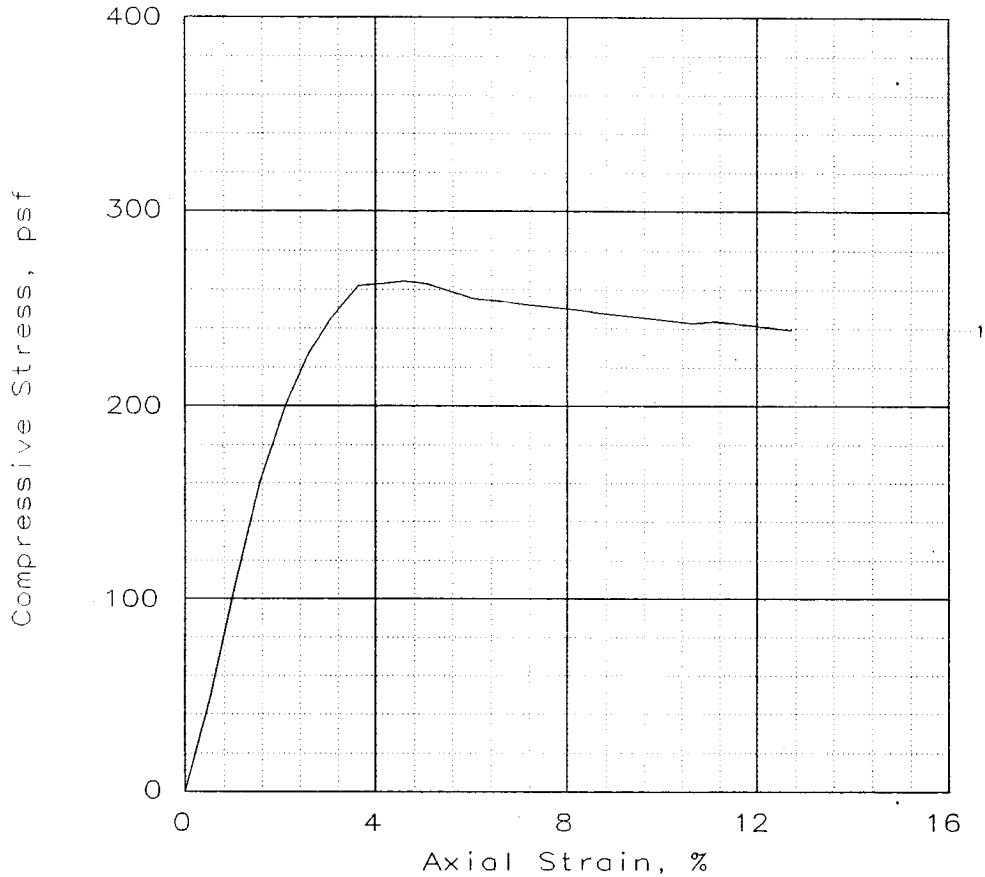


# UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1		
Unconfined strength, psf	264		
Undrained shear strength, psf	132		
Failure strain, %	4.6		
Strain rate, in/min	0.0567		
Water content, %	80.0		
Wet density, pcf	93.0		
Dry density, pcf	51.7		
Saturation, %	94.8		
Void ratio	2.3116		
Specimen diameter, in	1.39		
Specimen height, in	2.93		
Height/diameter ratio	2.11		

Description: vSo Gr CH4 w/ Ins SM

GS= 2.74

Type: Undisturbed

Project No.: 19080

Date: 9-29-05

Remarks:

Torvane = 0.070 tsf

Client: U.S. Army Corps of Engineers

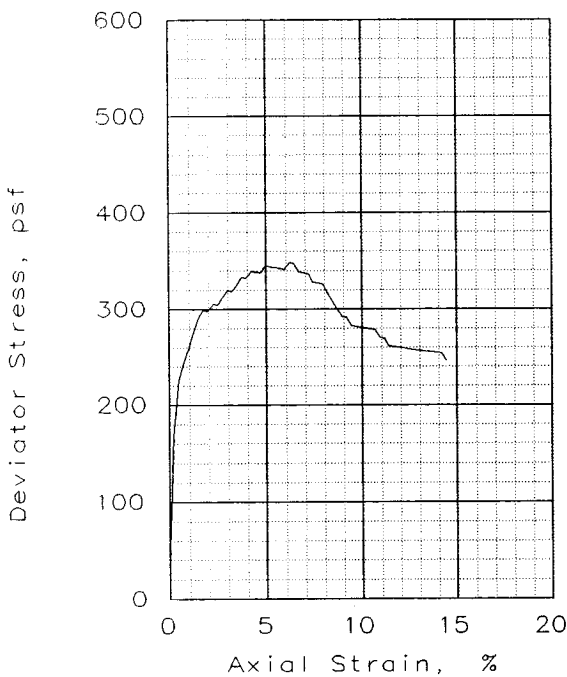
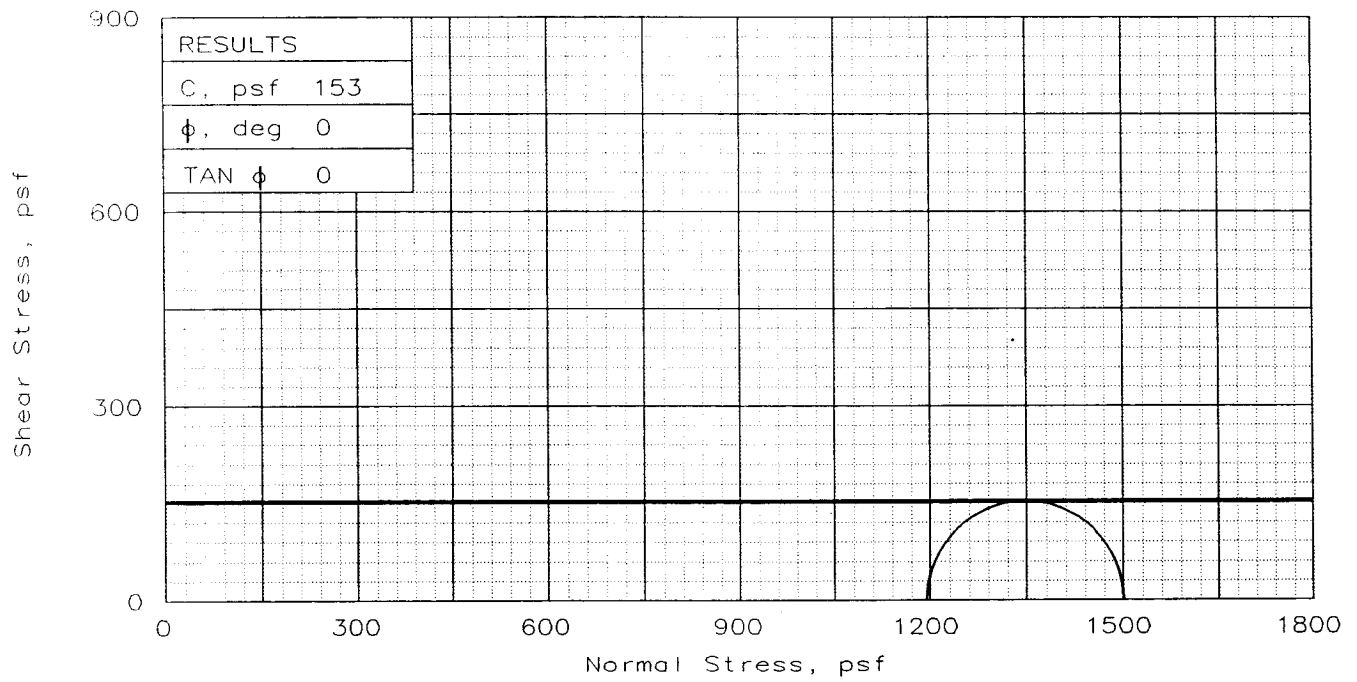
Project: Repairs to Levees and Floodwalls  
at the 17th Street Canal

Location: Boring 2,  
Sample 4A, Depth 24.3', Elev. -22.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



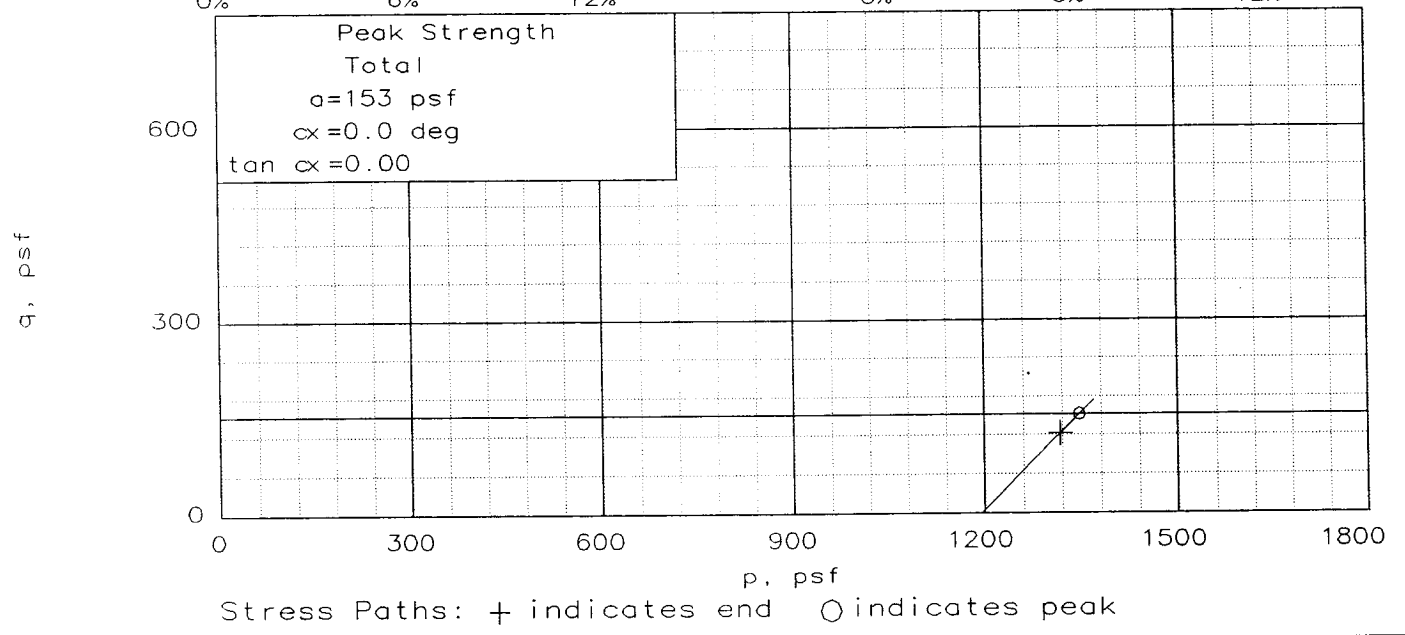
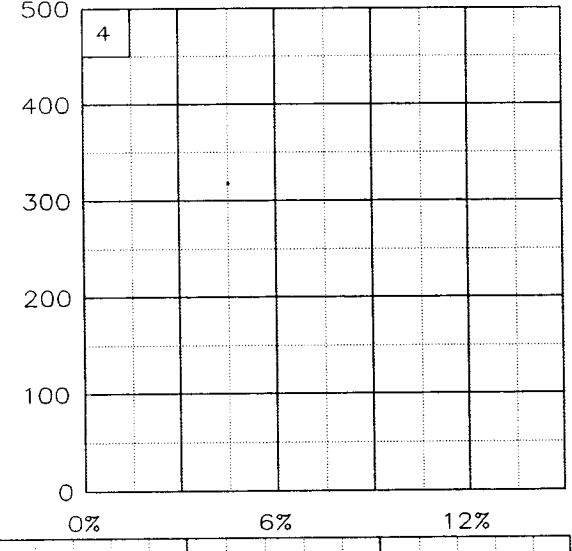
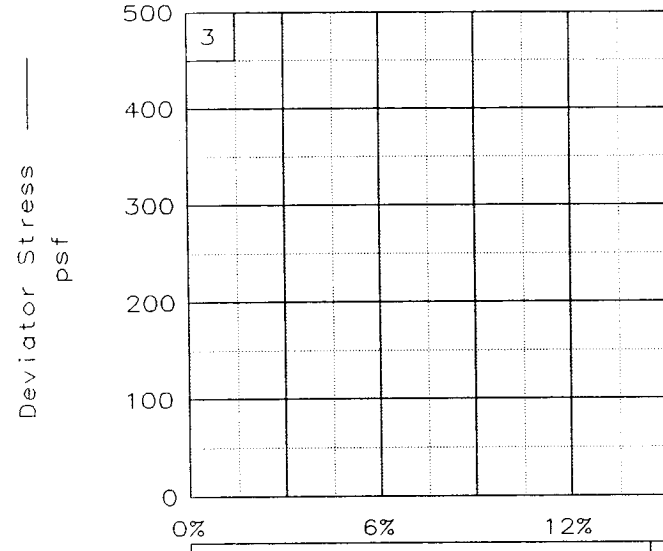
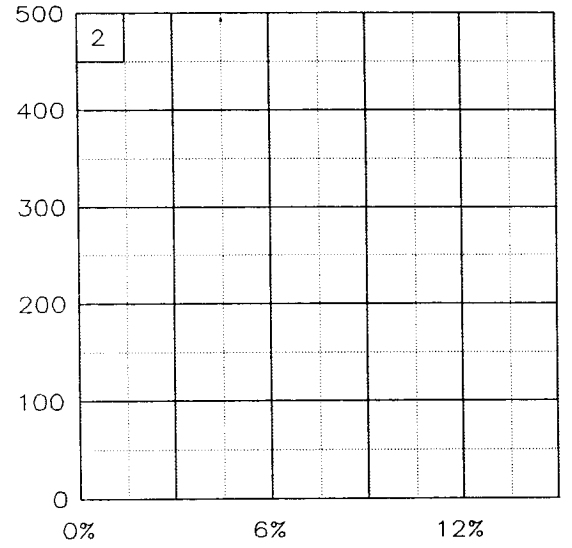
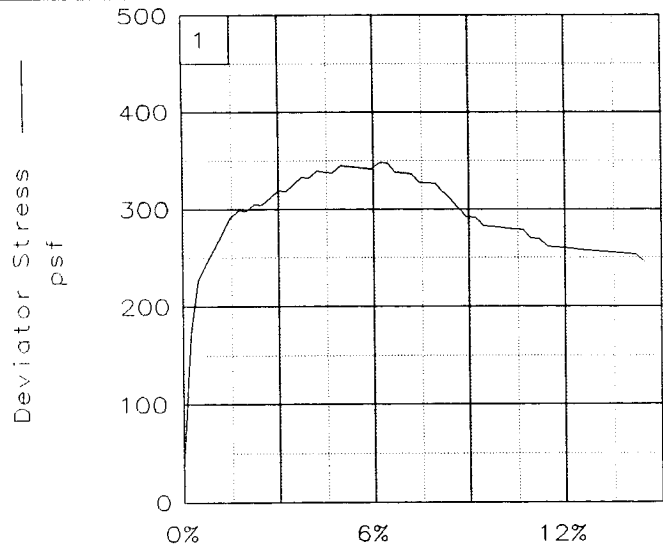
SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	85.9
	DRY DENSITY, pcf	50.2
	SATURATION, %	97.9
	VOID RATIO	2.406
	DIAMETER, in	1.39
	HEIGHT, in	2.93
AT TEST	WATER CONTENT, %	87.9
	DRY DENSITY, pcf	50.2
	SATURATION, %	100.0
	VOID RATIO	2.409
	DIAMETER, in	1.39
	HEIGHT, in	2.93
Strain rate, in/min		0.0288
BACK PRESSURE, psf		0
CELL PRESSURE, psf		1195
FAIL. STRESS, psf		305
ULT. STRESS, psf		245
$\sigma_1$ FAILURE, psf		1500
$\sigma_3$ FAILURE, psf		1195

TYPE OF TEST:  
 Unconsolidated Undrained  
 SAMPLE TYPE: Undisturbed  
 DESCRIPTION: vSo Gr CH4  
 w/ Ins SM  
 LL= 90      PL= 27      PI= 63  
 SPECIFIC GRAVITY= 2.74  
 REMARKS:

CLIENT: U.S. Army Corps of Engineers  
 PROJECT: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 SAMPLE LOCATION: Boring 2,  
 Sample 4-A, Depth 24.5', Elev -22.8  
 PROJ. NO.: 19080      DATE: 10/24/05

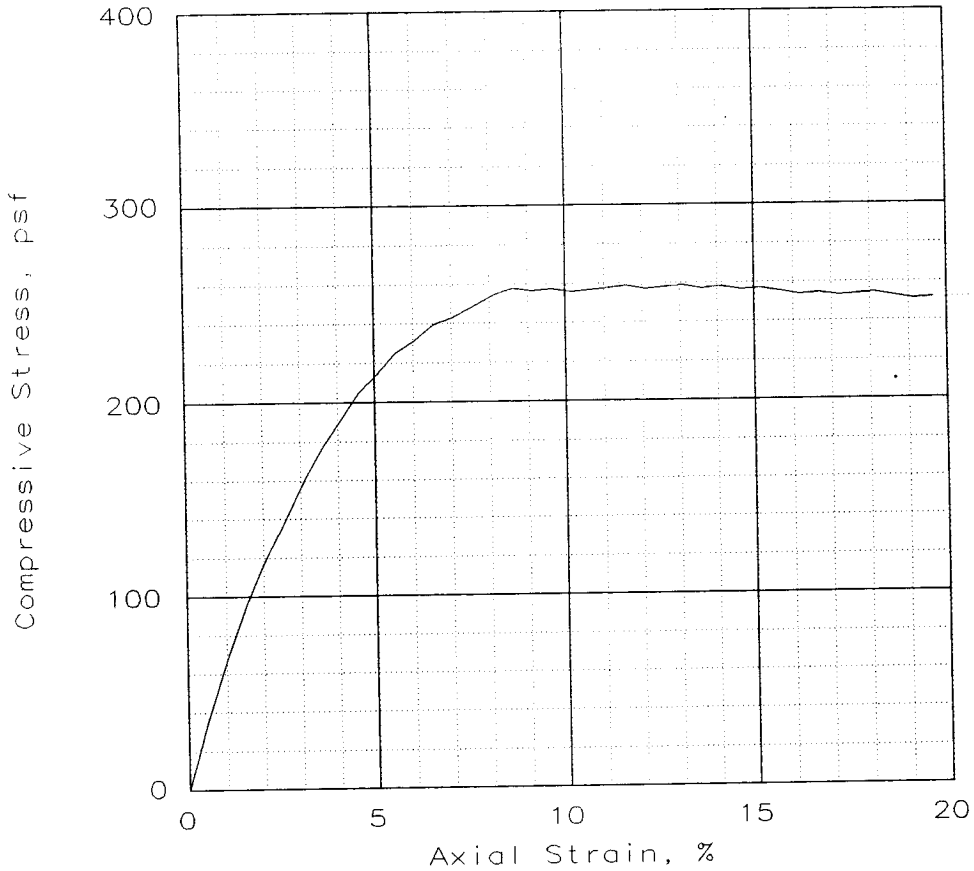
Fig. No.: \_\_\_\_\_

TRIAxIAL SHEAR TEST REPORT  
**Eustis Engineering Company, Inc.**



Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 4-A, Depth 24.5', Elev -22.8  
 File: UU-25137      Project No.: 19080      Fig. No.: \_\_\_\_\_

# UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	258			
Undrained shear strength, psf	129			
Failure strain, %	8.6			
Strain rate, in/min	0.0576			
Water content, %	66.4			
Wet density, pcf	99.7			
Dry density, pcf	59.9			
Saturation, %	98.0			
Void ratio	1.8554			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: vSo Gr CH4 w/ Ins ML

GS= 2.74

Type: Undisturbed

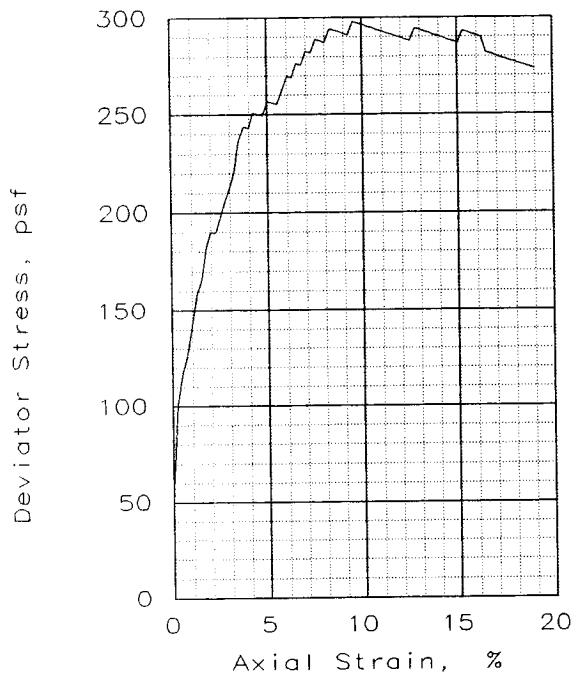
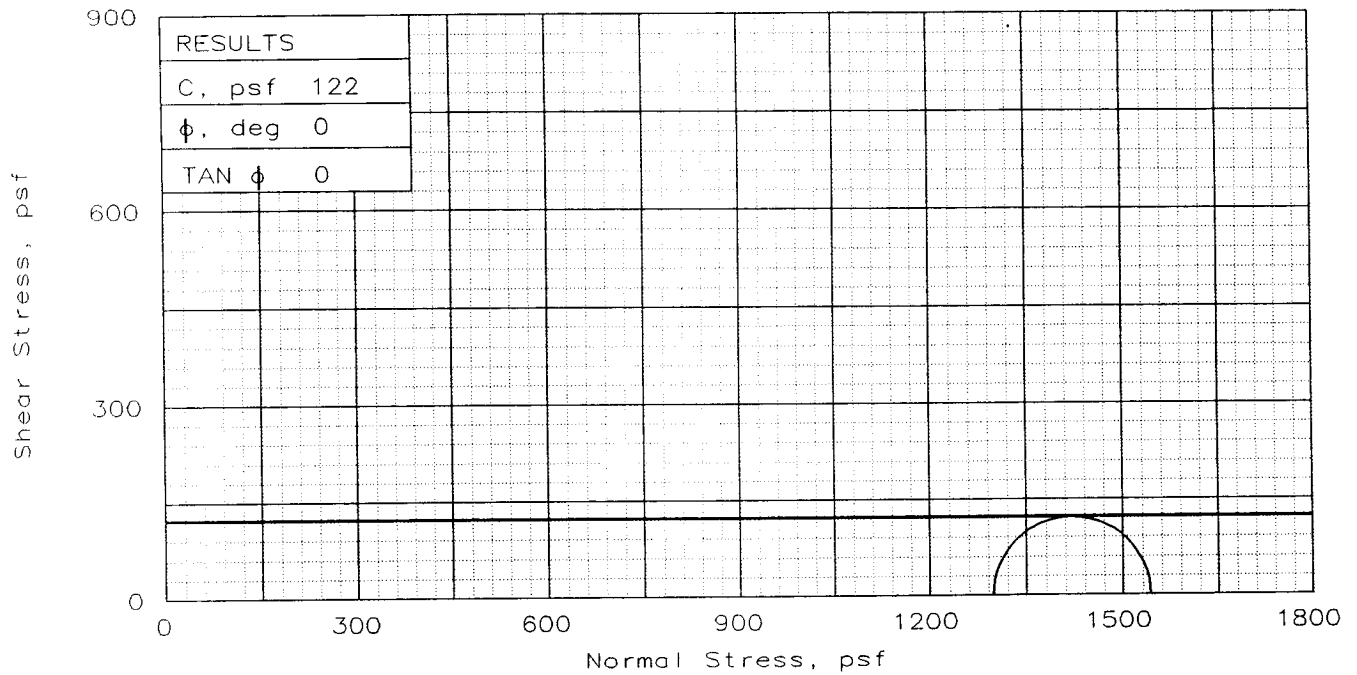
Project No.: 19080  
 Date: 10/24/05  
 Remarks:  
 Torvane = 0.100 tsf

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 Location: Boring 2,  
 Sample 4-B, Depth 25.3', Elev -23.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	86.2
	DRY DENSITY, pcf	51.0
	SATURATION, %	100.4
	VOID RATIO	2.354
	DIAMETER, in	1.39
	HEIGHT, in	2.93
AT TEST	WATER CONTENT, %	85.9
	DRY DENSITY, pcf	51.0
	SATURATION, %	100.0
	VOID RATIO	2.353
	DIAMETER, in	1.39
	HEIGHT, in	2.93
Strain rate, in/min		0.0292
BACK PRESSURE, psf		0
CELL PRESSURE, psf		1299
FAIL. STRESS, psf		244
ULT. STRESS, psf		273
$\sigma_1$ FAILURE, psf		1543
$\sigma_3$ FAILURE, psf		1299

TYPE OF TEST:  
Unconsolidated Undrained

SAMPLE TYPE: Undisturbed

DESCRIPTION: vSo Gr CH4  
w/ Ins ML

SPECIFIC GRAVITY= 2.74

REMARKS: Torvane = 0.120 tsf

CLIENT: U.S. Army Corps of Engineers

PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal

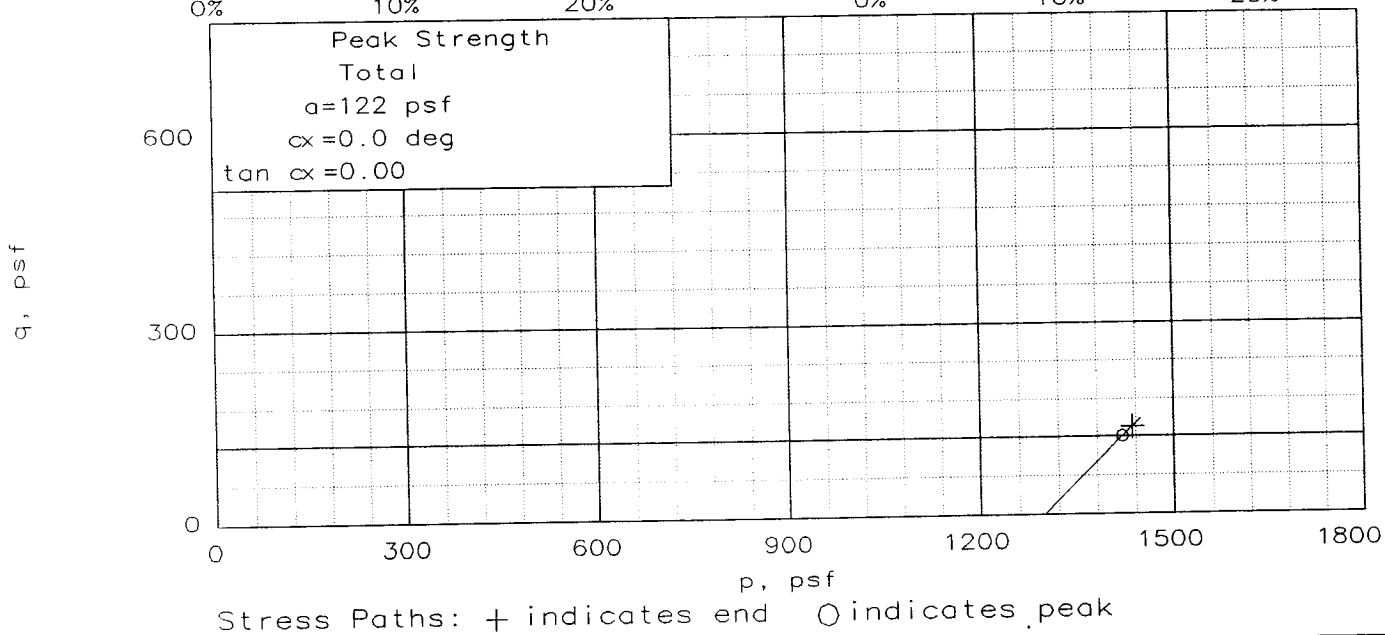
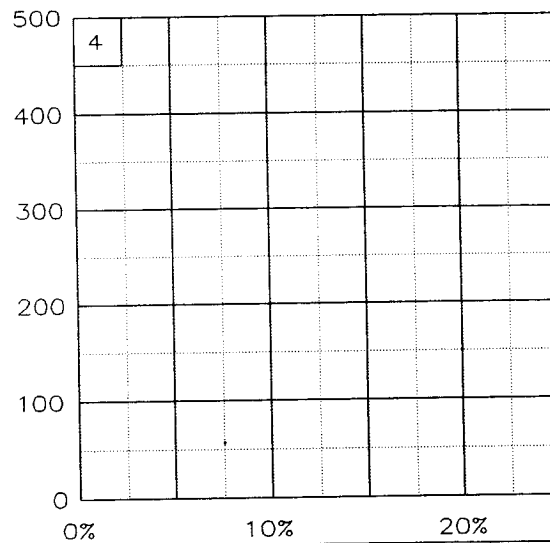
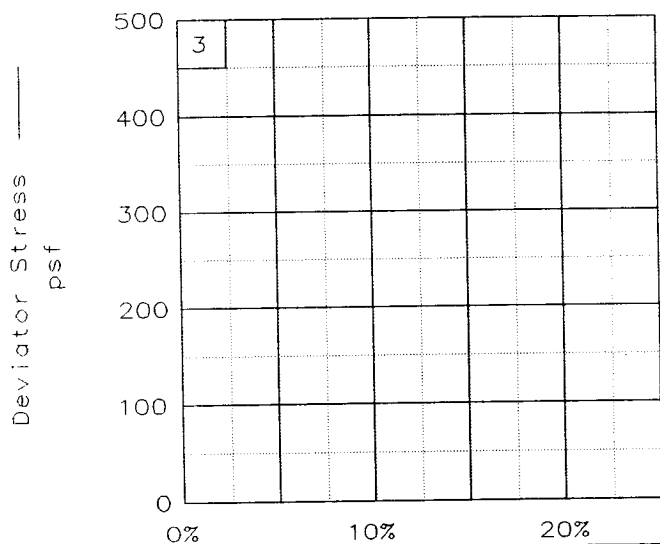
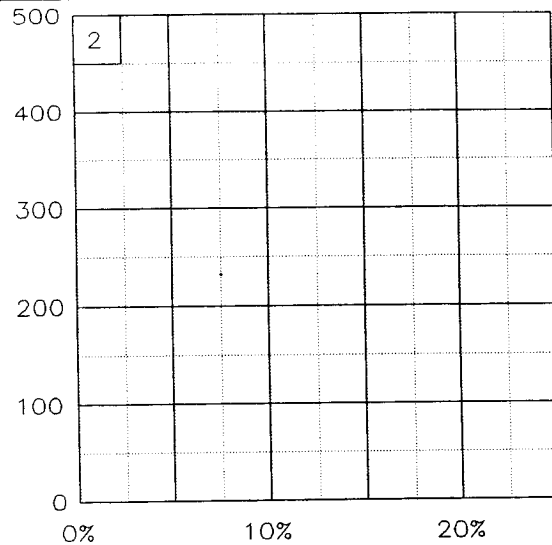
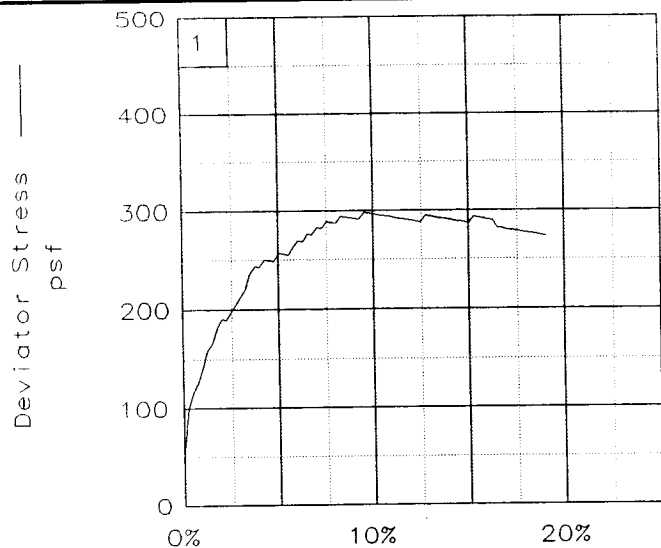
SAMPLE LOCATION: Boring 2,  
Sample 5-A, Depth 26.3', Elev -24.6

PROJ. NO.: 19080                      DATE: 10/24/05

TRIAxIAL SHEAR TEST REPORT

Eustis Engineering Company, Inc.

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls at the 17th Street Canal

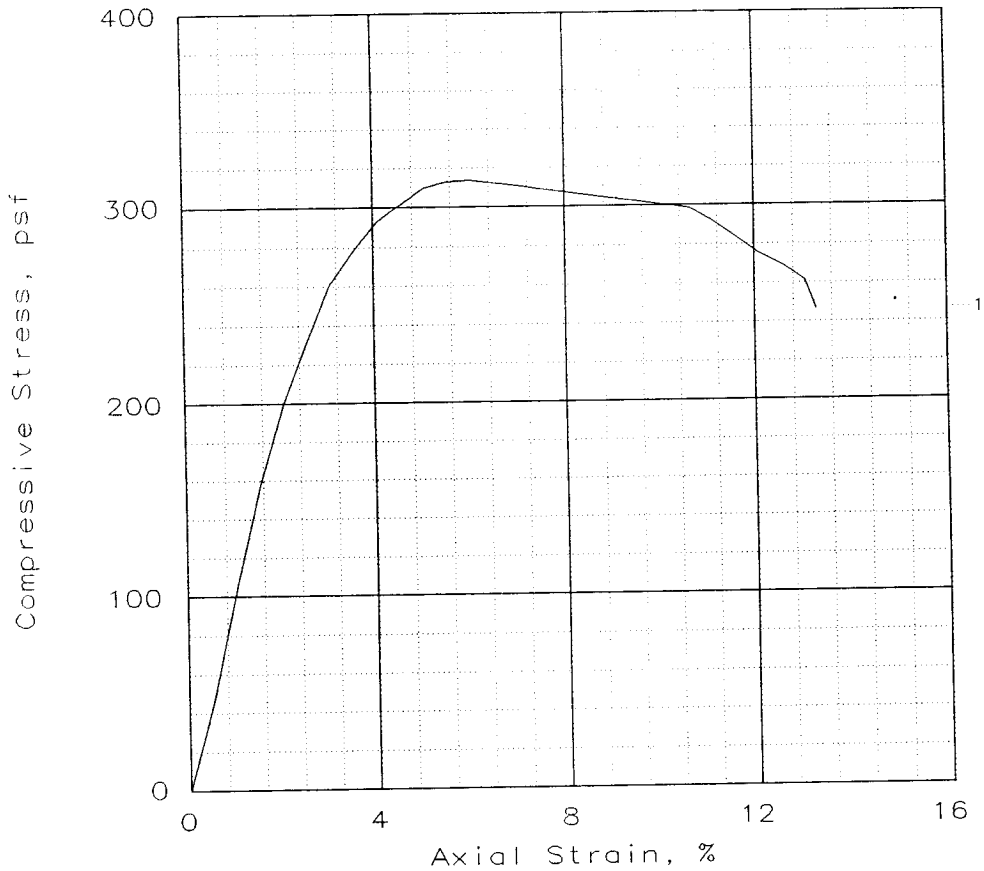
Location: Boring 2, Sample 5-A, Depth 26.3', Elev -24.6

File: UU-25138

Project No.: 19080

Fig. No.: \_\_\_\_\_

# UNCONFINED COMPRESSION TEST



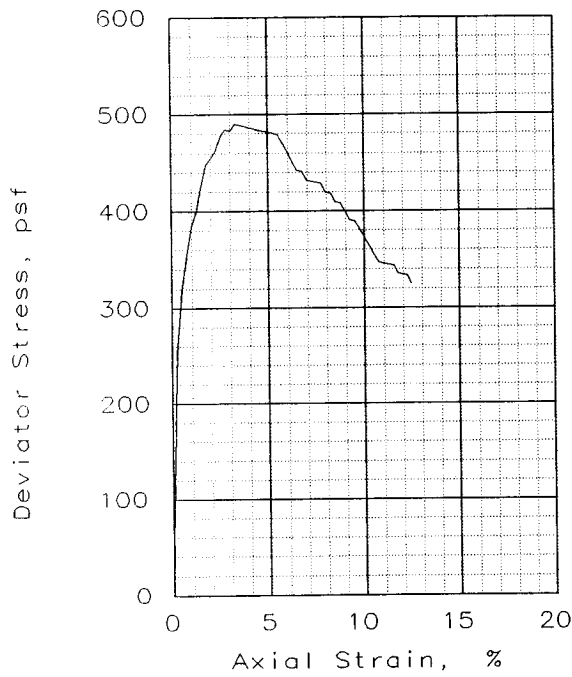
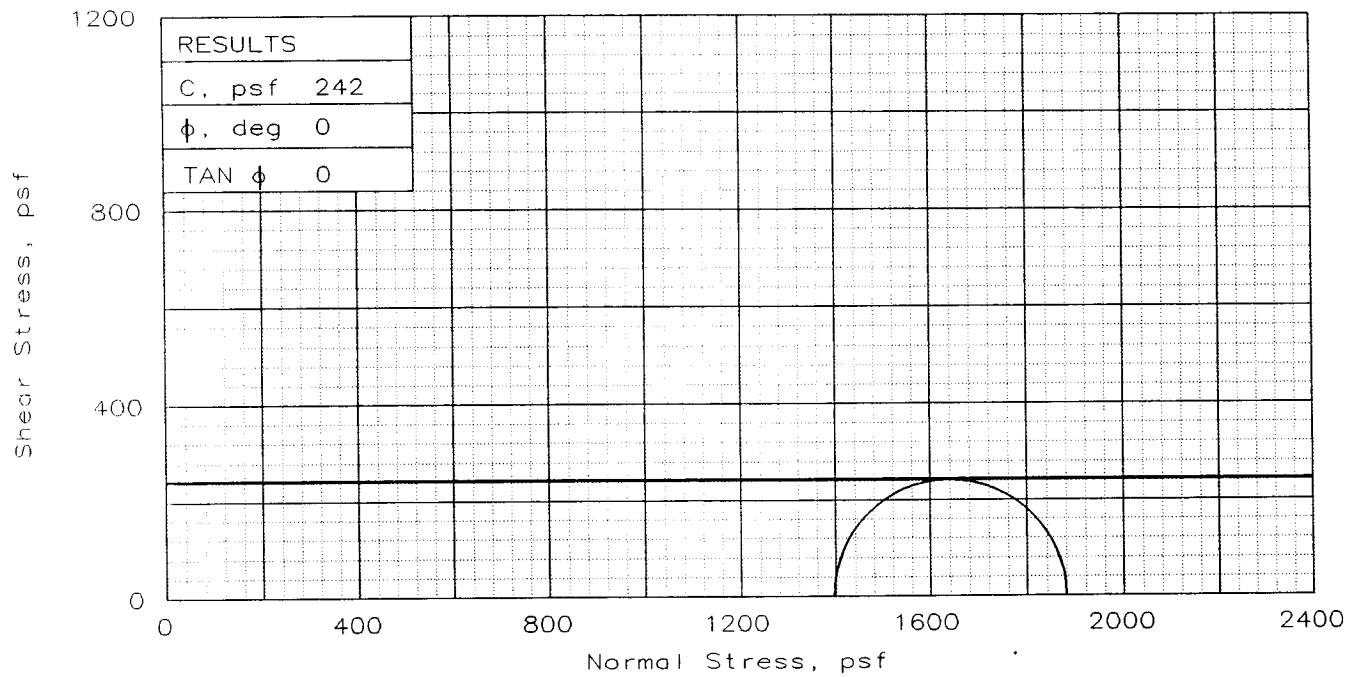
SPECIMEN NO.:	1			
Unconfined strength, psf	314			
Undrained shear strength, psf	157			
Failure strain, %	6.0			
Strain rate, in/min	0.0570			
Water content, %	80.3			
Wet density, pcf	91.6			
Dry density, pcf	50.8			
Saturation, %	92.9			
Void ratio	2.3674			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: vSo Gr CH4 w/ Ins ML GS= 2.74      Type: Undisturbed

Project No.: 19080  
 Date: 9-29-05  
 Remarks:  
 Torvane = 0.090 tsf  
 Fig. No.: \_\_\_\_\_

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 Location: Boring 2,  
 Sample 5B, Depth 27.3', Elev. -25.6

**UNCONFINED COMPRESSION TEST**  
**Eustis Engineering Company, Inc.**



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	87.8
	DRY DENSITY, pcf	48.6
	SATURATION, %	95.5
	VOID RATIO	2.521
	DIAMETER, in	1.39
	HEIGHT, in	2.93
AT TEST	WATER CONTENT, %	91.9
	DRY DENSITY, pcf	48.6
	SATURATION, %	100.0
	VOID RATIO	2.518
	DIAMETER, in	1.39
	HEIGHT, in	2.93
Strain rate, in/min		0.0290
BACK PRESSURE, psf		0
CELL PRESSURE, psf		1397
FAIL. STRESS, psf		484
ULT. STRESS, psf		325
$\sigma_1$ FAILURE, psf		1881
$\sigma_3$ FAILURE, psf		1397

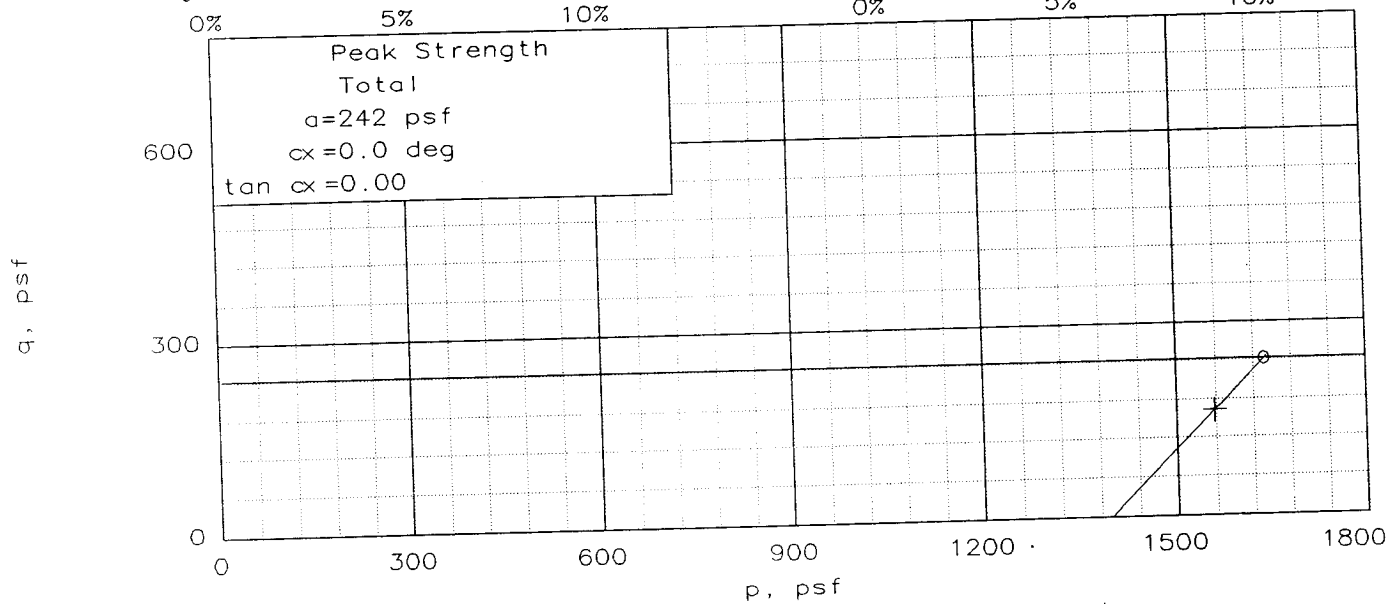
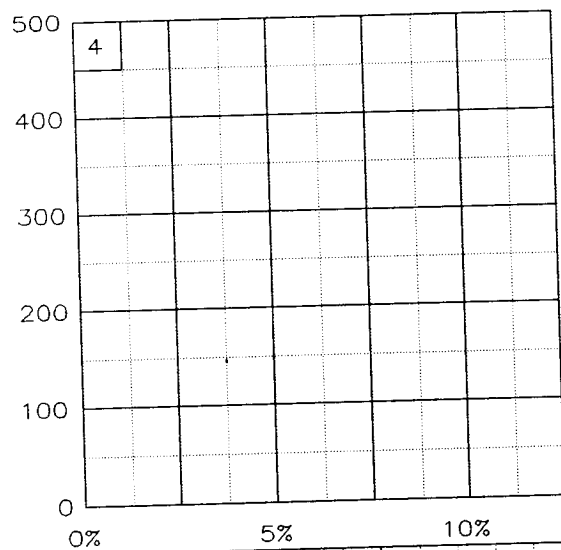
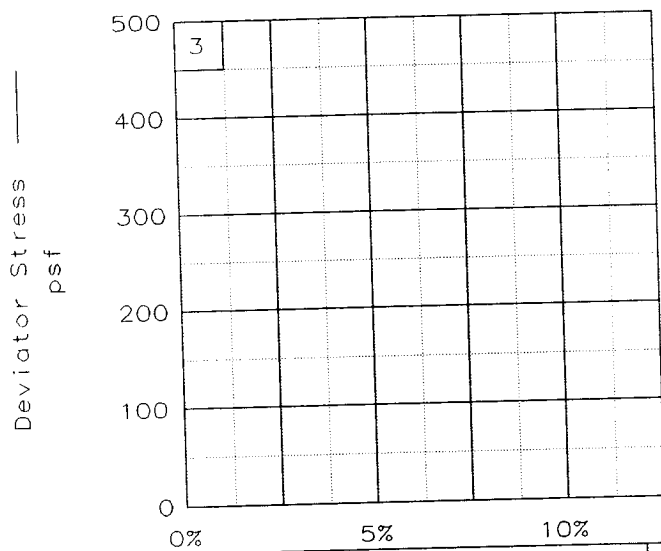
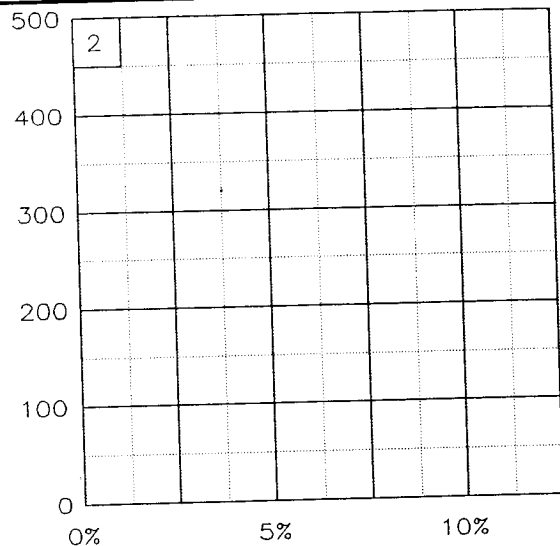
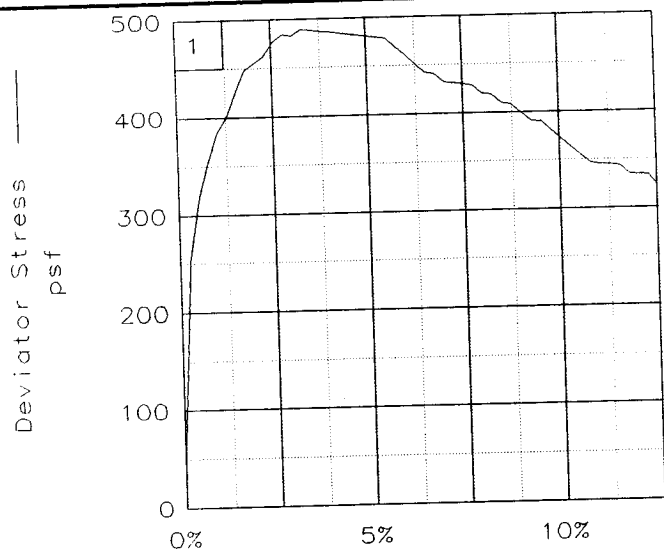
TYPE OF TEST:  
 Unconsolidated Undrained  
 SAMPLE TYPE: Undisturbed  
 DESCRIPTION: vSo Gr CH4  
 w/ SL, Ins SM  
 LL= 96      PL= 27      PI= 69  
 SPECIFIC GRAVITY= 2.74  
 REMARKS: Torvane = 0.160 tsf

