		N	OTES:										ŧ
F		1.	Soils	are field	d vis	ually classified	in						F
 		ac	cordance	with the U	Jnified	Soils Classificat	ion						-2
l E		Sy	stem.										E
<u> </u> -				Sample no m this inte		nitted for laborat	ory						<u> </u>
		3	Seafloor	elevation	calcul	ated using sampl	_{ina}						į.
E		ve	ssel's fat	thometer v	water	depth reading a	and						Ė
l È			plying Notion	OAA tidal	gaug	ge data convers	ion						E
l E		l la	CiOi .										<u>-2</u>
[E													E

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Lat = 30.19673° Long = -88.33047°