BUFFALO BAYOU, TEXAS
BRAYS BAYOU CHANNEL RECTIFICATION

TABLE 2

SHEAR TEST DATA
ON UNDISTURBED FOUNDATION MATERIAL

Hole No.	Sample Depth Ft.	Density Data M.C. %	Density Data UDW #/cf	Shear Data Maximum Ø	Shear Data Maximum C	Shear Data Ultimate Ø	Shear Data Ultimate C	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Bar L.S.	Sieve Analysis Gr	Sieve Analysis Sa	Sieve Analysis Fines	Classification
CONSOLIDATED UNDRAINED DIRECT SHEAR TESTS															
6ST-6	34.5-36.5	12.2	113.9	24.1	0.60	24.1	0.60	22	14	8	5	0	13	87	Tan to Gray Clay, CL, Firm
6ST-6	11.5-13.0	16.7	110.2	24.2	0.53	24.2	0.53	26	18	8	5	0	37	63	Gray to Brown Sandy Clay,CL
6ST-8	19.0-20.5	12.9	118.1	30.3°	0.55	29.8	0.25	28	11	17	9	1	20	79	Tan Sandy Clay, CL, Firm
6ST-9	30.5-32.0	14.8	118.2	33.1	0.30	32.6	0.10	-	-	-					Tan Sandy Clay,CL,Firm to Hard
6ST-17	23.0-24.0	17.0	112.9	22.5°	0.70	17.4	0.60	39	15	24	14	0	11	89	Gray Sandy Clay,CL,Plastic to Stiff
6ST-22	14.5-16.5	23.4	102.1	21.8	0.55	16.6	0.51	44	20	24	14	0	6	94	Rust Clay,CL, Stiff to Hard
6ST-38	28.0-30.0	22.9	103.6	30.7	0.35	28.9	0.00	58	20	38	19	0	1	99	Red Clay,CH, Plastic to Stiff
6ST-8	6.5-8.0	26.1	97.1	24.3°	0.50	18.1	0.50	59	22	37	23	0	2	98	Tan Clay,CH,Stiff to Hard
CONSOLIDATED DRAINED DIRECT SHEAR TESTS															
6ST-49	26.0-27.0	18.0	109.6	36.5	0.00	33.3	0.00	-	-	-	0	0	90	10	Gray Sand,SP,Soft,Watery
6ST-61	17.5-20.5	6.0	95.0	33.0	0.00	32.6	0.00	-	-	-	1.5	0	80	20	Rust-Tan Sand-Silty Sand,SP
6ST-6	36.6-41.0	20.3	109.0	31.4	0.10	29.7	0.10	23	16	7	5	0	33	67	Gray Sandy Clay, CL-ML
6ST-27	15.7-17.0	15.3	113.0	33.0	0.10	30.0	0.00	24	14	10	5	0	49	51	Lt.Brown,Sandy Clay, CL
6ST-43	14.5-16.0	10.9	117.0	29.6	0.00	29.6	0.00	24	13	11	7	0	47	53	Yellowish-Brown Sandy Clay, CL
6ST-47	15.0-16.5	19.4	110.3	38.0	0.00	32.3	0.00	24	13	11	10	0	37	63	Tan Sandy Clay, CL
6ST-3	31.0-32.5	20.2	108.0	33.2	0.10	30.5	0.00	27	18	9	6	0	12	88	Red Clay, CL
6ST-5	36.0-37.1	22.9	104.0	34.2	0.20	32.2	0.00	27	17	10	5	0	10	90	Red Clay, CL
6ST-61	8.0-9.5	11.1	111.7	24.6	0.16	24.6	0.13	27	12	15	-	0	39	61	Lt. Gray Sandy Clay, CL

