TRIAXIAL and Direct Shear

SUMMARY OF ~~UNCONFINED~~ COMPRESSION TEST DATA
on UNDISTURBED SAMPLES
"S" Tests TABLE

Boring No.	Depth Ft.	Density Data M.C. %	Density Data U.D.W. P.C.F.	Gradation Gr	Gradation Sa	Gradation Fines	L.L.	P.L.	Shear Data Φ	Shear Data C P.S.F	Classification
83-393	10 - 12	21.7	102		5	95	21	12	33.5	400	Light Grey Sandy Clay (CL), Soft
83-393	14 - 16	27.7	95.		39	60	32	16	30.3	500	Grey Sandy Clay (CL), Very Soft
83-387	2 - 4	71.6	56.		5	95	81	26	14.0	140	Grey Clay (CH), Soft
83-402	10 - 12	28.9	94		15	65	29	20	29.3	0	Light Grey and Tan Sandy Clay (CL), Soft
						"R" Tests					
83-387	4 - 6	71.6	57		5	95	61	28	5.0	200	Grey Clay (CH), Very Soft
83-402	8 - 10	23.5	101.		34	66	28	18	13.5	480	Grey Silty Clay (CL), Soft
						"Q" Tests					
83-394	12 - 14	42.3	78		24	76	58	18	0	400	Grey Clay (CH), Soft
83-392	16 - 18	32.7	90	3	57	40	66.	21	0	200	Grey Clayey Sand (SC). Very Soft
83-393	12 - 14	22.0	100		29	71	20	14	19.8	720	Grey Sandy Clay (CL), Soft
83-401	10 - 12	33.0	89	1	30	69	52	19	0	400	Grey Clay (CH), Very Soft
83-406	14-16	18.3	104	1	50	49	31	13	13	200	Grey Sandy Clay (CL), Soft.

SUMMARY OF UNCONFINED COMPRESSION TEST DATA
WALLISVILLE RESERVOIR
NON-OVERFLOW DAM

Boring No.	Depth Ft.	Density Data M.C. %	Density Data U.D.W. P.C.F.	Gradation Gr	Gradation Sa	Gradation Fines	L.L.	P.L.	% Strain @ Max. Stress	Max. Stress T.S.F.	Classification		
378	2-4	25	103	0	19	81	59	22	10.2	1.53	Tan Red-Brown and Light Gray Clay	Stiff	(CH)
381	2-4	32	88	0	25	75	55	23	4.9	.22	Gray and Tan Clay	Soft	(CH)
382	2-4	35	84	0	1	99	77	27	3.1	.14	Gray and Tan Clay	Medium	(CH)
385	2-4	35	90	0	5	95	50	19	5.5	.36	Gray Clay	Stiff	(CH)
"	6-8	63	62	0	0	100	73	23	6.8	.37	Gray Clay	Soft	(CH)
"	12-14	86	52	0	0	100	90	39	3.1	.22	Gray Clay	Very Soft	(CH)
387	6-8	75	60	0	11	89	65	28	4.7	.12	Gray Clay	Very Soft	(CH)
"	13-15	84	51	0	0	100	97	38	4.2	.19	Gray Clay	Soft	(CH)
390	2-4	46	73	0	2	98	99	36	2.4	.49	Black Clay	Soft	(CH)
392	2-4	43	80	0	4	96	87	20	5.1	.38	Gray and Tan Clay	Soft	(CH)
393	0-2	47	72	0	2	98	91	31	5.4	.43	Gray Clay	Soft	(CH)
"	22-24	57	67	0	6	94	76	30	4.0	.23	Gray Clay	Very Soft	(CH)
"	34-36	48	80	0	14	86	72	27	6.3	.34	Gray Clay	Very Soft	(CH)
395	12-14	61	61	0	21	79	110	27	3.4	.51	Dark Gray & Gray Clay	Med	(CH)
"	18-20	65	63	0	12	88	82	27	3.4	.61	Gray Clay	Stiff	(CH)
400	2-4	45	77	0	1	99	91	33	4.4	1.34	Gray Clay	Stiff	(CH)
401	2-4	45	77	0	2	98	89	32	3.8	.60	Gray, Dark Gray & Tan Clay	Stiff	(CH)
402	4-6	28	101	0	10	90	35	22	14.3	.64	Gray Sandy Clay	Soft	(CL)
"	14-16	33	91	—	—	—	56	19	7.9	.22	Gray Clay	Soft	(CH)
"	22-24	68	67	0	0	100	85	33	3.0	.21	Gray Clay	Very Soft	(CH)
"	26-28	63	68	0	0	100	89	31	3.9	.40	Gray Clay	Very Soft	(CH)
405	2-4	32	91	0	9	91	65	20	5.2	.52	Gray & Tan Clay	Med	(CH)
407	2-4	33	91	0	9	91	56	24	4.8	.28	Gray & Tan Clay	Soft	(CH)
410	2-4	35	90	0	5	95	62	32	6.6	.57	Dark Gray & Tan Clay	Soft	(CH)
412	0-2	37	84	0	4	96	76	26	5.0	.30	Gray & Tan Clay	Soft	(CH)
"	22-24	75	62	0	12	88	84	27	6.1	.45	Gray Clay	Soft	(CH)
"	30-32	34	90	0	1	99	76	24	7.5	1.74	Gray & Tan Clay	Stiff	(CH)

