

SUMMARY OF LABORATORY TEST RESULTS

Assigned By: _____

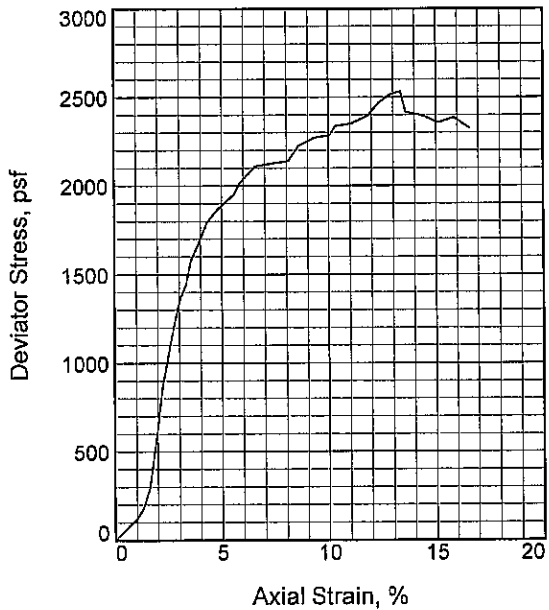
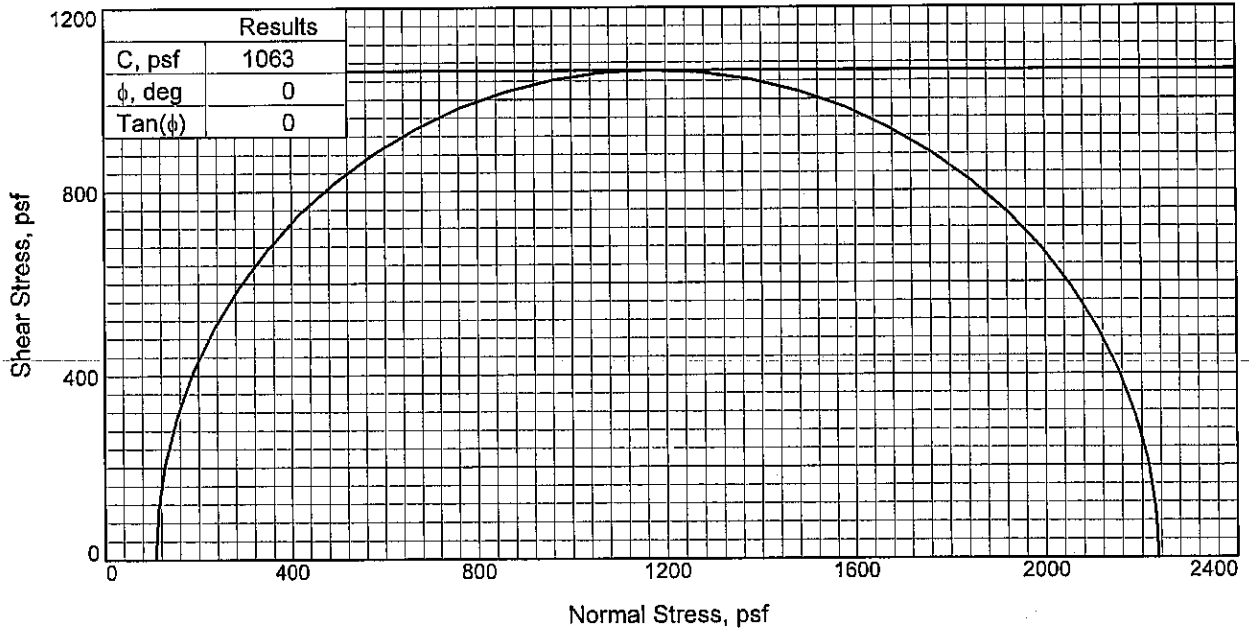
Project: London Avenue Laboratory Testing
 Boring: LCSLT-1U

Current Date: 8/13/2007

Sample Number	Depth	Visual Classification	USCS	E (F)	Wt	Dry Dens (pcf)	Wet Dens (pcf)	Sat %	Shear Test Type	Angle	Cohesion (psf)	Unconf. Comp. Str.	IL	PL	PI	TORVANE (tsf)	Other Tests
1B(H)	0.7	ST GR & BR CH4 W/ G, ARS ML	CH4		29	91	117	90	UU	0	1063					1.35	
1B(V)	0.9	ST GR & BR CH4 W/ G, ARS ML	CH4		27	96	122	96	UU	0	1553					1.35	
2A(H)	3.5	M BR & GR W/ ARS ML, CC	CH3		28	93	119	91	UU	0	933					0.90	
2B(V)	4.3	ST GR & BR CL6 W/ WD	CL6		35	80	108	86	UU	17	309					0.63	
4B(H)	11.7	VSO BR & GR CHOC; W/ ARS ML, WD, RT	CHOC		248	20	70	92	UU	0	56					0.07	
4D(V)	13.5	VSO GR CH4 W/ O, ARS SM, RT	CH4		71	58	99	100	UU	0	233					0.20	
5A(H)	15.0	VSO GR CH4 W/ ARS SM, O, RT, G	CH4		87	50	97	97	UU	0	40					0.10	

Remarks: FFEBJV, LLC.

Checked by: *RNS*
 File Name: TO24



Sample No.		1
Initial	Water Content, %	28.6
	Dry Density, pcf	90.9
	Saturation, %	89.8
	Void Ratio	0.8677
	Diameter, in.	1.412
	Height, in.	2.840
At Test	Water Content, %	28.6
	Dry Density, pcf	90.9
	Saturation, %	89.8
	Void Ratio	0.8677
	Diameter, in.	1.412
	Height, in.	2.840
Strain rate, in./min.	0.028	
Back Pressure, psi	0.00	
Cell Pressure, psi	0.75	
Fail. Stress, psf	2126	
Strain, %	7.3	
Ult. Stress, psf	2356	
Strain, %	7.3	
σ_1 Failure, psf	2234	
σ_3 Failure, psf	108	

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: ST GR & BR CH4 W/ G, ARS ML

Assumed Specific Gravity= 2.72

Remarks: Test specimen trimmed horizontally.

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U **Depth:** 0.7

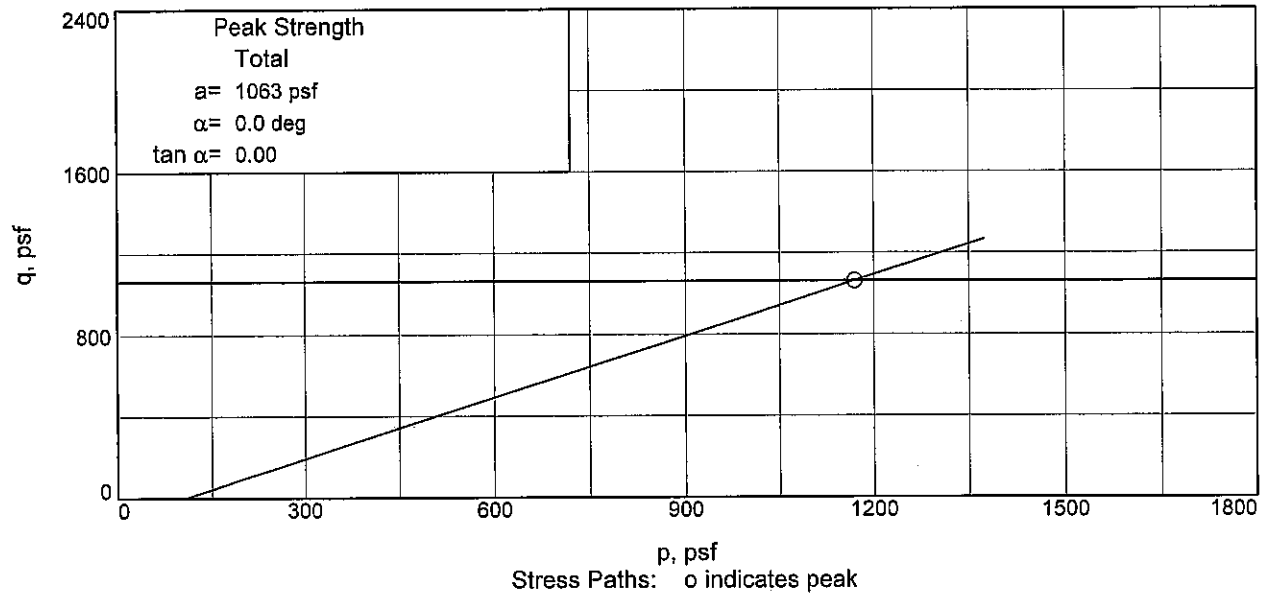
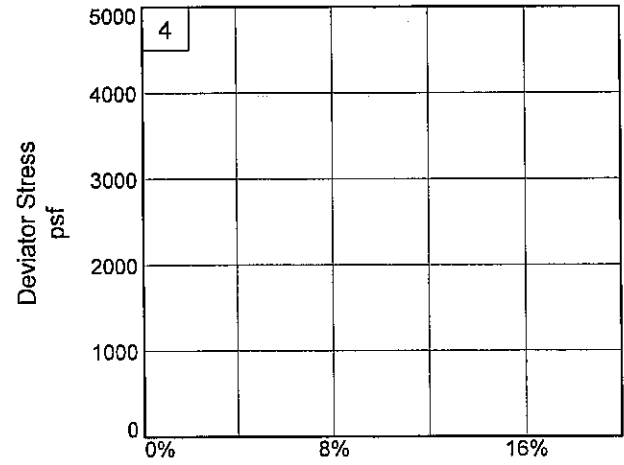
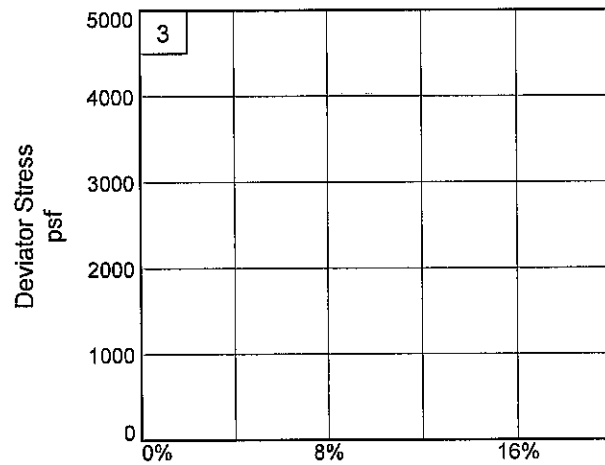
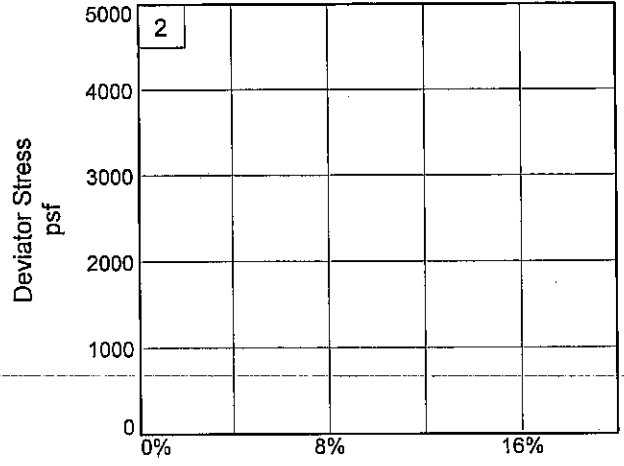
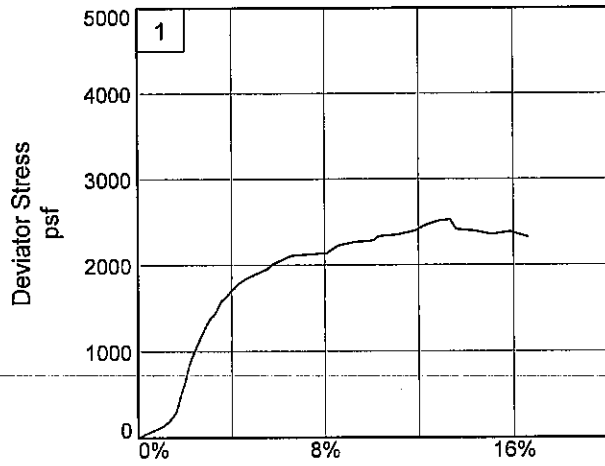
Sample Number: 1B(H)

Proj. No.: 0022-0024 **Date Sampled:** 8-10-07

TRIAxIAL SHEAR TEST REPORT
FFEBJV, LLC

Figure _____

Tested By: DD/SE/TB



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U

Depth: 0.7

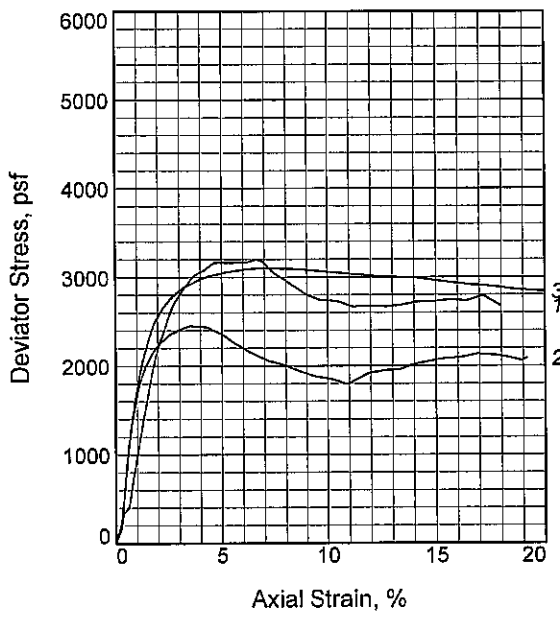
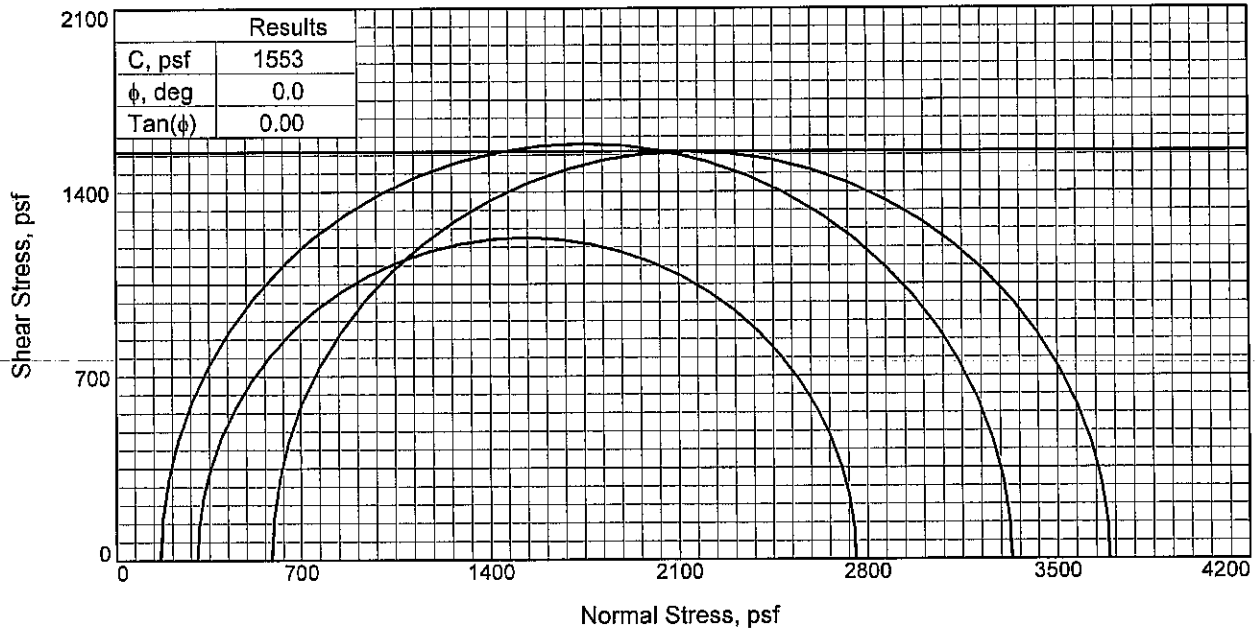
Sample Number: 1B(H)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: DD/SE/TB



Sample No.	1	2	3	
Initial	Water Content, %	26.3	28.4	26.3
	Dry Density, pcf	96.3	94.2	97.5
	Saturation, %	93.7	96.1	96.7
	Void Ratio	0.7640	0.8032	0.7409
	Diameter, in.	1.413	1.411	1.403
	Height, in.	2.844	2.847	2.847
At Test	Water Content, %	26.3	28.4	26.3
	Dry Density, pcf	96.3	94.2	97.5
	Saturation, %	93.7	96.1	96.7
	Void Ratio	0.7640	0.8032	0.7409
	Diameter, in.	1.413	1.411	1.403
	Height, in.	2.844	2.847	2.847
Strain rate, in./min.	0.028	0.028	0.028	
Back Pressure, psi	0.00	0.00	0.00	
Cell Pressure, psi	1.15	2.11	4.06	
Fail. Stress, psf	3164	2452	3104	
Strain, %	4.6	3.5	6.8	
Ult. Stress, psf	2727	2050	2959	
Strain, %				
σ_1 Failure, psf	3330	2756	3689	
σ_3 Failure, psf	166	304	585	

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: ST GR & BR CH4 W/ G, ARS ML

Assumed Specific Gravity= 2.72

Remarks:

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U **Depth:** 0.9

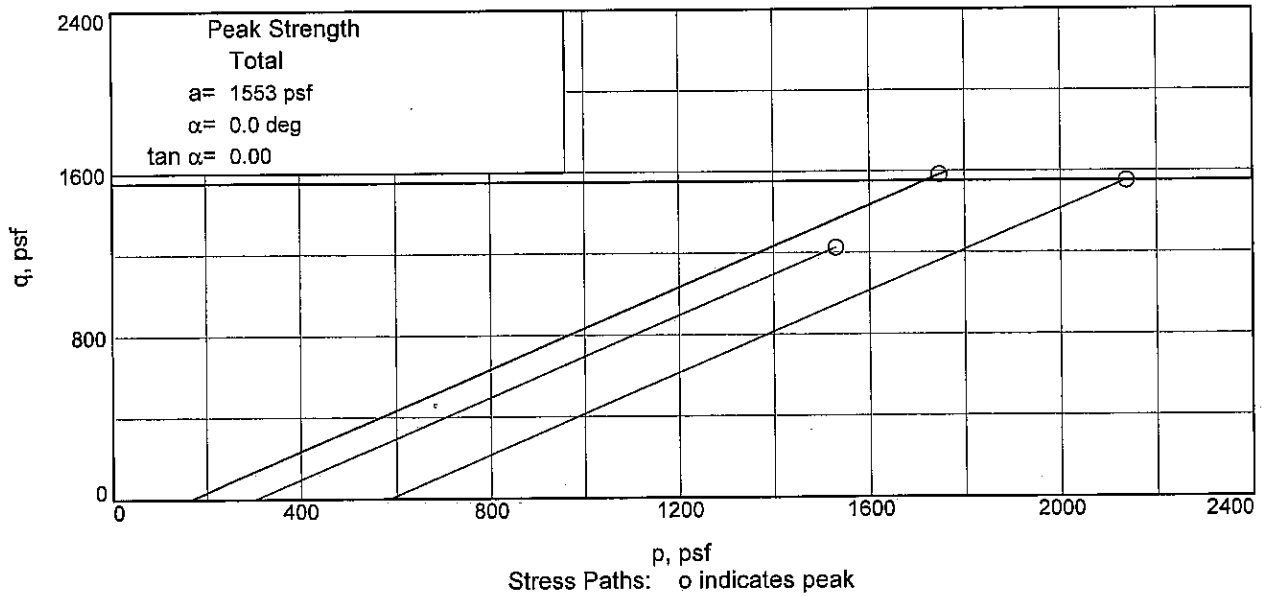
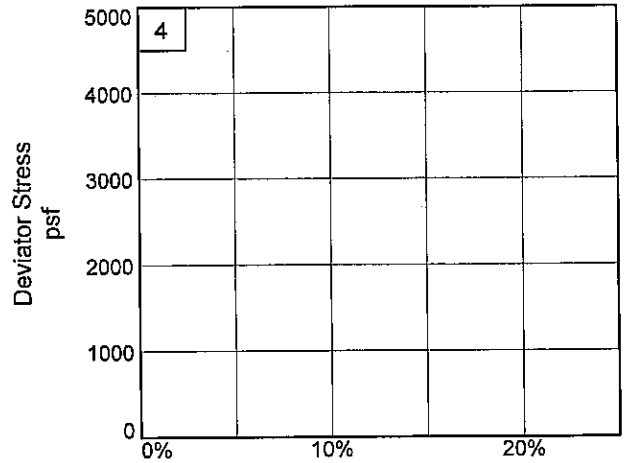
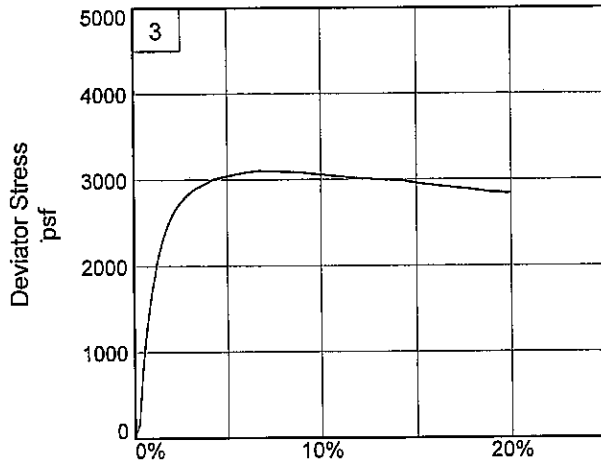
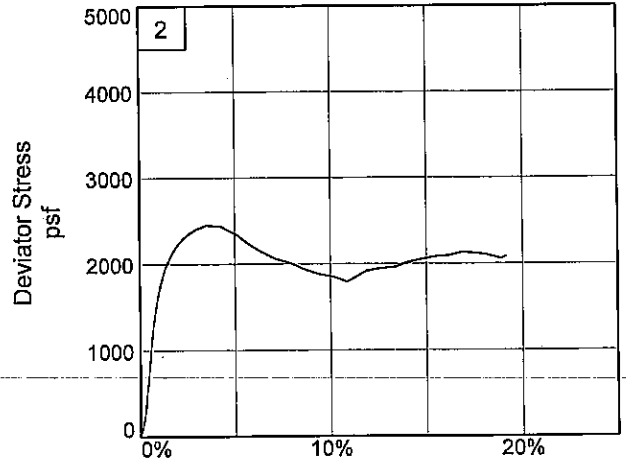
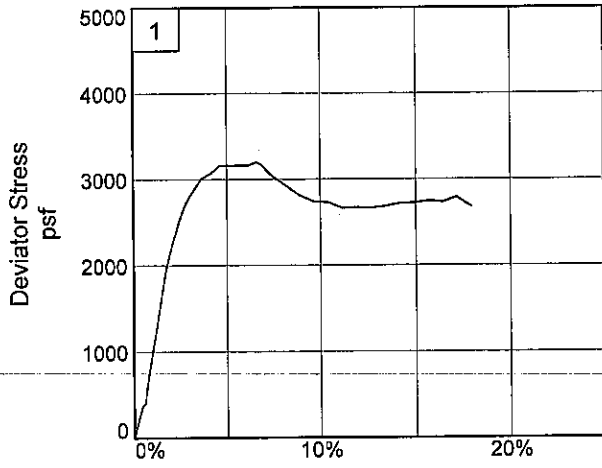
Sample Number: 1B(V)

Proj. No.: 0022-0024 **Date Sampled:** 8-11-07

TRIAXIAL SHEAR TEST REPORT
FFEBJV, LLC

Figure _____

Tested By: TB _____



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U

Depth: 0.9

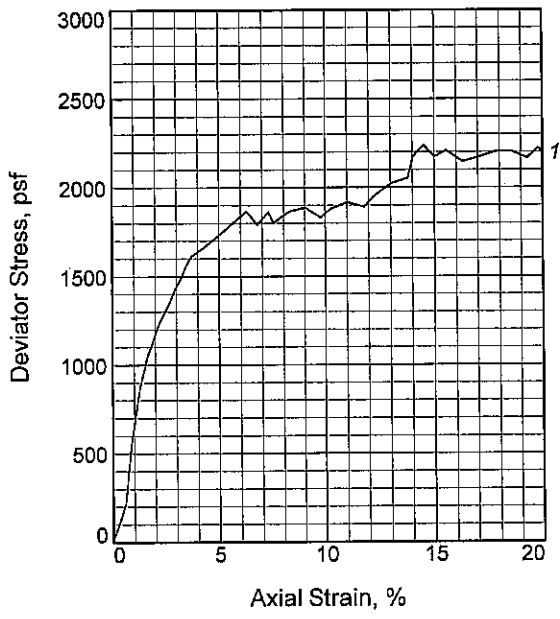
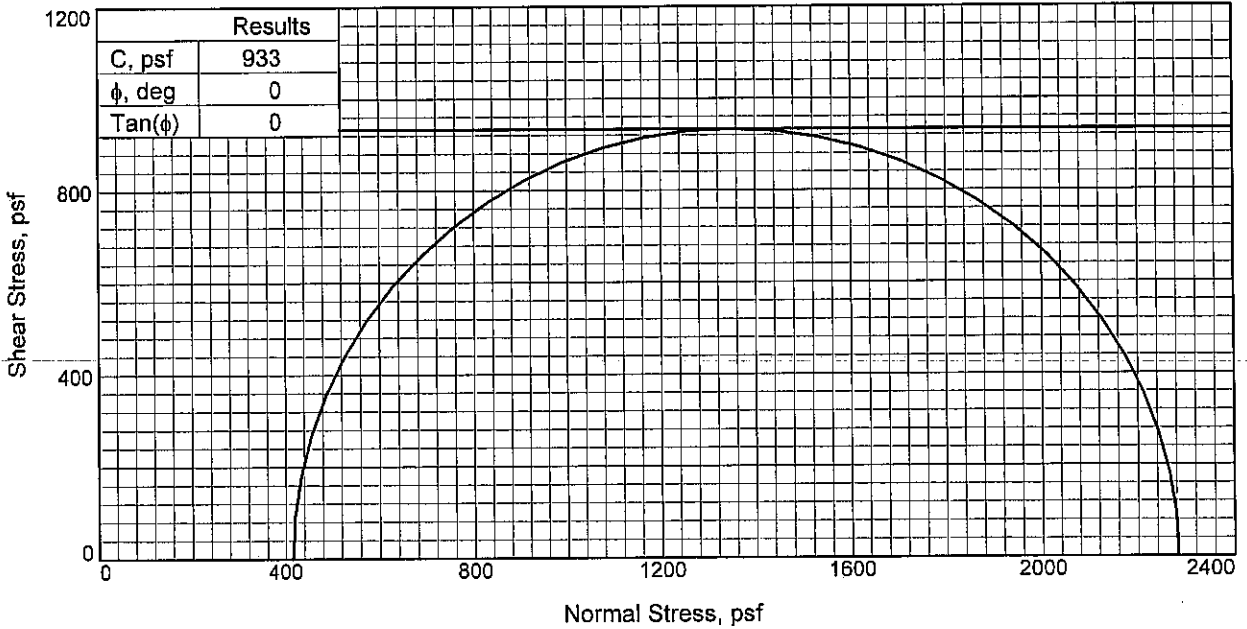
Sample Number: 1B(V)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: TB _____



Sample No.		1
Initial	Water Content, %	27.9
	Dry Density, pcf	92.6
	Saturation, %	91.0
	Void Ratio	0.8334
	Diameter, in.	1.408
	Height, in.	2.840
At Test	Water Content, %	27.9
	Dry Density, pcf	92.6
	Saturation, %	91.0
	Void Ratio	0.8334
	Diameter, in.	1.408
	Height, in.	2.840
Strain rate, in./min.	0.028	
Back Pressure, psi	0.00	
Cell Pressure, psi	2.90	
Fail. Stress, psf	1866	
Strain, %	6.3	
Ult. Stress, psf	2173	
Strain, %	6.3	
σ_1 Failure, psf	2283	
σ_3 Failure, psf	417	

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: M BR & GR W/ ARS ML, CC

Assumed Specific Gravity= 2.72

Remarks: Test specimen trimmed horizontally.

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U **Depth:** 3.5

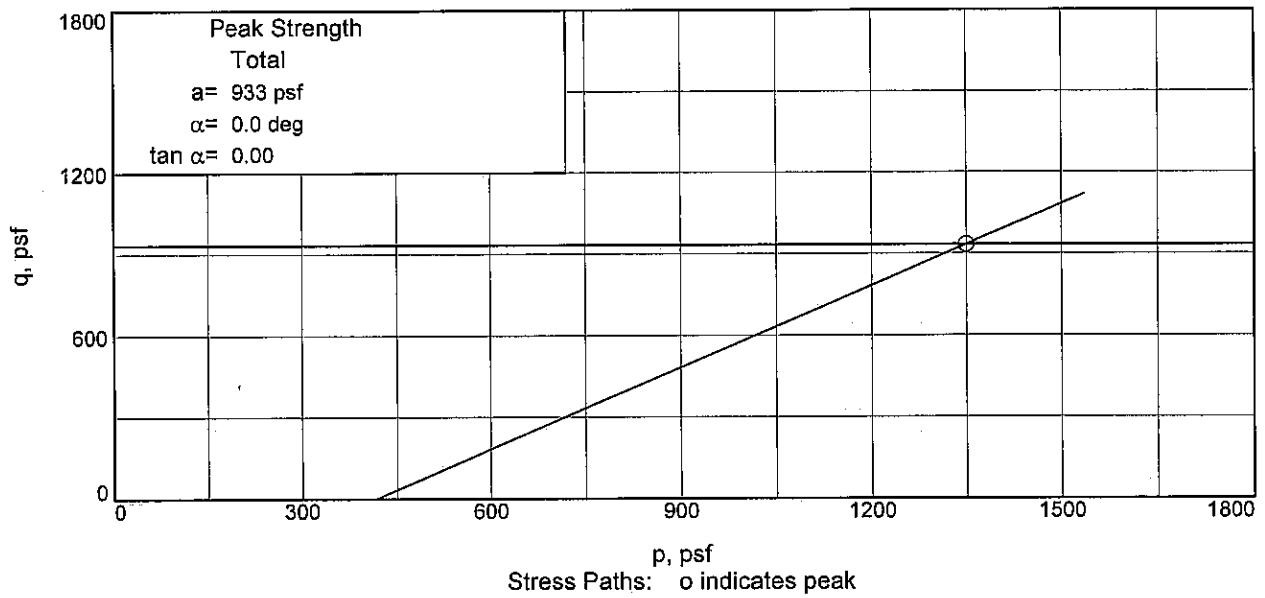
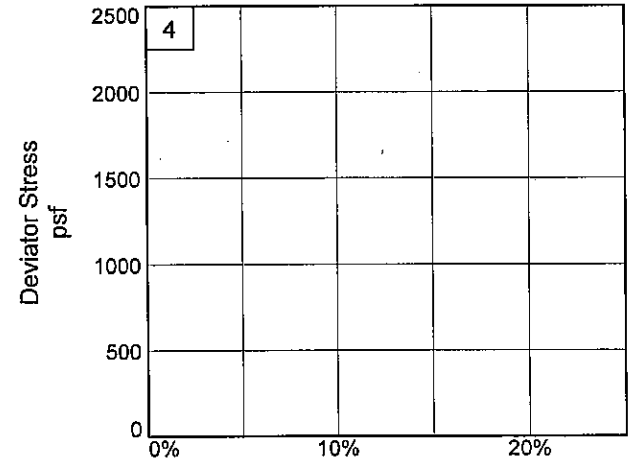
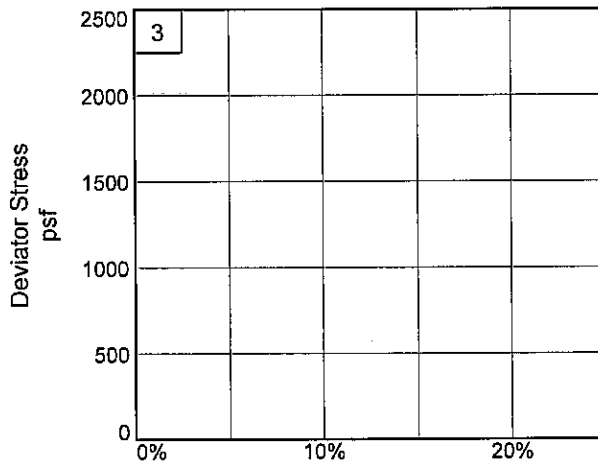
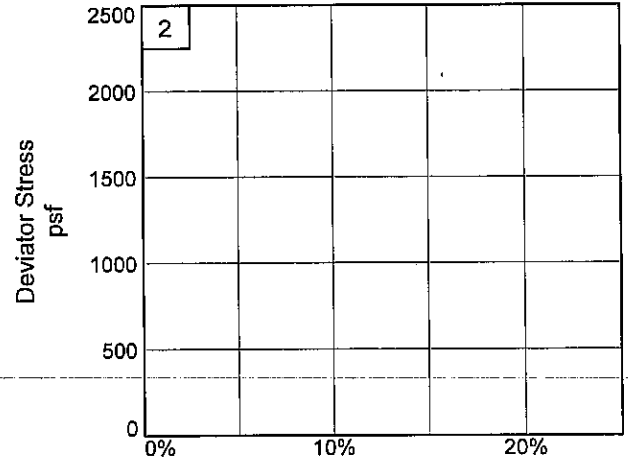
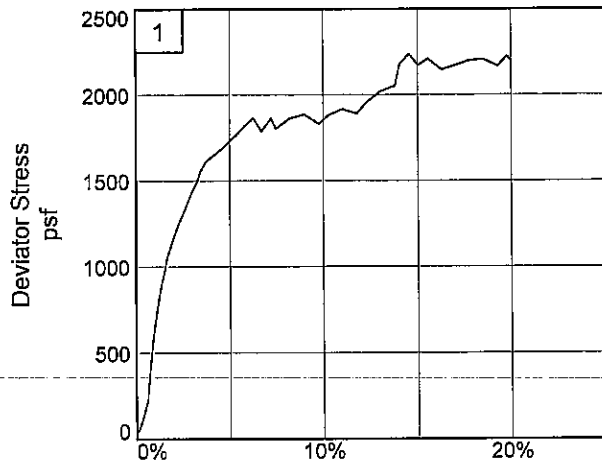
Sample Number: 2A(H)

Proj. No.: 0022-0024 **Date Sampled:** 8-11-07

TRIAXIAL SHEAR TEST REPORT
FFEBJV, LLC

Figure _____

Tested By: DD/SE/TB



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U

Depth: 3.5

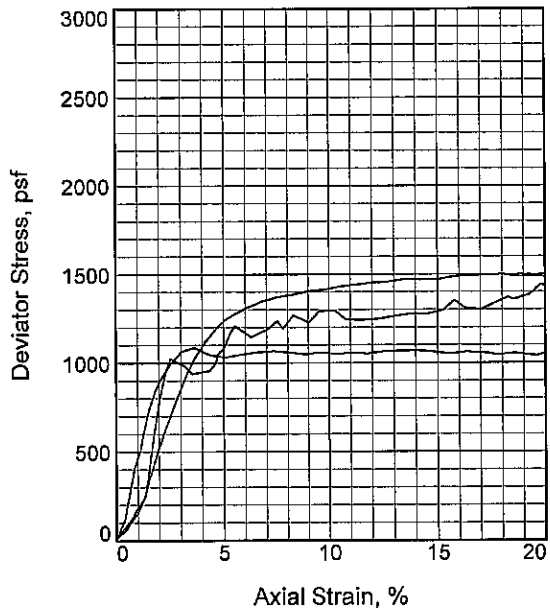
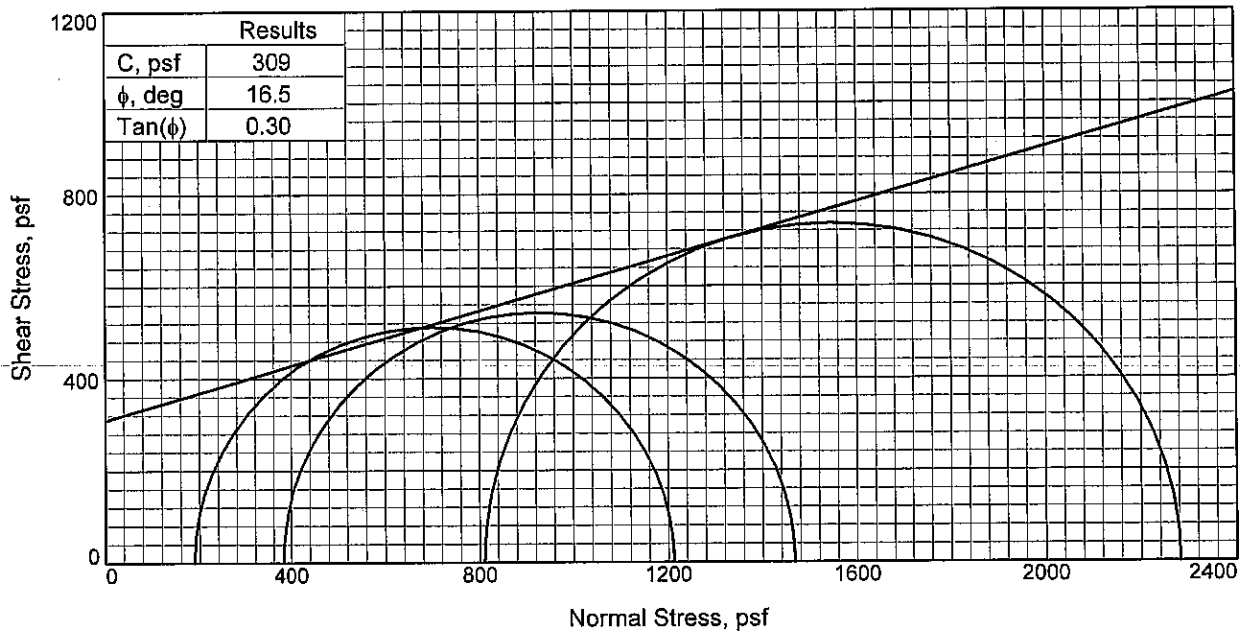
Sample Number: 2A(H)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: DD/SE/TB _____



