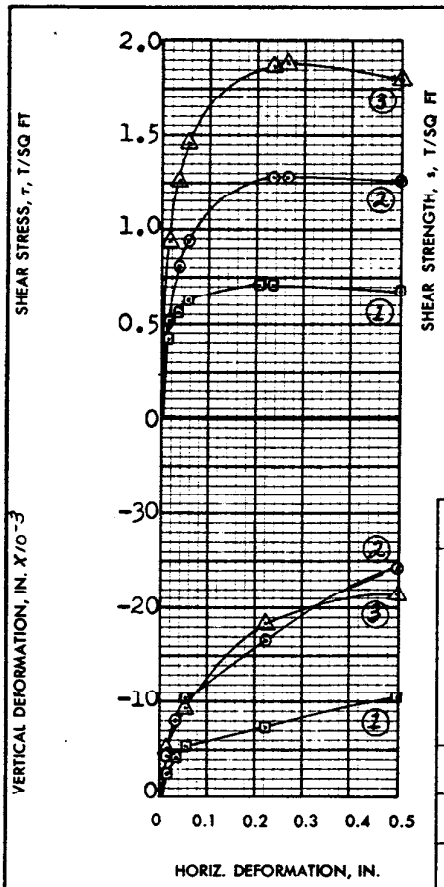
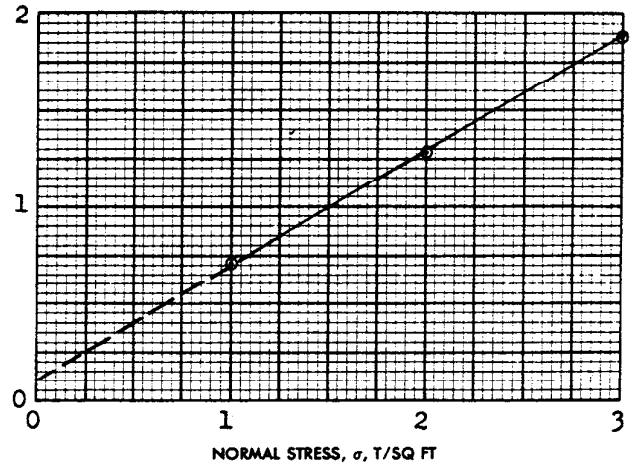




TEST NO.			1	2	3	
INITIAL	WATER CONTENT	w_o	24.5%	22.7%	23.8%	%
	VOID RATIO	e_o	0.686	0.641	0.730	
	SATURATION	S_o	94.6%	93.8%	86.4%	%
	DRY DENSITY, LB/CU FT	γ_d	98.1	100.8	95.6	
VOID RATIO AFTER CONSOLIDATION		e_c				
TIME FOR 50 PERCENT CONSOLIDATION, MIN		t_{50}				
FINAL	WATER CONTENT	w_f	22.6%	23.1%	24.6%	%
	VOID RATIO	e_f				
	SATURATION	S_f	%	%	%	%
NORMAL STRESS, T/SQ FT		σ	1.0	2.0	3.0	
MAXIMUM SHEAR STRESS, T/SQ FT		τ_{max}	0.71	1.28	1.88	
ACTUAL TIME TO FAILURE, MIN		t_f	1170	1500	1500	
RATE OF STRAIN, IN./MIN			.00018	.00018	.00018	
ULTIMATE SHEAR STRESS, T/SQ FT		τ_{ult}				

SHEAR STRENGTH PARAMETERS

ϕ' = 31°

TAN ϕ' = 0.601

c' = 0.11 T/SQ FT

☐ CONTROLLED STRESS

☒ CONTROLLED STRAIN

TYPE OF SPECIMEN UNDISTURBED 3.00 IN. SQUARE 0.551 IN. THICK

CLASSIFICATION SILTY SAND (SM), gray, contains pockets of clay 1/8" to 1/4" in *

LL - PL - PI - G. 2.65

REMARKS * diameter, shells & shell fragments and trace of gravel 1/4" in diameter

PROJECT MISS. RIVER - GULF OUTLET -GDM

1968 - NEW SHIP LOCK

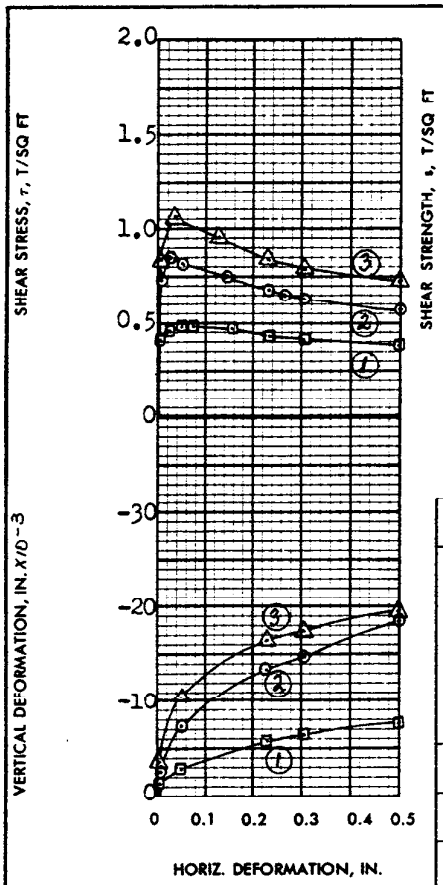
AREA

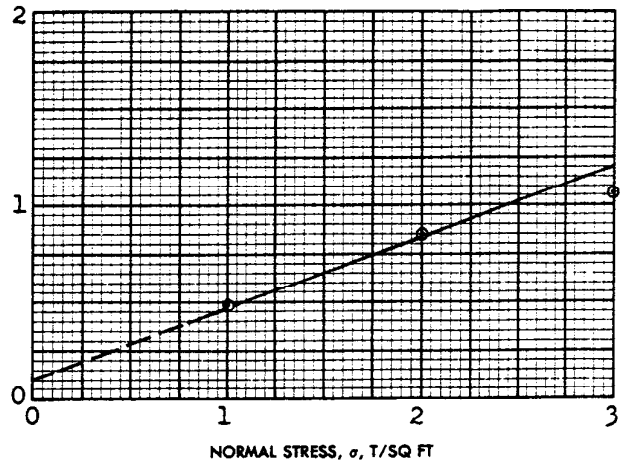
BORING NO. 2-UL SAMPLE NO. 17-D

DEPTH 54.9 DATE 13 August 1968

JHMc DIRECT SHEAR TEST REPORT

ENG FORM 1 JUN 65 2092 (EM 1110-2-1906) PREVIOUS EDITIONS ARE OBSOLETE (TRANSLUCENT) USAEWES SOILS TEST SECTION PLATE IX-3





TEST NO.			1	2	3	
INITIAL	WATER CONTENT	w_o	45.2 %	47.0%	45.2%	%
	VOID RATIO	e_o	1.31	1.35	1.40	
	SATURATION	S_o	95.2%	96.1%	89.1%	%
	DRY DENSITY, LB/CU FT	γ_d	74.6	73.2	71.7	
VOID RATIO AFTER CONSOLIDATION		e_c				
TIME FOR 50 PERCENT CONSOLIDATION, MIN		t_{50}	<1	<1	<1	
FINAL	WATER CONTENT	w_f	49.4%	46.7%	47.2%	%
	VOID RATIO	e_f				
	SATURATION	S_f	%	%	%	%
NORMAL STRESS, T/SQ FT		σ	1.0	2.0	3.0	
MAXIMUM SHEAR STRESS, T/SQ FT		τ_{max}	0.48	0.85	1.06	
ACTUAL TIME TO FAILURE, MIN		t_f	360	240	300	
RATE OF STRAIN, IN./MIN			.00018	.00018	.00018	
ULTIMATE SHEAR STRESS, T/SQ FT		τ_{ult}				

SHEAR STRENGTH PARAMETERS

ϕ' = 20°

TAN ϕ' = 0.364

c' = 0.12 T/SQ FT

☐ CONTROLLED STRESS

☒ CONTROLLED STRAIN

TYPE OF SPECIMEN UNDISTURBED 3.00 IN. SQUARE 0.551 IN. THICK

CLASSIFICATION PLASTIC CLAY (CH), gray, fissured, slickensided

LL 98 PL 32 PI 66 G_s 2.76

REMARKS

PROJECT MISS. RIVER - GULF OUTLET - GDM

1968 - NEW SHIP LOCK

AREA

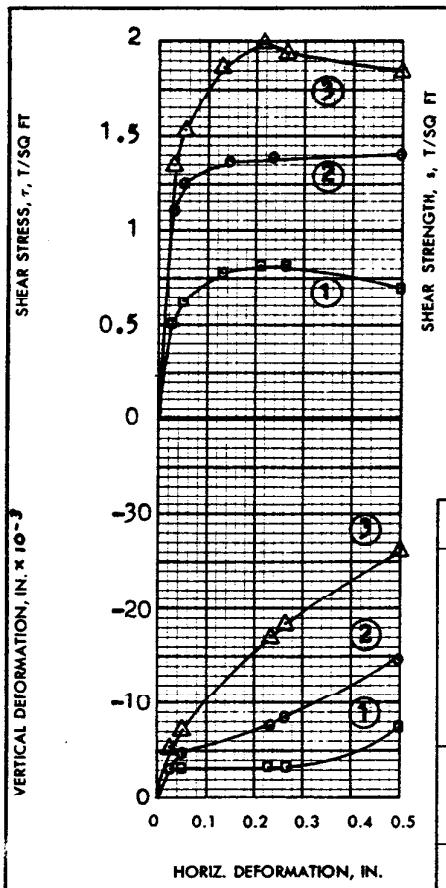
BORING NO. 2-UL SAMPLE NO. 21-D

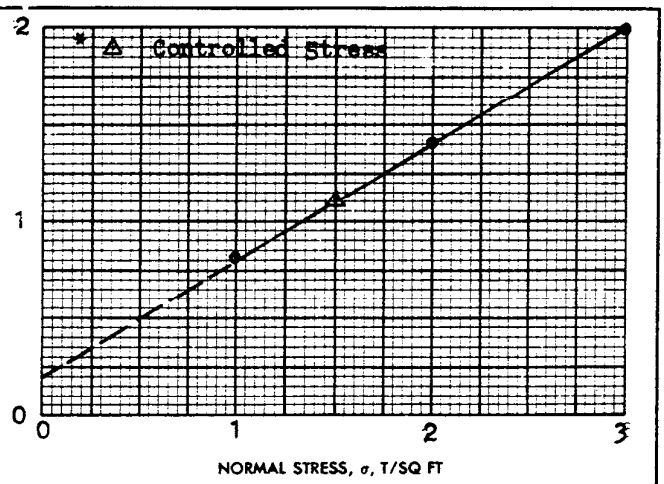
DEPTH 71.0 DATE 14 August 1968

JHMc **DIRECT SHEAR TEST REPORT**

ENG FORM 1 JUN 65 **2092** *(EM 1110-2-1906)* PREVIOUS EDITIONS ARE OBSOLETE *(TRANSLUCENT)* GPO : 1966 OF—214-945 PLATE IX-3

USAEWES SOILS TEST SECTI





SHEAR STRENGTH PARAMETERS

$\phi' =$ 31°

TAN $\phi' =$ 0.601

$c' =$ 0.20 T/SQ FT

☐ CONTROLLED STRESS

☒ CONTROLLED STRAIN

TEST NO.			①	②	③	
INITIAL	WATER CONTENT	w_o	25.2%	26.9%	24.7%	%
	VOID RATIO	e_o	0.752	0.743	0.718	
	SATURATION	S_o	89.8%	97.0%	92.2%	%
	DRY DENSITY, LB/CU FT	γ_d	95.5	96.0	97.4	
VOID RATIO AFTER CONSOLIDATION		e_c				
TIME FOR 50 PERCENT CONSOLIDATION, MIN		t_{50}	< 1	< 1	< 1	
FINAL	WATER CONTENT	w_f	27.5%	26.2%	26.9%	%
	VOID RATIO	e_f				
	SATURATION	S_f	%	%	%	%
NORMAL STRESS, T/SQ FT		σ	1.0	2.0	3.0	
MAXIMUM SHEAR STRESS, T/SQ FT		τ_{max}	0.82	1.42	1.99	
ACTUAL TIME TO FAILURE, MIN		t_f	1200	2760	1200	
RATE OF STRAIN, IN./MIN			.00018	.00018	.00018	
ULTIMATE SHEAR STRESS, T/SQ FT		τ_{ult}				

TYPE OF SPECIMEN UNDISTURBED — 3.01 IN. SQUARE — 0.542 IN. THICK

CLASSIFICATION CLAYEY SILT (ML), gray

LL — PL — PI — G_s 2.68

REMARKS * Only shear stress recorded

PROJECT MISS. RIVER GULF OUTLET - GDM

1968 NEW SHIP LOCK

AREA

BORING NO. 2-UL — SAMPLE NO. 24-C

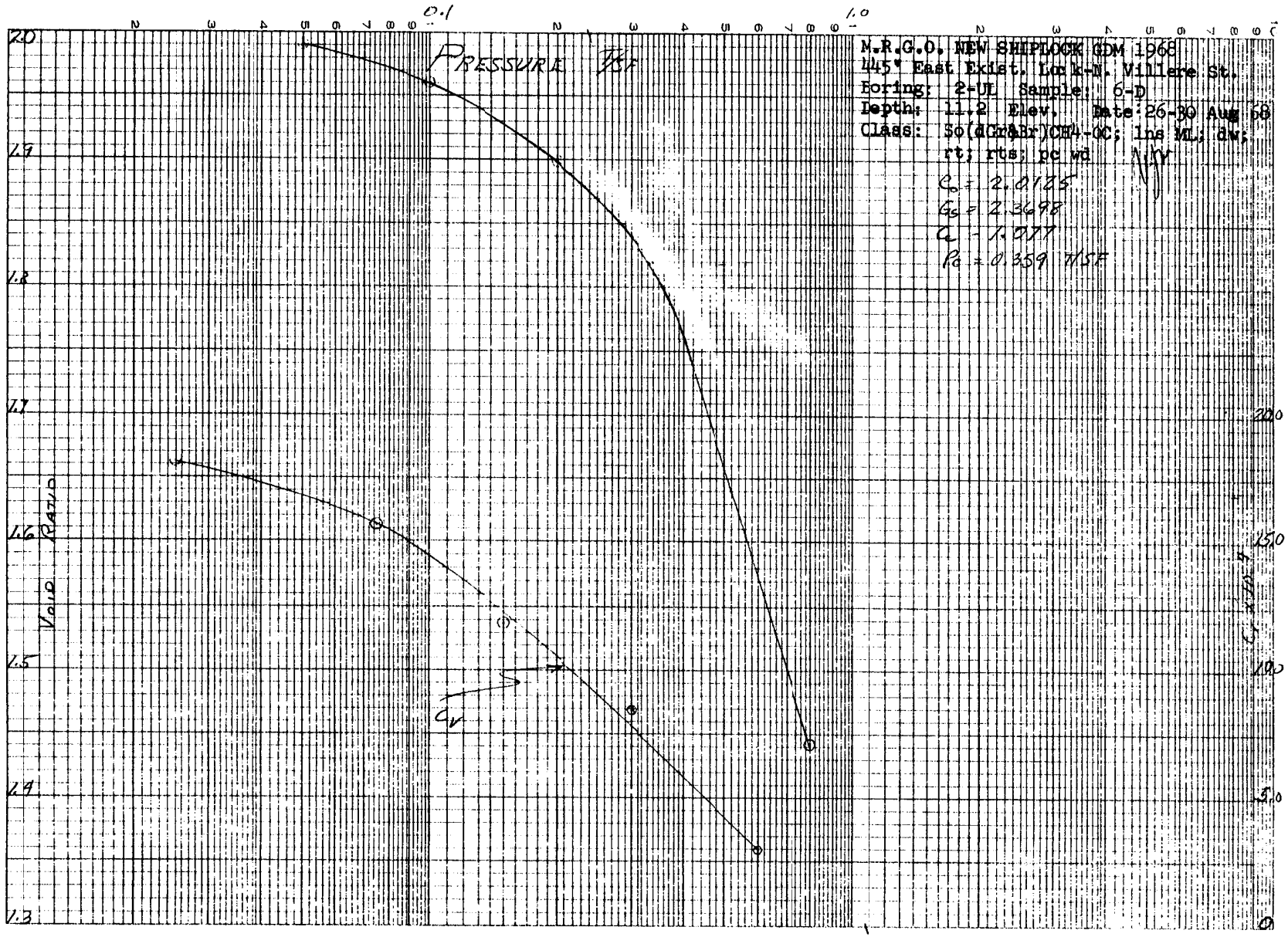
DEPTH EL 82.0 — DATE 10 September, 1968

JHMc — DIRECT SHEAR TEST REPORT

ENG FORM 1 JUN 65 2092 (EM 1110-2-1906) PREVIOUS EDITIONS ARE OBSOLETE (TRANSLUCENT) USAEWES SOILS TEST SECT. PLATE IX-3

NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.

