

APPENDIX B
SUPPORTING LABORATORY DATA

**ATTERBERG LIMIT DETERMINATION
ASTM D 4318**

Project: Proposed Compass Industrial Site
Location: Osceola, Arkansas

Date: 07/11/06
Job No.: 256006

LIQUID LIMIT							
Sample Number	B1; P3	B2; P4	B3; P5	B4; P2	B5; P4	B6; P7	B7; P2
Tare Number	6				17		
Number of Blows	27	NON - PLASTIC	NON - PLASTIC	NON - PLASTIC	27	NON - PLASTIC	NON - PLASTIC
Tare + Wet Soil (g)	20.69				35.15		
Tare + Dry Soil (g)	19.06				27.85		
Tare (g)	15.71				13.03		
Water (g)	1.63	NON - PLASTIC	NON - PLASTIC	NON - PLASTIC	7.30	NON - PLASTIC	NON - PLASTIC
Dry Soil (g)	3.35				14.82		
Water Content (%)	48.66				49.26		
Liquid Limit	49	NP	NP	NP	50	NP	NP

PLASTIC LIMIT							
Sample Number	B1; P3	B2; P4	B3; P5	B4; P2	B5; P4	B6; P7	B7; P2
Tare Number	81				21		
Tare + Wet Soil (g)	15.72	NON - PLASTIC	NON - PLASTIC	NON - PLASTIC	16.20	NON - PLASTIC	NON - PLASTIC
Tare + Dry Soil (g)	15.50				15.91		
Tare (g)	14.41				14.21		
Water (g)	0.22	NON - PLASTIC	NON - PLASTIC	NON - PLASTIC	0.29	NON - PLASTIC	NON - PLASTIC
Dry Soil (g)	1.09				1.70		
Water Content (%)	20.18				17.06		
Plastic Limit	20	NON - PLASTIC	NON - PLASTIC	NON - PLASTIC	17	NON - PLASTIC	NON - PLASTIC
Plasticity Index	29				33		
Classification (#40)	CL	NP	NP	NP	CL	NP	NP

LIQUID LIMIT							
Sample Number	B8; P3	B9; P5	B10; P3	B11; P6	B12;P4	B12; P6	B13;P4
Tare Number	105			2	110	16	18
Number of Blows	23	NON - PLASTIC	NON - PLASTIC	27	24	26	26
Tare + Wet Soil (g)	26.36			24.61	28.25	18.85	18.33
Tare + Dry Soil (g)	23.44			22.58	24.13	16.59	16.86
Tare (g)	13.40			19.78	16.61	14.01	13.77
Water (g)	2.92	NON - PLASTIC	NON - PLASTIC	2.03	4.12	2.26	1.47
Dry Soil (g)	10.04			2.80	7.52	2.58	3.09
Water Content (%)	29.08			72.50	54.79	87.60	47.57
Liquid Limit	29	NP	NP	73	55	88	48

PLASTIC LIMIT							
Sample Number	B8; P3	B9; P5	B10; P3	B11; P6	B12;P4	B12; P6	B13;P4
Tare Number	9			48	41	17	13
Tare + Wet Soil (g)	14.81	NON - PLASTIC	NON - PLASTIC	14.61	15.00	14.25	15.55
Tare + Dry Soil (g)	14.60			14.33	14.78	13.92	15.34
Tare (g)	13.44			13.37	13.87	13.05	14.53
Water (g)	0.21	NON - PLASTIC	NON - PLASTIC	0.28	0.22	0.33	0.21
Dry Soil (g)	1.16			0.96	0.91	0.87	0.81
Water Content (%)	18.10			29.17	24.18	37.93	25.93
Plastic Limit	18	NON - PLASTIC	NON - PLASTIC	29	24	38	26
Plasticity Index	11			44	31	50	22
Classification (#40)	CL	NP	NP	CH	CH	CH	CL

MECHANICAL GRAIN SIZE ANALYSES ASTM D 422

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B1;P3	Sample Depth:	5.0-6.5 ft
Soil Description:	Brown Silty Clay With Sand		

Sieve or Screen	Weight Retained (grams)	Cumulative Weight Retained (grams)	Percent Retained	Percent Passing
3"	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	100.0
#4	0.0	0.0	0.0	100.0
#10	1.3	1.3	0.6	99.4
#40	19.7	21.0	10.3	89.7
#200	18.0	39.0	19.1	80.9
PAN	165.4	204.4	100.0	0.0

Percent Sample Gravel:	0.0	Sample Weight:	204.4g
Percent Sample Sand:	19.1	Washing Loss:	165.4g
Percent Sample Silt/Clay:	80.9		

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B2;P4	Sample Depth:	
Soil Description:	Brown Clayey Silt		

Sieve or Screen	Weight Retained (grams)	Cumulative Weight Retained (grams)	Percent Retained	Percent Passing
3"	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	100.0
#4	0.0	0.0	0.0	100.0
#10	0.0	0.0	0.0	100.0
#40	0.0	0.0	0.0	100.0
#200	4.8	4.8	3.5	96.5
PAN	133.1	137.9	100.0	0.0

Percent Sample Gravel:	0.0	Sample Weight:	137.9g
Percent Sample Sand:	3.5	Washing Loss:	133.1g
Percent Sample Silt/Clay:	96.5		

MECHANICAL GRAIN SIZE ANALYSES ASTM D 422

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B5;P4	Sample Depth:	7.5-9.0 ft
Soil Description:	Brown Silty Clay		

Sieve or Screen	Weight Retained (grams)	Cumulative Weight Retained (grams)	Percent Retained	Percent Passing
3"	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	100.0
#4	0.0	0.0	0.0	100.0
#10	0.1	0.1	0.1	99.9
#40	5.1	5.2	3.3	96.7
#200	11.2	16.5	10.3	89.7
PAN	143.6	160.0	100.0	0.0

Percent Sample Gravel:	0.0	Sample Weight:	160.0g
Percent Sample Sand:	10.3	Washing Loss:	143.6g
Percent Sample Silt/Clay:	89.7		

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B5;P10	Sample Depth:	35.0-36.5 f
Soil Description:	Brown Sandy Silt		

Sieve or Screen	Weight Retained (grams)	Cumulative Weight Retained (grams)	Percent Retained	Percent Passing
3"	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	100.0
#4	0.0	0.0	0.0	100.0
#10	0.0	0.0	0.0	100.0
#40	10.1	10.1	13.3	86.7
#200	13.0	23.1	30.4	69.6
PAN	52.9	76.0	100.0	0.0

Percent Sample Gravel:	0.0	Sample Weight:	76.02
Percent Sample Sand:	30.4	Washing Loss:	52.9g
Percent Sample Silt/Clay:	69.6		

MECHANICAL GRAIN SIZE ANALYSES ASTM D 422

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B6;P7	Sample Depth:	20.0-21.5'
Soil Description:	Brown Sandy Silt		

Sieve or Screen	Weight Retained (grams)	Cumulative Weight Retained (grams)	Percent Retained	Percent Passing
3"	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	100.0
#4	0.0	0.0	0.0	100.0
#10	0.0	0.0	0.0	100.0
#40	1.3	1.3	0.8	99.2
#200	7.2	8.5	5.0	95.0
PAN	160.6	169.1	100.0	0.0

Percent Sample Gravel:	0.0	Sample Weight:	169.1g
Percent Sample Sand:	5.0	Washing Loss:	160.6g
Percent Sample Silt/Clay:	95.0		

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B6;P11	Sample Depth:	40.0-40.8'
Soil Description:	Brown Medium Grained Sand		

Sieve or Screen	Weight Retained (grams)	Cumulative Weight Retained (grams)	Percent Retained	Percent Passing
3"	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	100.0
#4	0.0	0.0	0.0	100.0
#10	0.5	0.5	0.2	99.8
#40	182.7	183.2	61.3	38.7
#200	106.6	289.8	97.0	3.0
PAN	9.0	298.8	100.0	0.0

