TEST DATA SUMMARY

SWDGL REPORT NO. 7276

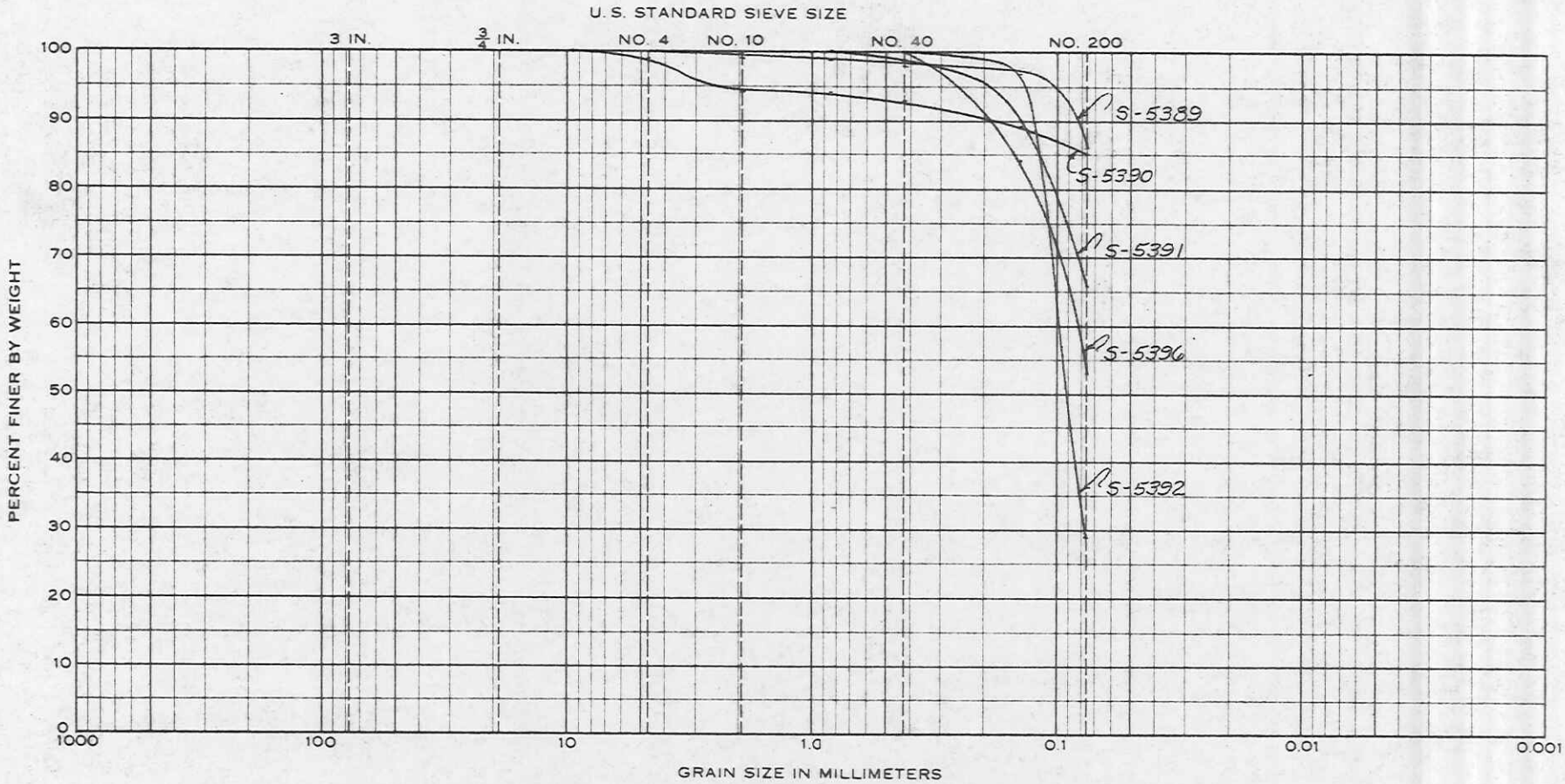
FEATURE FOUNDATION MATERIAL

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_I %	W_F %	S_I %	TYPE TEST	SPECIMEN SIZE INCHES	TEST	σ_m T/SQ FT	σ_I 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
6ST-6-3																																	
S-	5396	4.0-6.0	CL	0	47	53		34	11	2.64	17.7	107																					LS=10
				Very dark brown Sandy CLAY, stiff.											.480	111	17.2	17.9	95	DS-S	3 x 3 x 0.5	1			0.0	31.2							
															.481	111	17.6	17.6	97	"	"	2											
															.513	109	17.7	14.9	91	"	"	3											
S-	5397	13.0-15.0	CH	0	21	79		61	13	2.63	19.0	108																			0.13		LS=20
				Grayish-brown Sandy CLAY, hard.																													
S-	5398	17.0-19.0	CL	0	35	65		43	13		16.4	109				109	16.4			UC	5.6 x 9.8		0.0	4.8									LS=15
				Grayish-brown Sandy CLAY, hard, pockets and very thin layers of fine sand.																													
S-	5399	50.3-51.8	SANDSTONE								3.0	108				108	3.0			UC	5.6 x 11.9		0.0	103.2									
				Light gray SANDSTONE, fine grained.																													
S-	5400	56.5-57.5	SANDSTONE								5.7	101				101	5.1			UC	5.9 x 10.8		0.0	7.9									
				Light gray SANDSTONE, tiny horizontal and vertical cracks.																													
S-	5401	88.0-90.0	SHALE	0	6	94					35.9	85				85	35.9			UC	3.5 x 5.7		0.0	11.7									LS=6
				Greenish-gray silty SHALE, silty layers and pockets.																													
S-	5402	92.0-94.0	SHALE								40.1	81				81	40.1			UC	2.9 x 5.1		0.0	5.5									
				Greenish-gray SHALE.																													

