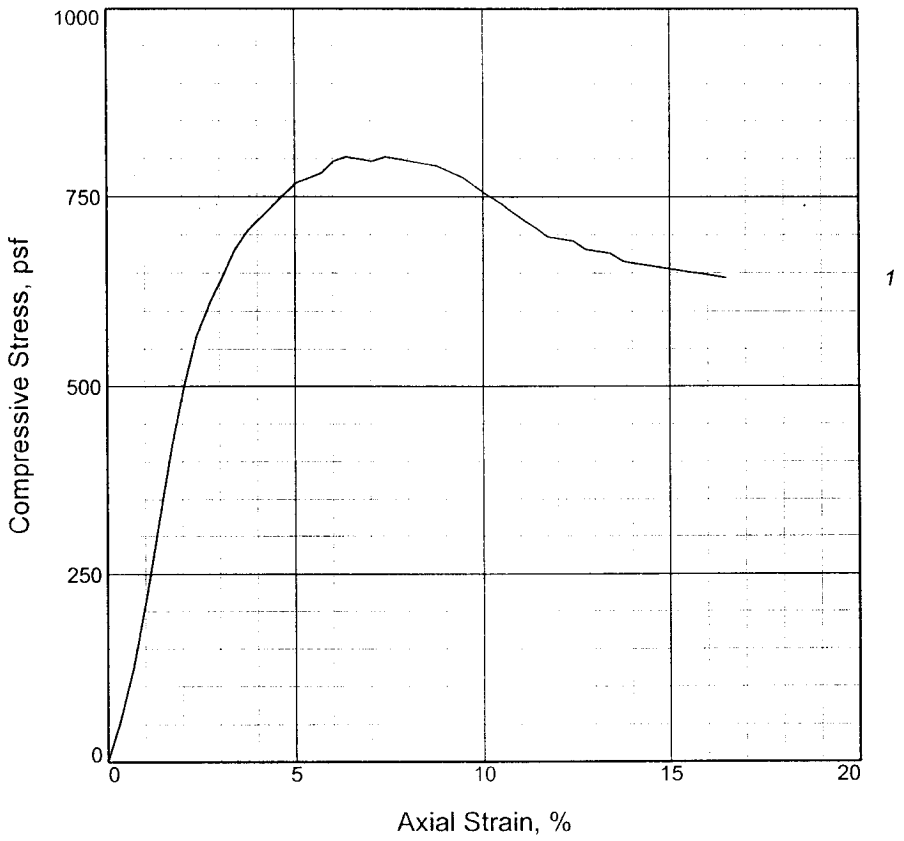
UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	802.0			
Undrained shear strength, psf	401.0			
Failure strain, %	6.4			
Strain rate, in./min.	0.059			
Water content, %	57.5			
Wet density, pcf	97.5			
Dry density, pcf	61.9			
Saturation, %	89.7			
Void ratio	1.7419			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: SO GR CH4 W/ O, ARS SM

LL =	PL =	PI =	**Assumed GS=** 2.72	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/17/05

Remarks:
TORVANE = 0.220 TSF

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 5.0
Sample Number: 3

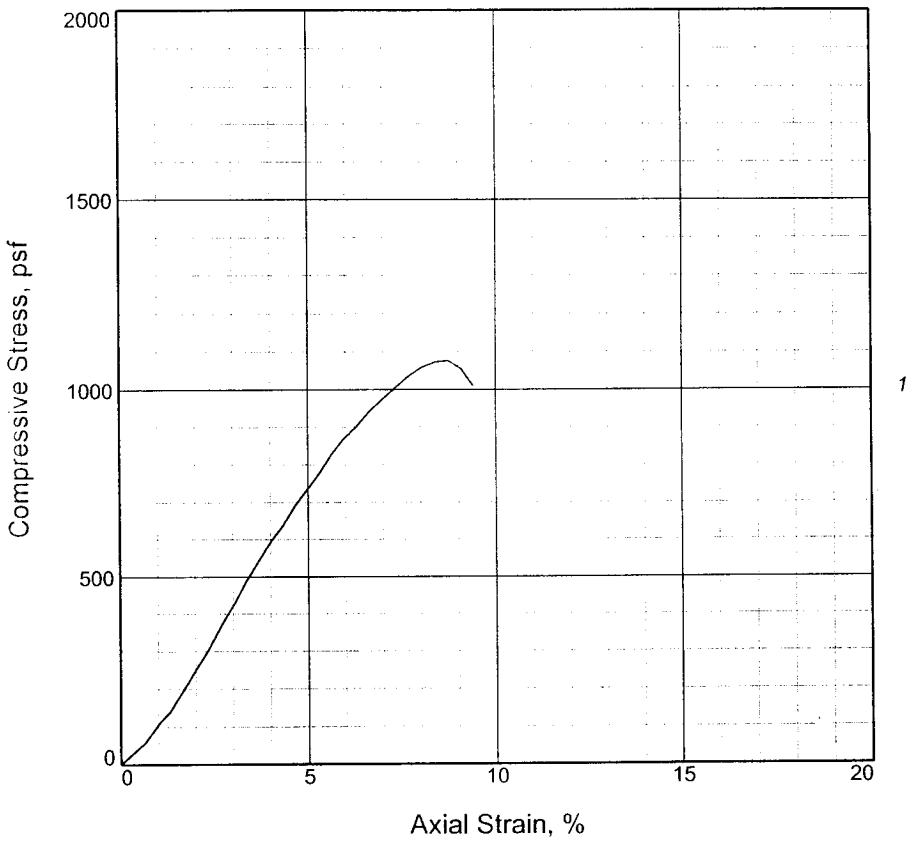
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: RR **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	1076.9			
Undrained shear strength, psf	538.5			
Failure strain, %	8.7			
Strain rate, in./min.	0.000			
Water content, %	56.5			
Wet density, pcf	90.8			
Dry density, pcf	58.0			
Saturation, %	79.8			
Void ratio	1.9252			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: M GR CH4 W/ WD, SL

LL =	PL =	PI =	**Assumed GS=** 2.72	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/16/05
Remarks:
TORVANE = 0.060 TSF