Percent Sample Gravel:	0.0	Sample Weight:	298.83
Percent Sample Sand:	97.0	Washing Loss:	9.0g
Percent Sample Silt/Clay:	3.0		

MECHANICAL GRAIN SIZE ANALYSES ASTM D 422

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B9;P5	Sample Depth:	10.0-11.5'
Soil Description:	Brown Sandy Silt		

Sieve or Screen	Weight Retained (grams)	Cumulative Weight Retained (grams)	Percent Retained	Percent Passing
3"	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	100.0
#4	0.0	0.0	0.0	100.0
#10	0.0	0.0	0.0	100.0
#40	10.2	10.2	6.6	93.4
#200	6.0	16.2	10.5	89.5
PAN	138.7	154.9	100.0	0.0

Percent Sample Gravel:	0.0	Sample Weight:	154.9g
Percent Sample Sand:	10.5	Washing Loss:	138.7g
Percent Sample Silt/Clay:	89.5		

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B10;P3	Sample Depth:	5.0-6.5 ft
Soil Description:	Brown Sandy Clay		

Sieve or Screen	Weight Retained (grams)	Cumulative Weight Retained (grams)	Percent Retained	Percent Passing
3"	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	100.0
#4	0.0	0.0	0.0	100.0
#10	0.4	0.4	0.1	99.9
#40	4.3	4.7	1.2	98.8
#200	79.2	84.0	21.0	79.0
PAN	316.0	400.0	100.0	0.0

Percent Sample Gravel:	0.0	Sample Weight:	400
Percent Sample Sand:	21.0	Washing Loss:	316.0g
Percent Sample Silt/Clay:	79.0		

**UNCONFINED COMPRESSION TEST
ASTM D 2166**

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B3;P5	Sample Depth:	10.0-11.5 ft
Soil Description:	Brown Sandy Silt	K PRC:	2.0

Tare Number.....	33	Height.....	2.800 in
Tare + Wet Soil.....	158.5 g	Avg. Diameter.....	1.400 in
Tare + Dry Soil	123.7 g	Gs (Estimated).....	2.67
Tare.....	30.8 g	Trimmed Sample Total Weight....	127.84 g
Water.....	34.8 g	Initial Area.....	9.931 sq.cm
Wet Soil.....	127.7 g	Void Ratio = (Vo-Vs)/Vs.....	1.027
Dry Soil	93.0 g	Saturation = GsWo/Eo.....	97.2 %
Water Content.....	37.4 %	Dry Density = 62.4(Ws/Vo).....	82.2 pcf
		Wet Density = 62.4(W/Vo).....	112.9 pcf

Deflection Dial Reading (10 ⁻³ in)	Proving Ring Dial Reading (10 ⁻⁴ in)	Axial Load (lbs)	Axial Strain $\epsilon = \Delta H/H_0$	A _{corr} = Ao/(1- ϵ) (sq.cm)	Compressive Strength 0.93(P/A _{corr}) (ksf)
10	0.0	0.0	0.0036	9.967	0.0
20	0.5	1.0	0.0071	10.003	0.1
30	0.5	1.0	0.0107	10.039	0.1
40	1.0	2.0	0.0143	10.075	0.2
50	1.5	3.0	0.0178	10.111	0.3
60	1.5	3.0	0.0214	10.148	0.3
70	1.5	3.0	0.0249	10.186	0.3
80	2.0	4.0	0.0285	10.223	0.4
90	2.0	4.0	0.0321	10.261	0.4
100	2.0	4.0	0.0356	10.299	0.4
110	2.0	4.0	0.0392	10.337	0.4
120	1.5	3.0	0.0428	10.376	0.3
130	1.5	3.0	0.0464	10.414	0.3

QuMax = 0.4 ksf at Strain = 2.9%
P.P. = 0.25 ksf

Type of Failure: **Bulge**



**UNCONFINED COMPRESSION TEST
ASTM D 2166**

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B4;P2	Sample Depth:	2.5-4.0 ft
Soil Description:	Brown Silty Clay	K PRC:	2.0

Tare Number.....	19	Height.....	2.800 in
Tare + Wet Soil.....	161.1 g	Avg. Diameter.....	1.400 in
Tare + Dry Soil	136.1 g	Gs (Estimated).....	2.67
Tare.....	31.2 g	Trimmed Sample Total Weight....	129.97 g
Water.....	25.0 g	Initial Area.....	9.931 sq.cm
Wet Soil.....	129.9 g	Void Ratio = (Vo-Vs)/Vs.....	0.797
Dry Soil	104.9 g	Saturation = GsWo/Eo.....	79.9 %
Water Content.....	23.8 %	Dry Density = 62.4(Ws/Vo).....	92.7 pcf
		Wet Density = 62.4(W/Vo).....	114.8 pcf

Deflection Dial Reading (10 ⁻³ in)	Proving Ring Dial Reading (10 ⁻⁴ in)	Axial Load (lbs)	Axial Strain $\epsilon = \Delta H/H_0$	A_{corr} = $A_0/(1 - \epsilon)$ (sq.cm)	Compressive Strength 0.93(P/A _{corr}) (ksf)
10	1.0	2.0	0.0035	9.967	0.2
20	1.5	3.0	0.0071	10.002	0.3
30	2.0	4.0	0.0106	10.038	0.4
40	2.5	5.0	0.0142	10.074	0.5
50	3.0	6.0	0.0178	10.111	0.6
60	3.5	7.0	0.0213	10.148	0.6
70	4.0	8.0	0.0249	10.185	0.7
80	4.5	9.0	0.0284	10.222	0.8
90	5.0	10.0	0.0320	10.259	0.9
100	5.5	11.0	0.0355	10.297	1.0
110	6.0	12.0	0.0391	10.335	1.1
120	6.5	13.1	0.0426	10.374	1.2
130	6.5	13.0	0.0462	10.412	1.2
140	6.5	13.0	0.0498	10.452	1.2
150	6.0	12.0	0.0534	10.491	1.1
160	6.0	12.0	0.0569	10.531	1.1

QuMax = 1.2 ksf at Strain = 4% ±
P.P. = 0.50 ksf

Type of Failure: **Bulge (Remolded Sample)**



SHEAR BULGE

**UNCONFINED COMPRESSION TEST
ASTM D 2166**

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B7;P2	Sample Depth:	2.5-4.0 ft
Soil Description:	Brown Sandy Clay	K PRC:	2.0

Tare Number.....	10	Height.....	1.875 in
Tare + Wet Soil.....	140.4 g	Avg. Diameter.....	1.400 in
Tare + Dry Soil	115.3 g	Gs (Estimated).....	2.67
Tare.....	20.7 g	Trimmed Sample Total Weight....	119.67 g
Water.....	25.1 g	Initial Area.....	9.931 sq.cm
Wet Soil.....	119.7 g	Void Ratio = (Vo-Vs)/Vs.....	0.335
Dry Soil	94.6 g	Saturation = GsWo/Eo.....	211.3 %
Water Content.....	26.5 %	Dry Density = 62.4(Ws/Vo).....	124.8 pcf
		Wet Density = 62.4(W/Vo).....	157.9 pcf