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

ENG FORM 1 MAR 57 2086 PREVIOUS EDITIONS MAY BE USED



COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Sample No.	~~Elev or~~ Depth	Classification	NatWC	LL	PL	PI	LS	Hole No.
S-5389	12.0 - 14.0	Clay (CH)	22.9	57	14	43	19	6ST-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	6ST-6-3

GRADATION CURVES

Project: Trinity River Lock & Dam Site No. 6

FOUNDATION MATERIAL

Area: GALVESTON DISTRICT

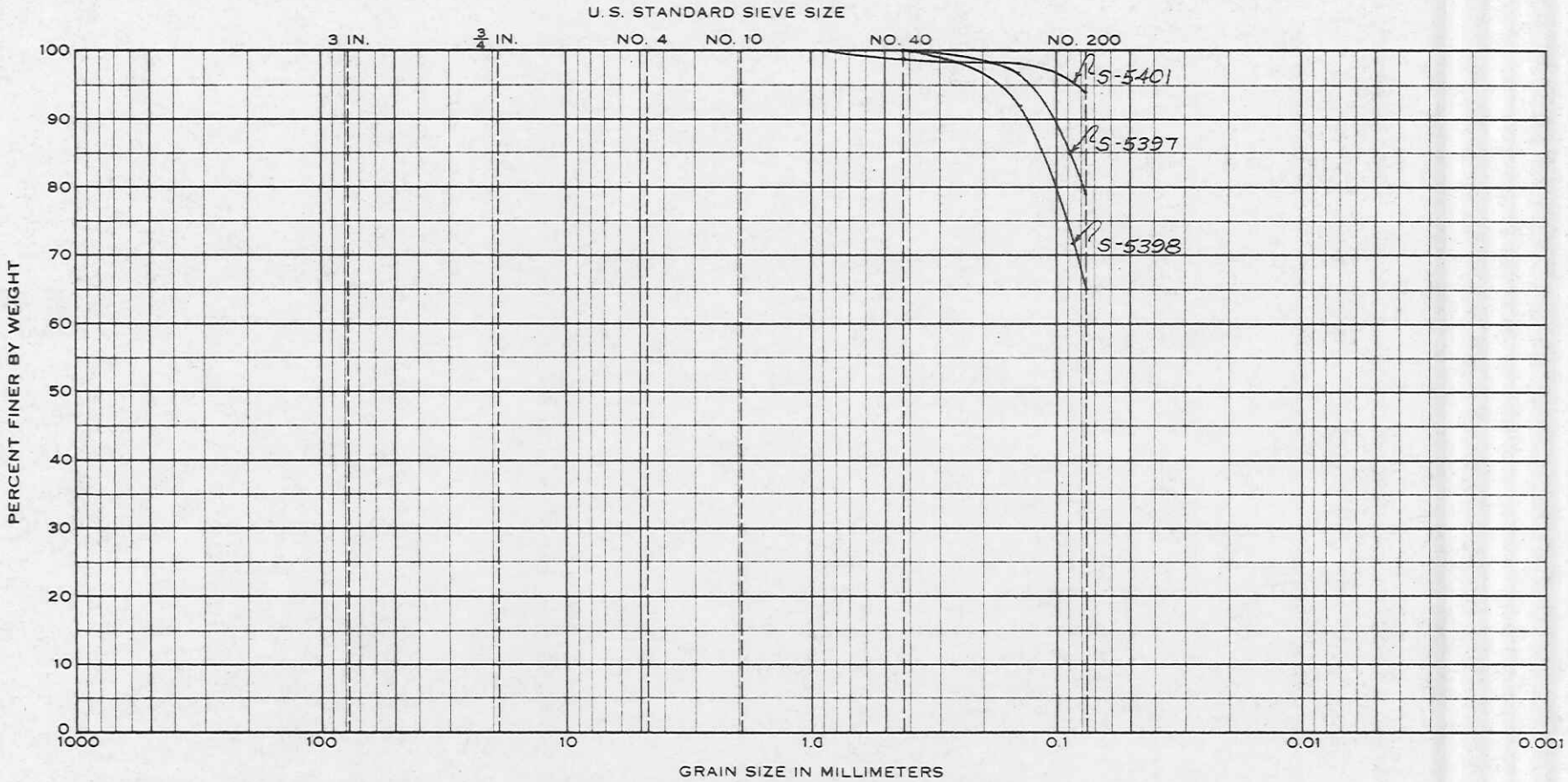
~~Boring No.~~

Date: OCT 1961

ENG FORM 1 DEC 51 2087

PLATE NO. 1

SWDGL REPORT NO. 7276



COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Sample No.	~~Elev or~~ Depth	Classification	NatWC	LL	PL	PI	LS	Hole No.
S-5397	13.0 - 15.0	Sandy Clay (CH)	19.0	61	13	48	20	GST-6-3
S-5398	17.0 - 19.0	Sandy Clay (CL)	16.4	43	13	30	15	"
S-5401	88.0 - 90.0	Silty SHALE	35.9	–	–	–	6	"