CLIENT: U.S. Army Corps of Engineers  
 PROJECT: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 SAMPLE LOCATION: Boring 2,  
 Sample 6-A, Depth 28.3', Elev -26.6  
 PROJ. NO.: 19080      DATE: 10/24/05

TRIAXIAL SHEAR TEST REPORT  
**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_





Stress Paths: + indicates end o indicates peak

Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls at the 17th Street Canal

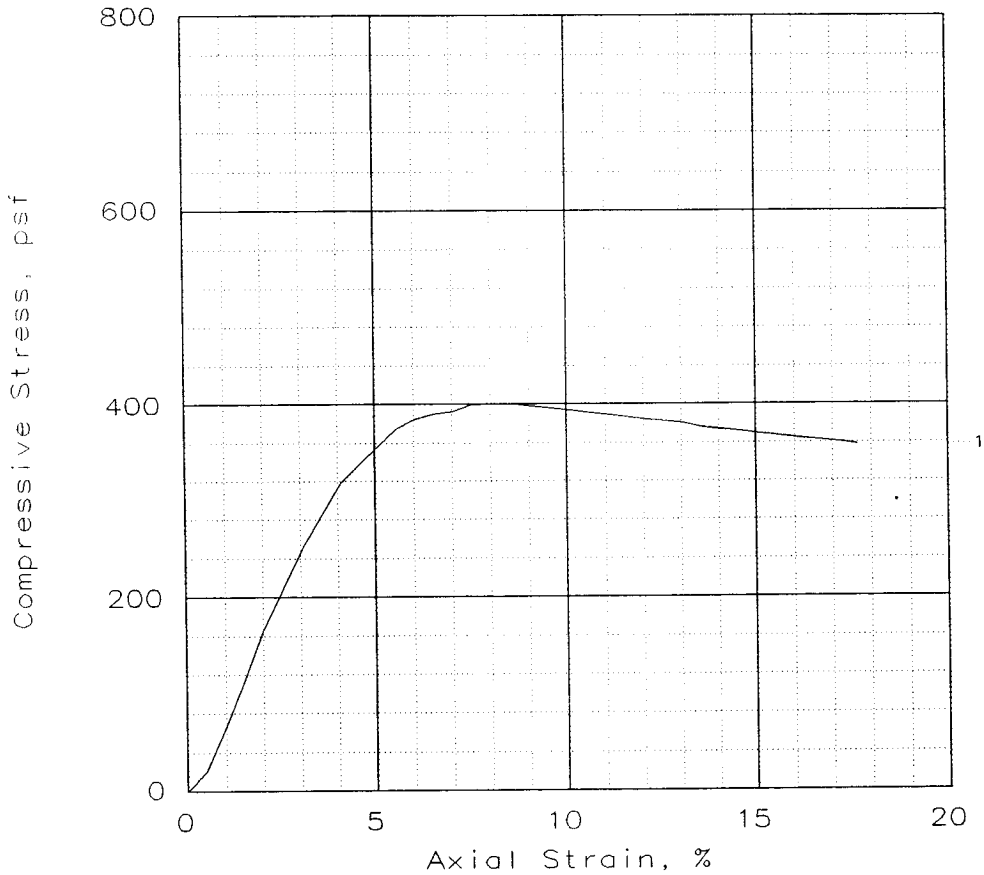
Location: Boring 2, Sample 6-A, Depth 28.3', Elev -26.6

File: UU-25139

Project No.: 19080

Fig. No.: \_\_\_\_\_

## UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	400			
Undrained shear strength, psf	200			
Failure strain, %	7.5			
Strain rate, in/min	0.0580			
Water content, %	80.6			
Wet density, pcf	96.3			
Dry density, pcf	53.3			
Saturation, %	100.0			
Void ratio	2.2097			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

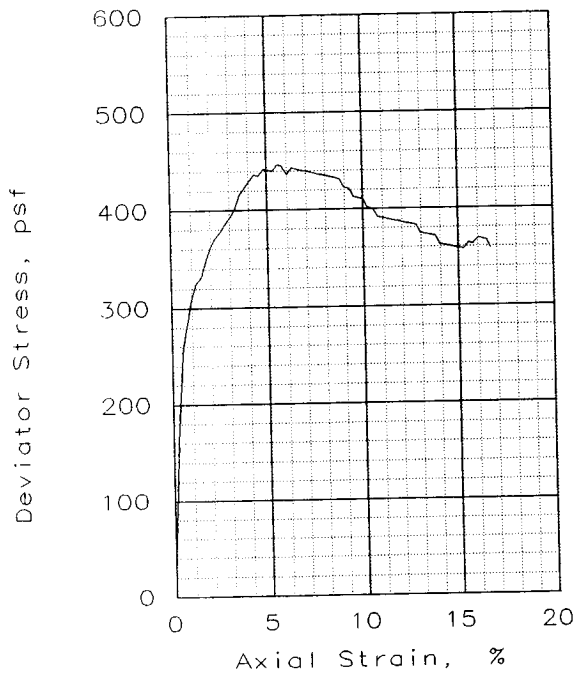
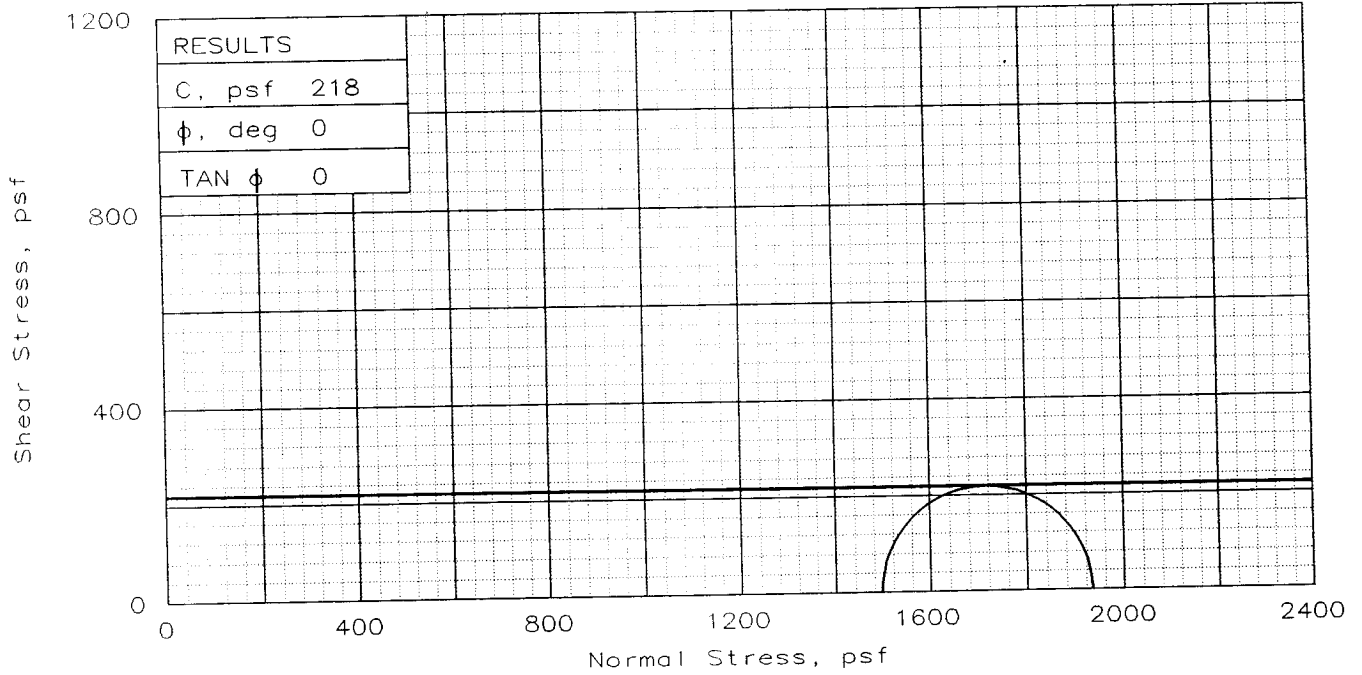
Description: vSo Gr CH4 w/ SL GS= 2.74      Type: Undisturbed

Project No.: 19080  
 Date: 10/24/05  
 Remarks:  
 Torvane = 0.150 tsf

Fig. No.: \_\_\_\_\_

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 6-B, Depth 29.3', Elev -27.6

UNCONFINED COMPRESSION TEST  
**Eustis Engineering Company, Inc.**



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	88.5
	DRY DENSITY, pcf	49.7
	SATURATION, %	99.2
	VOID RATIO	2.444
	DIAMETER, in	1.39
AT TEST	HEIGHT, in	2.93
	WATER CONTENT, %	89.2
	DRY DENSITY, pcf	49.7
	SATURATION, %	100.0
	VOID RATIO	2.443
DIAMETER, in	1.39	
HEIGHT, in	2.93	
Strain rate, in/min	0.0291	
BACK PRESSURE, psf	0	
CELL PRESSURE, psf	1498	
FAIL. STRESS, psf	436	
ULT. STRESS, psf	359	
$\sigma_1$ FAILURE, psf	1934	
$\sigma_3$ FAILURE, psf	1498	

TYPE OF TEST:  
Unconsolidated Undrained  
SAMPLE TYPE: Undisturbed  
DESCRIPTION: vSo Gr CH4

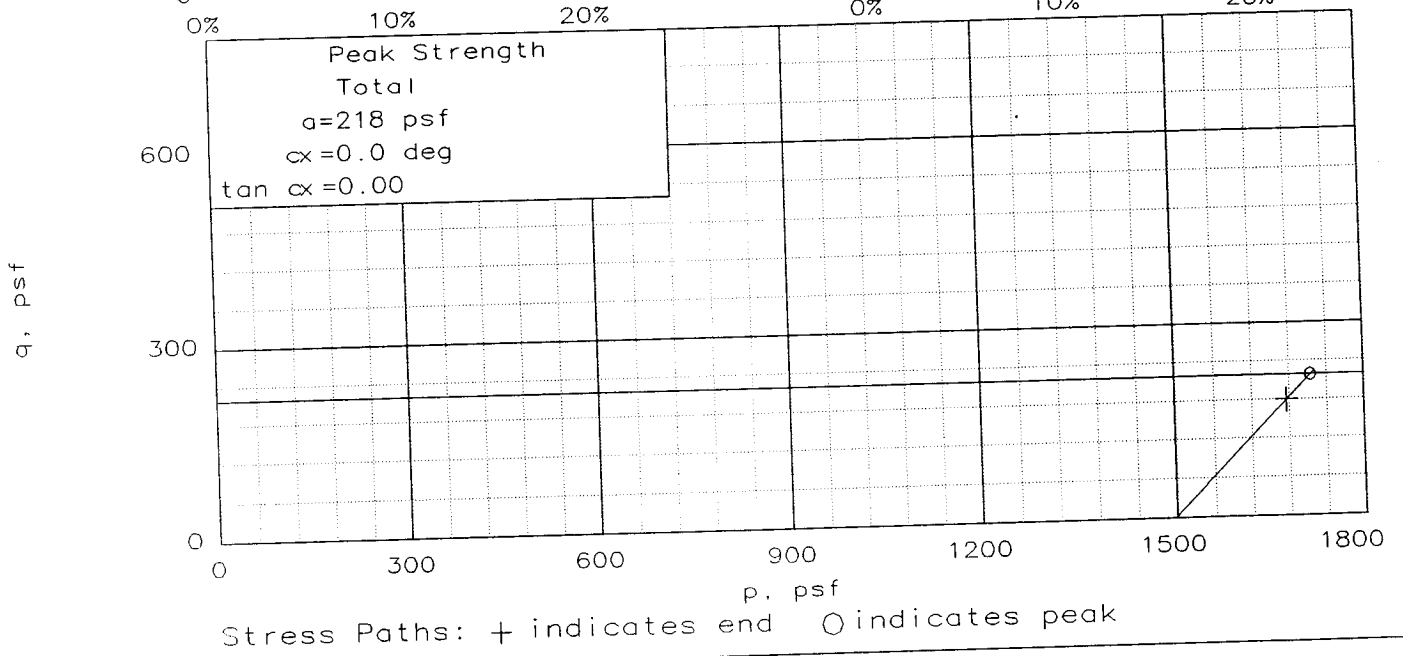
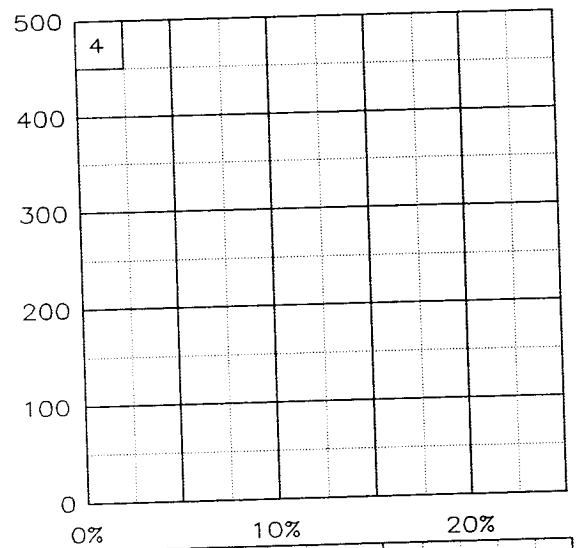
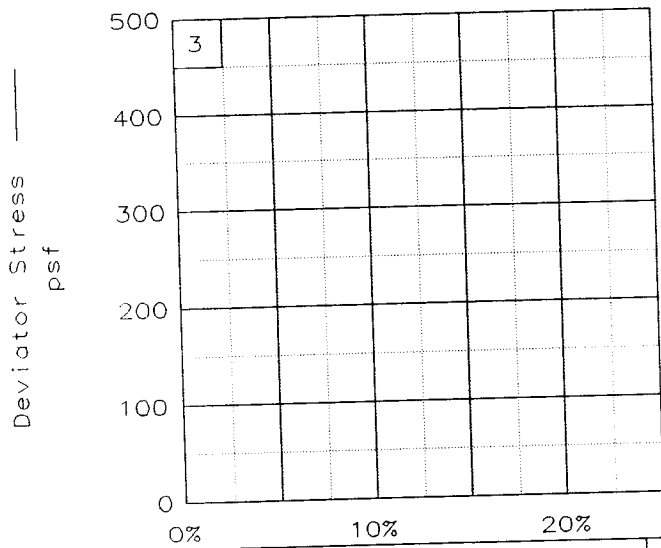
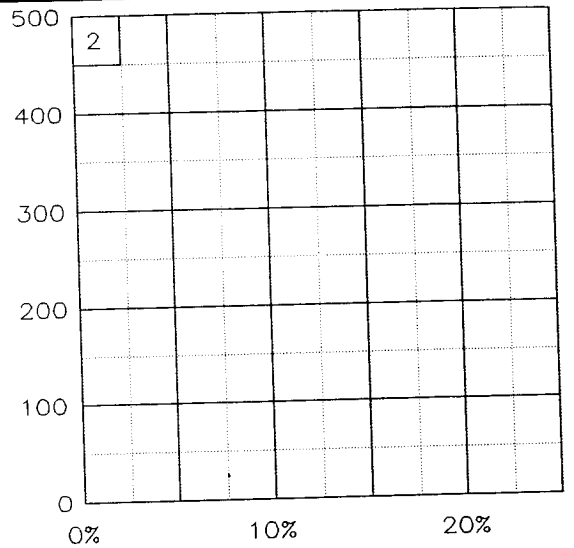
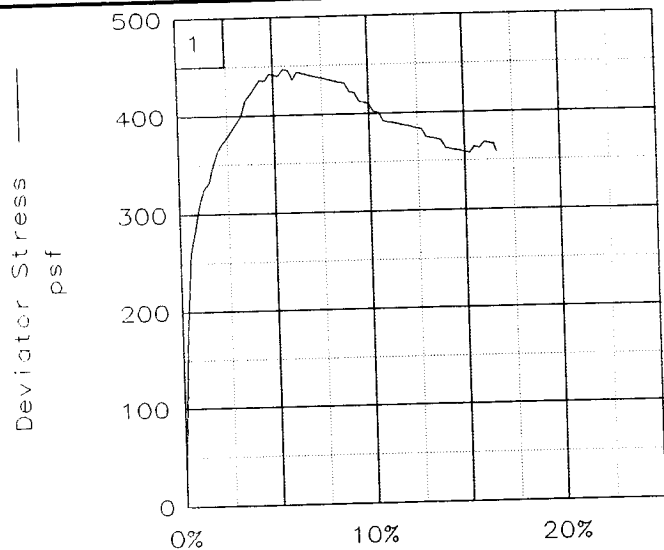
SPECIFIC GRAVITY= 2.74  
REMARKS: Torvane = 0.150 tsf

CLIENT: U.S. Army Corps of Engineers  
PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal  
SAMPLE LOCATION: Boring 2,  
Sample 7-A, Depth 30.3', Elev -28.6  
PROJ. NO.: 19080 DATE: 10/24/05

TRIAXIAL SHEAR TEST REPORT

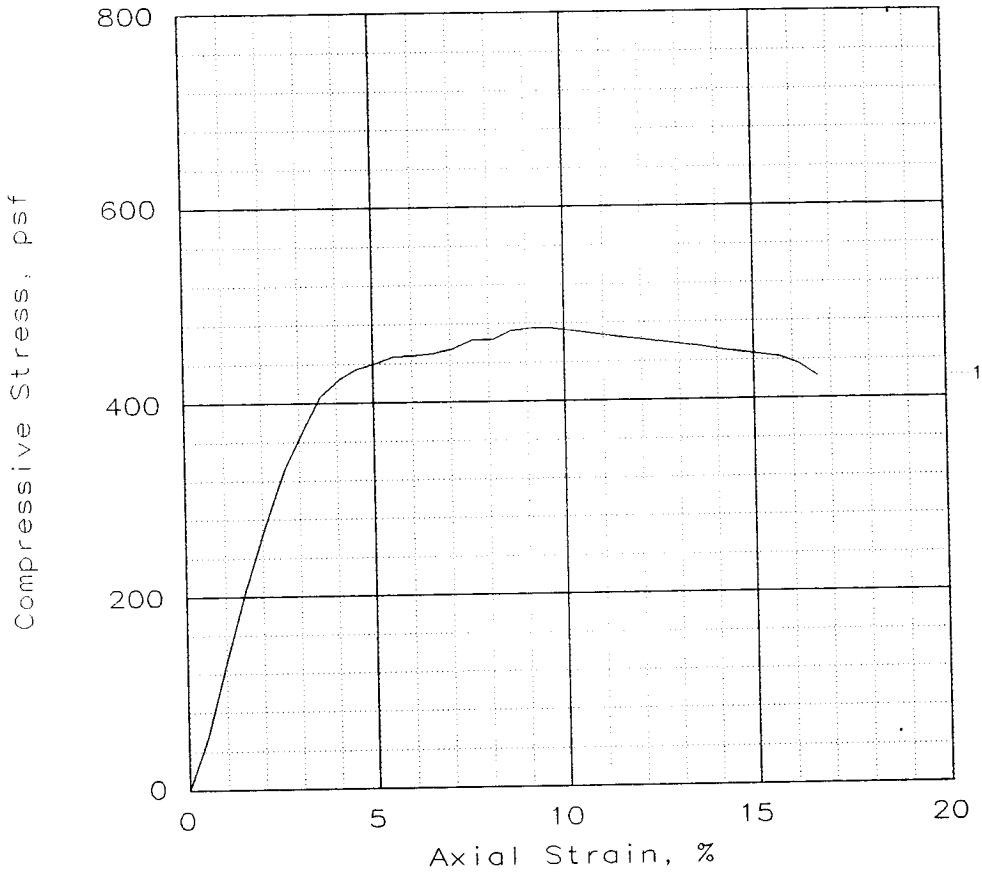
Eustis Engineering Company, Inc.

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 7-A, Depth 30.3', Elev -28.6  
 File: UU-25140      Project No.: 19080      Fig. No.: \_\_\_\_\_

# UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	475			
Undrained shear strength, psf	238			
Failure strain, %	9.1			
Strain rate, in/min	0.0574			
Water content, %	87.3			
Wet density, pcf	91.6			
Dry density, pcf	48.9			
Saturation, %	96.0			
Void ratio	2.4736			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: vSo Gr CH4 w/ ars ML

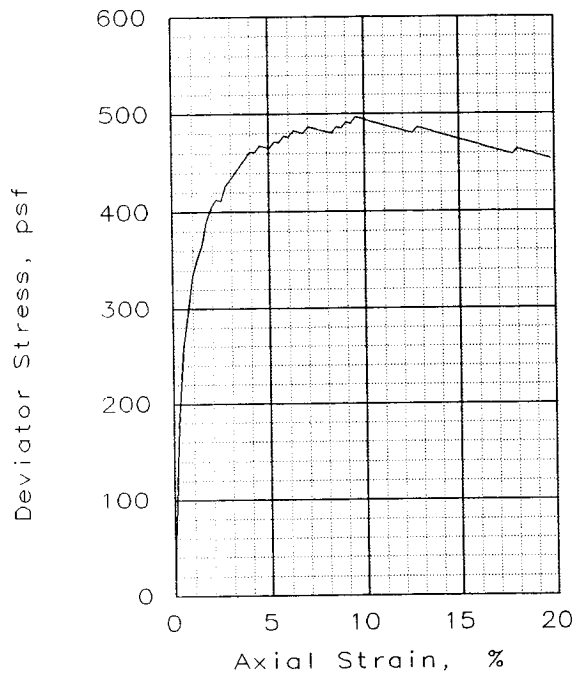
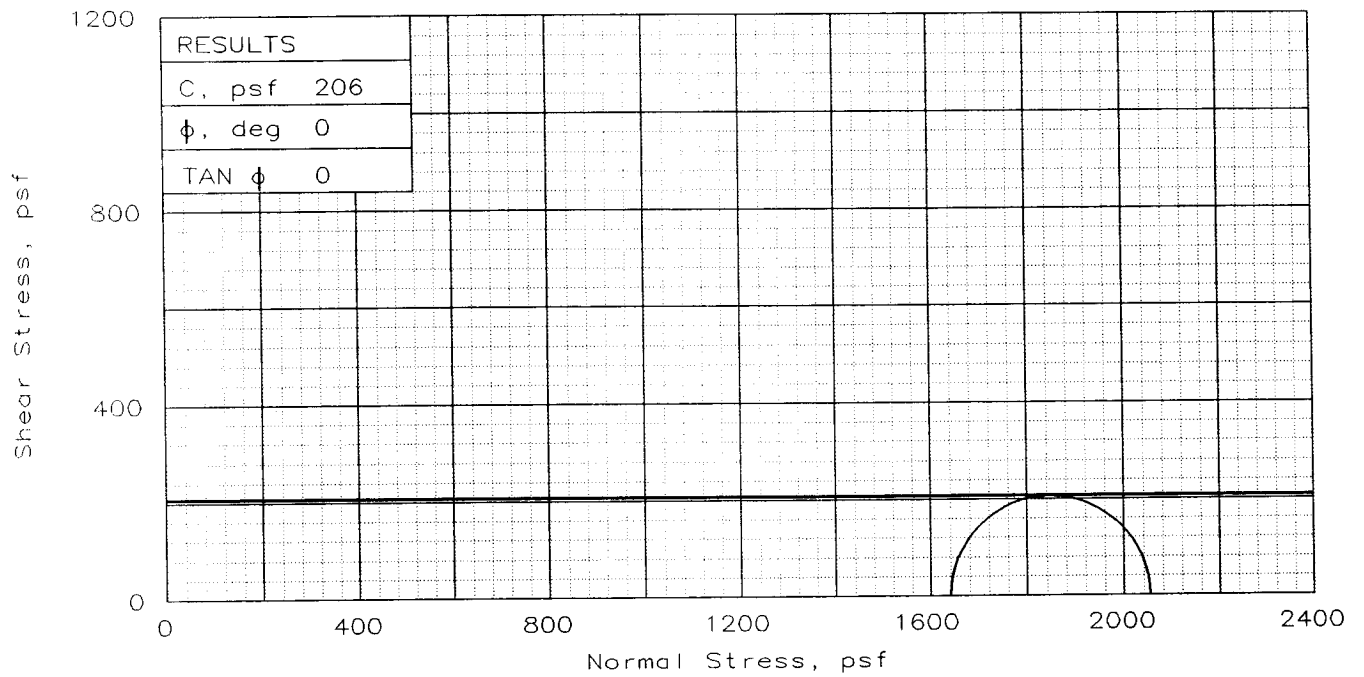
GS= 2.72      Type: Undisturbed

Project No.: 19080  
 Date: 9-29-05  
 Remarks:  
 Torvane = 0.100 tsf

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 Location: Boring 2,  
 Sample 7B, Depth 31.3', Elev. -29.6

UNCONFINED COMPRESSION TEST  
**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	85.5
	DRY DENSITY, pcf	51.1
	SATURATION, %	99.8
	VOID RATIO	2.349
	DIAMETER, in	1.39
	HEIGHT, in	2.93
AT TEST	WATER CONTENT, %	85.6
	DRY DENSITY, pcf	51.1
	SATURATION, %	100.0
	VOID RATIO	2.346
	DIAMETER, in	1.39
	HEIGHT, in	2.93
Strain rate, in/min		0.0290
BACK PRESSURE, psf		0
CELL PRESSURE, psf		1642
FAIL. STRESS, psf		413
ULT. STRESS, psf		454
$\sigma_1$ FAILURE, psf		2054
$\sigma_3$ FAILURE, psf		1642

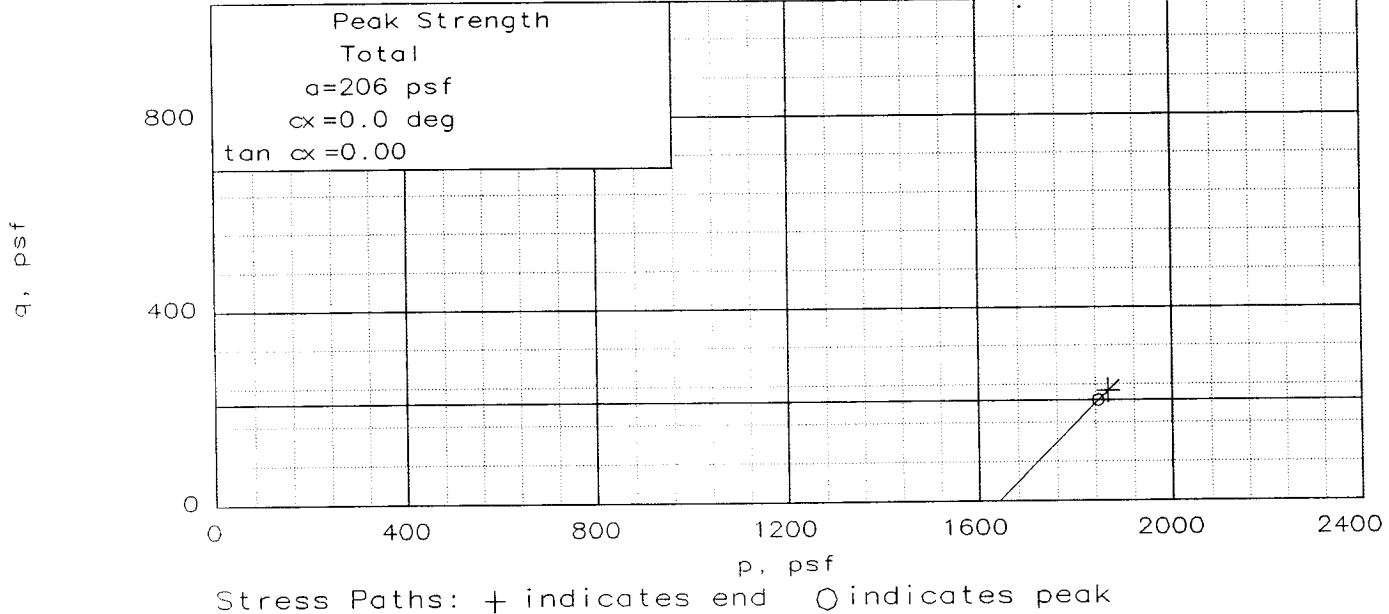
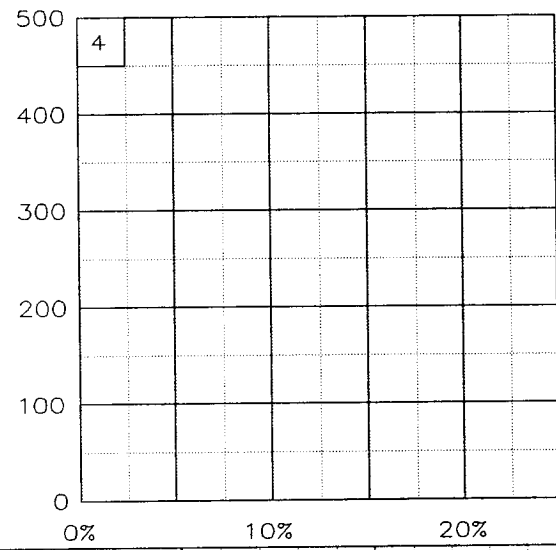
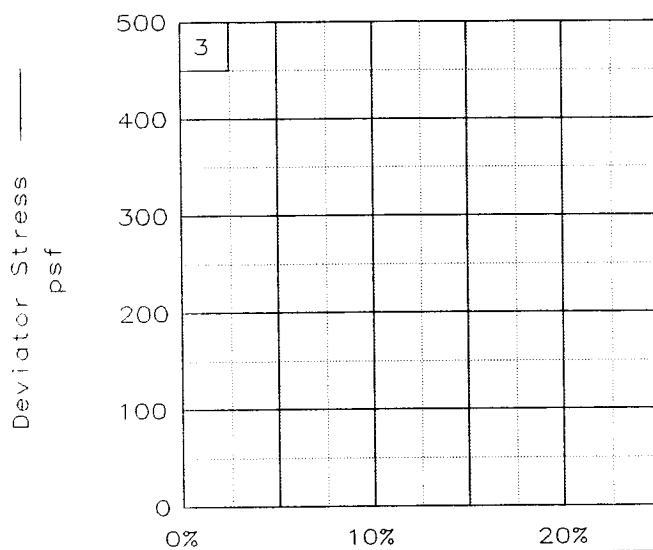
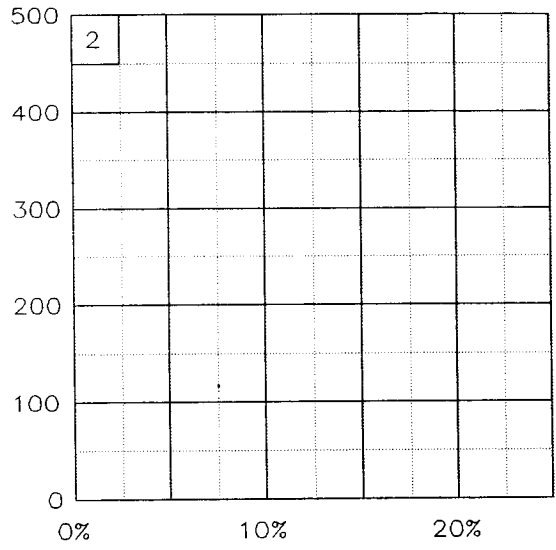
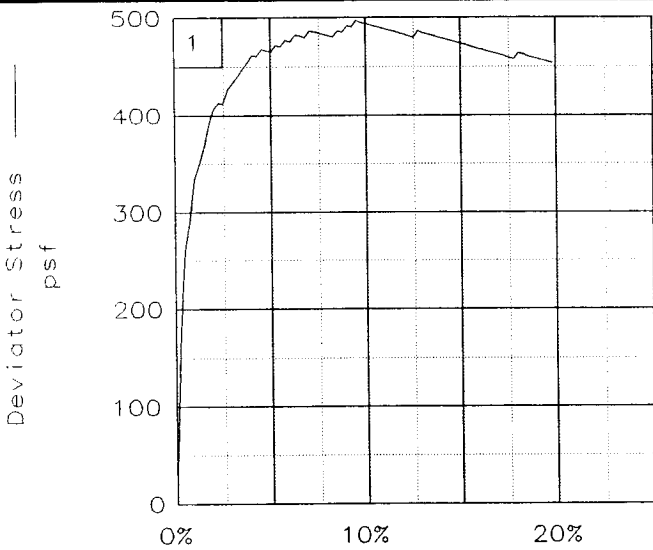
TYPE OF TEST:  
 Unconsolidated Undrained  
 SAMPLE TYPE: Undisturbed  
 DESCRIPTION: vSo Gr CH4  
 LL= 98      PL= 28      PI= 70  
 SPECIFIC GRAVITY= 2.74  
 REMARKS: Torvane = 0.200 tsf

CLIENT: U.S. Army Corps of Engineers  
 PROJECT: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 SAMPLE LOCATION: Boring 2,  
 Sample 8-A, Depth 32.3', Elev -30.6  
 PROJ. NO.: 19080      DATE: 10/24/05

TRIAxIAL SHEAR TEST REPORT

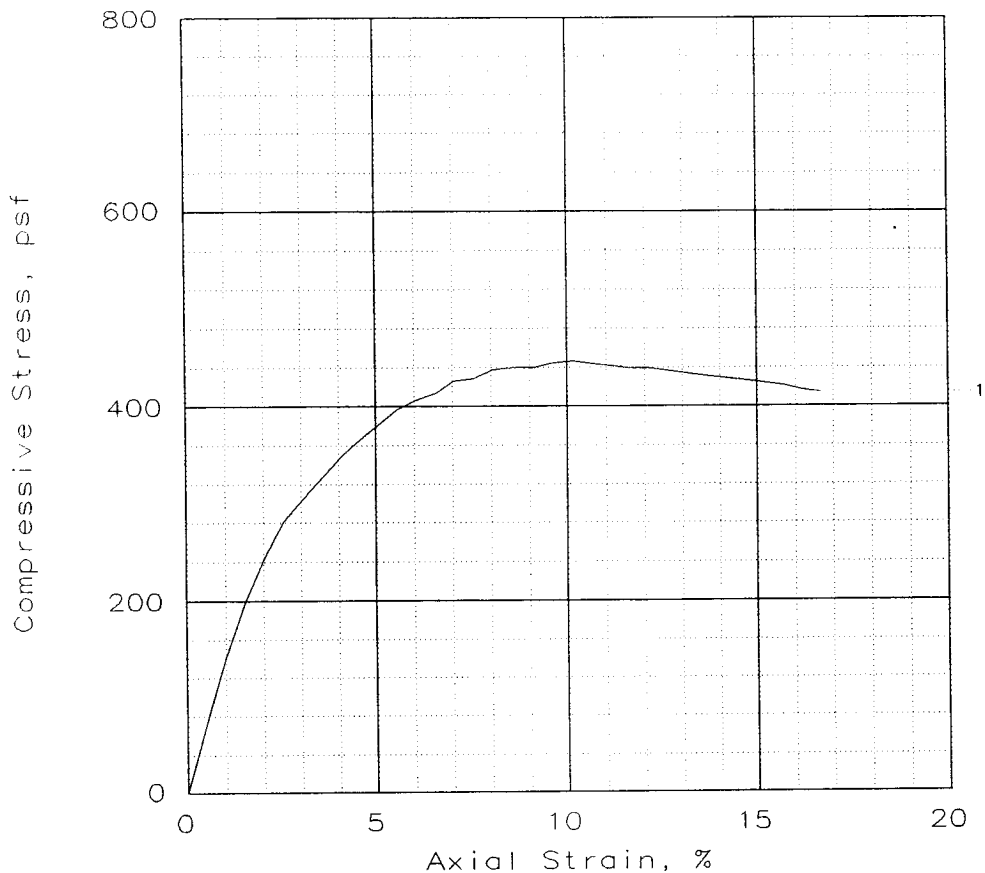
Eustis Engineering Company, Inc.

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 8-A, Depth 32.3', Elev -30.6  
 File: UU-25141 Project No.: 19080 Fig. No.: \_\_\_\_\_

## UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	446			
Undrained shear strength, psf	223			
Failure strain, %	10.2			
Strain rate, in/min	0.0576			
Water content, %	69.5			
Wet density, pcf	94.1			
Dry density, pcf	55.5			
Saturation, %	91.8			
Void ratio	2.0603			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: vSo Gr CH3 w/ ars SM

GS= 2.72

Type: Undisturbed

Project No.: 19080

Date: 9-29-05

Remarks:

Torvane = 0.240 tsf

Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls  
at the 17th Street Canal

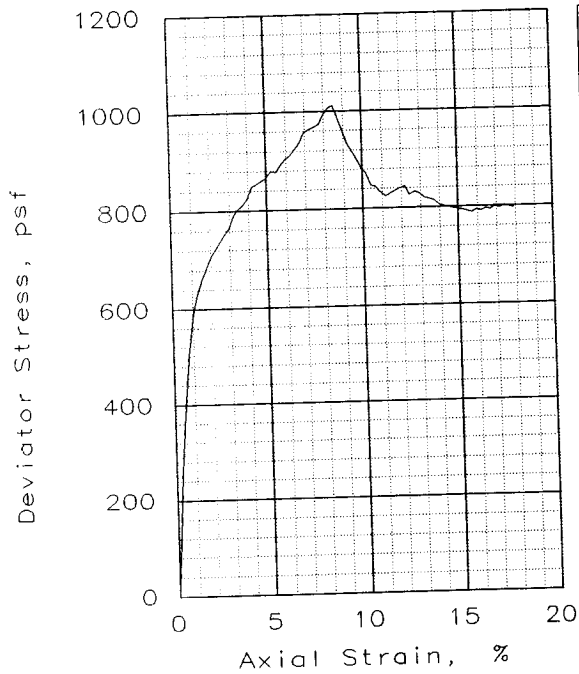
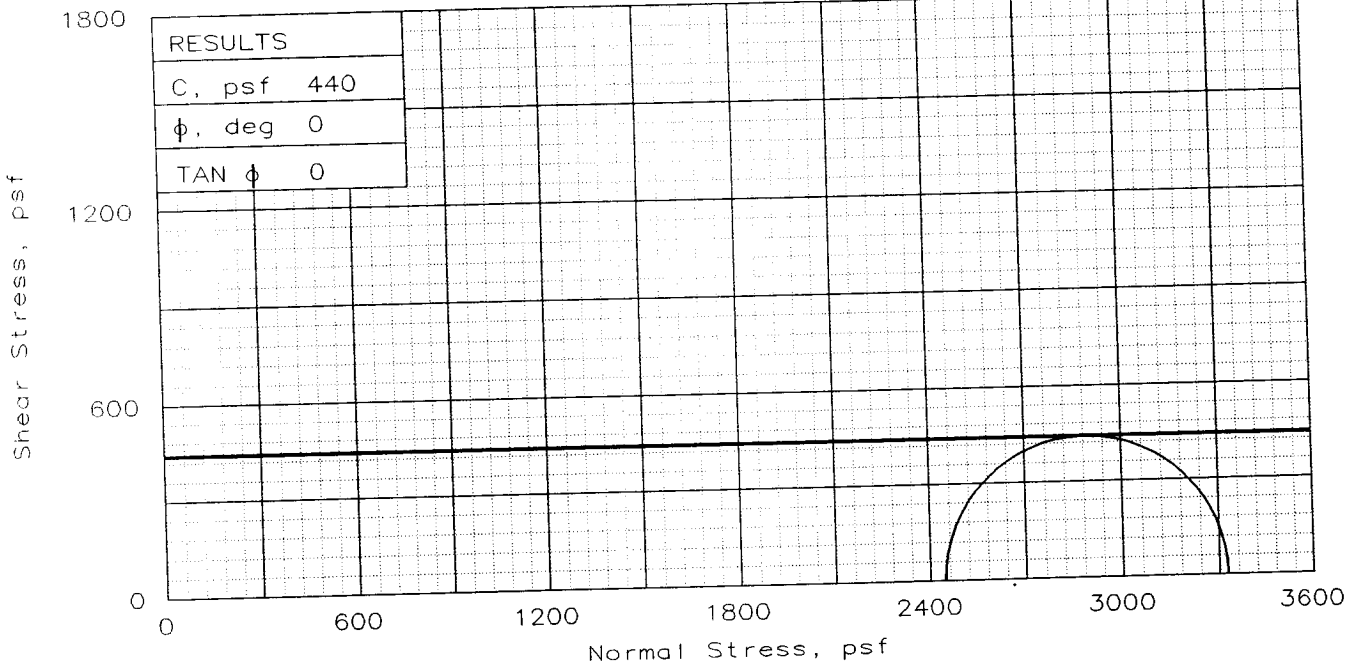
Location: Boring 2,  
Sample 15A, Depth 48.3', Elev. -46.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_





SPECIMEN NO. :		1
INITIAL	WATER CONTENT, %	71.2
	DRY DENSITY, pcf	56.6
	SATURATION, %	96.5
	VOID RATIO	2.022
	DIAMETER, in	1.39
	HEIGHT, in	2.93
AT TEST	WATER CONTENT, %	73.8
	DRY DENSITY, pcf	56.6
	SATURATION, %	100.0
	VOID RATIO	2.021
	DIAMETER, in	1.39
	HEIGHT, in	2.93
Strain rate, in/min		0.0289
BACK PRESSURE, psf		0
CELL PRESSURE, psf		2448
FAIL. STRESS, psf		.879
ULT. STRESS, psf		796
$\sigma_1$ FAILURE, psf		3327
$\sigma_3$ FAILURE, psf		2448

TYPE OF TEST:  
Unconsolidated Undrained  
SAMPLE TYPE: Undisturbed  
DESCRIPTION: So Gr CH4  
w/ Ins SM, SL

SPECIFIC GRAVITY= 2.74

REMARKS: Torvane = 0.360 tsf

CLIENT: U.S. Army Corps of Engineers

PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal

SAMPLE LOCATION: Boring 2,  
Sample 15-B, Depth 49.3', Elev -47.6

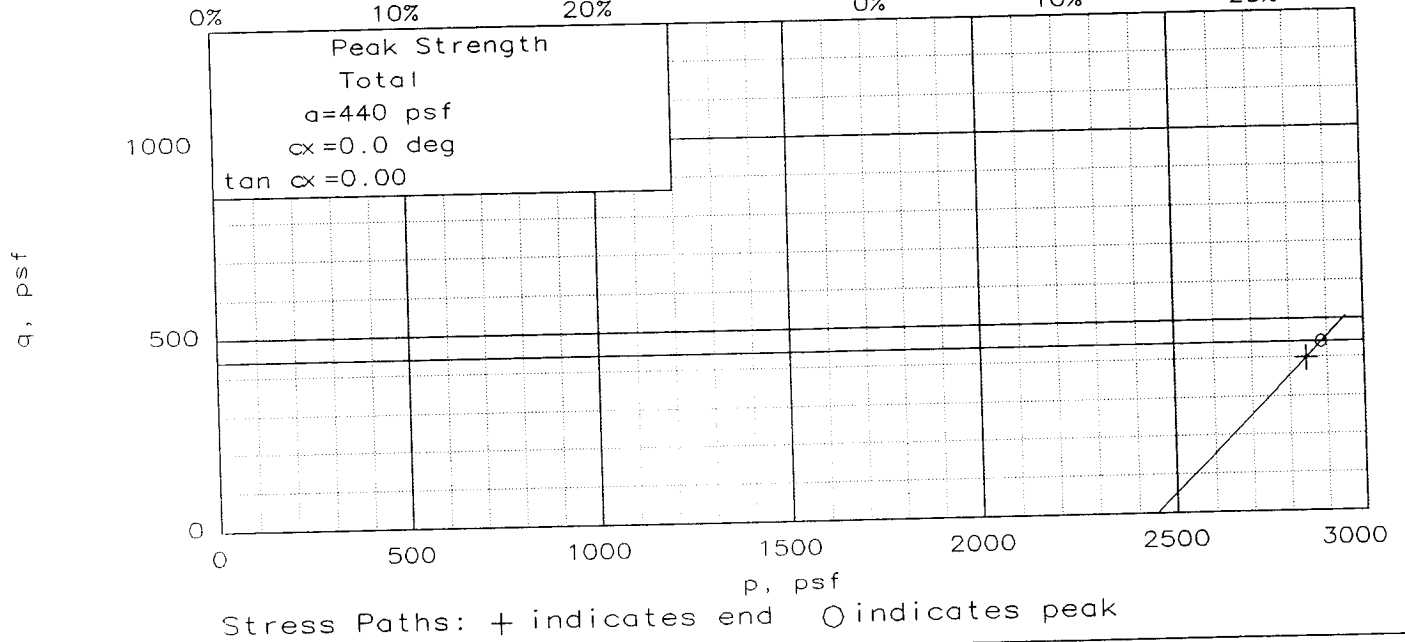
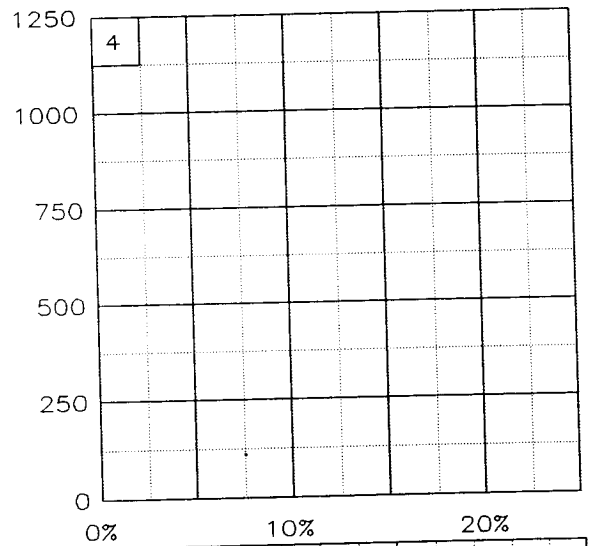
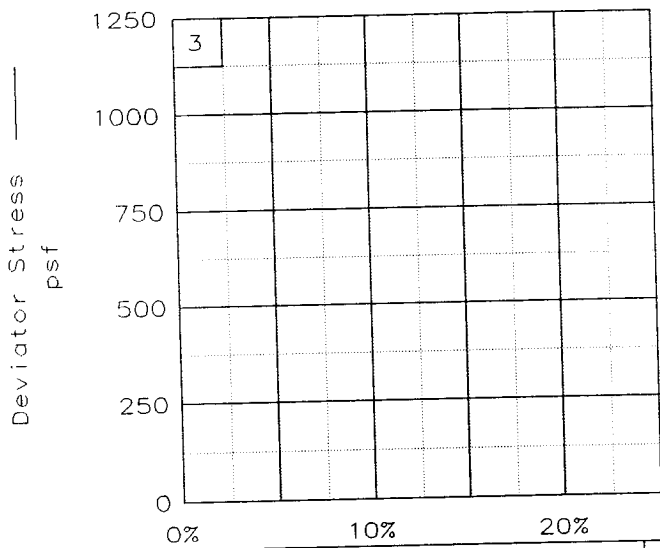
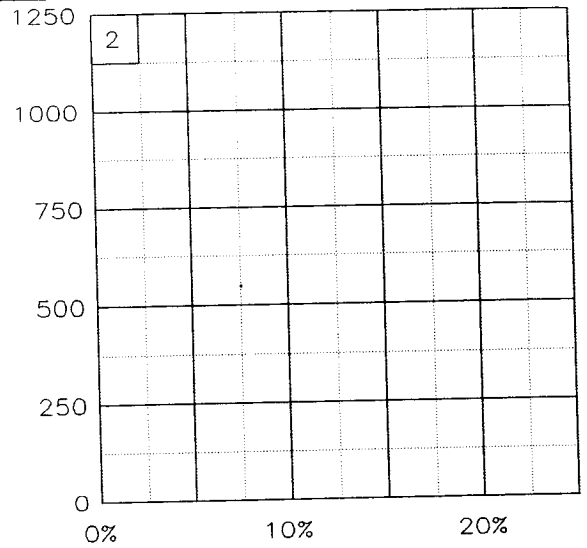
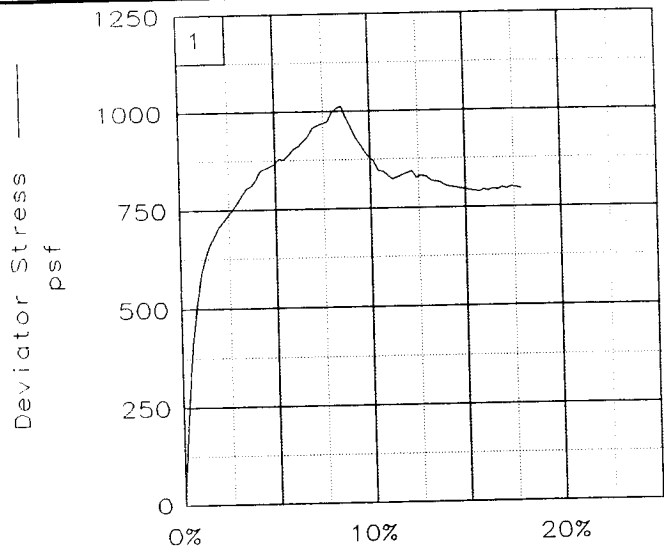
PROJ. NO.: 19080

DATE: 10/24/05

TRIAxIAL SHEAR TEST REPORT

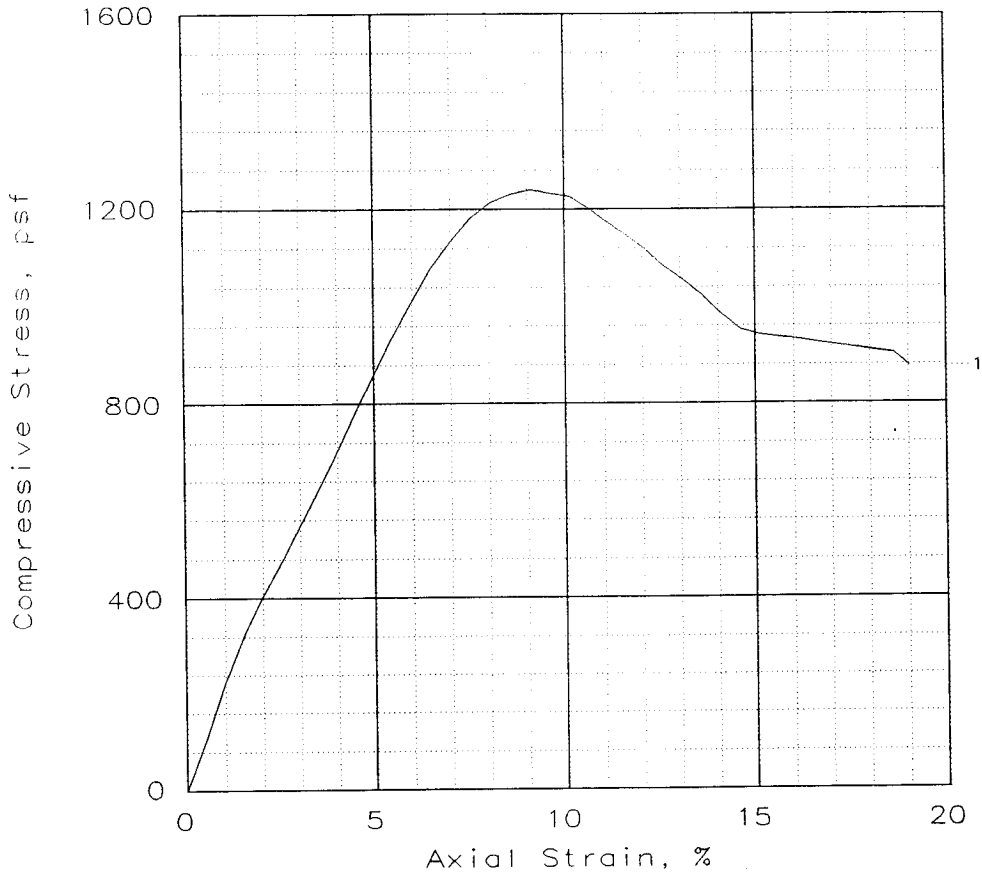
Eustis Engineering Company, Inc.