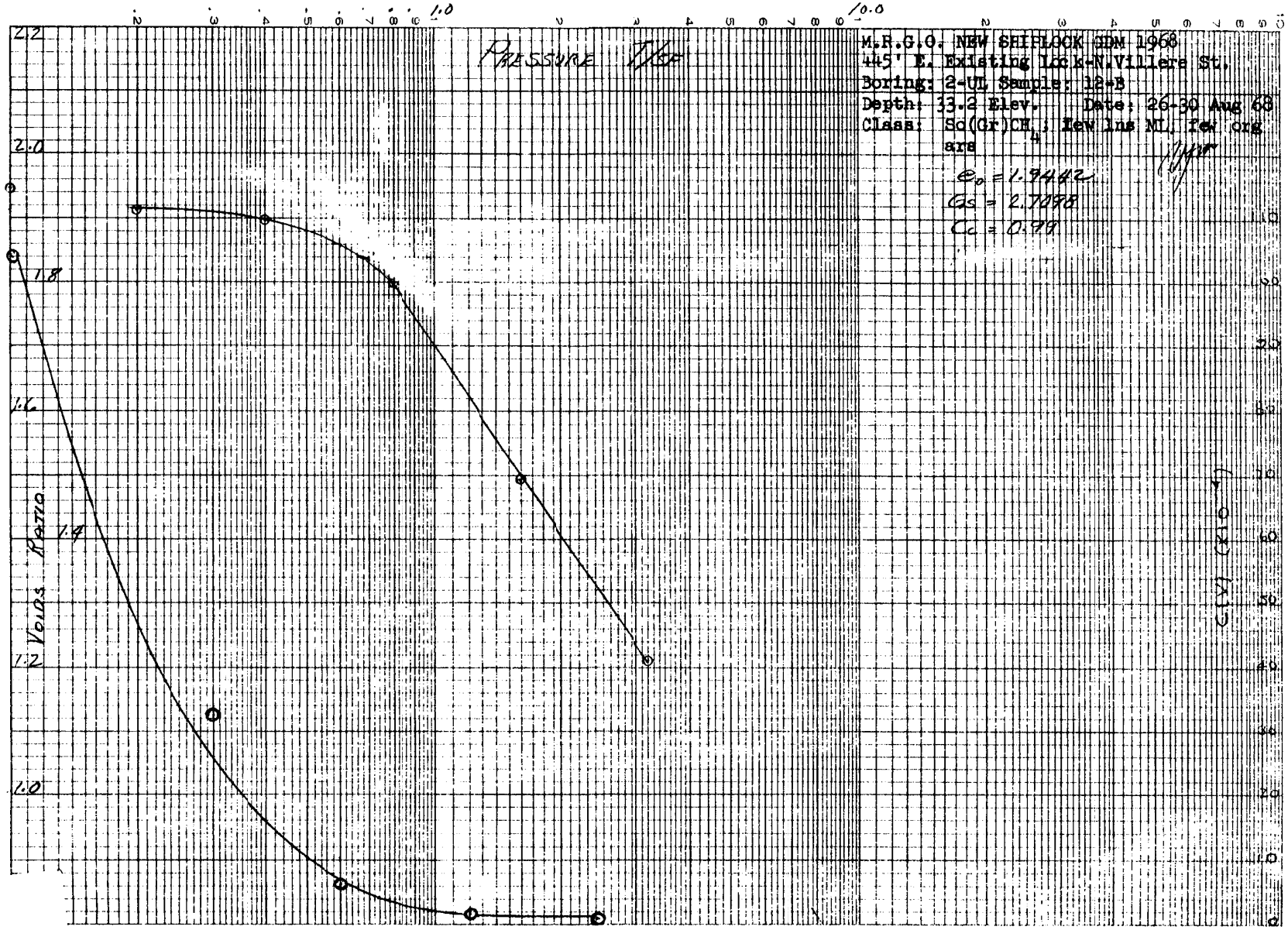


M.R.G.O. NEW SHIPLOCK GDM 1968
445' East Exist. Lock-N. Villere St.
Boring: 2-UL Sample: 6-D
Depth: 11.2 Elev. Date: 26-30 Aug 68
Class: So(dGrABr)CH4-OC; lns ML; dw; rt; rts; pc wd

G_o = 2.0125
G_s = 2.3698
C_c = 1.077
P_o = 0.359 TSF

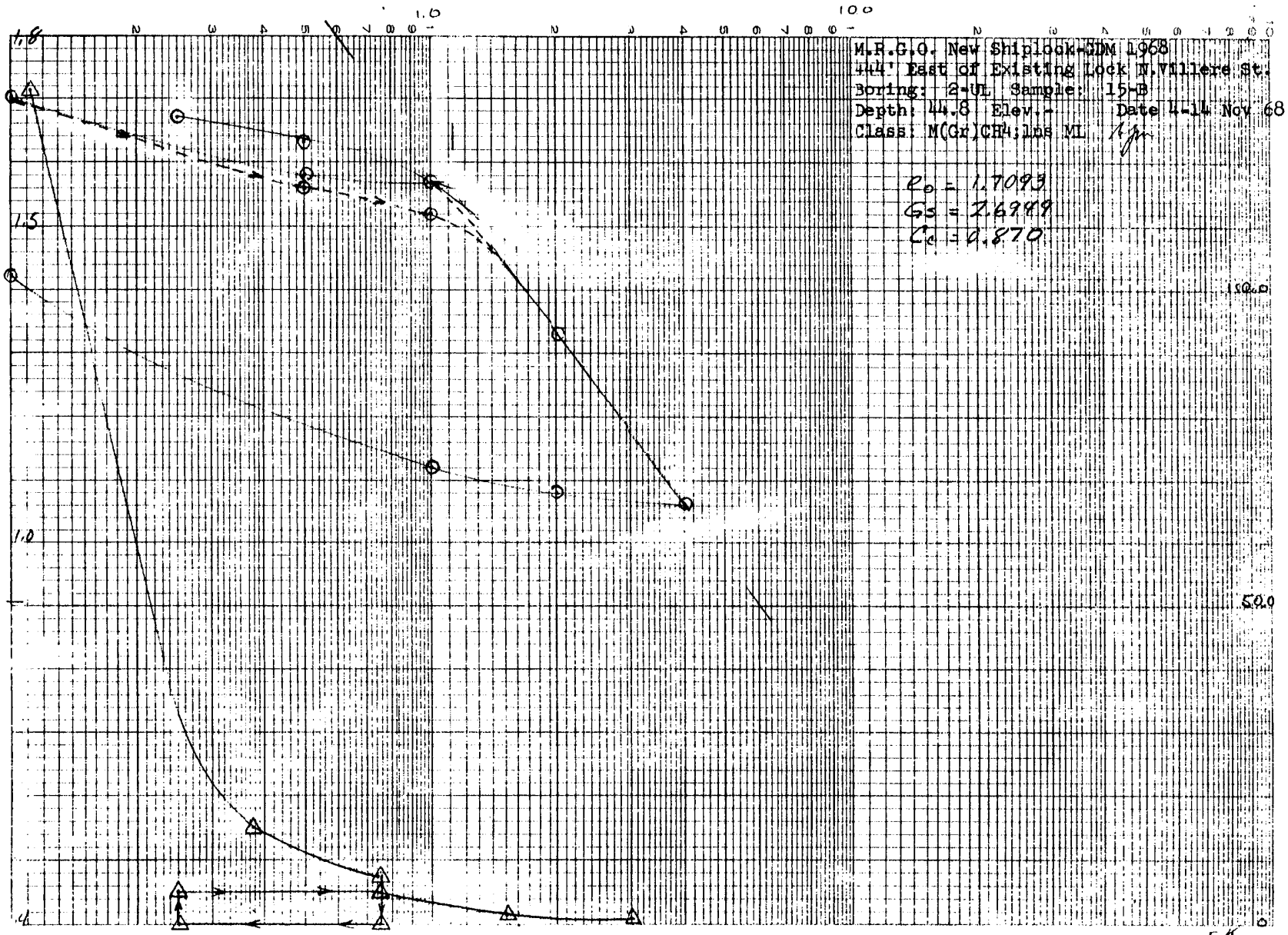
NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.



NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.



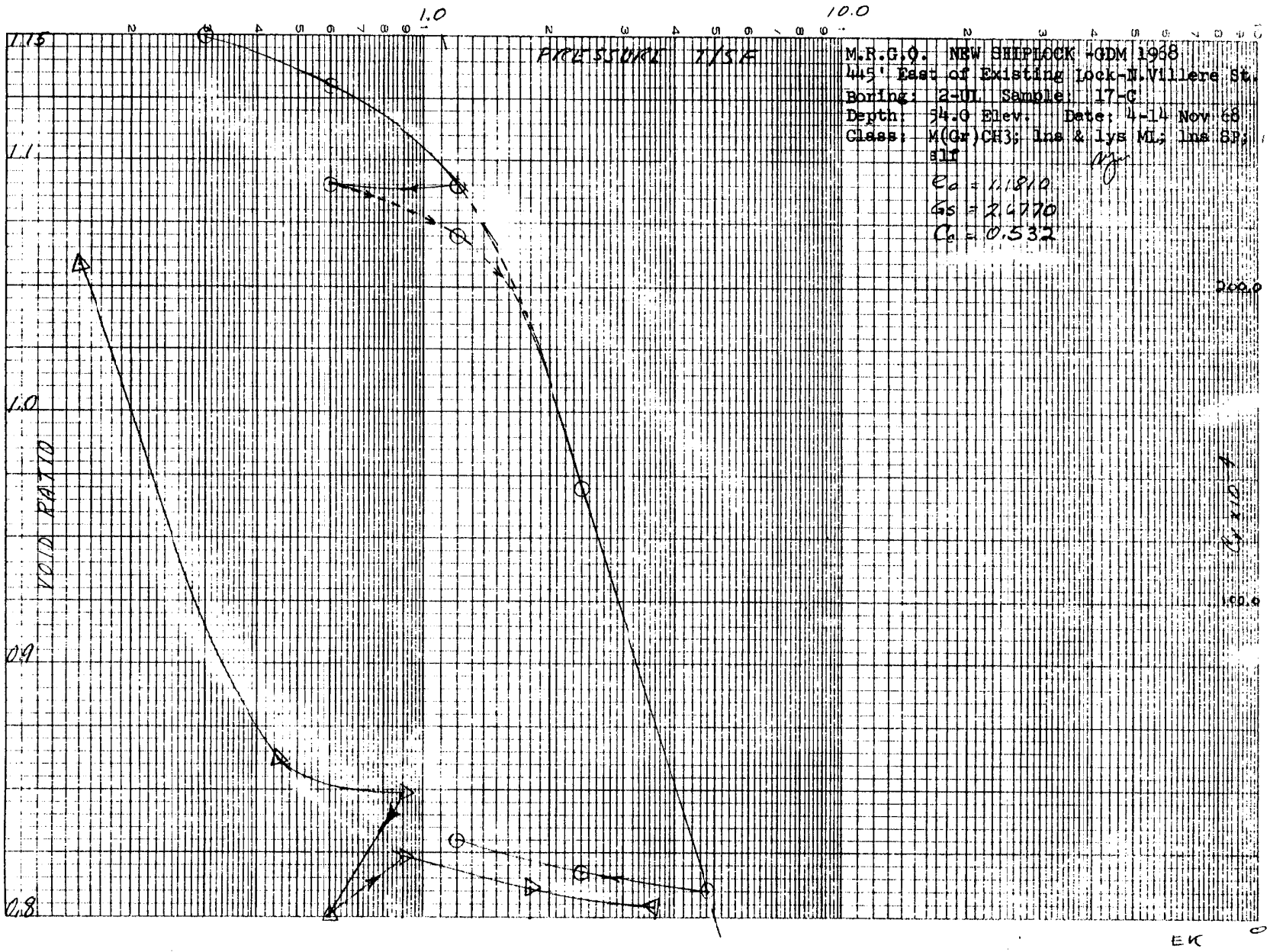
M.R.G.O. New Shiplock-CDM 1968
444' East of Existing Lock N.Villere St.
Boring: 2-UL Sample: 15-B
Depth: 44.8 Elev.- Date 4-14 Nov 68
Class: M(Gr)CH4;lns ML

