

Specimen No.	1	
Unconfined strength, psf	1501.4	
Undrained shear strength, psf	750.7	
Failure strain, %	5.6	
Strain rate, in./min.	0.057	
Water content, %	49.4	
Wet density, pcf	104.3	
Dry density, pcf	69.8	 
Saturation, %	93.8	
Void ratio	1.4317	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: M GR & T CH4 W/ ARS SM, CC

LL = PL = PI = **Assumed GS=** 2.72 Type: UNDISTURBED **Client:** URS Corporation

Project No.: 19082 Date: 10-29-05

Remarks: TORVANE = 0.550 TSF

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

Source of Sample: B-2G **Depth: 2.5** 

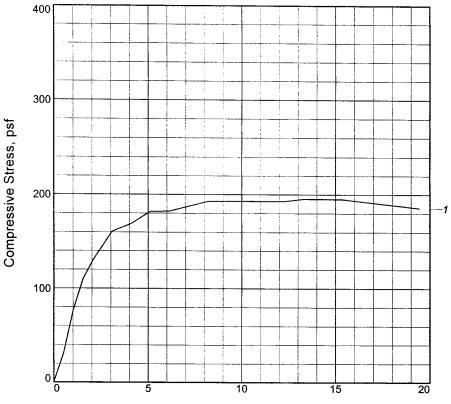
Sample Number: 2

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

Tested By: ZH

Figure 1



Axial Strain, %

Specimen No.	1	
Unconfined strength, psf	193.0	
Undrained shear strength, psf	96.5	
Failure strain, %	11.3	
Strain rate, in./min.	0.572	
Water content, %	125.5	
Wet density, pcf	82.5	
Dry density, pcf	36.6	
Saturation, %	95.5	
Void ratio	3.3489	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: VSO DGR & GR CHOA W/RT

LL = PL = PI = Assumed GS = 2.55 Type: UNDISTURBED

**Project No.:** 19082 **Date:** 10-29-05

Remarks:

TORVANE = 0.110 TSF

Client: URS Corporation

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

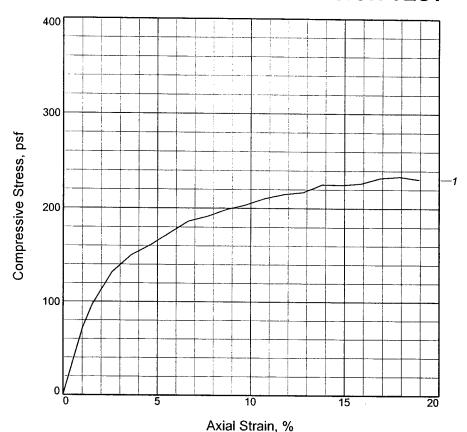
Source of Sample: B-2G Depth: 7.5

Sample Number: 4

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

Figure 1



Specimen No.	1		•
Unconfined strength, psf	225.3		
Undrained shear strength, psf	112.7		
Failure strain, %	13.8		
Strain rate, in./min.	0.572		
Water content, %	129.0		
Wet density, pcf	81.7		
Dry density, pcf	35.7		
Saturation, %	95.1		
Void ratio	3.4609		
Specimen diameter, in.	1.388		
Specimen height, in.	2.930		
Height/diameter ratio	2.11		

Description: VSO BR CHOA W/ WD, RT

LL = PL = PI = Assumed GS = 2.55 Type: UNDISTURBED

Project No.: 19082 Date: 10-29-05

Remarks:

Figure 1

TORVANE = 0.150 TSF

Client: URS Corporation

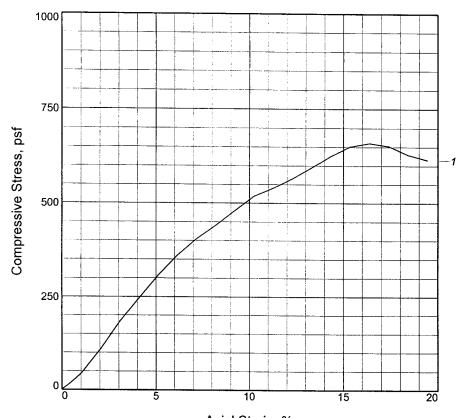
**Project:** U.S. Army Corps of Engineers Inner Harbor Navigational Canal

Source of Sample: B-2G Depth: 10.0

Sample Number: 5

UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.