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 15-B, Depth 49.3', Elev -47.6  
 File: UU-25142 Project No.: 19080 Fig. No.: \_\_\_\_\_

## UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	1240			
Undrained shear strength, psf	620			
Failure strain, %	9.1			
Strain rate, in/min	0.0579			
Water content, %	60.4			
Wet density, pcf	99.5			
Dry density, pcf	62.0			
Saturation, %	94.1			
Void ratio	1.7574			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: M Gr CH4 w/ Ins SM, SIF

GS= 2.74

Type: Undisturbed

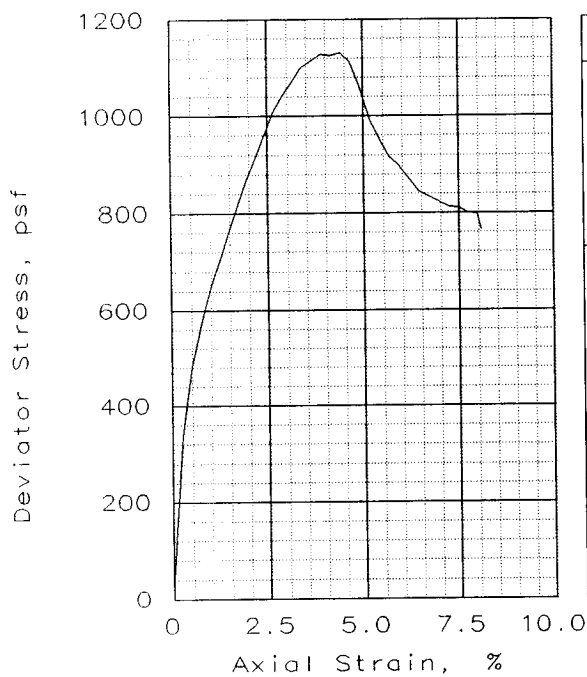
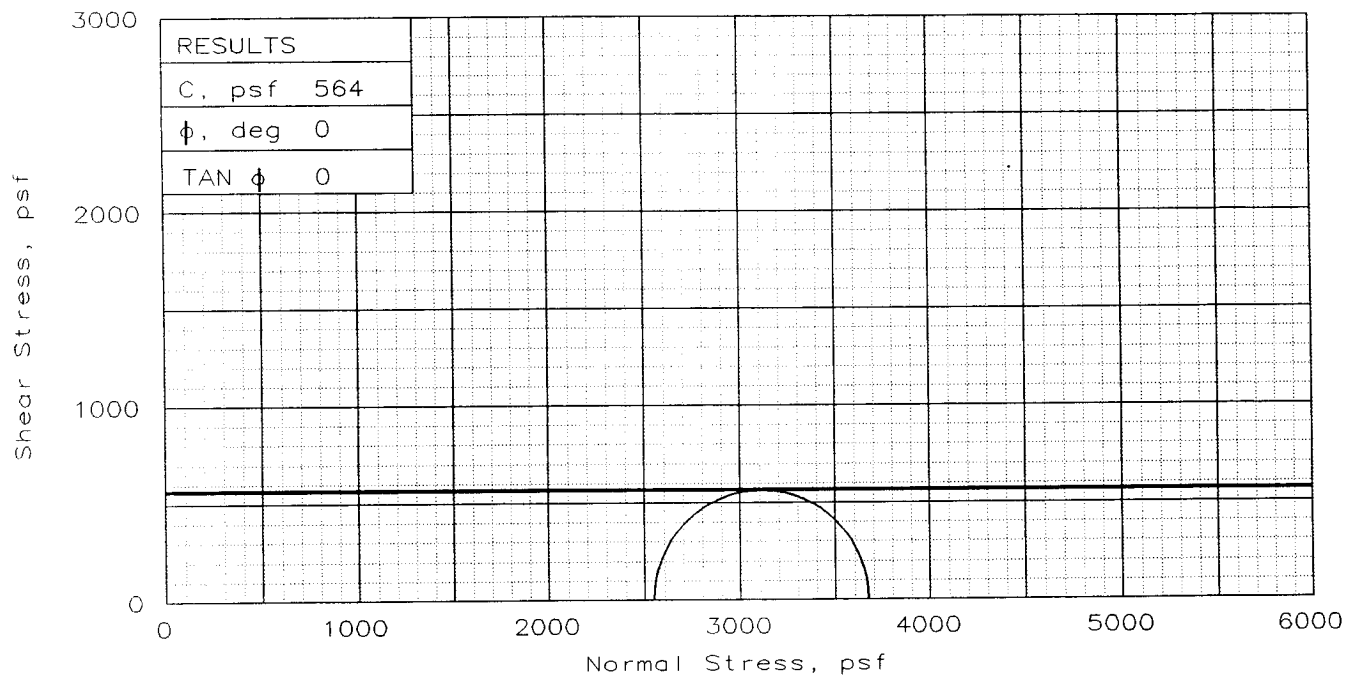
Project No.: 19080  
 Date: 10/24/05  
 Remarks:  
 Torvane = 0.350 tsf

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 Location: Boring 2,  
 Sample 16-A, Depth 50.3', Elev -48.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	63.9
	DRY DENSITY, pcf	59.8
	SATURATION, %	94.6
	VOID RATIO	1.838
	DIAMETER, in	1.39
AT TEST	HEIGHT, in	2.93
	WATER CONTENT, %	67.6
	DRY DENSITY, pcf	59.8
	SATURATION, %	100.0
	VOID RATIO	1.839
DIAMETER, in		1.39
HEIGHT, in		2.93
Strain rate, in/min		0.0287
BACK PRESSURE, psf		0
CELL PRESSURE, psf		2549
FAIL. STRESS, psf		1128
ULT. STRESS, psf		766
$\sigma_1$ FAILURE, psf		3677
$\sigma_3$ FAILURE, psf		2549

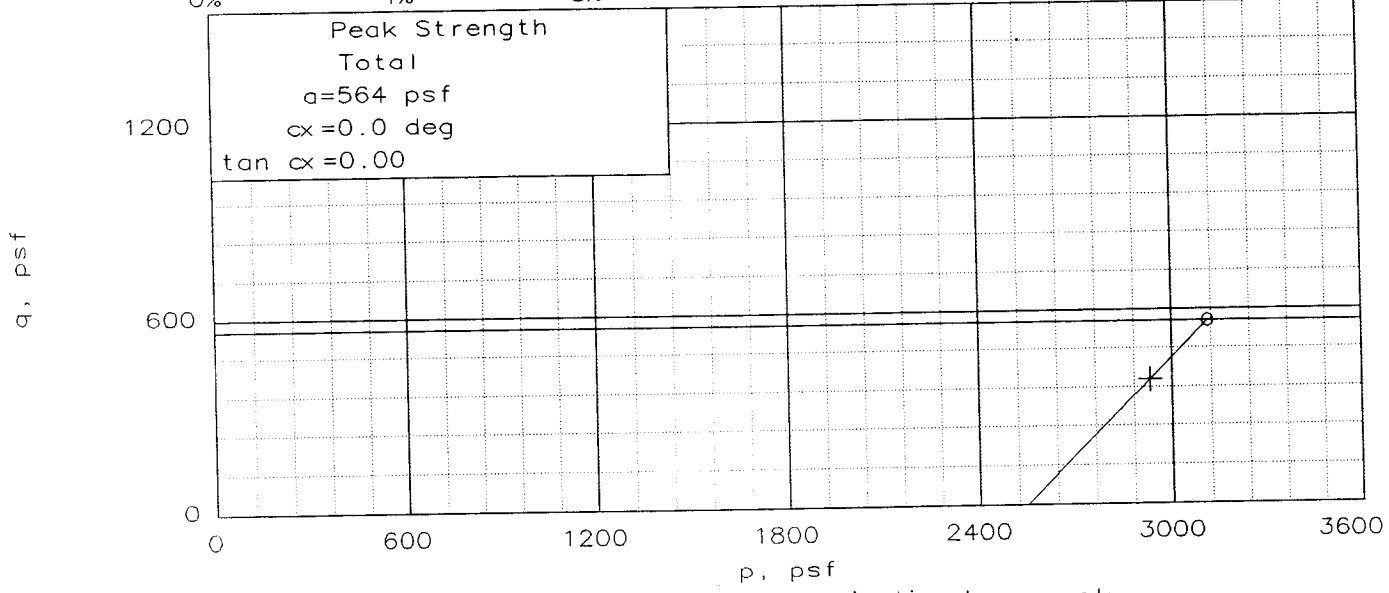
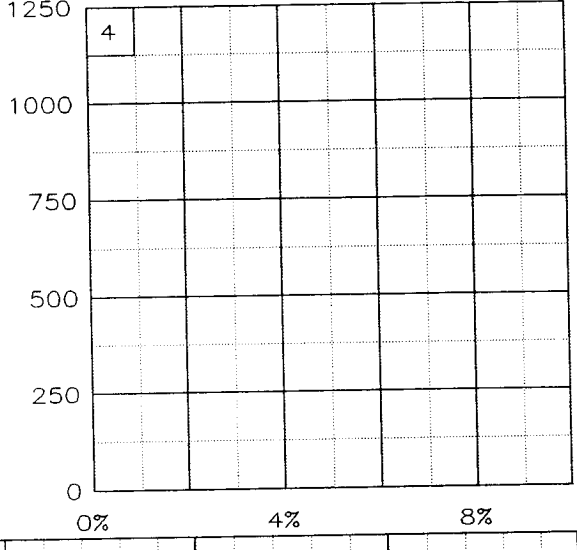
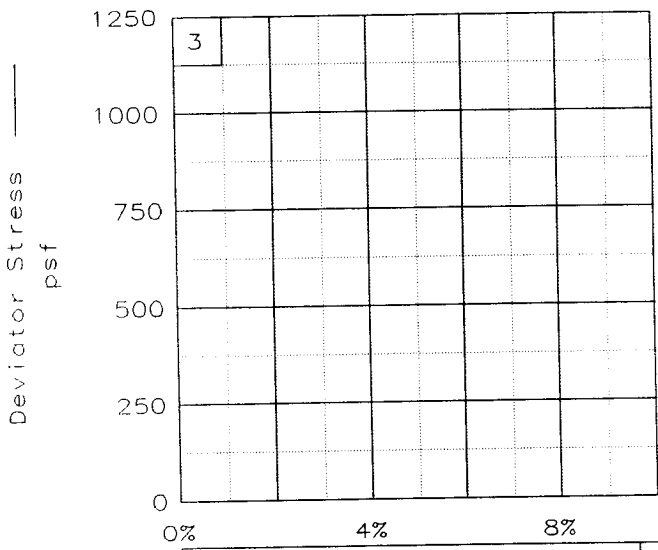
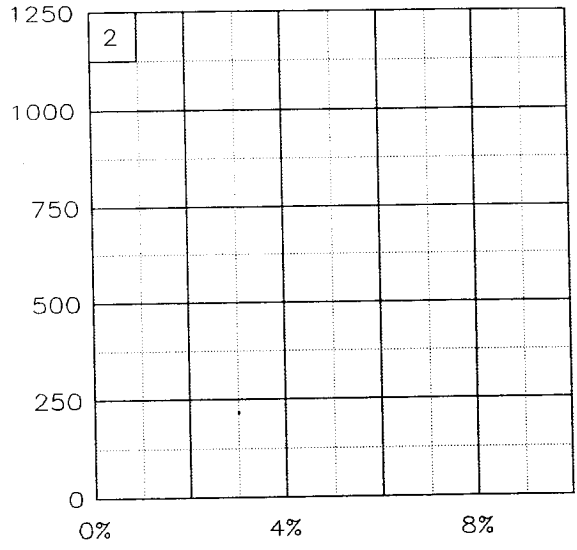
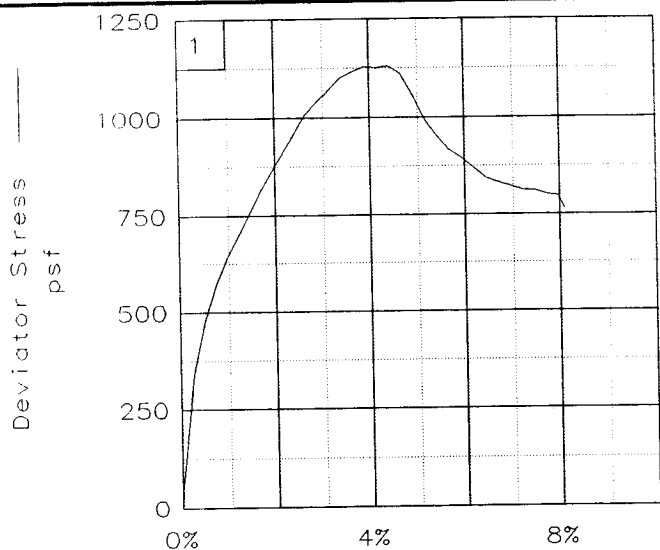
TYPE OF TEST:  
 Unconsolidated Undrained  
 SAMPLE TYPE: Undisturbed  
 DESCRIPTION: M Gr CH4  
 w/ ars SM, SIF, SL  
 LL= 75      PL= 23      PI= 52  
 SPECIFIC GRAVITY= 2.72  
 REMARKS: Torvane = 0.330 tsf

CLIENT: U.S. Army Corps of Engineers  
 PROJECT: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 SAMPLE LOCATION: Boring 2,  
 Sample 16-B, Depth 51.3', Elev -49.6  
 PROJ. NO.: 19080      DATE: 10/24/05

TRIAXIAL SHEAR TEST REPORT

Eustis Engineering Company, Inc.

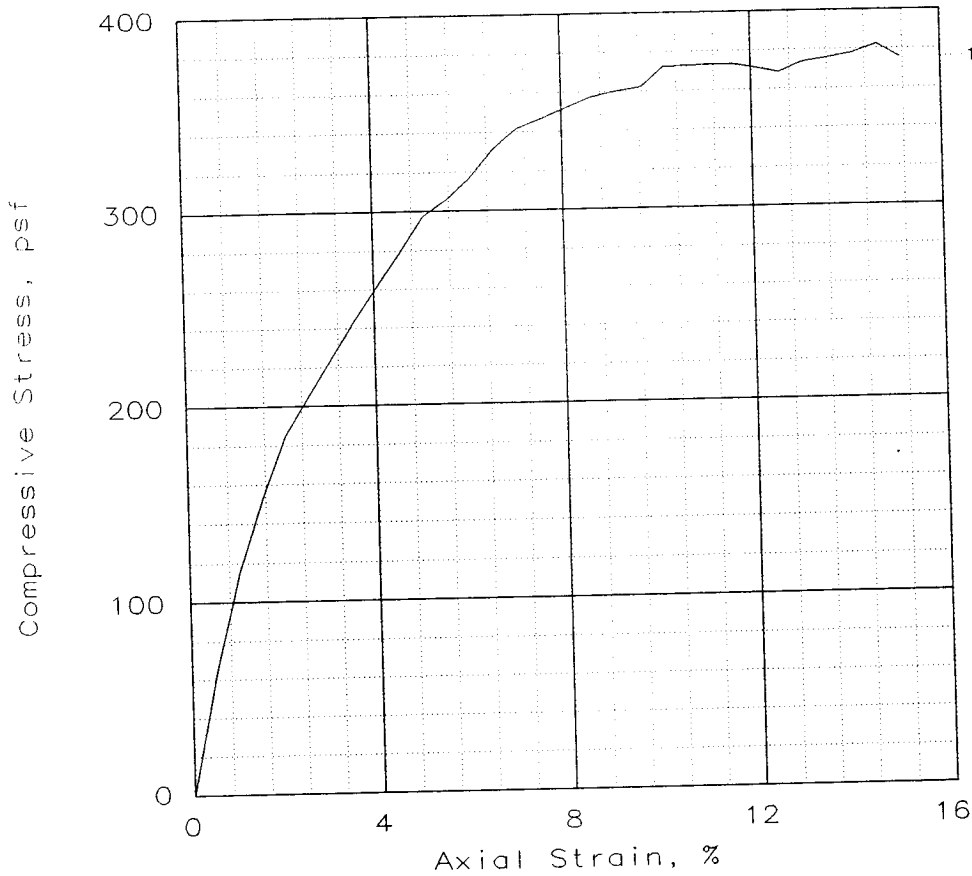
Fig. No.: \_\_\_\_\_



Stress Paths: + indicates end    ○ indicates peak

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 16-B, Depth 51.3', Elev -49.6  
 File: UU-25143      Project No.: 19080      Fig. No.: \_\_\_\_\_

# UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1		
Unconfined strength, psf	373		
Undrained shear strength, psf	186		
Failure strain, %	11.1		
Strain rate, in/min	0.0573		
Water content, %	57.3		
Wet density, pcf	100.3		
Dry density, pcf	63.8		
Saturation, %	93.7		
Void ratio	1.6628		
Specimen diameter, in	1.39		
Specimen height, in	2.93		
Height/diameter ratio	2.11		

Description: vSo Gr CH3 w/ ars SM, SIF

GS= 2.72

Type: Undisturbed

Project No.: 19080  
 Date: 9-29-05  
 Remarks:  
 Torvane = 0.240 tsf

Client: U.S. Army Corps of Engineers

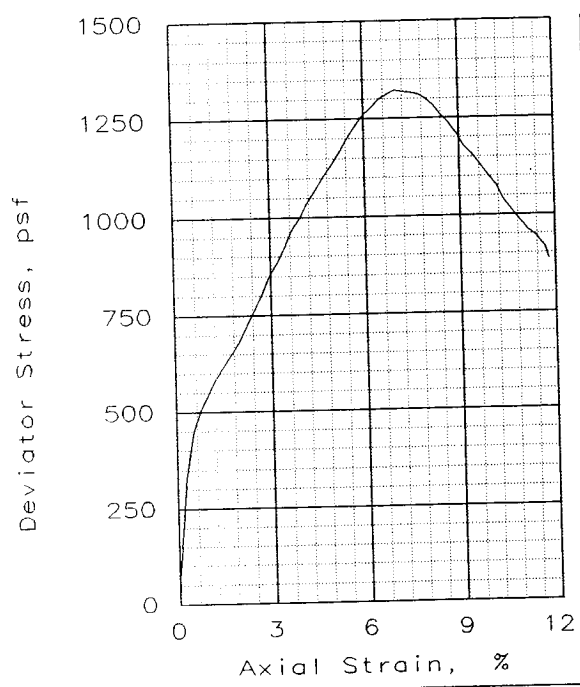
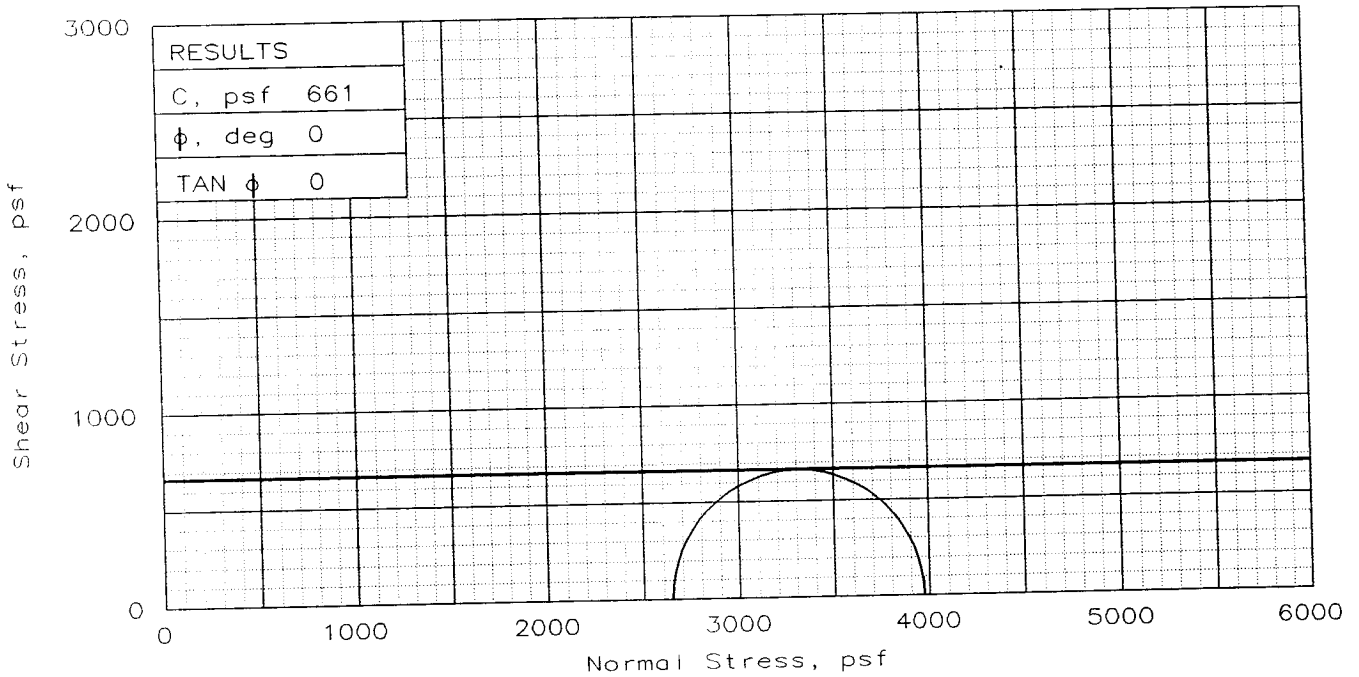
Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal

Location: Boring 2,  
 Sample 17A, Depth 52.3', Elev. -50.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	58.9
	DRY DENSITY, pcf	63.3
	SATURATION, %	95.3
	VOID RATIO	1.681
	DIAMETER, in	1.39
AT TEST	HEIGHT, in	2.93
	WATER CONTENT, %	61.7
	DRY DENSITY, pcf	63.4
	SATURATION, %	100.0
	VOID RATIO	1.679
	DIAMETER, in	1.39
	HEIGHT, in	2.93
	Strain rate, in/min	0.0286
	BACK PRESSURE, psf	0
	CELL PRESSURE, psf	2650
	FAIL. STRESS, psf	1322
	ULT. STRESS, psf	886
	$\sigma_1$ FAILURE, psf	3972
	$\sigma_3$ FAILURE, psf	2650

TYPE OF TEST:  
Unconsolidated Undrained

SAMPLE TYPE: Undisturbed

DESCRIPTION: M Gr CH3  
w/ ars SM, SIF, SL

SPECIFIC GRAVITY= 2.72

REMARKS: Torvane = 0.350 tsf

Fig. No.: \_\_\_\_\_

CLIENT: U.S. Army Corps of Engineers

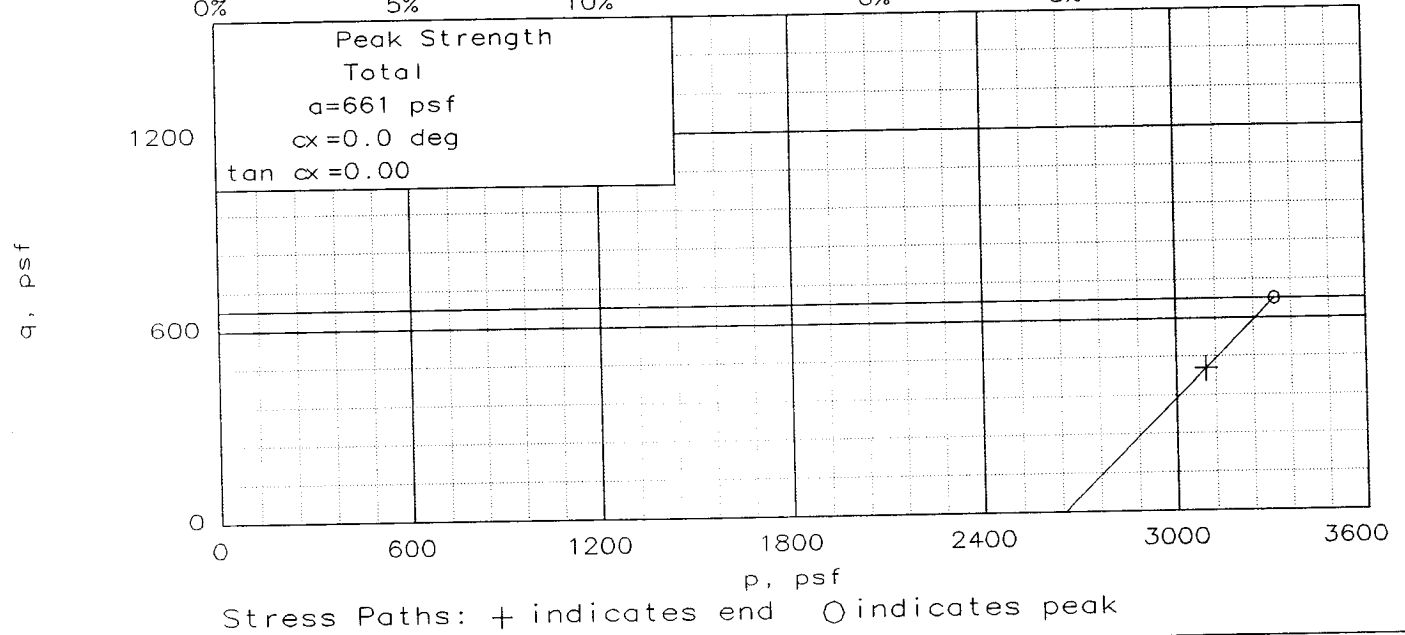
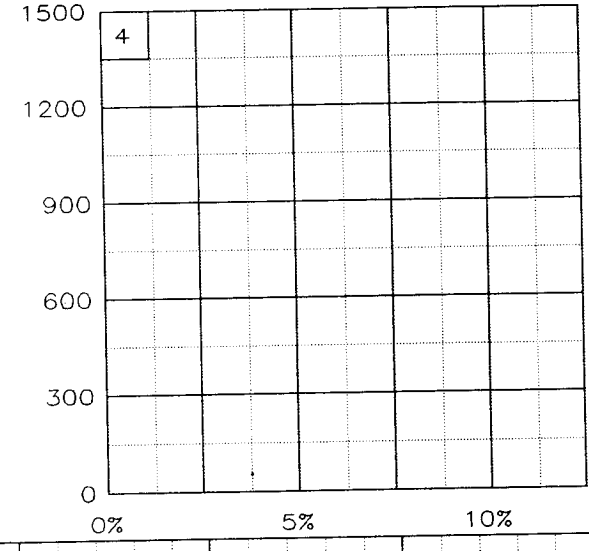
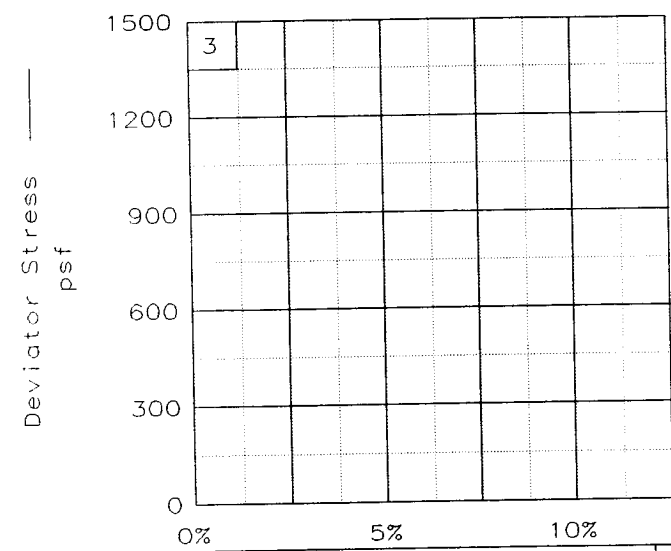
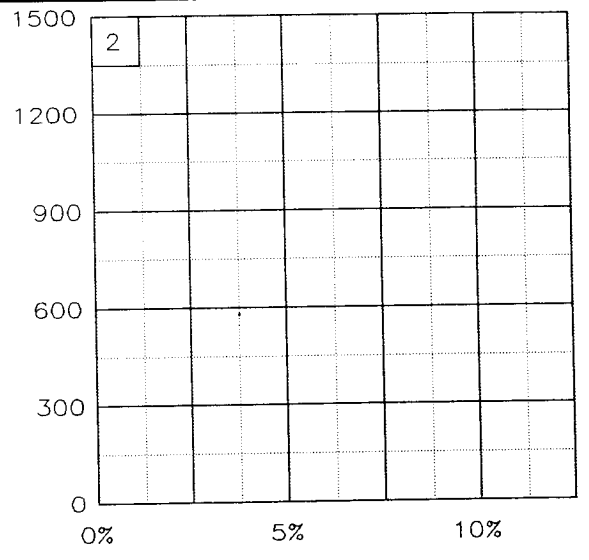
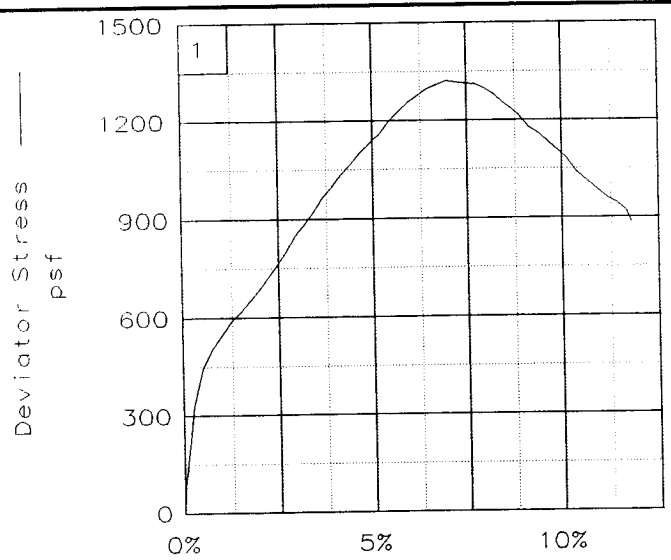
PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal

SAMPLE LOCATION: Boring 2,  
Sample 17-B, Depth 53.3', Elev -51.6

PROJ. NO.: 19080                      DATE: 10/24/05

TRIAXIAL SHEAR TEST REPORT

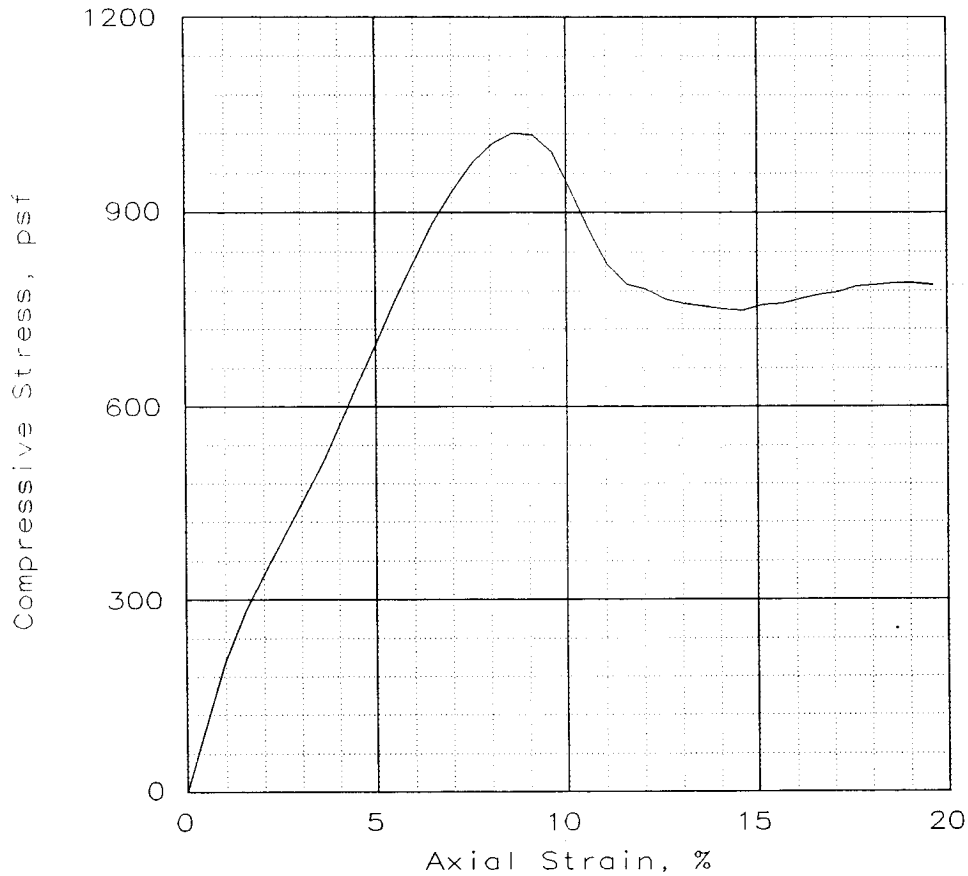
**Eustis Engineering Company, Inc.**



Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 17-B, Depth 53.3', Elev -51.6  
 File: UU-25144      Project No.: 19080      Fig. No.: \_\_\_\_\_



## UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	1022			
Undrained shear strength, psf	511			
Failure strain, %	8.6			
Strain rate, in/min	0.0580			
Water content, %	50.6			
Wet density, pcf	104.1			
Dry density, pcf	69.1			
Saturation, %	94.5			
Void ratio	1.4580			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: M Gr CH4 w/ ars SM, SL

GS= 2.72

Type: Undisturbed

Project No.: 19080

Date: 10/24/05

Remarks:

Torvane = 0.300 tsf

Client: U.S. Army Corps of Engineers

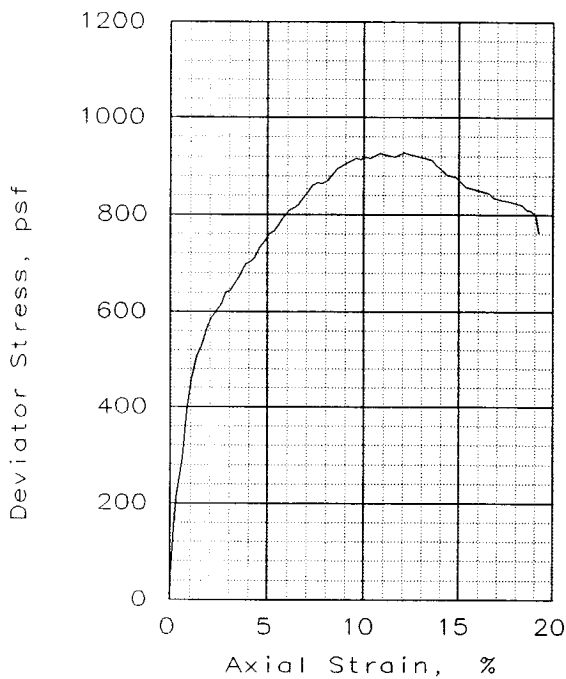
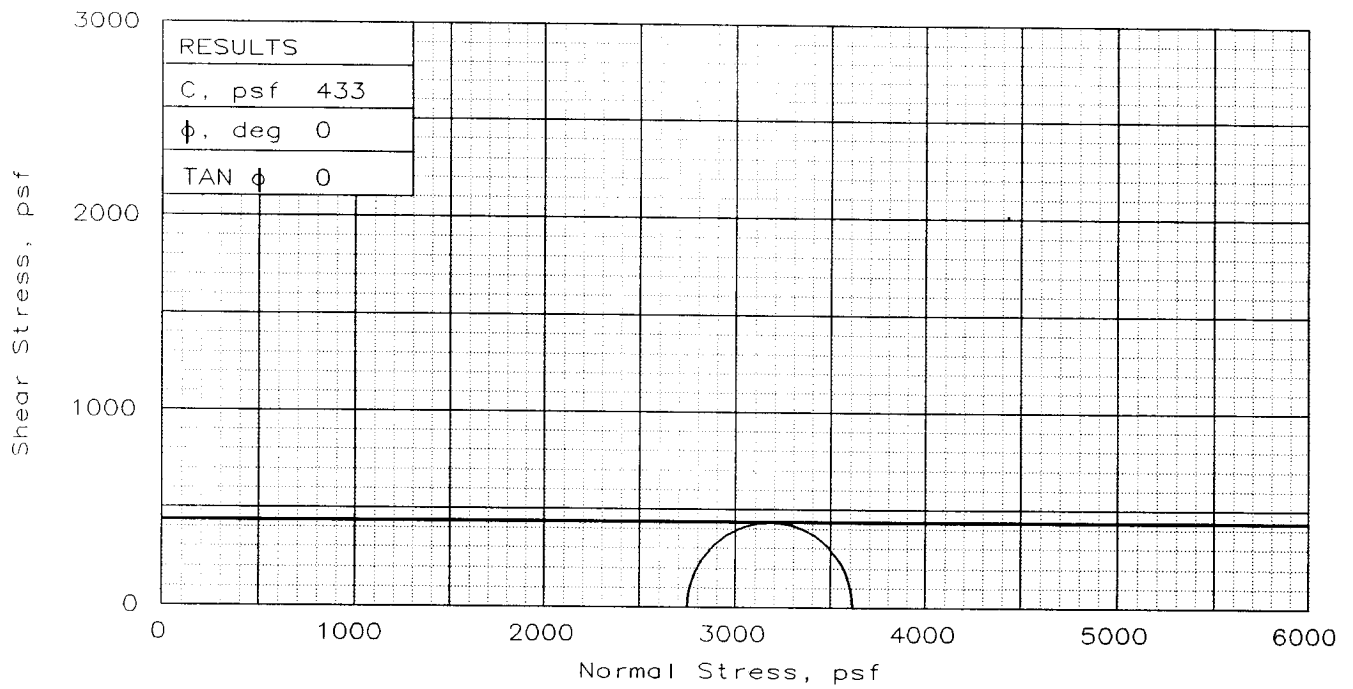
Project: Repairs to Levees and Floodwalls  
at the 17th Street Canal

Location: Boring 2,  
Sample 18-A, Depth 54.3', Elev -52.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	63.5
	DRY DENSITY, pcf	60.8
	SATURATION, %	96.2
	VOID RATIO	1.795
	DIAMETER, in	1.39
	HEIGHT, in	2.93
AT TEST	WATER CONTENT, %	66.1
	DRY DENSITY, pcf	60.7
	SATURATION, %	100.0
	VOID RATIO	1.798
	DIAMETER, in	1.39
	HEIGHT, in	2.93
Strain rate, in/min		0.0291
BACK PRESSURE, psf		0
CELL PRESSURE, psf		2750
FAIL. STRESS, psf		865
ULT. STRESS, psf		763
$\sigma_1$ FAILURE, psf		3616
$\sigma_3$ FAILURE, psf		2750

TYPE OF TEST:  
Unconsolidated Undrained

SAMPLE TYPE: Undisturbed

DESCRIPTION: So Gr CH4  
w/ ars SM, SIF

LL= 80      PL= 22      PI= 58

SPECIFIC GRAVITY= 2.72

REMARKS: Torvane = 0.300 tsf

CLIENT: U.S. Army Corps of Engineers

PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal

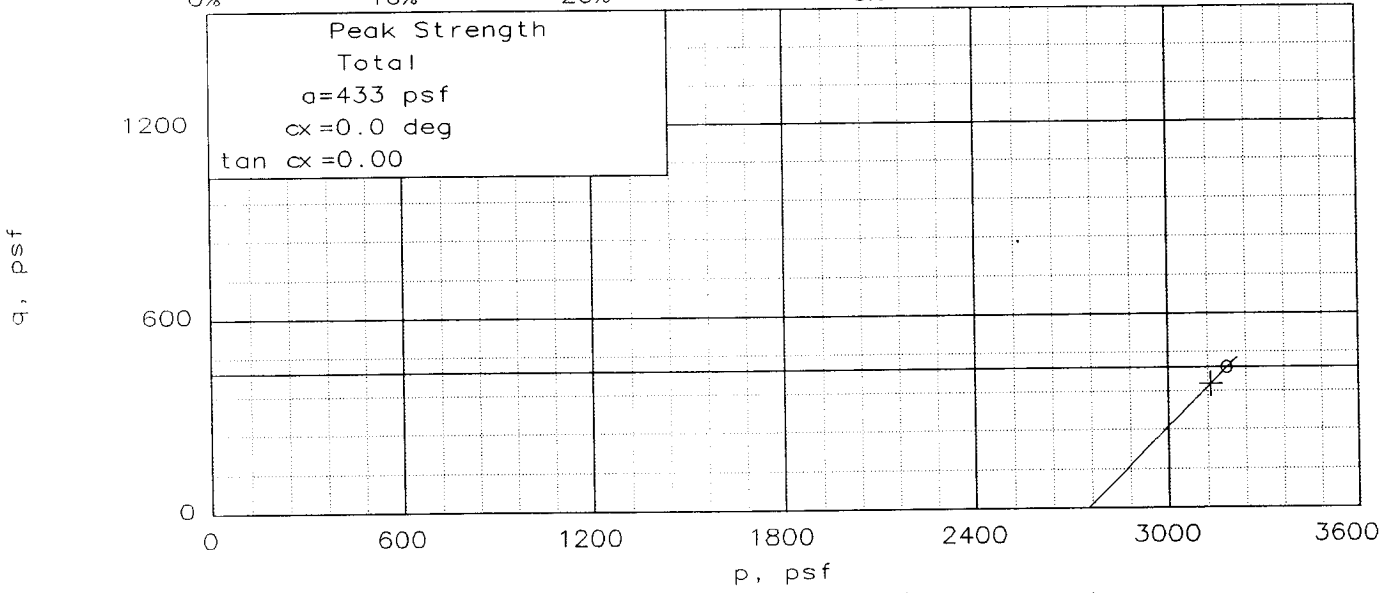
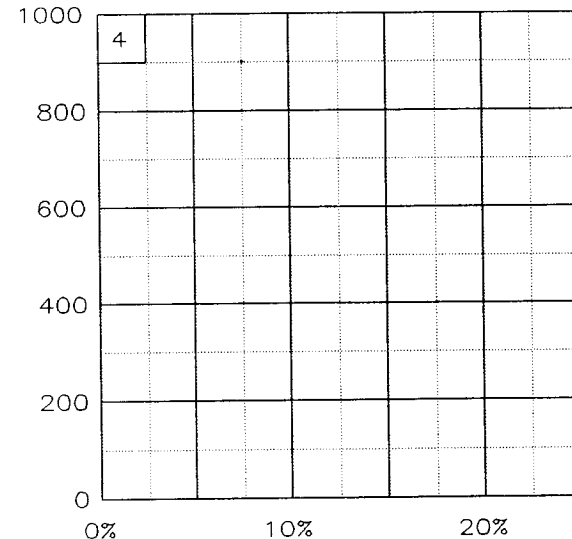
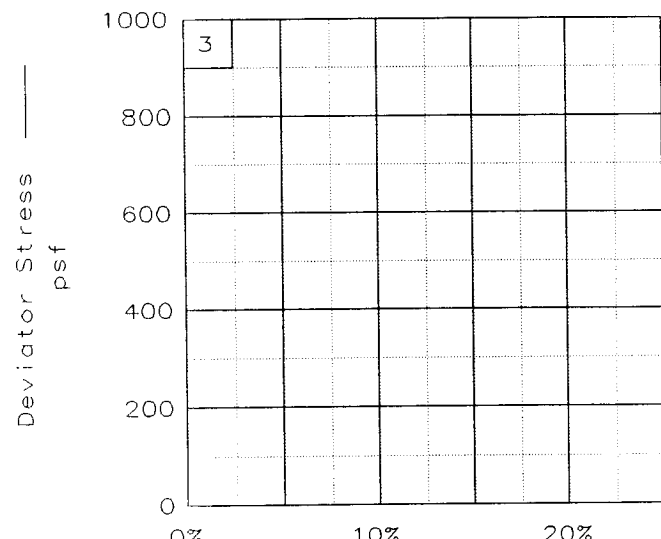
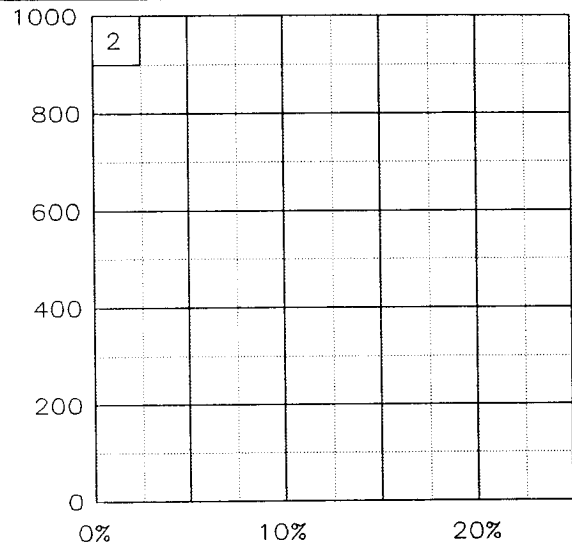
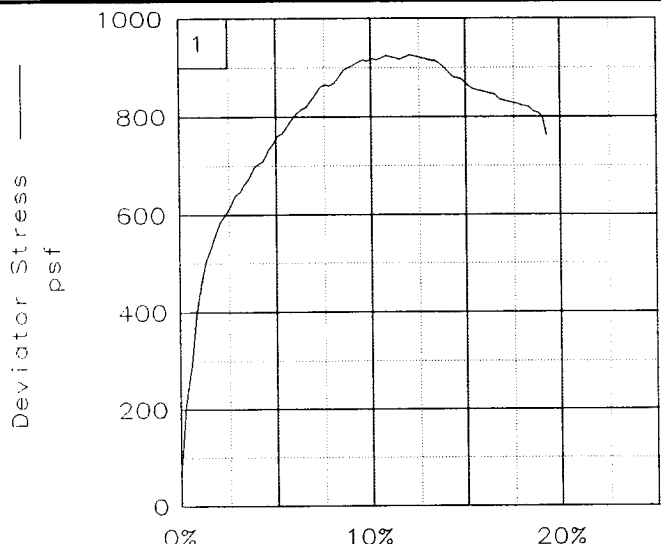
SAMPLE LOCATION: Boring 2,  
Sample 18-B, Depth 55.3', Elev -53.6

PROJ. NO.: 19080      DATE: 10/24/05

TRIAxIAL SHEAR TEST REPORT

Eustis Engineering Company, Inc.