Deflection Dial Reading (10 ⁻³ in)	Proving Ring Dial Reading (10 ⁻⁴ in)	Axial Load (lbs)	Axial Strain $\epsilon = \Delta H/H_0$	A_{corr} = $A_0/(1 - \epsilon)$ (sq.cm)	Compressive Strength 0.93(P/A _{corr}) (ksf)
10	0.0	0.0	0.0053	9.985	0.0
20	1.0	2.0	0.0106	10.038	0.2
30	1.5	3.0	0.0159	10.092	0.3
40	2.5	5.0	0.0212	10.147	0.5
50	3.5	7.0	0.0265	10.202	0.6
60	4.0	8.0	0.0318	10.258	0.7
70	4.5	9.0	0.0371	10.314	0.8
80	5.0	10.0	0.0424	10.371	0.9
90	5.5	11.0	0.0477	10.429	1.0
100	6.0	12.0	0.0530	10.487	1.1
110	7.0	14.0	0.0583	10.546	1.2
120	8.0	16.0	0.0636	10.606	1.4
130	9.0	18.0	0.0689	10.666	1.6
140	10.0	20.0	0.0741	10.727	1.7
150	11.0	22.0	0.0794	10.788	1.9
160	12.0	24.0	0.0847	10.850	2.1

QuMax = 0.9 ksf at Strain = 4% ±
P.P. = 1.25 ksf

Type of Failure: **Bulge**



BULGE

**UNCONFINED COMPRESSION TEST
ASTM D 2166**

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B11;P6	Sample Depth:	15.0-16.5 ft
Soil Description:	Brown Silty Clay	K PRC:	2.0

Tare Number.....	2	Height.....	2.800 in
Tare + Wet Soil.....	146.9 g	Avg. Diameter.....	1.400 in
Tare + Dry Soil	114.7 g	Gs (Estimated).....	2.67
Tare.....	19.8 g	Trimmed Sample Total Weight....	127.14 g
Water.....	32.2 g	Initial Area.....	9.931 sq.cm
Wet Soil.....	127.1 g	Void Ratio = (Vo-Vs)/Vs.....	0.987
Dry Soil	94.9 g	Saturation = GsWo/Eo.....	91.9 %
Water Content.....	34.0 %	Dry Density = 62.4(Ws/Vo).....	83.8 pcf
		Wet Density = 62.4(W/Vo).....	112.3 pcf

Deflection Dial Reading (10 ⁻³ in)	Proving Ring Dial Reading (10 ⁻⁴ in)	Axial Load (lbs)	Axial Strain $\epsilon = \Delta H/H_0$	A_{corr} = $A_0/(1 - \epsilon)$ (sq.cm)	Compressive Strength 0.93(P/A _{corr}) (ksf)
10	0.0	0.0	0.0036	9.967	0.0
20	0.5	1.0	0.0071	10.003	0.1
30	1.5	3.0	0.0107	10.038	0.3
40	3.0	6.0	0.0142	10.074	0.6
50	4.0	8.0	0.0177	10.111	0.7
60	4.5	9.0	0.0213	10.147	0.8
70	5.0	10.0	0.0248	10.184	0.9
80	6.0	12.0	0.0284	10.221	1.1
90	6.5	13.0	0.0319	10.259	1.2
100	7.0	14.0	0.0355	10.297	1.3
110	7.5	15.0	0.0390	10.335	1.3
120	8.0	16.0	0.0426	10.373	1.4
130	8.5	17.0	0.0461	10.412	1.5
140	9.0	18.0	0.0497	10.451	1.6
150	9.0	18.0	0.0533	10.490	1.6
160	9.0	18.0	0.0568	10.530	1.6

QuMax = 1.4 ksf at Strain = 4% ±
P.P. = 0.75 ksf

Type of Failure: **Bulge**



BULGE

MECHANICAL GRAIN SIZE ANALYSES ASTM D 422

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B11;P10	Sample Depth:	35.0-36.0'
Soil Description:	Brown Coarse Grained Sand		

Sieve or Screen	Weight Retained (grams)	Cumulative Weight Retained (grams)	Percent Retained	Percent Passing
3"	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	100.0
#4	2.4	2.4	0.6	99.4
#10	19.1	21.4	5.6	94.4
#40	286.3	307.8	79.8	20.2
#200	63.2	371.0	96.2	3.8
PAN	14.7	385.7	100.0	0.0

Percent Sample Gravel:	0.6	Sample Weight:	385.7g
Percent Sample Sand:	95.6	Washing Loss:	14.7g
Percent Sample Silt/Clay:	3.8		

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B14;P3	Sample Depth:	5.0-6.5 ft
Soil Description:	Brown Silty Clay		

Sieve or Screen	Weight Retained (grams)	Cumulative Weight Retained (grams)	Percent Retained	Percent Passing
3"	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	100.0
#4	0.0	0.0	0.0	100.0
#10	0.0	0.0	0.0	100.0
#40	10.0	10.0	6.5	93.5
#200	4.2	14.2	9.3	90.7
PAN	139.1	153.3	100.0	0.0

Percent Sample Gravel:	0.0	Sample Weight:	153.33
Percent Sample Sand:	9.3	Washing Loss:	139.1g
Percent Sample Silt/Clay:	90.7		

**UNCONFINED COMPRESSION TEST
ASTM D 2166**

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B12;P4	Sample Depth:	7.5-9.0 ft
Soil Description:	Brown Fat Clay	K PRC:	2.0

Tare Number.....	20	Height.....	2.375 in
Tare + Wet Soil.....	134.1 g	Avg. Diameter.....	1.400 in
Tare + Dry Soil	102.8 g	Gs (Estimated).....	2.67
Tare.....	31.2 g	Trimmed Sample Total Weight....	102.95 g
Water.....	31.3 g	Initial Area.....	9.931 sq.cm
Wet Soil.....	102.9 g	Void Ratio = (Vo-Vs)/Vs.....	1.232
Dry Soil	71.6 g	Saturation = GsWo/Eo.....	94.6 %
Water Content.....	43.6 %	Dry Density = 62.4(Ws/Vo).....	74.7 pcf
		Wet Density = 62.4(W/Vo).....	107.2 pcf

Deflection Dial Reading (10 ⁻³ in)	Proving Ring Dial Reading (10 ⁻⁴ in)	Axial Load (lbs)	Axial Strain $\epsilon = \Delta H/H_0$	A_{corr} = $A_0/(1 - \epsilon)$ (sq.cm)	Compressive Strength 0.93(P/A _{corr}) (ksf)
10	0.0	0.0	0.0042	9.973	0.0
20	1.0	2.0	0.0084	10.015	0.2
30	2.0	4.0	0.0125	10.058	0.4
40	3.5	7.0	0.0167	10.100	0.6
50	5.0	10.0	0.0208	10.143	0.9
60	5.5	11.0	0.0250	10.186	1.0
70	6.0	12.0	0.0292	10.230	1.1
80	6.0	12.0	0.0334	10.275	1.1
90	6.5	13.0	0.0376	10.320	1.2
100	6.5	13.0	0.0418	10.365	1.2
110	6.5	13.0	0.0460	10.411	1.2
120	6.0	12.0	0.0503	10.457	1.1
130	6.0	12.0	0.0545	10.504	1.1

QuMax = 1.2 ksf at Strain = 3.8

Type of Failure: **Bulge**

P.P. = 0.75 ksf



BULGE

**UNCONFINED COMPRESSION TEST
ASTM D 2166**

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B12;P6	Sample Depth:	15.0-16.5 ft
Soil Description:	Brown Fat Clay	K PRC:	2.0

Tare Number.....	37	Height.....	2.800 in
Tare + Wet Soil.....	151.9 g	Avg. Diameter.....	1.400 in
Tare + Dry Soil.....	112.7 g	Gs (Estimated).....	2.67
Tare.....	31.0 g	Trimmed Sample Total Weight....	120.95 g
Water.....	39.2 g	Initial Area.....	9.931 sq.cm
Wet Soil.....	120.9 g	Void Ratio = (Vo-Vs)/Vs.....	1.308
Dry Soil.....	81.7 g	Saturation = GsWo/Eo.....	98.0 %
Water Content.....	48.0 %	Dry Density = 62.4(Ws/Vo).....	72.2 pcf
		Wet Density = 62.4(W/Vo).....	106.9 pcf