Project Trinity River Lock & Dam site No. 6

FOUNDATION MATERIAL

Area GALVESTON DISTRICT

~~Boring No.~~

Date OCT 1961

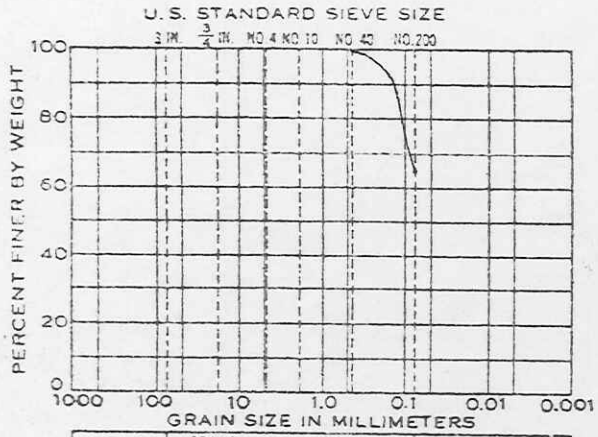
GRADATION CURVES

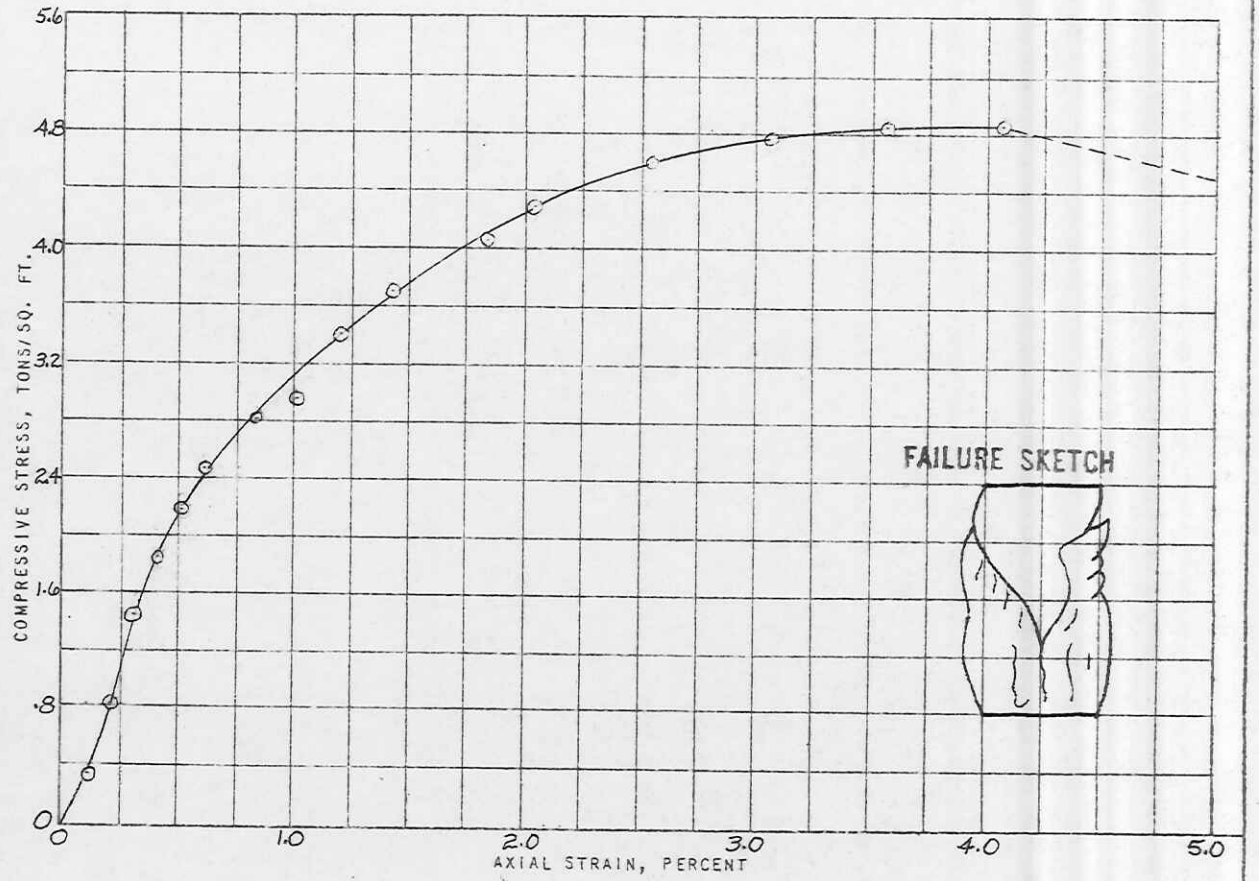
PLATE NO. 2

ENG FORM 1 DEC 51 2087

SWDGL REPORT NO. 7276

SWD FORM 558-C
REV 10 MAR 52





LL	43	G	
PL	13	D_{10}	
X	UNDISTURBED		REMOLDED
WATER CONTENT, W_o		%	16.4
DRY DENSITY		LBS./CU.FT.	109
VOID RATIO e_o			
SATURATION, S_o		%	
UNCONFINED COMP. STRENGTH qu		TONS/SQ.FT.	4.9
X	qu ADJUSTED, A.S.T.M. C42-44	TONS/SQ.FT.	4.8
SPECIMEN DIAMETER		INCHES	5.6
SPECIMEN HEIGHT		INCHES	9.8
Stress - CONTROL 1200 lbs/min.			

REMARKS:

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

AREA GALVESTON DISTRICT

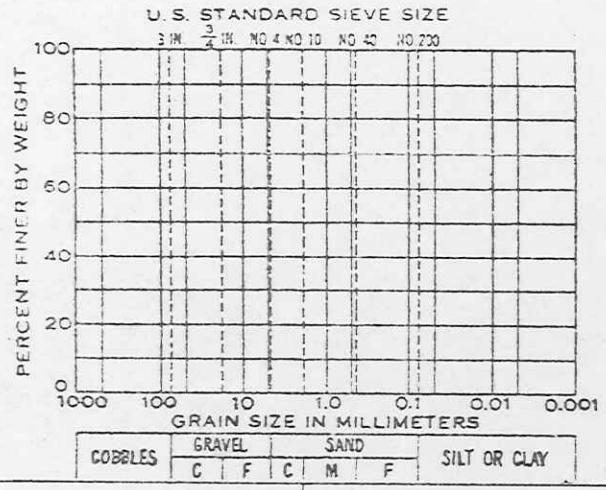
BORING NO. 6ST-6-3 SAMPLE NO. 5-5398 ~~ELEV. OR~~ DEPTH 17.0-19.0 DATE OCT 196