Axial Strain, %

Specimen No.	1	
Unconfined strength, psf	660.2	
Undrained shear strength, psf	330.1	
Failure strain, %	16.4	
Strain rate, in./min.	0.057	
Water content, %	32.4	
Wet density, pcf	114.3	
Dry density, pcf	86.3	
Saturation, %	92.2	
Void ratio	0.9452	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

**Description:** SO GR CL4 W/ LYS CH

LL = PL = PI = Assumed GS = 2.69 Type: UNDISTURBED

**Project No.:** 19082 **Date:** 10-29-05

Remarks:

Client: URS Corporation

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

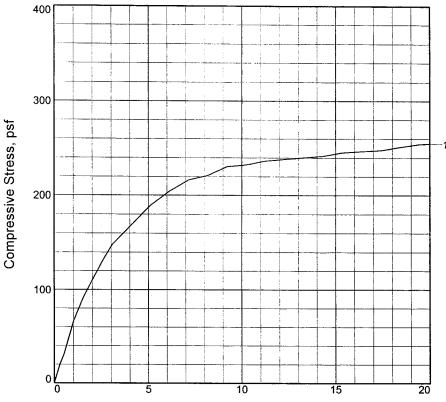
Source of Sample: B-2G Depth: 15.0

Sample Number: 7

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

Figure 1



Axial Strain, %

Specimen No.	1	
The state of the s	254.0	
Unconfined strength, psf	254.8	
Undrained shear strength, psf	127.4	
Failure strain, %	20.0	
Strain rate, in./min.	0.057	
Water content, %	61.5	
Wet density, pcf	100.9	
Dry density, pcf	62.5	
Saturation, %	97.0	
Void ratio	1.7375	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: VSO GR CH4 W/LNS ML, TR-WD

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

**Project No.:** 19082 **Date:** 10-29-05

Remarks:

TORVANE = 0.130 TSF

**Client:** URS Corporation

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

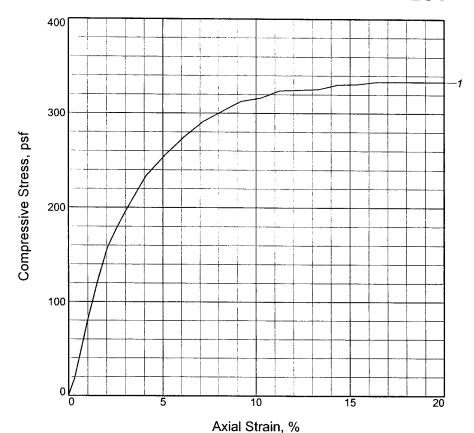
Source of Sample: B-2G Depth: 20.0

Sample Number: 9

UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1



Specimen No.	1	
Unconfined strength, psf	333.6	
Undrained shear strength, psf	166.8	
Failure strain, %	20.0	
Strain rate, in./min.	0.057	
Water content, %	57.5	
Wet density, pcf	102.1	
Dry density, pcf	64.8	
Saturation, %	96.1	
Void ratio	1.6394	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: VSO GR CH4 W/SL

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

Project No.: 19082 Date: 10-29-05

Remarks:

TORVANE = 0.130 TSF

**Client:** URS Corporation

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

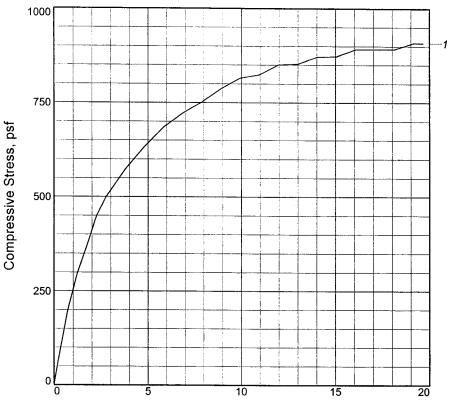
Source of Sample: B-2G Depth: 25.0

Sample Number: 11

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

Figure 1



Axial Strain, %

Specimen No.	1	
Unconfined strength, psf	891.4	
Undrained shear strength, psf	445.7	
Failure strain, %	16.1	
Strain rate, in./min.	0.057	
Water content, %	57.0	
Wet density, pcf	102.0	
Dry density, pcf	65.0	
Saturation, %	95.7	
Void ratio	1.6309	
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:** 10-29-05

Remarks:

Figure

TORVANE = 0.150 TSF

**Client:** URS Corporation

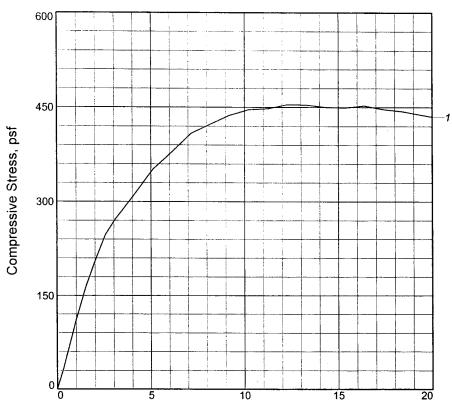
**Project:** U.S. Army Corps of Engineers Inner Harbor Navigational Canal

Source of Sample: B-2G Depth: 30.0

Sample Number: 13

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.



Axial Strain, %

Specimen No.	1	
Unconfined strength, psf	454.1	
Undrained shear strength, psf	227.1	
Failure strain, %	12.3	
Strain rate, in./min.	0.057	
Water content, %	68.7	
Wet density, pcf	97.3	
Dry density, pcf	57.7	
Saturation, %	95.8	
Void ratio	1.9639	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: VSO GR CH4 W/ SL

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

**Project No.:** 19082

**Date:** 10-29-05 **Remarks:** 

TORVANE = 0.200 TSF

**Client:** URS Corporation

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

Source of Sample: B-2G Depth: 35.0

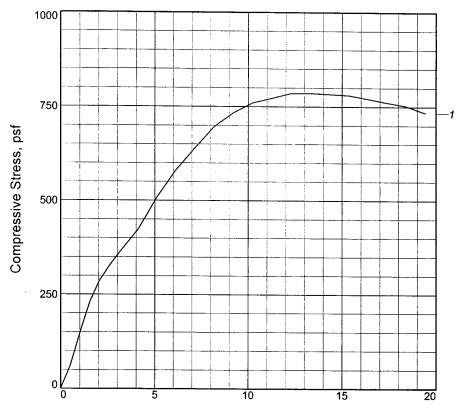
Sample Number: 15

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: ZH



Axial Strain, %

Specimen No.	1	
Unconfined strength, psf	785.6	
Undrained shear strength, psf	392.8	
Failure strain, %	12.3	
Strain rate, in./min.	0.057	
Water content, %	69.6	
Wet density, pcf	97.1	
Dry density, pcf	57.2	
Saturation, %	95.9	
Void ratio	1.9891	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: SO GR CH4 W/LNS ML, SL

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

**Project No.:** 19082 **Date:** 10-29-05

Remarks:

TORVANE = 0.250 TSF

**Client:** URS Corporation

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

Source of Sample: B-2G Depth: 40.0

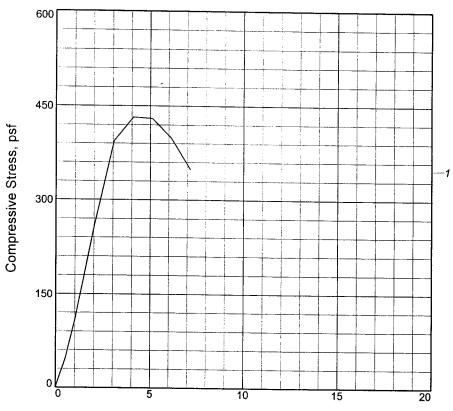
Sample Number: 17

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: ZH



Axial Strain, %

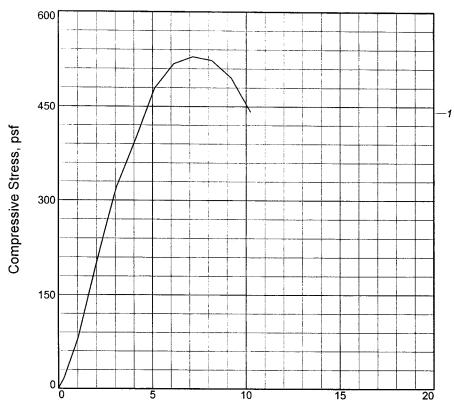
Specimen No.	1	
Unconfined strength, psf	432.0	
Undrained shear strength, psf	216.0	
Failure strain, %	4.1	
Strain rate, in./min.	0.057	
Water content, %	23.0	
Wet density, pcf	125.1	
Dry density, pcf	101.7	
Saturation, %	95.2	
Void ratio	0.6511	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: VSO GR CL3 W/ SIF

LL =	PL=	PI =		Assumed GS= 2.69	Type: UNDISTURBED
Project No.: 1908 Date: 10-29-05	32		Client: 1	URS Corporation	
Remarks:			Project: U.S. Army Corps of Engineers Inner Harbor Navigational Canal Source of Sample: B-2G Depth: 45.0 Sample Number: 19		anal
			UNCONFINED COMPRESSION TEST		

Figure 1

EUSTIS ENGINEERING COMPANY, INC.