Deflection Dial Reading (10 ⁻³ in)	Proving Ring Dial Reading (10 ⁻⁴ in)	Axial Load (lbs)	Axial Strain $\epsilon = \Delta H/H_0$	A_{corr} = $A_0/(1 - \epsilon)$ (sq.cm)	Compressive Strength $0.93(P/A_{corr})$ (ksf)
10	1.0	2.0	0.0035	9.967	0.2
20	1.5	3.0	0.0071	10.002	0.3
30	2.5	5.0	0.0106	10.038	0.5
40	3.0	6.0	0.0142	10.074	0.6
50	3.5	7.0	0.0177	10.111	0.6
60	4.0	8.0	0.0213	10.147	0.7
70	4.5	9.0	0.0248	10.184	0.8
80	4.5	9.0	0.0284	10.222	0.8
90	4.5	9.0	0.0320	10.260	0.8
100	4.5	9.0	0.0356	10.298	0.8
110	4.0	8.0	0.0391	10.336	0.7
120	4.0	8.0	0.0427	10.375	0.7
130	4.0	8.0	0.0463	10.413	0.7

QuMax = 0.8 ksf at Strain = 2.5

Type of Failure: **Bulge**

P.P. = 0.50 ksf



BULGE

**UNCONFINED COMPRESSION TEST
ASTM D 2166**

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B13;P4	Sample Depth:	7.5-9.0 ft
Soil Description:	Brown Silty Clay	K PRC:	2.0

Tare Number.....	13	Height.....	2.800 in
Tare + Wet Soil.....	138.4 g	Avg. Diameter.....	1.400 in
Tare + Dry Soil.....	102.7 g	Gs (Estimated).....	2.67
Tare.....	14.6 g	Trimmed Sample Total Weight....	123.82 g
Water.....	35.7 g	Initial Area.....	9.931 sq.cm
Wet Soil.....	123.8 g	Void Ratio = (Vo-Vs)/Vs.....	1.141
Dry Soil.....	88.1 g	Saturation = GsWo/Eo.....	94.9 %
Water Content.....	40.6 %	Dry Density = 62.4(Ws/Vo).....	77.8 pcf
		Wet Density = 62.4(W/Vo).....	109.4 pcf

Deflection Dial Reading (10 ⁻³ in)	Proving Ring Dial Reading (10 ⁻⁴ in)	Axial Load (lbs)	Axial Strain $\epsilon = \Delta H/H_0$	A_{corr} = $A_0/(1 - \epsilon)$ (sq.cm)	Compressive Strength 0.93(P/A _{corr}) (ksf)
10	0.5	1.0	0.0036	9.967	0.1
20	1.0	2.0	0.0071	10.003	0.2
30	2.5	5.0	0.0106	10.038	0.5
40	4.0	8.0	0.0141	10.074	0.7
50	5.0	10.0	0.0177	10.110	0.9
60	5.5	11.0	0.0212	10.147	1.0
70	6.0	12.0	0.0248	10.184	1.1
80	6.5	13.0	0.0283	10.221	1.2
90	7.0	14.0	0.0319	10.259	1.3
100	7.0	14.0	0.0355	10.297	1.3
110	7.5	15.0	0.0390	10.335	1.3
120	7.5	15.0	0.0426	10.373	1.3
130	8.0	16.0	0.0461	10.412	1.4
140	8.0	16.0	0.0497	10.451	1.4
150	8.0	16.0	0.0533	10.490	1.4
160	7.5	15.0	0.0569	10.530	1.3

QuMax = 1.3 ksf at Strain = 4% ±
P.P. = 1.25 ksf

Type of Failure: **Bulge**



BULGE

**UNCONFINED COMPRESSION TEST
ASTM D 2166**

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B13;P7	Sample Depth:	20.0-21.5 ft
Soil Description:	Brown Sandy Clay	K PRC:	2.0

Tare Number.....	36	Height.....	1.875 in
Tare + Wet Soil.....	98.5 g	Avg. Diameter.....	1.400 in
Tare + Dry Soil	80.6 g	Gs (Estimated).....	2.67
Tare.....	31.3 g	Trimmed Sample Total Weight....	67.19 g
Water.....	17.9 g	Initial Area.....	9.931 sq.cm
Wet Soil.....	67.2 g	Void Ratio = (Vo-Vs)/Vs.....	1.562
Dry Soil	49.3 g	Saturation = GsWo/Eo.....	62.1 %
Water Content.....	36.3 %	Dry Density = 62.4(Ws/Vo).....	65.0 pcf
		Wet Density = 62.4(W/Vo).....	88.6 pcf

Deflection Dial Reading (10 ⁻³ in)	Proving Ring Dial Reading (10 ⁻⁴ in)	Axial Load (lbs)	Axial Strain $\epsilon = \Delta H/H_0$	A_{corr} = $A_0/(1 - \epsilon)$ (sq.cm)	Compressive Strength 0.93(P/A _{corr}) (ksf)
10	1.0	2.0	0.0053	9.984	0.2
20	3.5	7.0	0.0105	10.037	0.6
30	6.0	12.0	0.0157	10.090	1.1
40	8.0	16.0	0.0209	10.144	1.5
50	10.0	20.0	0.0261	10.198	1.8
60	11.0	22.0	0.0314	10.254	2.0
70	11.5	23.0	0.0367	10.310	2.1
80	12.5	25.0	0.0420	10.367	2.2
90	13.5	27.0	0.0473	10.424	2.4
100	15.0	30.0	0.0525	10.482	2.7
110	15.5	31.0	0.0578	10.541	2.7
120	16.0	32.0	0.0631	10.601	2.8
130	16.5	33.0	0.0685	10.661	2.9
140	17.0	34.0	0.0738	10.722	2.9
150	17.0	34.0	0.0791	10.784	2.9
160	17.0	34.0	0.0844	10.847	2.9

QuMax = 2.2 ksf at Strain = 4% ±
P.P. = 2.25 ksf

Type of Failure: **Bulge**



BULGE

**UNCONFINED COMPRESSION TEST
ASTM D 2166**

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B14;P3	Sample Depth:	5.0-6.5 ft
Soil Description:	Brown Silty Clay	K PRC:	2.0

Tare Number.....	41	Height.....	2.375 in
Tare + Wet Soil.....	115.1 g	Avg. Diameter.....	1.400 in
Tare + Dry Soil.....	88.2 g	Gs (Estimated).....	2.67
Tare.....	13.9 g	Trimmed Sample Total Weight....	101.21 g
Water.....	26.9 g	Initial Area.....	9.931 sq.cm
Wet Soil.....	101.2 g	Void Ratio = (Vo-Vs)/Vs.....	1.153
Dry Soil.....	74.3 g	Saturation = GsWo/Eo.....	83.8 %
Water Content.....	36.2 %	Dry Density = 62.4(Ws/Vo).....	77.4 pcf
		Wet Density = 62.4(W/Vo).....	105.4 pcf

Deflection Dial Reading (10 ⁻³ in)	Proving Ring Dial Reading (10 ⁻⁴ in)	Axial Load (lbs)	Axial Strain $\epsilon = \Delta H/H_0$	A _{corr} = A _o /(1- ϵ) (sq.cm)	Compressive Strength 0.93(P/A _{corr}) (ksf)
10	1.0	2.0	0.0042	9.973	0.2
20	2.0	4.0	0.0083	10.015	0.4
30	3.0	6.0	0.0125	10.057	0.6
40	4.5	9.0	0.0167	10.100	0.8
50	5.0	10.0	0.0208	10.143	0.9
60	6.0	12.0	0.0250	10.186	1.1
70	6.5	13.0	0.0292	10.230	1.2
80	7.0	14.0	0.0334	10.275	1.3
90	7.5	15.0	0.0376	10.319	1.4
100	8.0	16.0	0.0418	10.364	1.4
110	8.0	16.0	0.0460	10.410	1.4
120	8.5	17.0	0.0502	10.456	1.5
130	8.5	17.0	0.0544	10.503	1.5
140	9.0	18.0	0.0586	10.549	1.6
150	9.0	18.0	0.0628	10.597	1.6
160	8.5	17.0	0.0670	10.645	1.5

