



Natural
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National Design,
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and Soil
Mechanics
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Subject: ENG - Phase I Soil Mechanics Report
Plum Creek Site 6
Hays County, Texas

Date: JUL 21 2014

To: John Mueller, P.E.
State Conservation Engineer
NRCS, Temple, TX

File Code: 210-22
Job No: 7420

INTRODUCTION

The phase I Soil Mechanics Report is a summary of test results from the site investigation prior to 2010. At that time the investigation concentrated on the rehabilitation of the current Auxiliary spillway and existing principal spillway. The Phase II Soil Mechanics Report will address any geotechnical concerns with the embankment and the proposed structural spillway as the phase II testing results is completed. The geotechnical analysis associated with this report is considered preliminary as more information comes available in the next phase.

The Plum Creek Site 6 Dam is an existing earthen embankment in Hays County and is located within the Black Prairie Physiographic Area. It was constructed in 1966 as a low hazard flood retarding dam with a reinforced concrete intake structure feeding a 30-inch diameter reinforced concrete principal spillway pipe. The 350-foot wide by 1500-foot long auxiliary spillway is at the east abutment and has a county road traversing the terminus. Due to this roadway and the development downstream this 48-year old structure is being upgraded from low to high hazard classification. A recent hydrological event was captured with Google imagery and shows many structures adjacent to the pool of this structure with very little freeboard as it relates to the auxiliary spillway crest of the dam. Geologic investigations were performed and a Geologist's Report along with plotted logs, and information for the proposed design measures were evaluated.

The Supplemental Watershed Plan and Environmental Assessment for this project identified the features as: 'Rehabilitation of the site will require the following modifications to the structure: install a 175 foot length labyrinth weir (replaces existing auxiliary spillway) over the top of the dam, replace the existing principal spillway inlet structure with a new intake tower: install a new 42" pipe and fill the existing pipe with grout: install a new impact basin at the outlet: and install a foundation drain system along the back toe of the embankment. The auxiliary spillway (weir) crest elevation will be lowered 1.6 feet, and the east end of the dam will be extended about 350 feet. Goforth Road below the dam will be modified to accommodate construction activities.'

Nine undisturbed Shelby tube samples and four small soil samples were submitted from the Plum Creek Site 6 embankment dam for soil mechanics testing. Six of the undisturbed Shelby tube samples were taken from the auxiliary spillway, one from the principal spillway outlet basin, and two from the downstream toe near the principal spillway pipe. The remaining four small soil

samples came from three of the boring holes in the auxiliary spillway. The index properties of all the submitted samples are summarized on Form SCS-ENG-354 in Attachment 1. The undisturbed sample characteristics and photos are included in Attachment 2.

The depth to water along the downstream toe at the time of the investigation varied four-feet from 614.35 feet elevation to 610.25 feet elevation, and was within one and one-half feet from the downstream embankment toe surface at station 15+10.

The as-built drawings for this structure identified a zoned construction earth embankment with two zones of fill material. The center zone of fat clay (CH) was sole sourced from the auxiliary spillway borrow and was to be compacted to 85 percent of Maximum dry density according to the Modified Proctor ASTM D1557 Method A. The exterior upstream and downstream zones were to be claystone sole sourced from the auxiliary spillway borrow and were to be compacted by method specification. The laboratory test data listed in the as-built drawings are as listed in the following table:

Embankment Zone No.	Average Depth, Feet		USCS	Laboratory Test Data				
				ASTM Test		Curve No.	Max. Dry	Optimum
	From	To		Number	Method			
1 or 2	0	5	CH	1557	A	1	117.5	14
2	5	8	Claystone	1557	A	2	116.0	14.5
2	9	grade	Claystone	1557	A			

Zone 1 was identified as the central core and extended from the cutoff trench on approximately a one to one side slope to the top of the embankment dam.

Also, the upstream side slope of this structure was repaired five-years after construction. Apparently the 2.5 to 1 side slope was not stable with the pool fluctuating above 620 feet elevation and the upstream face of the dam of the dam was reinforced with eighteen inches of rock riprap. The gradation was specified as W₅₀ forty (40) pounds rock riprap with the maximum gradation being four hundred (400) pounds. The upstream berm was also lowered two-feet to 618 feet elevation and was reduced to a ten-foot width with the material removed to accommodate the rock riprap wasted upstream to further flatten the side slope. The rock riprap extended up the slope to elevation 630.5 feet elevation. This elevation placed it eight (8) feet below the auxiliary spillway crest of 638.5 feet elevation.

SOIL MECHANICS TESTING

Index Properties and Classification

Index data, classification based on the Unified Soil Classification System (USCS), dispersion data, and compaction test results are summarized in tabular form in Attachment 1. Undisturbed sample characteristics are summarized in Attachment 2 for the undisturbed samples.

Sample F10-1409/ Field Sample 301.1, from the principal spillway pipe outlet basin, classifies as fat clay (CH) according to the Unified Soil Classification System (USCS). It consists of 54 percent clay, 45 percent silt, and 1 percent sand. This sample is highly plastic with a Liquid Limit (LL) value of 77 and Plasticity Index (PI) of 53.

Sample F10-1410/ Field Sample 803.1, from the downstream toe at approximately station 15+88, classifies as fat clay (CH) according to the Unified Soil Classification System (USCS). It consists of 43 percent clay, 44 percent silt, and 13 percent sand. This sample is highly plastic with a Liquid Limit (LL) value of 52 and Plasticity Index (PI) of 30.

Sample F10-1411/ Field Sample 802.1, from the downstream toe at approximately station 14+70, classifies as fat clay (CH) according to the Unified Soil Classification System (USCS). It consists of 47 percent clay, 47 percent silt, and 6 percent sand. This sample is highly plastic with a Liquid Limit (LL) value of 59 and Plasticity Index (PI) of 43.

The remaining soil samples were from the nearside radius toe of the auxiliary spillway. When they were sampled it was not known if the existing auxiliary spillway was going to be expanded and this data was needed for possible SITES analysis. The auxiliary spillway samples were all classified as fat clay (CH) soil.

Index properties of the samples are shown in Attachment 1 on form SCS-ENG-354 and are summarized in the table below.

Lab Sample Number	Field Sample Number	% Passing 2 Microns (0.002mm)	% Passing #200 Sieve	LL	PI	USCS	As-Received w _n (%)
F10-1399	201.1	48	100	58	36	CH	16.4
F10-1400	201.2	54	100	70	46	CH	20.7
F10-1401	201.3	59	100	63	41	CH	22.6
F10-1402	202.1	54	100	70	47	CH	21.5
F10-1403	202.2	54	100	70	47	CH	22.4
F10-1404	202.3	35	100	68	45	CH	21.9
F10-1405	202.4	59	100	59	36	CH	22.1
F10-1406	202.5	36	96	64	40	CH	21.3
F10-1407	203.1	62	97	69	42	CH	22.3
F10-1408	203.2	52	100	63	39	CH	27.5
F10-1409	301.1	54	99	77	53	CH	28.6
F10-1410	803.1	43	87	52	30	CH	22.9
F10-1411	802.1	47	94	59	43	CH	28.0

A. SHEAR STRENGTH

Historical soil test data from the Plum Creek Watershed was utilized due to the lack of soil data for the embankment fill. This historical data supplemented the triaxial shear test data for the foundation, as shown in Attachment 3.

B. CONSOLIDATION

Due to the lack of soil data for the embankment fill and foundation, historical soil testing data from the Plum Creek Watershed was utilized to estimate a total settlement of 0.3 feet for the extension of the embankment dam through the existing auxiliary spillway to approximately five feet above existing grade. Due to the overburden removed to install the auxiliary spillway this would apply to the inside radius of the auxiliary spillway and to a lesser degree as the embankment extends east of this point. The only other embankment work that has been identified is the removal of a section of the embankment dam near station 13+40 to 15+40 approximately five feet high and replacing it with a reinforced concrete labyrinth weir, and extending the embankment dam through the existing auxiliary spillway. None of this work should have an impact on the consolidation of the existing foundation other than the retaining walls at the ends of the labyrinth weir and the foundation of the new principal spillway intake structure. Preliminary calculations and historical Plum Creek Watershed data is presented in Attachment 4.

C. DISPERSION

Double hydrometer and crumb tests were performed on the soil samples with significant clay content. Double hydrometer results of about 60 or higher and crumb ratings of 3 or 4 indicate that clay particles may have dispersive characteristics. The clay portion of the soil samples from this site that have been tested do not have dispersive clay characteristics.

Lab Sample Number	% Dispersion	Crumb
F10-1399	5	1 / 1
F10-1400	1	1 / 1
F10-1401	11	1 / 1
F10-1402	6	1 / 1
F10-1403	5	1 / 1
F10-1404	5	1 / 1
F10-1405	11	1 / 1

F10-1406	1	1 / 1
F10-1407	13	1 / 1
F10-1408	7	1 / 1
F14-1409	7	1 / 1
F14-1410	6	1 / 1
F14-1411	6	1 / 1

ENGINEERING ANALYSIS

A. SETTLEMENT

There are no current plans to raise the top of dam or flatten the upstream or downstream slopes; therefore, no settlement determination other than the extension through the auxiliary spillway needs to be considered.

It has been NRCS experience that a significant portion of the overall settlement and much of the settlement expected in the earthfill occurs during construction.

B. SEEPAGE

No seepage has been documented in the existing structure and is unlikely to exceed the established phreatic surface for the pool of 620 feet elevation. No embankment soil samples were submitted, but the downstream samples and temporary downstream bore holes indicate that the foundation is moist. Fracturing in the clay stone foundation materials are more likely to convey water than seepage through the compacted embankment. A downstream toe drain is planned for this rehabilitation.

Gradation of the proposed drainage materials is governed by the National Engineering Handbook (NEH) Part 633, Chapter 26, Gradation Design of Sand and Gravel Filters. All of the soil test data indicates that the soil will be classified as Category 1 with more than 85 percent passing the # 200 sieve per this standard.

C. SLOPE STABILITY

Slope stability analysis was evaluated using GeoStudio Slope W software and the Spenser method. Because the foundation beneath the dam has been loaded for forty-eight years and the compacted earth fill is not being significantly loaded to develop pore pressure within the fill, the effective shear values were utilized in the end of construction analysis, and are essentially the same analysis as the downstream steady state.

The existing embankment was built with a county road near the downstream toe and adjacent to the principal spillway pipe outlet basin. This area was identified as the weak link in the slope stability analysis prior to any appropriate vehicle loading has been considered. This rehabilitation area of the dam should be given further consideration prior to final design.

The bi-linear shear strength parameters used for the slope stability analysis is presented in Attachment 6. The graphical summaries of the slope trails for the four TR-60 slope stability criteria are included as Attachment 7.

D. SEISMIC

Data for choosing the design Peak Ground Acceleration (PGA) and earthquake was based on the de-aggregation of seismic hazard from the 2008 version of the USGS National Seismic Hazards Mapping Project. A PGA of 0.076g was selected to analyze the site. The value of 0.076g is for the surface of competent rock. The PGA will need to be amplified based on the properties of the foundation soils at the base of the dam as more soil data will be necessary and will be obtained following phase II investigation. This will necessitate more analysis due to this being a high hazard structure and exceeding the 0.07 g threshold for low to moderate earthquakes. Comparison of the soil test data and the Seed Chart for soils likely liquefiable soils liquefiable soils do not appear to be prevalent at this site.

The yield acceleration PGA was calculated with GeoSlope Slope W software as 0.185 for the PHA of 0.076 g.

Based on the information summarized in the following bulleted points, the site will probably experience minimal deformation, but the site does not satisfy all the criteria to consider the seismic analysis complete.

The peak horizontal acceleration at the base of the embankment is less than 0.30 g. This site has a predicted peak horizontal acceleration of 0.076 g.

The embankment dam and foundation materials are not subject to liquefaction and do not include loose or collapsible soils or sensitive clays. The embankment dam and foundation materials consist of cohesive clays and claystone and according to the plotted liquid limit versus plasticity index and Seed chart as presented in Attachment 8 will not be subject to liquefaction or collapse.

The dam is well built and compacted to at least 95 percent of ASTM D698 maximum dry density, or to a relative density greater than 70 percent. The as-built drawings indicate that the core of the existing embankment dam was constructed to 90 percent of the modified Proctor ASTM 1557 Method A maximum dry density. This will have to be verified with further soil testing.

The static factors of safety for all potential upstream and downstream failure surfaces involving

loss of crest elevation (excluding shallow surficial slides) are greater than 1.5 under loading and pore-pressure conditions immediately prior to the earthquake. Factors of safety for the slope stability trials are all greater than 2.0 for non-seismic loading.

The phreatic surface is below the downstream face of the dam. There are currently no indications of the phreatic surface in the dam and the anticipated surface after years of service with water at the permanent pool level should be below the surface of the downstream slope.

Freeboard at the normal water surface should be more than 25 percent of the embankment height. Top of dam elevation is 643.4 feet and the principal spillway intake structure crest elevation is 626.4 feet for a total freeboard of 17.0 feet during sunny day conditions. The total height of the dam is 40 feet and therefore the freeboard is over 40 percent.

Damage to appurtenant structures from limited embankment deformation would not lead to dam failure. This has yet to be determined for the planned new structures.

The static factors of safety for all potential upstream and downstream failure surfaces involving loss of crest elevation are greater than 2.0 under pre-earthquake conditions.

PROPERTIES OF THE BORROW

No borrow from the embankment section where the labyrinth weir will be placed has been tested to date. The as-built drawings for this structure indicated that the borrow for the existing embankment was to be compacted to 85 percent of Maximum dry density according to the Modified Proctor ASTM D1557 Method A at 14 percent optimum moisture and a target of 117.5 pounds per cubic foot. These compaction values are at odds to the soil that has been tested from the auxiliary spillway which are classified as fat clay (CH) soil.

A. SHEAR STRENGTH

The shear strength data for the borrow from approximately station 15+40 to station 13+40 along the centerline of the dam including the over excavation for the labyrinth weir is unknown at this time. Further soil investigation and soil testing data is needed and for this report the historical soil testing data from the Plum Creek Watershed was utilized in the interim.

B. COMPACTION

No Standard Proctor density test, ASTM-D698 Method A (minus #4 material), were performed for any of the soil samples tested. Currently there is no soil testing data that corroborates with the as-built drawing compaction specifications.

C. DISPERSION

Double hydrometer and crumb tests were performed for each of the samples, with results summarized in the following table. Double Hydrometer test results less than about 60 indicate

that dispersion is not a problem, and these results did not vary and were all very low. Crumb test results of 1 indicate that dispersion is not present or is minimal, but results of 3 or 4 are positive indicators that clays are dispersive.

SLOPE STABILITY ANALYSIS

The cross section at the principal spillway was utilized in the current slope stability analysis as it was perceived as the largest embankment fill section and extends downstream in the steepest slope through County Road 157 and the outlet basin.

No slope stability issues were identified either upstream or downstream

Design Condition	Notes	Factor of Safety	Req. Factor of Safety	Meets
EOC	Pool Elev 620.0	2.4	1.4	✓
URD	Pool Elev 638.5 to Elev 613.0	2.6	1.2	✓
DSS	Pool Elev 626.5	2.3	1.5	✓
Seismic	Pool Elev 626.5	1.8	1.1	✓

CONCLUSIONS AND RECOMMENDATIONS

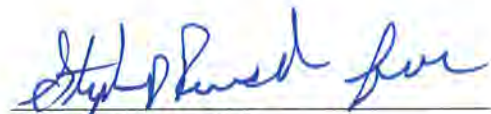
The proposed improvements to this site will not cause significant additional loading to either the foundation or embankment materials.

The proposed drainfill foundation drain system along the back toe of the embankment will need to be prepared to base soil category 1 according to the National Engineering Handbook, Part 633, Chapter 26, Gradation Design of Sand and Gravel Filters.

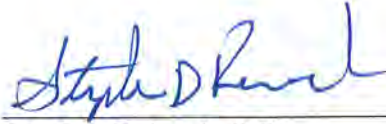
The proposed borrow from the excavation to place the labyrinth weir still needs to be sampled and tested to determine the ASTM D698 compaction recommendations. The proposed principal spillway intake structure foundation should also be investigated prior to contracting for construction to determine the extent of the foundation improvements.

This site is in the Blackland Prairie physiographic area with high plasticity clays that have plasticity indexes above 40 and potential for shrink swell characteristics which make them susceptible to desiccation cracking. Therefore, it will be important to provide adequate topsoil cover for any work on the embankment section of the dam and the outlets of the auxiliary and principal spillways.

If you would like to discuss this report or if you need to request further testing, please contact me at (817) 509-3204.



Steven Garner, P.E.
Civil Engineer
NRCS, Fort Worth, TX



Stephen Reinsch, P.E.
Co-Director, NDCSMC
NRCS, Lincoln, NE

Attachments:

1. NRCS-ENG-354, Soil Mechanics Laboratory Test Data, 1 sheet
2. Undisturbed Sample Characteristics and Photos, 18 sheets
3. Shear Strength Soil Test Data, 136 sheets
4. Foundation Consolidation Soil Test Data, 2 sheets
5. Water Elevation Data, 1 sheet
6. Bi-Linear Strength Parameters, 1 sheet
7. Graphical Summaries of Slope Stability Analysis, 4 sheets
8. Seed Chart Plasticity Index versus Liquid Limit, 1 sheet

cc: (electronically distributed)

Shawn Higgins, Design Engineer, NRCS, Temple, TX
Stephen Reinsch, Co-Director, NDCSMC, NRCS, Lincoln, NE
Noller Herbert, Director, CED, NRCS, Washington, DC

Attachment 1

NRCS-ENG-354, Soil Mechanics Laboratory Test Data, 1 sheet

F10

8/9/10		TX Plum Creek Site 6 7420 Hays Co. Location and Description	WF-07		Mechanical Analysis Grain Size Distribution Expressed as Percent Finer by Dry Weight																Atterberg Limits		Unified Classification	Soluble Salts %	Natural Moisture (%)	Natural Dry Unit Weight (gm/cm ³)	Percent Saturation	Dispersion				Moisture-Density		G _S	G _M	% Absorp- tion	pH
Lab. Sample No.	Field Sample No.		Depth (ft)	Sample Type	Fines					Sand					Gravel						L.L.	P.I.						ASTM D698		Pinhole	Max γ _d (pcf)	W ₀ %					
					0.002 mm	0.005 mm	0.02 mm	0.05 mm	#200 0.074 mm	#140 0.105 mm	#60 0.250 mm	#40 0.42 mm	#20 0.84 mm	#10 2.0 mm	#4 4.76 mm	3/8" 9.525 mm	1/2" 12.7 mm	3/4" 19.05 mm	1" 25.4 mm	1 1/2" 38.1 mm								3" 76.2 mm	1 Hr				4 Hr				
1399	201.1	Inside cut AS Approx. Sta. 5+00	0-2	Undist.	48	63	86	96	100												58	36	CH		16.4	1.55	61.2	5	1	1			2.65				
1400	201.2	Inside cut AS Approx. Sta. 5+00	10-11	Undist.	54	76	96	99	100												70	46	CH		20.7	1.73	97.8	1	1	1			2.73				
1401	201.3	Inside cut AS Approx. Sta. 5+00	30-35	Small	59	72	92	97	100												63	41	CH	<.5	22.6			11	1	1			2.72				
1402	202.1	Inside cut AS Approx. Sta. 6+50	5-7	Undist.	54	68	93	100	100												70	47	CH		21.5	1.65	89.2	6	1	1			2.74				
1403	202.2	Inside cut AS Approx. Sta. 6+50	10-11	Undist.	54	73	91	99	100												70	47	CH		22.4	1.64	92.0	5	1	1			2.73				
1404	202.3	Inside cut AS Approx. Sta. 6+50	15-16	Undist.	35	75	96	100	100												68	45	CH		21.9	1.67	94.7	5	1	1			2.72				
1405	202.4	Inside cut AS Approx. Sta. 6+50	19-20	Small	59	73	93	98	100												59	36	CH	2.5	22.1			11	1	1			2.76				
1406	202.5	Inside cut AS Approx. Sta. 6+50	20-20.5	Undist.	36	69	83	94	96					100							64	40	CH		21.3	1.65	87.9	1	1	1			2.75				
1407	203.1	Inside cut AS Approx. Sta. 8+00	17-19	Small	62	78	94	96	97	-	-	-	-	100							69	42	CH	<.5	22.3			13	1	1			2.72				
1408	203.2	Inside cut AS Approx. Sta. 8+00	24-25	Small	52	73	93	98	100												63	39	CH	2.7	27.5			7	1	1			2.75				
1409	301.1	Outlet Basin Left DS Approx. Sta. 15+00 CL Dam	14-16	Undist.	54	56	93	96	99					100							77	53	CH		28.6	1.53	99.1	7	1	1			2.74				
1410	803.1	D. S. Berm Approx. Sta. 15+88	7-9.5	Undist.	43	63	82	86	87					100							52	30	CH		22.9	1.62	93.8	6	1	1			2.68				
1411	802.1	D. S. Berm Approx. Sta. 14+70	7-8.5	Undist.	47	66	90	92	94					100							59	43	CH		28.0	1.51	96.4	6	1	1			2.69				

Attachment 2

Undisturbed Sample Characteristics and Photos, 18 sheets

MATERIALS TESTING REPORT	U.S. DEPARTMENT of AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	UNDISTURBED SAMPLE CHARACTERISTICS

PROJECT and STATE

Plum Creek Co. TX

TESTED AT

NDCSMC - Lincoln, NE

APPROVED BY

DATE

5-4-11

FIELD SAMPLE NO.	DEPTH (FT.)		SAMPLE LOCATION	TYPE OF SAMPLE	LABORATORY NO.	
	FROM	TO				
F10-1399	0	2'	201.1	3" Shelby	11-1052	
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
Brown	Moist	V. Stiff	Roots	Smooth	—	CL
			Trash			
ω 16.4 % γ _d 155 g/cc			DESCRIBED BY SKM, RM			

REMARKS

Lots of Roots & Trash in top of sample
Top 14" top soil - No testing on this per
Steve.

Blocky, Very Stiff CL
Material - crumbly also
unit weight & H₂O taken

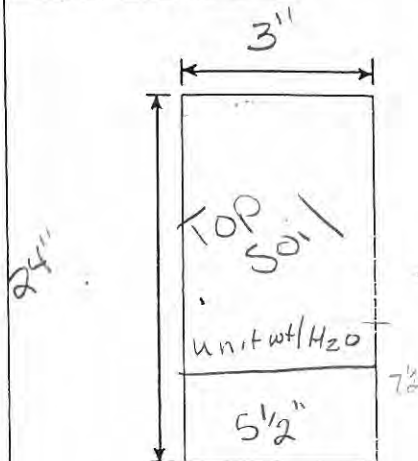
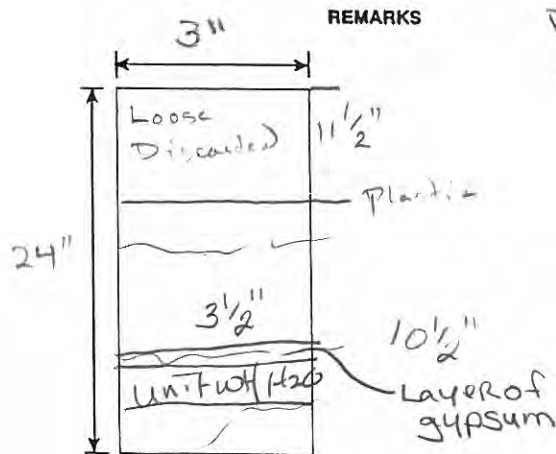


Photo taken 3



Photos taken 3

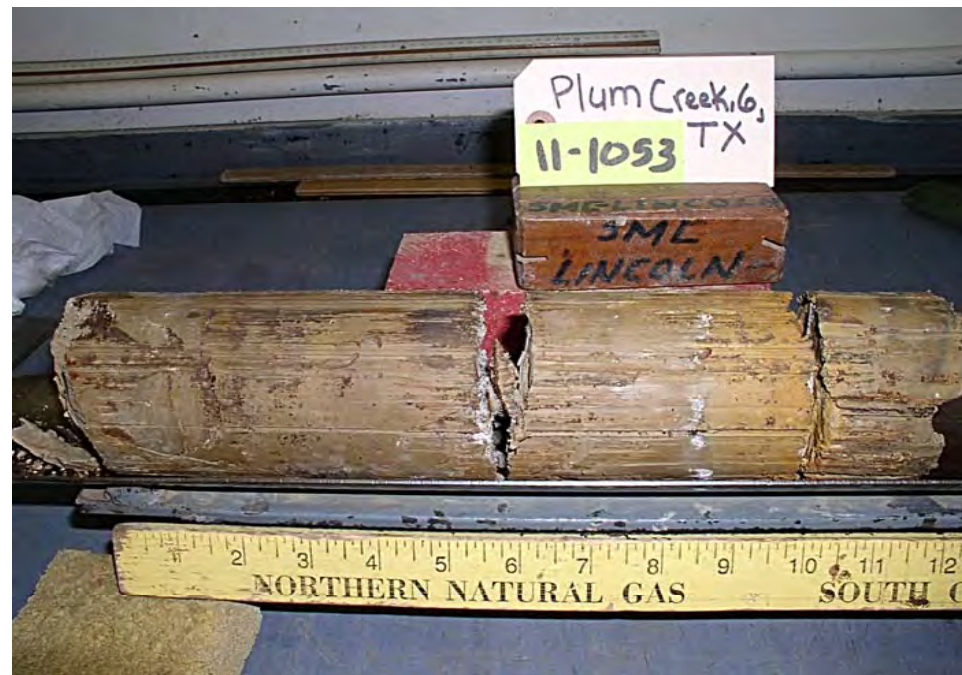
FIELD SAMPLE NO.		DEPTH (FT.)		SAMPLE LOCATION			TYPE OF SAMPLE	LABORATORY NO.
		FROM	TO					
F10-1400		10	11'	201.2			3" Shelby	11-1053
COLOR		RELATIVE MOISTURE		CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
LT BROWN		Damp		V. Stiff	Blocky Gypsum	Floaky	—	ML
w	20.7 %	y _d	1.73 g/cc	DESCRIBED BY SKM, RM				



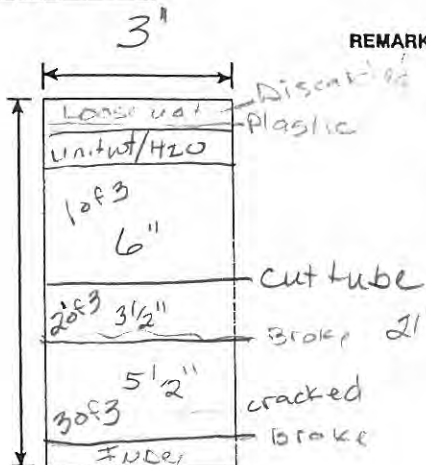
Broke apart in several places when extruded
Very Blocky ML Material
Unit weight & H₂O taken

84

Photos taken 4



MATERIALS TESTING REPORT		U.S. DEPARTMENT of AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE		UNDISTURBED SAMPLE CHARACTERISTICS	
PROJECT and STATE <u>Plum Creek Co., TX</u>					
TESTED AT <u>NDCSMC-LINCOLN, NE</u>			APPROVED BY		DATE <u>5-4-11</u>
FIELD SAMPLE NO.	DEPTH (FT.) FROM TO		SAMPLE LOCATION		TYPE OF SAMPLE
<u>F10402</u>	<u>5 7'</u>		<u>2021</u>		<u>3" Shelby</u>
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)
<u>Lt Brown</u>	<u>Damp</u>	<u>V. Stiff</u>	<u>Gypsum</u>	<u>Floury</u>	<u>-</u>
ω <u>21.5 %</u> γ_d <u>1.65 g/cc</u>					LABORATORY NO. <u>11-1054</u>
DESCRIBED BY <u>SKM, RM</u>					



REMARKS would not push, cut tube.

Traces of calcium carbonate deposits or gypsum throughout sample.

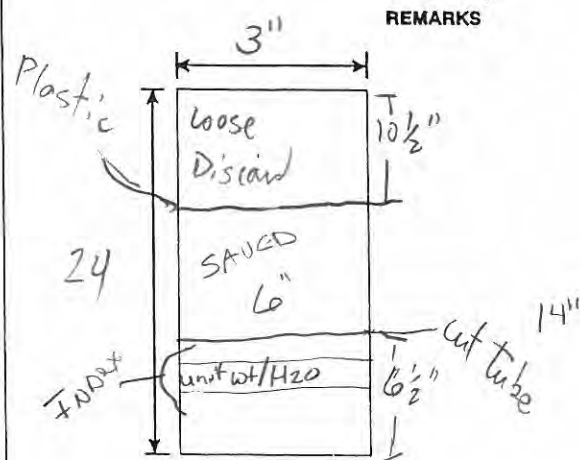
Very stiff, blocky ML material.

Unit weight & H₂O taken

Photostaken 2



FIELD SAMPLE NO.	DEPTH (FT.)		SAMPLE LOCATION			TYPE OF SAMPLE	LABORATORY NO.
	FROM	TO					
F10-1403	10	14'	202.2			3" Shelby	11-1055
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)	
Lt Brown	Damp	N. Stiff	Gypsum	Floury	4.5	ML	
ω 22.4 % γ_d 164 g/cc				DESCRIBED BY SKM, RM			



Would not push, cut tube.
 Top half pushed out in 1 piece but bottom half accoridianed out.
 Gypsum in sample. very stiff, blocky ML material
 Unit weight & H₂O taken

Photos taken 2



MATERIALS TESTING REPORT	U.S. DEPARTMENT of AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	UNDISTURBED SAMPLE CHARACTERISTICS
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PROJECT and STATE

Plum Creek Co. TX

TESTED AT

NDCS MC-LINCOLN, NE

APPROVED BY

DATE

5-4-11

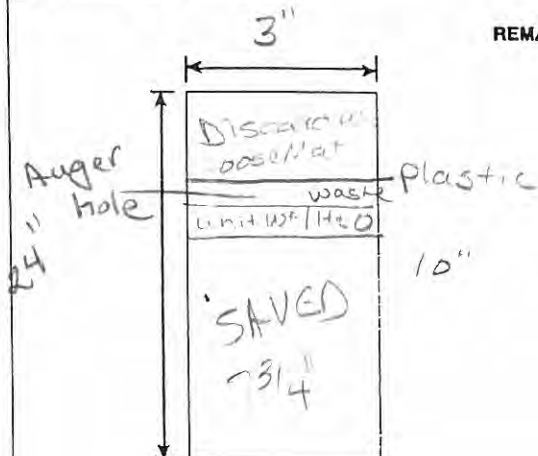
FIELD SAMPLE NO.	DEPTH (FT.) FROM TO	SAMPLE LOCATION	TYPE OF SAMPLE	LABORATORY NO.		
F10-1404	15 16	2023	3" Shelby	11-1056		
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
LT BROWN	Damp	V. STIFF	Gypsum	Floury	-	ML

ω 21.9 % γ_d 1.67 g/cc

DESCRIBED BY

SKM, RM

REMARKS



Blocky, LL Material uniform.
11" thru 14" = sample
Unit weight & H₂O taken.

84

Photostakon 4



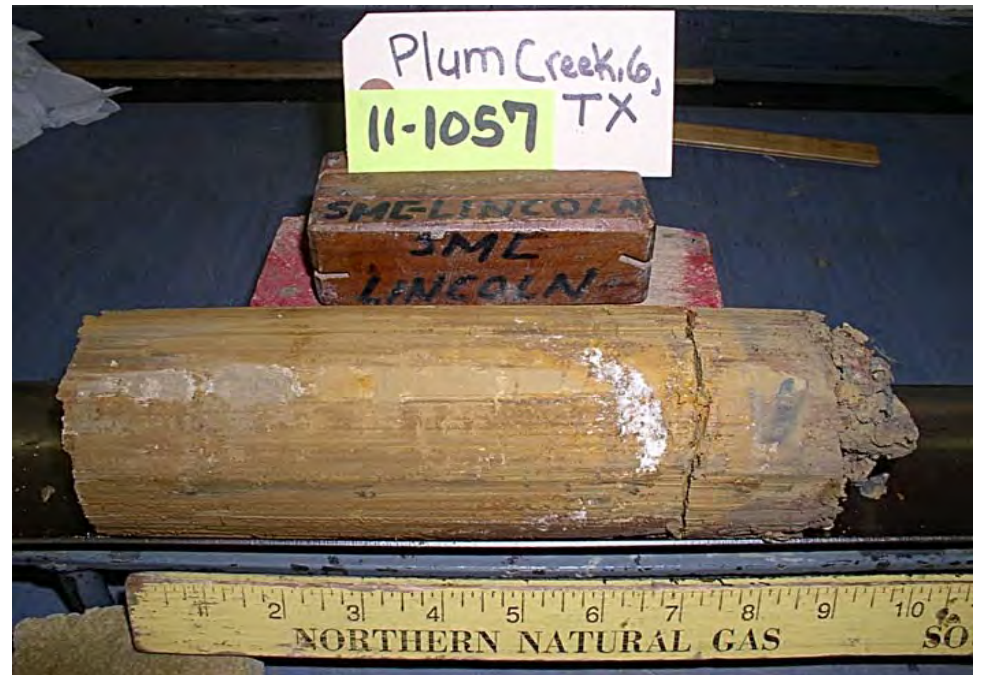
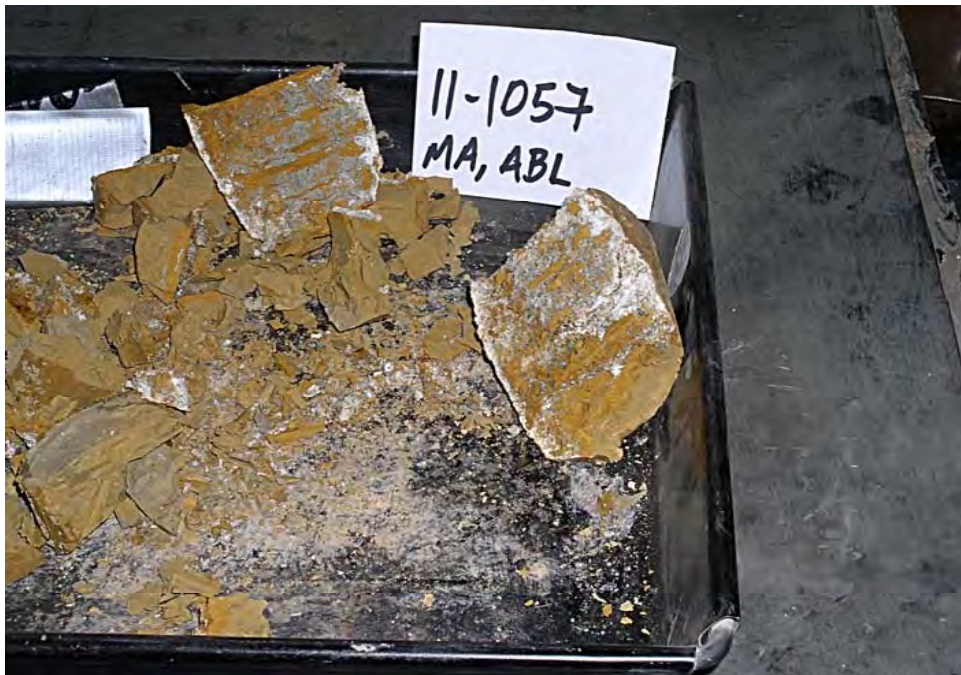
FIELD SAMPLE NO.	DEPTH (FT.)		SAMPLE LOCATION	TYPE OF SAMPLE	LABORATORY NO.	
	FROM	TO				
F10-1406	20	20.5	202.5	3" Shelby	11-1057	
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
lt Brown	Damp	V. Stiff	Gypsum	Floury	—	ML

ω 21.3 % γ_d 1.65 g/cc DESCRIBED BY SKM. RM

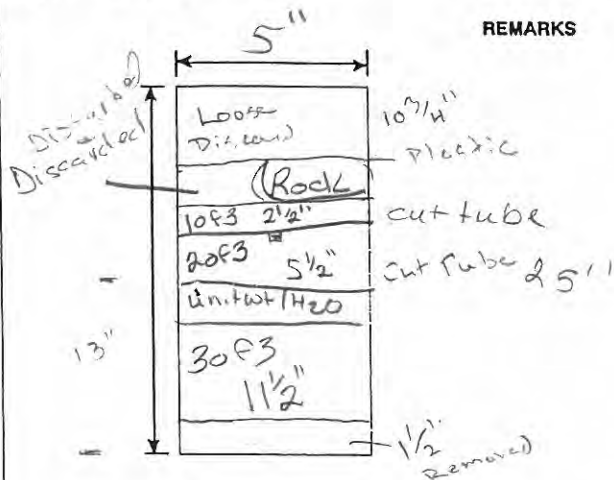


Blocky material, uniform
Gypsum throughout sample
Unit weights H₂O taken.

Photostaken 3



MATERIALS TESTING REPORT		U.S. DEPARTMENT of AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE		UNDISTURBED SAMPLE CHARACTERISTICS	
PROJECT and STATE <u>Plum Creek Co. TX</u>					
TESTED AT <u>UDCSMC- LINCOLN, NE</u>			APPROVED BY		DATE <u>5-5-11</u>
FIELD SAMPLE NO.	DEPTH (FT.) FROM TO	SAMPLE LOCATION		TYPE OF SAMPLE	LABORATORY NO.
<u>F10-1409</u>		<u>300.1</u>		<u>5" Shelby</u>	<u>11-1058</u>
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)
<u>4th Brown</u>	<u>Moist</u>	<u>Very Stiff</u>	<u>1-3" Rock</u>	<u>Smooth</u>	<u>4.5</u>
			<u>Trace Gypsum</u>		
w <u>28.6</u> % γ _d <u>1.53</u> g/cc					DESCRIBED BY <u>SKM, RM</u>



Would not push, cut tube, bottom push but came out curved slightly. top half would not push, cut tube again. top section had 3" Rock

Otherwise appears to be fairly uniform core. Traces of gypsum throughout sample. Unit weight & H₂O taken. (use sec. 20F3 for shears)

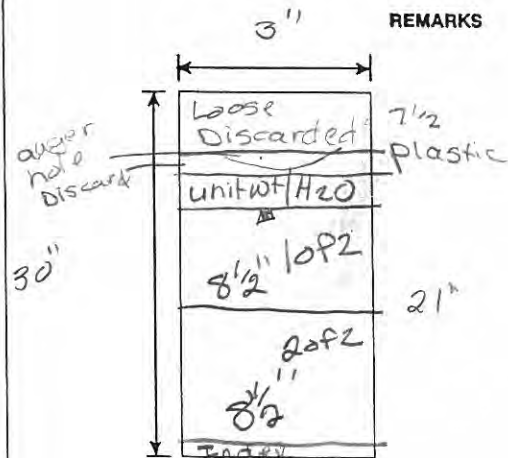
Photos taken 3



FIELD SAMPLE NO.	DEPTH (FT.)		SAMPLE LOCATION			TYPE OF SAMPLE	LABORATORY NO.
	FROM	TO					
F10-1410	7	9'	302.1			3" Shelby	11-1059
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)	
DK Brown	Moist	V Stiff	-	Smooth	3.75	CL	

w 22.9 % γ_d 1.62 g/cc

DESCRIBED BY SKM RM



Good uniform core - CL
Material
Unit weight & H₂O taken

Photo taken 2

7 1/2



MATERIALS TESTING REPORT		U.S. DEPARTMENT of AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE		UNDISTURBED SAMPLE CHARACTERISTICS		
PROJECT and STATE <u>Plum Creek Co. TX</u>						
TESTED AT <u>NDCSMC - Lincoln, NE</u>			APPROVED BY		DATE <u>5-5-11</u>	
FIELD SAMPLE NO.	DEPTH (FT.) FROM TO		SAMPLE LOCATION		TYPE OF SAMPLE	LABORATORY NO.
<u>F10-1411</u>	<u>7</u>	<u>8.5'</u>	<u>303.1</u>		<u>3" Shelby</u>	<u>11-1060</u>
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
<u>BROWN</u>	<u>Moist</u>	<u>stiff</u>	<u>—</u>	<u>Smooth</u>	<u>1.5</u>	<u>CL</u>
ω <u>28.0</u> % γ_d <u>1.51</u> g/cc			DESCRIBED BY <u>SKM, RM</u>			
<div style="display: flex; justify-content: space-between;"><div style="width: 30%;"><p style="text-align: center;">REMARKS</p><div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 150px;"><div style="text-align: center;">3"</div><div style="text-align: center;">loose discarded</div><div style="text-align: center;">discarded</div><div style="text-align: center;">unit w/ H₂O</div><div style="text-align: center;">SAVED</div><div style="text-align: center;">10"</div><div style="text-align: center;">index</div></div><p style="margin-top: 20px;">35"</p></div><div style="width: 60%;"><p style="font-size: 1.2em;">Good uniform core - CL material</p><p style="font-size: 1.2em;">Unit weight & H₂O taken</p><p style="text-align: right; margin-top: 20px;">Photos taken 2</p></div></div>						
FIELD SAMPLE NO.	DEPTH (FT.) FROM TO		SAMPLE LOCATION		TYPE OF SAMPLE	LABORATORY NO.
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
ω _____ % γ_d _____ g/cc			DESCRIBED BY			
<p style="text-align: center;">REMARKS</p> <div style="border: 1px solid black; width: 150px; height: 150px; margin: 10px auto;"></div>						



Attachment 3

Shear Strength Soil Test Data, 136 sheets

MATERIALS TESTING REPORT	U.S. DEPARTMENT of AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	UNDISTURBED SAMPLE CHARACTERISTICS

PROJECT and STATE

Plum Creek Co. TX

TESTED AT

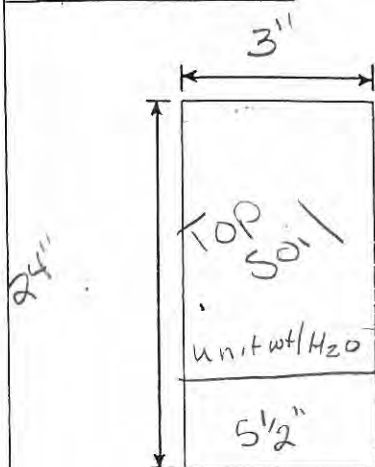
NDCSMC - Lincoln, NE

APPROVED BY

DATE

5-4-11

FIELD SAMPLE NO.	DEPTH (FT.)		SAMPLE LOCATION	TYPE OF SAMPLE	LABORATORY NO.	
	FROM	TO				
F10-1399	0	2'	201.1	3" Shelby	11-1052	
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
Brown	Moist	V. Stiff	Roots	Smooth	—	CL
			Trash			
ω 16.4 % γ _d 155 g/cc			DESCRIBED BY SKM, RM			



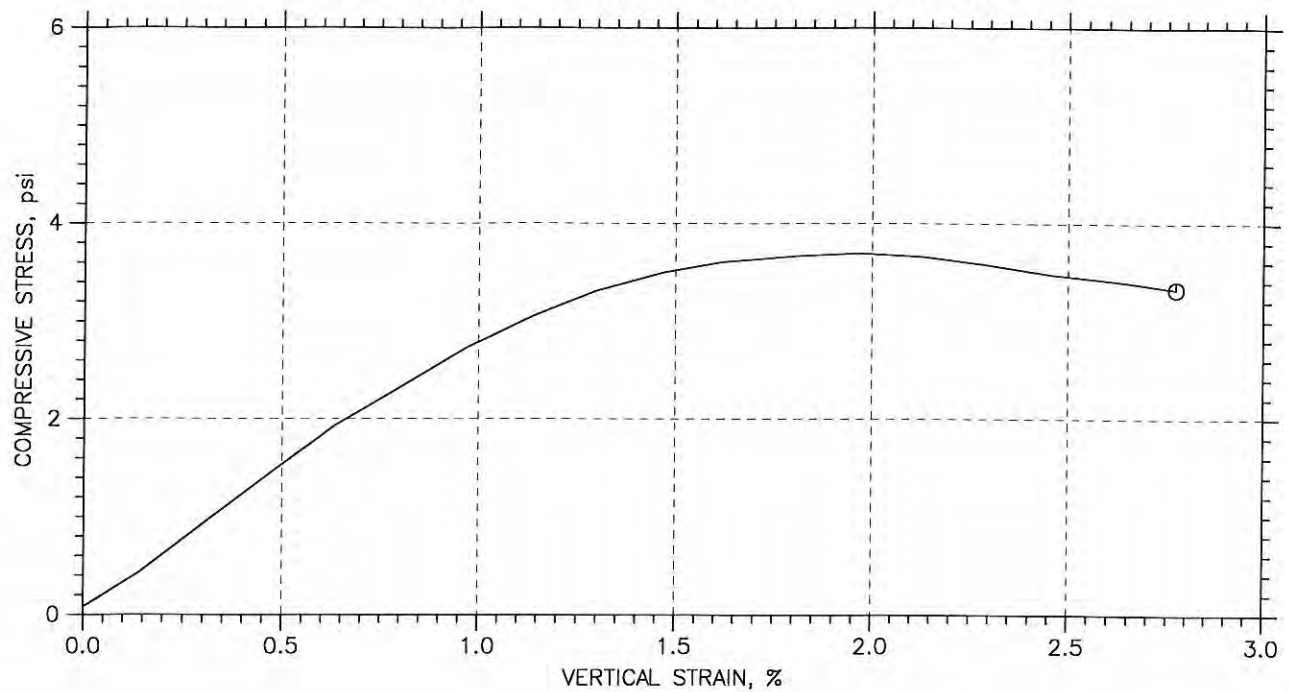
REMARKS

Lots of Roots & Trash in top of sample
Top 14" top soil - No testing on this per
Steve.