141

Reach 4, Sta. 78+00 83-393

Sfc EL 1.5

COMPUTATION SHEET

PROJECT | FEATURE | DATE | DATE | BY | CHKD BY | DETAILS | SHEET ___ OF ___

Lyr No	Depth	w	γ_d	e_o	γ	γ_b	Surcharge	H_z	$\Delta\sigma$	$\bar{\sigma}_o$	$\bar{\sigma}_f$	MC	LL	C_c	S
1	0-2	47	72	1.298	106	43	1573	1	1573	43	1616		91	*.16	.219
2	2-4	37	83	.993	114	51		1		138	1711		85	*.16	.175
3	4-8	44	90	.838	130	67		1		324	1897			.5	.853
4	8-12	22	102	.622	124	62		.97	1526	582	2108		21	.1	.138
5	12-14	22	100	.654	122	60		.96	1510	766	2276		20	.1	.057
6	14-16	28	95	.741	122	59		.94	1479	884	2363		32	.16	.160
7	16-18	28	92	.798	118	55		.92	1447	999	2446			.21	.091
8	18-22	53	68	1.433	104	42		.9	1416	1096	2571			.65	.192
10	22-24	57	67	1.469	105	43		.87	1369	1180	2549		76	.75	.203
12 *	24-28	63	59	1.804	96	34		.85	1337	1290	2628		76	.85	.374
13 *	28-32	39	81	1.042	113	50		.81	1274	1458	2732			.45	.240
14	32-34	53	81	1.042	124	62		.79	1243	1620	2862			.6	.145
15	34-36	48	80	1.068	118	56	?	.77	1211	1737	2948		72	.55	.122
16	36-38	56	47	2.520	73	11		.75	1180	1804	2984			.6	.075
17	38-40	61	66	1.507	106	44		.73	1148	1859	3007			.66	.110
18	40-50							.69	1085	2122	3207			.2	.143

SWD Form 521-R
Rev 24 Feb 81

SWGED-FG
SUBJECT: Wallisville Lake, Texas - Staking Request

TO: Soils Design Sec FROM: SWGED-FG DATE: 4 Jan 83 CMT 2
ATTN: John M. Cleveland

Subject request for boring stake-outs has been completed as of this date. The following are coordinates and elevations for the respective borings:

Boring No.	X	Y		Elevation
83-388	3,345,479.92	749,137.59	54+00	1.6
83-389	3,345,935.97	749,300.53	59+00	1.3
83-390	3,346,196.03	749,604.38	63+00	0.9
83-391	3,346,519.00	749,986.08	68+00	1.4
83-392	3,346,841.97	750,367.77	73+00	1.3
83-393	3,347,164.95	750,749.46	78+00	1.5
83-394	3,347,491.45	751,127.89	83+00	1.2
83-395	3,347,953.72	751,272.24	88+00	1.4
83-396	3,348,383.65	751,033.11	93+00	1.0
83-397	3,348,774.08	750,720.76	98+00	1.3
83-398	3,349,140.06	750,382.57	103+00	1.4
83-399	3,349,346.17	749,931.38	108+00	1.3
83-400	3,349,396.10	749,585.03	111+50	1.2
83-401	3,349,462.67	749,089.48	116+50	2.0
83-402	3,349,522.51	748,643.51	121+50	1.5
83-403	3,349,595.80	748,098.38	126+50	1.1
83-404	3,349,662.37	747,602.84	131+50	0.9
83-405	3,349,728.93	747,107.29	136+50	1.1
83-406	3,349,795.50	746,611.74	141+50	0.9
83-407	3,349,862.06	746,116.19	146+50	1.1