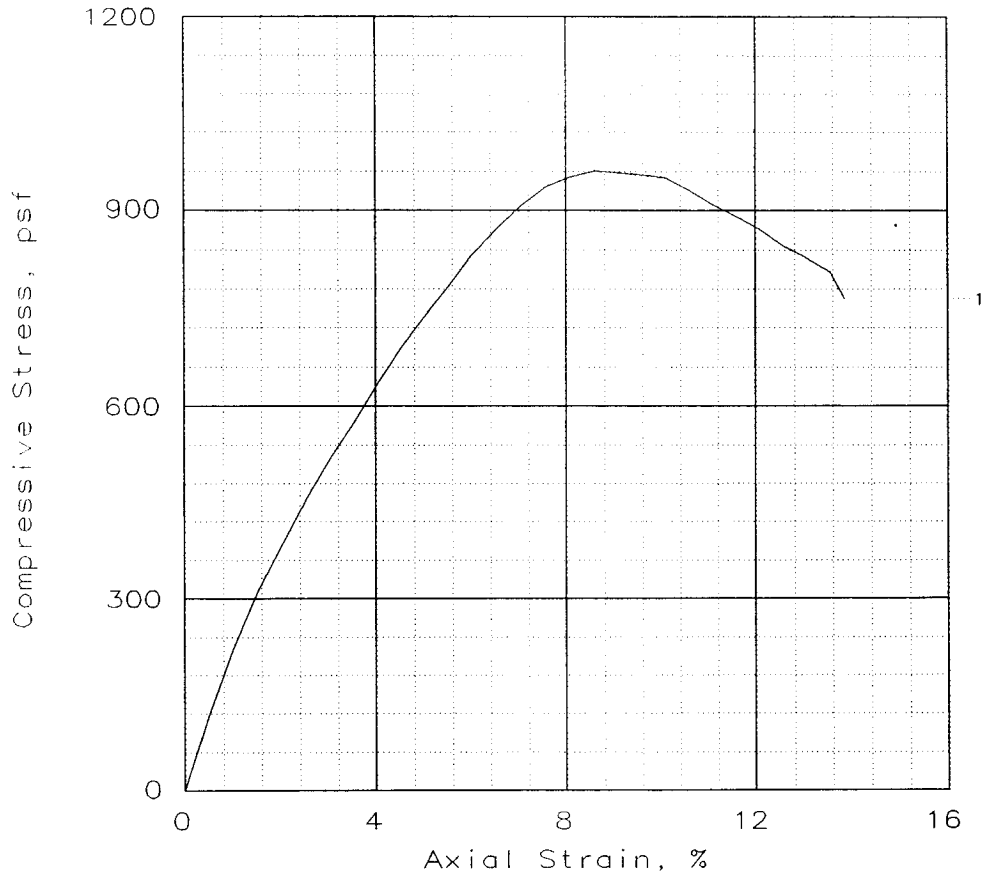
Fig. No.: \_\_\_\_\_



Stress Paths: + indicates end    ○ indicates peak

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 18-B, Depth 55.3', Elev -53.6  
 File: UU-25145      Project No.: 19080      Fig. No.: \_\_\_\_\_

## UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	961			
Undrained shear strength, psf	480			
Failure strain, %	8.6			
Strain rate, in/min	0.0575			
Water content, %	58.8			
Wet density, pcf	100.7			
Dry density, pcf	63.4			
Saturation, %	95.0			
Void ratio	1.6961			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: So Gr CH3 w/ Ins ML, SIF

GS= 2.74

Type: Undisturbed

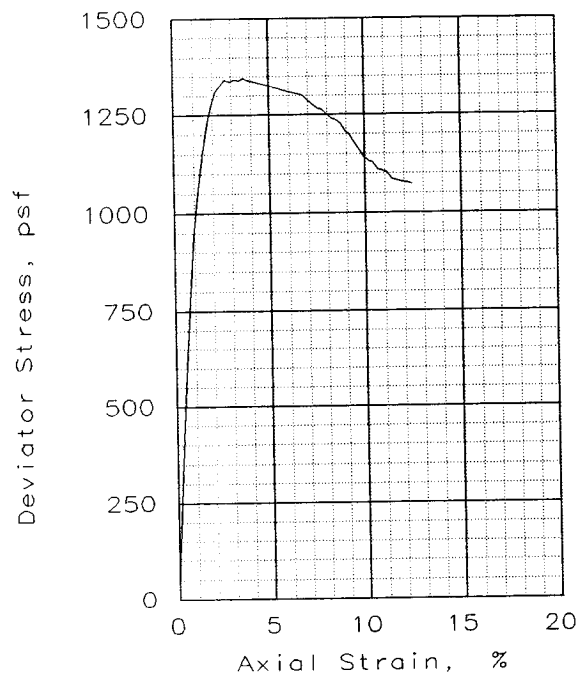
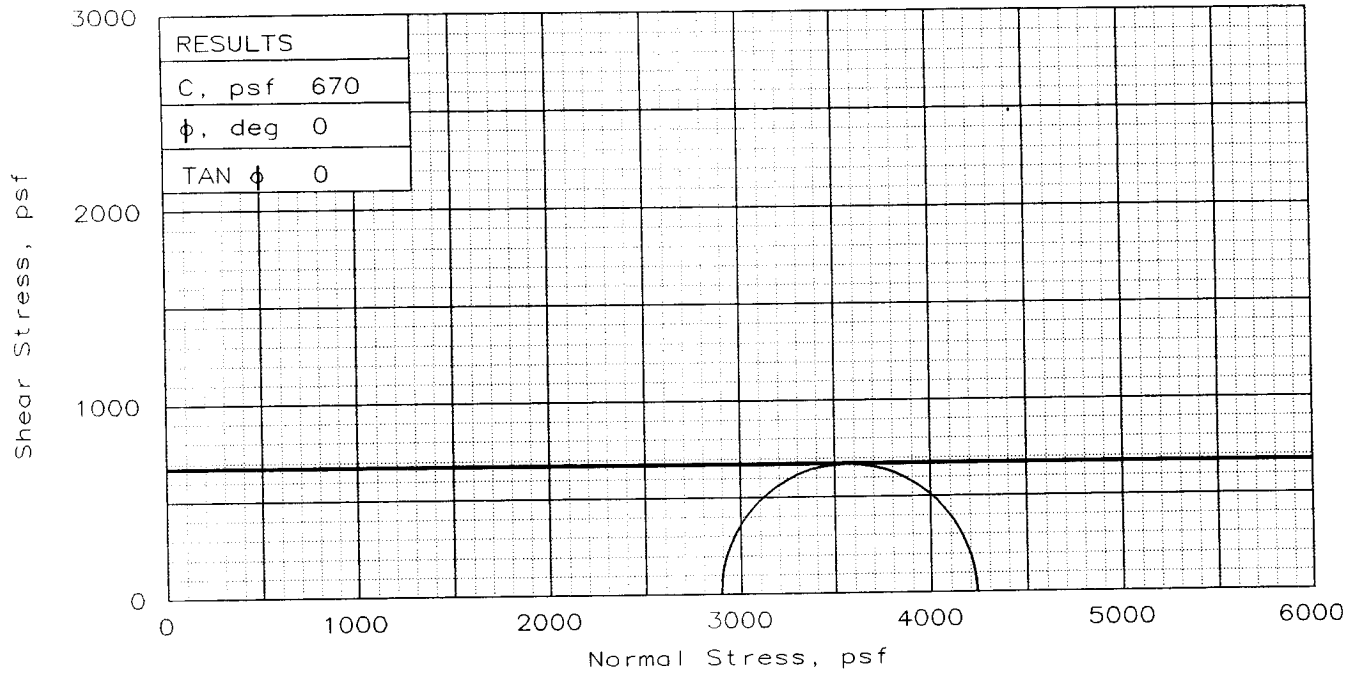
Project No.: 19080  
 Date: 9-29-05  
 Remarks:  
 Torvane = 0.200 tsf

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 Location: Boring 2,  
 Sample 19A, Depth 56.3', Elev. -54.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	60.8
	DRY DENSITY, pcf	62.6
	SATURATION, %	96.1
	VOID RATIO	1.733
	DIAMETER, in	1.39
	HEIGHT, in	2.93
AT TEST	WATER CONTENT, %	63.3
	DRY DENSITY, pcf	62.6
	SATURATION, %	100.0
	VOID RATIO	1.735
	DIAMETER, in	1.39
	HEIGHT, in	2.93
Strain rate, in/min		0.0289
BACK PRESSURE, psf		0
CELL PRESSURE, psf		2894
FAIL. STRESS, psf		1341
ULT. STRESS, psf		1072
$\sigma_1$ FAILURE, psf		4235
$\sigma_3$ FAILURE, psf		2894

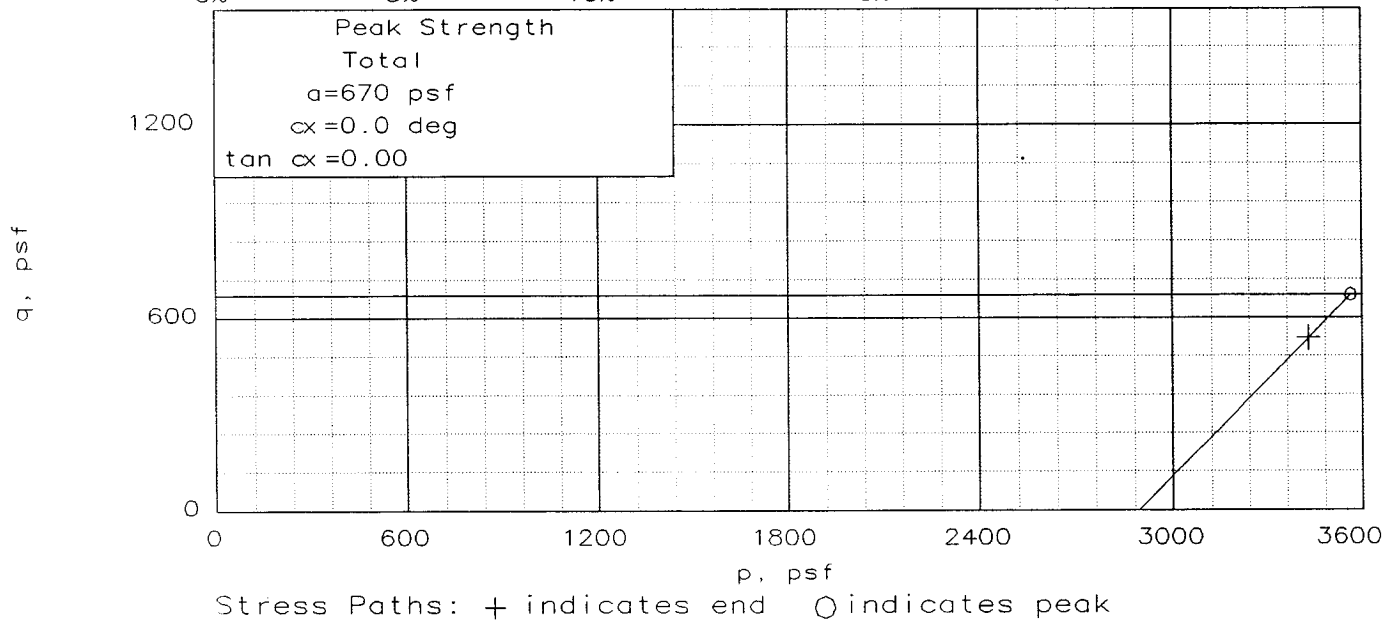
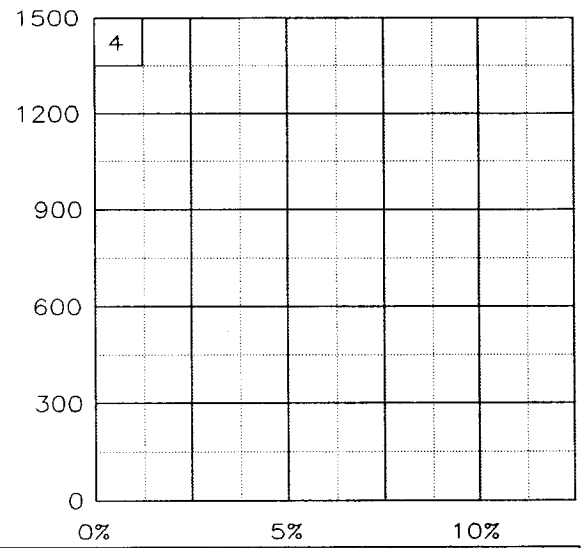
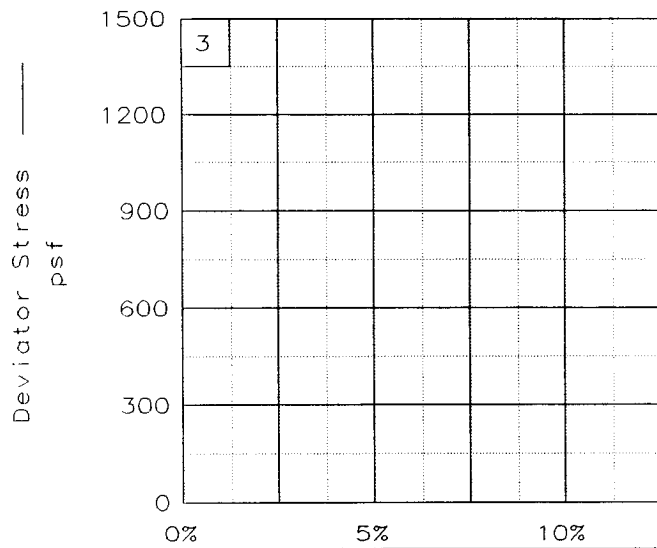
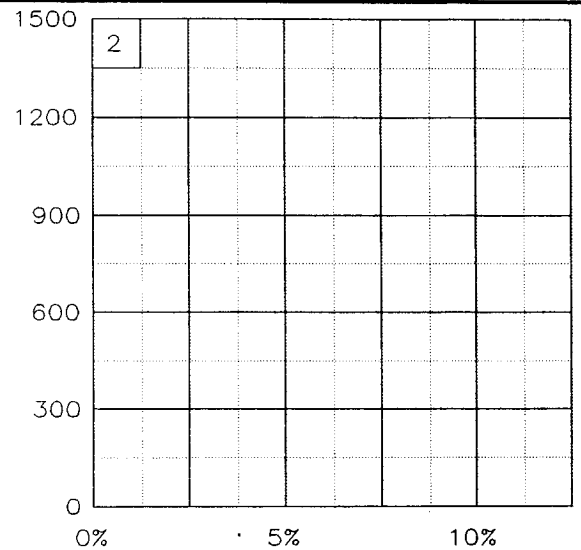
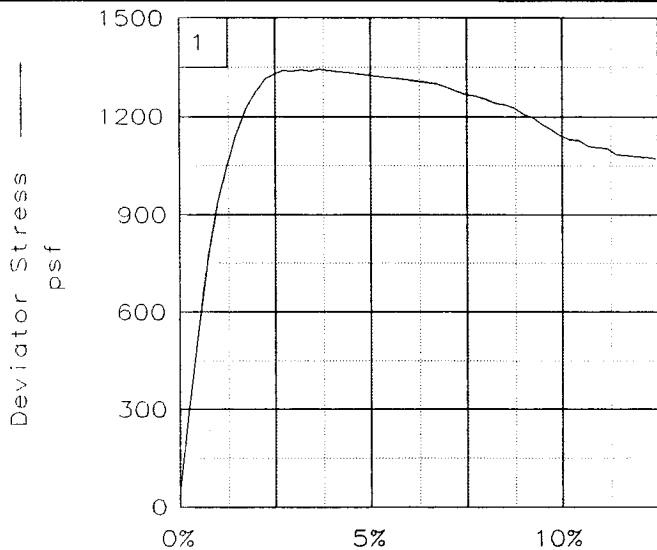
TYPE OF TEST:  
Unconsolidated Undrained  
SAMPLE TYPE: Undisturbed  
DESCRIPTION: M Gr CH4  
w/ SL, SIF  
SPECIFIC GRAVITY= 2.74  
REMARKS: Torvane = 0.360 tsf

CLIENT: U.S. Army Corps of Engineers  
PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal  
SAMPLE LOCATION: Boring 2,  
Sample 20-A, Depth 58.3', Elev -56.6  
PROJ. NO.: 19080 DATE: 10/24/05

TRIAxIAL SHEAR TEST REPORT

Eustis Engineering Company, Inc.

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls at the 17th Street Canal

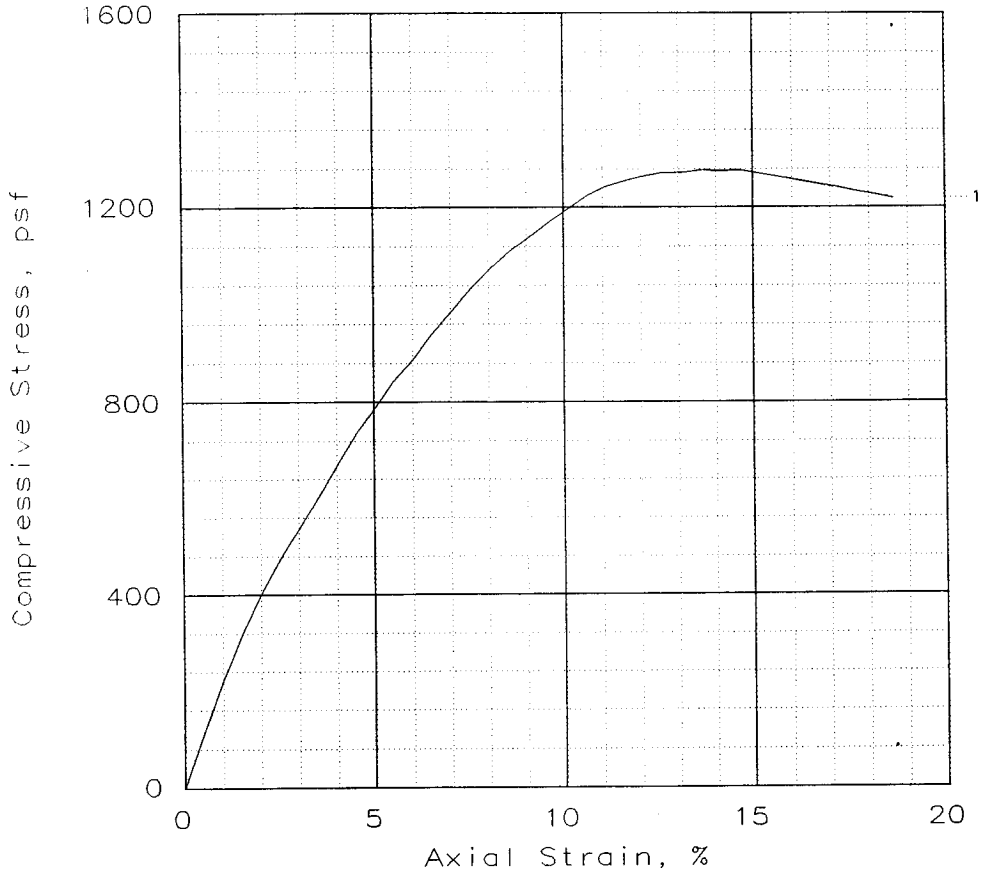
Location: Boring 2, Sample 20-A, Depth 58.3', Elev -56.6

File: UU-25146

Project No.: 19080

Fig. No.: \_\_\_\_\_

## UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	1272			
Undrained shear strength, psf	636			
Failure strain, %	12.6			
Strain rate, in/min	0.0578			
Water content, %	47.4			
Wet density, pcf	105.9			
Dry density, pcf	71.9			
Saturation, %	94.1			
Void ratio	1.3791			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: M Gr CH4 w/ Ins ML

GS= 2.74

Type: Undisturbed

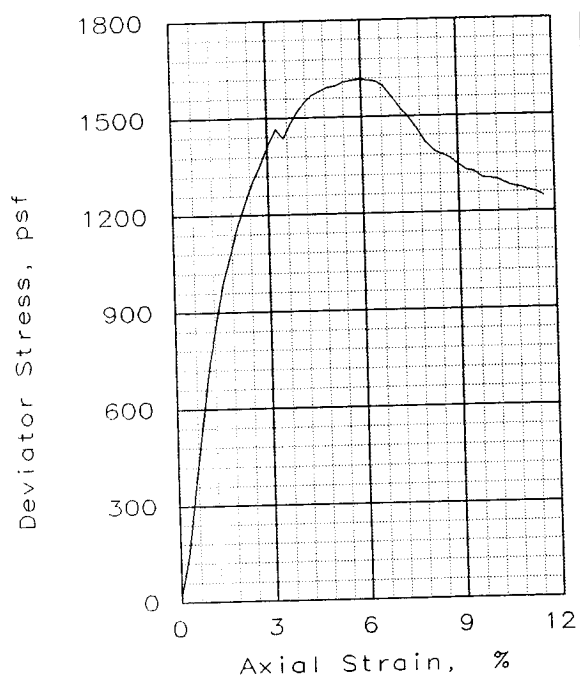
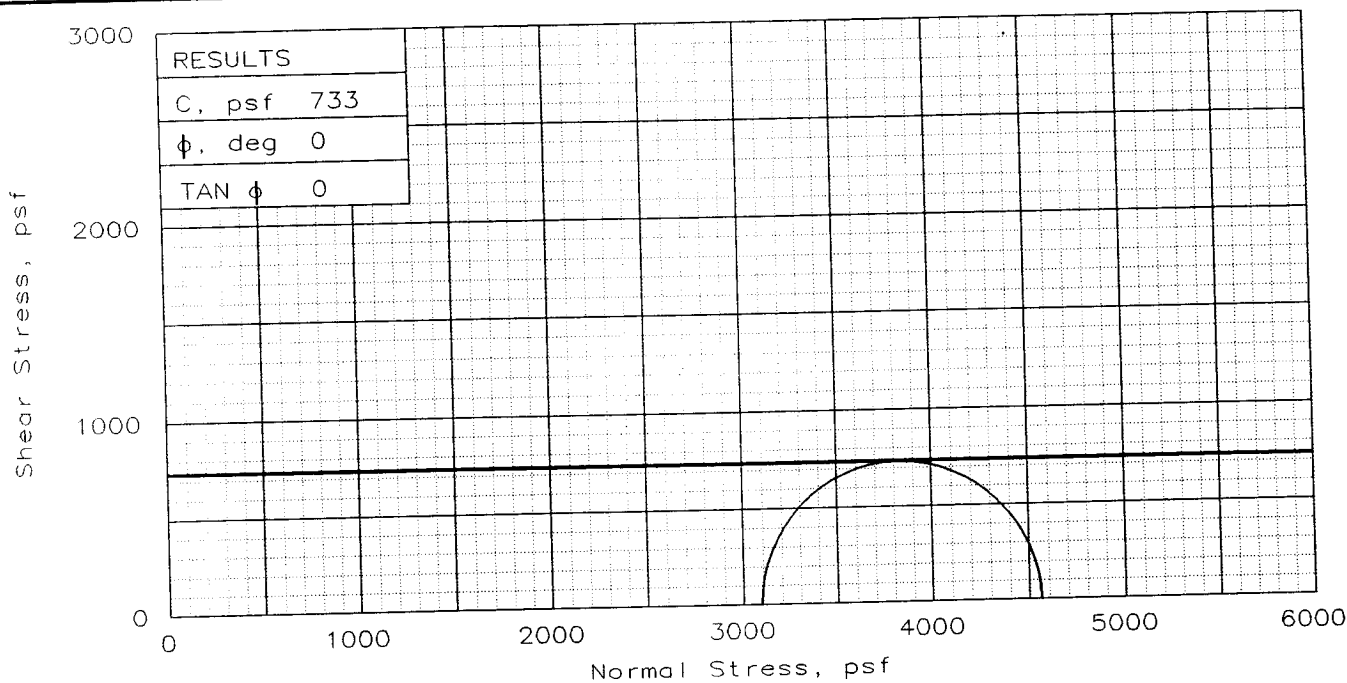
Project No.: 19080  
 Date: 9-29-05  
 Remarks:  
 Torvane = 0.270 tsf

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 Location: Boring 2,  
 Sample 21A, Depth 60.3', Elev. -58.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	55.2
	DRY DENSITY, pcf	65.8
	SATURATION, %	95.0
	VOID RATIO	1.580
	DIAMETER, in	1.39
AT TEST	HEIGHT, in	2.93
	WATER CONTENT, %	58.0
	DRY DENSITY, pcf	65.9
SATURATION, %		100.0
VOID RATIO		1.578
DIAMETER, in		1.39
HEIGHT, in		2.93
Strain rate, in/min		0.0287
BACK PRESSURE, psf		0
CELL PRESSURE, psf		3096
FAIL. STRESS, psf		1466
ULT. STRESS, psf		1248
$\sigma_1$ FAILURE, psf		4562
$\sigma_3$ FAILURE, psf		3096

TYPE OF TEST:  
Unconsolidated Undrained

SAMPLE TYPE: Undisturbed

DESCRIPTION: M Gr CH4  
w/ ars SM, SIF

LL= 81      PL= 22      PI= 59

SPECIFIC GRAVITY= 2.72

REMARKS: Torvane = 0.400 tsf

Fig. No.: \_\_\_\_\_

CLIENT: U.S. Army Corps of Engineers

PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal

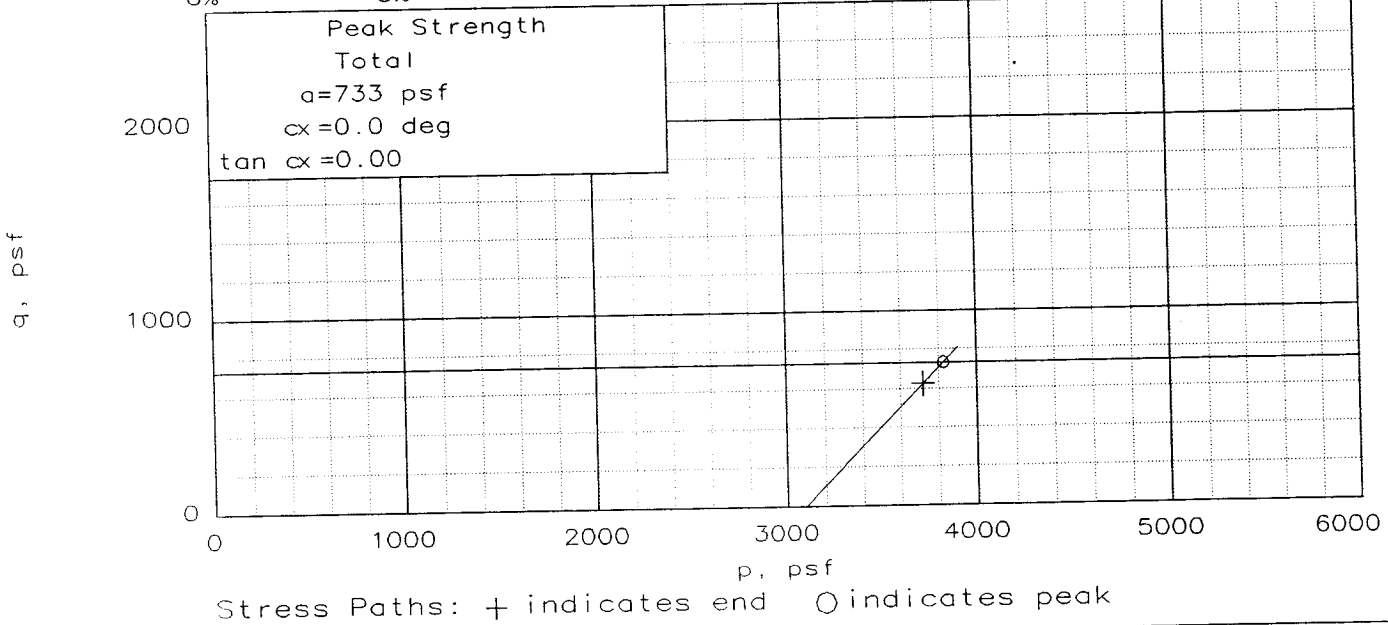
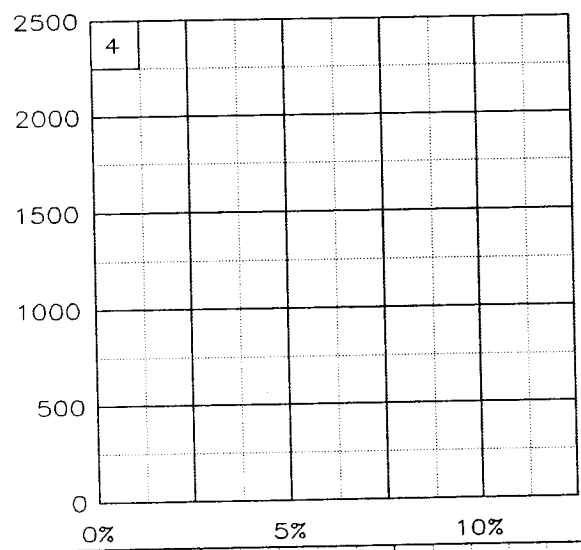
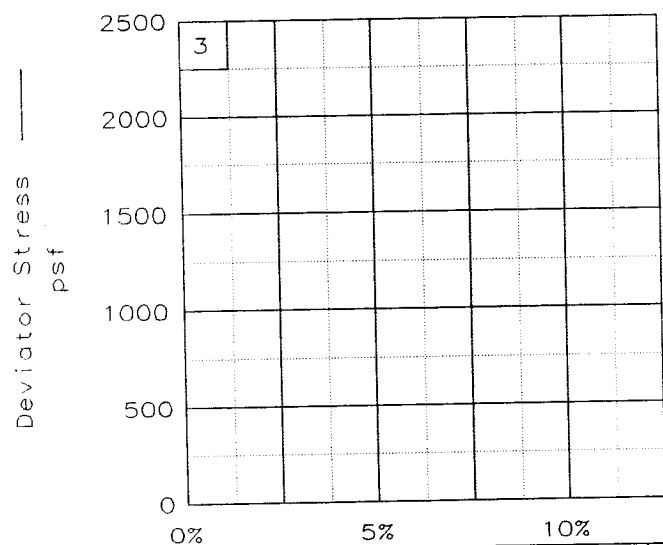
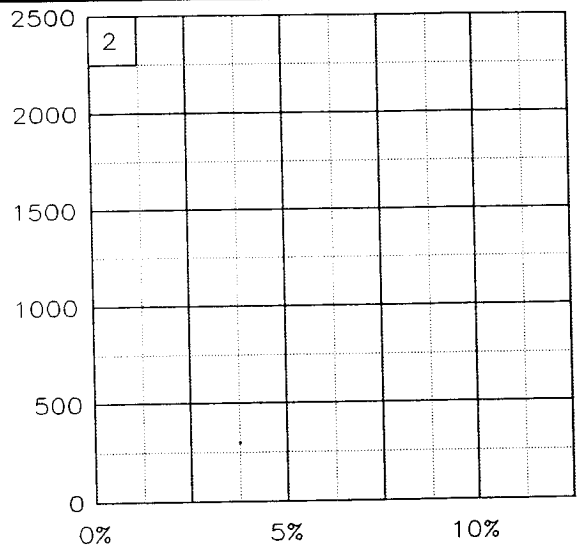
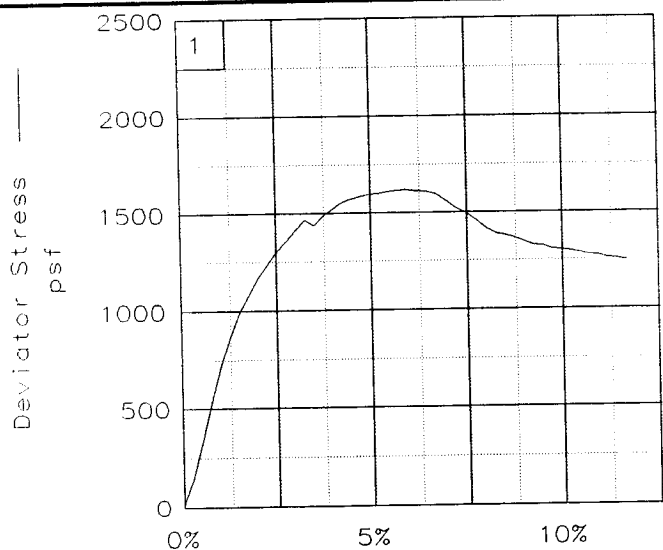
SAMPLE LOCATION: Boring 2,  
Sample 22-A, Depth 62.3', Elev -60.6

PROJ. NO.: 19080      DATE: 10/24/05

TRIAXIAL SHEAR TEST REPORT

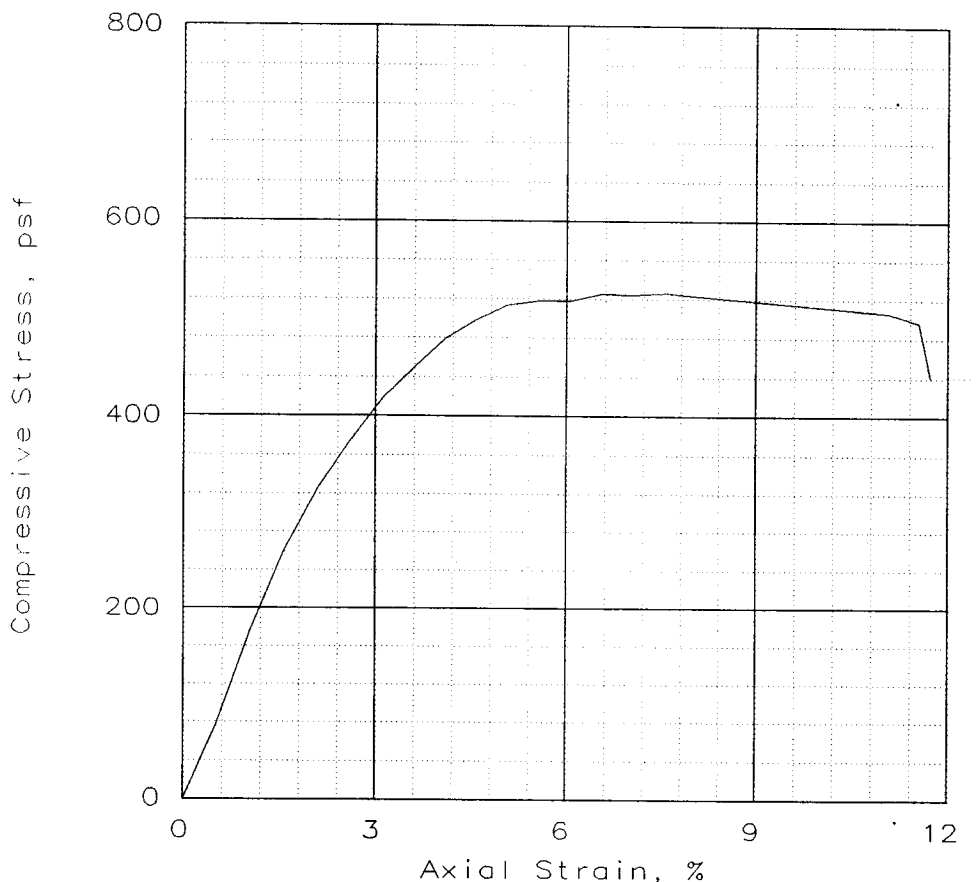
**Eustis Engineering Company, Inc.**





Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 22-A, Depth 62.3', Elev -60.6  
 File: UU-25147      Project No.: 19080      Fig. No.: \_\_\_\_\_

## UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1		
Unconfined strength, psf	525		
Undrained shear strength, psf	262		
Failure strain, %	6.5		
Strain rate, in/min	0.0564		
Water content, %	52.1		
Wet density, pcf	100.8		
Dry density, pcf	66.3		
Saturation, %	90.6		
Void ratio	1.5621		
Specimen diameter, in	1.39		
Specimen height, in	2.93		
Height/diameter ratio	2.11		

Description: So Gr CH3 w/ ars ML, SIF, SL

GS= 2.72

Type: Undisturbed

Project No.: 19080

Date: 9-29-05

Remarks:

Torvane = 0.230 tsf

Client: U.S. Army Corps of Engineers

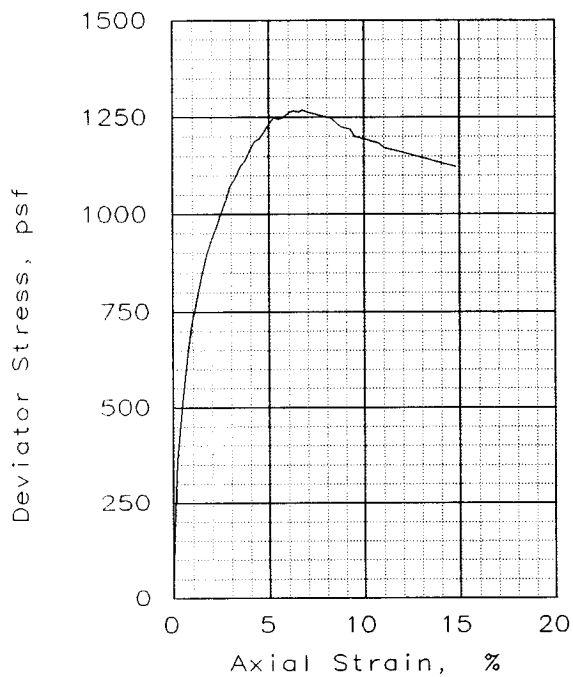
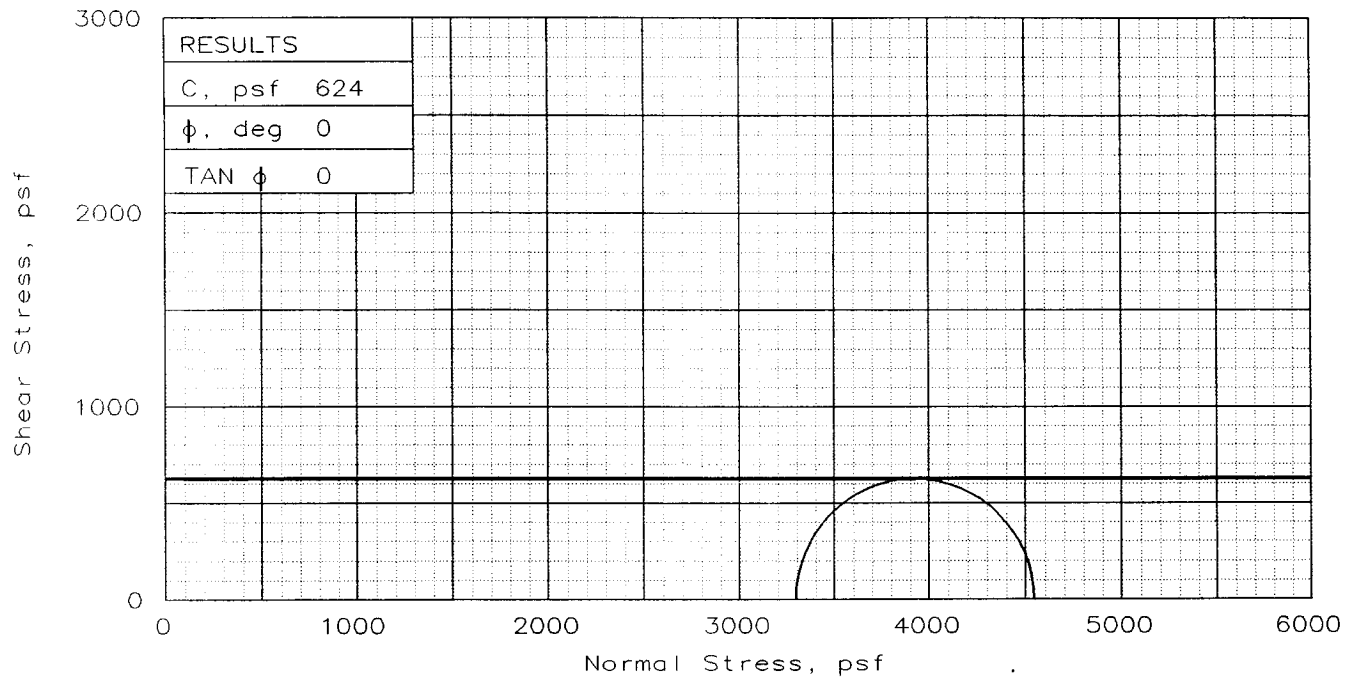
Project: Repairs to Levees and Floodwalls  
at the 17th Street Canal

Location: Boring 2,  
Sample 23A, Depth 64.3', Elev. -62.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	43.8
	DRY DENSITY, pcf	74.5
	SATURATION, %	92.5
	VOID RATIO	1.297
	DIAMETER, in	1.39
AT TEST	HEIGHT, in	2.93
	WATER CONTENT, %	47.3
	DRY DENSITY, pcf	74.5
	SATURATION, %	100.0
	VOID RATIO	1.295
DIAMETER, in	1.39	
HEIGHT, in	2.93	
Strain rate, in/min		0.0290
BACK PRESSURE, psf		0
CELL PRESSURE, psf		3298
FAIL. STRESS, psf		1248
ULT. STRESS, psf		1123
$\sigma_1$ FAILURE, psf		4546
$\sigma_3$ FAILURE, psf		3298