Blocky, Very Stiff CL
Material - crumbly also
unit weight & H₂O taken

Photo taken 3

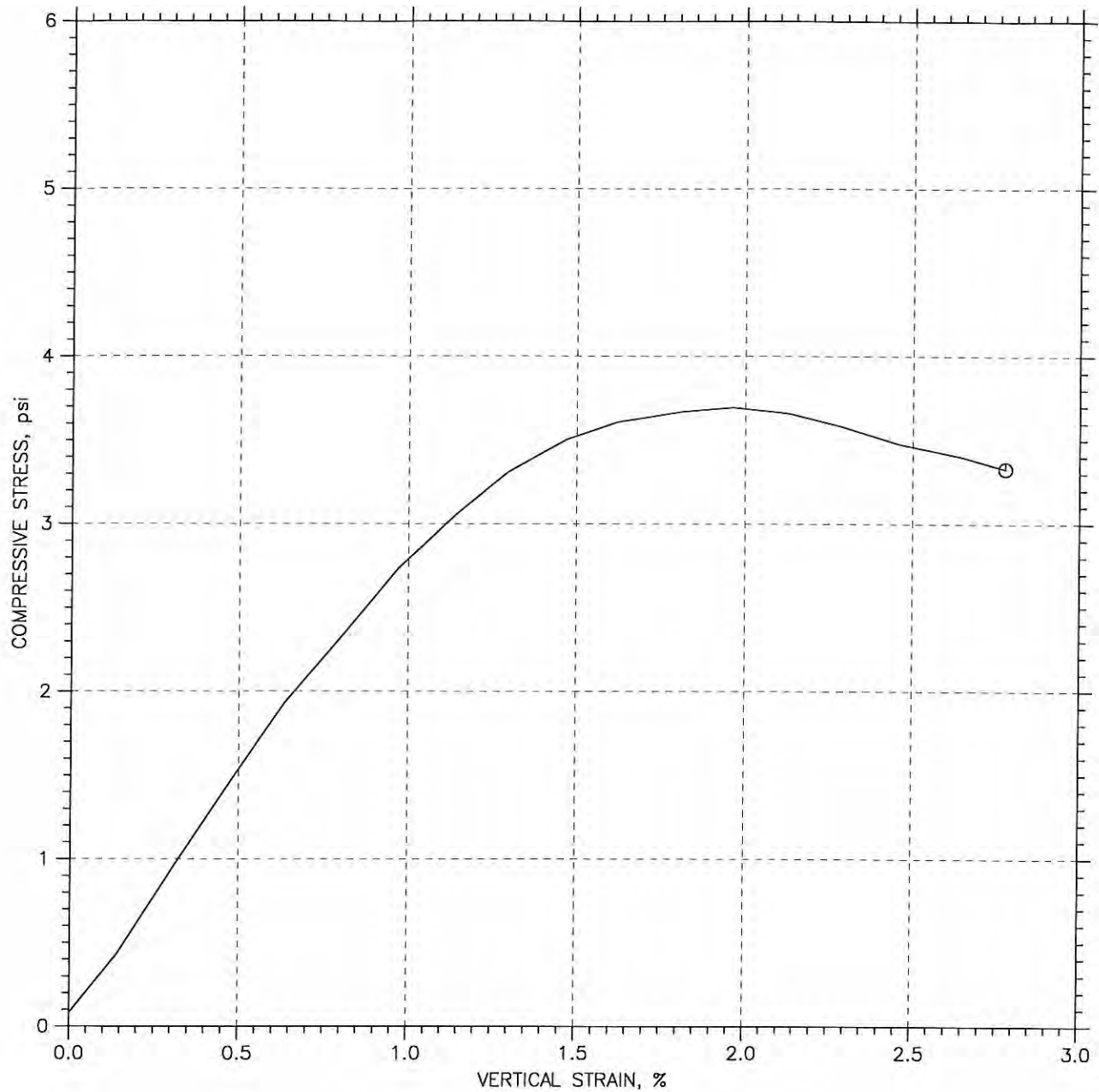
UNCONFINED COMPRESSION TEST REPORT




Symbol	⊙			
Test No.	1			
Initial	Diameter, in	1.402		
	Height, in	3.116		
	Water Content, %	29.18		
	Dry Density, pcf	92.21		
	Saturation, %	97.36		
	Void Ratio	0.794		
Unconfined Compressive Strength, psi q_u		3.694		
Undrained Shear Strength, psi $q_u/2 \Rightarrow C_u =$		1.847 psi	266 psf	
Time to Failure, min		2.004	Record: $C_u = 265$ psf @ 2.8 strain	
Strain Rate, %/min		1		
Measured Specific Gravity		2.65		
Liquid Limit		---		
Plastic Limit		---		
Plasticity Index		---		
Failure Sketch				

 Natural Resources Conservation Service	Project: PLUM CREEK SITE 6
	Location: TX
	Project No.: 11-1052
	Boring No.: F10-1399
	Sample Type: CORE
	Description: HOLE 201.1
	Remarks: VACCUUM SATURATED

UNCONFINED COMPRESSION TEST REPORT



 NRCS Natural Resources Conservation Service	Project: PLUM CREEK SITE 6	Location: TX	Project No.: 11-1052
	Boring No.: F10-1399	Tested By: SKM	Checked By: SKM
	Sample No.: 11-1052	Test Date: 5/19/11	Depth: 0-2'
	Test No.: 1	Sample Type: CORE	Elevation: N/A
	Description: HOLE 201.1		
	Remarks: VACCUUM SATURATED		

UNCONFINED COMPRESSION TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1399
Sample No.: 11-1052
Test No.: 1

Location: TX
Tested By: SKM
Test Date: 5/19/11
Sample Type: CORE

Project No.: 11-1052
Checked By: SKM
Depth: 0-2'
Elevation: N/A

Soil Description: HOLE 201.1
Remarks: VACCUUM SATURATED

Specimen Height: 3.12 in
Specimen Area: 1.54 in²
Specimen Volume: 78.83 cc

Liquid Limit: ---
Plastic Limit: ---
Measured Specific Gravity: 2.65

Cap Mass: 0 gm

Water Content Information

Container ID
Wt. Container, gm
Wt. Container + Wet Soil, gm
Wt. Container + Dry Soil, gm
Wt. Dry Soil, gm
Water Content, %
Void Ratio
Degree of Saturation, %
Wet Unit Weight, pcf
Dry Unit Weight, pcf

0
150.4
116.43
116.43
29.18
0.79
97.36
119.11
92.206

UNCONFINED COMPRESSION TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1399
 Sample No.: 11-1052
 Test No.: 1

Location: TX
 Tested By: SKM
 Test Date: 5/19/11
 Sample Type: CORE

Project No.: 11-1052
 Checked By: SKM
 Depth: 0-2'
 Elevation: N/A

Soil Description: HOLE 201.1
 Remarks: VACCUUM SATURATED

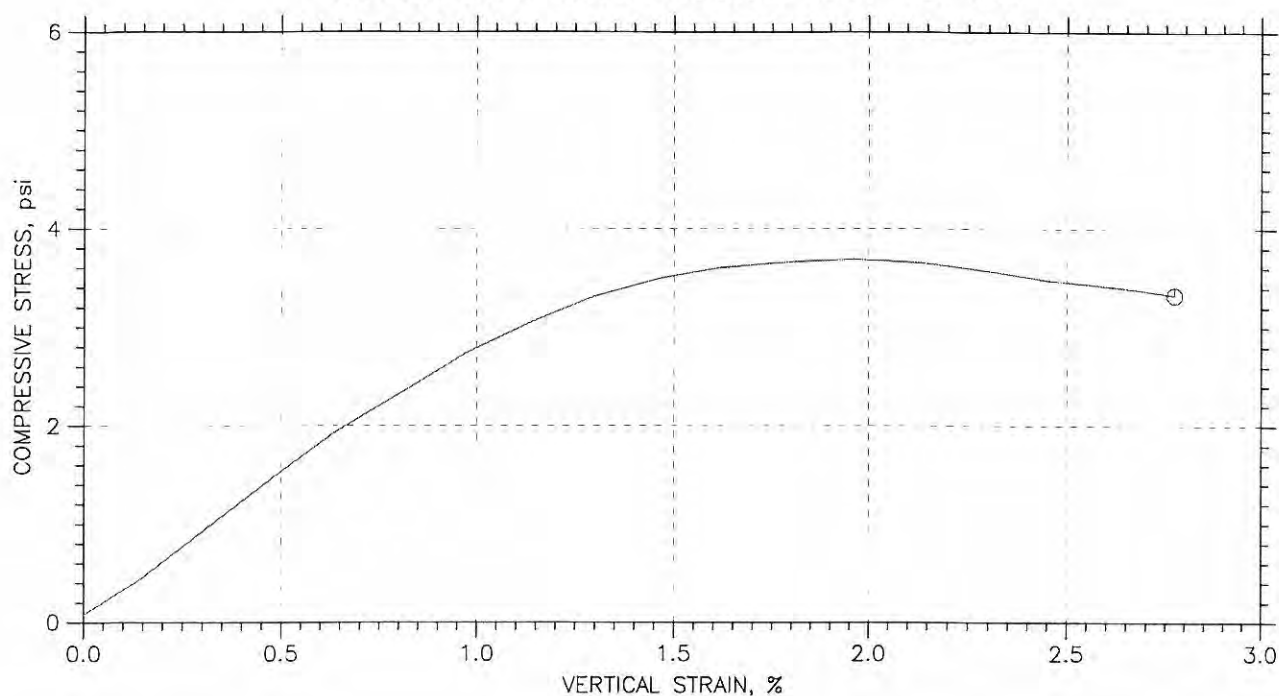
Specimen Height: 3.12 in
 Specimen Area: 1.54 in²
 Specimen Volume: 78.83 cc

Liquid Limit: ---
 Plastic Limit: ---
 Measured Specific Gravity: 2.65

Cap Mass: 0 gm

	Time min	Axial Displacement in	Axial Strain %	Load lb	Corrected Area in ²	Corrected Vertical Stress psi	Corrected Shear Stress psi
1	0	0	0	0.12509	1.5438	0.081027	0.040513
2	0.17058	0.0044013	0.14125	0.67234	1.546	0.4349	0.21745
3	0.33725	0.0098682	0.31669	1.5167	1.5487	0.97934	0.48967
4	0.50403	0.014872	0.47727	2.2828	1.5512	1.4717	0.73584
5	0.67057	0.019783	0.63488	3.0021	1.5536	1.9323	0.96615
6	0.83723	0.025296	0.81181	3.6588	1.5564	2.3508	1.1754
7	1.004	0.0303	0.97238	4.2686	1.5589	2.7381	1.3691
8	1.1706	0.035535	1.1404	4.769	1.5616	3.0539	1.527
9	1.3372	0.040399	1.2965	5.1755	1.5641	3.309	1.6545
10	1.504	0.04582	1.4705	5.4882	1.5668	3.5028	1.7514
11	1.6706	0.050453	1.6192	5.6602	1.5692	3.6071	1.8035
12	1.8372	0.056429	1.811	5.7697	1.5723	3.6697	1.8348
13	2.004	0.061155	1.9626	5.8166	1.5747	3.6938	1.8469
14	2.1705	0.066483	2.1336	5.7697	1.5774	3.6576	1.8288
15	2.3372	0.071208	2.2853	5.6602	1.5799	3.5827	1.7913
16	2.504	0.076536	2.4562	5.5038	1.5827	3.4776	1.7388
17	2.6705	0.082374	2.6436	5.3944	1.5857	3.4019	1.7009
18	2.8083	0.086405	2.7729	5.2849	1.5878	3.3284	1.6642

UNCONFINED COMPRESSION TEST REPORT



Symbol	⊕			
Test No.	1			
Initial	Diameter, in	1.402		
	Height, in	3.116		
	Water Content, %	29.18		
	Dry Density, pcf	92.21		
	Saturation, %	97.36		
	Void Ratio	0.794		
Unconfined Compressive Strength, psi		3.694		
Undrained Shear Strength, psi		1.847		
Time to Failure, min		2.004		
Strain Rate, %/min		1		
Measured Specific Gravity		2.65		
Liquid Limit		---		
Plastic Limit		---		
Plasticity Index		---		
Failure Sketch				

 Natural Resources Conservation Service	Project: PLUM CREEK SITE 6
	Location: TX
	Project No.: 11-1052
	Boring No.: F10-1399
	Sample Type: CORE
	Description: HOLE 201.1
Remarks: VACCUUM SATURATED	

BASE

SHEAR TEST DATA

<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	CELL NO. _____ BURETTE NO. _____ MACHINE NO. <u>3</u> CUBAR COMPACTED <u>VS</u> UNDISTURBED <u>BP</u>	LOAD CH. _____ STRAIN CH. _____ P.P. CH. _____ Gs <u>2.65</u>	LAB. NO. <u>11-1052</u> <u>11-1052gu</u> TEST DATE <u>5/19/11</u>	
Cell _____ PSI Base _____ PSI Test _____ PSI B _____ RATE OF STRAIN <u>1</u> in./min.				

SPECIMEN DATA TECHNICIAN <u>SKM</u>	MOISTURE DATA TECHNICIAN <u>SKM</u>
---	---

DIAMETER		INITIAL IN MACHINE		INITIAL		FINAL	
TOP	IN.	1.392	1.401	WET WT. SPEC. + CAN	(GM.)		218.63
MIDDLE	IN.	1.393	1.404	DRY WT. SPEC. + CAN	(GM.)		185.01
BOTTOM	IN.	1.392	1.399	WT. MOISTURE	(GM.)		
MEAN DIAMETER	IN.	1.393	1.402	WT. CAN	(GM.)		68.58
HEIGHT	IN.	3.014	3.116	WT DRY SOIL	(GM.)		
MOIST WT.	GM.	135.32	150.40	PERCENT MOISTURE		29.18	28.88
END AREA	IN. ²	1.524	1.544	DRY UNIT WEIGHT	(GM/CC)		
VOLUME	IN. ³	4.593	4.810	PERCENT POROSITY			
MOIST UNIT WT.	PCF	112.23	119.11	THEORETICAL SAT. %			
CONSOLIDATION DATA TECHNICIAN _____				PERCENT SAT. @ START			

EXTENSIOMETER READINGS			DATE:
INITIAL READING	IN.	TIME:	
FINAL READING	IN.	TIME:	
HT. DEFORMATION	IN.		
INITIAL BURETTE READING		CM	
FINAL BURETTE READING		CM	
VOL. CHANGE	CC x 0.061	IN. ³	
CONS. VOLUME OF SPECIMEN		IN. ³	
CONS. HEIGHT OF SPECIMEN		IN.	
AVG. AREA OF CONS. SPECIMEN		IN. ²	
CONSOLIDATED MOIST UNIT WT.		PCF	

FAILURE SKETCH 116.43



INITIAL DRY DENSITY = 92.20
 FINAL DRY DENSITY = 92.20

REMARKS:

Initial

1398 3010
 86 15
 98 16
 88
 99
 85

1403 3112
 1401 3116
 1402 3121
 1405
 1402
 1396

Checked by: SKMDate: 5/26/11

Shear Test Data
Specimen #1

5/26/2011
1:01 PM

Project: PLUM CREEK SITE 6
State: TX
Lab No: 11-1052
Specific Gravity (Gs): 2.65

Test Specifications:

Shear Cell No.:
Confining Pressure: psi

Top Diameter: 1.401 inches
Middle Diameter: 1.404 inches (Either measure two middle diameters
Middle Diameter: 1.404 inches or enter in the same value)
Bottom Diameter: 1.399 inches
Height of Specimen: 3.116 inches
Moist Weight of Specimen: 150.40 gms.
Mean Diameter: 1.402 inches
End Area: 1.544 sq. inches
Volume of Specimen: 4.810 cubic inches
Moist Unit Weight: 119.11 pcf (multiply gms/cubic inch by 3.8095 to
to achieve pcf)

Extensiometer Height Deformation: inches
Initial Volume of Base Cell: ml.
Final Volume of Base Cell: ml.
Is the Large Burette being Used? no (yes or no)
Calibrated Area of the Base Burette: cc

Burette Volume: cc note 1.00 ml = 1.00 cc
Burette Volume: cubic inches
Consolidated Volume: 4.810 cubic inches
Assumed Consolidated Height: inches
Assumed Height after Consolidation : 3.116 inches

Moist Weight of Specimen + Can: 218.63 gms.
Dry Weight of Specimen + Can: 185.01 gms.
Weight of Can: 68.58 gms.
Weight of Water: 33.62 gms.
Weight of Dry Specimen: 116.43 gms.

Initial Water Content: 29.18 percent
Initial Dry Density: 92.20 pcf
Percent Saturated: 97.34 percent
Initial Void Ratio: 0.794
Initial Diameter: 1.402 inches
Initial Height: 3.116 inches

Final Water Content: 28.88 percent
Final Dry Density: 92.20 pcf
Percent Saturated: 96.34 percent
Final Void Ratio: 0.794
Final Diameter* : 1.402 inches
Final Height: 3.116 inches

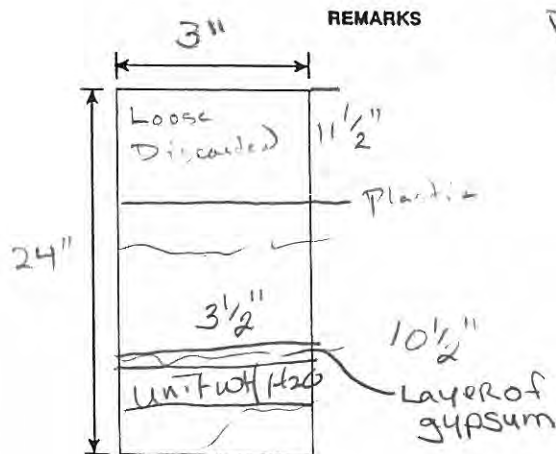
*Diameter is estimated to be unchanged

Checked by: SKM

FIELD SAMPLE NO.	DEPTH (FT.)		SAMPLE LOCATION	TYPE OF SAMPLE	LABORATORY NO.	
	FROM	TO				
F10-1400	10	11'	201.2	3" Shelby	11-1053	
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
LT Brown	Damp	V. Stiff	Blocky Gypsum	Floury	—	ML

ω 20.7 % γ_d 1.73 g/cc

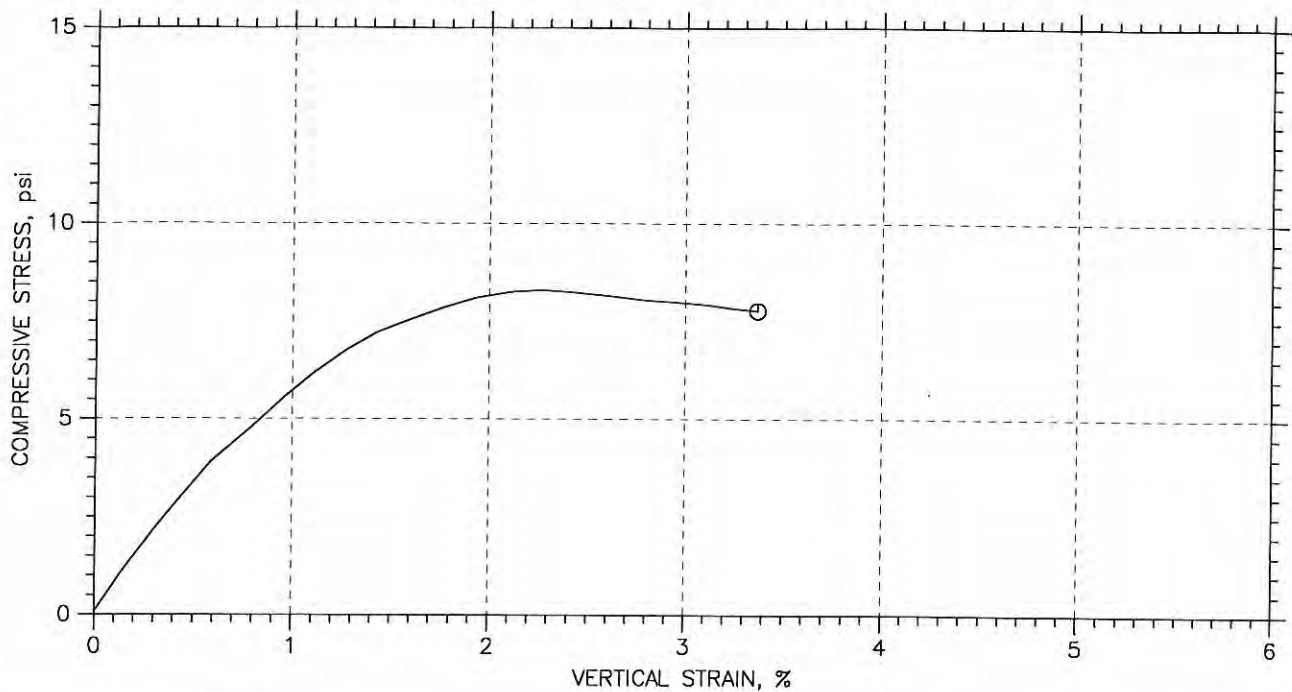
DESCRIBED BY SKM, RM



Broke apart in several places when extruded
 Very Blocky ML Material
 Unit weight & H₂O taken

Photos taken 4

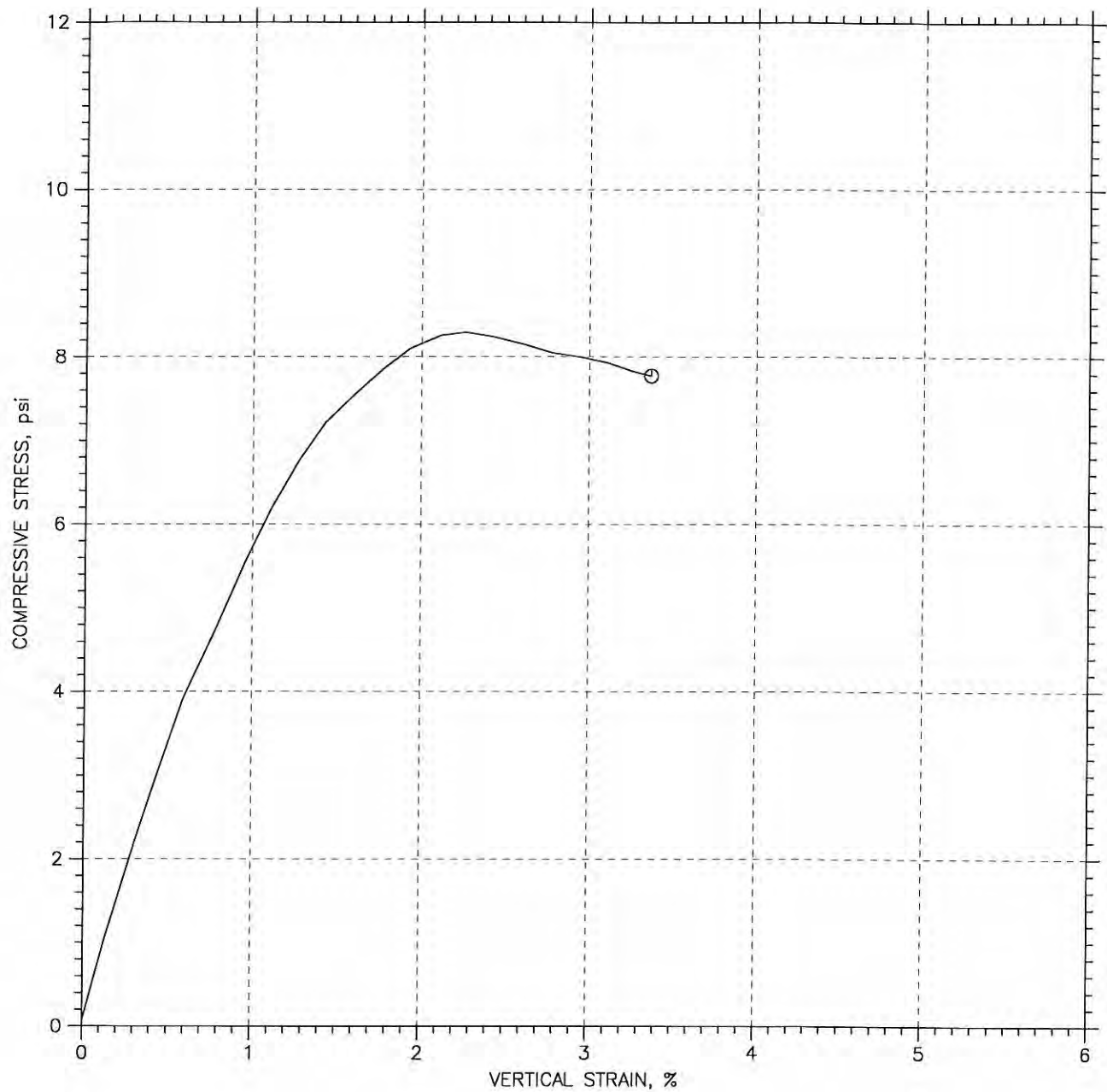
UNCONFINED COMPRESSION TEST REPORT




Symbol	⊙			
Test No.	1			
Initial	Diameter, in	1.422		
	Height, in	3.129		
	Water Content, %	26.41		
	Dry Density, pcf	98.6		
	Saturation, %	98.97		
	Void Ratio	0.729		
Unconfined Compressive Strength, psi <i>qu</i>		8.295		
Undrained Shear Strength, psi <i>qu/2 ⇒ c_{ui}</i>		4.148 <i>psi</i>	597 <i>psf</i>	
Time to Failure, min		2.3339	<i>Record c_{ui} = 600 psf @ 2.3% strain</i>	
Strain Rate, %/min		1		
Measured Specific Gravity		2.73		
Liquid Limit		---		
Plastic Limit		---		
Plasticity Index		---		
Failure Sketch				

 Natural Resources Conservation Service	Project: PLUM CREEK SITE 6
	Location: TX
	Project No.: 11-1053
	Boring No.: F10-1400
	Sample Type: CORE
	Description: HOLE 201.2
Remarks: VACCUUM SATURATED	

UNCONFINED COMPRESSION TEST REPORT



 NRCS Natural Resources Conservation Service	Project: PLUM CREEK SITE 6	Location: TX	Project No.: 11-1053
	Boring No.: F10-1400	Tested By: SKM	Checked By: SKM
	Sample No.: 11-1053	Test Date: 5/20/11	Depth: 10-11'
	Test No.: 1	Sample Type: CORE	Elevation: N/A
	Description: HOLE 201.2		
	Remarks: VACCUUM SATURATED		

UNCONFINED COMPRESSION TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1400
Sample No.: 11-1053
Test No.: 1

Location: TX
Tested By: SKM
Test Date: 5/20/11
Sample Type: CORE

Project No.: 11-1053
Checked By: SKM
Depth: 10-11'
Elevation: N/A

Soil Description: HOLE 201.2
Remarks: VACUUM SATURATED

Specimen Height: 3.13 in
Specimen Area: 1.59 in²
Specimen Volume: 81.43 cc

Liquid Limit: ---
Plastic Limit: ---
Measured Specific Gravity: 2.73

Cap Mass: 0 gm

Water Content Information

Container ID
Wt. Container, gm
Wt. Container + Wet Soil, gm
Wt. Container + Dry Soil, gm
Wt. Dry Soil, gm
Water Content, %
Void Ratio
Degree of Saturation, %
Wet Unit Weight, pcf
Dry Unit Weight, pcf

0
162.58
128.61
128.61
26.41
0.73
98.97
124.64
98.596

UNCONFINED COMPRESSION TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1400
 Sample No.: 11-1053
 Test No.: 1

Location: TX
 Tested By: SKM
 Test Date: 5/20/11
 Sample Type: CORE

Project No.: 11-1053
 Checked By: SKM
 Depth: 10-11'
 Elevation: N/A

Soil Description: HOLE 201.2
 Remarks: VACCUUM SATURATED

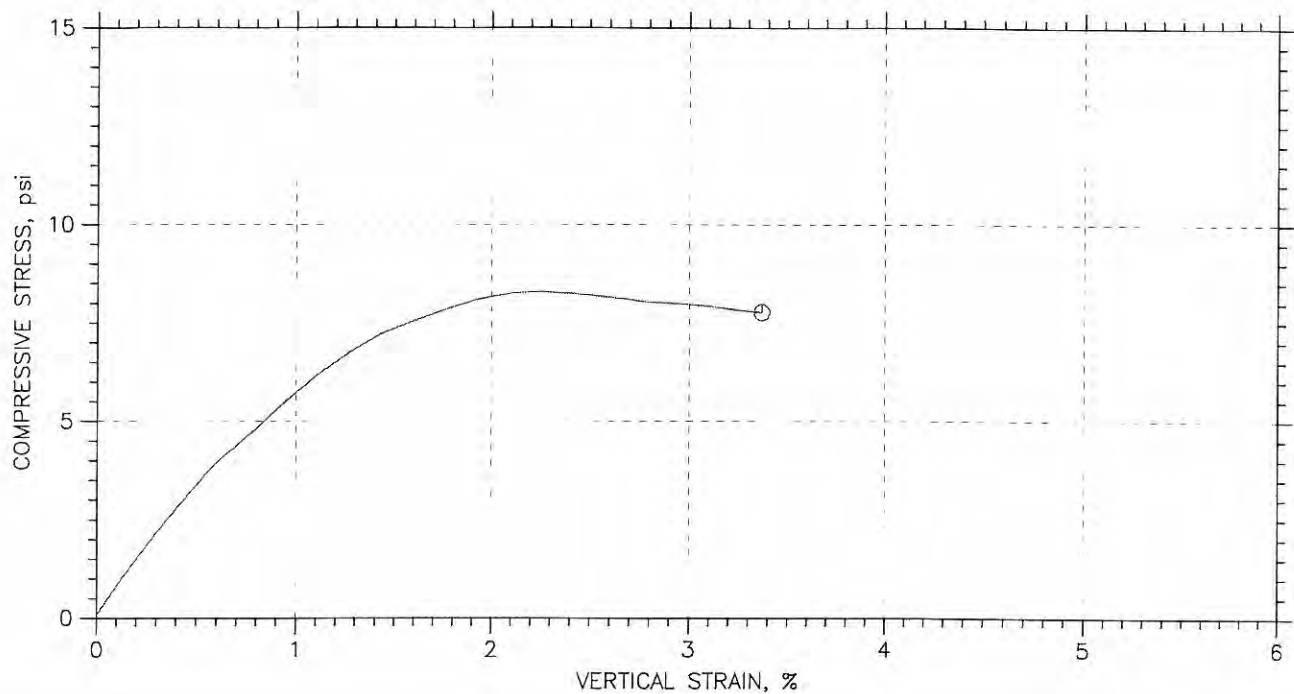
Specimen Height: 3.13 in
 Specimen Area: 1.59 in²
 Specimen Volume: 81.43 cc

Liquid Limit: ---
 Plastic Limit: ---
 Measured Specific Gravity: 2.73


Cap Mass: 0 gm

	Time min	Axial Displacement in	Axial Strain %	Load lb	Corrected Area in ²	Corrected Vertical Stress psi	Corrected Shear Stress psi
1	0	0	0	0.12509	1.5881	0.078763	0.039382
2	0.1707	0.004077	0.1303	1.673	1.5902	1.0521	0.52604
3	0.33737	0.0094512	0.30205	3.4868	1.593	2.1889	1.0944
4	0.50425	0.014177	0.45308	4.9566	1.5954	3.1069	1.5534
5	0.67068	0.018439	0.5893	6.2387	1.5976	3.9052	1.9526
6	0.83733	0.024462	0.78178	7.5834	1.6007	4.7377	2.3689
7	1.0042	0.029975	0.95798	8.9125	1.6035	5.5581	2.7791
8	1.1707	0.034701	1.109	9.9288	1.606	6.1825	3.0913
9	1.3334	0.03989	1.2748	10.883	1.6086	6.7651	3.3825
10	1.5003	0.044662	1.4273	11.617	1.6111	7.2107	3.6054
11	1.6667	0.050175	1.6035	12.196	1.614	7.5563	3.7781
12	1.8337	0.055503	1.7738	12.712	1.6168	7.8623	3.9312
13	2.0004	0.06046	1.9322	13.119	1.6194	8.1007	4.0504
14	2.167	0.066112	2.1129	13.4	1.6224	8.2593	4.1296
15	2.3339	0.070699	2.2595	13.478	1.6249	8.295	4.1475
16	2.5009	0.075795	2.4223	13.416	1.6276	8.2428	4.1214
17	2.6675	0.081633	2.6089	13.291	1.6307	8.1503	4.0751
18	2.8344	0.086775	2.7733	13.15	1.6334	8.0504	4.0252
19	3.0013	0.092288	2.9495	13.087	1.6364	7.9976	3.9988
20	3.168	0.097338	3.1108	12.993	1.6391	7.927	3.9635
21	3.3346	0.10179	3.253	12.853	1.6415	7.8297	3.9148
22	3.4474	0.10545	3.37	12.775	1.6435	7.7726	3.8863

UNCONFINED COMPRESSION TEST REPORT



Symbol	①			
Test No.	1			
Initial	Diameter, in	1.422		
	Height, in	3.129		
	Water Content, %	26.41		
	Dry Density, pcf	98.6		
	Saturation, %	98.97		
	Void Ratio	0.729		
	Unconfined Compressive Strength, psi	8.295		
	Undrained Shear Strength, psi	4.148		
	Time to Failure, min	2.3339		
	Strain Rate, %/min	1		
	Measured Specific Gravity	2.73		
	Liquid Limit	---		
	Plastic Limit	---		
	Plasticity Index	---		
Failure Sketch				

 NRCS Natural Resources Conservation Service	Project: PLUM CREEK SITE 6
	Location: TX
	Project No.: 11-1053
	Boring No.: F10-1400
	Sample Type: CORE
	Description: HOLE 201.2
	Remarks: VACCUUM SATURATED

BASE

SHEAR TEST DATA

<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	CELL NO. _____ BURETTE NO. _____ MACHINE NO. <u>3</u> CUBAR COMPACTED _____ UNDISTURBED <input checked="" type="checkbox"/>	LOAD CH. _____ STRAIN CH. _____ P.P. CH. _____ Gs <u>273</u>	LAB. NO. <u>11-1053</u> <u>11-105384</u> TEST DATE <u>5/20/11</u>
Cell _____ PSI Base _____ PSI Test _____ PSI B _____ RATE OF STRAIN <u>1</u> in./min.			

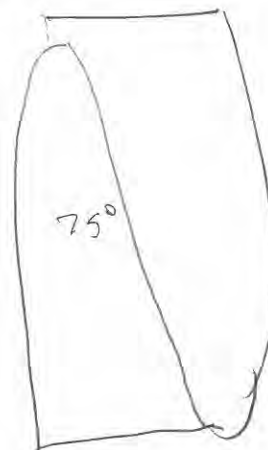
 SPECIMEN DATA
 TECHNICIAN SKM

 MOISTURE DATA
 TECHNICIAN SKM

DIAMETER		INITIAL IN MACHINE		INITIAL FINAL	
TOP	IN.	1.400	1.427	WET WT. SPEC. + CAN (GM.)	232.16
MIDDLE	IN.	1.409	1.419	DRY WT. SPEC. + CAN (GM.)	198.51
BOTTOM	IN.	1.404	1.421	WT. MOISTURE (GM.)	
MEAN DIAMETER	IN.	1.406	1.422	WT. CAN (GM.)	69.90
HEIGHT	IN.	3.004	3.129	WT DRY SOIL (GM.)	
MOIST WT.	GM.	156.26	162.58	PERCENT MOISTURE	21.50
END AREA	IN. ²	1.553	1.588	DRY UNIT WEIGHT (GM/CC)	26.41
VOLUME	IN. ³	4.664	4.969	PERCENT POROSITY	
MOIST UNIT WT.	PCF	127.63	124.63	THEORETICAL SAT. %	
PERCENT SAT. @ START					

 CONSOLIDATION DATA
 TECHNICIAN _____

EXTENSOMETER READINGS		DATE:
INITIAL READING	IN.	TIME:
FINAL READING	IN.	TIME:
HT. DEFORMATION	IN.	
INITIAL BURETTE READING	CM	
FINAL BURETTE READING	CM	
VOL. CHANGE	CC x 0.061	IN. ³
CONS. VOLUME OF SPECIMEN	IN. ³	
CONS. HEIGHT OF SPECIMEN	IN.	
AVG. AREA OF CONS. SPECIMEN	IN. ²	
CONSOLIDATED MOIST UNIT WT.	PCF	

 FAILURE SKETCH 128.61

 INITIAL DRY DENSITY = 98.59
 FINAL DRY DENSITY = 98.59

REMARKS:

Initial
 1391
 1409
 1105
 1112
 1402
 1406

3008
 3004
 3000

1427
 1427
 1426
 1411
 1421
 1422

Horizontal & vertical cracks in
 slug - Blocky
 3129
 3127
 3130

 Checked by: SKM

 Date: 5/26/11

Shear Test Data
Specimen #1

5/26/2011
1:07 PM

Project: PLUM CREEK SITE 6
State: TX
Lab No: 11-1053
Specific Gravity (Gs): 2.73

Test Specifications:

Shear Cell No.:

Confining Pressure: psi

Top Diameter: 1.427 inches
Middle Diameter: 1.419 inches (Either measure two middle diameters
Middle Diameter: 1.419 inches or enter in the same value)
Bottom Diameter: 1.421 inches
Height of Specimen: 3.129 inches
Moist Weight of Specimen: 162.58 gms.
Mean Diameter: 1.422 inches
End Area: 1.588 sq. inches
Volume of Specimen: 4.969 cubic inches
Moist Unit Weight: 124.63 pcf (multiply gms/cubic inch by 3.8095 to
to achieve pcf)

Extensometer Height Deformation: inches
Initial Volume of Base Cell: ml.
Final Volume of Base Cell: ml.
Is the Large Burette being Used? no (yes or no)
Calibrated Area of the Base Burette: cc

Burette Volume: cc note 1.00 ml = 1.00 cc
Burette Volume: cubic inches
Consolidated Volume: 4.969 cubic inches
Assumed Consolidated Height: inches
Assumed Height after Consolidation : 3.129 inches

Moist Weight of Specimen + Can: 232.16 gms.
Dry Weight of Specimen + Can: 198.51 gms.
Weight of Can: 69.90 gms.
Weight of Water: 33.65 gms.
Weight of Dry Specimen: 128.61 gms.

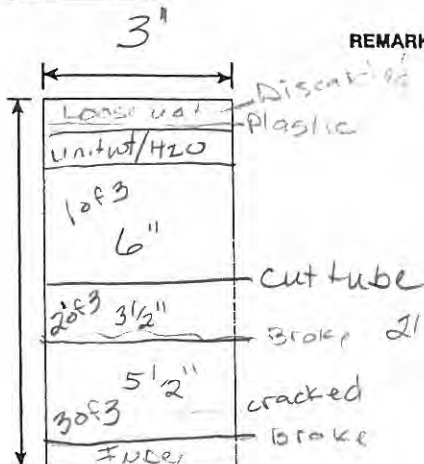
Initial Water Content: 26.41 percent
Initial Dry Density: 98.59 pcf
Percent Saturated: 98.96 percent
Initial Void Ratio: 0.729
Initial Diameter: 1.422 inches
Initial Height: 3.129 inches

Final Water Content: 26.16 percent
Final Dry Density: 98.59 pcf
Percent Saturated: 98.03 percent
Final Void Ratio: 0.729
Final Diameter*: 1.422 inches
Final Height: 3.129 inches

*Diameter is estimated to be unchanged

Checked by: SKM

MATERIALS TESTING REPORT		U.S. DEPARTMENT of AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE		UNDISTURBED SAMPLE CHARACTERISTICS	
PROJECT and STATE <u>Plum Creek Co., TX</u>					
TESTED AT <u>NDCSMC-LINCOLN, NE</u>			APPROVED BY		DATE <u>5-4-11</u>
FIELD SAMPLE NO.	DEPTH (FT.) FROM TO		SAMPLE LOCATION		TYPE OF SAMPLE
<u>F10402</u>	<u>5 7'</u>		<u>2021</u>		<u>3" Shelby</u>
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)
<u>Lt Brown</u>	<u>Damp</u>	<u>V. Stiff</u>	<u>Gypsum</u>	<u>Floury</u>	<u>-</u>
ω <u>21.5 %</u> γ_d <u>1.65 g/cc</u>					LABORATORY NO. <u>11-1054</u>
DESCRIBED BY <u>SKM, RM</u>					



REMARKS would not push, cut tube.

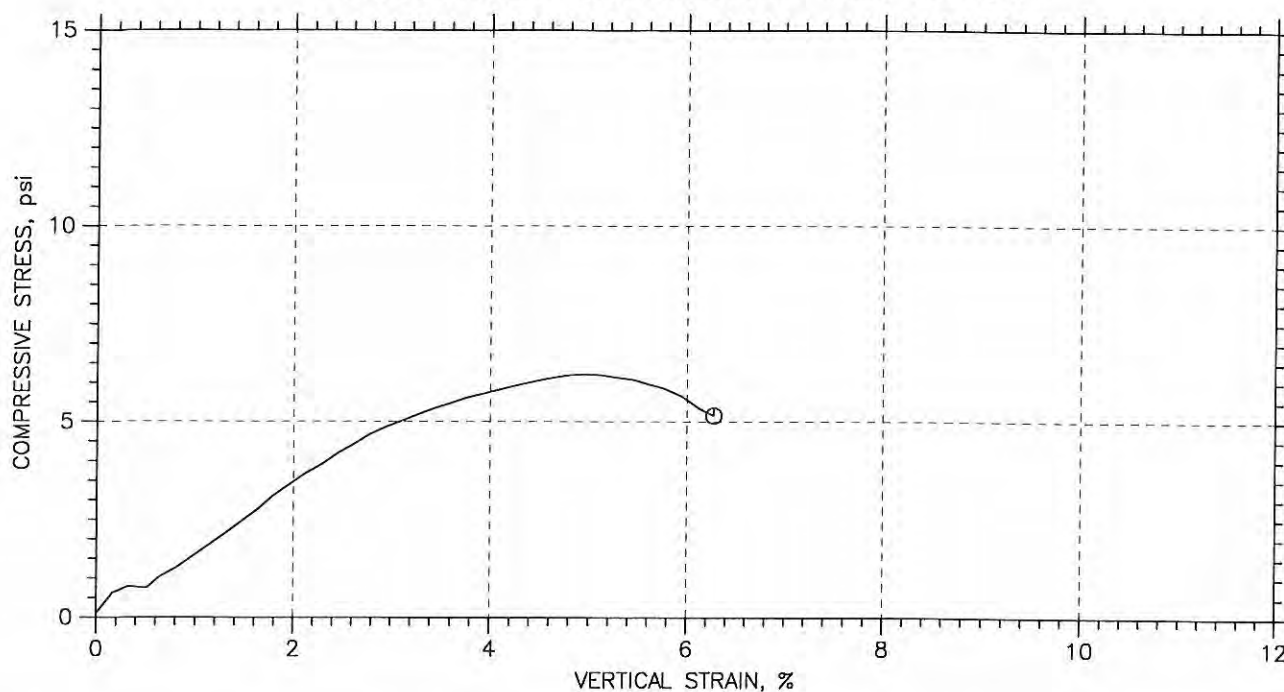
Traces of calcium carbonate deposits or gypsum throughout sample.

Very stiff, blocky ML material.


