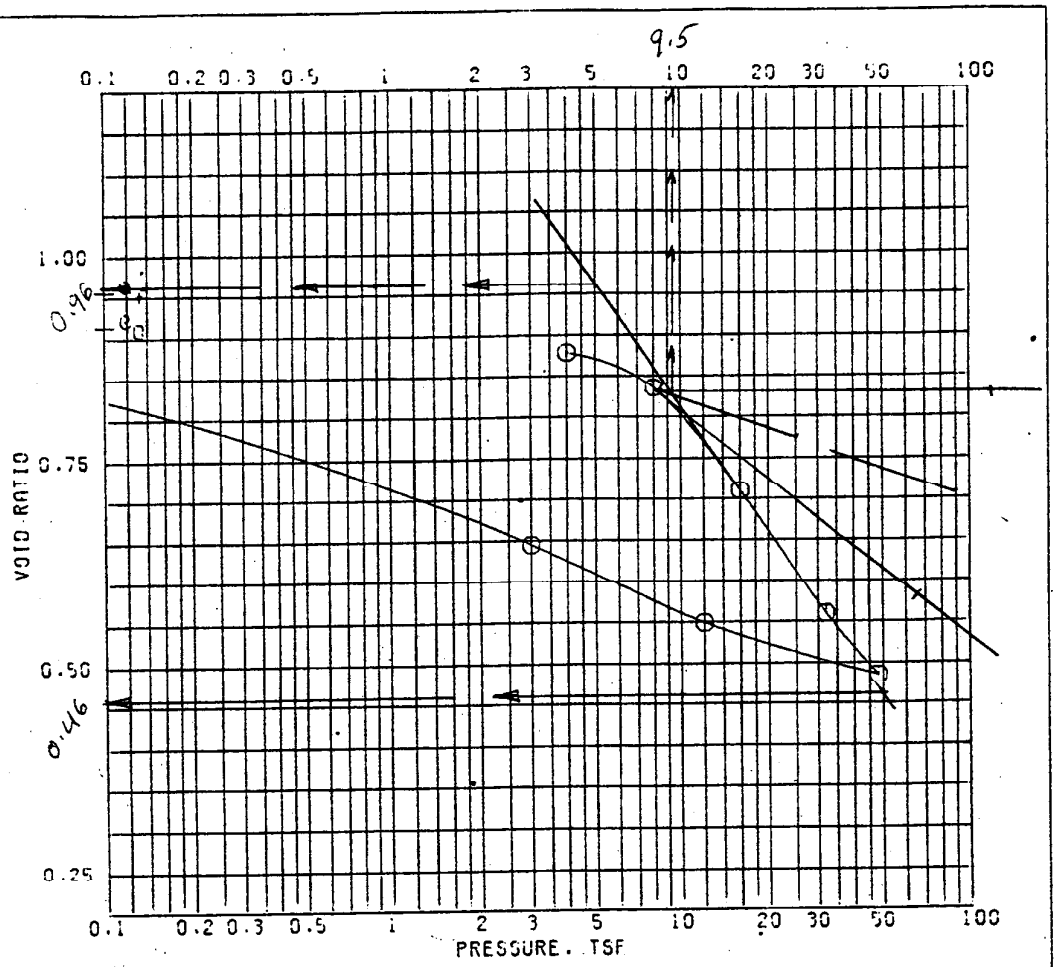


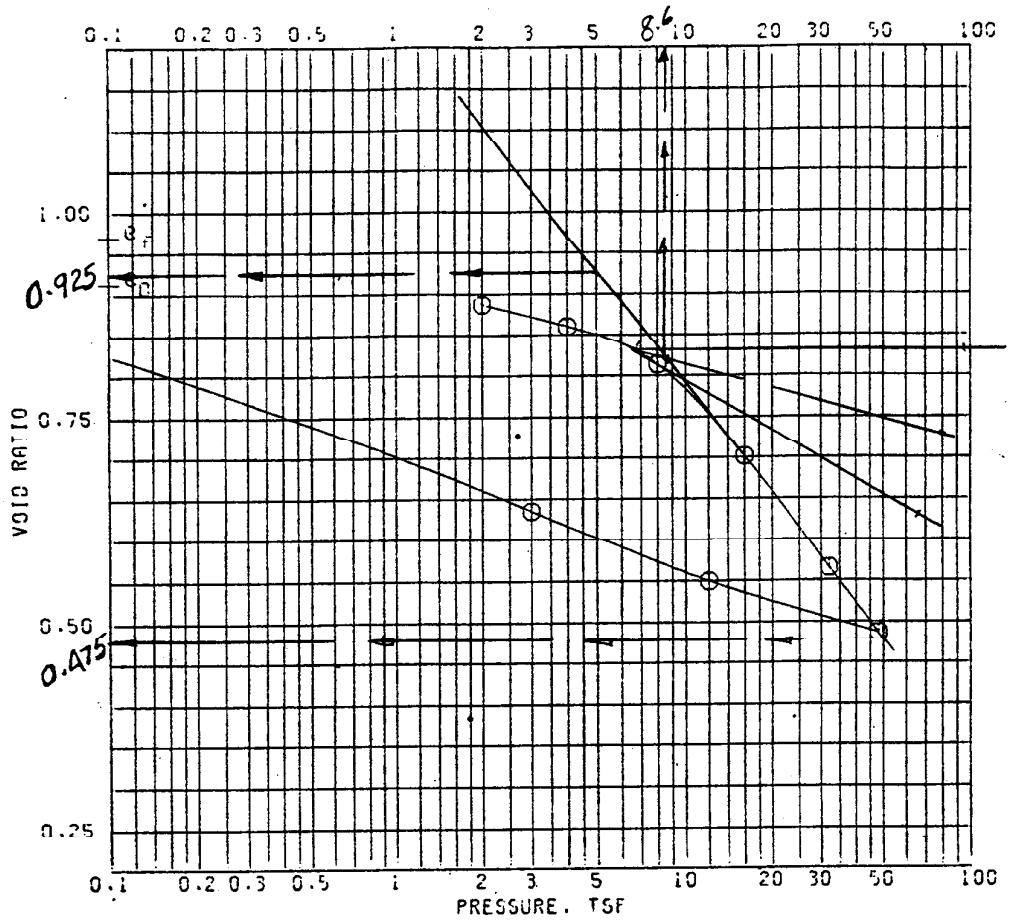
$0.96 - \frac{0.46}{0.50}$

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	33.4	36.1
PRECONSOL. PRESSURE, TSF	9.5	DRY DENSITY, PCF	89.2	85.2
COMPRESSION INDEX	0.50	SATURATION, %	98.9	100 +.
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	0.912	0.954
DIA. IN 4.44	HT. IN 1.122	BACK PRESSURE, TSF		

CLASSIFICATION PLASTIC CLAY (CH), DARK GRAY

LL 52	PL 18	PI 34	PROJECT M.R.G.O. - NEW SHIPLOCK
GS 2.70 (EST)	D_{10}		IHNC SITE
REMARKS ELEV. -289.8		BORING NO. 2-IU	SAMPLE NO. 75-C
p_c = 9.5		DEPTH/ELEV 238.4/-293.8	DATE 14 OCT 81
C_c = 0.50		CONSOLIDATION TEST REPORT	

SHEET 1 OF 10



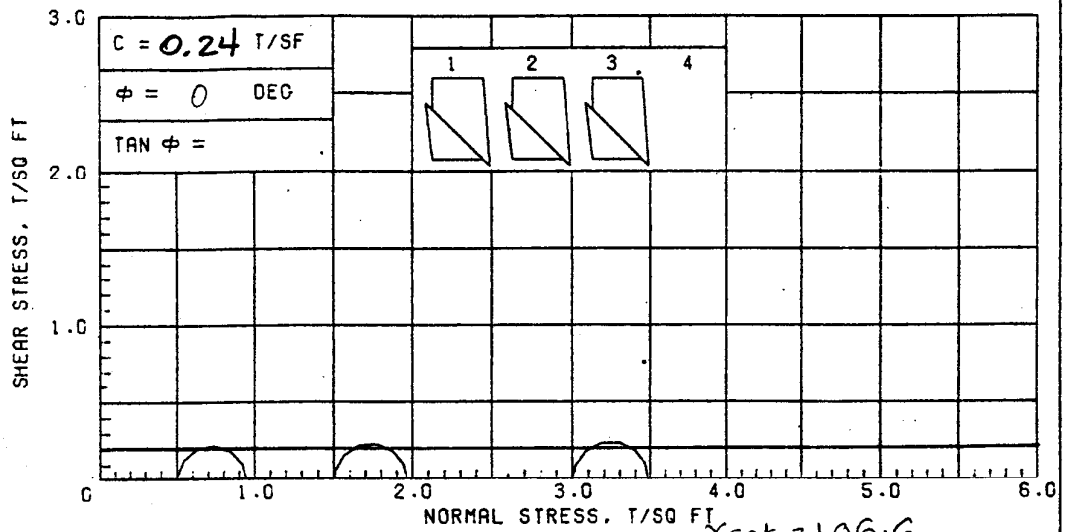
0.925
−0.475
0.450

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	32.2	37.5
PRECONSOL. PRESSURE, TSF	8.6	DRY DENSITY, PCF	95.2	85.6
COMPRESSION INDEX	0.45	SATURATION, %	95.4	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	0.911	0.969
DIA. IN 4.44	HT. IN 1.115	BACK PRESSURE, TSF		

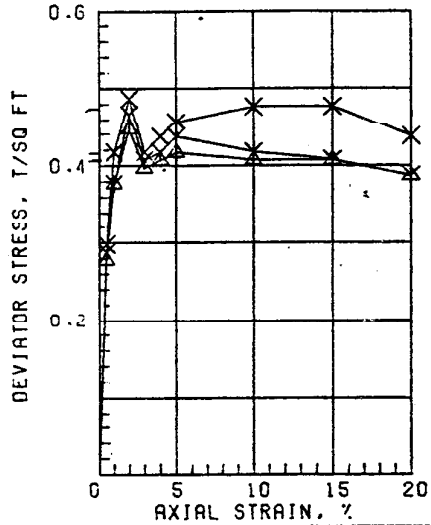
CLASSIFICATION CLAY (CL), DARK GRAY; SILT LENSES

LL 46	PL 20	PI 26	PROJECT M.R.G.O. - NEW SHIPLOCK
GS 2.70 (EST)	D_{10}		IHNC SITE
REMARKS ELEV. −306.2		BORING NO. 2-IU	SAMPLE NO. 79-D
Pc = 8.6		DEPTH/ELEV 314.8/-306.2	DATE 14 OCT 81
Cc = 0.45		CONSOLIDATION TEST REPORT	

SHEET 1 OF 11



γ_{sat} = 106.6



	SPECIMEN NO.	Δ1	Y2	X3	AVG. 4
INITIAL	WATER CONTENT, %	52.3	53.1	53.5	53.0
	DRY DENSITY, PCF	70.2	69.5	69.4	69.7
	SATURATION, %	100+	100+	100+	
	VOID RATIO	1.400	1.426	1.428	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.45	0.47	0.49	0.47
TIME TO FAILURE, MIN.		4	4	4	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.41	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY; CONCRETIONS

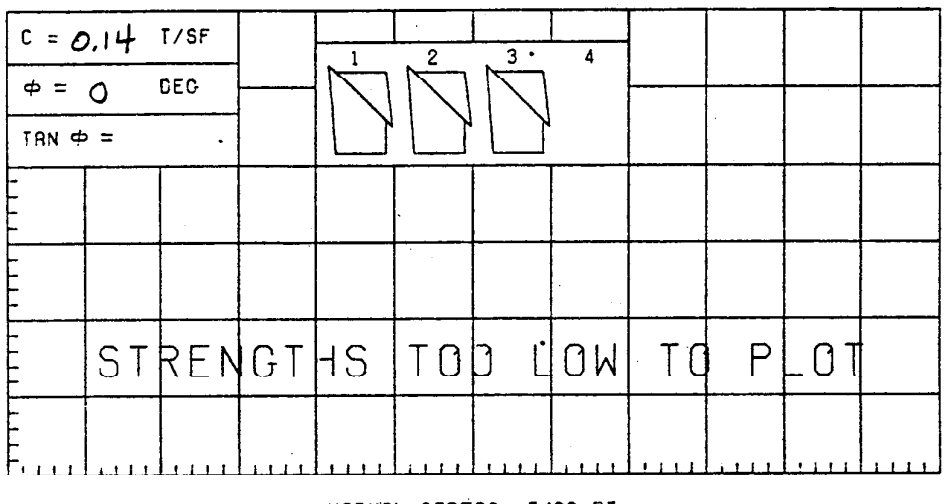
LL 88	PL 25	PI 63	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.C.O. - NEW SHIPLOCK	
	IHNC SITE	
	BORING NO. 4-IU	SAMPLE NO. 2-C
	DEPTH/ELEV 5.6/-25.6	TECH. KOC
	LABORATORY USAE WES	DATE 27 AUG 81
	TRIAXIAL COMPRESSION TEST REPORT	

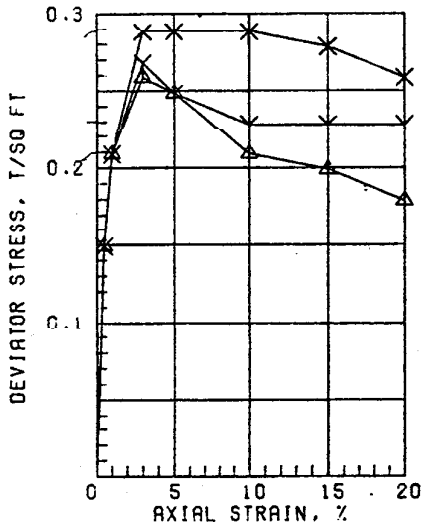
C = 0.14 T/SF

Φ = 0 DEG

TAN Φ = .