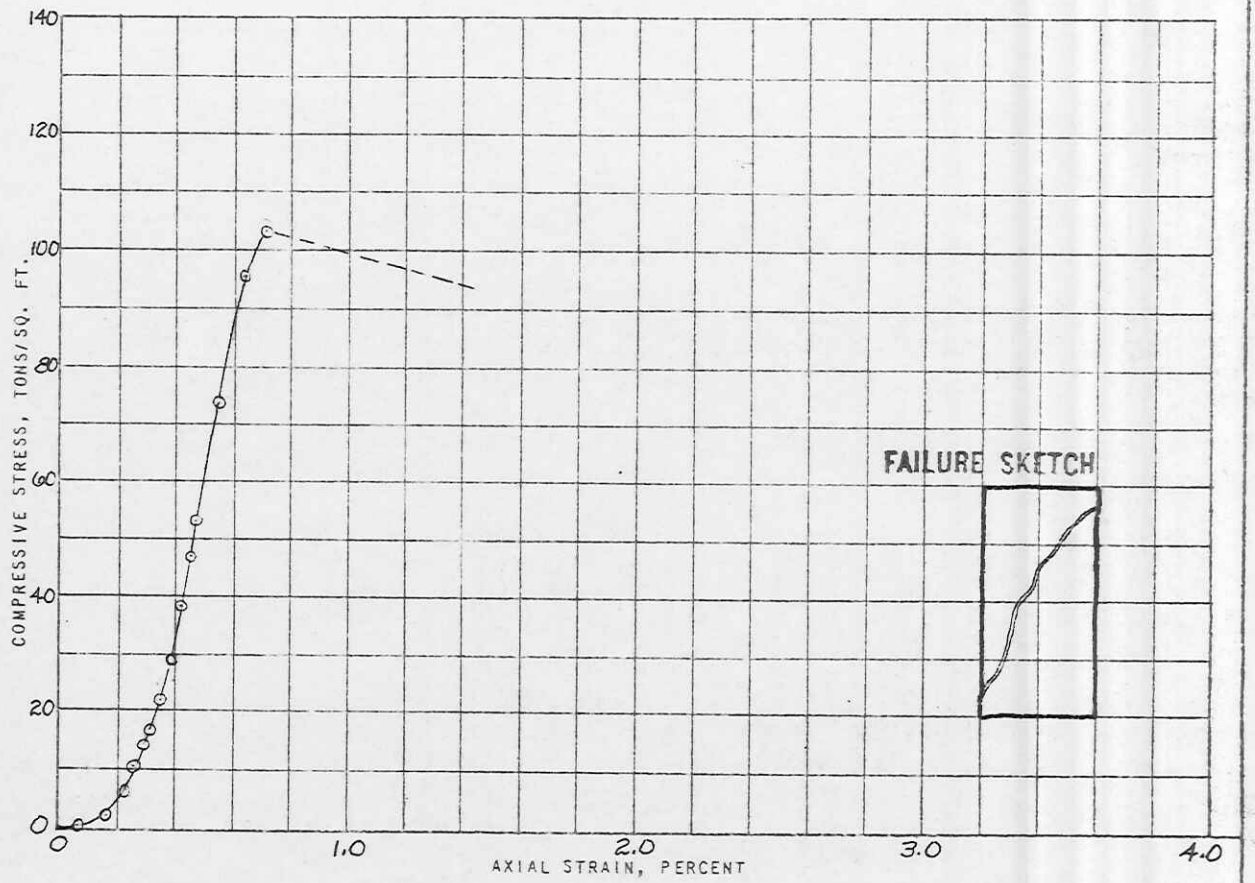
UNCONFINED COMPRESSION TEST

SWD GL REPORT NO. 7276

PLATE NO. 7

SWD FORM 558-C
REV 10 MAR 52





LL		G	
PL		D_{10}	
X	UNDISTURBED		REMOLDED
WATER CONTENT, W_o		%	3.0
DRY DENSITY		LBS./CU.FT.	108
VOID RATIO e_o			
SATURATION, S_o		%	
UNCONFINED COMP. STRENGTH q_u		TONS/SQ.FT.	103.2
	q_u ADJUSTED, A.S.T.M. C42-44	TONS/SQ.FT.	
SPECIMEN DIAMETER		INCHES	5.6
SPECIMEN HEIGHT		INCHES	11.9
Stress - CONTROL 1200 lbs/min			

REMARKS:

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

AREA GALVESTON DISTRICT

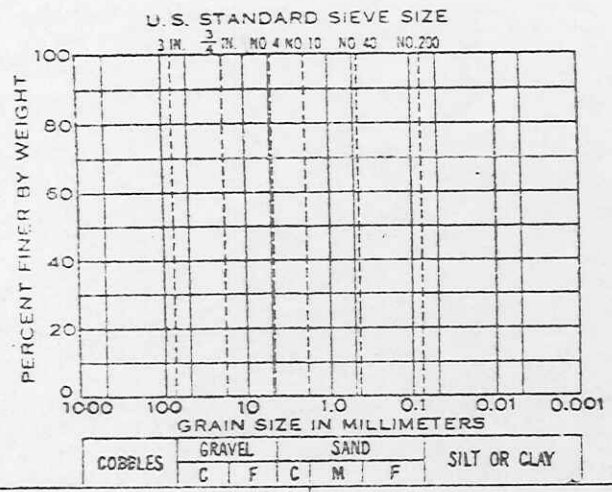
BORING NO. GST-6-3 | SAMPLE NO. S-5399 | ~~ELEV. OR~~ DEPTH 50.3-51.8 | DATE OCT 196

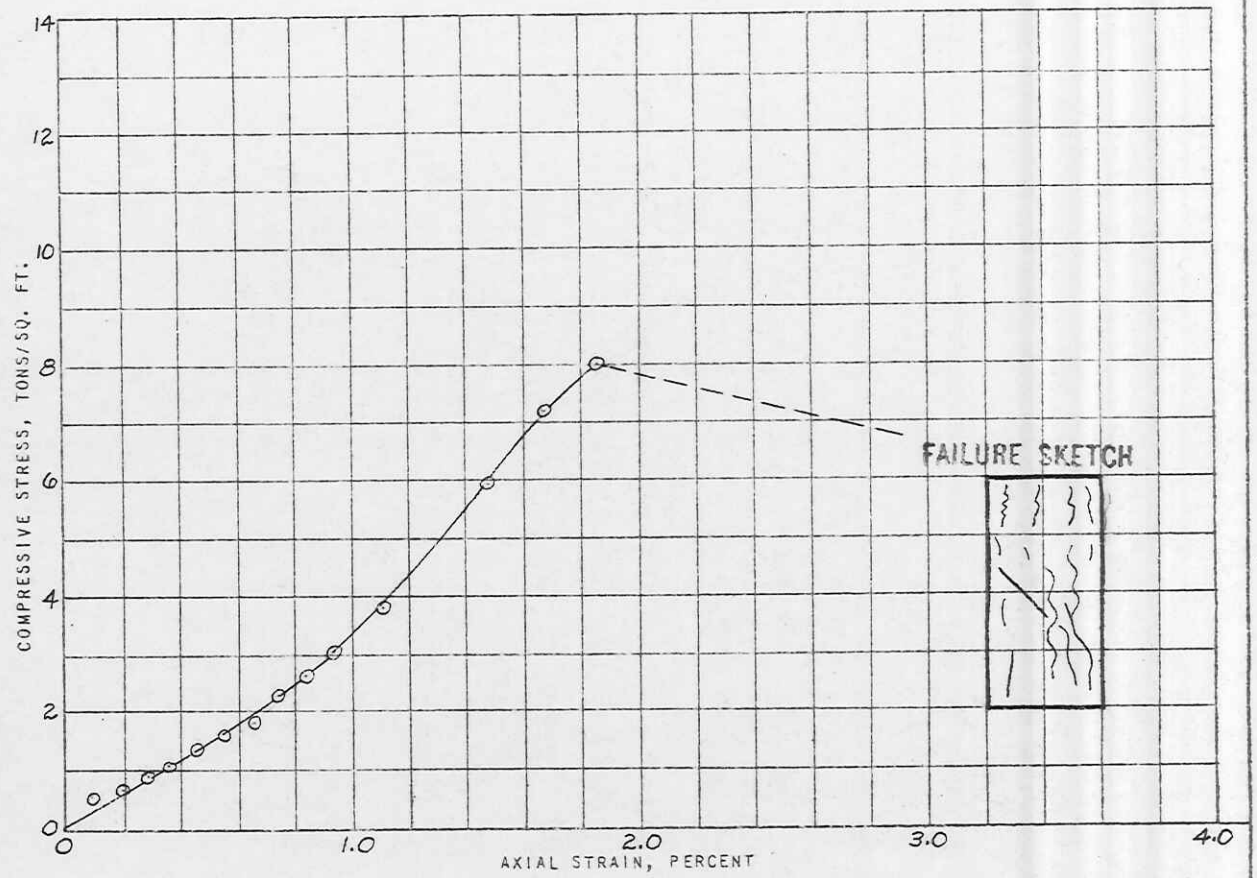
UNCONFINED COMPRESSION TEST

PLATE NO. 8

SWDGL REPORT NO. 7276

SWD FORM 558-C
REV 10 MAR 52





LL		G	
PL		D_{10}	
X	UNDISTURBED		REMOLDED
WATER CONTENT, W_o		%	57
DRY DENSITY		LBS./CU.FT.	101
VOID RATIO e_o			
SATURATION, S_o		%	
UNCONFINED COMP. STRENGTH q_u		TONS/SQ.FT.	8.0
X	q_u ADJUSTED, A.S.T.M. C42-44	TONS/SQ.FT.	7.9
SPECIMEN DIAMETER		INCHES	5.9
SPECIMEN HEIGHT		INCHES	10.8
stress - CONTROL 1200 lbs/min.			