Axial Strain, %

Specimen No.	1	
Unconfined strength, psf	528.7	
Undrained shear strength, psf	264.3	
Failure strain, %	7.2	
Strain rate, in./min.	0.057	
Water content, %	30.1	
Wet density, pcf	114.9	
Dry density, pcf	88.3	
Saturation, %	89.9	
Void ratio	0.9009	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: SO GR CL5 W/SIF

LL = PL = PI = Assumed GS = 2.69 Type: UNDISTURBED

**Project No.:** 19082 **Date:** 10-29-05

Remarks:

TORVANE = 0.320 TSF

**Client:** URS Corporation

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

Source of Sample: B-2G Depth: 50.

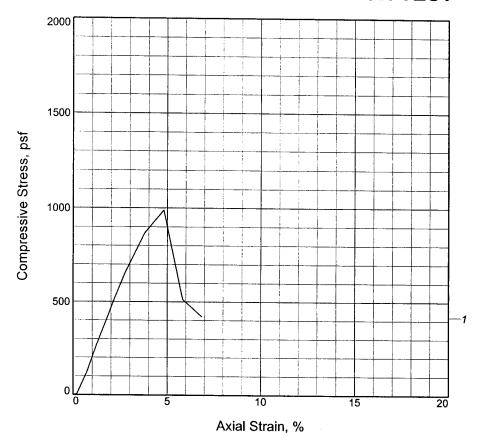
Sample Number: 21

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: ZH



Specimen No.	1	
Unconfined strength, psf	988.1	
Undrained shear strength, psf	494.0	
Failure strain, %	4.8	
Strain rate, in./min.	0.075	
Water content, %	59.8	
Wet density, pcf	100.2	
Dry density, pcf	62.7	
Saturation, %	95.2	
Void ratio	1.7091	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: SO GR CH3 W/ ARS & LNS SP

Figure 1

LL = PL = PI = Assumed GS= 2.72 Type: UNDISTURBED Project No.: 19082 **Client:** URS Corporation **Date:** 10-29-05 Project: U.S. Army Corps of Engineers Remarks:

TORVANE = 0.220 TSFInner Harbor Navigational Canal Source of Sample: B-2G **Depth:** 55.0

Sample Number: 23

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

# **UNCONFINED COMPRESSION TEST** 400 300 Compressive Stress, psf 200 100 Axial Strain, %

Specimen No.	1		
Unconfined strength, psf	335.1		
Undrained shear strength, psf	167.6		
Failure strain, %	4.8		
Strain rate, in./min.	0.057		
Water content, %	25.9	·	
Wet density, pcf	118.0		
Dry density, pcf	93.7		
Saturation, %	88.0		
Void ratio	0.7920		
Specimen diameter, in.	1.388		
Specimen height, in.	2.930		
Height/diameter ratio	2.11		
		·	-

**Description:** VSO GR CL3

LL = PL = PI = Assumed GS = 2.69 Type: UNDISTURBED

**Project No.:** 19082 **Date:** 10-29-05

Remarks:

Client: URS Corporation

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

Source of Sample: B-2G Depth: 57.5

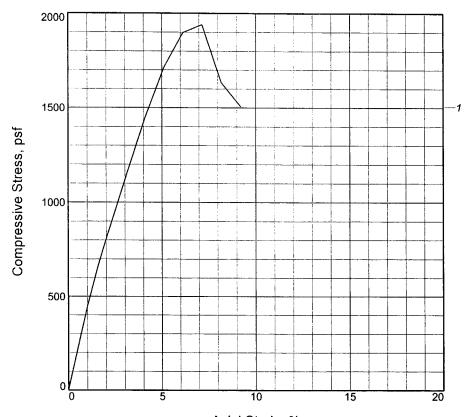
Sample Number: 24

UNCONFINED COMPRESSION TEST

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: ZH



Axial	Strain,	%

Specimen No.	1	
Unconfined strength, psf	1939.3	
Undrained shear strength, psf	969.6	
Failure strain, %	7.2	
Strain rate, in./min.	0.057	
Water content, %	59.4	
Wet density, pcf	100.1	
Dry density, pcf	62.8	
Saturation, %	94.4	
Void ratio	1.7240	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: ST DGR & GR CH4