QuMax = 1.4 ksf at Strain = 4% ±
P.P. = 1.00 ksf

Type of Failure: **Bulge**



BULGE

**UNCONFINED COMPRESSION TEST
ASTM D 2166**

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/11/06
Sample No.:	B14;P5	Sample Depth:	10.0-11.5 ft
Soil Description:	Brown Sandy Clay	K PRC:	2.0

Tare Number.....	49	Height.....	2.800 in
Tare + Wet Soil.....	160.2 g	Avg. Diameter.....	1.400 in
Tare + Dry Soil.....	131.2 g	Gs (Estimated).....	2.67
Tare.....	31.3 g	Trimmed Sample Total Weight....	128.88 g
Water.....	29.0 g	Initial Area.....	9.931 sq.cm
Wet Soil.....	128.8 g	Void Ratio = (Vo-Vs)/Vs.....	0.887
Dry Soil.....	99.9 g	Saturation = GsWo/Eo.....	87.2 %
Water Content.....	29.0 %	Dry Density = 62.4(Ws/Vo).....	88.3 pcf
		Wet Density = 62.4(W/Vo).....	113.9 pcf

Deflection Dial Reading (10 ⁻³ in)	Proving Ring Dial Reading (10 ⁻⁴ in)	Axial Load (lbs)	Axial Strain $\epsilon = \Delta H/H_0$	A_{corr} = $A_0/(1 - \epsilon)$ (sq.cm)	Compressive Strength 0.93(P/A _{corr}) (ksf)
10	1.5	3.0	0.0035	9.967	0.3
20	3.0	6.0	0.0070	10.002	0.6
30	3.5	7.0	0.0106	10.038	0.6
40	4.0	8.0	0.0141	10.074	0.7
50	4.5	9.0	0.0177	10.110	0.8
60	5.0	10.0	0.0213	10.147	0.9
70	5.5	11.0	0.0248	10.184	1.0
80	5.5	11.0	0.0284	10.222	1.0
90	5.5	11.0	0.0319	10.259	1.0
100	6.0	12.0	0.0355	10.297	1.1
110	6.0	12.0	0.0391	10.335	1.1
120	6.0	12.0	0.0426	10.374	1.1
130	6.0	12.0	0.0462	10.413	1.1
140	5.5	11.0	0.0498	10.452	1.0
150	5.5	11.0	0.0534	10.491	1.0
160	5.5	11.0	0.0569	10.531	1.0

QuMax = 1.1 ksf at Strain = 3.6
P.P. = 0.50 ksf

Type of Failure: **Bulge**



BULGE

DIRECT SHEAR TEST ASTM D 3080

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/07/06
Sample No.:	B6;S4	Sample Depth:	8.0'-10.0'
Soil Description:	Brown Silty Clay (CL)	K lrc:	0.835

Tare Number.....	E21	Height.....	1.000 in
Tare + Wet Soil.....	138.6 g	Avg. Diameter.....	2.500 in
Tare + Dry Soil	123.4 g	Gs (Estimated).....	2.67
Tare.....	11.7 g	Trimmed Sample Total Weight.....	125.6 g
Water.....	15.2 g	Initial Area.....	31.669 sq.cm
Wet Soil.....	126.9 g	Void Ratio = (Vo-Vs)/Vs.....	0.942
Dry Soil	111.7 g	Saturation = GsWo/Eo.....	38.6 %
Water Content.....	13.6 %	Dry Density = 62.4(Ws/Vo).....	85.8 pcf
		Wet Density = 62.4(W/Vo).....	97.5 pcf

Normal Pressure (psi)	Vert Dial Reading (10 ⁻³ in)	Vert Displ (10 ⁻³ in)	Void Ratio	Horiz Dial Reading (10 ⁻⁴ in)	Horiz Displ (10 ⁻³ in)	Deform (%)	Load Dial Reading (10 ⁻⁴ in)	Horiz Shear Force (lbs)	Horiz Shear Stress (psi)
13.9	2500	0.0	0.942	100	0	0.0	400	0.0	0.0
13.9	2490	-10.0	0.923	110	10	0.4	417	14.2	2.9
13.9	2483	-17.0	0.909	120	20	0.8	426	21.7	4.4
13.9	2482	-18.0	0.907	130	30	1.2	432	26.7	5.4
41.7	2454	-46.0	0.853	140	40	1.6	458	48.4	9.9
41.7	2438	-62.0	0.822	150	50	2.0	465	54.3	11.1
41.7	2424	-76.0	0.795	160	60	2.4	475	62.6	12.8
69.5	2336	-164.0	0.624	170	70	2.8	493	77.7	15.8
69.5	2318	-182.0	0.589	180	80	3.2	507	89.3	18.2
69.5	2300	-200.0	0.554	190	90	3.6	519	99.4	20.2
69.5	2284	-216.0	0.523	200	100	4.0	529	107.7	21.9
69.5	2270	-230.0	0.496	210	110	4.4	538	115.2	23.5
69.5	2258	-242.0	0.472	220	120	4.8	545	121.1	24.7
69.5	2249	-251.0	0.455	230	130	5.2	551	126.1	25.7
69.5	2241	-259.0	0.439	240	140	5.6	556	130.3	26.5

Project: Proposed Compass Industrial Site
Location: Osceola, Arkansas
Sample No.: B6;S4
Soil Description: Brown Silty Clay (CL)

Project No.: 256006
Date: 07/07/06
Sample Depth: 8.0'-10.0'
K Irc: 0.835

Normal Pressure (psi)	Vert Dial Reading (10^{-3} in)	Vert Displ (10^{-3} in)	Void Ratio	Horiz Dial Reading (10^{-4} in)	Horiz Displ (10^{-3} in)	Deform (%)	Load Dial Reading (10^{-4} in)	Horiz Shear Force (lbs)	Shear Stress (psi)
69.5	2231	-269.0	0.420	250	150	6.0	561	134.4	27.4
69.5	2229	-271.0	0.416	260	160	6.4	565	137.8	28.1
69.5	2220	-280.0	0.399	270	170	6.8	567	139.4	28.4
69.5	2212	-288.0	0.383	280	180	7.2	568	140.3	28.6
69.5	2205	-295.0	0.369	290	190	7.6	569	141.1	28.7
69.5	2200	-300.0	0.360	300	200	8.0	567	139.4	28.4