e_o = 1.7093
G_s = 2.6989
C_c = 0.870

EK

NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

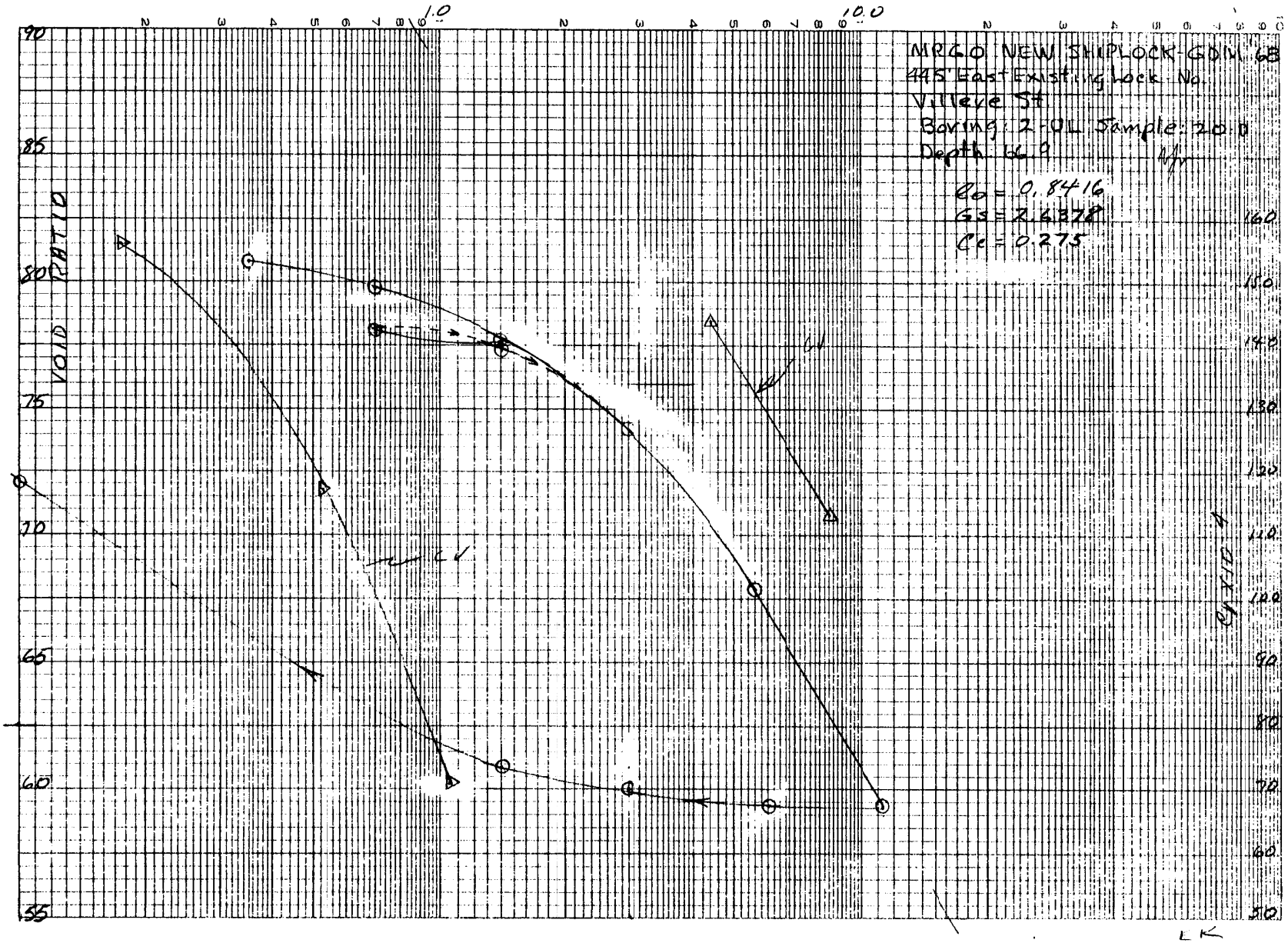
EUGENE DIETZGEN CO.
MADE IN U. S. A.



EK

NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

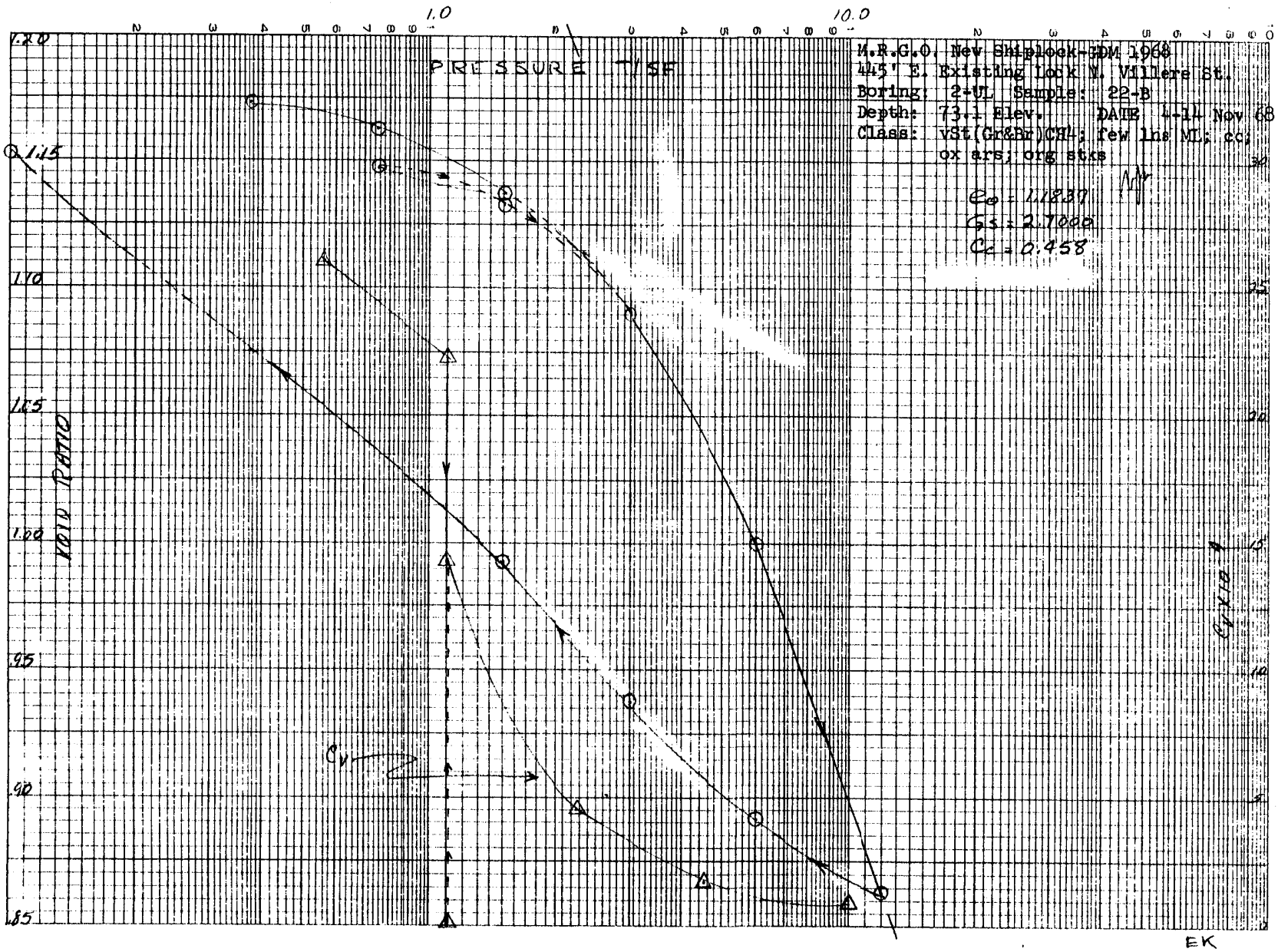
EUGENE DIETZGEN CO.
MADE IN U. S. A.



LK

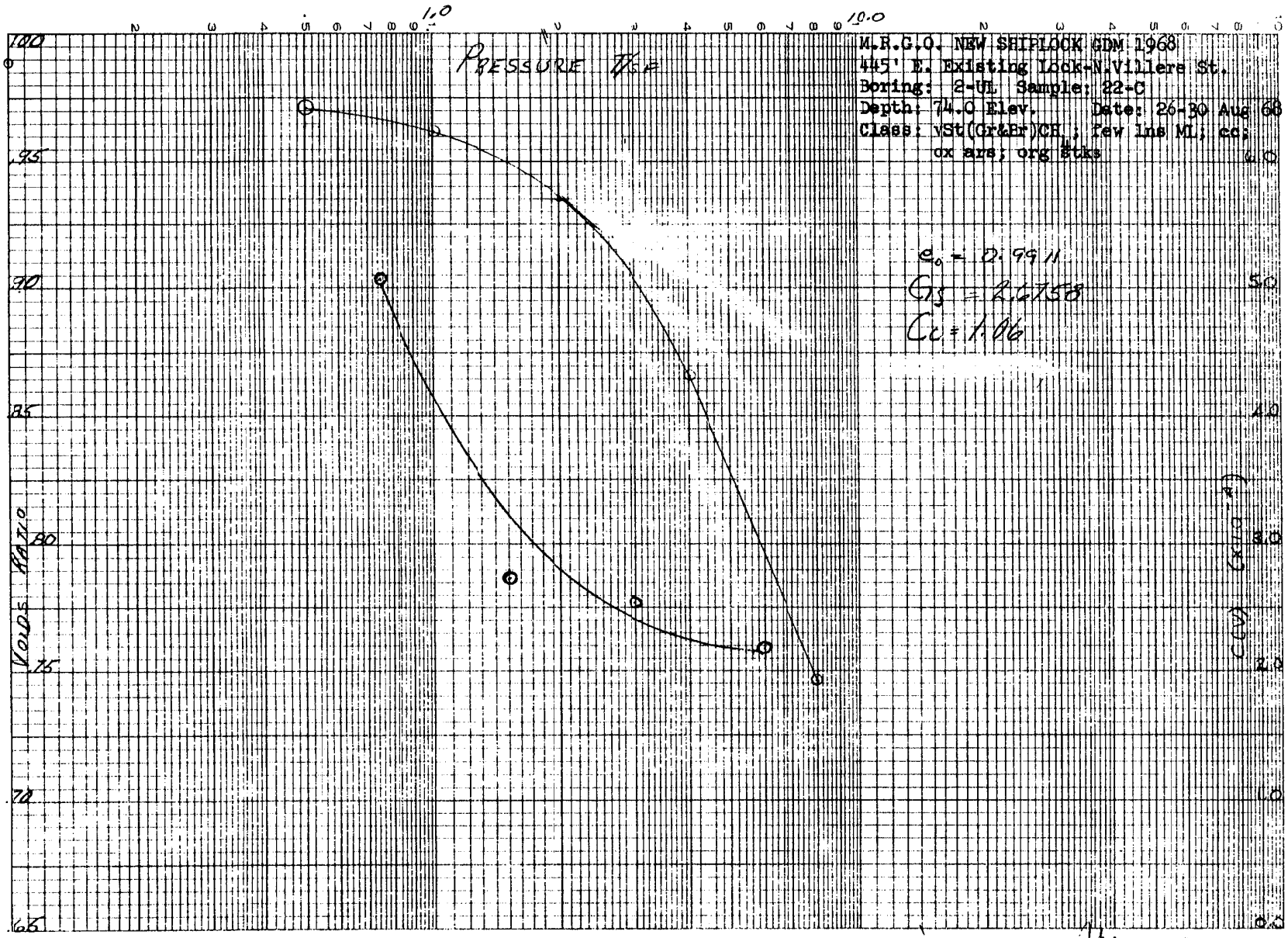
NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.



NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

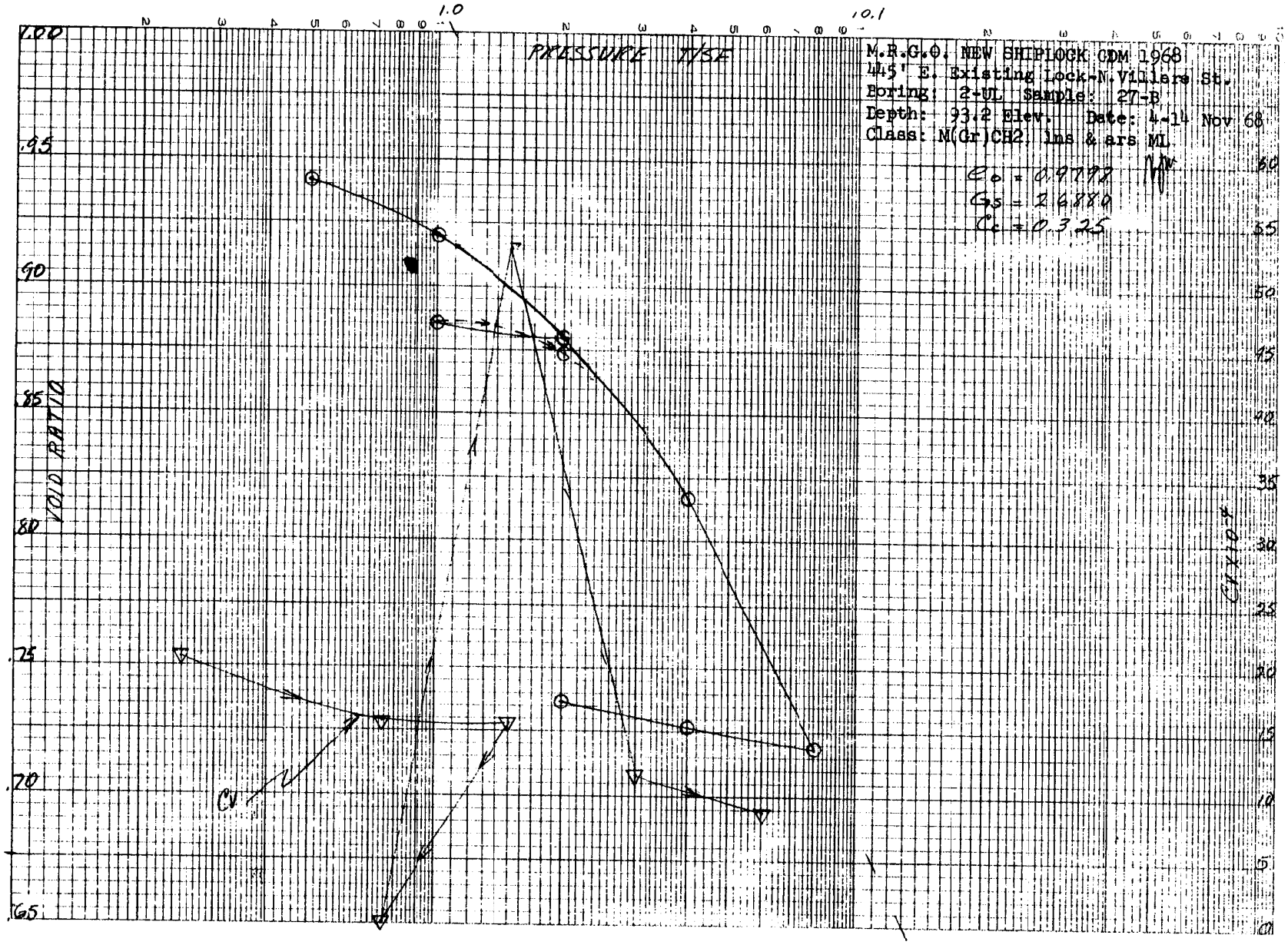
EUGENE DIETZGEN CO.
MADE IN U. S. A.



L.G.

NO. 340-L318 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.

