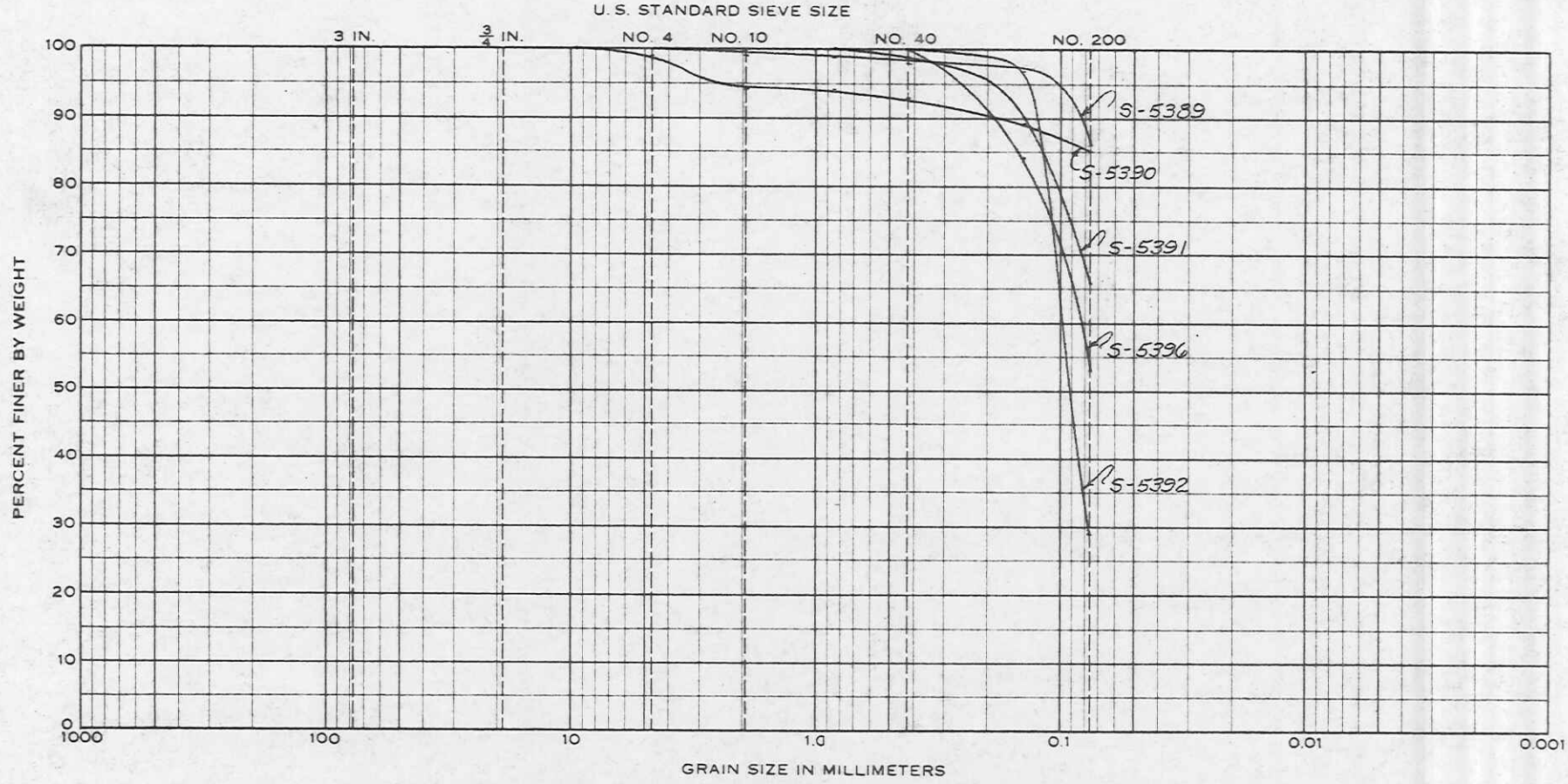
TEST DATA SUMMARY

SWDGL REPORT NO. 7276 — FEATURE FOUNDATION MATERIAL — Trinity River - Lock & Dam Site No. 6

BORING NO.	SAM. NO.	DEPTH OR ELEV. OF SAMPLE	LABORATORY CLASSIFICATION	MECHANICAL ANALYSIS: GRAVEL %	SAND %	FINES %	D_{10}	ATTERBERG LIMITS: LL	PL	SPECIFIC GRAVITY G	NAT. WATER CONT. %	NATURAL DRY DENSITY LBS/CU FT	COMPACTION DATA: OPT. WATER %	MAXIMUM DRY DENSITY LBS/CU FT	SHEAR DATA: INITIAL e	DRY DENSITY LBS/CU FT	W_1 %	W_F %	S_1 %	TYPE TEST	SPECIMEN SIZE INCHES	TEST	σ_m T/SQ FT	σ_1 T/SQ FT	c T/SQ FT	ϕ DEGREES	PERMEABILITY: e	K FT/MIN.	CONSOLIDATION DATA: P_O T/SQ FT	P_C T/SQ FT	C_C	t_{50} *	REMARKS
65T-6-2																																	
S-5389		12.0 - 14.0	CH	0	14	86		57	14	2.66	22.9	100			.630	102	21.8	23.3	92	DS-S	3 x 3 x 0.5	1			0.1	21.1							LS=19
				Dark gray CLAY, stiff.											.636	102	21.7	22.4	91	"	"	2											
															.633	102	21.6	21.2	91	"	"	3											
S-5390		16.0 - 18.0	CH	0	15	85		53	16	2.65	19.5	107																		0.19		LS=18
				Dark gray CLAY, hard, few calcareous nodules.																													
S-5391		18.0 - 20.0	CL	0	34	66		40	13		16.8	112				112	16.8			UC	5.1 x 8.7		0.0	3.4								LS=13
				Dark brown Sandy CLAY, very stiff.																													
S-5392		51.0 - 53.0	SC	0	71	29					23.7	99				99	23.7			UC	5.7 x 9.8		0.0	5.5								LS=4
				Dark gray Clayey SAND, hard, slightly cemented.																													
S-5393		62.0 - 63.0	SANDSTONE w/SHALE								12.0	110																					
				Gray SANDSTONE with dark gray SHALE layers from 1/4" to 2" thick, separated, not suitable for unconfined compression test.																													
S-5394		77.0 - 79.5	SHALE								38.8	81				81	38.8			UC	5.9 x 9.3		0.0	7.1									
				Green SHALE, silt layers from 1/16" to 1/4" thick.																													
S-5395		93.0 - 94.5	SHALE								32.0	88				88	32.0			UC	5.8 x 9.5		0.0	6.1									
				Grayish-brown SHALE, silt layers from 1/8" to 1/4", horizontal and vertical fractures.																													