CHANNEL RECTIFICATION

BRAYS BAYOU

TEST DATA SUMMARY

FEATURE LOG OF SOIL BORINGS

TABLE 1

BORING NO.	SAMPLE NO.	DEPTH OR ELEV. OF SAMPLE	MECHANICAL ANALYSIS GRAVEL %	SAND %	FINES %	%	ATTERBERG LIMITS LL	PL	BAR L. S. %	NATURAL WATER CONTENT %	NATURAL DRY DENSITY LBS./CU.FT.	LABORATORY CLASSIFICATION
GST-42 (Cont)	57-202	29.0				4.5+				17.8	113.0	L, Cl(CL) St-Hd, Cal.Mod.
		30.5										
	203					4.0				18.0	113.3	L, Cl(CL) St-Hd, Cal.Mod.
		32.0										
	204					4.5+				15.2	118.7	L, Cl(CL) St-Hd, Cal.Mod.
		33.5										
	205		0	14	86	4.5+	36.5		15.0	16.1	117.1	L, Cl(CL) St-Hd, Cal.Mod.
		35.0										
		Bottomed at 35.0' in L, Cl(CL) St-Hd. No Water Encountered										
GST-43	57-206	0.0										
		2.0	0	24 (23)	76	3.25	42.7		15.0	17.6 (18)	103.4	Br, SaCl(CL) Hd. Fill
	207		0	27	73	2.00	39.9 (38)		17.0 (16)	23.4	100.2 (102)	G, SaCl(CL), St. Veg.
		4.0										
	208		0	19	81	4.5+	31.4		9.0	13.4	104.0	Br, Cl(CL), Hd., Sa Seams
		5.5										
	209		0	17 (13)	83	4.5+	60.9 (58)		24.0	21.1	103.5 (105)	D, Cl(CH), Hd. Veg.
		7.0										
	210		0	9	91	4.5+	55.0		24.0	21.2	105.8	G, Cl(CH), Hd. Ferr. Cal. Con
		8.5										
	211		0	18	82	2.9	41.7		17.0	15.4 (16)	110.7 (113)	L, Cl(CL), St-Hd, Ferr. Cal. Con
		10.0										
	212					4.5+				14.9	116.4	L, Cl(CL), St-Hd, Ferr. Cal. Con
		11.5										
	213					4.5				14.8	113.0	L, SaCl(CL), Pl-St. Ferr.
		13.0										
	214		0	48	52		20.1		5.0	8.9		L, SaCl(CL) Pl-St Ferr.
		14.5										
	215		0	40 (44)	60	4.5+	21.0		4.0	9.4 (8)	116.5 (114)	L-T, SaCl(CL-ML), So.
		16.0										
	216					3.8				9.7	117.9	L, SaCl(CL), Pl-St.
		17.5										
	217									3.3		L-T, SaCl(CL-ML), So
		23.5										
	218		0	27 (35)	73	3.0	32.5 (28)		15.0 (11)	18.0 (21)	110.8 (111)	D-T, SaCl(CL), St-Hd
		25.0										
	219		0	41	59		23.8		7.0	23.3		L, SaCl(CL), So, Silt Pockets
		30.5										
	220					3.2				17.7	115.5	R-L, Cl(CH), St-Hd. Cal. Conc
		32.0										
	221		0	(8)	92	3.1	50.8 (51)		20.0	22.1 (20)	108.0 (112)	R-L, Cl(CH), St-Hd, Cal. Conc.
		33.5										
	222					4.0				19.5	111.2	R-L, Cl(CH), St-Hd. Cal. Conc.
		35.0										