γ_{sat} = 98.6



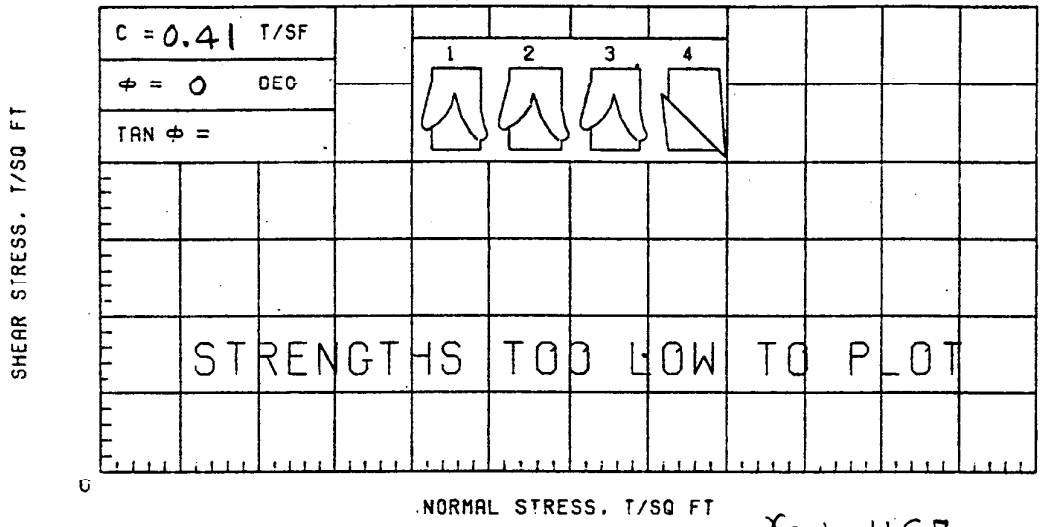
SPECIMEN NO.		Δ1	Y2	X3	AVG 4
INITIAL	WATER CONTENT, %	73.7	73.8	72.2	73.2
	DRY DENSITY, PCF	56.4	57.2	57.0	56.9
	SATURATION, %	100.0	100.	99.7	
	VOID RATIO	1.990	1.948	1.956	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.26	0.27	0.29	.27
TIME TO FAILURE, MIN.		6	6	6	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.40	1.41	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

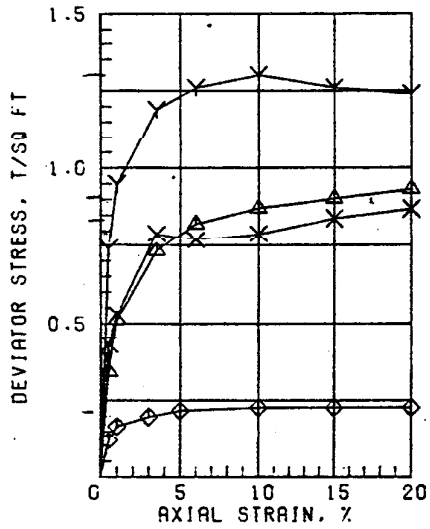
DESCRIPTION OF SPECIMENS; PLASTIC CLAY (CH), GRAY; SILT LENSES

LL 82	PL 19	PI 63	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS;	PROJECT M.R.G.O. - NEW SHIPLOCK
	IHNC SITE
	BORING NO. 4-IU / SAMPLE NO. 5-C
	DEPTH/ELEV 18.4/-38.4 / TECH. KOC
	LABORATORY USAE WES / DATE 28 AUG 81
	TRIAXIAL COMPRESSION TEST REPORT



γ_{sat} = 116.7



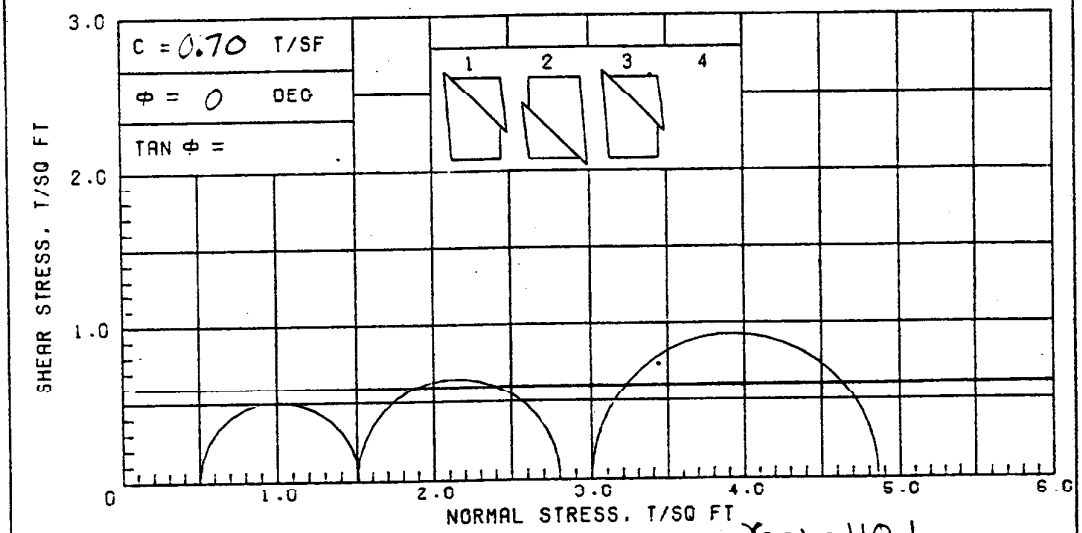
	SPECIMEN NO.	△1	Y2	X3	◇4	AVG
INITIAL	WATER CONTENT, %	36.0	33.9	33.7	43.2	36.7
	DRY DENSITY, PCF	86.4	88.4	89.3	76.5	85.2
	SATURATION, %	100+	100+	100+	96.9	
	VOID RATIO	0.952	0.906	0.888	1.203	
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
	MIN PRIN. STRESS, TSF	0.5	1.5	3.0	1.5	
	MAX. DEV. STRESS, TSF	0.90	1.30	0.79	0.23	0.81
	TIME TO FAILURE, MIN.	27	18	6	20	
	RATE OF STRAIN INCR.%					
	INITIAL DIAMETER, IN.	1.40	1.40	1.40	1.41	
	INITIAL HEIGHT, IN.	3.00	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

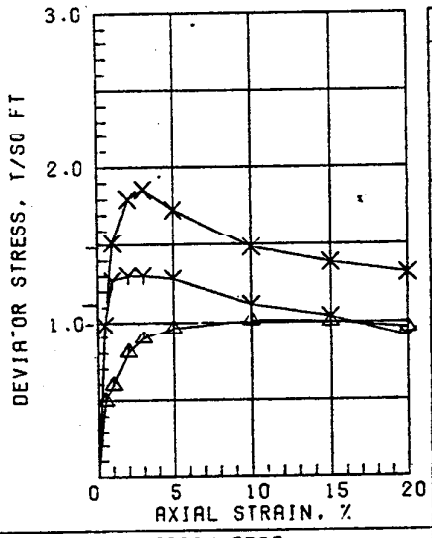
DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), LIGHT GRAY

LL 57	PL 19	PI 38	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.G.O. - NEW SHIPLOCK
	IHNC SITE
	BORING NO. 4-IU / SAMPLE NO. 12-B
	DEPTH/ELEV 45.0/-65.0 / TECH. PJR
	LABORATORY USAE WES / DATE 23 SEP 81
	TRIAXIAL COMPRESSION TEST REPORT



γ_{sat} = 110.1



SPECIMEN NO.		Δ1	Y2	X3	AVG. 4
INITIAL	WATER CONTENT, %	46.2	46.4	46.7	46.4
	DRY DENSITY, PCF	74.1	75.8	75.2	75.0
	SATURATION, %	97.7	100+	100+	99.2
	VOID RATIO	1.276	1.224	1.241	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		1.01	1.30	1.86	1.39
TIME TO FAILURE, MIN.		20	4	6	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.40	1.41	1.41	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

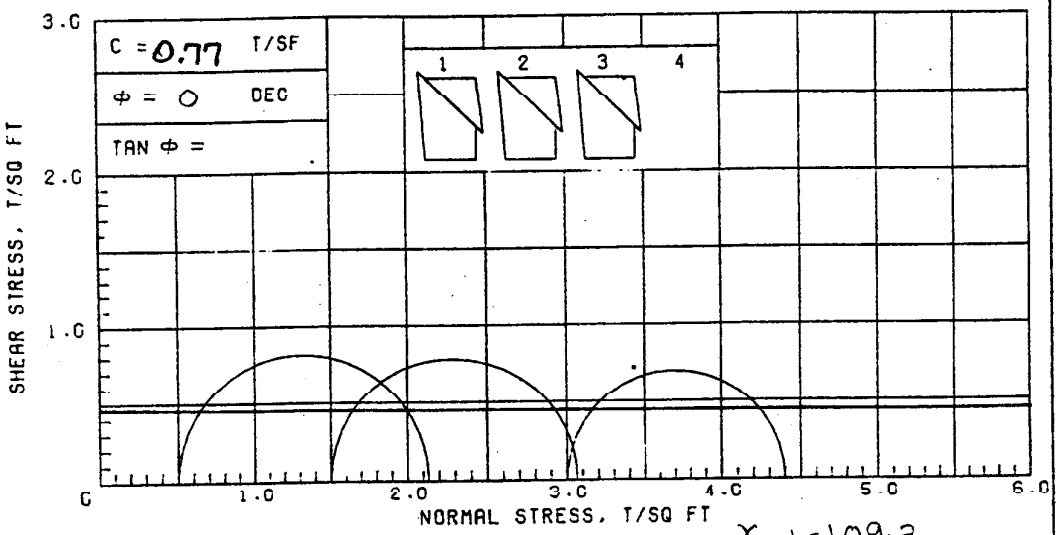
CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), LIGHT GRAY; SLICKENSIDED

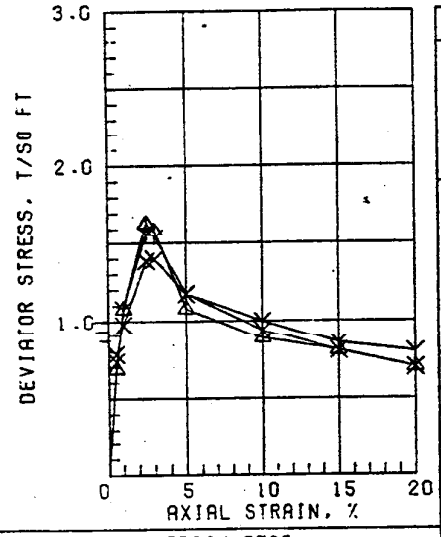
LL 92	PL 22	PI 70	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.G.O. - NEW SHIPLOCK
	IHNC SITE
	BORING NO. 4-IU / SAMPLE NO. 14-C
	DEPTH/ELEV 54.1/-74.1 / TECH. KOC
	LABORATORY USAE WES / DATE 28 AUG 81

TRIAXIAL COMPRESSION TEST REPORT



γ_{sat} = 109.2



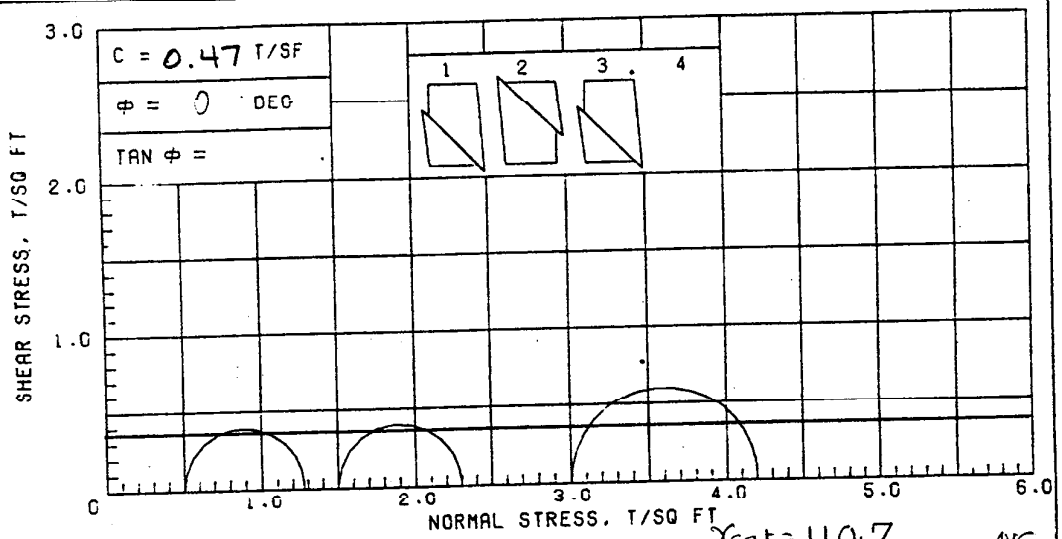
	SPECIMEN NO.	Δ1	Y2	X3	4 (AVG.)
INITIAL	WATER CONTENT, %	48.4	48.3	48.0	48.2
	DRY DENSITY, PCF	73.6	73.6	73.9	73.7
	SATURATION, %	100+	100+	100+	
	VOID RATIO	1.291	1.290	1.281	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		1.63	1.56	1.40	1.53
TIME TO FAILURE, MIN.		5	15	18	
RATE OF STRAIN INCR.,%			6	6	
INITIAL DIAMETER, IN.		1.42	1.42	1.42	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

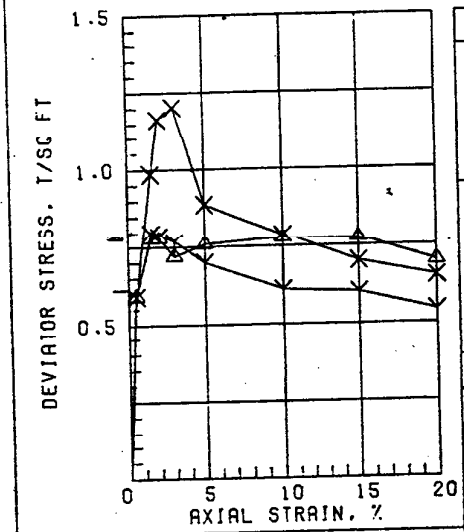
DESCRIPTION OF SPECIMENS; PLASTIC CLAY (CH), GRAY; SILT LENSES

LL 71	PL 22	PI 49	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS;	PROJECT M.R.C.O. - NEW SHIPLOCK
	IHNC SITE
	BORING NO. 4-IU / SAMPLE NO. 18-B
	DEPTH/ELEV 68.7/-88.7 / TECH. KOC
	LABORATORY USAE WES / DATE 31 AUG 81
	TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{sat} = 110.7$



	SPECIMEN NO.	Δ1	Y2	X3	4 (AVG)
INITIAL	WATER CONTENT, %	46.7	46.9	46.8	46.8
	DRY DENSITY, PCF	75.5	75.4	75.3	75.4
	SATURATION, %	100+	100+	100+	
	VOID RATIO	1.232	1.236	1.238	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
	MIN PRIN. STRESS, TSF	0.5	1.5	3.0	
	MAX. DEV. STRESS, TSF	0.78	0.80	1.20	0.93
	TIME TO FAILURE, MIN	3	3	19	
	RATE OF STRAIN INCR.%			6	
	INITIAL DIAMETER, IN.	1.41	1.41	1.41	
	INITIAL HEIGHT, IN.	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