Normal Pressure

13.9 psi
 41.7 psi
 69.5 psi

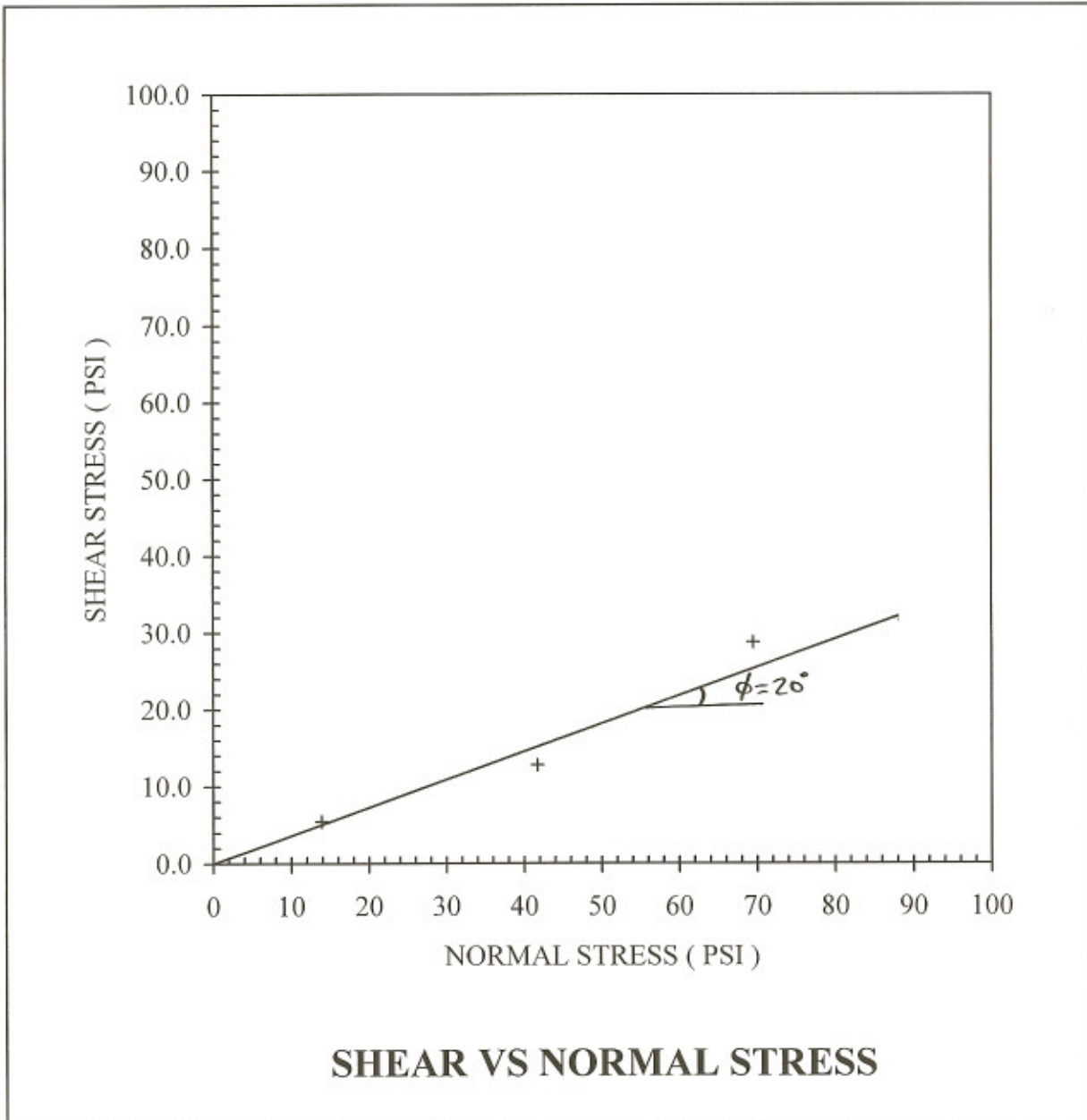
Shear Stress Failure

5.4 psi
 12.8 psi
 28.7 psi

DIRECT SHEAR PLOT ASTM D 3080

Project: Proposed Compass Industrial Site
Boring No.: B6;S4
Soil Description: Brown Silty Clay (CL)

Project No.: 256006
Depth: 8.0'-10.0'
Date: 07/07/06



DIRECT SHEAR TEST
ASTM D 3080

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/07/06
Sample No.:	B6;S6	Sample Depth:	15.0'-17.0'
Soil Description:	Brown Silt with Sand	K Irc:	0.835

Tare Number.....	F80	Height.....	1.000 in
Tare + Wet Soil.....	154.3 g	Avg. Diameter.....	2.500 in
Tare + Dry Soil	123.9 g	Gs (Estimated).....	2.65
Tare.....	11.7 g	Trimmed Sample Total Weight.....	144.5 g
Water.....	30.4 g	Initial Area.....	31.669 sq.cm
Wet Soil.....	142.6 g	Void Ratio = (Vo-Vs)/Vs.....	0.874
Dry Soil	112.3 g	Saturation = GsWo/Eo.....	82.0 %
Water Content.....	27.1 %	Dry Density = 62.4(Ws/Vo).....	88.2 pcf
		Wet Density = 62.4(W/Vo).....	112.1 pcf

Normal Pressure (psi)	Vert Dial Reading (10 ⁻³ in)	Vert Displ (10 ⁻³ in)	Void Ratio	Horiz Dial Reading (10 ⁻⁴ in)	Horiz Displ (10 ⁻³ in)	Horiz Deform (%)	Load Dial Reading (10 ⁻⁴ in)	Horiz Shear Force (lbs)	Shear Stress (psi)
13.9	2500	0.0	0.874	100	0	0.0	400	0.0	0.0
13.9	2483	-17.0	0.842	110	10	0.4	415	12.5	2.6
13.9	2469	-31.0	0.816	120	20	0.8	425	20.9	4.3
13.9	2460	-40.0	0.799	130	30	1.2	432	26.7	5.4
41.7	2316	-184.0	0.529	140	40	1.6	458	48.4	9.9
41.7	2299	-201.0	0.497	150	50	2.0	479	66.0	13.4
41.7	2288	-212.0	0.477	160	60	2.4	488	73.5	15.0
69.5	2213	-287.0	0.336	170	70	2.8	520	100.2	20.4
69.5	2197	-303.0	0.306	180	80	3.2	532	110.2	22.5
69.5	2185	-315.0	0.284	190	90	3.6	542	118.6	24.2
69.5	2176	-324.0	0.267	200	100	4.0	552	126.9	25.9
69.5	2169	-331.0	0.254	210	110	4.4	561	134.4	27.4
69.5	2162	-338.0	0.240	220	120	4.8	569	141.1	28.7
69.5	2155	-345.0	0.227	230	130	5.2	576	147.0	29.9
69.5	2150	-350.0	0.218	240	140	5.6	582	152.0	31.0

Project: Proposed Compass Industrial Site
Location: Osceola, Arkansas
Sample No.: B6;S6
Soil Description: Brown Silt with Sand

Project No.: 256006
Date: 07/07/06
Sample Depth: 15.0'-17.0'
K Irc: 0.835

Normal Pressure (psi)	Vert Dial Reading (10 ⁻³ in)	Vert Displ (10 ⁻³ in)	Void Ratio	Horiz Dial Reading (10 ⁻⁴ in)	Horiz Displ (10 ⁻³ in)	Deform (%)	Load Dial Reading (10 ⁻⁴ in)	Horiz Shear Force (lbs)	Shear Stress (psi)
69.5	2145	-355.0	0.209	250	150	6.0	588	157.0	32.0
69.5	2140	-360.0	0.199	260	160	6.4	593	161.2	32.8
69.5	2136	-364.0	0.192	270	170	6.8	597	164.5	33.5
69.5	2130	-370.0	0.181	280	180	7.2	601	167.8	34.2
69.5	2136	-364.0	0.192	290	190	7.6	604	170.3	34.7
69.5	2122	-378.0	0.166	300	200	8.0	606	172.0	35.0
69.5	2117	-383.0	0.156	310	210	8.4	607	172.8	35.2
69.5	2115	-385.0	0.152	320	220	8.8	605	171.2	34.9