Unit weight & H₂O taken

Photostaken 2

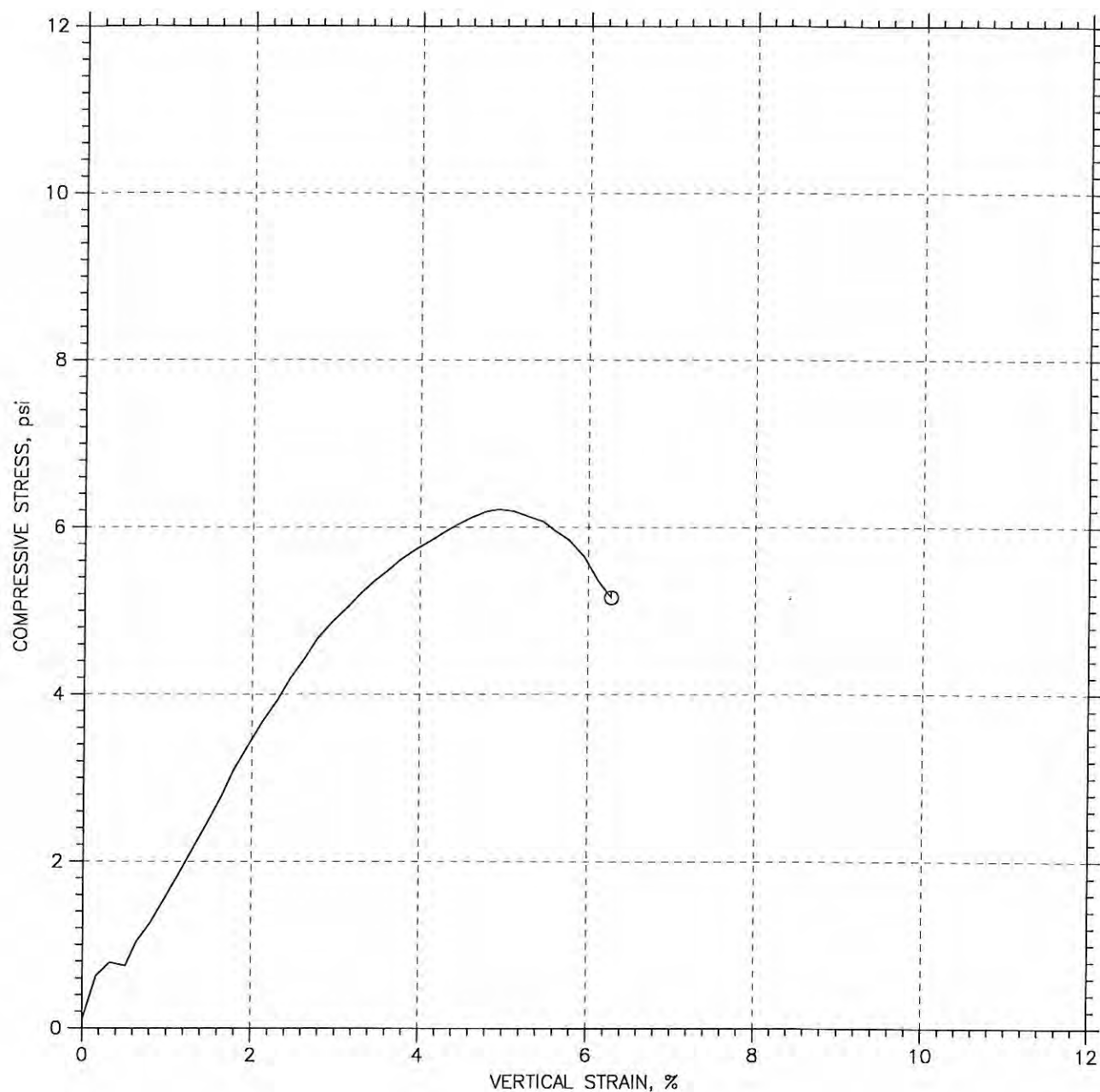
UNCONFINED COMPRESSION TEST REPORT




Symbol	⊙			
Test No.	1			
Initial	Diameter, in	1.436		
	Height, in	3.089		
	Water Content, %	27.34		
	Dry Density, pcf	96.09		
	Saturation, %	96.03		
	Void Ratio	0.78		
	Unconfined Compressive Strength, psi q_u	6.213		
	Undrained Shear Strength, psi $q_u/2 \Rightarrow c_u$	3.107 $psf = 447 psf$		
	Time to Failure, min	5.004	Record on 500 psf @ 50 grains	
	Strain Rate, %/min	1		
	Measured Specific Gravity	2.74		
	Liquid Limit	---		
	Plastic Limit	---		
	Plasticity Index	---		
Failure Sketch	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px dashed black; width: 40px; height: 60px;"></div> <div style="border: 1px dashed black; width: 40px; height: 60px;"></div> <div style="border: 1px dashed black; width: 40px; height: 60px;"></div> <div style="border: 1px dashed black; width: 40px; height: 60px;"></div> </div>			

 NRCS Natural Resources Conservation Service	Project: PLUM CREEK SITE 6
	Location: TX
	Project No.: 11-1054
	Boring No.: F10-1402
	Sample Type: CORE
	Description: HOLE 202.1
	Remarks: VACCUUM SATURATED

UNCONFINED COMPRESSION TEST REPORT



 NRCS Natural Resources Conservation Service	Project: PLUM CREEK SITE 6	Location: TX	Project No.: 11-1054
	Boring No.: F10-1402	Tested By: SKM	Checked By: SKM
	Sample No.: 11-1054	Test Date: 5/23/11	Depth: 5-7'
	Test No.: 1	Sample Type: CORE	Elevation: N/A
	Description: HOLE 202.1		
	Remarks: VACCUUM SATURATED		

UNCONFINED COMPRESSION TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1402
Sample No.: 11-1054
Test No.: 1

Location: TX
Tested By: SKM
Test Date: 5/23/11
Sample Type: CORE

Project No.: 11-1054
Checked By: SKM
Depth: 5-7'
Elevation: N/A

Soil Description: HOLE 202.1
Remarks: VACCUUM SATURATED

Specimen Height: 3.09 in
Specimen Area: 1.62 in²
Specimen Volume: 81.98 cc

Liquid Limit: ---
Plastic Limit: ---
Measured Specific Gravity: 2.74

Cap Mass: 0 gm

Water Content Information

Container ID	
Wt. Container, gm	0
Wt. Container + Wet Soil, gm	160.69
Wt. Container + Dry Soil, gm	126.19
Wt. Dry Soil, gm	126.19
Water Content, %	27.34
Void Ratio	0.78
Degree of Saturation, %	96.03
Wet Unit Weight, pcf	122.36
Dry Unit Weight, pcf	96.092

UNCONFINED COMPRESSION TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1402
 Sample No.: 11-1054
 Test No.: 1

Location: TX
 Tested By: SKM
 Test Date: 5/23/11
 Sample Type: CORE

Project No.: 11-1054
 Checked By: SKM
 Depth: 5-7'
 Elevation: N/A

Soil Description: HOLE 202.1
 Remarks: VACUUM SATURATED

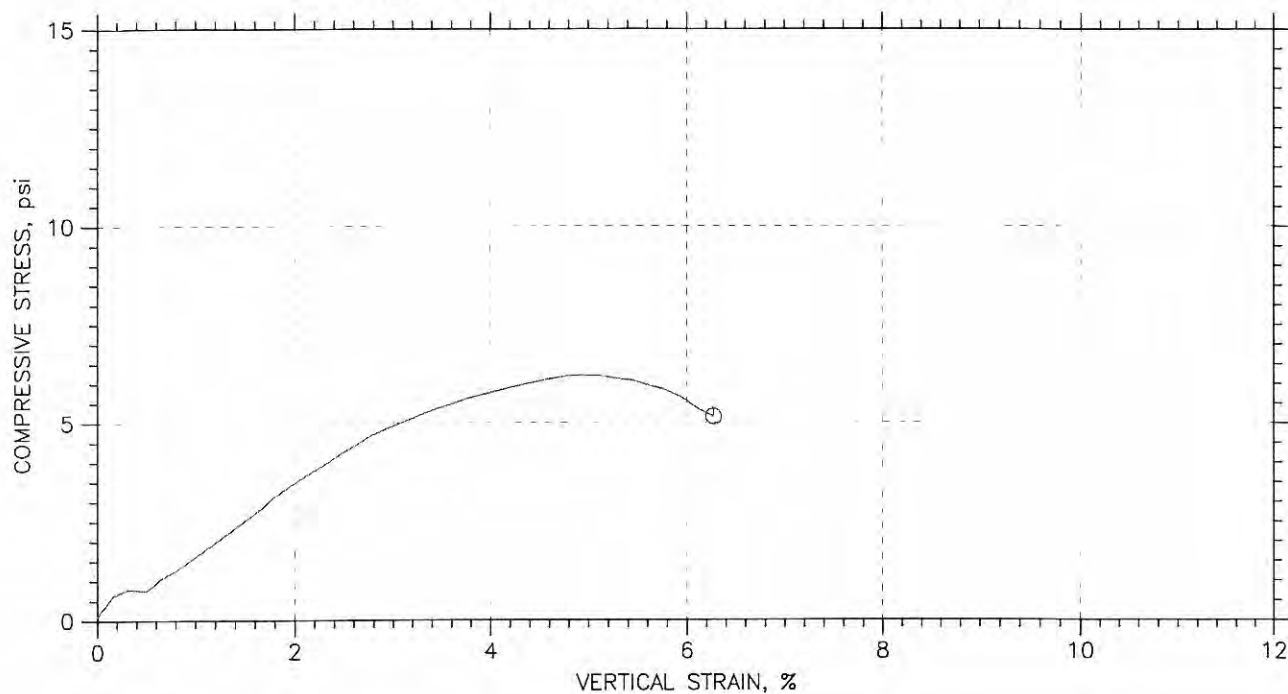
Specimen Height: 3.09 in
 Specimen Area: 1.62 in²
 Specimen Volume: 81.98 cc

Liquid Limit: ---
 Plastic Limit: ---
 Measured Specific Gravity: 2.74

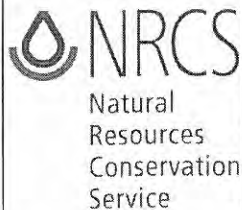
Cap Mass: 0 gm

	Time min	Axial Displacement in	Axial Strain %	Load lb	Corrected Area in ²	Corrected Vertical Stress psi	Corrected Shear Stress psi
1	0	0	0	0.172	1.6196	0.1062	0.053099
2	0.17062	0.0049573	0.16048	1.0163	1.6222	0.62653	0.31326
3	0.33728	0.0098682	0.31946	1.2821	1.6248	0.78913	0.39457
4	0.50407	0.015659	0.50694	1.2196	1.6278	0.74922	0.37461
5	0.6706	0.01969	0.63742	1.6887	1.63	1.036	0.51801
6	0.83727	0.024879	0.80541	2.0639	1.6327	1.2641	0.63206
7	1.0041	0.029744	0.96289	2.5174	1.6353	1.5394	0.7697
8	1.1706	0.034979	1.1324	3.0177	1.6381	1.8422	0.9211
9	1.3373	0.040307	1.3048	3.5337	1.641	2.1534	1.0767
10	1.504	0.045542	1.4743	4.0653	1.6438	2.4731	1.2366
11	1.6706	0.050685	1.6408	4.5813	1.6466	2.7823	1.3912
12	1.8372	0.055086	1.7833	5.1129	1.649	3.1007	1.5503
13	2.004	0.060553	1.9603	5.6133	1.6519	3.398	1.699
14	2.1706	0.065371	2.1163	6.0667	1.6546	3.6666	1.8333
15	2.3372	0.070931	2.2962	6.5045	1.6576	3.924	1.962
16	2.5041	0.075702	2.4507	6.958	1.6603	4.1909	2.0955
17	2.6706	0.080984	2.6217	7.3645	1.6632	4.428	2.214
18	2.8372	0.085571	2.7702	7.7711	1.6657	4.6653	2.3327
19	3.004	0.090945	2.9442	8.115	1.6687	4.8631	2.4316
20	3.1706	0.096921	3.1376	8.4434	1.672	5.0498	2.5249
21	3.3372	0.10132	3.2801	8.7092	1.6745	5.2011	2.6006
22	3.504	0.10665	3.4526	8.9907	1.6775	5.3596	2.6798
23	3.6705	0.11152	3.6101	9.2096	1.6802	5.4812	2.7406
24	3.8372	0.11592	3.7526	9.4285	1.6827	5.6031	2.8016
25	4.004	0.12138	3.9295	9.6474	1.6858	5.7227	2.8613
26	4.1705	0.12699	4.111	9.8506	1.689	5.8322	2.9161
27	4.3372	0.13195	4.2715	10.038	1.6918	5.9334	2.9667
28	4.504	0.13741	4.4485	10.226	1.695	6.0331	3.0165
29	4.6705	0.14168	4.5865	10.367	1.6974	6.1073	3.0536
30	4.8372	0.14765	4.7799	10.523	1.7009	6.1868	3.0934
31	5.004	0.15252	4.9374	10.586	1.7037	6.2133	3.1067
32	5.1705	0.15794	5.1129	10.57	1.7068	6.1927	3.0963
33	5.3372	0.16313	5.2809	10.476	1.7099	6.1269	3.0634
34	5.504	0.16841	5.4519	10.398	1.713	6.0702	3.0351
35	5.6705	0.17299	5.6003	10.226	1.7156	5.9604	2.9802
36	5.8372	0.178	5.7623	10.054	1.7186	5.8501	2.925
37	6.0039	0.18374	5.9483	9.7255	1.722	5.6478	2.8239
38	6.1705	0.18893	6.1163	9.2408	1.7251	5.3568	2.6784
39	6.3374	0.1938	6.2738	8.9125	1.728	5.1578	2.5789

UNCONFINED COMPRESSION TEST REPORT



Symbol	⊙			
Test No.	1			
Initial	Diameter, in	1.436		
	Height, in	3.089		
	Water Content, %	27.34		
	Dry Density, pcf	96.09		
	Saturation, %	96.03		
	Void Ratio	0.78		
Unconfined Compressive Strength, psi		6.213		
Undrained Shear Strength, psi		3.107		
Time to Failure, min		5.004		
Strain Rate, %/min		1		
Measured Specific Gravity		2.74		
Liquid Limit		---		
Plastic Limit		---		
Plasticity Index		---		
Failure Sketch				



Project: PLUM CREEK SITE 6
 Location: TX
 Project No.: 11-1054
 Boring No.: F10-1402
 Sample Type: CORE
 Description: HOLE 202.1
 Remarks: VACCUUM SATURATED

BASE

SHEAR TEST DATA

<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	CELL NO. _____ BURETTE NO. _____ MACHINE NO. <u>3</u> CUBAR COMPACTED _____ UNDISTURBED <input checked="" type="checkbox"/>	LOAD CH. _____ STRAIN CH. _____ P.P. CH. _____ Gs <u>2.74</u>	20F3 LAB. NO. <u>11-1054</u> <u>11-105484</u> TEST DATE <u>5/23/11</u>	
Cell <u> </u> PSI Base <u> </u> PSI Test <u> </u> PSI B <u> </u> RATE OF STRAIN <u>1</u> in./% min.				

SPECIMEN DATA TECHNICIAN <u>Skm</u>	MOISTURE DATA TECHNICIAN <u>Skm</u>
---	---

DIAMETER		INITIAL	IN MACHINE			INITIAL	FINAL
TOP	IN.	1.410	1.435	WET WT. SPEC. + CAN	(GM.)		230.69
MIDDLE	IN.	1.404	1.443	DRY WT. SPEC. + CAN	(GM.)		196.55
BOTTOM	IN.	1.402	1.421	WT. MOISTURE	(GM.)		
MEAN DIAMETER	IN.	1.405	1.436	WT. CAN	(GM.)		70.36
HEIGHT	IN.	2.999	3.089	WT DRY SOIL	Initial (GM.)		
MOIST WT.	GM.	152.72	160.69	PERCENT MOISTURE	21.02	27.34	27.05
END AREA	IN. ²	1.550	1.620	DRY UNIT WEIGHT	(GM/CC)		
VOLUME	IN. ³	4.650	5.023	PERCENT POROSITY			
MOIST UNIT WT.	PCF	125.12	122.34	THEORETICAL SAT. %			
				PERCENT SAT. @ START			

CONSOLIDATION DATA		
TECHNICIAN _____		
EXTENSOMETER READINGS		DATE:
INITIAL READING	IN.	TIME:
FINAL READING	IN.	TIME:
HT. DEFORMATION	IN.	
INITIAL BURETTE READING		CM
FINAL BURETTE READING		CM
VOL. CHANGE	CC x 0.061	IN. ³
CONS. VOLUME OF SPECIMEN		IN. ³
CONS. HEIGHT OF SPECIMEN		IN.
AVG. AREA OF CONS. SPECIMEN		IN. ²
CONSOLIDATED MOIST UNIT WT.		PCF

FAILURE SKETCH 12619

INITIAL DRY DENSITY = 9609FINAL DRY DENSITY = 9609

REMARKS:

INITIAL

1410
1409

1412
1396

1410
1394

2989
3000
3009

1432
1438

1443
1443

1414
1427

3106
3094
3067

horizontal cracks



height uneven

Checked by: _____

Skm

Date: _____

5/26/11

Shear Test Data
Specimen #1

5/26/2011
1:20 PM

Project: PLUM CREEK SITE 6
State: TX
Lab No: 11-1054
Specific Gravity (Gs): 2.74

Test Specifications:

Shear Cell No.:
Confining Pressure: psi

Top Diameter: 1.435 inches
Middle Diameter: 1.443 inches (Either measure two middle diameters
Middle Diameter: 1.443 inches or enter in the same value)
Bottom Diameter: 1.421 inches
Height of Specimen: 3.089 inches
Moist Weight of Specimen: 160.69 gms.
Mean Diameter: 1.436 inches
End Area: 1.620 sq. inches
Volume of Specimen: 5.003 cubic inches
Moist Unit Weight: 122.36 pcf (multiply gms/cubic inch by 3.8095 to
to achieve pcf)

Extensometer Height Deformation: inches
Initial Volume of Base Cell: ml.
Final Volume of Base Cell: ml.
Is the Large Burette being Used? no (yes or no)
Calibrated Area of the Base Burette: cc

Burette Volume: cc note 1.00 ml = 1.00 cc
Burette Volume: cubic inches
Consolidated Volume: 5.003 cubic inches
Assumed Consolidated Height: inches
Assumed Height after Consolidation : 3.089 inches

Moist Weight of Specimen + Can: 230.69 gms.
Dry Weight of Specimen + Can: 196.55 gms.
Weight of Can: 70.36 gms.
Weight of Water: 34.14 gms.
Weight of Dry Specimen: 126.19 gms.

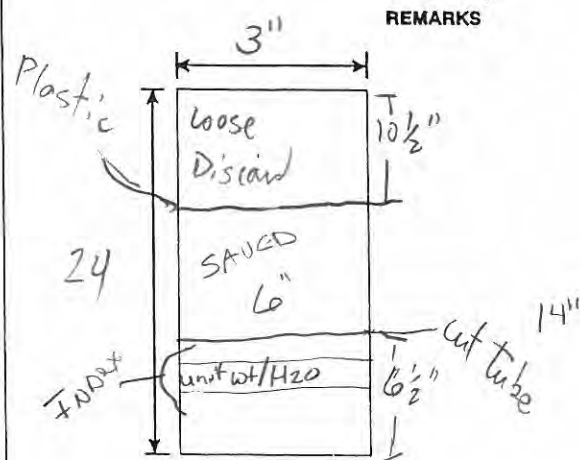
Initial Water Content: 27.34 percent
Initial Dry Density: 96.09 pcf
Percent Saturated: 96.01 percent
Initial Void Ratio: 0.780
Initial Diameter: 1.436 inches
Initial Height: 3.089 inches

Final Water Content: 27.05 percent
Final Dry Density: 96.09 pcf
Percent Saturated: 95.01 percent
Final Void Ratio: 0.780
Final Diameter*: 1.436 inches
Final Height: 3.089 inches

*Diameter is estimated to be unchanged

Checked by: SKM

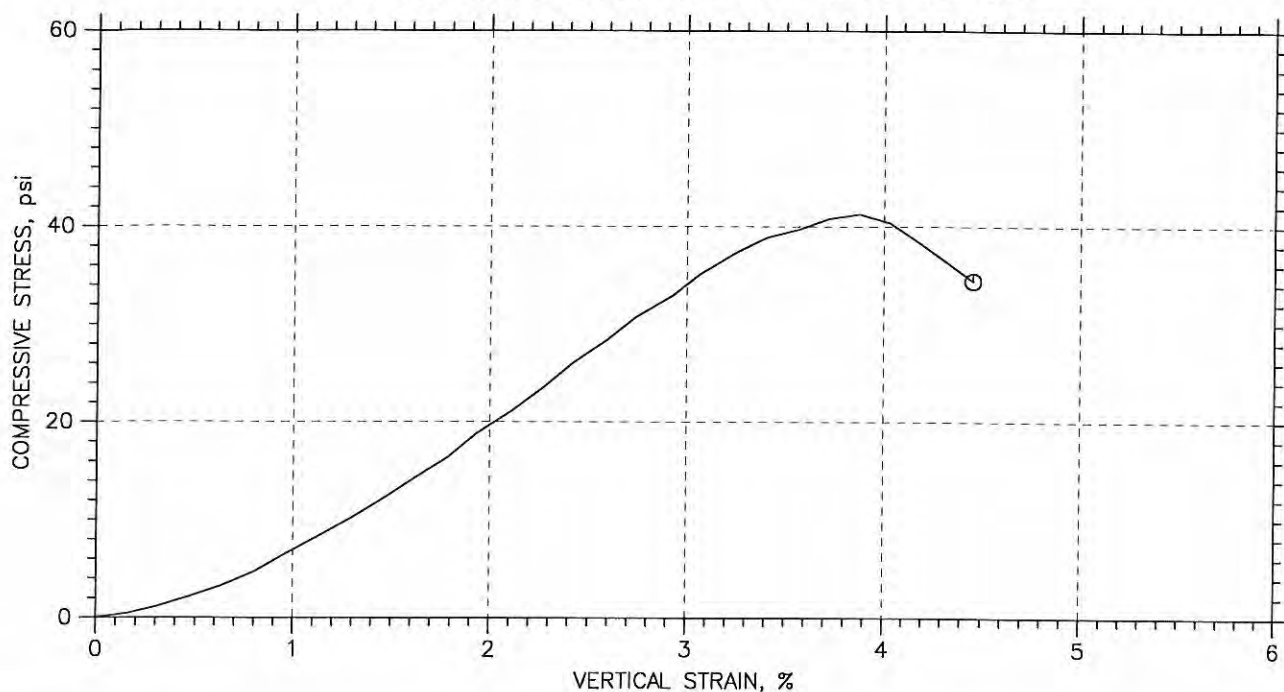
FIELD SAMPLE NO.	DEPTH (FT.)		SAMPLE LOCATION			TYPE OF SAMPLE	LABORATORY NO.
	FROM	TO					
F10-1403	10	14'	202.2			3" Shelby	11-1055
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)	
Lt Brown	Damp	N. Stiff	Gypsum	Floury	4.5	ML	
ω 22.4 % γ_d 164 g/cc				DESCRIBED BY SKM, RM			



Would not push, cut tube.
 Top half pushed out in 1 piece but bottom half accoridianed out.
 Gypsum in sample. very stiff, blocky ML material
 Unit weight & H₂O taken

Photos taken 2

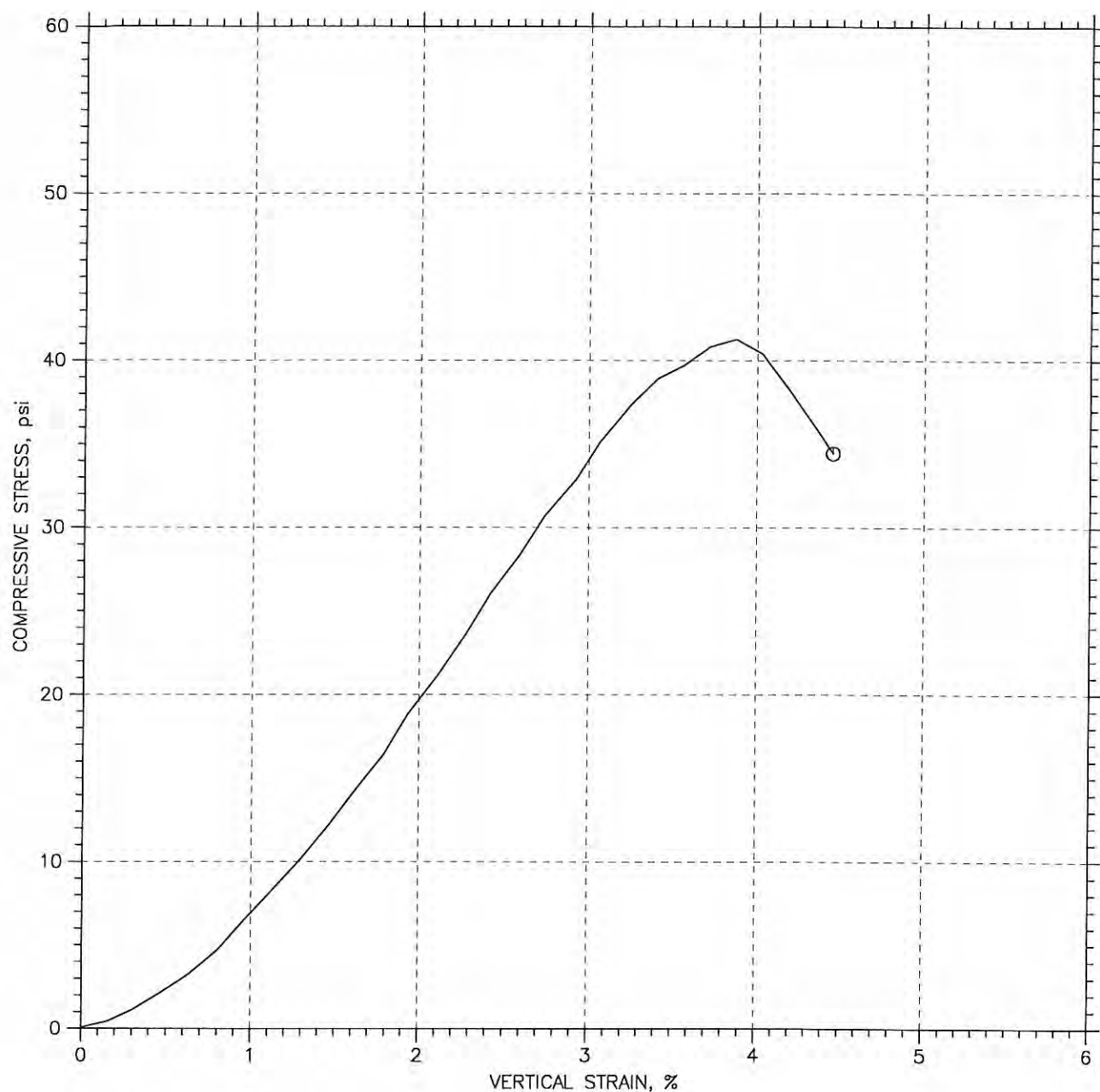
UNCONFINED COMPRESSION TEST REPORT




Symbol	Ø			
Test No.	1			
Initial	Diameter, in	1.414		
	Height, in	3.066		
	Water Content, %	24.53		
	Dry Density, pcf	101.7		
	Saturation, %	99.16		
	Void Ratio	0.675		
Unconfined Compressive Strength, psi q_u		41.27		
Undrained Shear Strength, psi $\tau_{u/2} \Rightarrow C_u =$		20.64 $p_s = 2972 \text{ p.s.f.}$		
Time to Failure, min		4.0013	$\text{Record } C_u = 2970 \text{ p.s.f. @ } 3.9\%$	
Strain Rate, %/min		1		strain
Measured Specific Gravity		2.73		
Liquid Limit		---		
Plastic Limit		---		
Plasticity Index		---		
Failure Sketch				

 Natural Resources Conservation Service	Project: PLUM CREEK SITE 6
	Location: TX
	Project No.: 11-1055
	Boring No.: F10-1403
	Sample Type: CORE
	Description: HOLE 202.2
	Remarks: VACCUUM SATURATED

UNCONFINED COMPRESSION TEST REPORT



 NRCS Natural Resources Conservation Service	Project: PLUM CREEK SITE 6	Location: TX	Project No.: 11-1055
	Boring No.: F10-1403	Tested By: SKM	Checked By: SKM
	Sample No.: 11-1055	Test Date: 5/24/11	Depth: 10-14'
	Test No.: 1	Sample Type: CORE	Elevation: N/A
	Description: HOLE 202.2		
	Remarks: VACCUUM SATURATED		

UNCONFINED COMPRESSION TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1403
Sample No.: 11-1055
Test No.: 1

Location: TX
Tested By: SKM
Test Date: 5/24/11
Sample Type: CORE

Project No.: 11-1055
Checked By: SKM
Depth: 10-14'
Elevation: N/A

Soil Description: HOLE 202.2
Remarks: VACCUUM SATURATED

Specimen Height: 3.07 in
Specimen Area: 1.57 in²
Specimen Volume: 78.90 cc

Liquid Limit: ---
Plastic Limit: ---
Measured Specific Gravity: 2.73

Cap Mass: 0 gm

Water Content Information

Container ID	
Wt. Container, gm	0
Wt. Container + Wet Soil, gm	160.1
Wt. Container + Dry Soil, gm	128.56
Wt. Dry Soil, gm	128.56
Water Content, %	24.53
Void Ratio	0.68
Degree of Saturation, %	99.16
Wet Unit Weight, pcf	126.68
Dry Unit Weight, pcf	101.72

UNCONFINED COMPRESSION TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1403
 Sample No.: 11-1055
 Test No.: 1

Location: TX
 Tested By: SKM
 Test Date: 5/24/11
 Sample Type: CORE

Project No.: 11-1055
 Checked By: SKM
 Depth: 10-14'
 Elevation: N/A

Soil Description: HOLE 202.2
 Remarks: VACCUUM SATURATED

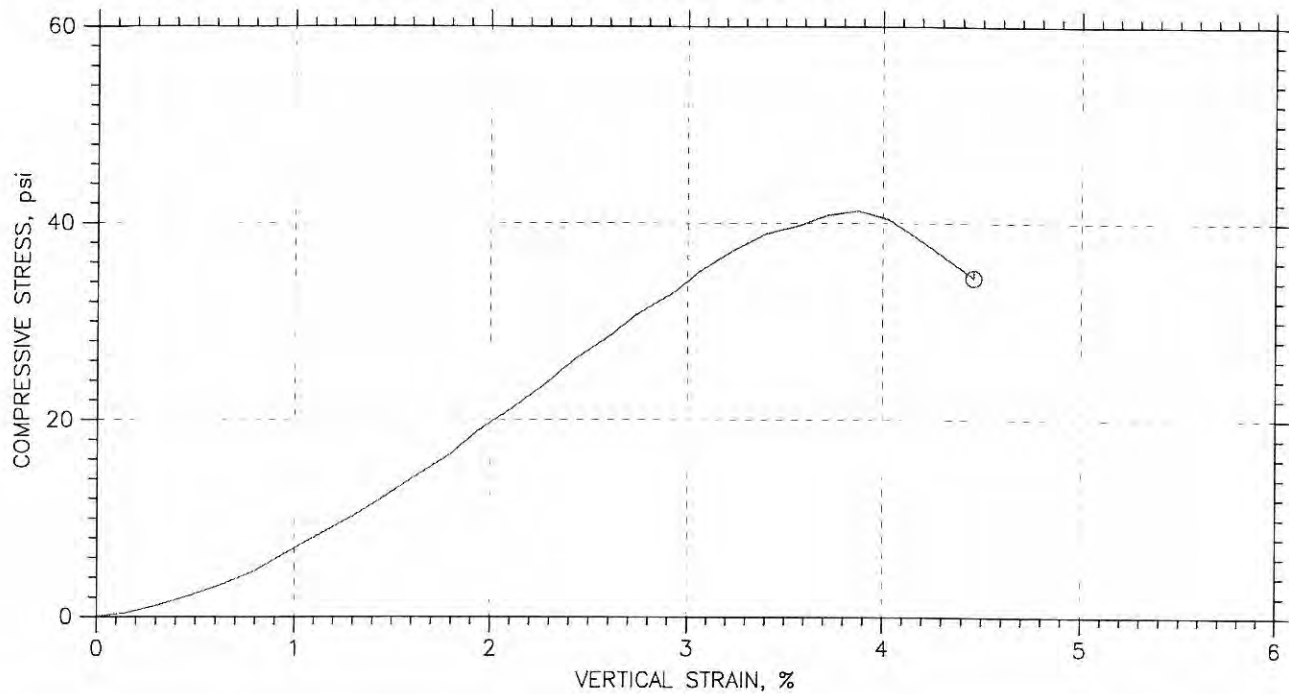
Specimen Height: 3.07 in
 Specimen Area: 1.57 in²
 Specimen Volume: 78.90 cc

Liquid Limit: ---
 Plastic Limit: ---
 Measured Specific Gravity: 2.73

Cap Mass: 0 gm

	Time min	Axial Displacement in	Axial Strain %	Load lb	Corrected Area in ²	Corrected Vertical Stress psi	Corrected Shear Stress psi
1	0	0	0	0.093816	1.5703	0.059743	0.029871
2	0.17065	0.0047256	0.15413	0.67234	1.5727	0.4275	0.21375
3	0.33732	0.0093586	0.30524	1.7981	1.5751	1.1416	0.57079
4	0.50432	0.014408	0.46994	3.4086	1.5777	2.1605	1.0802
5	0.66673	0.019458	0.63465	5.1755	1.5804	3.2749	1.6374
6	0.8334	0.024555	0.80087	7.4427	1.583	4.7016	2.3508
7	1.0003	0.029049	0.94744	10.116	1.5853	6.3812	3.1906
8	1.1667	0.034238	1.1167	13.04	1.5881	8.2115	4.1058
9	1.3334	0.039704	1.295	16.152	1.5909	10.153	5.0763
10	1.5003	0.044754	1.4597	19.373	1.5936	12.157	6.0784
11	1.6667	0.049526	1.6153	22.735	1.5961	14.244	7.1219
12	1.8334	0.054808	1.7876	26.221	1.5989	16.4	8.1998
13	2.0003	0.059255	1.9327	30.146	1.6013	18.826	9.4132
14	2.1669	0.064815	2.114	34.055	1.6042	21.228	10.614
15	2.3336	0.069819	2.2772	37.98	1.6069	23.635	11.818
16	2.5005	0.074174	2.4192	41.904	1.6093	26.04	13.02
17	2.6669	0.079501	2.593	45.735	1.6121	28.369	14.185
18	2.8336	0.083949	2.7381	49.55	1.6145	30.69	15.345
19	3.0004	0.089648	2.9239	53.193	1.6176	32.884	16.442
20	3.1669	0.093956	3.0645	56.899	1.62	35.124	17.562
21	3.3338	0.09947	3.2443	60.542	1.623	37.303	18.652
22	3.5009	0.10443	3.406	63.247	1.6257	38.905	19.452
23	3.6674	0.10943	3.5692	64.717	1.6284	39.742	19.871
24	3.8343	0.11397	3.7172	66.562	1.6309	40.812	20.406
25	4.0013	0.11879	3.8744	67.422	1.6336	41.272	20.636
26	4.1679	0.12361	4.0315	66.093	1.6363	40.392	20.196
27	4.3346	0.12912	4.2114	62.278	1.6394	37.989	18.995
28	4.5029	0.13422	4.3776	58.494	1.6422	35.619	17.81
29	4.5822	0.13663	4.4562	56.602	1.6436	34.439	17.219

UNCONFINED COMPRESSION TEST REPORT



Symbol	○			
Test No.	1			
Initial	Diameter, in	1.414		
	Height, in	3.066		
	Water Content, %	24.53		
	Dry Density, pcf	101.7		
	Saturation, %	99.16		
	Void Ratio	0.675		
Unconfined Compressive Strength, psi		41.27		
Undrained Shear Strength, psi		20.64		
Time to Failure, min		4.0013		
Strain Rate, %/min		1		
Measured Specific Gravity		2.73		
Liquid Limit		---		
Plastic Limit		---		
Plasticity Index		---		
Failure Sketch				

 Natural Resources Conservation Service	Project: PLUM CREEK SITE 6
	Location: TX
	Project No.: 11-1055
	Boring No.: F10-1403
	Sample Type: CORE
	Description: HOLE 202.2
Remarks: VACCUUM SATURATED	

BASE

SHEAR TEST DATA

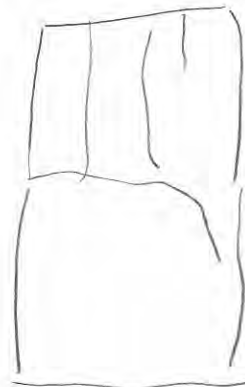
<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	CELL NO. _____ BURETTE NO. _____ MACHINE NO. <u>3</u> CUBAR COMPACTED _____ UNDISTURBED <input checked="" type="checkbox"/>	LOAD CH. _____ STRAIN CH. _____ P.P. CH. _____ Gs <u>2.73</u>	LAB. NO. <u>11-1055</u> <u>11-10556a</u> TEST DATE <u>5/24/11</u>	Cell _____ PSI Base _____ PSI Test _____ PSI B _____ RATE OF STRAIN <u>1</u> in./% /min.
--	--	--	---	--

SPECIMEN DATA TECHNICIAN <u>SKM</u>	MOISTURE DATA TECHNICIAN <u>SKM</u>
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DIAMETER		INITIAL IN MACHINE		INITIAL		FINAL	
TOP	IN.	1.398	1.410	WET WT. SPEC. + CAN	(GM.)		230.39
MIDDLE	IN.	1.403	1.414	DRY WT. SPEC. + CAN	(GM.)		199.18
BOTTOM	IN.	1.405	1.418	WT. MOISTURE	(GM.)		
MEAN DIAMETER	IN.	1.402	1.414	WT. CAN	(GM.)		70.62
HEIGHT	IN.	3.003	3.066	WT DRY SOIL	(GM.)		
MOIST WT.	GM.	156.81	160.10	PERCENT MOISTURE		24.53	24.28
END AREA	IN. ²	1.544	1.570	DRY UNIT WEIGHT	(GM/CC)		
VOLUME	IN. ³	4.636	4.815	PERCENT POROSITY			
MOIST UNIT WT.	PCF	128.85	126.68	THEORETICAL SAT. %			
CONSOLIDATION DATA TECHNICIAN _____				PERCENT SAT. @ START			

EXTENSOMETER READINGS		DATE:
INITIAL READING	IN.	TIME:
FINAL READING	IN.	TIME:
HT. DEFORMATION	IN.	
INITIAL BURETTE READING	CM	
FINAL BURETTE READING	CM	
VOL. CHANGE	CC x 0.061	IN. ³
CONS. VOLUME OF SPECIMEN	IN. ³	
CONS. HEIGHT OF SPECIMEN	IN.	
AVG. AREA OF CONS. SPECIMEN	IN. ²	
CONSOLIDATED MOIST UNIT WT.	PCF	

FAILURE SKETCH 128.56



INITIAL DRY DENSITY = 101.72
 FINAL DRY DENSITY = 101.72

REMARKS:

1406 3003
 1391 3003
 1408 3002
 1397
 1405
 1404

1412 3067
 1408 64
 1412 68
 1415
 1416
 1421



Checked by: SKM Date: 5/26/11

Project: PLUM CREEK SITE 6
State: TX
Lab No: 11-1055
Specific Gravity (Gs): 2.73

Test Specifications:

Shear Cell No.:

Confining Pressure: psi

Top Diameter: 1.410 inches -
Middle Diameter: 1.414 inches - (Either measure two middle diameters
Middle Diameter: 1.414 inches - or enter in the same value)
Bottom Diameter: 1.418 inches -
Height of Specimen: 3.066 inches -
Moist Weight of Specimen: 160.10 gms. -
Mean Diameter: 1.414 inches
End Area: 1.570 sq. inches -
Volume of Specimen: 4.815 cubic inches -
Moist Unit Weight: 126.68 pcf - (multiply gms/cubic inch by 3.8095 to
to achieve pcf)

Extensometer Height Deformation: inches
Initial Volume of Base Cell: ml.
Final Volume of Base Cell: ml.
Is the Large Burette being Used? no (yes or no)
Calibrated Area of the Base Burette: cc

Burette Volume: cc note 1.00 ml = 1.00 cc
Burette Volume: cubic inches
Consolidated Volume: 4.815 cubic inches
Assumed Consolidated Height: inches
Assumed Height after Consolidation : 3.066 inches

Moist Weight of Specimen + Can: 230.39 gms.
Dry Weight of Specimen + Can: 199.18 gms. -
Weight of Can: 70.62 gms. -
Weight of Water: 31.21 gms.
Weight of Dry Specimen: 128.56 gms.