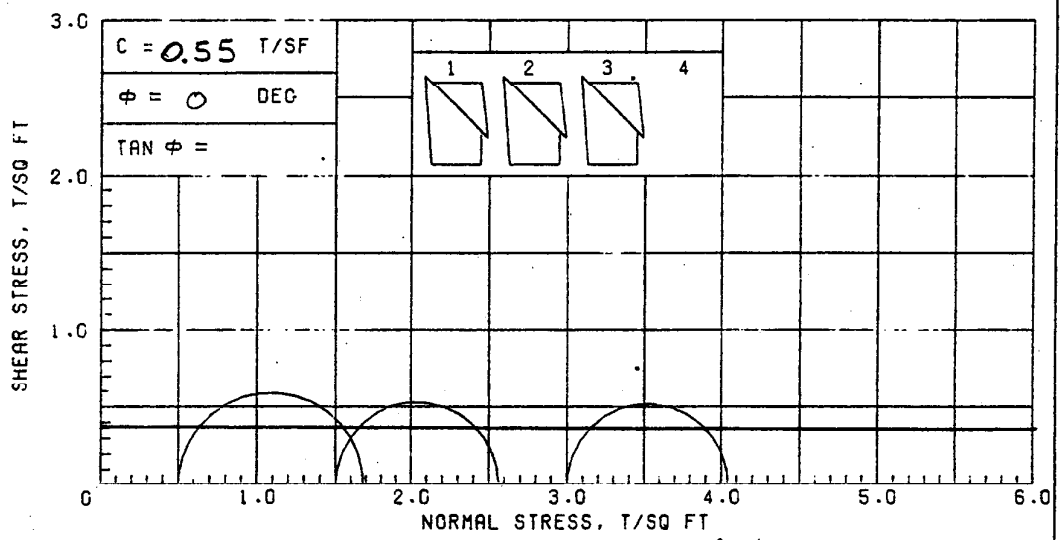
DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY

LL 63	PL 21	PI 42	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

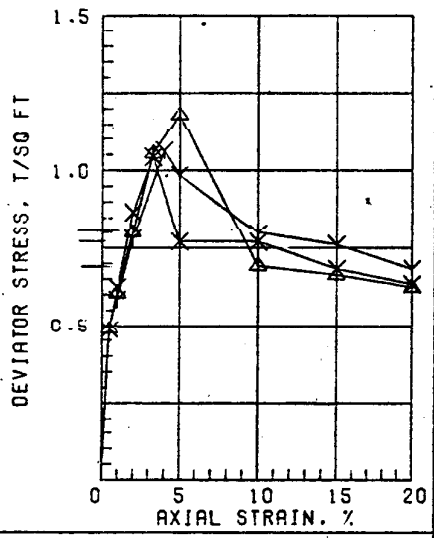
REMARKS:
INSUFFICIENT MATERIAL FOR CHECK TEST.

PROJECT M.R.G.O. - NEW SHIPLOCK
IHNC SITE
BORING NO. 4-IU — SAMPLE NO. 20-D
DEPTH/ELEV 78.8/-98.8 — TECH. KOC
LABORATORY USAE WES — DATE 31 AUG 81

TRIAXIAL COMPRESSION TEST REPORT



γ_{sat} = 108.9



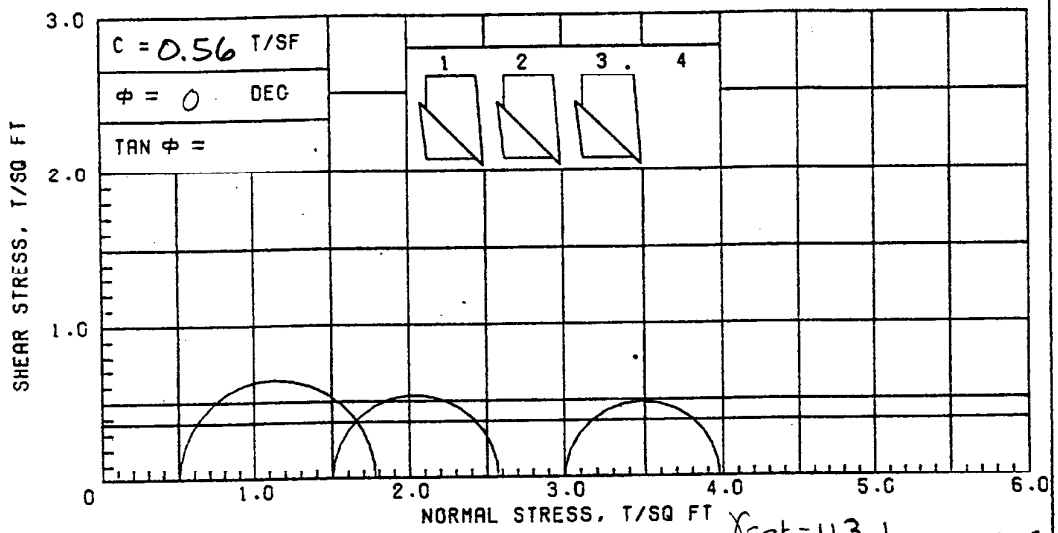
	SPECIMEN NO.	△1	Y2	X3	4 (AVG.)
INITIAL	WATER CONTENT, %	48.5	48.2	48.3	48.3
	DRY DENSITY, PCF	73.2	73.4	73.7	73.4
	SATURATION, %	100+	100+	100+	
	VOID RATIO	1.301	1.295	1.287	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
	MIN PRIN. STRESS, TSF	0.5	1.5	3.0	
	MAX. DEV. STRESS, TSF	1.18	1.06	1.04	1.09
	TIME TO FAILURE, MIN.	10	25	19	
	RATE OF STRAIN INCR.%		6	6	
	INITIAL DIAMETER, IN.	1.42	1.42	1.42	
	INITIAL HEIGHT, IN.	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

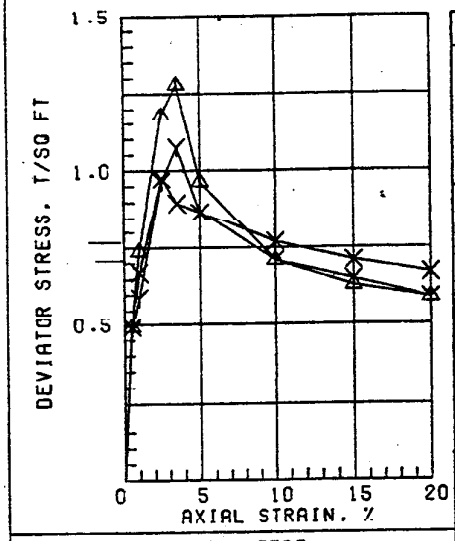
DESCRIPTION OF SPECIMENS: CLAY (CH), GRAY; SILT LENSES

LL	PL	PI	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.C.O. - NEW SHIPLOCK	
	IHNC SITE	
	BORING NO. 4-IU	SAMPLE NO. 24-B
	DEPTH/ELEV 93.2/-113.2	TECH. KOC
	LABORATORY USAE WES	DATE 01 SEP 81
	TRIAXIAL COMPRESSION TEST REPORT	



γsat = 113.1



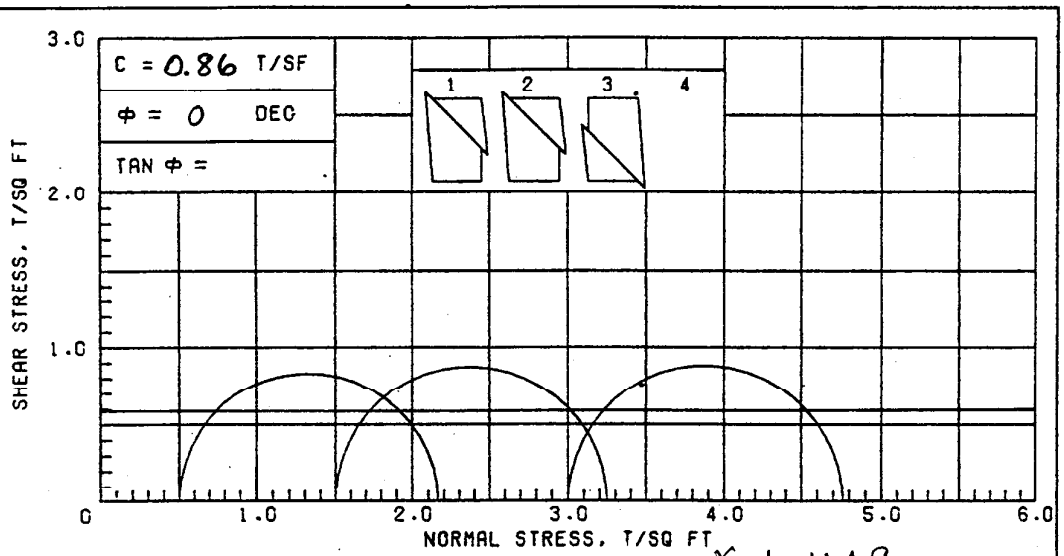
SPECIMEN NO.		△1	Y2	X3	4 (AVG)
INITIAL	WATER CONTENT, %	40.7	41.8	41.6	41.4
	DRY DENSITY, PCF	80.9	79.4	79.7	80.0
	SATURATION, %	100+	100+	100+	
	VOID RATIO	1.085	1.123	1.114	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		1.28	1.07	0.97	1.11
TIME TO FAILURE, MIN.		7	21	15	
RATE OF STRAIN INCR.%			6	6	
INITIAL DIAMETER, IN.		1.41	1.41	1.41	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

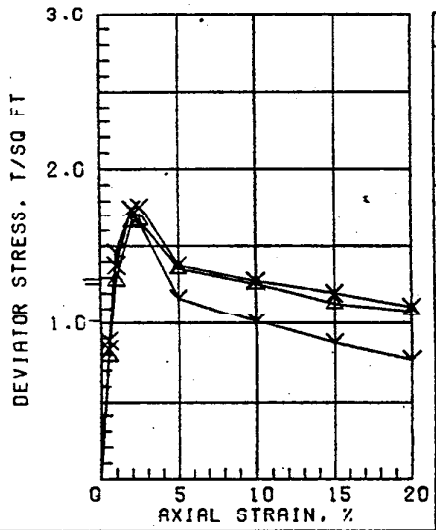
DESCRIPTION OF SPECIMENS; PLASTIC CLAY (CH), GRAY; SILT LENSES

LL 67	PL 17	PI 50	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS;	PROJECT M.R.C.O. - NEW SHIPLOCK
	IHNC SITE
	BORING NO. 4-IU / SAMPLE NO. 26-B
	DEPTH/ELEV 101.0/-121.0 / TECH. KOC
	LABORATORY USAE WES / DATE 01 SEP 81
	TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{sat} = 114.9$



	SPECIMEN NO.	Δ1	Y2	X3	AVG. 4
INITIAL	WATER CONTENT, %	39.5	38.8	39.6	39.3
	DRY DENSITY, PCF	82.2	83.2	82.0	82.5
	SATURATION, %	100+	100+	100+	
	VOID RATIO	1.052	1.026	1.054	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
	MIN PRIN. STRESS, TSF	0.5	1.5	3.0	
	MAX. DEV. STRESS, TSF	1.66	1.74	1.76	1.72
	TIME TO FAILURE, MIN.	5	12	15	
	RATE OF STRAIN INCR.%		6	6	
	INITIAL DIAMETER, IN.	1.41	1.41	1.41	
	INITIAL HEIGHT, IN.	3.00	3.00	3.00	

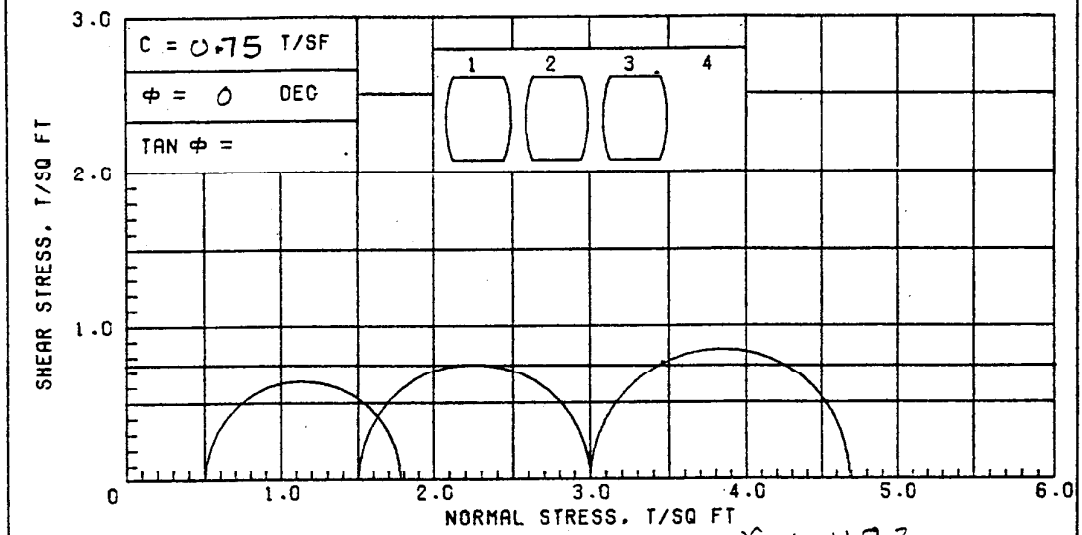
CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY; SILT LENSES

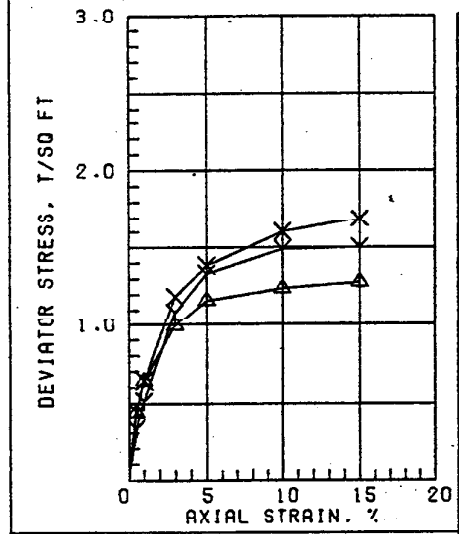
LL 56	PL 16	PI 40	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.C.O. - NEW SHIPLOCK
	IHNC SITE
	BORING NO. 4-IU / SAMPLE NO. 28-B
	DEPTH/ELEV 109.0/-129.0 / TECH. KOC
	LABORATORY USAE WES / DATE 22 SEP 81