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 10.0
Sample Number: 5

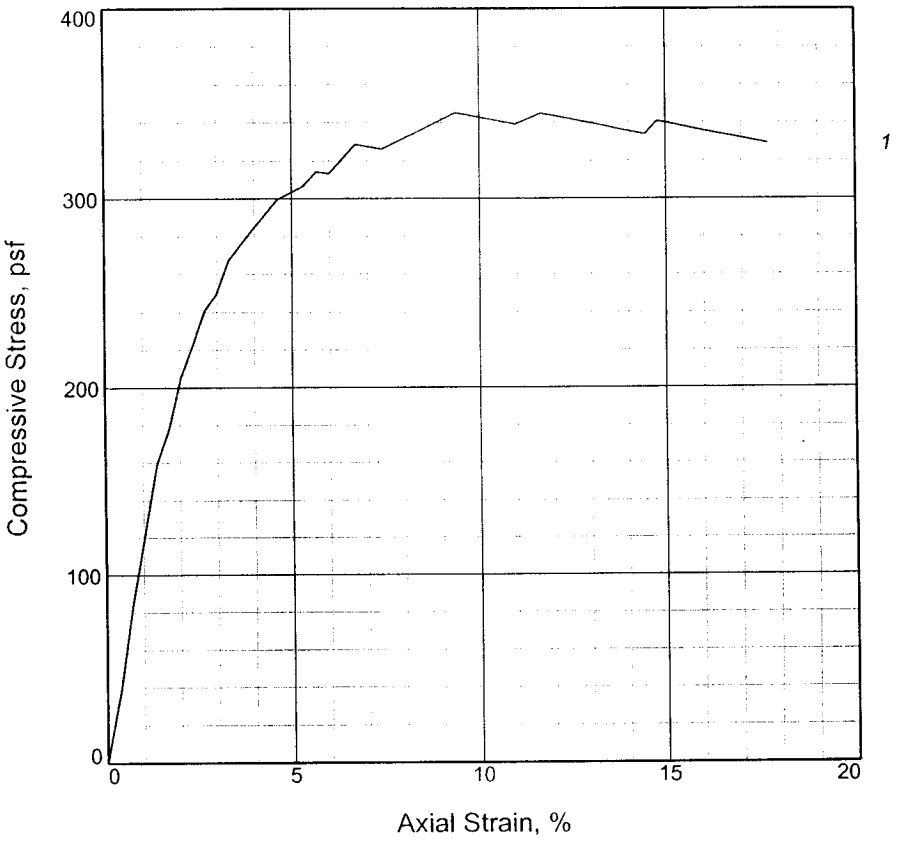
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: RR **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	314.2			
Undrained shear strength, psf	157.1			
Failure strain, %	5.7			
Strain rate, in./min.	0.059			
Water content, %	69.7			
Wet density, pcf	96.5			
Dry density, pcf	56.9			
Saturation, %	95.5			
Void ratio	1.9861			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: VSO GR CH4 W/ ARS ML, WD

LL =	PL =	PI =	**Assumed GS=** 2.72	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/16/05

Remarks:
TORVANE = 0.050 TSF

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 15.0
Sample Number: 7

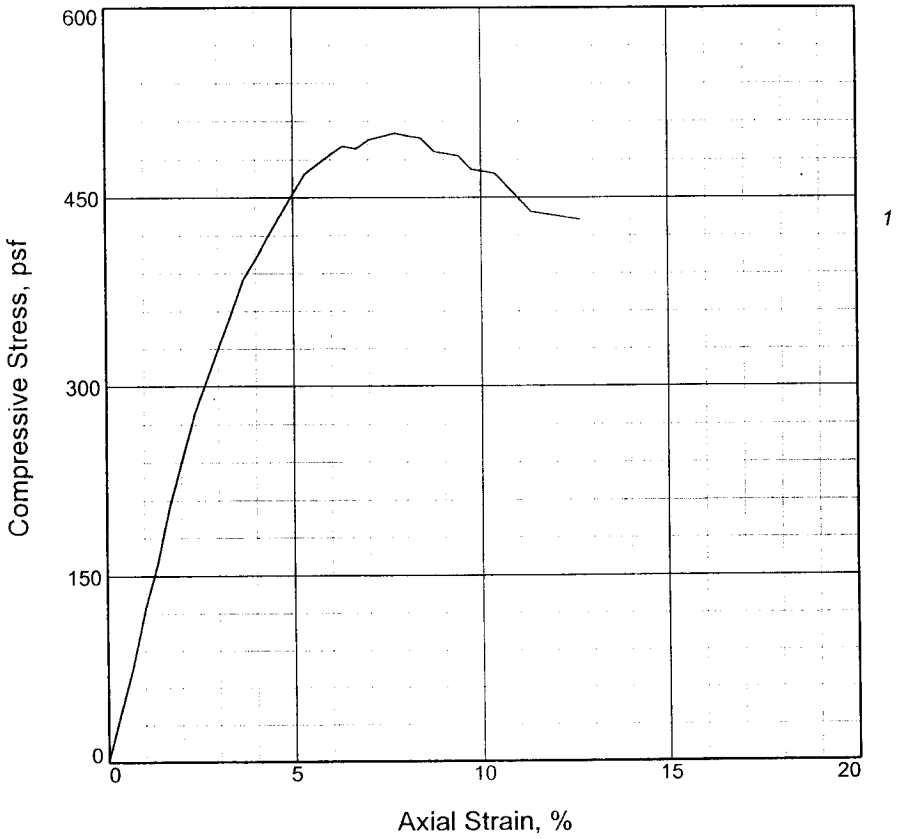
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: ZH **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	490.3			
Undrained shear strength, psf	245.2			
Failure strain, %	6.3			
Strain rate, in./min.	0.059			
Water content, %	47.7			
Wet density, pcf	98.9			
Dry density, pcf	66.9			
Saturation, %	84.9			
Void ratio	1.5185			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: VSO GR CH3 W/ ARS & LNS ML, SL

LL =	PL =	PI =	**Assumed GS=** 2.7	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/16/05
Remarks:

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 20.0
Sample Number: 9

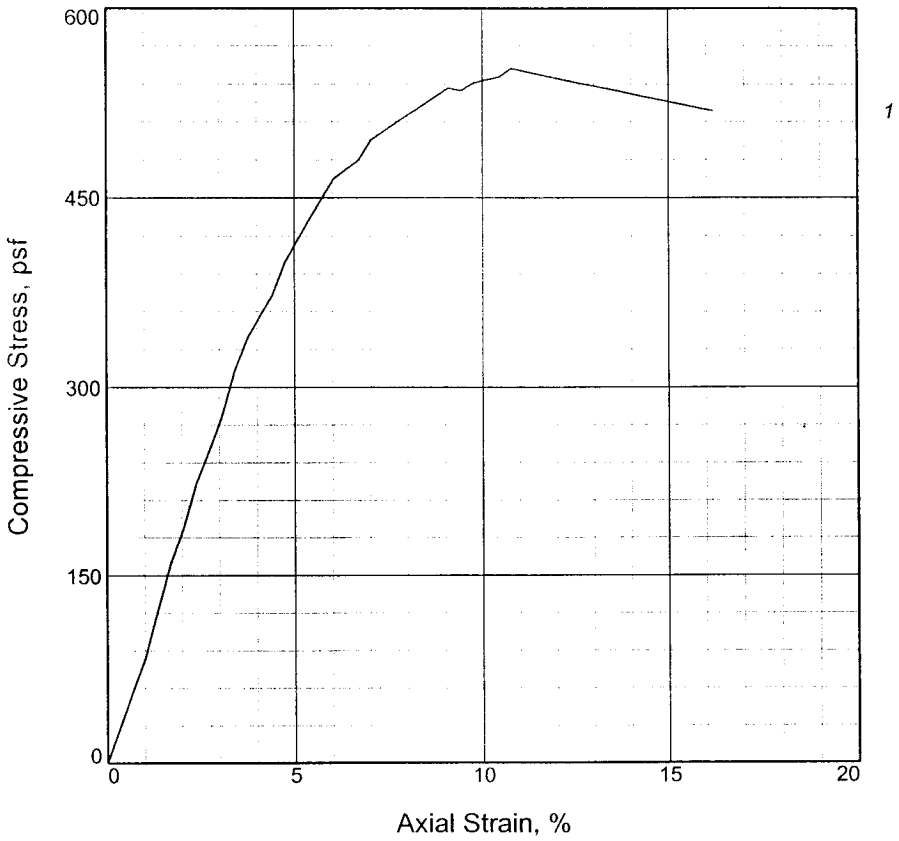
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: RR **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	536.3			
Undrained shear strength, psf	268.2			
Failure strain, %	9.1			
Strain rate, in./min.	0.059			
Water content, %	44.4			
Wet density, pcf	104.2			
Dry density, pcf	72.1			
Saturation, %	89.3			
Void ratio	1.3537			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: SO GR CH3W/ LNS & LYS ML

LL =	PL =	PI =	**Assumed GS=** 2.72	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/17/05

Remarks:
TORVANE = 0.120 TSF

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 25.0
Sample Number: 11

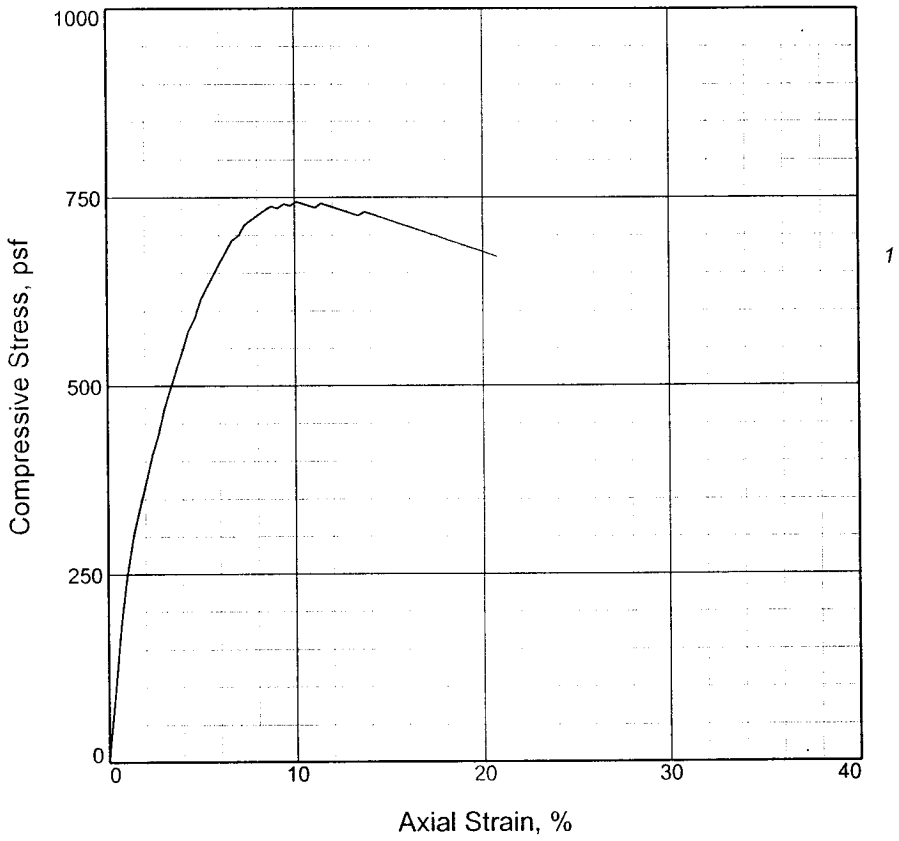
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: RR **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	738.1			
Undrained shear strength, psf	369.0			
Failure strain, %	8.8			
Strain rate, in./min.	0.059			
Water content, %	60.2			
Wet density, pcf	101.1			
Dry density, pcf	63.1			
Saturation, %	96.4			
Void ratio	1.7122			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: SO GR CH4 W/ SL

LL =	PL =	PI =	Assumed GS= 2.74	Type: UNDISTURBED

Project No.: 19082

Date: 11/17/05

Remarks:
TORVANE = 0.120 TSF

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal

Source of Sample: B-1G **Depth:** 30.0

Sample Number: 13

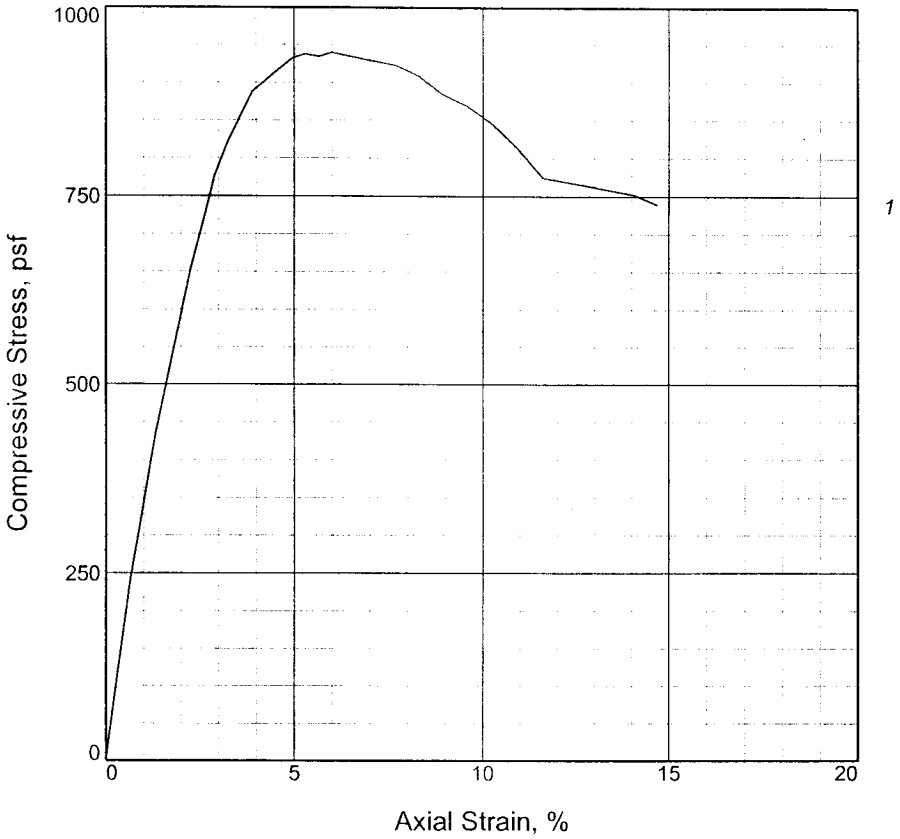
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: RR **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	937.3			
Undrained shear strength, psf	468.7			
Failure strain, %	5.3			
Strain rate, in./min.	0.059			
Water content, %	55.0			
Wet density, pcf	98.1			
Dry density, pcf	63.3			
Saturation, %	88.6			
Void ratio	1.7008			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: SO GR CH4