REMARKS:

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

AREA GALVESTON DISTRICT

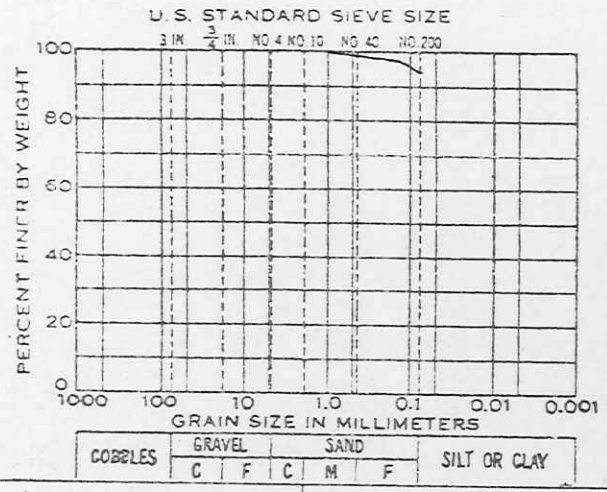
BORING NO. 6ST-6-3 SAMPLE NO. S-5400 ~~ELEV. OR~~ DEPTH 56.5-57.5 DATE OCT 1961

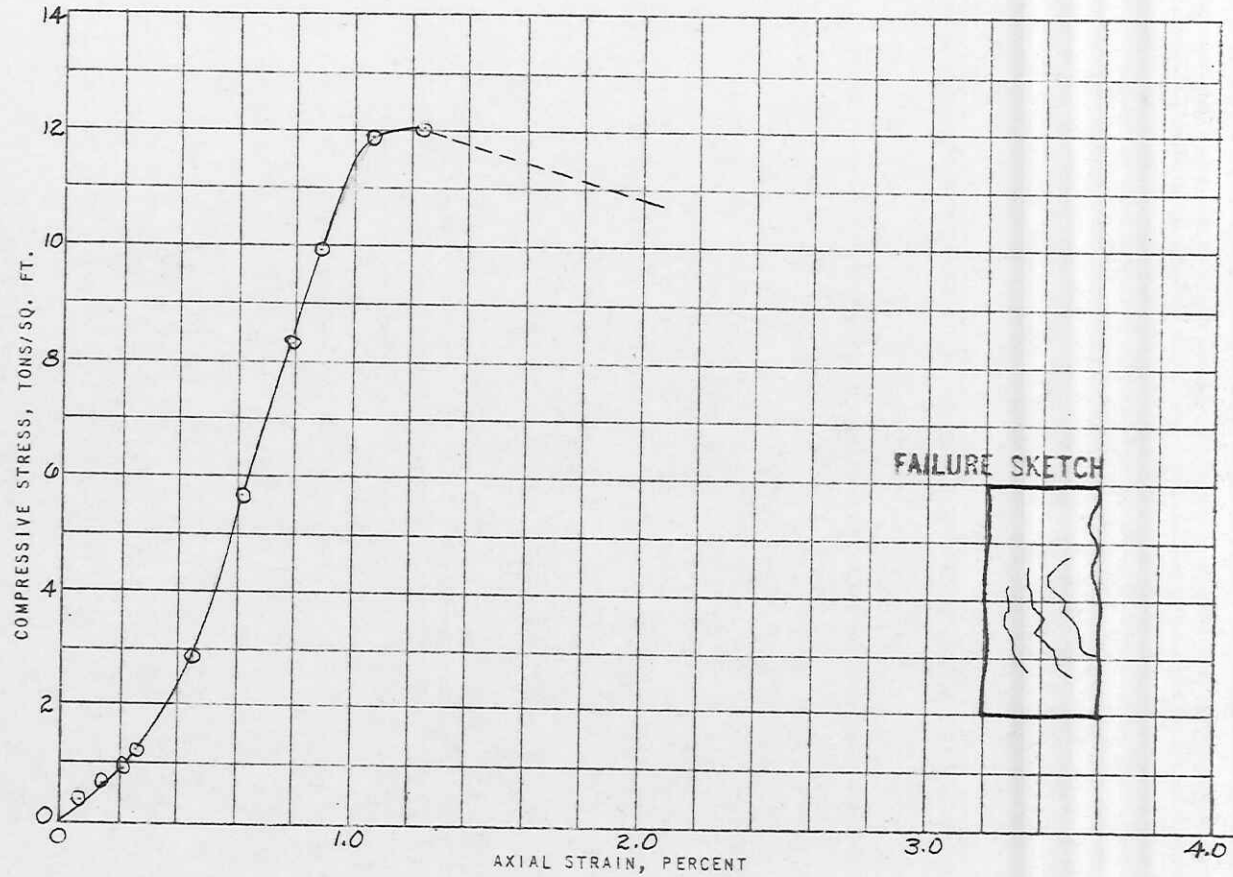
UNCONFINED COMPRESSION TEST

PLATE NO. 9

SWDGL REPORT NO. 72-76

SWD FORM 558-C
REV 10 MAR 52





LL		G	
PL		D_{10}	
X	UNDISTURBED		REMOLDED
WATER CONTENT, W_o		%	35.9
DRY DENSITY		LBS./CU.FT.	85
VOID RATIO e_o			
SATURATION, S_o		%	
UNCONFINED COMP. STRENGTH qu		TONS/SQ.FT.	12.0
X	qu ADJUSTED, A.S.T.M. C42-44	TONS/SQ.FT.	11.7
SPECIMEN DIAMETER		INCHES	3.5
SPECIMEN HEIGHT		INCHES	5.7
Stress - CONTROL 120 lbs/min.			