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{sat} = 118.3$



	SPECIMEN NO.	Δ1	Y2	X3	AVG. 4
INITIAL	WATER CONTENT, %	31.8	33.9	32.6	32.8
	DRY DENSITY, PCF	90.1	87.9	87.8	88.6
	SATURATION, %	98.5	99.7	95.7	98.0
	VOID RATIO	0.872	0.918	0.920	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		1.28	1.50	1.69	1.49
TIME TO FAILURE, MIN.		30	30	30	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.41	1.41	1.41	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

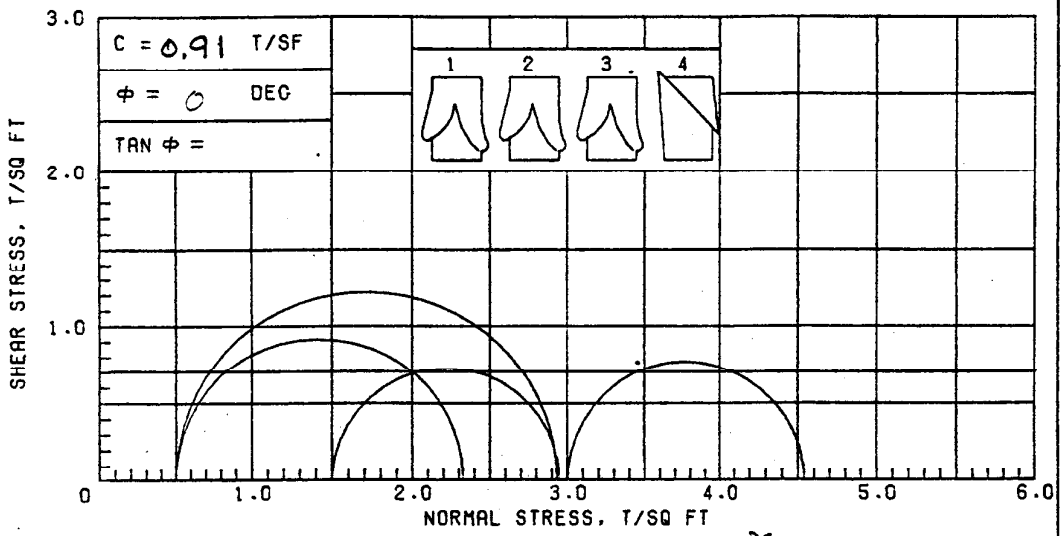
CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY; SILT LENSES

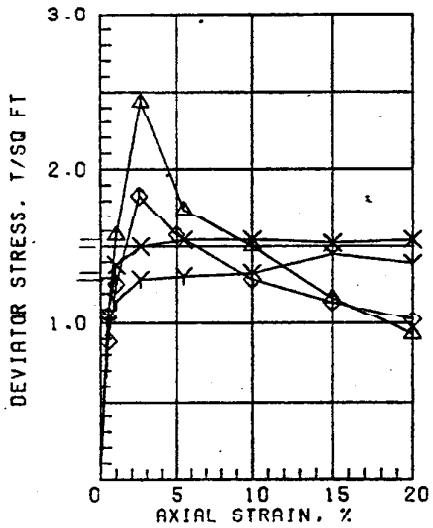
LL 44	PL 14	PI 30	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.C.O. - NEW SHIPLOCK
LIMITS ON MIXTURE OF MATERIAL.	IHNC SITE
	BORING NO. 4-IU / SAMPLE NO. 32-D
	DEPTH/ELEV 126.8/-146.8 / TECH. KOC
	LABORATORY USAE WES / DATE 22 SEP 81

TRIAXIAL COMPRESSION TEST REPORT



γ_{sat} = 114.3



	SPECIMEN NO.	Δ1	Y2	X3	Φ4	AVG
INITIAL	WATER CONTENT, %	40.7	39.8	38.4	39.2	39.3
	DRY DENSITY, PCF	80.7	81.9	82.8	82.0	81.9
	SATURATION, %	100+	100+	100+	100+	
	VOID RATIO	1.088	1.059	1.035	1.056	
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
	MIN PRIN. STRESS, TSF	0.5	1.5	3.0	0.5	
	MAX. DEV. STRESS, TSF	2.43	1.45	1.54	1.83	1.81
	TIME TO FAILURE, MIN.	5	67	25	5	
	RATE OF STRAIN INCR.%					
	INITIAL DIAMETER, IN.	1.40	1.40	1.40	1.41	
	INITIAL HEIGHT, IN.	3.00	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

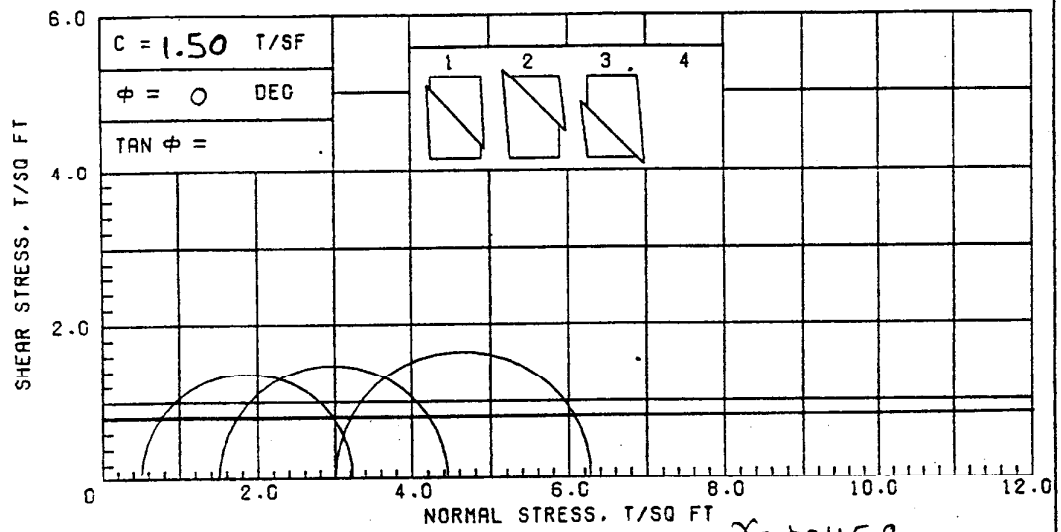
DESCRIPTION OF SPECIMENS; PLASTIC CLAY (CH), LIGHT GRAY; SILT LENSES

LL 57	PL 21	PI 36	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

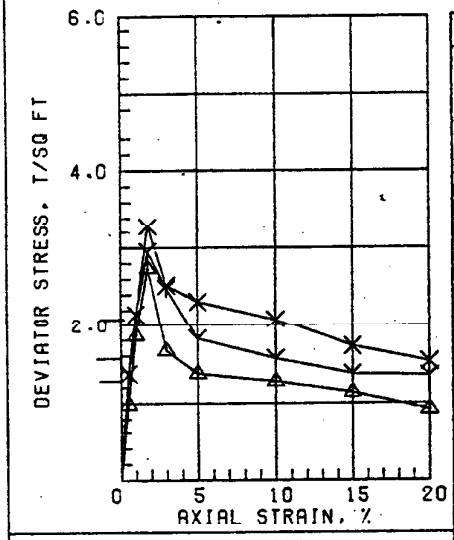
REMARKS;

PROJECT M.R.C.O. - NEW SHIPLOCK
IHNC SITE
BORING NO. 4-IU — SAMPLE NO. 45-C
DEPTH/ELEV 178.3/-198.3 — TECH. PJR
LABORATORY USAE WES — DATE 24 SEP 81

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{sat} = 115.9$



	SPECIMEN NO.	Δ1	Y2	X3	AVG. 4
INITIAL	WATER CONTENT, %	38.0	36.6	36.6	37.1
	DRY DENSITY, PCF	83.7	84.6	85.2	84.5
	SATURATION, %	100+	99.6	100+	99.9
	VOID RATIO	1.014	0.992	0.978	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
	MIN PRIN. STRESS, TSF	0.5	1.5	3.0	
	MAX. DEV. STRESS, TSF	2.73	2.95	3.28	2.99
	TIME TO FAILURE, MIN.	4	11	11	
	RATE OF STRAIN INCR.%		6	6	
	INITIAL DIAMETER, IN.	1.42	1.42	1.42	
	INITIAL HEIGHT, IN.	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS; PLASTIC CLAY (CH), GRAY; SILT LENSES

LL 63	PL 22	PI 41	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS;

PROJECT M.R.C.O. - NEW SHIPLOCK

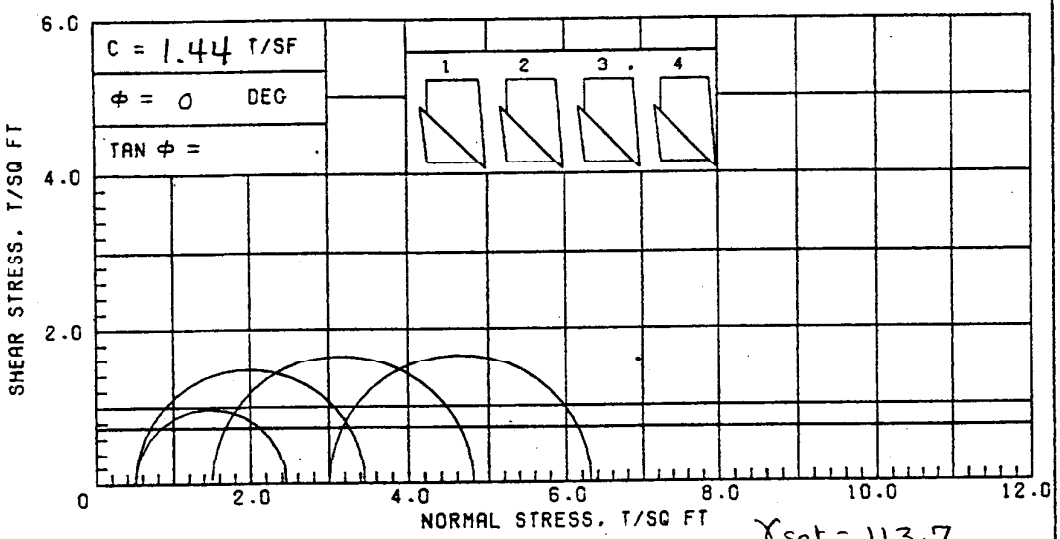
IHNC SITE

BORING NO. 4-IU — SAMPLE NO. 48-B

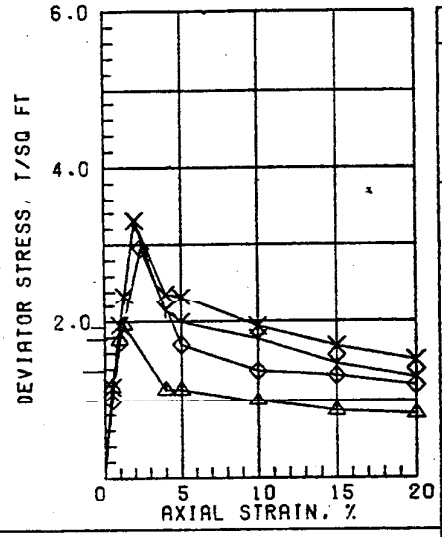
DEPTH/ELEV 189.0/-209.0 — TECH. PJR

LABORATORY USAE WES — DATE 23 SEP 81

TRIAXIAL COMPRESSION TEST REPORT



γ_{sat} = 113.7



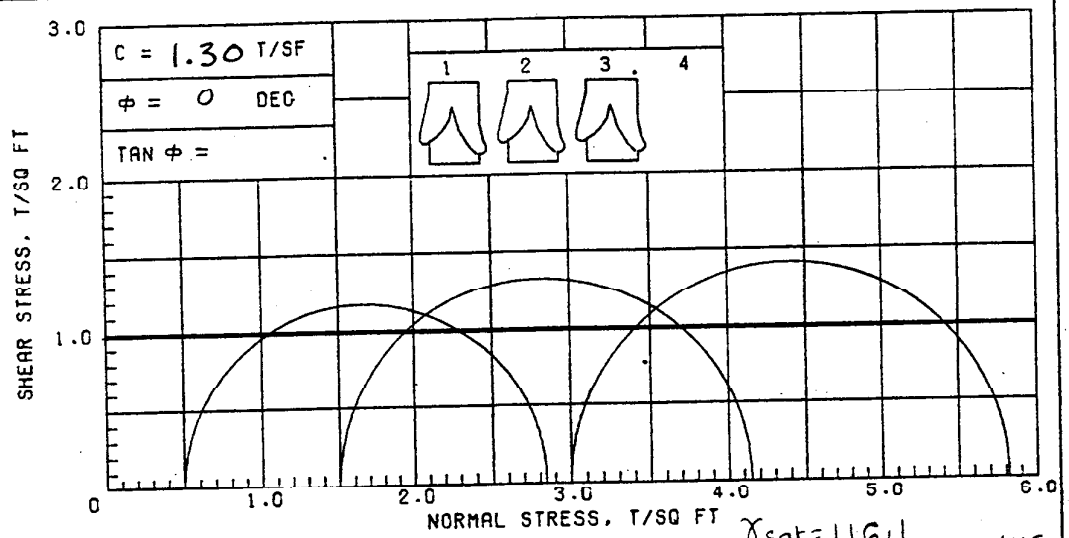
	SPECIMEN NO.	△1	Y2	X3	◇4	AVG
INITIAL	WATER CONTENT, %	41.5	36.3	37.3	42.2	39.[illegible]
	DRY DENSITY, PCF	79.5	83.8	82.1	79.2	81.[illegible]
	SATURATION, %	100+	97.0	95.7	100+	98.[illegible]
	VOID RATIO	1.120	1.011	1.053	1.129	
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	0.5	
MAX. DEV. STRESS, TSF		1.96	3.30	3.31	2.96	2.88
TIME TO FAILURE, MIN.		3	18	18	14	
RATE OF STRAIN INCR.%			4	4	4	
INITIAL DIAMETER, IN.		1.42	1.42	1.42	1.42	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

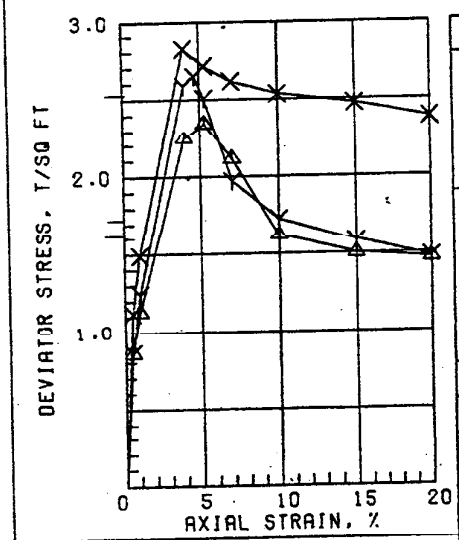
DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY; SILT LENSES & POCKETS