Sample No.		1	2	3
Initial	Water Content, %	34.1	35.0	36.1
	Dry Density, pcf	79.1	87.9	72.5
	Saturation, %	81.9	103.3	73.8
	Void Ratio	1.1218	0.9113	1.3161
	Diameter, in.	1.410	1.419	1.415
	Height, in.	2.855	2.863	2.844
At Test	Water Content, %	34.1	35.0	36.1
	Dry Density, pcf	79.1	87.9	72.5
	Saturation, %	81.9	103.3	73.8
	Void Ratio	1.1218	0.9113	1.3161
	Diameter, in.	1.410	1.419	1.415
	Height, in.	2.855	2.863	2.844
Strain rate, in./min.		0.029	0.029	0.028
Back Pressure, psi		0.00	0.00	0.00
Cell Pressure, psi		1.31	2.66	5.63
Fail. Stress, psf		1023	1086	1472
Strain, %		2.5	3.6	13.5
Ult. Stress, psf		1298	1060	1471
Strain, %				
σ_1 Failure, psf		1212	1468	2282
σ_3 Failure, psf		189	382	810

Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: SO GR & BR CL6 W/ WD

Assumed Specific Gravity= 2.69

Remarks:

Figure

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U

Depth: 4.3

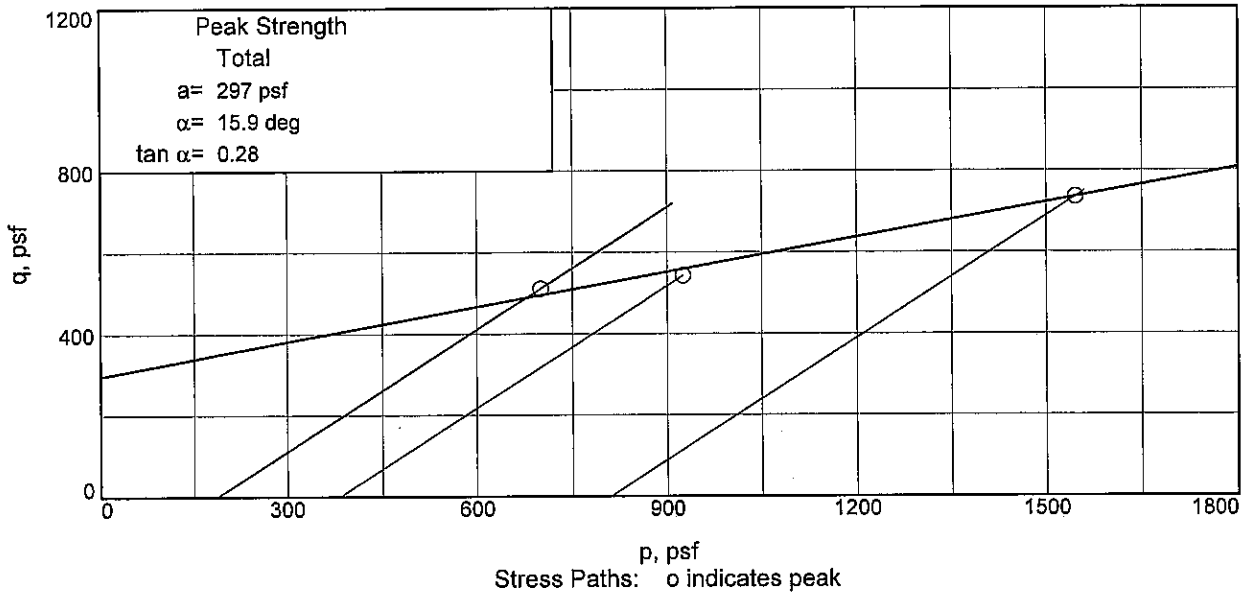
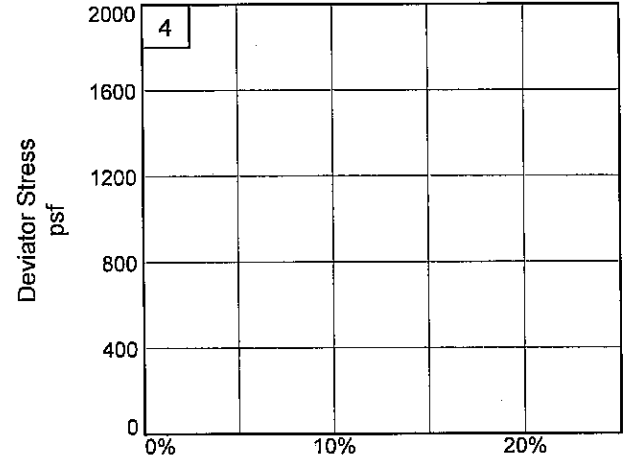
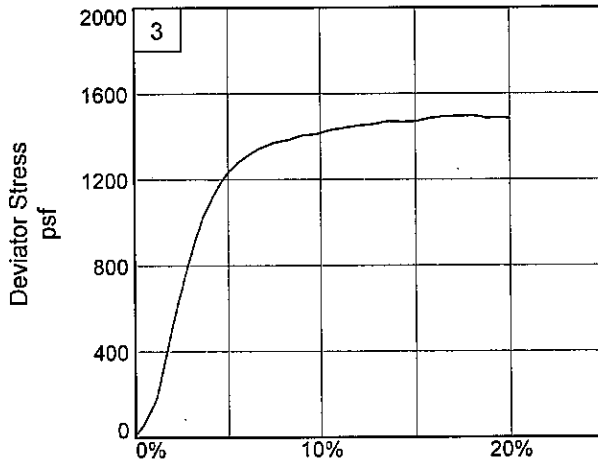
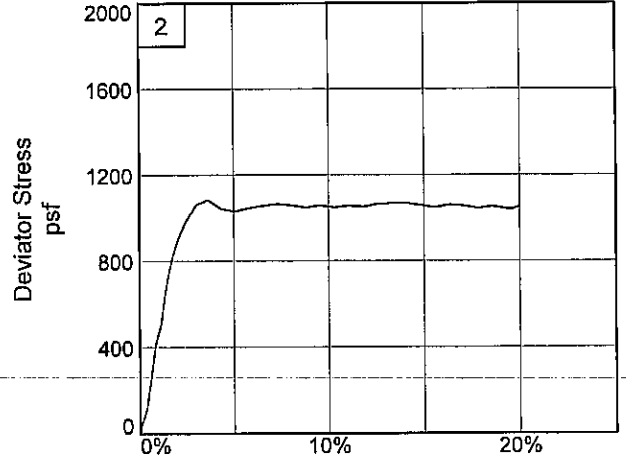
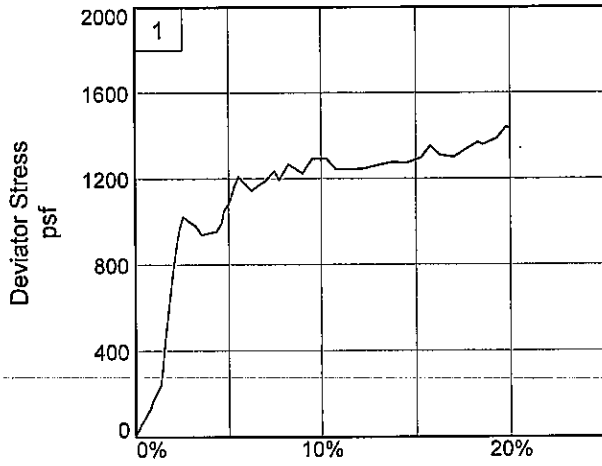
Sample Number: 2B(V)

Proj. No.: 0022-0024

Date Sampled: 8-11-07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U

Depth: 4.3

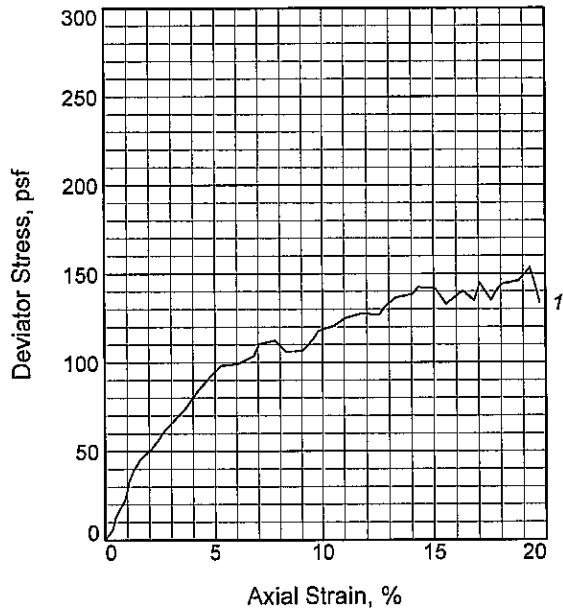
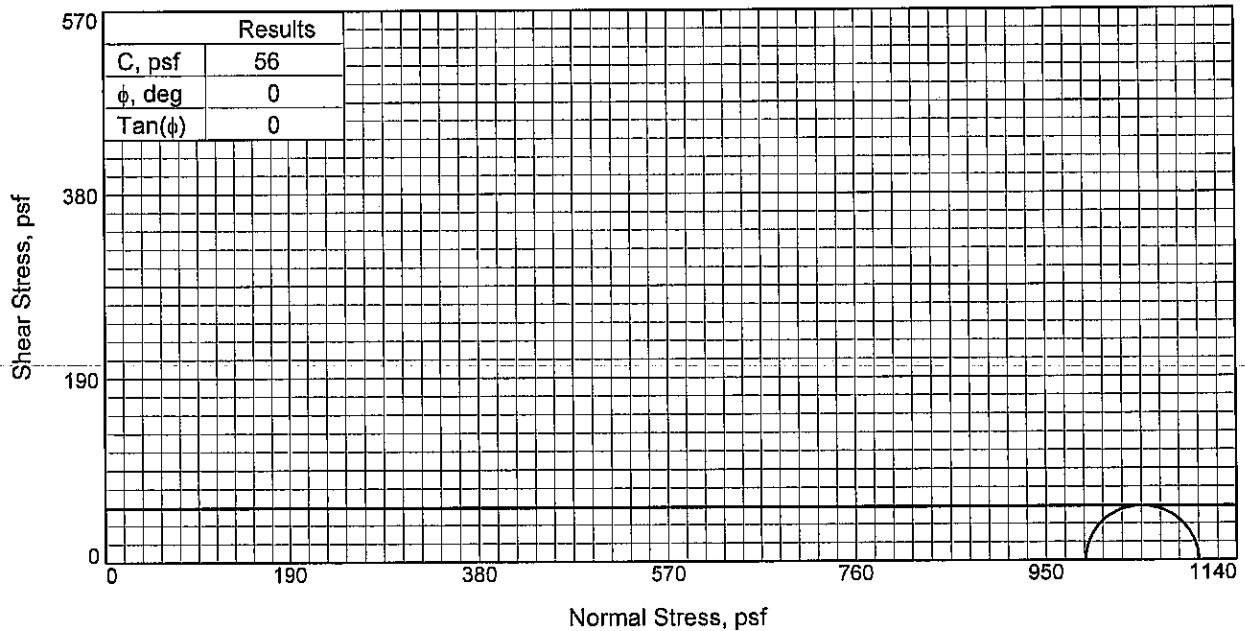
Sample Number: 2B(V)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: DD/TB _____



Sample No.		1
Initial	Water Content, %	248.2
	Dry Density, pcf	20.2
	Saturation, %	92.3
	Void Ratio	6.7197
	Diameter, in.	1.398
	Height, in.	2.897
At Test	Water Content, %	248.2
	Dry Density, pcf	20.2
	Saturation, %	92.3
	Void Ratio	6.7197
	Diameter, in.	1.398
	Height, in.	2.897
Strain rate, in./min.	0.029	
Back Pressure, psi	0.00	
Cell Pressure, psi	6.87	
Fail. Stress, psf	112	
Strain, %	7.8	
Ult. Stress, psf	142	
Strain, %		
σ_1 Failure, psf	1102	
σ_3 Failure, psf	990	

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: VSO BR & GR CHOC W/ ARS ML,
WD, RT

Assumed Specific Gravity= 2.50

Remarks: Test specimen trimmed horizontally.

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U **Depth:** 11.7

Sample Number: 4B(H)

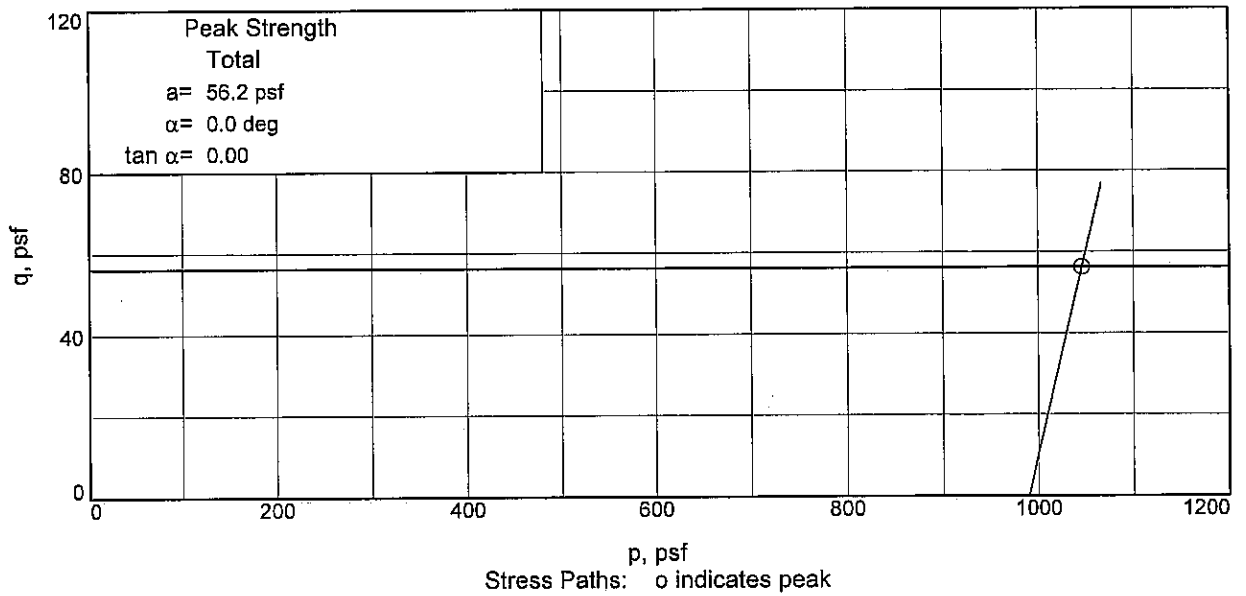
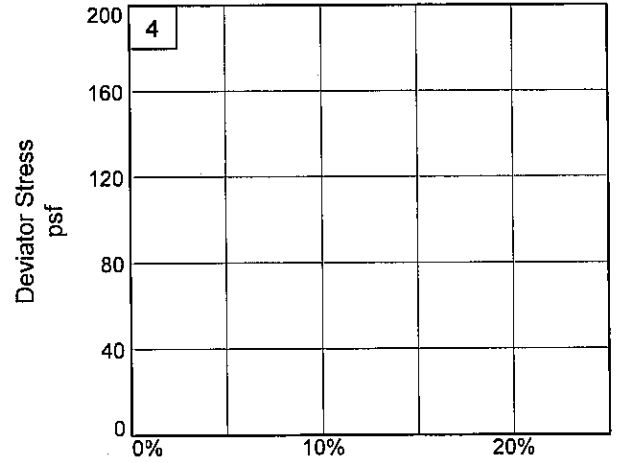
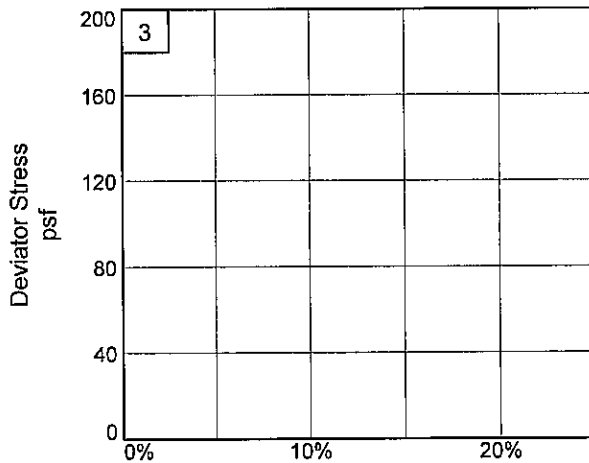
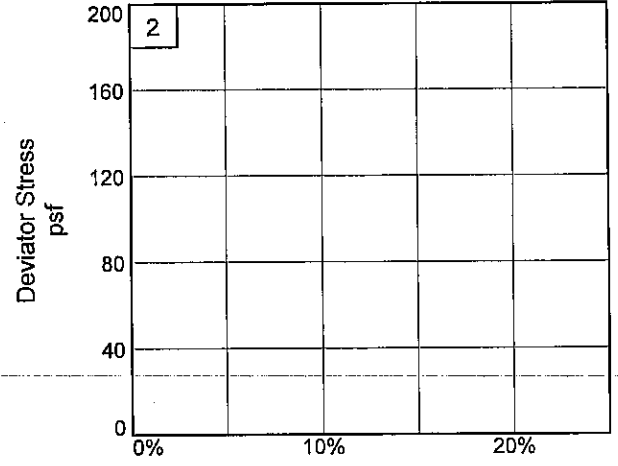
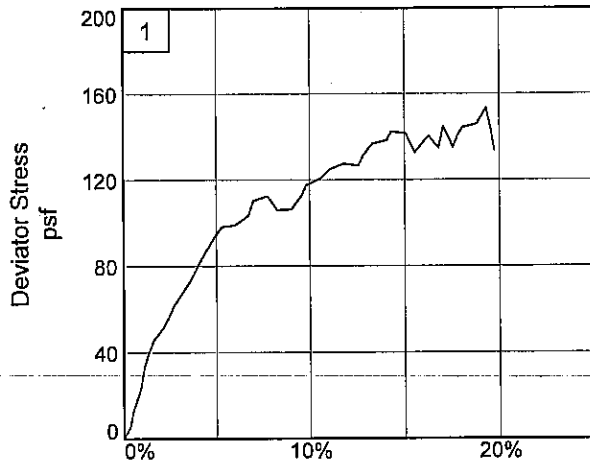
Proj. No.: 0022-0024 **Date Sampled:** 8-11-07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Figure _____

Tested By: TB _____



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U

Depth: 11.7

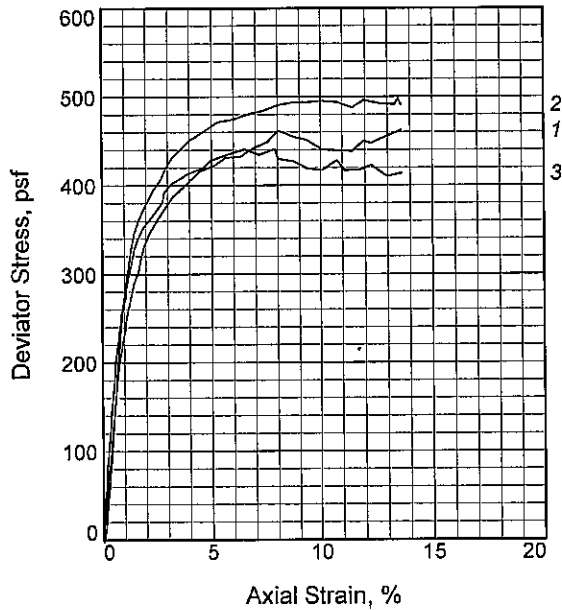
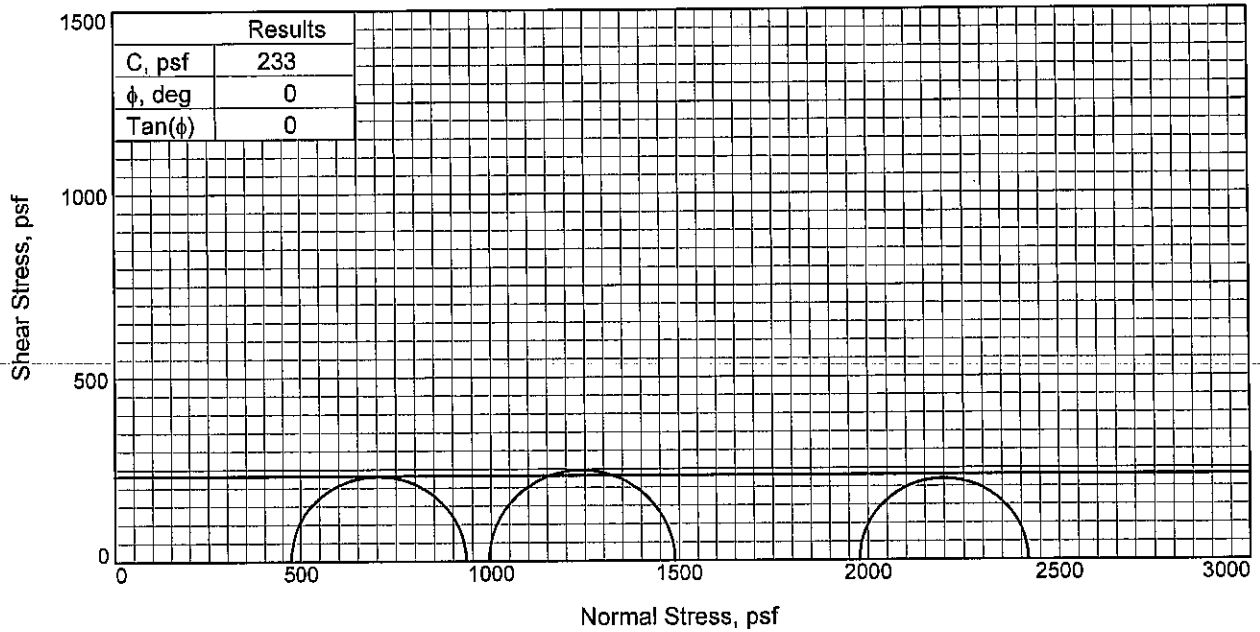
Sample Number: 4B(H)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: TB



Sample No.	1	2	3	
Initial	Water Content, %	67.8	72.3	71.9
	Dry Density, pcf	59.5	57.6	56.8
	Saturation, %	99.5	100.9	98.4
	Void Ratio	1.8534	1.9494	1.9871
	Diameter, in.	1.416	1.413	1.419
	Height, in.	3.132	3.130	3.133
At Test	Water Content, %	67.8	72.3	71.9
	Dry Density, pcf	59.5	57.6	56.8
	Saturation, %	99.5	100.9	98.4
	Void Ratio	1.8534	1.9494	1.9871
	Diameter, in.	1.416	1.413	1.419
	Height, in.	3.132	3.130	3.133
Strain rate, in./min.	0.021	0.021	0.021	
Back Pressure, psi	0.00	0.00	0.00	
Cell Pressure, psi	3.28	6.91	13.74	
Fail. Stress, psf		462	494	441
	Strain, %	8.0	8.7	6.5
Ult. Stress, psf		439	488	414
	Strain, %			
σ_1 Failure, psf	935	1488	2419	
σ_3 Failure, psf	473	995	1978	

Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: SO GR CH4 W/ O, ARS SM, RT

Assumed Specific Gravity= 2.72

Remarks:

Figure _____

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U

Depth: 13.5

Sample Number: 4D(V)

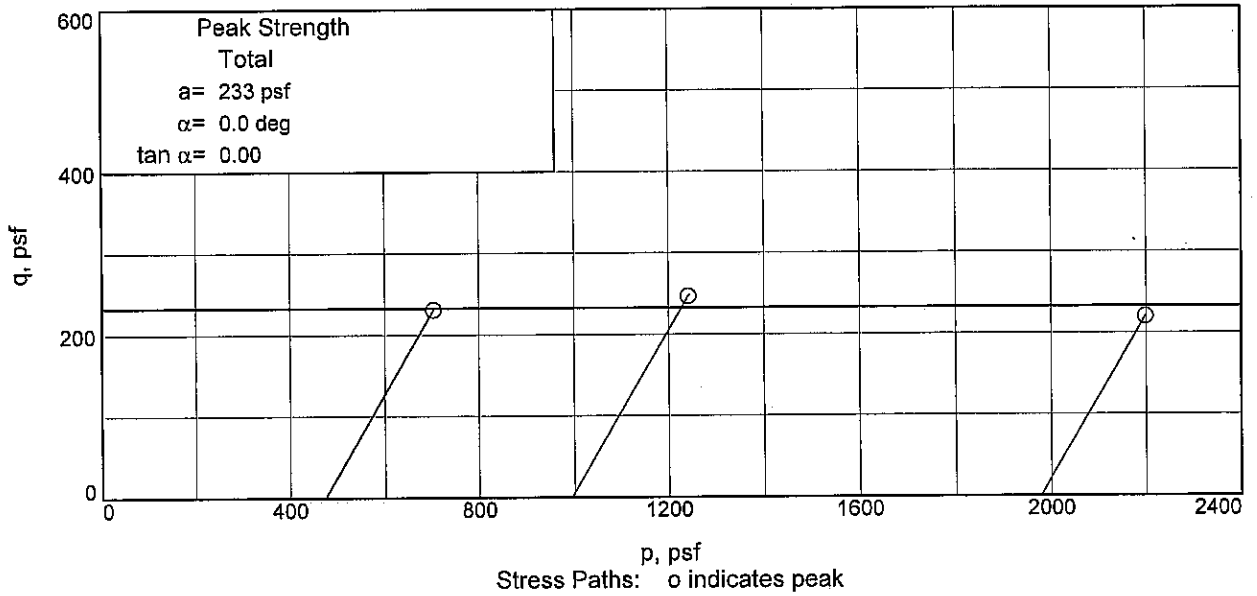
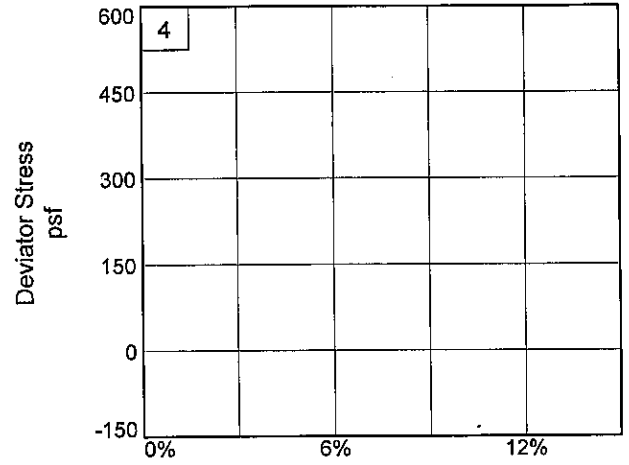
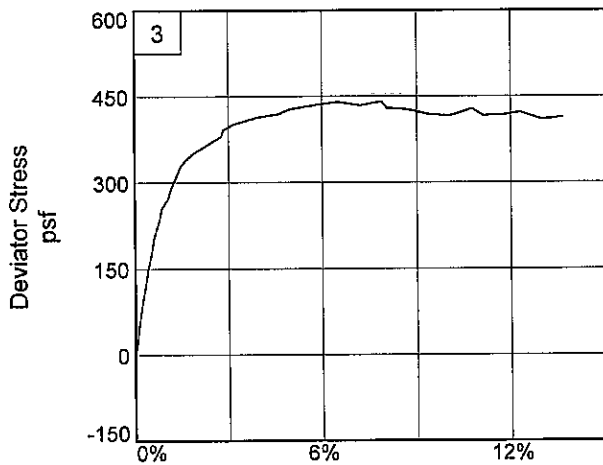
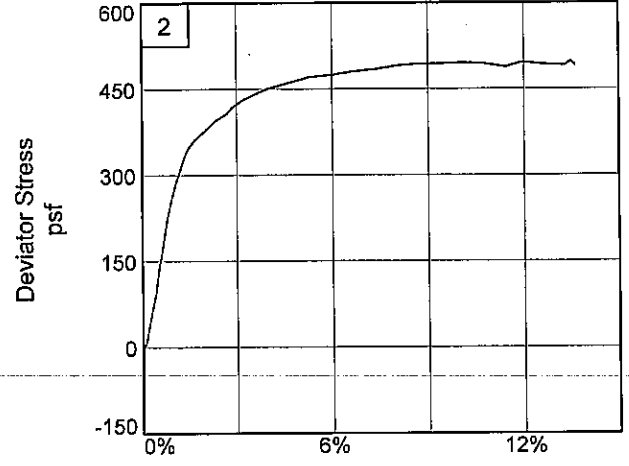
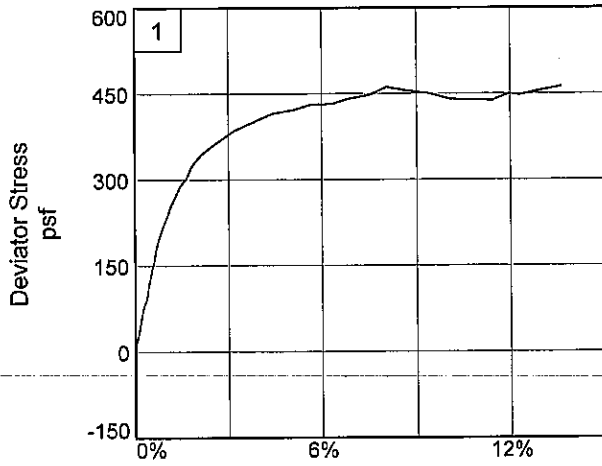
Proj. No.: 0022-0024

Date Sampled: 8-11-07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Tested By: TB _____



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U

Depth: 13.5

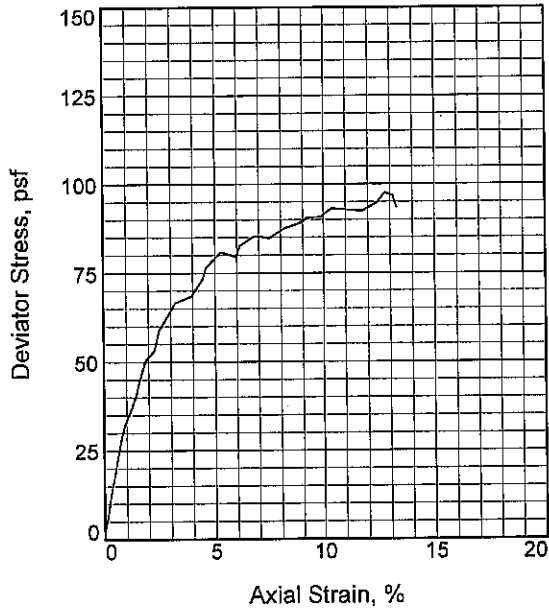
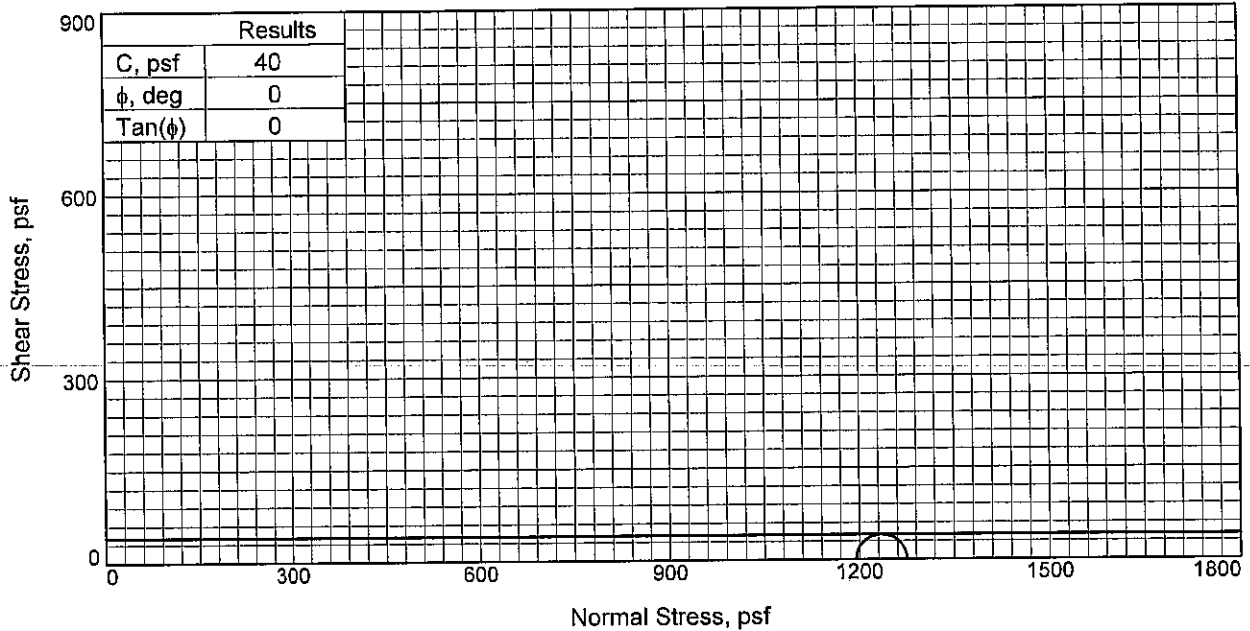
Sample Number: 4D(V)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: TB _____



Sample No.		1
Initial	Water Content, %	86.9
	Dry Density, pcf	49.5
	Saturation, %	97.2
	Void Ratio	2.4323
	Diameter, in.	1.406
	Height, in.	3.128
At Test	Water Content, %	86.9
	Dry Density, pcf	49.5
	Saturation, %	97.2
	Void Ratio	2.4323
	Diameter, in.	1.406
	Height, in.	3.128
Strain rate, in./min.		0.021
Back Pressure, psi		0.00
Cell Pressure, psi		8.30
Fail. Stress, psf		81
Strain, %		5.3
Ult. Stress, psf		92
Strain, %		
σ_1 Failure, psf		1275
σ_3 Failure, psf		1195

Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: VSO GR CH4 W/ ARS SM, O, RT, G

Assumed Specific Gravity= 2.72

Remarks: Test specimen trimmed horizontally.