SWG FD 24
26 Nov 68

SUMMARY OF LABORATORY TEST DATA

PROJECT Corp of Engineers/Wallisville
83-431S

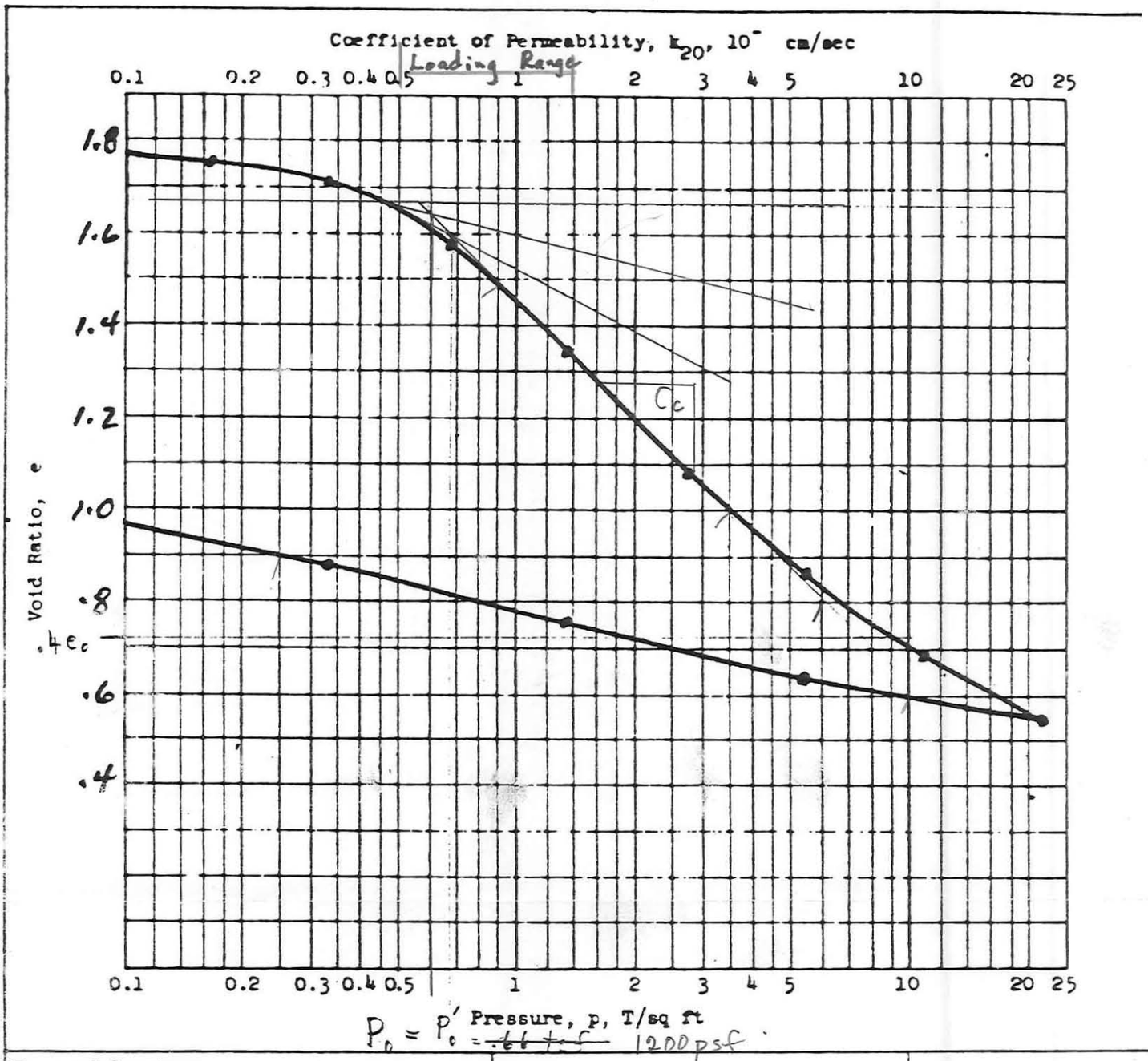
DATE

BORING NO.	DEPTH IN FEET	TYPE OF MATERIAL	MOISTURE CONTENT %	DRY DENSITY pcf	ATTERBERG LIMITS LL	PL	PI	COMPRESSION TEST: COMPRESSION tsf	STRAIN %	LATERAL PRESSURE psi	TYPE FAILURE	Sieve Analysis % Passing #4	#10	#40	#200
393 1	0-2	Gray clay with roots, fragments, slickensided (CH)	47	72	91	31	60	.43 .75	5.4	0	BULGE	-	TV = 0.47 TSF - 100		98
2	2-4	Gray, tan and light gray clay with fine roots, fragments (CH)	36.9	82.9	85	26	59					-	TV = 0.44 TSF 100	99	88
3	6-7.5	Gray clay with sand pockets (CH)	44		*							-	100	97	65
4	10-12	Gray very sandy clay with sand pockets, clay pockets and shell ~~fragments, clayey sand (CL)~~	21.7	102	21	12	9					-	TV = 0.34 TSF - 100		95
5	12-14	Gray clayey sand with shell fragments (SC)	22	100	20	14	6					-	TV = 0.11 TSF - 100		71
6	14-16	Gray sandy clay with sand pockets and shell fragments (CL)	27.7	95	32	16	16					100	TV = 0.13 TSF 99	97	60
7	16-18	Gray sandy clay with shell (CL)	28	92									TV = 0.10 TSF		
8	20-22	Gray clay with ferrous nodules (CH)	53	68									TV = 0.14 TSF		