ENG FORM 1 MAR 57 2086 PREVIOUS EDITIONS MAY BE USED

Triaxial Compression: UC – Unconfined Compression; DS – Direct Shear; UU – Unconsolidate Undrained; S – Consolidated Drained; CU – Consolidated Undrained; * Values at Pressure; T/SQ FT



COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Sample No.	~~Elev or~~ Depth	Classification	Nat WC	LL	PL	PI	LS	Hole No.
S-5389	12.0 - 14.0	Clay (CH)	22.9	57	14	43	19	65T-6-2
S-5390	16.0 - 18.0	Clay (CH)	19.5	53	16	37	18	"
S-5391	18.0 - 20.0	Sandy Clay (CL)	16.8	40	13	27	13	"
S-5392	51.0 - 53.0	Clayey Sand (SC)	23.7	—	—	—	4	"
S-5396	4.0 - 6.0	Sandy Clay (CL)	17.7	34	11	23	10	65T-6-3

GRADATION CURVES

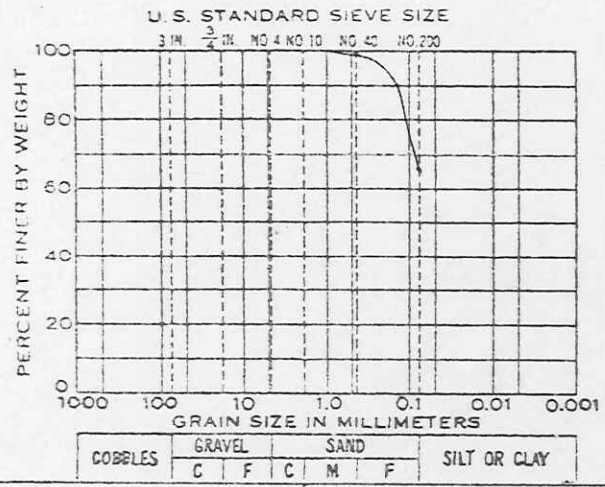
Project: Trinity River Lock & Dam Site No. 6
FOUNDATION MATERIAL
Area: GALVESTON DISTRICT
~~Boring No.~~
Date: OCT 1961

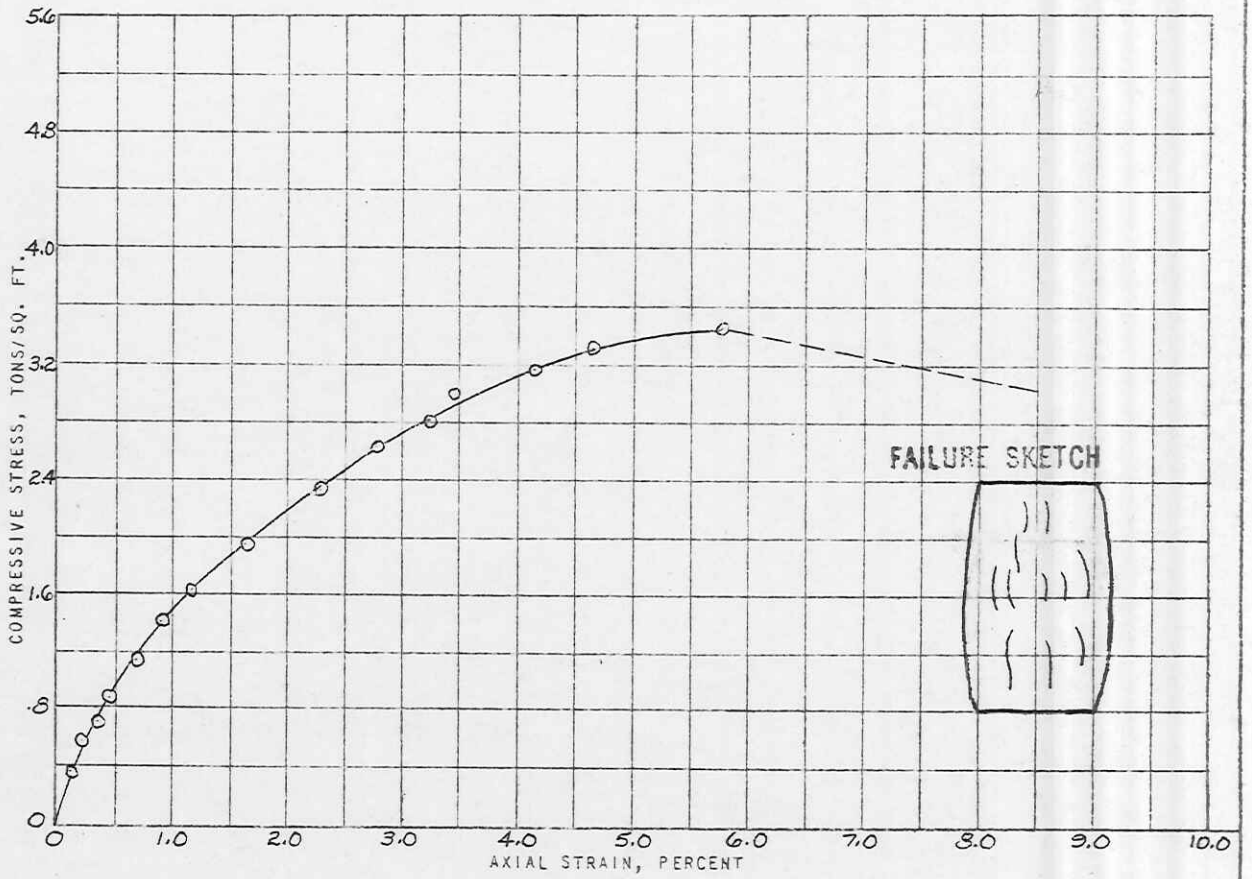
PLATE NO. 1

SWDGL REPORT NO. 7276

ENG FORM 1 DEC 51 2087

SWD FORM 558-C
REV 10 MAR 52





LL 40	G
PL 13	D_{10}
X UNDISTURBED	REMOLDED

WATER CONTENT, W_o %	16.8
DRY DENSITY LBS./CU.FT.	112
VOID RATIO e_o	
SATURATION, S_o %	
UNCONFINED COMP. STRENGTH q_u TONS/SQ.FT.	3.5
X q_u ADJUSTED, A.S.T.M. C42-44 TONS/SQ.FT.	3.4
SPECIMEN DIAMETER INCHES	5.1
SPECIMEN HEIGHT INCHES	8.7

Stress - CONTROL 120 lbs/min.