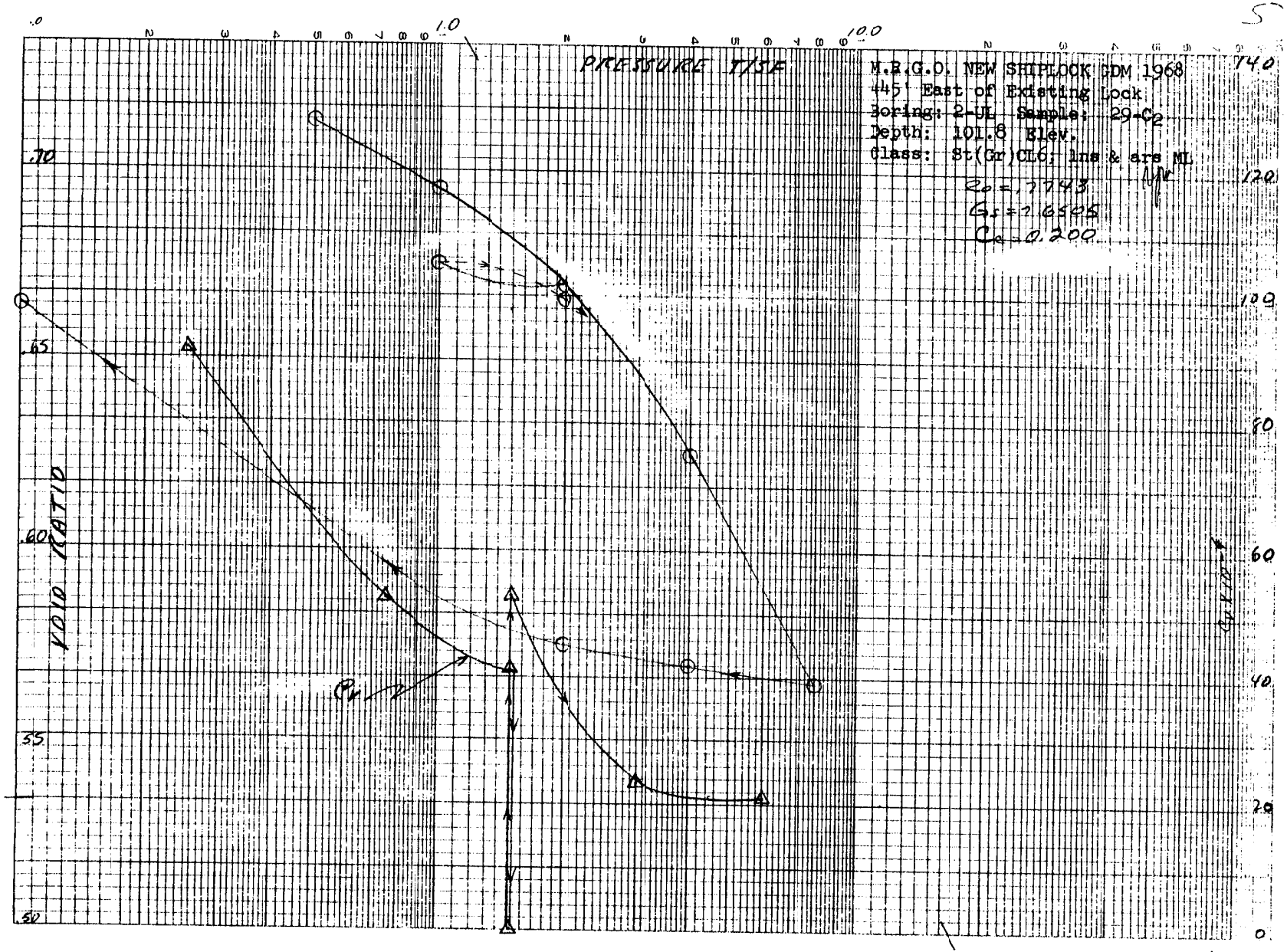


EK

NO. 340-L31D DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.

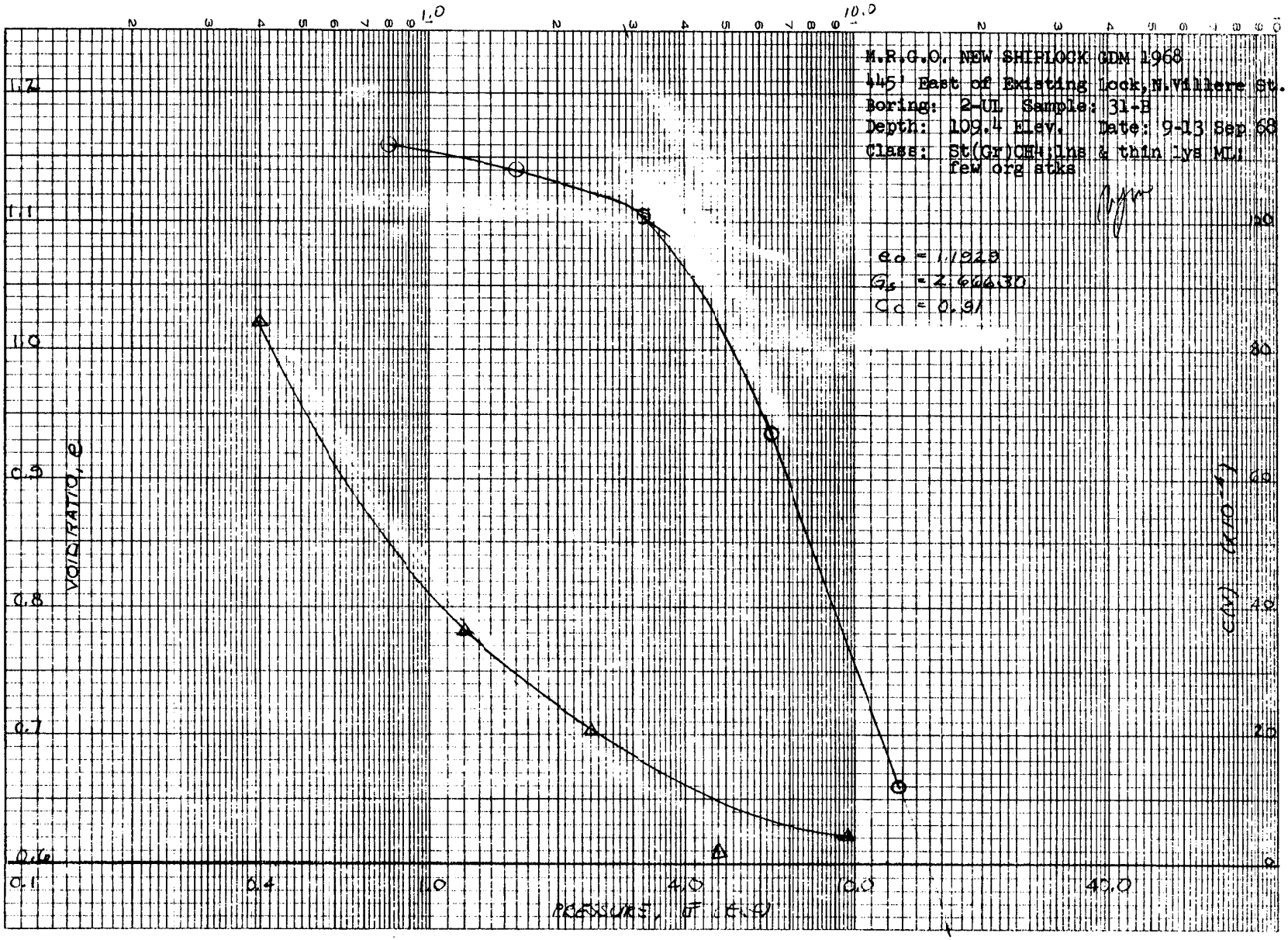
5



EK

NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

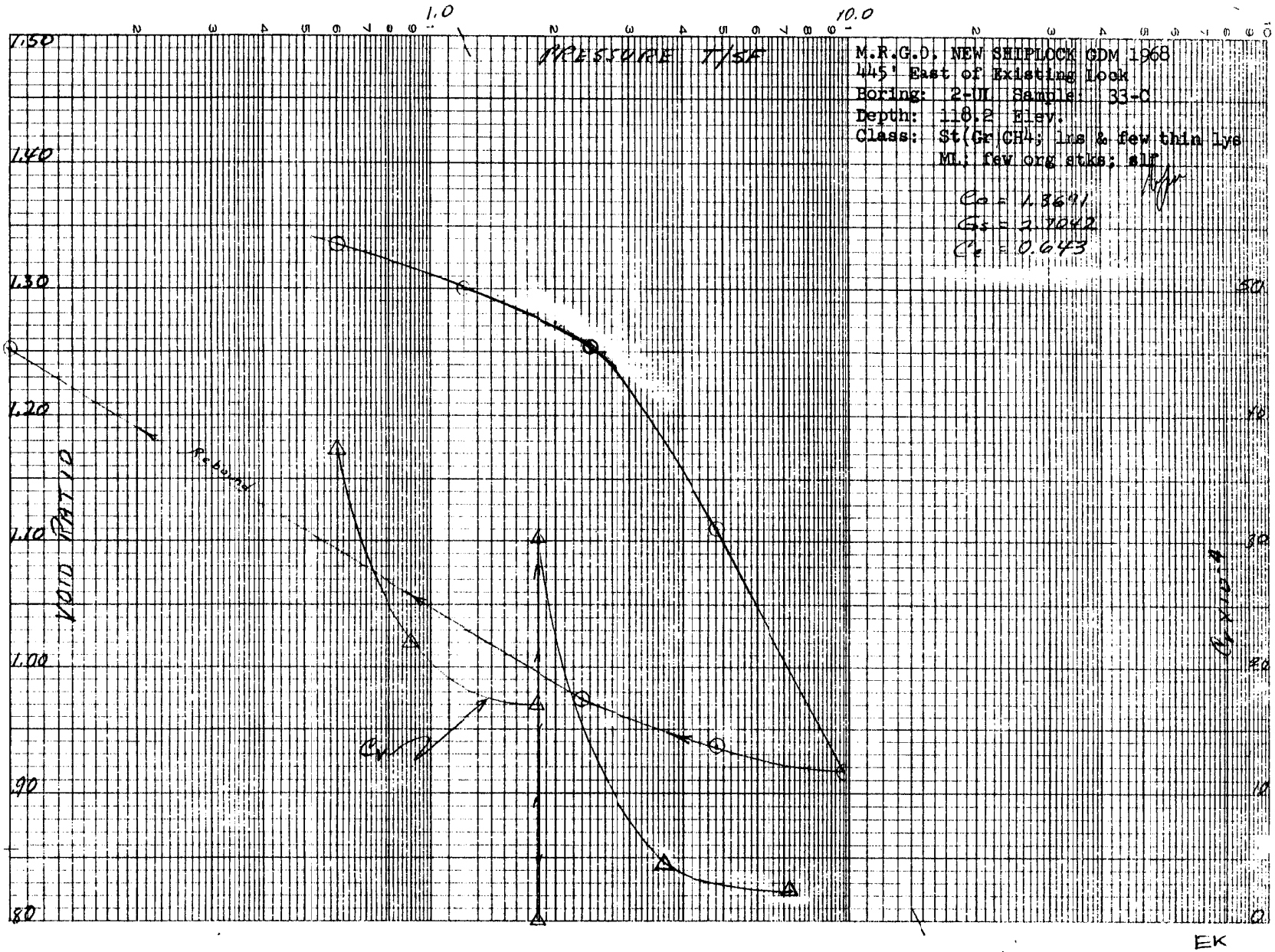
EUGENE DIETZGEN CO.
MADE IN U. S. A.



LG

NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

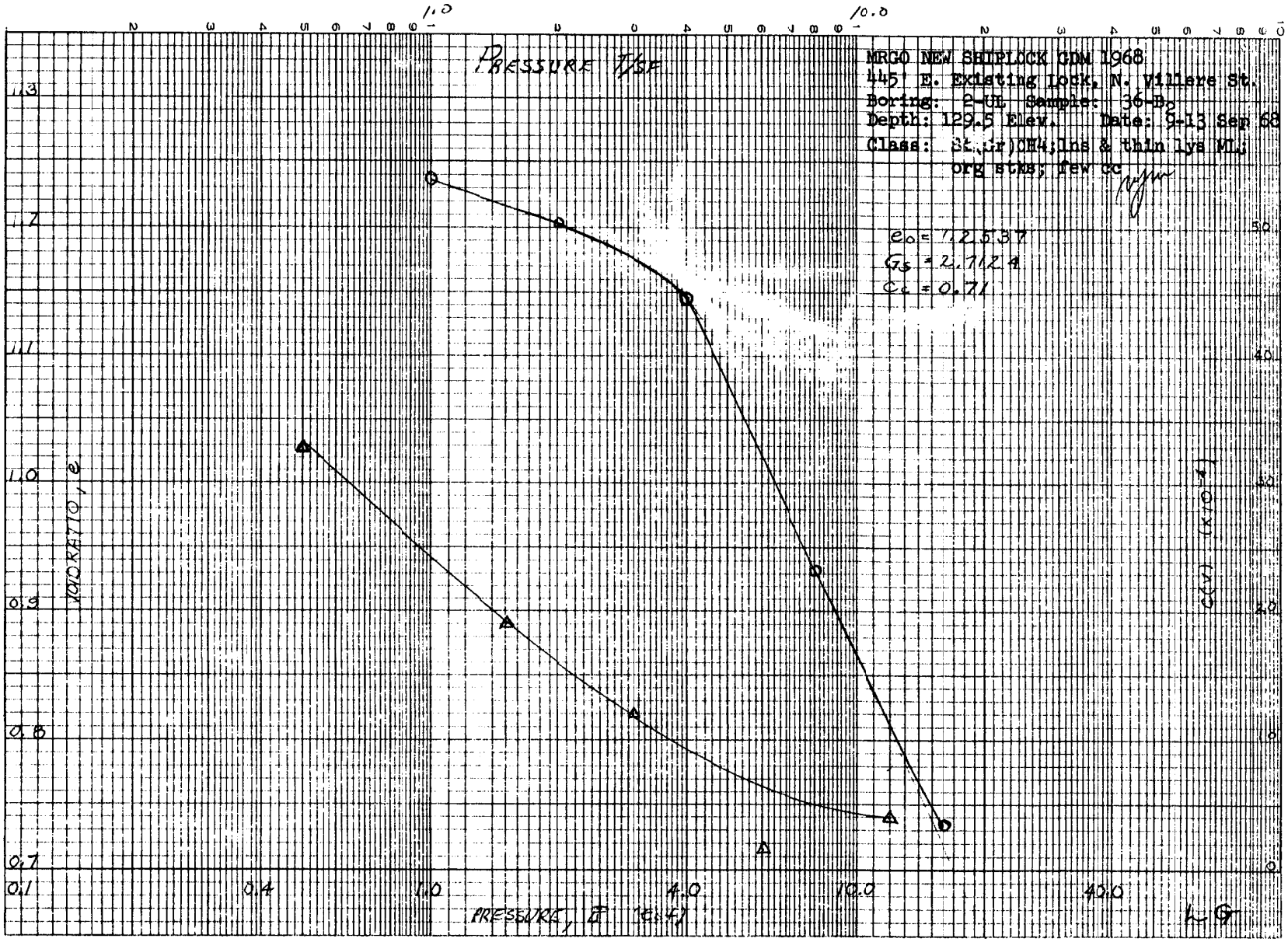
EUGENE DIETZGEN CO.
MADE IN U. S. A.



