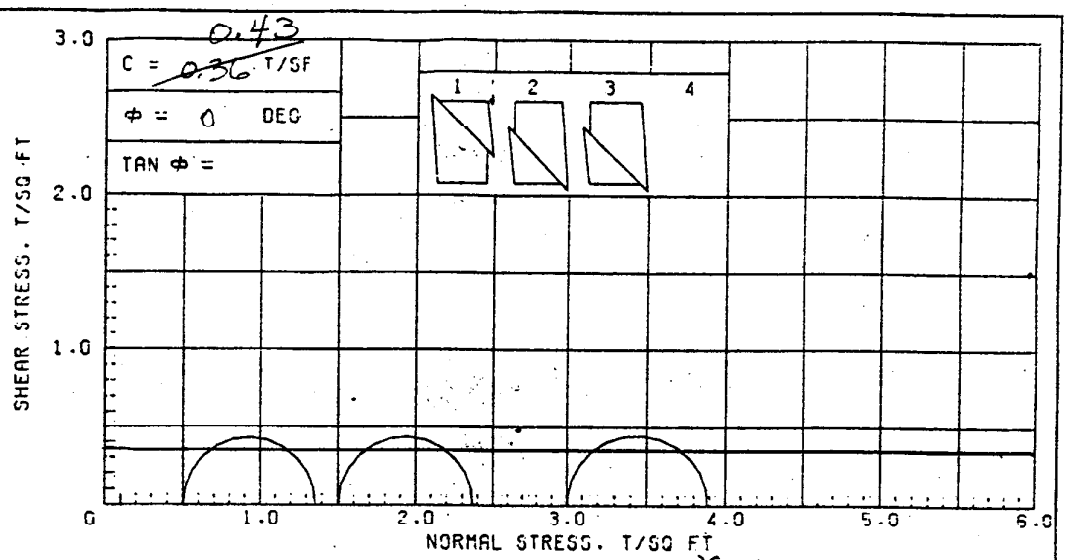
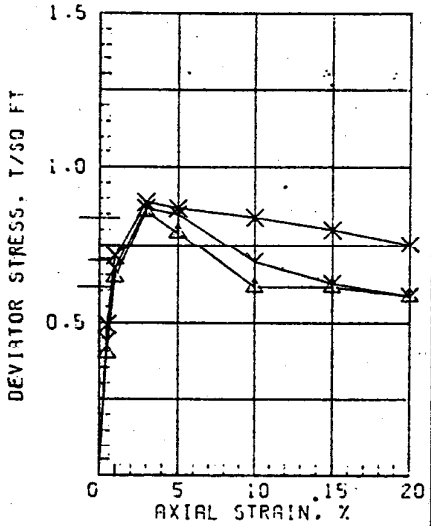


$\gamma_{sat.} = 107.0$



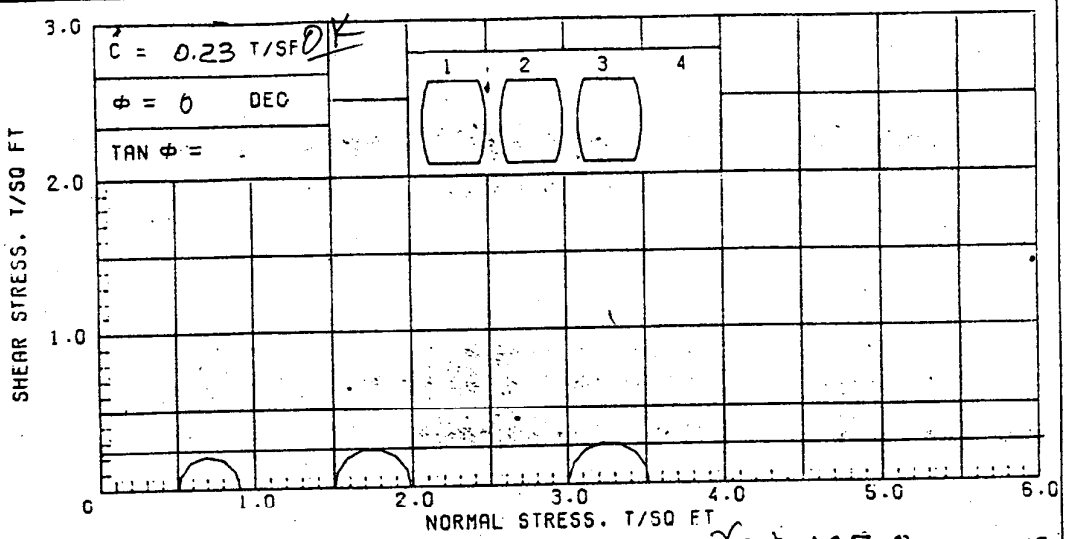
	SPECIMEN NO.	△1	Y2	X3	AVG. 4
INITIAL	WATER CONTENT, %	51.2	49.9	53.7	51.6
	DRY DENSITY, PCF	70.7	72.0	69.2	70.6
	SATURATION, %	100.0	100+	100+	
	VOID RATIO	1.393	1.342	1.437	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.86	0.87	0.89	.873
TIME TO FAILURE, MIN.		6	19	19	
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

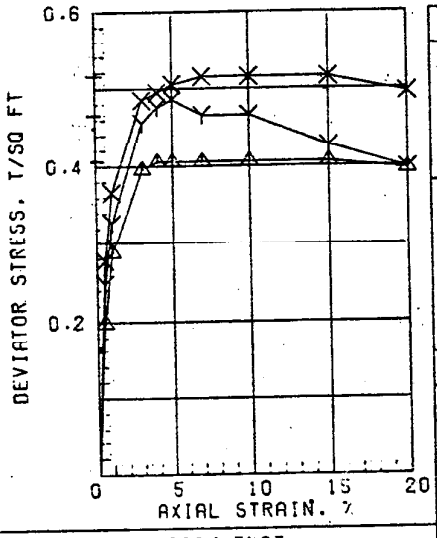
DESCRIPTION OF SPECIMENS. PLASTIC CLAY (CH), GRAY

LL 88	PL 27	PI 61	GS 2.70 (ESTIMATED).	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.G.O.-NEW SHIPLOCK	
	IHNC SITE	
	BORING NO. 2-IU	SAMPLE NO. 9-B
	DEPTH/ELEV 28.9/-20.3	TECH. KOC
	LABORATORY USAE WES	DATE 07 JUL 81
	TRIAXIAL COMPRESSION TEST REPORT	



γ_{sat} = 107.0



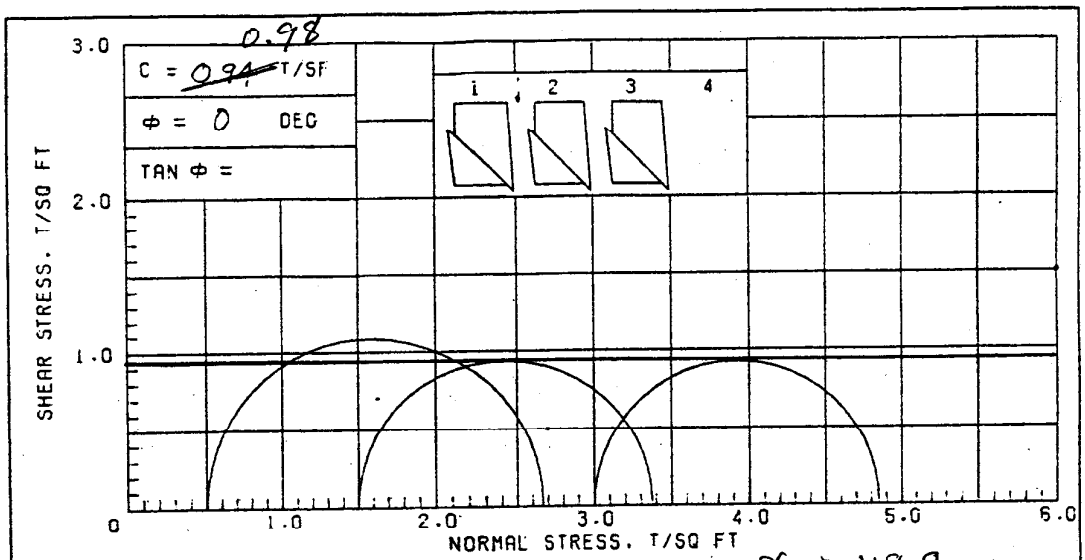
SPECIMEN NO.		Δ1	Y2	X3	4
INITIAL	WATER CONTENT, %	47.8	54.9	52.1	51.6
	DRY DENSITY, PCF	73.4	67.9	70.1	70.5
	SATURATION, %	99.5	99.9	100+	
	VOID RATIO	1.297	1.484	1.404	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		0.40	0.49	0.51	.467
TIME TO FAILURE, MIN.		8	10	14	
RATE OF STRAIN INCR.%					
INITIAL DIAMETER, IN.		1.41	1.41	1.41	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

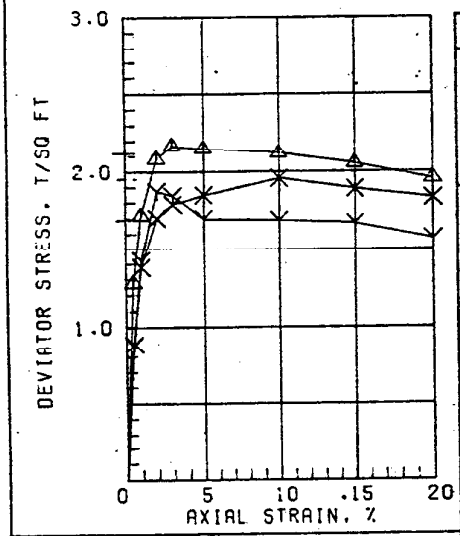
CONTROLLED-STRAIN TEST

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

LL 79	PL 27	PI 52	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.G.O.-NEW SHIPLOCK	
	IHNC SITE	
	BORING NO. 2-IU	SAMPLE NO. 13-D
	DEPTH/ELEV 50.9/-42.3	TECH. KOC
	LABORATORY USAE WES	DATE 07 JUL 81
	TRIAXIAL COMPRESSION TEST REPORT	





$\gamma_{sat} = 118.9$

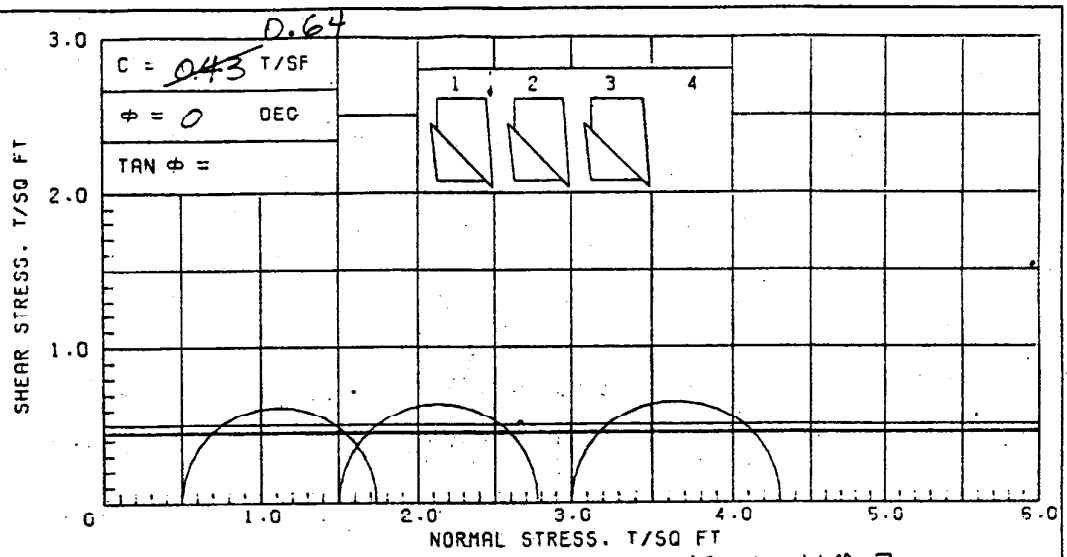
	SPECIMEN NO.	Δ1	Y2	X3	AVG 4
INITIAL	WATER CONTENT, %	32.6	33.5	34.1	33.4
	DRY DENSITY, PCF	89.8	89.0	88.4	89.1
	SATURATION, %	100+	100+	100+	
	VOID RATIO	0.877	0.894	0.907	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		2.17	1.87	1.85	1.963
TIME TO FAILURE, MIN.		6	12	29	
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

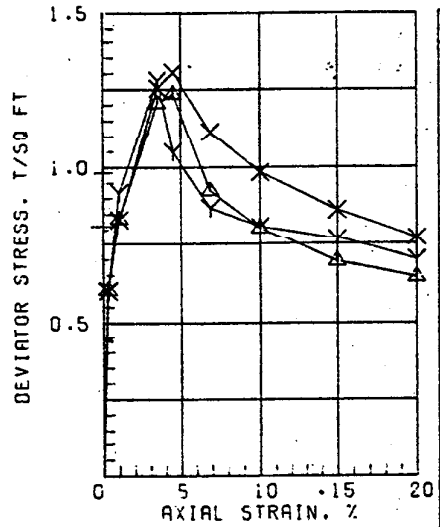
DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY & BROWN MOTTLED

LL 57	PL 26	PI 31	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.G.O.-NEW SHIPLOCK	
	IHNC SITE	
	BORING NO. 2-IU	SAMPLE NO. 22-C
	DEPTH/ELEV 85.9/-77.3	TECH. KOC
	LABORATORY USAE WES	DATE 07 JUL 81
	TRIAXIAL COMPRESSION TEST REPORT	