REMARKS:

PROJECT Trinity River - Lock & Dam Site No.6 FOUNDATION MATERIAL

AREA GALVESTON DISTRICT

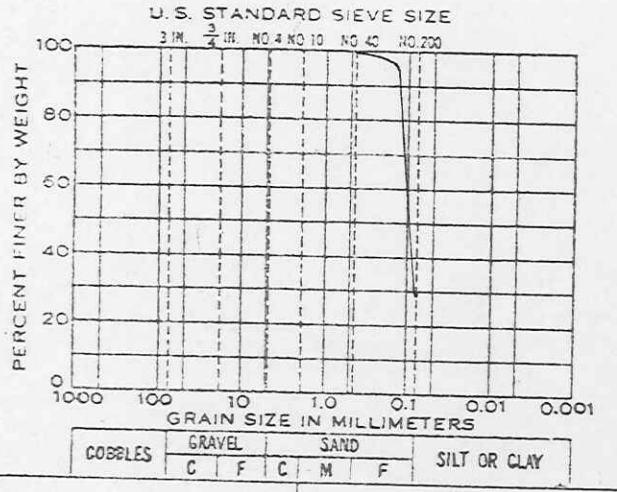
BORING NO. 6ST-6-2 SAMPLE NO. S-5391 ~~ELEV OR~~ DEPTH 18.0-20.0 DATE OCT 196

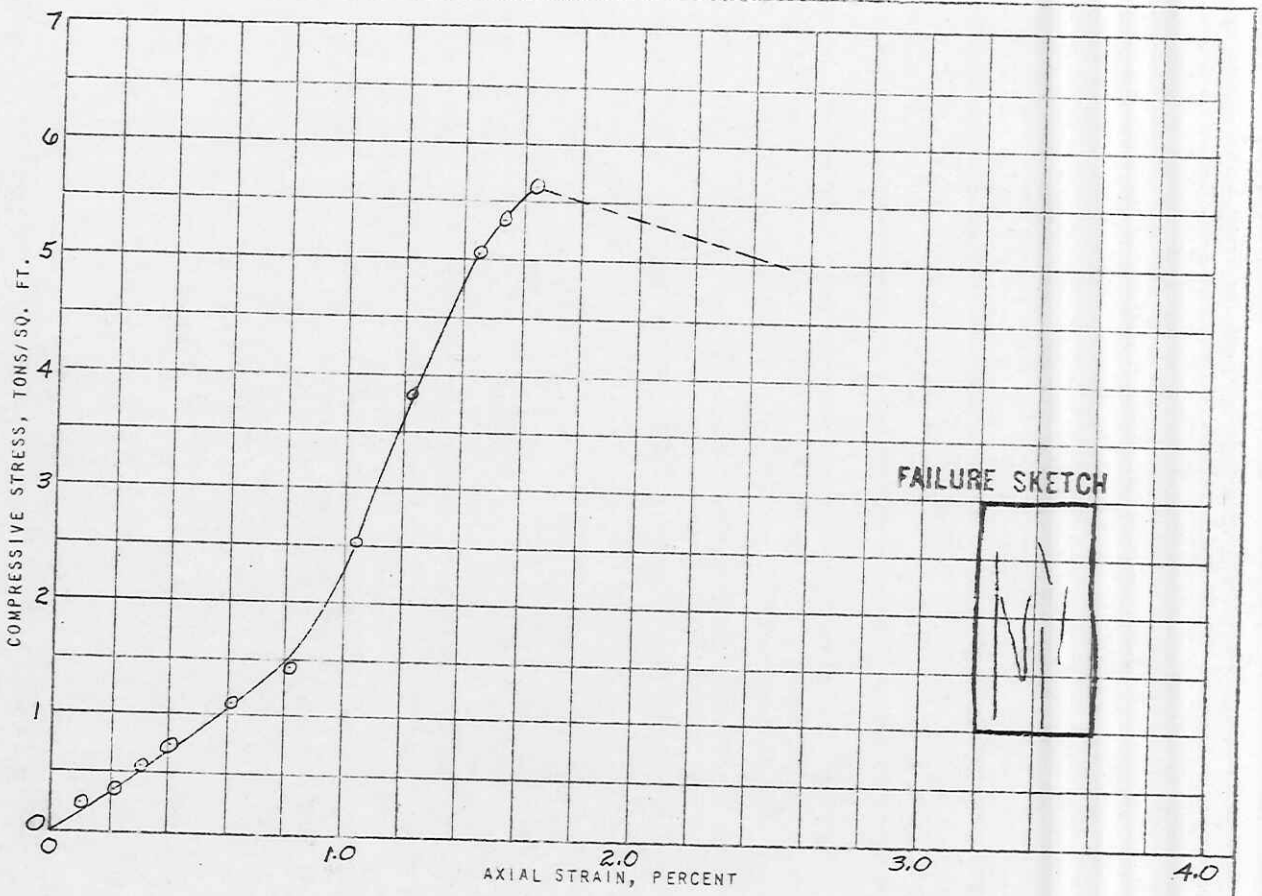
UNCONFINED COMPRESSION TEST

PLATE NO. 3

SWDCL REPORT NO. 7276

SWD FORM 558-C
REV 10 MAR 52





LL		G	
PL		D_{10}	
X	UNDISTURBED		REMOLDED
WATER CONTENT, W_o	%		23.7
DRY DENSITY	LBS./CU. FT.		99
VOID RATIO e_o			
SATURATION, S_o	%		
UNCONFINED COMP. STRENGTH q_u	TONS/SQ. FT.		5.6
X	q_u ADJUSTED, A.S.T.M. C42-44	TONS/SQ. FT.	5.5
SPECIMEN DIAMETER	INCHES		5.7
SPECIMEN HEIGHT	INCHES		9.8

Stress - CONTROL 60 lbs/min.