10	22-24	Gray clay, slightly sandy, slickensided (CH)	57	67	76	30	46	.23	4.0	0	SHEAR	-	TV = 0.2 TSF - 100		94
12	26-28	Gray and light gray clay (CH)	62.7	59.2	76	24	52					-	TV = 0.18 TSF - 100		99
13	30-32	Gray clay with sand pockets (CH)	39	81									TV = 0.22 TSF		
14	32-34	Gray clay with sand pockets (CH)	53	81									TV = 0.17 TSF		
15	34-36	Gray clay with sand pockets (CH)	48	80	72	27	45	.34	6.3	0	SHEAR	-	TV = 0.31 TSF 100	99	86
16	36-38	Gray clay with sand pockets (CH)	56	47									TV = 0.15 TSF		
17	38-40	Gray clay with sand pockets (CH)	61	66									TV = 0.15 TSF		

* Not enough material for LL & PL

SOUTHWESTERN LABORATORIES

$p_o = 36.6\,(27) \approx 1000$ psf
$p_o' = 1200$



Type of Specimen UNDISTURBED		Before Test		After Test	
Diam 2.50 in.	Ht .75 in.	Water Content, w_o	67.2 %	w_f	46.7 %
Overburden Pressure, p_o T/sq ft		Void Ratio, e_o	1.793	e_f	1.018
Preconsol. Pressure, p_c T/sq ft		Saturation, S_o	99 %	S_f	122 %
Compression Index, C_c		Dry Density, γ_d	59.2 lb/ft^3		
Classification Grey Clay (CH)		k_{20} at e_o =	$\times 10^{-}$ cm/sec		
LL 76	G_s 2.65	Project Corps of Engineers (83-431)			
PL 24	D_{10}	WALLISVILLE DAM			
Remarks		Area			
		Boring No. 83-393		Sample No. 10	
		Depth El 26-28		Date 6-29-84	
		CONSOLIDATION TEST REPORT			