LL =	PL =	PI =	**Assumed GS=** 2.74	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/17/05

Remarks:
TORVANE = 0.200 TSF

Figure 1

Client: URS Corporation

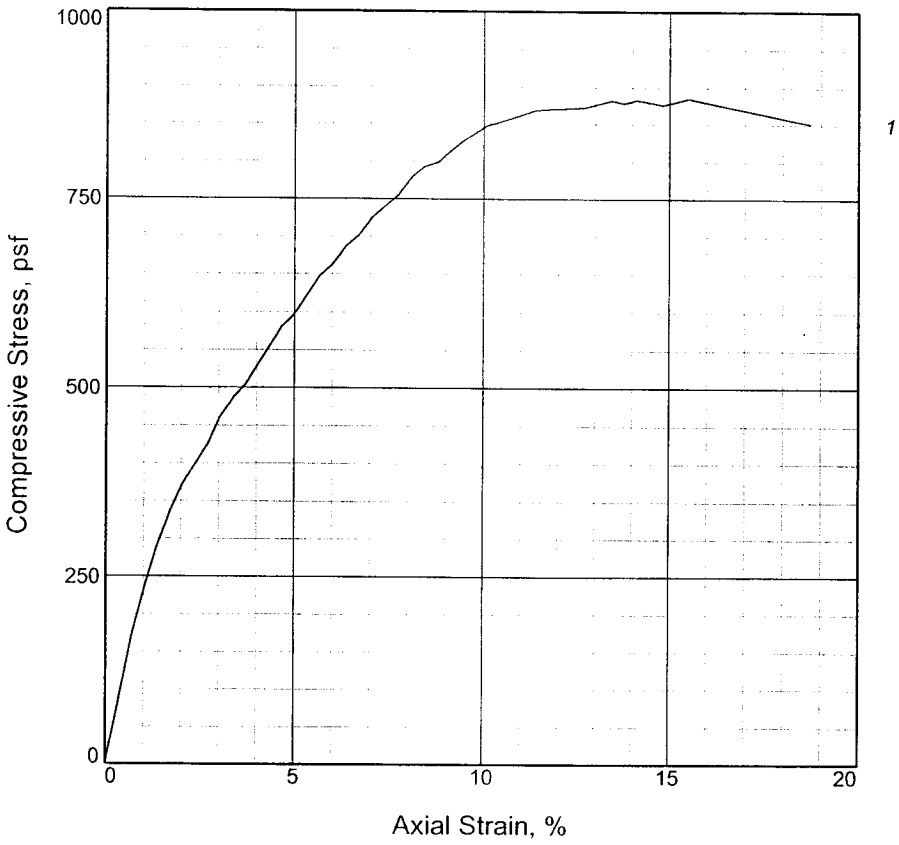
Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 35.0
Sample Number: 15

UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Tested By: LR **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	881.5			
Undrained shear strength, psf	440.7			
Failure strain, %	13.4			
Strain rate, in./min.	0.059			
Water content, %	52.8			
Wet density, pcf	97.8			
Dry density, pcf	64.0			
Saturation, %	87.0			
Void ratio	1.6524			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: SO GR CH4 W/ ARS ML, TR-WD

LL =	PL =	PI =	**Assumed GS=** 2.72	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/16/05

Remarks:
TORVANE = 0.200 TSF

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 40.0
Sample Number: 17

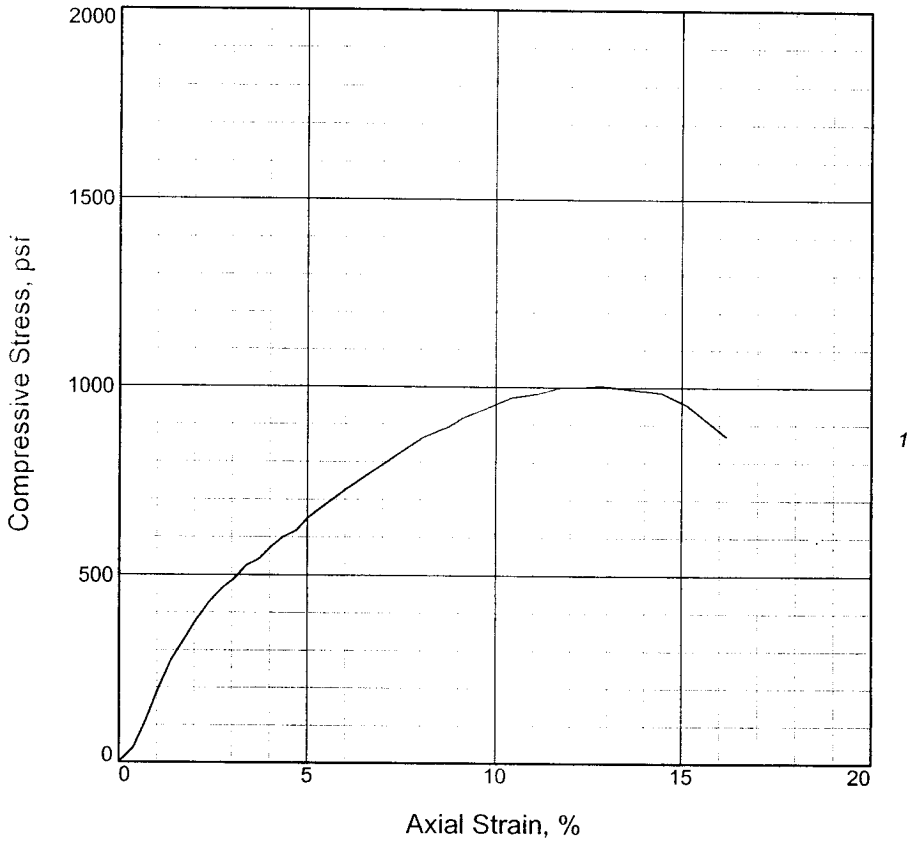
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: ZH **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	1004.9			
Undrained shear strength, psf	502.5			
Failure strain, %	12.7			
Strain rate, in./min.	0.059			
Water content, %	53.0			
Wet density, pcf	99.7			
Dry density, pcf	65.2			
Saturation, %	89.8			
Void ratio	1.6058			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: M GR CH4 W/ ARS & LNS SM