REMARKS:

PROJECT Trinity River - Lock & Dam Site No. 6 FOUNDATION MATERIAL

AREA GALVESTON DISTRICT

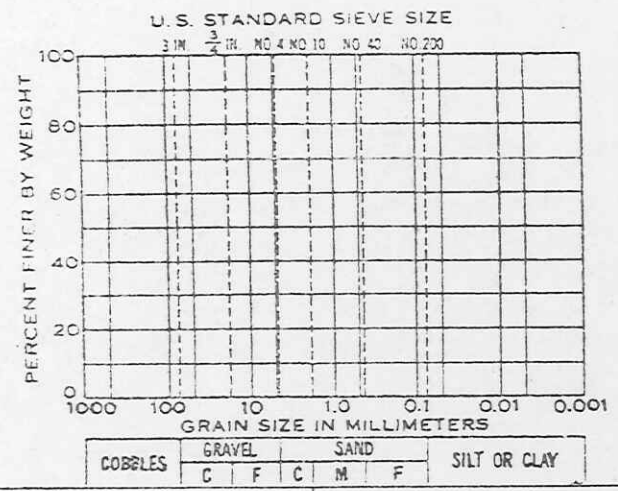
BORING NO. 6ST-6-2 | SAMPLE NO. S-5392 | ~~ELEV. OR~~ DEPTH 51.0-53.0 | DATE OCT 196

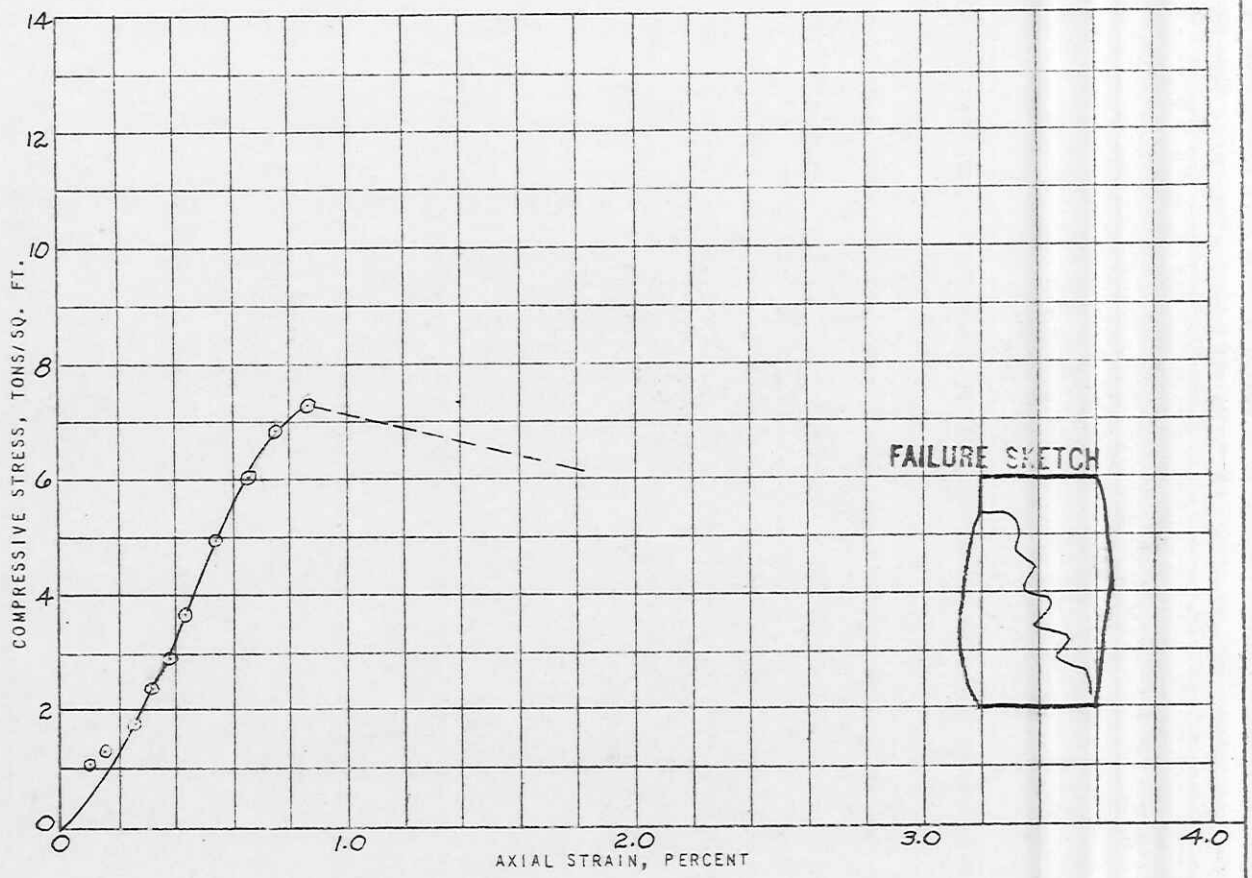
UNCONFINED COMPRESSION TEST

PLATE NO. 4

SWDGL REPORT NO. 7276

SWD FORM 558-C
REV 10 MAR 52





LL		G	
PL		D_{10}	
X	UNDISTURBED		REMOLDED

WATER CONTENT, W_o	%	38.8
DRY DENSITY	LBS./CU.FT.	81
VOID RATIO e_o		
SATURATION, S_o	%	
UNCONFINED COMP. STRENGTH q_u	TONS/SQ.FT.	7.3
X q_u ADJUSTED, A.S.T.M. C42-44	TONS/SQ.FT.	7.1
SPECIMEN DIAMETER	INCHES	5.9
SPECIMEN HEIGHT	INCHES	9.3
Stress - CONTROL 1200 lbs/min		

REMARKS:

PROJECT Trinity River - Lock & Dam Site No.6 FOUNDATION MATERIAL

AREA GALVESTON DISTRICT

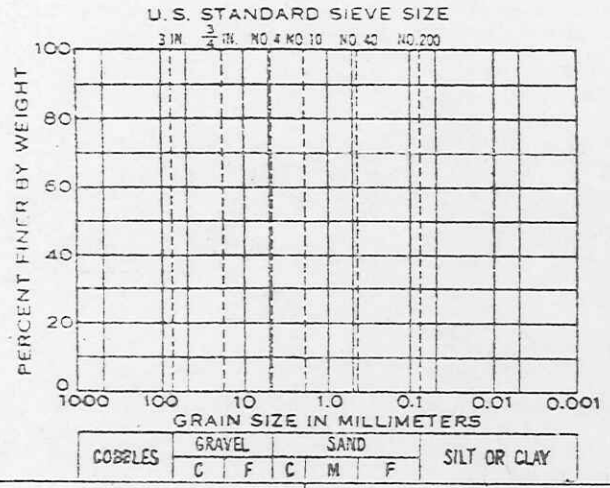
BORING NO. GST-6-2 | SAMPLE NO. S-5394 | ~~ELEV. OR~~ DEPTH 77.0-79.5 | DATE OCT 1961

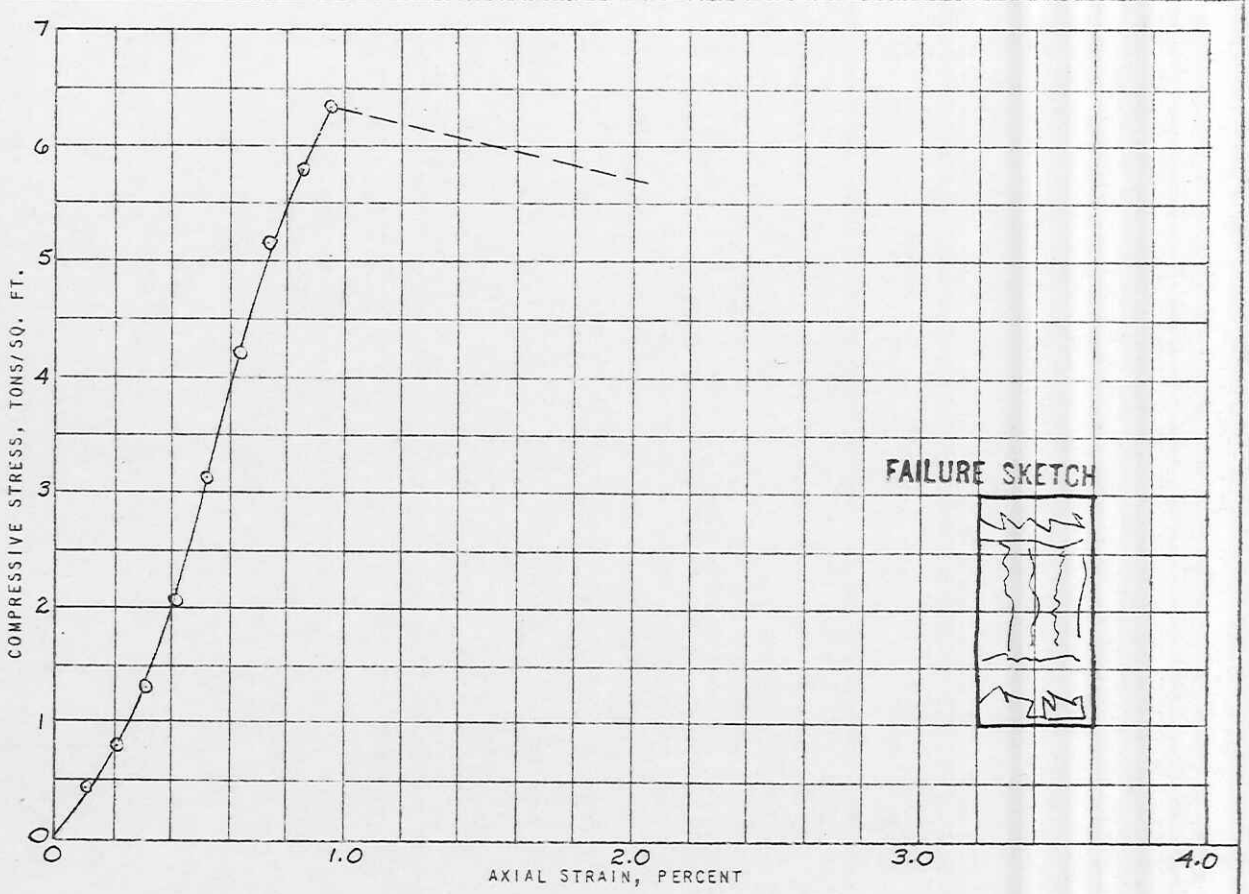
UNCONFINED COMPRESSION TEST

PLATE NO. 5

SWDGL REPORT NO. 7276

SWD FORM 558-C
REV 10 MAR 52





LL		G	
PL		D_{10}	
X	UNDISTURBED		REMOLDED
WATER CONTENT, W_o	%		32.0
DRY DENSITY	LBS./CU.FT.		88
VOID RATIO e_o			
SATURATION, S_o	%		
UNCONFINED COMP. STRENGTH q_u	TONS/SQ.FT.		6.3
X	q_u ADJUSTED, A.S.T.M. C42-44	TONS/SQ.FT.	6.1
SPECIMEN DIAMETER	INCHES		5.8
SPECIMEN HEIGHT	INCHES		9.5
Stress - CONTROL 1200 lbs/min.			

REMARKS:

PROJECT Trinity River - Lock & Dam Site No. 6 FOUNDATION MATERIAL

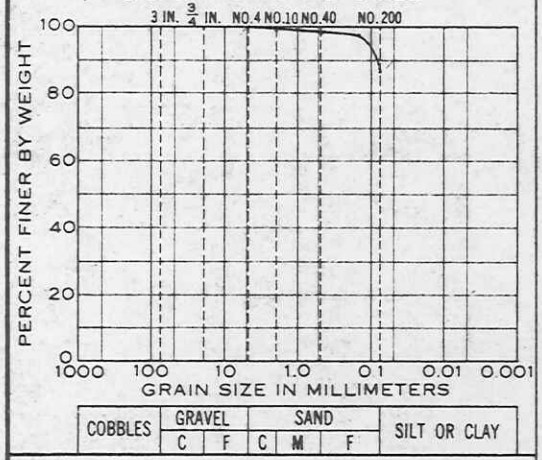
AREA GALVESTON DISTRICT

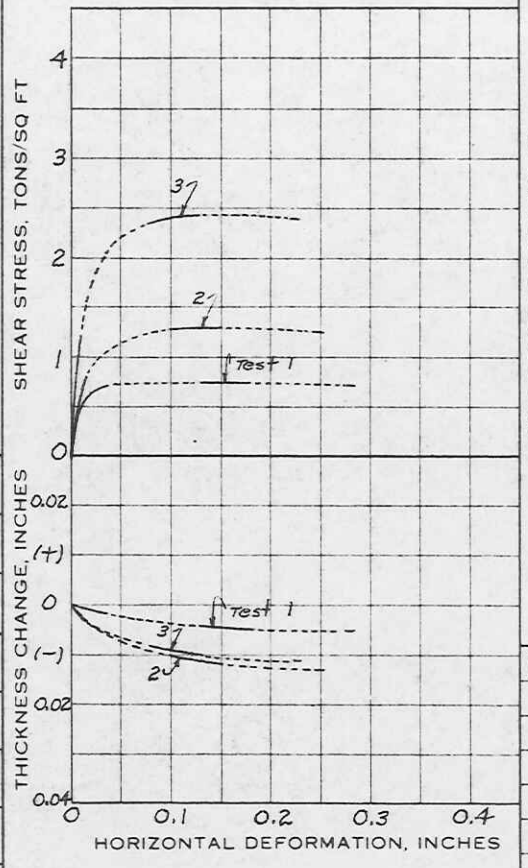
BORING NO. GST-6-2 | SAMPLE NO. S-5395 | ~~ELEV. OR~~ DEPTH 93.0-94.5 | DATE OCT 1961

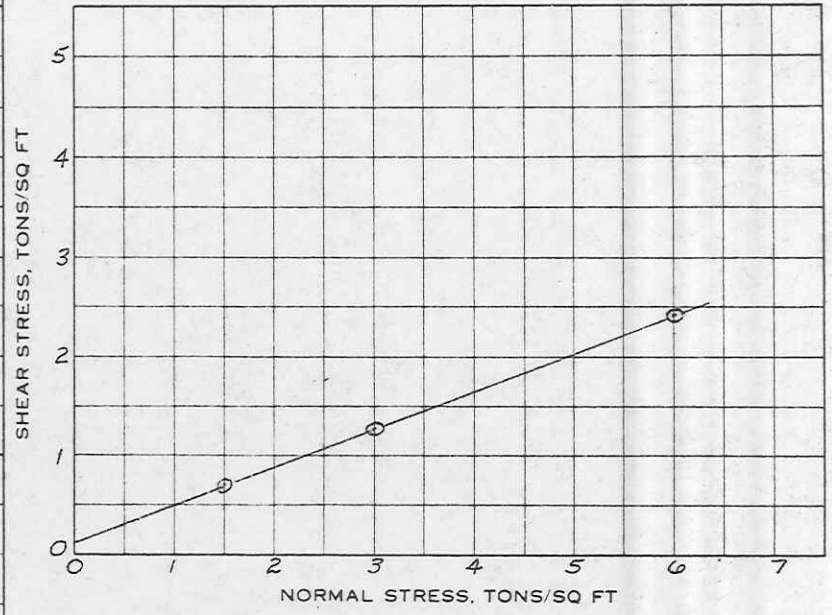
UNCONFINED COMPRESSION TEST

PLATE NO. 6

SWD CIL REPORT NO. 72-76







Classification: Clay (CH)

LL 57 | G 2.66

PL 14 | D_{10}

Test No.	1	2	3
Initial Water Content, W_0 %	21.8	21.7	21.6
Dry Density Lbs/Cu Ft	102	102	102
Void Ratio, e_0	.630	.636	.633
Saturation, S_0 %	92	91	91
Duration of Test (to t_f)	1000'	1700'	1700'
WC after Test, W_f %	23.3	22.4	21.2
Normal Stress, σ T/Sq Ft	1.5	3.0	6.0
Max. Shear Stress, τ T/Sq Ft	0.70	1.29	2.44
t_{50}, min.	—	—	20

Type of Test – S
Strain – Control, Rate, 0.0001 "/min
X Consolidated
x Drained

Type of Specimen
UNDISTURBED
3.0 in. square
0.5 in. thickness

SHEAR VALUES	Ø	TAN Ø	C, T/SQ FT
Maximum	21.1	.387	0.1
Ultimate			

Remarks:
S test

Project: Trinity River - Lock & Dam Site No. 6
FOUNDATION MATERIAL
Area: GALVESTON DISTRICT
Boring No. 65T-6-2 | Sample No. S-5389
Elev or Depth 12.0-14.0 | Date OCT 1961