ENG FORM 1 MAY 63 2090 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

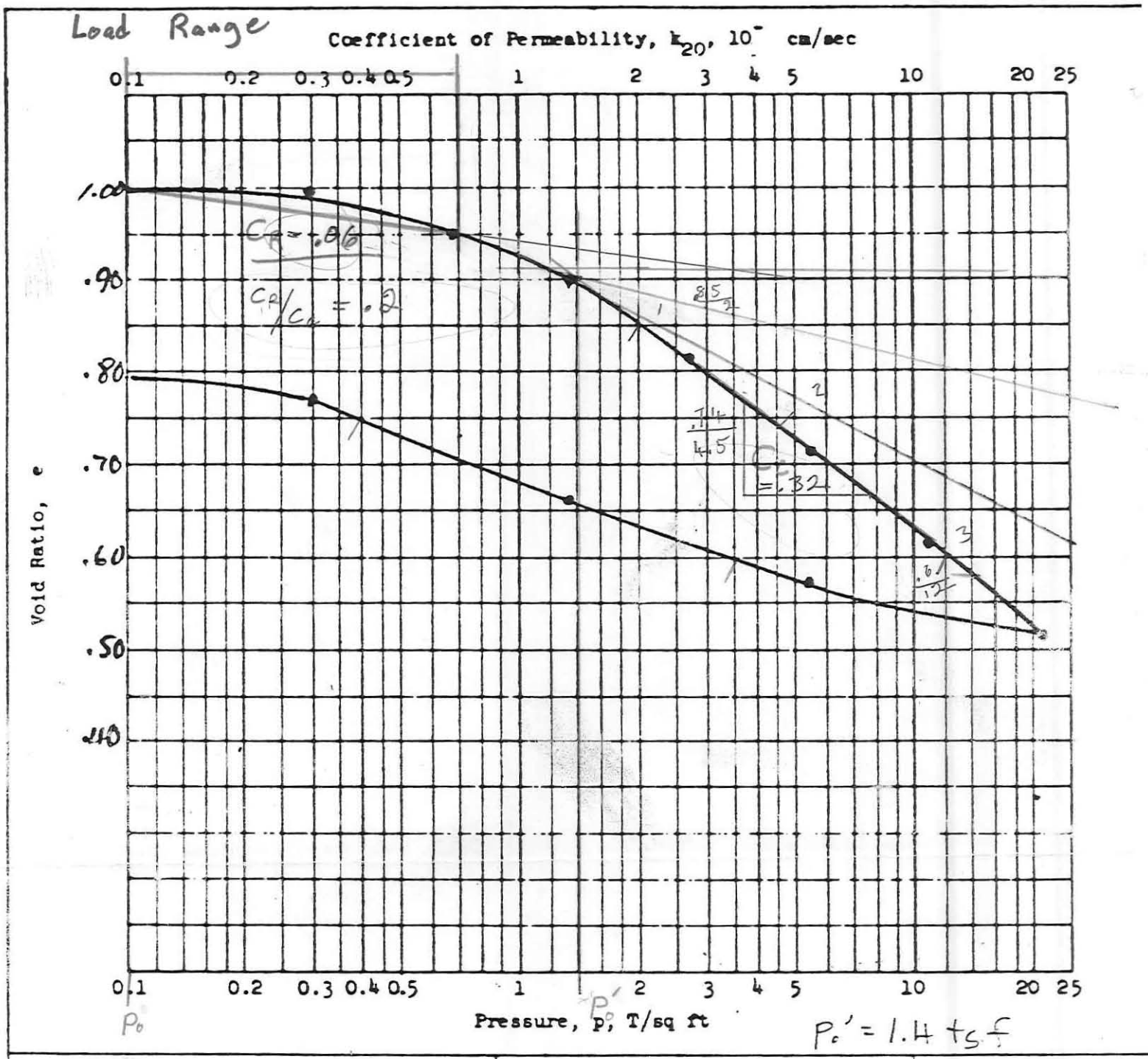
PLATE VIII-5

$p_o = 3(51) = 150$ psf $e_o = G\frac{\gamma_w}{\gamma_d} - 1 =$

$p_o' =$ 2800 psf

∴ Over consolidated

Note: Lab curve same as field curve $\Delta\sigma = .7$ tsf



Type of Specimen UNDISTURBED		Before Test		After Test	
Diam 2.50 in.	Ht 0.750 in.	Water Content, w_o	36.9 %	w_f	32.9 %
Overburden Pressure, p_o T/sq ft		Void Ratio, e_o	.996	e_f	.793
Preconsol. Pressure, p_c T/sq ft		Saturation, S_o	98 %	S_f	110 %
Compression Index, C_c		Dry Density, γ_d	82.9 lb/ft³		
Classification GREY Clay w/ roots (CH)		k_{20} at e_o =	x 10^{-} cm/sec		
LL 85	G_s 2.65	Project Corps of Engineers (83-431)			
PL 26	D_{10}	WALLISVILLE DAM			
Remarks		Area			
		Boring No. 83-393		Sample No. 2	
		Depth El 2-4'		Date 6-29-84	
		CONSOLIDATION TEST REPORT			

ENG FORM 1 MAY 63 2090 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PLATE VIII-5

$\gamma = 113.5$

$\gamma_L = 51$