LL =	PL =	PI =	**Assumed GS=** 2.72	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/16/05

Remarks:
TORAVNE = 0.200 TSF

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 45.0
Sample Number: 19

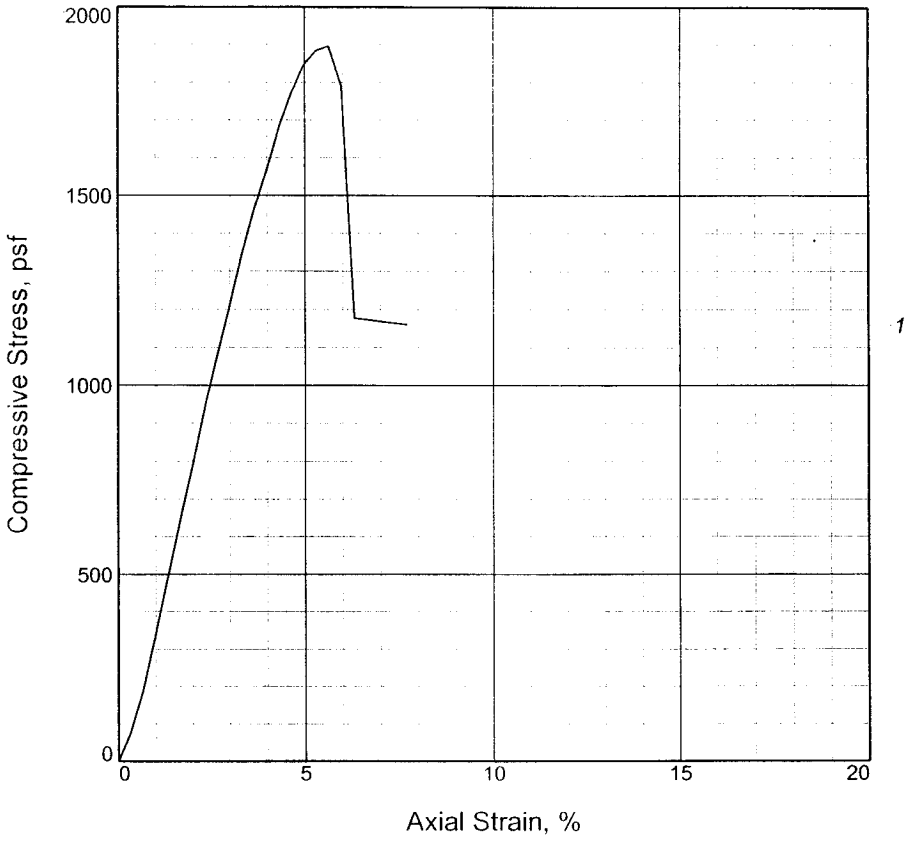
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: LR **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	1894.8			
Undrained shear strength, psf	947.4			
Failure strain, %	5.6			
Strain rate, in./min.	0.059			
Water content, %	55.6			
Wet density, pcf	99.5			
Dry density, pcf	64.0			
Saturation, %	91.3			
Void ratio	1.6542			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: M GR CH3 W/ LNS SM, SL

LL =	PL =	PI =	Assumed GS= 2.72	Type: UNDISTURBED

Project No.: 19082
Date: 11/16/05
Remarks:
TORVANE = 0.300 TSF

Figure 1

Client: URS Corporation

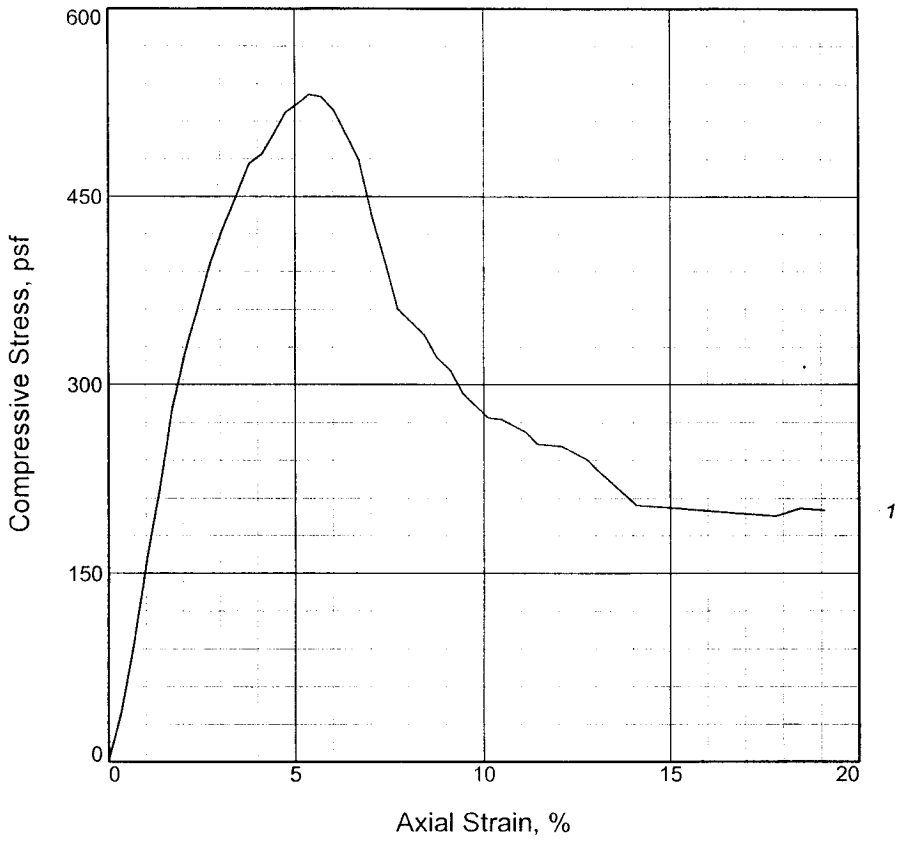
Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 50.0
Sample Number: 21

UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Tested By: RR **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	531.3			
Undrained shear strength, psf	265.6			
Failure strain, %	5.4			
Strain rate, in./min.	0.059			
Water content, %	35.0			
Wet density, pcf	106.6			
Dry density, pcf	79.0			
Saturation, %	82.6			
Void ratio	1.1505			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: SO GR CH3 W/ SL, LNS & LYS SM

LL =	**PL =**	**PI =**	**Assumed GS=** 2.72	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/17/05

