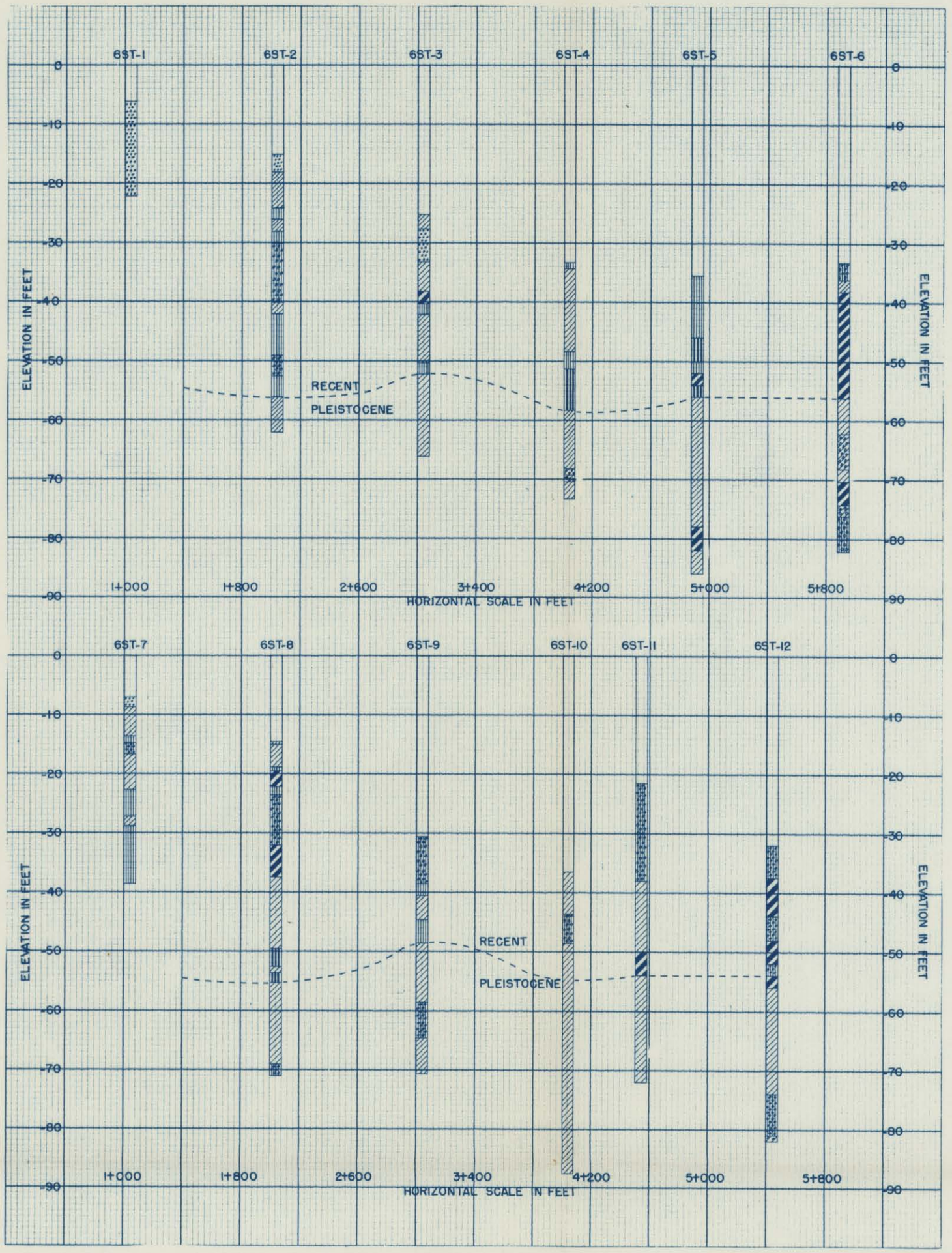


LEGEND

- WATER
- POORLY-GRADED SANDS
- SILTY SANDS
- CLAYEY SANDS
- INORGANIC SILTS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
- INORGANIC SILTS OR ELASTIC SILTS
- LEAN CLAYS, SILTY CLAYS, & SANDY CLAYS
- FAT CLAYS OF HIGH PLASTICITY