TYPE OF TEST:  
Unconsolidated Undrained

SAMPLE TYPE: Undisturbed

DESCRIPTION: M Gr CH4  
w/ Tr-wd, SL

SPECIFIC GRAVITY= 2.74

REMARKS: Torvane = 0.400 tsf

CLIENT: U.S. Army Corps of Engineers

PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal

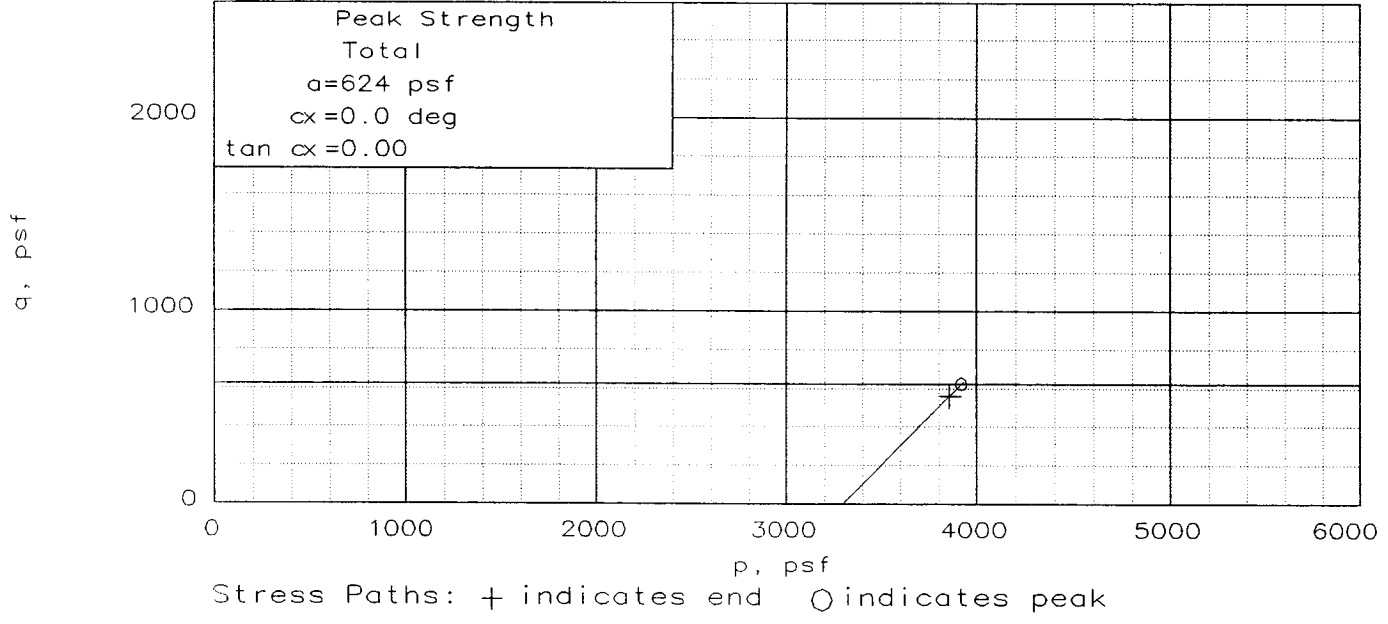
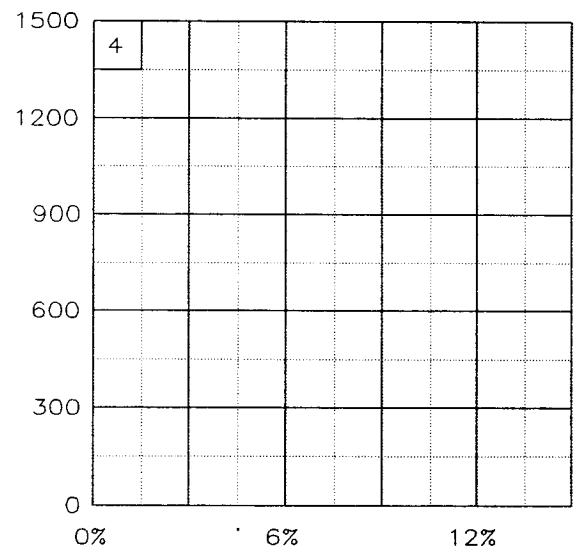
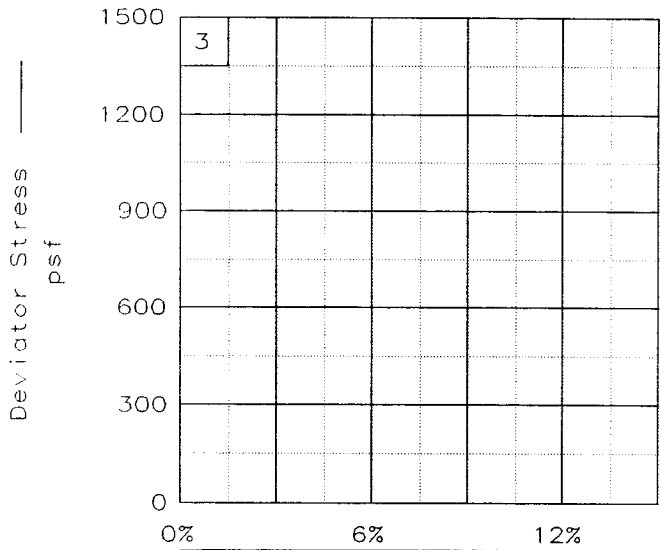
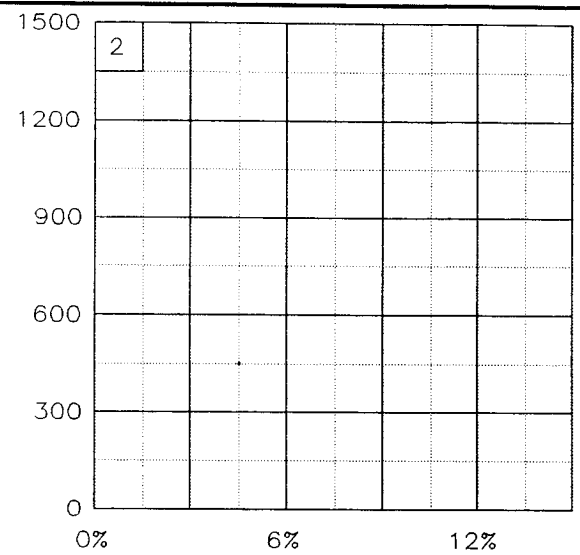
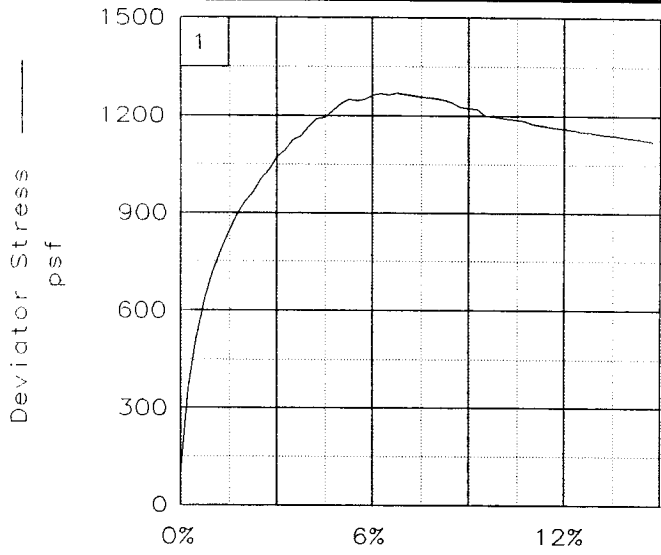
SAMPLE LOCATION: Boring 2,  
Sample 24-A, Depth 66.3', Elev -64.6

PROJ. NO.: 19080                      DATE: 10/24/05

TRIAXIAL SHEAR TEST REPORT

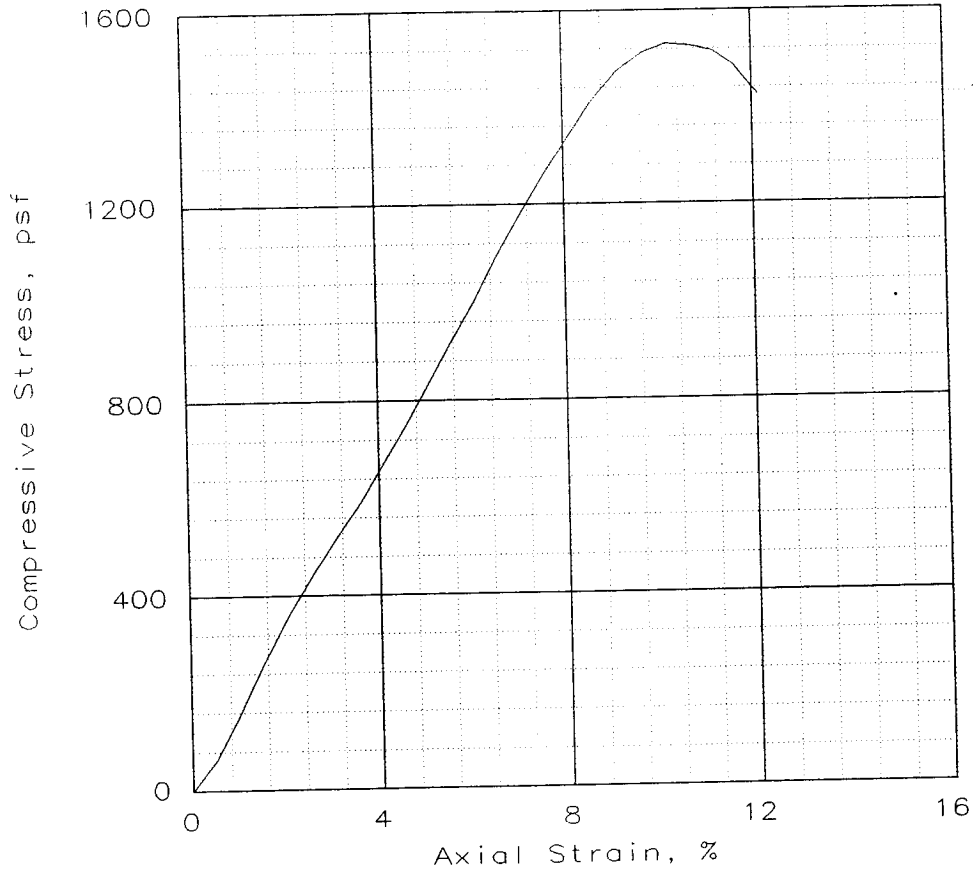
Eustis Engineering Company, Inc.

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 24-A, Depth 66.3', Elev -64.6  
 File: UU-25148      Project No.: 19080      Fig. No.: \_\_\_\_\_

# UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	1530			
Undrained shear strength, psf	765			
Failure strain, %	10.2			
Strain rate, in/min	0.0565			
Water content, %	52.0			
Wet density, pcf	101.2			
Dry density, pcf	66.6			
Saturation, %	91.3			
Void ratio	1.5506			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: M Gr CH3 w/ ars ML, wd, SL

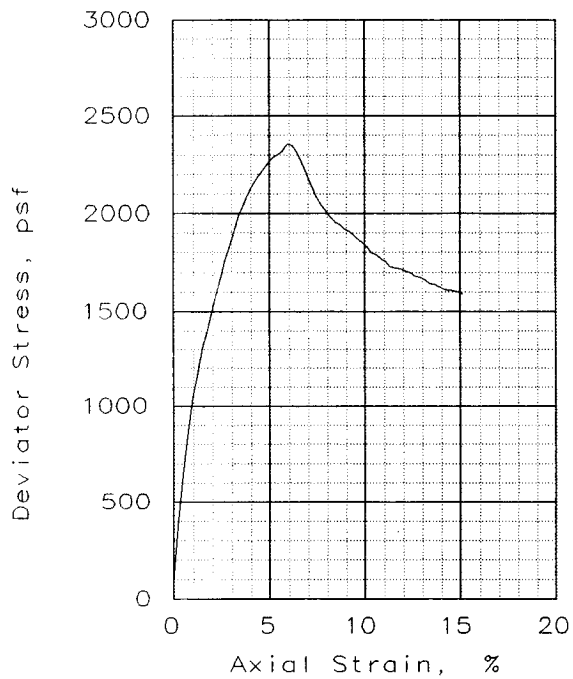
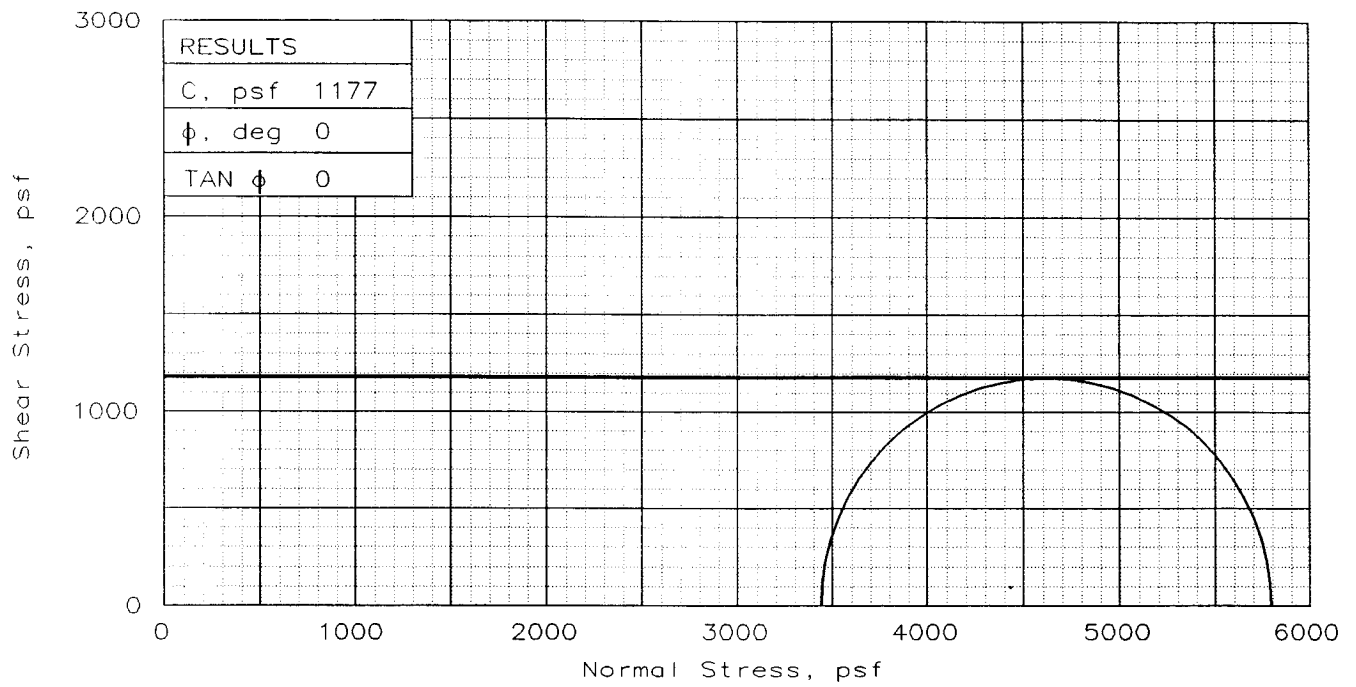
GS= 2.72      Type: Undisturbed

Project No.: 19080  
 Date: 9-29-05  
 Remarks:  
 Torvane = 0.300 tsf

Fig. No.: \_\_\_\_\_

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 Location: Boring 2,  
 Sample 25A, Depth 68.3', Elev. -66.6

**UNCONFINED COMPRESSION TEST**  
**Eustis Engineering Company, Inc.**



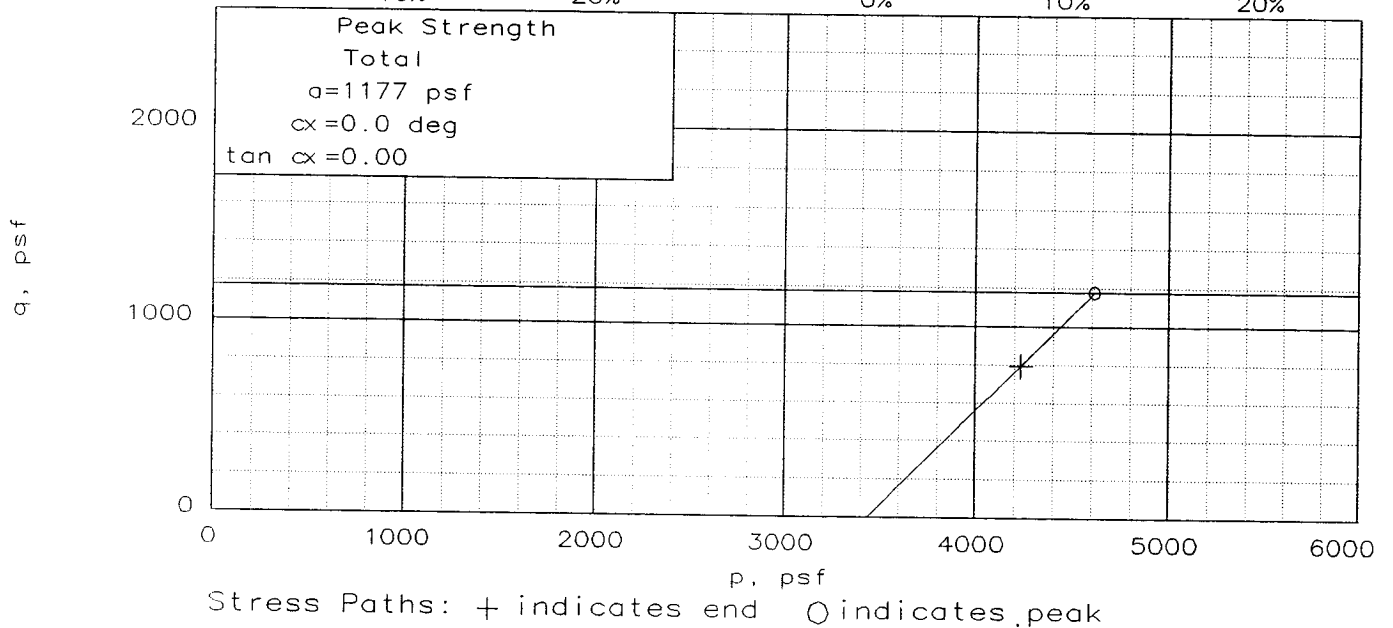
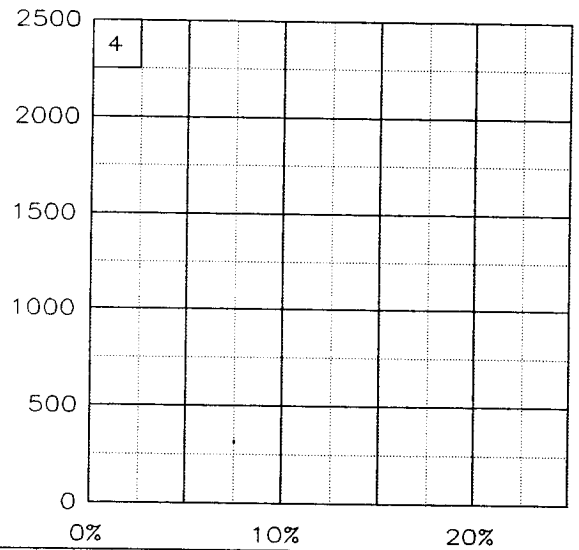
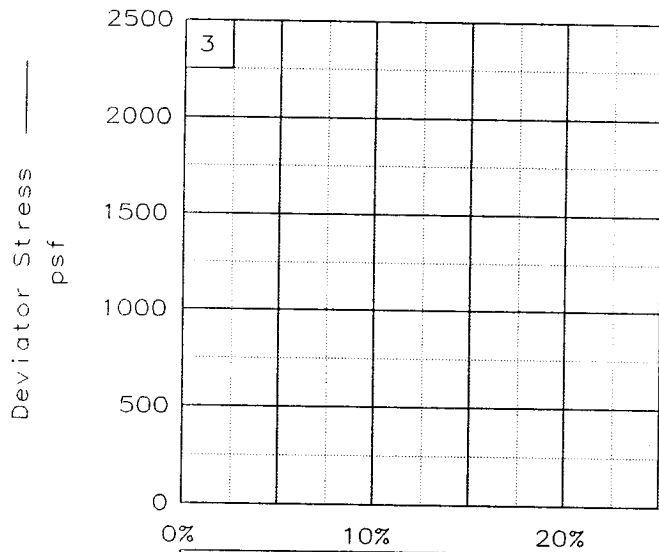
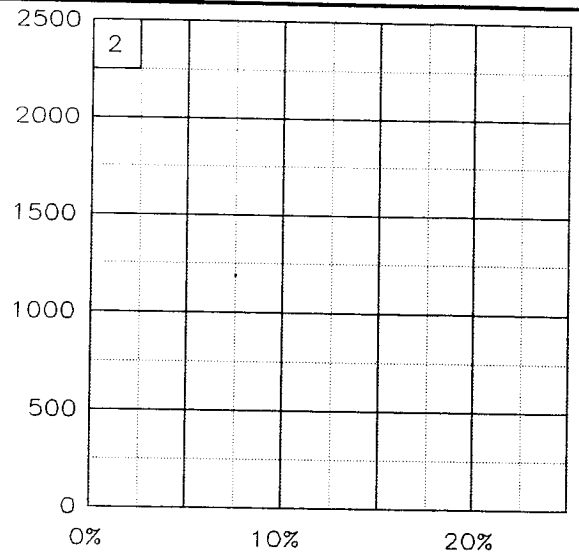
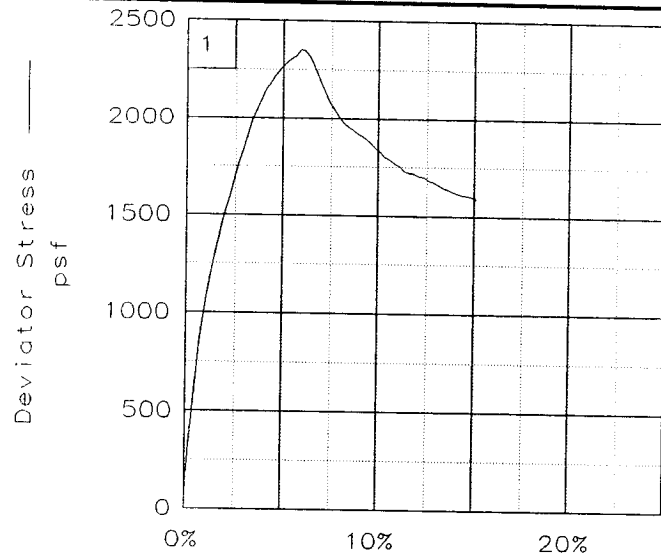
SPECIMEN NO. :		1
INITIAL	WATER CONTENT, %	64.8
	DRY DENSITY, pcf	58.3
	SATURATION, %	92.6
	VOID RATIO	1.890
	DIAMETER, in	1.39
	HEIGHT, in	2.93
AT TEST	WATER CONTENT, %	70.0
	DRY DENSITY, pcf	58.3
	SATURATION, %	100.0
	VOID RATIO	1.889
	DIAMETER, in	1.39
	HEIGHT, in	2.93
Strain rate, in/min		0.0289
BACK PRESSURE, psf		0
CELL PRESSURE, psf		3442
FAIL. STRESS, psf		2353
ULT. STRESS, psf		1589
$\sigma_1$ FAILURE, psf		5795
$\sigma_3$ FAILURE, psf		3442

TYPE OF TEST:  
 Unconsolidated Undrained  
 SAMPLE TYPE: Undisturbed  
 DESCRIPTION: St dGr CHOA  
 w/ Tr-wd  
 SPECIFIC GRAVITY= 2.7  
 REMARKS: Torvane = 0.520 tsf

CLIENT: U.S. Army Corps of Engineers  
 PROJECT: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 SAMPLE LOCATION: Boring 2,  
 Sample 25-B, Depth 69.3', Elev -67.6  
 PROJ. NO.: 19080                      DATE: 10/24/05

TRIAxIAL SHEAR TEST REPORT  
**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers

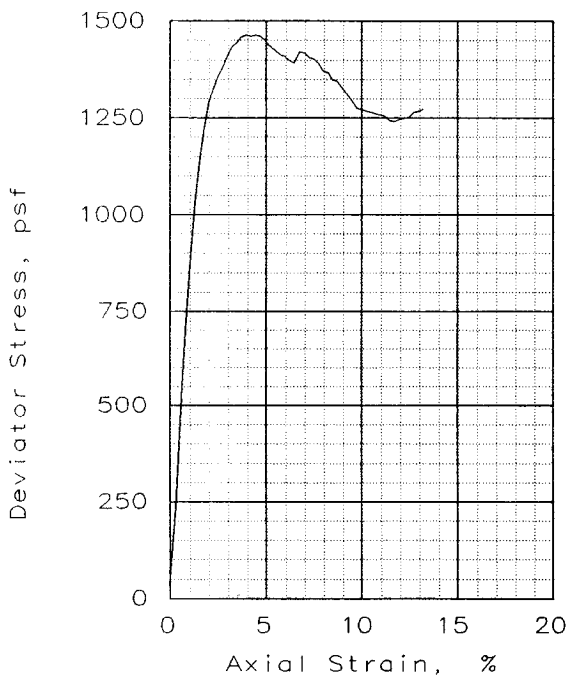
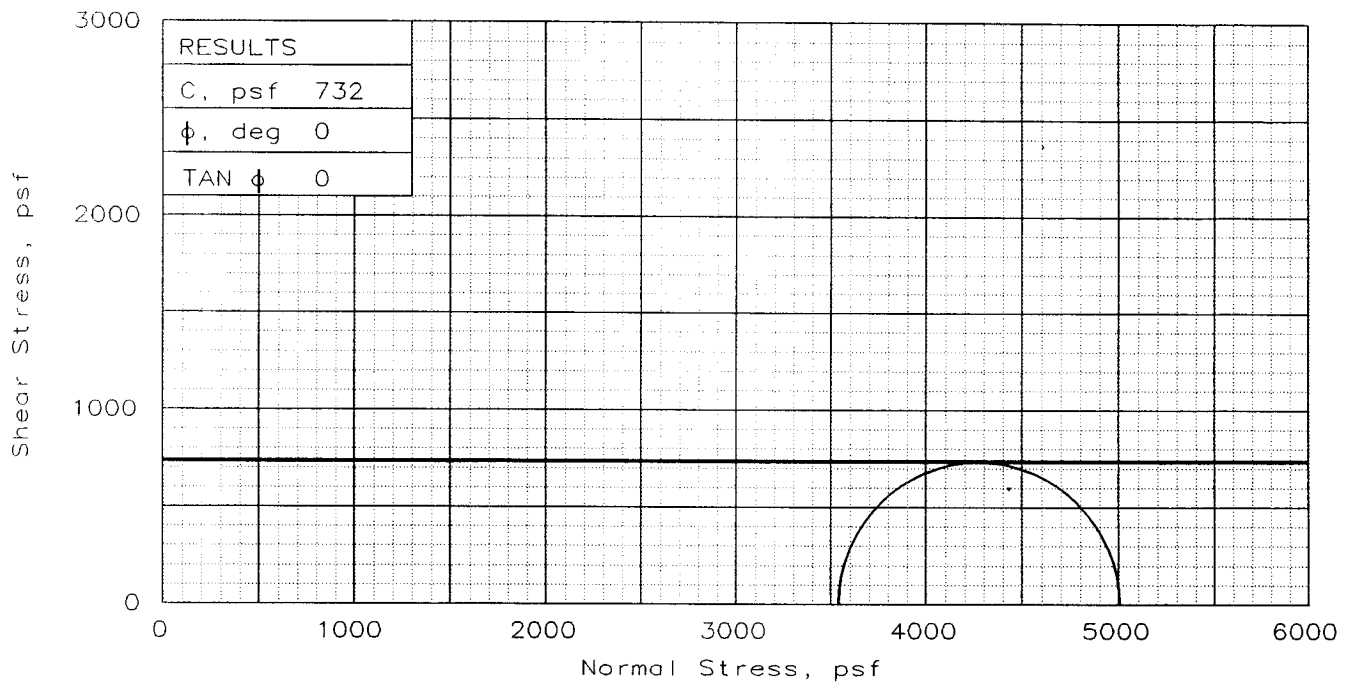
Project: Repairs to Levees and Floodwalls at the 17th Street Canal

Location: Boring 2, Sample 25-B, Depth 69.3', Elev -67.6

File: UU-25149

Project No.: 19080

Fig. No.: \_\_\_\_\_



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	101.4
	DRY DENSITY, pcf	42.1
	SATURATION, %	91.2
	VOID RATIO	3.003
	DIAMETER, in	1.39
	HEIGHT, in	2.93
AT TEST	WATER CONTENT, %	111.1
	DRY DENSITY, pcf	42.1
	SATURATION, %	100.0
	VOID RATIO	2.999
	DIAMETER, in	1.39
	HEIGHT, in	2.93
Strain rate, in/min		0.0288
BACK PRESSURE, psf		0
CELL PRESSURE, psf		3542
FAIL. STRESS, psf		1464
ULT. STRESS, psf		1271
$\sigma_1$ FAILURE, psf		5006
$\sigma_3$ FAILURE, psf		3542

TYPE OF TEST:  
 Unconsolidated Undrained  
 SAMPLE TYPE: Undisturbed  
 DESCRIPTION: M dGr CHOA  
 w/ wd  
 LL= 137    PL= 36    PI= 101  
 SPECIFIC GRAVITY= 2.7  
 REMARKS: Torvane = 0.550 tsf

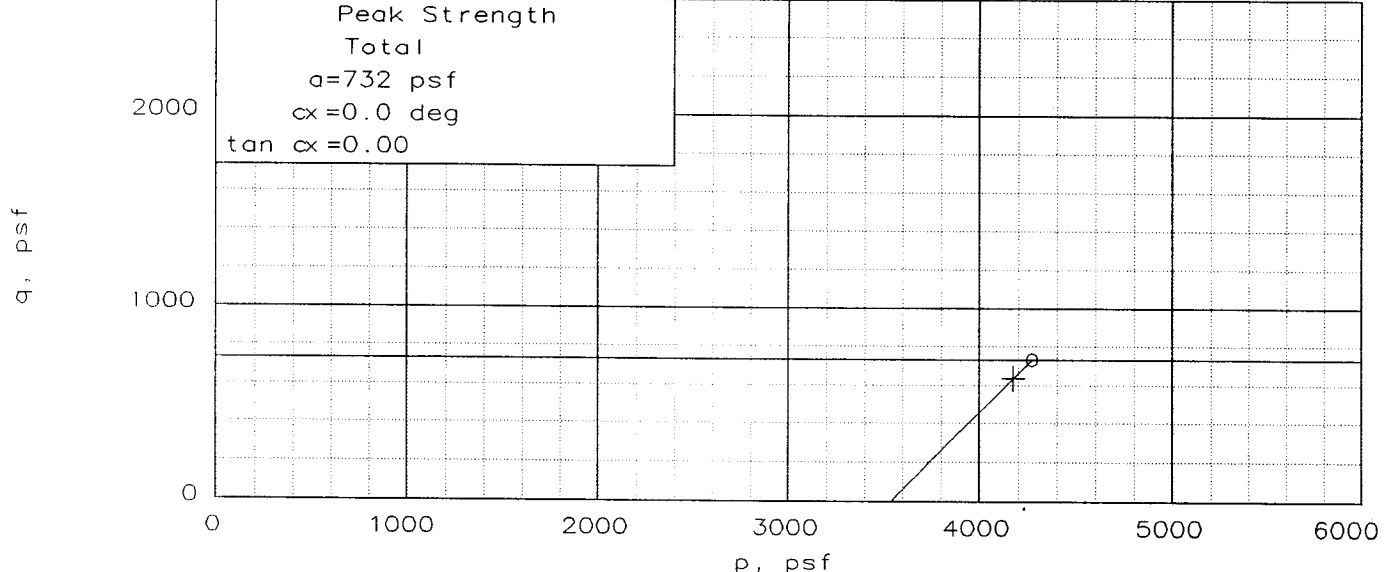
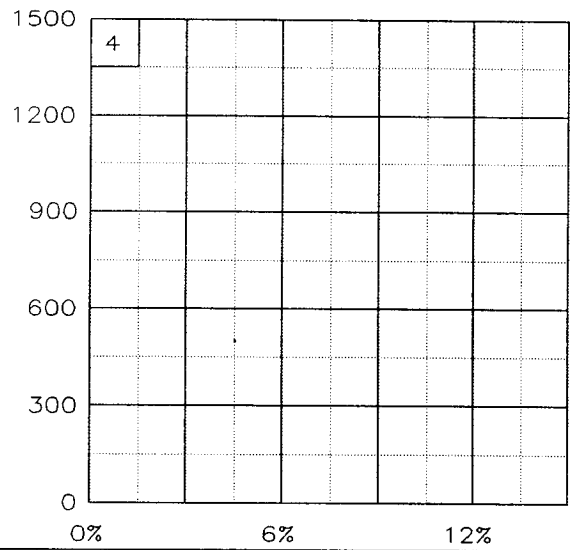
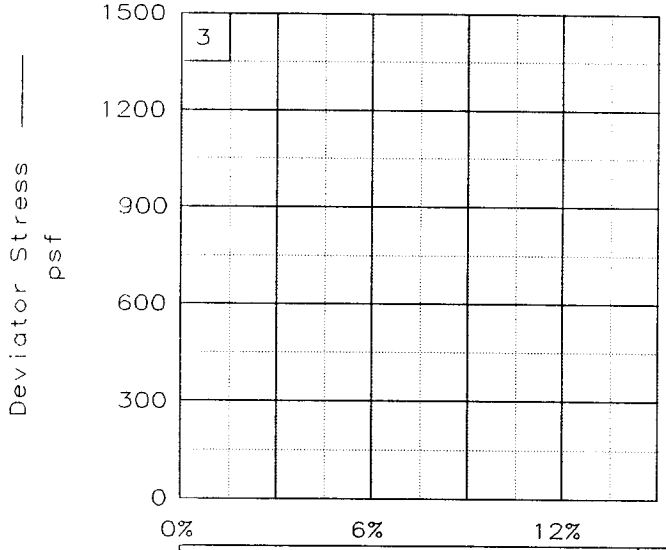
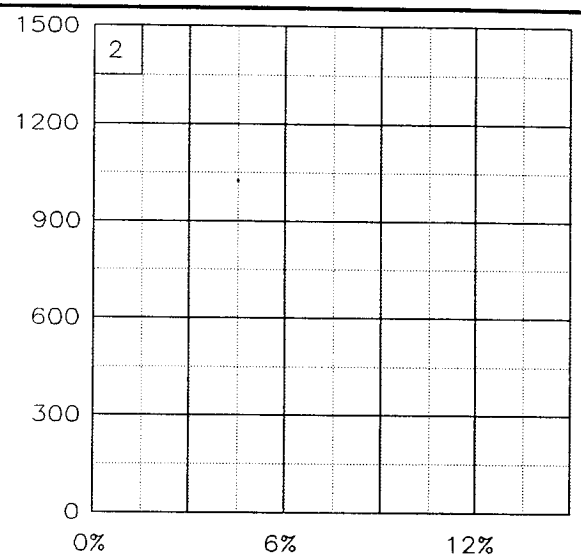
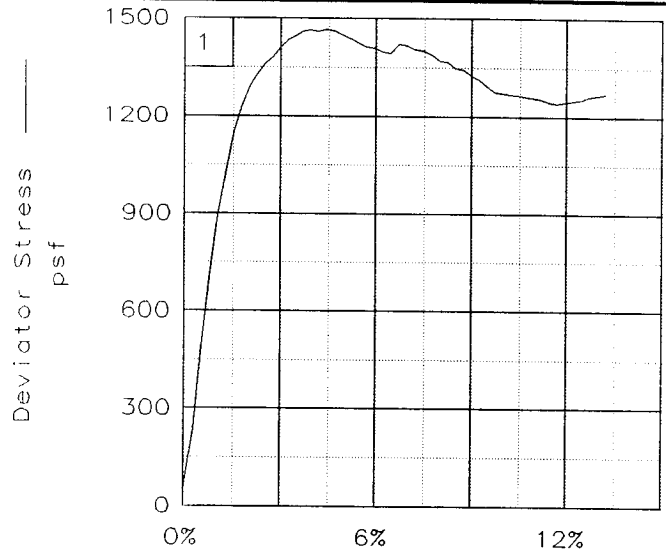
CLIENT: U.S. Army Corps of Engineers  
 PROJECT: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 SAMPLE LOCATION: Boring 2,  
 Sample 26-B, Depth 71.3', Elev -69.6  
 PROJ. NO.: 19080                      DATE: 10/24/05

TRIAXIAL SHEAR TEST REPORT

Eustis Engineering Company, Inc.

Fig. No.: \_\_\_\_\_

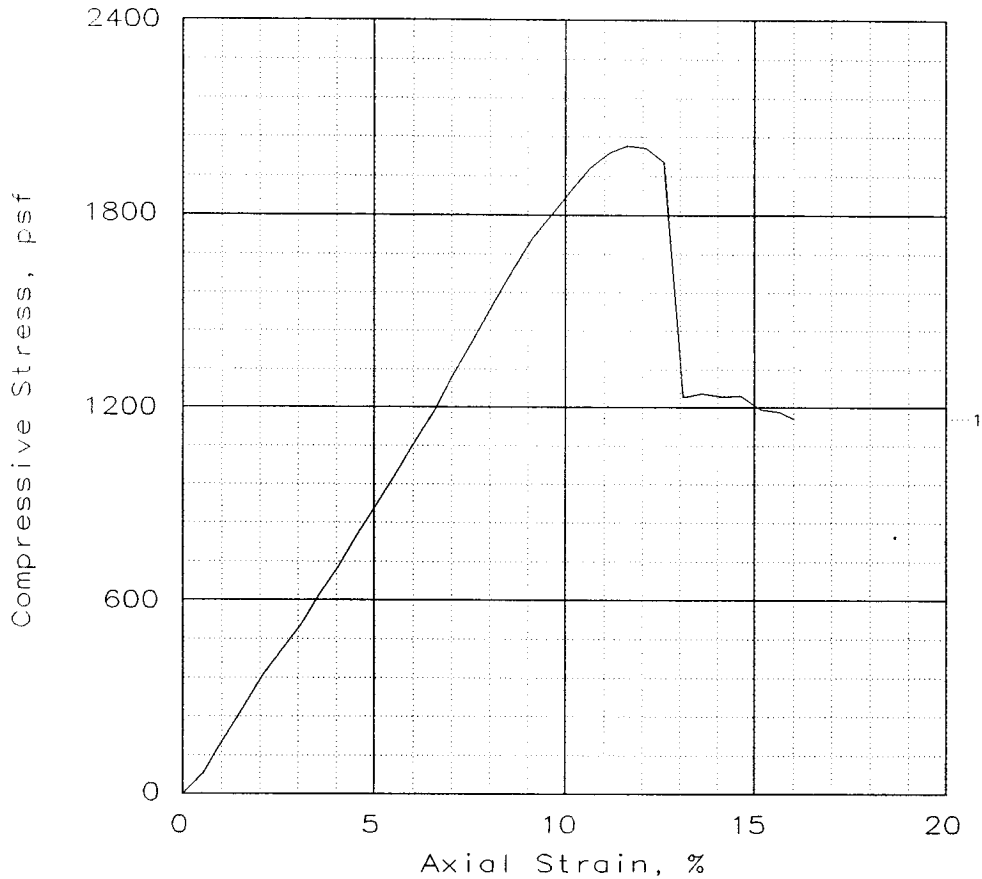




Stress Paths: + indicates end    O indicates peak

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 26-B, Depth 71.3', Elev -69.6  
 File: UU-25150      Project No.: 19080      Fig. No.: \_\_\_\_\_

## UNCONFINED COMPRESSION TEST

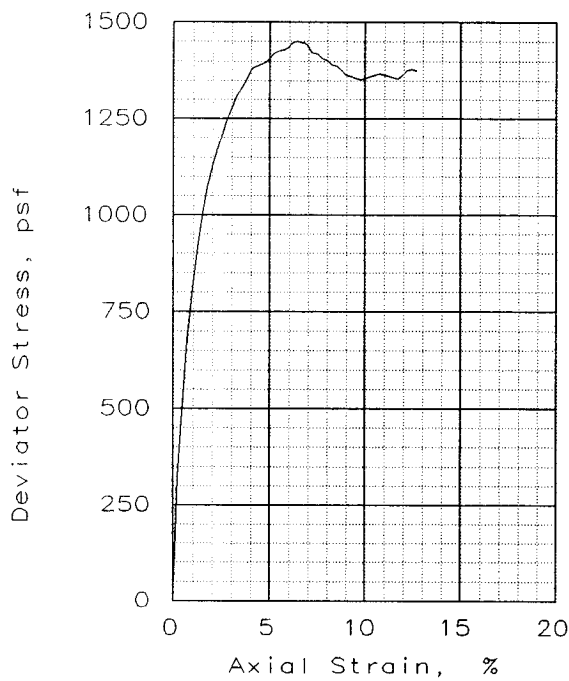
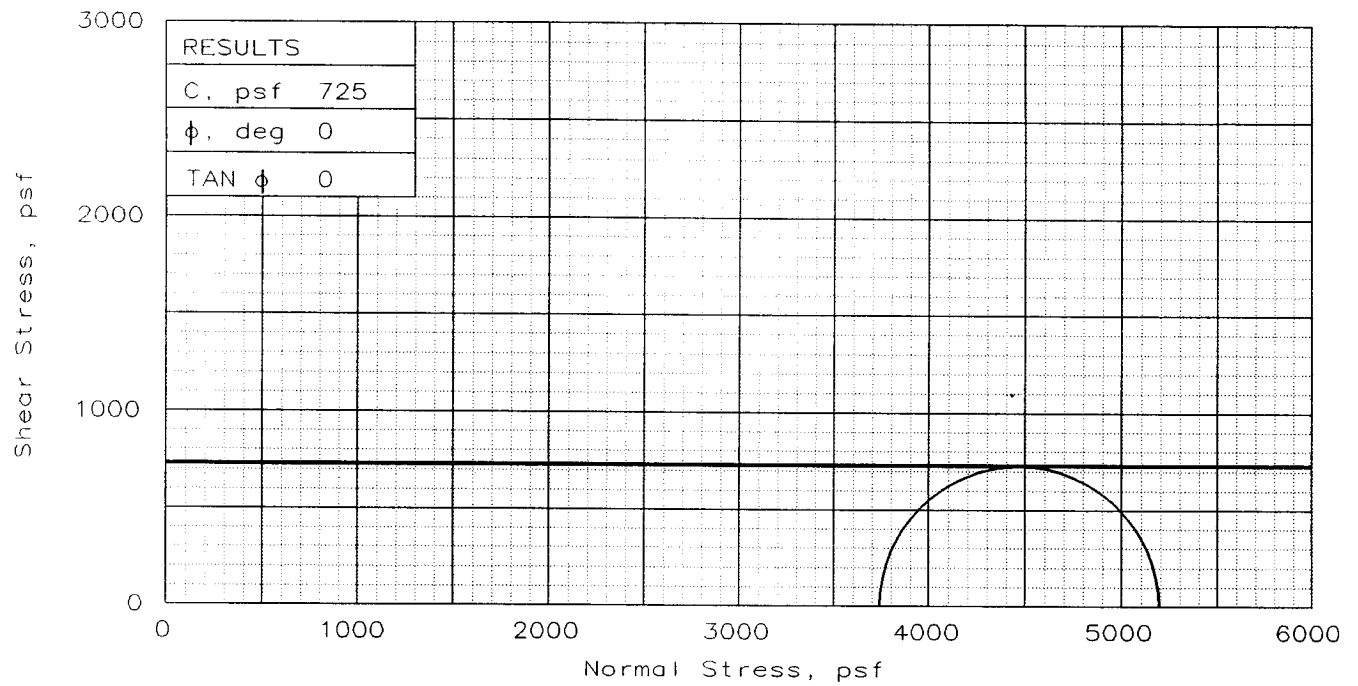


SPECIMEN NO.:	1			
Unconfined strength, psf	2013			
Undrained shear strength, psf	1007			
Failure strain, %	11.6			
Strain rate, in/min	0.0573			
Water content, %	63.9			
Wet density, pcf	96.6			
Dry density, pcf	58.9			
Saturation, %	93.3			
Void ratio	1.8293			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: St Gr CH4 w/ SL

	GS= 2.67	Type: Undisturbed
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<p>Project No.: 19080                  Date: 9-29-05                  Remarks:                  Torvane = 0.300 tsf</p> <p>Fig. No.: _____</p>	<p>Client: U.S. Army Corps of Engineers                  Project: Repairs to Levees and Floodwalls                  at the 17th Street Canal                  Location: Boring 2,                  Sample 27B, Depth 73.3', Elev. -71.6</p> <p style="text-align: center;">UNCONFINED COMPRESSION TEST  <b>Eustis Engineering Company, Inc.</b></p>
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SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	65.7
	DRY DENSITY, pcf	58.2
	SATURATION, %	92.9
	VOID RATIO	1.937
	DIAMETER, in	1.39
AT TEST	HEIGHT, in	2.93
	WATER CONTENT, %	70.5
	DRY DENSITY, pcf	58.4
	SATURATION, %	100.0
	VOID RATIO	1.931
DIAMETER, in	1.39	
HEIGHT, in	2.93	
Strain rate, in/min	0.0287	
BACK PRESSURE, psf	0	
CELL PRESSURE, psf	3744	
FAIL. STRESS, psf	1450	
ULT. STRESS, psf	1376	
$\sigma_1$ FAILURE, psf	5194	
$\sigma_3$ FAILURE, psf	3744	