Remarks:
TORVANE = 0.200 TSF

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 55.0
Sample Number: 23

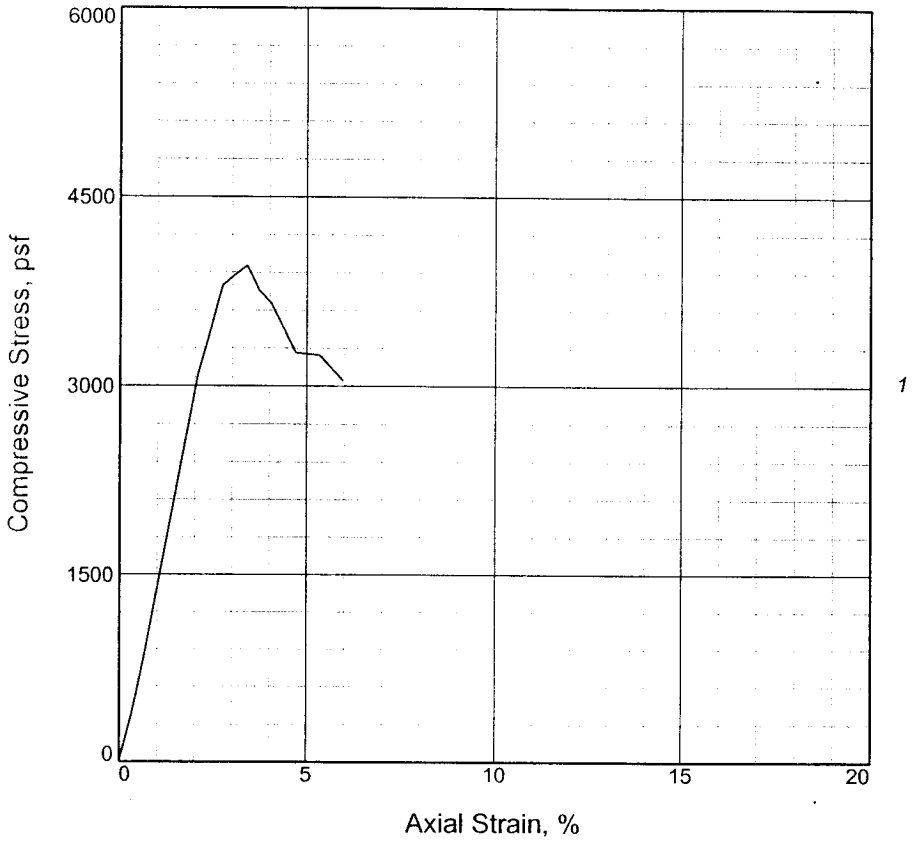
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: LR **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	3953.3			
Undrained shear strength, psf	1976.6			
Failure strain, %	3.4			
Strain rate, in./min.	0.058			
Water content, %	29.2			
Wet density, pcf	114.1			
Dry density, pcf	88.3			
Saturation, %	86.6			
Void ratio	0.9087			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: ST LGR CL6

LL =	PL =	PI =	**Assumed GS=** 2.7	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/16/05
Remarks:

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 67.5
Sample Number: 29

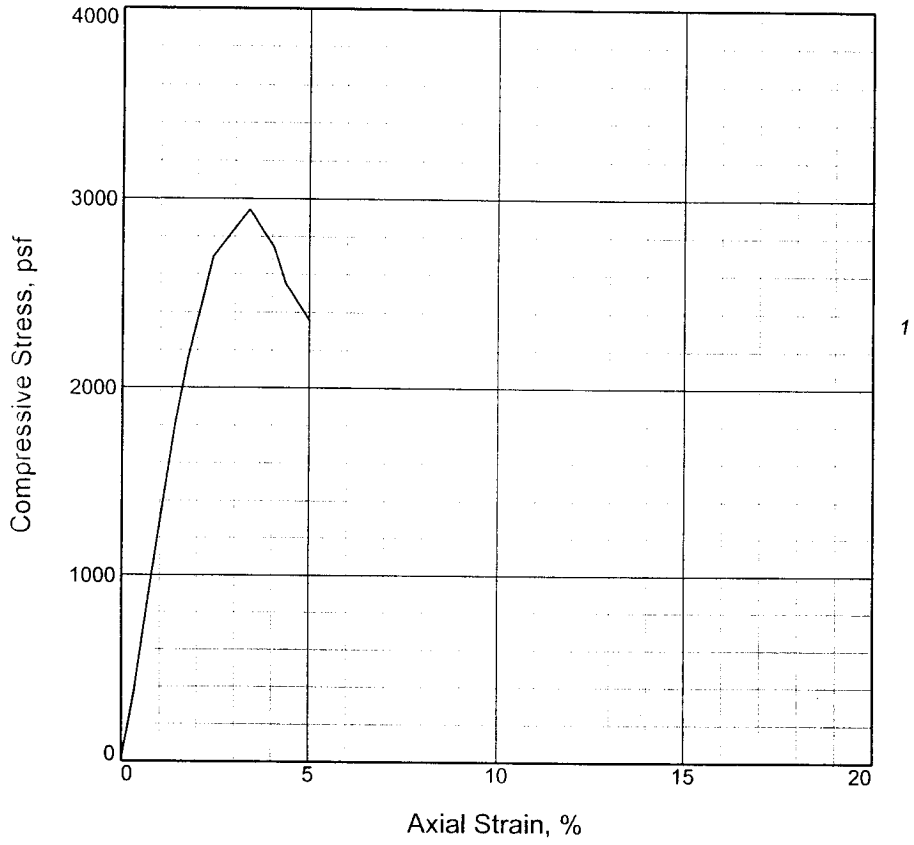
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: ZH **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	2941.9			
Undrained shear strength, psf	1470.9			
Failure strain, %	3.4			
Strain rate, in./min.	0.059			
Water content, %	37.3			
Wet density, pcf	106.3			
Dry density, pcf	77.4			
Saturation, %	85.0			
Void ratio	1.1942			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: ST LGR & T CH4 W/ ARS ML, SL

LL =	PL =	PI =	**Assumed GS=** 2.72	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/16/05