EK

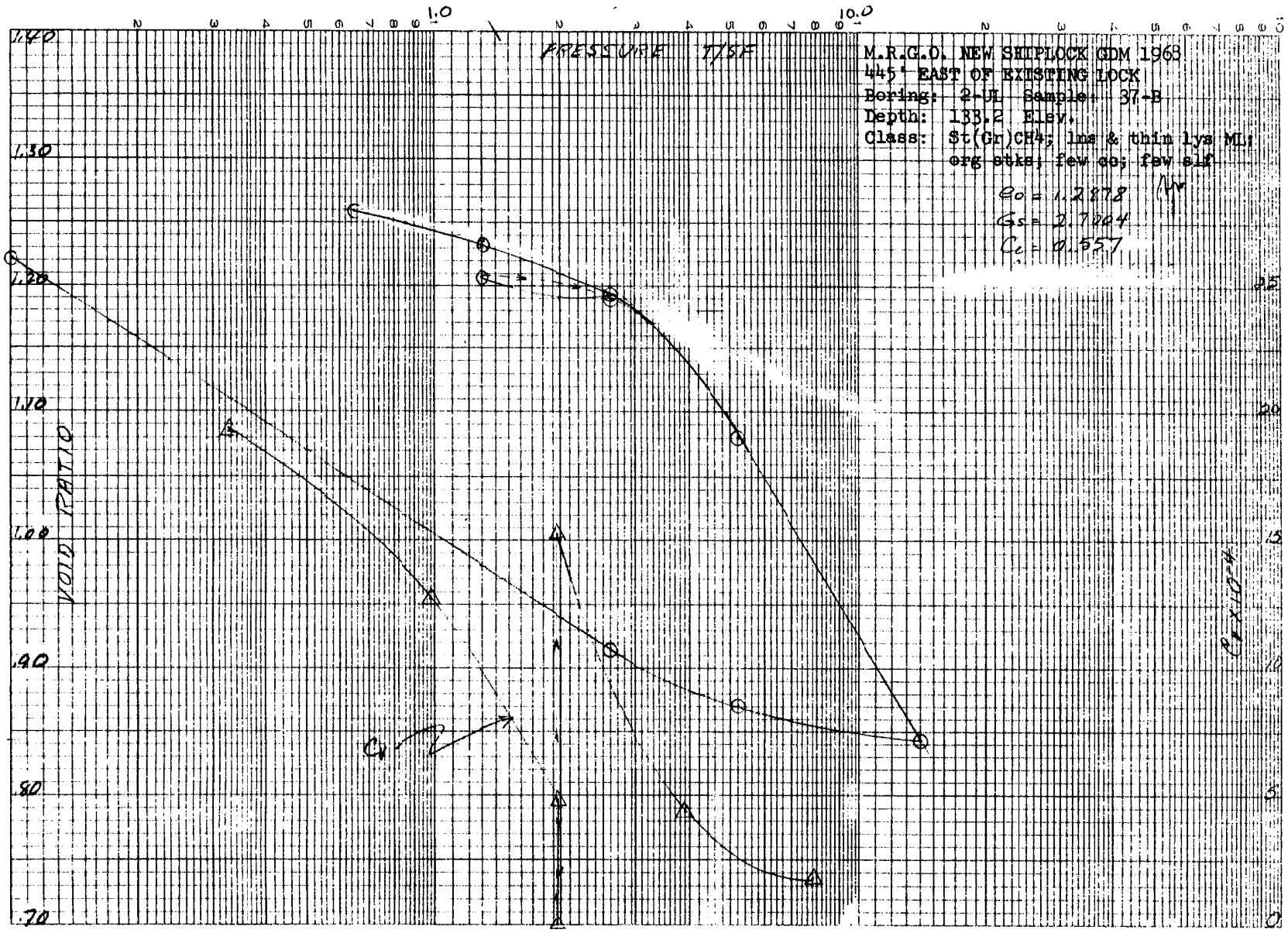
NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.



NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.



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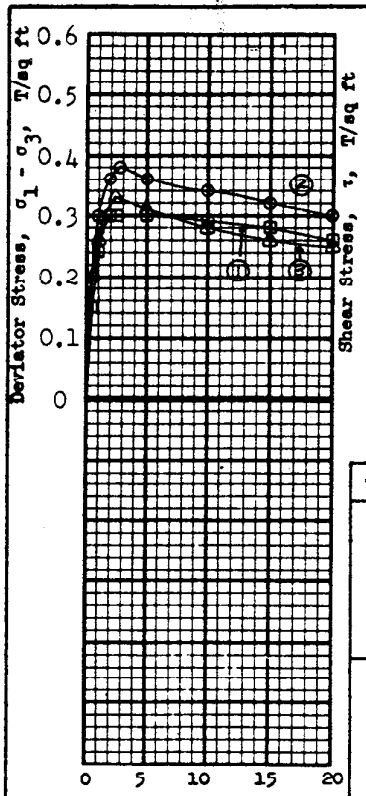
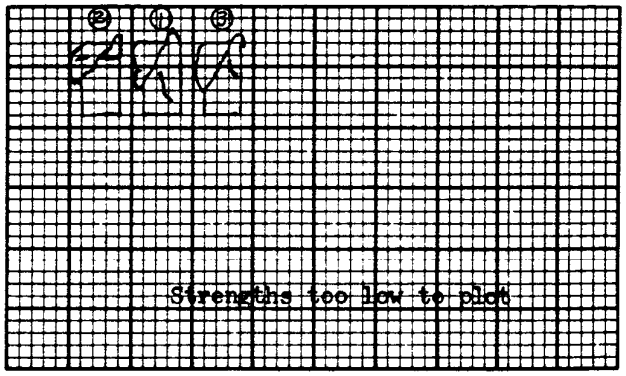




			1	2	3	
Test No.			1	2	3	
Initial	Water content	w_o	99.0 %	108.2%	104.2%	%
	Void ratio	e_o	2.65	2.90	2.82	
	Saturation	S_o	98.6 %	98.5%	97.5%	%
	Dry density, lb/cu ft	γ_d	45.2	42.2	43.2	
Before Shear	Water content	w_c	%	%	%	%
	Void ratio	e_c				
	Saturation	S_c	%	%	%	%
	Final back pressure, T/sq ft	u_o				
Final	Water content	w_f	%	%	%	%
	Void ratio	e_f				
Minor principal stress, T/sq ft		σ_3	0.5	1.5	3.0	
Max deviator stress, T/sq ft		$(\sigma_1-\sigma_3)_{max}$	0.30	0.38	0.33	
Time to failure, min		t_f	16	25	16	
Rate of strain, percent/min			0.16	0.11	0.15	
Ult 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	

Shear Strength Parameters

ϕ = 0 °

tan ϕ = 0

c = 0.17 T/sq ft

Method of saturation _____

☐ Controlled stress

☒ Controlled strain

Type of test Q | Type of specimen UNDISTURBED

Classification PLASTIC CLAY (CH), gray, with scattered 1/8" dia. roots fragments

LL 130	PL 45	PI 85		G_s 2.64

Remarks Sample contained ½" to 1" dia. roots not used in specimens.

☐ A(CH) dark gray with organic matter

☒ CH gray

Typical Specimen

Project MISS. RIVER - GULF OUTLET, GDM
INTERSECTION URQUHART & JOURDAN AVE.

Area NEW SHIPLOCK

Boring No. 8-UL | Sample No. 7-B

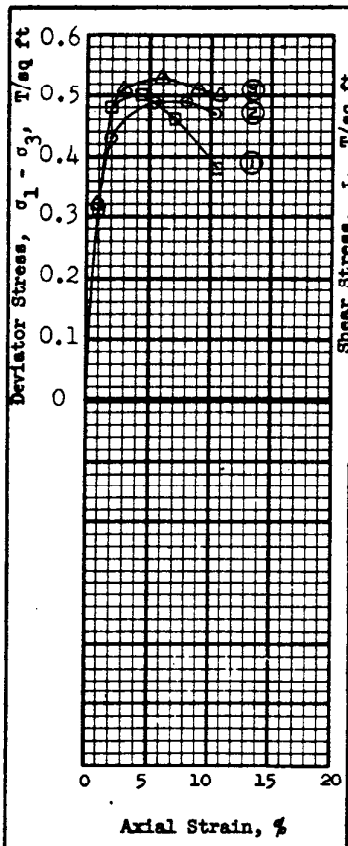
Depth ~~El~~ 12.0 | Date 16 AUGUST 1968

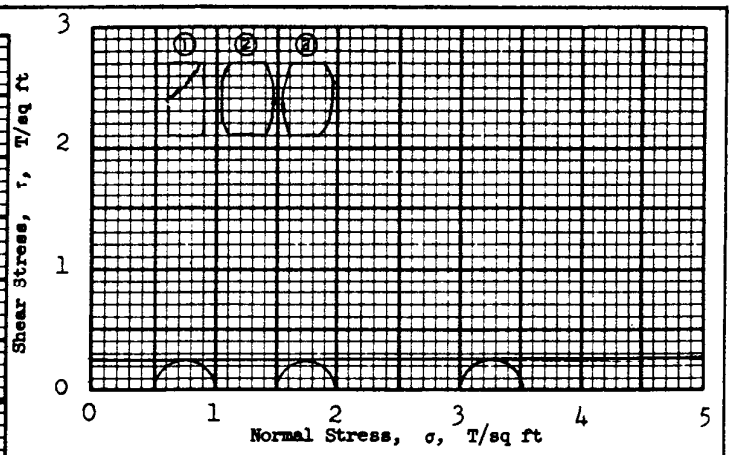
JMS TRIAXIAL COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 2089 (EM 1110-2-1902) PREVIOUS EDITIONS ARE OBSOLETE

TRANSLUCENT

USAEWES SOILS TEST SECTION





Test No.			1	2	3	
Initial	Water content	w_o	56.0 %	57.9 %	57.2 %	%
	Void ratio	e_o	1.53	1.59	1.58	
	Saturation	S_o	99.6 %	99.0 %	98.5 %	%
	Dry density, lb/cu ft	γ_d	67.1	65.6	65.9	
Before Shear	Water content	w_c	%	%	%	%
	Void ratio	e_c				
	Saturation	S_c	%	%	%	%
	Final back pressure, T/sq ft	u_o				
Final	Water content	w_f	%	%	%	%
	Void ratio	e_f				
Minor principal stress, T/sq ft		σ_3	0.5	1.5	3.0	
Max deviator stress, T/sq ft		$(\sigma_1-\sigma_3)_{max}$	0.50	0.49	0.53	
Time to failure, min		t_f	54	88	40	
Rate of strain, percent/min			0.08	0.06	0.15	
Ult deviator stress, T/sq ft		$(\sigma_1-\sigma_3)_{ult}$				
Initial diameter, in.		D_o	1.40	1.39	1.40	
Initial height, in.		H_o	3.00	3.00	3.00	

Shear Strength Parameters

ϕ = 0 °

tan ϕ = 0

c = 0.25 T/sq ft

Method of saturation _____

☐ Controlled stress

☒ Controlled strain

Type of test Q	Type of specimen UNDISTURBED		
Classification PLASTIC CLAY (CH), gray, homogeneous			
LL 72	PL 23	PI 49	G_s 2.72

Remarks _____

Project MISS. RIVER - GULF OUTLET, GDM
INTERSECTION URQUHART & JOURDAN AVE.

Area NEW SHIPLOCK

Boring No. 8-UL | Sample No. 12-C

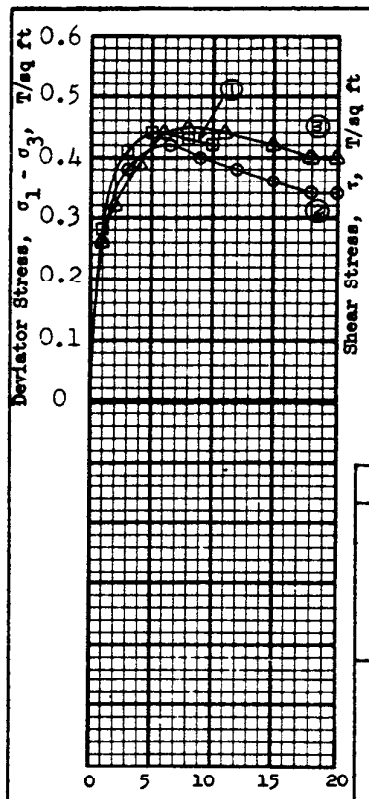
Depth ~~El~~ 33.0 | Date 17 AUGUST 1968

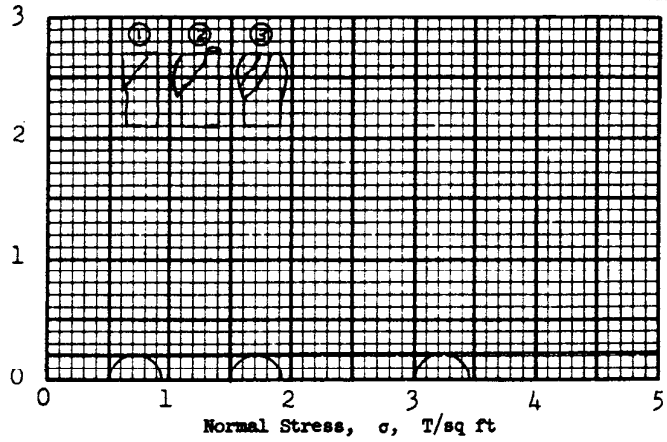
JMS TRIAXIAL COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 2089 (EM 1110-2-1902) PREVIOUS EDITIONS ARE OBSOLETE

TRANSLUCENT

USAEWES SOILS TEST SECTIO





Test No.			1	2	3	
Initial	Water content	w_o	68.0 %	67.6 %	65.8 %	%
	Void ratio	e_o	1.85	1.86	1.79	
	Saturation	S_o	100 %	98.8 %	100 %	%
	Dry density, lb/cu ft	γ_d	59.5	59.4	60.8	
Before Shear	Water content	w_c	%	%	%	%
	Void ratio	e_c				
	Saturation	S_c	%	%	%	%
	Final back pressure, T/sq ft	u_o				
Final	Water content	w_f	%	%	%	%
	Void ratio	e_f				
Minor principal stress, T/sq ft		σ_3	0.5	1.5	3.0	
Max deviator stress, T/sq ft		$(\sigma_1-\sigma_3)_{max}$	0.44	0.42	0.45	
Time to failure, min		t_f	42	60	42	
Rate of strain, percent/min			0.12	0.11	0.19	
Ult 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	

Shear Strength Parameters

ϕ = 0 °

tan ϕ = 0

c = 0.22 T/sq ft

Method of saturation _____

☐ Controlled stress

☒ Controlled strain

Type of test Q | Type of specimen UNDISTURBED

Classification PLASTIC CLAY (CH), gray, homogeneous

LL 89 | PL 30 | PI 59 | G_s 2.72

Remarks _____

Project MISS. RIVER - GULF OUTLET, GDM
INTERSECTION URQUHART & JOURDAN AVE.