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U **Depth:** 15.0

Sample Number: 5A(H)

Proj. No.: 0022-0024

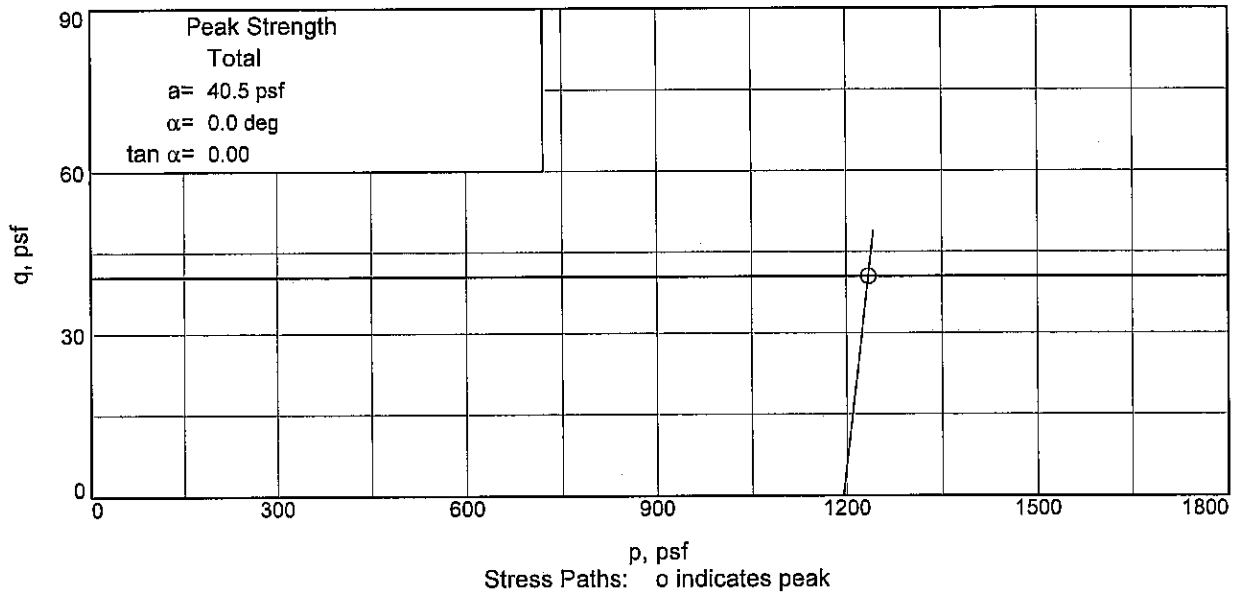
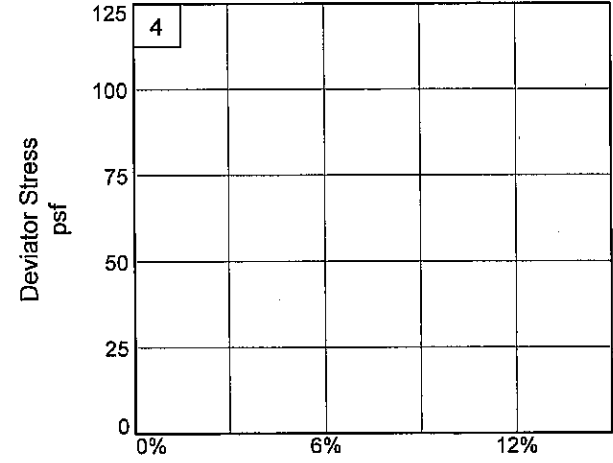
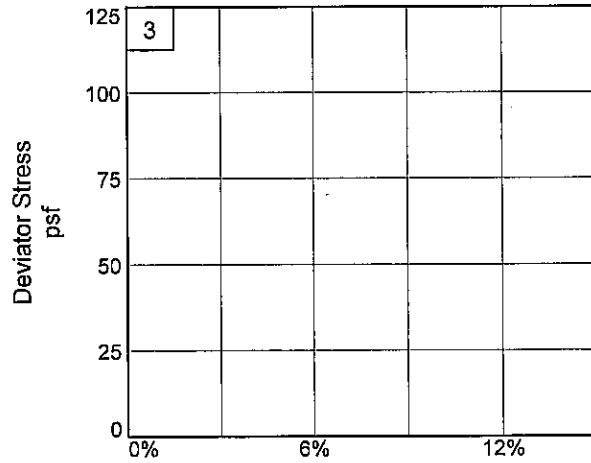
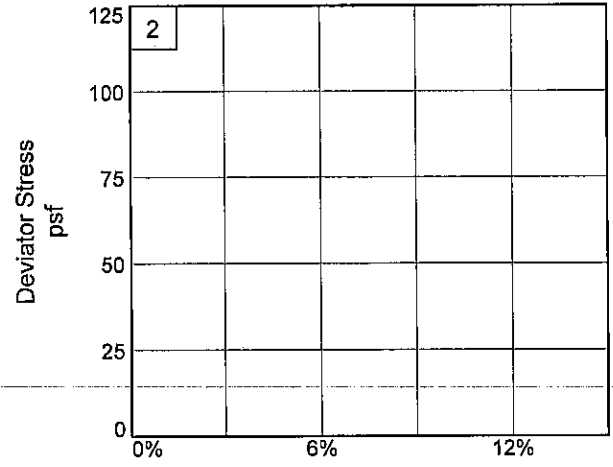
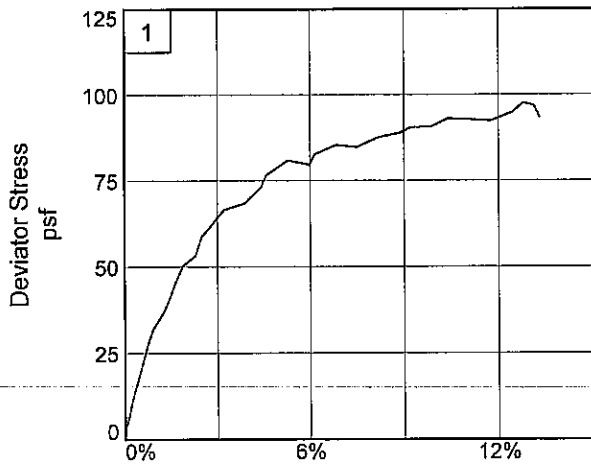
Date Sampled: 8-11-07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Figure _____

Tested By: TB



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-1U

Depth: 15.0

Sample Number: 5A(H)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: TB _____

SUMMARY OF LABORATORY TEST RESULTS

Project: London Avenue Laboratory Testing

Assigned By: _____

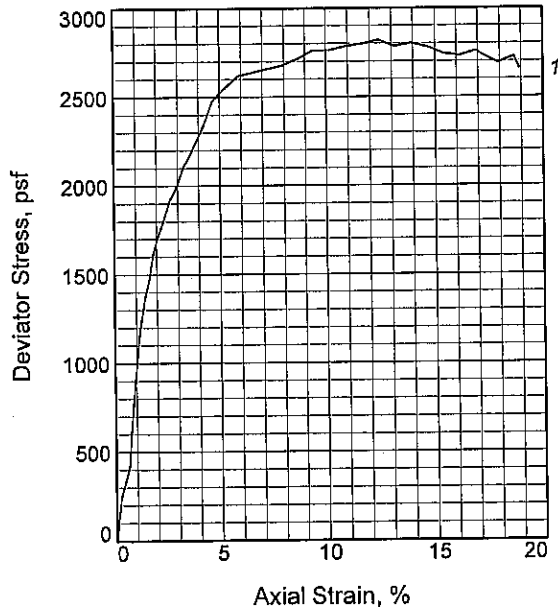
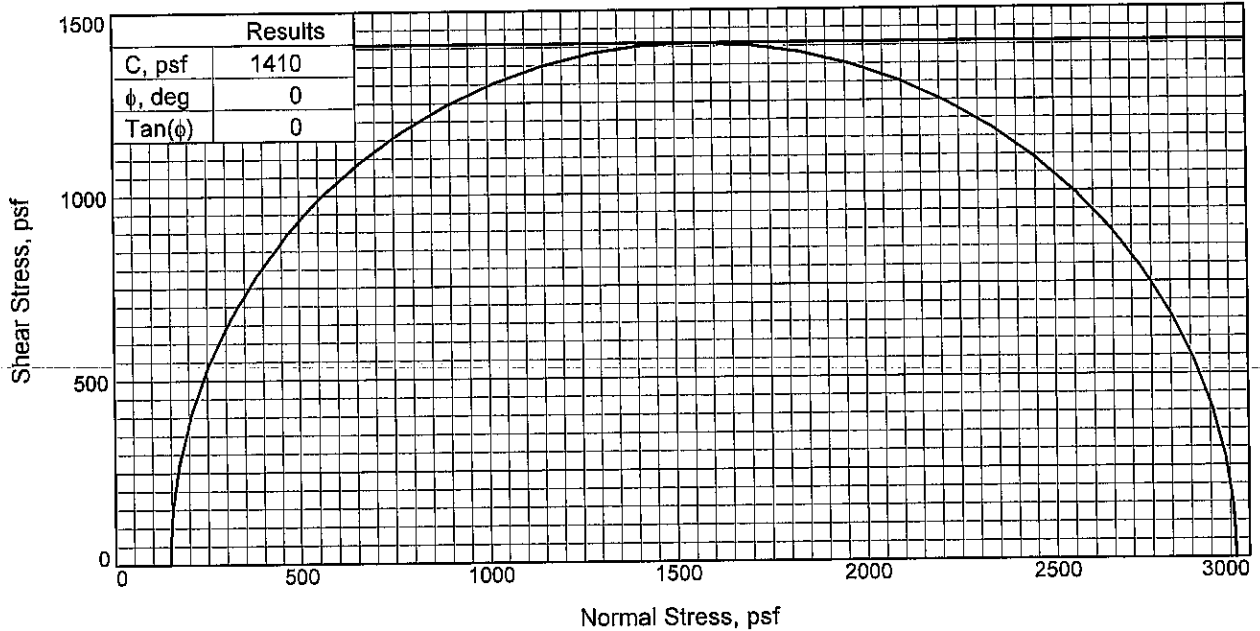
Project Number: 0022-0024
 Boring: LCSLT-2U

Current Date: 8/13/2007

Sample Number	Depth	Visual Classification	USCS	E (f)	W%	Dry Dens (pcf)	Wet Dens (pcf)	Sat %	Shear Test Type	Angle	Cohesion (psf)	Unconf. Comp. Str.	IL	PL	PI	TORVANE (tsf)	Other Tests
1B(H)	0.4	ST GR & BR CH3 W/ ARS ML, G	CH3		25	98	123	93	UU	0	1410					0.54	
1B(V)	0.6	ST GR & BR CH3 W/ ARS ML, G	CH3		28	93	119	92	UU	0	1463					1.35	
2A(H)	3.5	SO GR & BR CH4 W/ ARS ML, O, RT	CH4		49	71	106	97	UU	0	309					0.36	
2A(V)	5.5	M GR & BR CH4 W/ ARS, O, RT	CH4		36	81	110	88	UU	0	508					0.36	
3A(H)	7.6	M DGR & GR CHOB W/ WD, LNS SM, LYS CH	CHOB		62	60	97	95	UU	0	581					0.55	
3E(V)	8.5	M DBR CHOC W/ RT, WD, ARS SM	CHOC		244	21	70	92	UU	0	478					0.34	
4B(H)	11.5	SO DGR & GR CHOA W/ WD	CHOA		125	38	85	98	UU	0	398					0.35	
4C(V)	13.3	SO DGR CHOA W/ RT, WD, ARS ML	CHOA		157	31	80	97	UU	0	481					0.32	

Remarks: FFEBJV, LLC.

Checked by: RUE
 File Name: TO24



Sample No.		1
Initial	Water Content, %	25.5
	Dry Density, pcf	97.8
	Saturation, %	93.0
	Void Ratio	0.7495
	Diameter, in.	1.406
At Test	Height, in.	2.856
	Water Content, %	25.5
	Dry Density, pcf	97.8
	Saturation, %	93.0
	Void Ratio	0.7495
Diameter, in.		1.406
Height, in.		2.856
Strain rate, in./min.		0.029
Back Pressure, psi		0.00
Cell Pressure, psi		1.02
Fail. Stress, psf		2820
Strain, %		12.4
Ult. Stress, psf		2780
Strain, %		
σ_1 Failure, psf		2966
σ_3 Failure, psf		146

Type of Test:

Unconsolidated Undrained

Sample Type: UNDISTURBED

Description: ST GR & BR CH3 W/ ARS ML, G

Assumed Specific Gravity= 2.74

Remarks: Test specimen trimmed horizontally.

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 0.4

Sample Number: 1B(H)

Proj. No.: 0022-0024

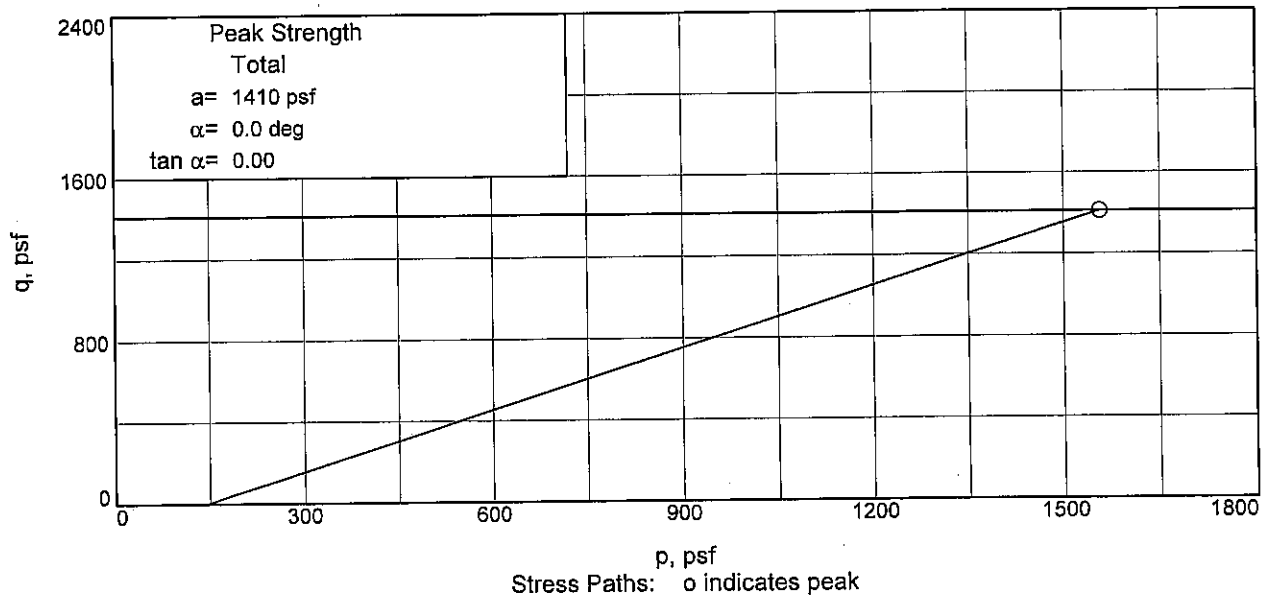
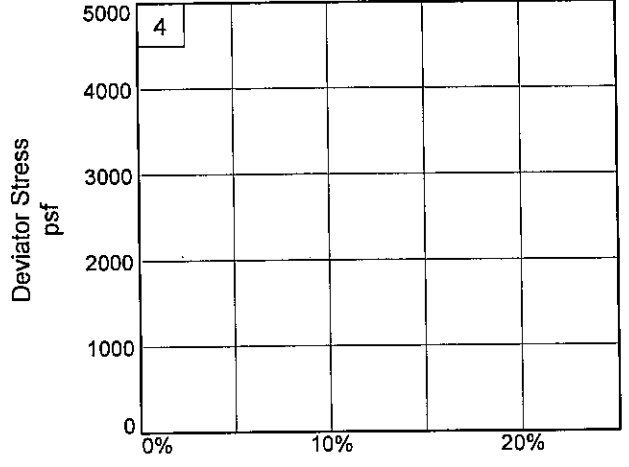
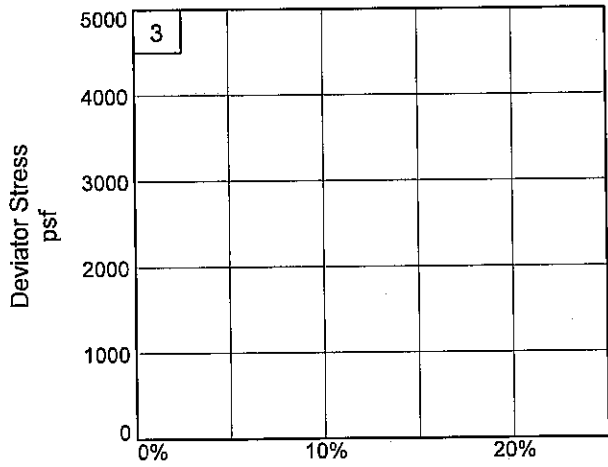
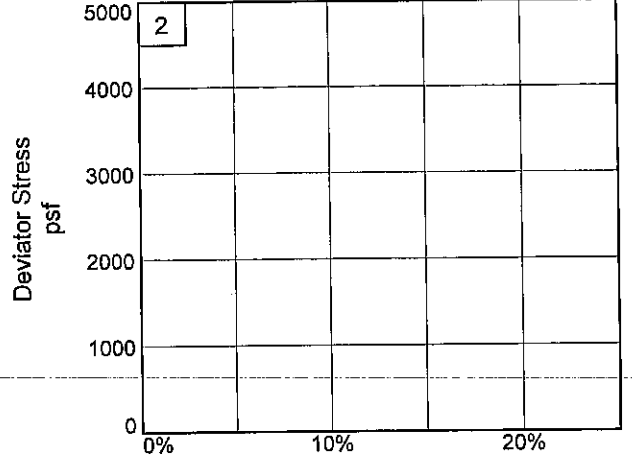
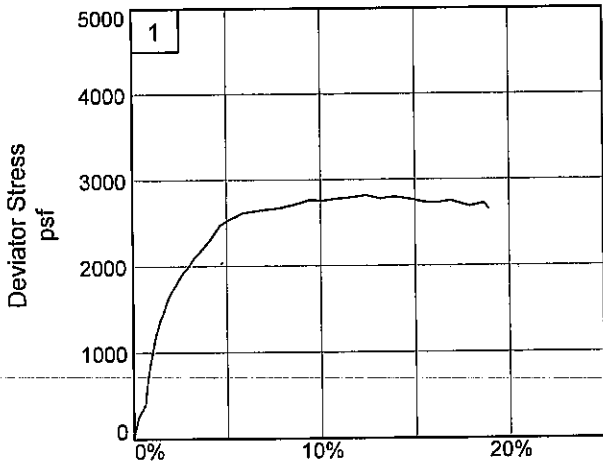
Date Sampled: 8/11/07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Figure _____

Tested By: TB _____



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 0.4

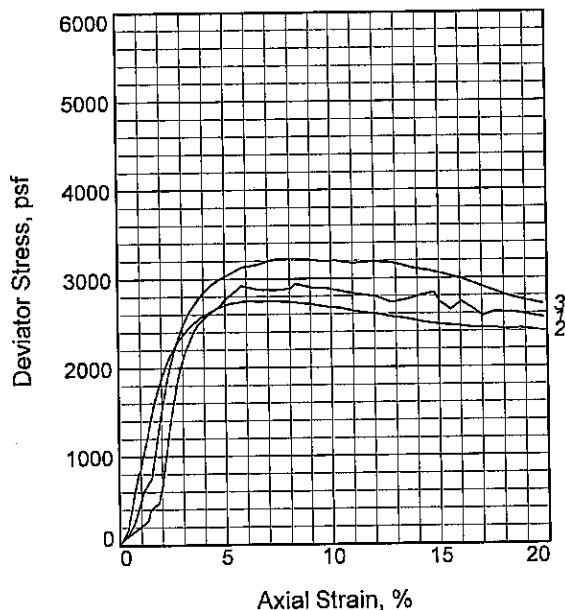
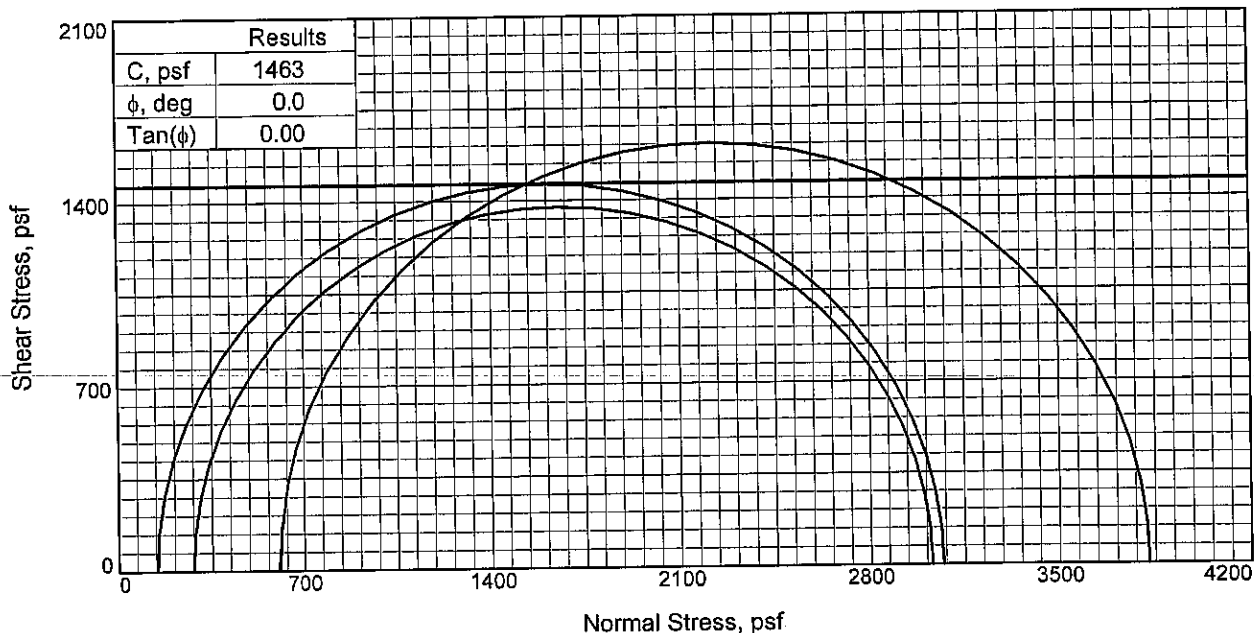
Sample Number: 1B(H)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: TB _____



Sample No.	1	2	3
Initial			
Water Content, %	27.5	28.3	29.5
Dry Density, pcf	93.3	93.2	91.8
Saturation, %	90.6	93.0	93.6
Void Ratio	0.8329	0.8351	0.8627
Diameter, in.	1.415	1.406	1.410
Height, in.	2.856	2.862	2.859
At Test			
Water Content, %	27.5	28.3	29.5
Dry Density, pcf	93.3	93.2	91.8
Saturation, %	90.6	93.0	93.6
Void Ratio	0.8329	0.8351	0.8627
Diameter, in.	1.415	1.406	1.410
Height, in.	2.856	2.862	2.859
Strain rate, in./min.	0.029	0.029	0.029
Back Pressure, psi	0.00	0.00	0.00
Cell Pressure, psi	1.01	1.94	4.17
Fail. Stress, psf	2924	2749	3226
Strain, %	5.8	6.0	8.0
Ult. Stress, psf	2729	2477	3041
Strain, %			
σ_1 Failure, psf	3070	3029	3827
σ_3 Failure, psf	146	280	601

Type of Test:

Unconsolidated Undrained

Sample Type: UNDISTURBED

Description: ST GR & BR CH3 W/ ARS ML, G

Assumed Specific Gravity= 2.74

Remarks:

Figure _____

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 0.6

Sample Number: 1B(V)

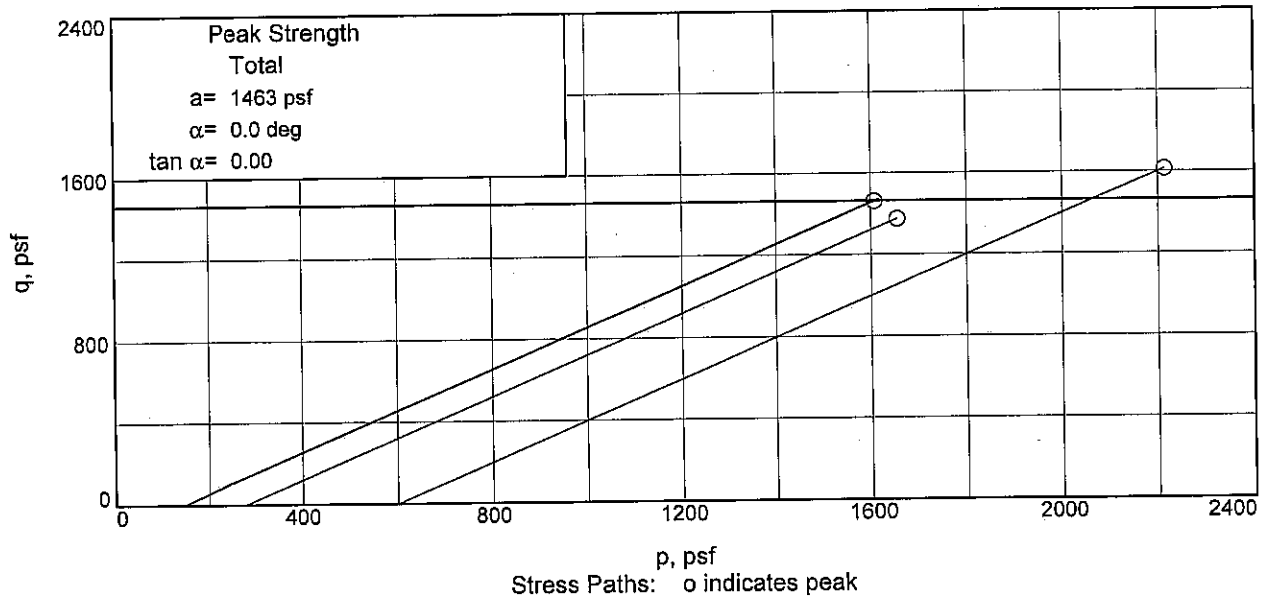
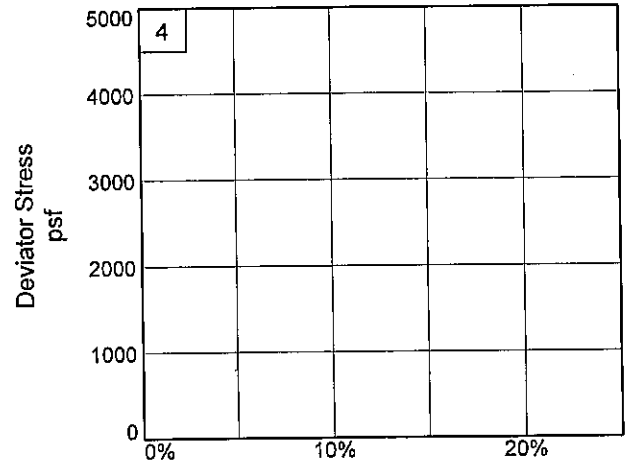
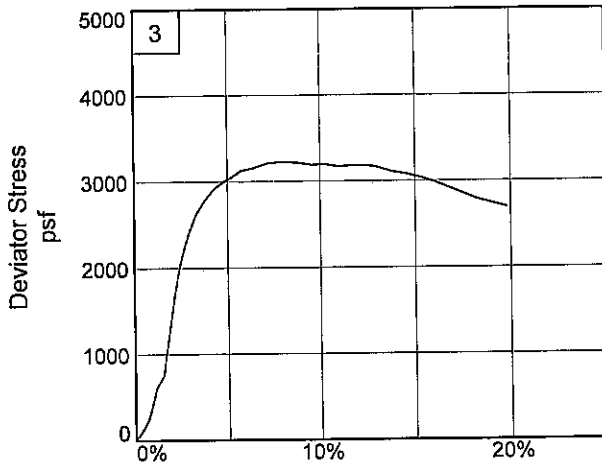
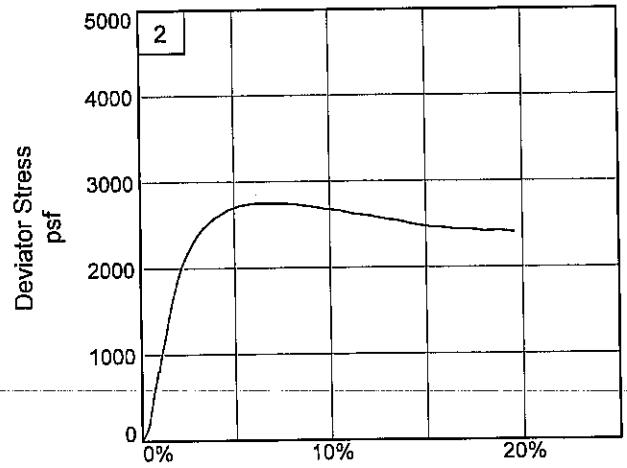
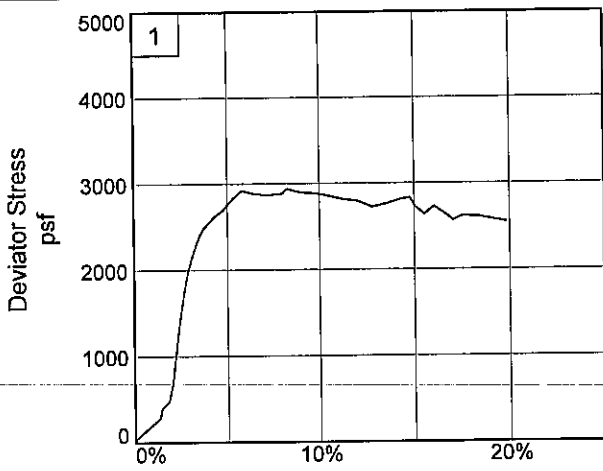
Proj. No.: 0022-0024

Date Sampled: 8/11/07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Tested By: DD/KP



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 0.6

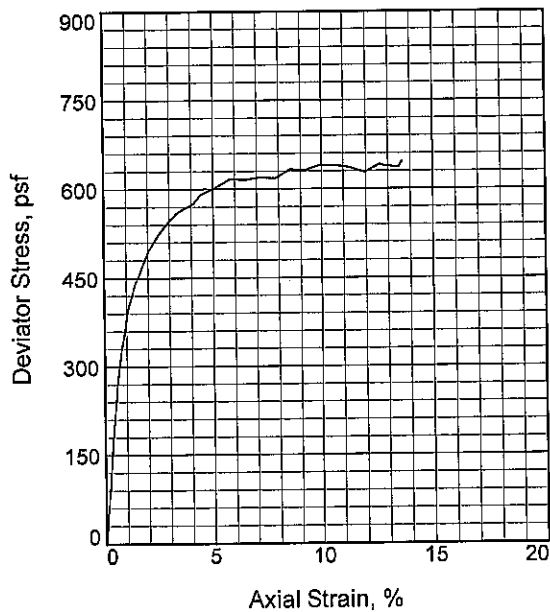
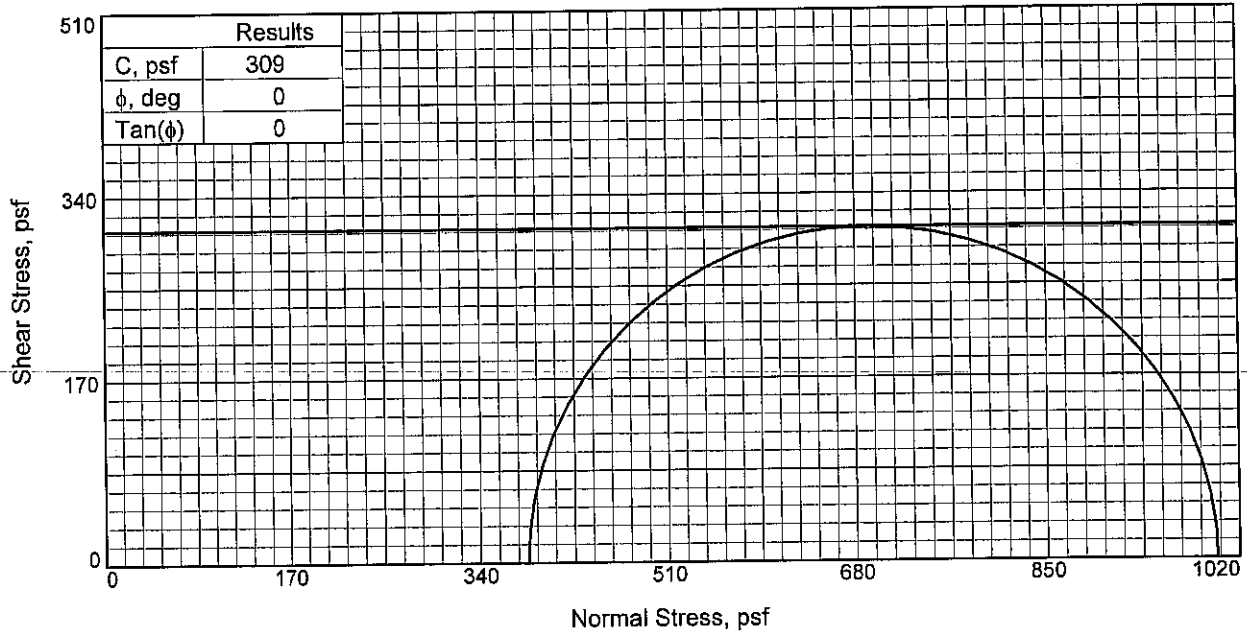
Sample Number: 1B(V)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: DD/KP _____



Sample No.	1	
Initial	Water Content, %	49.4
	Dry Density, pcf	71.2
	Saturation, %	96.5
	Void Ratio	1.4030
	Diameter, in.	1.408
	Height, in.	3.143
At Test	Water Content, %	49.4
	Dry Density, pcf	71.2
	Saturation, %	96.5
	Void Ratio	1.4030
	Diameter, in.	1.408
	Height, in.	3.143
Strain rate, in./min.	0.031	
Back Pressure, psi	0.00	
Cell Pressure, psi	2.66	
Fail. Stress, psf	618	
Strain, %	5.8	
Ult. Stress, psf	645	
Strain, %		
σ_1 Failure, psf	1001	
σ_3 Failure, psf	383	

Type of Test:

Unconsolidated Undrained

Sample Type: UNDISTURBED

Description: SO GR & BR CH4 W/ ARS ML, O, RT

Assumed Specific Gravity= 2.74

Remarks:

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U **Depth:** 3.5

Sample Number: 2A(H)

Proj. No.: 0022-0024

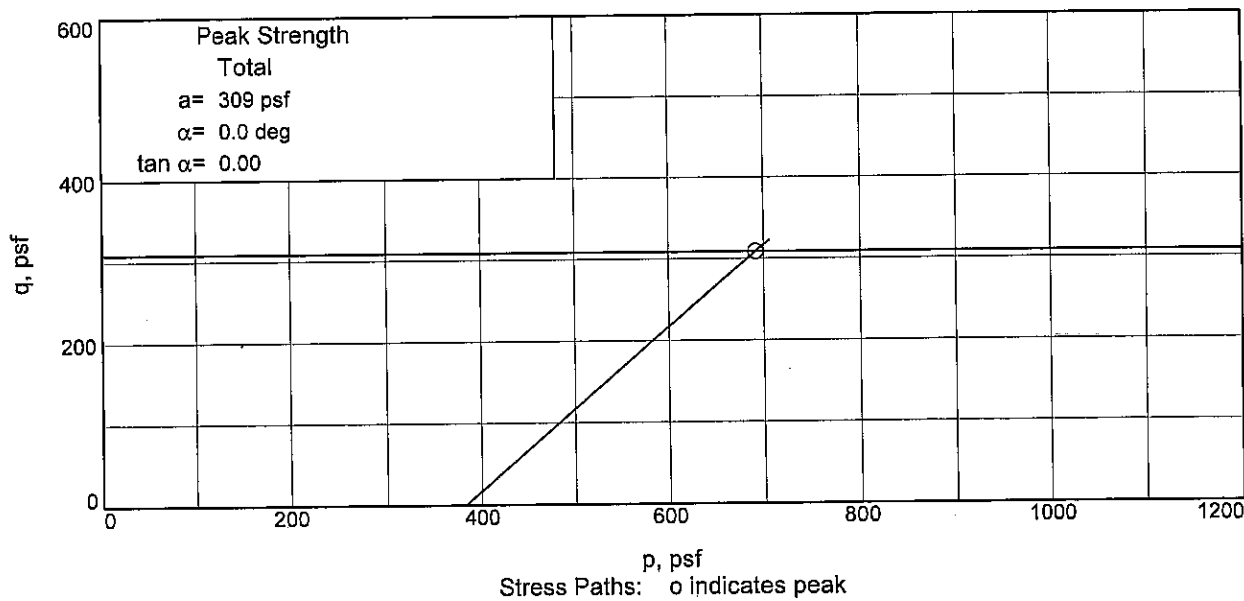
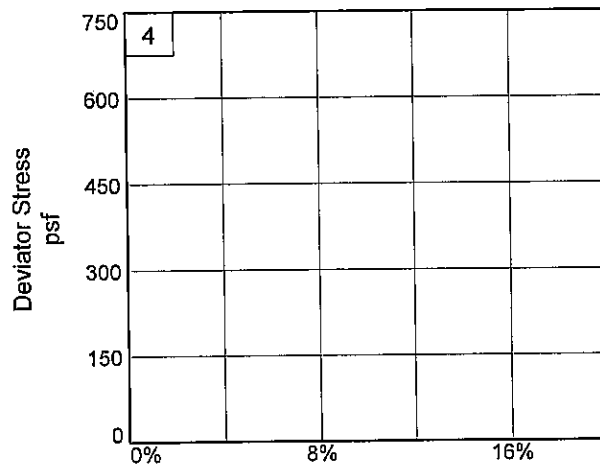
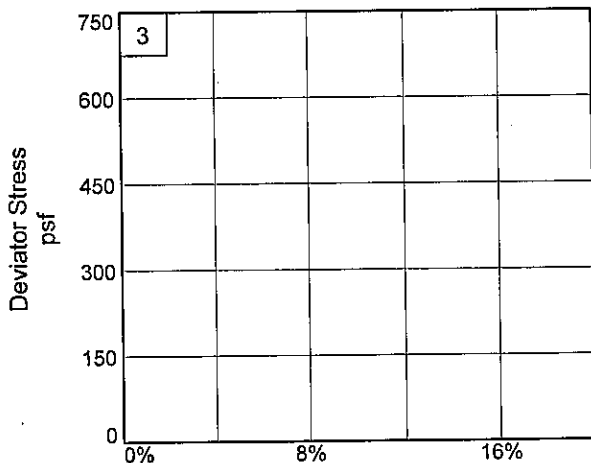
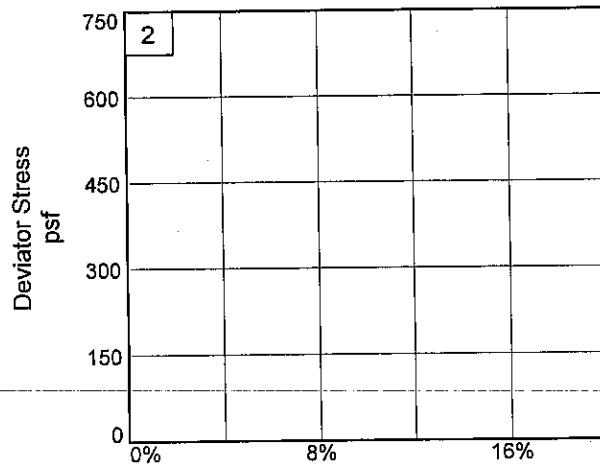
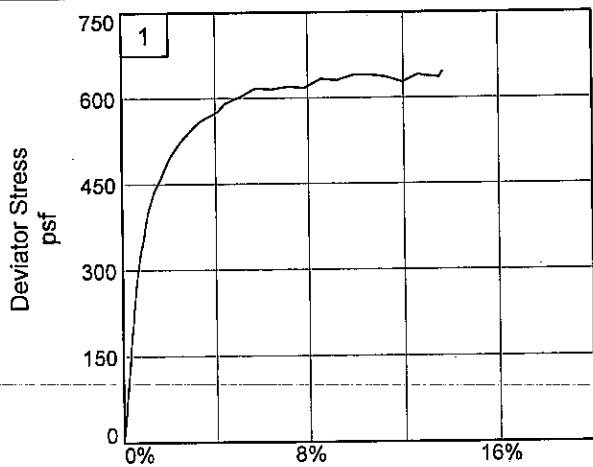
Date Sampled: 8/11/07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Figure _____