γ_{sat} = 110.3



SPECIMEN NO.		Δ1	Y2	X3	4 (AVG.)
INITIAL	WATER CONTENT, %	45.6	47.2	45.6	46.1
	DRY DENSITY, PCF	75.9	74.9	75.8	75.5
	SATURATION, %	100+	100+	100+	
	VOID RATIO	1.220	1.250	1.224	
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		1.24	1.28	1.30	1.273
TIME TO FAILURE, MIN.		29	19	25	
RATE OF STRAIN INCR.%		5	4	7	
INITIAL DIAMETER, IN.		1.40	1.40	1.40	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY

LL 73	PL 24	PI 49	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

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

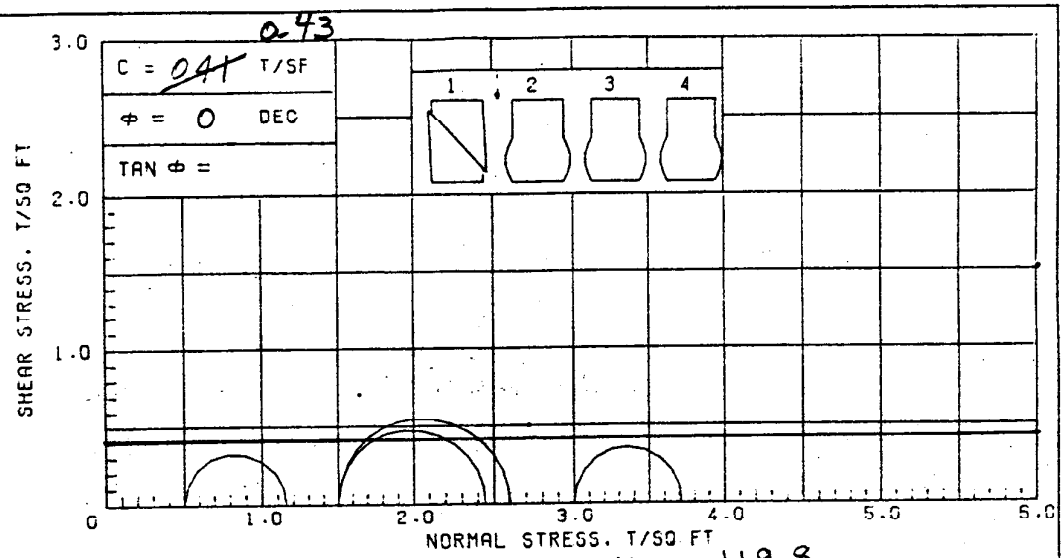
IHNC SITE

BORING NO. 2-IU — SAMPLE NO. 28-D

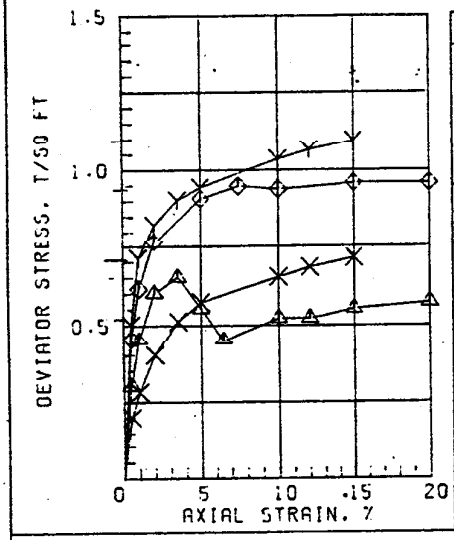
DEPTH/ELEV 111.3/-102.7 — TECH. WJH

LABORATORY USAE WES — DATE 07 JUL 81

TRIAXIAL COMPRESSION TEST REPORT



γ_{sat} = 119.8



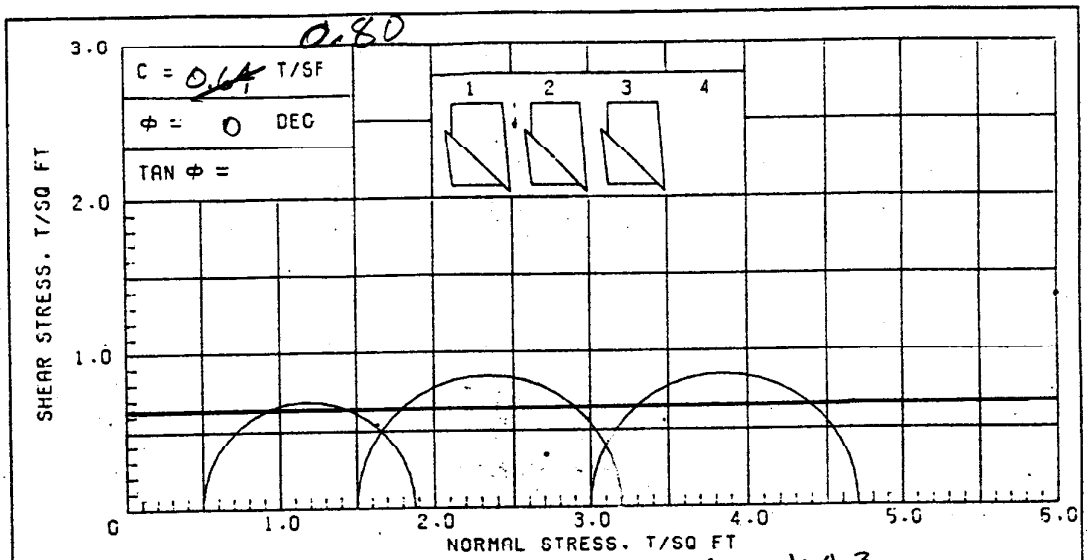
	SPECIMEN NO.	△1	Y2	X3	◇4	AVG
INITIAL	WATER CONTENT, %	31.4	30.2	30.1	32.4	31.0
	DRY DENSITY, PCF	90.2	92.4	92.3	89.3	91.1
	SATURATION, %	97.6	98.8	98.3	98.6	
	VOID RATIO	0.869	0.825	0.827	0.897	
BEFORE SHEAR	WATER CONTENT, %					
	DRY DENSITY, PCF					
	SATURATION, %					
	VOID RATIO					
	BACK PRESS., TSF					
	MIN PRIN. STRESS, TSF	0.5	1.5	3.0	1.5	
	MAX. DEV. STRESS, TSF	0.55	1.09	0.71	0.95	.85
	TIME TO FAILURE, MIN.	11	50	71	25	
	RATE OF STRAIN INCR.%	5				
	INITIAL DIAMETER, IN.	1.40	1.40	1.40	1.39	
	INITIAL HEIGHT, IN.	3.00	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

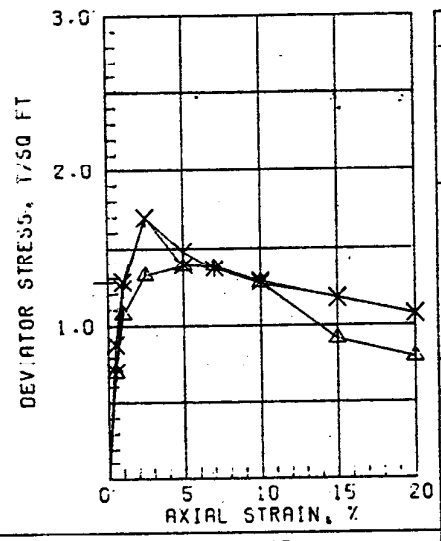
DESCRIPTION OF SPECIMENS: CLAY (CL), GRAY

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

REMARKS:	PROJECT M.R.C.O.-NEW SHIPLOCK
	IHNC SITE
	BORING NO. 2-IU / SAMPLE NO. 34-U
	DEPTH/ELEV 135.2/-126.6 / TECH. WJH
	LABORATORY USAE WES / DATE 07 JUL 81
	TRIAXIAL COMPRESSION TEST REPORT



γ_{sat} = 114.3



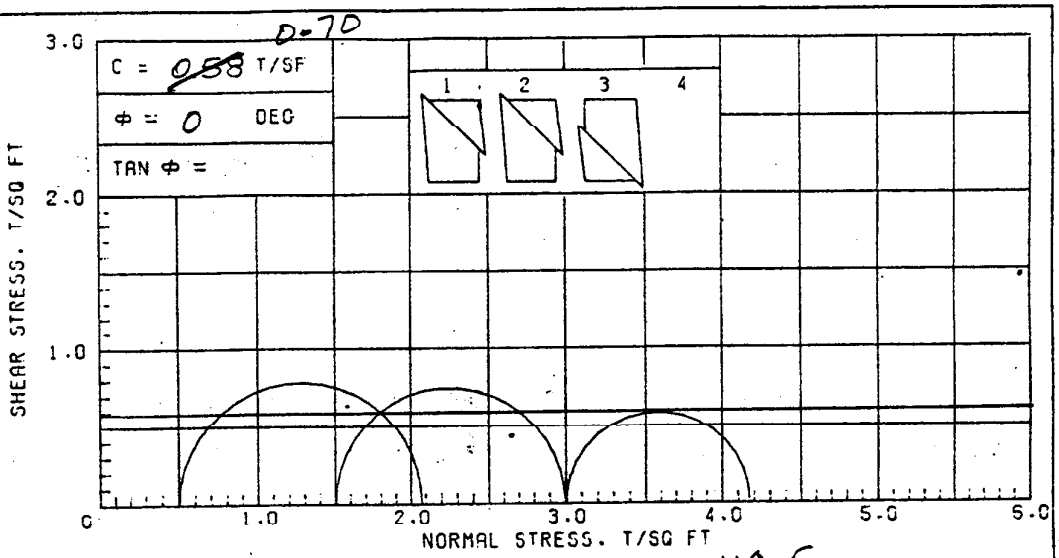
SPECIMEN NO.		△1	Y2	X3	4 (AVG.)
INITIAL	WATER CONTENT, %	37.9	40.4	37.2	38.5
	DRY DENSITY, PCF	83.0	79.9	83.9	82.3
	SATURATION, %	99.2	98.4	99.6	
	VOID RATIO	1.032	1.109	1.008	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		1.39	1.70	1.70	1.593
TIME TO FAILURE, MIN.		10	5	15	
RATE OF STRAIN INCR.%				5	
INITIAL DIAMETER, IN.		1.41	1.41	1.41	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

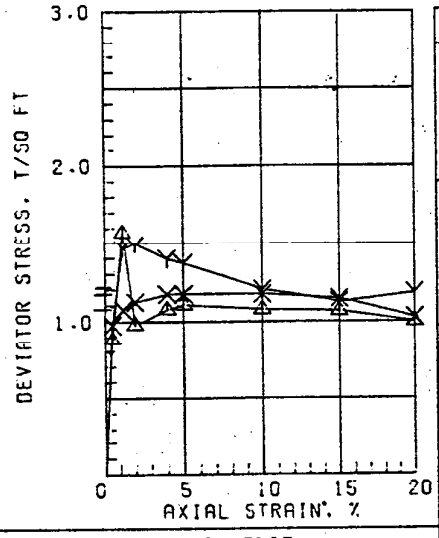
CONTROLLED-STRAIN TEST

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

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

REMARKS:	PROJECT M.R.G.O.-NEW SHIPLOCK
	IHNC SITE
	BORING NO. 2-IU / SAMPLE NO. 40-D
	DEPTH/ELEV 159.3/-150.7 / TECH. KOC
	LABORATORY USAE WES / DATE 09 JUL 81
	TRIAXIAL COMPRESSION TEST REPORT





γ_{sat} = 110.5

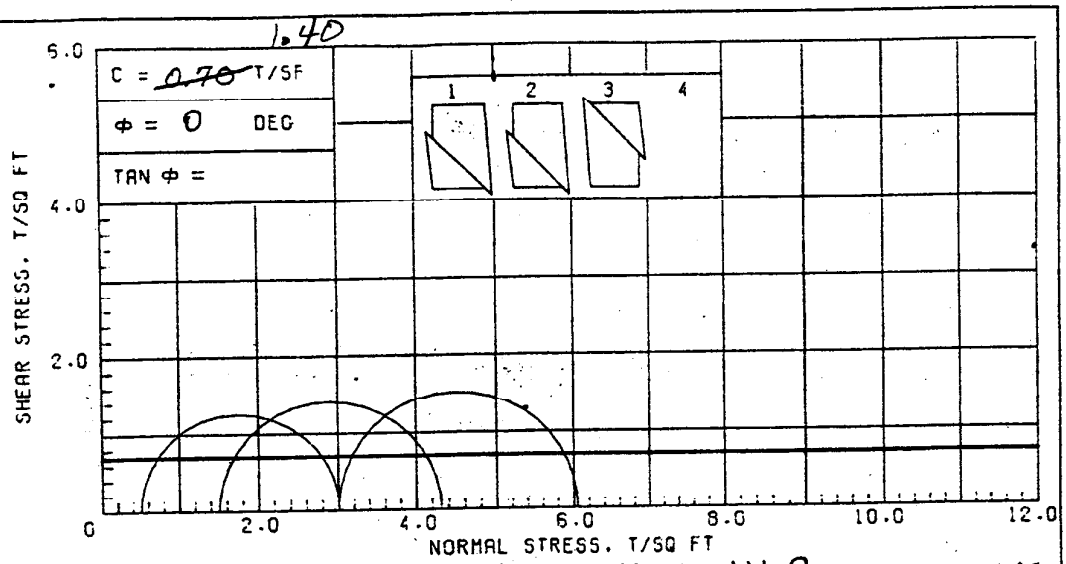
SPECIMEN NO.		△1	Y2	X3	4 (AVG.)
INITIAL	WATER CONTENT, %	45.7	45.1	44.9	45.2
	DRY DENSITY, PCF	75.7	76.5	76.1	76.1
	SATURATION, %	100+	100+	99.7	
	VOID RATIO	1.227	1.203	1.215	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		1.57	1.49	1.17	1.410
TIME TO FAILURE, MIN.		2	12	32	
RATE OF STRAIN INCR, %			6	5	
INITIAL DIAMETER, IN.		1.42	1.42	1.42	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