Area NEW SHIPLOCK

Boring No. 8-UL | Sample No. 13-D

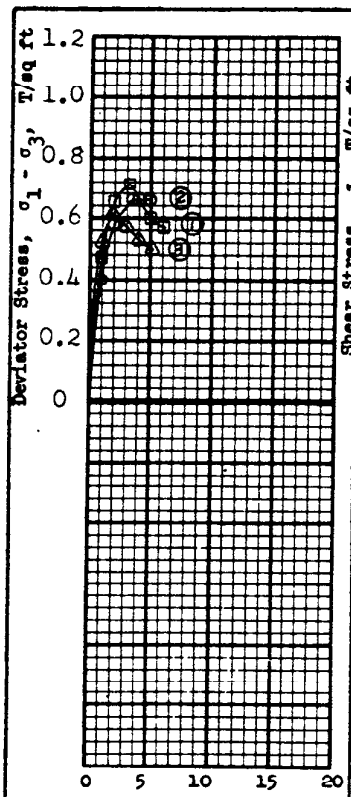
Depth ~~El~~ 38.0 | Date 19 AUGUST 1968

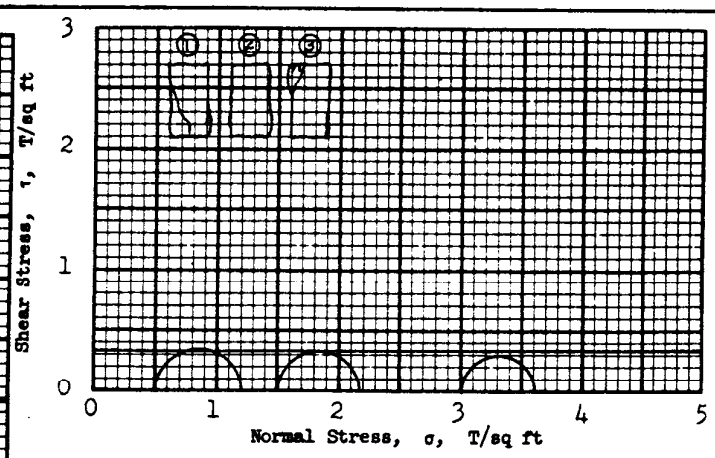
JMS TRIAXIAL COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 2089 (EM 1110-2-1902) PREVIOUS EDITIONS ARE OBSOLETE

TRANSLUCENT

USAEWES SOILS TEST SECTION





Test No.			1	2	3	
Initial	Water content	w_o	63.8 %	62.1 %	63.8 %	%
	Void ratio	e_o	1.75	1.75	1.75	
	Saturation	S_o	99.2 %	96.5 %	99.2 %	%
	Dry density, lb/cu ft	γ_d	61.8	61.7	61.8	
Before Shear	Water content	w_c	%	%	%	%
	Void ratio	e_c				
	Saturation	S_c	%	%	%	%
	Final back pressure, T/sq ft	u_o				
Final	Water content	w_f	%	%	%	%
	Void ratio	e_f				
Minor principal stress, T/sq ft		σ_3	0.5	1.5	3.0	
Max deviator stress, T/sq ft		$(\sigma_1-\sigma_3)_{max}$	0.71	0.66	0.61	
Time to failure, min		t_f	64	117	48	
Rate of strain, percent/min			0.05	0.03	0.04	
Ult deviator stress, T/sq ft		$(\sigma_1-\sigma_3)_{ult}$				
Initial diameter, in.		D_o	1.36	1.37	1.36	
Initial height, in.		H_o	3.00	3.00	3.00	

Shear Strength Parameters

ϕ = 0 °

tan ϕ = 0

c = 0.33 T/sq ft

Method of saturation _____

☐ Controlled stress

☒ Controlled strain

Type of test Q	Type of specimen UNDISTURBED			
Classification PLASTIC CLAY (CH), gray				
LL 86	PL 33	PI 53		G_s 2.72

Remarks _____

Project MISS. RIVER - GULF OUTLET, GDM
INTERSECTION URQUHART & JOURDAN AVE.

Area NEW SHIPLOCK

Boring No. 8-UL | Sample No. 15-B

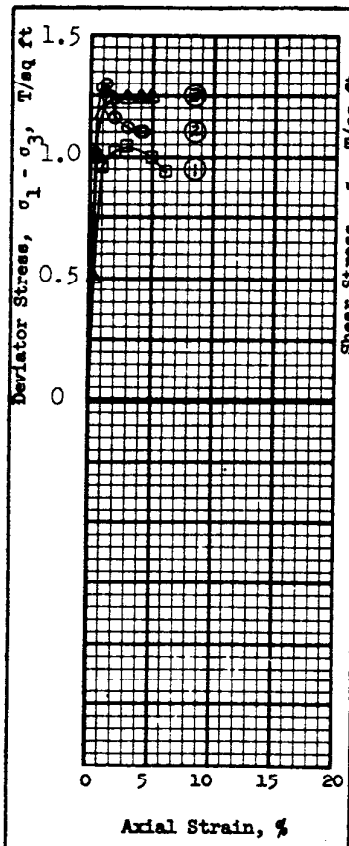
Depth ~~El~~ 44.1 | Date 19 AUG. 1968

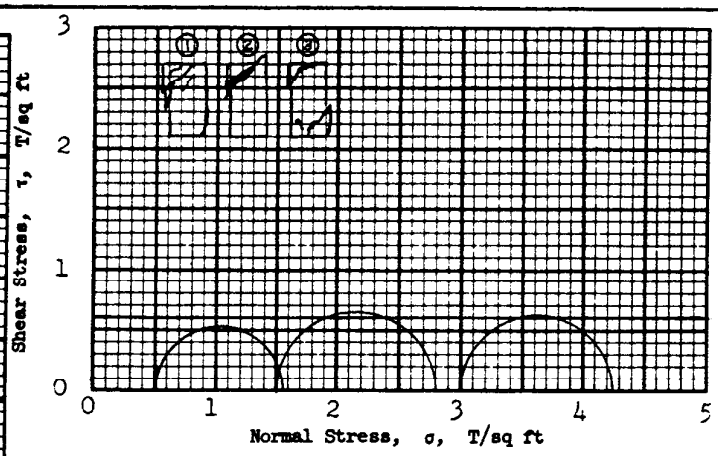
EAK TRIAXIAL COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 2089 *(EM 1110-2-1902)* PREVIOUS EDITIONS ARE OBSOLETE

TRANSLUCENT

USAEWES SOILS TEST SECTION





Test No.			1	2	3	
Initial	Water content	w_o	43.9 %	44.6%	43.2%	%
	Void ratio	e_o	1.20	1.22	1.19	
	Saturation	S_o	100+ %	100+%	99.8%	%
	Dry density, lb/cu ft	γ_d	78.0	77.4	78.3	
Before Shear	Water content	w_c	%	%	%	%
	Void ratio	e_c				
	Saturation	S_c	%	%	%	%
	Final back pressure, T/sq ft	u_o				
Final	Water content	w_f	%	%	%	%
	Void ratio	e_f				
Minor principal stress, T/sq ft		σ_3	0.5	1.5	3.0	
Max deviator stress, T/sq ft		$(\sigma_1-\sigma_3)_{max}$	1.04	1.30	1.24	
Time to failure, min		t_f	16	13	90	
Rate of strain, percent/min			0.19	0.10	0.02	
Ult 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	

Shear Strength Parameters

ϕ = 0 °

tan ϕ = 0

c = 0.60 T/sq ft

Method of saturation _____

☐ Controlled stress

☒ Controlled strain

Type of test Q | Type of specimen UNDISTURBED

Classification PLASTIC CLAY (CH), light bluish gray & tan, slickensided

LL 96 | PL 24 | PI 72 | G_s 2.75

Remarks _____

Project MISS. RIVER - GULF OUTLET, GDM
INTERSECTION URQUHART & JOURDAN AVE.

Area NEW SHIPLOCK

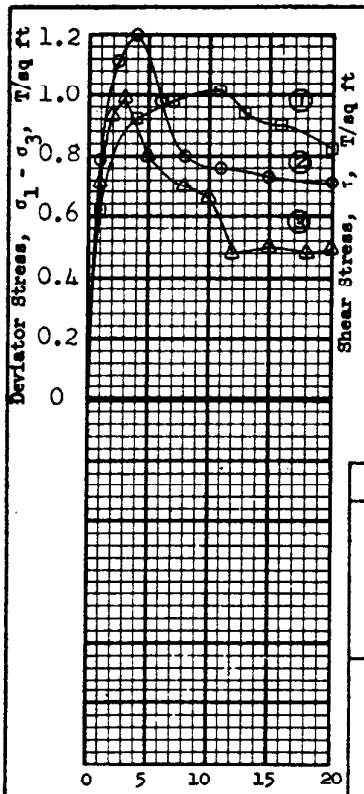
Boring No. 8-UL | Sample No. 21-C

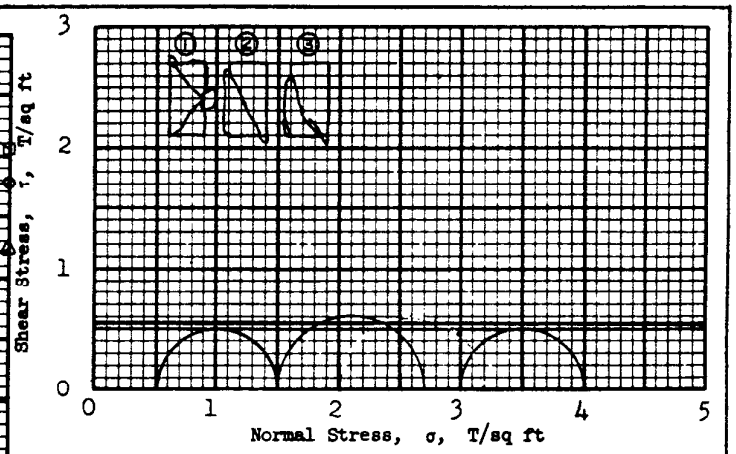
Depth ~~El~~ 69.0 | Date 20 AUGUST 1968

JMS TRIAXIAL COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 2089 *(EM 1110-2-1902)* PREVIOUS EDITIONS ARE OBSOLETE

TRANSLUCENT USAEWES SOILS TEST SECTION





Test No.			1	2	3	
Initial	Water content	w_o	43.7 %	45.2 %	47.1 %	%
	Void ratio	e_o	1.19	1.23	1.31	
	Saturation	S_o	100+ %	100+ %	98.5 %	%
	Dry density, lb/cu ft	γ_d	78.0	76.8	74.0	
Before Shear	Water content	w_c	%	%	%	%
	Void ratio	e_c				
	Saturation	S_c	%	%	%	%
	Final back pressure, T/sq ft	u_o				
Final	Water content	w_f	%	%	%	%
	Void ratio	e_f				
Minor principal stress, T/sq ft		σ_3	0.5	1.5	3.0	
Max deviator stress, T/sq ft		$(\sigma_1-\sigma_3)_{max}$	1.01	1.20	0.99	
Time to failure, min		t_f	122	21	16	
Rate of strain, percent/min			0.09	0.19	0.19	
Ult deviator stress, T/sq ft		$(\sigma_1-\sigma_3)_{ult}$				
Initial diameter, in.		D_o	1.40	1.40	1.41	
Initial height, in.		H_o	3.00	3.00	3.00	

Shear Strength Parameters

ϕ = 0 °

tan ϕ = 0

c = 0.54 T/sq ft

Method of saturation _____

☐ Controlled stress

☒ Controlled strain

Type of test Q | Type of specimen UNDISTURBED

Classification PLASTIC CLAY (CH), gray, contains silt laminations

LL 68 | PL 26 | PI 42 | G_s 2.74

Remarks _____

Project MISS. RIVER - GULF OUTLET, GDM
INTERSECTION URQUHART & JOURDAN AVE.

Area NEW SHIPLOCK

Boring No. 8-UL | Sample No. 29-D

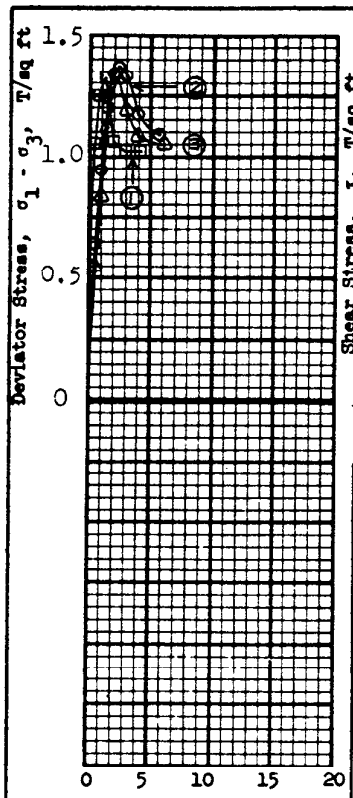
Depth ~~El~~ 102.0 | Date 20 AUG. 1968

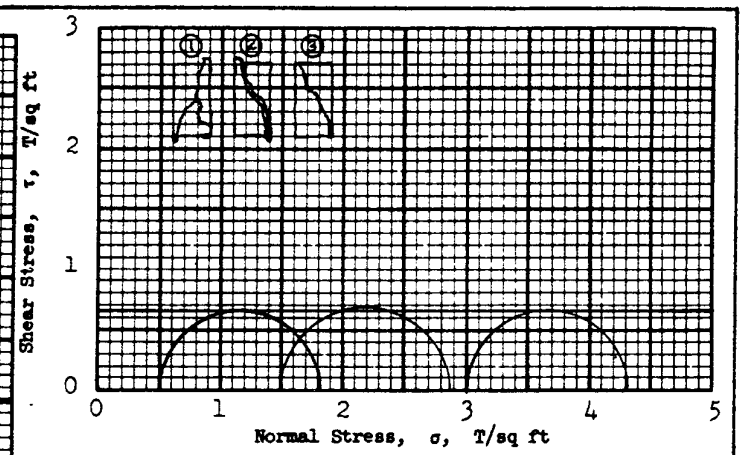
EAK TRIAXIAL COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 2089 *(EM 1110-2-1902)* PREVIOUS EDITIONS ARE OBSOLETE

TRANSLUCENT

USAEWES SOILS TEST SECTION





Test No.			1	2	3	
Initial	Water content	w_o	42.0 %	42.3 %	42.8 %	%
	Void ratio	e_o	1.15	1.15	1.16	
	Saturation	S_o	99.3 %	100 %	100+ %	%
	Dry density, lb/cu ft	γ_d	79.0	78.9	78.6	
Before Shear	Water content	w_c	%	%	%	%
	Void ratio	e_c				
	Saturation	S_c	%	%	%	%
	Final back pressure, T/sq ft	u_o				
Final	Water content	w_f	%	%	%	%
	Void ratio	e_f				
Minor principal stress, T/sq ft		σ_3	0.5	1.5	3.0	
Max deviator stress, T/sq ft		$(\sigma_1-\sigma_3)_{max}$	1.32	1.37	1.32	
Time to failure, min		t_f	18	30	80	
Rate of strain, percent/min			0.07	0.08	0.03	
Ult 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	