Tested By: TB _____



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 3.5

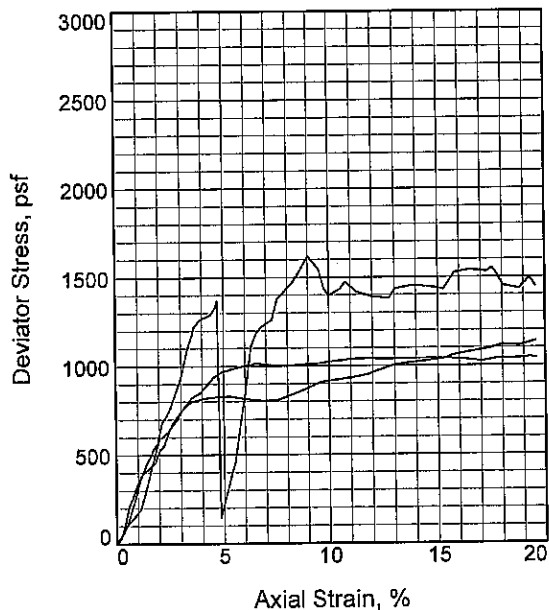
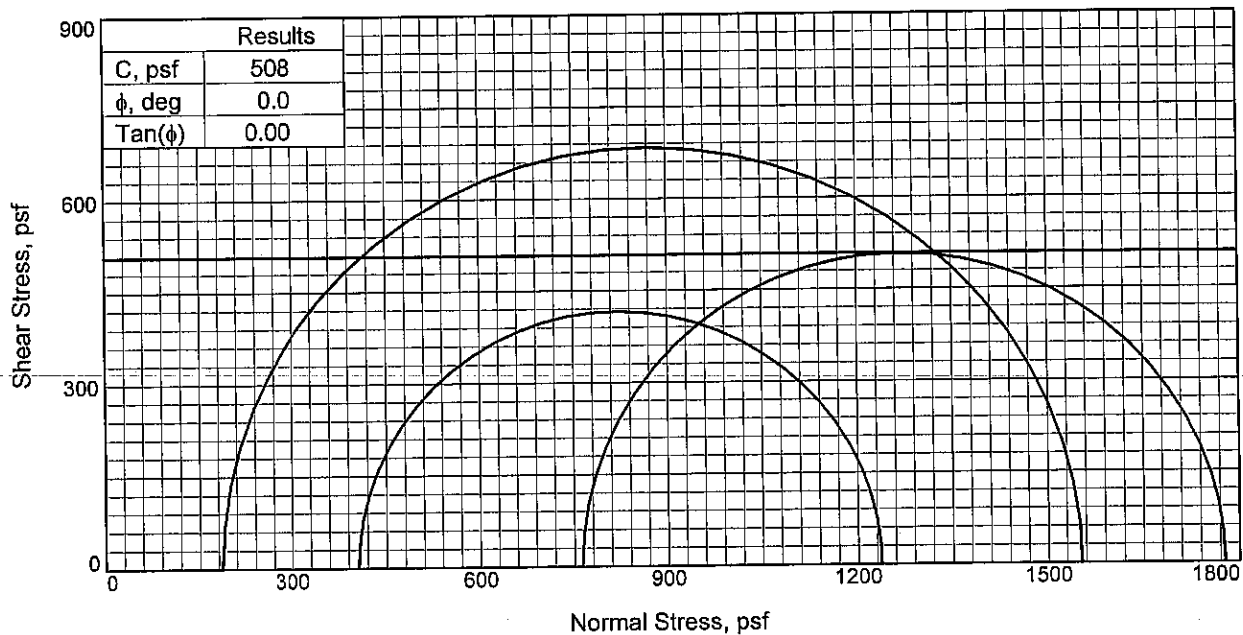
Sample Number: 2A(H)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: TB _____



Sample No.	1	2	3	
Initial	Water Content, %	34.6	33.5	38.7
	Dry Density, pcf	83.6	82.5	78.0
	Saturation, %	90.6	85.6	88.9
	Void Ratio	1.0468	1.0721	1.1927
	Diameter, in.	1.409	1.415	1.410
	Height, in.	2.864	2.855	2.934
At Test	Water Content, %	34.6	33.5	38.7
	Dry Density, pcf	83.6	82.5	78.0
	Saturation, %	90.6	85.6	88.9
	Void Ratio	1.0468	1.0721	1.1927
	Diameter, in.	1.409	1.415	1.410
	Height, in.	2.864	2.855	2.934
Strain rate, in./min.	0.029	0.029	0.029	
Back Pressure, psi	0.00	0.00	0.00	
Cell Pressure, psi	1.30	2.82	5.30	
Fail. Stress, psf	1367	832	1015	
Strain, %	4.7	5.3	6.5	
Ult. Stress, psf	1432	1040	1041	
Strain, %				
σ_1 Failure, psf	1553	1237	1778	
σ_3 Failure, psf	187	405	763	

Type of Test:

Unconsolidated Undrained

Sample Type: UNDISTURBED

Description: M GR & BR CH4 W/ ARS, O, RT

Assumed Specific Gravity= 2.74

Remarks:

Figure _____

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 5.5

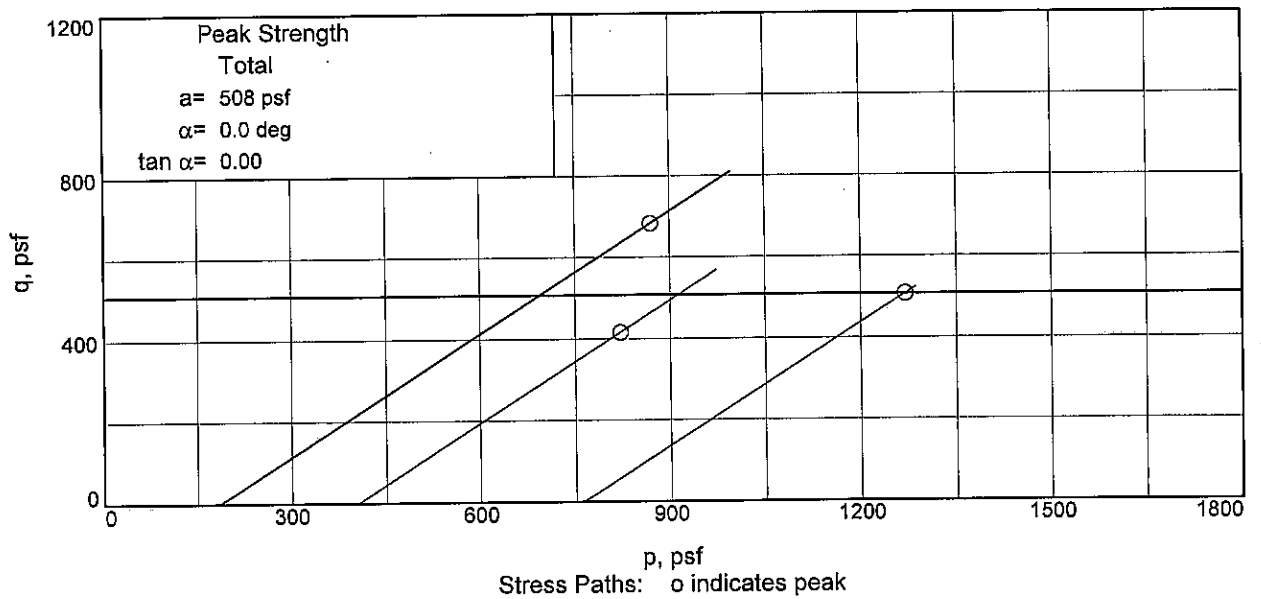
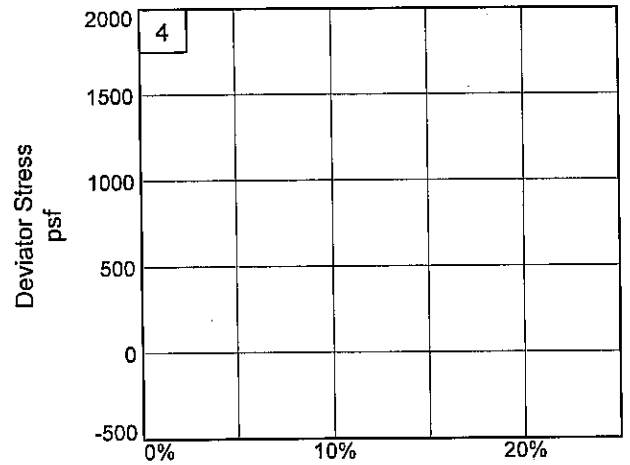
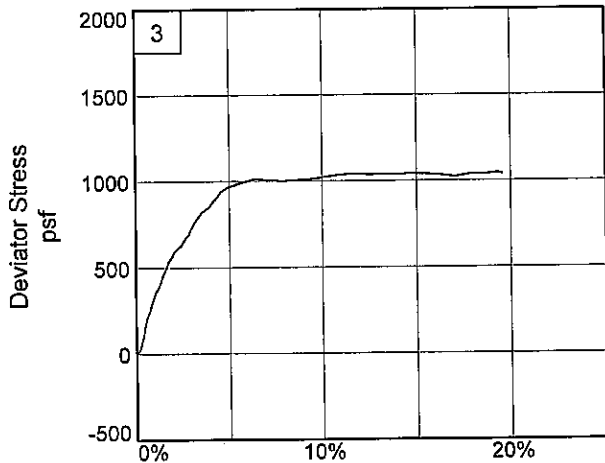
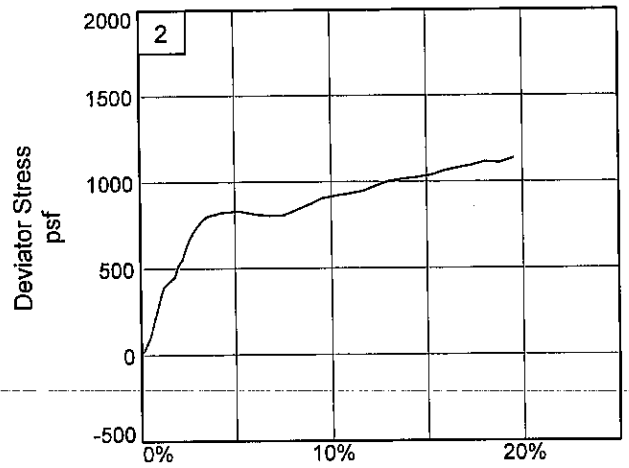
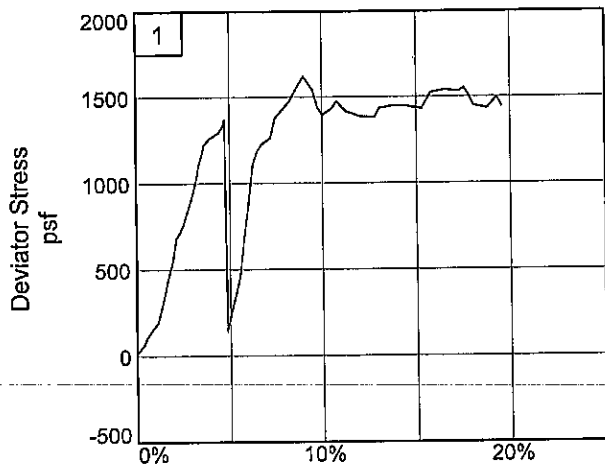
Sample Number: 2A(V)

Proj. No.: 0022-0024

Date Sampled: 8/11/07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 5.5

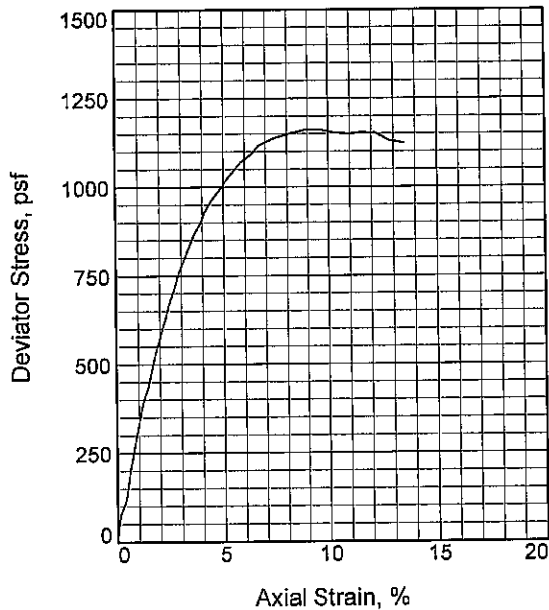
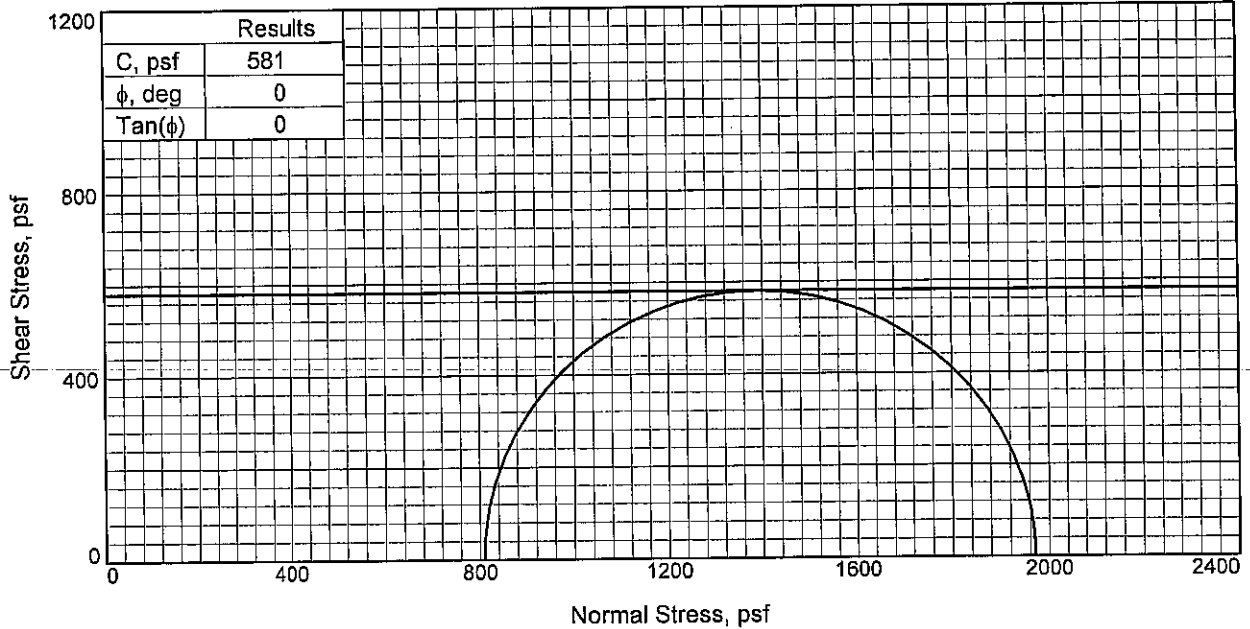
Sample Number: 2A(V)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: TB/DD _____



Sample No.		1
Initial	Water Content, %	62.3
	Dry Density, pcf	60.0
	Saturation, %	95.1
	Void Ratio	1.7038
	Diameter, in.	1.405
At Test	Height, in.	3.142
	Water Content, %	102.0
	Dry Density, pcf	60.0
	Saturation, %	155.6
	Void Ratio	1.7038
Strain rate, in./min.	Diameter, in.	1.405
	Height, in.	3.142
	Back Pressure, psi	0.00
	Cell Pressure, psi	5.62
	Fail. Stress, psf	1162
Strain, %	Strain, %	8.9
	Ult. Stress, psf	1123
σ_1 Failure, psf	Strain, %	1123
	σ_3 Failure, psf	1971
		809

Type of Test:

Unconsolidated Undrained

Sample Type: UNDISTURBED

Description: M DGR & GR CHOB W/ WD, LNS SM, LYS CH

Assumed Specific Gravity= 2.60

Remarks:

Figure _____

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 7.6

Sample Number: 3A(H)

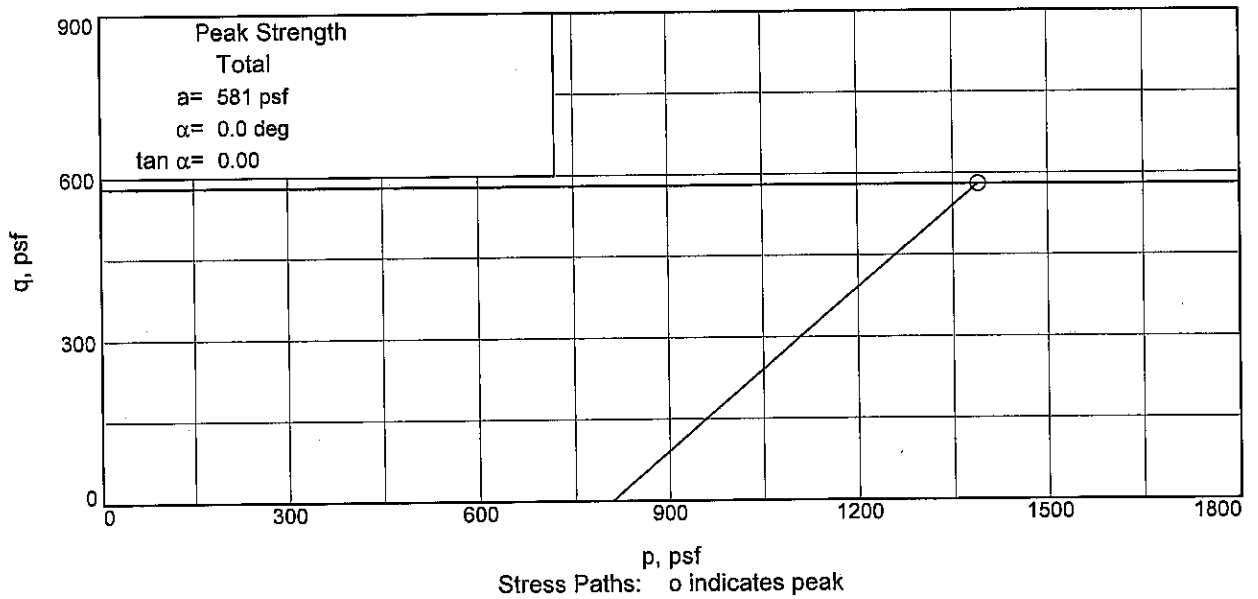
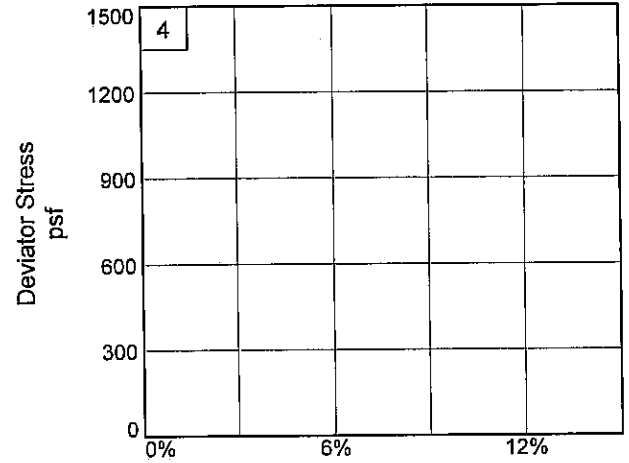
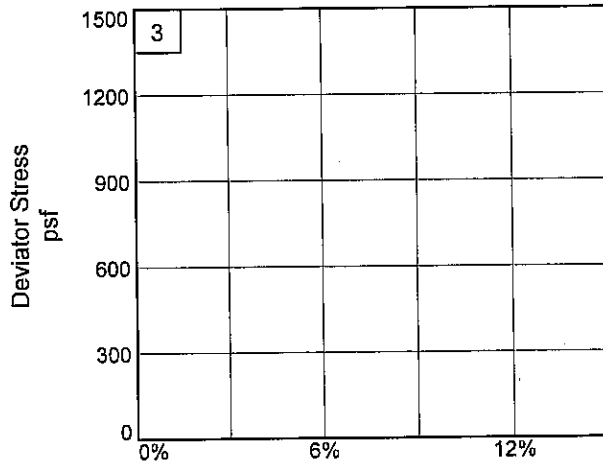
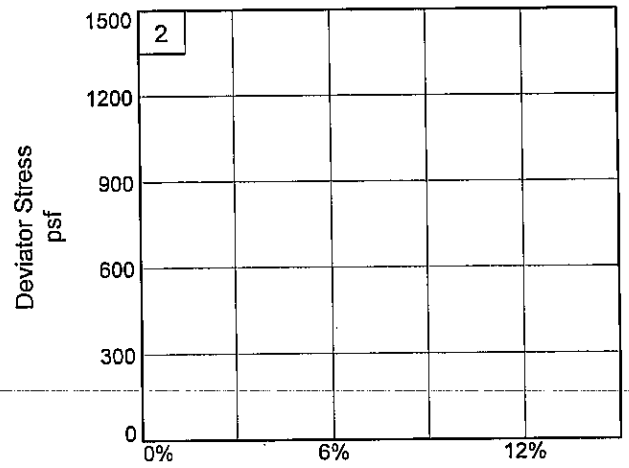
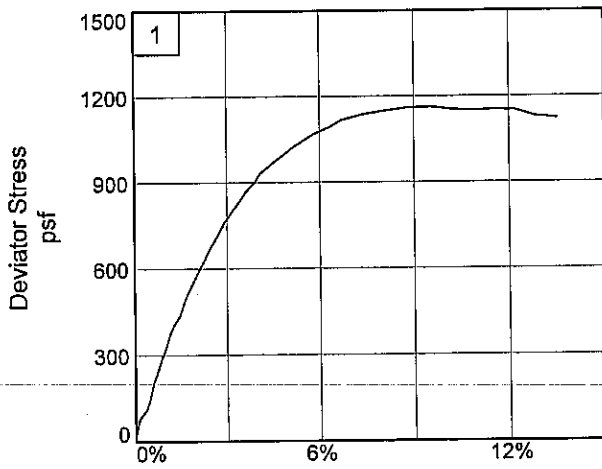
Proj. No.: 0022-0024

Date Sampled: 8/11/07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Tested By: DD/KP _____



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 7.6

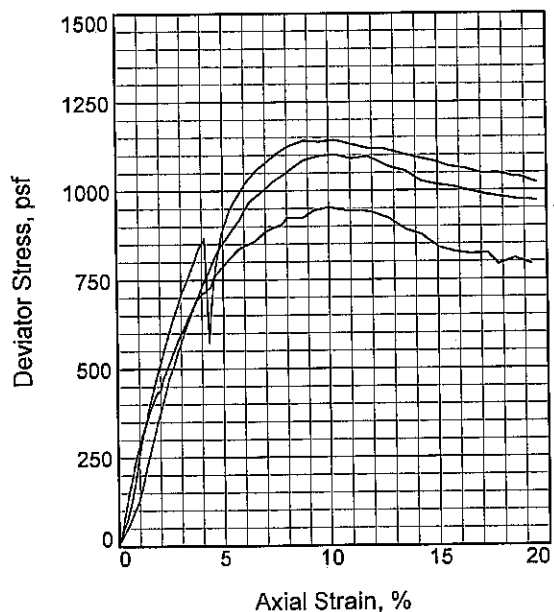
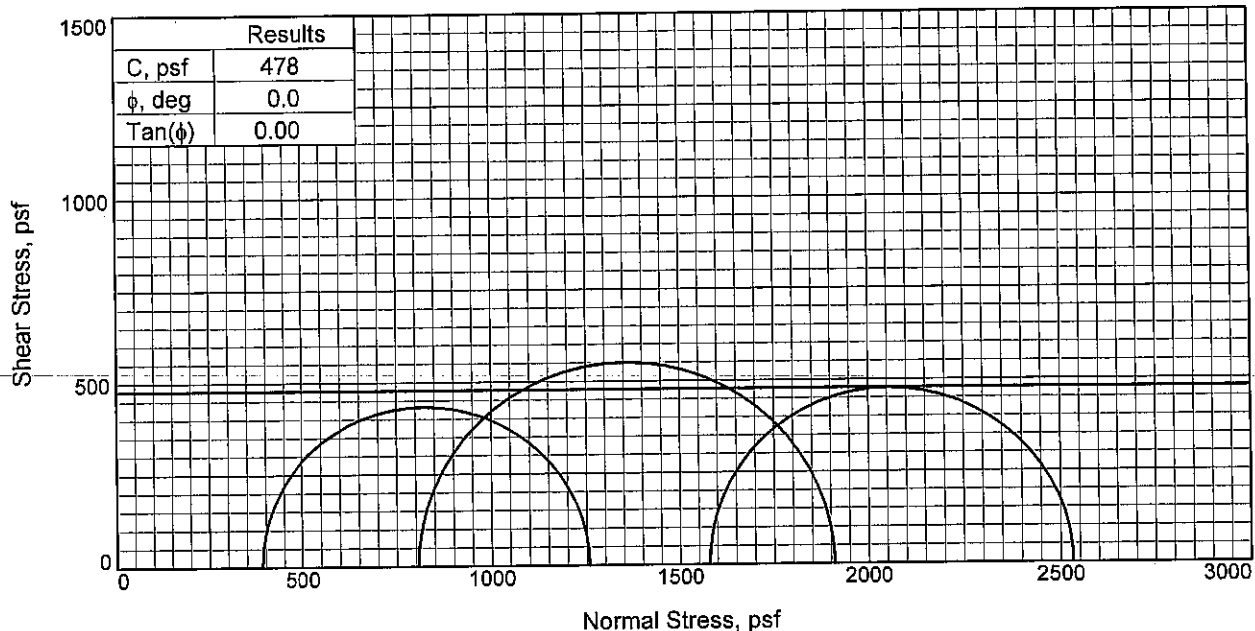
Sample Number: 3A(H)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: DD/KP _____



Sample No.		1	2	3
Initial	Water Content, %	238.2	253.7	239.8
	Dry Density, pcf	20.9	19.6	21.0
	Saturation, %	91.7	90.6	92.6
	Void Ratio	6.7514	7.2777	6.7354
	Diameter, in.	1.407	1.407	1.403
	Height, in.	2.852	2.854	2.849
At Test	Water Content, %	238.2	253.7	239.8
	Dry Density, pcf	20.9	19.6	21.0
	Saturation, %	91.7	90.6	92.6
	Void Ratio	6.7514	7.2777	6.7354
	Diameter, in.	1.407	1.407	1.403
	Height, in.	2.852	2.854	2.849
	Strain rate, in./min.	0.029	0.029	0.028
	Back Pressure, psi	0.00	0.00	0.00
	Cell Pressure, psi	2.71	5.60	10.96
	Fail. Stress, psf	867	1102	953
	Strain, %	4.1	10.3	10.1
	Ult. Stress, psf	1084	1017	840
	Strain, %			
σ_1 Failure, psf		1258	1909	2532
σ_3 Failure, psf		391	807	1579

Type of Test:

Unconsolidated Undrained

Sample Type: UNDISTURBED

Description: M DBR CHOC W/ RT, WD, ARS SM

Assumed Specific Gravity= 2.60

Remarks:

Figure _____

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 8.5

Sample Number: 3B(V)

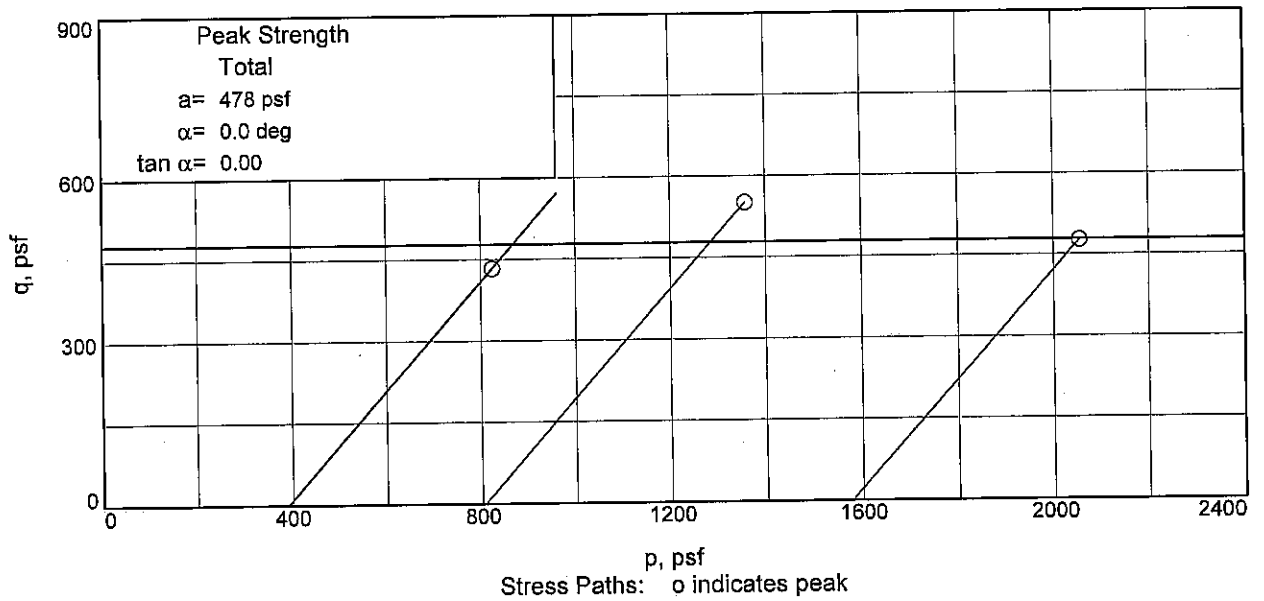
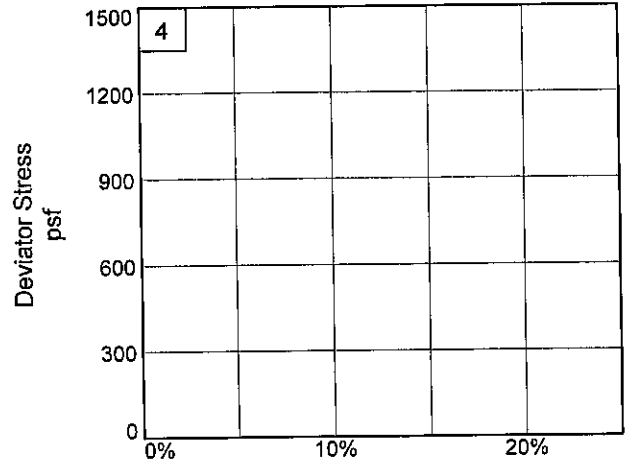
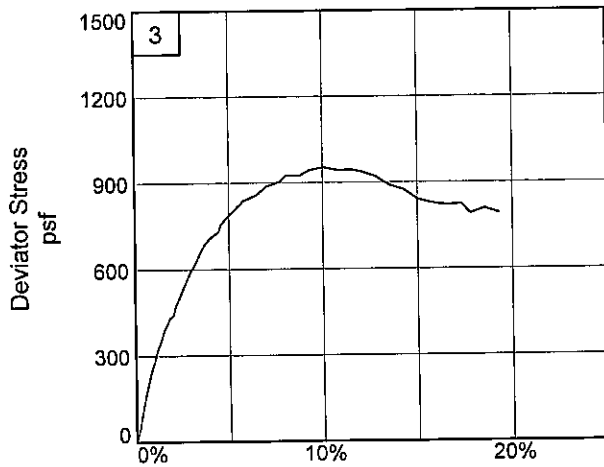
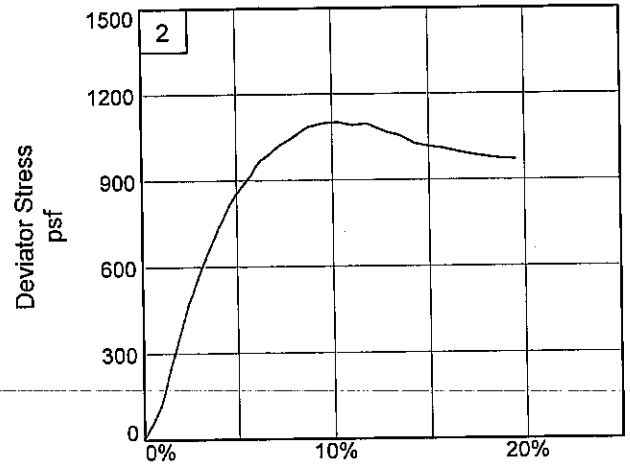
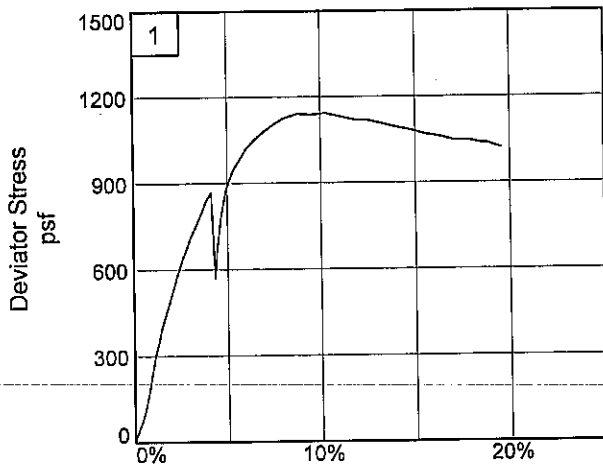
Proj. No.: 0022-0024

Date Sampled: 8/11/07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Tested By: DD/TB



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 8.5

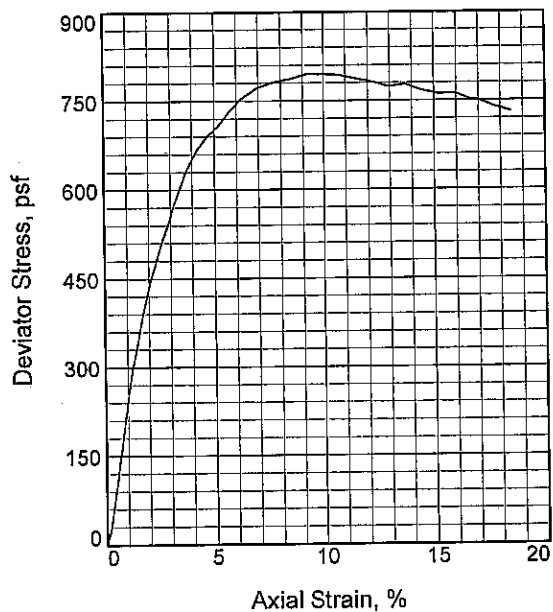
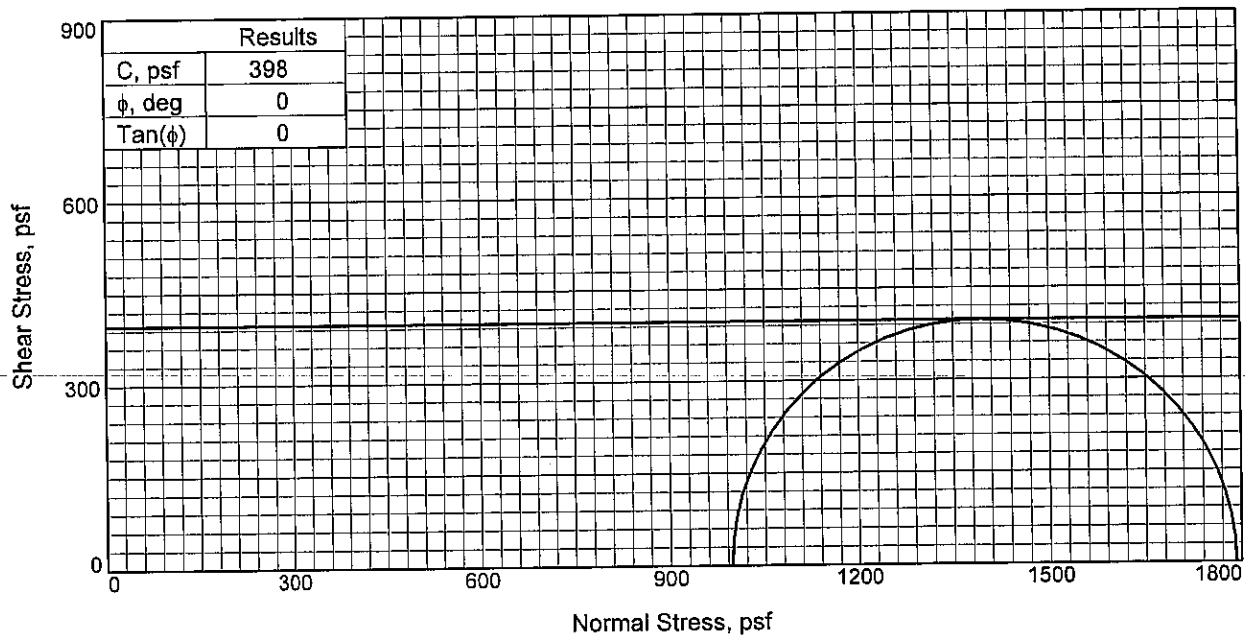
Sample Number: 3B(V)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: DD/TB



Sample No.		1
Initial	Water Content, %	124.8
	Dry Density, pcf	37.7
	Saturation, %	98.3
	Void Ratio	3.3020
	Diameter, in.	1.422
At Test	Height, in.	3.138
	Water Content, %	124.8
	Dry Density, pcf	37.7
	Saturation, %	98.3
	Void Ratio	3.3020
Strain rate, in./min.		0.031
	Back Pressure, psi	0.00
Cell Pressure, psi		6.92
Fail. Stress, psf		795
	Strain, %	9.2
Ult. Stress, psf		761
	Strain, %	
σ_1 Failure, psf		1792
σ_3 Failure, psf		997

Type of Test:
Unconsolidated Undrained
Sample Type: UNDISTURBED
Description: SO DGR & GR CHOA W/ WD

Assumed Specific Gravity= 2.60
Remarks:

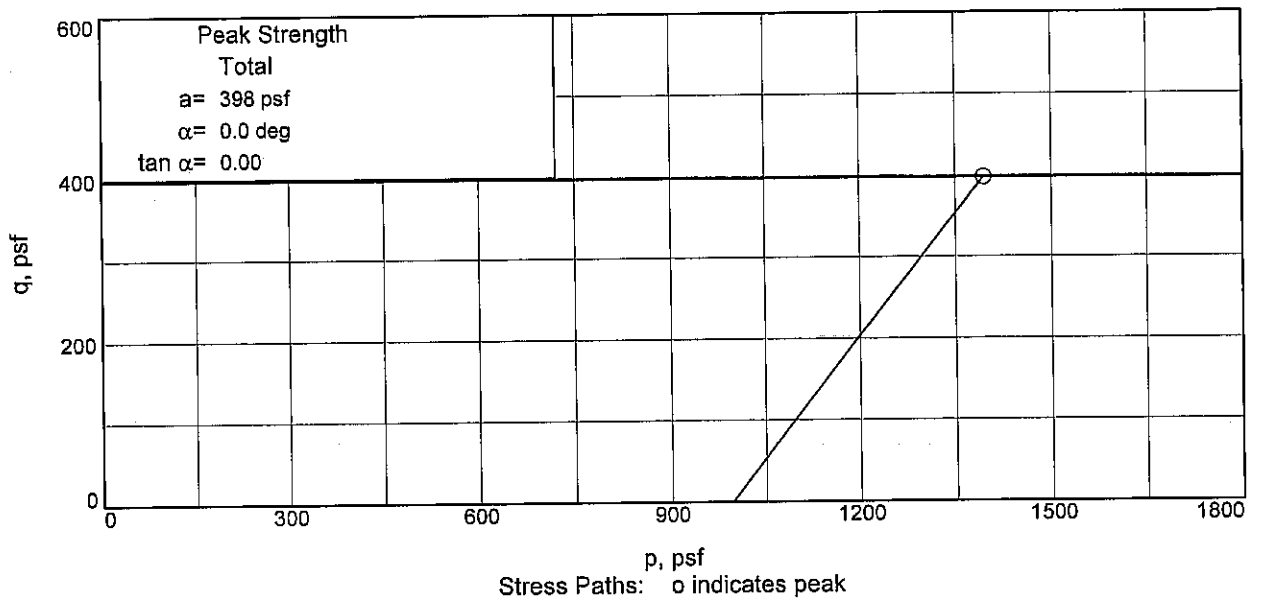
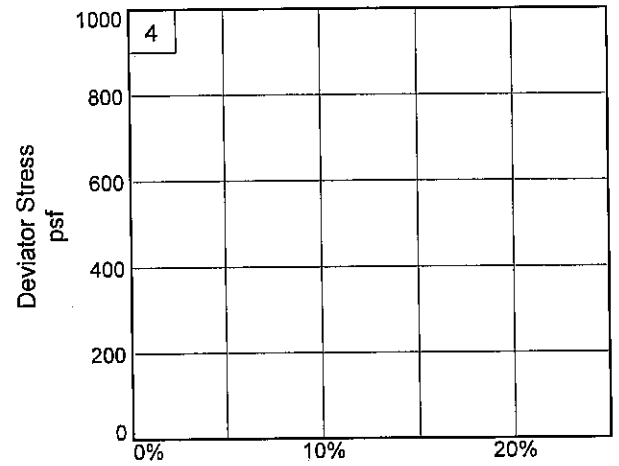
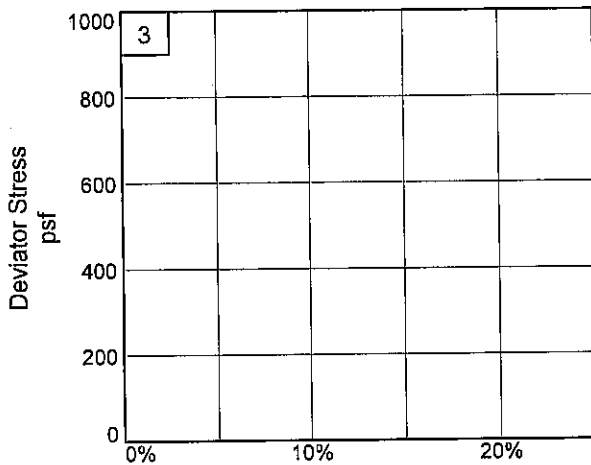
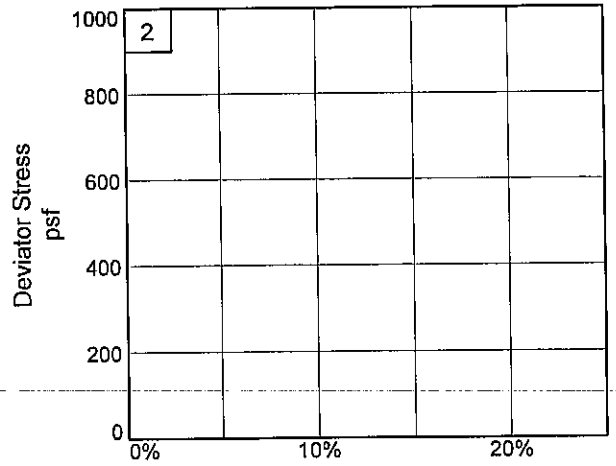
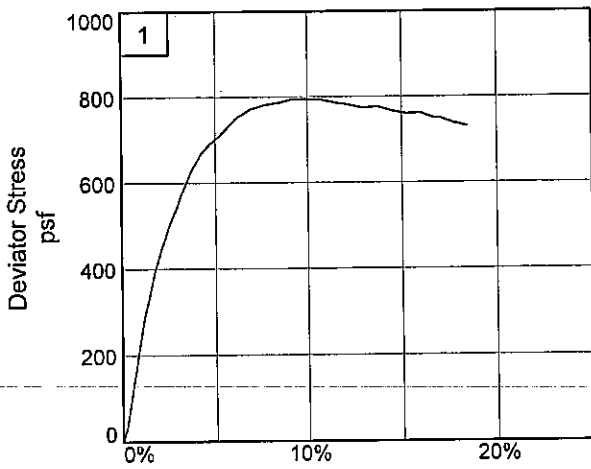
Client: U. S. Army Corps of Engineers
Project: London Avenue Laboratory Testing
Source of Sample: LCSLT-2U **Depth:** 11.5
Sample Number: 4B(H)
Proj. No.: 0022-0024 **Date Sampled:** 8/11/07

TRIAxIAL SHEAR TEST REPORT

FFEBJV, LLC

Figure _____

Tested By: TB/DD _____



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 11.5

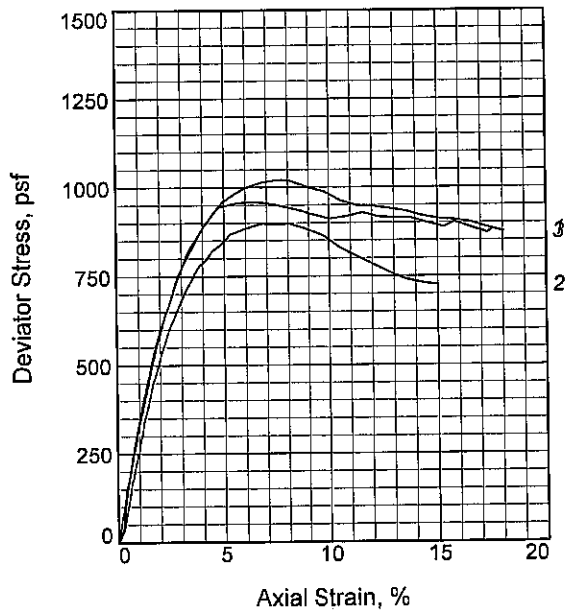
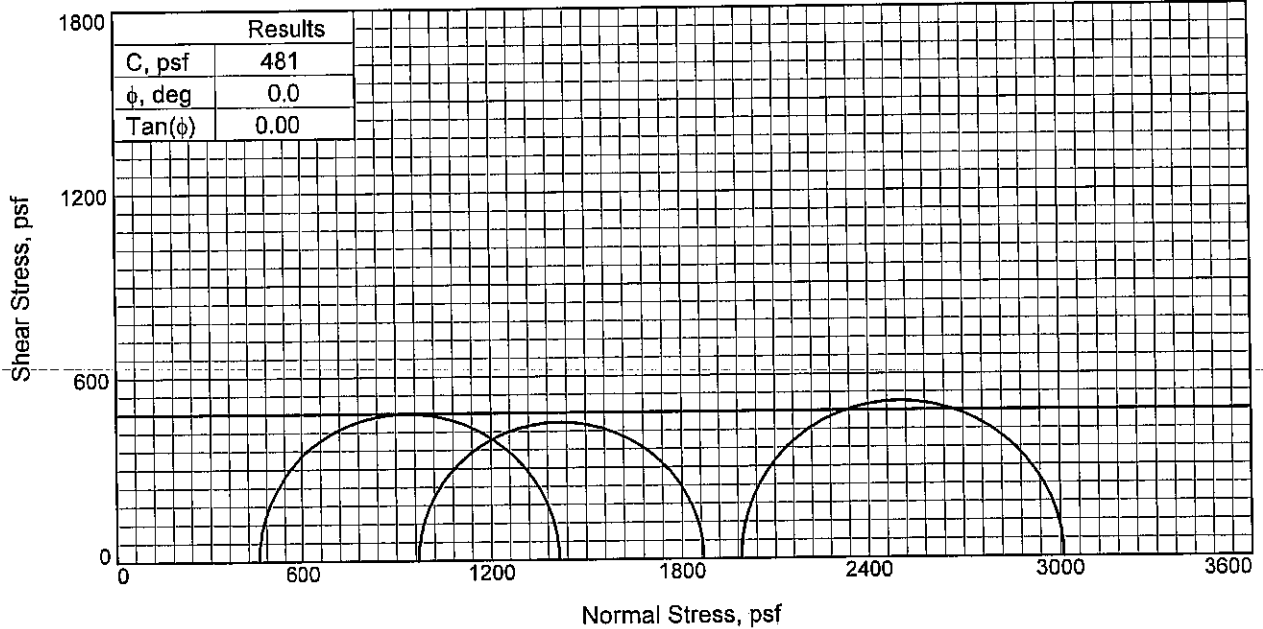
Sample Number: 4B(H)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: TB/DD _____



Sample No.		1	2	3
Initial	Water Content, %	154.3	154.5	161.2
	Dry Density, pcf	31.6	31.4	30.6
	Saturation, %	97.0	96.3	97.4
	Void Ratio	4.1361	4.1714	4.3054
	Diameter, in.	1.406	1.421	1.413
	Height, in.	3.127	2.918	3.125
At Test	Water Content, %	154.3	154.5	161.2
	Dry Density, pcf	31.6	31.4	30.6
	Saturation, %	97.0	96.3	97.4
	Void Ratio	4.1361	4.1714	4.3054
	Diameter, in.	1.406	1.421	1.413
	Height, in.	3.127	2.918	3.125
Strain rate, in./min.		0.031	0.029	0.031
Back Pressure, psi		0.00	0.00	0.00
Cell Pressure, psi		3.16	6.74	13.82
Fail. Stress, psf		960	899	1021
Strain, %		6.3	6.8	7.6
Ult. Stress, psf		900	725	910
Strain, %				
σ_1 Failure, psf		1415	1869	3011
σ_3 Failure, psf		455	970	1990

Type of Test:

Unconsolidated Undrained

Sample Type: UNDISTURBED

Description: SO DGR CHOA W/ RT WD, ARS ML

Assumed Specific Gravity= 2.60

Remarks:

Figure _____

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 13.3

Sample Number: 4C(V)

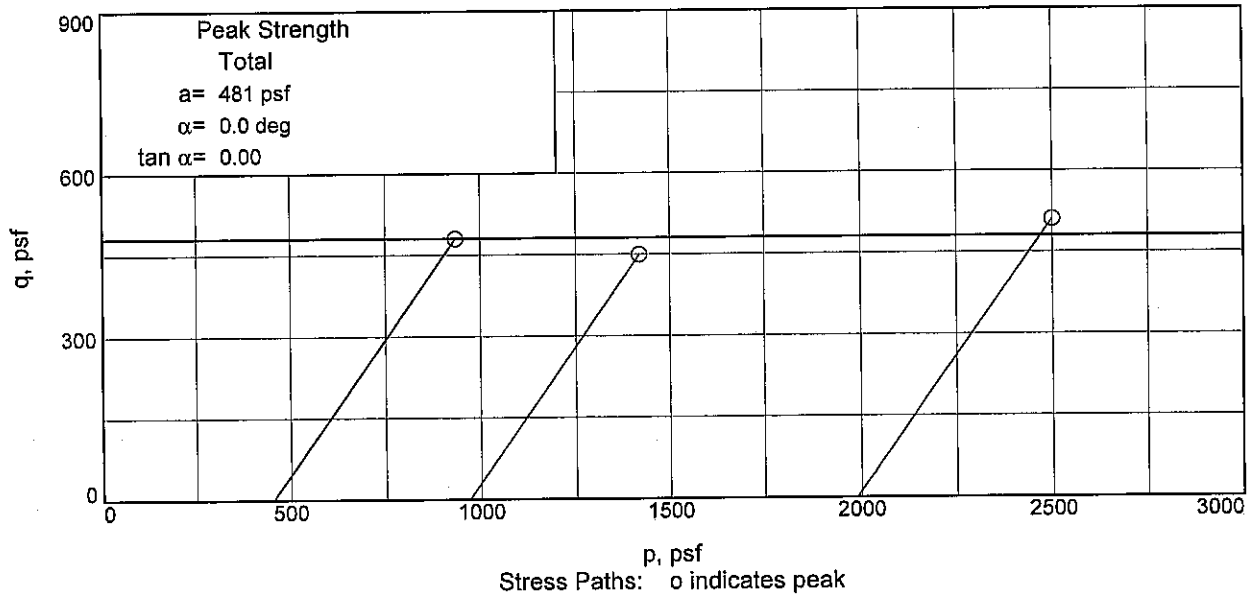
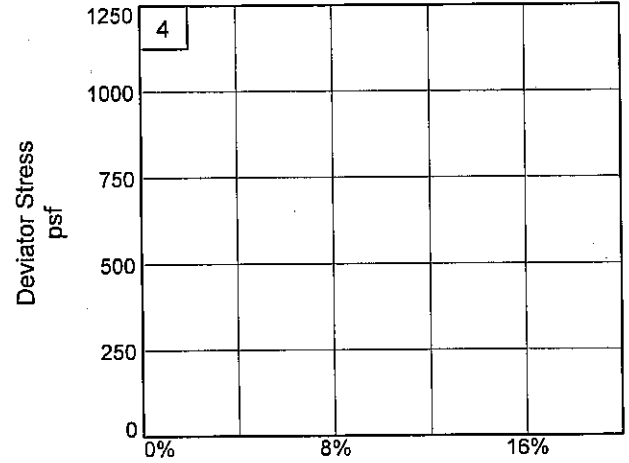
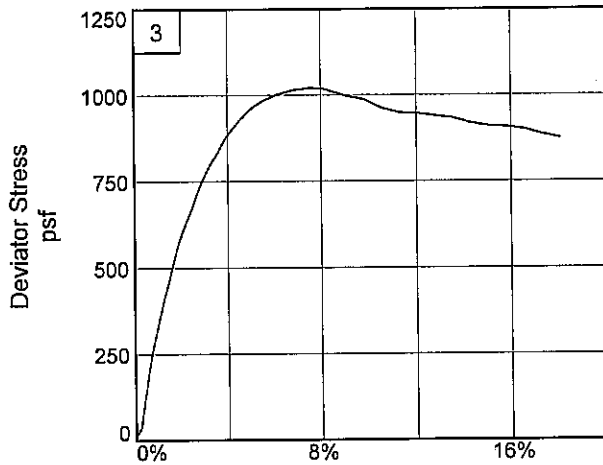
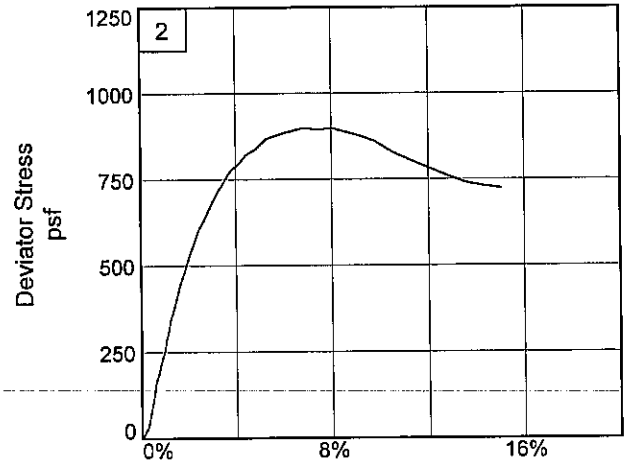
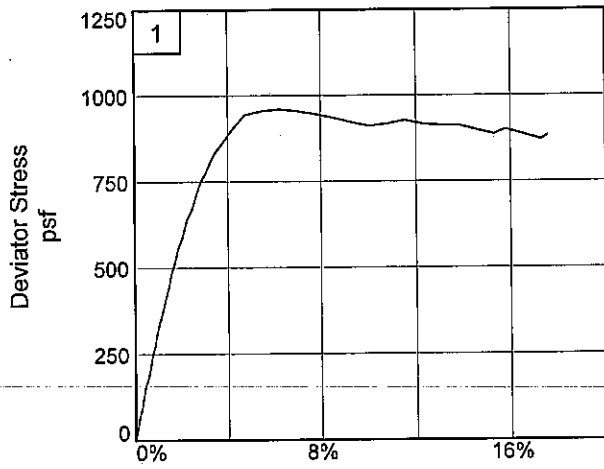
Proj. No.: 0022-0024

Date Sampled: 8/11/07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Tested By: DD/TB _____



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-2U

Depth: 13.3

Sample Number: 4C(V)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: DD/TB

SUMMARY OF LABORATORY TEST RESULTS

Project: London Avenue Laboratory Testing

Assigned By: _____

Project Number: 0022-0024

Current Date: 8/28/2007

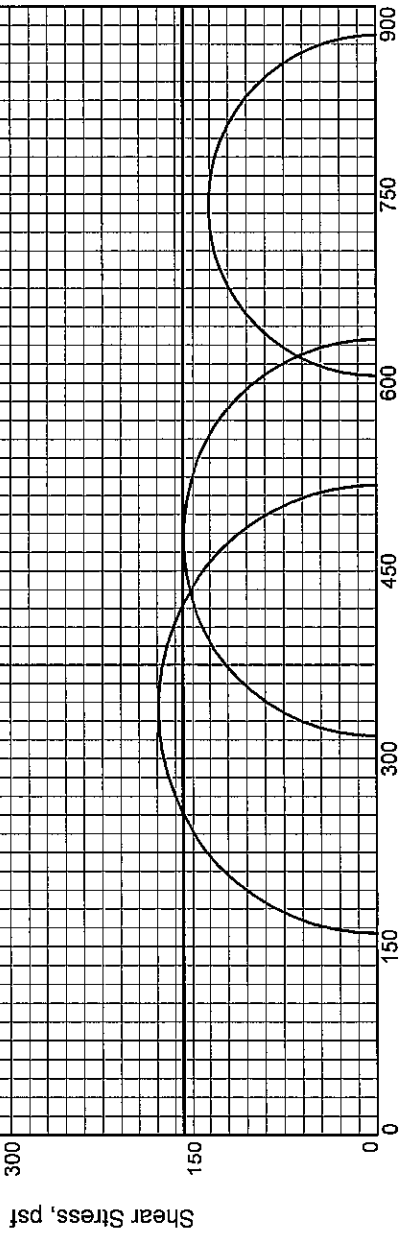
Boring: LCSCT-2UT

Sample Number	Depth	Visual Classification	USCS	E (f)	W%	Dry Dens (pcf)	Wet Dens (pcf)	Sat %	Shear Test Type	Angle	Cohesion (psf)	Unconf. Comp. Str.	LL	PL	PI	TORVANE (tsf)	Other Tests
2A(V)	3.5	VSO GR CH4 W/ G, RTS	CH4		85	52	96	100	UU	0	159					0.14	
2C(V)	5.1	VSO GR CL6 W/ LNS SM	CL6		42	81	86	100	UU	0	163					0.18	

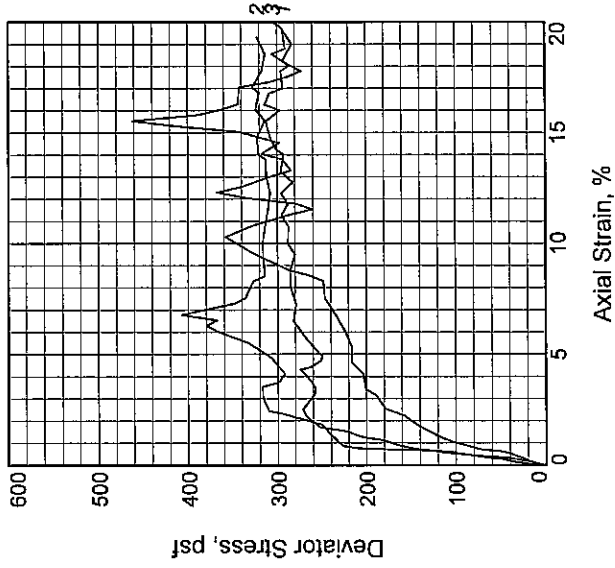
Remarks: _____
 FFEBJV, LLC.

Checked by: RNG
 File Name: T024

Results	
C, psf	159
ϕ , deg	0.0
Tan(ϕ)	0.00



Normal Stress, psf



Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: VSO GR CH4 W/ G, RTS

Assumed Specific Gravity= 2.74

Remarks: Sample disturbed by gravel & rock fragments.

Figure _____

Sample No.	1	2	3
Water Content, %	85.7	83.8	86.6
Dry Density, pcf	51.2	52.1	51.3
Saturation, %	100.3	100.6	101.5
Void Ratio	2.3401	2.2809	2.3375
Diameter, in.	1.392	1.391	1.403
Height, in.	3.111	3.121	3.096
Water Content, %	85.7	83.8	86.6
Dry Density, pcf	51.2	52.1	51.3
Saturation, %	100.3	100.6	101.5
Void Ratio	2.3401	2.2809	2.3375
Diameter, in.	1.392	1.391	1.403
Height, in.	3.111	3.121	3.096
Strain rate, in./min.	0.031	0.031	0.031
Back Pressure, psi	0.00	0.00	0.00
Cell Pressure, psi	1.12	2.21	4.21
Fail. Stress, psf	358	316	272
Strain, %	10.3	3.0	2.5
Ult. Stress, psf	260	323	307
Strain, %			
σ_1 Failure, psf	518	634	877
σ_3 Failure, psf	161	318	606

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

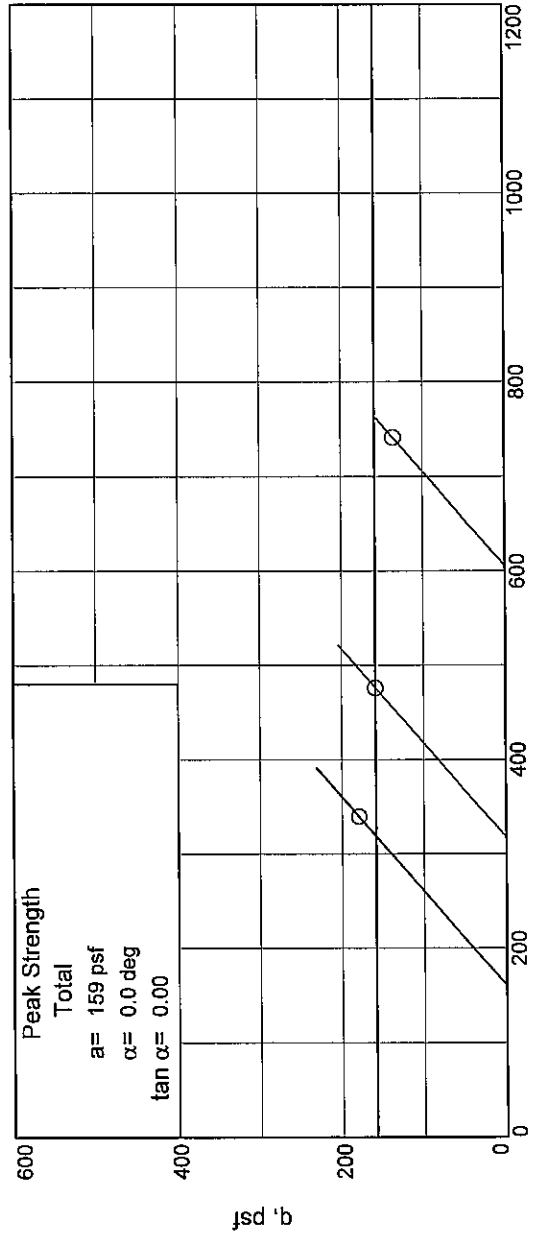
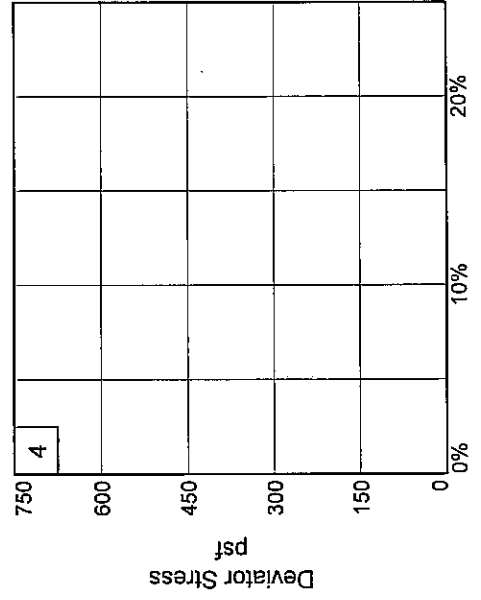
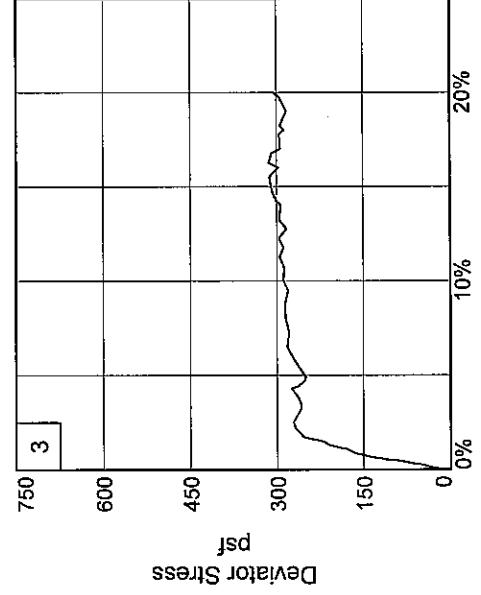
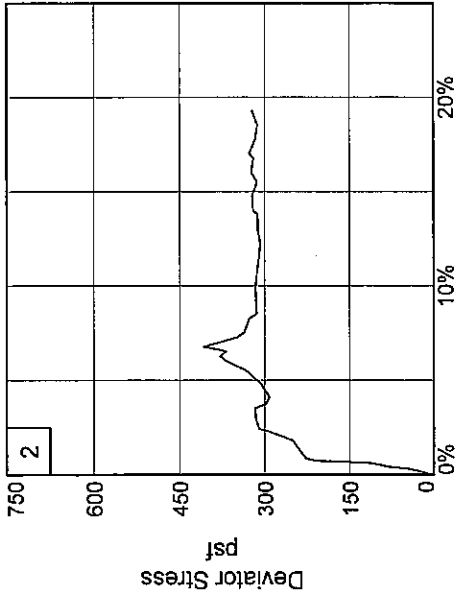
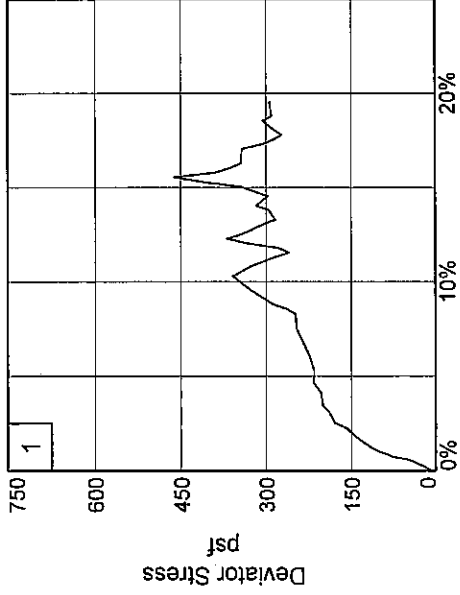
Source of Sample: LCSCT-2UT **Depth:** 3.5

Sample Number: 2A

Proj. No.: 0022-0024 **Date Sampled:** 8-20-07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC



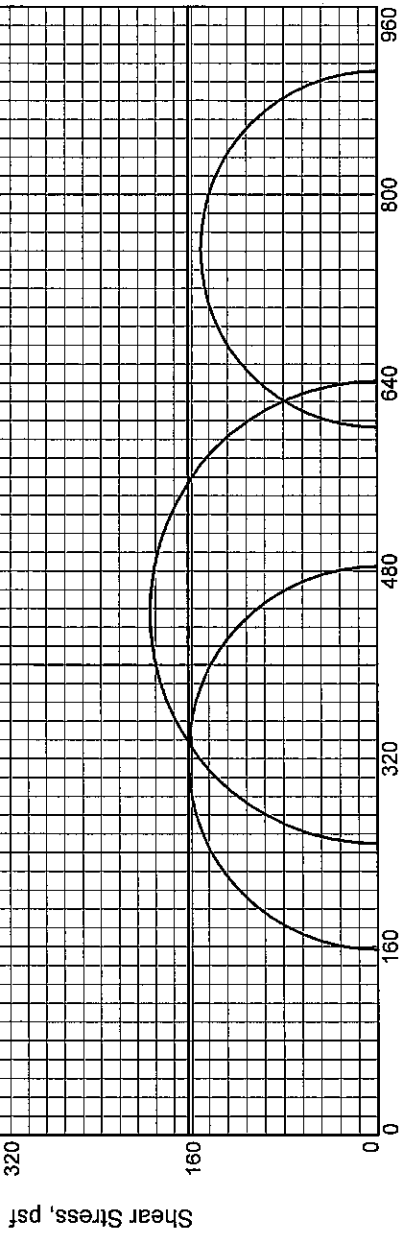
Client: U. S. Army Corps of Engineers
 Project: London Avenue Laboratory Testing
 Source of Sample: LCSCCT-2UT
 Project No.: 0022-0024

Depth: 3.5
 Sample Number: 2A
 Figure _____

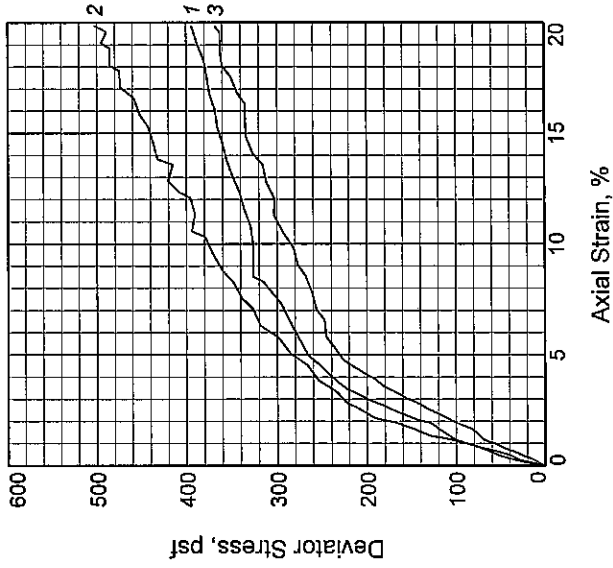
FFEBJV, LLC

Tested By: ARS/JLH _____
 Checked By: RNE _____

Results	
C, psf	163
ϕ , deg	0.0
Tan(ϕ)	0.00



Normal Stress, psf



Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: VSO GR CL6 W/ LNS SM

Assumed Specific Gravity= 2.69

Remarks:

Sample No.	1	2	3
Initial			
Water Content, %	42.0	39.8	43.8
Dry Density, pcf	80.8	83.1	78.0
Saturation, %	104.9	104.9	102.1
Void Ratio	1.0771	1.0216	1.1534
Diameter, in.	1.386	1.387	1.434
Height, in.	3.107	3.109	3.072
At Test			
Water Content, %	42.0	39.8	43.8
Dry Density, pcf	80.8	83.1	78.0
Saturation, %	104.9	104.9	102.1
Void Ratio	1.0771	1.0216	1.1534
Diameter, in.	1.386	1.387	1.434
Height, in.	3.107	3.109	3.072
Strain rate, in./min.	0.031	0.031	0.031
Back Pressure, psi	0.00	0.00	0.00
Cell Pressure, psi	1.09	1.72	4.18
Fail. Stress, psf	326	394	303
Strain, %	8.5	10.6	11.3
Ult. Stress, psf	366	443	334
Strain, %			
σ_1 Failure, psf	484	642	905
σ_3 Failure, psf	158	248	602

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSCT-2UT

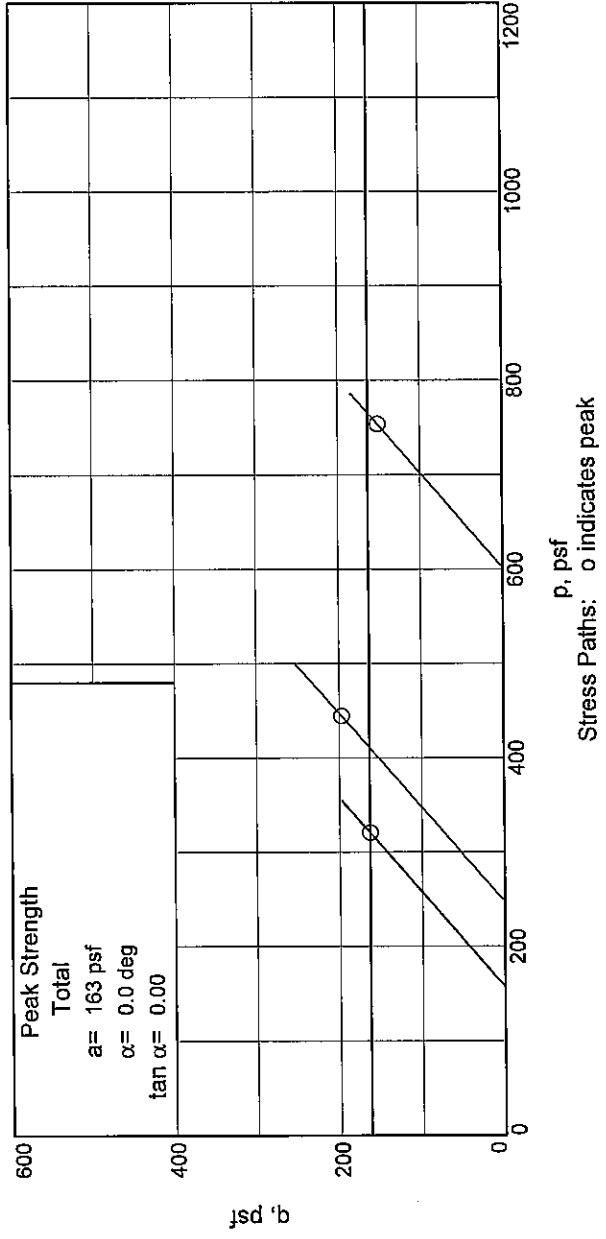
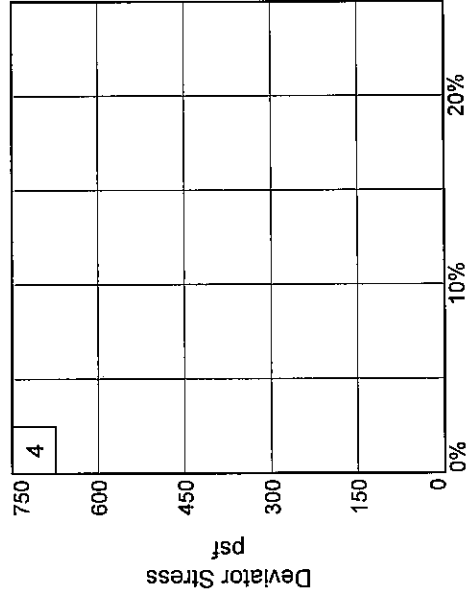
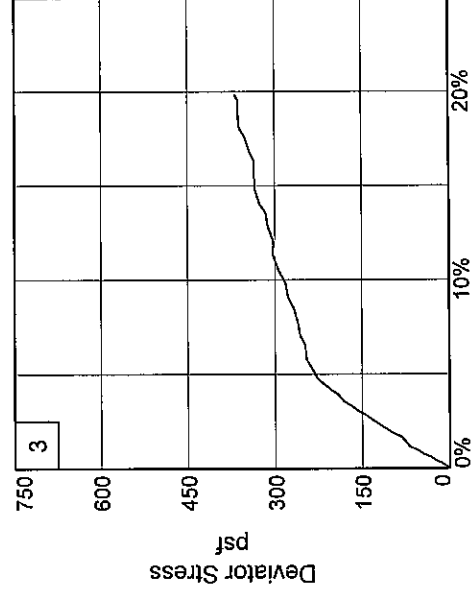
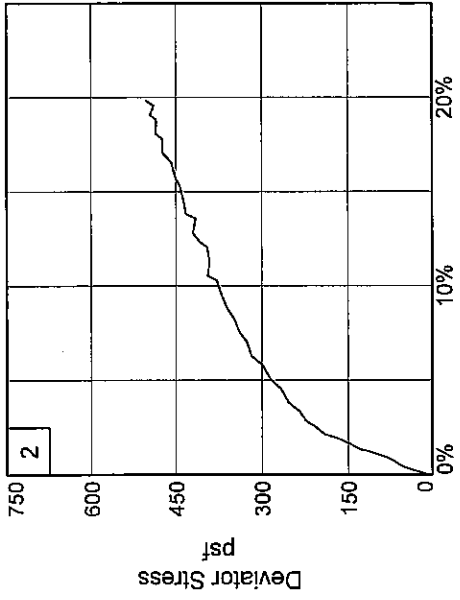
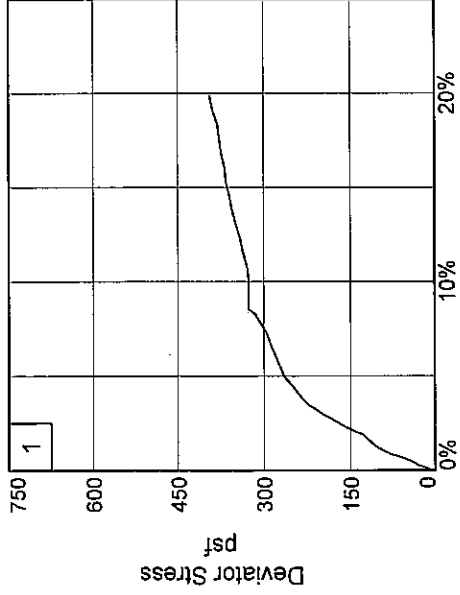
Proj. No.: 0022-0024

Date Sampled: 8-20-07

TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Figure



Client: U. S. Army Corps of Engineers
 Project: London Avenue Laboratory Testing
 Source of Sample: LCSCCT-2UT
 Project No.: 0022-0024

Figure _____ FFEBJV, LLC

Tested By: ARS/JLH

Checked By: RNE

SUMMARY OF LABORATORY TEST RESULTS

Project: London Avenue Laboratory Testing

Assigned By: _____

Project Number: 0022-0024

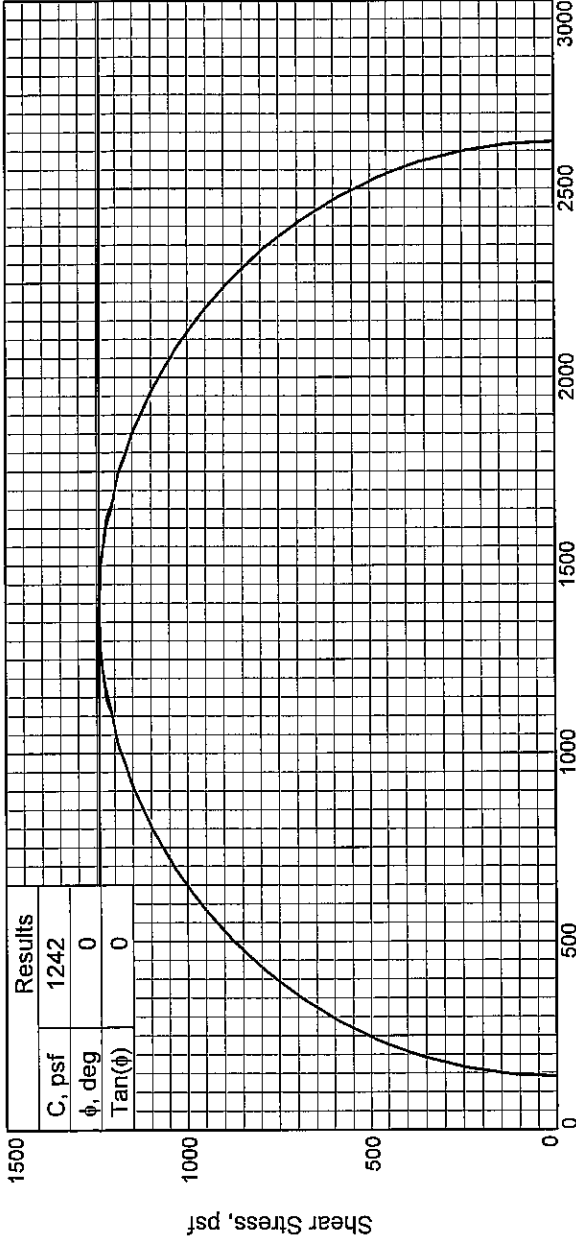
Current Date: 8/28/2007

Boring: LCSLT-3U

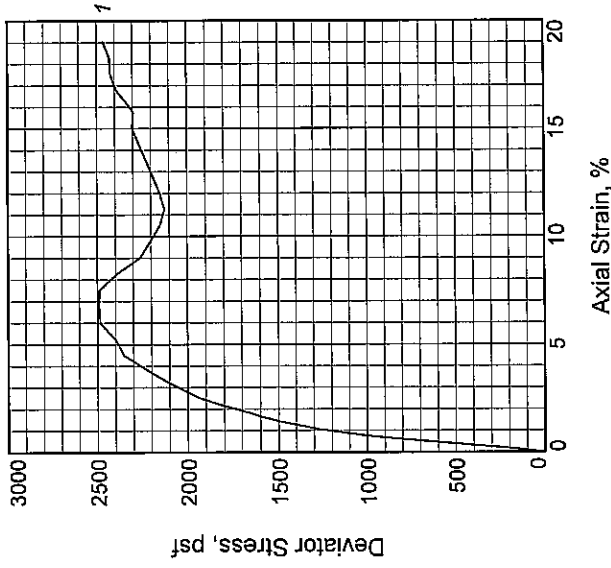
Sample Number	Depth	Visual Classification	USCS	E (f)	W%	Dry Dens (pcf)	Wet Dens (pcf)	Sat %	Shear Test Type	Angle	Cohesion (psf)	Unconf. Comp. Str.	LL	PL	PI	TORVANE (tsf)	Other Tests
1B(V)	1.4	ST T & BR CH2 W/ G, RT, ARS SP	CH2		30	90	116	92	UU	0	1251					1.03	
1B(H)	1.4	ST T & BR CH2 W/ G, RT, ARS SP	CH2		26	92	115	84	UU	0	1242					1.03	
2B(V)	1.6	SO T & GR CH2	CH2		45	76	110	99	UU	0	376					0.45	
2B(H)	3.1	SO T & GR CH2	CH2		41	80	113	100	UU	0	444					0.45	
2D(H)	5.6	SO DGR & GR CH4 W/ WD, RT, ARS SP	CH4		61	63	101	97	UU	0	346					0.25	
2D(V)	5.6	SO DGR & GR CH4 W/ WD, RT, ARS SP	CH4		117	40	86	97	UU	0	361					0.25	
3C(V)	8.4	VSO GR CHOC W/ WD, RT, ARS ML	CHOC		202	25	75	97	UU	0	131					0.13	
3C(H)	8.4	VSO GR CHOC W/ WD, RT, ARS ML	CHOC		173	29	78	100	UU	0	102					0.13	
4B(H)	11.6	SO DGR CHOA W/ WD	CHOA		132	37	86	100	UU	0	275					0.24	
4C(H)	12.5	SO DGR CH4 W/ O, WD	CH4		104	43	89	97	UU	0	329					0.23	
4C(V)	12.5	SO DGR CH4 W/ O, WD	CH4		115	41	89	100	UU	0	293					0.23	
4D(H)	13.4	SO GR CH4 W/ WD, ARS SM	CH4		48	74	110	100	UU	0	357					0.22	
4D(V)	13.4	SO GR CH4 W/ WD, ARS SM	CH4		57	67	105	100	UU	0	288					0.22	

Remarks: _____
 FFEBJV, LLC.