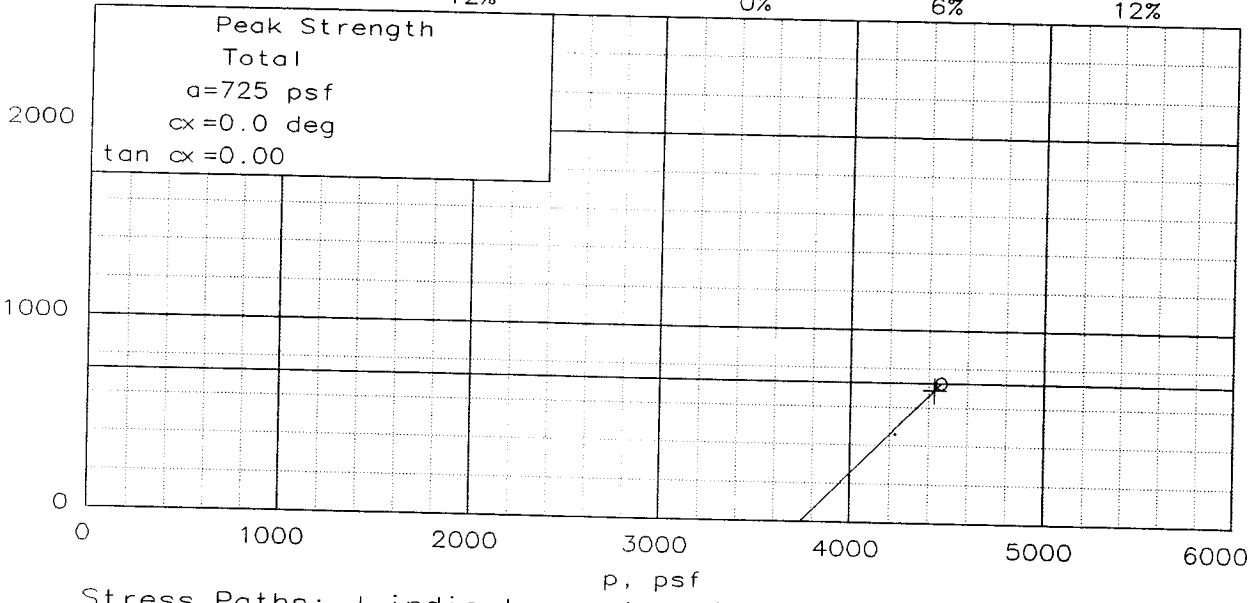
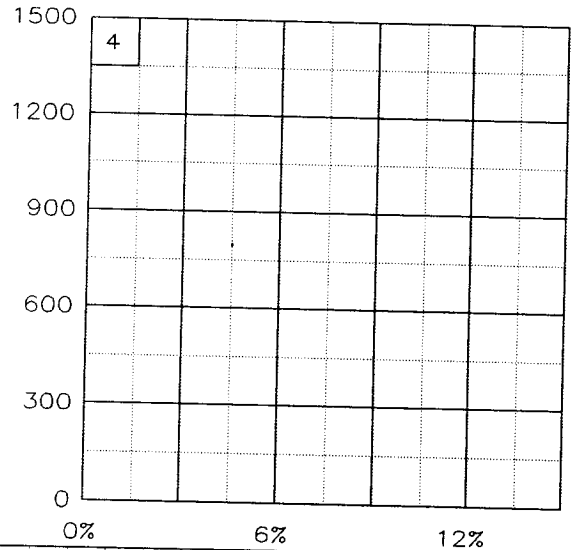
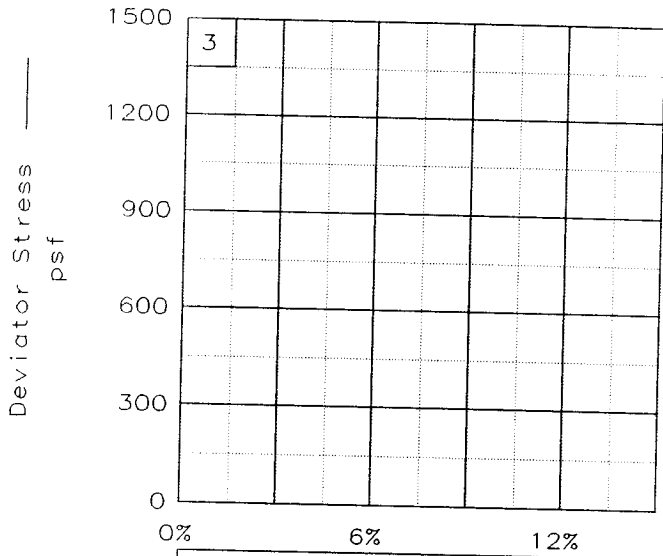
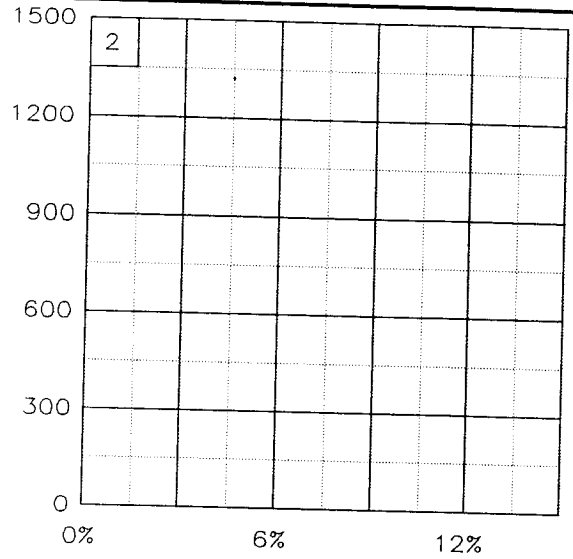
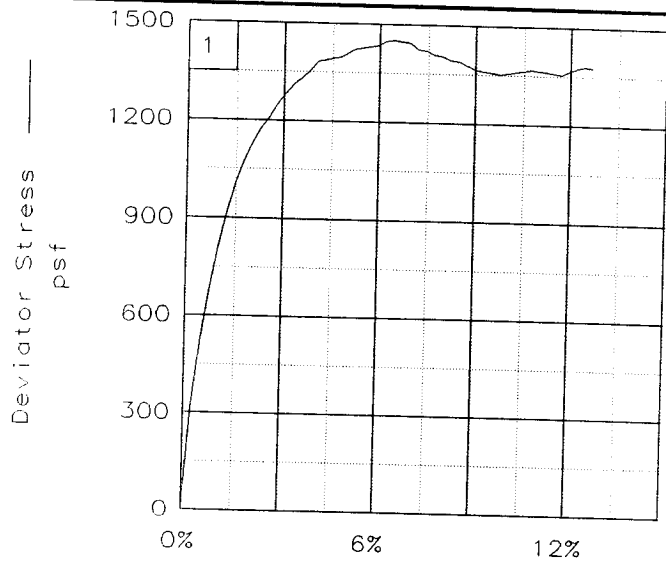
TYPE OF TEST:  
Unconsolidated Undrained  
SAMPLE TYPE: Undisturbed  
DESCRIPTION: M Gr CH4  
w/ Tr-wd, SL  
SPECIFIC GRAVITY= 2.74  
REMARKS: Torvane = 0.450 tsf

CLIENT: U.S. Army Corps of Engineers  
PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal  
SAMPLE LOCATION: Boring 2,  
Sample 28-B, Depth 75.3', Elev -73.6  
PROJ. NO.: 19080                      DATE: 10/24/05

TRIAXIAL SHEAR TEST REPORT

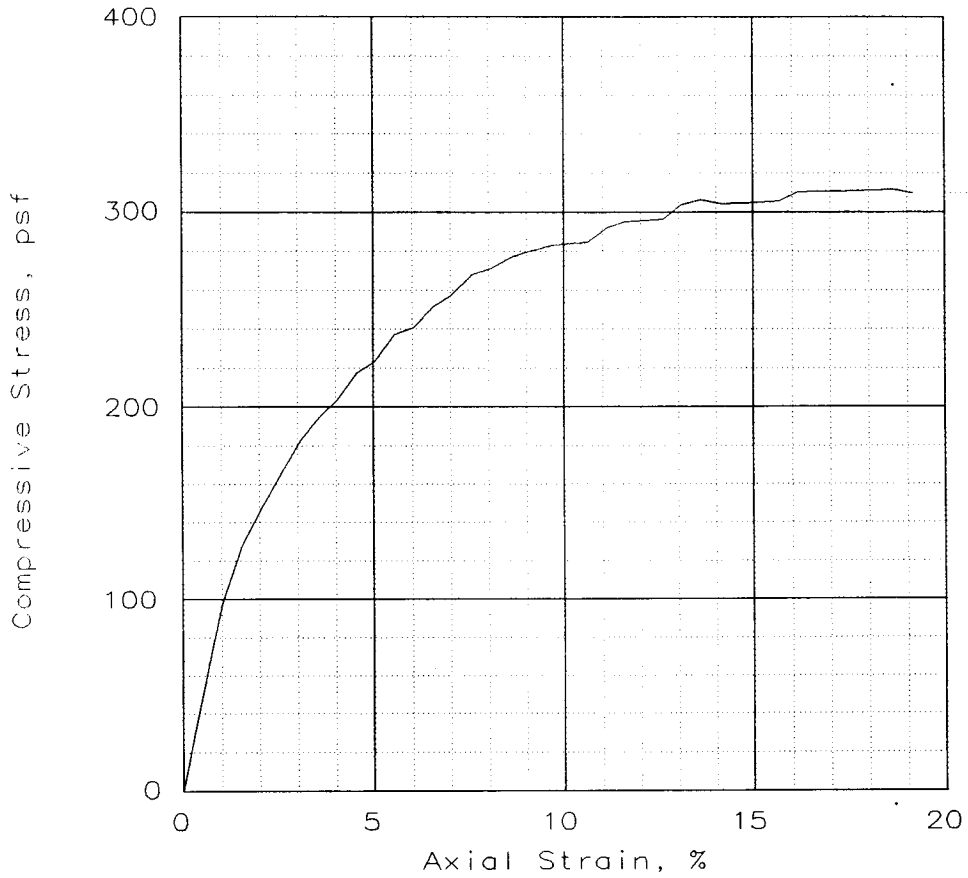
**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 28-B, Depth 75.3', Elev -73.6  
 File: UU-25151 Project No.: 19080 Fig. No.: \_\_\_\_\_

## UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	306			
Undrained shear strength, psf	153			
Failure strain, %	13.6			
Strain rate, in/min	0.0577			
Water content, %	97.5			
Wet density, pcf	82.3			
Dry density, pcf	41.7			
Saturation, %	86.1			
Void ratio	3.1033			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: vSo Gr CH4 w/ wd

GS= 2.74

Type: Undisturbed

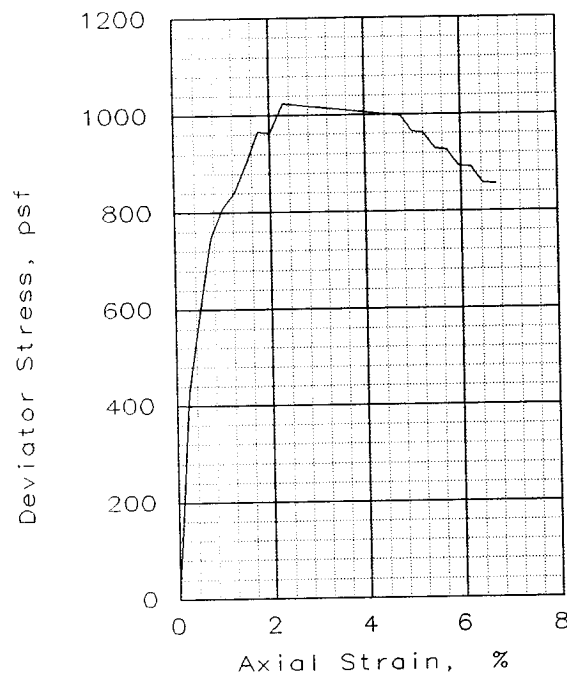
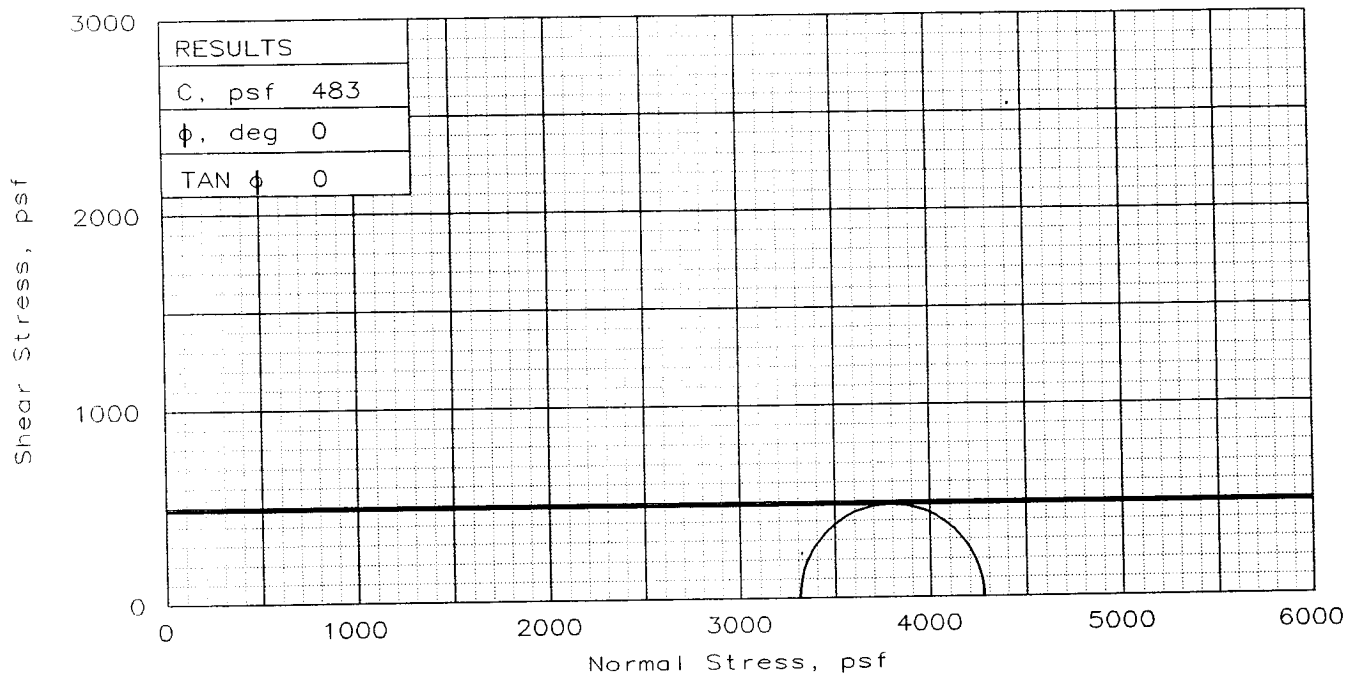
Project No.: 19080  
 Date: 9-29-05  
 Remarks:  
 Torvane = 0.100 tsf

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 Location: Boring 2,  
 Sample 29A, Depth 76.3', Elev. -74.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



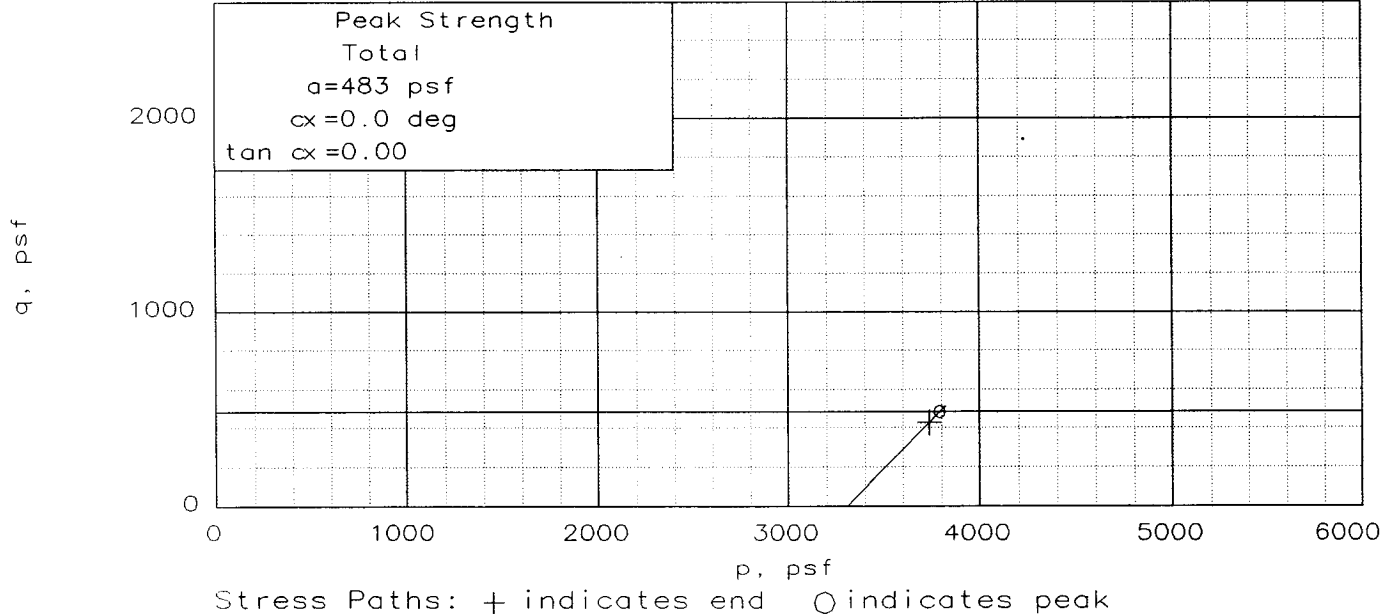
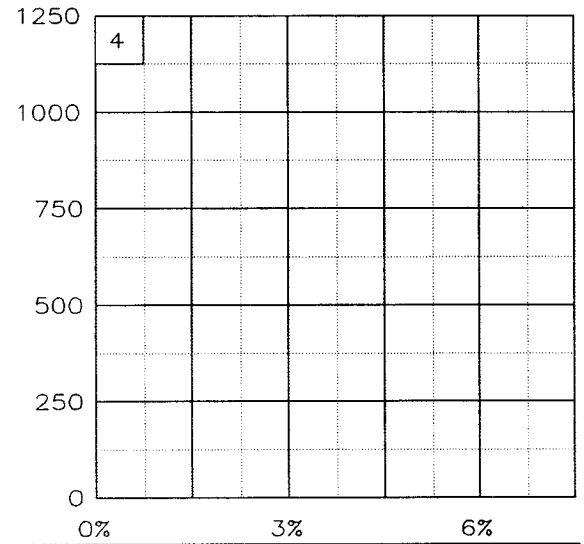
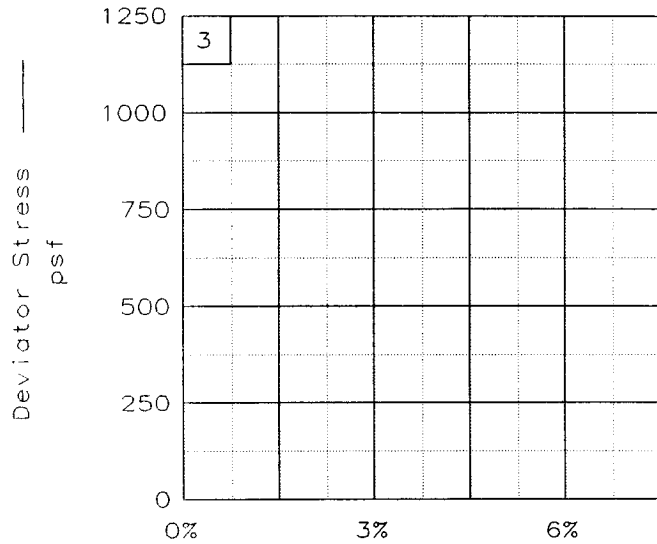
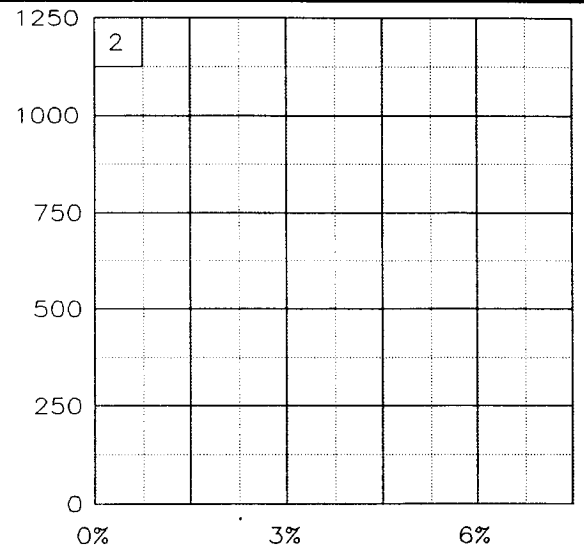
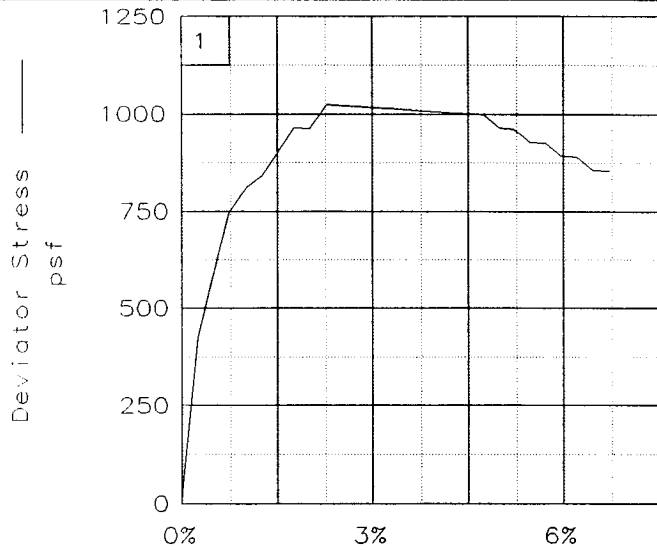
SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	21.4
	DRY DENSITY, pcf	101.9
	SATURATION, %	91.1
	VOID RATIO	0.623
	DIAMETER, in	1.39
	HEIGHT, in	2.93
AT TEST	WATER CONTENT, %	23.5
	DRY DENSITY, pcf	102.0
	SATURATION, %	100.0
	VOID RATIO	0.623
	DIAMETER, in	1.39
	HEIGHT, in	2.93
Strain rate, in/min	0.0279	
BACK PRESSURE, psf	0	
CELL PRESSURE, psf	3312	
FAIL. STRESS, psf	965	
ULT. STRESS, psf	855	
$\sigma_1$ FAILURE, psf	4277	
$\sigma_3$ FAILURE, psf	3312	

TYPE OF TEST:  
Unconsolidated Undrained  
SAMPLE TYPE: Undisturbed  
DESCRIPTION: Gr & T SM1  
  
LL= 19      PL= 18      PI= 1  
SPECIFIC GRAVITY= 2.65  
REMARKS:

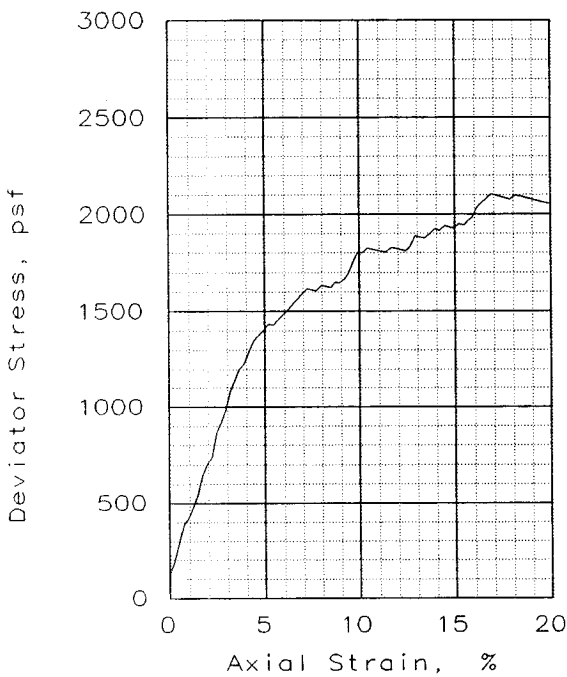
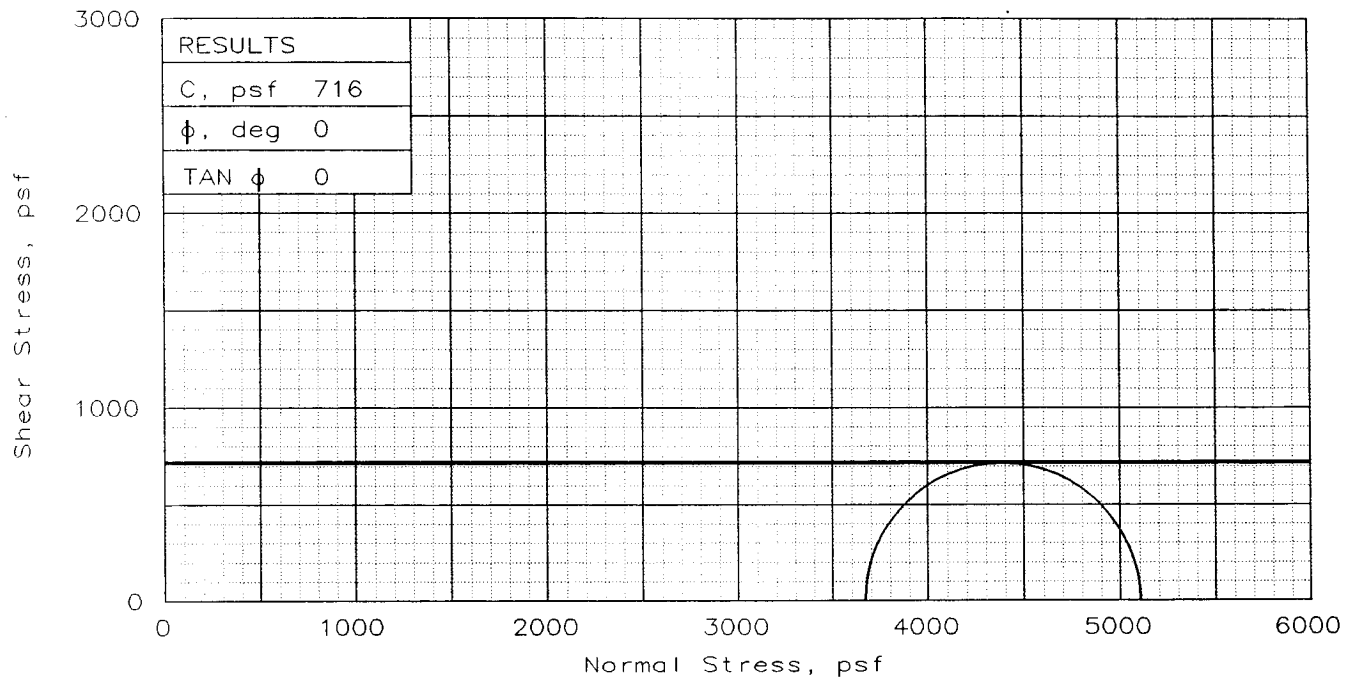
CLIENT: U.S. Army Corps of Engineers  
  
PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal  
SAMPLE LOCATION: Boring 2,  
Sample 29B, Depth 77.3', Elev. -75.6  
PROJ. NO.: 19080      DATE: 9-29-05

TRIAxIAL SHEAR TEST REPORT  
**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 29B, Depth 77.3', Elev. -75.6  
 File: UU-25054      Project No.: 19080      Fig. No.: \_\_\_\_\_



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	21.4
	DRY DENSITY, pcf	100.7
	SATURATION, %	88.2
	VOID RATIO	0.643
	DIAMETER, in	1.39
AT TEST	HEIGHT, in	2.93
	WATER CONTENT, %	23.9
	DRY DENSITY, pcf	101.2
	SATURATION, %	100.0
	VOID RATIO	0.634
	DIAMETER, in	1.39
	HEIGHT, in	2.93
	Strain rate, in/min	0.0288
	BACK PRESSURE, psf	0
	CELL PRESSURE, psf	3672
	FAIL. STRESS, psf	1433
	ULT. STRESS, psf	2053
	$\sigma_1$ FAILURE, psf	5105
	$\sigma_3$ FAILURE, psf	3672

TYPE OF TEST:  
Unconsolidated Undrained

SAMPLE TYPE: Undisturbed

DESCRIPTION: gnGr SC3-S

SPECIFIC GRAVITY= 2.65

REMARKS:

CLIENT: U.S. Army Corps of Engineers

PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal

SAMPLE LOCATION: Boring 2,  
Sample 30B, Depth 79.3', Elev. -77.6

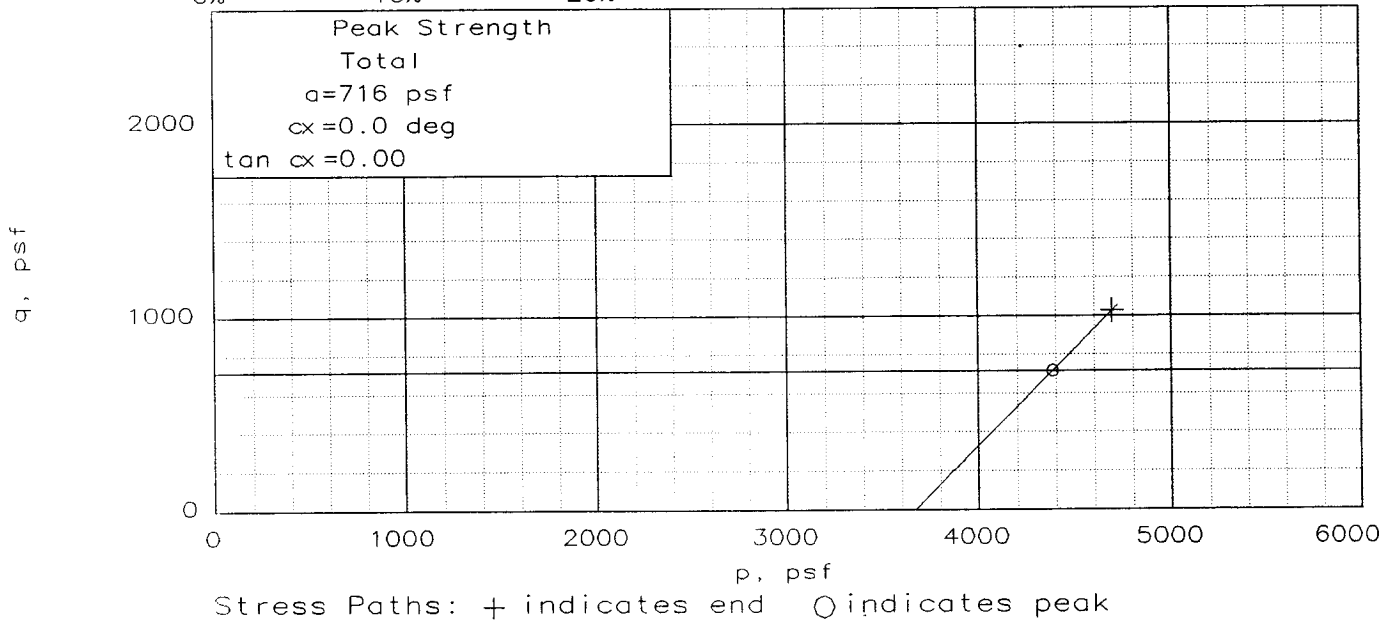
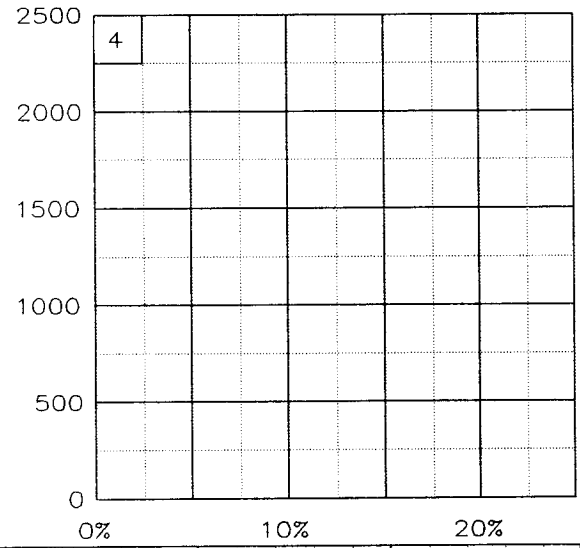
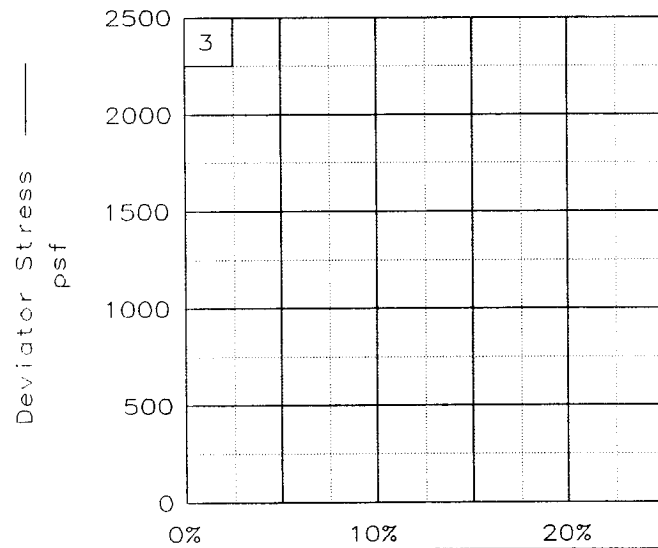
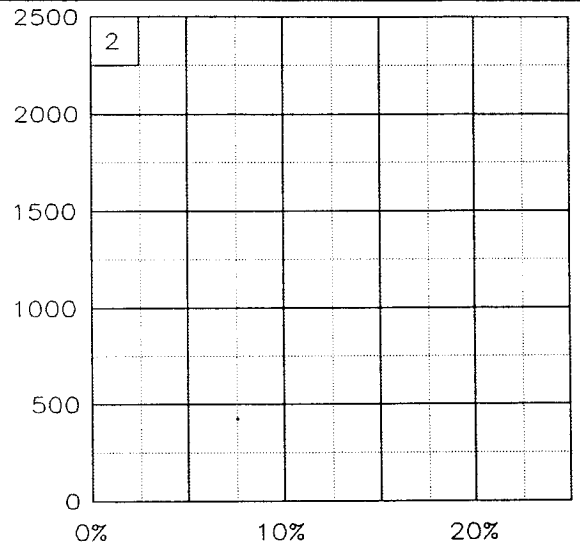
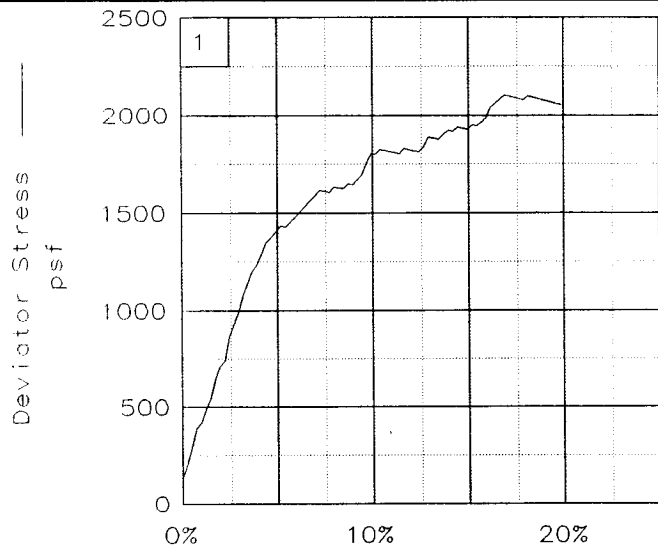
PROJ. NO.: 19080                      DATE: 9-29-05

Fig. No.: \_\_\_\_\_

TRIAxIAL SHEAR TEST REPORT

**Eustis Engineering Company, Inc.**





Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls at the 17th Street Canal

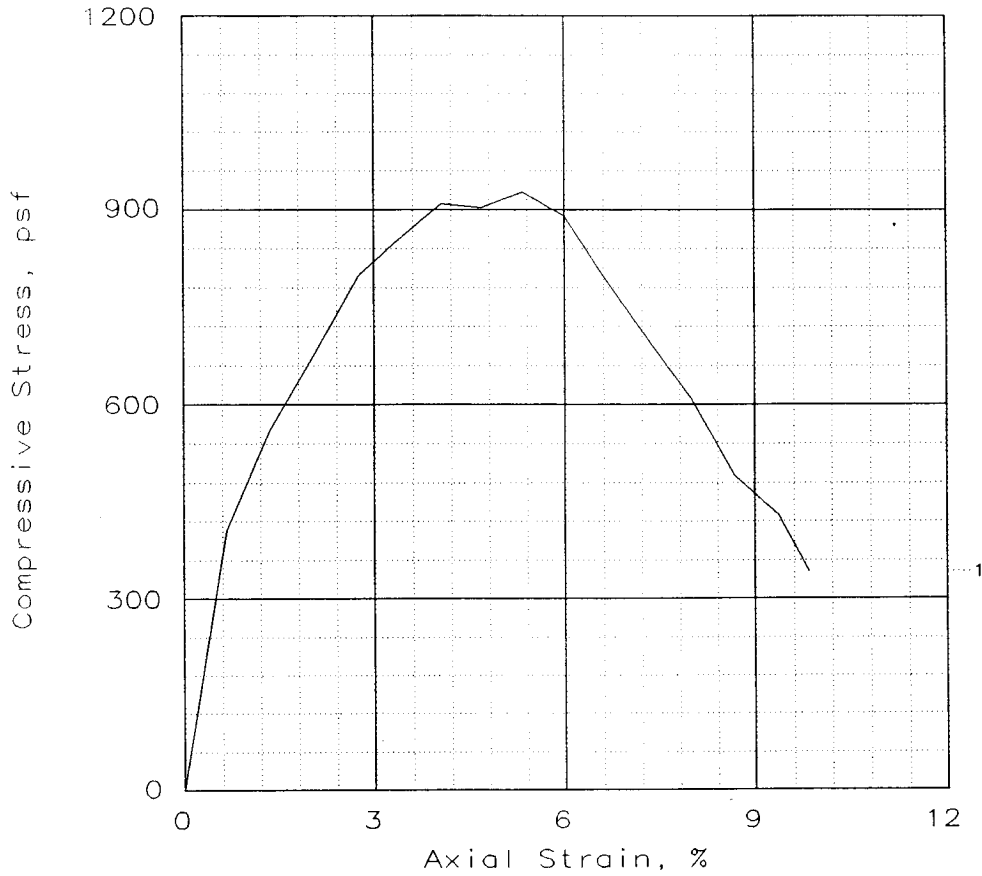
Location: Boring 2, Sample 30B, Depth 79.3', Elev. -77.6

File: UU-25055

Project No.: 19080

Fig. No.: \_\_\_\_\_

# UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	909			
Undrained shear strength, psf	454			
Failure strain, %	4.1			
Strain rate, in/min	0.0566			
Water content, %	32.6			
Wet density, pcf	114.9			
Dry density, pcf	86.7			
Saturation, %	91.7			
Void ratio	0.9737			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: So IGr & T CH4 w/ Ins SM, SL

GS= 2.74

Type: Undisturbed

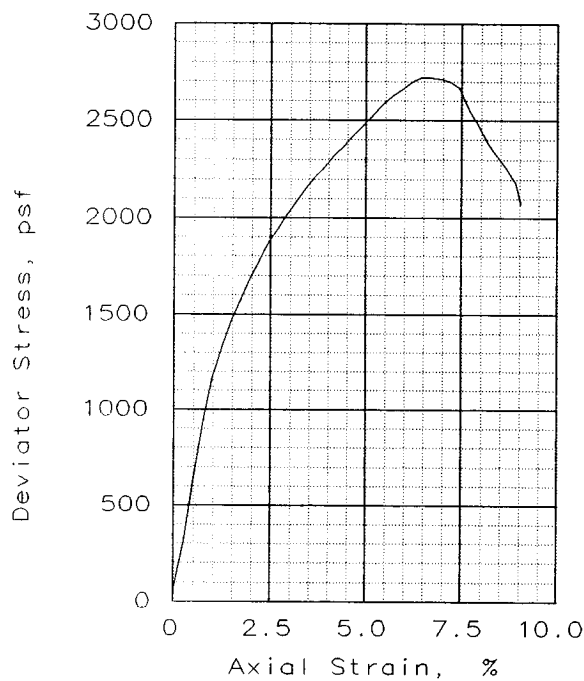
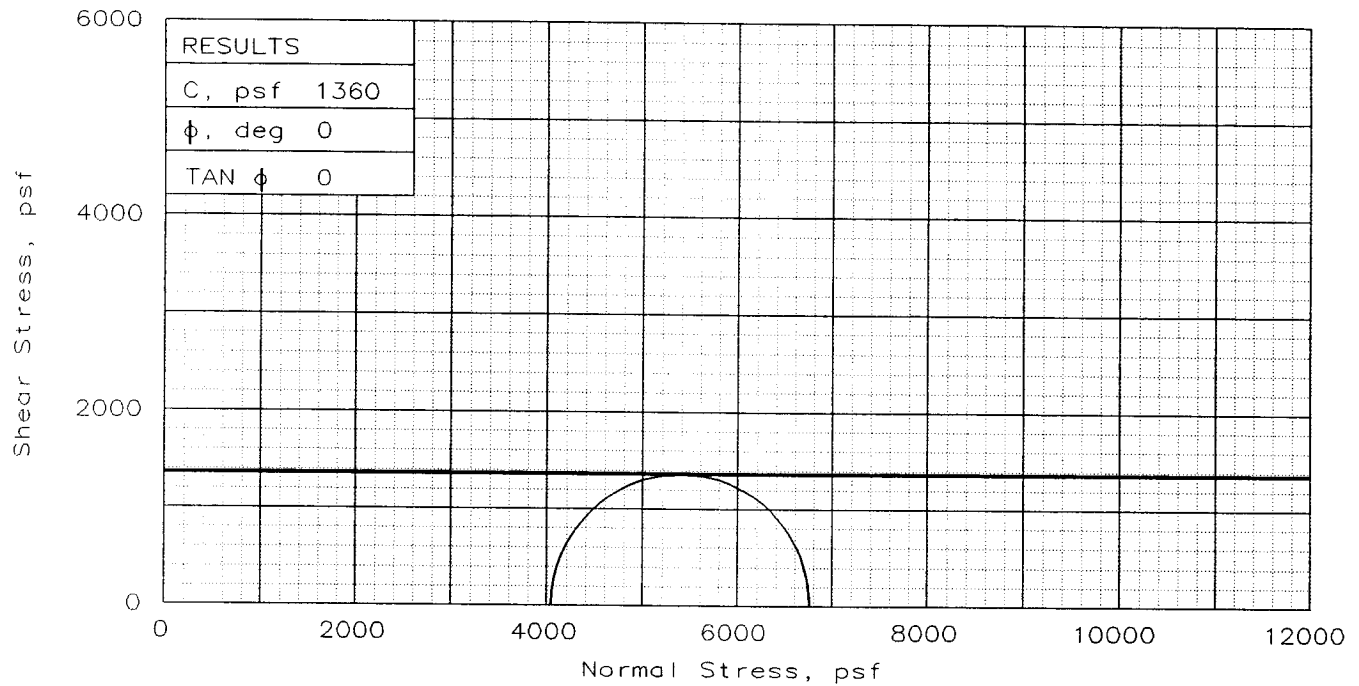
Project No.: 19080  
 Date: 10/24/05  
 Remarks:  
 Torvane = 0.625 tsf

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 Location: Boring 2,  
 Sample 31-A, Depth 80.3', Elev -78.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



SPECIMEN NO. :		1
INITIAL	WATER CONTENT, %	29.1
	DRY DENSITY, pcf	91.1
	SATURATION, %	91.0
	VOID RATIO	0.877
	DIAMETER, in	1.39
AT TEST	HEIGHT, in	2.93
	WATER CONTENT, %	32.1
	DRY DENSITY, pcf	91.0
	SATURATION, %	100.0
	VOID RATIO	0.879
	DIAMETER, in	1.39
	HEIGHT, in	2.93
	Strain rate, in/min	0.0284
	BACK PRESSURE, psf	0
	CELL PRESSURE, psf	4046
	FAIL. STRESS, psf	2721
	ULT. STRESS, psf	2072
	$\sigma_1$ FAILURE, psf	6767
	$\sigma_3$ FAILURE, psf	4046

TYPE OF TEST:  
Unconsolidated Undrained

SAMPLE TYPE: Undisturbed

DESCRIPTION: St 1Gr & T CH3  
w/ Ins SM, SL

LL= 60      PL= 18      PI= 42

SPECIFIC GRAVITY= 2.74

REMARKS: Torvane = 1.425 tsf

CLIENT: U.S. Army Corps of Engineers

PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal

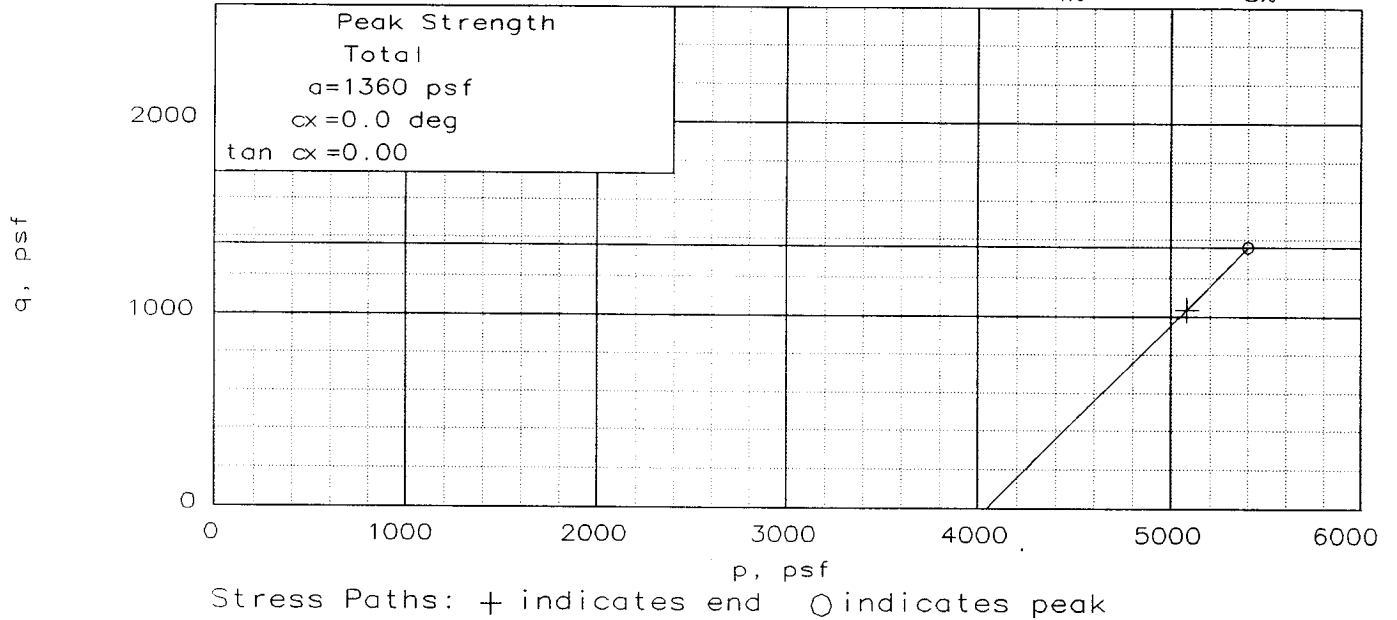
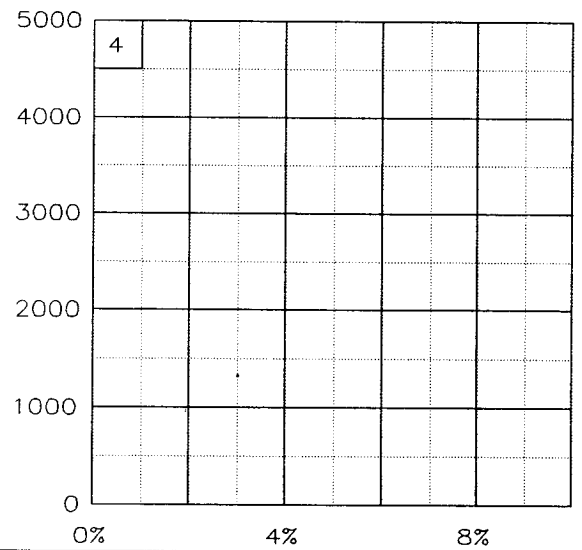
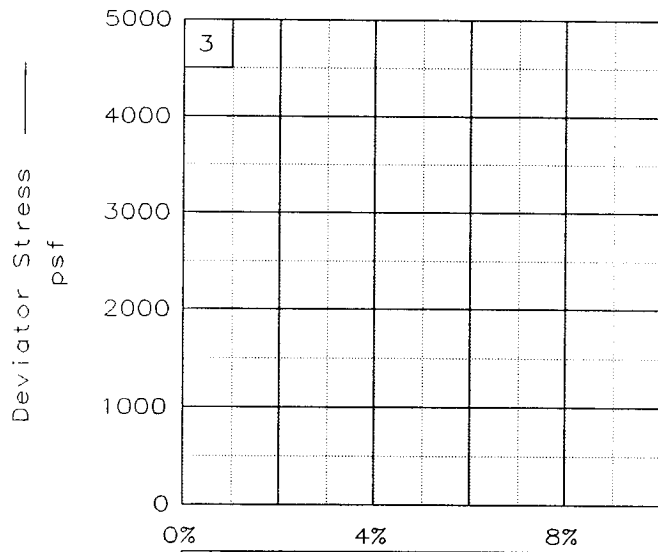
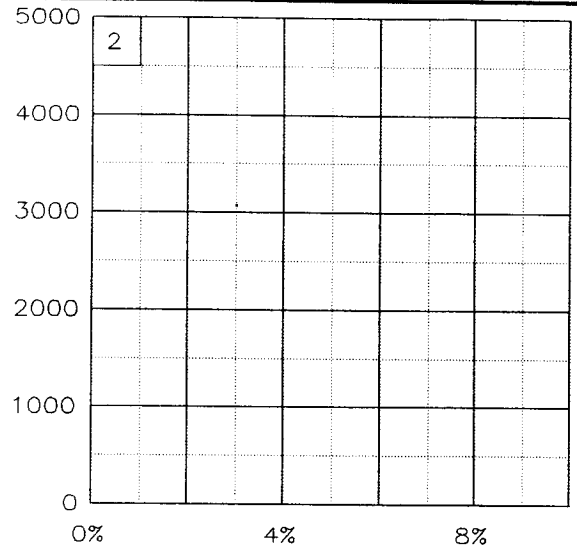
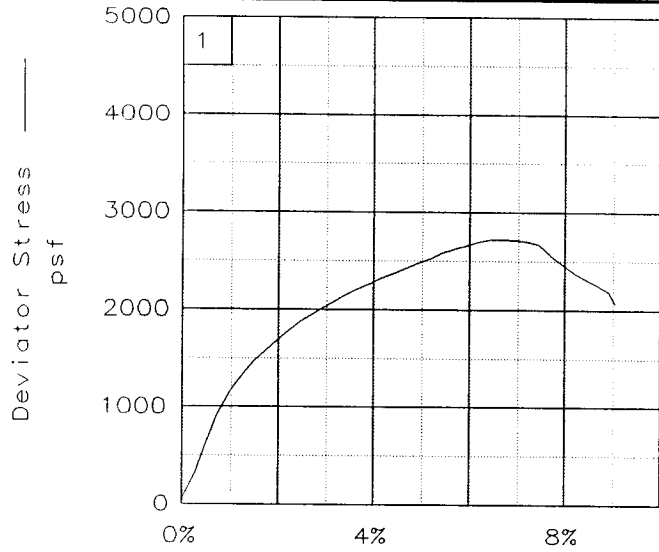
SAMPLE LOCATION: Boring 2,  
Sample 31-B, Depth 81.3', Elev -79.6

PROJ. NO.: 19080      DATE: 10/24/05

TRIAxIAL SHEAR TEST REPORT

Eustis Engineering Company, Inc.