BOTTOMED AT 35.0' IN R-L, Cl(CH), St-Hd. Cal. Conc.
No Water Encountered

* Laboratory Penetrometer Reading

DLR 627 ADD 5

TABLE No. 1

TEST DATA SUMMARY

SWDGL Report No 4219

FEATURE Channel Rectification

Brays Bayou

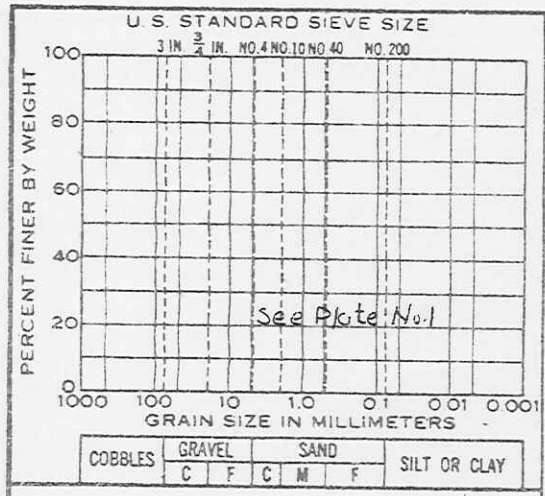
BORING NO. 6ST-	SAMPLE NO. X-	DEPTH OR ELEV OF SAMPLE	LABORATORY CLASSIFICATION	MECHANICAL ANALYSIS: GRAVEL %	SAND %	FINES %	D_{10}	ATTERBERG LIMITS: LL	PL	SPECIFIC GRAVITY G	NATURAL WATER CONTENT %	NATURAL DRY DENSITY LBS CU FT	COMPACTION DATA: OPTIMUM WATER %	MAXIMUM DRY DENSITY LBS CU FT	SHEAR DATA: 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 LS
40	9821	7.5-9.0	CH	0	11	89		56	15	2.67	21.0	108																					21
				Light olive-brown clay, hard consistency											.512	110	17.9	20.9	93	T-CU	1.4x3.5	1	1.5	5.20	–	–							
															.521	110	18.3	20.2	99	"	1.4x3.6	2	6.0	11.06							
															.531	109	19.9	23.3	96	"	1.4x3.6	3	3.0	5.62							
															.518	110	18.7	17.9	96	"	1.4x3.6	4	3.0	10.66							
															.563	111	18.8	18.1	100	"	1.4x3.6	5	6.0	13.18							
	9822	9.0-10.5	CH								17.2	113																					
				Light brownish-gray and olive clay; few small calcareous nodules; few yellowish-brown streaks, hard consistency																													
	9823	10.5-12.0	CH								15.0	118																					
				Light brownish-gray clay, hard consistency																													
43	9824	14.5-16.0	CL	0	47	53		24	13	2.67	12.0	116																					7
				Marbled yellowish-brown, gray and white sandy clay, hard consistency											.428	117	10.2	16.6	64	DS-CD	3x3x0.5	1			0.0	29.6 (Max.)							
															.428	117	11.3	16.4	71	"	"	2											
															.426	117	11.1	15.5	70	"	"	3											
	9825	16.0-17.5	SC								14.5	111																					
				Gray and light gray clayey sand, very stiff to hard consistency.																													
45	9826	22.0-23.0	CH	0	2	98		71	19	2.75	26.4	101																					23
															.737	99	26.4	31.9	99	T-CU	1.4x3.6	1	1.5	3.34	0.5	7.8							
															.737	99	26.4	29.8	99	"	1.4x3.6	2	3.0	5.56							
															.731	99	26.3	28.9	99	"	1.4x3.6	3	6.0	8.94							
	9827	23.0-24.0	CH								23.2	105																					
	9828	24.0-25.0	CH								24.2	105																					
	9829	25.5-26.5	CH								19.2	107																					
				Red and light grayish brown clay, few thin lenses and irregular deposits of calcareous material, hard consistency																													