Checked by: RNG
 File Name: T024



Normal Stress, psf



Sample No.	1
Initial	Water Content, % Dry Density, pcf Saturation, % Void Ratio Diameter, in. Height, in.
At Test	Water Content, % Dry Density, pcf Saturation, % Void Ratio Diameter, in. Height, in.
Strain rate, in./min.	0.031
Back Pressure, psi	0.00
Cell Pressure, psi	0.98
Fail. Stress, psf	2484
Strain, %	6.0
Ult. Stress, psf	2302
Strain, %	
σ_1 Failure, psf	2625
σ_3 Failure, psf	141

Type of Test:

Unconsolidated Undrained

Sample Type: UNDISTURBED

Description: ST T & BR CH2 W/ G, RT, ARS SP

Assumed Specific Gravity= 2.70

Remarks: Sample trimmed horizontally.

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U **Depth:** 1.4

Sample Number: 1B(H)

Proj. No.: 0022-0024 **Date Sampled:** 8/18/07

TRIAxIAL SHEAR TEST REPORT

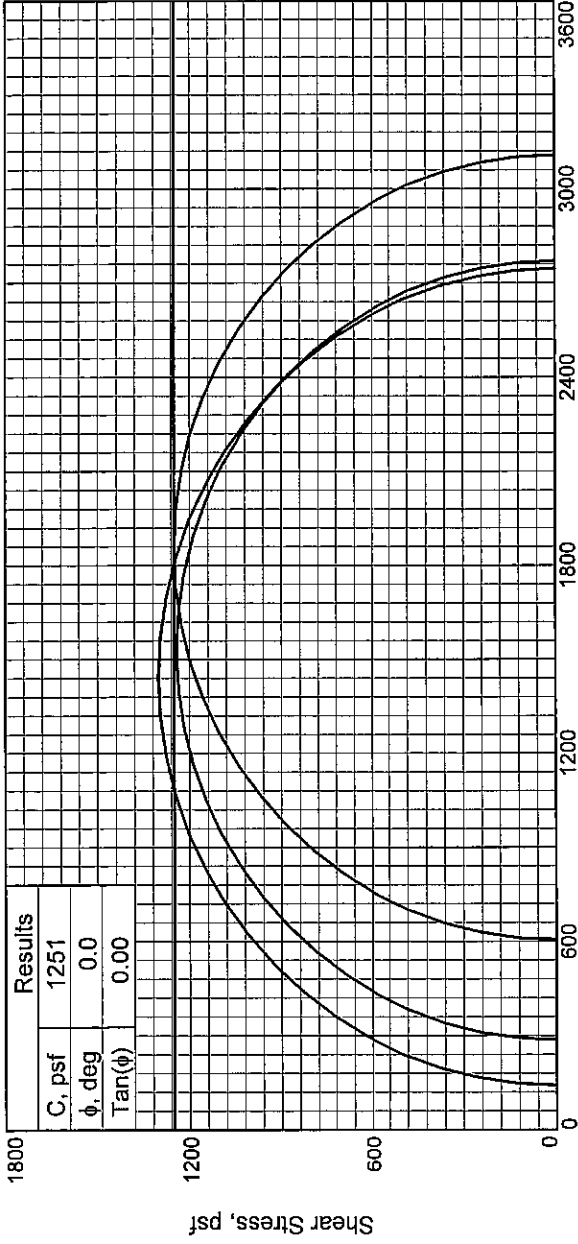
FFEBJV, LLC

Figure

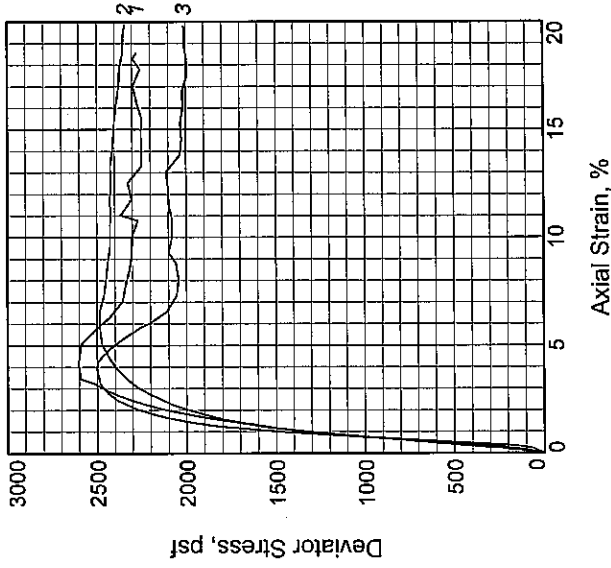
Tested By: DW

Checked By: RNE

Results	
C, psf	1251
ϕ , deg	0.0
Tan(ϕ)	0.00



Normal Stress, psf



Type of Test:

Unconsolidated Undrained

Sample Type: UNDISTURBED

Description: ST T & BR CH2 W/ G, RT, ARS SP

Assumed Specific Gravity= 2.70

Remarks: Sample contains concrete.

Figure _____

Sample No.	1	2	3
Water Content, %	29.9	29.8	30.3
Dry Density, pcf	89.7	88.6	90.2
Saturation, %	91.8	89.3	94.3
Void Ratio	0.8783	0.9020	0.8682
Diameter, in.	1.408	1.390	1.397
Height, in.	3.151	3.118	3.127
Water Content, %	29.9	29.8	30.3
Dry Density, pcf	89.7	88.6	90.2
Saturation, %	91.8	89.3	94.3
Void Ratio	0.8783	0.9020	0.8682
Diameter, in.	1.408	1.390	1.397
Height, in.	3.151	3.118	3.127
Strain rate, in./min.	0.032	0.031	0.031
Back Pressure, psi	0.00	0.00	0.00
Cell Pressure, psi	0.98	1.99	4.20
Fail. Stress, psf	2604	2484	2503
Strain, %	4.2	5.8	3.9
Ult. Stress, psf	2253	2405	2029
Strain, %			
σ_1 Failure, psf	2746	2771	3108
σ_3 Failure, psf	142	286	605

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U **Depth:** 1.4

Sample Number: 1B(V)

Proj. No.: 0022-0024 **Date Sampled:** 8/18/07

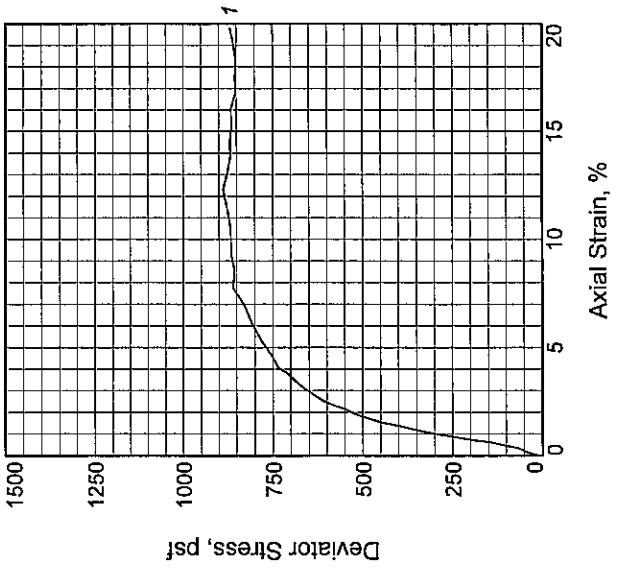
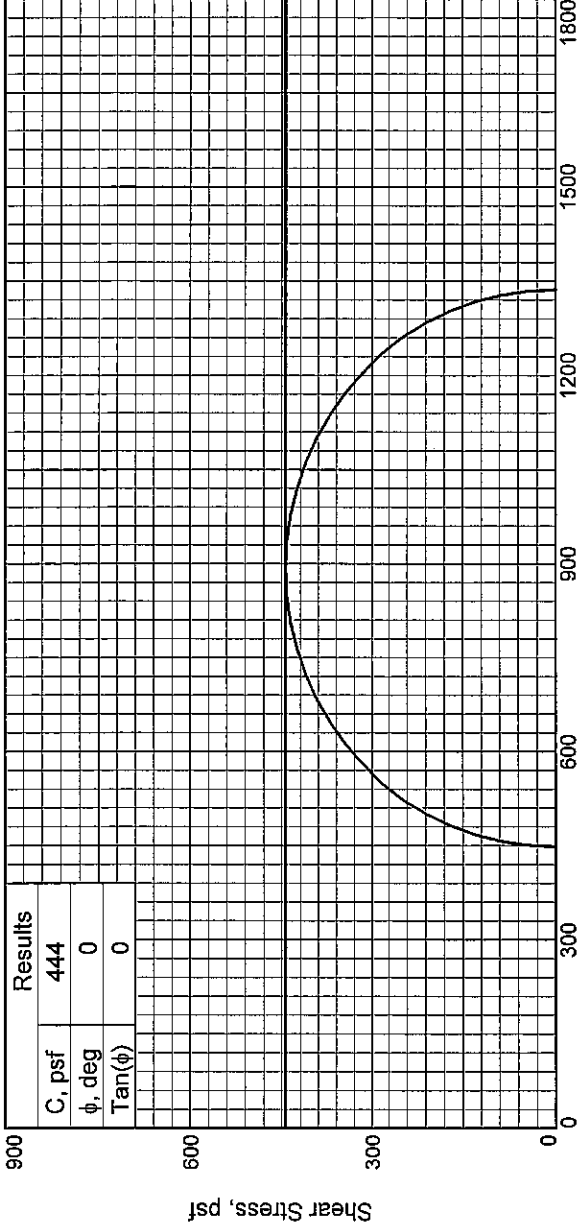
TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Tested By: DW _____

Checked By: RNE _____

Results	
C, psf	444
ϕ , deg	0
Tan(ϕ)	0



Normal Stress, psf

Sample No.	1
Water Content, %	40.7
Dry Density, pcf	80.2
Saturation, %	99.6
Void Ratio	1.1017
Diameter, in.	1.407
Height, in.	3.127
Water Content, %	40.7
Dry Density, pcf	80.2
Saturation, %	99.6
Void Ratio	1.1017
Diameter, in.	1.407
Height, in.	3.127
Strain rate, in./min.	0.031
Back Pressure, psi	0.00
Cell Pressure, psi	3.11
Fail. Stress, psf	888
Strain, %	12.3
Ult. Stress, psf	864
Strain, %	
σ_1 Failure, psf	1337
σ_3 Failure, psf	448

Type of Test: Unconsolidated Undrained
Sample Type: UNDISTURBED
Description: SO T & GR CH2
Assumed Specific Gravity: 2.70
Remarks: Sample trimmed horizontally.

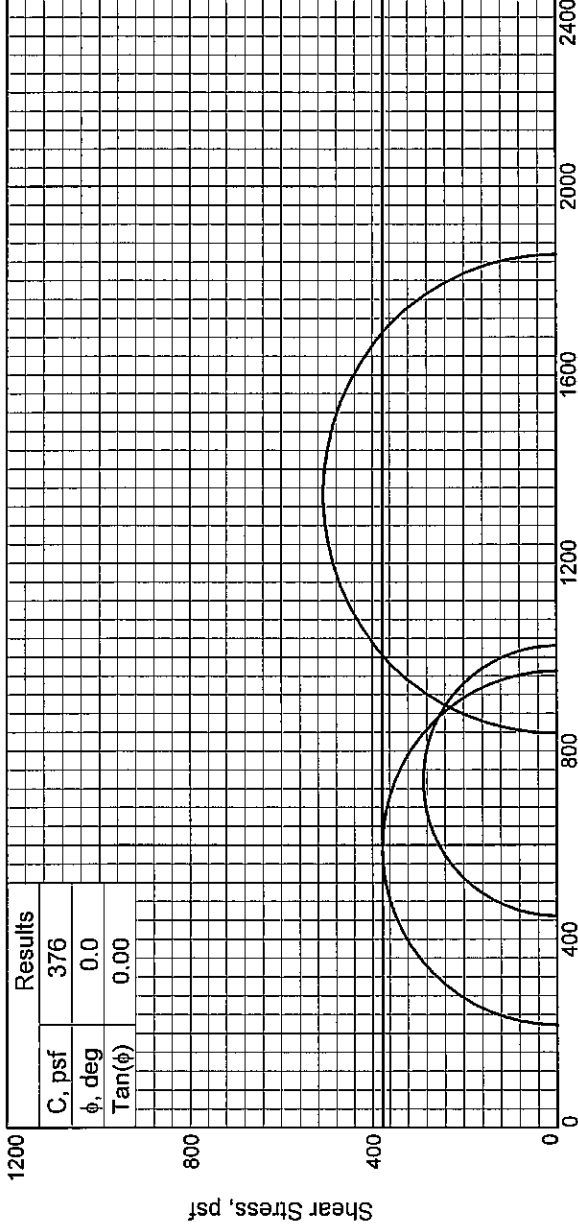
Client: U. S. Army Corps of Engineers
Project: London Avenue Laboratory Testing
Source of Sample: LCSLT-3U **Depth:** 3.1
Sample Number: 2B(H)
Proj. No.: 0022-0024 **Date Sampled:** 8/18/07
 TRIAXIAL SHEAR TEST REPORT
FFEBJV, LLC

Figure _____

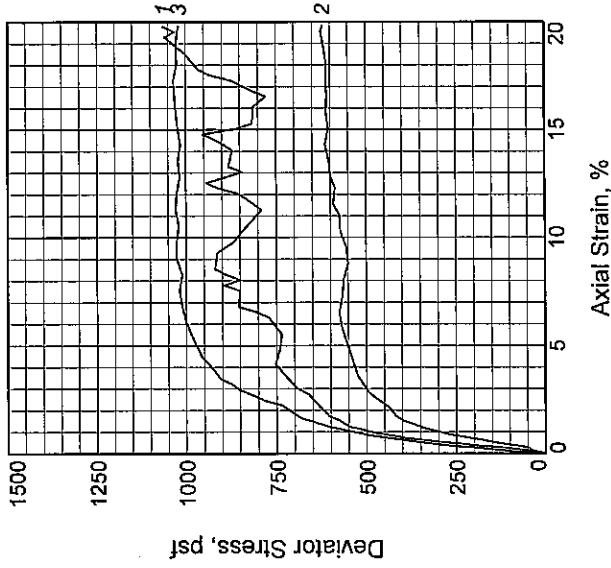
Tested By: DWIARS

Checked By: RNE

Results	
C, psf	376
ϕ , deg	0.0
Tan(ϕ)	0.00



Normal Stress, psf



Sample No.	1	2	3
Initial			
Water Content, %	46.3	44.9	43.0
Dry Density, pcf	74.5	76.0	77.5
Saturation, %	99.1	99.4	98.8
Void Ratio	1.2622	1.2193	1.1750
Diameter, in.	1.410	1.416	1.411
Height, in.	3.125	3.121	3.127
At Test			
Water Content, %	46.3	44.9	43.0
Dry Density, pcf	74.5	76.0	77.5
Saturation, %	99.1	99.4	98.8
Void Ratio	1.2622	1.2193	1.1750
Diameter, in.	1.410	1.416	1.411
Height, in.	3.125	3.121	3.127
Strain rate, in./min.	0.031	0.312	0.031
Back Pressure, psi	0.00	0.00	0.00
Cell Pressure, psi	1.51	3.12	5.82
Fail. Stress, psf	753	575	1018
Strain, %	4.1	6.5	7.5
Ult. Stress, psf	858	605	1022
Strain, %			
σ_1 Failure, psf	971	1025	1856
σ_3 Failure, psf	218	449	838

Type of Test:

Unconsolidated Undrained

Sample Type: UNDISTURBED

Description: SO T & GR CH2

Assumed Specific Gravity= 2.70

Remarks:

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U Depth: 1.6

Sample Number: 2B(V)

Proj. No.: 0022-0024 Date Sampled: 8/18/07

TRIAxIAL SHEAR TEST REPORT

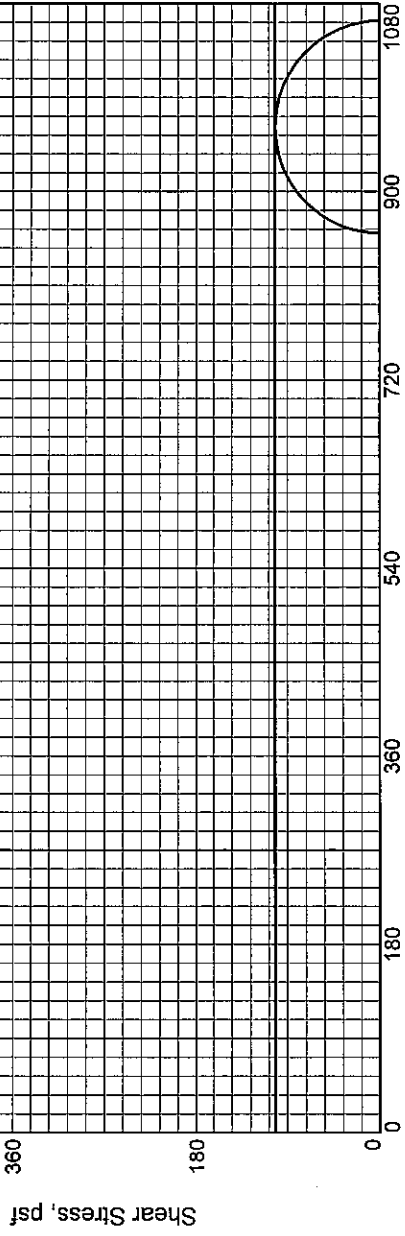
FFEBJV, LLC

Figure

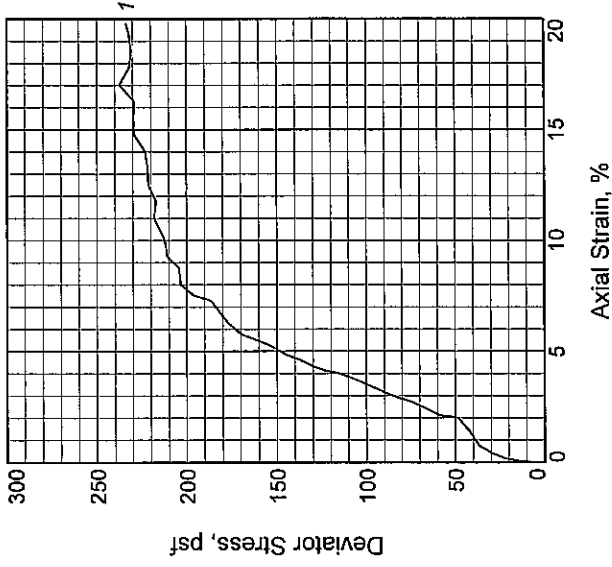
Tested By: DW/ARS

Checked By: RNE

Results	
C, psf	102
ϕ , deg	0
Tan(ϕ)	0



Normal Stress, psf



Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: VSO GR CHOA W/ WD, RT, ARS
ML

Assumed Specific Gravity= 2.25

Remarks:

Sample No. 1

Initial
 Water Content, % 172.8
 Dry Density, pcf 28.7
 Saturation, % 99.9
 Void Ratio 3.8909
 Diameter, in. 1.425
 Height, in. 3.118

At Test
 Water Content, % 172.8
 Dry Density, pcf 28.7
 Saturation, % 99.9
 Void Ratio 3.8909
 Diameter, in. 1.425
 Height, in. 3.118

Strain rate, in./min. 0.031

Back Pressure, psi 0.00

Cell Pressure, psi 5.97

Fail. Stress, psf 203

Strain, % 8.0

Ult. Stress, psf 229

Strain, %

σ_1 Failure, psf 1064

σ_3 Failure, psf 860

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U **Depth:** 8.4

Sample Number: 3C(H)

Proj. No.: 0022-0024 **Date Sampled:** 8-20-07

TRIAXIAL SHEAR TEST REPORT

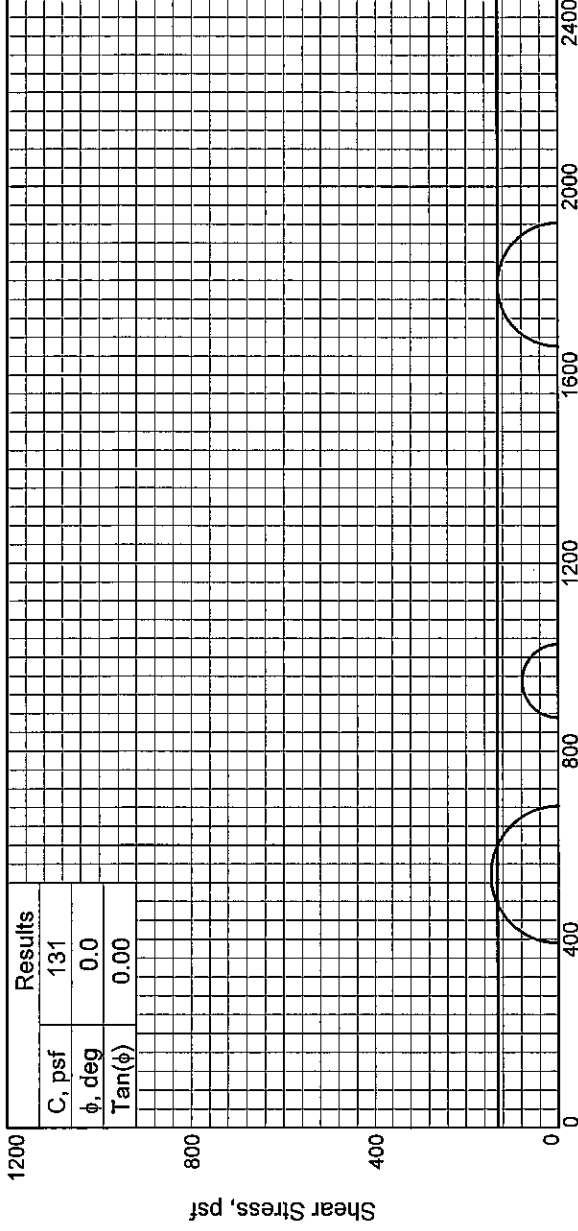
FFEBJV, LLC

Figure

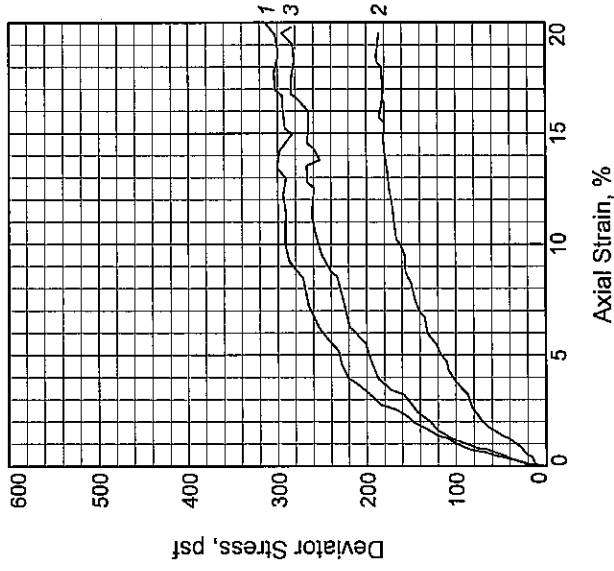
Tested By: ARS

Checked By: RNE

Results	
C, psf	131
ϕ , deg	0.0
Tan(ϕ)	0.00



Normal Stress, psf



Sample No.	1	2	3
Initial			
Water Content, %	195.4	226.9	184.1
Dry Density, pcf	25.5	22.8	26.4
Saturation, %	97.3	99.0	96.0
Void Ratio	4.5190	5.1592	4.3139
Diameter, in.	1.416	1.409	1.413
Height, in.	3.118	3.117	3.136
At Test			
Water Content, %	195.4	226.9	184.1
Dry Density, pcf	25.5	22.8	26.4
Saturation, %	97.3	99.0	96.0
Void Ratio	4.5190	5.1592	4.3139
Diameter, in.	1.416	1.409	1.413
Height, in.	3.118	3.117	3.136
Strain rate, in./min.	0.031	0.031	0.031
Back Pressure, psi	0.00	0.00	0.00
Cell Pressure, psi	2.72	6.05	11.54
Fail. Stress, psf	291	156	262
Strain, %	10.0	8.7	11.3
Ult. Stress, psf	283	181	266
Strain, %			
σ_1 Failure, psf	683	1027	1923
σ_3 Failure, psf	392	871	1661

Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: VSO GR CHOC W/ WD, RT, ARS
ML

Assumed Specific Gravity= 2.25

Remarks:

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U **Depth:** 8.4

Sample Number: 3C(V)

Proj. No.: 0022-0024 **Date Sampled:** 8-20-07

TRIAXIAL SHEAR TEST REPORT

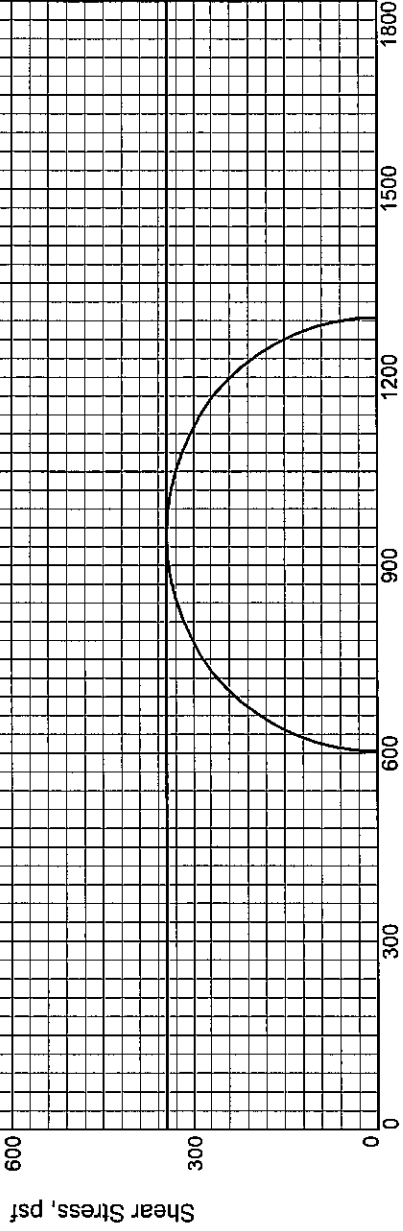
FFEBJV, LLC

Figure _____

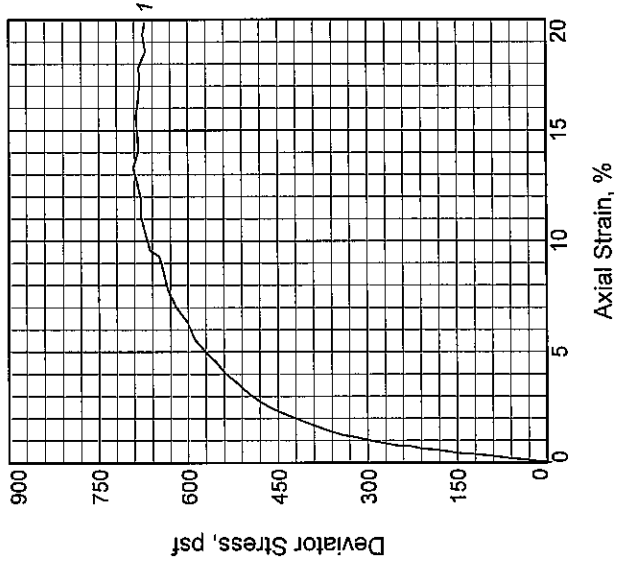
Tested By: ARS

Checked By: RNE

Results	
C, psf	346
ϕ , deg	0
Tan(ϕ)	0



Normal Stress, psf



Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: SO DGR & GR CH4 W/ WD, RT,
ARS SP

Assumed Specific Gravity= 2.72

Remarks: Sample trimmed horizontally.

Sample No.	1
Initial	Water Content, % 60.9 Dry Density, pcf 62.9 Saturation, % 97.4 Void Ratio 1.7000 Diameter, in. 1.429 Height, in. 3.129
At Test	Water Content, % 60.9 Dry Density, pcf 62.9 Saturation, % 97.4 Void Ratio 1.7000 Diameter, in. 1.429 Height, in. 3.129
Strain rate, in./min.	0.031
Back Pressure, psi	0.00
Cell Pressure, psi	4.19
Fail. Stress, psf	692
Strain, %	13.3
Ult. Stress, psf	685
Strain, %	
σ_1 Failure, psf	1295
σ_3 Failure, psf	603

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U **Depth:** 5.6

Sample Number: 2D(H)

Proj. No.: 0022-0024 **Date Sampled:** 8-20-07

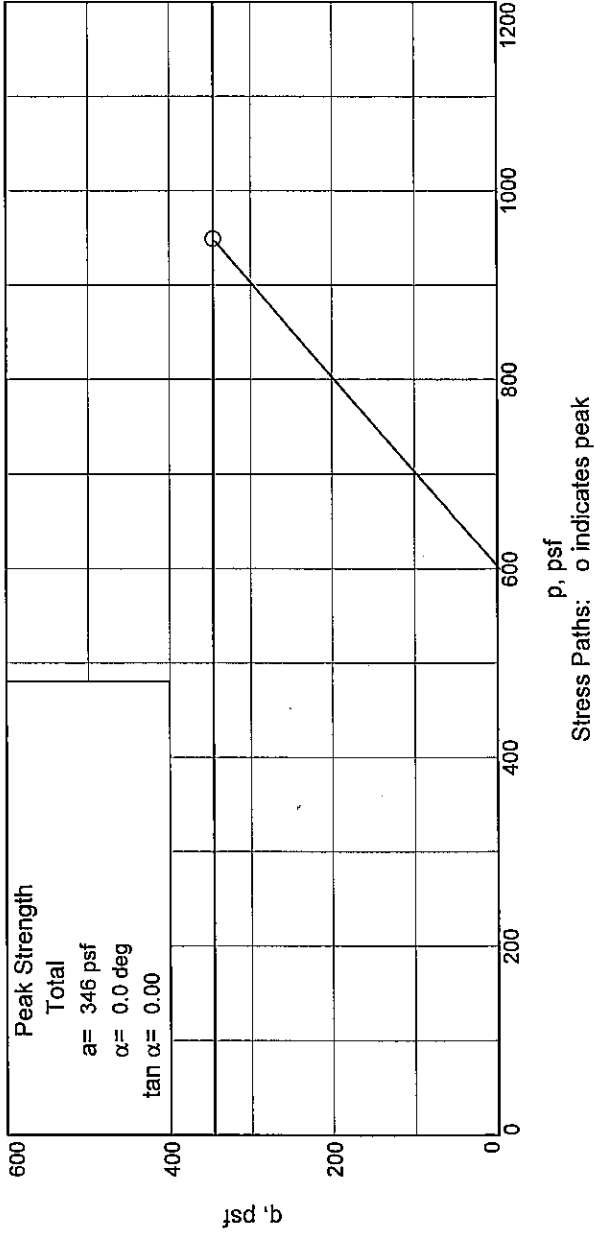
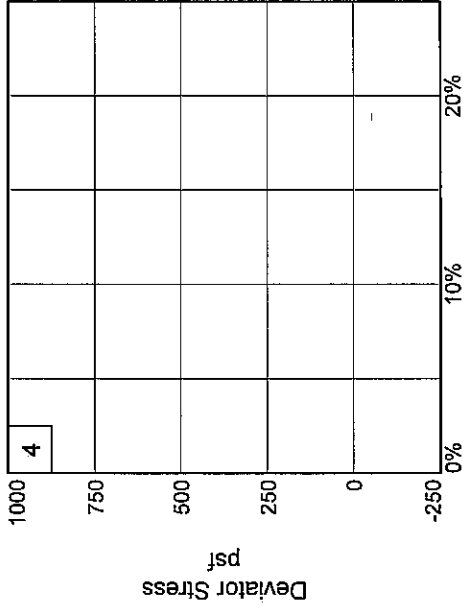
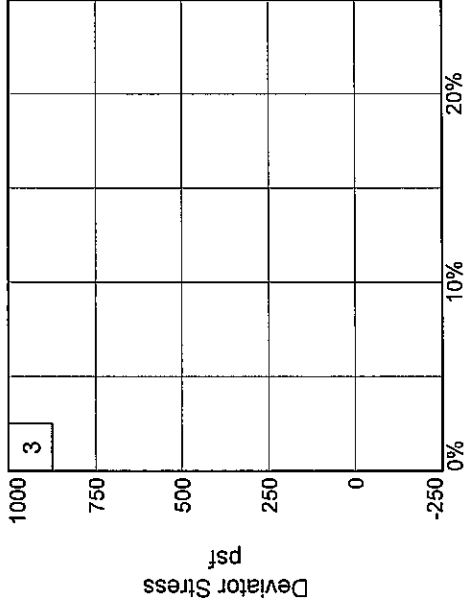
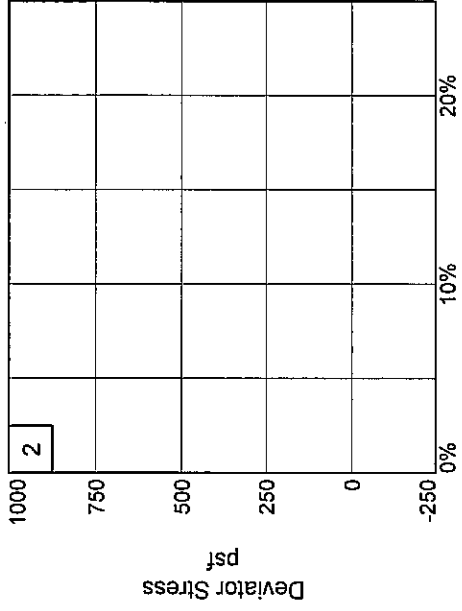
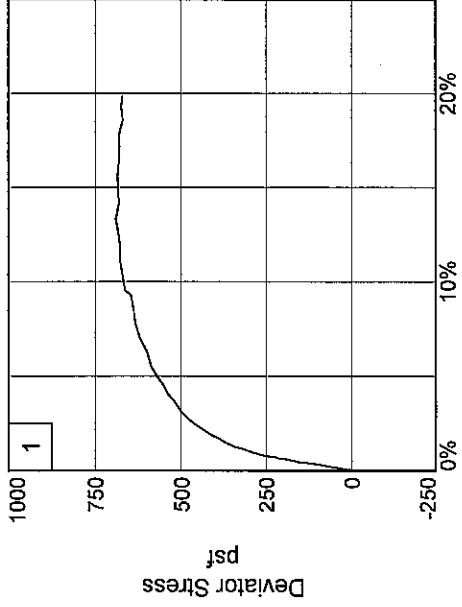
TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Figure