Initial Water Content: 24.53 percent
Initial Dry Density: 101.72 pcf
Percent Saturated: 99.15 percent
Initial Void Ratio: 0.675
Initial Diameter: 1.414 inches
Initial Height: 3.066 inches

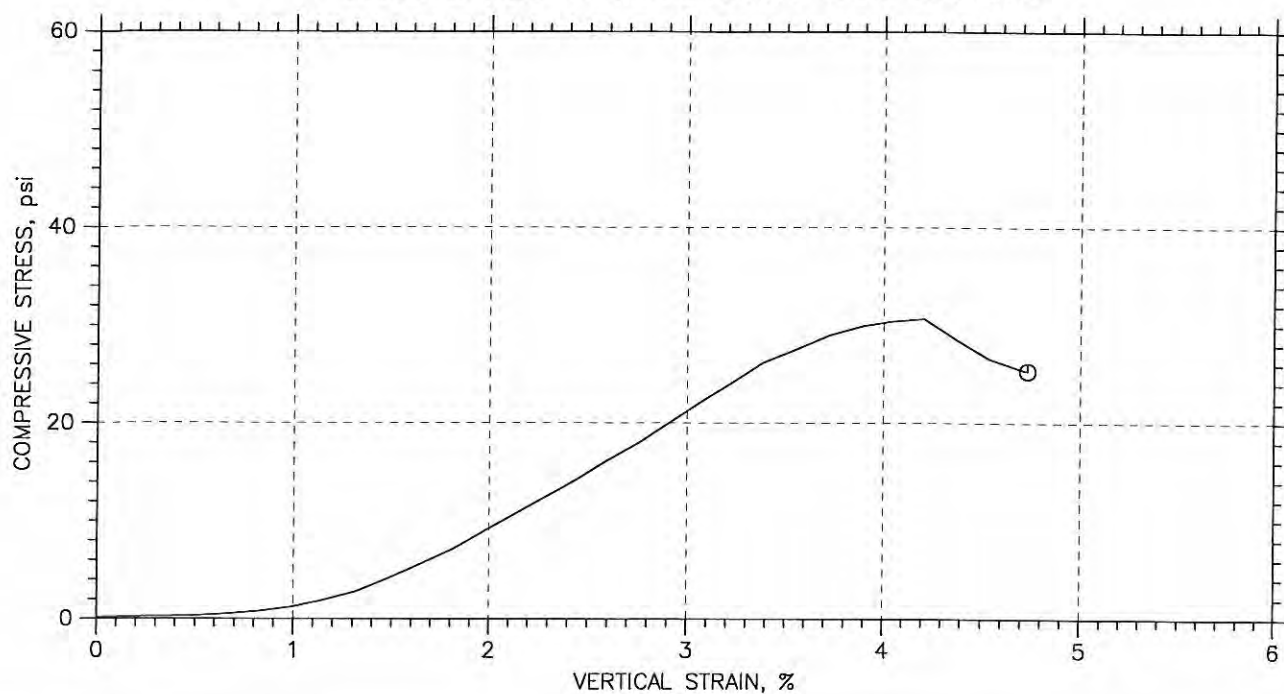
Final Water Content: 24.28 percent -
Final Dry Density: 101.72 pcf
Percent Saturated: 98.11 percent
Final Void Ratio: 0.675
Final Diameter* : 1.414 inches
Final Height: 3.066 inches

*Diameter is estimated to be unchanged

Checked by: SKM

MATERIALS TESTING REPORT		U.S. DEPARTMENT of AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE		UNDISTURBED SAMPLE CHARACTERISTICS		
PROJECT and STATE Plum Creek Co. TX						
TESTED AT NDCS MC - LINCOLN, NE			APPROVED BY		DATE 5-4-11	
FIELD SAMPLE NO.	DEPTH (FT.) FROM TO		SAMPLE LOCATION		TYPE OF SAMPLE	LABORATORY NO.
F10-1404	15	16	202.3		3" Shelby	11-1056
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
L+BROWN	Damp	V. Stiff	Gypsum	Floury	-	ML
ω 21.9 % γ_d 1.67 g/cc						
DESCRIBED BY SKM, RM					84	
<div><div><div>3"</div><div>Auger hole 24"</div><div>Discarded loose mat Plastic Unit wt / H₂O 10"</div><div>SAVED 3 1/4"</div></div><div>REMARKS Blocky, ML Material uniform. 1 1/2" thru out sample Unit weight & H₂O taken.</div></div>						
Photostaken 4						
FIELD SAMPLE NO.	DEPTH (FT.) FROM TO		SAMPLE LOCATION		TYPE OF SAMPLE	LABORATORY NO.
F10-1406	20	20.5	202.5		3" Shelby	11-1057
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
L+BROWN	Damp	V. Stiff	Gypsum	Floury	-	ML
ω 21.3 % γ_d 1.65 g/cc						
DESCRIBED BY SKM, RM					84?	
<div><div><div>3"</div><div>Auger hole 24"</div><div>Discarded Loose Mat Disturbed 2" Unit wt / H₂O 8 1/2"</div><div>SAVED 5"</div></div><div>REMARKS Blocky material, uniform Gypsum throughout sample Unit weight & H₂O taken.</div></div>						
Photostaken 3						

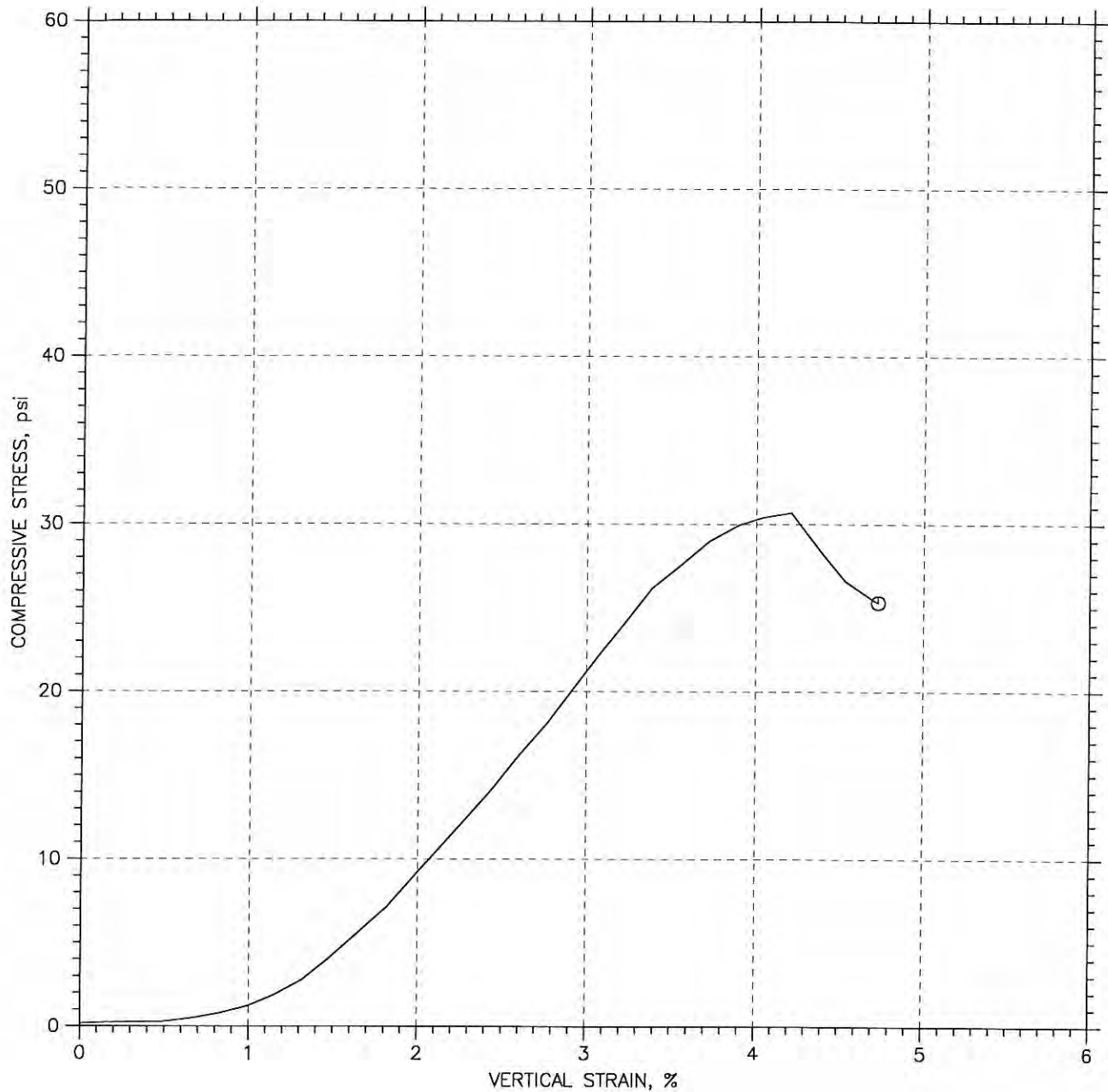
UNCONFINED COMPRESSION TEST REPORT



Symbol	①			
Test No.	1			
Initial	Diameter, in	1.411		
	Height, in	3.064		
	Water Content, %	24.70		
	Dry Density, pcf	101.5		
	Saturation, %	99.93		
	Void Ratio	0.672		
Unconfined Compressive Strength, psi q_u		30.68		
Undrained Shear Strength, psi $q_u/2 \Rightarrow C_u$		15.34 psi	= 2,209 psi	
Time to Failure, min		4.3373	Record $C_u = 2210$ psi @	
Strain Rate, %/min		1	4.2% strain	
Measured Specific Gravity		2.72		
Liquid Limit		---		
Plastic Limit		---		
Plasticity Index		---		
Failure Sketch				

 Natural Resources Conservation Service	Project: PLUM CREEK SITE 6
	Location: TX
	Project No.: 11-1056
	Boring No.: F10-1404
	Sample Type: CORE
	Description: HOLE 202.3
	Remarks: VACCUUM SATURATED

UNCONFINED COMPRESSION TEST REPORT



Project: PLUM CREEK SITE 6	Location: TX	Project No.: 11-1056
Boring No.: F10-1404	Tested By: SKM	Checked By: SKM
Sample No.: 11-1056	Test Date: 5/24/11	Depth: 15-16'
Test No.: 1	Sample Type: CORE	Elevation: N/A
Description: HOLE 202.3		
Remarks: VACCUUM SATURATED		

UNCONFINED COMPRESSION TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1404
Sample No.: 11-1056
Test No.: 1

Location: TX
Tested By: SKM
Test Date: 5/24/11
Sample Type: CORE

Project No.: 11-1056
Checked By: SKM
Depth: 15-16'
Elevation: N/A

Soil Description: HOLE 202.3
Remarks: VACCUUM SATURATED

Specimen Height: 3.06 in
Specimen Area: 1.56 in²
Specimen Volume: 78.51 cc

Liquid Limit: ---
Plastic Limit: ---
Measured Specific Gravity: 2.72

Cap Mass: 0 gm

Water Content Information

Container ID	
Wt. Container, gm	0
Wt. Container + Wet Soil, gm	159.24
Wt. Container + Dry Soil, gm	127.7
Wt. Dry Soil, gm	127.7
Water Content, %	24.70
Void Ratio	0.67
Degree of Saturation, %	99.93
Wet Unit Weight, pcf	126.62
Dry Unit Weight, pcf	101.54

UNCONFINED COMPRESSION TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1404
 Sample No.: 11-1056
 Test No.: 1

Location: TX
 Tested By: SKM
 Test Date: 5/24/11
 Sample Type: CORE

Project No.: 11-1056
 Checked By: SKM
 Depth: 15-16'
 Elevation: N/A

Soil Description: HOLE 202.3
 Remarks: VACUUM SATURATED

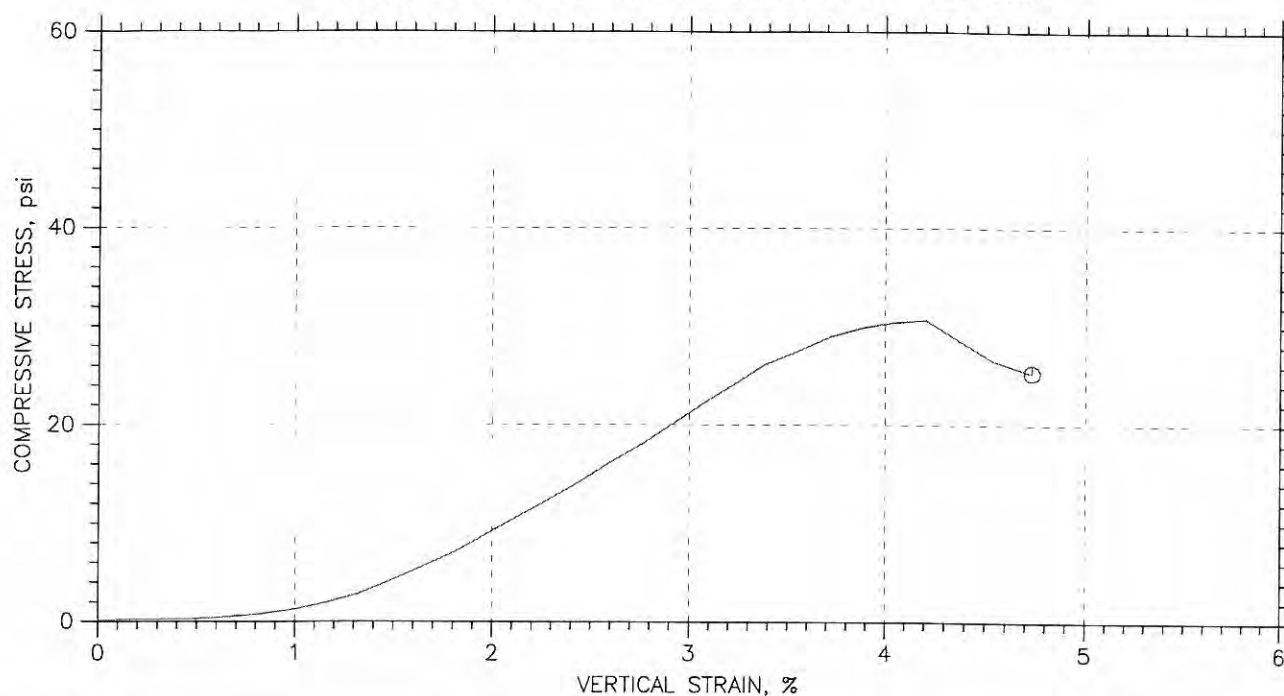
Specimen Height: 3.06 in
 Specimen Area: 1.56 in²
 Specimen Volume: 78.51 cc

Liquid Limit: ---
 Plastic Limit: ---
 Measured Specific Gravity: 2.72

Cap Mass: 0 gm

	Time min	Axial Displacement in	Axial Strain %	Load lb	Corrected Area in ²	Corrected Vertical Stress psi	Corrected Shear Stress psi
1	0	0	0	0.25017	1.5637	0.15999	0.079996
2	0.17075	0.0051889	0.16935	0.35963	1.5663	0.2296	0.1148
3	0.33742	0.010054	0.32812	0.42217	1.5688	0.2691	0.13455
4	0.50418	0.014964	0.4884	0.43781	1.5713	0.27862	0.13931
5	0.67073	0.020014	0.65321	0.75052	1.5739	0.47684	0.23842
6	0.8374	0.02525	0.82407	1.2352	1.5767	0.78345	0.39173
7	1.0042	0.030392	0.99191	1.9232	1.5793	1.2177	0.60887
8	1.1707	0.035071	1.1446	2.9239	1.5818	1.8485	0.92425
9	1.3374	0.040353	1.317	4.4093	1.5845	2.7827	1.3914
10	1.5042	0.044986	1.4682	6.3638	1.587	4.0101	2.005
11	1.6707	0.049943	1.63	8.6779	1.5896	5.4593	2.7296
12	1.8374	0.055595	1.8145	11.32	1.5926	7.1083	3.5541
13	2.0042	0.060228	1.9657	14.119	1.595	8.8521	4.426
14	2.1707	0.064908	2.1184	16.887	1.5975	10.571	5.2854
15	2.3374	0.069911	2.2817	19.811	1.6002	12.38	6.1902
16	2.5041	0.074961	2.4465	22.844	1.6029	14.252	7.1259
17	2.6707	0.079548	2.5962	25.909	1.6053	16.139	8.0695
18	2.8373	0.084829	2.7686	29.177	1.6082	18.143	9.0713
19	3.0041	0.090065	2.9394	32.914	1.611	20.43	10.215
20	3.1707	0.094512	3.0846	36.056	1.6134	22.348	11.174
21	3.3373	0.099192	3.2373	39.215	1.616	24.267	12.133
22	3.5041	0.10364	3.3825	42.342	1.6184	26.163	13.081
23	3.6706	0.10883	3.5518	44.641	1.6212	27.535	13.767
24	3.8373	0.11392	3.7182	47.064	1.6241	28.979	14.49
25	4.0041	0.11939	3.8966	48.753	1.6271	29.964	14.982
26	4.1706	0.12375	4.0387	49.55	1.6295	30.409	15.204
27	4.3373	0.12898	4.2096	50.082	1.6324	30.68	15.34
28	4.5041	0.13431	4.3835	46.533	1.6354	28.454	14.227
29	4.6706	0.13894	4.5347	43.593	1.6379	26.614	13.307
30	4.8373	0.14441	4.7131	41.701	1.641	25.412	12.706
31	4.8584	0.14497	4.7312	41.576	1.6413	25.331	12.665

UNCONFINED COMPRESSION TEST REPORT



Symbol	⊕			
Test No.	1			
Initial	Diameter, in	1.411		
	Height, in	3.064		
	Water Content, %	24.70		
	Dry Density, pcf	101.5		
	Saturation, %	99.93		
	Void Ratio	0.672		
Unconfined Compressive Strength, psi		30.68		
Undrained Shear Strength, psi		15.34		
Time to Failure, min		4.3373		
Strain Rate, %/min		1		
Measured Specific Gravity		2.72		
Liquid Limit		---		
Plastic Limit		---		
Plasticity Index		---		
Failure Sketch				



Project: PLUM CREEK SITE 6
Location: TX
Project No.: 11-1056
Boring No.: F10-1404
Sample Type: CORE
Description: HOLE 202.3
Remarks: VACCUUM SATURATED

BASE

SHEAR TEST DATA

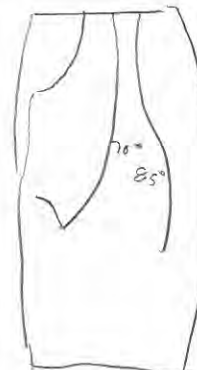
<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	CELL NO. _____ BURETTE NO. _____ MACHINE NO. <u>3</u> CUBAR _____ COMPACTED _____ UNDISTURBED <input checked="" type="checkbox"/>	LOAD CH. _____ STRAIN CH. _____ P.P. CH. _____ Gs <u>2.72</u>	LAB. NO. <u>11-1056</u> <u>11-1056gu</u> TEST DATE <u>5/24/11</u>	
Cell _____ PSI Base _____ PSI Test _____ PSI B _____ RATE OF STRAIN <u>1</u> in./% /min.				

SPECIMEN DATA TECHNICIAN <u>SKM</u>	MOISTURE DATA TECHNICIAN <u>SKM</u>
---	---

DIAMETER		INITIAL IN MACHINE		INITIAL		FINAL	
TOP	IN.	1.398	1.409	WET WT. SPEC. + CAN	(GM.)		229.67
MIDDLE	IN.	1.398	1.411	DRY WT. SPEC. + CAN	(GM.)		198.47
BOTTOM	IN.	1.398	1.414	WT. MOISTURE	(GM.)		
MEAN DIAMETER	IN.	1.398	1.411	WT. CAN	(GM.)		70.77
HEIGHT	IN.	2993	3.064	WT DRY SOIL	(GM.)		
MOIST WT.	GM.	155.00	159.24	PERCENT MOISTURE		24.70	24.43
END AREA	IN. ²	1.535	1.564	DRY UNIT WEIGHT	(GM/CC)		
VOLUME	IN. ³	4.594	4.791	PERCENT POROSITY			
MOIST UNIT WT.	PCF	128.53	126.10	THEORETICAL SAT. %			
CONSOLIDATION DATA TECHNICIAN _____				PERCENT SAT. @ START			

EXTENSOMETER READINGS		DATE:
INITIAL READING	IN.	TIME:
FINAL READING	IN.	TIME:
HT. DEFORMATION	IN.	
INITIAL BURETTE READING CM		
FINAL BURETTE READING CM		
VOL. CHANGE CC x 0.061 IN. ³		
CONS. VOLUME OF SPECIMEN IN. ³		
CONS. HEIGHT OF SPECIMEN IN.		
AVG. AREA OF CONS. SPECIMEN IN. ²		
CONSOLIDATED MOIST UNIT WT. PCF		

FAILURE SKETCH 127.70


 INITIAL DRY DENSITY = 101.54
 FINAL DRY DENSITY = 101.54

REMARKS:

1399 1396 1400 1396 1399 1397	3002 2996 2980	1413 1406 1410 1411 1414 1413
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Checked by: SKMDate: 5/26/11

Shear Test Data
Specimen #1

5/26/2011
1:30 PM

Project: PLUM CREEK SITE 6
State: TX
Lab No: 11-1056
Specific Gravity (Gs): 2.72

Test Specifications:

Shear Cell No.:
Confining Pressure: psi

Top Diameter: 1.409 inches
Middle Diameter: 1.411 inches (Either measure two middle diameters
Middle Diameter: 1.411 inches or enter in the same value)
Bottom Diameter: 1.414 inches
Height of Specimen: 3.064 inches
Moist Weight of Specimen: 159.24 gms.
Mean Diameter: 1.411 inches
End Area: 1.564 sq. inches
Volume of Specimen: 4.791 cubic inches
Moist Unit Weight: 126.62 pcf (multiply gms/cubic inch by 3.8095 to
to achieve pcf)

Extensometer Height Deformation: inches
Initial Volume of Base Cell: ml.
Final Volume of Base Cell: ml.
Is the Large Burette being Used? no (yes or no)
Calibrated Area of the Base Burette: cc

Burette Volume: cc note 1.00 ml = 1.00 cc
Burette Volume: cubic inches
Consolidated Volume: 4.791 cubic inches
Assumed Consolidated Height: inches
Assumed Height after Consolidation : 3.064 inches

Moist Weight of Specimen + Can: 229.67 gms. ~
Dry Weight of Specimen + Can: 198.47 gms. ~
Weight of Can: 70.77 gms. ~
Weight of Water: 31.20 gms.
Weight of Dry Specimen: 127.70 gms.

Initial Water Content: 24.70 percent
Initial Dry Density: 101.54 pcf
Percent Saturated: 99.91 percent
Initial Void Ratio: 0.672
Initial Diameter: 1.411 inches
Initial Height: 3.064 inches

Final Water Content: 24.43 percent
Final Dry Density: 101.54 pcf
Percent Saturated: 98.84 percent
Final Void Ratio: 0.672
Final Diameter* : 1.411 inches
Final Height: 3.064 inches

*Diameter is estimated to be unchanged

Checked by: SKM

Mohr Circle Program

SITE NAME: Plum Creek Site 6
STATE: TX
SAMPLE NO: 11-1058
F10-1409

Total Strength Parameters:

PHI: 21.9 degrees
C: 336 psf

21.9 degrees
2.33 psi

Zero Cohesion:

Slope y=

Failure Criterion:

- ☐ Maximum Dev. Stress
- ☒ Maximum Stress Ratio
- ☐ Max. Pore Pressure
- ☐ <= 10% Strain
- ☐ Selected Points

Effective Strength Parameters:

PHI': 29.8 degrees
C': 343 psf

29.8 degrees
2.38 psi

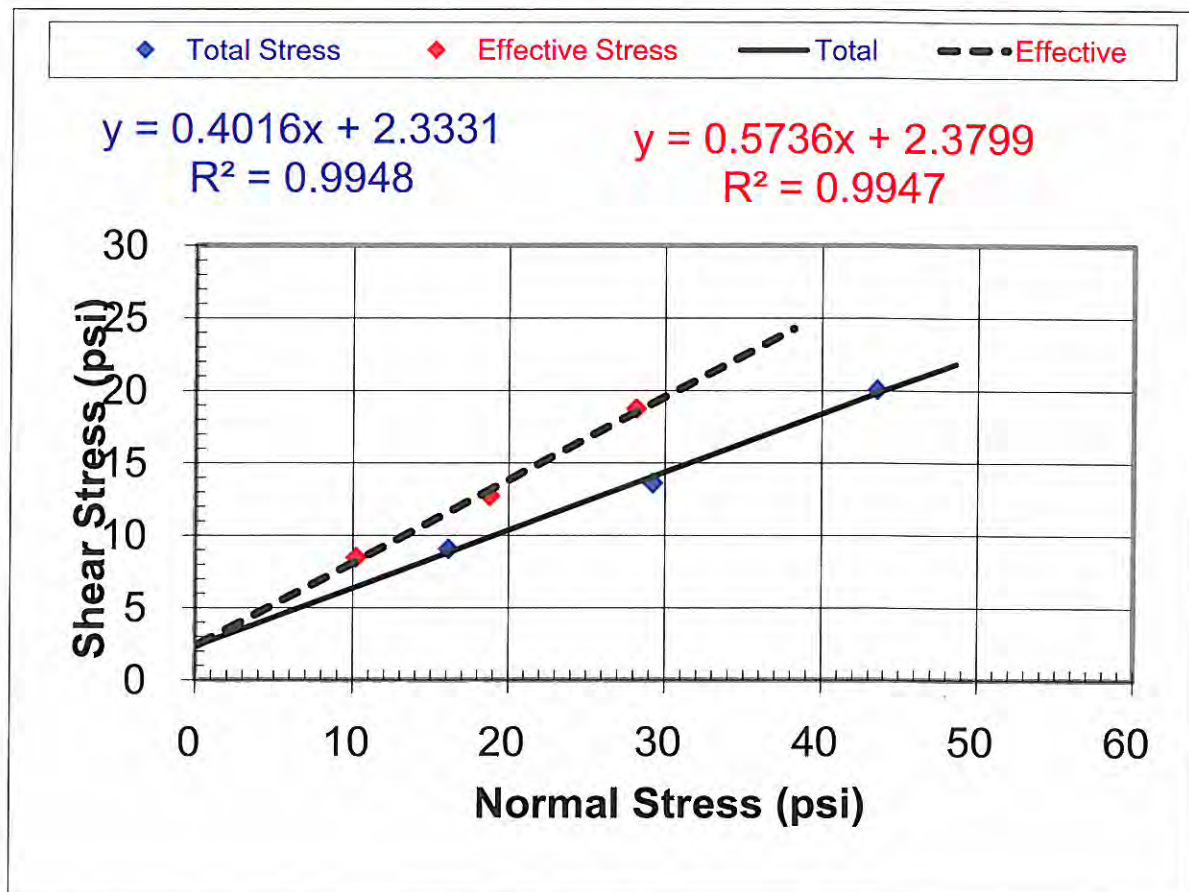
Slope y=

Stress path analysis from p-q plot:

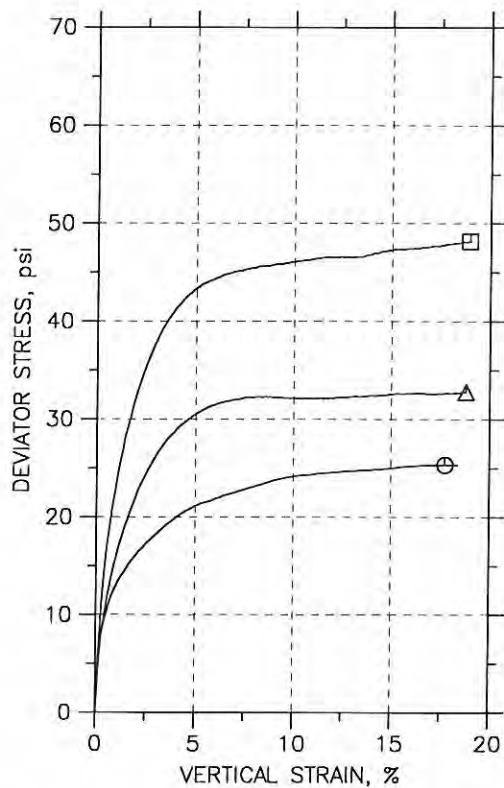
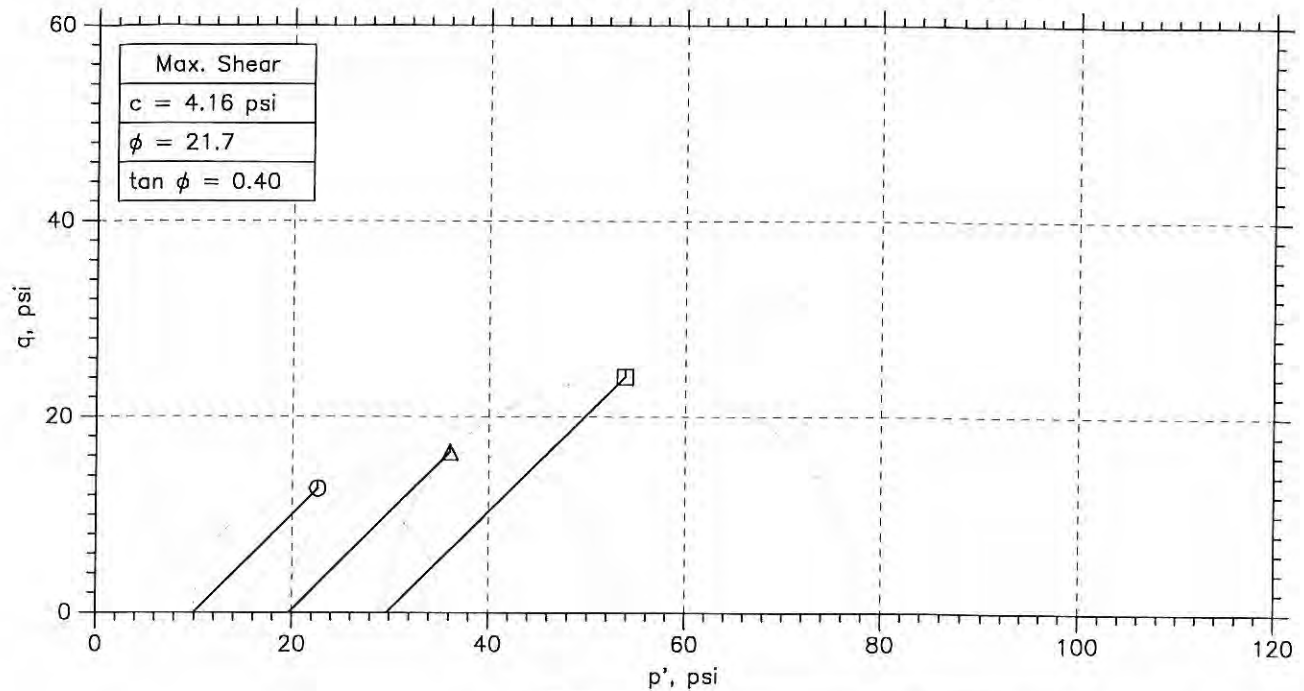
PHI': 30.6 degrees
C': 317 psf

(All inputted values in the chart are in psi)

CELL PRESSURE	DEVIATOR STRESS AT FAILURE	PORE PRESSURE AT FAILURE	PERCENT STRAIN (Optional Entry)
10	19.5	4.7	3.7
20	29.3	8.6	4.2
30	43.2	12.7	4.9



CONSOLIDATED UNDRAINED TRIAXIAL TEST



Symbol	○	△	□	
Sample No.	11-1058	11-1058	11-1058	
Test No.	1	2	3	
Depth				
Initial	Diameter, in	1.392	1.399	1.397
	Height, in	3.011	2.991	3.01
	Water Content, %	27.7	27.9	27.4
	Dry Density, pcf	96.63	96.79	96.81
	Saturation, %	98.4	99.6	97.8
	Void Ratio	0.77	0.767	0.767
Before Shear	Water Content, %	31.4	29.8	28.5
	Dry Density, pcf	91.93	94.18	96.
	Saturation*, %	100.0	100.0	100.0
	Void Ratio	0.861	0.816	0.782
	Back Press., psi	100.1	100.3	100.3
	Ver. Eff. Cons. Stress, psi	9.925	19.67	29.7
	Shear Strength, psi	12.67	16.39	24.09
	Strain at Failure, %	17.7	18.8	19
	Strain Rate, %/min	0.06	0.06	0.06
	B-Value	0.00	0.00	0.00
	Measured Specific Gravity	2.74	2.74	2.74
	Liquid Limit	---	---	---
	Plastic Limit	---	---	---



Project: PLUM CREEK SITE 6

Location: TX

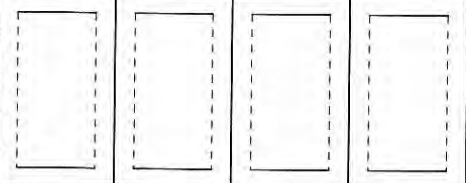
Project No.: 11-1058

Boring No.: F10-1409

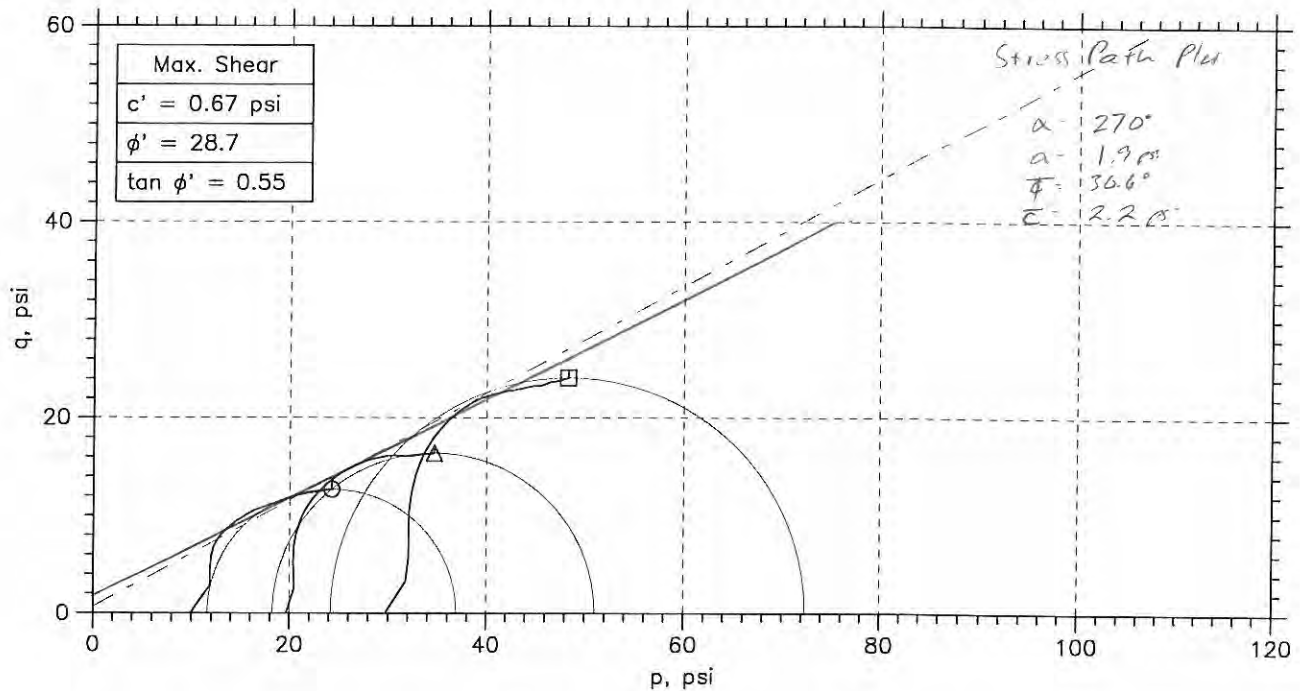
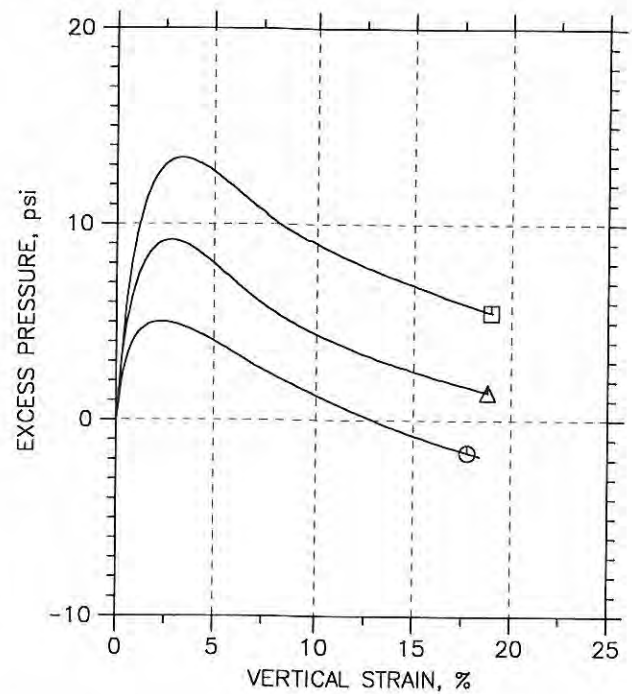
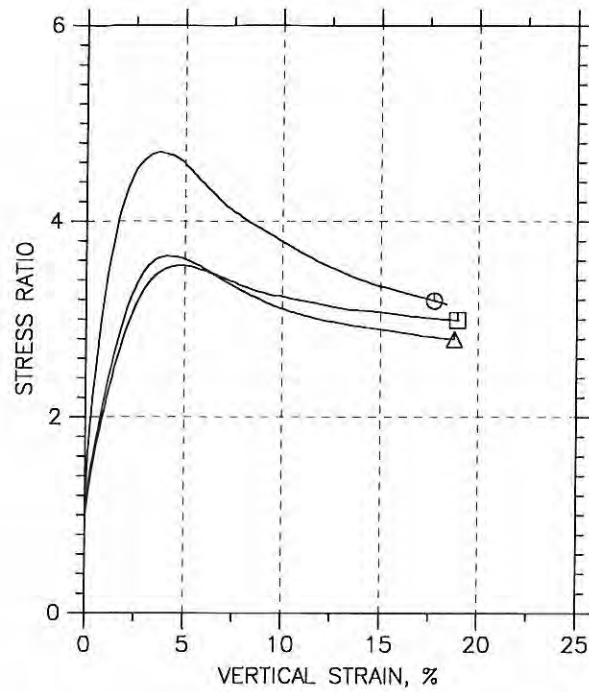
Sample Type: CORE

Description: HOLE 300.1

Remarks:



CONSOLIDATED UNDRAINED TRIAXIAL TEST



Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
○	11-1058	1	SKM	5/20/11	SKM		11-1058-10eng.dat
△	11-1058	2	SKM	5/20/11	SKM		11-1058-20eng.dat
□	11-1058	3	SKM	5/20/11	SKM		11-1058-30eng.dat



Project: PLUM CREEK SITE 6

Location: TX

Project No.: 11-1058

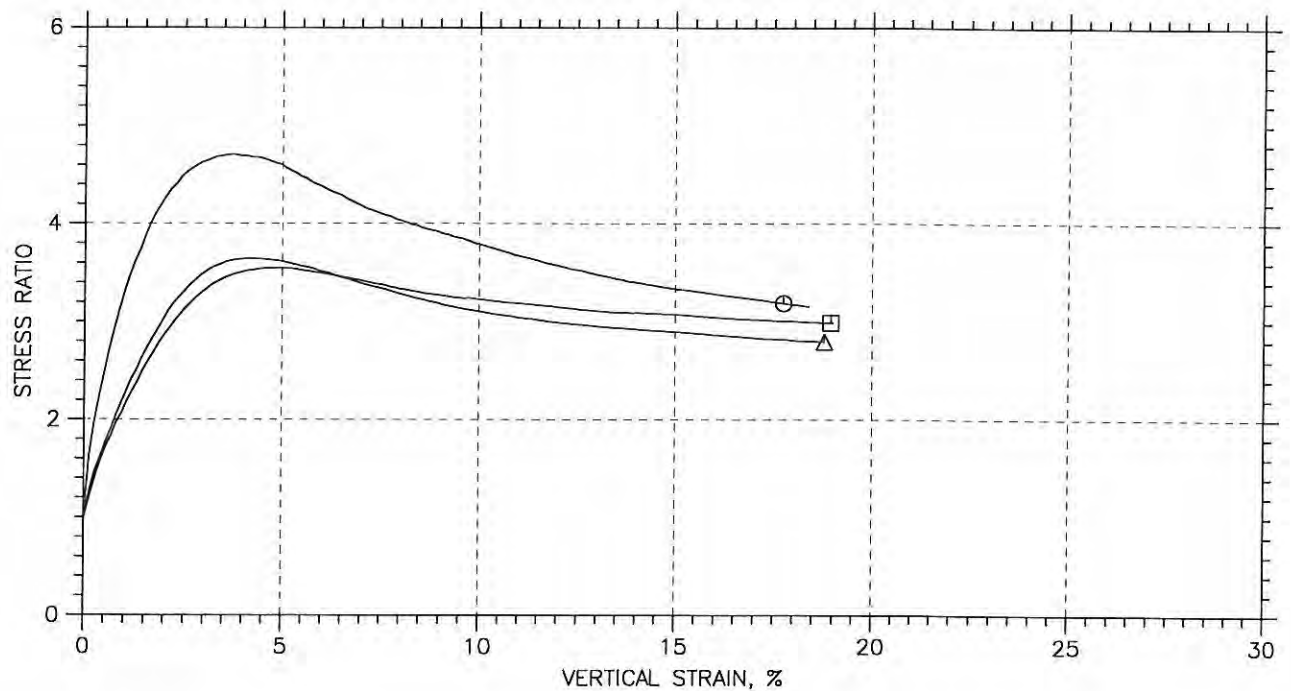
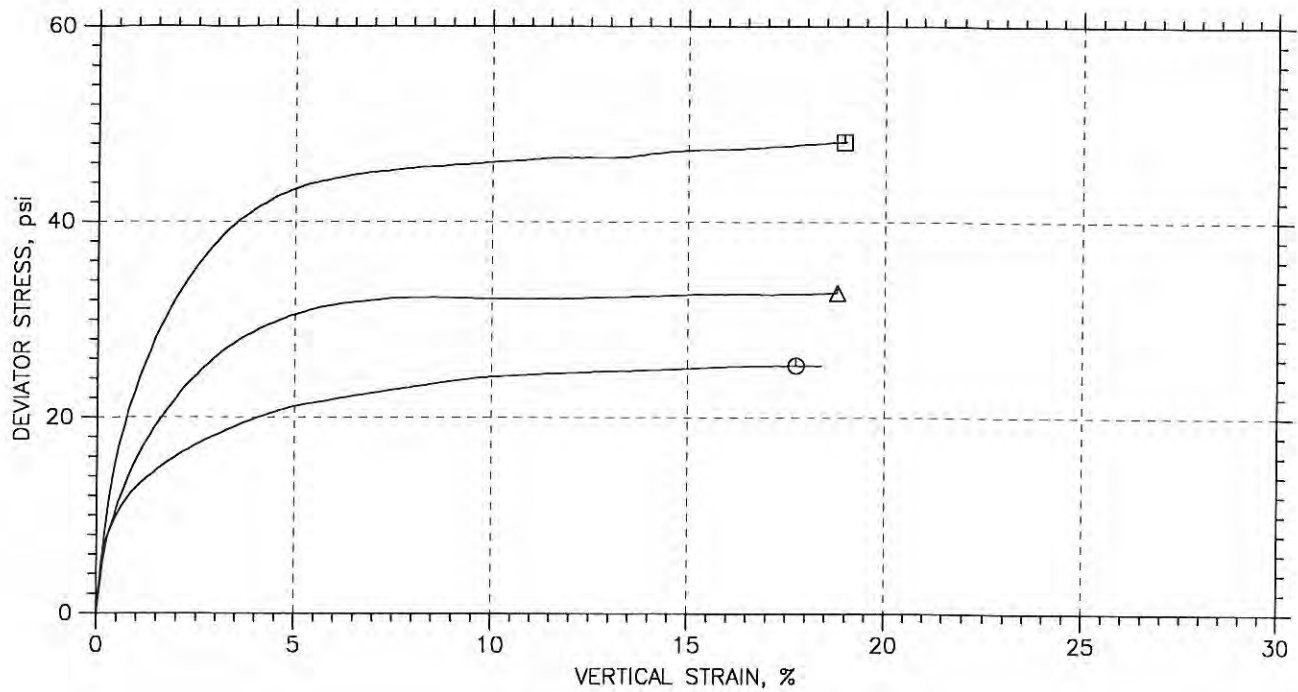
Boring No.: F10-1409

Sample Type: CORE

Description: HOLE 300.1

Remarks:

CONSOLIDATED UNDRAINED TRIAXIAL TEST

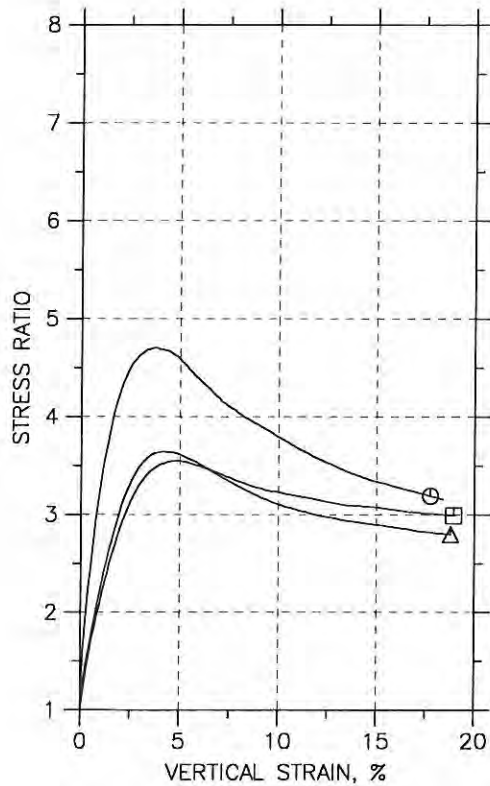
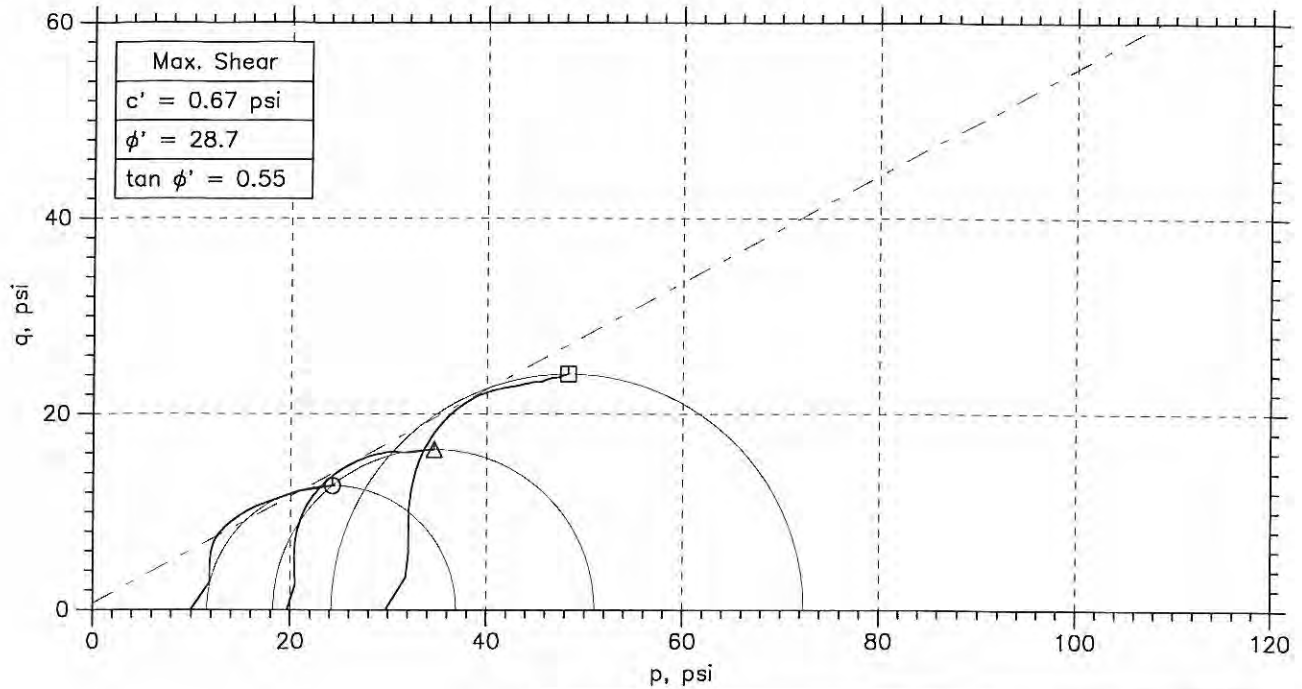