Remarks:
TORVANE = 0.875 TSF

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 72.5
Sample Number: 31

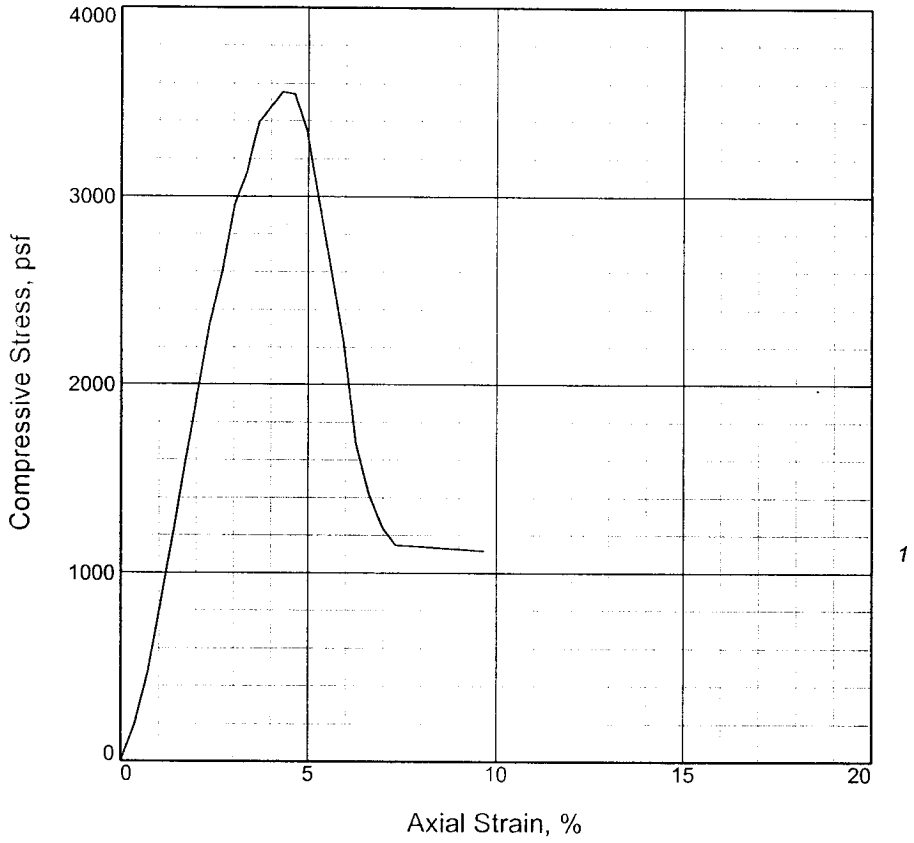
UNCONFINED COMPRESSION TEST

Figure 1

EUSTIS ENGINEERING COMPANY, INC.

Tested By: RR **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	3551.5			
Undrained shear strength, psf	1775.7			
Failure strain, %	4.3			
Strain rate, in./min.	0.057			
Water content, %	29.8			
Wet density, pcf	116.8			
Dry density, pcf	89.9			
Saturation, %	92.2			
Void ratio	0.8744			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: ST GR CL4

LL =	PL =	PI =	**Assumed GS=** 2.7	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/16/05
Remarks:

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 77.5
Sample Number: 33

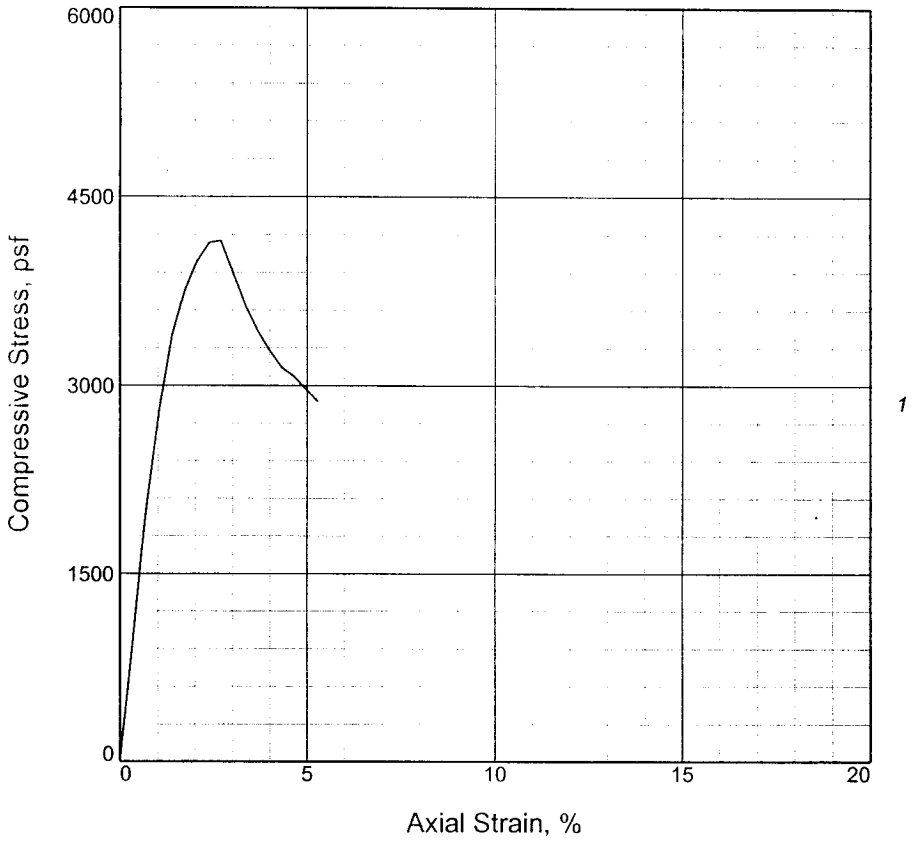
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: RR **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	4149.3			
Undrained shear strength, psf	2074.7			
Failure strain, %	2.7			
Strain rate, in./min.	0.058			
Water content, %	29.7			
Wet density, pcf	113.7			
Dry density, pcf	87.6			
Saturation, %	86.9			
Void ratio	0.9240			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: VST GR & T CH4 W/ CL, SL

LL =	PL =	PI =	**Assumed GS=** 2.7	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/16/05

Remarks:
TORVANE = 0.750 TSF

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 82.5
Sample Number: 35

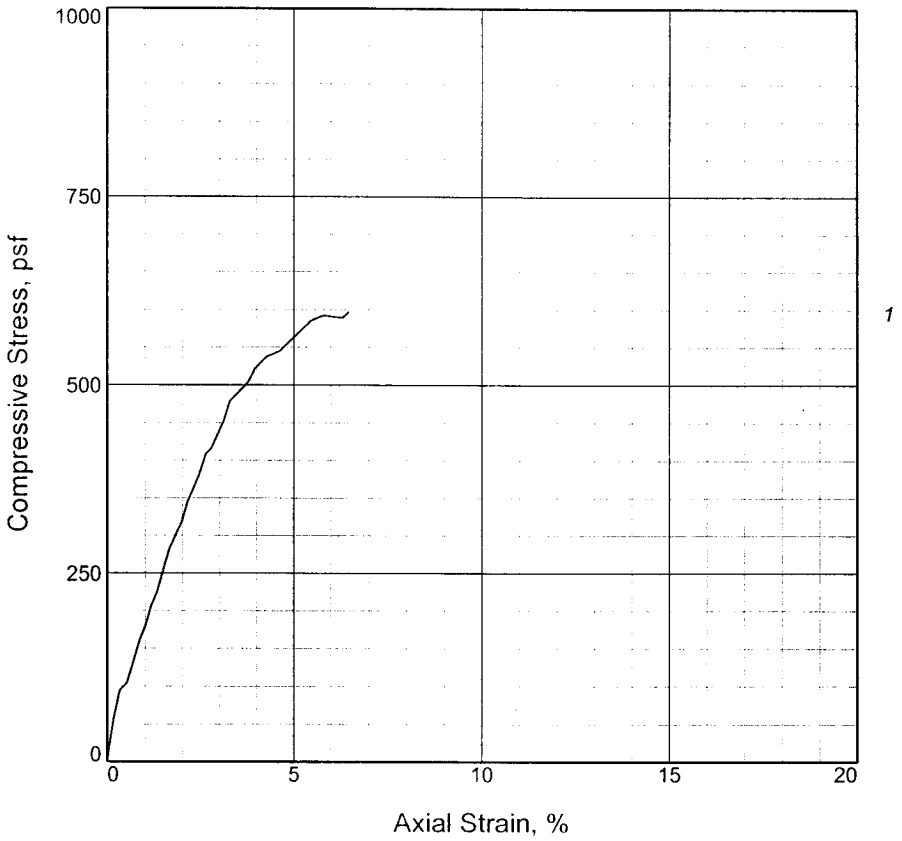
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: ZH **Checked By:** DP