Tested By: ARS

Checked By: RNE



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U

Depth: 5.6 Sample Number: 2D(H)

Project No.: 0022-0024

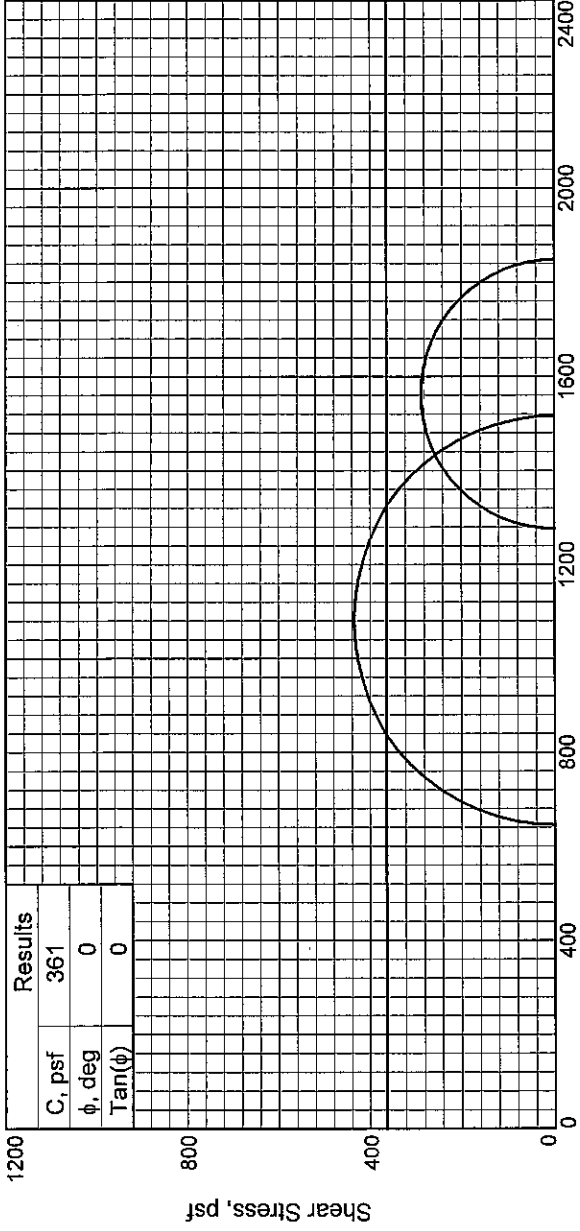
Figure _____

FFEBJV, LLC

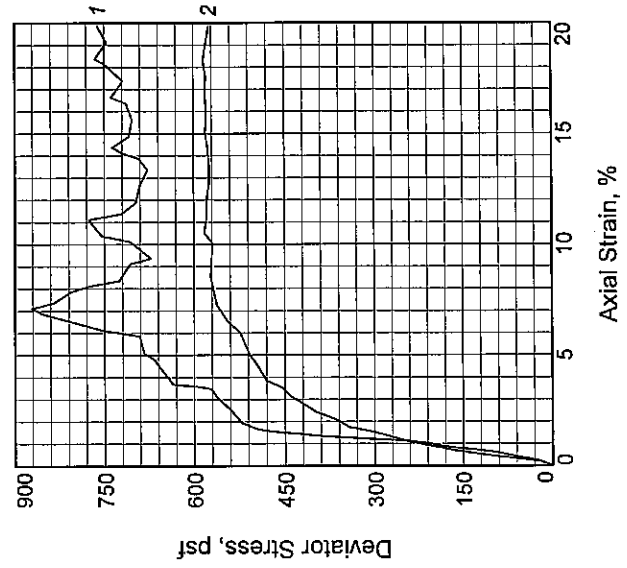
Tested By: ARS

Checked By: RNE

Results	
C, psf	361
ϕ , deg	0
Tan(ϕ)	0



Normal Stress, psf

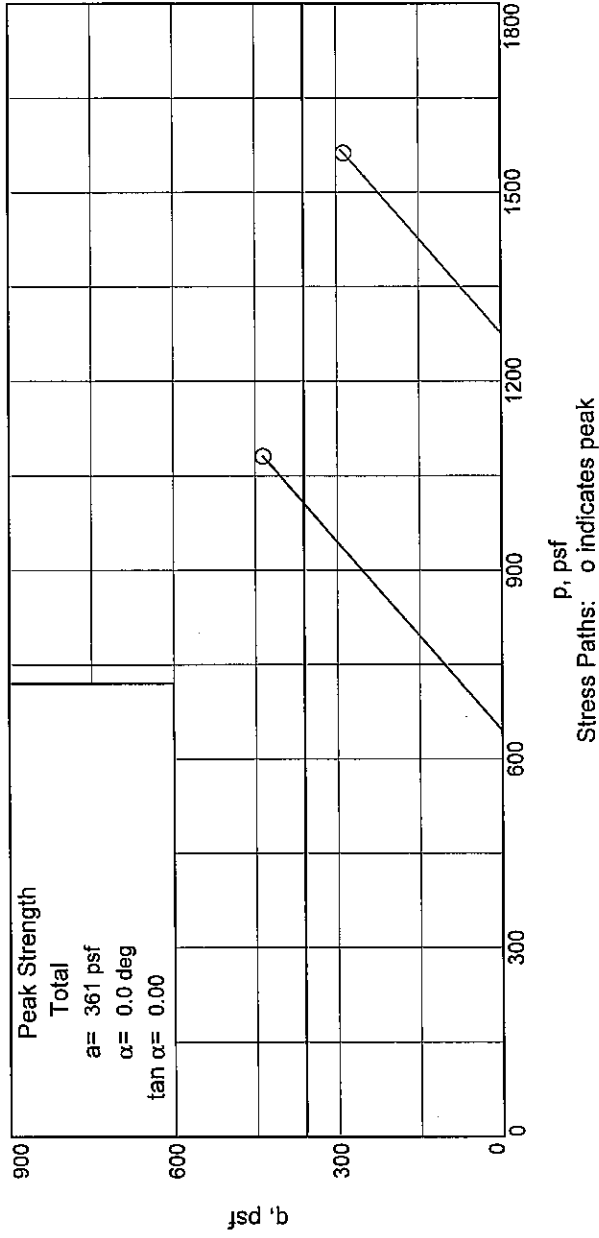
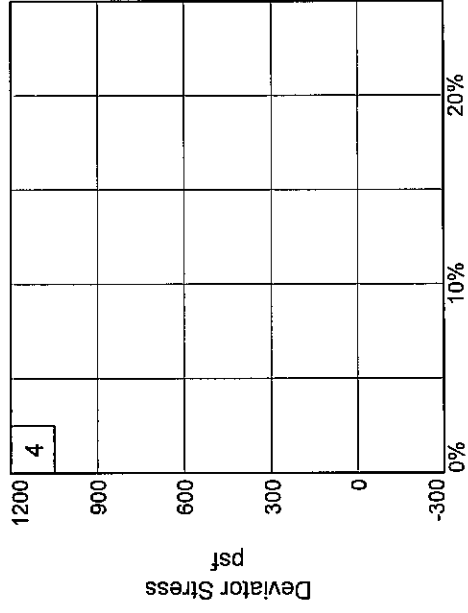
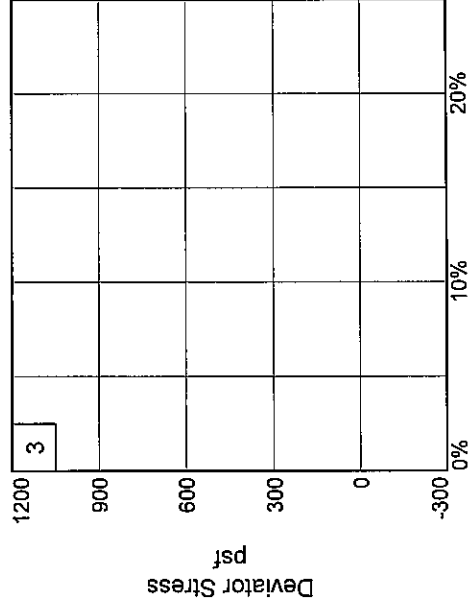
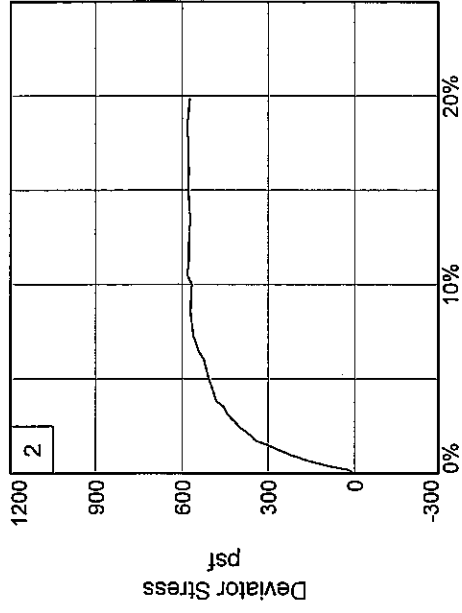
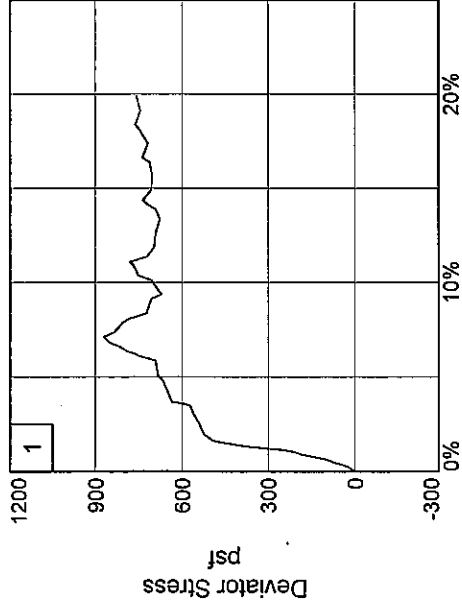


Type of Test: Unconsolidated Undrained
Sample Type: Undisturbed
Description: SO DGR & GR CH4 W/ WD, RT, ARS SP
Assumed Specific Gravity= 2.72
Remarks:

Sample No.	1	2
Initial		
Water Content, %	114.0	120.3
Dry Density, pcf	40.5	38.5
Saturation, %	97.3	96.1
Void Ratio	3.1893	3.4068
Diameter, in.	1.411	1.408
Height, in.	3.051	2.970
At Test		
Water Content, %	114.0	120.3
Dry Density, pcf	40.5	38.5
Saturation, %	97.3	96.1
Void Ratio	3.1893	3.4068
Diameter, in.	1.411	1.408
Height, in.	3.051	2.970
Strain rate, in./min.	0.031	0.030
Back Pressure, psi	0.00	0.00
Cell Pressure, psi	4.48	8.86
Fail. Stress, psf	871	572
Strain, %	7.1	8.5
Ult. Stress, psf	708	580
Strain, %		
σ_1 Failure, psf	1516	1849
σ_3 Failure, psf	646	1276

Client: U. S. Army Corps of Engineers
Project: London Avenue Laboratory Testing
Source of Sample: LCSLT-3U **Depth:** 5.6
Sample Number: 2D(V)
Proj. No.: 0022-0024 **Date Sampled:** 8-20-07
 TRIAXIAL SHEAR TEST REPORT
FFEBJV, LLC

Figure



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U

Depth: 5.6 Sample Number: 2D(V)

Project No.: 0022-0024

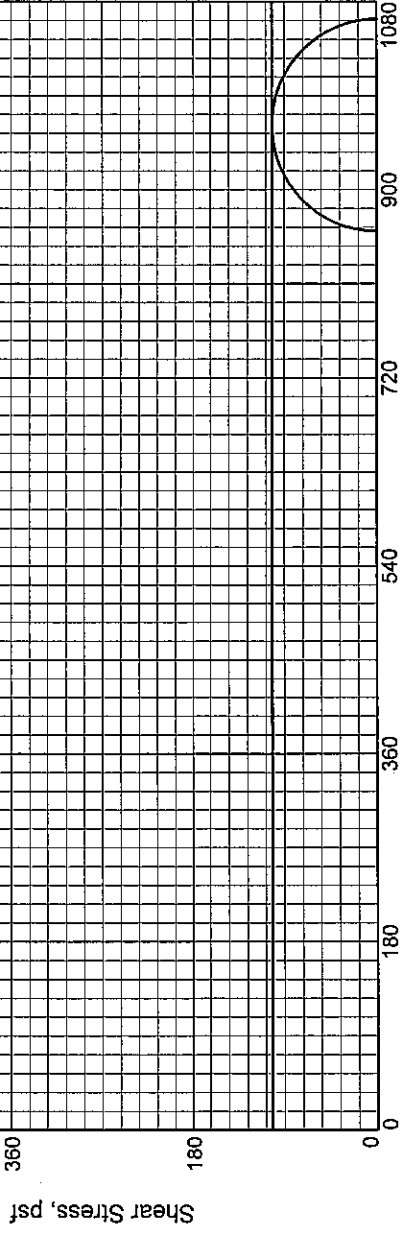
Figure _____

FFEBJV, LLC

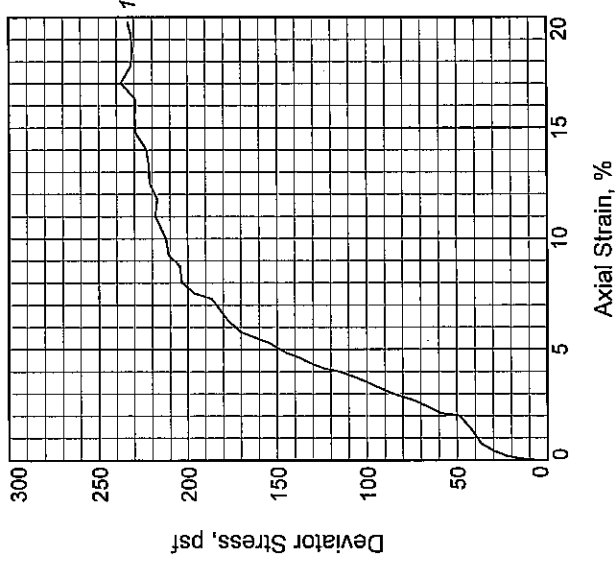
Tested By: ARS

Checked By: RNE

Results	
C, psf	102
ϕ , deg	0
Tan(ϕ)	0



Normal Stress, psf



Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: VSO GR CHOA W/ WD, RT, ARS

ML

Assumed Specific Gravity= 2.25

Remarks: Sample trimmed horizontally.

Figure _____

Sample No. 1

Initial
 Water Content, % 172.8
 Dry Density, pcf 28.7
 Saturation, % 99.9
 Void Ratio 3.8909
 Diameter, in. 1.425
 Height, in. 3.118

At Test
 Water Content, % 172.8
 Dry Density, pcf 28.7
 Saturation, % 99.9
 Void Ratio 3.8909
 Diameter, in. 1.425
 Height, in. 3.118

Strain rate, in./min. 0.031
 Back Pressure, psi 0.00
 Cell Pressure, psi 5.97
 Fail. Stress, psf 203
 Strain, % 8.0
 Ult. Stress, psf 229
 Strain, %

σ_1 Failure, psf 1064
 σ_3 Failure, psf 860

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U **Depth:** 8.4

Sample Number: 3C(H)

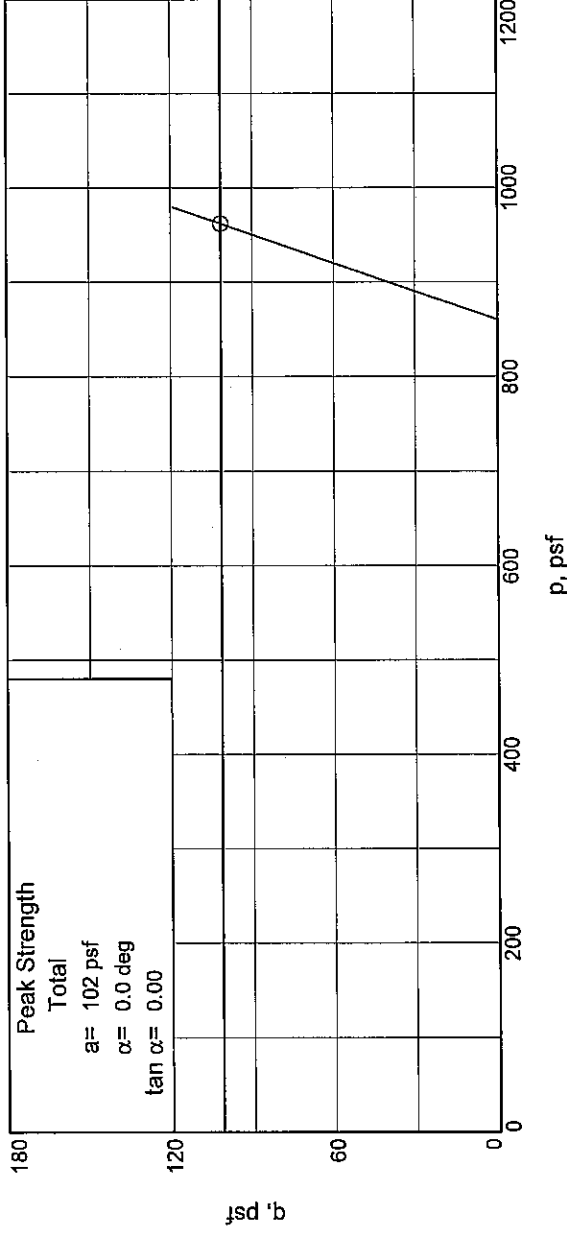
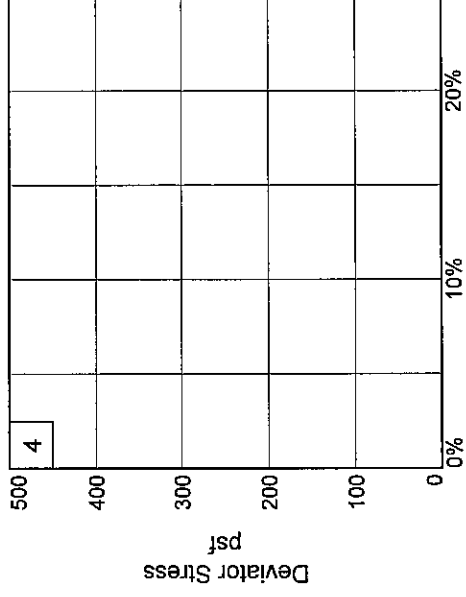
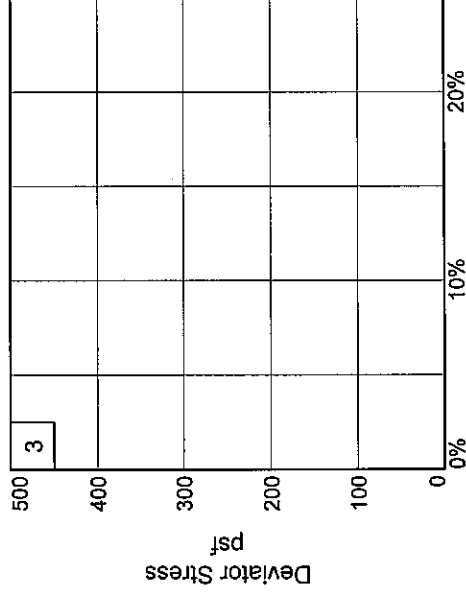
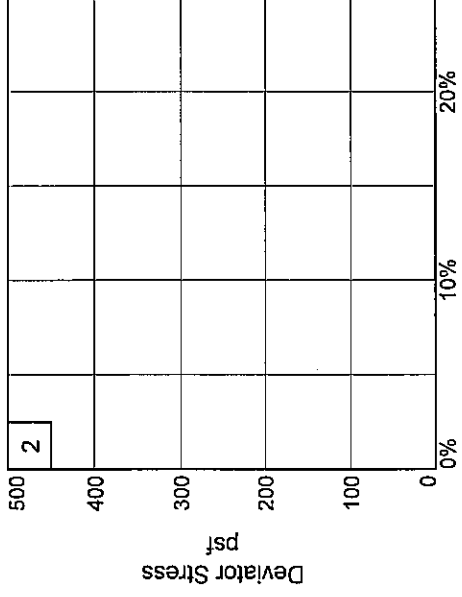
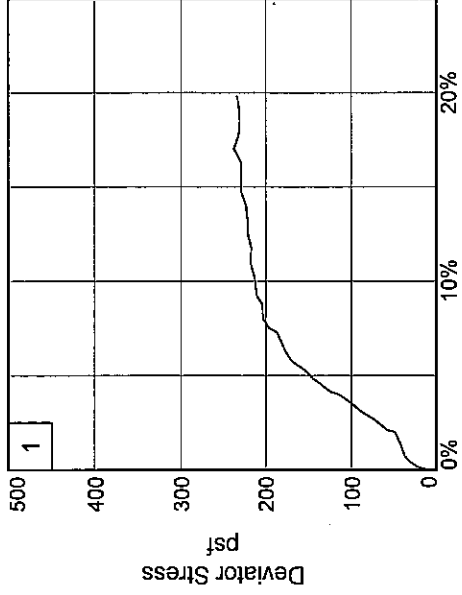
Proj. No.: 0022-0024 **Date Sampled:** 8-20-07

TRIAXIAL SHEAR TEST REPORT

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Tested By: ARS

Checked By: RNE



Stress Paths: o indicates peak

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U

Depth: 8.4 Sample Number: 3C(H)

Project No.: 0022-0024

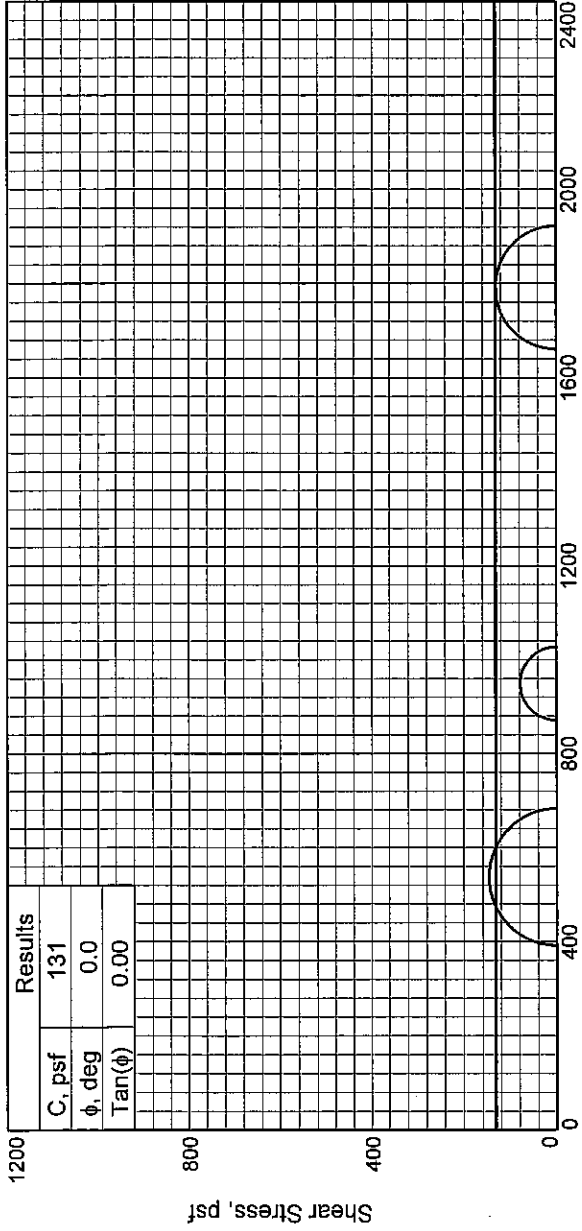
Figure _____

FFEBJV, LLC

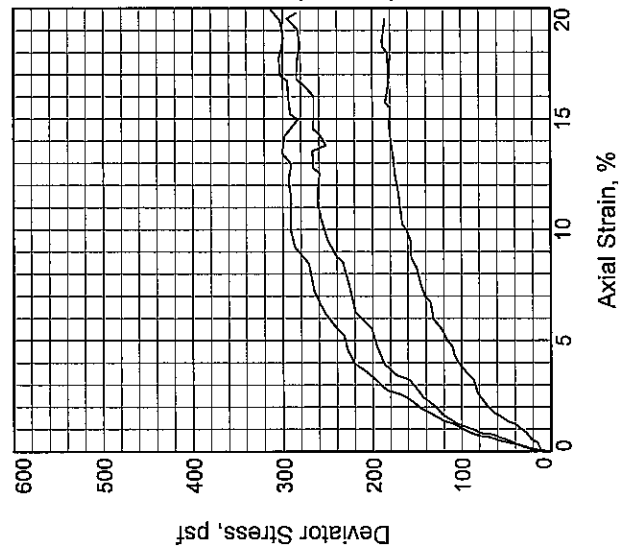
Tested By: ARS

Checked By: RNE

Results	
C, psf	131
ϕ , deg	0.0
Tan(ϕ)	0.00



Normal Stress, psf

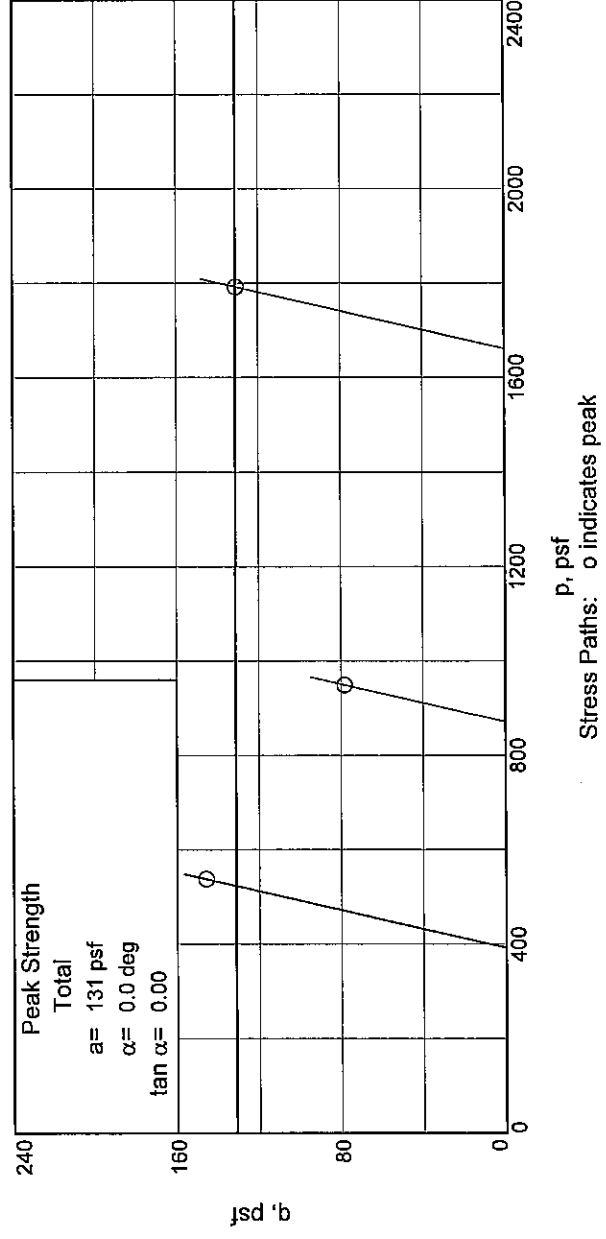
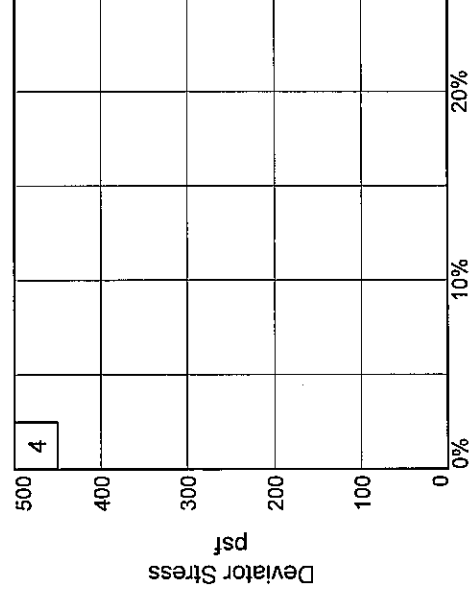
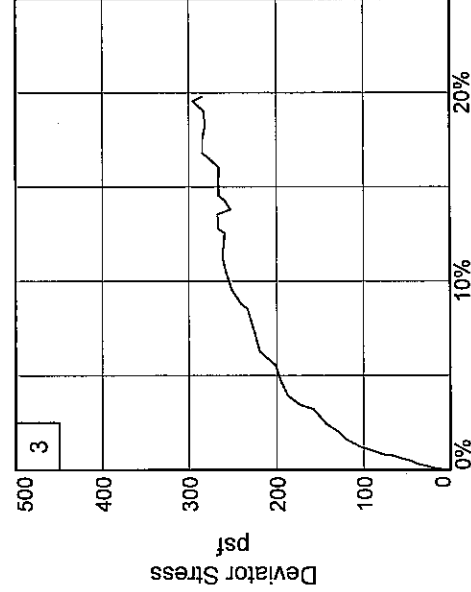
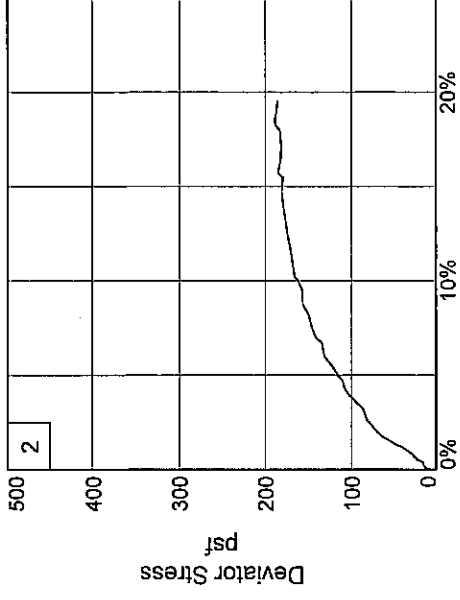
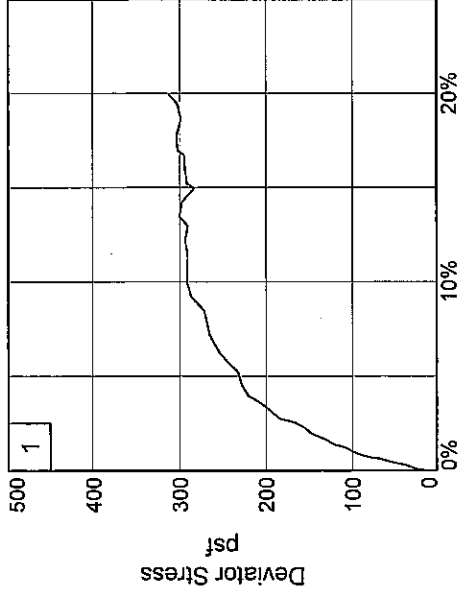


Type of Test: Unconsolidated Undrained
Sample Type: Undisturbed
Description: VSO GR CHOC W/ WD, RT, ARS
 ML
Assumed Specific Gravity= 2.25
Remarks:

Figure _____

Sample No.	1	2	3
Water Content, %	195.4	226.9	184.1
Dry Density, pcf	25.5	22.8	26.4
Saturation, %	97.3	99.0	96.0
Void Ratio	4.5190	5.1592	4.3139
Diameter, in.	1.416	1.409	1.413
Height, in.	3.118	3.117	3.136
Water Content, %	195.4	226.9	184.1
Dry Density, pcf	25.5	22.8	26.4
Saturation, %	97.3	99.0	96.0
Void Ratio	4.5190	5.1592	4.3139
Diameter, in.	1.416	1.409	1.413
Height, in.	3.118	3.117	3.136
Strain rate, in./min.	0.031	0.031	0.031
Back Pressure, psi	0.00	0.00	0.00
Cell Pressure, psi	2.72	6.05	11.54
Fail. Stress, psf	291	156	262
Strain, %	10.0	8.7	11.3
Ult. Stress, psf	283	181	266
Strain, %			
σ_1 Failure, psf	683	1027	1923
σ_3 Failure, psf	392	871	1661

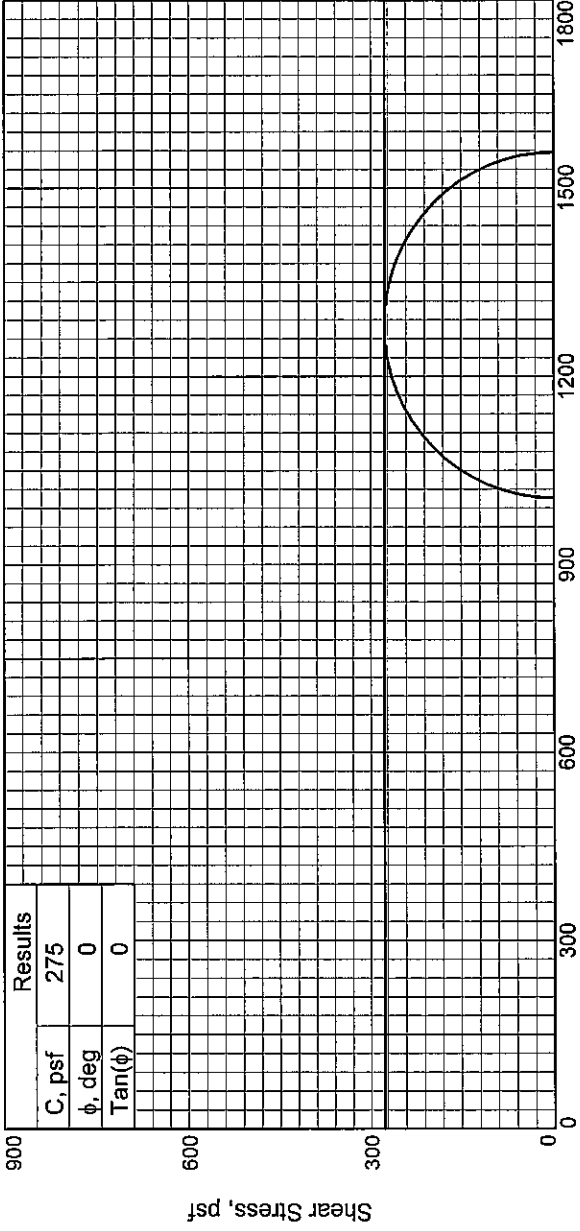
Client: U. S. Army Corps of Engineers
Project: London Avenue Laboratory Testing
Source of Sample: LCSLT-3U **Depth:** 8.4
Sample Number: 3C(Y)
Proj. No.: 0022-0024 **Date Sampled:** 8-20-07
 TRIAXIAL SHEAR TEST REPORT
FFEBJV, LLC



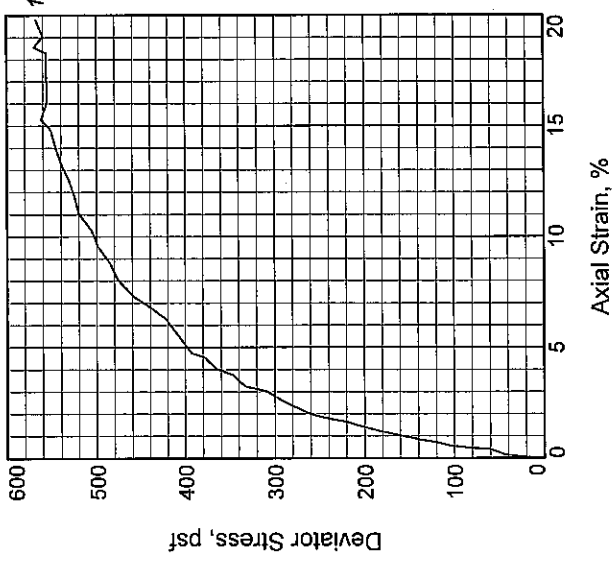
Client: U. S. Army Corps of Engineers
 Project: London Avenue Laboratory Testing
 Source of Sample: LCSLT-3U Depth: 8.4 Sample Number: 3C(V)
 Project No.: 0022-0024 Figure _____ FFEBJV, LLC

Tested By: ARS Checked By: RNE

Results	
C, psf	275
ϕ , deg	0
Tan(ϕ)	0



Normal Stress, psf



Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: SO DGR CHOA W/ WD

Assumed Specific Gravity= 2.50

Remarks:

Sample No. 1

Water Content, % 132.0
 Dry Density, pcf 37.0
 Saturation, % 102.6
 Void Ratio 3.2155
 Diameter, in. 1.397
 Height, in. 3.125

Water Content, % 132.0
 Dry Density, pcf 37.0
 Saturation, % 102.6
 Void Ratio 3.2155
 Diameter, in. 1.397
 Height, in. 3.125

Strain rate, in./min. 0.031

Back Pressure, psi 0.00

Cell Pressure, psi 6.99

Fail. Stress, psf 551

Strain, % 14.8

Ult. Stress, psf 551

Strain, %

σ_1 Failure, psf 1557

σ_3 Failure, psf 1006

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCLSLT-3U **Depth:** 11.6

Sample Number: 4B(H)