	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
⊙	11-1058	1		SKM	5/20/11	SKM		11-1058-10eng.dat
Δ	11-1058	2		SKM	5/20/11	SKM		11-1058-20eng.dat
□	11-1058	3		SKM	5/20/11	SKM		11-1058-30eng.dat



Project: PLUM CREEK SITE 6	Location: TX	Project No.: 11-1058
Boring No.: F10-1409	Sample Type: CORE	
Description: HOLE 300.1		
Remarks:		

CONSOLIDATED UNDRAINED TRIAXIAL TEST



Symbol	○	△	□	
Sample No.	11-1058	11-1058	11-1058	
Test No.	1	2	3	
Depth				
Initial	Diameter, in	1.392	1.399	1.397
	Height, in	3.011	2.991	3.01
	Water Content, %	27.7	27.9	27.4
	Dry Density, pcf	96.63	96.79	96.81
	Saturation, %	98.4	99.6	97.8
	Void Ratio	0.77	0.767	0.767
Before Shear	Water Content, %	31.4	29.8	28.5
	Dry Density, pcf	91.93	94.18	96.
	Saturation*, %	100.0	100.0	100.0
	Void Ratio	0.861	0.816	0.782
	Back Press., psi	100.1	100.3	100.3
Ver. Eff. Cons. Stress, psi		9.925	19.67	29.7
Shear Strength, psi		12.67	16.39	24.09
Strain at Failure, %		17.7	18.8	19
Strain Rate, %/min		0.06	0.06	0.06
B-Value		0.00	0.00	0.00
Measured Specific Gravity		2.74	2.74	2.74
Liquid Limit		---	---	---
Plastic Limit		---	---	---



Project: PLUM CREEK SITE 6

Location: TX

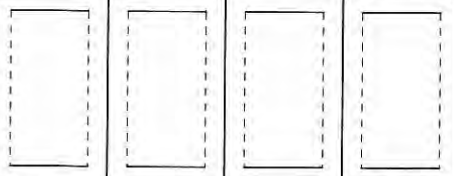
Project No.: 11-1058

Boring No.: F10-1409

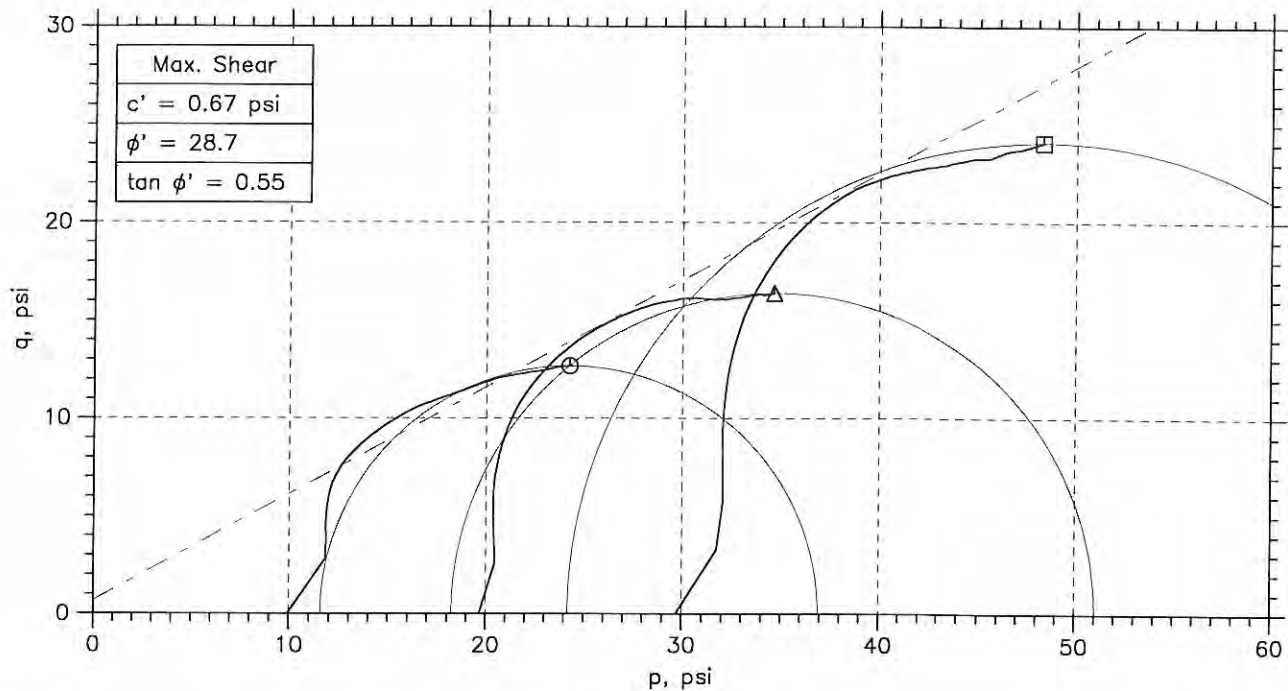
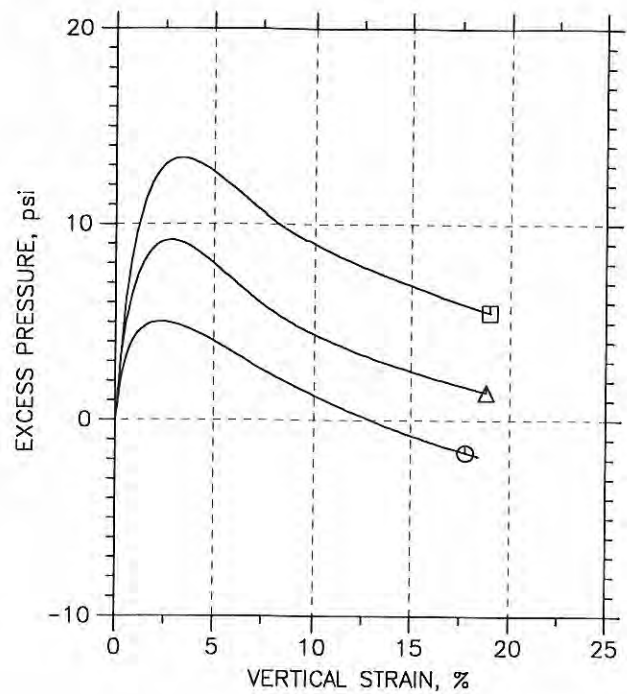
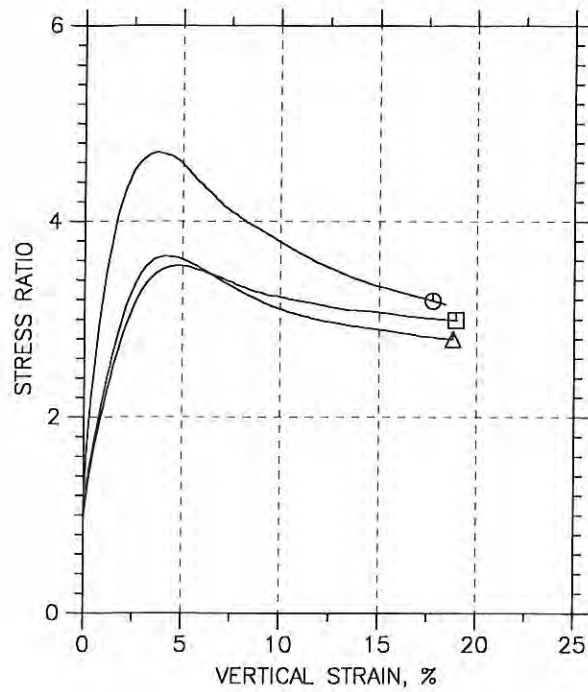
Sample Type: CORE

Description: HOLE 300.1

Remarks:



CONSOLIDATED UNDRAINED TRIAXIAL TEST



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
○	11-1058	1		SKM	5/20/11	SKM		11-1058-10eng.dat
△	11-1058	2		SKM	5/20/11	SKM		11-1058-20eng.dat
□	11-1058	3		SKM	5/20/11	SKM		11-1058-30eng.dat



Project: PLUM CREEK SITE 6

Location: TX

Project No.: 11-1058

Boring No.: F10-1409

Sample Type: CORE

Description: HOLE 300.1

Remarks:

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1409
Sample No.: 11-1058
Test No.: 1

Location: TX
Tested By: SKM
Test Date: 5/20/11
Sample Type: CORE

Project No.: 11-1058
Checked By: SKM
Depth:
Elevation: N/A

Soil Description: HOLE 300.1
Remarks:

Specimen Height: 3.01 in
Specimen Area: 1.52 in²
Specimen Volume: 75.09 cc

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb

Liquid Limit: ---

Plastic Limit: ---

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Measured Specific Gravity: 2.74

Container ID

Wt. Container + wet Soil, gm
Wt. Container + Dry Soil, gm
Wt. Container, gm
Wt. Dry Soil, gm
Water Content, %
Void Ratio
Degree of Saturation, %
Dry Unit weight, pcf

Before Test
Trimings

148.37
116.23
0
116.23
27.65

Before Test
Specimen+Ring

148.37
116.23

116.23
27.65
0.77
98.38
96.631

After Test
Specimen+Ring

152.74
116.23
0
116.23
31.41
0.86
100.00
91.93

After Test
Trimings

221.87
185.36
69.13
116.23
31.41

Initial

End of Initialization

End of Consolidation/A

End of Saturation

End of Consolidation/B

End of Shear

At Failure

TRIAxIAL TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1409
 Sample No.: 11-1058
 Test No.: 1

Location: TX
 Tested By: SKM
 Test Date: 5/20/11
 Sample Type: CORE

Project No.: 11-1058
 Checked By: SKM
 Depth:
 Elevation: N/A

Soil Description: HOLE 300.1

Remarks:

Specimen Height: 3.01 in
 Specimen Area: 1.52 in²
 Specimen Volume: 75.09 cc

Piston Area: 0.00 in²
 Piston Friction: 0.00 lb
 Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
 Membrane Correction: 1.65 lb/in
 Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.74

	Time min	Vertical Strain %	Corrected Area in ²	Deviator Load lb	Deviator Stress psi	Pore Pressure psi	Horizontal Stress psi	Vertical Stress psi
1	0	0	1.4898	0	0	100.07	110	110
2	2.004	0.1241	1.4917	8.3869	5.6165	101	110	115.62
3	4.0039	0.2498	1.4935	11.553	7.7234	102.01	110	117.72
4	6.0038	0.3692	1.4953	13.499	9.0098	102.68	110	119.01
5	8.0037	0.5017	1.4973	15.183	10.116	103.2	110	120.12
6	10.004	0.61743	1.4991	16.496	10.974	103.59	110	120.97
7	12.004	0.74311	1.501	17.67	11.736	103.92	110	121.74
8	14.003	0.86566	1.5028	18.674	12.384	104.17	110	122.38
9	16.003	1.0023	1.5049	19.569	12.956	104.38	110	122.96
10	18.003	1.1186	1.5067	20.326	13.437	104.55	110	123.44
11	20.003	1.2631	1.5089	21.114	13.933	104.69	110	123.93
12	22.003	1.3982	1.5109	21.716	14.306	104.79	110	124.31
13	24.003	1.5176	1.5128	22.411	14.742	104.88	110	124.74
14	26.003	1.6433	1.5147	23.06	15.146	104.96	110	125.15
15	28.003	1.7674	1.5166	23.647	15.508	105.01	110	125.51
16	30.003	1.9041	1.5187	24.188	15.836	105.04	110	125.84
17	32.003	2.0282	1.5207	24.728	16.165	105.07	110	126.17
18	34.003	2.1476	1.5225	25.269	16.495	105.08	110	126.5
19	36.003	2.2969	1.5248	25.732	16.767	105.09	110	126.77
20	38.003	2.4163	1.5267	26.257	17.085	105.09	110	127.08
21	40.002	2.5514	1.5288	26.736	17.368	105.08	110	127.37
22	42.002	2.6834	1.5309	27.2	17.641	105.05	110	127.64
23	44.002	2.8091	1.5329	27.601	17.874	105.03	110	127.87
24	46.002	2.9253	1.5347	28.003	18.109	105	110	128.11
25	48.002	3.0573	1.5368	28.373	18.319	104.97	110	128.32
26	50.002	3.1955	1.539	28.806	18.567	104.93	110	128.57
27	52.003	3.3228	1.541	29.254	18.828	104.89	110	128.83
28	54.003	3.4595	1.5432	29.624	19.035	104.84	110	129.03
29	56	3.5757	1.5451	30.026	19.267	104.79	110	129.27
30	58.001	3.7156	1.5473	30.397	19.472	104.75	110	129.47
31	60.001	3.8397	1.5493	30.737	19.66	104.69	110	129.66
32	62.001	3.9591	1.5512	31.061	19.839	104.63	110	129.84
33	64	4.0801	1.5532	31.432	20.047	104.57	110	130.05
34	66	4.2183	1.5554	31.756	20.221	104.5	110	130.22
35	68	4.3518	1.5576	32.111	20.414	104.45	110	130.41
36	70	4.4775	1.5596	32.358	20.54	104.4	110	130.54
37	72	4.5985	1.5616	32.683	20.716	104.33	110	130.72
38	74	4.7226	1.5637	32.93	20.841	104.26	110	130.84
39	76.004	4.853	1.5658	33.208	20.985	104.2	110	130.98
40	78.004	4.9646	1.5676	33.486	21.132	104.13	110	131.13
41	80.004	5.0918	1.5697	33.656	21.206	104.05	110	131.21
42	82.004	5.2206	1.5719	33.887	21.319	103.98	110	131.32
43	84.004	5.351	1.574	34.104	21.421	103.91	110	131.42
44	86.001	5.4704	1.576	34.274	21.496	103.83	110	131.5
45	88.001	5.6008	1.5782	34.443	21.568	103.77	110	131.57
46	90.001	5.7281	1.5803	34.613	21.641	103.69	110	131.64
47	92.001	5.8585	1.5825	34.845	21.751	103.61	110	131.75
48	94.001	5.9858	1.5847	35.092	21.872	103.54	110	131.87
49	96.001	6.1193	1.5869	35.293	21.962	103.46	110	131.96
50	98.001	6.2481	1.5891	35.463	22.033	103.38	110	132.03
51	100	6.3785	1.5913	35.679	22.132	103.31	110	132.13
52	102	6.4995	1.5934	35.895	22.234	103.24	110	132.23
53	104	6.6346	1.5957	36.034	22.282	103.16	110	132.28

54	106	6.7619	1.5979	36.22	22.362	103.08	110	132.36
55	108	6.8781	1.5999	36.405	22.445	103	110	132.44
56	110	6.9975	1.6019	36.575	22.517	102.93	110	132.52
57	112	7.1342	1.6043	36.776	22.603	102.83	110	132.6
58	114	7.2662	1.6066	36.992	22.699	102.77	110	132.7
59	116	7.3981	1.6088	37.177	22.776	102.7	110	132.78
60	118	7.5238	1.611	37.363	22.855	102.63	110	132.85
61	120	7.6589	1.6134	37.548	22.93	102.56	110	132.93
62	122	7.7799	1.6155	37.749	23.019	102.5	110	133.02
63	124	7.9103	1.6178	37.872	23.057	102.42	110	133.06
64	126	8.0328	1.6199	38.12	23.174	102.35	110	133.17
65	128	8.1601	1.6222	38.305	23.25	102.28	110	133.25
66	130	8.2968	1.6246	38.428	23.285	102.21	110	133.29
67	132	8.4256	1.6269	38.676	23.399	102.15	110	133.4
68	134	8.5419	1.629	38.861	23.478	102.08	110	133.48
69	136	8.6848	1.6315	39.062	23.558	102	110	133.56
70	138	8.8231	1.634	39.262	23.639	101.94	110	133.64
71	140	8.9488	1.6362	39.494	23.743	101.87	110	133.74
72	142	9.0792	1.6386	39.602	23.769	101.8	110	133.77
73	144	9.2127	1.641	39.834	23.869	101.74	110	133.87
74	146	9.3711	1.643	39.958	23.911	101.67	110	133.91
75	148	9.4719	1.6457	40.127	23.968	101.61	110	133.97
76	150	9.5882	1.6478	40.328	24.054	101.55	110	134.05
77	152	9.7233	1.6503	40.452	24.087	101.48	110	134.09
78	154	9.849	1.6526	40.544	24.104	101.41	110	134.1
79	156	9.9763	1.6549	40.745	24.186	101.34	110	134.19
80	158	10.11	1.6574	40.853	24.209	101.29	110	134.21
81	160	10.234	1.6597	40.961	24.236	101.23	110	134.24
82	162	10.363	1.662	41.07	24.26	101.17	110	134.26
83	164	10.493	1.6645	41.193	24.294	101.12	110	134.29
84	166	10.619	1.6668	41.27	24.3	101.05	110	134.3
85	168	10.751	1.6693	41.425	24.351	100.99	110	134.35
86	170	10.878	1.6717	41.487	24.348	100.93	110	134.35
87	172	10.986	1.6737	41.61	24.388	100.88	110	134.39
88	174	11.111	1.676	41.718	24.413	100.83	110	134.41
89	176	11.247	1.6786	41.873	24.461	100.77	110	134.46
90	178	11.373	1.681	41.981	24.486	100.71	110	134.49
91	180	11.495	1.6833	42.104	24.52	100.66	110	134.52
92	182	11.613	1.6856	42.151	24.51	100.61	110	134.51
93	184	11.742	1.688	42.259	24.533	100.54	110	134.53
94	186	11.88	1.6907	42.367	24.552	100.49	110	134.55
95	188	12.011	1.6932	42.491	24.583	100.44	110	134.58
96	190	12.14	1.6957	42.568	24.587	100.39	110	134.59
97	192	12.267	1.6981	42.676	24.61	100.34	110	134.61
98	194	12.389	1.7005	42.769	24.625	100.28	110	134.62
99	196	12.52	1.703	42.892	24.655	100.24	110	134.66
100	198	12.653	1.7056	43.047	24.703	100.18	110	134.7
101	200	12.784	1.7082	43.124	24.705	100.12	110	134.71
102	202	12.909	1.7107	43.247	24.737	100.07	110	134.74
103	204	13.037	1.7132	43.325	24.737	100.02	110	134.74
104	206	13.162	1.7156	43.402	24.74	99.97	110	134.74
105	208	13.285	1.7181	43.51	24.744	99.97	110	134.77
106	210	13.403	1.7204	43.603	24.767	99.93	110	134.77
107	212	13.536	1.7231	43.649	24.782	99.873	110	134.78
108	214	13.657	1.7255	43.803	24.765	99.825	110	134.77
109	216	13.78	1.7279	43.865	24.815	99.776	110	134.82
110	218	13.929	1.7309	44.004	24.811	99.72	110	134.81
111	220	14.039	1.7331	44.112	24.842	99.679	110	134.84
112	222	14.179	1.736	44.22	24.868	99.631	110	134.87
113	224	14.289	1.7382	44.251	24.884	99.591	110	134.88
114	226	14.426	1.741	44.406	24.865	99.55	110	134.87
115	228	14.546	1.7434	44.514	24.909	99.502	110	134.91
116	230	14.678	1.7461	44.638	24.93	99.446	110	134.93
117	232	14.806	1.7487	44.73	24.957	99.397	110	134.96
118	234	14.941	1.7515	44.869	24.968	99.357	110	134.97
119	236	15.066	1.7541	44.977	25.002	99.308	110	135
120	238	15.197	1.7568	45.147	25.022	99.268	110	135.02
121	242	15.459	1.7622	45.363	25.074	99.228	110	135.07
122	244	15.587	1.7649	45.502	25.109	99.155	110	135.11
123	246	15.711	1.7675	45.657	25.145	99.099	110	135.14
124	248	15.836	1.7701	45.719	25.19	99.05	110	135.19
125	250	15.945	1.7724	45.858	25.182	99.01	110	135.18
126	252	16.067	1.775	45.935	25.224	98.97	110	135.22
					25.226	98.929		135.23

127	254	16.204	1.7779	46.043	25.24	98.897	110	135.24
128	256	16.325	1.7805	46.136	25.25	98.848	110	135.25
129	258	16.466	1.7835	46.275	25.28	98.808	110	135.28
130	260	16.597	1.7863	46.383	25.296	98.76	110	135.3
131	262	16.741	1.7894	46.476	25.298	98.727	110	135.32
132	264	16.856	1.7918	46.584	25.319	98.687	110	135.32
133	266	16.986	1.7947	46.661	25.317	98.655	110	135.32
134	268	17.106	1.7972	46.707	25.301	98.631	110	135.32
135	270	17.238	1.8001	46.831	25.324	98.59	110	135.32
136	272	17.367	1.8029	46.893	25.314	98.55	110	135.31
137	274	17.494	1.8057	46.985	25.321	98.51	110	135.32
138	276	17.615	1.8084	47.078	25.331	98.469	110	135.33
139	278	17.747	1.8113	47.186	25.345	98.429	110	135.34
140	280	17.887	1.8143	47.232	25.321	98.389	110	135.32
141	282	18.001	1.8169	47.34	25.341	98.364	110	135.34
142	284	18.149	1.8202	47.402	25.324	98.332	110	135.32
143	286	18.262	1.8227	47.464	25.318	98.292	110	135.32
144	287.98	18.386	1.8254	47.557	25.325	98.251	110	135.33

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1409
Sample No.: 11-1058
Test No.: 1

Location: TX
Tested By: SKM
Test Date: 5/20/11
Sample Type: CORE

Project No.: 11-1058
Checked By: SKM
Depth:
Elevation: N/A

Soil Description: HOLE 300.1

Remarks:

Specimen Height: 3.01 in
Specimen Area: 1.52 in²
Specimen Volume: 75.09 cc

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.74

	Vertical Strain %	Total Vertical Stress psi	Total Horizontal Stress psi	Excess Pore Pressure psi	A Parameter	Effective Vertical Stress psi	Effective Horizontal Stress psi	Stress Ratio	Effective p psi	q psi
1	0.00	110	110	0	0.000	9.9252	9.9252	1.000	9.9252	0
2	0.12	115.62	110	0.92781	0.165	14.614	8.9974	1.624	11.806	2.8083
3	0.25	117.72	110	1.9363	0.251	15.712	7.9889	1.967	11.851	3.8617
4	0.37	119.01	110	2.6059	0.289	16.329	7.3192	2.231	11.824	4.5049
5	0.50	120.12	110	3.1223	0.309	16.919	6.8029	2.487	11.861	5.058
6	0.62	120.97	110	3.5176	0.321	17.382	6.4076	2.713	11.895	5.4871
7	0.74	121.74	110	3.8403	0.327	17.821	6.0848	2.929	11.953	5.8682
8	0.87	122.38	110	4.0904	0.330	18.219	5.8347	3.122	12.027	6.1921
9	1.00	122.96	110	4.3083	0.333	18.573	5.6169	3.307	12.095	6.4779
10	1.12	123.44	110	4.4777	0.333	18.885	5.4475	3.467	12.166	6.7187
11	1.26	123.93	110	4.6149	0.331	19.243	5.3103	3.624	12.277	6.9664
12	1.40	124.31	110	4.7197	0.330	19.511	5.2034	3.748	12.358	7.153
13	1.52	124.74	110	4.8085	0.326	19.859	5.1167	3.881	12.488	7.3712
14	1.64	125.15	110	4.8892	0.323	20.182	5.036	4.008	12.609	7.5729
15	1.77	125.51	110	4.9376	0.318	20.495	4.9876	4.109	12.742	7.7539
16	1.90	125.84	110	4.9699	0.314	20.791	4.9553	4.196	12.873	7.9179
17	2.03	126.17	110	4.9941	0.309	21.096	4.9311	4.278	13.014	8.0827
18	2.15	126.5	110	5.0021	0.303	21.418	4.9231	4.351	13.171	8.2475
19	2.30	126.77	110	5.0102	0.299	21.682	4.915	4.411	13.298	8.3833
20	2.42	127.08	110	5.0102	0.293	21.999	4.915	4.476	13.457	8.5423
21	2.55	127.37	110	5.0021	0.288	22.291	4.9231	4.528	13.607	8.6838
22	2.68	127.64	110	4.9779	0.282	22.588	4.9473	4.566	13.768	8.8203
23	2.81	127.87	110	4.9537	0.277	22.845	4.9715	4.595	13.908	8.9369
24	2.93	128.11	110	4.9295	0.272	23.104	4.9957	4.625	14.05	9.0543
25	3.06	128.32	110	4.8972	0.267	23.347	5.0279	4.643	14.187	9.1595
26	3.20	128.57	110	4.8569	0.262	23.636	5.0683	4.663	14.352	9.2837
27	3.32	128.83	110	4.8166	0.256	23.936	5.1086	4.685	14.523	9.4139
28	3.46	129.03	110	4.7682	0.250	24.192	5.157	4.691	14.675	9.5175
29	3.58	129.27	110	4.7197	0.245	24.472	5.2034	4.701	14.839	9.6333
30	3.72-37	129.47	110	4.6713-47	0.240	24.726	5.2538	4.706	14.99	9.7358
31	3.84	129.66	110	4.6149	0.235	24.97	5.3103	4.702	15.14	9.8301
32	3.96	129.84	110	4.5503	0.229	25.214	5.3749	4.691	15.294	9.9196
33	4.08	130.05	110	4.4938	0.224	25.479	5.4313	4.691	15.455	10.024
34	4.22	130.22	110	4.4293	0.219	25.716	5.4959	4.679	15.606	10.11
35	4.35	130.41	110	4.3728	0.214	25.967	5.5524	4.679	15.759	10.207
36	4.48	130.54	110	4.3244	0.211	26.141	5.6008	4.667	15.871	10.27
37	4.60	130.72	110	4.2518	0.205	26.39	5.6734	4.651	16.031	10.358
38	4.72	130.84	110	4.1873	0.201	26.579	5.7379	4.632	16.159	10.421
39	4.85	130.98	110	4.1227	0.196	26.787	5.8025	4.616	16.295	10.492
40	4.96	131.13	110	4.0582	0.192	26.999	5.867	4.602	16.433	10.566
41	5.09	131.21	110	3.9775	0.188	27.134	5.9477	4.565	16.551	10.639
42	5.22	131.32	110	3.9049	0.183	27.359	6.0203	4.541	16.68	10.659
43	5.35	131.42	110	3.8323	0.179	27.514	6.0929	4.516	16.803	10.71
44	5.47	131.5	110	3.7516	0.175	27.67	6.1736	4.482	16.922	10.748
45	5.60	131.57	110	3.6951	0.171	27.798	6.2301	4.462	17.014	10.784
46	5.73	131.64	110	3.6144	0.167	27.952	6.3107	4.429	17.131	10.82
47	5.86	131.75	110	3.5338	0.162	28.143	6.3914	4.403	17.267	10.876
48	5.99	131.87	110	3.4611	0.158	28.336	6.464	4.384	17.4	10.936
49	6.12	131.96	110	3.3805	0.154	28.506	6.5447	4.356	17.526	10.981
50	6.25	132.03	110	3.3079	0.150	28.65	6.6173	4.330	17.634	11.016
51	6.38	132.13	110	3.2352	0.146	28.822	6.6899	4.308	17.756	11.066
52	6.50	132.23	110	3.1626	0.142	28.996	6.7626	4.288	17.879	11.117

53	132.28	110	3.082	0.138	29.126	6.8432	4.256	17.984	11.141
54	132.36	110	3.0013	0.134	29.286	6.9239	4.230	18.105	11.181
55	132.44	110	2.9287	0.130	29.442	6.9965	4.208	18.219	11.222
56	132.52	110	2.8561	0.127	29.586	7.0691	4.185	18.328	11.258
57	132.6	110	2.7592	0.122	29.769	7.166	4.154	18.467	11.301
58	132.7	110	2.6947	0.119	29.93	7.2305	4.139	18.58	11.35
59	132.78	110	2.6221	0.115	30.079	7.3031	4.119	18.691	11.388
60	132.85	110	2.5495	0.112	30.231	7.3757	4.099	18.803	11.427
61	132.93	110	2.4849	0.108	30.371	7.4403	4.082	18.905	11.465
62	133.02	110	2.4285	0.105	30.516	7.4967	4.071	19.006	11.51
63	133.06	110	2.3478	0.102	30.635	7.5774	4.043	19.106	11.529
64	133.17	110	2.2752	0.098	30.824	7.65	4.029	19.237	11.587
65	133.25	110	2.2025	0.095	30.973	7.7226	4.011	19.348	11.625
66	133.29	110	2.138	0.092	31.073	7.7872	3.990	19.43	11.643
67	133.4	110	2.0735	0.089	31.251	7.8517	3.980	19.551	11.699
68	133.48	110	2.0009	0.085	31.402	7.9243	3.963	19.663	11.739
69	133.56	110	1.9282	0.082	31.555	7.9969	3.946	19.776	11.779
70	133.64	110	1.8637	0.079	31.701	8.0615	3.932	19.881	11.82
71	133.74	110	1.7992	0.076	31.869	8.126	3.922	19.997	11.871
72	133.87	110	1.7265	0.073	31.967	8.1986	3.899	20.083	11.884
73	133.91	110	1.662	0.070	32.132	8.2632	3.889	20.198	11.935
74	133.97	110	1.5975	0.067	32.239	8.3277	3.871	20.283	11.956
75	134.05	110	1.5329	0.064	32.36	8.3923	3.856	20.376	11.984
76	134.05	110	1.4764	0.061	32.503	8.4488	3.847	20.476	12.027
77	134.09	110	1.4038	0.058	32.608	8.5214	3.827	20.565	12.043
78	134.1	110	1.3393	0.056	32.69	8.5859	3.807	20.638	12.052
79	134.19	110	1.2667	0.052	32.844	8.6585	3.793	20.751	12.093
80	134.21	110	1.2102	0.050	32.924	8.715	3.778	20.82	12.105
81	134.24	110	1.1537	0.048	33.007	8.7715	3.763	20.889	12.118
82	134.26	110	1.0972	0.045	33.088	8.8279	3.748	20.958	12.13
83	134.29	110	1.0408	0.043	33.178	8.8844	3.734	21.031	12.147
84	134.3	110	0.97622	0.040	33.249	8.949	3.715	21.099	12.15
85	134.35	110	0.91975	0.038	33.357	9.0054	3.704	21.181	12.176
86	134.35	110	0.8552	0.035	33.418	9.07	3.684	21.244	12.174
87	134.39	110	0.80679	0.033	33.506	9.1184	3.675	21.312	12.194
88	134.41	110	0.75032	0.031	33.588	9.1749	3.661	21.381	12.206
89	134.46	110	0.69384	0.028	33.693	9.2313	3.650	21.462	12.231
90	134.49	110	0.63737	0.026	33.773	9.2878	3.636	21.531	12.243
91	134.52	110	0.58896	0.024	33.856	9.3362	3.626	21.596	12.26
92	134.51	110	0.53248	0.022	33.902	9.3927	3.609	21.648	12.255
93	134.53	110	0.46794	0.022	33.99	9.4572	3.594	21.724	12.266
94	134.55	110	0.41147	0.019	34.066	9.5137	3.581	21.79	12.276
95	134.58	110	0.36306	0.015	34.145	9.5621	3.571	21.854	12.292
96	134.59	110	0.31465	0.013	34.198	9.6105	3.558	21.904	12.294
97	134.61	110	0.26624	0.011	34.269	9.6589	3.548	21.964	12.305
98	134.62	110	0.20977	0.009	34.34	9.7154	3.535	22.028	12.312
99	134.66	110	0.16136	0.007	34.419	9.7638	3.525	22.091	12.328
100	134.7	110	0.10488	0.004	34.523	9.8203	3.515	22.172	12.351
101	134.71	110	0.048408	0.002	34.582	9.8768	3.501	22.229	12.353
102	134.74	110	0	0.000	34.662	9.9232	3.492	22.294	12.368
103	134.74	110	-0.056476	-0.002	34.722	9.9817	3.479	22.352	12.37
104	134.74	110	-0.10488	-0.004	34.774	10.03	3.467	22.402	12.372
105	134.77	110	-0.14522	-0.006	34.838	10.07	3.459	22.454	12.384
106	134.78	110	-0.2017	-0.008	34.909	10.127	3.447	22.518	12.391
107	134.78	110	-0.25011	-0.010	34.941	10.175	3.434	22.558	12.393
108	134.82	110	-0.29851	-0.012	35.039	10.224	3.427	22.631	12.408
109	134.81	110	-0.35499	-0.014	35.091	10.28	3.413	22.686	12.405
110	134.84	110	-0.39533	-0.016	35.162	10.321	3.407	22.741	12.421
111	134.87	110	-0.44374	-0.018	35.237	10.369	3.398	22.803	12.434
112	134.88	110	-0.48408	-0.019	35.293	10.409	3.391	22.851	12.442
113	134.87	110	-0.52442	-0.021	35.315	10.45	3.380	22.882	12.453
114	134.91	110	-0.57282	-0.023	35.407	10.498	3.373	22.952	12.454
115	134.93	110	-0.6293	-0.025	35.485	10.554	3.362	23.02	12.465
116	134.96	110	-0.67771	-0.027	35.56	10.603	3.354	23.082	12.479
117	134.97	110	-0.71805	-0.029	35.611	10.643	3.346	23.127	12.479
118	135	110	-0.76645	-0.031	35.694	10.692	3.338	23.193	12.484
119	135.02	110	-0.80679	-0.032	35.754	10.732	3.331	23.243	12.501
120	135.07	110	-0.84713	-0.034	35.847	10.772	3.324	23.31	12.511
121	135.11	110	-0.91975	-0.037	35.954	10.845	3.315	23.399	12.537
122	135.14	110	-0.97622	-0.039	36.046	10.901	3.307	23.474	12.554
123	135.19	110	-1.0246	-0.041	36.14	10.95	3.300	23.545	12.572
124	135.18	110	-1.065	-0.042	36.172	10.99	3.291	23.581	12.595
125	135.22	110	-1.1053	-0.044	36.254	11.03	3.287	23.642	12.612

126	16.07	135.23	110	-1.1456	-0.045	36.296	11.071	3.279	23.684	12.613
127	16.20	135.24	110	-1.1749	-0.047	36.343	11.103	3.273	23.723	12.62
128	16.32	135.25	110	-1.2263	-0.049	36.402	11.152	3.264	23.777	12.625
129	16.47	135.28	110	-1.2667	-0.050	36.472	11.192	3.259	23.832	12.64
130	16.60	135.3	110	-1.3151	-0.052	36.536	11.24	3.250	23.888	12.648
131	16.74	135.3	110	-1.3473	-0.053	36.57	11.273	3.244	23.921	12.649
132	16.86	135.32	110	-1.3877	-0.055	36.632	11.313	3.238	23.972	12.659
133	16.99	135.32	110	-1.42	-0.056	36.662	11.345	3.232	24.004	12.658
134	17.11	135.3	110	-1.4442	-0.057	36.671	11.369	3.225	24.02	12.651
135	17.24	135.32	110	-1.4845	-0.059	36.734	11.41	3.220	24.072	12.662
136	17.37	135.31	110	-1.5248	-0.060	36.764	11.45	3.211	24.107	12.657
137	17.49	135.32	110	-1.5652	-0.062	36.812	11.49	3.204	24.151	12.661
138	17.61	135.33	110	-1.6055	-0.063	36.861	11.531	3.197	24.196	12.665
139	17.75	135.34	110	-1.6459	-0.065	36.916	11.571	3.190	24.243	12.672
140	17.89	135.32	110	-1.6862	-0.067	36.933	11.611	3.181	24.272	12.661
141	18.00	135.34	110	-1.7104	-0.067	36.977	11.636	3.178	24.306	12.671
142	18.15	135.32	110	-1.7427	-0.069	36.991	11.668	3.170	24.33	12.662
143	18.26	135.32	110	-1.783	-0.070	37.026	11.708	3.162	24.367	12.659
144	18.39	135.33	110	-1.8234	-0.072	37.074	11.749	3.156	24.411	12.663

Project: PLUM CREEK SITE 6
Boring No.: F10-1409
Sample No.: 11-1058
Test No.: 2

Soil Description: HOLE 300.1
Remarks:

Specimen Height: 2.99 in
Specimen Area: 1.54 in²
Specimen Volume: 75.34 cc

Liquid Limit: ---

Container ID

Wt. Container + wet Soil, gm
Wt. Container + Dry Soil, gm
Wt. Container, gm
Wt. Dry Soil, gm
Water Content, %
Void Ratio
Degree of Saturation, %
Dry Unit Weight, pcf

Initial

End of Initialization

End of Consolidation/A

End of Saturation

End of Consolidation/B

End of Shear

At Failure

TRIAXIAL TEST

Location: TX
Tested By: SKM
Test Date: 5/20/11
Sample Type: CORE

Project No.: 11-1058
Checked By: SKM
Depth:
Elevation: N/A

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb

Plastic Limit: ---

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Measured Specific Gravity: 2.74

Before Test
Trimings

Before Test
Specimen+Ring

After Test
Specimen+Ring

After Test
Trimings

149.4
116.81
0
116.81
27.90

149.4
116.81

116.81
27.90
0.77
99.63
96.787

151.61
116.81
0
116.81
29.79
0.82
100.00
94.176

221.24
186.44
69.63
116.81
29.79

Project: PLUM CREEK SITE 6
Boring No.: F10-1409
Sample No.: 11-1058
Test No.: 2

Soil Description: HOLE 300.1

Remarks:

Specimen Height: 2.99 in
Specimen Area: 1.54 in²
Specimen Volume: 75.34 cc

Liquid Limit: ---

Location: TX
Tested By: SKM
Test Date: 5/20/11
Sample Type: CORE

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb

Plastic Limit: ---

TRIAxIAL TEST

	Time min	Vertical Strain %	Corrected Area in ²	Deviator Load lb	Deviator Stress psi	Pore Pressure psi	Horizontal Stress psi	Vertical Stress psi
1	0	0	1.4727	0	0	100.33	120	120
2	2.0001	0.14618	1.4749	7.7069	5.2183	102.14	120	125.22
3	4.0001	0.25987	1.4765	11.56	7.8166	103.49	120	127.82
4	6.0042	0.4093	1.4788	14.392	9.7127	104.48	120	129.71
5	8.0041	0.52299	1.4805	16.76	11.295	105.28	120	131.3
6	10.004	0.66268	1.4825	18.849	12.682	105.94	120	132.68
7	12.004	0.77799	1.4843	20.737	13.934	106.52	120	133.93
8	14.004	0.90631	1.4862	22.548	15.128	107.01	120	135.13
9	16.004	1.0395	1.4882	24.142	16.172	107.44	120	136.17
10	18.004	1.1629	1.49	25.705	17.195	107.81	120	137.19
11	20.004	1.3107	1.4923	27.098	18.095	108.12	120	138.1
12	22.003	1.4277	1.494	28.413	18.949	108.39	120	138.95
13	24.003	1.5657	1.4961	29.667	19.753	108.64	120	139.75
14	26.003	1.7038	1.4982	30.89	20.535	108.85	120	140.53
15	28.003	1.837	1.5003	32.004	21.243	109.02	120	141.24
16	30.003	1.9702	1.5023	33.118	21.95	109.16	120	141.95
17	32.003	2.0855	1.5041	34.201	22.639	109.27	120	142.64
18	34.003	2.2122	1.506	35.145	23.23	109.35	120	143.23
19	36.003	2.3519	1.5082	36.12	23.837	109.42	120	143.84
20	38.003	2.511	1.5106	37.033	24.394	109.47	120	144.39
21	40.003	2.6198	1.5123	37.869	24.915	109.49	120	144.91
22	42.003	2.7612	1.5145	38.674	25.403	109.52	120	145.4
23	44.003	2.8943	1.5166	39.51	25.913	109.52	120	145.91
24	46.003	3.0259	1.5187	40.252	26.361	109.49	120	146.36
25	48.002	3.1477	1.5206	40.933	26.77	109.46	120	146.77
26	50.002	3.289	1.5228	41.599	27.161	109.42	120	147.16
27	52.002	3.4271	1.525	42.202	27.511	109.38	120	147.51
28	54.002	3.5554	1.527	42.852	27.894	109.32	120	147.89
29	56	3.6886	1.5291	43.409	28.214	109.26	120	148.21
30	58.004	3.825	1.5313	43.889	28.481	109.19	120	148.48
31	60.004	3.9582	1.5334	44.353	28.738	109.1	120	148.74
32	62.004	4.0751	1.5353	44.864	29.03	109.02	120	149.03
33	64.004	4.1969	1.5372	45.313	29.279	108.93	120	149.28
34	66.004	4.348	1.5397	45.762	29.517	108.82	120	149.52
35	68.004	4.4861	1.5419	46.164	29.729	108.73	120	149.73
36	70.004	4.6095	1.5439	46.597	29.966	108.63	120	149.97
37	72.004	4.7492	1.5461	46.953	30.145	108.53	120	150.15
38	74.003	4.8742	1.5482	47.371	30.37	108.43	120	150.37
39	76.003	5.0074	1.5503	47.681	30.521	108.32	120	150.52
40	78.003	5.1292	1.5523	48.006	30.685	108.2	120	150.69
41	80.003	5.2608	1.5545	48.284	30.816	108.1	120	150.82
42	82.003	5.3712	1.5563	48.625	30.993	107.98	120	150.99
43	84.003	5.4947	1.5583	48.841	31.086	107.88	120	151.09
44	86.004	5.6279	1.5605	49.166	31.245	107.77	120	151.24
45	88	5.7757	1.563	49.429	31.357	107.67	120	151.36
46	90	5.904	1.5651	49.6	31.417	107.56	120	151.42
47	92	6.0307	1.5672	49.863	31.537	107.44	120	151.54
48	94	6.1622	1.5694	50.11	31.644	107.34	120	151.64
49	96	6.2922	1.5716	50.265	31.693	107.21	120	151.69
50	98	6.4254	1.5738	50.451	31.76	107.1	120	151.76
51	100	6.5537	1.576	50.637	31.828	107	120	151.83
52	102	6.6917	1.5783	50.776	31.863	106.89	120	151.86
53	104	6.8119	1.5804	50.946	31.924	106.79	120	151.92

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Measured Specific Gravity: 2.74