Shear Strength Parameters

ϕ = 0 °

tan ϕ = 0

c = 0.67 T/sq ft

Method of saturation _____

☐ Controlled stress

☒ Controlled strain

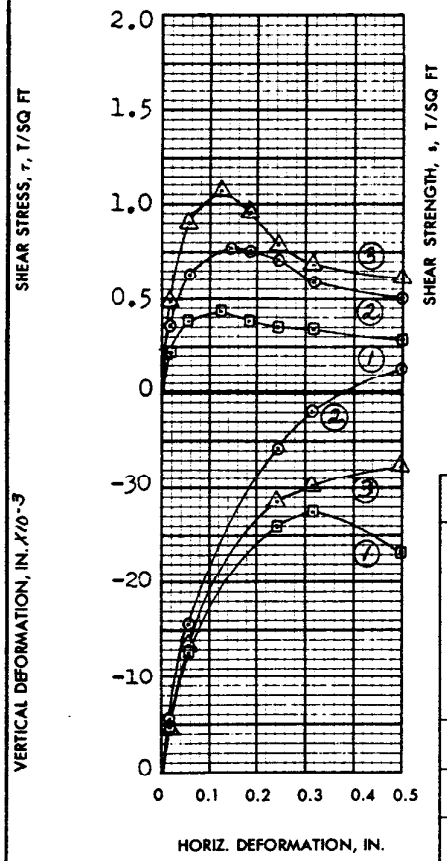
Type of test Q	Type of specimen UNDISTURBED			
Classification PLASTIC CLAY (CH), gray, contains 1/8" layer of silty sand				
LL 65	PL 20	PI 45		G_s 2.72

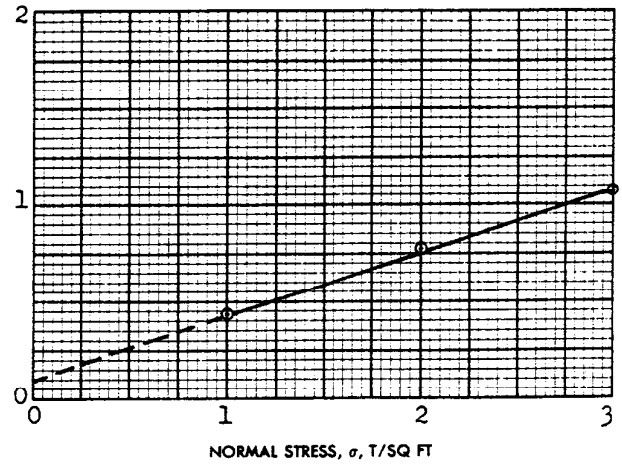
Remarks _____

Project MISS. RIVER - GULF OUTLET, GDM	
INTERSECTION URQUHART & JOURDAN AVE.	
Area NEW SHIPLOCK	
Boring No. 8-UL	Sample No. 36-A
Depth ~~Bl~~ 127.3	Date 20 AUGUST 1968
JMS TRIAXIAL COMPRESSION TEST REPORT	

ENG FORM 1 JUN 65 2089 *(EM 1110-2-1902)* PREVIOUS EDITIONS ARE OBSOLETE

TRANSLUCENT USAEWES SOILS TEST SECTION





TEST NO.			1	2	3	
INITIAL	WATER CONTENT	w_o	79.6 %	80.2 %	80.5 %	%
	VOID RATIO	e_o	2.18	2.18	2.19	
	SATURATION	S_o	97.5 %	98.2 %	98.1 %	%
	DRY DENSITY, LB/CU FT	γ_d	52.4	52.4	52.3	
VOID RATIO AFTER CONSOLIDATION		e_c				
TIME FOR 50 PERCENT CONSOLIDATION, MIN		t_{50}	4	20	80	
FINAL	WATER CONTENT	w_f	64.6 %	51.1 %	46.7 %	%
	VOID RATIO	e_f				
	SATURATION	S_f	%	%	%	%
NORMAL STRESS, T/SQ FT		σ	1.0	2.0	3.0	
MAXIMUM SHEAR STRESS, T/SQ FT		τ_{max}	0.43	0.77	1.07	
ACTUAL TIME TO FAILURE, MIN		t_f	690	780	720	
RATE OF STRAIN, IN./MIN			.00019	.00019	.00019	
ULTIMATE SHEAR STRESS, T/SQ FT		τ_{ult}				

SHEAR STRENGTH PARAMETERS

ϕ' = 18°

TAN ϕ' = 0.325

c' = 0.10 T/SQ FT

☐ CONTROLLED STRESS

☒ CONTROLLED STRAIN

TYPE OF SPECIMEN UNDISTURBED 3.00 IN. SQUARE 0.551 IN. THICK

CLASSIFICATION PLASTIC CLAY (CH), gray, contains roots, rootlets and organic *

LL 95 PL 30 PI 65 G_s 2.67

REMARKS * matter, slightly slickensided

PROJECT MISS. RIVER - GULF OUTLET, GDM

INTERSECTION URQUART & JOURDAN AVE.

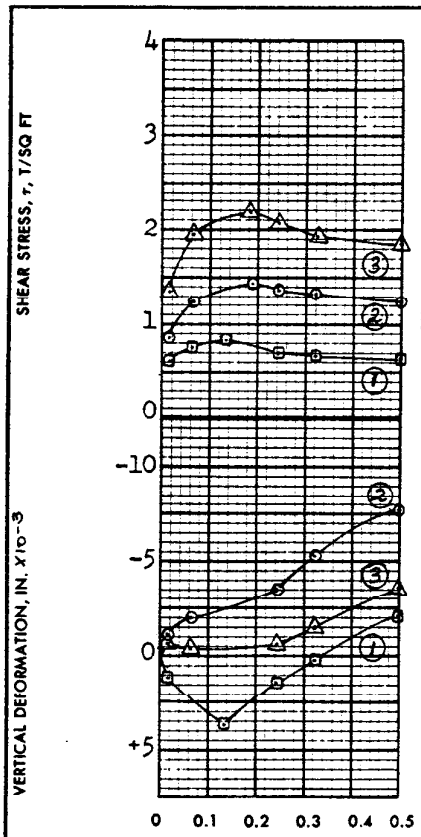
AREA NEW SHIP LOCK

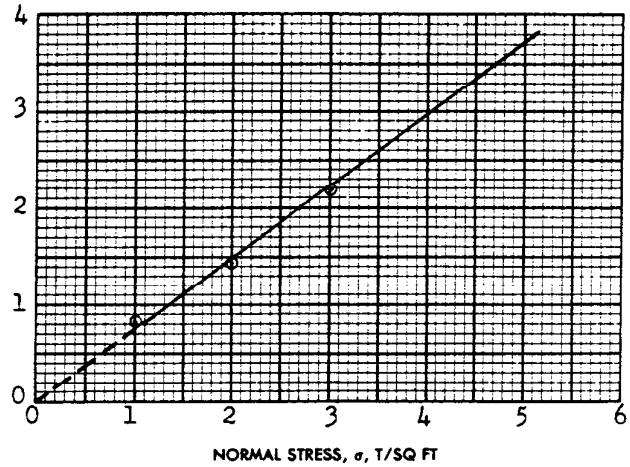
BORING NO. 8-UL SAMPLE NO. 7-D

DEPTH 14.0 DATE 20 August 1968

JHMc **DIRECT SHEAR TEST REPORT**

ENG FORM 1 JUN 65 2092 (EM 1110-2-1906) PREVIOUS EDITIONS ARE OBSOLETE (TRANSLUCENT) U.S. ARMY SOILS TEST SECTION PLATE IX-3





TEST NO.			1	2	3	
INITIAL	WATER CONTENT	w_o	26.6%	26.2%	26.5%	%
	VOID RATIO	e_o	0.754	0.754	0.743	
	SATURATION	S_o	94.5%	93.1%	95.6%	%
	DRY DENSITY, LB/CU FT	γ_d	95.4	95.4	96.0	
VOID RATIO AFTER CONSOLIDATION		e_c				
TIME FOR 50 PERCENT CONSOLIDATION, MIN		t_{50}				
FINAL	WATER CONTENT	w_f	28.5%	30.1%	28.2%	%
	VOID RATIO	e_f				
	SATURATION	S_f	%	%	%	%
NORMAL STRESS, T/SQ FT		σ	1.0	2.0	3.0	
MAXIMUM SHEAR STRESS, T/SQ FT		τ_{max}	0.82	1.43	2.19	
ACTUAL TIME TO FAILURE, MIN		t_f	780	1080	1020	
RATE OF STRAIN, IN./MIN			.00019	.00019	.00019	
ULTIMATE SHEAR STRESS, T/SQ FT		τ_{ult}				

SHEAR STRENGTH PARAMETERS

ϕ' = 37°

TAN ϕ' = 0.754

c' = 0 T/SQ FT

☐ CONTROLLED STRESS

☒ CONTROLLED STRAIN

TYPE OF SPECIMEN	UNDISTURBED	3.00 IN. SQUARE	0.563 IN. THICK
CLASSIFICATION	SANDY SILT (ML), gray		
LL –	PL –	PI –	G_s 2.68

REMARKS

PROJECT MISS. RIVER - GULF OUTLET GDM

INTERSECTION URQUHART & JOURDAN AVE.

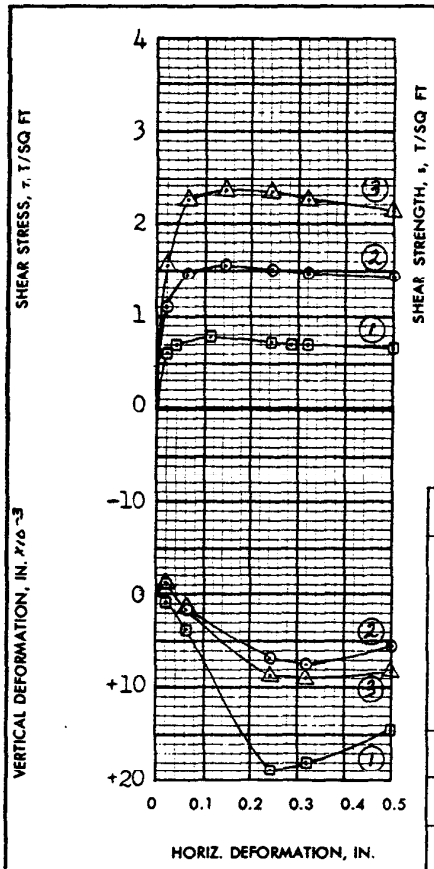
AREA NEW SHIP LOCK

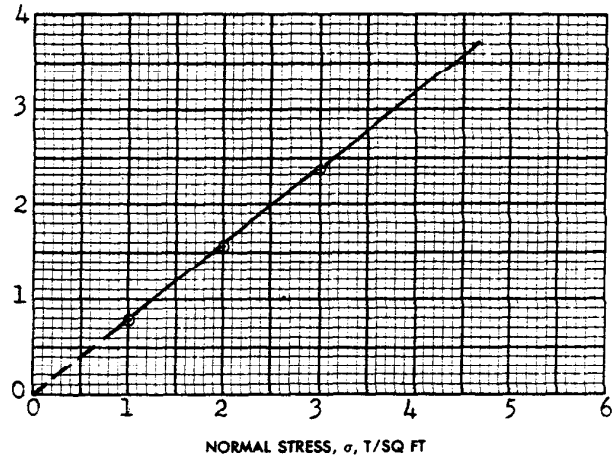
BORING NO. 8-UL | SAMPLE NO. 8-D

DEPTH 18.0 | DATE 19 August 1968

JB **DIRECT SHEAR TEST REPORT**

ENG FORM 1 JUN 65 **2092** (EM 1110-2-1906) PREVIOUS EDITIONS ARE OBSOLETE (TRANSLUCENT) USAEWES SOILS TEST SEX-310





TEST NO.			1	2	3	
INITIAL	WATER CONTENT	w_o	21.6%	21.9%	21.5 %	%
	VOID RATIO	e_o	0.688	0.693	0.682	
	SATURATION	S_o	83.5%	84.1%	83.8 %	%
	DRY DENSITY, LB/CU FT	γ_d	98.4	98.1	98.7	
VOID RATIO AFTER CONSOLIDATION		e_c				
TIME FOR 50 PERCENT CONSOLIDATION, MIN		t_{50}				
FINAL	WATER CONTENT	w_f	25.1%	25.7%	25.0%	%
	VOID RATIO	e_f				
	SATURATION	S_f	%	%	%	%
NORMAL STRESS, T/SQ FT		σ	1.0	2.0	3.0	
MAXIMUM SHEAR STRESS, T/SQ FT		τ_{max}	0.79	1.56	2.37	
ACTUAL TIME TO FAILURE, MIN		t_f	840	1020	1020	
RATE OF STRAIN, IN./MIN			.00018	.00018	.00018	
ULTIMATE SHEAR STRESS, T/SQ FT		τ_{ult}				

SHEAR STRENGTH PARAMETERS

ϕ' = 39°

TAN ϕ' = 0.810

c' = 0 T/SQ FT

☐ CONTROLLED STRESS

☒ CONTROLLED STRAIN

TYPE OF SPECIMEN UNDISTURBED — 3.00 IN. SQUARE — 0.563 IN. THICK

CLASSIFICATION SILTY SAND (SM), gray, contains shell fragments

LL - | PL - | PI - | G_s 2.66

REMARKS

PROJECT MISS. RIVER - GULF OUTLET, GDM

INTERSECTION URGUART & JOURDAN AVE.