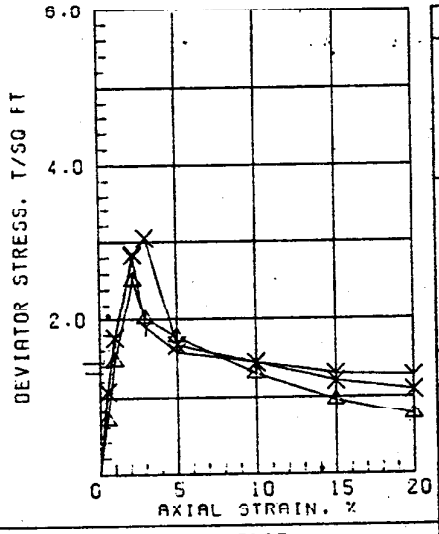
DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY

LL 86	PL 27	PI 59	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.G.O.-NEW SHIPLOCK	
	IHNC SITE	
	BORING NO. 2-10	SAMPLE NO. 52-D
	DEPTH/ELEV 207.3/-198.7	TECH. KOC
	LABORATORY USAE WES	DATE 08 JUL 81
	TRIAXIAL COMPRESSION TEST REPORT	



γ_{sat} = 111.8



	SPECIMEN NO.	Δ1	Y2	X3	AVG 4
INITIAL	WATER CONTENT, %	40.7	44.5	45.9	43.7
	DRY DENSITY, PCF	79.8	77.1	76.1	77.7
	SATURATION, %	99.7	100+	100+	
	VOID RATIO	1.114	1.187	1.215	
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	2.51	2.82	3.05	2.793
	TIME TO FAILURE, MIN.	4	13	18	
	RATE OF STRAIN INCR.%		5	5	
	INITIAL DIAMETER, IN.	1.42	1.42	1.41	
	INITIAL HEIGHT, IN.	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

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

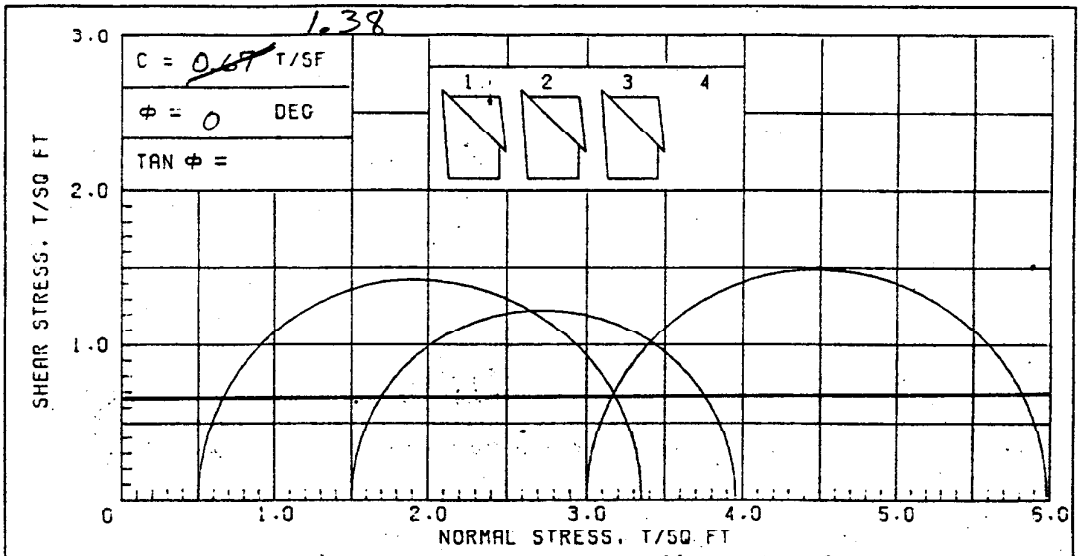
LL 75	PL 23	PI 52	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

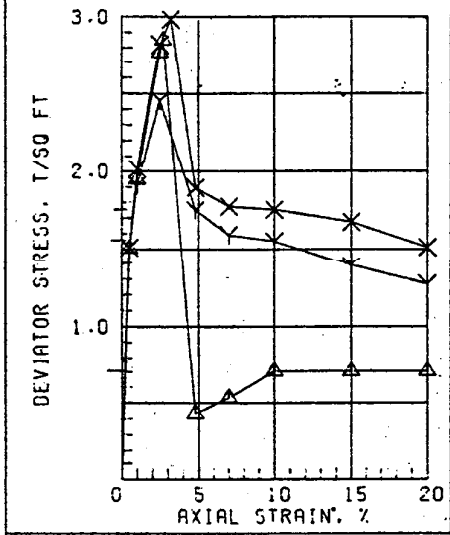
REMARKS:

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

BORING NO. 2-IU | SAMPLE NO. 55-C
DEPTH/ELEV 217.9/-209.3 | TECH. KOC
LABORATORY USAE WES | DATE 05 JUL 91

TRIAXIAL COMPRESSION TEST REPORT





γ_{sat} = 111.0

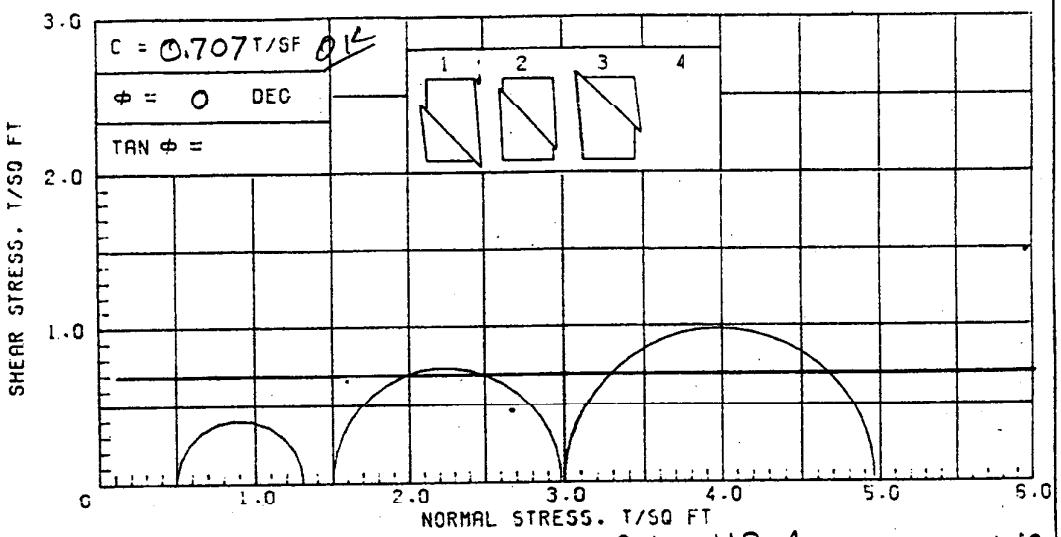
SPECIMEN NO.		△1	Y2	X3	4 (AVG)
INITIAL	WATER CONTENT, %	45.0	44.6	44.3	44.7
	DRY DENSITY, PCF	76.5	76.6	77.1	76.7
	SATURATION, %	100+	100+	100+	
	VOID RATIO	1.205	1.202	1.188	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		2.85	2.45	2.98	2.76
TIME TO FAILURE, MIN.		12	11	10	
RATE OF STRAIN INCR.%		4	4	4	
INITIAL DIAMETER, IN.		1.40	1.40	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

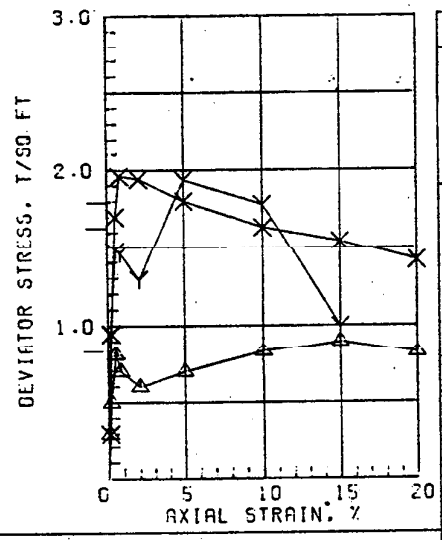
DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY; SLICKENSIDED

LL 81	PL 30	PI 51	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.G.O.-NEW SHIPLOCK	
	IHNC SITE	
	BORING NO. 2-IU	SAMPLE NO. 58-C
	DEPTH/ELEV 230.4/-221.8	TECH. WJH
	LABORATORY USAE WES	DATE 07 JUL 81
	TRIAXIAL COMPRESSION TEST REPORT	



γ_{sat} = 112.4



	SPECIMEN NO.	△1	Y2	X3	4 (AVG.)
INITIAL	WATER CONTENT, %	42.6	42.6	42.3	42.5
	DRY DENSITY, PCF	79.0	78.7	79.0	78.9
	SATURATION, %	100+	100+	100+	
	VOID RATIO	1.134	1.141	1.135	
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	0.81	1.48	1.96	1.42
	TIME TO FAILURE, MIN.	3	8	14	
	RATE OF STRAIN INCR.%	1	1	2	
	INITIAL DIAMETER, IN.	1.40	1.40	1.40	
	INITIAL HEIGHT, IN	3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

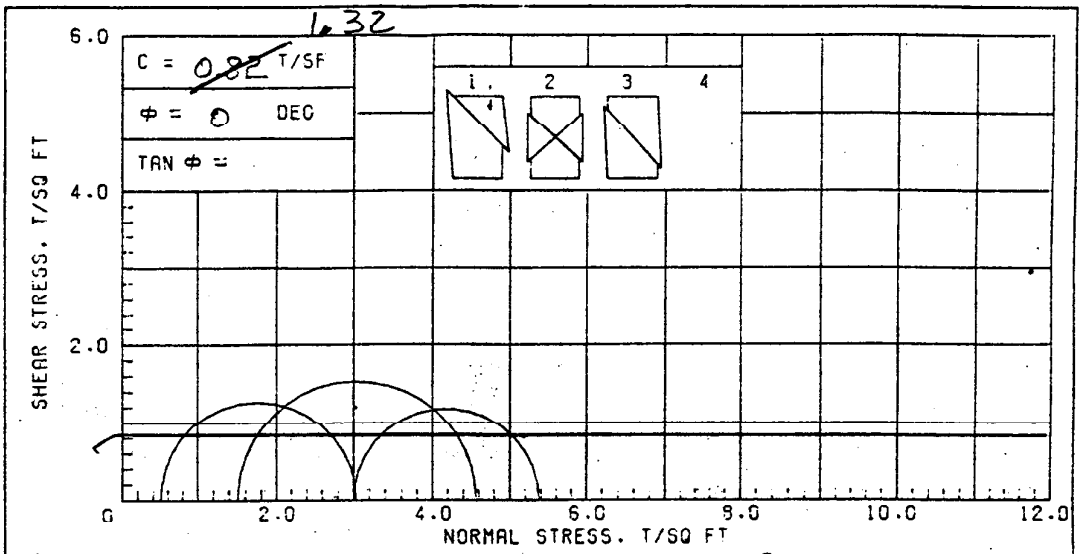
DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY; SLICKENSIDED

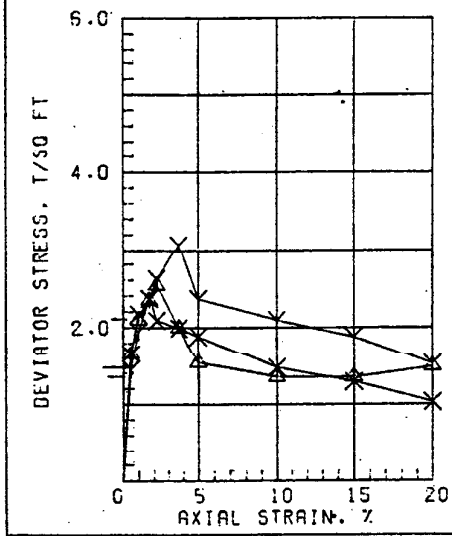
LL 78	PL 31	PI 47	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:

PROJECT M.R.C.O.-NEW SHIPLOCK
IHNC SITE
BORING NO. 2-IU — SAMPLE NO. 85-B
DEPTH/ELEV 257.5/-248.9 — TECH. WJH
LABORATORY USAE WES — DATE 09 JUL 81

TRIAXIAL COMPRESSION TEST REPORT





$\gamma_{sat} = 114.2$

SPECIMEN NO.		Δ1	Y2	X3	4 (AVG.)
INITIAL	WATER CONTENT, %	39.4	39.8	39.8	39.7
	DRY DENSITY, PCF	81.6	81.7	81.8	81.7
	SATURATION, %	99.8	100+	100+	
	VOID RATIO	1.066	1.063	1.060	
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		2.53	3.06	2.37	2.652
TIME TO FAILURE, MIN.		17	30	9	
RATE OF STRAIN INCR.%		3	5	3	
INITIAL DIAMETER, IN.		1.40	1.40	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