54	106	6.9484	1.5827	51.116	31.979	106.68	120	151.98
55	108	7.0799	1.5849	51.24	32.006	106.57	120	152.01
56	110	7.2115	1.5872	51.426	32.071	106.47	120	152.07
57	112	7.3365	1.5893	51.612	32.139	106.37	120	152.14
58	114	7.4649	1.5915	51.782	32.196	106.27	120	152.2
59	116	7.5948	1.5938	51.937	32.242	106.18	120	152.24
60	118	7.7247	1.5966	52.014	32.239	106.08	120	152.24
61	120	7.8579	1.5983	52.091	32.235	105.98	120	152.24
62	122	7.9878	1.6006	52.215	32.261	105.89	120	152.26
63	124	8.1308	1.6031	52.323	32.272	105.79	120	152.27
64	126	8.2575	1.6053	52.416	32.28	105.69	120	152.28
65	128	8.3858	1.6075	52.463	32.258	105.6	120	152.26
66	130	8.5141	1.6098	52.648	32.322	105.53	120	152.32
67	132	8.6456	1.6121	52.679	32.322	105.45	120	152.29
68	134	8.7658	1.6142	52.741	32.289	105.37	120	152.28
69	136	8.9071	1.6167	52.819	32.279	105.3	120	152.27
70	138	9.0338	1.619	52.865	32.271	105.21	120	152.25
71	140	9.1621	1.6213	52.896	32.249	105.13	120	152.22
72	142	9.297	1.6237	53.02	32.217	105.13	120	152.22
73	144	9.4334	1.6261	53.051	32.204	105.06	120	152.2
74	146	9.5698	1.6286	53.097	32.239	104.99	120	152.24
75	148	9.6965	1.6308	53.175	32.178	104.92	120	152.18
76	150	9.8183	1.633	53.252	32.174	104.85	120	152.17
77	152	9.9483	1.6354	53.345	32.173	104.8	120	152.17
78	154	10.09	1.638	53.422	32.178	104.73	120	152.18
79	156	10.22	1.6403	53.484	32.168	104.67	120	152.17
80	158	10.346	1.6427	53.531	32.154	104.6	120	152.15
81	160	10.484	1.6452	53.623	32.131	104.54	120	152.13
82	162	10.617	1.6476	53.732	32.144	104.49	120	152.13
83	164	10.733	1.6498	53.794	32.142	104.44	120	152.14
84	166	10.874	1.6524	53.794	32.135	104.39	120	152.13
85	168	11.001	1.6547	53.902	32.143	104.33	120	152.14
86	170	11.136	1.6573	54.037	32.129	104.26	120	152.13
87	172	11.261	1.6596	54.077	32.131	104.21	120	152.13
88	174	11.408	1.6624	54.196	32.164	104.16	120	152.16
89	176	11.519	1.6644	54.335	32.188	104.1	120	152.19
90	178	11.65	1.6669	54.444	32.143	104.05	120	152.14
91	180	11.774	1.6692	54.505	32.154	104	120	152.15
92	182	11.902	1.6717	54.66	32.141	103.94	120	152.14
93	184	12.042	1.6743	54.738	32.182	103.89	120	152.18
94	186	12.17	1.6768	54.892	32.171	103.83	120	152.17
95	188	12.294	1.6791	54.985	32.21	103.77	120	152.21
96	190	12.438	1.6819	55.14	32.215	103.72	120	152.22
97	192	12.573	1.6845	55.264	32.248	103.68	120	152.25
98	194	12.69	1.6868	55.388	32.266	103.64	120	152.27
99	196	12.823	1.6893	55.465	32.291	103.6	120	152.29
100	198	12.951	1.6918	55.635	32.282	103.55	120	152.28
101	200	13.07	1.6941	55.682	32.33	103.49	120	152.33
102	202	13.198	1.6966	55.682	32.308	103.44	120	152.31
103	204	13.349	1.6996	55.836	32.346	103.39	120	152.35
104	206	13.476	1.7021	55.914	32.329	103.35	120	152.33
105	208	13.609	1.7047	56.007	32.331	103.31	120	152.33
106	210	13.742	1.7073	56.146	32.357	103.27	120	152.36
107	212	13.866	1.7098	56.27	32.374	103.23	120	152.37
108	214	13.984	1.7121	56.424	32.413	103.19	120	152.41
109	216	14.116	1.7148	56.517	32.417	103.15	120	152.42
110	218	14.246	1.7174	56.641	32.434	103.1	120	152.43
111	220	14.39	1.7203	56.703	32.416	103.06	120	152.42
112	222	14.525	1.7223	56.889	32.463	103.02	120	152.46
113	224	14.665	1.7258	56.997	32.469	102.99	120	152.47
114	226	14.784	1.7282	57.136	32.491	102.94	120	152.49
115	228	14.918	1.7309	57.276	32.521	102.9	120	152.52
116	230	15.045	1.7335	57.399	32.536	102.85	120	152.54
117	232	15.177	1.7362	57.554	32.571	102.81	120	152.57
118	234	15.287	1.7385	57.709	32.605	102.77	120	152.6
119	236	15.435	1.7415	57.848	32.638	102.73	120	152.64
120	238	15.565	1.7442	57.895	32.601	102.7	120	152.6
121	240	15.683	1.7466	57.988	32.599	102.65	120	152.6
122	242	15.823	1.7495	58.111	32.619	102.63	120	152.62
123	244	15.95	1.7522	58.251	32.639	102.58	120	152.64
124	246	16.07	1.7547	58.297	32.611	102.53	120	152.61
125	248	16.2	1.7574	58.452	32.648	102.49	120	152.65
126	250	16.338	1.7603	58.545	32.645	102.45	120	152.64
				58.684	32.664	102.42	120	152.66

127	252	16.481	1.7633	58.777	32.655	102.39	120	152.66
128	254	16.601	1.7659	58.885	32.665	102.35	120	152.66
129	256	16.746	1.7689	58.932	32.628	102.31	120	152.63
130	258	16.879	1.7718	59.009	32.614	102.27	120	152.61
131	260	16.997	1.7743	59.102	32.615	102.23	120	152.62
132	262	17.134	1.7772	59.133	32.574	102.19	120	152.57
133	264	17.267	1.7801	59.272	32.594	102.17	120	152.59
134	266	17.389	1.7827	59.442	32.637	102.14	120	152.64
135	268	17.543	1.786	59.551	32.63	102.1	120	152.63
136	270	17.67	1.7888	59.705	32.661	102.07	120	152.66
137	272	17.801	1.7916	59.845	32.681	102.04	120	152.68
138	274	17.931	1.7945	59.891	32.65	101.99	120	152.65
139	276	18.064	1.7974	59.968	32.635	101.95	120	152.64
140	278	18.202	1.8004	60.17	32.686	101.92	120	152.69
141	280	18.329	1.8032	60.309	32.708	101.88	120	152.71
142	282	18.451	1.8059	60.417	32.714	101.85	120	152.71
143	284	18.594	1.8091	60.618	32.762	101.82	120	152.76
144	286	18.722	1.8119	60.727	32.765	101.79	120	152.77
145	287.02	18.786	1.8134	60.82	32.788	101.76	120	152.79

TRIAxIAL TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1409
Sample No.: 11-1058
Test No.: 2
Location: TX
Tested By: SKM
Test Date: 5/20/11
Sample Type: CORE
Project No.: 11-1058
Checked By: SKM
Depth:
Elevation: N/A

Soil Description: HOLE 300.1

Remarks:
Specimen Height: 2.99 in
Specimen Area: 1.54 in²
Specimen Volume: 75.34 cc

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Measured Specific Gravity: 2.74

Plastic Limit: ---

	Vertical Strain %	Total Vertical Stress psi	Total Horizontal Stress psi	Excess Pore Pressure psi	Parameter A	Effective Vertical Stress psi	Effective Horizontal Stress psi	Stress Ratio	Effective p psi	q psi
1	0.00	120	120	0	0.000	19.671	19.671	1.000	19.671	0
2	0.15	125.22	120	1.8148	0.348	23.074	17.856	1.292	20.465	2.6092
3	0.26	127.82	120	3.1618	0.404	24.326	16.509	1.473	20.417	3.9083
4	0.41	129.71	120	4.1538	0.428	25.23	15.517	1.626	20.373	4.8563
5	0.52	131.3	120	4.9523	0.438	26.014	14.718	1.767	20.366	5.6477
6	0.66	132.68	120	5.6137	0.443	26.739	14.057	1.902	20.398	6.341
7	0.78	133.93	120	6.1864	0.444	27.418	13.484	2.033	20.451	6.9668
8	0.91	135.13	120	6.6784	0.441	28.12	12.992	2.164	20.556	7.5638
9	1.04	136.17	120	7.1059	0.439	28.737	12.565	2.287	20.651	8.086
10	1.16	137.19	120	7.4769	0.435	29.389	12.194	2.410	20.791	8.5974
11	1.31	138.1	120	7.7915	0.431	29.975	11.879	2.523	20.927	9.0476
12	1.43	138.95	120	8.0657	0.426	30.554	11.605	2.633	21.079	9.4743
13	1.57	139.75	120	8.3077	0.421	31.116	11.363	2.738	21.24	9.8766
14	1.70	140.53	120	8.5174	0.415	31.688	11.153	2.841	21.421	10.267
15	1.84	141.24	120	8.6868	0.409	32.227	10.984	2.934	21.606	10.622
16	1.97	141.95	120	8.8319	0.402	32.789	10.839	3.025	21.814	10.975
17	2.09	142.64	120	8.9449	0.395	33.364	10.726	3.111	22.045	11.319
18	2.21	143.23	120	9.0255	0.389	33.875	10.645	3.182	22.26	11.615
19	2.35	143.84	120	9.09	0.381	34.417	10.581	3.253	22.499	11.918
20	2.51	144.39	120	9.1384	0.375	34.927	10.532	3.316	22.73	12.197
21	2.62	144.91	120	9.1626	0.368	35.423	10.508	3.371	22.965	12.457
22	2.76	145.4	120	9.1868	0.362	35.887	10.484	3.422	23.185	12.702
23	2.89	145.91	120	9.1868	0.355	36.397	10.508	3.472	23.44	12.956
24	3.03	146.36	120	9.1626	0.348	36.869	10.54	3.509	23.688	13.18
25	3.15	146.77	120	9.1304	0.341	37.31	10.581	3.547	23.925	13.385
26	3.29	147.16	120	9.09	0.335	37.741	10.621	3.590	24.161	13.58
27	3.43	147.51	120	9.0497	0.329	38.132	10.678	3.626	24.377	13.756
28	3.56	147.89	120	8.9933	0.322	38.572	10.742	3.612	24.625	13.947
29	3.69	148.21	120	8.9287	0.316	38.956	10.815	3.634	24.849	14.107
30	3.83	148.48	120	8.8561	0.311	39.295	10.895	3.638	25.055	14.24
31	3.96	148.74	120	8.7755	0.305	39.633	10.976	3.645	25.264	14.369
32	4.08	149.03	120	8.6948	0.300	40.006	11.073	3.644	25.491	14.515
33	4.20	149.28	120	8.598	0.294	40.352	11.178	3.641	25.712	14.64
34	4.35	149.52	120	8.4932	0.288	40.695	11.274	3.637	25.936	14.759
35	4.49	149.73	120	8.3964	0.282	41.004	11.468	3.629	26.139	14.865
36	4.61	149.97	120	8.2996	0.277	41.337	11.573	3.624	26.354	14.983
37	4.75	150.15	120	8.2028	0.272	41.613	11.678	3.614	26.541	15.073
38	4.87	150.37	120	8.098	0.267	41.943	11.799	3.601	26.758	15.185
39	5.01	150.52	120	7.9931	0.262	42.198	11.904	3.589	27.141	15.343
40	5.13	150.69	120	7.8721	0.257	42.484	12.016	3.579	27.311	15.408
41	5.26	150.82	120	7.7673	0.252	42.719	12.121	3.565	27.513	15.497
42	5.37	150.99	120	7.6543	0.247	43.01	12.226	3.556	27.664	15.543
43	5.49	151.09	120	7.5495	0.243	43.208	12.331	3.543	27.848	15.622
44	5.63	151.24	120	7.4446	0.238	43.471	12.444	3.525	28.01	15.679
45	5.78	151.36	120	7.3398	0.234	43.688	12.557	3.512	28.153	15.709
46	5.90	151.42	120	7.2269	0.230	43.861	12.662	3.499	28.325	15.768
47	6.03	151.54	120	7.1139	0.226	44.094	12.791	3.478	28.484	15.822
48	6.16	151.64	120	7.0091	0.221	44.306	12.896	3.463	28.637	15.847
49	6.29	151.69	120	6.88	0.217	44.484	13	3.448	28.776	15.88
50	6.43	151.76	120	6.7752	0.213	44.656	13.105	3.431	28.915	15.914
51	6.55	151.83	120	6.6703	0.210	44.829			29.037	15.932
52	6.69	151.86	120	6.5655	0.206	44.968				

53	6.81	151.92	120	6.4606	0.202	45.135	13.21	3.417	29.172	15.962
54	6.95	151.98	120	6.3477	0.198	45.302	13.323	3.400	29.313	15.989
55	7.08	152.01	120	6.2429	0.195	45.434	13.428	3.384	29.431	16.003
56	7.21	152.07	120	6.138	0.191	45.604	13.533	3.370	29.569	16.036
57	7.34	152.14	120	6.0412	0.188	45.769	13.63	3.358	29.699	16.07
58	7.46	152.2	120	5.9444	0.185	45.922	13.726	3.346	29.824	16.098
59	7.59	152.24	120	5.8476	0.181	46.065	13.823	3.332	29.944	16.121
60	7.72	152.24	120	5.7508	0.178	46.159	13.92	3.316	30.04	16.12
61	7.86	152.24	120	5.6541	0.175	46.252	14.017	3.300	30.134	16.118
62	7.99	152.26	120	5.5573	0.172	46.375	14.114	3.286	30.244	16.131
63	8.13	152.27	120	5.4605	0.169	46.482	14.21	3.271	30.346	16.136
64	8.26	152.28	120	5.3637	0.166	46.587	14.307	3.256	30.447	16.14
65	8.39	152.26	120	5.275	0.164	46.653	14.396	3.241	30.525	16.129
66	8.51	152.32	120	5.2024	0.161	46.79	14.481	3.234	30.629	16.161
67	8.65	152.29	120	5.1217	0.159	46.838	14.549	3.219	30.693	16.144
68	8.77	152.28	120	5.0411	0.156	46.909	14.63	3.206	30.769	16.14
69	8.91	152.27	120	4.9685	0.154	46.973	14.702	3.195	30.838	16.135
70	9.03	152.25	120	4.8797	0.151	47.04	14.791	3.180	30.916	16.124
71	9.16	152.22	120	4.7991	0.149	47.089	14.872	3.166	30.98	16.108
72	9.30	152.24	120	4.7346	0.147	47.175	14.936	3.158	31.056	16.12
73	9.43	152.2	120	4.662	0.145	47.213	15.009	3.146	31.111	16.102
74	9.57	152.18	120	4.5894	0.143	47.259	15.081	3.134	31.17	16.089
75	9.70	152.17	120	4.5249	0.141	47.32	15.146	3.124	31.233	16.087
76	9.82	152.17	120	4.4684	0.139	47.375	15.202	3.116	31.289	16.086
77	9.95	152.18	120	4.4039	0.137	47.444	15.267	3.108	31.356	16.089
78	10.09	152.17	120	4.3393	0.135	47.5	15.331	3.108	31.415	16.084
79	10.22	152.15	120	4.2748	0.133	47.55	15.396	3.088	31.473	16.077
80	10.35	152.13	120	4.2103	0.131	47.591	15.46	3.078	31.526	16.065
81	10.48	152.13	120	4.1619	0.130	47.641	15.509	3.072	31.575	16.066
82	10.62	152.14	120	4.1135	0.128	47.701	15.557	3.066	31.629	16.072
83	10.73	152.13	120	4.057	0.126	47.749	15.614	3.058	31.681	16.067
84	10.87	152.14	120	4.0006	0.124	47.813	15.67	3.051	31.742	16.072
85	11.00	152.13	120	3.928	0.122	47.872	15.743	3.041	31.808	16.065
86	11.14	152.13	120	3.8796	0.121	47.922	15.791	3.031	31.857	16.065
87	11.26	152.16	120	3.8312	0.119	48.004	15.84	3.025	31.922	16.082
88	11.41	152.19	120	3.7747	0.117	48.084	15.896	3.025	31.99	16.094
89	11.52	152.14	120	3.7183	0.116	48.095	15.952	3.015	32.024	16.072
90	11.65	152.15	120	3.6699	0.114	48.155	16.001	3.010	32.078	16.077
91	11.77	152.14	120	3.6134	0.112	48.199	16.057	2.997	32.128	16.071
92	11.90	152.18	120	3.557	0.111	48.295	16.114	2.989	32.205	16.091
93	12.04	152.17	120	3.5005	0.109	48.341	16.17	2.985	32.256	16.085
94	12.17	152.21	120	3.4441	0.107	48.437	16.227	2.976	32.332	16.108
95	12.29	152.22	120	3.3957	0.105	48.49	16.275	2.962	32.447	16.124
96	12.44	152.25	120	3.3473	0.104	48.571	16.324	2.958	32.497	16.133
97	12.57	152.27	120	3.3069	0.102	48.63	16.364	2.948	32.55	16.146
98	12.69	152.29	120	3.2666	0.101	48.695	16.404	2.937	32.594	16.141
99	12.82	152.28	120	3.2182	0.100	48.735	16.453	2.934	32.674	16.165
100	12.95	152.33	120	3.1618	0.098	48.839	16.509	2.928	32.711	16.154
101	13.07	152.31	120	3.1134	0.096	48.865	16.557	2.914	32.779	16.173
102	13.20	152.35	120	3.065	0.095	48.952	16.606	2.941	32.819	16.164
103	13.35	152.33	120	3.0166	0.093	48.983	16.654	2.937	32.86	16.165
104	13.48	152.33	120	2.9762	0.092	49.025	16.695	2.937	32.913	16.178
105	13.61	152.36	120	2.9359	0.091	49.092	16.735	2.934	32.954	16.187
106	13.74	152.37	120	2.9037	0.090	49.141	16.767	2.934	33.014	16.206
107	13.87	152.41	120	2.8633	0.088	49.22	16.807	2.928	33.056	16.209
108	13.98	152.42	120	2.823	0.087	49.265	16.848	2.924	33.113	16.217
109	14.12	152.43	120	2.7746	0.086	49.331	16.896	2.924	33.144	16.208
110	14.25	152.42	120	2.7343	0.084	49.352	16.937	2.914	33.208	16.232
111	14.39	152.46	120	2.6939	0.083	49.44	16.977	2.909	33.244	16.245
112	14.53	152.47	120	2.6617	0.082	49.478	17.009	2.905	33.303	16.245
113	14.66	152.49	120	2.6133	0.080	49.548	17.057	2.902	33.359	16.261
114	14.78	152.52	120	2.573	0.079	49.619	17.098	2.898	33.414	16.268
115	14.92	152.54	120	2.5246	0.078	49.682	17.146	2.894	33.48	16.286
116	15.05	152.57	120	2.4762	0.076	49.766	17.195	2.892	33.537	16.302
117	15.18	152.6	120	2.4358	0.075	49.84	17.235	2.892	33.586	16.319
118	15.29	152.64	120	2.4036	0.074	49.905	17.267	2.885	33.6	16.301
119	15.43	152.6	120	2.3713	0.073	49.901	17.299	2.879	33.647	16.299
120	15.56	152.6	120	2.3229	0.071	49.947	17.348	2.874	33.74	16.319
121	15.68	152.62	120	2.2987	0.070	49.991	17.372	2.867	33.833	16.324
122	15.82	152.64	120	2.2503	0.069	50.059	17.42	2.865	33.872	16.322
123	15.95	152.61	120	2.2019	0.068	50.08	17.469	2.865	33.872	16.322
124	16.07	152.65	120	2.1616	0.066	50.157	17.509	2.865	33.872	16.322
125	16.20	152.64	120	2.1213	0.065	50.194	17.549	2.860	33.872	16.322

126	16.34	152.66	120	2.089	0.064	50.246	17.582	2.858	33.914	16.332
127	16.48	152.66	120	2.0568	0.063	50.269	17.614	2.854	33.942	16.328
128	16.60	152.66	120	2.0245	0.062	50.311	17.646	2.851	33.979	16.332
129	16.75	152.63	120	1.9842	0.061	50.315	17.687	2.845	34.001	16.314
130	16.88	152.61	120	1.9438	0.060	50.341	17.727	2.840	34.034	16.307
131	17.00	152.62	120	1.9035	0.058	50.383	17.767	2.836	34.075	16.308
132	17.13	152.57	120	1.8632	0.057	50.381	17.808	2.829	34.094	16.287
133	17.27	152.59	120	1.839	0.056	50.426	17.832	2.828	34.129	16.297
134	17.39	152.64	120	1.8067	0.055	50.501	17.864	2.827	34.182	16.318
135	17.54	152.63	120	1.7664	0.054	50.534	17.904	2.822	34.219	16.315
136	17.67	152.66	120	1.7422	0.053	50.59	17.939	2.822	34.259	16.351
137	17.80	152.68	120	1.7099	0.052	50.642	17.961	2.820	34.302	16.341
138	17.93	152.65	120	1.6615	0.051	50.66	18.009	2.813	34.334	16.325
139	18.06	152.64	120	1.6212	0.050	50.685	18.05	2.808	34.367	16.318
140	18.20	152.69	120	1.5889	0.049	50.768	18.082	2.808	34.425	16.343
141	18.33	152.71	120	1.5486	0.047	50.83	18.122	2.805	34.476	16.354
142	18.45	152.71	120	1.5244	0.047	50.861	18.146	2.803	34.503	16.357
143	18.59	152.76	120	1.4922	0.046	50.941	18.179	2.802	34.56	16.381
144	18.72	152.77	120	1.4599	0.045	50.976	18.211	2.799	34.594	16.383
145	18.79	152.79	120	1.4357	0.044	51.024	18.235	2.798	34.629	16.394

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1409
Sample No.: 11-1058
Test No.: 3

Location: TX
Tested By: SKM
Test Date: 5/20/11
Sample Type: CORE

Project No.: 11-1058
Checked By: SKM
Depth:
Elevation: N/A

Soil Description: HOLE 300.1
Remarks:

Specimen Height: 3.01 in
Specimen Area: 1.53 in²
Specimen Volume: 75.60 cc

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston weight: 0.00 lb

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.74

Container ID	Before Test Trimings	Before Test Specimen+Ring	After Test Specimen+Ring	After Test Trimings
Wt. Container + Wet Soil, gm	149.35	149.35	150.69	220.41
Wt. Container + Dry Soil, gm	117.24	117.24	117.24	186.96
Wt. Container, gm	0	---	0	69.72
Wt. Dry Soil, gm	117.24	117.24	117.24	117.24
Water Content, %	27.39	27.39	28.53	28.53
Void Ratio	---	0.77	0.78	---
Degree of Saturation, %	---	97.85	100.00	---
Dry Unit weight, pcf	---	96.807	96.002	---

Initial

End of Initialization

End of Consolidation/A

End of Saturation

End of Consolidation/B

End of Shear

At Failure

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1409
Sample No.: 11-1058
Test No.: 3

Location: TX
Tested By: SKM
Test Date: 5/20/11
Sample Type: CORE

Project No.: 11-1058
Checked By: SKM
Depth:
Elevation: N/A

Soil Description: HOLE 300.1
Remarks:

Specimen Height: 3.01 in
Specimen Area: 1.53 in²
Specimen Volume: 75.60 cc

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.74

	Time min	Vertical Strain %	Corrected Area in ²	Deviator Load lb	Deviator Stress psi	Pore Pressure psi	Horizontal Stress psi	Vertical Stress psi
1	0	0	1.4521	0	0	100.3	130	130
2	2.004	0.14648	1.4542	9.5478	6.5582	101.53	130	136.56
3	4.0039	0.29621	1.4564	16.825	11.538	103.7	130	141.54
4	6.0039	0.42153	1.4582	21.399	14.654	105.26	130	144.65
5	8.0038	0.54034	1.46	24.971	17.077	106.49	130	147.08
6	10.004	0.68682	1.4621	28.042	19.145	107.51	130	149.14
7	12.004	0.79749	1.4638	30.73	20.954	108.38	130	150.95
8	14.004	0.95048	1.466	33.234	22.622	109.13	130	152.62
9	16.003	1.0644	1.4677	35.537	24.16	109.8	130	154.16
10	18.003	1.2011	1.4698	37.69	25.585	110.39	130	155.58
11	20.003	1.3395	1.4718	39.71	26.914	110.89	130	156.91
12	22.003	1.4453	1.4734	41.546	28.126	111.34	130	158.13
13	24.003	1.5868	1.4755	43.315	29.278	111.73	130	159.28
14	26.003	1.7284	1.4776	44.918	30.314	112.09	130	160.31
15	28.003	1.8505	1.4795	46.537	31.364	112.39	130	161.36
16	30.003	1.9823	1.4815	47.989	32.296	112.64	130	162.3
17	32.003	2.1174	1.4835	49.375	33.179	112.86	130	163.18
18	34.003	2.2509	1.4855	50.743	34.048	113.04	130	164.05
19	36.003	2.386	1.4876	51.979	34.825	113.21	130	164.83
20	38.003	2.5211	1.4897	53.214	35.6	113.35	130	165.6
21	40.002	2.6594	1.4918	54.315	36.281	113.45	130	166.28
22	42.002	2.7815	1.4936	55.384	36.945	113.54	130	166.94
23	44.002	2.91	1.4956	56.419	37.582	113.61	130	167.58
24	46.002	3.0516	1.4978	57.32	38.122	113.65	130	168.12
25	48.002	3.1688	1.4996	58.255	38.693	113.67	130	168.69
26	50.002	3.3055	1.5017	59.156	39.232	113.68	130	169.23
27	52.002	3.4439	1.5039	59.907	39.669	113.68	130	169.67
28	54.002	3.5594	1.5057	60.638	40.115	113.66	130	170.11
29	56.004	3.7124	1.5081	61.376	40.52	113.64	130	170.52
30	58.004	3.8442	1.5102	62.01	40.878	113.6	130	170.88
31	60.003	3.9647	1.512	62.661	41.251	113.55	130	171.25
32	62.003	4.0933	1.5141	63.262	41.587	113.49	130	171.59
33	64.003	4.2397	1.5164	63.796	41.869	113.43	130	171.87
34	66.003	4.3716	1.5185	64.414	42.211	113.36	130	172.21
35	68.003	4.492	1.5204	64.948	42.504	113.28	130	172.5
36	70.003	4.6352	1.5227	65.449	42.762	113.21	130	172.76
37	72.003	4.7833	1.525	65.866	42.962	113.14	130	172.96
38	74.003	4.907	1.527	66.367	43.229	113.04	130	173.23
39	76.003	5.0307	1.529	66.717	43.396	112.95	130	173.4
40	78.003	5.1642	1.5312	67.101	43.579	112.85	130	173.58
41	80.003	5.3025	1.5334	67.535	43.792	112.75	130	173.79
42	82.003	5.4295	1.5355	67.819	43.912	112.64	130	173.91
43	84.002	5.5613	1.5376	68.103	44.029	112.54	130	174.03
44	86.003	5.6948	1.5398	68.42	44.167	112.43	130	174.17
45	88.004	5.8315	1.542	68.637	44.237	112.33	130	174.24
46	90	5.9633	1.5442	68.988	44.396	112.22	130	174.4
47	92	6.1147	1.5467	69.271	44.501	112.11	130	174.5
48	94	6.2367	1.5487	69.505	44.588	112	130	174.59
49	96	6.3799	1.5511	69.872	44.75	111.88	130	174.75
50	98	6.5053	1.5531	70.089	44.824	111.77	130	174.82
51	100	6.6501	1.5555	70.306	44.888	111.66	130	174.89
52	102	6.7754	1.5576	70.523	44.961	111.55	130	174.96
53	104	6.917	1.56	70.824	45.078	111.44	130	175.08

54	7.0586	1.5624	70.991	45.11	111.32	130	175.11
55	7.1905	1.5646	71.208	45.179	111.2	130	175.18
56	7.3337	1.567	71.308	45.166	111.1	130	175.17
57	7.4704	1.5693	71.625	45.295	110.99	130	175.3
58	7.6087	1.5717	71.808	45.338	110.9	130	175.34
59	7.7259	1.5737	72.009	45.403	110.73	130	175.4
60	7.8675	1.5761	72.226	45.464	110.62	130	175.46
61	7.9993	1.5784	72.359	45.478	110.52	130	175.48
62	8.1295	1.5806	72.643	45.587	110.42	130	175.59
63	8.2598	1.5828	72.827	45.632	110.32	130	175.63
64	8.403	1.5853	72.944	45.628	110.22	130	175.63
65	8.5316	1.5875	73.094	45.653	110.12	130	175.65
66	8.6618	1.5898	73.227	45.666	110.03	130	175.67
67	8.8033	1.5923	73.444	45.725	109.95	130	175.73
68	8.9287	1.5945	73.645	45.782	109.87	130	175.78
69	9.0605	1.5968	73.862	45.846	109.8	130	175.78
70	9.207	1.5994	73.995	45.849	109.7	130	175.85
71	9.3469	1.6018	74.112	45.845	109.61	130	175.85
72	9.4625	1.6039	74.362	45.937	109.54	130	175.84
73	9.609	1.6065	74.529	45.96	109.46	130	175.94
74	9.7522	1.609	74.746	46.016	109.46	130	175.96
75	9.8759	1.6112	74.98	46.016	109.46	130	176.02
76	10.004	1.6135	75.097	46.093	109.38	130	176.09
77	10.135	1.6159	75.314	46.155	109.31	130	176.09
78	10.271	1.6183	75.497	46.155	109.24	130	176.15
79	10.402	1.6207	75.648	46.192	109.16	130	176.19
80	10.537	1.6231	75.831	46.212	109.08	130	176.21
81	10.682	1.6258	75.981	46.249	109.02	130	176.25
82	10.818	1.6282	76.198	46.26	108.95	130	176.26
83	10.947	1.6306	76.365	46.317	108.89	130	176.32
84	11.082	1.6331	76.616	46.347	108.82	130	176.35
85	11.202	1.6353	76.766	46.424	108.76	130	176.42
86	11.333	1.6377	76.95	46.447	108.69	130	176.45
87	11.471	1.6403	77.15	46.485	108.63	130	176.49
88	11.611	1.6428	77.317	46.529	108.57	130	176.53
89	11.741	1.6453	77.467	46.551	108.52	130	176.55
90	11.879	1.6479	77.601	46.568	108.46	130	176.57
91	12.018	1.6504	77.667	46.57	108.4	130	176.57
92	12.135	1.6526	77.868	46.531	108.35	130	176.53
93	12.28	1.6554	77.934	46.585	108.28	130	176.59
94	12.42	1.658	78.185	46.542	108.23	130	176.54
95	12.552	1.6605	78.218	46.613	108.15	130	176.61
96	12.68	1.663	78.368	46.557	108.1	130	176.56
97	12.823	1.6657	78.502	46.573	108.06	130	176.57
98	12.958	1.6683	78.602	46.571	108.01	130	176.57
99	13.094	1.6709	78.752	46.553	107.96	130	176.55
100	13.222	1.6734	78.936	46.565	107.9	130	176.56
101	13.341	1.6756	79.053	46.6	107.84	130	176.56
102	13.5	1.6787	79.253	46.601	107.79	130	176.6
103	13.622	1.6811	79.537	46.628	107.73	130	176.63
104	13.751	1.6836	79.804	46.725	107.68	130	176.73
105	13.886	1.6863	79.954	46.809	107.64	130	176.81
106	14.023	1.6889	80.305	46.819	107.59	130	176.82
107	14.168	1.6918	80.538	46.946	107.55	130	176.95
108	14.298	1.6944	80.689	46.999	107.5	130	177
109	14.423	1.6968	81.022	47.011	107.44	130	177.01
110	14.568	1.6997	81.256	47.133	107.38	130	177.13
111	14.706	1.7025	81.406	47.185	107.33	130	177.18
112	14.835	1.705	81.657	47.191	107.29	130	177.19
113	14.965	1.7077	81.824	47.261	107.25	130	177.26
114	15.086	1.7101	82.024	47.281	107.21	130	177.28
115	15.229	1.713	82.241	47.326	107.16	130	177.33
116	15.349	1.7154	82.391	47.367	107.1	130	177.37
117	15.496	1.7184	82.541	47.381	107.05	130	177.38
118	15.616	1.7208	82.658	47.377	106.99	130	177.38
119	15.763	1.7238	82.892	47.424	106.95	130	177.38
120	15.883	1.7263	83.025	47.428	106.91	130	177.42
121	16.01	1.7289	83.142	47.428	106.86	130	177.43
122	16.144	1.7317	83.359	47.419	106.81	130	177.42
123	16.282	1.7345	83.476	47.463	106.77	130	177.46
124	16.427	1.7375	83.743	47.447	106.7	130	177.45
125	16.537	1.7398	83.943	47.512	106.65	130	177.51
126	16.672	1.7426	84.06	47.56	106.59	130	177.56
				47.544	106.54	130	177.54

127	1.7457	84.361	47.627	106.51	130	177.63
128	1.7482	84.478	47.622	106.46	130	177.62
129	1.7508	84.745	47.698	106.42	130	177.7
130	1.7535	84.928	47.724	106.37	130	177.72
131	1.757	85.078	47.709	106.32	130	177.71
132	1.7598	85.329	47.769	106.27	130	177.77
133	1.7625	85.496	47.783	106.23	130	177.78
134	1.7652	85.763	47.858	106.19	130	177.86
135	1.7681	86.013	47.915	106.15	130	177.92
136	1.7707	86.163	47.925	106.1	130	177.93
137	1.7741	86.364	47.938	106.06	130	177.94
138	1.777	86.631	48.007	106.02	130	178.01
139	1.7798	86.798	48.02	105.97	130	178.02
140	1.7826	87.065	48.088	105.93	130	178.09
141	1.7855	87.282	48.126	105.88	130	178.13
142	1.7887	87.449	48.129	105.85	130	178.13
143	1.7916	87.699	48.183	105.81	130	178.18
144	1.7927	87.733	48.172	105.8	130	178.17

Project: PLUM CREEK SITE 6
Boring No.: F10-1409
Sample No.: 11-1058
Test No.: 3

Soil Description: HOLE 300.1

Remarks:

Specimen Height: 3.01 in
Specimen Area: 1.53 in²
Specimen Volume: 75.60 cc

Liquid Limit: ---

Location: TX
Tested By: SKM
Test Date: 5/20/11
Sample Type: CORE

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb

Plastic Limit: ---

TRIAXIAL TEST

	Vertical Strain %	Total Vertical Stress psi	Total Horizontal Stress psi	Excess Pore Pressure psi	A Parameter	Effective Vertical Stress psi	Effective Horizontal Stress psi	Stress Ratio	Effective p psi	q psi
1	0.00	130	130	0	0.000	29.698	29.698	1.000	29.698	0
2	0.15	136.36	130	1.2302	0.188	35.026	28.468	1.230	31.747	3.2791
3	0.30	141.54	130	3.3992	0.295	37.837	26.299	1.439	32.068	5.7689
4	0.42	144.65	130	4.9613	0.339	39.391	24.737	1.592	32.064	7.3268
5	0.54	147.08	130	6.1834	0.362	40.592	23.515	1.726	32.053	8.5384
6	0.69	149.14	130	7.2112	0.377	41.632	22.487	1.851	32.06	9.5725
7	0.80	150.95	130	8.0772	0.385	42.575	21.621	1.969	32.098	10.477
8	0.95	152.62	130	8.8299	0.390	43.49	20.868	1.969	32.179	11.311
9	1.06	154.16	130	9.5017	0.393	44.356	20.197	2.196	32.277	12.08
10	1.20	155.58	130	10.084	0.394	45.199	19.614	2.304	32.406	12.792
11	1.34	156.91	130	10.586	0.393	46.027	19.112	2.408	32.569	13.457
12	1.45	158.13	130	11.039	0.392	46.785	18.659	2.507	32.722	14.063
13	1.59	159.28	130	11.428	0.390	47.549	18.27	2.602	32.91	14.639
14	1.73	160.31	130	11.784	0.389	48.228	17.914	2.692	33.071	15.157
15	1.85	161.36	130	12.083	0.385	48.979	17.615	2.781	33.297	15.682
16	1.98	162.3	130	12.342	0.382	49.652	17.356	2.861	33.504	16.148
17	2.12	163.18	130	12.561	0.379	50.316	17.137	2.936	33.727	16.589
18	2.25	164.05	130	12.739	0.374	51.008	16.959	3.008	33.984	17.024
19	2.39	164.83	130	12.909	0.371	51.615	16.789	3.074	34.202	17.413
20	2.52	165.6	130	13.047	0.366	52.251	16.652	3.138	34.452	17.8
21	2.66	166.28	130	13.152	0.362	52.827	16.547	3.193	34.687	18.14
22	2.78	166.94	130	13.241	0.358	53.402	16.458	3.245	34.93	18.472
23	2.91	167.58	130	13.306	0.354	53.974	16.393	3.293	35.184	18.791
24	3.05	168.12	130	13.346	0.350	54.474	16.352	3.331	35.413	19.061
25	3.17	168.69	130	13.378	0.346	55.021	16.328	3.370	35.675	19.347
26	3.31	169.23	130	13.378	0.341	55.552	16.32	3.404	35.936	19.616
27	3.44	169.67	130	13.378	0.337	55.989	16.32	3.431	36.154	19.834
28	3.56	170.11	130	13.362	0.333	56.451	16.336	3.456	36.393	20.057
29	3.71	170.52	130	13.338	0.329	56.88	16.36	3.477	36.62	20.26
30	3.84	170.88	130	13.297	0.325	57.279	16.401	3.492	36.84	20.439
31	3.96	171.25	130	13.249	0.321	57.701	16.449	3.508	37.075	20.626
32	4.09	171.59	130	13.192	0.317	58.093	16.506	3.519	37.3	20.793
33	4.24	171.87	130	13.128	0.314	58.44	16.571	3.527	37.505	20.934
34	4.37	172.21	130	13.063	0.309	58.847	16.636	3.537	37.741	21.106
35	4.49	172.5	130	12.982	0.305	59.22	16.717	3.543	37.968	21.252
36	4.64	172.76	130	12.909	0.302	59.552	16.789	3.547	38.17	21.381
37	4.78	172.96	130	12.836	0.299	59.825	16.862	3.548	38.343	21.481
38	4.91	173.23	130	12.739	0.295	60.188	16.959	3.549	38.574	21.614
39	5.03	173.4	130	12.65	0.292	60.444	17.044	3.549	38.746	21.698
40	5.16	173.58	130	12.553	0.288	60.725	17.145	3.542	38.935	21.79
41	5.30	173.79	130	12.448	0.284	61.043	17.251	3.539	39.147	21.896
42	5.43	173.91	130	12.342	0.281	61.268	17.356	3.530	39.312	21.956
43	5.56	174.03	130	12.237	0.278	61.49	17.461	3.522	39.476	22.015
44	5.69	174.17	130	12.124	0.275	61.741	17.574	3.513	39.658	22.083
45	5.83	174.24	130	12.027	0.272	61.909	17.672	3.508	39.79	22.119
46	5.96	174.4	130	11.922	0.269	62.173	17.777	3.497	39.975	22.198
47	6.11	174.5	130	11.808	0.265	62.391	17.89	3.487	40.141	22.25
48	6.24	174.59	130	11.695	0.262	62.592	18.003	3.477	40.297	22.294
49	6.38	174.75	130	11.582	0.259	62.867	18.117	3.470	40.492	22.375
50	6.51	174.82	130	11.468	0.256	63.034	18.23	3.459	40.642	22.412
51	6.65	174.89	130	11.363	0.253	63.223	18.335	3.448	40.779	22.444
52	6.78	174.96	130	11.25	0.250	63.409	18.448	3.437	40.929	22.48

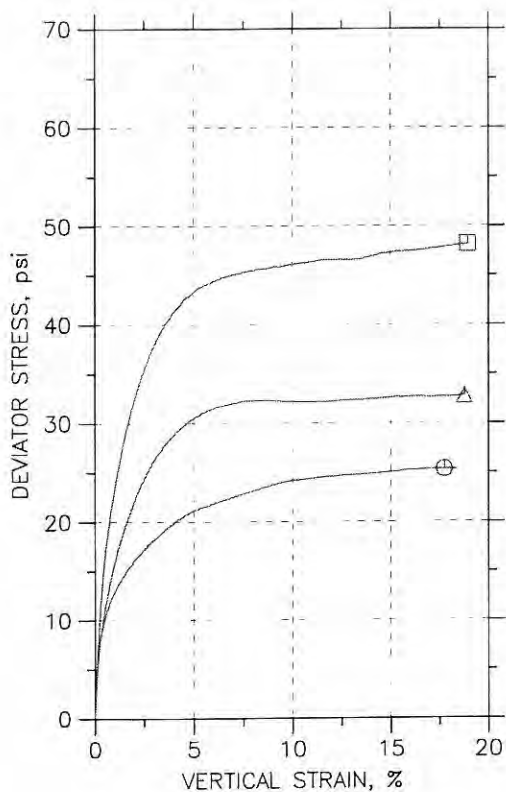
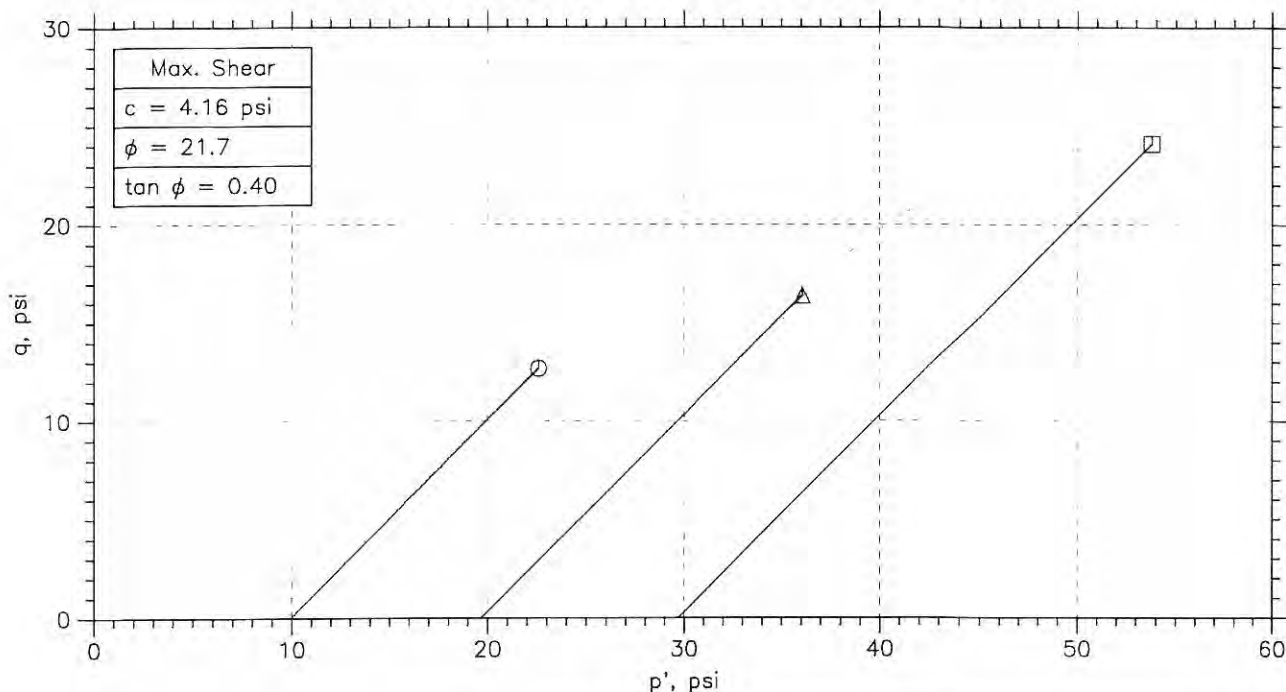
Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Measured Specific Gravity: 2.74