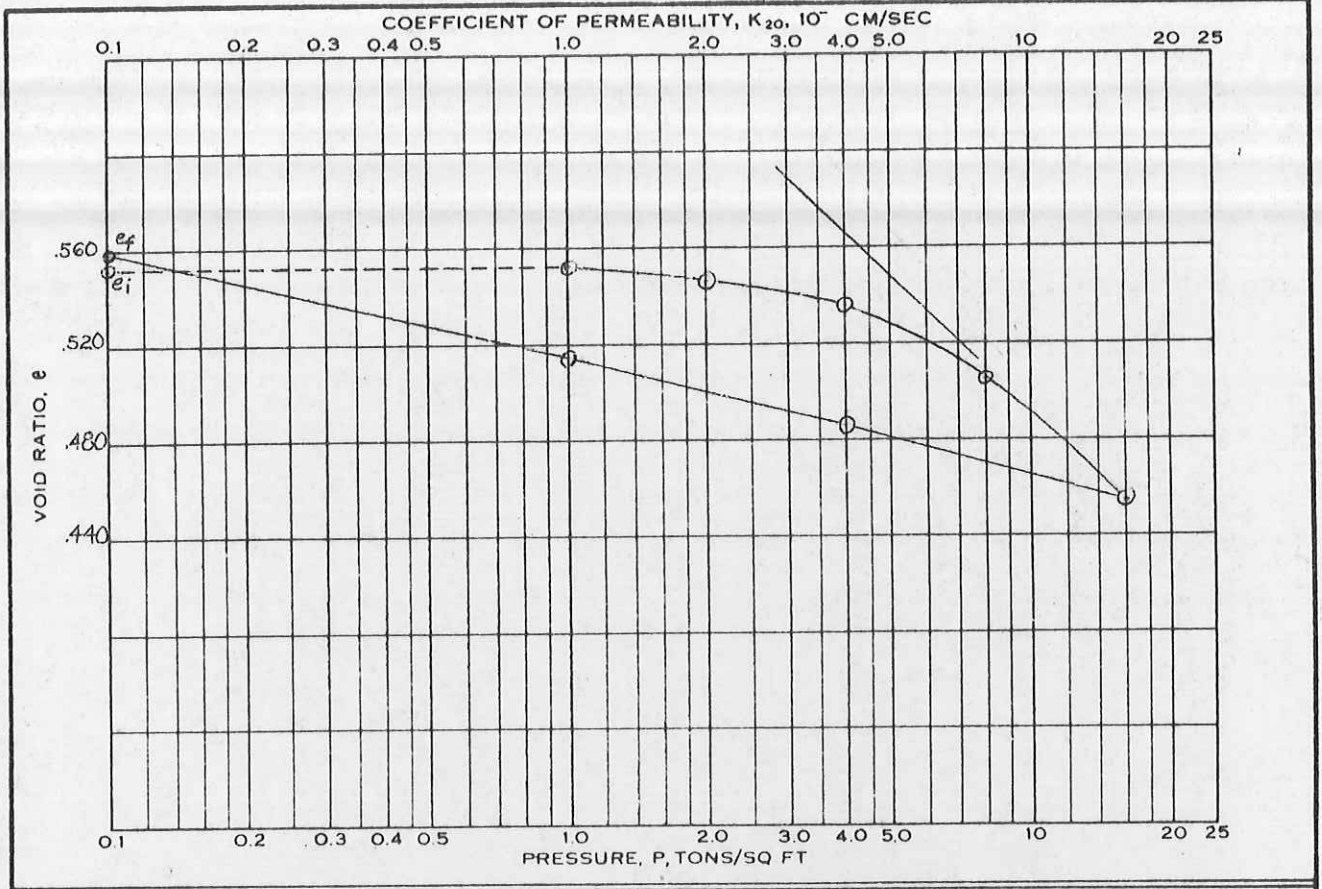
DIRECT SHEAR TEST REPORT

PLATE NO. 12

ENG FORM DEC '51 2092

SWDGL REPORT NO. 7276

SWDGL REPORT NO. 7276



TEST DATA

Type of Specimen: UNDISTURBED

Overburden Pressure, P_0 _____ Tons/Sq Ft

Preconsol Pressure, P_c _____ Tons/Sq Ft

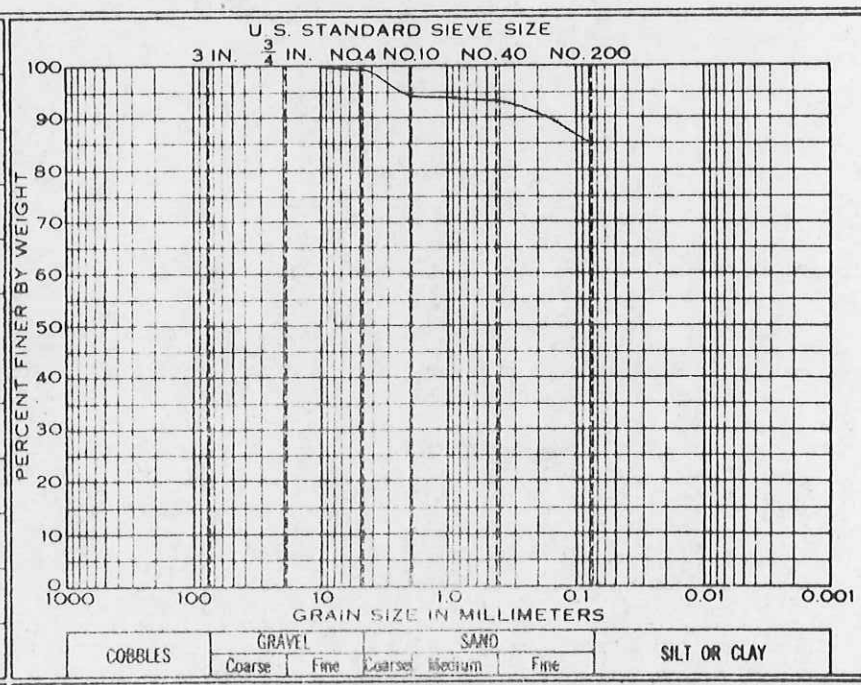
Compression Index, C_c = 0.19

Permeability at Initial e

K_{20} _____ x 10^{-} Cm/Sec

_____ Ft/Min

Initial Ht. $2H$ = 1.00 in.	Diam. 4.44 in.		
Initial Saturation, S_0	%	97	
Final Saturation, S_f	%	100	
Initial Dry Density	Lbs/Cu Ft	106.5	
Initial Water Content, W_0	%	20.2	



Remarks:

Expansion pressure is equal approximately to 1.00 T.S.F.

Classification: Clay (CH)