REMARKS:

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

AREA GALVESTON DISTRICT

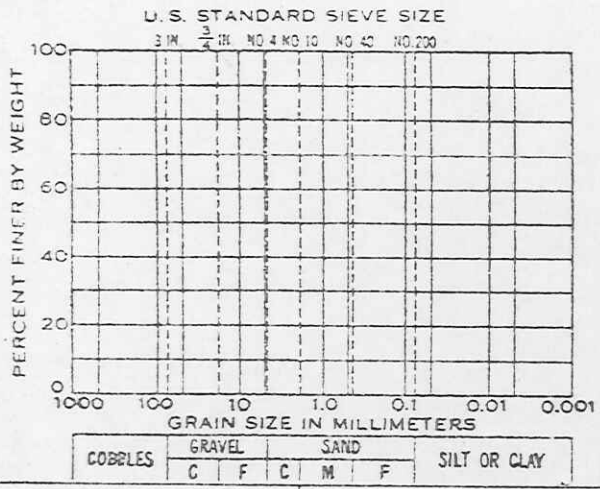
BORING NO. GST-6-3 | SAMPLE NO. S-5401 | ~~ELEV. OR~~ DEPTH 88.0-90.0 | DATE OCT 196

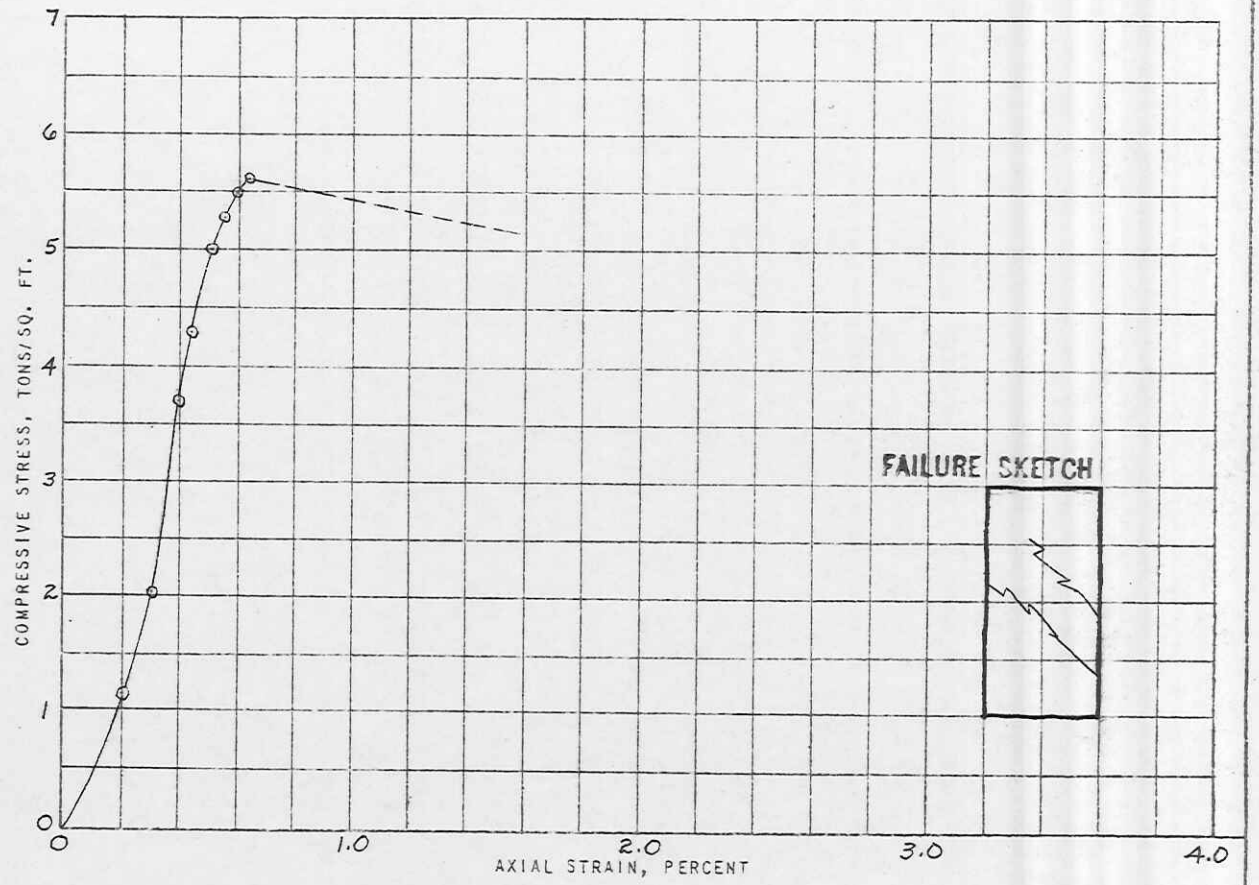
UNCONFINED COMPRESSION TEST

PLATE NO. 10

SWDGL REPORT NO. 72-76

SWD FORM 558-C
REV 10 MAR 52





LL		G	
PL		D_{10}	
X	UNDISTURBED		REMOLDED
WATER CONTENT, W_o		%	40.1
DRY DENSITY		LBS./CU.FT.	81
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	2.9
SPECIMEN HEIGHT		INCHES	5.1
Stress - CONTROL 120 lbs/min.			

REMARKS:

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

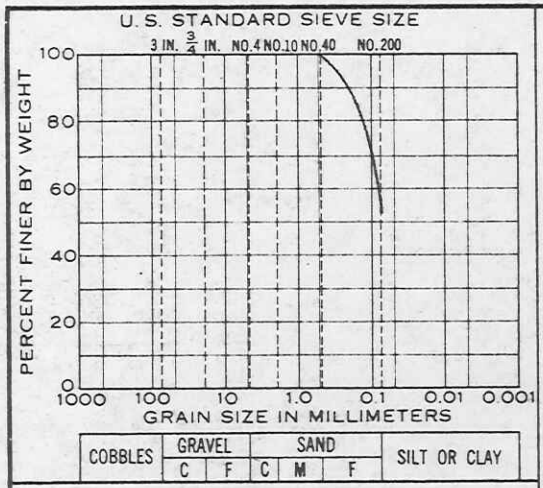
AREA GALVESTON DISTRICT

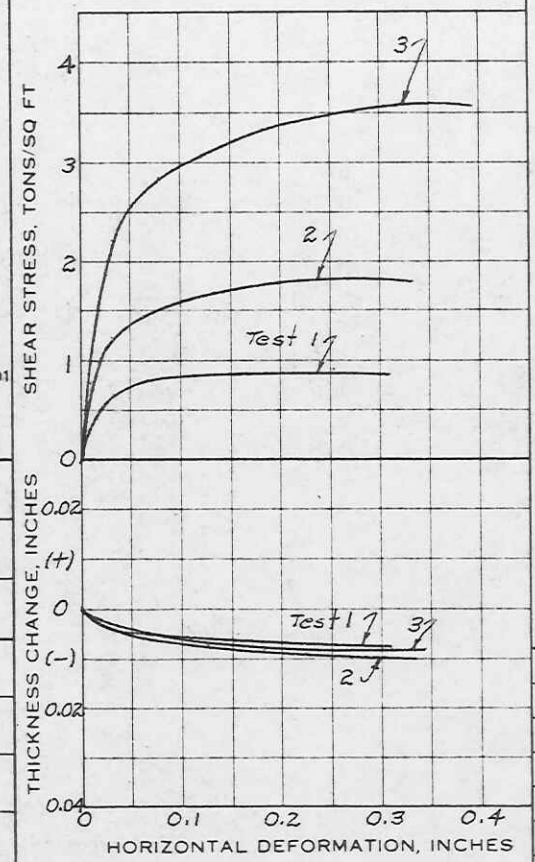
BORING NO. 6ST-6-3 | SAMPLE NO. S-5402 | ~~ELEV. OR~~ DEPTH 92.0-94.0 | DATE OCT 1961