CONTROLLED-STRAIN TEST

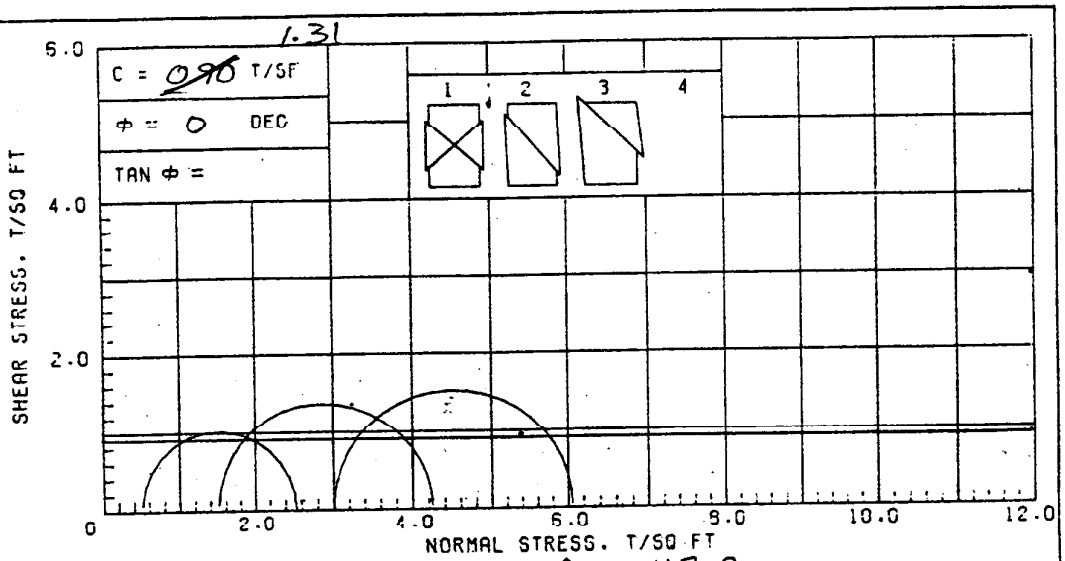
DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY; SILT LENSES, SLICKENSIDED

LL 75	PL 25	PI 50	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

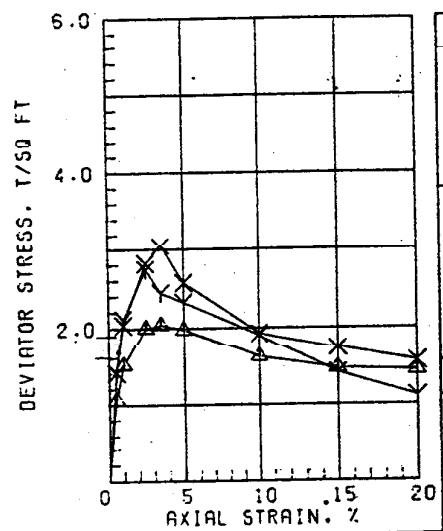
REMARKS:

PROJECT M.R.G.O.-NEW SHIPLOCK
IHNC SITE
BORING NO. 2-IU — SAMPLE NO. 57-C
DEPTH/ELEV 265.8/-257.2 — TECH. WJH
LABORATORY USAE WES — DATE 09 JUL 81

TRIAXIAL COMPRESSION TEST REPORT



$\gamma_{sat} = 113.2$



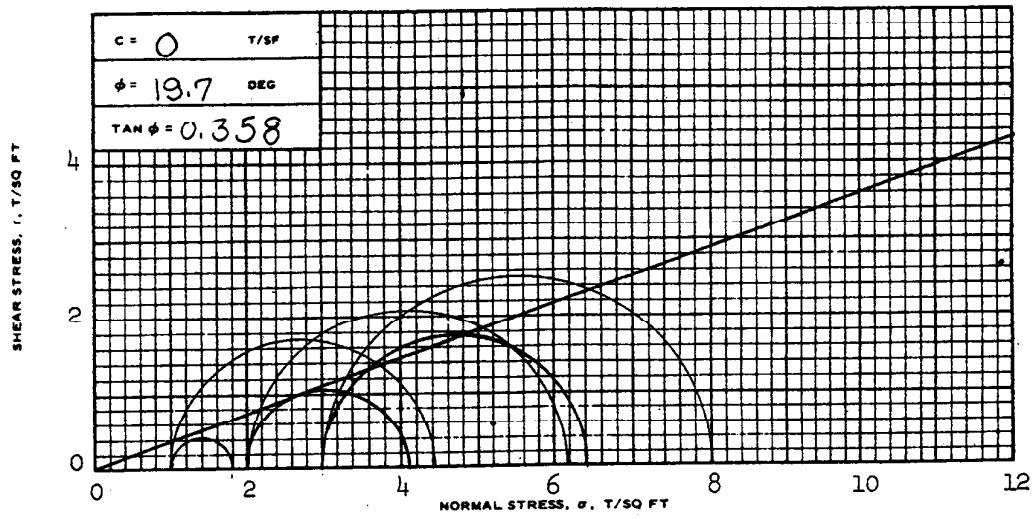
	SPECIMEN NO.	Δ1	Y2	X3	AVG. 4
INITIAL	WATER CONTENT, %	40.2	40.8	40.2	40.4
	DRY DENSITY, PCF	80.6	80.3	80.9	80.6
	SATURATION, %	99.5	100+	100+	
	VOID RATIO	1.090	1.100	1.093	
BEFORE SHEAR	WATER CONTENT, %				
	DRY DENSITY, PCF				
	SATURATION, %				
	VOID RATIO				
	BACK PRESS., TSF				
MIN PRIN. STRESS, TSF		0.5	1.5	3.0	
MAX. DEV. STRESS, TSF		2.04	2.75	3.05	2.617
TIME TO FAILURE, MIN.		17	19	16	
RATE OF STRAIN INCR.%		5	4	5	
INITIAL DIAMETER, IN.		1.39	1.40	1.39	
INITIAL HEIGHT, IN.		3.00	3.00	3.00	

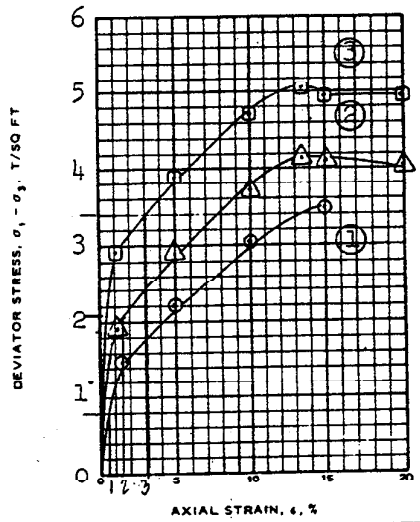
CONTROLLED-STRAIN TEST

DESCRIPTION OF SPECIMENS: PLASTIC CLAY (CH), GRAY

LL 75	PL 28	PI 47	GS 2.70 (ESTIMATED)	UNDISTURBED SPECIMEN	Q TEST

REMARKS:	PROJECT M.R.G.O.-NEW SHIPLOCK
	IHNC SITE
	BORING NO. 2-IU / SAMPLE NO. 70-B
	DEPTH/ELEV 276.9/-268.3 / TECH. WJH
	LABORATORY USAE WES / DATE 09 JUL 81
	TRIAXIAL COMPRESSION TEST REPORT





SPECIMEN NO.			1	2	3
INITIAL	WATER CONTENT, %	w_o	29.7	30.7	29.5
	DRY DENSITY LB/ CU FT	γ_{d_o}	94.2	92.0	94.5
	SATURATION, %	S_o	100+	100+	100+
	VOID RATIO	e_o	0.776	0.818	0.771
BEFORE SHEAR	WATER CONTENT, %	w_c	28.3	28.1	27.4
	DRY DENSITY LB/CU FT	γ_{d_c}	95.0	93.1	96.1
	SATURATION, %	S_c	99.8	94.5*	99.0
	VOID RATIO	e_c	0.760	0.797	0.741
	FINAL BACK PRESSURE, T/SQ FT	u_o	4.32	4.32	4.32
MINOR PRINCIPAL STRESS, T/SQ FT		σ_3	1.0	2.0	3.0
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	3.46	4.16	5.03
TIME TO $(\sigma_1 - \sigma_3)_{MAX}$, MIN		t_f	1154	1031	1031
ULTIMATE DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{ULT}$			
INITIAL DIAMETER, IN.		D_o	1.36	1.37	1.37
INITIAL HEIGHT, IN.		H_o	3.00	3.00	3.00

CONTROLLED- STRAIN TEST

DESCRIPTION OF SPECIMENS SILT (ML), GRAY

LL	PL	PI	G: 2.68(EST)	TYPE OF SPECIMEN UNDISTURBED	TYPE OF TEST $\bar{R}$

REMARKS: *PORE PRESSURE RESPONSE INDICATED 100% SATURATION

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

BORING NO. 2-IU SAMPLE NO. 21B

DEPTH/ELEV 81.0/-72.4

LABORATORY USAEWES DATE 13 JUNE 1981

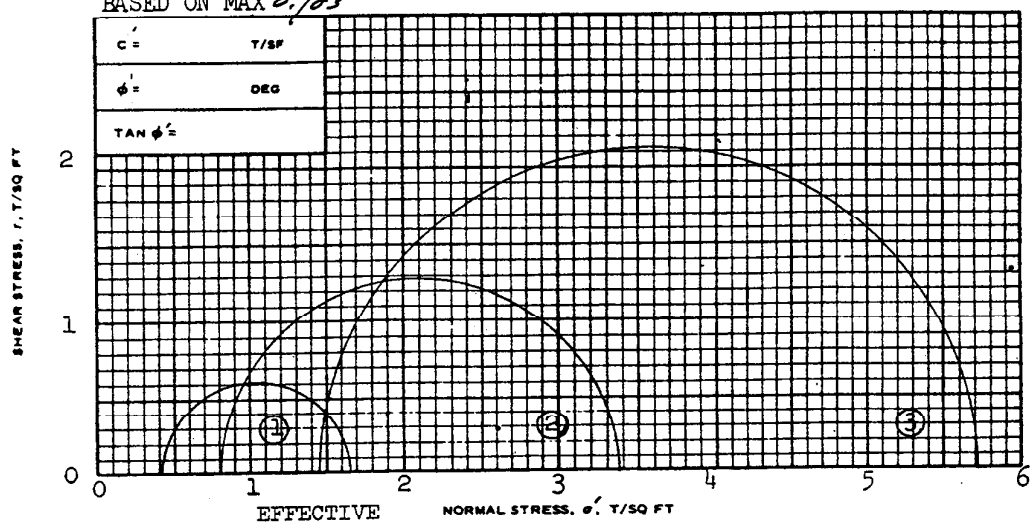
SHEET 1 OF 2

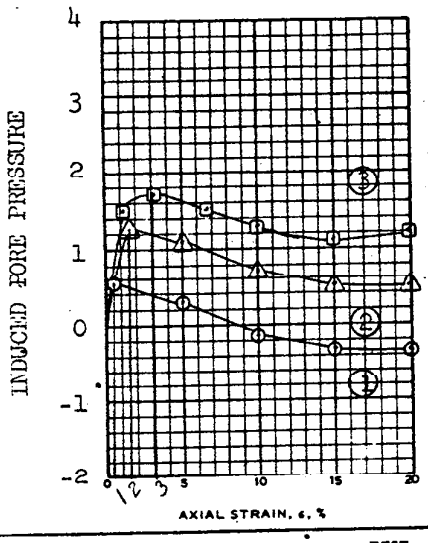
JMS TRIAXIAL COMPRESSION TEST REPORT

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	0.42	0.81	1.45	
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	1.22	2.56	4.26	
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 M.R.G.O. - NEW SHIPLOCK

IHNC SITE

BORING NO. 2-IU SAMPLE NO. 21-B

DEPTH/ELEV 81.0/-72.4

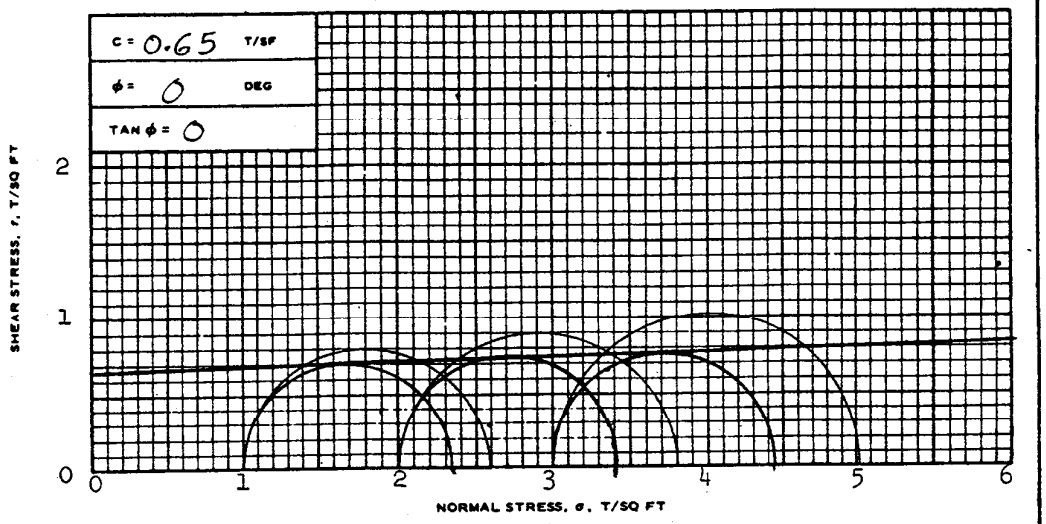
LABORATORY USAEWES DATE 13 JUNE 1981

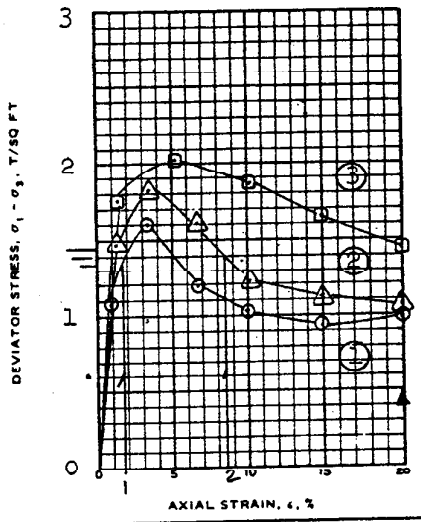
SHEET 2 OF 2

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	47.5	48.0	46.4
	DRY DENSITY LB/ CU FT	γ_{d_o}	74.0	73.0	74.7
	SATURATION, %	S_o	99.7	98.4	99.2
	VOID RATIO	e_o	1.296	1.327	1.272
BEFORE SHEAR	WATER CONTENT, %	w_c	48.9	48.1	44.2
	DRY DENSITY LB/CU FT	γ_{d_c}	74.6	74.5	77.8
	SATURATION, %	S_c	100+	100+	100+
	VOID RATIO	e_c	1.277	1.279	1.182
	FINAL BACK PRESSURE, T/SQ FT	u_o	4.32	4.32	4.32
MINOR PRINCIPAL STRESS, T/SQ FT		σ_3	1.0	2.0	3.0
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	1.60	1.81	2.01
TIME TO $(\sigma_1 - \sigma_3)_{MAX}$, MIN		t_f	236	243	364
ULTIMATE DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{ULT}$			
INITIAL DIAMETER, IN.		D_o	1.40	1.41	1.40
INITIAL HEIGHT, IN.		H_o	3.00	3.00	3.00