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls at the 17th Street Canal

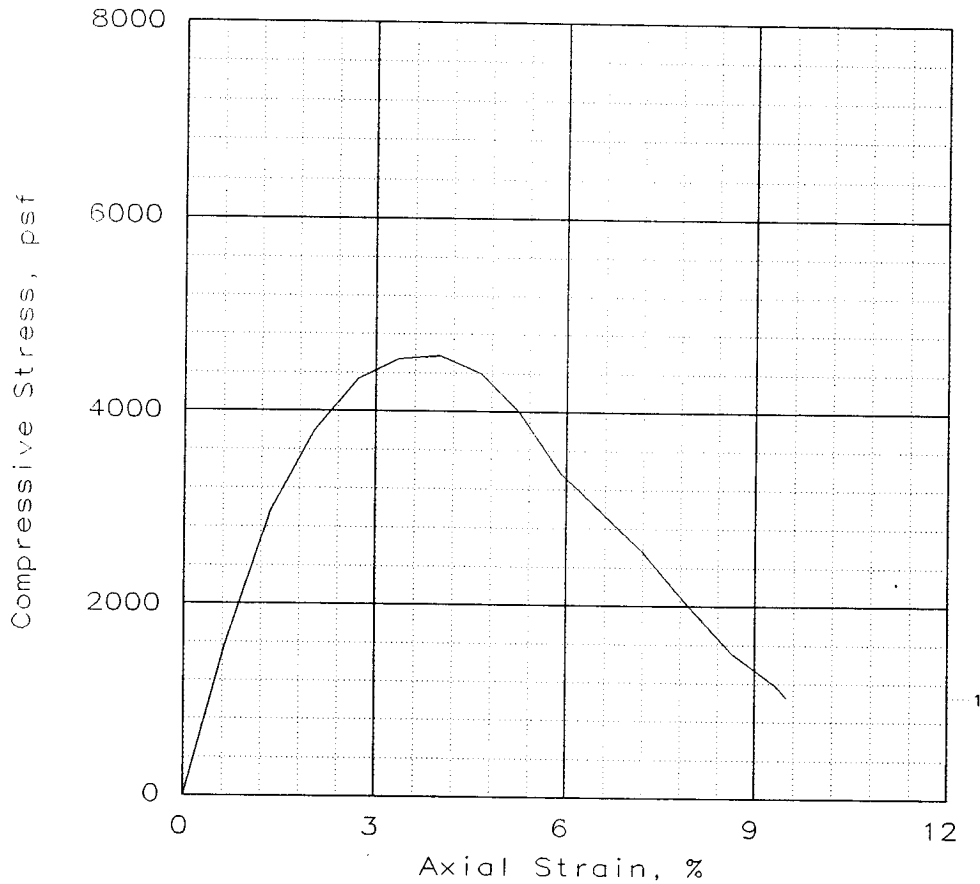
Location: Boring 2, Sample 31-B, Depth 81.3', Elev -79.6

File: UU-25152

Project No.: 19080

Fig. No.: \_\_\_\_\_

# UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	4577			
Undrained shear strength, psf	2289			
Failure strain, %	4.0			
Strain rate, in/min	0.0570			
Water content, %	39.8			
Wet density, pcf	113.6			
Dry density, pcf	81.3			
Saturation, %	98.6			
Void ratio	1.1053			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: vSt Gr & Br CH4 w/ SL

GS= 2.74      Type: Undisturbed

Project No.: 19080  
 Date: 9-29-05  
 Remarks:  
 Torvane = 1.525 tsf

Fig. No.: \_\_\_\_\_

Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal

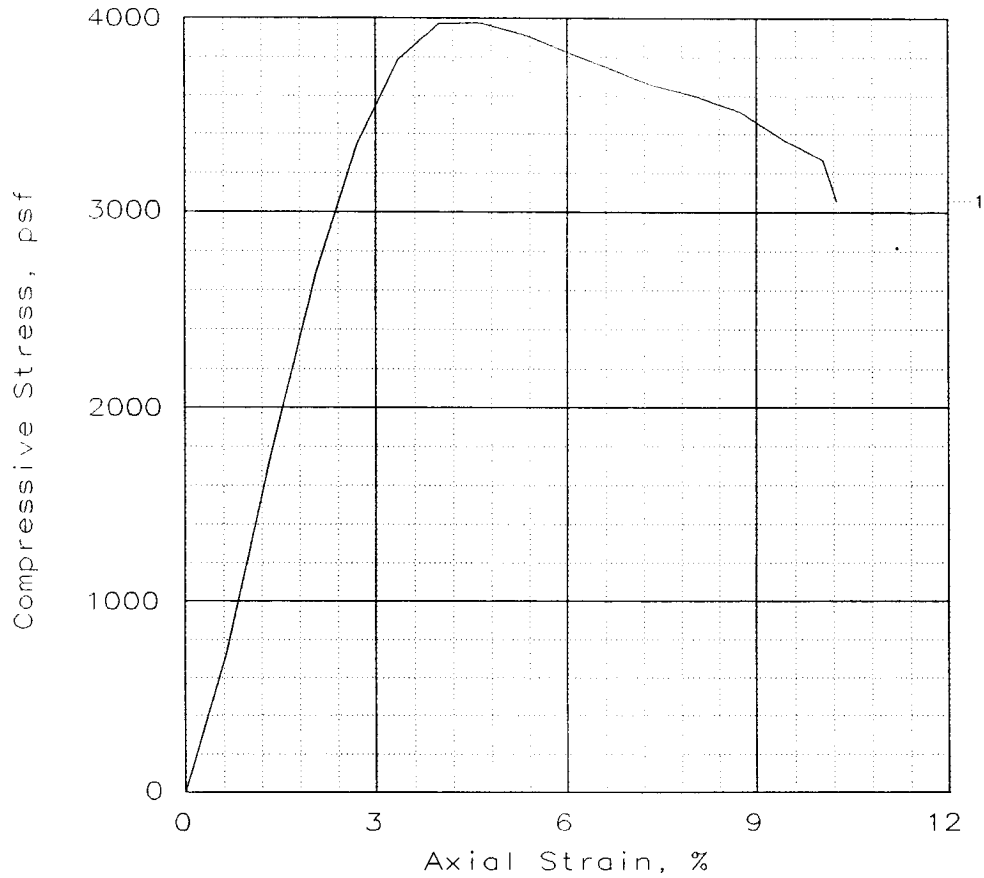
Location: Boring 2,  
 Sample 32B, Depth 83.3', Elev. -81.6

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UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

## UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	3975			
Undrained shear strength, psf	1987			
Failure strain, %	4.6			
Strain rate, in/min	0.0558			
Water content, %	36.6			
Wet density, pcf	114.4			
Dry density, pcf	83.8			
Saturation, %	96.2			
Void ratio	1.0413			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: St Gr & Br CH4 w/ Ins ML, SL

GS= 2.74

Type: Undisturbed

Project No.: 19080

Date: 9-30-05

Remarks:

Torvane = 1.100 tsf

Client: U.S. Army Corps of Engineers

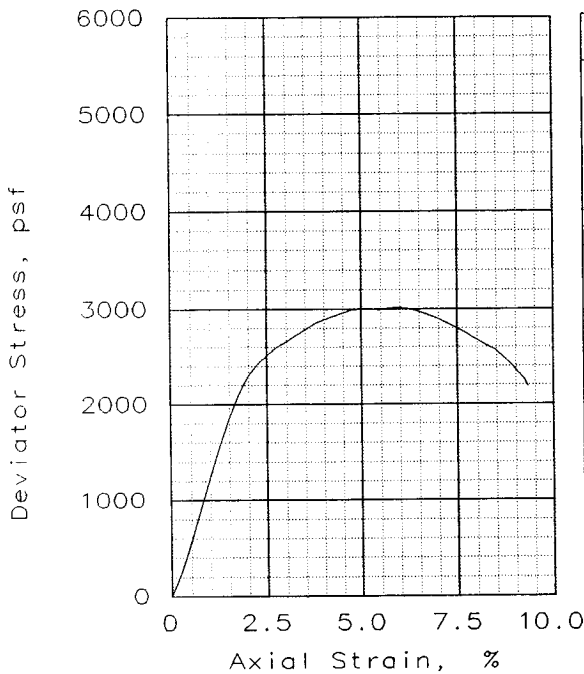
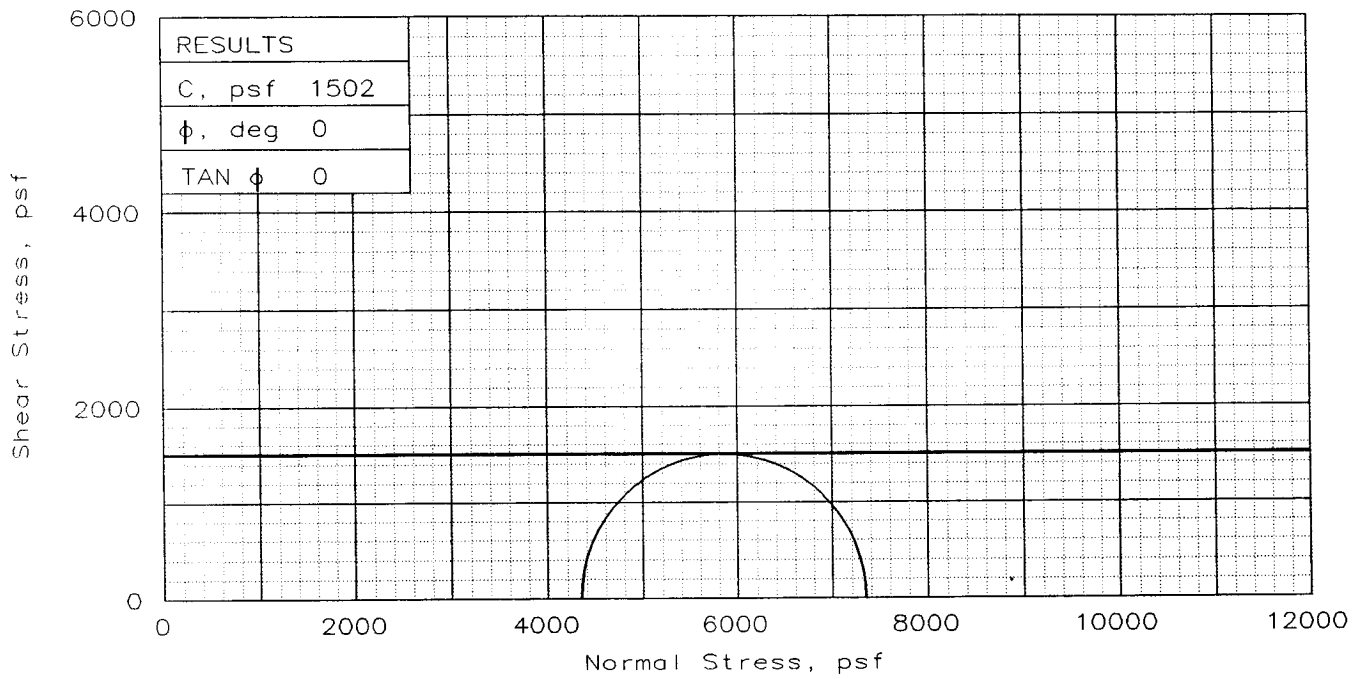
Project: Repairs to Levees and Floodwalls  
at the 17th Street Canal

Location: Boring 2,  
Sample 33B, Depth 85.3', Elev. -83.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	38.7
	DRY DENSITY, pcf	80.5
	SATURATION, %	94.3
	VOID RATIO	1.125
	DIAMETER, in	1.39
AT TEST	HEIGHT, in	2.93
	WATER CONTENT, %	41.2
	DRY DENSITY, pcf	80.3
	SATURATION, %	100.0
	VOID RATIO	1.129
	DIAMETER, in	1.39
	HEIGHT, in	2.93
	Strain rate, in/min	0.0289
	BACK PRESSURE, psf	0
	CELL PRESSURE, psf	4349
	FAIL. STRESS, psf	3004
	ULT. STRESS, psf	2188
	$\sigma_1$ FAILURE, psf	7353
	$\sigma_3$ FAILURE, psf	4349

TYPE OF TEST:  
Unconsolidated Undrained  
SAMPLE TYPE: Undisturbed  
DESCRIPTION: St IGr & T CH4  
w/ Ins SM, SL

SPECIFIC GRAVITY= 2.74  
REMARKS: Torvane = 0.875 tsf

CLIENT: U.S. Army Corps of Engineers

PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal

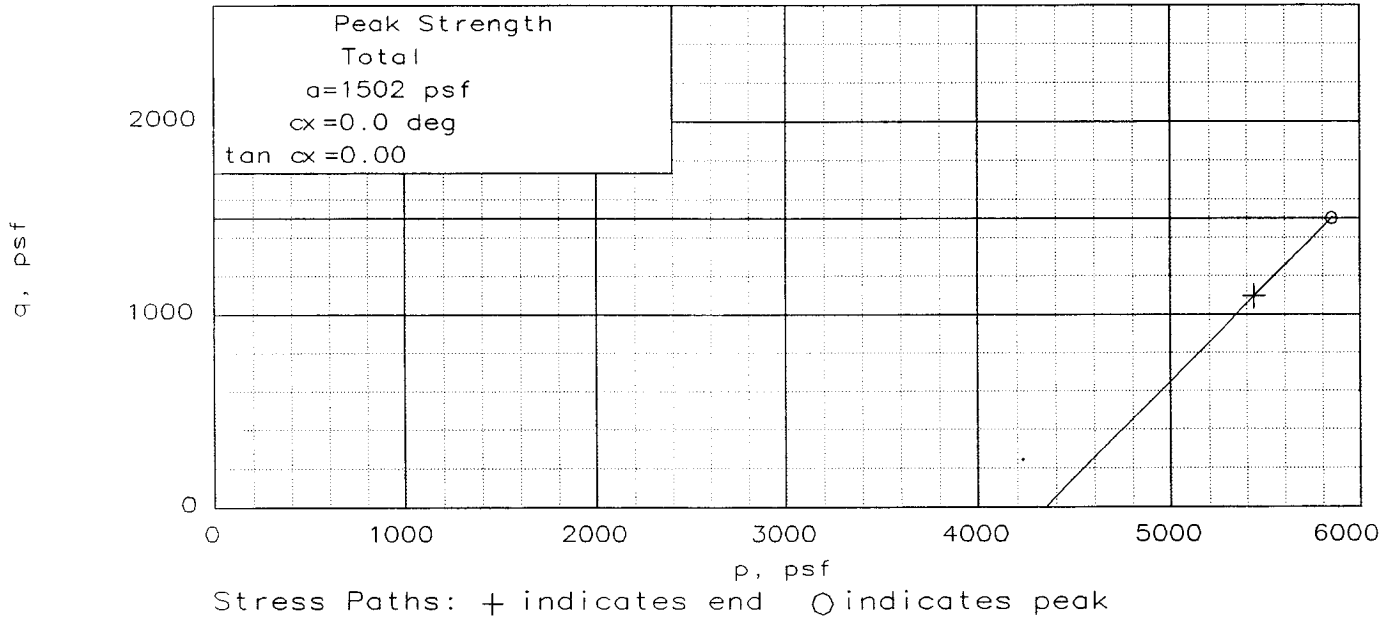
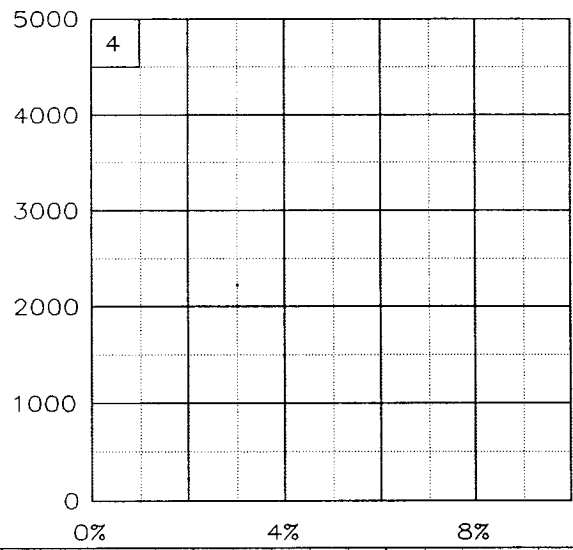
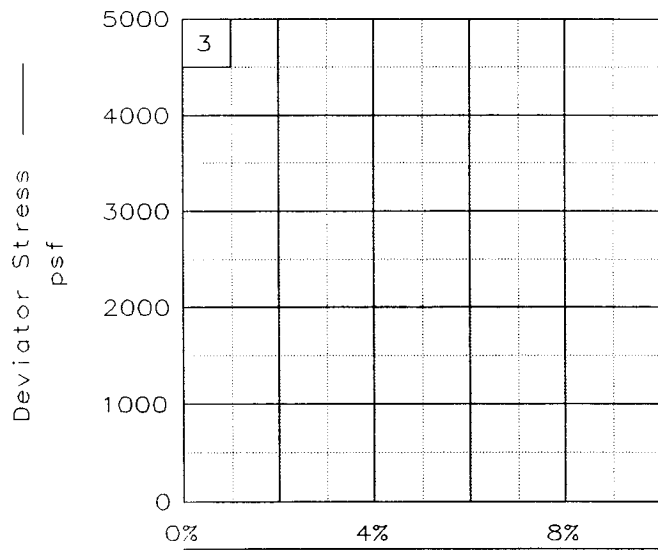
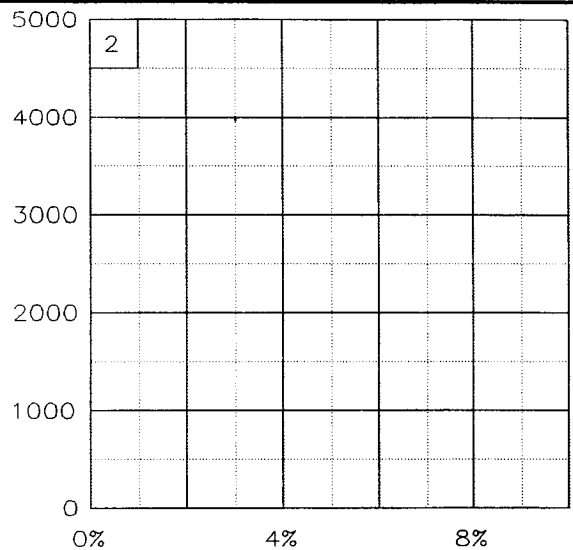
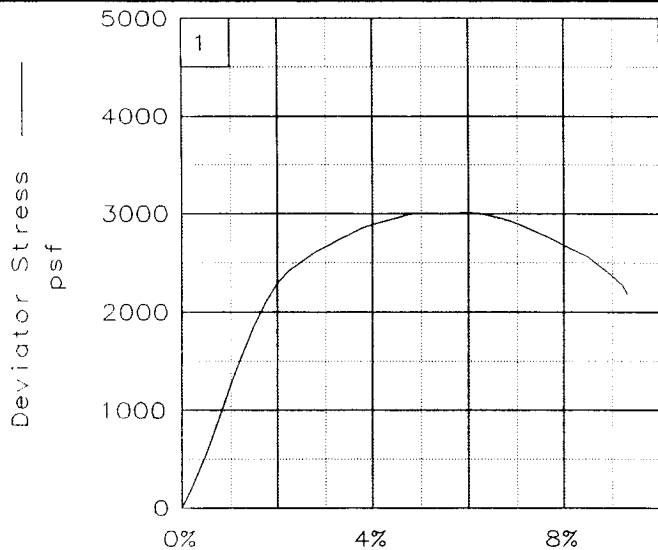
SAMPLE LOCATION: Boring 2,  
Sample 34-B, Depth 87.3', Elev -85.6

PROJ. NO.: 19080 DATE: 10/24/05

TRIAXIAL SHEAR TEST REPORT

Eustis Engineering Company, Inc.

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls at the 17th Street Canal

Location: Boring 2, Sample 34-B, Depth 87.3', Elev -85.6

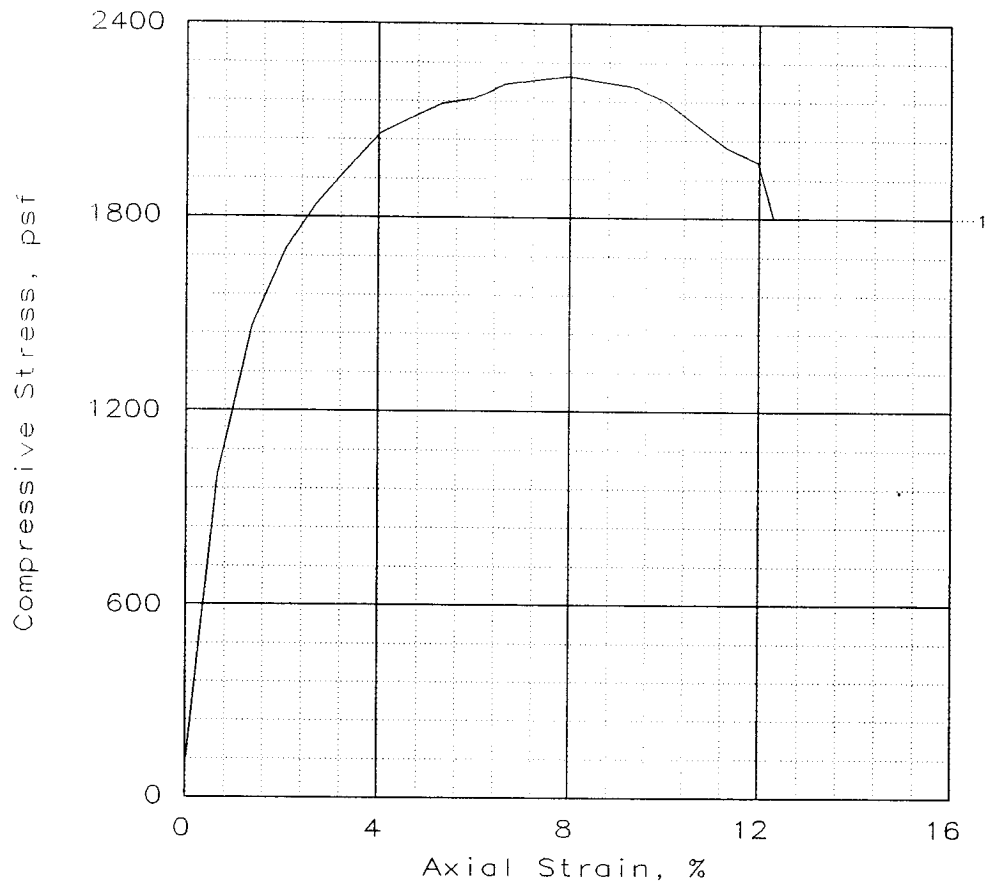
File: UU-25153

Project No.: 19080

Fig. No.: \_\_\_\_\_



## UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	2237			
Undrained shear strength, psf	1119			
Failure strain, %	8.0			
Strain rate, in/min	0.0534			
Water content, %	36.9			
Wet density, pcf	114.2			
Dry density, pcf	83.4			
Saturation, %	96.2			
Void ratio	1.0510			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: St Gr & Br CH4 w/ Ins ML

	GS= 2.74	Type: Undisturbed
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Project No.: 19080  
 Date: 9-30-05  
 Remarks:  
 Torvane = 1.025 tsf

Fig. No.: \_\_\_\_\_

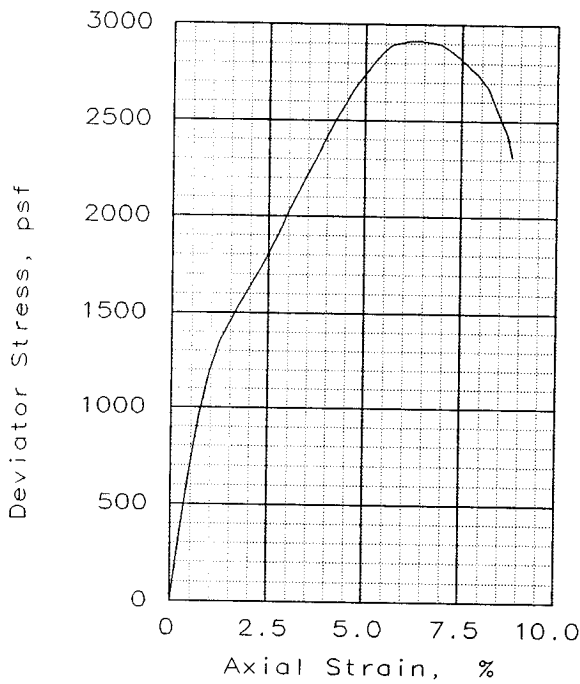
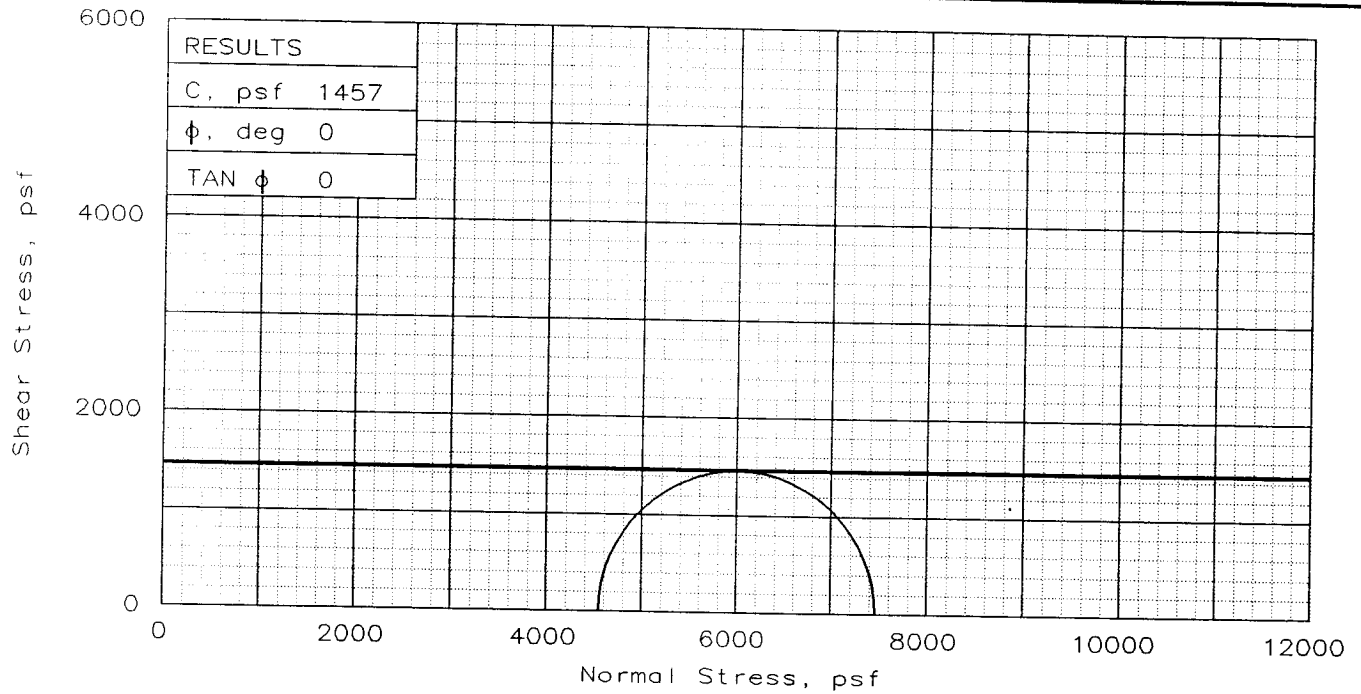
Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal

Location: Boring 2,  
 Sample 35A, Depth 88.3', Elev. -86.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	34.2
	DRY DENSITY, pcf	85.5
	SATURATION, %	93.8
	VOID RATIO	1.000
	DIAMETER, in	1.39
AT TEST	HEIGHT, in	2.93
	WATER CONTENT, %	36.5
	DRY DENSITY, pcf	85.6
	SATURATION, %	100.0
	VOID RATIO	0.999
DIAMETER, in	1.39	
HEIGHT, in	2.93	
Strain rate, in/min	0.0289	
BACK PRESSURE, psf	0	
CELL PRESSURE, psf	4550	
FAIL. STRESS, psf	2915	
ULT. STRESS, psf	2312	
$\sigma_1$ FAILURE, psf	7465	
$\sigma_3$ FAILURE, psf	4550	

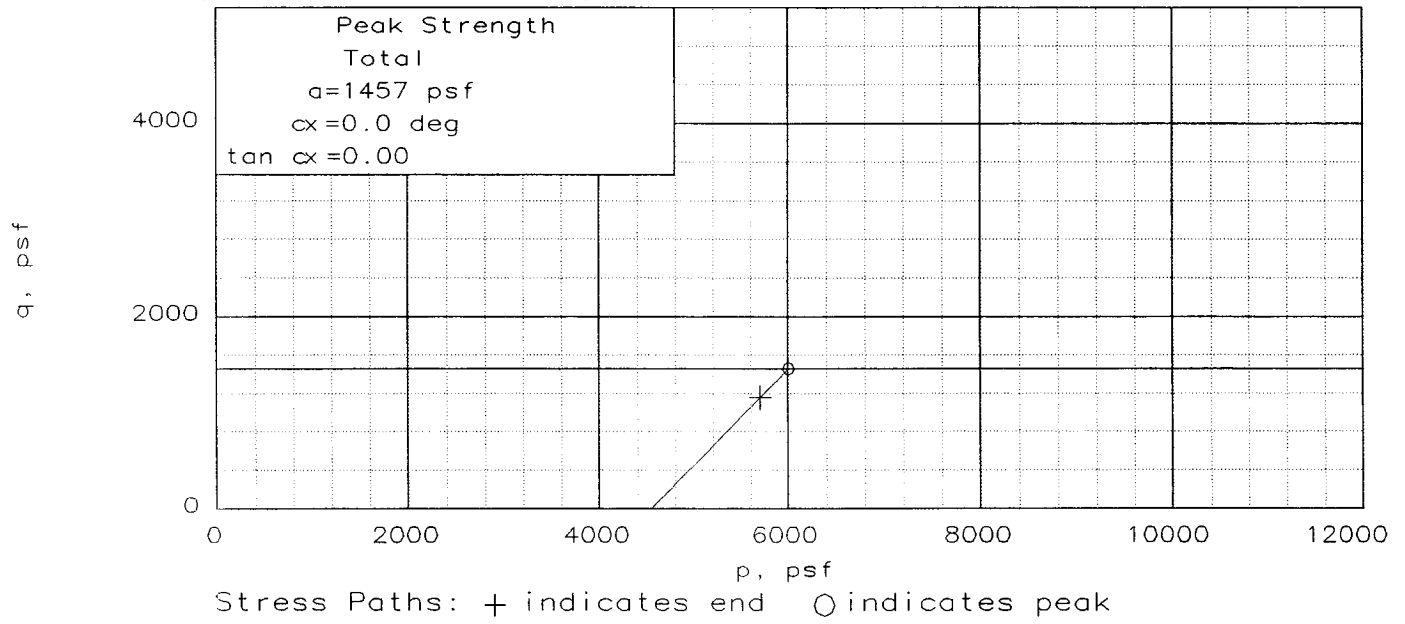
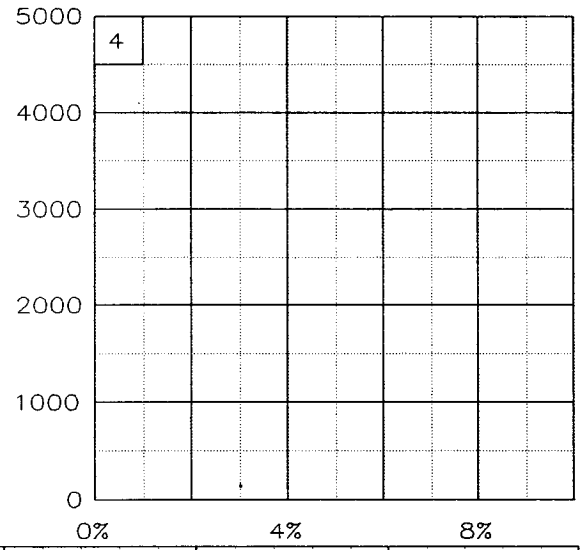
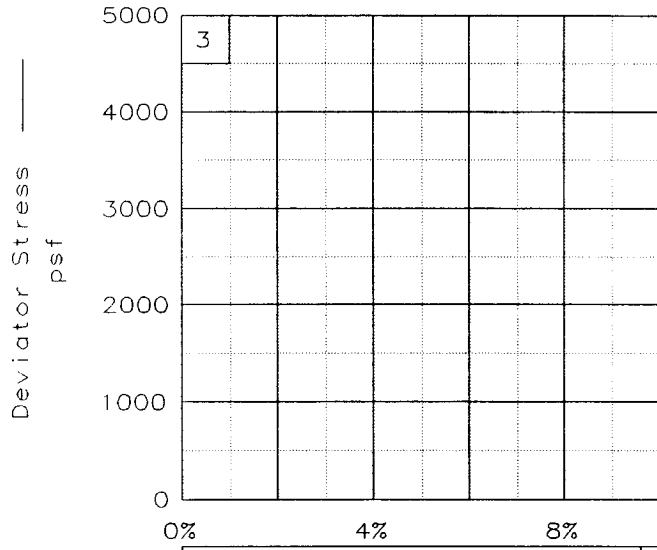
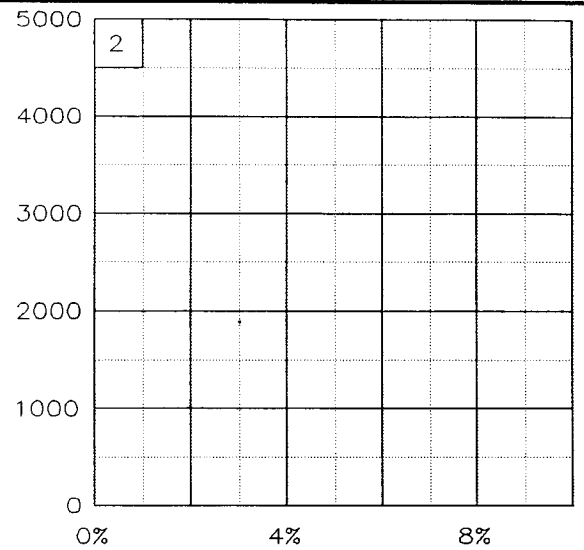
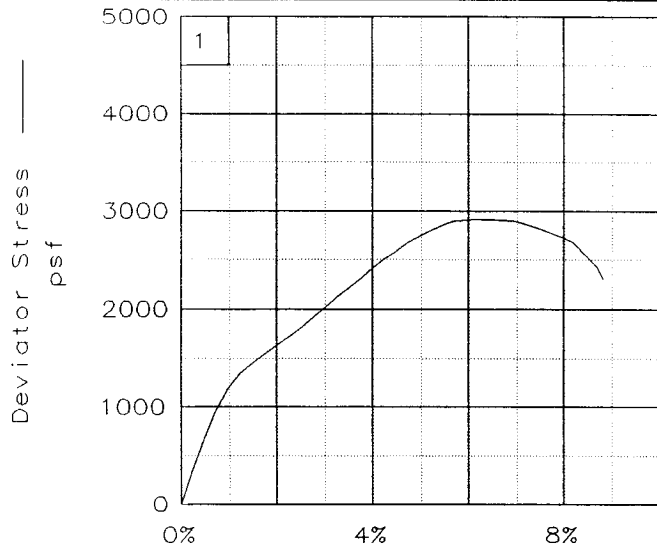
TYPE OF TEST:  
 Unconsolidated Undrained  
 SAMPLE TYPE: Undisturbed  
 DESCRIPTION: St IGr & T CH3  
 w/ Ins ML, SL  
 LL= 59      PL= 19      PI= 40  
 SPECIFIC GRAVITY= 2.74  
 REMARKS: Torvane = 0.825 tsf

CLIENT: U.S. Army Corps of Engineers  
 PROJECT: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 SAMPLE LOCATION: Boring 2,  
 Sample 36-B, Depth 91.3', Elev -89.6  
 PROJ. NO.: 19080      DATE: 10/24/05

TRIAXIAL SHEAR TEST REPORT

Eustis Engineering Company, Inc.

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls at the 17th Street Canal

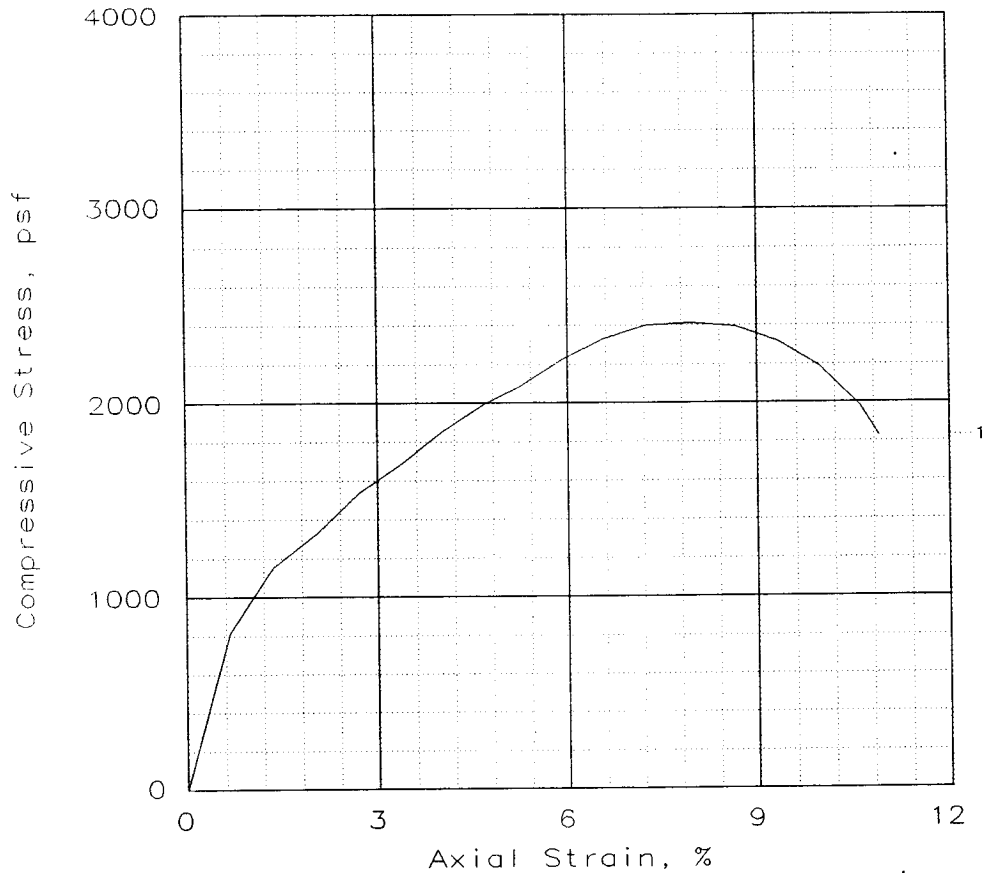
Location: Boring 2, Sample 36-B, Depth 91.3', Elev -89.6

File: UU-25154

Project No.: 19080

Fig. No.: \_\_\_\_\_

## UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	2412			
Undrained shear strength, psf	1206			
Failure strain, %	8.0			
Strain rate, in/min	0.0564			
Water content, %	39.0			
Wet density, pcf	113.1			
Dry density, pcf	81.3			
Saturation, %	96.9			
Void ratio	1.1032			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: St Gr & T CH4 w/ Ins ML, rt, SL

GS= 2.74

Type: Undisturbed

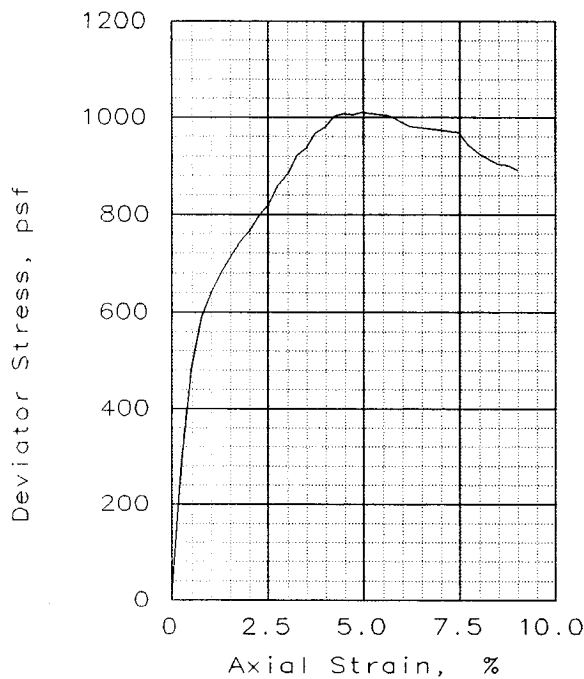
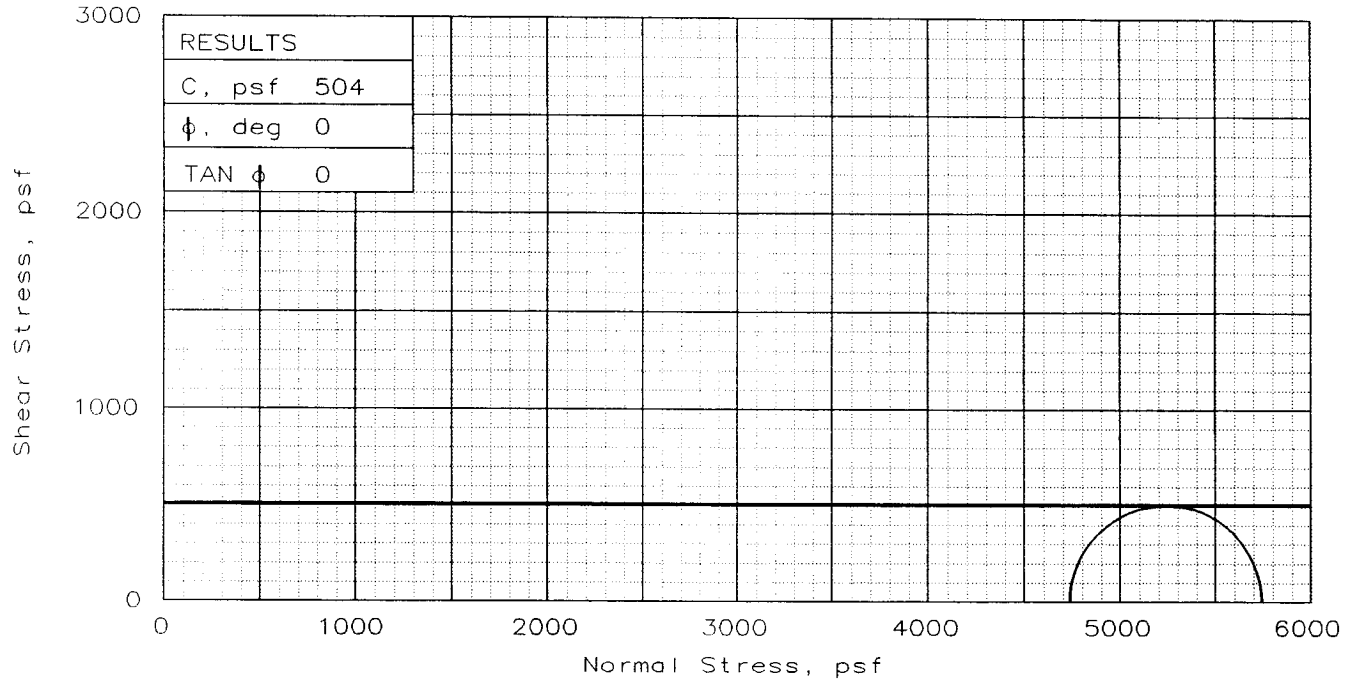
Project No.: 19080  
 Date: 9-30-05  
 Remarks:  
 Torvane = 0.650 tsf

Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 Location: Boring 2,  
 Sample 37B, Depth 93.3', Elev. -91.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	37.8
	DRY DENSITY, pcf	80.6
	SATURATION, %	92.2
	VOID RATIO	1.122
	DIAMETER, in	1.39
	HEIGHT, in	2.93
AT TEST	WATER CONTENT, %	40.9
	DRY DENSITY, pcf	80.7
	SATURATION, %	100.0
	VOID RATIO	1.121
	DIAMETER, in	1.39
	HEIGHT, in	2.93
Strain rate, in/min		0.0288
BACK PRESSURE, psf		0
CELL PRESSURE, psf		4738
FAIL. STRESS, psf		1008
ULT. STRESS, psf		891
$\sigma_1$ FAILURE, psf		5746
$\sigma_3$ FAILURE, psf		4738

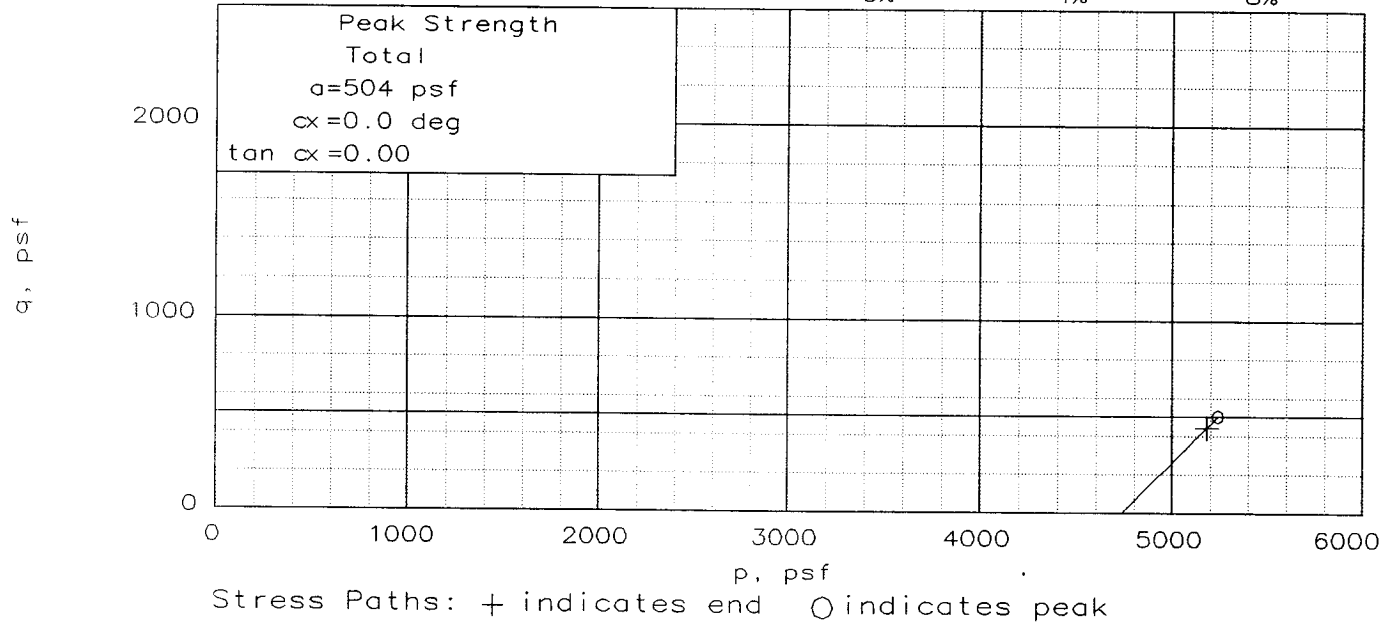
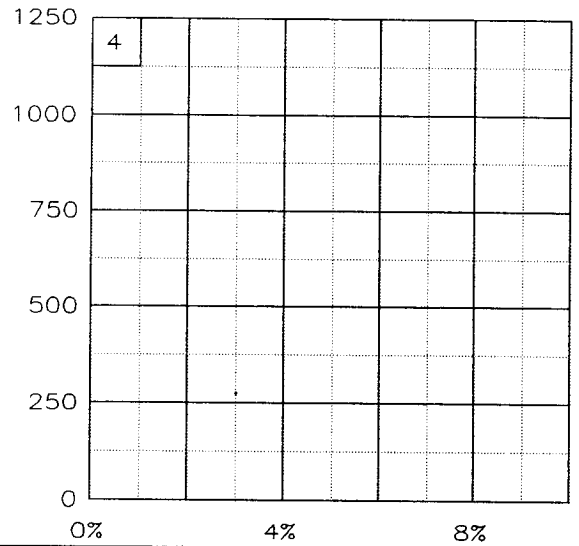
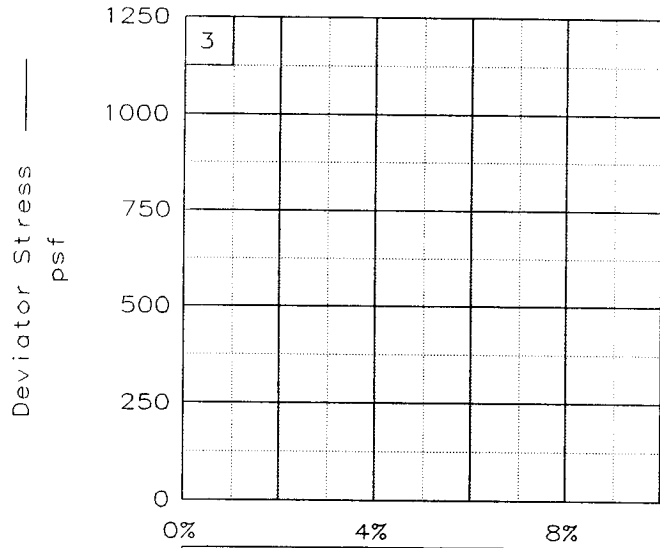
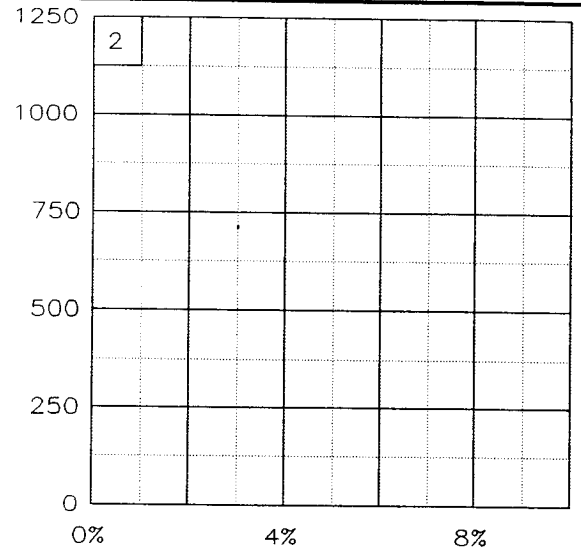
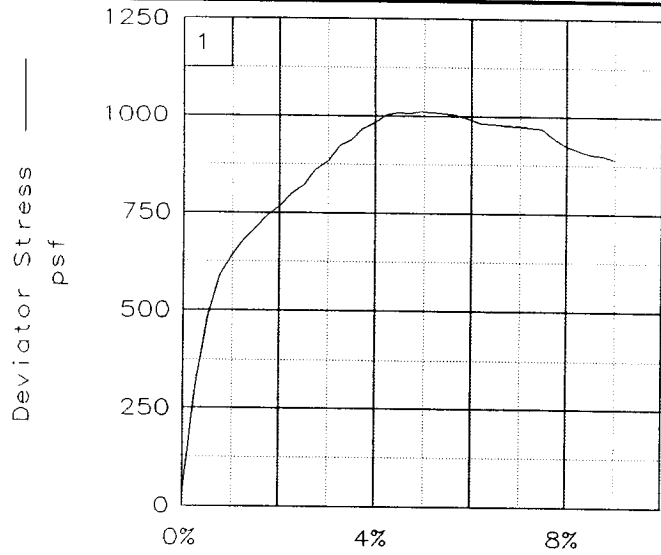
TYPE OF TEST:  
Unconsolidated Undrained  
SAMPLE TYPE: Undisturbed  
DESCRIPTION: M Gr & T CH3  
w/ Ins SM, cc, SL  
SPECIFIC GRAVITY= 2.74  
REMARKS: Torvane = 0.500 tsf

CLIENT: U.S. Army Corps of Engineers  
PROJECT: Repairs to Levees and Floodwalls  
at the 17th Street Canal  
SAMPLE LOCATION: Boring 2,  
Sample 38-A, Depth 94.3', Elev -92.6  
PROJ. NO.: 19080 DATE: 10/24/05

TRIAxIAL SHEAR TEST REPORT

Eustis Engineering Company, Inc.

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls at the 17th Street Canal

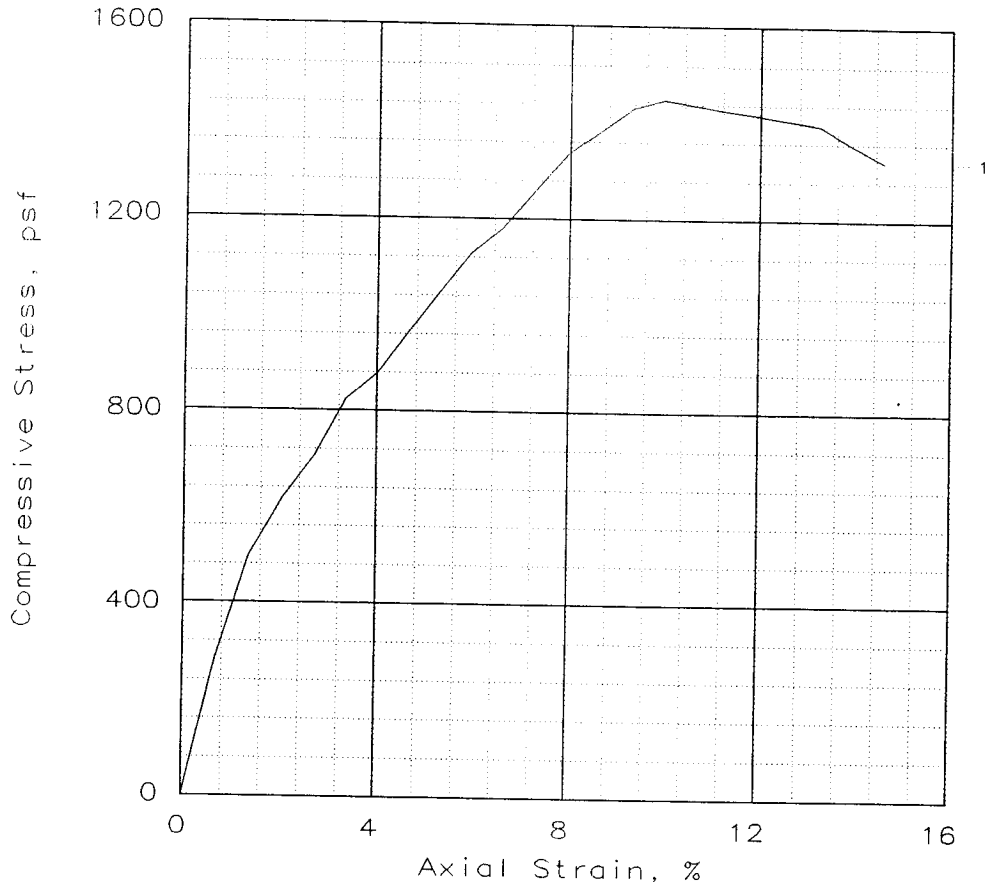
Location: Boring 2, Sample 38-A, Depth 94.3', Elev -92.6

File: UU-25155

Project No.: 19080

Fig. No.: \_\_\_\_\_

# UNCONFINED COMPRESSION TEST



SPECIMEN NO.:	1			
Unconfined strength, psf	1450			
Undrained shear strength, psf	725			
Failure strain, %	10.0			
Strain rate, in/min	0.0566			
Water content, %	46.0			
Wet density, pcf	108.8			
Dry density, pcf	74.5			
Saturation, %	97.2			
Void ratio	1.2965			
Specimen diameter, in	1.39			
Specimen height, in	2.93			
Height/diameter ratio	2.11			

Description: M Gr CH4 w/ Ins ML

	GS= 2.74	Type: Undisturbed
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Project No.: 19080  
 Date: 9-30-05  
 Remarks:  
 Torvane = 0.425 tsf

Fig. No.: \_\_\_\_\_

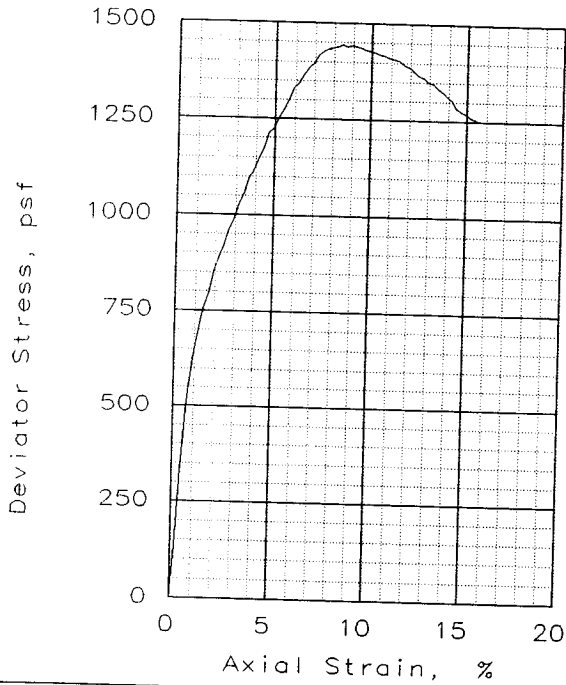
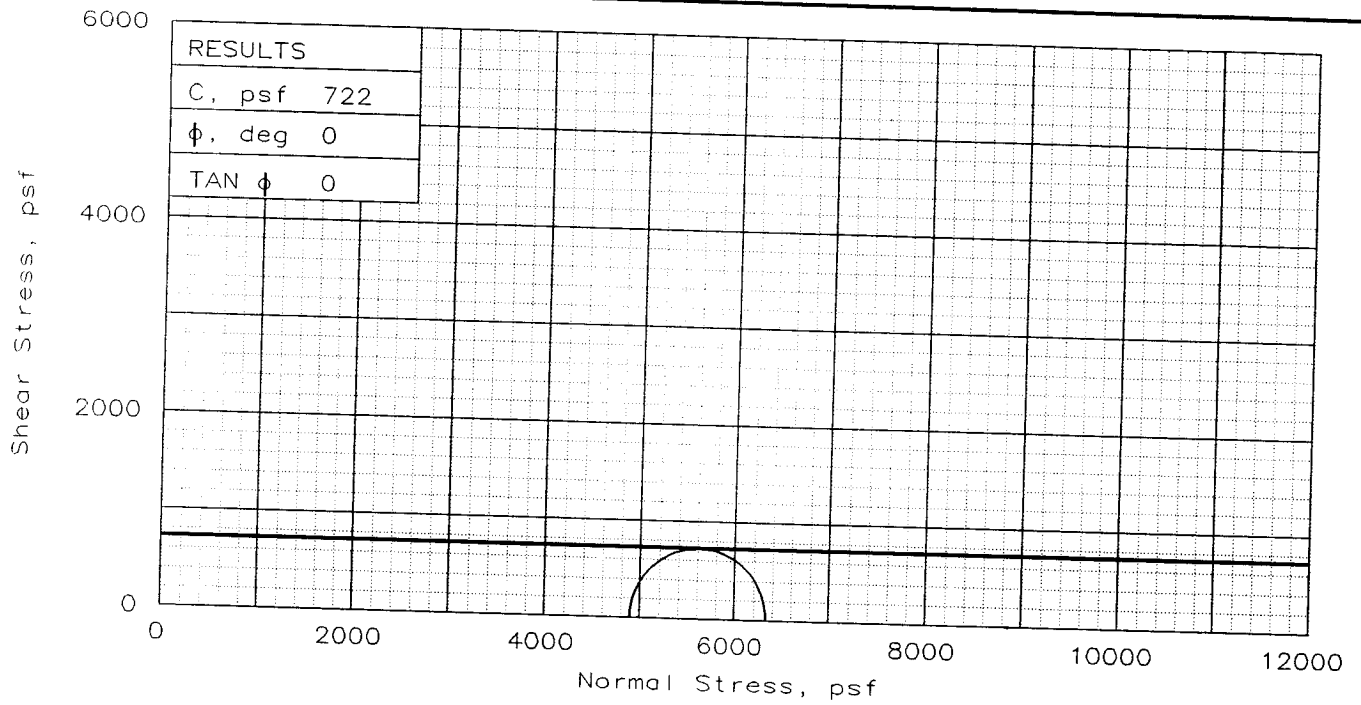
Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls at the 17th Street Canal

Location: Boring 2,  
 Sample 39A, Depth 96.3', Elev. -94.6

UNCONFINED COMPRESSION TEST

**Eustis Engineering Company, Inc.**



SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	39.8
	DRY DENSITY, pcf	76.2
	SATURATION, %	88.0
	VOID RATIO	1.229
	DIAMETER, in	1.39
AT TEST	HEIGHT, in	2.93
	WATER CONTENT, %	45.3
	DRY DENSITY, pcf	76.0
	SATURATION, %	100.0
	VOID RATIO	1.233
	DIAMETER, in	1.39
	HEIGHT, in	2.93
	Strain rate, in/min	0.0291
	BACK PRESSURE, psf	0
	CELL PRESSURE, psf	4896
	FAIL. STRESS, psf	1443
	ULT. STRESS, psf	1254
	$\sigma_1$ FAILURE, psf	6339
	$\sigma_3$ FAILURE, psf	4896

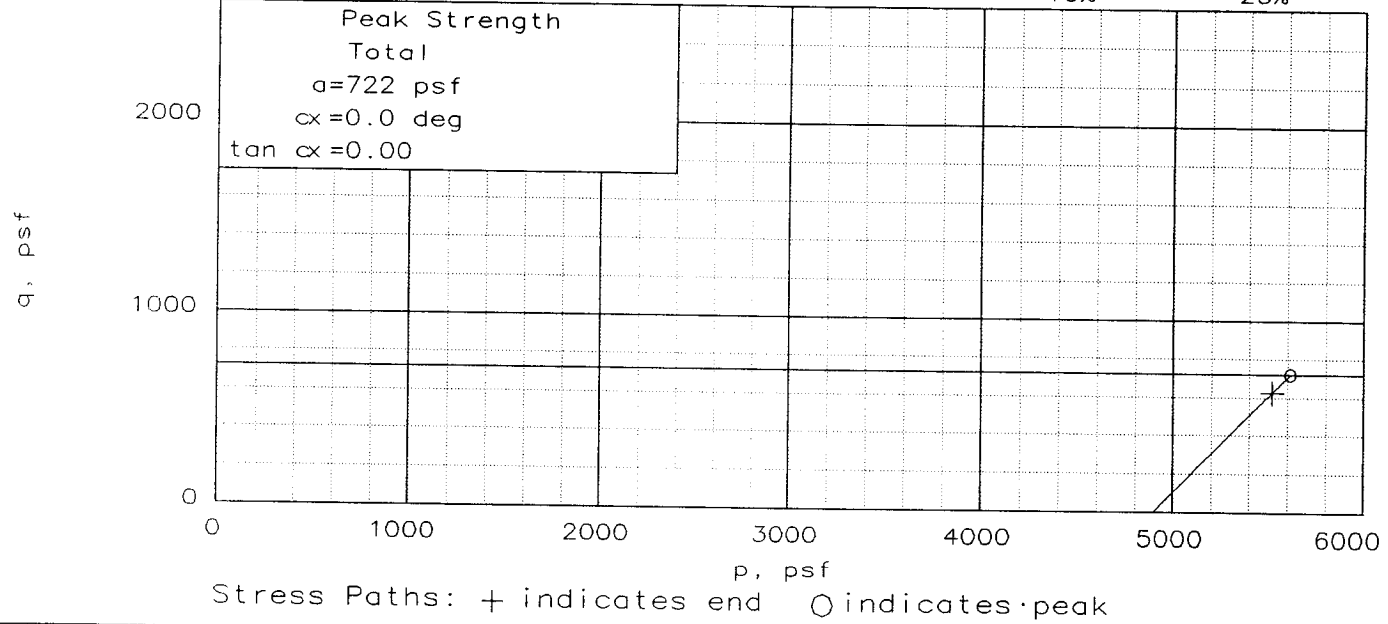
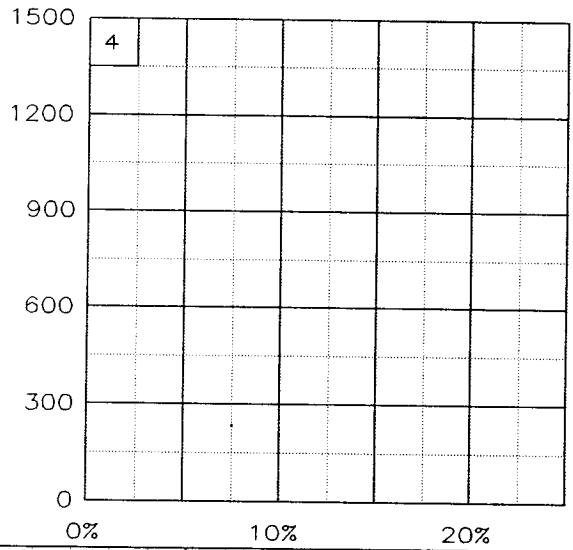
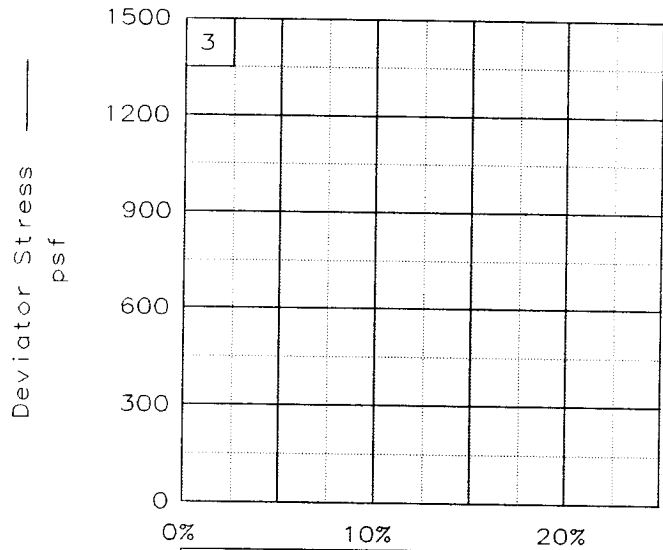
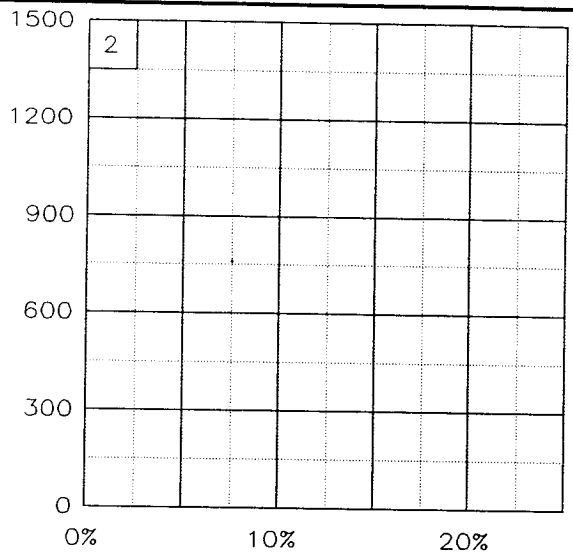
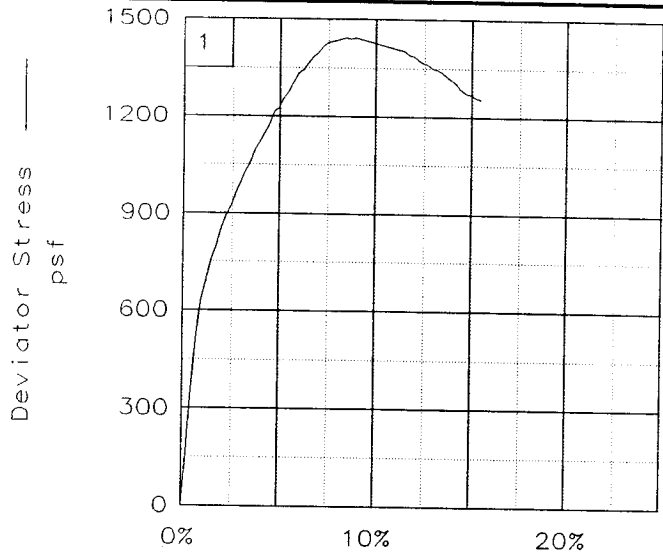
TYPE OF TEST:  
 Unconsolidated Undrained  
 SAMPLE TYPE: Undisturbed  
 DESCRIPTION: M Gr CH3  
 w/ ars & Ins SP  
 LL= 67      PL= 20      PI= 47  
 SPECIFIC GRAVITY= 2.72  
 REMARKS: Torvane = 0.370 tsf

CLIENT: U.S. Army Corps of Engineers  
 PROJECT: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 SAMPLE LOCATION: Boring 2,  
 Sample 40-A, Depth 98.3', Elev -96.6  
 PROJ. NO.: 19080      DATE: 10/24/05

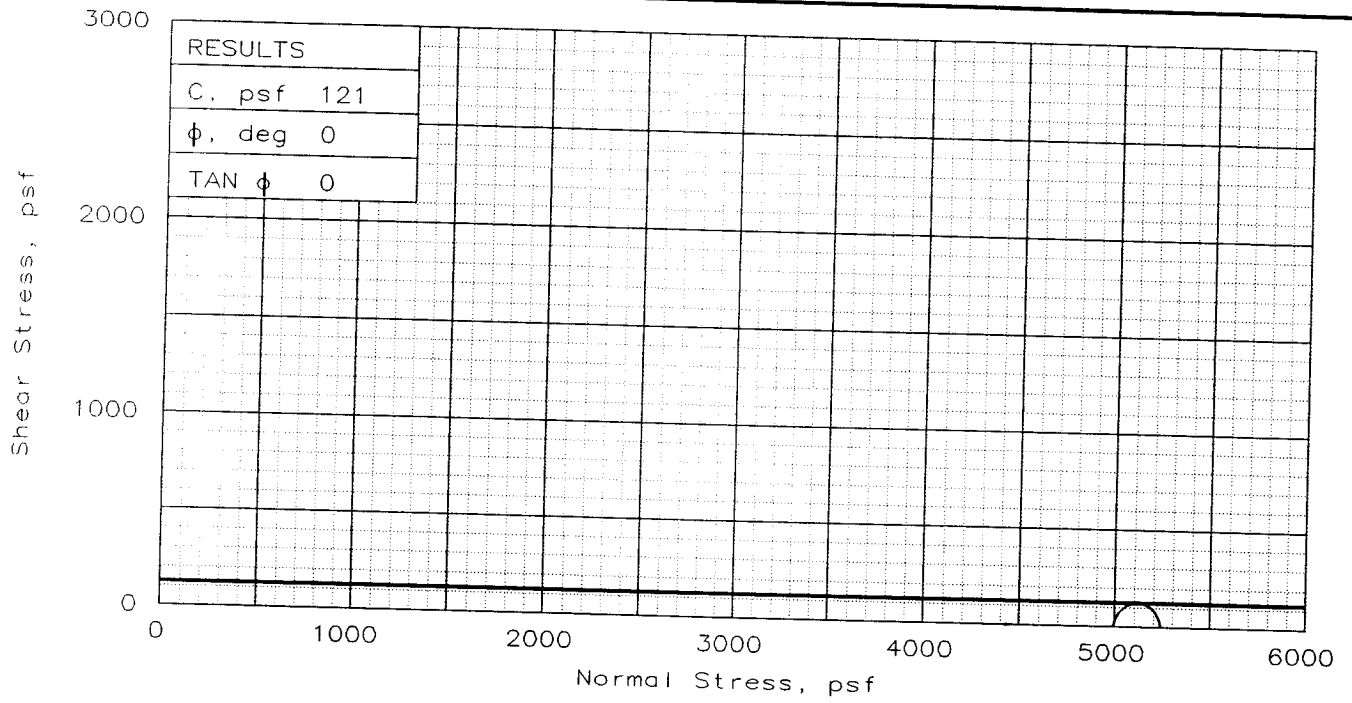
TRIAXIAL SHEAR TEST REPORT  
 Eustis Engineering Company, Inc.

Fig. No.: \_\_\_\_\_





Client: U.S. Army Corps of Engineers  
 Project: Repairs to Levees and Floodwalls at the 17th Street Canal  
 Location: Boring 2, Sample 40-A, Depth 98.3', Elev -96.6  
 File: UU-25156                      Project No.: 19080                      Fig. No.: \_\_\_\_\_



RESULTS	
C, psf	121
$\phi$ , deg	0
TAN $\phi$	0

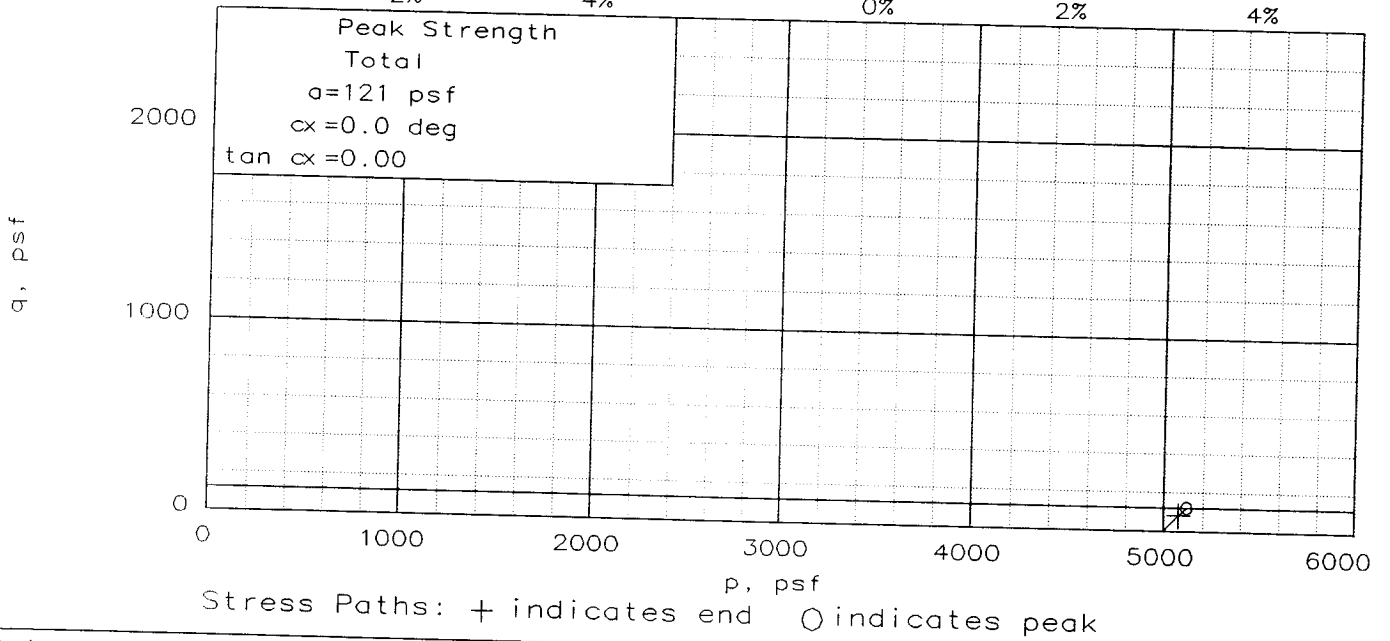
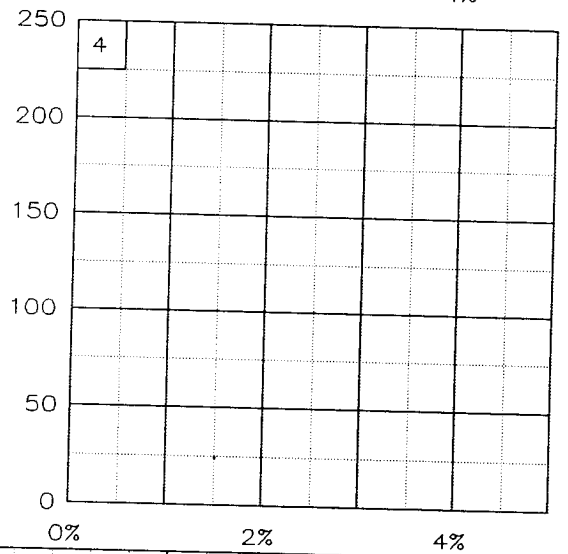
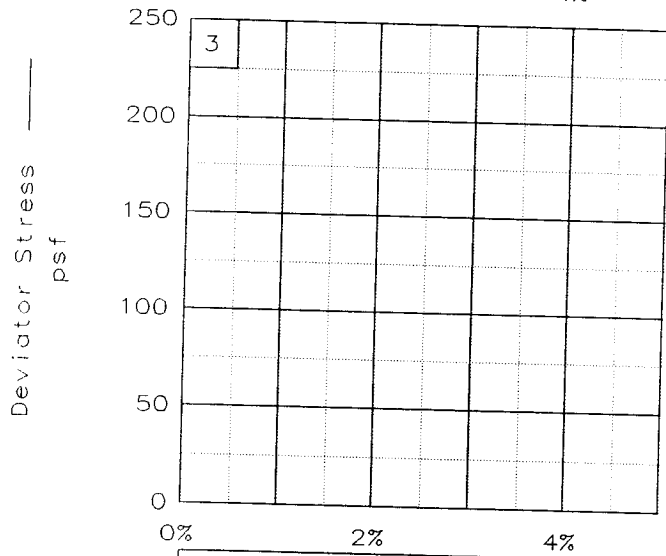
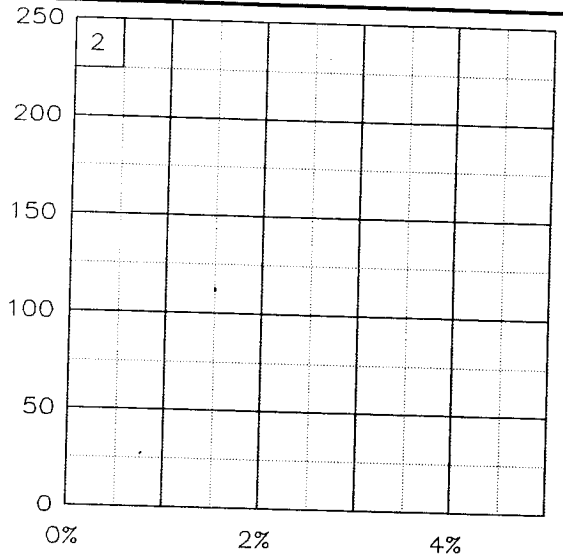
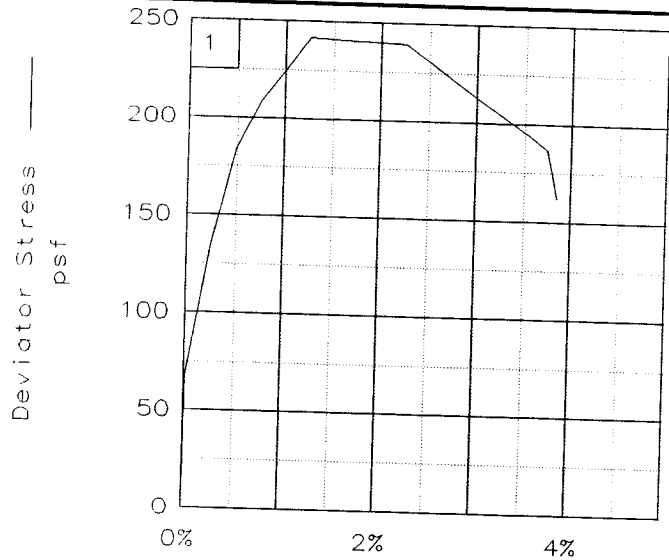


SPECIMEN NO.:		1
INITIAL	WATER CONTENT, %	42.6
	DRY DENSITY, pcf	75.5
	SATURATION, %	92.2
	VOID RATIO	1.267
	DIAMETER, in	1.39
AT TEST	HEIGHT, in	2.93
	WATER CONTENT, %	46.3
	DRY DENSITY, pcf	75.4
	SATURATION, %	100.0
	VOID RATIO	1.269
DIAMETER, in	1.39	
HEIGHT, in	2.93	
Strain rate, in/min	0.0265	
BACK PRESSURE, psf	0	
CELL PRESSURE, psf	4997	
FAIL. STRESS, psf	242	
ULT. STRESS, psf	162	
$\sigma_1$ FAILURE, psf	5238	
$\sigma_3$ FAILURE, psf	4997	

TYPE OF TEST:  
 Unconsolidated Undrained  
 SAMPLE TYPE: Undisturbed  
 DESCRIPTION: vSo Gr CH4  
 w/ lys & Ins SM, SIF  
 SPECIFIC GRAVITY= 2.74  
 REMARKS: Torvane = 0.400 tsf

CLIENT: U.S. Army Corps of Engineers  
 PROJECT: Repairs to Levees and Floodwalls  
 at the 17th Street Canal  
 SAMPLE LOCATION: Boring 2,  
 Sample 40B, Depth 99.3', Elev. -97.6  
 PROJ. NO.: 19080                      DATE: 9-30-05  
 TRIAXIAL SHEAR TEST REPORT  
**Eustis Engineering Company, Inc.**

Fig. No.: \_\_\_\_\_



Client: U.S. Army Corps of Engineers

Project: Repairs to Levees and Floodwalls at the 17th Street Canal

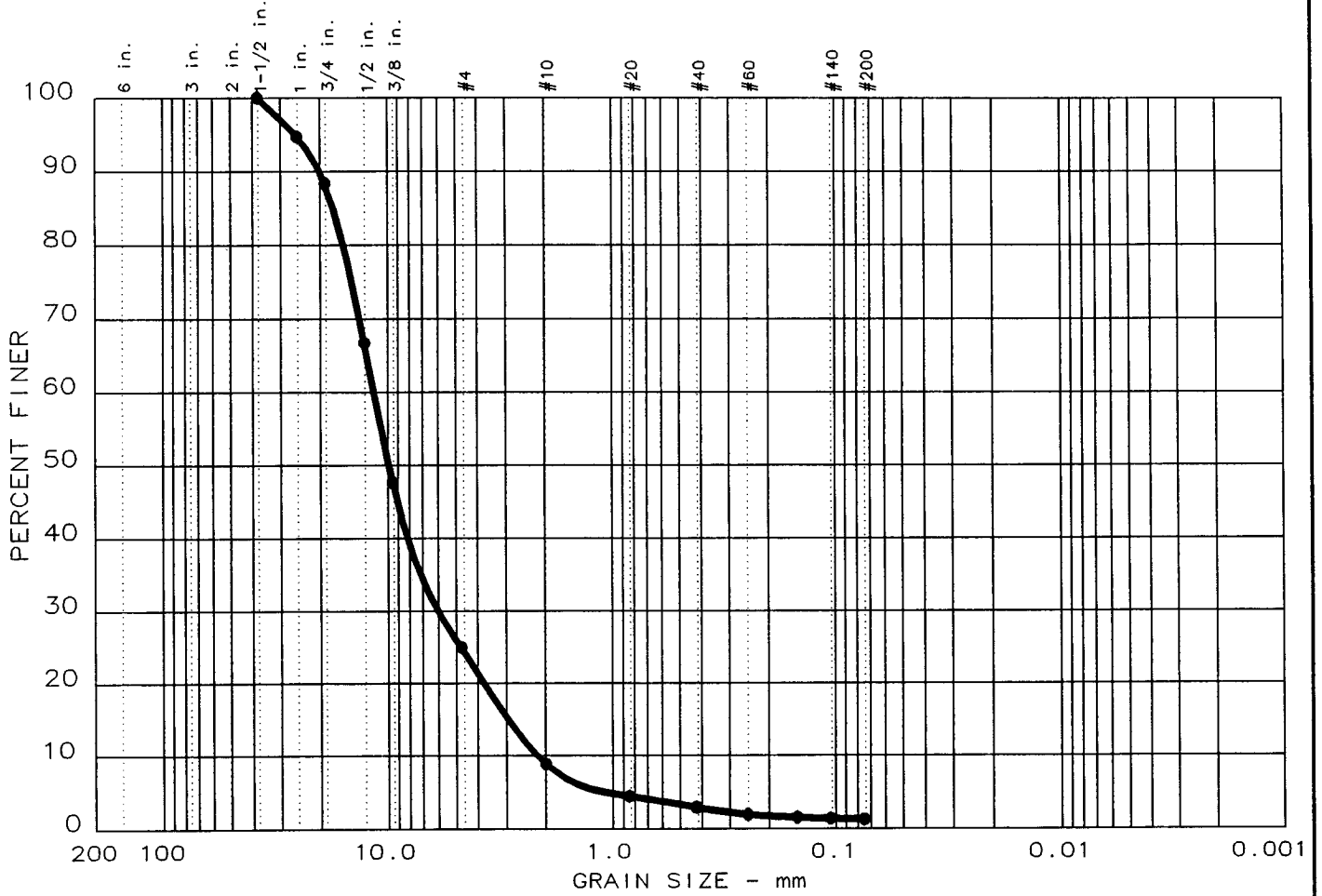
Location: Boring 2, Sample 40B, Depth 99.3', Elev. -97.6

File: UU-25062

Project No.: 19080

Fig. No.: \_\_\_\_\_

# PARTICLE SIZE DISTRIBUTION TEST REPORT



Test	% +3'	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
● 13	0.0	75.0	23.8		1.2	GW		

SIEVE inches size	PERCENT FINER	
	●	
1.5	100.0	
1	94.7	
0.75	88.4	
0.5	66.7	
0.375	47.6	
<del>X</del>	GRAIN SIZE	
D <sub>60</sub>	11.51	
D <sub>30</sub>	5.97	
D <sub>10</sub>	2.16	
<del>X</del>	COEFFICIENTS	
C <sub>c</sub>	1.43	
C <sub>u</sub>	5.3	

SIEVE number size	PERCENT FINER	
	●	
4	25.0	
10	8.8	
20	4.4	
40	2.9	
60	1.9	
100	1.5	
140	1.3	
200	1.2	

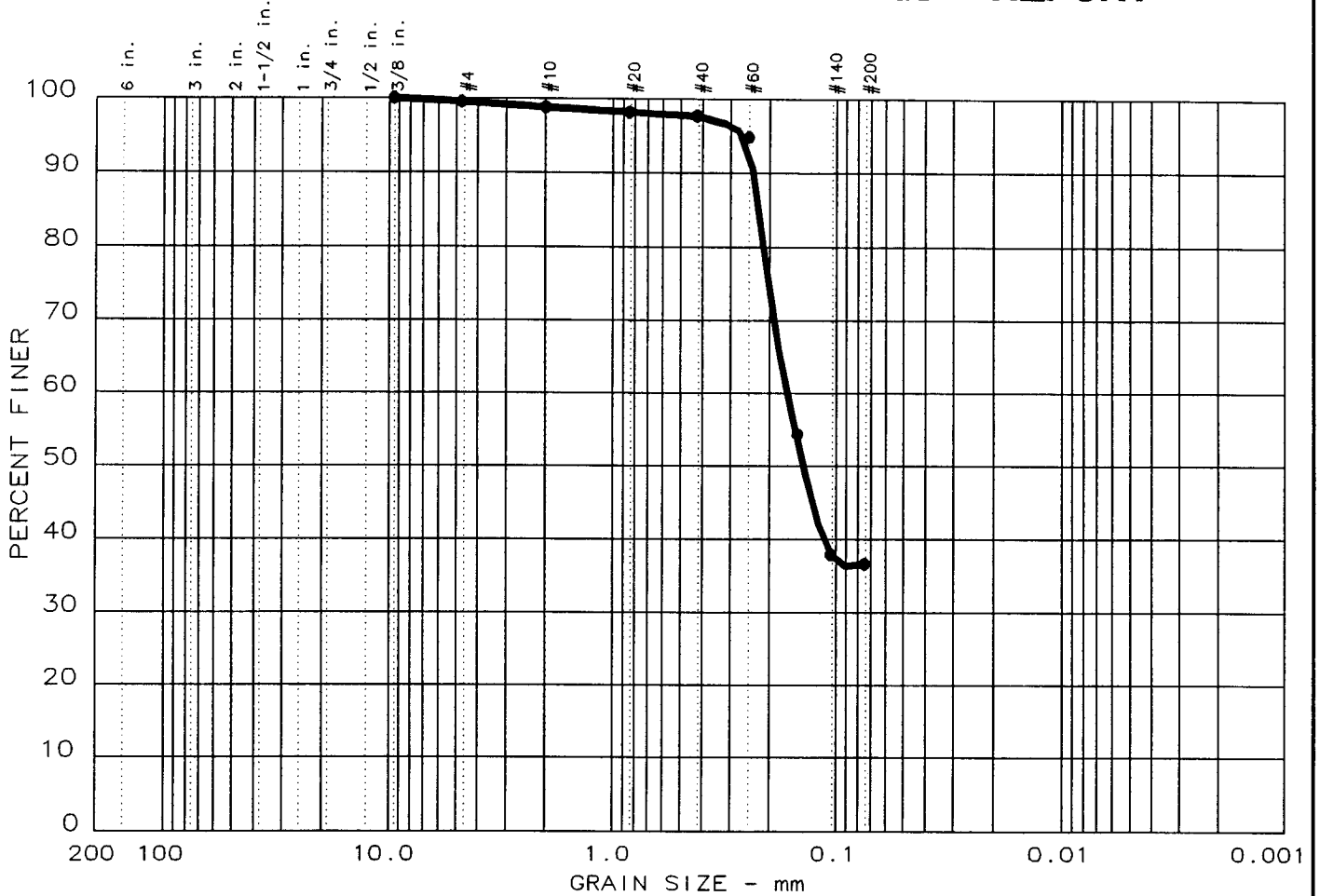
Sample information:  
 ● Boring 2, Sample 1  
 WH & GR G

Remarks:  
 Sample depth 13.5'-15.0'

**Eustis  
Engineering  
Company, Inc.**

Project No.: 19080  
 Project: USACE - 17TH Street Canal  
 Date: 10-26-05 Data Sheet No. \_\_\_\_\_

# PARTICLE SIZE DISTRIBUTION TEST REPORT



Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
● 14	0.0	0.5	62.9	36.6		SM1		

SIEVE inches size	PERCENT FINER		
	●		
0.375	100.0		
X	GRAIN SIZE		
D <sub>60</sub> D <sub>30</sub> D <sub>10</sub>	0.17		
X	COEFFICIENTS		
C <sub>c</sub> C <sub>u</sub>			

SIEVE number size	PERCENT FINER		
	●		
4	99.5		
10	98.8		
20	98.2		
40	97.7		
60	94.8		
100	54.3		
140	37.9		
200	36.6		

Sample information:  
 ● Boring 2, Sample 10  
 GR SM1 W/ SIF

Remarks:  
 Sample depth 36.0'-39.0'

**Eustis  
Engineering  
Company, Inc.**

Project No.: 19080  
 Project: USACE - 17TH Street Canal  
 Date: 10-26-05  
 Data Sheet No. \_\_\_\_\_