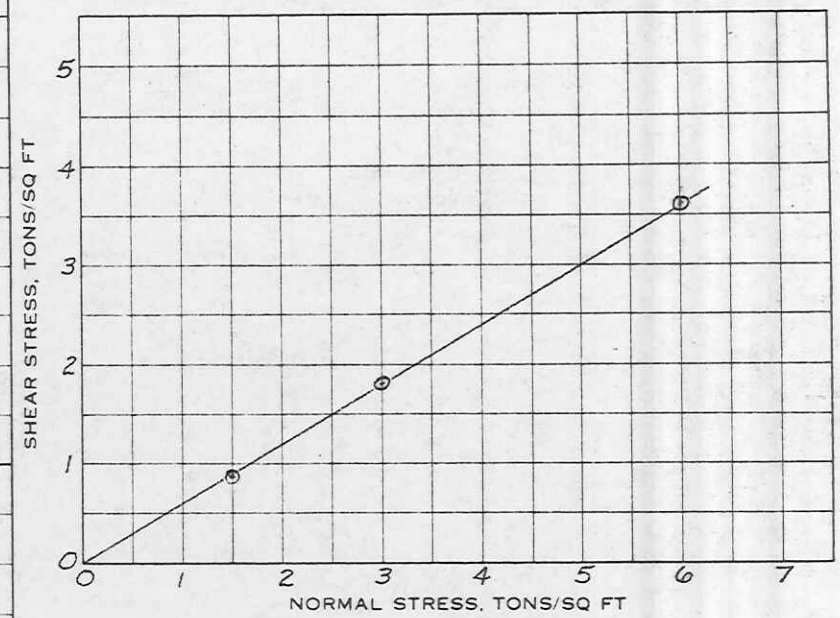
UNCONFINED COMPRESSION TEST

PLATE NO. 11

SWDGL REPORT NO. 7276







Classification	Sandy Clay (CL)		
LL 34	G 2.64		
PL 11	D_{10}		
Test No.	1	2	3
Initial Water Content, W_0 %	17.2	17.6	17.7
Dry Density Lbs/Cu Ft	111	111	109
Void Ratio, e_0	.480	.481	.513
Saturation, S_0 %	95	97	91
Duration of Test ($t_{0\tau}$)	330'	300'	390'
WC after Test, W_f %	17.9	17.6	14.9
Normal Stress, σ T/Sq Ft	1.5	3.0	6.0
Max. Shear Stress, τ T/Sq Ft	0.87	1.82	3.59
t_{50}, min.	—	—	1.7

Type of Test – S
Strain – Control
Rate, 0.001 in/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	31.2	.605	0.0
Ultimate			

Remarks:
S test

Project Trinity River - Lock & Dam Site No. 6
FOUNDATION MATERIAL
Area GALVESTON DISTRICT
Boring No. 6ST-6-3 Sample No. S-5396
Elev or Depth 4.0 - 6.0 Date OCT 1961

DIRECT SHEAR TEST REPORT

SWDGL REPORT NO. 7276

PLATE NO. 13

ENG FORM 1 DEC 52 2092

TEST DATA

Type of Specimen UNDISTURBED

Overburden Pressure, P_0 Tons/Sq Ft

Preconsol Pressure, P_c Tons/Sq Ft

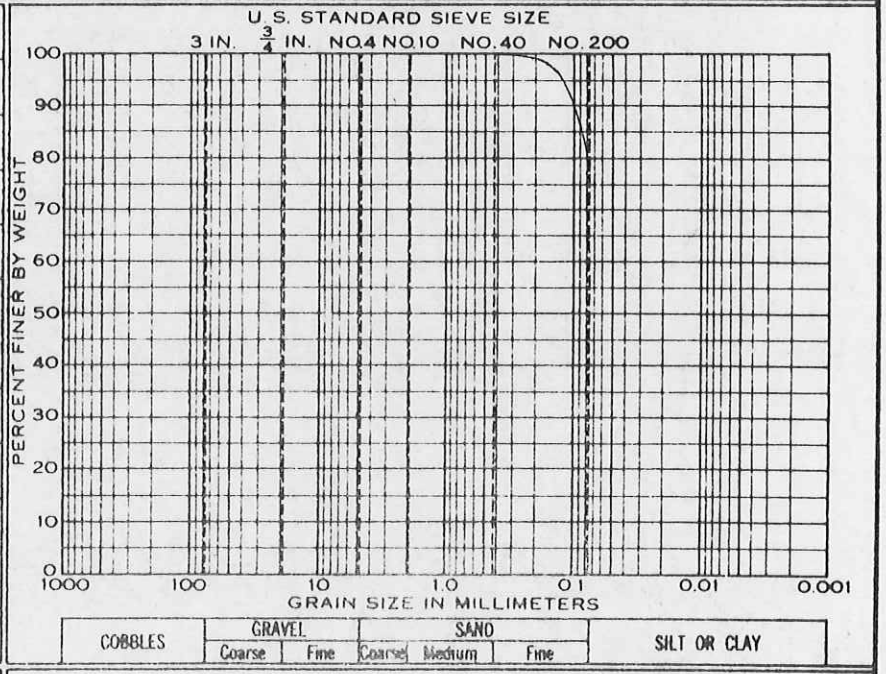
Compression Index, C_c = 0.13

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 %	96
Final Saturation, S_f %	100
Initial Dry Density Lbs/Cu Ft	106.5
Initial Water Content, W_0 %	19.7



Remarks:

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

Classification Sandy Clay (CH)