CONTROLLED- STRAIN TEST

DESCRIPTION OF SPECIMENS PLASTIC CLAY (CH), GRAY

LL 75 | PL 26 | PI 49 | G_s 2.72(EST)

TYPE OF SPECIMEN UNDISTURBED | TYPE OF TEST $\bar{R}$

REMARKS:

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

BORING NO. 2-IU | SAMPLE NO. 30-B

DEPTH/ELEV 117.5/-108.9

LABORATORY USAEWES | DATE 16 JUNE 1981

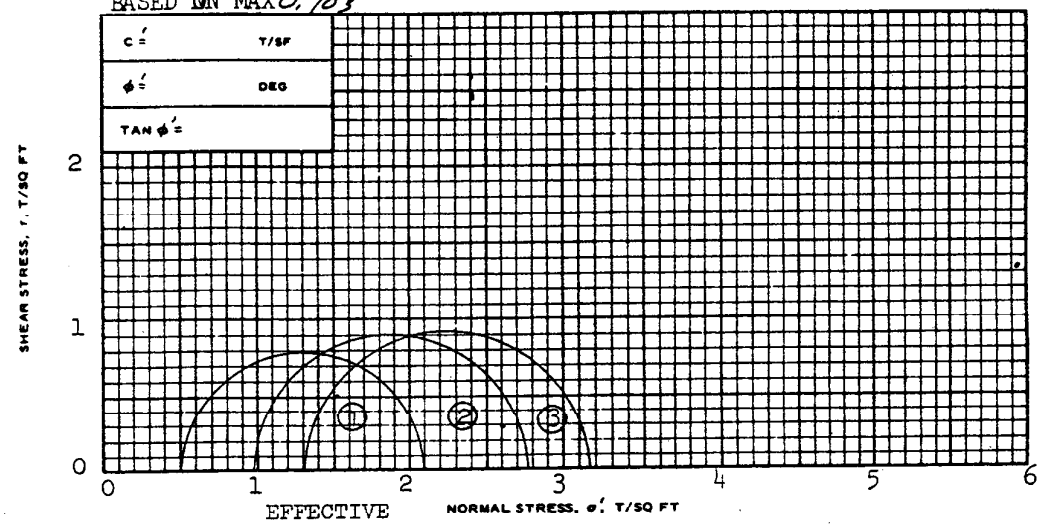
SHEET 1 OF 2

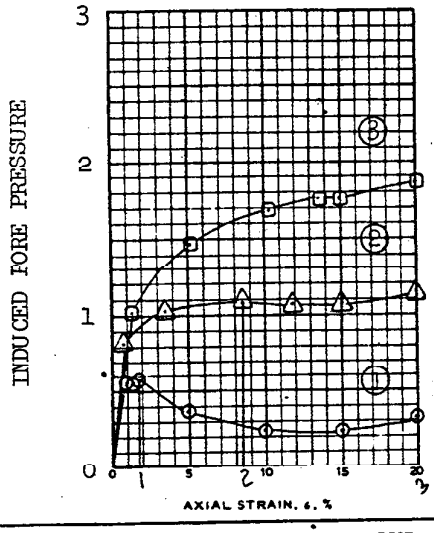
JMS TRIAXIAL COMPRESSION TEST REPORT

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	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_o				
MINOR PRINCIPAL STRESS, T/SQ FT		σ_3	0.50	0.97	1.31	
MAXIMUM DEVIATOR STRESS, T/SQ FT		$(\sigma_1 - \sigma_3)_{MAX}$	1.60	1.81	1.86	
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 M.R.G.O. - NEW SHIPLOCK

IHNC SITE

BORING NO. 2-IU SAMPLE NO. 30-B

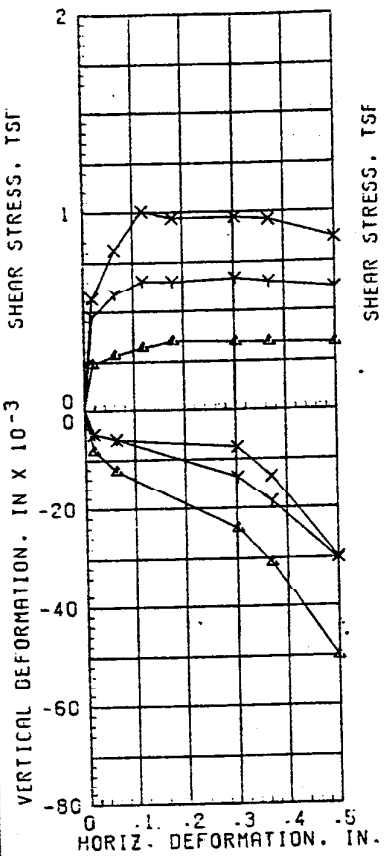
DEPTH/ELEV 117.5/-108.9

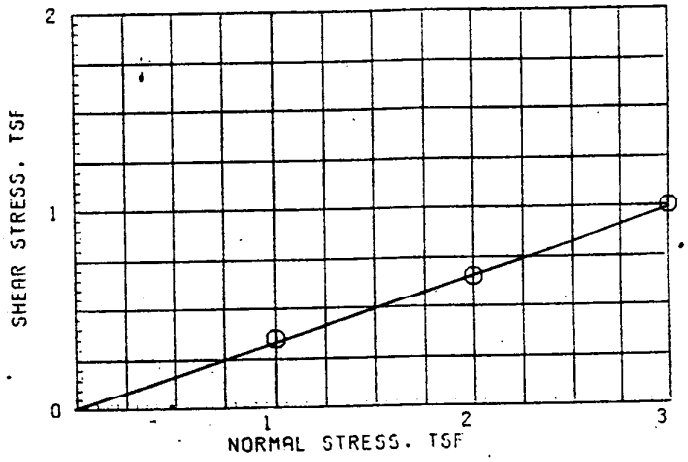
LABORATORY USAEWES DATE 16 JUNE 1981

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)





	TEST NO.	1 △	2 Y	3 X
INITAL	WATER CONTENT, %	22.0	22.9	21.3
	VOID RATIO	0.681	0.709	0.670
	SATURATION, %	85.7	86.0	84.8
	DRY DENSITY, PCF	98.7	97.1	99.4
VOID RATIO AFTER CONSOL				
FIFTY PERCENT CONSOL, MIN		< 1	< 1	< 1
FINAL	WATER CONTENT, %	19.3	18.2	22.2
	VOID RATIO			
	SATURATION, %			
NORMAL STRESS, TSF		1.0	2.0	3.0
MAXIMUM SHEAR STRESS, TSF		0.35	0.65	1.00
TIME TO FAILURE, MIN		920	613	613
RATE OF STRAIN, IN/MIN		.00020	.00020	.00020
ULTIMATE SHEAR STRESS, TSF				

ϕ = 18.57

TAN ϕ = 0.336

C = _____

TYPE SPECIMEN UNDISTURBED | 3.00 IN. SQUARE | 0.584 IN. THICK

CLASSIFICATION SILTY SAND (SM), GRAY

LL	PL	PI		GS 2.66 (EST)

REMARKS.

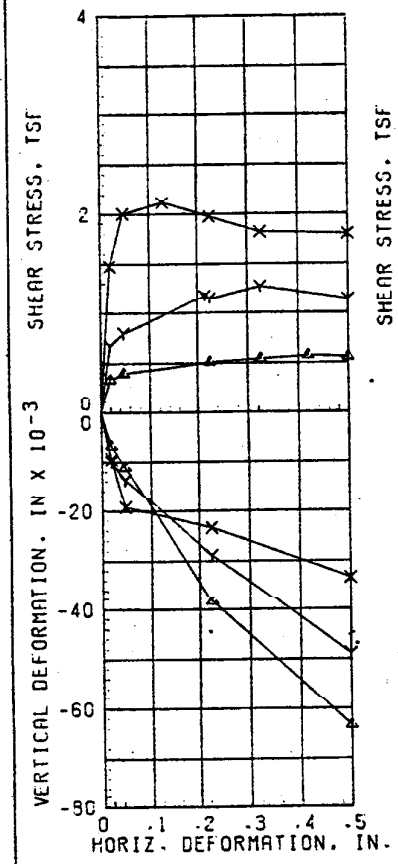
PROJECT M.R.G.O. - NEW SHIPLOCK

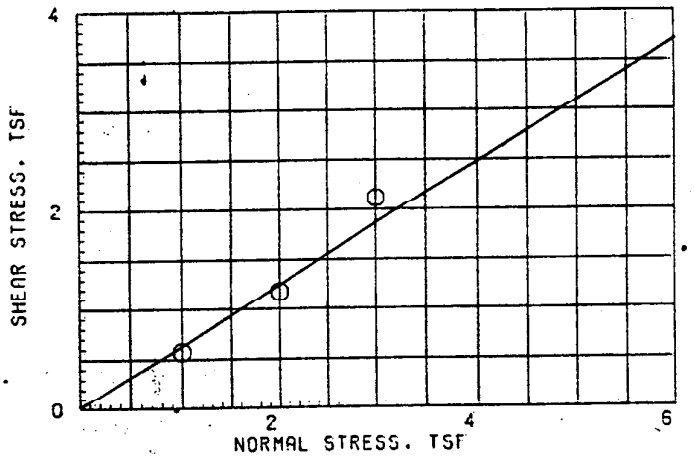
IHNC SITE

BORING NO. 2-1U | SAMPLE 19-C

DEPTH/ELEV 73.9/-65.2 | DATE 11 AUG 81

DIRECT SHEAR TEST REPORT





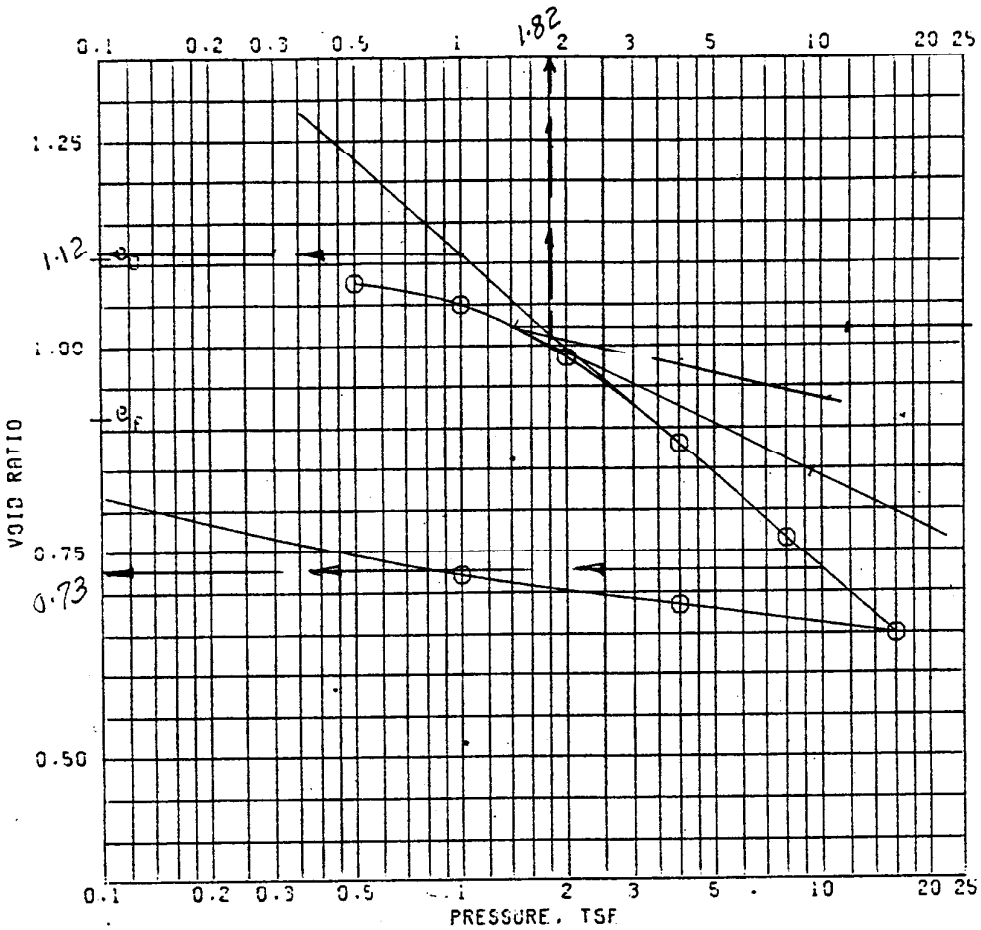
		TEST NO.	1 △	2 Y	3 X	
INITAL		WATER CONTENT, %	26.1	26.1	26.4	
		VOID RATIO	0.824	0.826	0.864	
		SATURATION, %	84.7	84.6	81.9	
		DRY DENSITY, PCF	91.7	91.6	89.7	
VOID RATIO AFTER CONSOL						
FIFTY PERCENT CONSOL, MIN			< 1	< 1	< 1	
FINAL		WATER CONTENT, %	29.4	27.4	25.5	
		VOID RATIO				
		SATURATION, %				
NORMAL STRESS, TSF			1.0	2.0	3.0	
MAXIMUM SHEAR STRESS, TSF			0.57	1.18	2.12	
TIME TO FAILURE, MIN			2317	1192	706	
RATE OF STRAIN, IN/MIN			.00018	.00018	.00018	
ULTIMATE SHEAR STRESS, TSF						