53	6.92	175.08	130	11.137	0.247	63.64	18.562	3.429	41.101	22.539
54	7.06	175.11	130	11.023	0.244	63.785	18.675	3.416	41.23	22.555
55	7.19	175.18	130	10.907	0.241	63.975	18.797	3.404	41.386	22.589
56	7.33	175.17	130	10.792	0.239	64.068	18.902	3.390	41.485	22.583
57	7.47	175.3	130	10.691	0.236	64.302	19.007	3.383	41.655	22.648
58	7.61	175.34	130	10.594	0.234	64.442	19.104	3.373	41.773	22.669
59	7.73	175.4	130	10.424	0.230	64.677	19.274	3.356	41.975	22.701
60	7.87	175.46	130	10.319	0.227	64.843	19.379	3.346	42.111	22.732
61	8.00	175.48	130	10.222	0.225	64.954	19.476	3.335	42.215	22.739
62	8.13	175.59	130	10.117	0.222	65.168	19.582	3.328	42.375	22.793
63	8.26	175.63	130	10.02	0.220	65.311	19.679	3.319	42.495	22.816
64	8.40	175.63	130	9.9144	0.217	65.412	19.784	3.306	42.598	22.814
65	8.53	175.65	130	9.8173	0.215	65.534	19.881	3.296	42.707	22.826
66	8.66	175.67	130	9.7283	0.213	65.636	19.97	3.287	42.803	22.833
67	8.80	175.73	130	9.6473	0.211	65.776	20.051	3.280	42.913	22.863
68	8.93	175.78	130	9.5664	0.209	65.914	20.132	3.274	43.023	22.863
69	9.06	175.85	130	9.4936	0.207	66.051	20.205	3.269	43.128	22.891
70	9.21	175.85	130	9.3965	0.205	66.151	20.302	3.258	43.226	22.923
71	9.35	175.84	130	9.3074	0.203	66.236	20.391	3.248	43.313	22.922
72	9.46	175.94	130	9.2346	0.201	66.401	20.464	3.245	43.432	22.969
73	9.56	175.96	130	9.1617	0.199	66.497	20.537	3.238	43.517	22.98
74	9.61	176.02	130	9.1617	0.199	66.552	20.537	3.241	43.544	23.008
75	9.75	176.09	130	9.0808	0.197	66.71	20.618	3.236	43.664	23.046
76	10.00	176.09	130	9.008	0.195	66.783	20.69	3.228	43.737	23.047
77	10.13	176.15	130	8.9351	0.194	66.918	20.763	3.223	43.841	23.077
78	10.27	176.19	130	8.8542	0.192	67.036	20.844	3.216	43.94	23.096
79	10.40	176.21	130	8.7814	0.190	67.129	20.917	3.209	44.023	23.106
80	10.54	176.25	130	8.7166	0.188	67.231	20.982	3.204	44.106	23.112
81	10.68	176.26	130	8.6519	0.187	67.307	21.046	3.198	44.177	23.113
82	10.82	176.32	130	8.5871	0.185	67.428	21.111	3.194	44.27	23.118
83	10.95	176.35	130	8.5224	0.184	67.522	21.176	3.189	44.349	23.113
84	11.08	176.42	130	8.4576	0.182	67.664	21.241	3.186	44.452	23.113
85	11.20	176.45	130	8.3929	0.181	67.753	21.305	3.180	44.529	23.212
86	11.33	176.49	130	8.3281	0.179	67.856	21.37	3.175	44.613	23.224
87	11.47	176.53	130	8.2715	0.178	67.956	21.427	3.172	44.691	23.264
88	11.61	176.55	130	8.2148	0.176	68.034	21.484	3.167	44.759	23.275
89	11.74	176.57	130	8.1582	0.175	68.108	21.54	3.162	44.824	23.275
90	11.88	176.57	130	8.1015	0.174	68.167	21.597	3.156	44.882	23.284
91	12.02	176.53	130	8.0449	0.173	68.185	21.653	3.149	44.919	23.285
92	12.13	176.59	130	7.9801	0.171	68.303	21.718	3.145	45.011	23.293
93	12.28	176.54	130	7.9235	0.170	68.317	21.775	3.137	45.046	23.293
94	12.42	176.61	130	7.8506	0.168	68.461	21.848	3.134	45.154	23.306
95	12.55	176.56	130	7.7794	0.167	68.462	21.904	3.125	45.232	23.279
96	12.68	176.57	130	7.7535	0.166	68.518	21.945	3.122	45.279	23.287
97	12.82	176.57	130	7.7049	0.165	68.564	21.993	3.117	45.318	23.285
98	12.96	176.55	130	7.6564	0.164	68.595	22.042	3.112	45.381	23.276
99	13.09	176.56	130	7.5997	0.163	68.663	22.099	3.107	45.455	23.282
100	13.22	176.6	130	7.5431	0.162	68.755	22.155	3.103	45.512	23.3
101	13.34	176.6	130	7.4864	0.161	68.813	22.212	3.098	45.582	23.3
102	13.50	176.63	130	7.4298	0.159	68.896	22.269	3.094	45.68	23.314
103	13.62	176.73	130	7.3812	0.157	69.042	22.317	3.094	45.762	23.363
104	13.75	176.81	130	7.3407	0.156	69.166	22.358	3.089	45.824	23.409
105	13.89	176.82	130	7.2841	0.155	69.233	22.414	3.089	45.928	23.473
106	14.02	176.95	130	7.2436	0.154	69.401	22.455	3.089	46.003	23.499
107	14.17	177	130	7.195	0.153	69.502	22.503	3.084	46.065	23.499
108	14.30	177.01	130	7.1384	0.152	69.571	22.556	3.084	46.183	23.505
109	14.42	177.13	130	7.0817	0.150	69.75	22.617	3.082	46.258	23.567
110	14.57	177.18	130	7.0332	0.149	69.85	22.665	3.082	46.301	23.592
111	14.71	177.19	130	6.9927	0.148	69.897	22.706	3.078	46.377	23.595
112	14.84	177.26	130	6.9522	0.146	70.007	22.746	3.075	46.427	23.631
113	14.97	177.33	130	6.9118	0.145	70.068	22.787	3.072	46.506	23.641
114	15.09	177.33	130	6.8551	0.144	70.169	22.843	3.068	46.583	23.663
115	15.23	177.37	130	6.7985	0.142	70.267	22.9	3.065	46.64	23.684
116	15.35	177.38	130	6.7499	0.141	70.331	22.948	3.060	46.696	23.691
117	15.50	177.38	130	6.6933	0.140	70.387	23.005	3.056	46.734	23.688
118	15.62	177.38	130	6.6528	0.139	70.422	23.046	3.054	46.805	23.712
119	15.76	177.42	130	6.6042	0.138	70.518	23.094	3.049	46.857	23.714
120	15.88	177.43	130	6.5557	0.137	70.571	23.143	3.045	46.901	23.71
121	16.01	177.42	130	6.5071	0.136	70.61	23.191	3.043	46.963	23.732
122	16.14	177.46	130	6.4666	0.135	70.695	23.232	3.035	47.02	23.723
123	16.28	177.45	130	6.4019	0.134	70.743	23.296	3.035	47.109	23.756
124	16.43	177.51	130	6.3452	0.132	70.865	23.353	3.032	47.19	23.78
125	16.54	177.56	130	6.2886	0.132	70.97	23.41			

126	16.67	177.54	130	6.24	0.131	71.003	23.458	3.027	47.231	23.772
127	16.82	177.63	130	6.2076	0.130	71.118	23.491	3.027	47.304	23.813
128	16.94	177.62	130	6.1591	0.129	71.161	23.539	3.023	47.35	23.811
129	17.06	177.7	130	6.1186	0.128	71.278	23.58	3.023	47.429	23.849
130	17.19	177.72	130	6.0701	0.127	71.352	23.628	3.020	47.49	23.862
131	17.35	177.71	130	6.0215	0.126	71.386	23.677	3.015	47.531	23.854
132	17.48	177.77	130	5.9729	0.125	71.495	23.725	3.013	47.61	23.885
133	17.61	177.78	130	5.9325	0.124	71.549	23.766	3.011	47.658	23.892
134	17.74	177.86	130	5.892	0.123	71.664	23.806	3.010	47.735	23.929
135	17.87	177.92	130	5.8515	0.122	71.762	23.847	3.009	47.805	23.958
136	17.99	177.93	130	5.803	0.121	71.82	23.895	3.006	47.858	23.963
137	18.15	177.94	130	5.7625	0.120	71.874	23.936	3.003	47.905	23.969
138	18.28	178.01	130	5.7139	0.119	71.991	23.984	3.002	47.988	24.004
139	18.41	178.02	130	5.6654	0.118	72.053	24.033	2.998	48.043	24.01
140	18.54	178.09	130	5.6249	0.117	72.161	24.073	2.998	48.117	24.044
141	18.67	178.13	130	5.5764	0.116	72.248	24.122	2.995	48.185	24.063
142	18.82	178.13	130	5.544	0.115	72.283	24.154	2.993	48.219	24.065
143	18.95	178.18	130	5.5116	0.114	72.37	24.187	2.992	48.278	24.092
144	19.00	178.17	130	5.4954	0.114	72.375	24.203	2.990	48.289	24.086

CONSOLIDATED UNDRAINED TRIAXIAL TEST



Symbol	⊙	△	□	
Sample No.	11-1058	11-1058	11-1058	
Test No.	1	2	3	
Depth				
Initial	Diameter, in	1.392	1.399	1.397
	Height, in	3.011	2.991	3.01
	Water Content, %	27.7	27.9	27.4
	Dry Density, pcf	96.63	96.79	96.81
	Saturation, %	98.4	99.6	97.8
	Void Ratio	0.77	0.767	0.767
Before Shear	Water Content, %	31.4	29.8	28.5
	Dry Density, pcf	91.93	94.18	96.
	Saturation*, %	100.0	100.0	100.0
	Void Ratio	0.861	0.816	0.782
	Back Press., psi	100.1	100.3	100.3
Ver. Eff. Cons. Stress, psi		9.925	19.67	29.7
Shear Strength, psi		12.67	16.39	24.09
Strain at Failure, %		17.7	18.8	19
Strain Rate, %/min		0.06	0.06	0.06
B-Value		0.00	0.00	0.00
Measured Specific Gravity		2.74	2.74	2.74
Liquid Limit		---	---	---
Plastic Limit		---	---	---

 NRCS Natural Resources Conservation Service	Project: PLUM CREEK SITE 6	<div></div> <div></div> <div></div> <div></div>
	Location: TX	
	Project No.: 11-1058	
	Boring No.: F10-1409	
	Sample Type: CORE	
	Description: HOLE 300.1	
Remarks:		

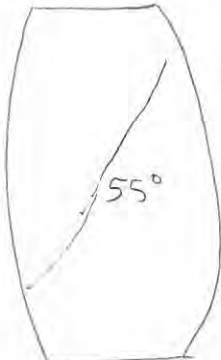
BASE

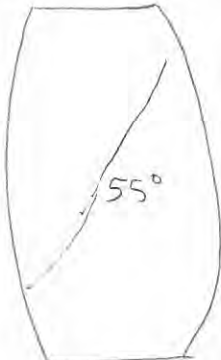
SHEAR TEST DATA

<input type="checkbox"/> UU <input type="checkbox"/> qu <input checked="" type="checkbox"/> CUBAR <input type="checkbox"/> VS <input checked="" type="checkbox"/> BP	CELL NO. <u>D</u> BURETTE NO. <u>4</u> MACHINE NO. <u>4</u> COMPACTED _____ UNDISTURBED <input checked="" type="checkbox"/>	LOAD CH. _____ STRAIN CH. _____ P.P. CH. _____ Gs <u>2.74</u>	LAB. NO. <u>11-1058</u> <u>11-1058-10</u> TEST DATE <u>5/20/11</u>
Cell <u>110</u> PSI Base <u>100</u> PSI Test <u>10</u> PSI B <u>0.98</u> RATE OF STRAIN <u>0.6</u> in./min.			

SPECIMEN DATA TECHNICIAN <u>SKM</u>	MOISTURE DATA TECHNICIAN <u>SKM</u>
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DIAMETER				INITIAL		IN MACHINE		INITIAL		FINAL	
TOP		IN.		1.392		WET WT. SPEC. + CAN		(GM.)		221.87	
MIDDLE		IN.		1.392		DRY WT. SPEC. + CAN		(GM.)		185.36	
BOTTOM		IN.		1.392		WT. MOISTURE		(GM.)			
MEAN DIAMETER		IN.		1.392		WT. CAN		(GM.)		69.13	
HEIGHT		IN.		3.011		WT DRY SOIL		(GM.)			
MOIST WT.		GM.		148.37		PERCENT MOISTURE			27.65	31.41	
END AREA		IN. ²		1.522		DRY UNIT WEIGHT		(GM/CC)			
VOLUME		IN. ³		4.582		PERCENT POROSITY					
MOIST UNIT WT.		PCF		123.35		THEORETICAL SAT. %					
CONSOLIDATION DATA						PERCENT SAT. @ START					

FAILURE SKETCH <u>116.23</u>	
	
EXTENSOMETER READINGS DATE: <u>5/19/11</u>	
INITIAL READING <u>0.0000</u> IN.	TIME: <u>1:44</u>
FINAL READING <u>0.0218</u> IN.	TIME: <u>7:26</u>
HT. DEFORMATION IN.	
INITIAL BURETTE READING <u>9.00</u> CM	
FINAL BURETTE READING <u>742</u> CM	
VOL. CHANGE <u>1.580</u> CC x 0.061 IN. ³	
CONS. VOLUME OF SPECIMEN <u>4.486</u> IN. ³	
CONS. HEIGHT OF SPECIMEN <u>2.948</u> IN.	
AVG. AREA OF CONS. SPECIMEN IN. ²	
CONSOLIDATED MOIST UNIT WT. PCF	

FAILURE SKETCH <u>116.23</u>	
	
INITIAL DRY DENSITY = <u>96.63</u>	
FINAL DRY DENSITY = <u>98.71</u>	

REMARKS:

110.2
100.4
— 9.8

1392
92
92
91

3013
11
10

92
92

Checked by: SKMDate: 5/26/11

BASE

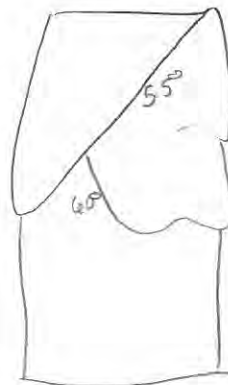
SHEAR TEST DATA

<input type="checkbox"/>	UU	CELL NO. <u>E</u>	LOAD CH. <u>243</u>	
<input type="checkbox"/>	qu	BURETTE NO. <u>5</u>	STRAIN CH. <u> </u>	
<input checked="" type="checkbox"/>	CUBAR	MACHINE NO. <u>5</u>	P.P. CH. <u> </u>	LAB. NO. <u>11-1058</u>
<input type="checkbox"/>	VS	COMPACTED <u> </u>		<u>11-1058-20</u>
<input checked="" type="checkbox"/>	BP	UNDISTURBED <u>✓</u>	Gs <u>2.74</u>	TEST DATE <u>5/20/11</u>
Cell <u>120</u> PSI Base <u>100</u> PSI Test <u>20</u> PSI B <u>0.97</u> RATE OF STRAIN <u>0.6</u> in./min.				

SPECIMEN DATA	MOISTURE DATA
TECHNICIAN <u>SKM</u>	TECHNICIAN <u>SKM</u>

DIAMETER	INITIAL	IN MACHINE	INITIAL	FINAL
TOP IN.		1.399	WET WT. SPEC. + CAN (GM.)	221.24
MIDDLE IN.		1.400	DRY WT. SPEC. + CAN (GM.)	186.44
BOTTOM IN.		1.397	WT. MOISTURE (GM.)	
MEAN DIAMETER IN.		1.399	WT. CAN (GM.)	69.63
HEIGHT IN.		2.991	WT DRY SOIL (GM.)	
MOIST WT. GM.		149.40	PERCENT MOISTURE	27.90 29.79
END AREA IN. ²		1.537	DRY UNIT WEIGHT (GM/CC)	
VOLUME IN. ³		4.598	PERCENT POROSITY	
MOIST UNIT WT. PCF		123.79	THEORETICAL SAT. %	
CONSOLIDATION DATA			PERCENT SAT. @ START	

TECHNICIAN <u>SKM</u>	
EXTENSOMETER READINGS DATE: <u>5/19/11</u>	
INITIAL READING <u>0.0000</u> IN.	TIME: <u>1:44</u>
FINAL READING <u>0.0457</u> IN.	TIME: <u>7:26</u>
HT. DEFORMATION IN.	
INITIAL BURETTE READING <u>920</u>	CM
FINAL BURETTE READING <u>604</u>	CM
VOL. CHANGE <u>3.160</u> CC x 0.061	IN. ³
CONS. VOLUME OF SPECIMEN <u>4.405</u>	IN. ³
CONS. HEIGHT OF SPECIMEN <u>2.866</u>	IN.
AVG. AREA OF CONS. SPECIMEN	IN. ²
CONSOLIDATED MOIST UNIT WT.	PCF

FAILURE SKETCH 116.81

INITIAL DRY DENSITY = 96.78

FINAL DRY DENSITY = 101.02

REMARKS:

119.8
100.5
19.3

1399 2975
99 42
1398 87
1401
1395
99

Checked by: SKMDate: 5/26/11

BASE

SHEAR TEST DATA

<input type="checkbox"/>	CELL NO.	<u>F</u>	LOAD CH.	<u>2053</u>	
<input type="checkbox"/>	UU	BURETTE NO. <u>6</u>	STRAIN CH.		
<input type="checkbox"/>	qu	MACHINE NO. <u>6</u>	P.P. CH.		LAB. NO. <u>11-1058</u>
<input checked="" type="checkbox"/>	CUBAR				<u>11-1058-30</u>
<input type="checkbox"/>	VS	COMPACTED			TEST DATE <u>5/20/11</u>
<input checked="" type="checkbox"/>	BP	UNDISTURBED	Gs <u>2.74</u>		
Cell <u>130</u> PSI Base <u>100</u> PSI Test <u>30</u> PSI B <u>0.98</u> RATE OF STRAIN <u>0.6</u> in./min.					

SPECIMEN DATA	MOISTURE DATA
TECHNICIAN <u>SKM</u>	TECHNICIAN <u>SKM</u>

DIAMETER	IN.	INITIAL	IN MACHINE	WET WT. SPEC. + CAN	(GM.)	INITIAL	FINAL
TOP	IN.		<u>1.398</u>	WET WT. SPEC. + CAN	(GM.)		<u>220.41</u>
MIDDLE	IN.		<u>1.398</u>	DRY WT. SPEC. + CAN	(GM.)		<u>186.96</u>
BOTTOM	IN.		<u>1.395</u>	WT. MOISTURE	(GM.)		
MEAN DIAMETER	IN.		<u>1.397</u>	WT. CAN	(GM.)		<u>69.72</u>
HEIGHT	IN.		<u>3.010</u>	WT DRY SOIL	(GM.)		
MOIST WT.	GM.		<u>149.35</u>	PERCENT MOISTURE		<u>27.39</u>	<u>28.53</u>
END AREA	IN. ²		<u>1.533</u>	DRY UNIT WEIGHT	(GM/CC)		
VOLUME	IN. ³		<u>4.014</u>	PERCENT POROSITY			
MOIST UNIT WT.	PCF		<u>123.32</u>	THEORETICAL SAT. %			
CONSOLIDATION DATA				PERCENT SAT. @ START			

TECHNICIAN <u>SKM</u>	
EXTENSOMETER READINGS	DATE: <u>5/19/11</u>
INITIAL READING <u>0.0000</u> IN.	TIME: <u>1:44</u>
FINAL READING <u>0.0585</u> IN.	TIME: <u>7:26</u>
HT. DEFORMATION	IN.
INITIAL BURETTE READING <u>940</u>	CM
FINAL BURETTE READING <u>5.42</u>	CM
VOL. CHANGE <u>3.980</u> CC x 0.061	IN. ³
CONS. VOLUME OF SPECIMEN <u>4.371</u>	IN. ³
CONS. HEIGHT OF SPECIMEN <u>2.852</u>	IN.
AVG. AREA OF CONS. SPECIMEN	IN. ²
CONSOLIDATED MOIST UNIT WT.	PCF

FAILURE SKETCH 117.24

INITIAL DRY DENSITY = 96.80

FINAL DRY DENSITY = 102.18

REMARKS:

120.0
101.4
19.6

1396
99
1402
94
1397
94

3011
10
10

Checked by: SKMDate: 5/26/11

Shear Test Data
Specimen #1

5/26/2011
11:18 AM

Project:	PLUM CREEK SITE 6	
State:	TX	
Lab No:	11-1058	Test Specifications:
Specific Gravity (Gs):	2.74	
Shear Cell No.:	4	
Confining Pressure:	10 psi	
Top Diameter:	1.392 inches	
Middle Diameter:	1.392 inches	(Either measure two middle diameters
Middle Diameter:	1.392 inches	or enter in the same value)
Bottom Diameter:	1.392 inches	
Height of Specimen:	3.011 inches	
Moist Weight of Specimen:	148.37 gms.	
Mean Diameter:	1.392 inches	
End Area:	1.522 sq. inches	
Volume of Specimen:	4.582 cubic inches	
Moist Unit Weight:	123.35 pcf	(multiply gms/cubic inch by 3.8095 to to achieve pcf)
Extensometer Height Deformation:	inches	
Initial Volume of Base Cell:	9.00 ml.	
Final Volume of Base Cell:	7.42 ml.	
Is the Large Burette being Used?	no (yes or no)	
Calibrated Area of the Base Burette:	0.19610 cc	
Burette Volume:	1.580 cc	note 1.00 ml = 1.00 cc
Burette Volume:	0.096 cubic inches	
Consolidated Volume:	4.486 cubic inches	
Assumed Consolidated Height:	0.063 inches	
Assumed Height after Consolidation :	2.948 inches	
Moist Weight of Specimen + Can:	221.87 gms.	
Dry Weight of Specimen + Can:	185.36 gms.	
Weight of Can:	69.13 gms.	
Weight of Water:	36.51 gms.	
Weight of Dry Specimen:	116.23 gms.	
Initial Water Content:	27.65 percent	
Initial Dry Density:	96.63 pcf	
Percent Saturated:	98.36 percent	
Initial Void Ratio:	0.770	
Initial Diameter:	1.392 inches	
Initial Height:	3.011 inches	
Final Water Content:	31.41 percent	
Final Dry Density:	98.71 pcf	
Percent Saturated:	117.42 percent	
Final Void Ratio:	0.733	
Final Diameter* :	1.392 inches	
Final Height:	2.948 inches	

*Diameter is estimated to be unchanged

Checked by: SKM

Project:	PLUM CREEK SITE 6	
State:	TX	
Lab No:	11-1058	Test Specifications:
Specific Gravity (Gs):	2.74	
Shear Cell No.:	5	
Confining Pressure:	20 psi	
Top Diameter:	1.399 inches	
Middle Diameter:	1.400 inches	(Either measure two middle diameters
Middle Diameter:	1.400 inches	or enter in the same value)
Bottom Diameter:	1.397 inches	
Height of Specimen:	2.991 inches	
Moist Weight of Specimen:	149.40 gms.	
Mean Diameter:	1.399 inches	
End Area:	1.537 sq. inches.	
Volume of Specimen:	4.598 cubic inches	
Moist Unit Weight:	123.79 pcf	(multiply gms/cubic inch by 3.8095 to to achieve pcf)
Extensometer Height Deformation:	inches	
Initial Volume of Base Cell:	9.20 ml.	
Final Volume of Base Cell:	6.04 ml.	
Is the Large Burette being Used?	no (yes or no)	
Calibrated Area of the Base Burette:	0.19610 cc	
Burette Volume:	3.160 cc	note 1.00 ml = 1.00 cc
Burette Volume:	0.193 cubic inches	
Consolidated Volume:	4.405 cubic inches	
Assumed Consolidated Height:	0.125 inches	
Assumed Height after Consolidation :	2.866 inches	
Moist Weight of Specimen + Can:	221.24 gms.	
Dry Weight of Specimen + Can:	186.44 gms.	
Weight of Can:	69.63 gms.	
Weight of Water:	34.80 gms.	
Weight of Dry Specimen:	116.81 gms.	
Initial Water Content:	27.90 percent	
Initial Dry Density:	96.78 pcf	
Percent Saturated:	99.61 percent	
Initial Void Ratio:	0.767	
Initial Diameter:	1.399 inches	
Initial Height:	2.991 inches	
Final Water Content:	29.79 percent	
Final Dry Density:	101.02 pcf	
Percent Saturated:	117.74 percent	
Final Void Ratio:	0.693	
Final Diameter* :	1.399 inches	
Final Height:	2.866 inches	

*Diameter is estimated to be unchanged

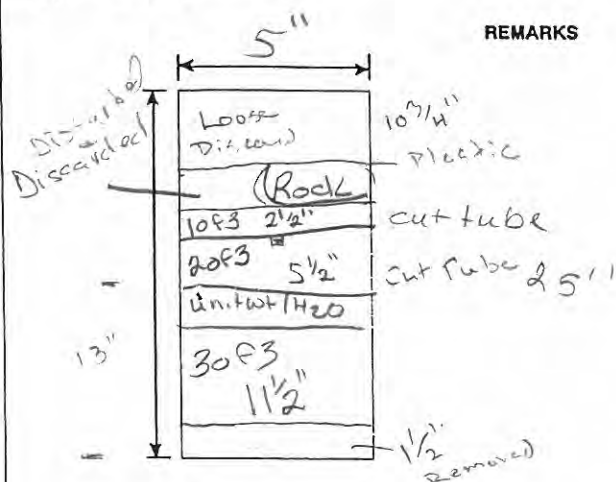
Checked by: SKM

Project:	PLUM CREEK SITE 6	
State:	TX	
Lab No:	11-1058	Test Specifications:
Specific Gravity (Gs):	2.74	
Shear Cell No.:	6	
Confining Pressure:	30 psi	
Top Diameter:	1.398 inches	
Middle Diameter:	1.398 inches	(Either measure two middle diameters
Middle Diameter:	1.398 inches	or enter in the same value)
Bottom Diameter:	1.395 inches	
Height of Specimen:	3.010 inches	
Moist Weight of Specimen:	149.35 gms.	
Mean Diameter:	1.397 inches	
End Area:	1.533 sq. inches	
Volume of Specimen:	4.614 cubic inches	
Moist Unit Weight:	123.32 pcf	(multiply gms/cubic inch by 3.8095 to to achieve pcf)
Extensometer Height Deformation:	inches	
Initial Volume of Base Cell:	9.40 ml.	
Final Volume of Base Cell:	5.42 ml.	
Is the Large Burette being Used?	no (yes or no)	
Calibrated Area of the Base Burette:	0.19570 cc	
Burette Volume:	3.980 cc	note 1.00 ml = 1.00 cc
Burette Volume:	0.243 cubic inches	
Consolidated Volume:	4.371 cubic inches	
Assumed Consolidated Height:	0.158 inches	
Assumed Height after Consolidation :	2.852 inches	
Moist Weight of Specimen + Can:	220.41 gms.	
Dry Weight of Specimen + Can:	186.96 gms.	
Weight of Can:	69.72 gms.	
Weight of Water:	33.45 gms.	
Weight of Dry Specimen:	117.24 gms.	
Initial Water Content:	27.39 percent	
Initial Dry Density:	96.80 pcf	
Percent Saturated:	97.83 percent	
Initial Void Ratio:	0.767	
Initial Diameter:	1.397 inches	
Initial Height:	3.010 inches	
Final Water Content:	28.53 percent	
Final Dry Density:	102.18 pcf	
Percent Saturated:	115.98 percent	
Final Void Ratio:	0.674	
Final Diameter* :	1.397 inches	
Final Height:	2.852 inches	

*Diameter is estimated to be unchanged

Checked by: SKM

MATERIALS TESTING REPORT		U.S. DEPARTMENT of AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE		UNDISTURBED SAMPLE CHARACTERISTICS		
PROJECT and STATE Plum Creek Co. TX						
TESTED AT UDCSMC - LINCOLN, NE			APPROVED BY		DATE 5-5-11	
FIELD SAMPLE NO.	DEPTH (FT.) FROM TO		SAMPLE LOCATION		TYPE OF SAMPLE	LABORATORY NO.
F10-1409			300.1		5" Shelby	11-1058
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
lt Brown	Moist	V Stiff	1-3" Rock Trace Gypsum	Smooth	4.5	CL
ω 28.6 %		γ_d 1.53 g/cc		DESCRIBED BY SKM, RM		

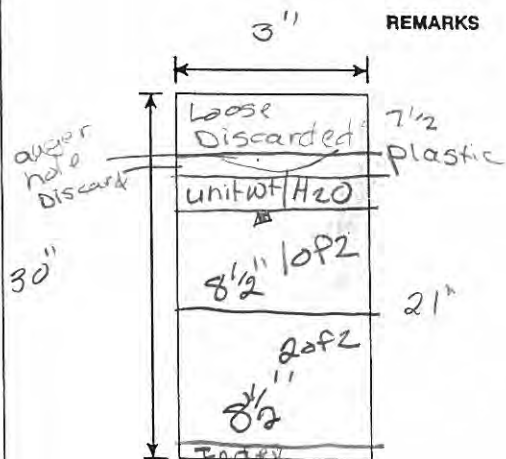


Would not push, cut tube, bottom push but came out curved slightly. top half would not push, cut tube again. top section had 3" Rock. Otherwise appears to be fairly uniform core. Traces of gypsum throughout sample. Unit weight & H2O taken. (Use sec. 20F3 for shears)

cu, u4

Photos taken 3

FIELD SAMPLE NO.	DEPTH (FT.) FROM TO		SAMPLE LOCATION		TYPE OF SAMPLE	LABORATORY NO.
F10-1410	7 9'		302.1		3" Shelby	11-1059
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
dk Brown	Moist	V Stiff	-	Smooth	3.75	CL
ω 22.9 %		γ_d 1.62 g/cc		DESCRIBED BY SKM, RM		



Good uniform core - CL material
Unit weight & H2O taken

cu

Photo taken 2

7 1/2

Mohr Circle Program

SITE NAME: **Plum Creek Site 6**
STATE: **TX**
SAMPLE NO: **11-1058 UU**
F10-1409

Failure Criterion:

- ☐ Maximum Dev. Stress
- ☐ Maximum Stress Ratio
- ☐ Max. Pore Pressure
- ☒ <= 10 % Strain
- ☒ Selected Points

Total Strength Parameters:

PHI: **-5.3** degrees
C: **4141** psf

Zero Cohesion:
Slope y=

Effective Strength Parameters:

PHI': **-5.3** degrees
C': **4141** psf

Slope y=

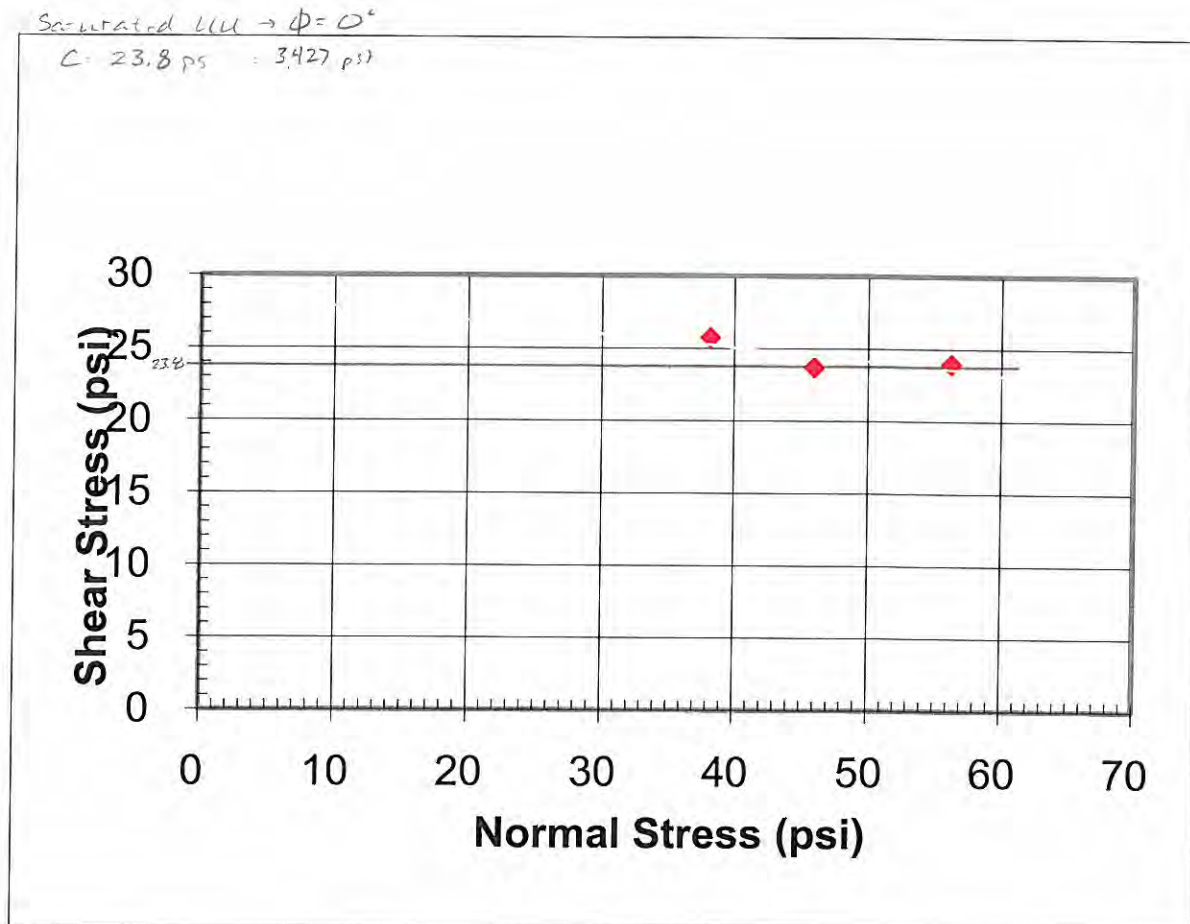
Stress path analysis for Effective:

Alpha': **-5.3** degrees
a': **28.63** psi

Record:
 $\phi = 0^\circ$
 $C = 3,425$ psf

(All inputted values in the chart are in psi)

CELL PRESSURE	DEVIATOR STRESS AT FAILURE	PORE PRESSURE AT FAILURE	PERCENT STRAIN (Optional Entry)
10	51.6	0.001	10.0
20	47.5	0.001	10.0
30	48.0	0.001	10.0



Mohr Circle Program

SITE NAME: Plum Creek Site 6
STATE: TX
SAMPLE NO: 11-1058 UU
F10-1409

Total Strength Parameters:

Zero Cohesion:

PHI: -3.0 degrees
C: 3937 psf

-3.0 degrees
27.34 psi

Slope y=

Failure Criterion:

- ☐ Maximum Dev. Stress
- ☐ Maximum Stress Ratio
- ☐ Max. Pore Pressure
- ☒ <= 10 % Strain
- ☐ Selected Points

Effective Strength Parameters:

PHI': -3.0 degrees
C': 3937 psf

-3.0 degrees
27.34 psi

Slope y=

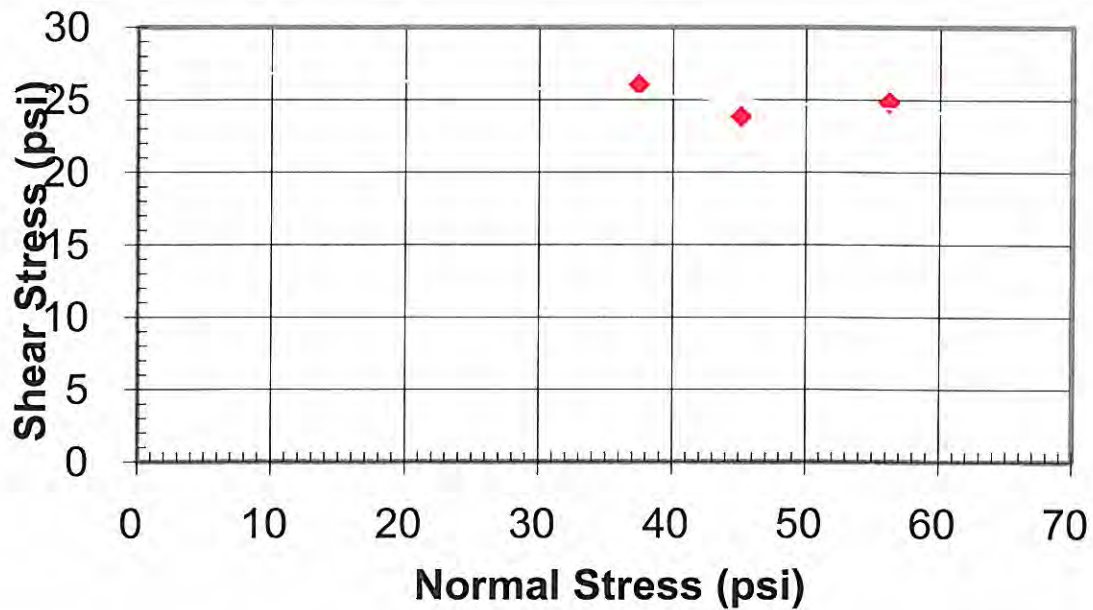
Stress path analysis for Effective:

Alpha': -3.0 degrees

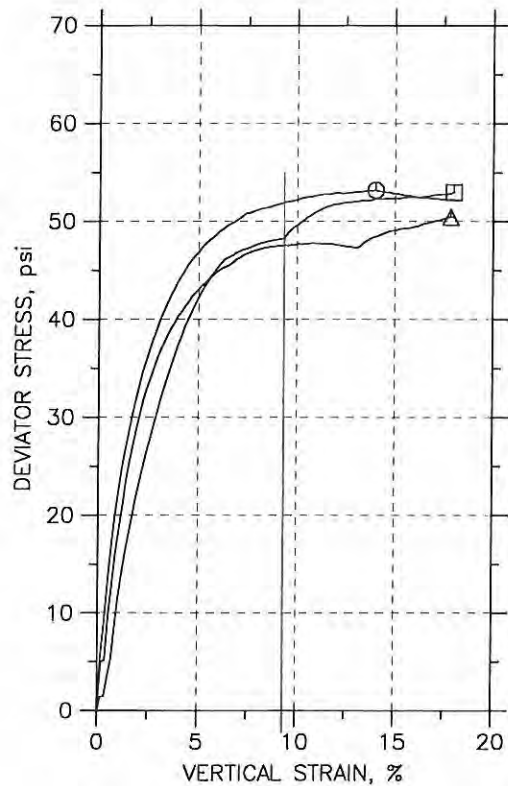
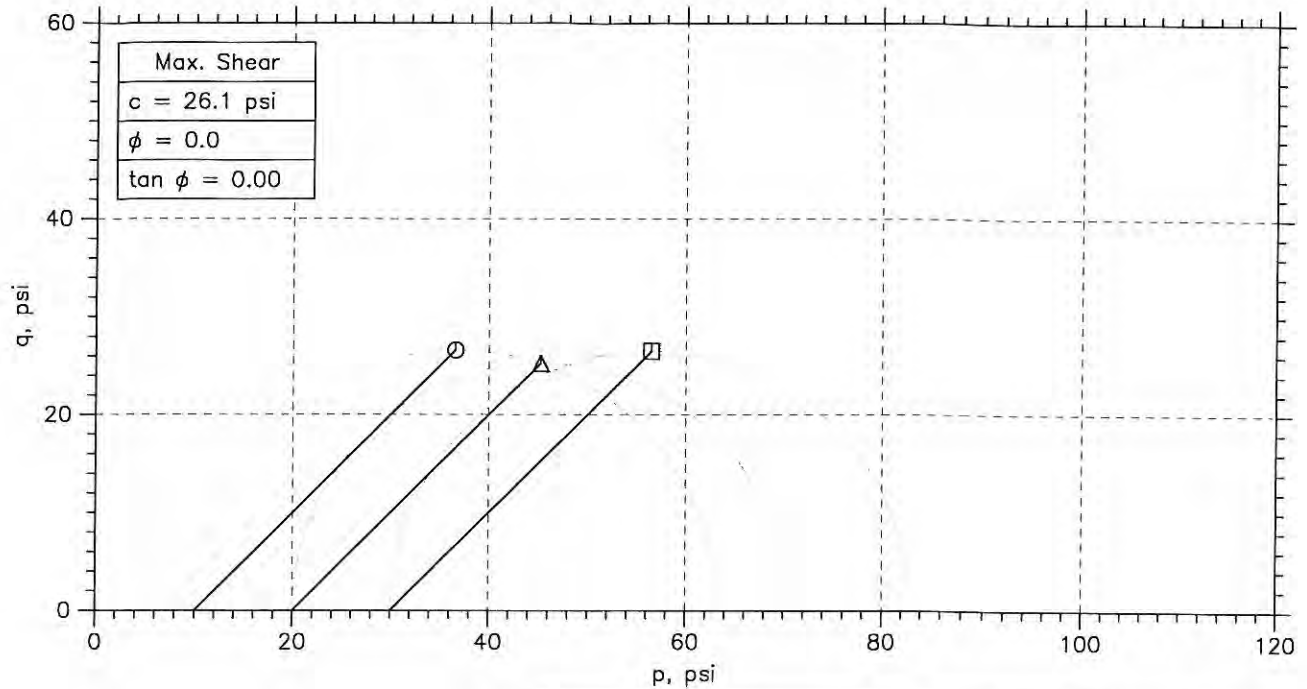
a': 27.30 psi

(All inputed values in the chart are in psi)

CELL PRESSURE	DEVIATOR STRESS AT FAILURE	PORE PRESSURE AT FAILURE	PERCENT STRAIN (Optional Entry)
10	52.1	0.001	10.0
20	47.7	0.001	10.0
30	49.7	0.001	10.0



UNCONSOLIDATED UNDRAINED TRIAXIAL TEST



Symbol	⊙	△	□	
Sample No.	11-1058	11-1058	11-1058	
Test No.	1	2	3	
Depth				
Tested by	SKM	SKM	SKM	
Test Date	5/25/11	5/25/11	5/25/11	
Checked by	SKM	SKM	SKM	
Check Date				
Diameter, in	1.397	1.398	1.398	
Height, in	3.009	3.009	2.993	
Water Content, %	27.1	26.9	26.3	
Dry Density, pcf	97.43	97.47	98.54	
Saturation, %	98.1	97.8	98.0	
Void Ratio	0.756	0.755	0.736	
Confining Stress, psi	10	20	30	
Undrained Strength, psi	26.6	25.23	26.49	
Max. Dev. Stress, psi	53.2	50.46	52.98	
Strain at Failure, %	14	17.8	18	
Strain Rate, %/min	1	1	1	
Measured Specific Gravity	2.74	2.74	2.74	
Liquid Limit	---	---	---	
Plastic Limit	---	---	---	
Plasticity Index	---	---	---	



Project: PLUM CREEK SITE 6

Location: TX

Project No.: 11-1058

Boring No.: F10-1409

Sample Type: CORE

Description: HOLE 300.1

Remarks: Near saturated (W_{sat} = 98%) $\phi \approx 0^\circ$

Phase calculations based on start and end of test.