Proj. No.: 0022-0024 **Date Sampled:** 8-20-07

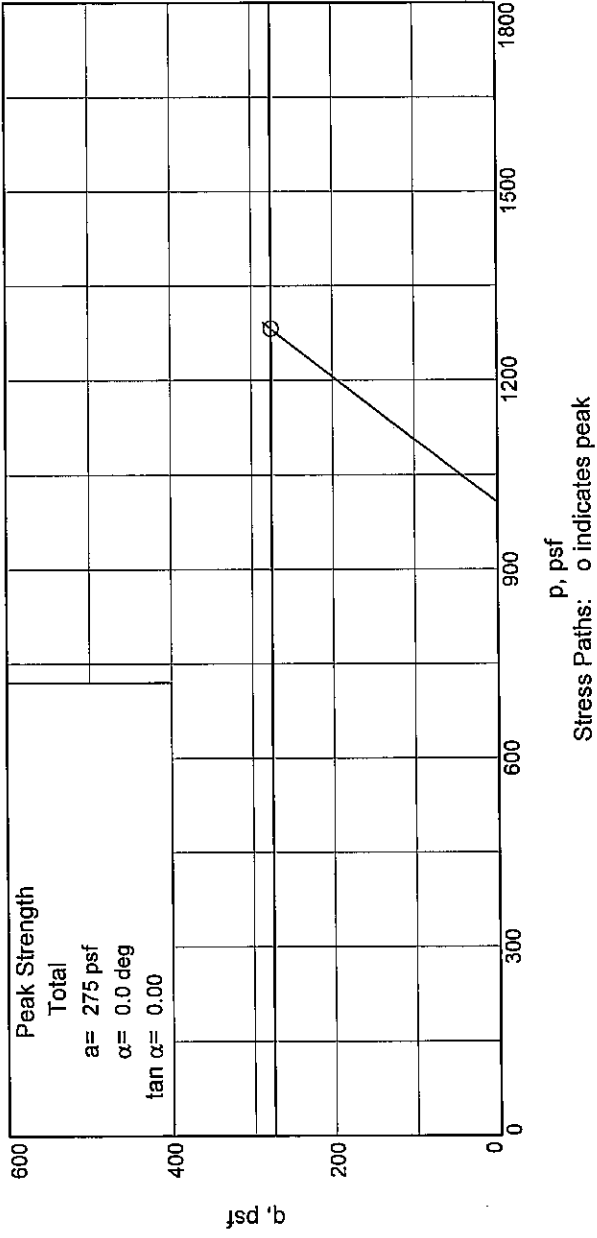
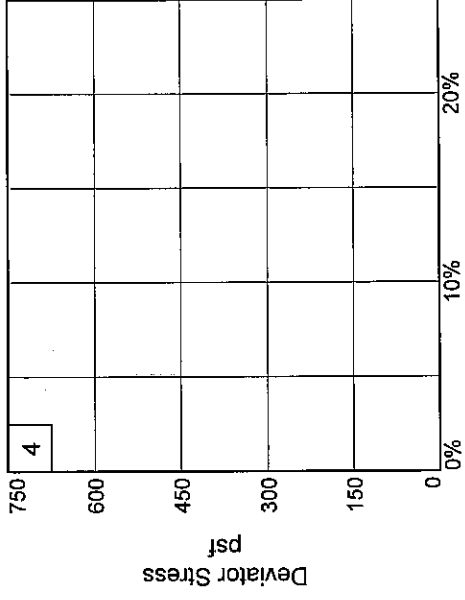
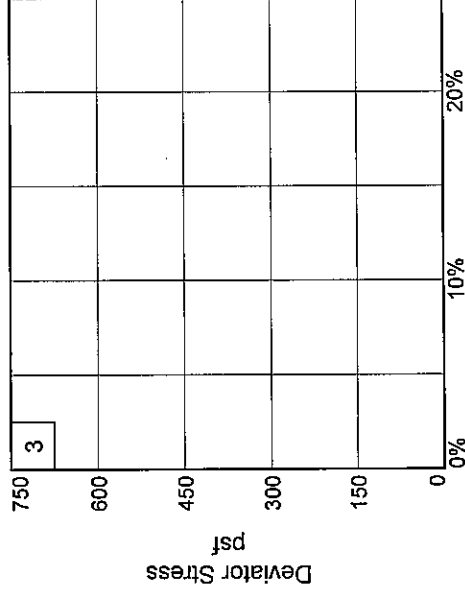
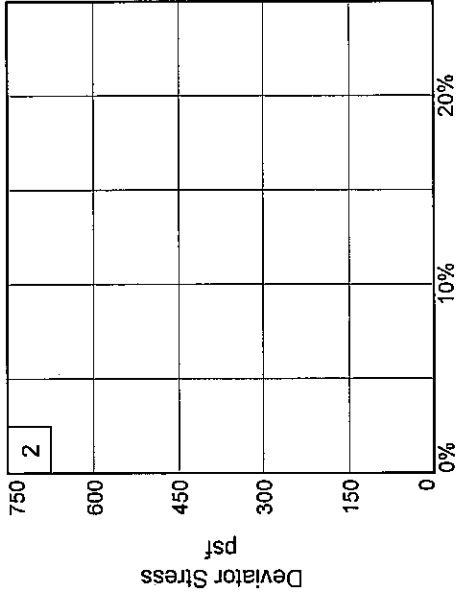
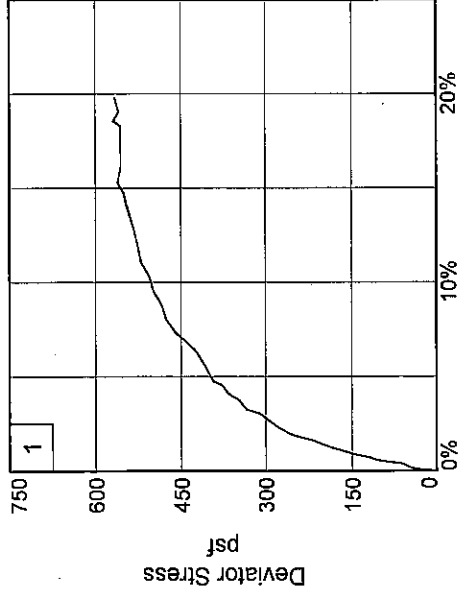
TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Figure

Tested By: ARS

Checked By: RNE



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U

Depth: 11.6

Sample Number: 4B(H)

Project No.: 0022-0024

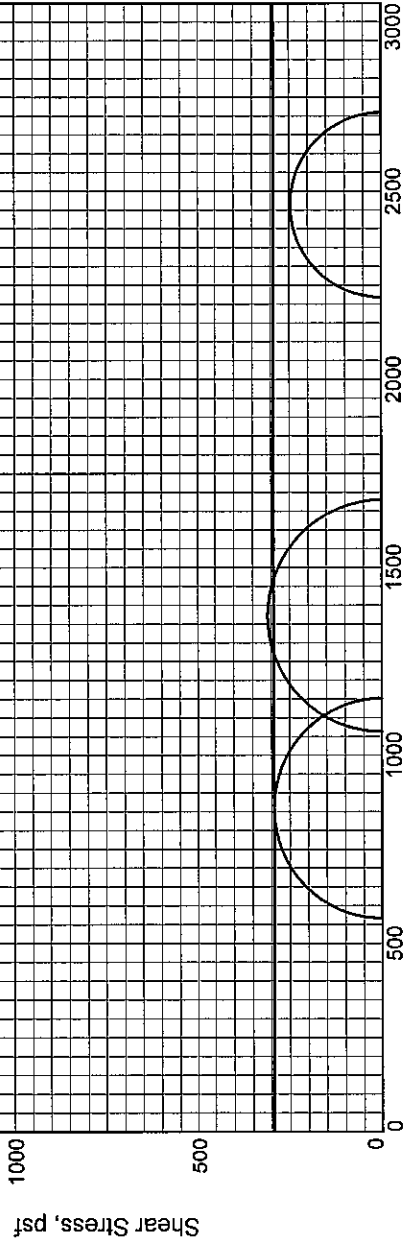
Figure _____

FFEBJV, LLC

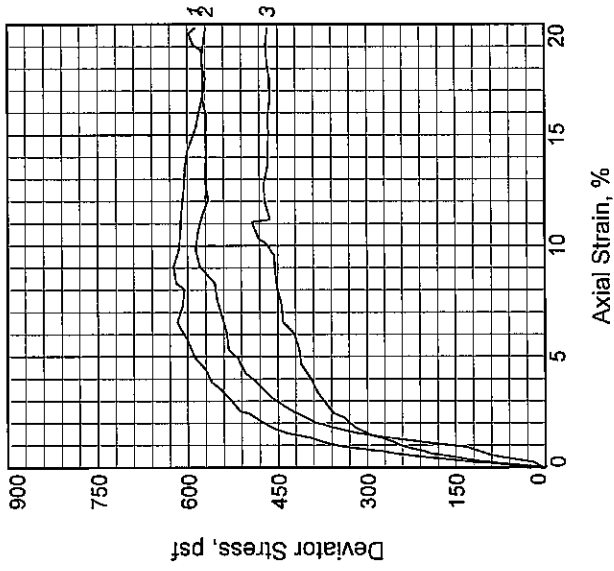
Tested By: ARS

Checked By: RNE

Results	
C, psf	293
ϕ , deg	0.0
Tan(ϕ)	0.00



Normal Stress, psf



Sample No.

1 2 3

Initial	112.3	112.7	119.7
Water Content, %	41.1	41.1	42.2
Dry Density, pcf	97.2	97.6	107.4
Saturation, %	3.1661	3.1613	3.0546
Void Ratio	1.424	1.423	1.413
Diameter, in.	3.143	3.136	3.137
Height, in.			
At Test	112.3	112.7	119.7
Water Content, %	41.1	41.1	42.2
Dry Density, pcf	97.2	97.6	107.4
Saturation, %	3.1661	3.1613	3.0546
Void Ratio	1.424	1.423	1.413
Diameter, in.	3.143	3.136	3.137
Height, in.			

Strain rate, in./min.

0.031 0.031 0.031

Back Pressure, psi

0.00 0.00 0.00

Cell Pressure, psi

3.93 7.38 15.40

Fail. Stress, psf

586 618 492

Strain, %

9.8 6.6 11.1

Ult. Stress, psf

569 586 464

Strain, %

σ_1 Failure, psf

1152 1681 2709

σ_3 Failure, psf

566 1063 2218

Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: SO DGR CH4 W/O, WD

Assumed Specific Gravity= 2.74

Remarks:

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U

Depth: 12.5

Sample Number: 4C(V)

Proj. No.: 0022-0024

Date Sampled: 8-20-07

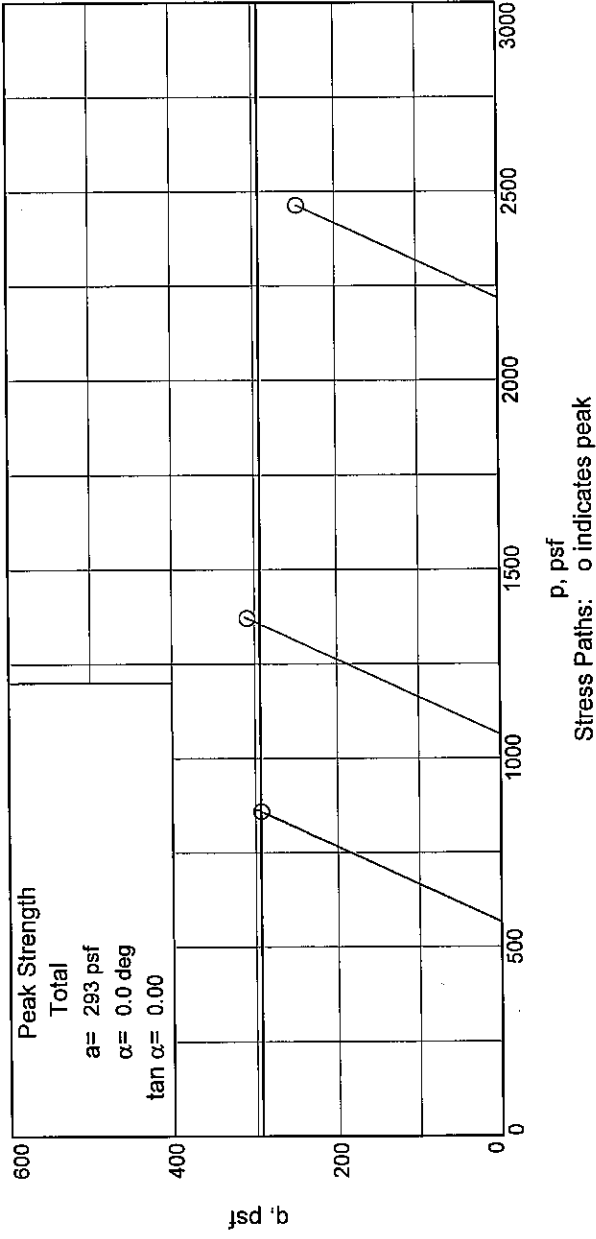
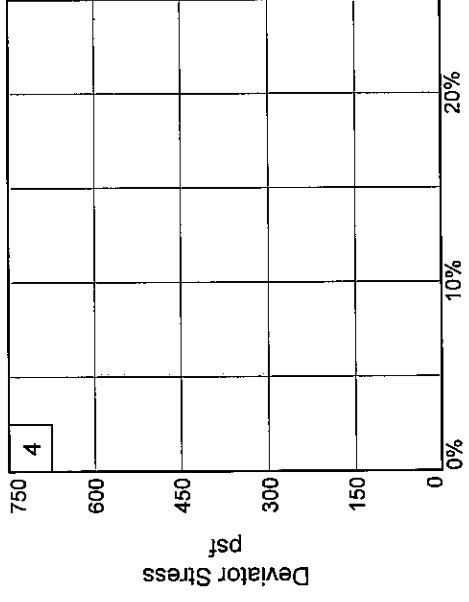
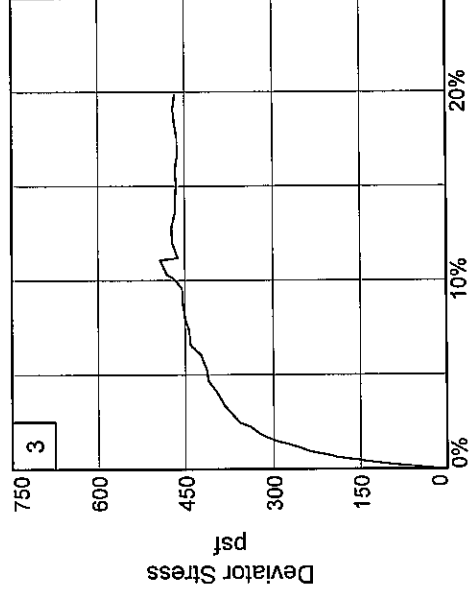
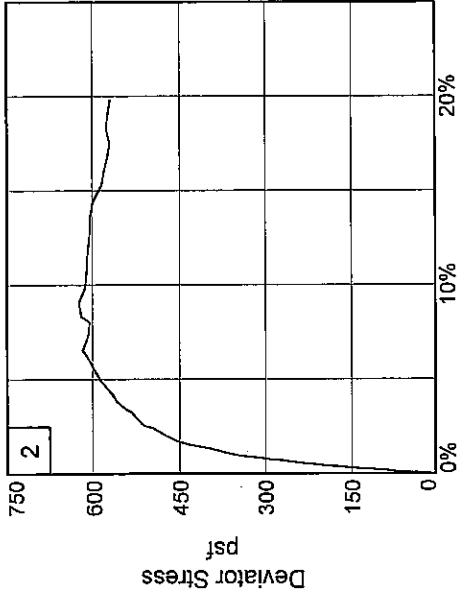
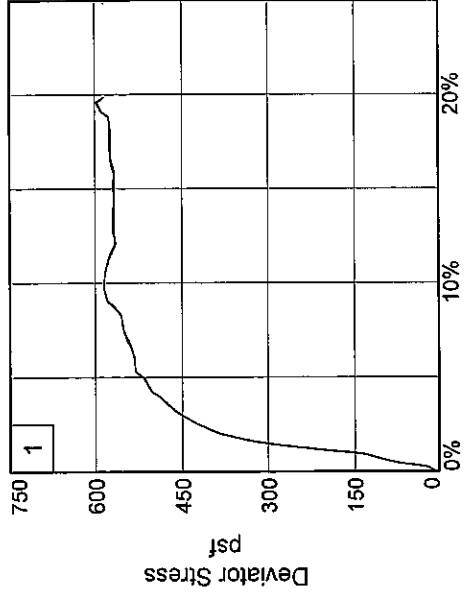
TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Figure

Tested By: ARS

Checked By: RNE



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U Depth: 12.5 Sample Number: 4C(V)

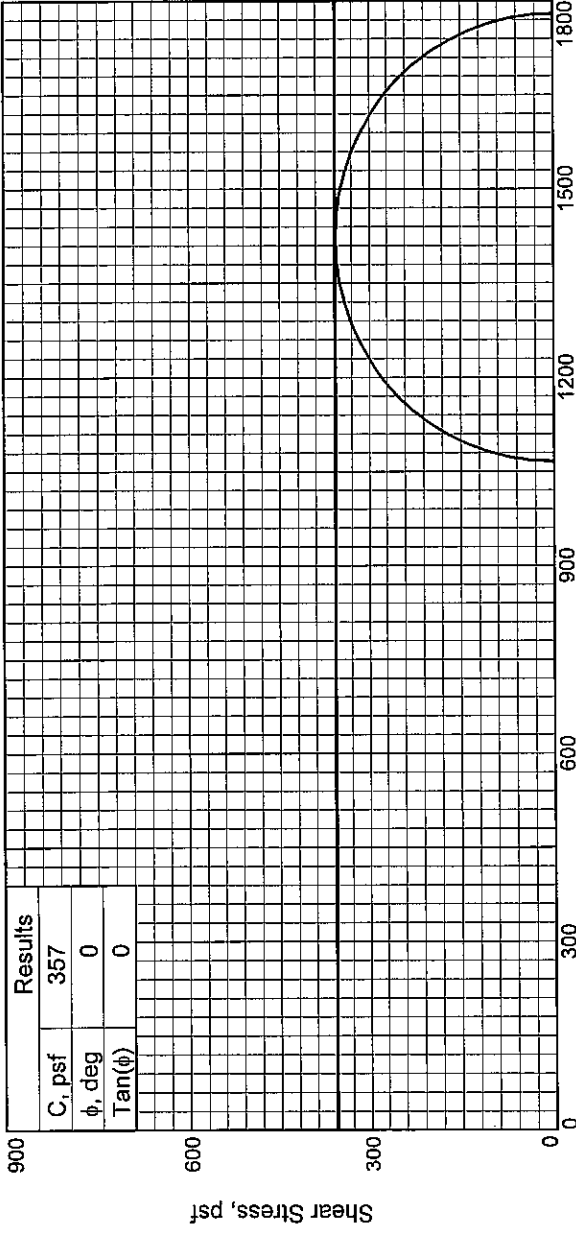
Project No.: 0022-0024

Figure _____ FFEBJV, LLC

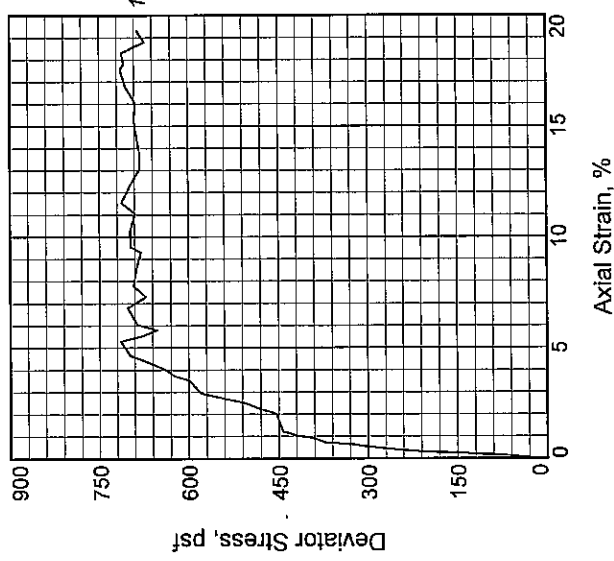
Tested By: ARS

Checked By: RNE

Results	
C, psf	357
ϕ , deg	0
Tan(ϕ)	0



Normal Stress, psf



Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: SO GR CH4 W/ WD, ARS SM

Assumed Specific Gravity= 2.72

Remarks: Sample trimmed horizontally.

Sample No.	1
Initial	
Water Content, %	48.4
Dry Density, pcf	73.9
Saturation, %	101.4
Void Ratio	1.2978
Diameter, in.	1.406
Height, in.	3.124
At Test	
Water Content, %	48.4
Dry Density, pcf	73.9
Saturation, %	101.4
Void Ratio	1.2978
Diameter, in.	1.406
Height, in.	3.124
Strain rate, in./min.	0.031
Back Pressure, psi	0.00
Cell Pressure, psi	7.40
Fail. Stress, psf	714
Strain, %	5.3
Ult. Stress, psf	691
Strain, %	
σ_1 Failure, psf	1780
σ_3 Failure, psf	1066

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U **Depth:** 13.4

Sample Number: 4D(H)

Proj. No.: 0022-0024 **Date Sampled:** 8-20-07

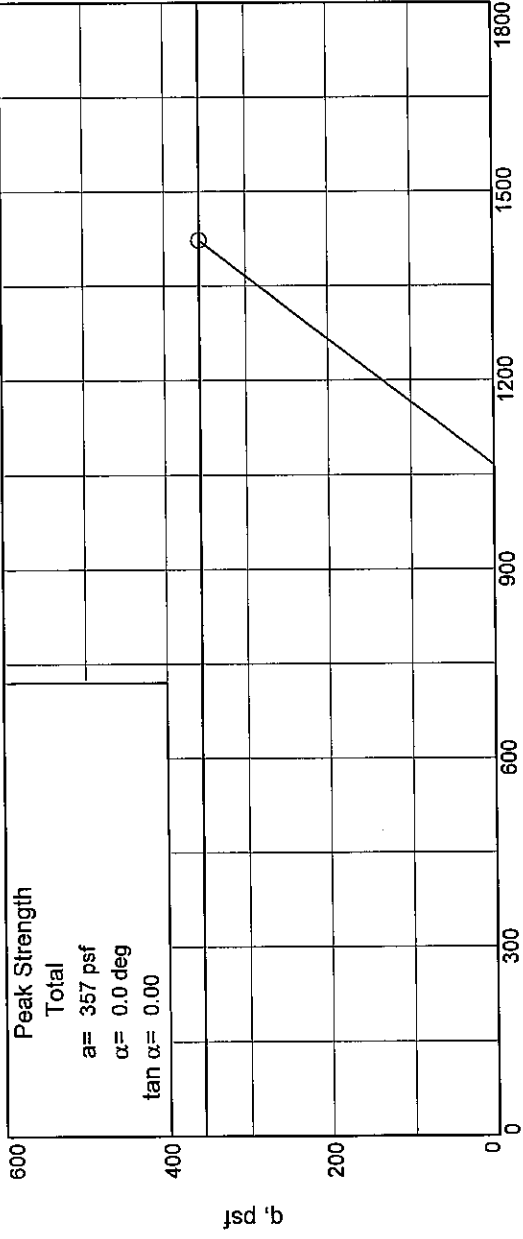
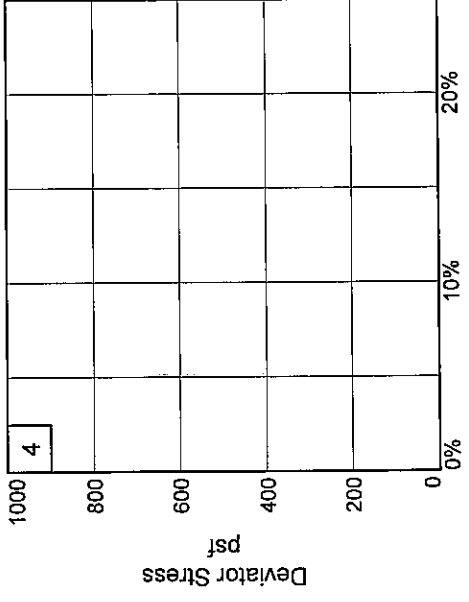
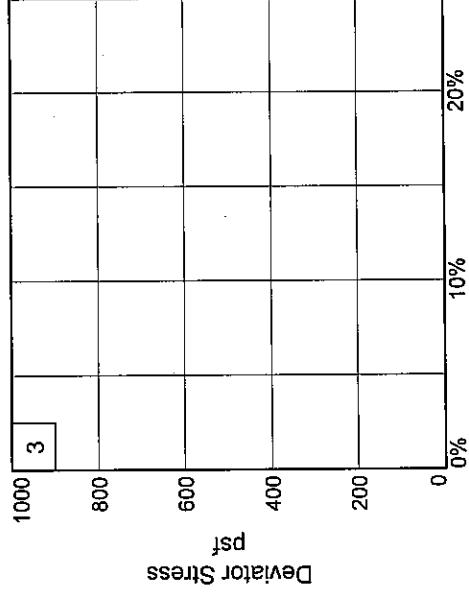
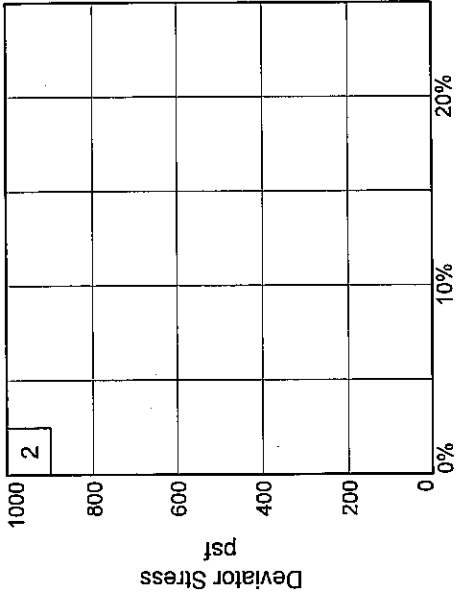
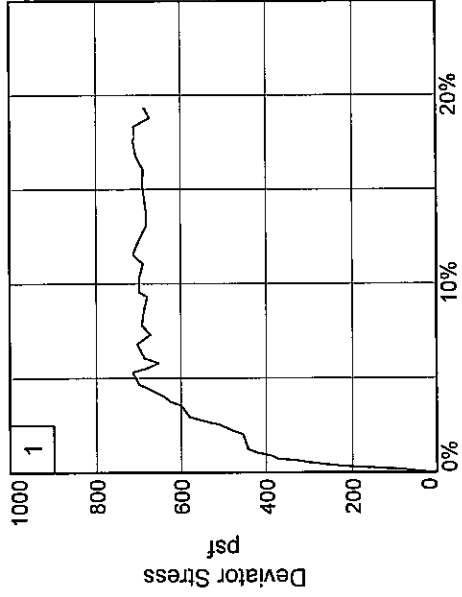
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Figure

Tested By: ARS

Checked By: RNE



Stress Paths: o indicates peak

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U

Depth: 13.4 Sample Number: 4D(H)

Project No.: 0022-0024

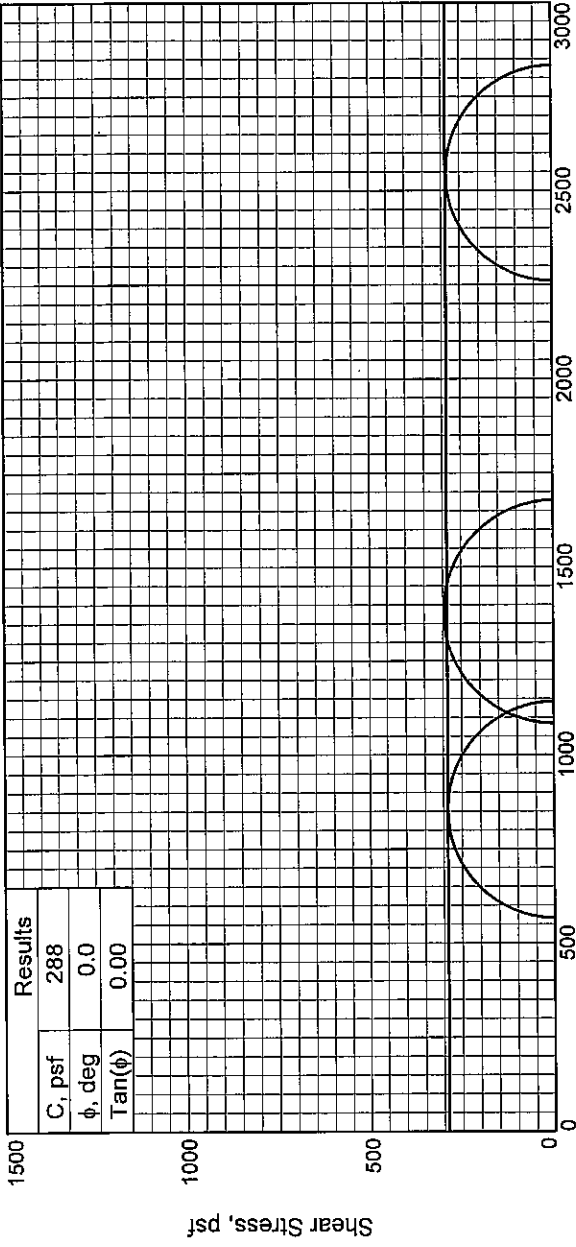
Figure _____

FFEBJV, LLC

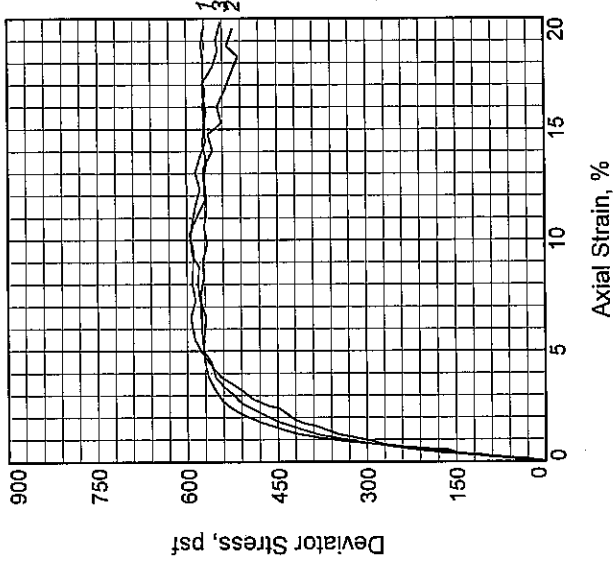
Tested By: ARS

Checked By: RNE

Results	
C, psf	288
ϕ , deg	0.0
Tan(ϕ)	0.00



Normal Stress, psf



Sample No.

1 2 3

Initial
 Water Content, % 58.8 54.6 58.3
 Dry Density, pcf 66.0 68.0 65.5
 Saturation, % 101.7 99.1 99.6
 Void Ratio 1.5727 1.4974 1.5934
 Diameter, in. 1.395 1.411 1.408
 Height, in. 3.129 3.131 3.130

At Test
 Water Content, % 58.8 54.6 58.3
 Dry Density, pcf 66.0 68.0 65.5
 Saturation, % 101.7 99.1 99.6
 Void Ratio 1.5727 1.4974 1.5934
 Diameter, in. 1.395 1.411 1.408
 Height, in. 3.129 3.131 3.130

Strain rate, in./min. 0.031 0.031 0.031

Back Pressure, psi 0.00 0.00 0.00

Cell Pressure, psi 3.93 7.53 15.70

Fail. Stress, psf 576 594 572

Strain, % 6.1 6.5 5.0

Ult. Stress, psf 571 564 570

Strain, %

σ_1 Failure, psf 1142 1678 2833

σ_3 Failure, psf 566 1084 2261

Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: SO GR CH4 W/ WD, ARS SM

Assumed Specific Gravity= 2.72

Remarks:

Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U Depth: 13.4

Sample Number: 4D(V)

Proj. No.: 0022-0024 Date Sampled: 8-20-07

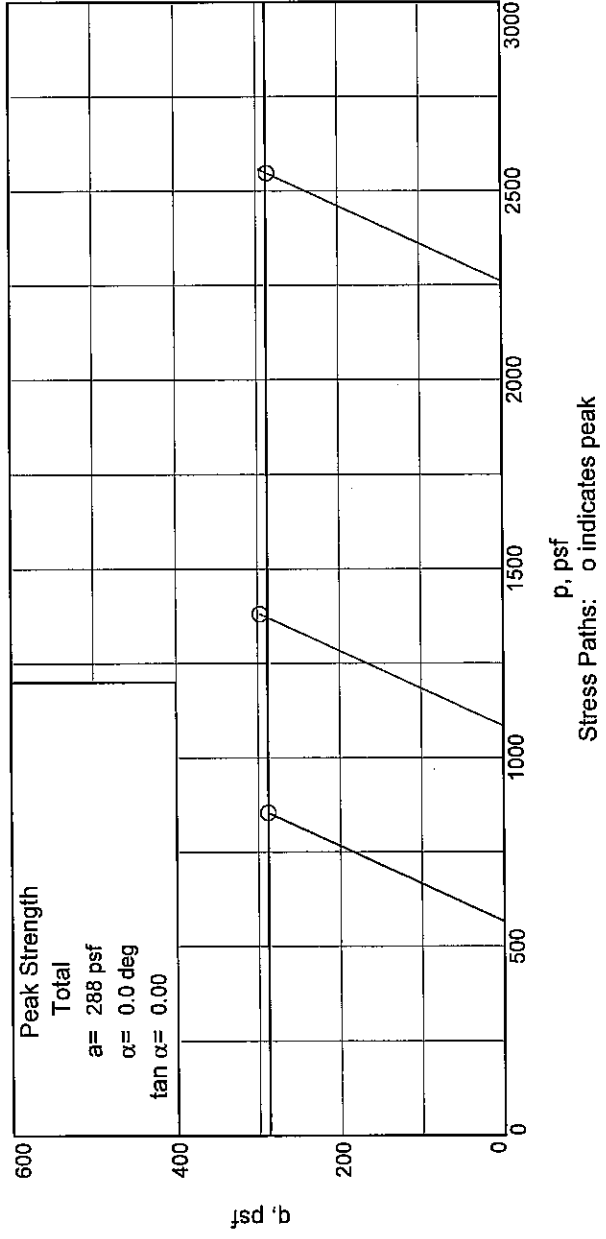
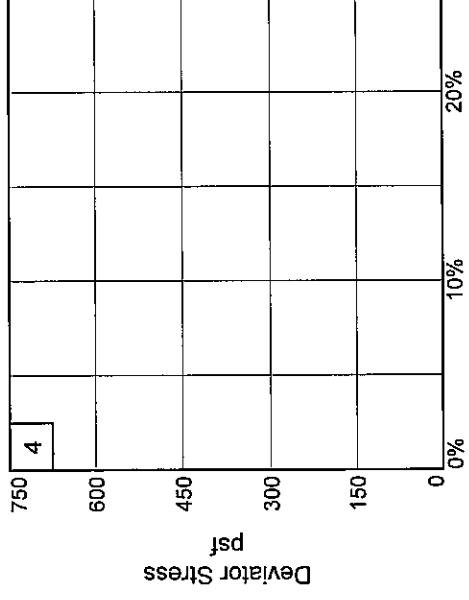
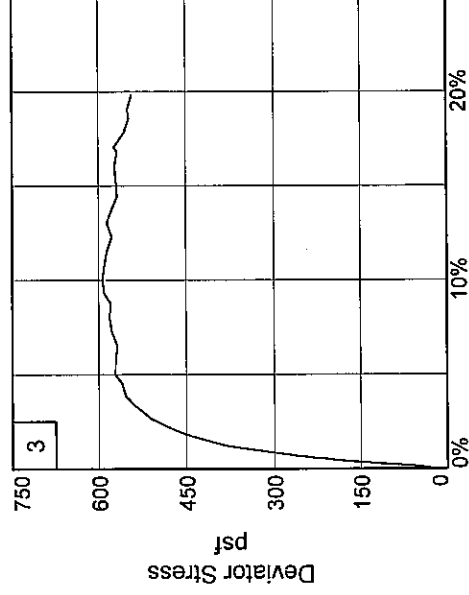
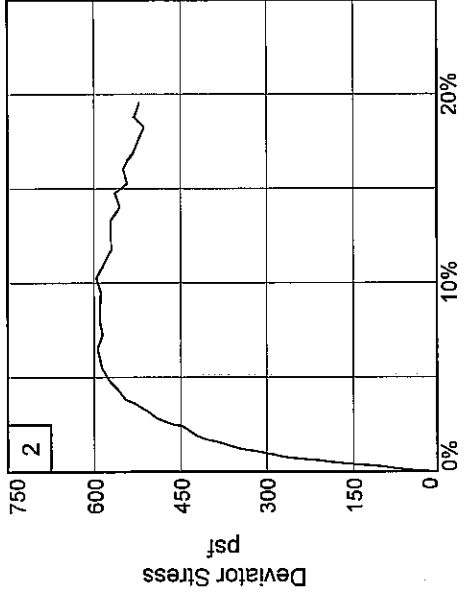
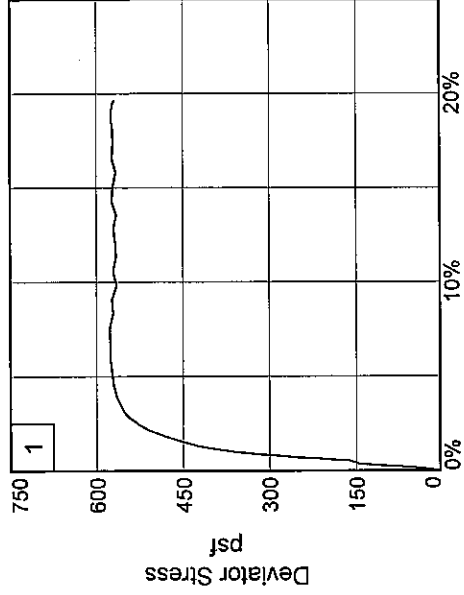
TRIAXIAL SHEAR TEST REPORT

FFEBJV, LLC

Figure

Tested By: ARS

Checked By: RNE



Client: U. S. Army Corps of Engineers

Project: London Avenue Laboratory Testing

Source of Sample: LCSLT-3U

Depth: 13.4 Sample Number: 4D(V)

Project No.: 0022-0024

Figure _____

FFEBJV, LLC

Tested By: ARS

Checked By: RNE