ϕ = 31.89

TAN ϕ = 0.6222

C = _____

TYPE SPECIMEN UNDISTURBED	3.00 IN. SQUARE	0.584 IN. THICK
CLASSIFICATION SILT (ML), GRAY		
LL / PL / PI		GS 2.68 (EST)
REMARKS:	PROJECT M.R.C.O. - NEW SHIPLOCK	
	IHNC SITE	
	BORING NO. 2-1U	SAMPLE 25-C
	DEPTH/ELEV 97.7/-89.1	DATE 07 AUG 81
	DIRECT SHEAR TEST REPORT	



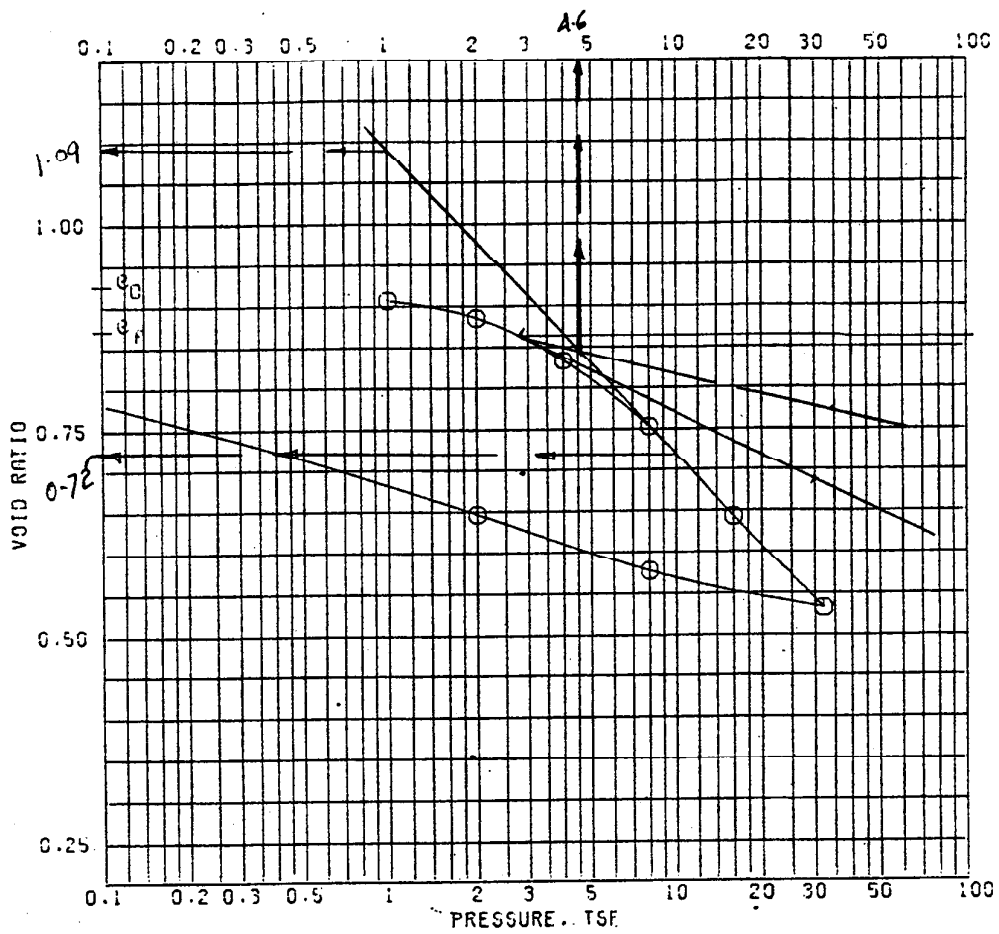
1.12
0.73
.39

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	37.7	34.0
PRECONSOL. PRESSURE, TSF	1.82	DRY DENSITY, PCF	90.0	99.2
COMPRESSION INDEX	0.39	SATURATION, %	92.1	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.106	0.912
DIA. IN 4.44	HT. IN 1.119	BACK PRESSURE, TSF		

CLASSIFICATION PLASTIC CLAY (CH), GRAY

LL 61	PL 22	PI 39	PROJECT M.R.G.O. - NEW SHIPLOCK
GS 2.70 (EST)	D_{10}		IHNC SITE
REMARKS ELEV. -18.6		BORING NO. 2-IU	SAMPLE NO. 7-D
PC = 1.82		DEPTH/ELEV 27.2/-18.6	DATE 07 OCT 81
Cc = 0.39		CONSOLIDATION TEST REPORT	

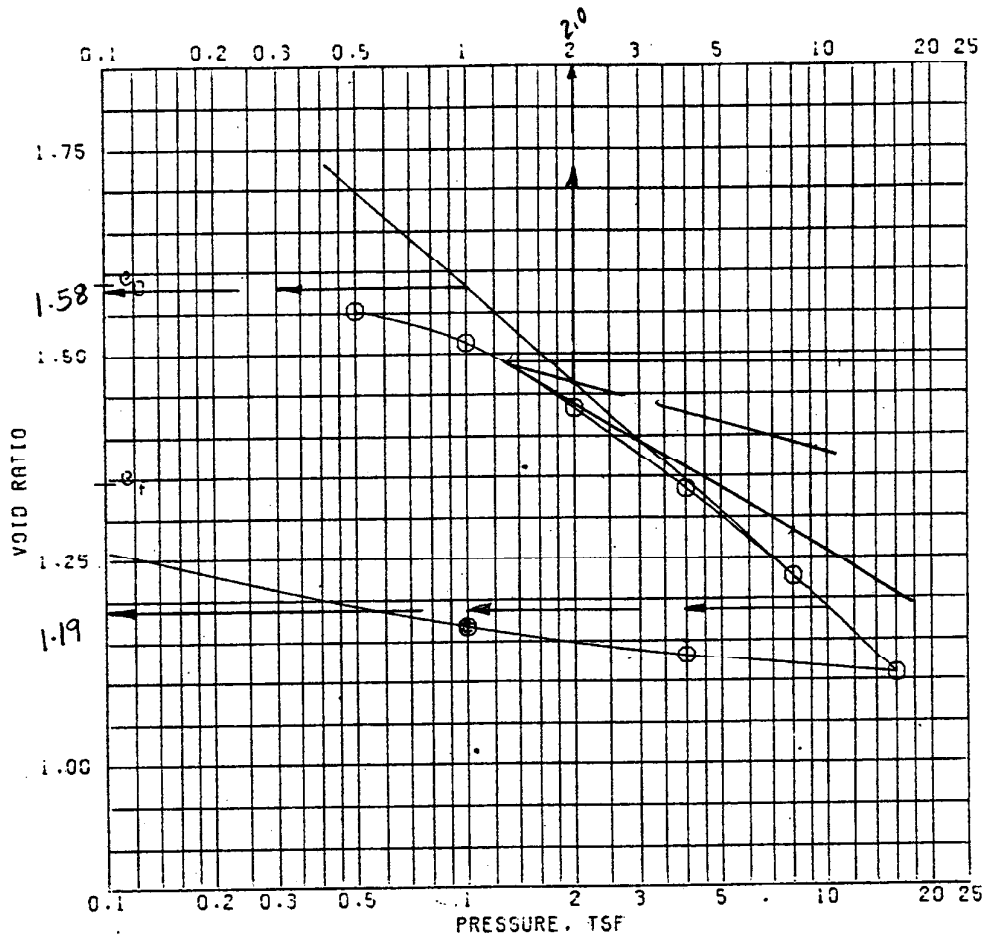
SHEET 1 OF 11



1.09
.72
0.37

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	31.4	32.8
PRECONSOL. PRESSURE, TSF	4.6	DRY DENSITY, PCF	97.5	90.2
COMPRESSION INDEX	0.37	SATURATION, %	91.6	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	0.924	0.970
DIA. IN 4.44	HT. IN 1.145	BACK PRESSURE, TSF		
CLASSIFICATION PLASTIC CLAY (CH), GRAY & TAN MOTTLED; FISSURED				
LL 95 PL 30 PI 65		PROJECT M.R.G.O. - NEW SHIPLOCK		
GS 2.70 (EST)	D_{10}	IHNC SITE		
REMARKS ELEV. -44.0		BORING NO. Z-10	SAMPLE NO. 14-5	
p_c = 4.6		DEPTH/ELEV 52.6/-44.0	DATE 07 OCT 81	
C_c = 0.37		CONSOLIDATION TEST REPORT		

SHEET 1 OF 11



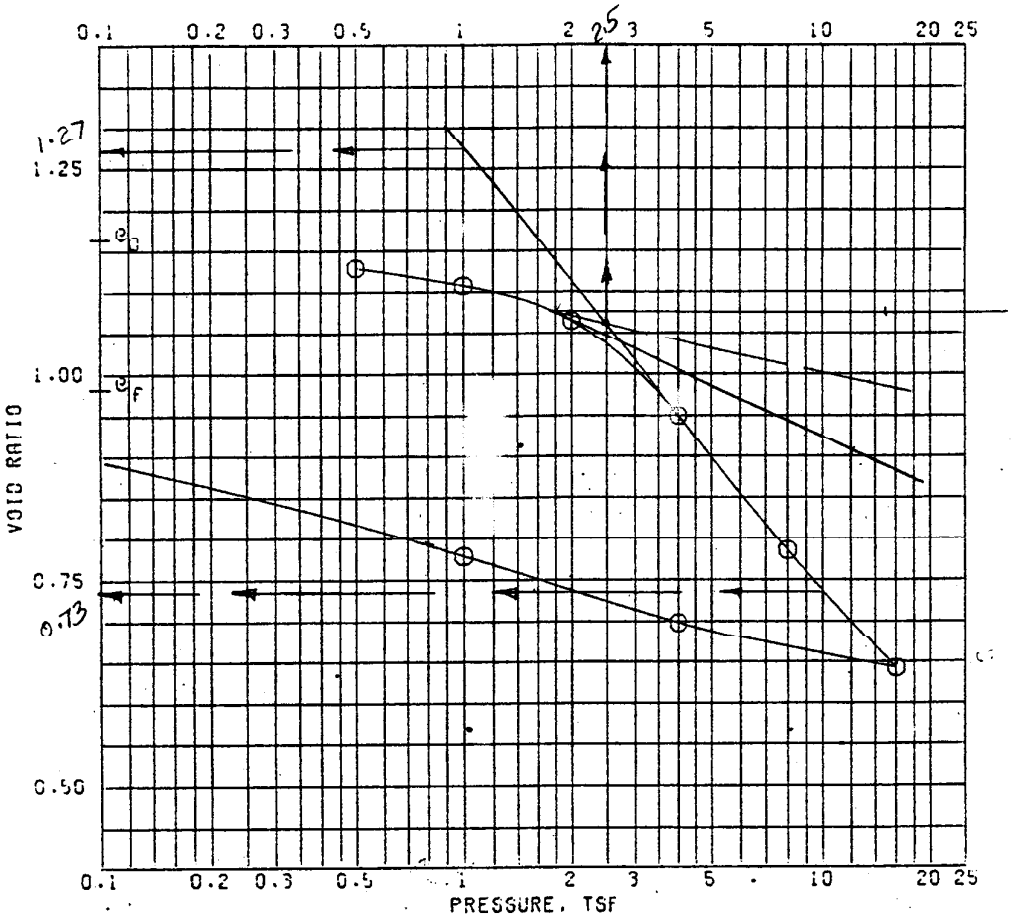
$-\frac{1.58}{1.19}$
0.39

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	40.3	65.9
PRECONSOL. PRESSURE, TSF	2.0	DRY DENSITY, PCF	65.2	71.9
COMPRESSION INDEX	0.39	SATURATION, %	69.6	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.595	1.343
DIA. IN 4.44	HT. IN 1.123	BACK PRESSURE, TSF		

CLASSIFICATION PLASTIC CLAY (CH), GRAY; SILT SEAM

LL 56	PL 20	PI 36	PROJECT M.R.G.O. - NEW SHIPLOCK
GS 2.70 (EST)	D_{10}		IHNC SITE
REMARKS ELEV. -78.2		BORING NO. 2-10	SAMPLE NO. 22-U
pc = 2.0		DEPTH/ELEV 86.9/-78.2	DATE 07 OCT 81
Cc = 0.39		CONSOLIDATION TEST REPORT	