LL 76	PL 24	PI 52	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.C.O. - NEW SHIPLOCK	
LIMITS ON MIXTURE OF MATERIAL.	IHNC SITE	
	BORING NO. 4-IU	SAMPLE NO. 52-B
	DEPTH/ELEV 205.0/-225.0	TECH. KOC
	LABORATORY USAE WES	DATE 23 SEP 81
	TRIAXIAL COMPRESSION TEST REPORT	



$\gamma_{sat} = 116.1$



	SPECIMEN NO.	△1	Y2	X3	4 (AVG.)
INITIAL	WATER CONTENT, %	33.4	31.6	32.4	32.5
	DRY DENSITY, PCF	85.0	85.6	84.9	85.2
	SATURATION, %	91.7	88.1	88.8	89.5
	VOID RATIO	0.984	0.968	0.986	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
	MIN PRIN. STRESS, TSF	0.5	1.5	3.0	
	MAX. DEV. STRESS, TSF	2.34	2.65	2.82	2.60
	TIME TO FAILURE, MIN.	10	8	7	
	RATE OF STRAIN INCR.%				
	INITIAL DIAMETER, IN.	1.40	1.39	1.40	
	INITIAL HEIGHT, IN.	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY; SILT LENSES

LL 60	PL 19	PI 41	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

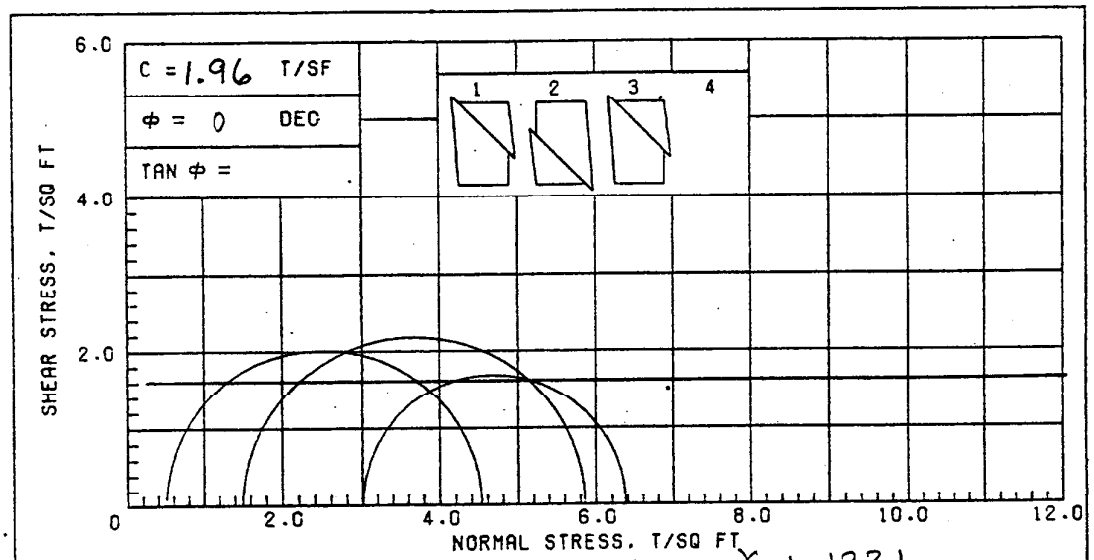
PROJECT M.R.C.O. - NEW SHIPLOCK
IHNC SITE

BORING NO. 4-IU — SAMPLE NO. 58-8

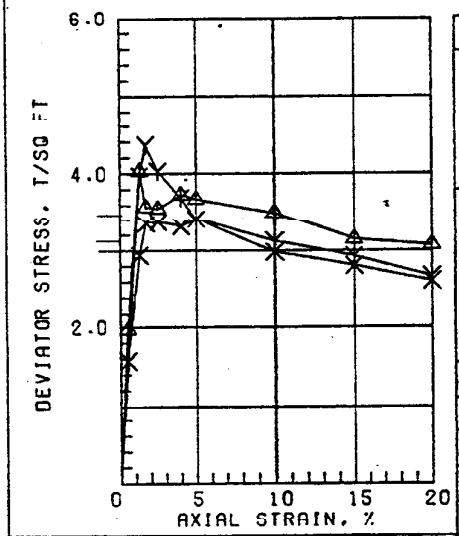
DEPTH/ELEV 230.0/-250.0 — TECH. PJR

LABORATORY USAE WES — DATE 24 SEP 81

TRIAXIAL COMPRESSION TEST REPORT



γ_{sat} = 123.1



	SPECIMEN NO.	Δ1	Y2	X3	4 (AVG.)
INITIAL	WATER CONTENT, %	27.4	27.8	28.2	27.8
	DRY DENSITY, PCF	96.8	96.2	95.8	96.3
	SATURATION, %	99.8	99.8	100+	
	VOID RATIO	0.741	0.752	0.760	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
	MIN PRIN. STRESS, TSF	0.5	1.5	3.0	
	MAX. DEV. STRESS, TSF	4.02	4.36	3.37	3.92
	TIME TO FAILURE, MIN.	3	15	21	
	RATE OF STRAIN INCR.%		4	4	
	INITIAL DIAMETER, IN.	1.41	1.41	1.41	
	INITIAL HEIGHT, IN.	3.00	3.00	3.00	

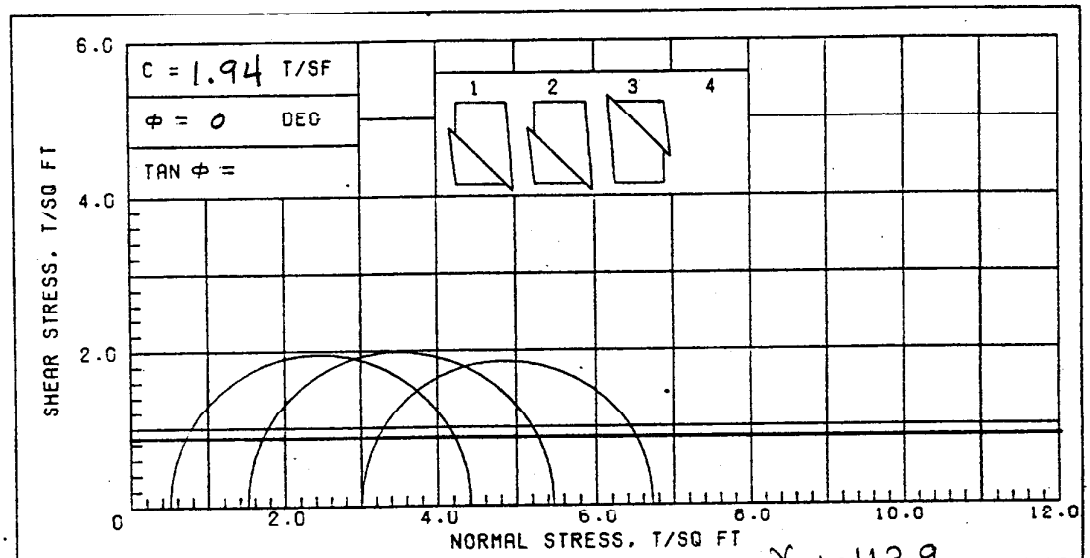
CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY

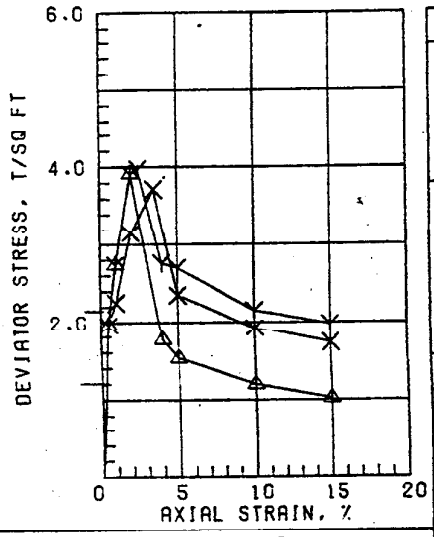
LL 50	PL 17	PI 33	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.C.O. - NEW SHIPLOCK	
	IHNC SITE	
	BORING NO. 4-IU	SAMPLE NO. 60-D
	DEPTH/ELEV 239.3/-2[illegible]	TECH. KOC
	LABORATORY USAE WES	DATE 24 SEP 81

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{sat} = 112.9$



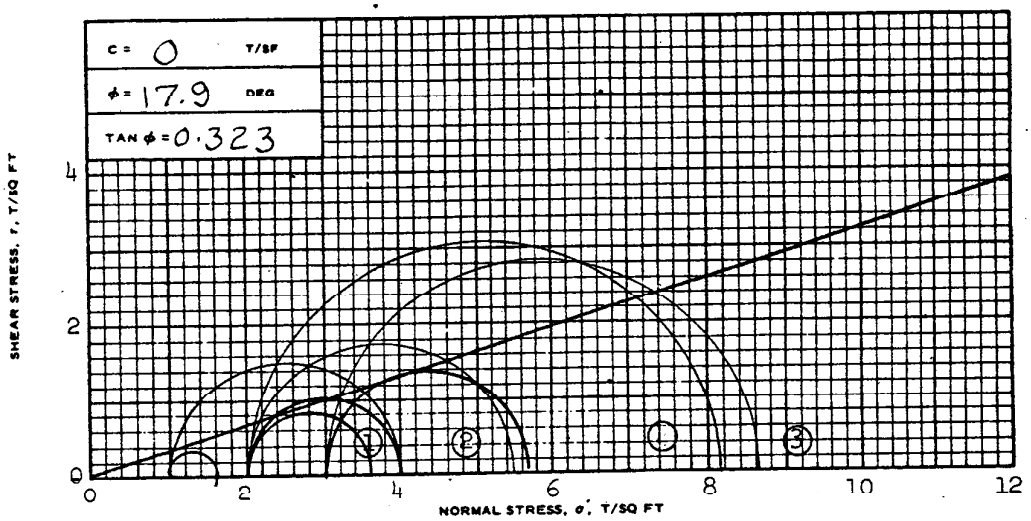
	SPECIMEN NO.	Δ1	Y2	X3	4 (AVG.)
INITIAL	WATER CONTENT, %	42.8	41.3	42.0	42.0
	DRY DENSITY, PCF	79.0	80.1	79.3	79.5
	SATURATION, %	100+	100+	100+	
	VOID RATIO	1.134	1.104	1.127	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
	MIN PRIN. STRESS, TSF	0.5	1.5	3.0	
	MAX. DEV. STRESS, TSF	3.92	3.97	3.72	3.87
	TIME TO FAILURE, MIN.	4	26	31	
	RATE OF STRAIN INCR.%		4	4	
	INITIAL DIAMETER, IN.	1.42	1.42	1.42	
	INITIAL HEIGHT, IN.	3.00	3.00	3.00	

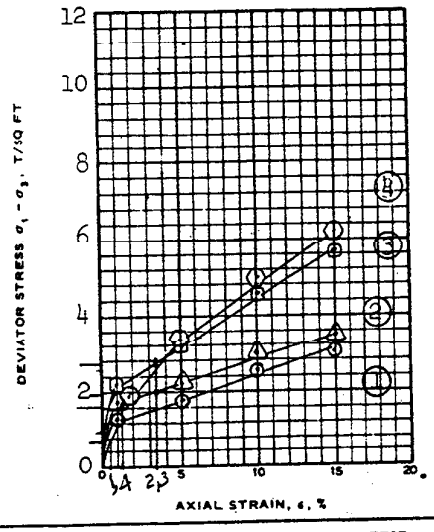
CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY

LL 82	PL 20	PI 62	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.G.O. - NEW SHIPLOCK
	IHNC SITE
	BORING NO. 4-IU / SAMPLE NO. 64-B
	DEPTH/ELEV 253.0/-273.0 / TECH. KOC
	LABORATORY USAE WES / DATE 24 SEP 81
	TRIAXIAL COMPRESSION TEST REPORT





SPECIMEN NO.			1	2	3	4	
INITIAL	WATER CONTENT, %	w_o	24.3	24.4	23.1	23.0	23.
	DRY DENSITY LB/CU FT	γd_o	100.8	101.3	102.6	102.8	101.
	SATURATION, %	S_o	98.2	99.9	97.7	97.6	98.
	VOID RATIO	e_o	0.666	0.657	0.636	0.634	
BEFORE SHEAR	WATER CONTENT, %	w_c	22.4	20.8	20.1	21.1	
	DRY DENSITY LB/CU FT	γd_c	104.5	110.9	101.3	109.0	
	SATURATION, %	S_c	99.3	100+	100+	100+	
	VOID RATIO	e_c	0.607	0.515	0.534	0.541	
	FINAL BACK PRESSURE, T/SQ FT	u_o	5.04	5.04	5.04	5.04	
MINOR PRINCIPAL STRESS, T/SQ FT		σ_3	1.0	2.0	3.0	2.0	
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	3.02	3.50	5.65	6.16	
TIME TO $(\sigma_1 - \sigma_3)_{MAX}$, MIN		t_f	1071	1071	1071	224	
ULTIMATE DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{ULT}$					
INITIAL DIAMETER, IN.		D_o	1.38	1.38	1.38	1.39	
INITIAL HEIGHT, IN.		H_o	3.00	3.00	3.00	3.00	

CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS CLAYEY SILT (ML), GRAY

LL	PL	PI	G_s 2.69(EST)	TYPE OF SPECIMEN UNDISTURBED	TYPE OF TEST $\bar{R}$

REMARKS:

PROJECT MRGO - NEW SHIPLOCK
IHNC SITE

BORING NO. 4-IU SAMPLE NO. 19-C

DEPTH/ELEV 73.5/-93.5

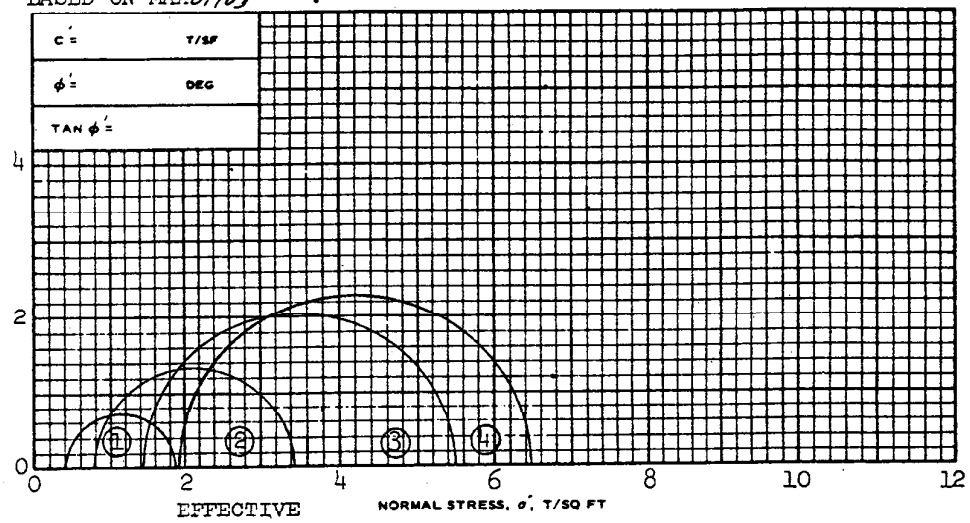
LABORATORY USAEWES DATE 13 OCT 81

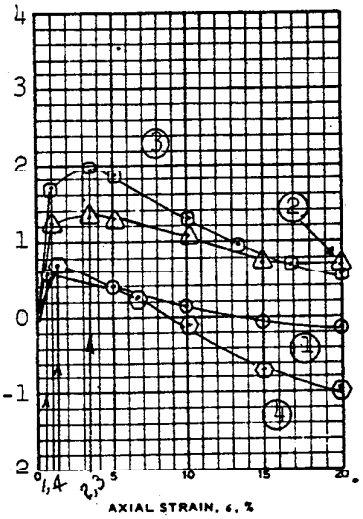
SHEET 1 OF 2

JMS TRIAXIAL COMPRESSION TEST REPORT

ENG FORM NO. 2089 REV JUNE 1970 PREVIOUS EDITION IS OBSOLETE TRANSLUCENT (EM 1110-2-1906)

BASED ON MAX σ_1'/σ_3'





SPECIMEN NO.			1	2	3	4
INITIAL	WATER CONTENT, %	w_o				
	DRY DENSITY LB/CU FT	γ_{d_o}				
	SATURATION, %	S_o				
	VOID RATIO	e_o				
BEFORE SHEAR	WATER CONTENT, %	w_c				
	DRY DENSITY LB/CU FT	γ_{d_c}				
	SATURATION, %	S_c				
	VOID RATIO	e_c				
	FINAL BACK PRESSURE, T/SQ FT	u_b				
MINOR PRINCIPAL STRESS, T/SQ FT		σ_3	0.42	0.78	1.42	1.93
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	1.44	2.66	4.06	4.54
TIME TO $(\sigma_1 - \sigma_3)_{MAX}$, MIN		t_f				
ULTIMATE DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{ULT}$				
INITIAL DIAMETER, IN.		D_o				
INITIAL HEIGHT, IN.		H_o				

CONTROLLED- TEST

DESCRIPTION OF SPECIMENS

LL	PL	PI	Gs	TYPE OF SPECIMEN	TYPE OF TEST

REMARKS:

PROJECT MRGO - NEW SHIPLOCK
IHNC SITE

BORING NO. 4-IU SAMPLE NO. 19-C

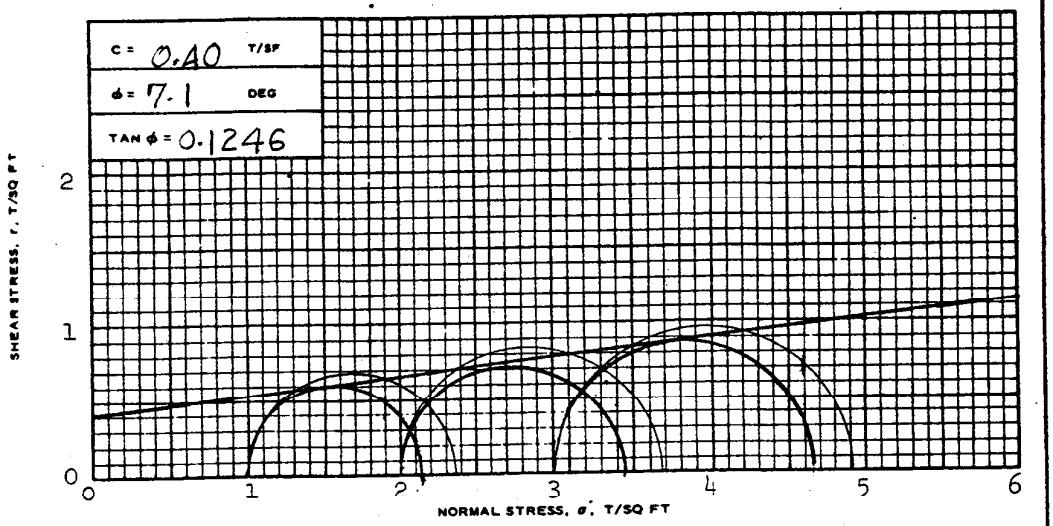
DEPTH/ELEV 73.5/-93.5

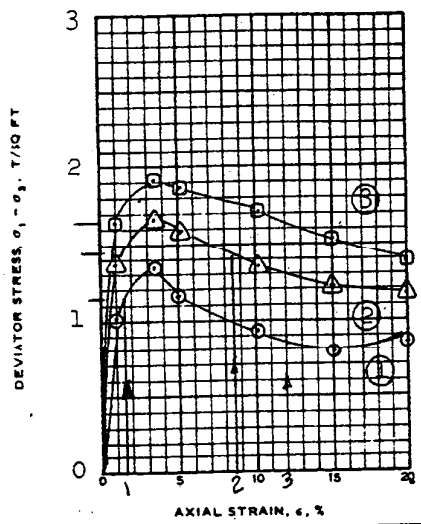
LABORATORY USAEWES DATE 13 OCT 81

SHEET 2 OF 2

JMS TRIAXIAL COMPRESSION TEST REPORT

ENG FORM NO. 2089 REV JUNE 1970 PREVIOUS EDITION IS OBSOLETE TRANSLUCENT (EM 1110-2-1906)





SPECIMEN NO.			1	2	3	
INITIAL	WATER CONTENT, %	w_o	46.0	42.3	43.5	43.9
	DRY DENSITY LB/CU FT	γ_{d_o}	74.0	77.5	76.7	76.1
	SATURATION, %	S_o	96.6	96.5	97.4	96.8
	VOID RATIO	e_o	1.296	1.192	1.215	
BEFORE SHEAR	WATER CONTENT, %	w_c	48.0	42.2	41.6	
	DRY DENSITY LB/CU FT	γ_{d_c}	74.8	81.0	81.0	
	SATURATION, %	S_c	100+	100+	100+	
	VOID RATIO	e_c	1.272	1.096	1.096	
	FINAL BACK PRESSURE, T/SQ FT	u_o	5.76	5.76	5.76	
MINOR PRINCIPAL STRESS, T/SQ FT		σ_3	1.0	2.0	3.0	
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	1.36	1.67	1.91	
TIME TO $(\sigma_1 - \sigma_3)_{MAX}$, MIN		t_f	243	243	243	
ULTIMATE DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{ULT}$				
INITIAL DIAMETER, IN.		D_o	1.40	1.40	1.40	
INITIAL HEIGHT, IN.		H_o	3.00	3.00	3.00	

CONTROLLED- STRAIN TEST

DESCRIPTION OF SPECIMENS PLASTIC CLAY (CH), GRAY; SILT POCKETS

LL 66 | PL 16 | PI 50 | G 2.70 (EST) | TYPE OF SPECIMEN UNDISTURBED | TYPE OF TEST R

REMARKS:

PROJECT MRGO - NEW SHIPLOCK
IHNC SITE

BORING NO. 4-IU | SAMPLE NO. 24-D

DEPTH/ELEV 94.6/-114.6

LABORATORY USAEWES | DATE 13 OCT 81

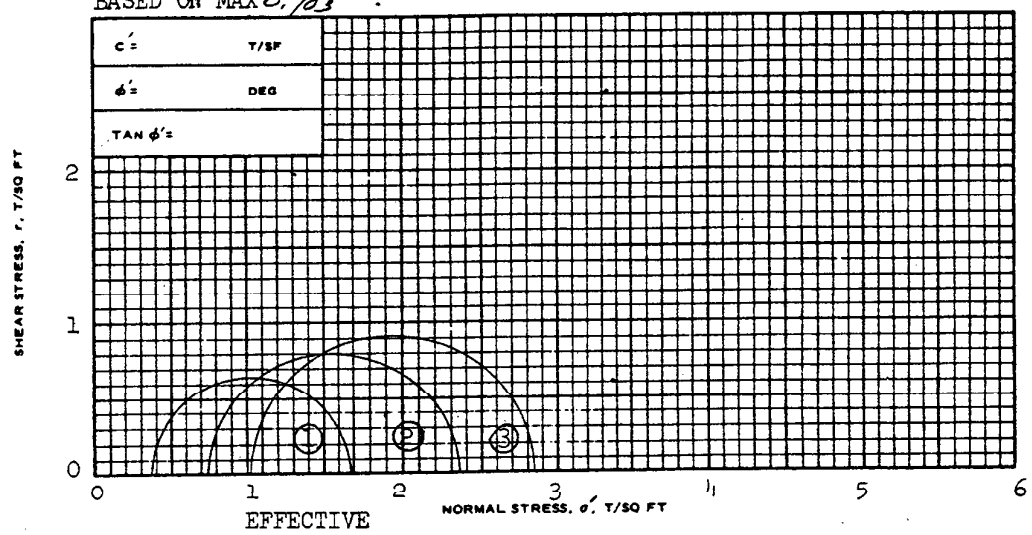
SHEET 1 OF 2

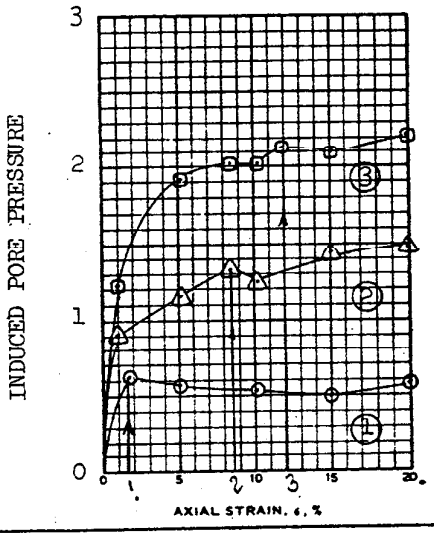
JMS TRIAXIAL COMPRESSION TEST REPORT

ENG FORM NO. 2089 REV JUNE 1970 PREVIOUS EDITION IS OBSOLETE TRANSLUCENT (EM 1110-2-1906)

BASED ON MAX σ_1/σ_3

c' =	T/SF
ϕ' =	DEG
TAN ϕ' =	





SPECIMEN NO.			1	2	3	
INITIAL	WATER CONTENT, %	w_o				
	DRY DENSITY LB/ CU FT	γd_o				
	SATURATION, %	S_o				
	VOID RATIO	e_o				
BEFORE SHEAR	WATER CONTENT, %	w_c				
	DRY DENSITY LB/CU FT	γd_c				
	SATURATION, %	S_c				
	VOID RATIO	e_c				
	FINAL BACK PRESSURE, T/SQ FT	u_o				
MINOR PRINCIPAL STRESS, T/SQ FT		σ_3	0.37	0.74	1.02	
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	1.32	1.59	1.82	
TIME TO $(\sigma_1 - \sigma_3)$ ___, MIN		t_f				
ULTIMATE DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{ULT}$				
INITIAL DIAMETER, IN.		D_o				
INITIAL HEIGHT, IN.		H_o				

CONTROLLED- TEST

DESCRIPTION OF SPECIMENS

LL	PL	PI	G_s	TYPE OF SPECIMEN	TYPE OF TEST

REMARKS:

PROJECT MRGO - NEW SHIPLOCK
IHNC SITE

BORING NO. 4-IU SAMPLE NO. 24-D

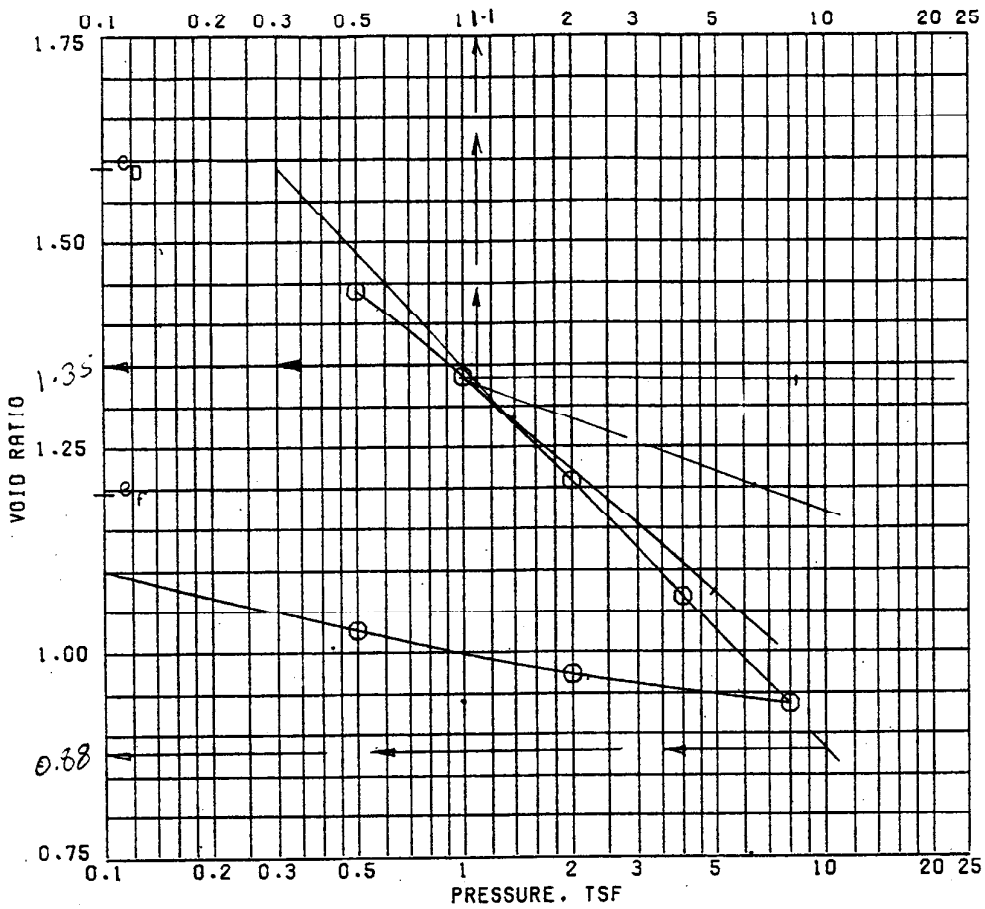
DEPTH/ELEV 94.6/-114.6

LABORATORY USAEWES DATE 13 OCT 81

SHEET 2 OF 2

JMS TRIAXIAL COMPRESSION TEST REPORT

ENG FORM NO. 2089 REV JUNE 1970 PREVIOUS EDITION IS OBSOLETE TRANSLUCENT (EM 1110-2-1906)