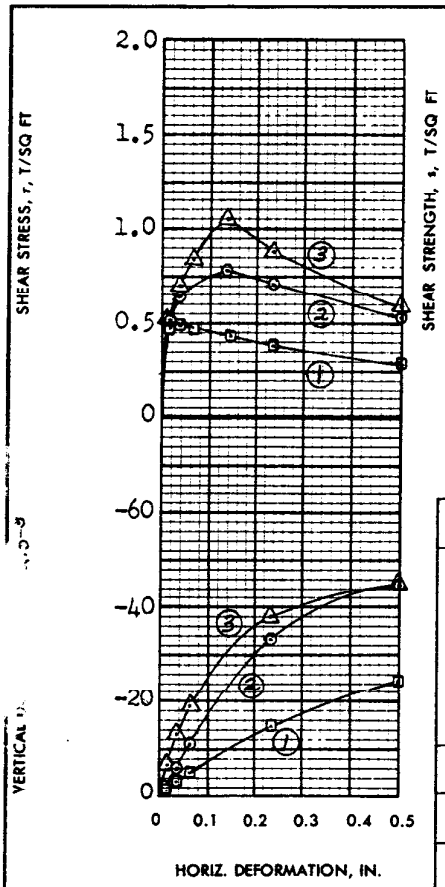
AREA NEW SHIP LOCK

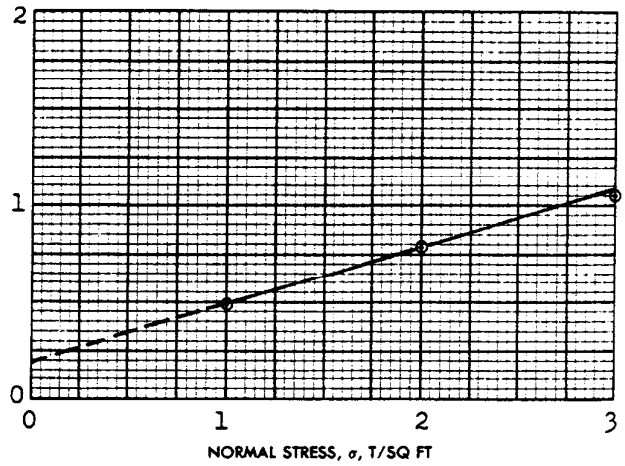
BORING NO. 8-UL | SAMPLE NO. 18-C

DEPTH 57.0 | DATE 20 August 1968

JB **DIRECT SHEAR TEST REPORT**

ENG FORM 1 JUN 65 2092 (EM 1110-2-1906) PREVIOUS EDITIONS ARE OBSOLETE (TRANSLUCENT) USAEWES SOILS TEST PLATE





TEST NO.			1	2	3	
INITIAL	WATER CONTENT	w_o	48.8%	50.6%	48.4%	%
	VOID RATIO	e_o	1.40	1.38	1.36	
	SATURATION	S_o	95.5%	100+%	97.5%	%
	DRY DENSITY, LB/CU FT	γ_d	71.4	71.9	72.4	
VOID RATIO AFTER CONSOLIDATION		e_c				
TIME FOR 50 PERCENT CONSOLIDATION, MIN		t_{50}	2	2	2	
FINAL	WATER CONTENT	w_f	52.5%	44.2%	41.6%	%
	VOID RATIO	e_f				
	SATURATION	S_f	%	%	%	%
NORMAL STRESS, T/SQ FT		σ	1.0	2.0	3.0	
MAXIMUM SHEAR STRESS, T/SQ FT		τ_{max}	0.49	0.78	1.05	
ACTUAL TIME TO FAILURE, MIN		t_f	210	780	780	
RATE OF STRAIN, IN./MIN			.00020	.00020	.00020	
ULTIMATE SHEAR STRESS, T/SQ FT		τ_{ult}				

SHEAR STRENGTH PARAMETERS

ϕ' = 17°

TAN ϕ' = 0.306

c' = 0.20 T/SQ FT

☐ CONTROLLED STRESS

☒ CONTROLLED STRAIN

TYPE OF SPECIMEN UNDISTURBED 3.00 IN. SQUARE 0.551 IN. THICK

CLASSIFICATION PLASTIC CLAY (CH), gray, contains trace of small layers & pockets *

LL 74 PL 23 PI 51 G_s 2.74

REMARKS * of silt

Specimen 1 contained a trace of organic matter

PROJECT MISS. RIVER - GULF OUTLET, GDM

INTERSECTION URQUHART & JOURDAN AVE.

AREA NEW SHIP LOCK

BORING NO. 8-UL SAMPLE NO. 31-D

DEPTH 110.0 DATE 21 August 1968

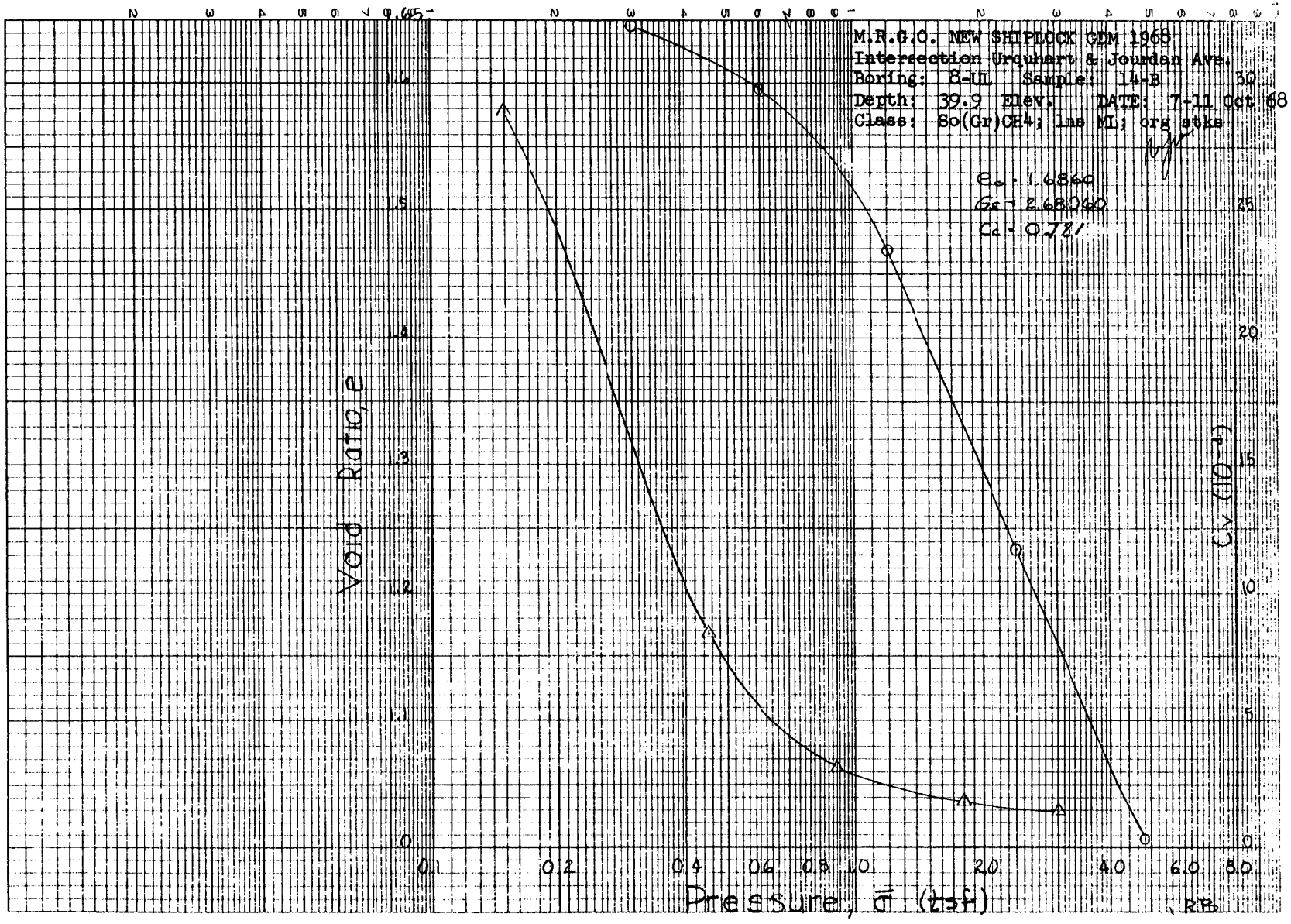
JHMc

DIRECT SHEAR TEST REPORT

ENG FORM 1 JUN 65 2092 (EM 1110-2-1906) PREVIOUS EDITIONS ARE OBSOLETE (TRANSLUCENT) USAEWES SOILS TEST SECTION

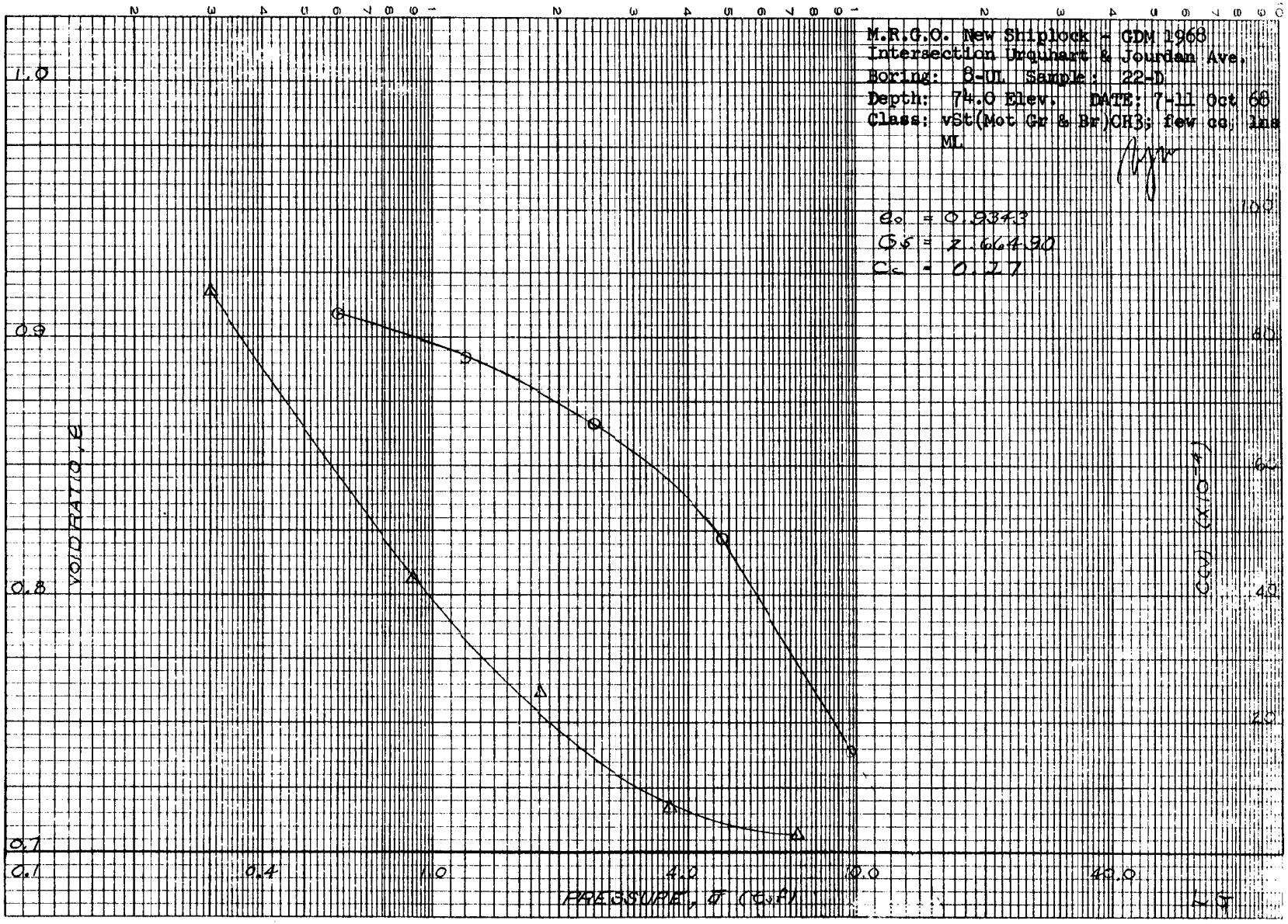
NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZGEN CO.
MADE IN U. S. A.



NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
3 CYCLES X 10 DIVISIONS PER INCH

EUGENE DIETZGEN CO.
MADE IN U.S.A.



NO. 340-L310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
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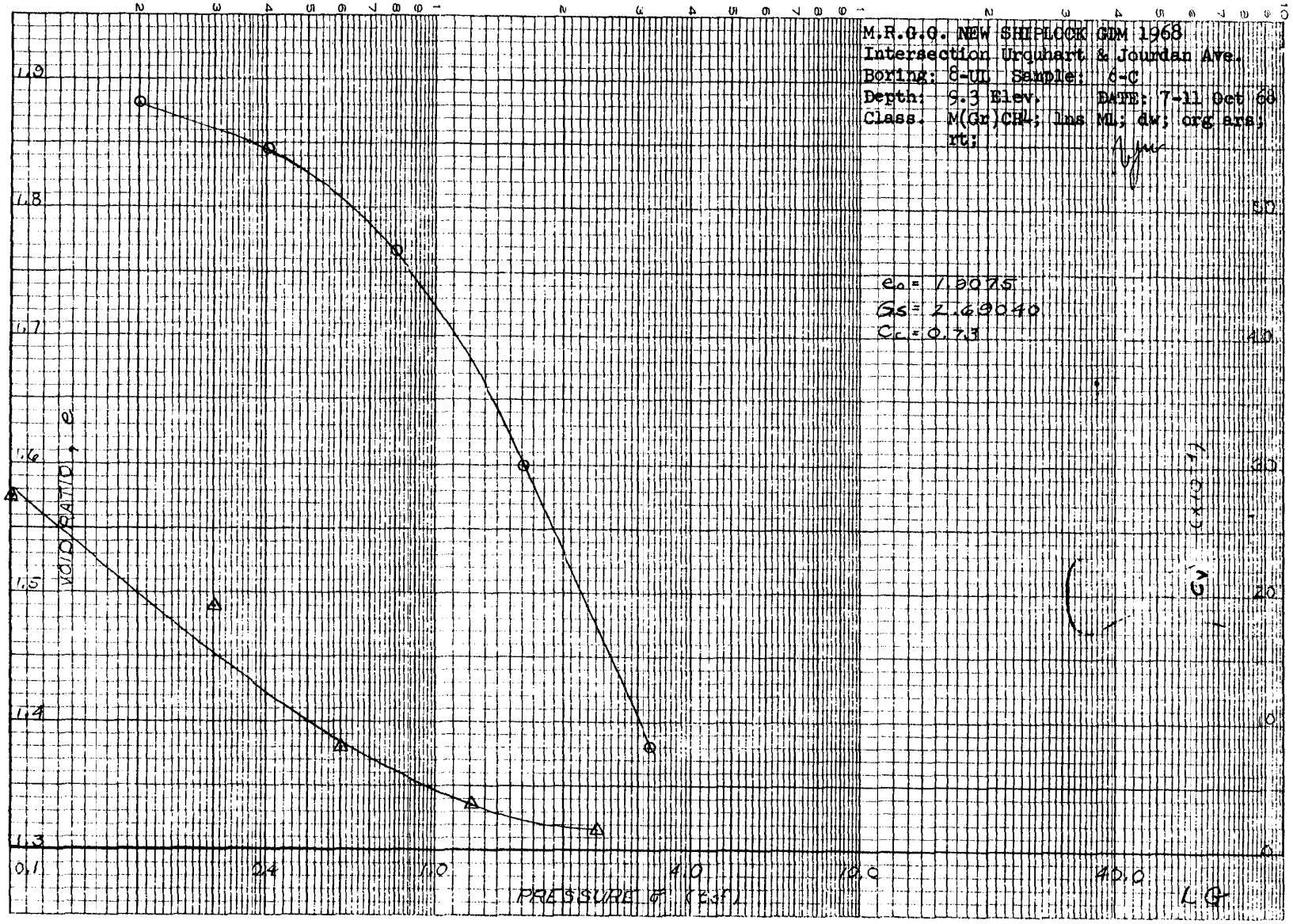
EUGENE DIETZGEN CO.
MADE IN U. S. A.