SHEET 1 OF 11



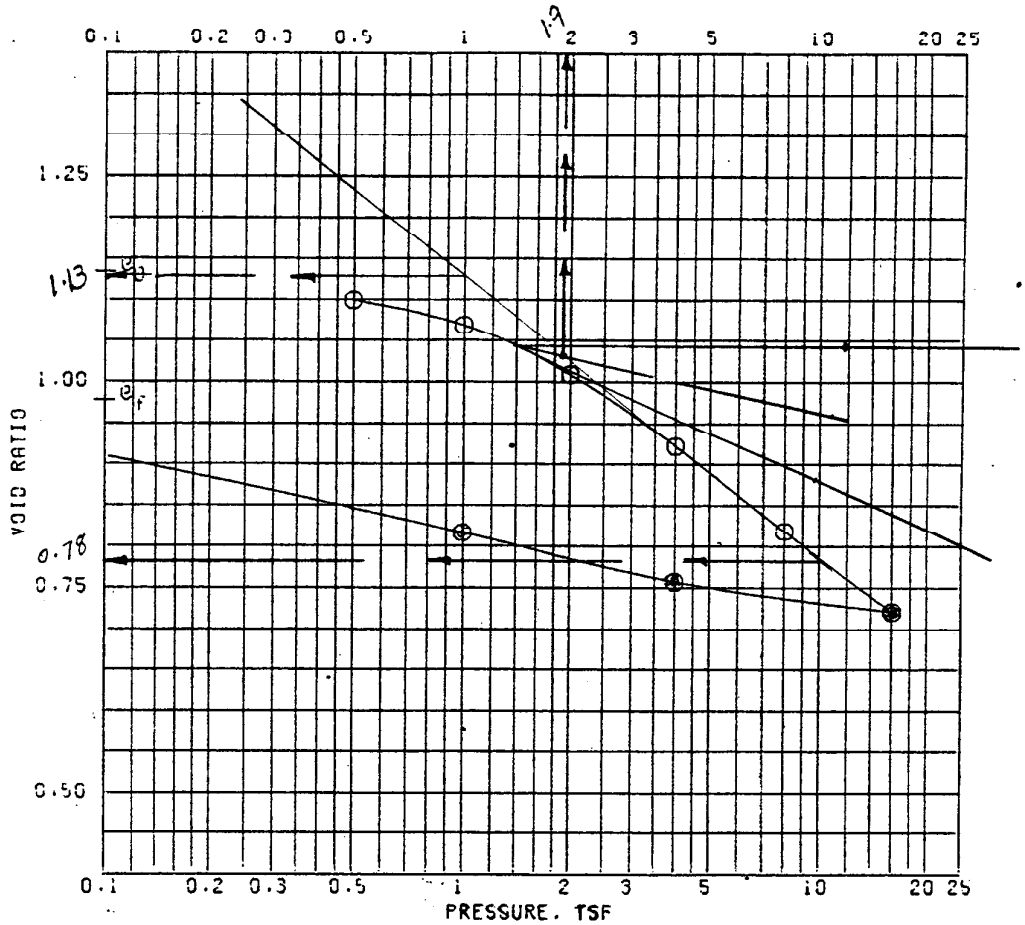
1.27
0.73
0.54

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	42.7	39.4
PRECONSOL. PRESSURE, TSF	2.5	DRY DENSITY, PCF	77.3	85.1
COMPRESSION INDEX	0.54	SATURATION, %	99.1	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.162	0.990
DIA. IN 4.25	HT. IN 1.162	BACK PRESSURE, TSF		

CLASSIFICATION PLASTIC CLAY (CH), GRAY; SILT SEAMS

LL 65	PL 23	PI 42	PROJECT M.R.G.O. - NEW SHIPLOCK
GS 2.70 (EST)	D_{10}		IHNC SITE
REMARKS ELEV. -101.4			BORING NO. 2-IU / SAMPLE NO. 28-C
Pc = 2.5			DEPTH/ELEV 110.0/-101.4 / DATE 08 OCT 81
Cc = 0.54			CONSOLIDATION TEST REPORT

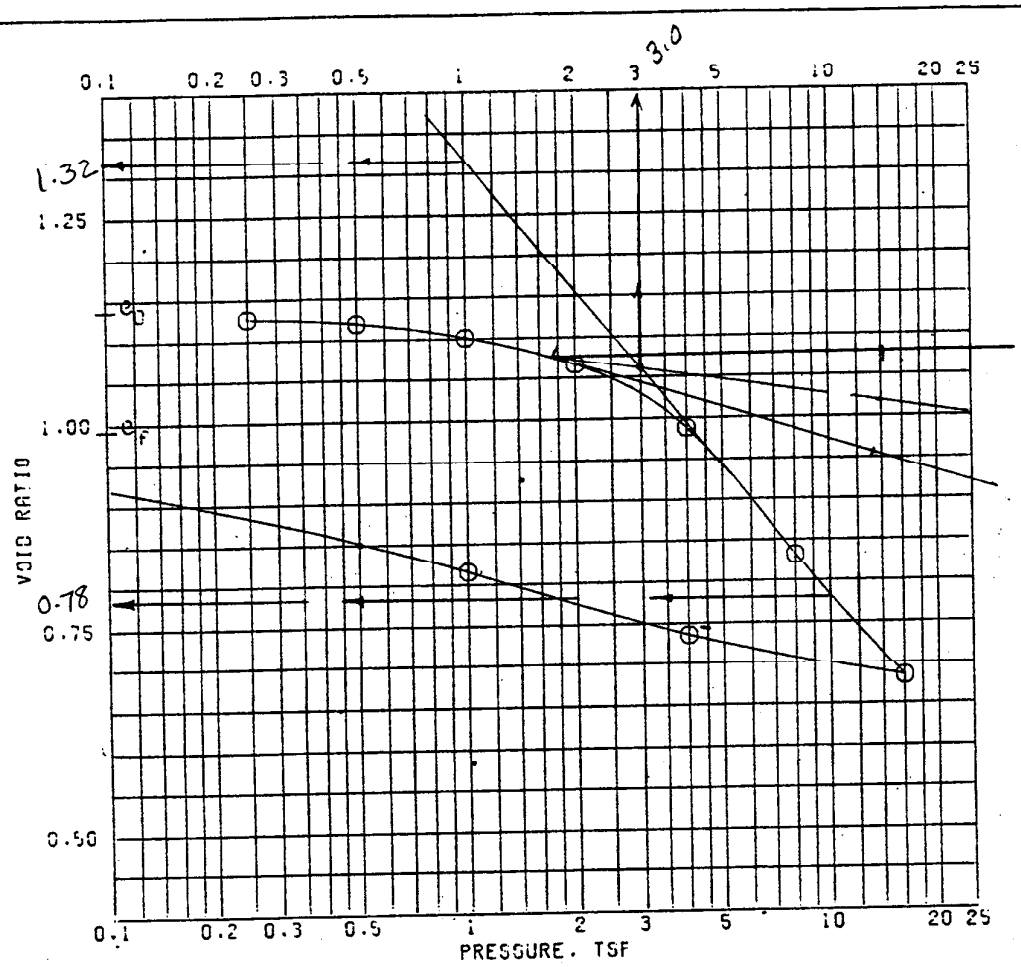
SHEET 1 OF 11



1.13
-0.78
0.35

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	40.1	35.7
PRECONSOL. PRESSURE, TSF	1.90	DRY DENSITY, PCF	70.1	85.3
COMPRESSION INDEX	035	SATURATION, %	95.5	98.6
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.132	0.975
DIA. IN 4.44	HT. IN 1.145	BACK PRESSURE, TSF		
CLASSIFICATION PLASTIC CLAY (CH), GRAY; SILT POCKETS				
LL / PL / PI		PROJECT M.R.G.O. - NEW SHIPLOCK		
GS 2.70 (EST)	D_{10}	IHNC SITE		
REMARKS ELEV. -112.4		BORING NO. 2-IU	SAMPLE NO. 31-B	
Pc = 1.9.		DEPTH/ELEV 121.0/-112.4	DATE 08 OCT 81	
Cc = 0.35		CONSOLIDATION TEST REPORT		

SHEET 1 OF 11



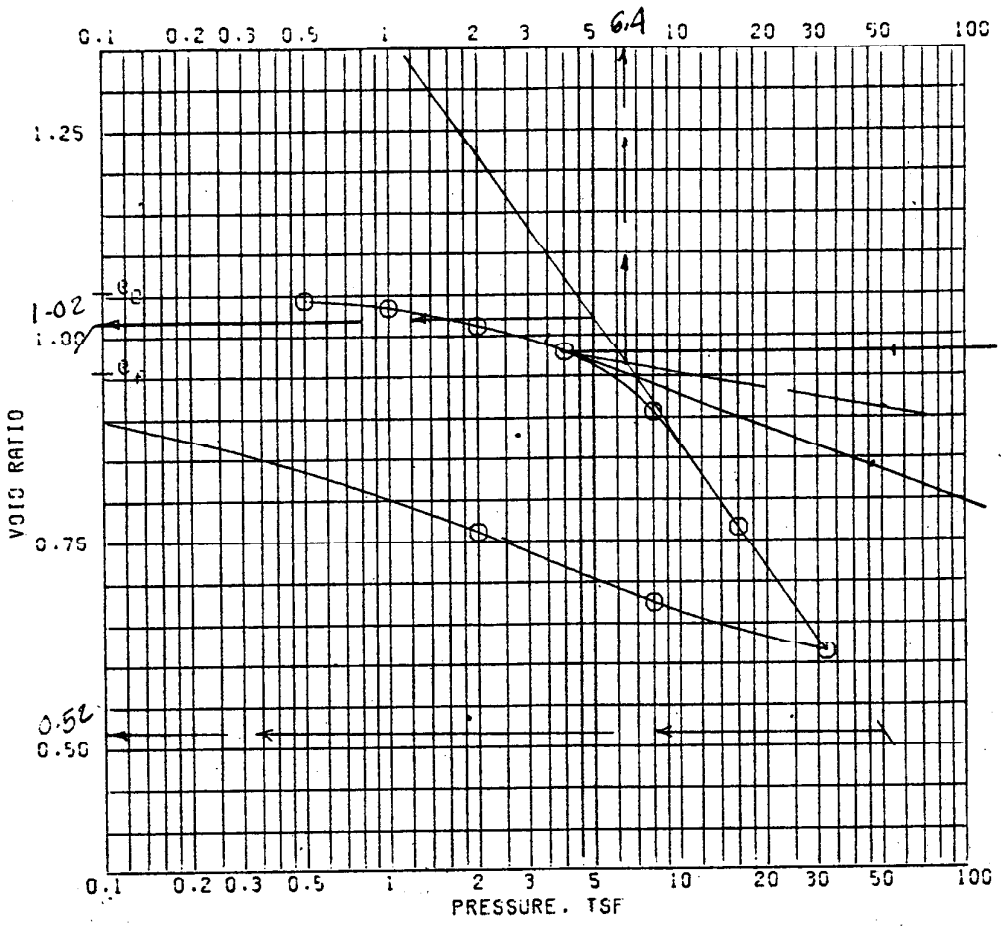
1.32
0.78
.54

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	42.9	38.5
PRECONSOL. PRESSURE, TSF	3.0	DRY DENSITY, PCF	78.9	84.7
COMPRESSION INDEX	0.54	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.135	0.990
DIA. IN 4.25	HT. IN 1.163	BACK PRESSURE, TSF		

CLASSIFICATION PLASTIC CLAY (CH), GRAY

LL 72	PL 25	PI 47	PROJECT M.R.G.O. - NEW SHIPLOCK
GS 2.70 (EST)	D_{10}		IHNC SITE
REMARKS ELEV. -125.8			BORING NO. 2-IU / SAMPLE NO. 34-C
Pc = 3.0			DEPTH/ELEV 134.4/-125.9 / DATE 09 OCT 81
Cc = 0.54			CONSOLIDATION TEST REPORT

SHEET 1 OF 12

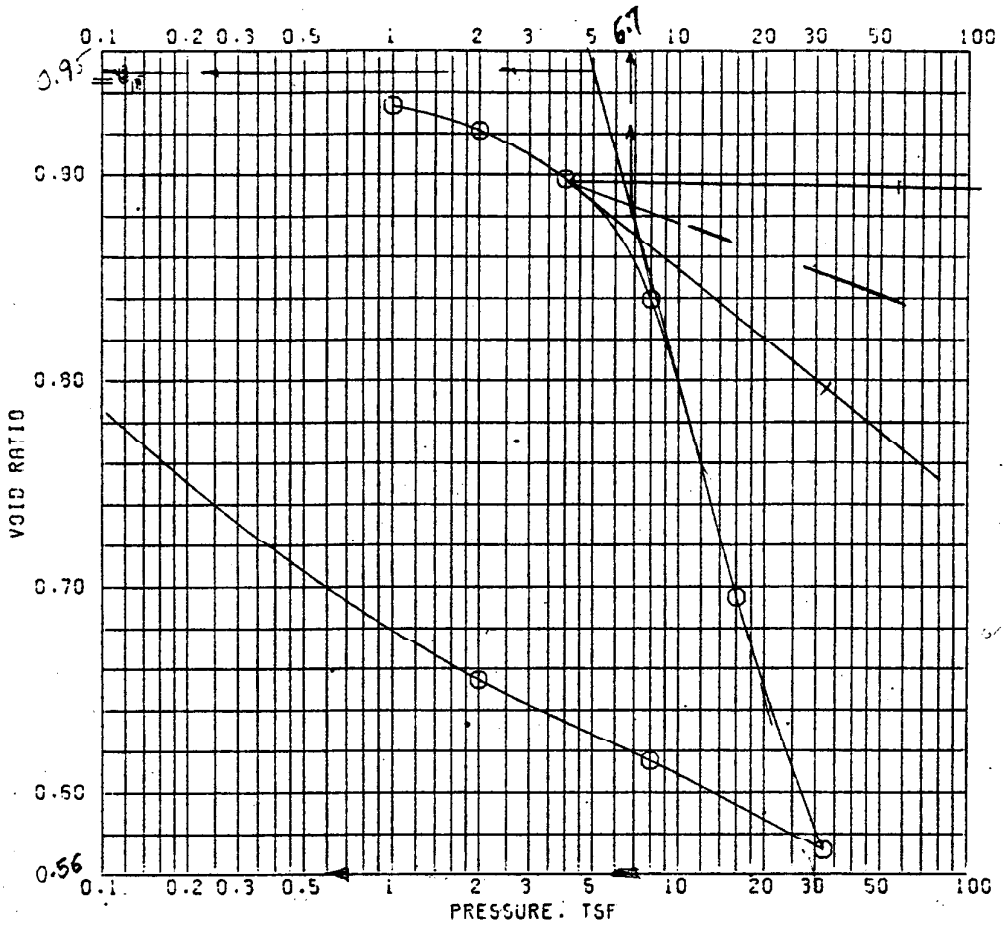


1.02
-0.52
0.50

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	39.3	36.6
PRECONSOL. PRESSURE, TSF	6.4	DRY DENSITY, PCF	92.1	95.2
COMPRESSION INDEX	0.50	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.054	0.955
DIA. IN 4.44	HT. IN 1.122	BACK PRESSURE, TSF		