Normal Pressure

13.9 psi
 41.7 psi
 69.5 psi

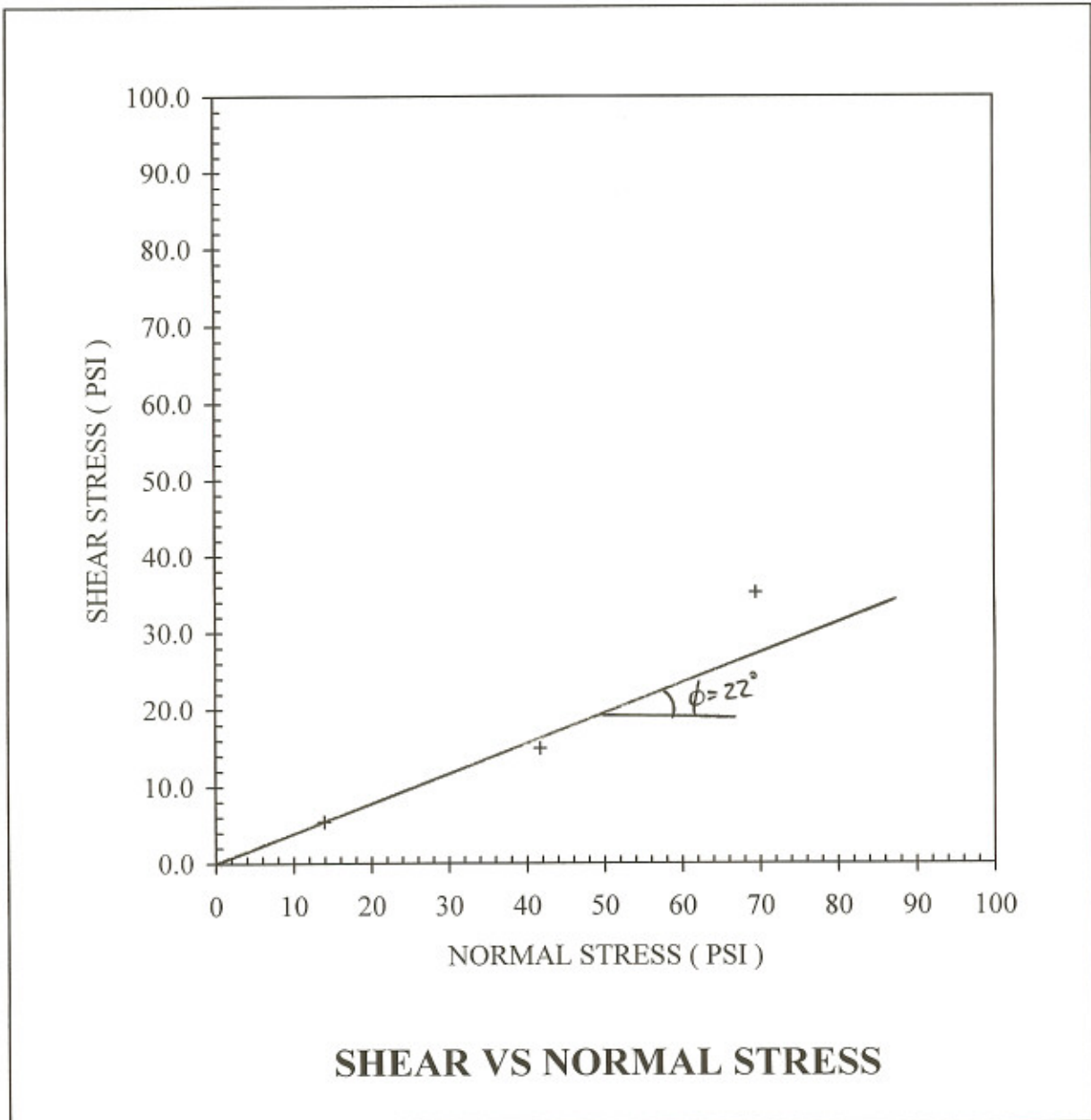
Shear Stress Failure

5.4 psi
 15.0 psi
 35.2 psi

DIRECT SHEAR PLOT ASTM D 3080

Project: Proposed Compass Industrial Site
Boring No.: B6;S6
Soil Description: Brown Silt with Sand

Project No.: 256006
Depth: 15.0'-17.0'
Date: 07/07/06



DIRECT SHEAR TEST ASTM D 3080

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/07/06
Sample No.:	B6;P8	Sample Depth:	25.0'-26.5'
Soil Description:	Brownish Gray Silty Sand	K Irc:	0.835

Tare Number.....	778	Height.....	1.000 in
Tare + Wet Soil.....	115.6 g	Avg. Diameter.....	2.500 in
Tare + Dry Soil	93.7 g	Gs (Estimated).....	2.65
Tare.....	10.3 g	Trimmed Sample Total Weight.....	155.5 g
Water.....	21.9 g	Initial Area.....	31.669 sq.cm
Wet Soil.....	105.2 g	Void Ratio = (Vo-Vs)/Vs.....	0.731
Dry Soil	83.3 g	Saturation = GsWo/Eo.....	95.3 %
Water Content.....	26.3 %	Dry Density = 62.4(Ws/Vo).....	95.6 pcf
		Wet Density = 62.4(W/Vo).....	120.7 pcf

Normal Pressure (psi)	Vert Dial Reading (10 ⁻³ in)	Vert Displ (10 ⁻³ in)	Void Ratio	Horiz Dial Reading (10 ⁻⁴ in)	Horiz Displ (10 ⁻³ in)	Deform (%)	Load Dial Reading (10 ⁻⁴ in)	Horiz Shear Force (lbs)	Shear Stress (psi)
13.9	2500	0.0	0.731	100	0	0.0	400	0.0	0.0
13.9	2475	-25.0	0.687	110	10	0.4	423	19.2	3.9
13.9	2462	-38.0	0.665	120	20	0.8	436	30.1	6.1
13.9	2457	-43.0	0.656	130	30	1.2	446	38.4	7.8
41.7	2345	-155.0	0.462	140	40	1.6	482	68.5	13.9
41.7	2331	-169.0	0.438	150	50	2.0	507	89.3	18.2
41.7	2324	-176.0	0.426	160	60	2.4	518	98.5	20.1
69.5	2262	-238.0	0.319	170	70	2.8	564	136.9	27.9
69.5	2253	-247.0	0.303	180	80	3.2	586	155.3	31.6
69.5	2247	-253.0	0.293	190	90	3.6	599	166.2	33.9
69.5	2242	-258.0	0.284	200	100	4.0	610	175.4	35.7
69.5	2241	-259.0	0.282	210	110	4.4	618	182.0	37.1
69.5	2239	-261.0	0.279	220	120	4.8	623	186.2	37.9
69.5	2239	-261.0	0.279	230	130	5.2	628	190.4	38.8
69.5	2239	-261.0	0.279	240	140	5.6	632	193.7	39.5

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/07/06
Sample No.:	B6;P8	Sample Depth:	25.0'-26.5'
Soil Description:	Brownish Gray Silty Sand	K_{irc}:	0.835