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

**Project No.:** 19082 **Date:** 10-29-05

Remarks:

Figure 1

TORVANE = 0.350 TSF

**Client:** URS Corporation

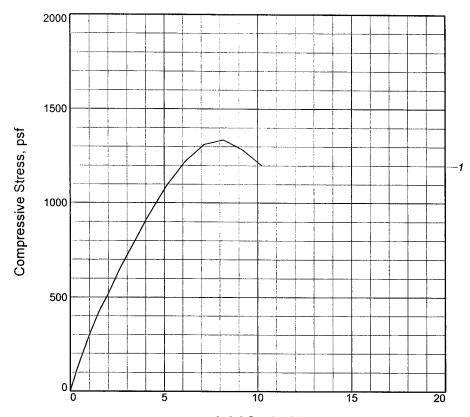
**Project:** U.S. Army Corps of Engineers Inner Harbor Navigational Canal

Source of Sample: B-2G Depth: 65

Sample Number: 27

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.



Axial	Strain,	%

Specimen No.	1	
Unconfined strength, psf	1335.7	
Undrained shear strength, psf	667.9	
Failure strain, %	8.2	
Strain rate, in./min.	0.057	
Water content, %	23.4	
Wet density, pcf	123.2	
Dry density, pcf	99.8	
Saturation, %	91.9	
Void ratio	0.6883	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

**Description:** M LGR CL6

LL = PL = PI = Assumed GS = 2.70 Type: UNDISTURBED

**Project No.:** 19082 **Date:** 10-29-05

Remarks:

TORVANE = 0.400 TSF

**Client:** URS Corporation

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

Source of Sample: B-2G Depth: 70.0

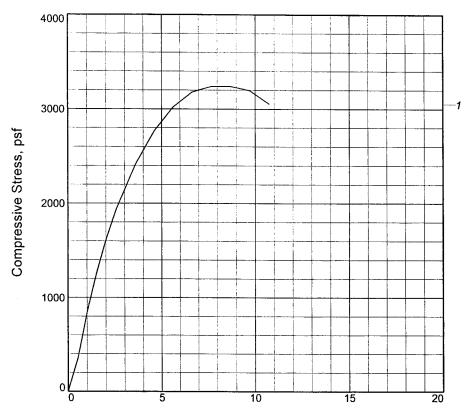
Sample Number: 29

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: ZH



Axial Strain, %	6
-----------------	---

Specimen No.	1	
Unconfined strength, psf	3239.1	
Undrained shear strength, psf	1619.5	
Failure strain, %	8.7	
Strain rate, in./min.	0.057	
Water content, %	36.5	
Wet density, pcf	115.5	
Dry density, pcf	84.6	
Saturation, %	97.9	
Void ratio	1.0208	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: ST LGR & T CH4 W/ LNS SM, SL

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

Project No.: 19082 Date: 10-29-05

Remarks:

TORVANE = 0.420 TSF

Client: URS Corporation

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

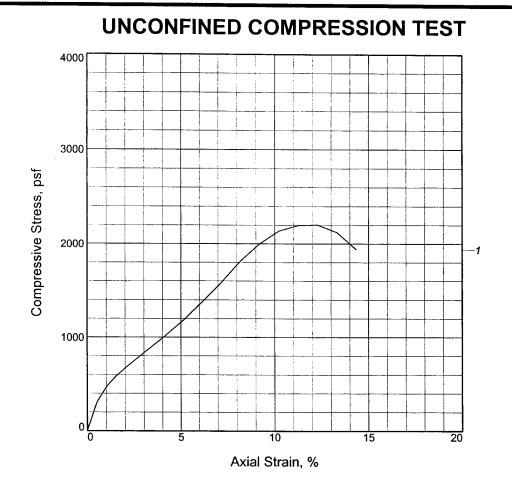
Source of Sample: B-2G Depth: 75.0

Sample Number: 31

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

Figure 1



Specimen No.	1	
Unconfined strength, psf	2201.5	
Undrained shear strength, psf	1100.8	
Failure strain, %	12.3	
Strain rate, in./min.	0.057	
Water content, %	51.6	
Wet density, pcf	104.3	
Dry density, pcf	68.8	
Saturation, %	95.1	
Void ratio	1.4871	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: ST GR CH4 W/LNS SM, SL

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

**Project No.:** 19082 **Date:** 10-29-05

Remarks:

Figure 1

TORVANE = 0.550 TSF

**Client:** URS Corporation

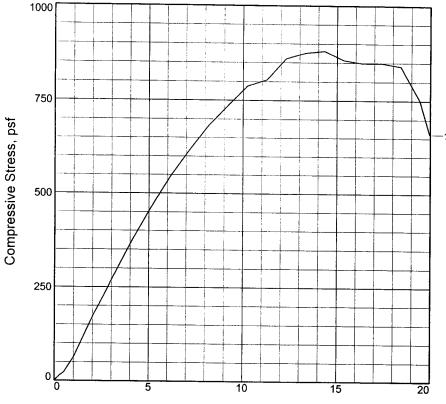
**Project:** U.S. Army Corps of Engineers Inner Harbor Navigational Canal

Source of Sample: B-2G Depth: 80.0

Sample Number: 33

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.



Axial Strain, %

Specimen No.	1	
Unconfined strength, psf	880.4	
Undrained shear strength, psf	440.2	
Failure strain, %	14.3	
Strain rate, in./min.	0.057	
Water content, %	29.6	
Wet density, pcf	118.1	
Dry density, pcf	91.1	
Saturation, %	94.4	
Void ratio	0.8433	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

**Description:** SO GR CL4

LL = PL = PI = Assumed GS = 2.69 Type: UNDISTURBED

**Project No.:** 19082 **Date:** 10-29-05

Remarks:

TORVANE = 0.150 TSF

**Client:** URS Corporation

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

Source of Sample: B-2G Depth: 85.0

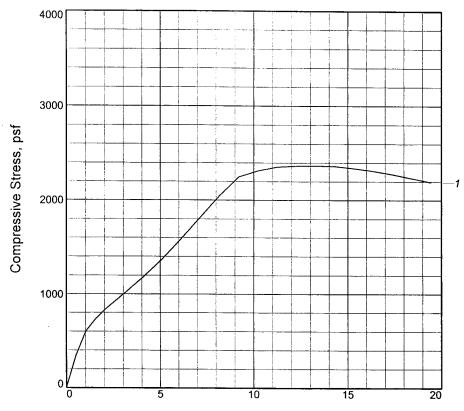
Sample Number: 35

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: ZH



Axial Strain, %	6
-----------------	---

Specimen No.	1	
Unconfined strength, psf	2365.7	
Undrained shear strength, psf	1182.8	
Failure strain, %	12.3	
Strain rate, in./min.	0.057	
Water content, %	43.3	
Wet density, pcf	109.5	
Dry density, pcf	76.5	
Saturation, %	95.8	
Void ratio	1.2374	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: ST GR CH4 W/ SL

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

**Project No.:** 19082 **Date:** 10-29-05

Remarks:

TORVANE = 0.470 TSF

**Client:** URS Corporation

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

Source of Sample: B-2G Depth: 90.0

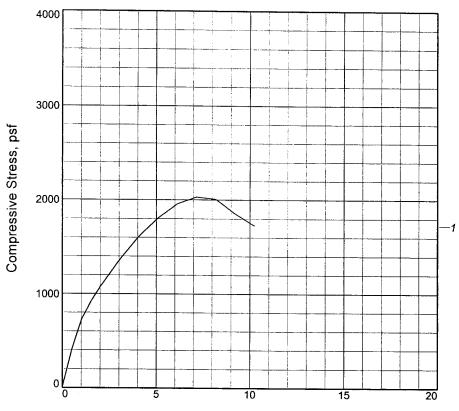
Sample Number: 37

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

Figure 1

Tested By: ZH



Axial Strain, %

Specimen No.	1	
Unconfined strength, psf	2029.9	
Undrained shear strength, psf	1014.9	
Failure strain, %	7.2	
Strain rate, in./min.	0.057	
Water content, %	44.6	
Wet density, pcf	108.6	
Dry density, pcf	75.1	
Saturation, %	95.6	
Void ratio	1.2776	
Specimen diameter, in.	1.388	
Specimen height, in.	2.930	
Height/diameter ratio	2.11	

Description: ST GR CH4 W/SL, LNS SM

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

**Project No.:** 19082 **Date:** 10-29-05

Remarks:

TORVANE = 0.480 TSF

Client: URS Corporation

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

Source of Sample: B-2G Depth: 95.0

Sample Number: 39

**UNCONFINED COMPRESSION TEST** 

EUSTIS ENGINEERING COMPANY, INC.

Figure 1