CLASSIFICATION PLASTIC CLAY (CH), GRAY; SILT LENSES

LL 65	PL 24	PI 41	PROJECT M.R.G.C. - NEW SHIPLOCK
GS 2.70 (EST)	D_{10}		IHNC SITE
REMARKS ELEV. -149.8			BORING NO. 2-IU / SAMPLE NO. 40-C
Pc = 6.4			DEPTH/ELEV 159.4/-149.8 / DATE 09 OCT 81
Cc = 0.50			CONSOLIDATION TEST REPORT



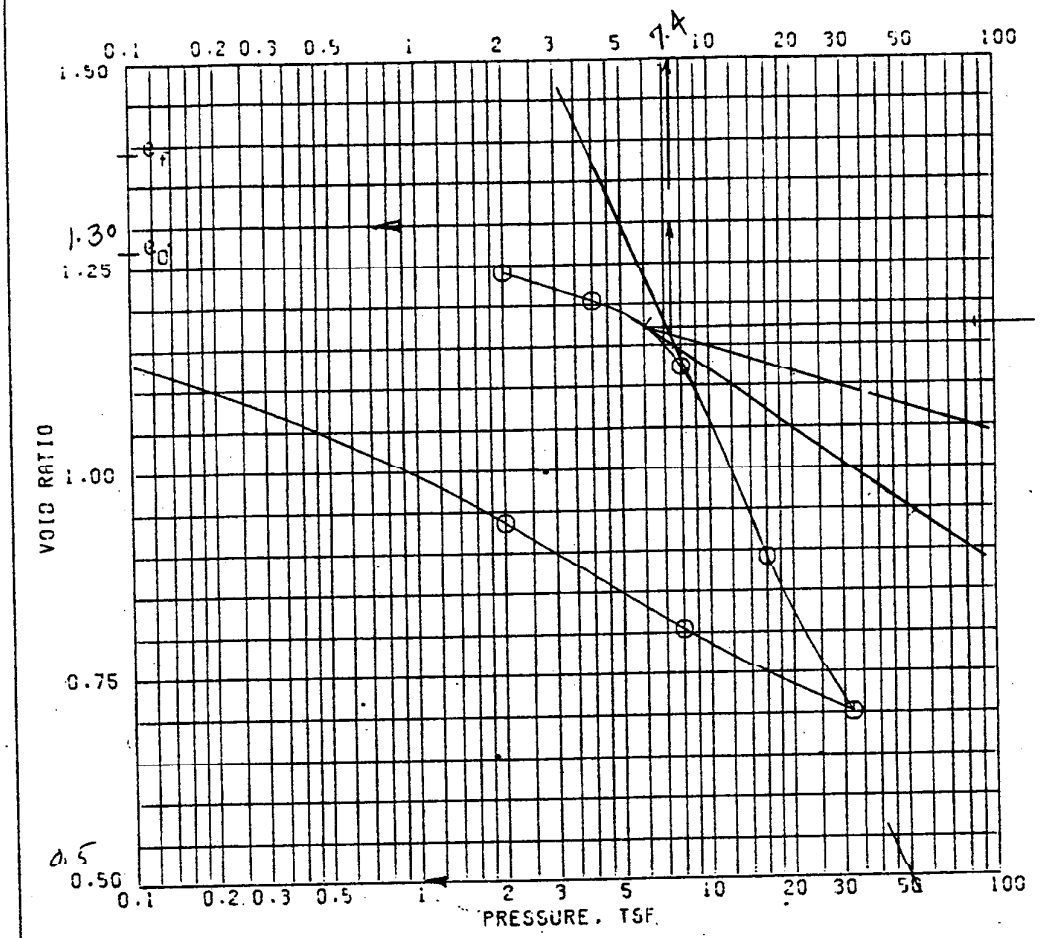
$$\frac{0.95-0.56}{\log 30-\log 5} = \frac{0.39}{0.7781} = 0.51$$

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	35.5	36.6
PRECONSOL. PRESSURE, TSF	6.7	DRY DENSITY, PCF	86.7	86.6
COMPRESSION INDEX	0.51	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	0.944	0.945
DIA. IN 4.25	HT. IN 1.159	BACK PRESSURE, TSF		

CLASSIFICATION PLASTIC CLAY (CH), GRAY

LL 68	PL 23	PI 45	PROJECT M.R.G.C. - NEW SHIPLOCK
GS 2.70 (EST)	D_{10}		IHNC SITE
REMARKS ELEV. -197.8		BORING NO. 2-IU	SAMPLE NO. 52-C
Pc = 6.7		DEPTH/ELEV 206.4/-197.8	DATE 14 OCT 81
Cc = 0.51		CONSOLIDATION TEST REPORT	

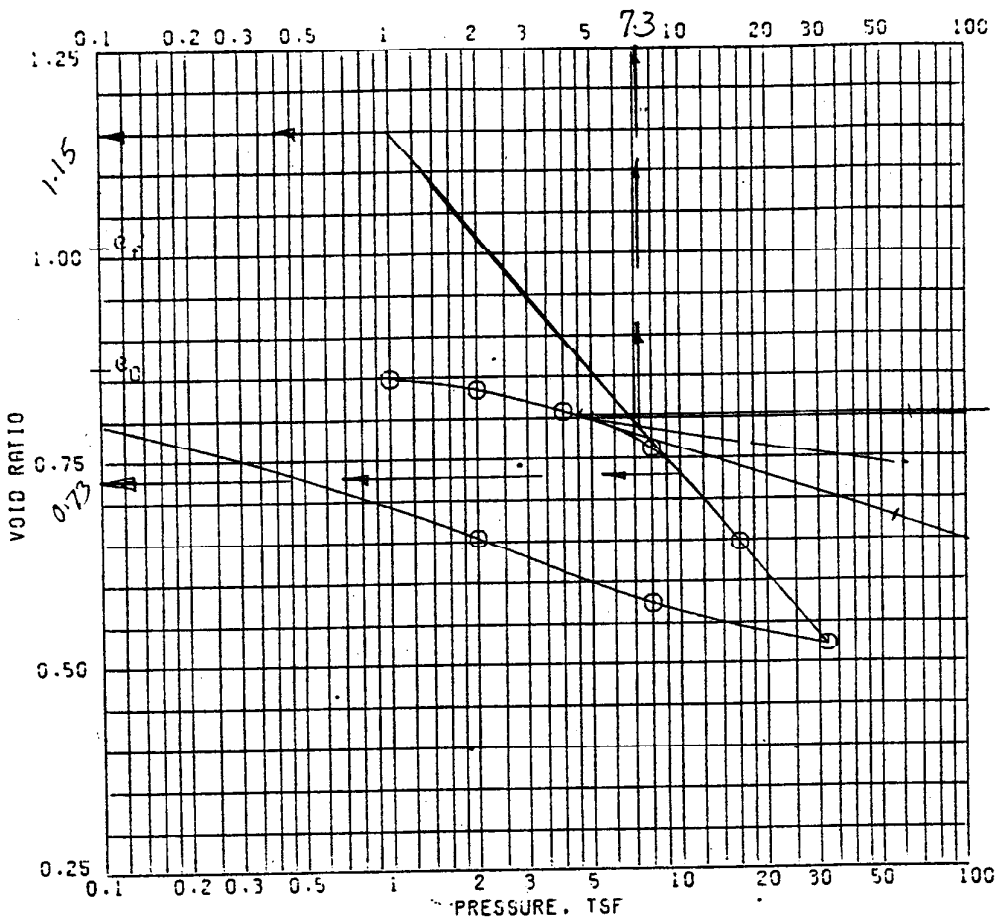
SHEET 1 OF 11



1.30
-0.50
0.80

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	37.7	53.1
PRECONSOL. PRESSURE, TSF	7.4	DRY DENSITY, PCF	74.3	70.5
COMPRESSION INDEX	0.80	SATURATION, %	90.1	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.270	1.399
DIA. IN 4.44	HT. IN 1.123	BACK PRESSURE, TSF		
CLASSIFICATION PLASTIC CLAY (CH), GRAY				
LL 79	PL 29 PI 50	PROJECT M.R.G.O. - NEW SHIPLOCK		
GS 2.70 (EST)	D_{10}	IHNC SITE		
REMARKS ELEV. -214.2		BORING NO. 2-10	SAMPLE NO. 56-D	
Pc = 7.4		DEPTH/ELEV 222.9/-214.2	DATE 14 OCT 82	
Cc = 0.80		CONSOLIDATION TEST REPORT		

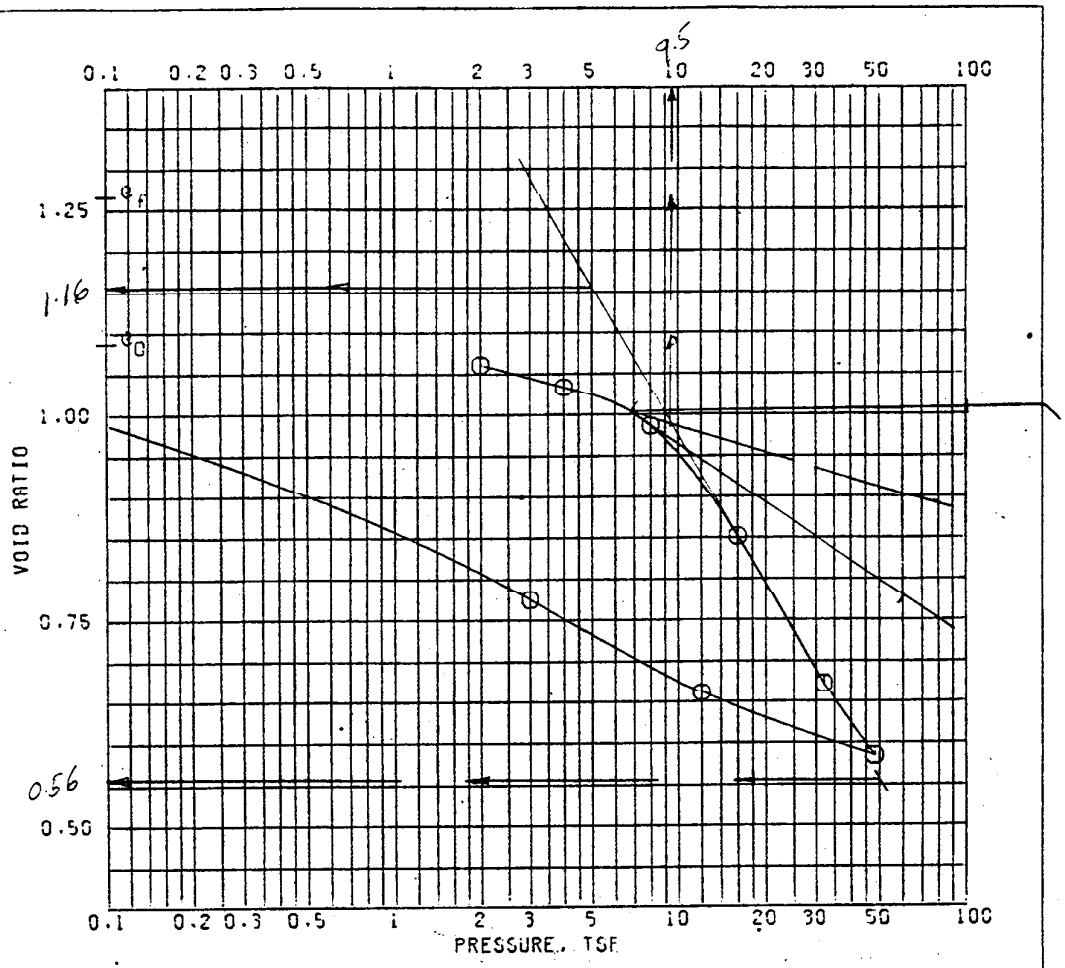
SHEET 1 OF 10



1.15
0.73
0.42

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	33.1	39.1
PRECONSOL. PRESSURE, TSF	7.3	DRY DENSITY, PCF	90.5	93.9
COMPRESSION INDEX	0.42	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	0.993	1.012
DIA. IN 4.25	HT. IN 1.162	BACK PRESSURE, TSF		
CLASSIFICATION PLASTIC CLAY (CH), GRAY				
LL 54 PL 20 PI 34		PROJECT M.R.G.O. - NEW SHIPLOCK		
GS 2.70 (EST)	D_{10}	IHNC SITE		
REMARKS ELEV. -246.1		BORING NO. 2-10	SAMPLE NO. 64-D	
Pc = 7.3		DEPTH/ELEV 254.7/-246.1	DATE 14 OCT 82	
Cc = 0.42		CONSOLIDATION TEST REPORT		

SHEET 1 OF 11



1.16
-.056
0.60

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE, TSF		WATER CONTENT, %	41.1	48.7
PRECONSOL. PRESSURE, TSF	9.5	DRY DENSITY, PCF	80.9	74.4
COMPRESSION INDEX	0.60	SATURATION, %	100 +	100 +
TYPE SPECIMEN	UNDISTURBED	VOID RATIO	1.096	1.264
DIA. IN 4.25	HT. IN 1.159	BACK PRESSURE, TSF		
CLASSIFICATION PLASTIC CLAY (CH), GRAY				
LL 75	PL 25	PI 50	PROJECT M.R.G.O. - NEW SHIPLOCK	
GS 2.70 (EST)	D_{10}		IHNC SITE	
REMARKS ELEV. -264.4			BORING NO. 2-IU	SAMPLE NO. 69-B
PC = 9.5			DEPTH/ELEV 273.0/-264.4	DATE 14 OCT 81
Cc = 0.60			CONSOLIDATION TEST REPORT	

SHEET 1 OF 11