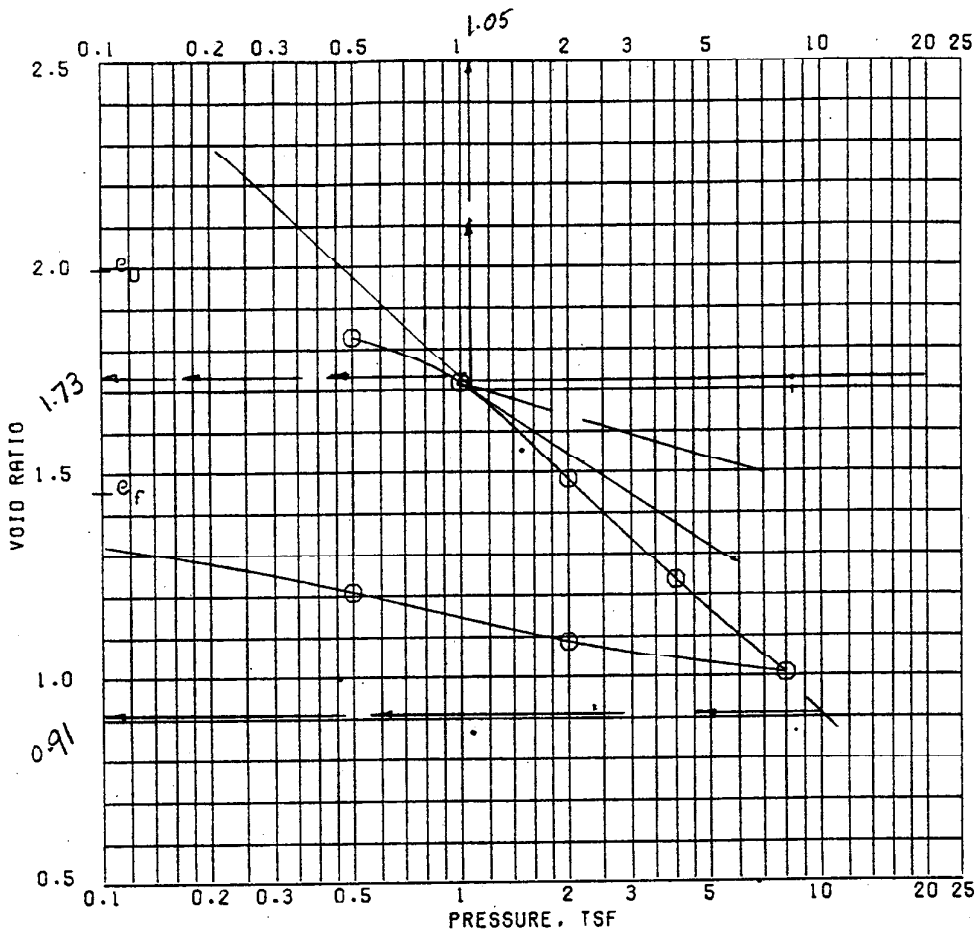
1.35 / 0.47

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	86.2	41.4
PRECONSOL. PRESSURE, TSF	1.10	DRY DENSITY, PCF	65.1	76.9
COMPRESSION INDEX	0.47	SATURATION, %	100 +	93.8
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.589	1.193
DIA. IN 4.44	HT. IN 1.138	BACK PRESSURE, TSF		

CLASSIFICATION PLASTIC CLAY (CH), GRAY; ROOTS TO 1/2"

LL 113	PL 34	PI 79	PROJECT M.R.C.O. - NEW SHIPLOCK	
GS 2.70 (EST)	D_{10}		IHNC SITE	
REMARKS ELEV.-27.0.			BORING NO. 4-IU	SAMPLE NO. 2-0
Pc = 1.10			DEPTH/ELEV 7.0/27.0	DATE 10 NOV 81
Ce = 0.47			CONSOLIDATION TEST REPORT	

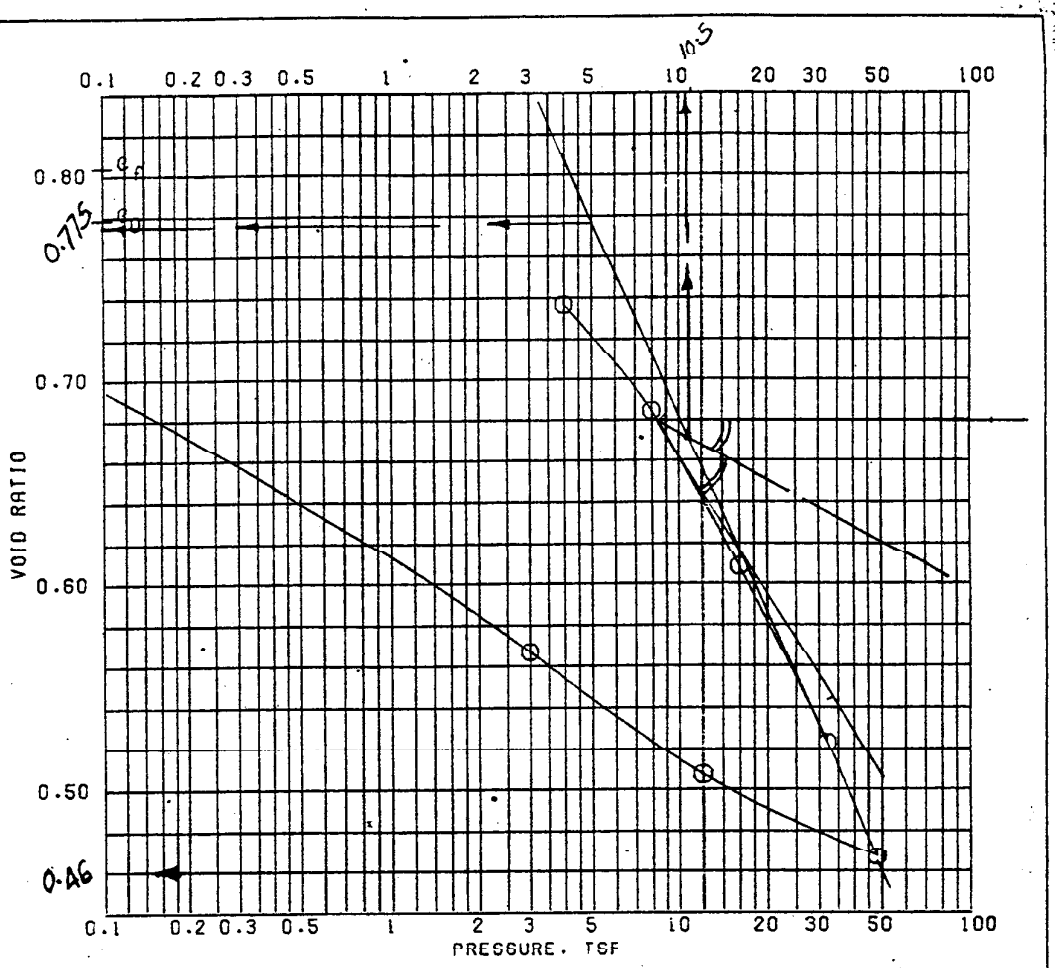
SHEET 1 OF 10



1.73 − 0.91 = 0.82

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	71.5	59.0
PRECONSOL. PRESSURE, TSF	1.05	DRY DENSITY, PCF	56.4	68.8
COMPRESSION INDEX	0.82	SATURATION, %	96.9	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.991	1.451
DIA. IN 4.44	HT. IN 1.125	BACK PRESSURE, TSF		
CLASSIFICATION PLASTIC CLAY (CH), GRAY; SHELLS				
LL 86 PL 26 PI 60		PROJECT M.R.C.O. - NEW SHIPLOCK		
GS 2.70 (EST)	D_{10}	IHNC SITE		
REMARKS ELEV. -37.0		BORING NO. 4-IU	SAMPLE NO. 5-B	
pc = 1.05		DEPTH/ELEV 17.0/-37.0	DATE 12 NOV 81	
Cc = 0.82		CONSOLIDATION TEST REPORT		

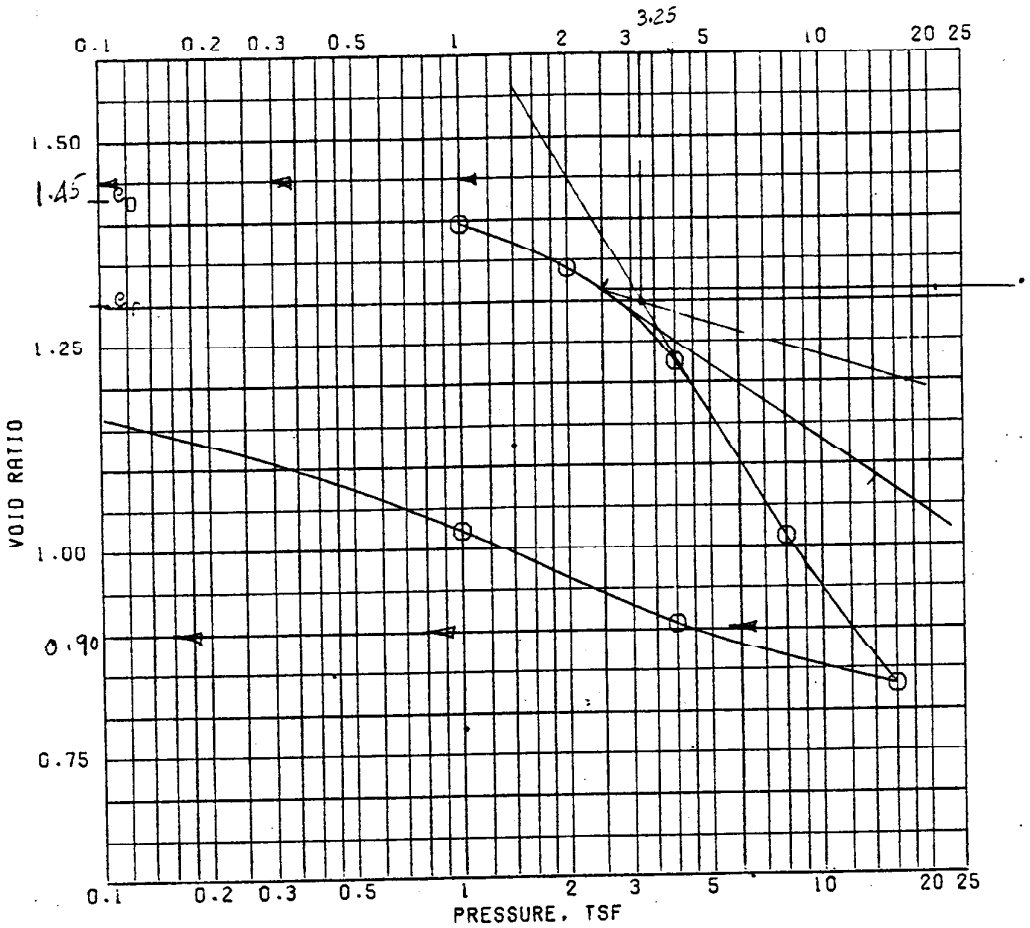
SHEET 1 OF 10



$$\frac{0.775 - 0.46}{\log 10 - \log 1} = \frac{0.315}{1} = 0.32$$

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	22.4	30.1
PRECONSOL. PRESSURE, TSF	10.5	DRY DENSITY, PCF	94.8	93.5
COMPRESSION INDEX	0.32	SATURATION, %	77.9	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	0.778	0.803
DIA. IN 4.44	HT. IN 1.128	BACK PRESSURE, TSF		
CLASSIFICATION CLAY (CL), GRAY				
LL 46 PL 14 PI 32		PROJECT M.R.G.O. - NEW SHIPLOCK		
GS 2.70 (EST)	D_{10}	IHNC SITE		
REMARKS ELEV. -66.4		BORING NO. 4-IU	SAMPLE NO. 12-C	
P_c = 10.5		DEPTH/ELEV 46.4/-66.4	DATE 13 NOV 81	
C_c = 0.32		CONSOLIDATION TEST REPORT		

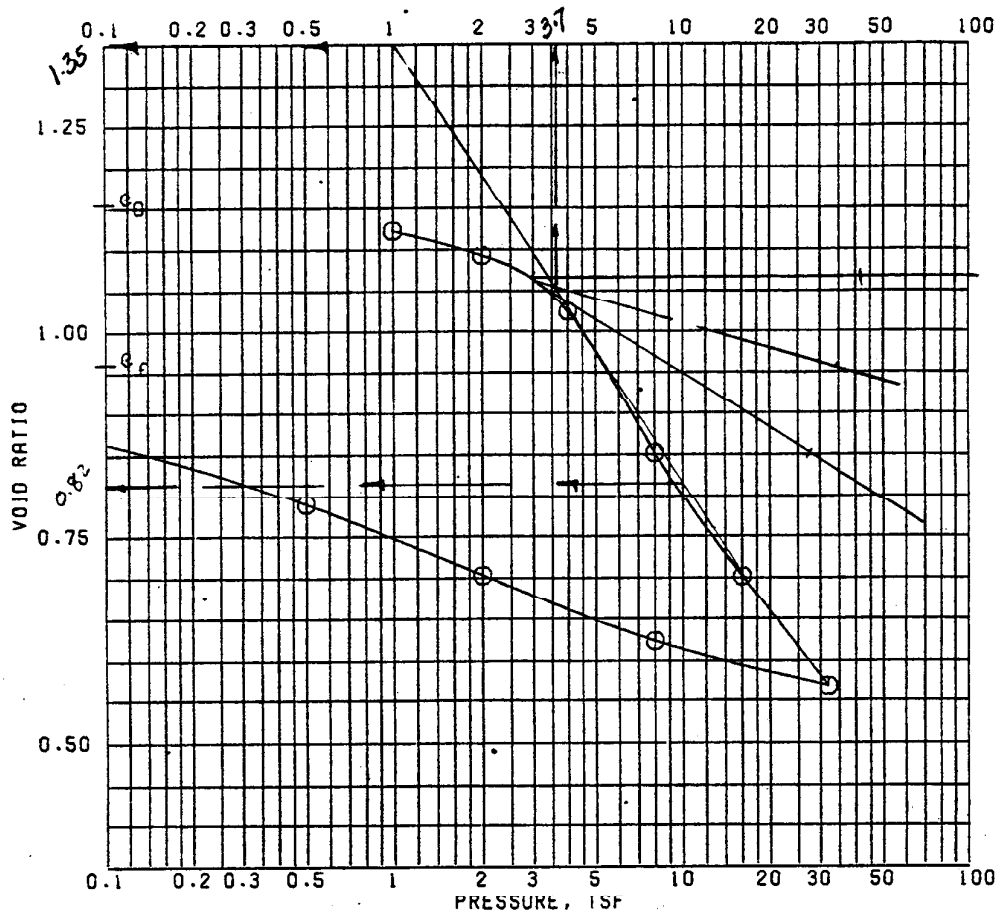
SHEET 1 OF 10



$\frac{1.45 - 0.90}{\log 12 - \log 3.25} = \frac{.55}{.7782} = 0.71$

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	53.0	46.6
PRECONSOL. PRESSURE, TSF	3.25	DRY DENSITY, PCF	69.4	73.3
COMPRESSION INDEX	0.71	SATURATION, %	100 +	96.7
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.428	1.301
DIA. IN 4.44	HT. IN 1.115	BACK PRESSURE, TSF		
CLASSIFICATION CLAY (CL), GRAY; SILT POCKETS				
LL 43 PL 16 PI 27		PROJECT M.R.C.O. - NEW SHIPLOCK		
GS 2.70 (EST)	D_{10}	IHNC SITE		
REMARKS ELEV. -112.8		BORING NO. 4-IU	SAMPLE NO. 24-B	
Pc = 3.25		DEPTH/ELEV 92.8/-112.8	DATE 18 NOV 82	
Cc = 0.71		CONSOLIDATION TEST REPORT		