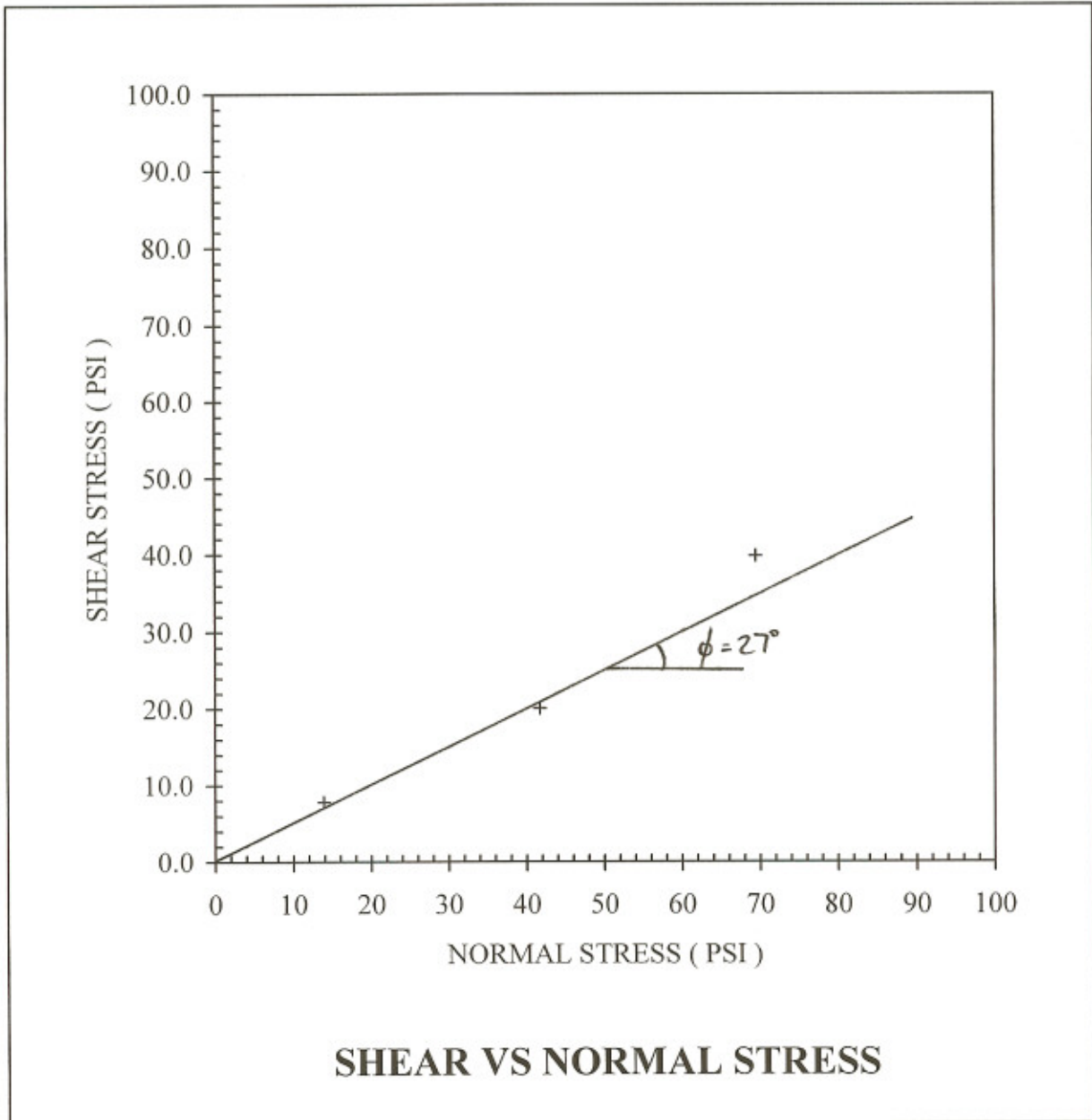
Normal Pressure (psi)	Vert Dial Reading (10 ⁻³ in)	Vert Displ (10 ⁻³ in)	Void Ratio	Horiz Dial Reading (10 ⁻⁴ in)	Horiz Displ (10 ⁻³ in)	Deform (%)	Load Dial Reading (10 ⁻⁴ in)	Horiz Shear Force (lbs)	Shear Stress (psi)
69.5	2239	-261.0	0.279	250	150	6.0	634	195.4	39.8
69.5	2236	-264.0	0.274	260	160	6.4	630	192.1	39.1

Normal Pressure	Shear Stress Failure
13.9 psi	7.8 psi
41.7 psi	20.1 psi
69.5 psi	39.8 psi

DIRECT SHEAR PLOT ASTM D 3080

Project: Proposed Compass Industrial Site
Boring No.: B6;P8
Soil Description: Brownish Gray Silty Sand

Project No.: 256006
Depth: 25.0'-26.5'
Date: 07/07/06



DIRECT SHEAR TEST ASTM D 3080

Project:	Proposed Compass Industrial Site	Project No.:	256006
Location:	Osceola, Arkansas	Date:	07/07/06
Sample No.:	B6;P15	Sample Depth:	70.0'-71.5'
Soil Description:	Gray and Brown Sand	K Irc:	0.835

Tare Number.....	E18	Height.....	1.000 in
Tare + Wet Soil.....	130.0 g	Avg. Diameter.....	2.500 in
Tare + Dry Soil	111.0 g	Gs (Estimated).....	2.63
Tare.....	11.2 g	Trimmed Sample Total Weight.....	156.8 g
Water.....	19.0 g	Initial Area.....	31.669 sq.cm
Wet Soil.....	118.8 g	Void Ratio = (Vo-Vs)/Vs.....	0.606
Dry Soil	99.8 g	Saturation = GsWo/Eo.....	82.6 %
Water Content.....	19.0 %	Dry Density = 62.4(Ws/Vo).....	102.2 pcf
		Wet Density = 62.4(W/Vo).....	121.7 pcf

Normal Pressure (psi)	Vert Dial Reading (10 ⁻³ in)	Vert Displ (10 ⁻³ in)	Void Ratio	Horiz Dial Reading (10 ⁻⁴ in)	Horiz Displ (10 ⁻³ in)	Deform (%)	Load Dial Reading (10 ⁻⁴ in)	Horiz Shear Force (lbs)	Shear Stress (psi)
13.9	2500	0.0	0.606	100	0	0.0	406	0.0	0.0
13.9	2498	-2.0	0.602	110	10	0.4	431	25.9	5.3
13.9	2501	1.0	0.607	120	20	0.8	448	40.1	8.2
13.9	2508	8.0	0.618	130	30	1.2	459	49.3	10.0
41.7	2370	-130.0	0.397	140	40	1.6	506	88.5	18.0
41.7	2370	-130.0	0.397	150	50	2.0	531	109.4	22.3
41.7	2374	-126.0	0.403	160	60	2.4	542	118.6	24.2
69.5	2318	-182.0	0.313	170	70	2.8	588	157.0	32.0
69.5	2325	-175.0	0.325	180	80	3.2	606	172.0	35.0
69.5	2327	-173.0	0.328	190	90	3.6	621	184.5	37.6
69.5	2344	-156.0	0.355	200	100	4.0	634	195.4	39.8
69.5	2357	-143.0	0.376	210	110	4.4	646	205.4	41.8
69.5	2371	-129.0	0.398	220	120	4.8	656	213.8	43.5
69.5	2388	-112.0	0.426	230	130	5.2	663	219.6	44.7
69.5	2404	-96.0	0.451	240	140	5.6	668	223.8	45.6

Project: Proposed Compass Industrial Site
Location: Osceola, Arkansas
Sample No.: B6;P15
Soil Description: Gray and Brown Sand

Project No.: 256006
Date: 07/07/06
Sample Depth: 70.0'-71.5'
K_{irc}: 0.835

Normal Pressure (psi)	Vert		Void Ratio	Horiz		Load Dial Reading (10 ⁻⁴ in)	Horiz Shear Force (lbs)	Shear Stress (psi)
	Dial Reading (10 ⁻³ in)	Vert Displ (10 ⁻³ in)		Dial Reading (10 ⁻⁴ in)	Horiz Displ (10 ⁻³ in)			
69.5	2424	-76.0	0.483	250	150	670	225.5	45.9
69.5	2440	-60.0	0.509	260	160	667	222.9	45.4

Normal Pressure

13.9 psi
 41.7 psi
 69.5 psi

Shear Stress Failure

10.0 psi
 24.2 psi
 45.9 psi

DIRECT SHEAR PLOT ASTM D 3080

Project: Proposed Compass Industrial Site
Boring No.: B6;P15
Soil Description: Gray and Brown Sand

Project No.: 256006
Depth: 70.0'-71.5'
Date: 07/07/06