UNCONFINED COMPRESSION TEST



Specimen No.	1			
Unconfined strength, psf	591.7			
Undrained shear strength, psf	295.8			
Failure strain, %	5.8			
Strain rate, in./min.	0.029			
Water content, %	23.1			
Wet density, pcf	123.7			
Dry density, pcf	100.5			
Saturation, %	92.2			
Void ratio	0.6772			
Specimen diameter, in.	1.388			
Specimen height, in.	2.930			
Height/diameter ratio	2.11			

Description: SO GR CL5 W/ ARS CH, SIF

LL =	PL =	PI =	**Assumed GS=** 2.7	**Type:** UNDISTURBED

Project No.: 19082
Date: 11/17/05
Remarks:
TORVANE = 0.260 TSF

Client: URS Corporation

Project: U.S. Army Corps of Engineers
Inner Harbor Navigational Canal
Source of Sample: B-1G **Depth:** 85.0
Sample Number: 36

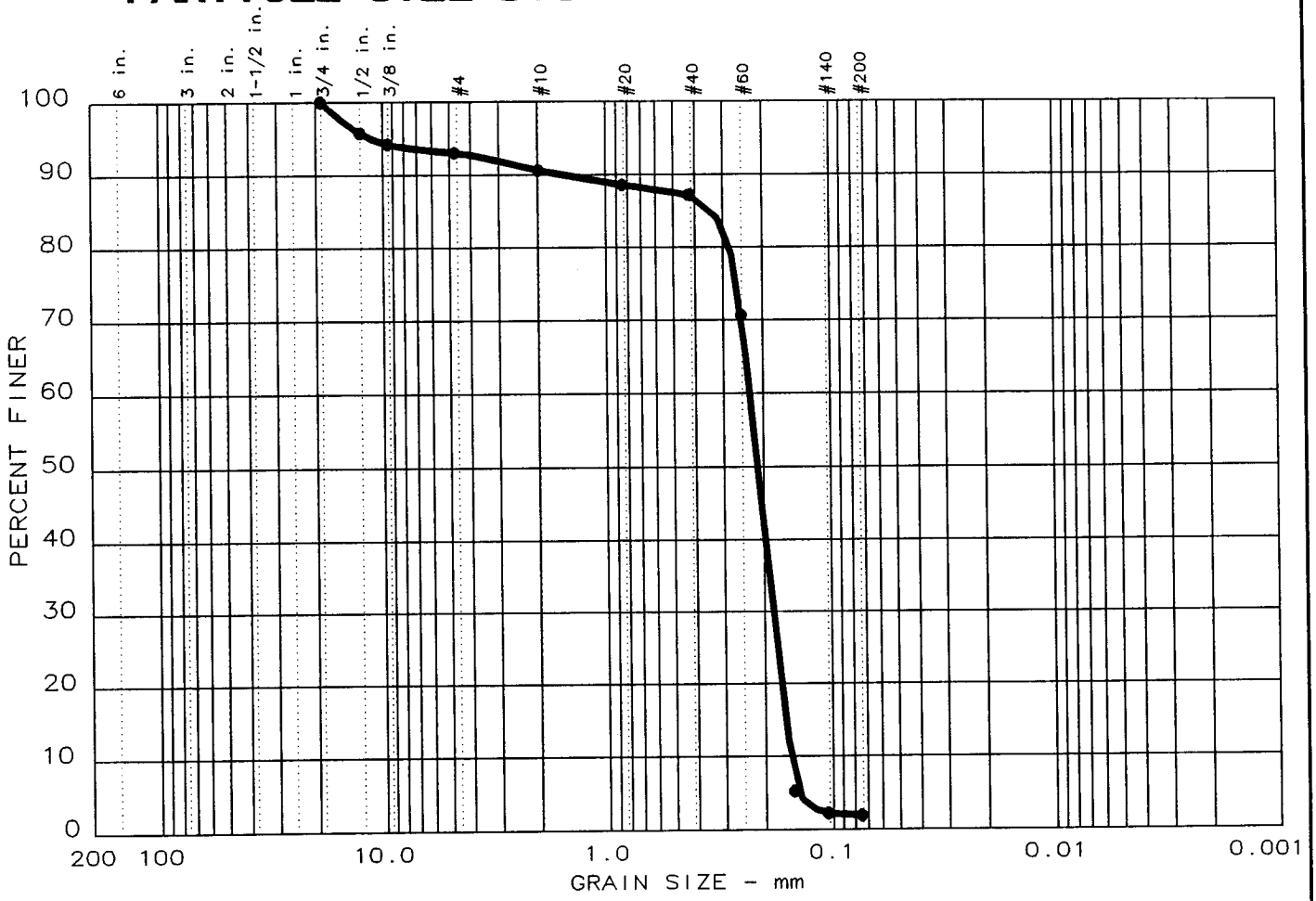
UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: RR **Checked By:** DP

PARTICLE SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	0.0	7.0	91.2	1.8		SP		

SIEVE inches size	PERCENT FINER ●		
0.75	100.0		
0.5	95.8		
0.375	94.2		
GRAIN SIZE			
D_{60}	0.23		
D_{30}	0.18		
D_{10}	0.15		
COEFFICIENTS			
C_c	0.93		
C_u	1.5		

SIEVE number size	PERCENT FINER ●		
4	93.0		
10	90.6		
20	88.6		
40	87.2		
60	70.7		
100	5.2		
140	2.2		
200	1.9		

Sample information:
● Boring 1G, Sample 25
LGR SP W/ SIF

Remarks:
Sample depth 59.0'

Eustis Engineering Company, Inc.

Project No.: 19082
Project: USACE - IHNC

Date: 12-8-05 Data Sheet No. ——