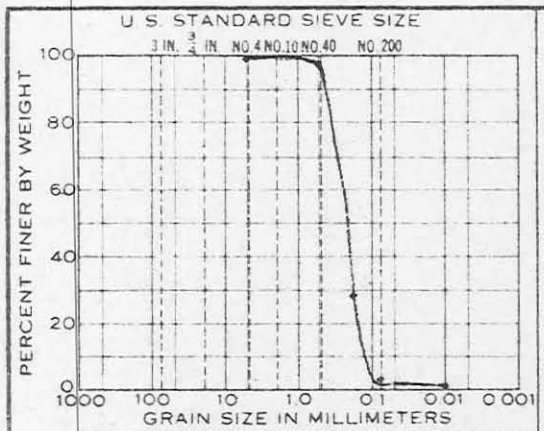
RECENT

RECENT-PLEISTOCENE CONTACT, FAIR CORRELATIONS

PLEISTOCENE

OFFICE OF THE DISTRICT ENGINEER
U.S. ARMY ENGINEER DISTRICT, GALVESTON
CORPS OF ENGINEERS
GALVESTON, TEXAS

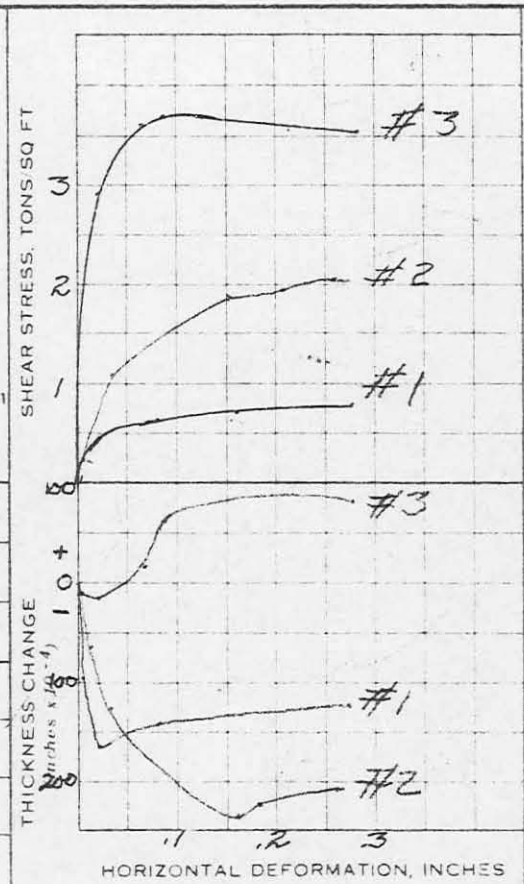
DRAWN BY: M.D.S.	PORT ISABEL, TEXAS
GEOLOGY BY: M.D.S.	BRAZOS ISLAND HARBOR JETTIES
CHECKED BY: R.E.M.	GEOLOGIC CROSS SECTIONS
SUBMITTED BY: Ralph E. Mercier CHIEF, GEOLOGY SUB-SECTION	
CHIEF, FDN. & MTLS. BRANCH	CHIEF ENGINEERING DIVISION
	DATE 3 JAN. 1963
	SCALE: AS SHOWN
	SPEC. DATE
	DRAWING NUMBER
	PLATE NO. 2
	FILE NO.

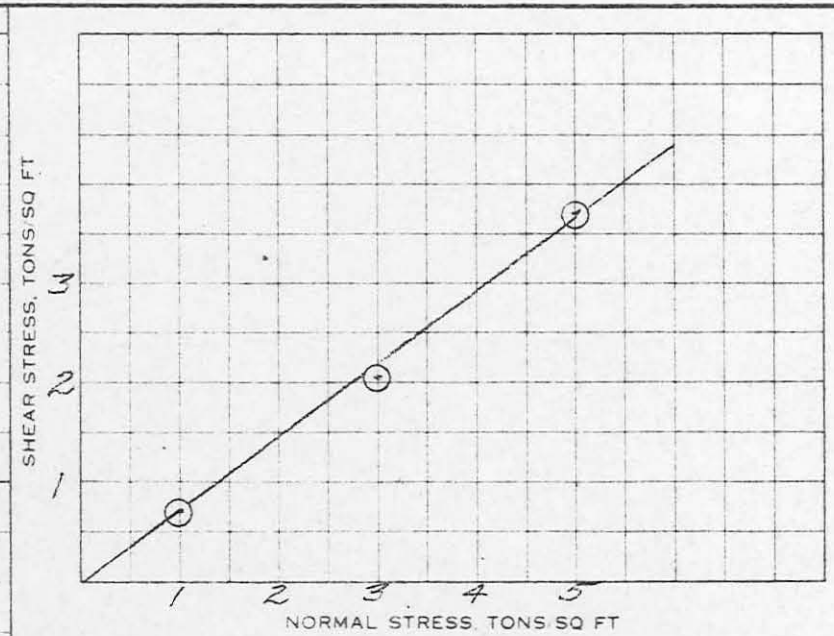


Classification: Gray, sand (SP)