SHEET 1 OF 10

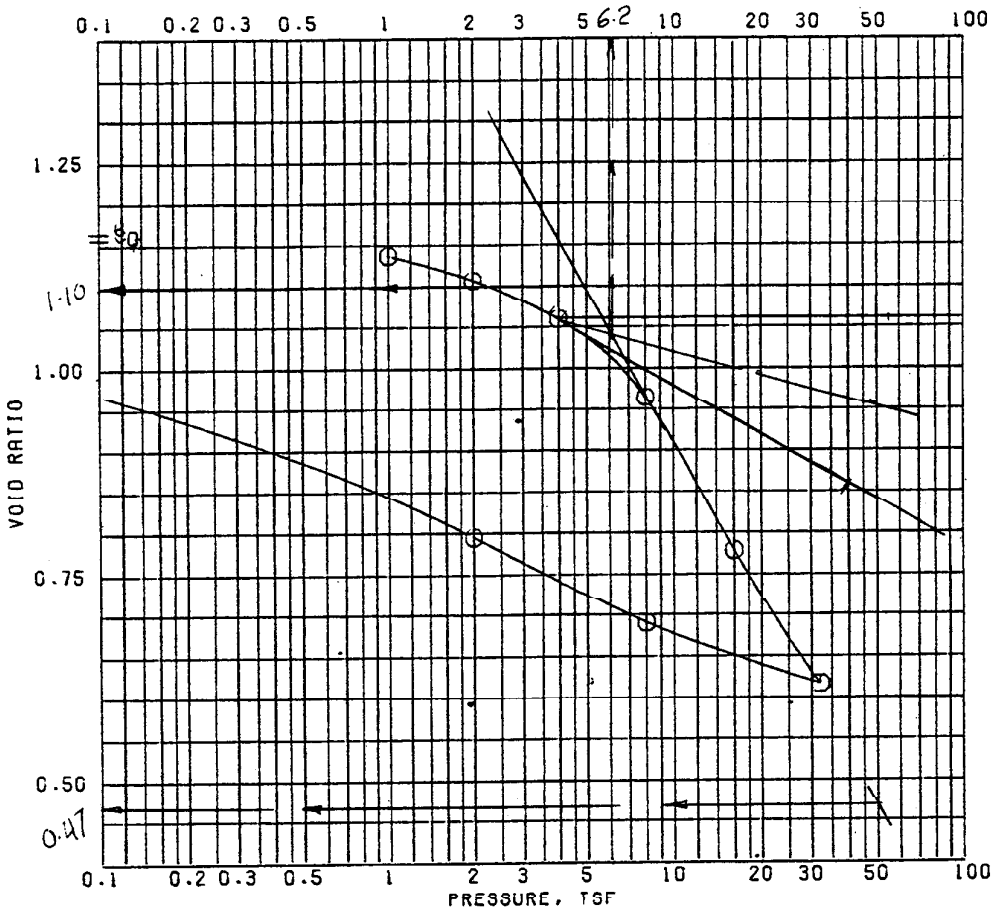


1.35 - .82 / .53

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	45.2	36.3
PRECONSOL. PRESSURE, TSF	3.7	DRY DENSITY, PCF	78.3	86.1
COMPRESSION INDEX	0.53	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.153	0.958
DIA. IN 4.44	HT. IN 1.121	BACK PRESSURE, TSF		

CLASSIFICATION CLAY (CL), GRAY; SILT POCKETS

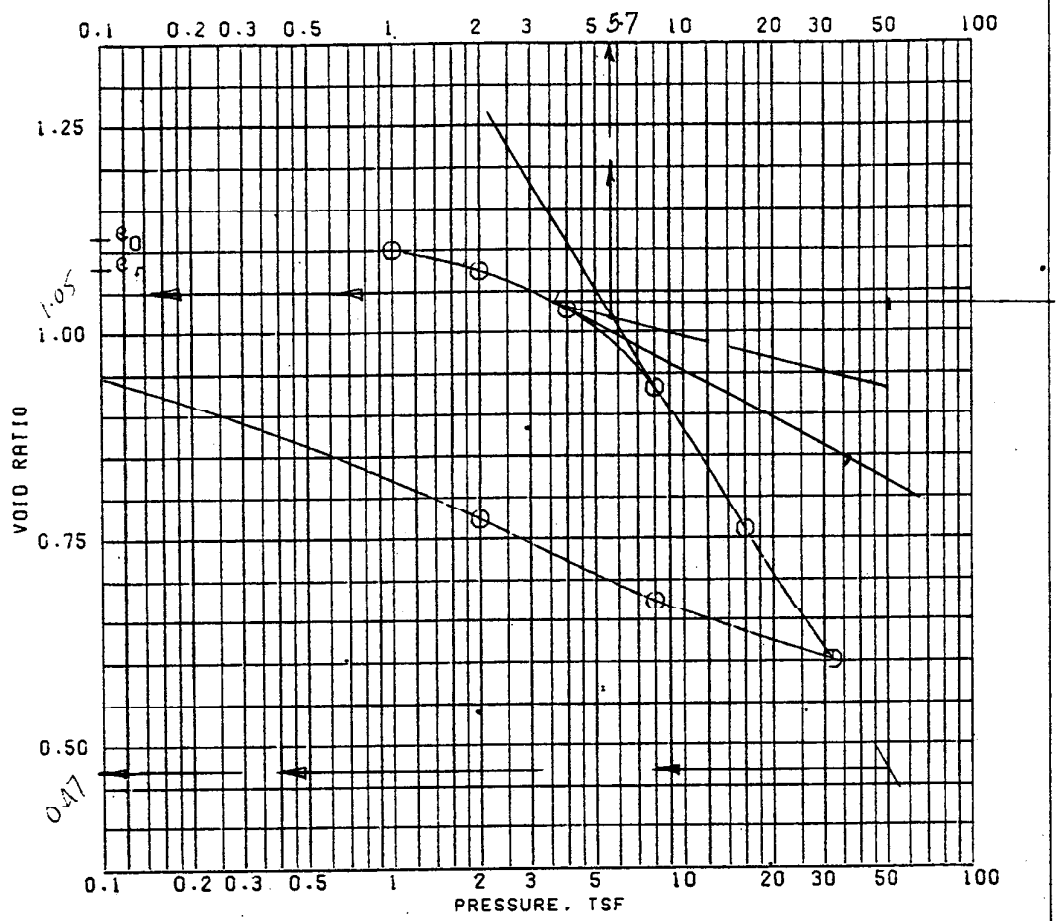
LL 45	PL 19	PI 26	PROJECT M.R.C.O. - NEW SHIPLOCK
GS 2.70 (EST)	D_{10}		IHNC SITE
REMARKS ELEV. -129.9		BORING NO. 4-IU	SAMPLE NO. 28-C
Pc = 3.7		DEPTH/ELEV 109.9/-129.9	DATE 19 NOV 81
Cc = 0.53		CONSOLIDATION TEST REPORT	



1.10
0.47
.63

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	42.5	45.2
PRECONSOL. PRESSURE, TSF	6.2	DRY DENSITY, PCF	77.9	78.2
COMPRESSION INDEX	0.63	SATURATION, %	98.7	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.163	1.155
DIA. IN 4.44	HT. IN 1.115	BACK PRESSURE, TSF		
CLASSIFICATION PLASTIC CLAY (CH), GRAY				
LL 71 / PL 22 / PI 49		PROJECT M.R.C.O. - NEW SHIPLOCK		
GS 2.70 (EST)	D_{10}	IHNC SITE		
REMARKS ELEV. -197.0.		BORING NO. 4-IU	SAMPLE NO. 45-B	
p_c = 6.2		DEPTH/ELEV 177.0/-197.0	DATE 20 NOV 82	
C_c = 0.63		CONSOLIDATION TEST REPORT		

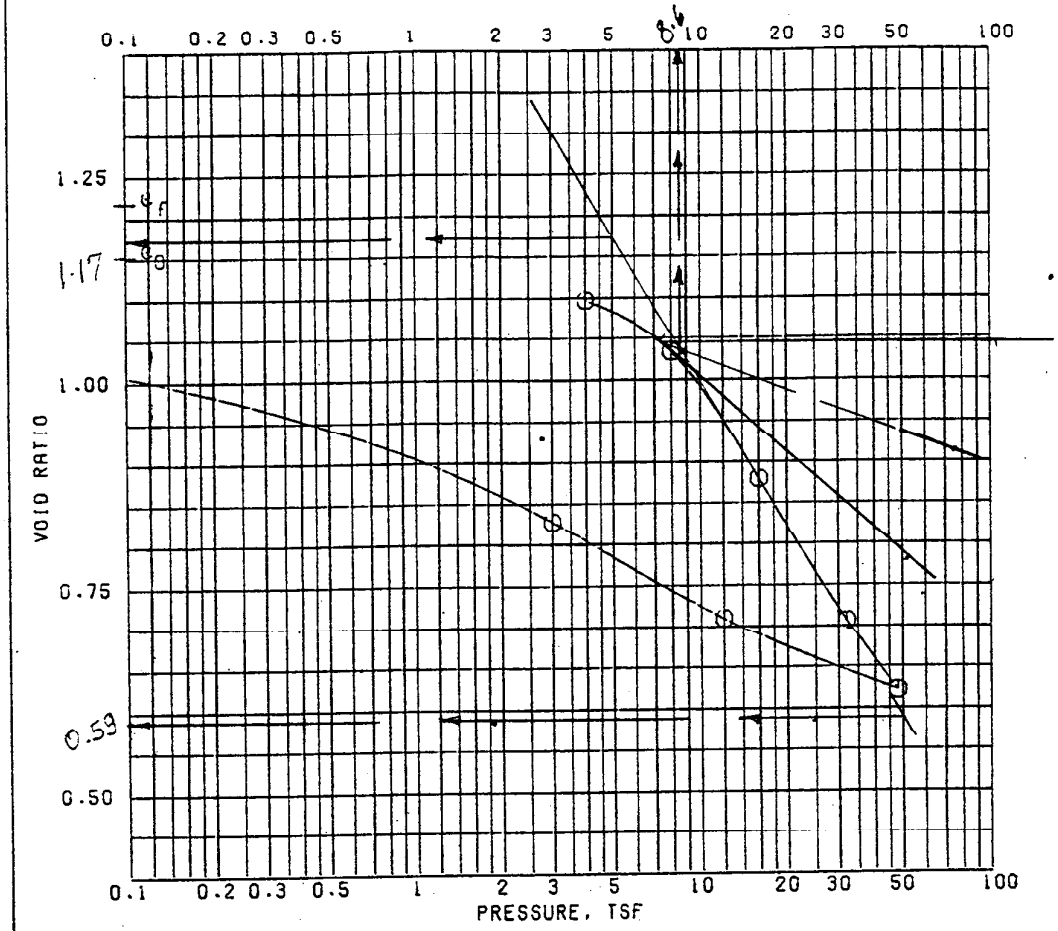
SHEET 1 OF 11



$\frac{1.05 - 0.47}{\log 5.7 - \log 5} = 0.58$

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	38.1	45.1
PRECONSOL. PRESSURE, TSF	5.7	DRY DENSITY, PCF	79.8	81.2
COMPRESSION INDEX	0.58	SATURATION, %	92.4	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.114	1.077
DIA. IN 4.44	HT. IN 1.124	BACK PRESSURE, TSF		
CLASSIFICATION PLASTIC CLAY (CH), GRAY; SILT LENSES				
LL 79 PL 25 PI 54		PROJECT M.R.G.C. - NEW SHIPLOCK		
GS 2.70 (EST)	D_{10}	IHNC SITE		
REMARKS ELEV. -212.8		BORING NO. 4-IU	SAMPLE NO. 49-B	
Pc = 5.7		DEPTH/ELEV 192.8/-212.8	DATE 20 NOV 82	
Cc = 0.58		CONSOLIDATION TEST REPORT		

SHEET 1 OF 11



$$\frac{1.17 - 0.59}{\log 10 - \log 1} = \frac{0.58}{1} = 0.58$$

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	40.9	45.2
PRECONSOL. PRESSURE, TSF	8.6	DRY DENSITY, PCF	78.4	76.1
COMPRESSION INDEX	0.58	SATURATION, %	96.1	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.151	1.216
DIA. IN 4.44	HT. IN 1.127	BACK PRESSURE, TSF		
CLASSIFICATION PLASTIC CLAY (CH), GRAY; SILT POCKETS				
LL 62 PL 22 PI 40		PROJECT M.R.C.C. - NEW SHIPLOCK		
GS 2.70 (EST)	D_{10}	IHNC SITE		
REMARKS ELEV. -257.5		BORING NO. 4-IU	SAMPLE NO. 60-B	
PC = 8.6		DEPTH/ELEV 237.5/-257.5	DATE 20 NOV 81	
Cc = 0.58		CONSOLIDATION TEST REPORT		

SHEET 1 OF 10