LL	53	G	2.65
PL	16	D_{10}	

Project: Trinity River - Lock & Dam Site No. 6

FOUNDATION MATERIAL

Area: GALVESTON DISTRICT

Boring No. GST-6-2 Sample No. S-5390

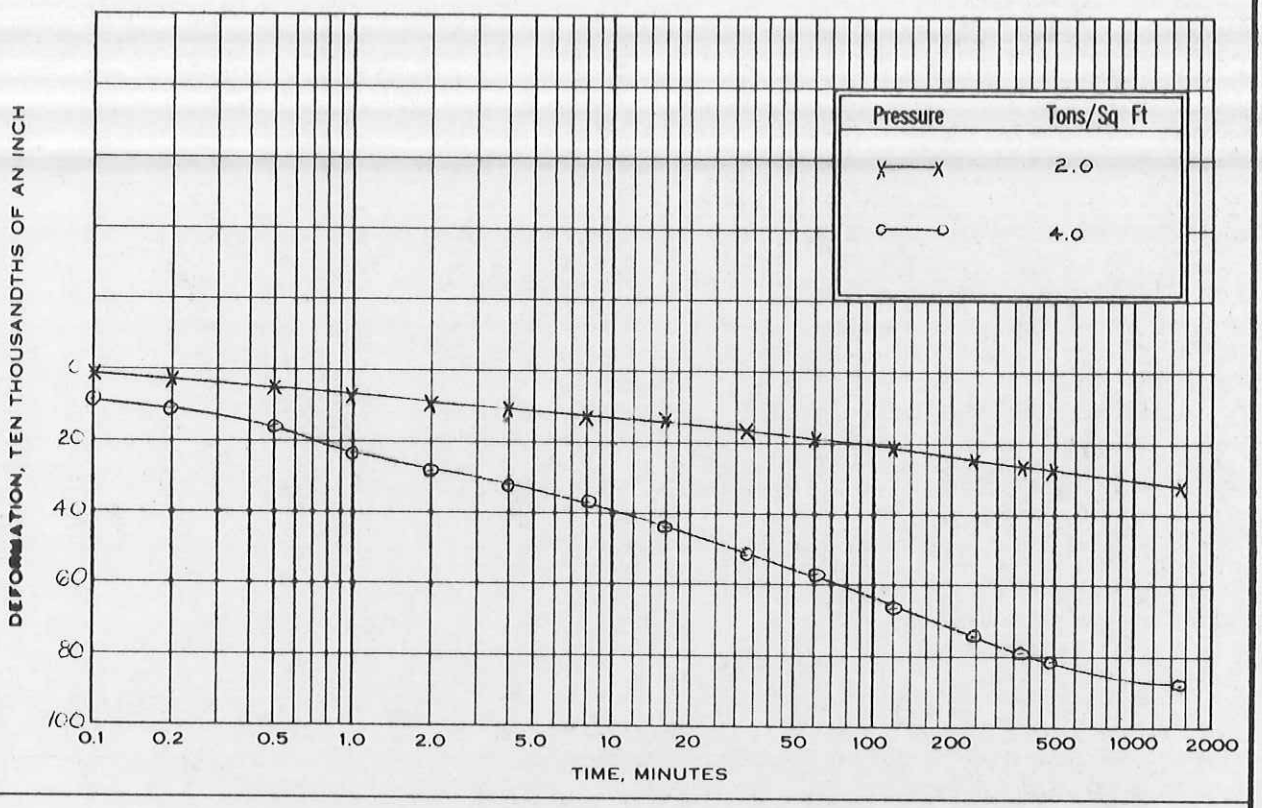
~~Elev or~~ Depth 16.0 – 18.0 Date OCT 1961

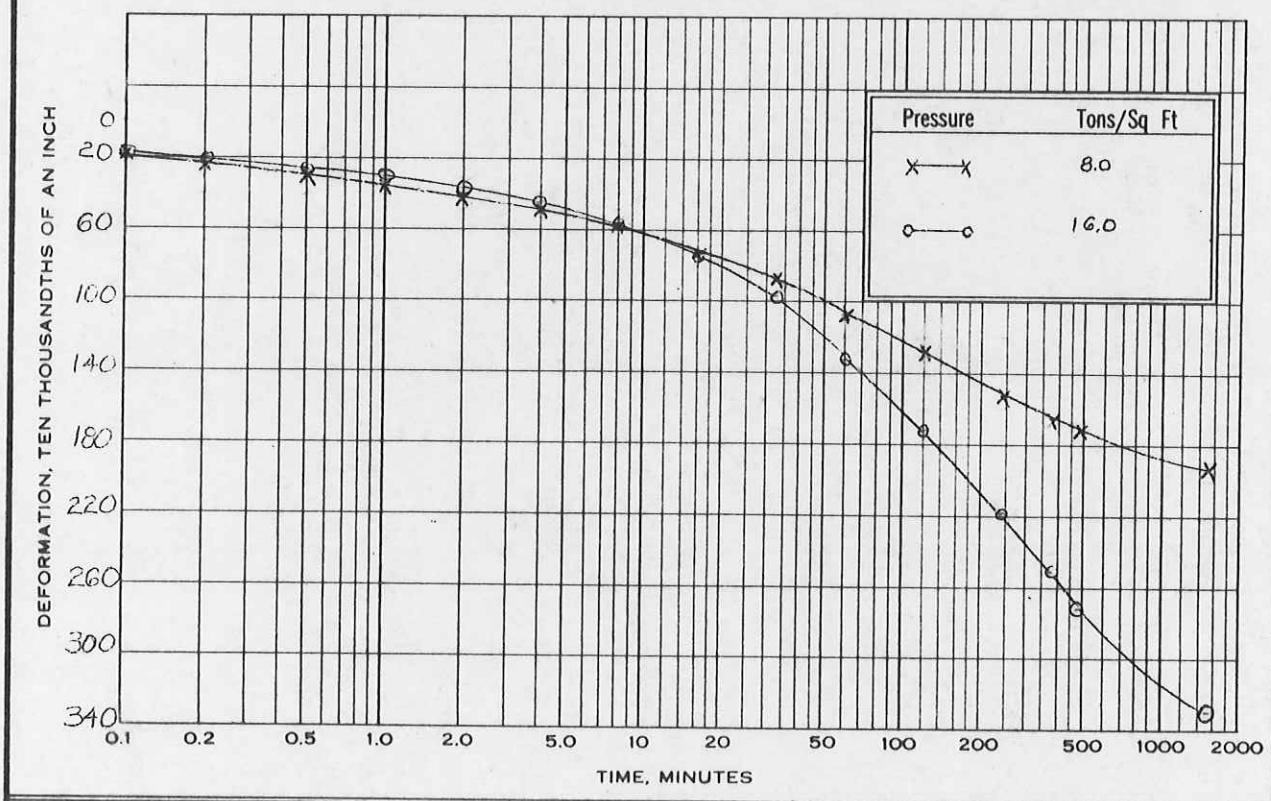
CONSOLIDATION TEST REPORT

ENG FORM 1 DEC 51 2090

PLATE NO. 14

SWDGL REPORT NO. 7276





Project	Trinity River - Lock & Dam Site No. 6	FOUNDATION MATERIAL	
Area	GALVESTON DISTRICT		
Boring No. GST-6-2	Sample No. S-5390	~~Elev or~~ Depth 16.0-18.0	Date OCT 1961

CONSOLIDATION TEST-TIME CURVES

ENG FORM 1 DEC 51 2088 (Translucent) (EM 1110-2-1803)

PLATE NO. 15