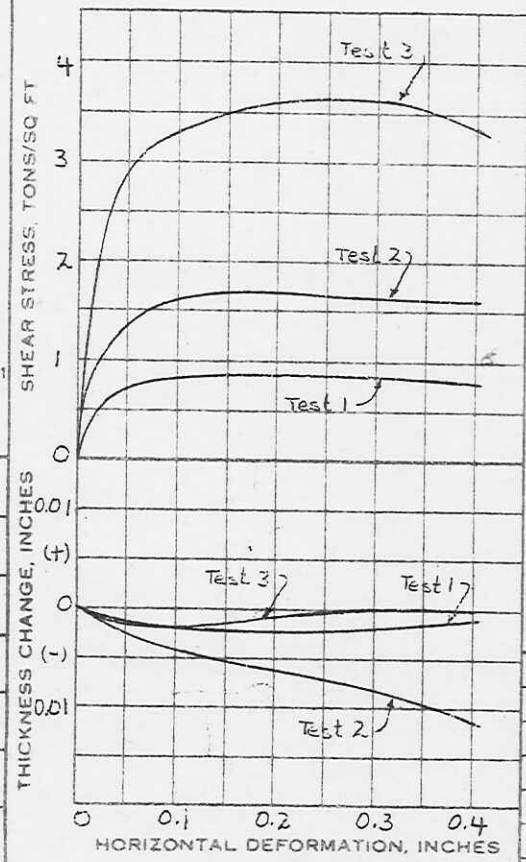
* Values at Pressure T/SQ FT

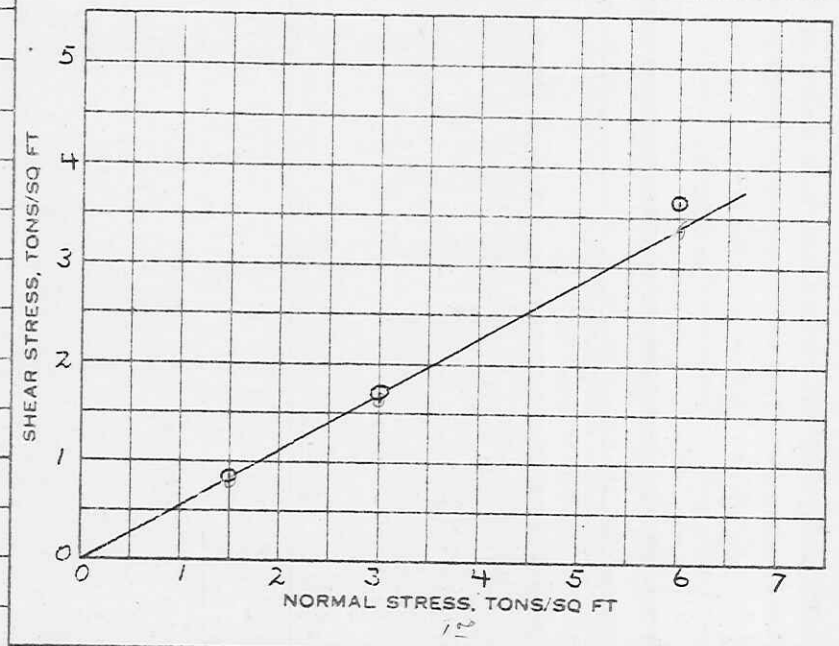
T - Triaxial Compression
UC - Unconfined Compression

DS - Direct Shear
UU - Unconsolidated Undrained

– Consolidated Drained
CU – Consolidated Undrained







Classification	Sandy Clay (CL)		
LL	24	G	2.67
PL	13	D_{10}	
Test No.	PI = 11	1	2	3
Initial Water Content, W_0 %		10.2	11.3	11.1
Dry Density Lbs/Cu Ft		117	117	117
Void Ratio, e_0		.428	.428	.426
Saturation, S_0 %		64	71	70
Duration of Test		179'	203'	319'
WC after Test, W_F %		16.6	16.4	15.5
Normal Stress, σ T/Sq Ft		1.5	3.0	6.0
Max. Shear Stress, τ T/Sq Ft		0.84	1.69	3.66

Remarks:

Type of Test	Type of Specimen
Strain – Control Rate = 0.001 in/min	Undisturbed
X Consolidated	3.0 in. square
Drained	0.5 in. thickness

SHEAR VALUES	Ø	TAN Ø	C, T/SQ FT
Maximum	29.6	.567	0.0
Ultimate	29.6	.567	0.0

Project	Brays Bayou Channel Rectification		
Area	Galveston District		
Boring No.	6ST-43	Sample No.	X-9824
Elev or Depth	14.5-16.0	Date	23 April 1957

DIRECT SHEAR TEST REPORT

Plate No. 2

SWDGL Report No. 4219

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