LL 61	G 2.63
PL 13	D_{10}

Project Trinity River - Lock & Dam Site No. 6

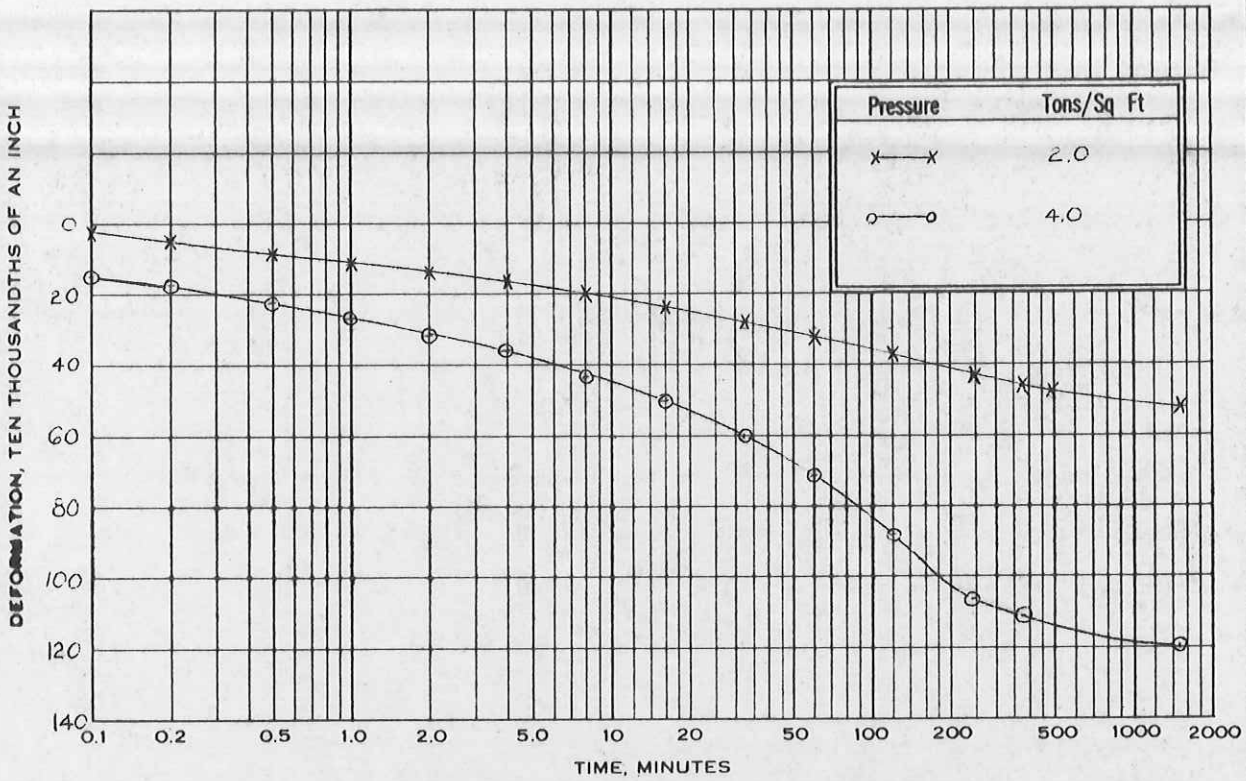
FOUNDATION MATERIAL

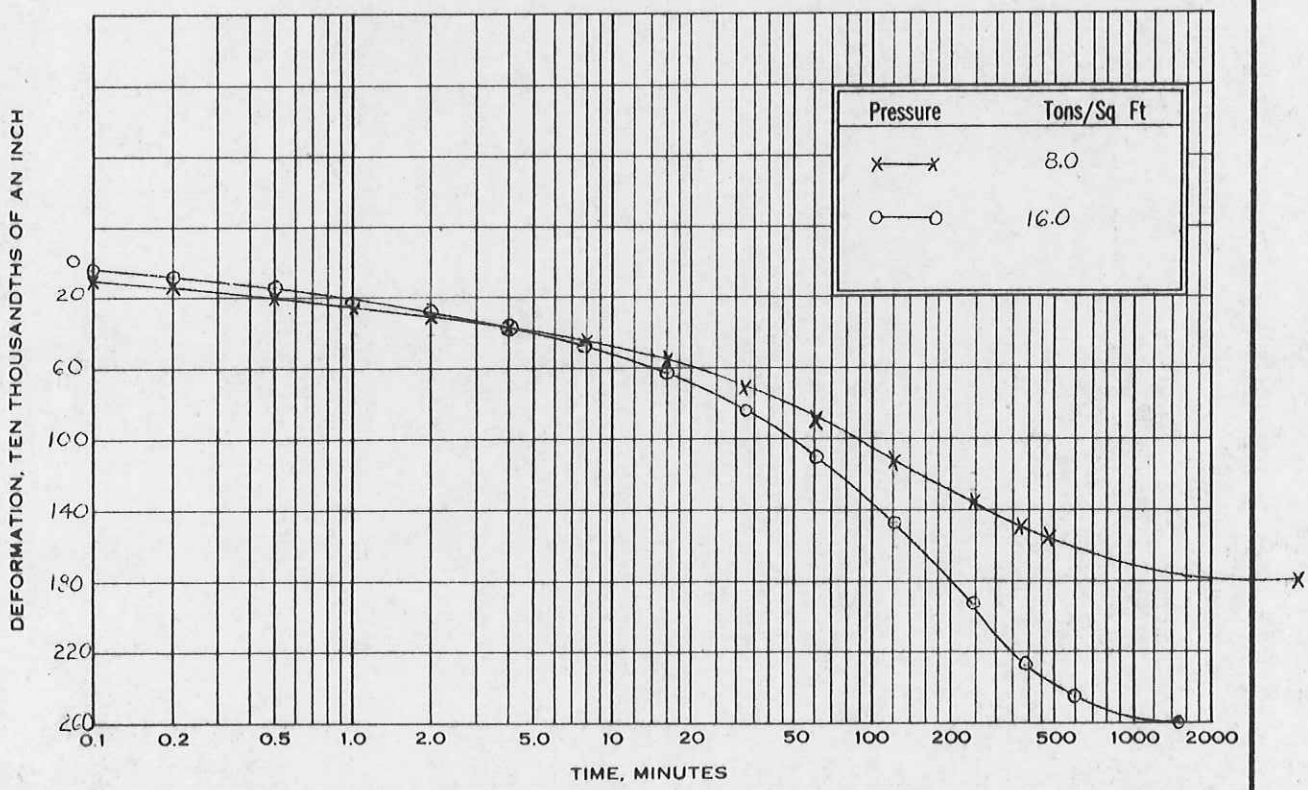
Area GALVESTON DISTRICT

Boring No. 6ST-6-3	Sample No. S-5397
~~Elev or~~ Depth 13.0 - 15.0	Date OCT 1961

CONSOLIDATION TEST REPORT

ENG FORM 1 DEC 51 2090





Project Trinity River - Lock & Dam Site No. 6		FOUNDATION MATERIAL	
Area GALVESTON DISTRICT			
Boring No. GST-6-3	Sample No. 5397	~~Elev or~~ Depth 13.0-15.0	Date OCT 1961

CONSOLIDATION TEST-TIME CURVES

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