LL	G
PL	D_{10}

Test No.	1	2	3
Initial Water Content, W_0 %	—	—	—
Dry Density Lbs/Cu Ft	100.2	100.2	103.4
Void Ratio, e_0			
Saturation, S_0 %			
Duration of Test (to τ)	240'	370	210'
WC after Test, W_f %	—	—	—
Normal Stress, σ T/Sq Ft	1	3	5
Max. Shear Stress, τ T/Sq Ft	.71	2.02	3.72





Remarks: sample puddled in shear ring

Type of Test	Type of Specimen
strain - Control Rate .001 in/min	Remolded
Consolidated	3 in. square
Drained	.75 in. thickness

SHEAR VALUES	Ø	TAN Ø	C, T/SQ FT
Maximum	36.65	.744	0.0
Ultimate			

Project: BRAZOS ISLAND HARBOR JETTY.

Area: Composite Sample

Boring No. 65T-2, 7 & 8 | Sample No.

Elev or Depth | Date: NOV 1962

DIRECT SHEAR TEST REPORT

Plate No. 17 DLE 945

ENG FORM 1 FEB 58 2092 (TRANSLUCENT) (EM 1110-2-1803)

Brazos Island Harbor Jetty

TEST DATA SUMMARY

Sheet ____ of ____

FEATURE Log of Soil Boring

BORING NO.	SAMPLE NO.	DEPTH OR ELEV OF SAMPLE	LABORATORY CLASSIFICATION	MECHANICAL ANALYSIS GRAVEL %	SAND %	FINES %	D_{10}*	ATTERBERG LIMITS LL	*PL*	SPECIFIC GRAVITY G	NATURAL WATER CONTENT %	NATURAL DRY DENSITY LBS/CU FT	COMPACTION DATA OPTIMUM WATER %	MAXIMUM DRY DENSITY LBS/CU FT	SHEAR DATA INITIAL e	DRY DENSITY LBS/CU FT	W_i %	W_F %	S_i %	TYPE TEST	SPECIMEN SIZE INCHES	TEST	σ_{III} T/SQ FT	σ_I T/SQ FT	C T/SQ FT	Ø DEGREES	PERMEABILITY e	K FT/MIN	CONSOLIDATION DATA P_o T/SQ FT	P_c T/SQ FT	C_c	t_{50}*	REMARKS
6ST-62-8	S	0.0											Water																				
		17.0																															
	6301	Top 0.5'	SP	0	97	3			0.0		27.2		Grayish Tan Sand (SP)																				
	6302	Bottom 1.5'	CL	0	13	87	0.25	43.9	13.0		43.3		Gray Clay (CL) Soft							Soft													
		19.0									(41)																						
	6303		Same as 6302	CL							38.8		Gray Clay (CL)																				
		21.0																															
	Top 0.3'										30.9																						
	6304		ML	0	0	100	1.25	34.7	6.0	Avg.	32.0	89.2	Lt. Brown Silt (ML)																				
	Bottom 0.7'										33.1																						
		22.0																															
	6305		CH	0	0	100	1.75	57.4	15.0		33.1	87.0	Lt. Brown Clay (CH) Stiff																				
		24.0									(28)																						
	Top 0.6'										23.1																						
	6306		ML	0	25	75	1.0		0.5	Avg.	29.6	98.0	Grayish Brown Sand (ML)																				
	Bottom 1.4'										(36.2)									Silt													
		26.0																															
	6307		Same as 6308								32.2		Gray Silty Sand (SM) Very Dense																				29/28.0-29.0
		27.5																															
	S												Washed Driller's classification: Same as Above.																				
		29.0									(33)																						
	S												Washed Driller's classification: Same as Above.																				
	6308	33.0	SM	0	69	31			1.5		35.3		Gray Silty Sand (SM) Very Dense																				31/33.5-34.5'
		34.5																															
	S												Driller's classification: Same as Below.																				
		36.0																															
	6309		Same as 6305	CH			0.50				47.8	74.5	Brown Clay (CH) Medium																				
		38.0									(40)																						
	6310		Same as 6305	CH			0.25				34.3	87.4	Brown Clay (CH) Soft to Medium																				
		40.0																															
	6311		CL	0	7	93	0.50	29.5	7.0		44.9	76.9	Gray Clay (CL) Medium																				
		42.0																															
	6312		Same as 6311				0.50				33.8	85.0	Gray Clay (CL) Medium																				
		44.0																															
	6313		Same as 6311				0.75				39.3	83.8	Gray Clay (CL) Medium																				
		46.0																															
	6314		CL	0	3	97	1.0	46.2	12.0		36.2	84.2	Gray Clay (CL) Stiff	Medium to Stiff																			
		48.0																															
	6315	Top 1.5'	Same as 6314				1.75				28.1	95.1	Gray Clay (CL) Stiff																				
	6316	Bottom 0.5'	Same as 6314.								29.4		Gray Clay (CL)																				
		50.0																															
	6317		Same as 6314				0.50				29.5	93.5	Gray Clay (CL)																				
		52.0																															
	6318		MH	0	0	100	0.75	60.2	16.0		45.0	82.3	Gray & Greenish Silt (MH)	Medium																			
		54.0																															

* Values at Pressure T/SQ FT

- Triaxial Compression
UC - Unconfined Compression
DS - Direct Shear
UU - Unconsolidated Undrained
- Consolidated Drained
CU - Consolidated Undrained

26.75
25.00
25.75
1.75

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Brazos Island Harbor Jetty

TEST DATA SUMMARY

Sheet ____ of ____

FEATURE Log of Soil Boring

BORING NO.	SAMPLE NO.	DEPTH OR ELEV OF SAMPLE	LABORATORY CLASSIFICATION	MECHANICAL ANALYSIS: GRAVEL %	SAND %	FINES %	D_{10}*	ATTERBERG LIMITS: LL	PI*	SPECIFIC GRAVITY G	NATURAL WATER CONTENT %	NATURAL DRY DENSITY LBS/CU FT	COMPACTION DATA: OPTIMUM WATER %	MAXIMUM DRY DENSITY LBS/CU FT	SHEAR DATA: INITIAL e	DRY DENSITY LBS/CU FT	W_i %	W_f %	S_i %	TYPE TEST	SPECIMEN SIZE INCHES	TEST	σ_m T/SQ FT	σ_1 T/SQ FT	C T/SQ FT	Ø DEGREES	PERMEABILITY: e	K FT/MIN	CONSOLIDATION DATA: P_o T/SQ FT	P_c T/SQ FT	C_c	t_{50}*	REMARKS
GST-62-8	Top 6319	54.0 1.0'	Same as CL	6318 0	MH 24	76	0.75	40.3	12.5	Avg.	30.9 32.7 (33.1)	87.0	Dark Gray Sandy Clay (CL) Medium																				
	Bottom 6320	1.0' 56.0	Same as	6318	MH		1.75				25.2	99.6	Gray & Greenish Silt (MH) stiff																				
	6321	58.0	CL	0	26	74	2.75	37.7	13.0		24.1 (23)	102.4	Gray Sandy Clay (CL) Very Stiff																				
	6322	60.0	Same as	6321	CL		2.50				22.0	106.6	Gray Sandy Clay (CL) Very Stiff																				
	6323	62.0	CL	0	30	70	0.75		10.0		26.5	95.5	Lt. Gray Sandy Clay (CL) Medium																				
	6324	64.0	Same as	6323	CL		1.50	43.9	13.5		17.2 (21)	107.4	Lt. Gray Sandy Clay (CL) Stiff																				
	6325	66.0	Same as	6323	CL		1.50	37.0	10.5	(22)	18.8	108.7	Lt Gray Sandy Clay (CL) Stiff																				
	6326	68.0	CL	0	39	61	4.0	33.4	10.5		19.1 (20)	107.0	Lt. Gray Sandy Clay (CL) Hard																				
	Top 6327	70.0 1.5'	Same as	6326	CL		4.5+				20.3	111.2	Gray & Lt. Brown Sandy Clay (CL) Hard																				
	Bottom 6328	0.5' 72.0 73.5	Same as	6326	CL																												
	6328		SM	0	77	23			1.0		20.6		Gray & Brown Silty Sand (SM) Very Dense																			78/72.5-73.5'
													Bottomed In Above																				

stiff to Hard

* Values at Pressure T/SQ FT

- Triaxial Compression
UC - Unconfined Compression
DS - Direct Shear
UU - Unconsolidated Undrained
- Consolidated Drained
CU - Consolidated Undrained

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