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1409
 Sample No.: 11-1058
 Test No.: 1

Location: TX
 Tested By: SKM
 Test Date: 5/25/11
 Sample Type: CORE

Project No.: 11-1058
 Checked By: SKM
 Depth:
 Elevation: N/A

Soil Description: HOLE 300.1
 Remarks:

Specimen Height: 3.01 in
 Specimen Area: 1.53 in²
 Specimen Volume: 75.58 cc

Piston Area: 0.00 in²
 Piston Friction: 0.00 lb
 Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
 Membrane Correction: 1.65 lb/in
 Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.74

	Before Test Trimings	Before Test Specimen+Ring	After Test Specimen+Ring	After Trim
Container ID		---		
Wt. Container + Wet Soil, gm	149.87	149.87	149.78	2.
Wt. Container + Dry Soil, gm	117.96	117.96	117.96	1.
Wt. Container, gm	0	---	0	
Wt. Dry Soil, gm	117.96	117.96	117.96	1.
Water Content, %	27.05	27.05	26.98	.
Void Ratio	---	0.76	0.74	
Degree of Saturation, %	---	98.10	100.00	
Dry Unit Weight, pcf	---	97.433	98.356	

Initial

End of Initialization

End of Consolidation/A

End of Saturation

End of Consolidation/B

End of Shear

At Failure

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1409
Sample No.: 11-1058
Test No.: 1

Location: TX
Tested By: SKM
Test Date: 5/25/11
Sample Type: CORE

Project No.: 11-1058
Checked By: SKM
Depth:
Elevation: N/A

Soil Description: HOLE 300.1
Remarks:

Specimen Height: 3.01 in
Specimen Area: 1.53 in²
Specimen Volume: 75.58 cc

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.74

	Time min	Vertical Strain %	Corrected Area in ²	Deviator Load lb	Deviator Stress psi	Vertical Stress psi	p psi	q psi
1	0	0	1.5328	0	0	10	10	0
2	0.17082	0.15243	1.5351	8.3183	5.4114	15.411	12.706	2.7057
3	0.33748	0.3218	1.5377	13.916	9.0345	19.034	14.517	4.5172
4	0.50427	0.51272	1.5407	20.765	13.453	23.453	16.727	6.7267
5	0.6708	0.67439	1.5432	26.221	16.96	26.96	18.48	8.48
6	0.83747	0.84068	1.5458	30.912	19.958	29.958	19.979	9.9792
7	1.0043	1.0193	1.5486	34.978	22.539	32.539	21.27	11.27
8	1.1708	1.184	1.5512	38.48	24.752	34.752	22.376	12.376
9	1.3375	1.3626	1.554	41.685	26.762	36.762	23.381	13.381
10	1.5042	1.532	1.5566	44.562	28.556	38.556	24.278	14.278
11	1.6708	1.6952	1.5592	47.314	30.266	40.266	25.133	15.133
12	1.8374	1.8877	1.5623	49.926	31.869	41.869	25.935	15.935
13	2.0042	2.057	1.565	52.412	33.395	43.395	26.698	16.698
14	2.1708	2.2125	1.5675	54.538	34.691	44.691	27.346	17.346
15	2.3374	2.4096	1.5706	56.571	35.907	45.907	27.953	17.953
16	2.5042	2.5867	1.5735	58.603	37.125	47.125	28.563	18.563
17	2.6707	2.7468	1.5761	60.261	38.108	48.108	29.054	19.054
18	2.8374	2.9239	1.579	61.965	39.11	49.11	29.555	19.555
19	3.0042	3.0825	1.5815	63.497	40.008	50.008	30.004	20.004
20	3.1707	3.2534	1.5843	64.967	40.857	50.857	30.429	20.429
21	3.3374	3.4289	1.5872	66.421	41.691	51.691	30.846	20.846
22	3.5042	3.6229	1.5904	67.86	42.503	52.503	31.252	21.252
23	3.6707	3.7984	1.5933	69.048	43.164	53.164	31.582	21.582
24	3.8374	3.9462	1.5958	70.205	43.816	53.816	31.908	21.908
25	4.0041	4.1418	1.599	71.378	44.451	54.451	32.226	22.226
26	4.1707	4.3204	1.602	72.441	45.024	55.024	32.512	22.512
27	4.3374	4.4882	1.6048	73.536	45.619	55.619	32.81	22.81
28	4.5041	4.6668	1.6078	74.505	46.129	56.129	33.064	23.064
29	4.6707	4.8362	1.6107	75.318	46.544	56.544	33.272	23.272
30	4.8373	5.0194	1.6138	76.069	46.911	56.911	33.456	23.456
31	5.0041	5.1765	1.6165	76.96	47.378	57.378	33.689	23.689
32	5.1707	5.352	1.6195	77.742	47.765	57.765	33.883	23.883
33	5.3373	5.5291	1.6225	78.399	48.073	58.073	34.036	24.036
34	5.5041	5.6923	1.6253	78.993	48.348	58.348	34.174	24.174
35	5.6706	5.8678	1.6283	79.634	48.644	58.644	34.322	24.322
36	5.8373	6.0248	1.6311	80.29	48.958	58.958	34.479	24.479
37	6.0041	6.2127	1.6343	80.885	49.216	59.216	34.608	24.608
38	6.1706	6.362	1.6369	81.416	49.456	59.456	34.728	24.728
39	6.3373	6.5283	1.6398	81.995	49.713	59.713	34.857	24.857
40	6.5041	6.7285	1.6434	82.464	49.883	59.883	34.942	24.942
41	6.6706	6.8963	1.6463	82.98	50.1	60.1	35.05	25.05
42	6.8373	7.0688	1.6494	83.527	50.331	60.331	35.166	25.166
43	7.0041	7.2381	1.6524	84.074	50.563	60.563	35.282	25.282
44	7.1706	7.3998	1.6553	84.731	50.865	60.865	35.432	25.432
45	7.3372	7.5892	1.6587	84.95	50.884	60.884	35.442	25.442
46	7.504	7.7616	1.6618	85.388	51.045	61.045	35.523	25.523
47	7.6706	7.9187	1.6646	85.732	51.158	61.158	35.579	25.579
48	7.8372	8.0911	1.6677	86.107	51.28	61.28	35.64	25.64
49	8.004	8.2851	1.6713	86.467	51.379	61.379	35.689	25.689
50	8.1706	8.4529	1.6743	86.717	51.427	61.427	35.713	25.713
51	8.3372	8.6146	1.6773	87.061	51.534	61.534	35.767	25.767
52	8.504	8.7978	1.6807	87.42	51.637	61.637	35.818	25.818
53	8.6705	8.958	1.6836	87.733	51.725	61.725	35.862	25.862
54	8.8372	9.1489	1.6871	88.108	51.831	61.831	35.915	25.915
55	9.004	9.329	1.6905	88.484	51.942	61.942	35.971	25.971
56	9.1705	9.5015	1.6937	88.812	52.03	62.03	36.015	26.015
57	9.3372	9.6785	1.697	89.078	52.077	62.077	36.039	26.039
58	9.504	9.8556	1.7004	89.453	52.188	62.188	36.094	26.094
59	9.6705	10.027	1.7036	89.735	52.247	62.247	36.124	26.124
60	9.8372	10.191	1.7067	90.172	52.401	62.401	36.201	26.201
61	10.004	10.371	1.7102	90.423	52.435	62.435	36.217	26.217
62	10.17	10.532	1.7132	90.751	52.526	62.526	36.263	26.263
63	10.337	10.721	1.7169	90.985	52.543	62.543	36.272	26.272
64	10.504	10.901	1.7203	91.361	52.648	62.648	36.324	26.324
65	10.67	11.064	1.7235	91.627	52.699	62.699	36.349	26.349
66	10.837	11.247	1.727	91.924	52.755	62.755	36.377	26.377
67	11.004	11.409	1.7302	92.189	52.805	62.805	36.403	26.403
68	11.17	11.579	1.7335	92.377	52.806	62.806	36.403	26.403
69	11.337	11.763	1.7371	92.643	52.84	62.84	36.42	26.42
70	11.504	11.934	1.7405	92.956	52.911	62.911	36.455	26.455
71	11.67	12.122	1.7442	93.206	52.933	62.933	36.467	26.467
72	11.837	12.296	1.7477	93.3	52.875	62.875	36.438	26.438
73	12.004	12.456	1.7509	93.487	52.879	62.879	36.44	26.44
74	12.17	12.63	1.7544	93.737	52.909	62.909	36.455	26.455
75	12.337	12.809	1.758	94.003	52.945	62.945	36.473	26.473

76	12.504	12.987	1.7616	94.347	53.025	63.025	36.512	26.512
77	12.67	13.144	1.7648	94.55	53.038	63.038	36.519	26.519
78	12.837	13.325	1.7684	94.785	53.053	63.053	36.526	26.526
79	13.004	13.492	1.7719	95.113	53.129	63.129	36.564	26.564
80	13.17	13.666	1.7754	95.348	53.147	63.147	36.573	26.573
81	13.337	13.828	1.7788	95.551	53.155	63.155	36.577	26.577
82	13.504	14.005	1.7824	95.833	53.196	63.196	36.598	26.598
83	13.67	14.187	1.7862	95.864	53.094	63.094	36.547	26.547
84	13.837	14.347	1.7895	95.989	53.059	63.059	36.529	26.529
85	14.004	14.526	1.7933	96.083	52.993	62.993	36.497	26.497
86	14.17	14.703	1.797	96.27	52.981	62.981	36.49	26.49
87	14.337	14.892	1.801	96.286	52.864	62.864	36.432	26.432
88	14.504	15.041	1.8042	96.458	52.861	62.861	36.43	26.43
89	14.67	15.209	1.8077	96.521	52.784	62.784	36.392	26.392
90	14.837	15.389	1.8116	96.646	52.734	62.734	36.367	26.367
91	15.004	15.571	1.8155	96.677	52.63	62.63	36.315	26.315
92	15.17	15.737	1.8191	96.911	52.649	62.649	36.325	26.325
93	15.337	15.92	1.823	96.99	52.57	62.57	36.285	26.285
94	15.504	16.088	1.8267	97.083	52.51	62.51	36.255	26.255
95	15.67	16.25	1.8302	97.193	52.462	62.462	36.231	26.231
96	15.837	16.438	1.8343	97.381	52.439	62.439	36.22	26.22
97	16.004	16.599	1.8379	97.537	52.417	62.417	36.208	26.208
98	16.17	16.777	1.8418	97.646	52.358	62.358	36.179	26.179
99	16.337	16.964	1.8459	97.818	52.325	62.325	36.163	26.163
100	16.504	17.14	1.8499	98.069	52.343	62.343	36.172	26.172
101	16.67	17.32	1.8539	98.178	52.281	62.281	36.141	26.141
102	16.837	17.471	1.8573	98.35	52.273	62.273	36.136	26.136
103	17.004	17.653	1.8614	98.538	52.251	62.251	36.126	26.126
104	17.17	17.837	1.8656	98.772	52.253	62.253	36.126	26.126
105	17.337	18.008	1.8694	98.975	52.246	62.246	36.123	26.123

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1409
 Sample No.: 11-1058
 Test No.: 2

Location: TX
 Tested By: SKM
 Test Date: 5/25/11
 Sample Type: CORE

Project No.: 11-1058
 Checked By: SKM
 Depth:
 Elevation: N/A

Soil Description: HOLE 300.1
 Remarks:

Specimen Height: 3.01 in
 Specimen Area: 1.53 in²
 Specimen Volume: 75.69 cc

Piston Area: 0.00 in²
 Piston Friction: 0.00 lb
 Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
 Membrane Correction: 1.65 lb/in
 Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.74

	Before Test Trimmings	Before Test Specimen+Ring	After Test Specimen+Ring	After Trim
Container ID		---		
Wt. Container + Wet Soil, gm	150	150	149.92	2
Wt. Container + Dry Soil, gm	118.17	118.17	118.17	
Wt. Container, gm	0	---	0	
Wt. Dry Soil, gm	118.17	118.17	118.17	1
Water Content, %	26.94	26.94	26.87	
Void Ratio	---	0.75	0.74	
Degree of Saturation, %	---	97.76	100.00	
Dry Unit Weight, pcf	---	97.467	98.522	

Initial

End of Initialization

End of Consolidation/A

End of Saturation

End of Consolidation/B

End of Shear

At Failure

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1409
Sample No.: 11-1058
Test No.: 2

Location: TX
Tested By: SKM
Test Date: 5/25/11
Sample Type: CORE

Project No.: 11-1058
Checked By: SKM
Depth:
Elevation: N/A

Soil Description: HOLE 300.1
Remarks:

Specimen Height: 3.01 in
Specimen Area: 1.53 in²
Specimen Volume: 75.69 cc

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.74

	Time min	Vertical Strain %	Corrected Area in ²	Deviator Load lb	Deviator Stress psi	Vertical Stress psi	p psi	q psi
1	0	0	1.535	0	0	20	20	0
2	0.17065	0.18322	1.5378	7.7241	5.0142	25.014	22.507	2.5071
3	0.33732	0.36183	1.5406	7.9587	5.1491	25.149	22.575	2.5745
4	0.5041	0.52504	1.5431	15.042	9.7232	29.723	24.862	4.8616
5	0.67063	0.70826	1.5459	20.249	13.065	33.065	26.532	6.5324
6	0.8373	0.87455	1.5485	25.033	16.125	36.125	28.062	8.0624
7	1.0041	1.0408	1.5511	29.036	18.671	38.671	29.335	9.3353
8	1.1706	1.2241	1.554	32.82	21.062	41.062	30.531	10.531
9	1.3373	1.3765	1.5564	36.4	23.323	43.323	31.662	11.662
10	1.5041	1.5613	1.5593	39.731	25.407	45.407	32.703	12.703
11	1.6706	1.7352	1.5621	42.561	27.166	47.166	33.583	13.583
12	1.8373	1.9108	1.5649	45.391	28.918	48.918	34.459	14.459
13	2.0041	2.0878	1.5677	47.877	30.443	50.443	35.221	15.221
14	2.1706	2.2403	1.5702	50.098	31.803	51.803	35.901	15.901
15	2.3373	2.4296	1.5732	52.115	33.014	53.014	36.507	16.507
16	2.504	2.6144	1.5762	54.022	34.154	54.154	37.077	17.077
17	2.6706	2.7838	1.5789	55.726	35.166	55.166	37.583	17.583
18	2.8372	2.9501	1.5816	57.353	36.126	56.126	38.063	18.063
19	3.004	3.1287	1.5846	58.901	37.028	57.028	38.514	18.514
20	3.1706	3.3057	1.5875	60.23	37.79	57.79	38.895	18.895
21	3.3372	3.4597	1.59	61.418	38.47	58.47	39.235	19.235
22	3.504	3.6429	1.593	62.747	39.223	59.223	39.612	19.612
23	3.6705	3.8123	1.5958	63.669	39.724	59.724	39.862	19.862
24	3.8372	3.977	1.5986	64.795	40.353	60.353	40.177	20.177
25	4.004	4.1603	1.6016	65.655	40.805	60.805	40.402	20.402
26	4.1705	4.3158	1.6042	66.578	41.307	61.307	40.653	20.653
27	4.3372	4.4928	1.6072	67.516	41.806	61.806	40.903	20.903
28	4.504	4.6514	1.6099	68.423	42.293	62.293	41.146	21.146
29	4.6705	4.8054	1.6125	69.205	42.702	62.702	41.351	21.351
30	4.8372	5.0056	1.6159	69.955	43.068	63.068	41.534	21.534
31	5.004	5.1811	1.6189	70.784	43.493	63.493	41.746	21.746
32	5.1705	5.3474	1.6217	71.409	43.795	63.795	41.897	21.897
33	5.3372	5.5121	1.6245	72.066	44.115	64.115	42.058	22.058
34	5.5039	5.6753	1.6273	72.785	44.474	64.474	42.237	22.237
35	5.6705	5.8678	1.6307	73.442	44.777	64.777	42.389	22.389
36	5.8371	6.0372	1.6336	74.02	45.043	65.043	42.522	22.522
37	6.0039	6.2004	1.6365	74.521	45.263	65.263	42.632	22.632
38	6.1705	6.3682	1.6394	74.896	45.404	65.404	42.702	22.702
39	6.3371	6.556	1.6427	75.365	45.59	65.59	42.795	22.795
40	6.5039	6.7377	1.6459	75.991	45.874	65.874	42.937	22.937
41	6.6704	6.8902	1.6486	76.585	46.152	66.152	43.076	23.076
42	6.8371	7.0672	1.6517	77.007	46.312	66.312	43.156	23.156
43	7.0039	7.2412	1.6548	77.601	46.577	66.577	43.289	23.289
44	7.1704	7.4244	1.6581	78.039	46.741	66.741	43.371	23.371
45	7.3371	7.5923	1.6611	78.414	46.875	66.875	43.437	23.437
46	7.5039	7.7786	1.6645	78.836	47.026	67.026	43.513	23.513
47	7.6704	7.9541	1.6676	79.133	47.107	67.107	43.553	23.553
48	7.8371	8.1265	1.6708	79.493	47.226	67.226	43.613	23.613
49	8.0039	8.3082	1.6741	79.837	47.331	67.331	43.665	23.665
50	8.1704	8.4683	1.677	80.04	47.362	67.362	43.681	23.681
51	8.3371	8.6469	1.6803	80.4	47.476	67.476	43.738	23.738
52	8.5038	8.8132	1.6833	80.541	47.466	67.466	43.733	23.733
53	8.6704	8.998	1.6868	80.822	47.529	67.529	43.765	23.765
54	8.837	9.1766	1.6901	80.994	47.53	67.53	43.765	23.765
55	9.0038	9.346	1.6932	81.244	47.582	67.582	43.791	23.791
56	9.1704	9.5246	1.6966	81.385	47.563	67.563	43.782	23.782
57	9.337	9.6801	1.6995	81.651	47.631	67.631	43.816	23.816
58	9.5038	9.8618	1.7029	81.823	47.629	67.629	43.814	23.814
59	9.6703	10.048	1.7065	82.151	47.715	67.715	43.857	23.857
60	9.837	10.213	1.7096	82.276	47.694	67.694	43.847	23.847
61	10.004	10.408	1.7133	82.511	47.718	67.718	43.859	23.859
62	10.17	10.579	1.7166	82.745	47.757	67.757	43.878	23.878
63	10.337	10.738	1.7196	82.995	47.811	67.811	43.905	23.905
64	10.504	10.921	1.7232	83.167	47.805	67.805	43.902	23.902
65	10.67	11.095	1.7265	83.324	47.795	67.795	43.897	23.897
66	10.837	11.274	1.73	83.402	47.736	67.736	43.868	23.868
67	11.004	11.449	1.7335	83.605	47.752	67.752	43.876	23.876
68	11.17	11.622	1.7368	83.746	47.733	67.733	43.866	23.866
69	11.337	11.782	1.74	83.902	47.729	67.729	43.865	23.865
70	11.504	11.959	1.7435	83.902	47.626	67.626	43.813	23.813
71	11.67	12.122	1.7467	84.027	47.603	67.603	43.801	23.801
72	11.837	12.308	1.7504	84.074	47.521	67.521	43.76	23.76
73	12.004	12.482	1.7539	84.168	47.473	67.473	43.737	23.737
74	12.17	12.635	1.757	84.278	47.446	67.446	43.723	23.723
75	12.337	12.816	1.7606	84.371	47.393	67.393	43.697	23.697

76	12.504	13	1.7643	84.371	47.286	67.286	43.643	23.643
77	12.67	13.175	1.7679	84.825	47.44	67.44	43.72	23.72
78	12.837	13.335	1.7712	85.419	47.682	67.682	43.841	23.841
79	13.004	13.499	1.7745	86.107	47.973	67.973	43.986	23.986
80	13.17	13.674	1.7781	86.67	48.185	68.185	44.092	24.092
81	13.337	13.853	1.7818	87.202	48.376	68.376	44.188	24.188
82	13.504	14.027	1.7854	87.592	48.491	68.491	44.245	24.245
83	13.67	14.202	1.7891	87.999	48.612	68.612	44.306	24.306
84	13.837	14.368	1.7925	88.452	48.764	68.764	44.382	24.382
85	14.004	14.541	1.7962	88.89	48.902	68.902	44.451	24.451
86	14.17	14.721	1.8	89.328	49.035	69.035	44.518	24.518
87	14.337	14.884	1.8034	89.578	49.073	69.073	44.537	24.537
88	14.504	15.064	1.8072	89.875	49.127	69.127	44.563	24.563
89	14.67	15.26	1.8114	90.329	49.256	69.256	44.628	24.628
90	14.837	15.419	1.8148	90.595	49.304	69.304	44.652	24.652
91	15.004	15.609	1.8189	90.86	49.331	69.331	44.666	24.666
92	15.17	15.76	1.8222	91.079	49.357	69.357	44.679	24.679
93	15.337	15.934	1.8259	91.439	49.445	69.445	44.723	24.723
94	15.504	16.119	1.83	91.814	49.534	69.534	44.767	24.767
95	15.67	16.304	1.834	92.268	49.665	69.665	44.833	24.833
96	15.837	16.442	1.837	92.627	49.773	69.773	44.887	24.887
97	16.004	16.633	1.8412	92.956	49.83	69.83	44.915	24.915
98	16.17	16.814	1.8452	93.3	49.902	69.902	44.951	24.951
99	16.337	16.974	1.8488	93.737	50.037	70.037	45.018	25.018
100	16.504	17.166	1.8531	94.081	50.099	70.099	45.049	25.049
101	16.67	17.326	1.8567	94.41	50.172	70.172	45.086	25.086
102	16.837	17.489	1.8604	94.879	50.319	70.319	45.16	25.16
103	17.004	17.682	1.8647	95.27	50.404	70.404	45.202	25.202
104	17.17	17.836	1.8682	95.567	50.463	70.463	45.231	25.231
105	17.325	18.004	1.872	95.739	50.445	70.445	45.223	25.223

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1409
 Sample No.: 11-1058
 Test No.: 3

Location: TX
 Tested By: SKM
 Test Date: 5/25/11
 Sample Type: CORE

Project No.: 11-1058
 Checked By: SKM
 Depth:
 Elevation: N/A

Soil Description: HOLE 300.1
 Remarks:

Specimen Height: 2.99 in
 Specimen Area: 1.53 in²
 Specimen Volume: 75.29 cc

Piston Area: 0.00 in²
 Piston Friction: 0.00 lb
 Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
 Membrane Correction: 1.65 lb/in
 Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.74

	Before Test Trimings	Before Test Specimen+Ring	After Test Specimen+Ring	After Trim
Container ID		---		
Wt. Container + Wet Soil, gm	150.12	150.12	149.99	2.
Wt. Container + Dry Soil, gm	118.83	118.83	118.83	1'
Wt. Container, gm	0	---	0	
Wt. Dry Soil, gm	118.83	118.83	118.83	1
Water Content, %	26.33	26.33	26.22	
Void Ratio	---	0.74	0.72	
Degree of Saturation, %	---	98.04	100.00	
Dry Unit Weight, pcf	---	98.536	99.536	

Initial

End of Initialization

End of Consolidation/A

End of Saturation

End of Consolidation/B

End of Shear

At Failure

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1409
Sample No.: 11-1058
Test No.: 3

Location: TX
Tested By: SKM
Test Date: 5/25/11
Sample Type: CORE

Project No.: 11-1058
Checked By: SKM
Depth:
Elevation: N/A

Soil Description: HOLE 300.1
Remarks:

Specimen Height: 2.99 in
Specimen Area: 1.53 in²
Specimen Volume: 75.29 cc

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Liquid Limit: ---

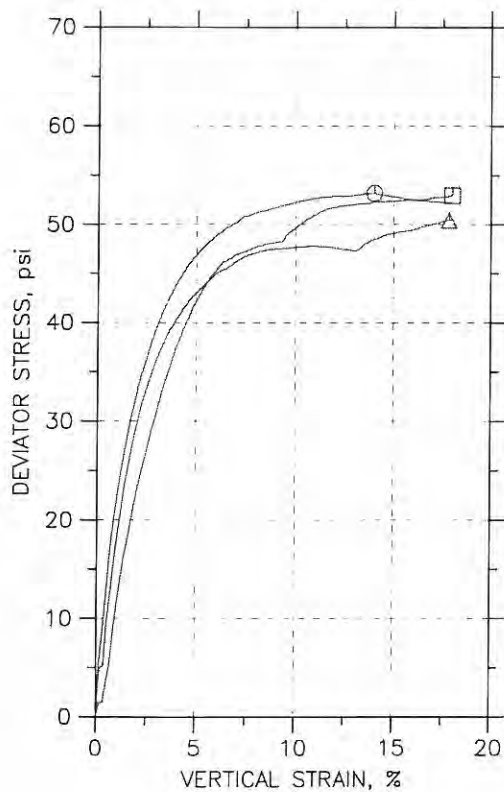
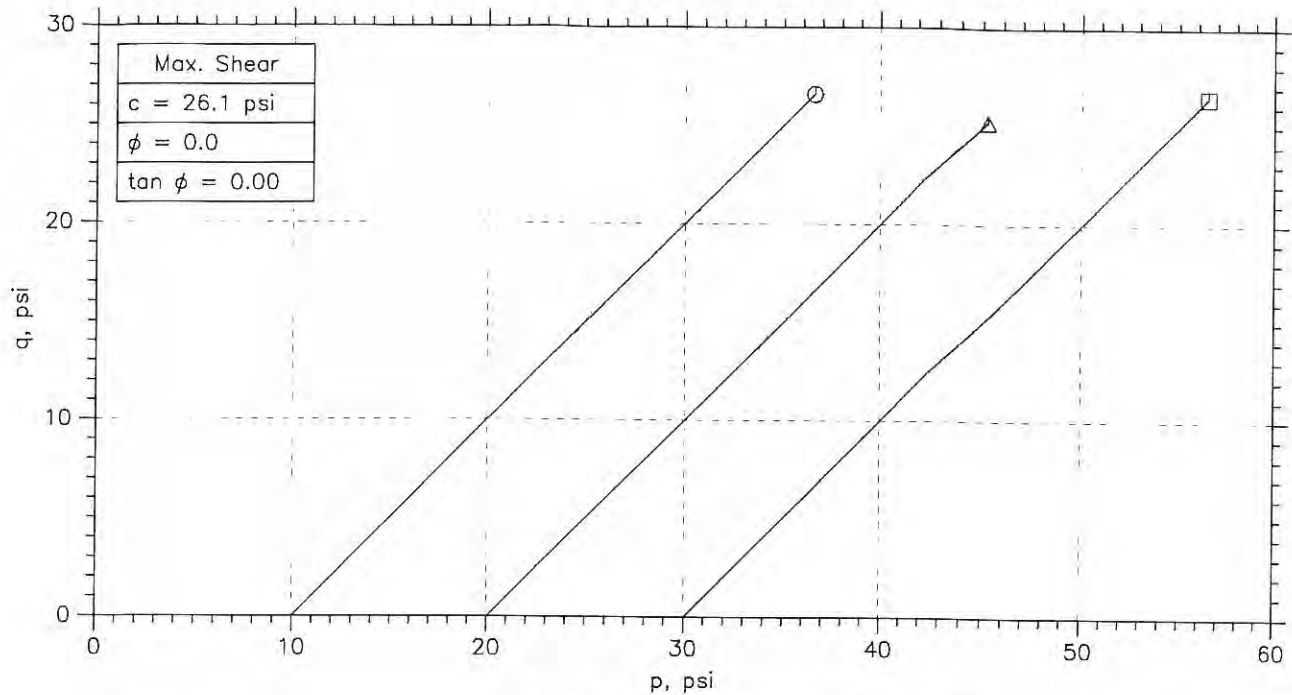
Plastic Limit: ---

Measured Specific Gravity: 2.74

	Time min	Vertical Strain %	Corrected Area in ²	Deviator Load lb	Deviator Stress psi	Vertical Stress psi	p psi	q psi
1	0	0	1.535	0	0	30	30	0
2	0.17057	0.15479	1.5374	2.1734	1.4064	31.406	30.703	0.70321
3	0.33723	0.32816	1.54	2.2828	1.4669	31.467	30.733	0.73344
4	0.50402	0.51856	1.543	5.8166	3.7453	33.745	31.873	1.8727
5	0.67055	0.66716	1.5453	8.2401	5.3011	35.301	32.651	2.6506
6	0.83722	0.83279	1.5479	13.228	8.5069	38.507	34.253	4.2535
7	1.004	1.0046	1.5506	17.934	11.519	41.519	35.76	5.7597
8	1.1705	1.1857	1.5534	21.828	13.996	43.996	36.998	6.9981
9	1.3372	1.3591	1.5561	25.33	16.214	46.214	38.107	8.1072
10	1.504	1.5588	1.5593	28.676	18.318	48.318	39.159	9.1591
11	1.6705	1.7259	1.5619	31.475	20.071	50.071	40.036	10.036
12	1.8372	1.8854	1.5645	34.29	21.83	51.83	40.915	10.915
13	2.004	2.0572	1.5672	36.932	23.47	53.47	41.735	11.735
14	2.1705	2.2259	1.5699	39.293	24.926	54.926	42.463	12.463
15	2.3372	2.39	1.5726	41.654	26.378	56.378	43.189	13.189
16	2.5039	2.5804	1.5756	44.078	27.856	57.856	43.928	13.928
17	2.6705	2.7445	1.5783	46.361	29.248	59.248	44.624	14.624
18	2.8372	2.9364	1.5814	48.456	30.506	60.506	45.253	15.253
19	3.0039	3.0974	1.584	50.629	31.82	61.82	45.91	15.91
20	3.1705	3.2661	1.5868	52.677	33.048	63.048	46.524	16.524
21	3.3371	3.4457	1.5898	54.648	34.218	64.218	47.109	17.109
22	3.5039	3.633	1.5929	56.586	35.36	65.36	47.68	17.68
23	3.6705	3.8033	1.5957	58.275	36.348	66.348	48.174	18.174
24	3.8371	3.9565	1.5982	59.979	37.35	67.35	48.675	18.675
25	4.0039	4.1515	1.6015	61.574	38.261	68.261	49.13	19.13
26	4.1704	4.3001	1.604	63.154	39.179	69.179	49.59	19.59
27	4.3371	4.4874	1.6071	64.623	40.009	70.009	50.004	20.004
28	4.5039	4.6655	1.6101	65.999	40.781	70.781	50.39	20.39
29	4.6704	4.8218	1.6127	67.297	41.511	71.511	50.756	20.756
30	4.8371	4.9967	1.6157	68.548	42.202	72.202	51.101	21.101
31	5.0039	5.1763	1.6188	69.799	42.886	72.886	51.443	21.443
32	5.1704	5.3311	1.6214	70.862	43.465	73.465	51.733	21.733
33	5.3371	5.5153	1.6246	71.91	44.017	74.017	52.009	22.009
34	5.5038	5.6685	1.6272	72.895	44.544	74.544	52.272	22.272
35	5.6704	5.8403	1.6302	73.786	45.002	75.002	52.501	22.501
36	5.837	6.0153	1.6332	74.677	45.457	75.457	52.728	22.728
37	6.0038	6.1917	1.6363	75.506	45.87	75.87	52.935	22.935
38	6.1704	6.3295	1.6387	76.131	46.178	76.178	53.089	23.089
39	6.337	6.5416	1.6424	76.647	46.379	76.379	53.189	23.189
40	6.5038	6.7165	1.6455	77.148	46.588	76.588	53.294	23.294
41	6.6704	6.8651	1.6481	77.664	46.82	76.82	53.41	23.41
42	6.837	7.0415	1.6513	78.055	46.961	76.961	53.48	23.48
43	7.0038	7.2304	1.6546	78.524	47.141	77.141	53.57	23.57
44	7.1703	7.4022	1.6577	78.852	47.244	77.244	53.622	23.622
45	7.337	7.5972	1.6612	79.243	47.371	77.371	53.686	23.686
46	7.5038	7.7598	1.6641	79.649	47.525	77.525	53.762	23.762
47	7.6703	7.93	1.6672	80.009	47.646	77.646	53.823	23.823
48	7.837	8.1003	1.6703	80.384	47.775	77.775	53.887	23.887
49	8.0038	8.2814	1.6736	80.697	47.86	77.86	53.93	23.93
50	8.1703	8.4563	1.6768	81.057	47.975	77.975	53.988	23.988
51	8.337	8.6359	1.6801	81.338	48.041	78.041	54.02	24.02
52	8.5037	8.8108	1.6833	81.651	48.127	78.127	54.064	24.064
53	8.6703	8.9935	1.6867	81.901	48.171	78.171	54.086	24.086
54	8.8369	9.1421	1.6894	82.182	48.253	78.253	54.126	24.126
55	9.0037	9.3247	1.6928	82.417	48.287	78.287	54.143	24.143
56	9.1703	9.4965	1.6961	83.496	48.824	78.824	54.412	24.412
57	9.3369	9.6699	1.6993	84.246	49.165	79.165	54.582	24.582
58	9.5037	9.8433	1.7026	84.919	49.458	79.458	54.729	24.729
59	9.6703	10.021	1.7059	85.466	49.673	79.673	54.837	24.837
60	9.8369	10.188	1.7091	86.123	49.958	79.958	54.979	24.979
61	10.004	10.366	1.7125	86.764	50.226	80.226	55.113	25.113
62	10.17	10.524	1.7155	87.374	50.486	80.486	55.243	25.243
63	10.337	10.713	1.7192	87.89	50.672	80.672	55.336	25.336
64	10.504	10.879	1.7224	88.499	50.925	80.925	55.462	25.462
65	10.67	11.065	1.726	88.968	51.083	81.083	55.541	25.541
66	10.837	11.24	1.7294	89.5	51.282	81.282	55.641	25.641
67	11.004	11.394	1.7324	89.969	51.457	81.457	55.729	25.729
68	11.17	11.572	1.7359	90.344	51.563	81.563	55.781	25.781
69	11.337	11.746	1.7393	90.72	51.67	81.67	55.835	25.835
70	11.504	11.93	1.7429	91.111	51.779	81.779	55.889	25.889
71	11.67	12.089	1.7461	91.314	51.795	81.795	55.897	25.897
72	11.837	12.266	1.7496	91.673	51.889	81.889	55.945	25.945
73	12.004	12.433	1.7529	91.892	51.908	81.908	55.954	25.954
74	12.17	12.606	1.7564	92.205	51.976	81.976	55.988	25.988
75	12.337	12.77	1.7597	92.377	51.97	81.97	55.985	25.985

76	12.504	12.948	1.7633	92.705	52.043	82.043	56.021	26.021
77	12.67	13.131	1.767	92.971	52.076	82.076	56.038	26.038
78	12.837	13.294	1.7703	93.253	52.131	82.131	56.066	26.066
79	13.004	13.469	1.7739	93.456	52.134	82.134	56.067	26.067
80	13.17	13.647	1.7776	93.675	52.142	82.142	56.071	26.071
81	13.337	13.828	1.7813	93.972	52.192	82.192	56.096	26.096
82	13.504	13.979	1.7844	94.41	52.34	82.34	56.17	26.17
83	13.67	14.153	1.788	94.613	52.341	82.341	56.17	26.17
84	13.837	14.329	1.7917	94.769	52.313	82.313	56.157	26.157
85	14.004	14.501	1.7953	94.988	52.323	82.323	56.162	26.162
86	14.17	14.674	1.799	95.254	52.358	82.358	56.179	26.179
87	14.337	14.855	1.8028	95.473	52.361	82.361	56.181	26.181
88	14.504	15.027	1.8064	95.723	52.387	82.387	56.193	26.193
89	14.67	15.177	1.8096	95.895	52.383	82.383	56.192	26.192
90	14.837	15.366	1.8137	96.208	52.432	82.432	56.216	26.216
91	15.004	15.538	1.8174	96.489	52.473	82.473	56.237	26.237
92	15.17	15.705	1.821	96.724	52.492	82.492	56.246	26.246
93	15.337	15.889	1.825	96.958	52.498	82.498	56.249	26.249
94	15.504	16.074	1.829	97.193	52.504	82.504	56.252	26.252
95	15.67	16.236	1.8325	97.365	52.49	82.49	56.245	26.245
96	15.837	16.4	1.8361	97.662	52.542	82.542	56.271	26.271
97	16.003	16.583	1.8401	97.943	52.573	82.573	56.287	26.287
98	16.17	16.764	1.8441	98.194	52.588	82.588	56.294	26.294
99	16.337	16.916	1.8475	98.553	52.68	82.68	56.34	26.34
100	16.503	17.098	1.8516	98.882	52.735	82.735	56.367	26.367
101	16.67	17.269	1.8554	99.116	52.746	82.746	56.373	26.373
102	16.837	17.444	1.8593	99.413	52.788	82.788	56.394	26.394
103	17.004	17.642	1.8638	99.695	52.804	82.804	56.402	26.402
104	17.17	17.797	1.8673	99.945	52.833	82.833	56.417	26.417
105	17.337	17.965	1.8711	100.4	52.96	82.96	56.48	26.48
106	17.366	18.002	1.872	100.48	52.977	82.977	56.488	26.488

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST



Symbol	⊙	△	□	
Sample No.	11-1058	11-1058	11-1058	
Test No.	1	2	3	
Depth				
Tested by	SKM	SKM	SKM	
Test Date	5/25/11	5/25/11	5/25/11	
Checked by	SKM	SKM	SKM	
Check Date				
Diameter, in	1.397	1.398	1.398	
Height, in	3.009	3.009	2.993	
Water Content, %	27.1	26.9	26.3	
Dry Density, pcf	97.43	97.47	98.54	
Saturation, %	98.1	97.8	98.0	
Void Ratio	0.756	0.755	0.736	
Confining Stress, psi	10	20	30	
Undrained Strength, psi	26.6	25.23	26.49	
Max. Dev. Stress, psi	53.2	50.46	52.98	
Strain at Failure, %	14	17.8	18	
Strain Rate, %/min	1	1	1	
Measured Specific Gravity	2.74	2.74	2.74	
Liquid Limit	---	---	---	
Plastic Limit	---	---	---	
Plasticity Index	---	---	---	



Project: PLUM CREEK SITE 6

Location: TX

Project No.: 11-1058

Boring No.: F10-1409

Sample Type: CORE

Description: HOLE 300.1

Remarks:

Phase calculations based on start and end of test.

BASE

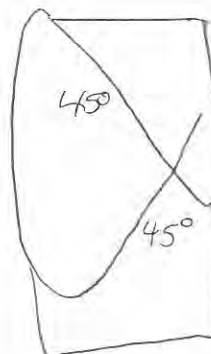
SHEAR TEST DATA

<input checked="" type="checkbox"/>	UU	CELL NO. <u>0</u>	LOAD CH. <u>20F3</u>	
<input type="checkbox"/>	qu	BURETTE NO. <u>3</u>	STRAIN CH. <u> </u>	
<input type="checkbox"/>	CUBAR	MACHINE NO. <u>3</u>	P.P. CH. <u> </u>	LAB. NO. <u>11-1058</u>
<input type="checkbox"/>	VS	COMPACTED <u> </u>		<u>11-1058-10</u>
<input type="checkbox"/>	BP	UNDISTURBED <u>✓</u>		TEST DATE <u>5/25/11</u>
<input checked="" type="checkbox"/>		<u>Run @ Nat. H₂O</u>	Gs <u>2.74</u>	
Cell <u>10</u> PSI Base <u>0</u> PSI Test <u>10</u> PSI B <u> </u> RATE OF STRAIN <u>1</u> in./min.				

SPECIMEN DATA	MOISTURE DATA
TECHNICIAN <u>SKM</u>	TECHNICIAN <u>SKM</u>

DIAMETER		INITIAL	IN MACHINE			INITIAL	FINAL
TOP	IN.		1.396	WET WT. SPEC. + CAN	(GM.)		221.23
MIDDLE	IN.		1.397	DRY WT. SPEC. + CAN	(GM.)		189.41
BOTTOM	IN.		1.398	WT. MOISTURE	(GM.)		
MEAN DIAMETER	IN.		1.397	WT. CAN	(GM.)		71.45
HEIGHT	IN.		3009	WT DRY SOIL	(GM.)		
MOIST WT.	GM.		149.87	PERCENT MOISTURE		27.05	26.98
END AREA	IN. ²		1.533	DRY UNIT WEIGHT	(GM/CC)		
VOLUME	IN. ³		4.612	PERCENT POROSITY			
MOIST UNIT WT.	PCF		123.79	THEORETICAL SAT. %			
CONSOLIDATION DATA				PERCENT SAT. @ START			

TECHNICIAN <u> </u>		
EXTENSOMETER READINGS DATE: <u> </u>		
INITIAL READING	IN.	TIME: <u> </u>
FINAL READING	IN.	TIME: <u> </u>
HT. DEFORMATION	IN.	<u> </u>
INITIAL BURETTE READING	CM	
FINAL BURETTE READING	CM	
VOL. CHANGE	CC x 0.061	IN. ³
CONS. VOLUME OF SPECIMEN	IN. ³	
CONS. HEIGHT OF SPECIMEN	IN.	
AVG. AREA OF CONS. SPECIMEN	IN. ²	
CONSOLIDATED MOIST UNIT WT.	PCF	

FAILURE SKETCH 117.96

INITIAL DRY DENSITY = 97.43
 FINAL DRY DENSITY = 97.43

REMARKS:

1397 3010
 1395 3010
 1400 3008
 1394
 1397
 1398

Checked by: SKM Date: 5/26/11

BASE

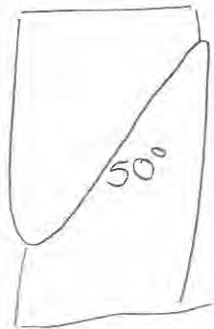
SHEAR TEST DATA

<input checked="" type="checkbox"/>	UU	CELL NO. <u>P</u>	LOAD CH. <u>20f3</u>	
<input type="checkbox"/>	qu	BURETTE NO. <u>3</u>	STRAIN CH. <u> </u>	
<input type="checkbox"/>	CUBAR	MACHINE NO. <u>3</u>	P.P. CH. <u> </u>	LAB. NO. <u>11-1058</u>
<input type="checkbox"/>	VS	COMPACTED <u> </u>		<u>11-1058-20</u>
<input type="checkbox"/>	BP	UNDISTURBED <u> </u>	Gs <u>2.74</u>	TEST DATE <u>5/25/11</u>
<input checked="" type="checkbox"/>	<u>Run @ Nat. H₂O</u>			
Cell <u>20</u> PSI Base <u>0</u> PSI Test <u>20</u> PSI B <u> </u> RATE OF STRAIN <u>1</u> in./% /min.				

SPECIMEN DATA	MOISTURE DATA
TECHNICIAN <u>SKM</u>	TECHNICIAN <u>SKM</u>

DIAMETER		INITIAL	IN MACHINE			INITIAL	FINAL
TOP	IN.		1.394	WET WT. SPEC. + CAN	(GM.)		221.65
MIDDLE	IN.		1.399	DRY WT. SPEC. + CAN	(GM.)		189.90
BOTTOM	IN.		1.399	WT. MOISTURE	(GM.)		
MEAN DIAMETER	IN.		1.398	WT. CAN	(GM.)		71.23
HEIGHT	IN.		3.009	WT DRY SOIL	(GM.)		
MOIST WT.	GM.		150.00	PERCENT MOISTURE		26.94	26.87
END AREA	IN. ²		1.535	DRY UNIT WEIGHT	(GM/CC)		
VOLUME	IN. ³		4.619	PERCENT POROSITY			
MOIST UNIT WT.	PCF		123.72	THEORETICAL SAT. %			
CONSOLIDATION DATA				PERCENT SAT. @ START			

TECHNICIAN <u> </u>		
EXTENSOMETER READINGS DATE: <u> </u>		
INITIAL READING	IN.	TIME: <u> </u>
FINAL READING	IN.	TIME: <u> </u>
HT. DEFORMATION	IN.	<u> </u>
<hr/>		
INITIAL BURETTE READING		CM
FINAL BURETTE READING		CM
<hr/>		
VOL. CHANGE	CC x 0.061	IN. ³
CONS. VOLUME OF SPECIMEN		IN. ³
CONS. HEIGHT OF SPECIMEN		IN.
AVG. AREA OF CONS. SPECIMEN		IN. ²
CONSOLIDATED MOIST UNIT WT.		PCF

FAILURE SKETCH <u>118.17</u>	
	
INITIAL DRY DENSITY = <u>97.46</u> FINAL DRY DENSITY = <u>97.46</u>	

REMARKS:

1391 3010
 1398 3010
 1398 3007
 1399

 1396
 1401

Checked by: SKM Date: 5/26/11

BASE

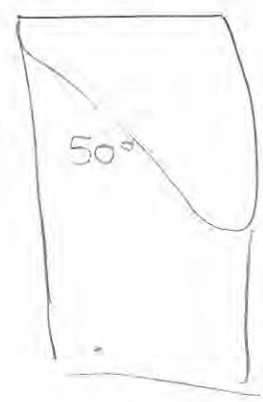
SHEAR TEST DATA

<input checked="" type="checkbox"/>	UU	CELL NO. <u>M</u>	LOAD CH. <u>20f3 1</u>	
<input type="checkbox"/>	qu	BURETTE NO. <u>3</u>	STRAIN CH. <u> </u>	
<input type="checkbox"/>	CUBAR	MACHINE NO. <u>3</u>	P.P. CH. <u> </u>	LAB. NO. <u>11-1058</u>
<input type="checkbox"/>	VS	COMPACTED <u> </u>		<u>11-1058-30</u>
<input type="checkbox"/>	BP	UNDISTURBED <u> </u>		TEST DATE <u>5/25/11</u>
<input checked="" type="checkbox"/>	<u>Run @ Nat H2O</u>		Gs <u>2.74</u>	
Cell <u>30</u> PSI Base <u>0</u> PSI Test <u>30</u> PSI B <u> </u> RATE OF STRAIN <u>1</u> in./min.				

SPECIMEN DATA	MOISTURE DATA
TECHNICIAN <u>SKM</u>	TECHNICIAN <u>SKM</u>

DIAMETER		INITIAL	IN MACHINE	INITIAL		FINAL
TOP	IN.		1.398	WET WT. SPEC. + CAN (GM.)		221.74
MIDDLE	IN.		1.397	DRY WT. SPEC. + CAN (GM.)		190.58
BOTTOM	IN.		1.398	WT. MOISTURE (GM.)		
MEAN DIAMETER	IN.		1.398	WT. CAN (GM.)		71.75
HEIGHT	IN.		2.993	WT DRY SOIL (GM.)		
MOIST WT.	GM.		150.12	PERCENT MOISTURE	26.33	26.22
END AREA	IN. ²		1.535	DRY UNIT WEIGHT (GM/CC)		
VOLUME	IN. ³		4.594	PERCENT POROSITY		
MOIST UNIT WT.	PCF		124.48	THEORETICAL SAT. %		
CONSOLIDATION DATA				PERCENT SAT. @ START		

TECHNICIAN <u> </u>		
EXTENSOMETER READINGS DATE:		
INITIAL READING	IN.	TIME:
FINAL READING	IN.	TIME:
HT. DEFORMATION	IN.	
INITIAL BURETTE READING CM		
FINAL BURETTE READING CM		
VOL. CHANGE	CC x 0.061	IN. ³
CONS. VOLUME OF SPECIMEN		IN. ³
CONS. HEIGHT OF SPECIMEN		IN.
AVG. AREA OF CONS. SPECIMEN		IN. ²
CONSOLIDATED MOIST UNIT WT.		PCF

FAILURE SKETCH <u>118.83</u>	
	
INITIAL DRY DENSITY = <u>98.53</u>	
FINAL DRY DENSITY = <u>98.53</u>	

REMARKS:

1401 2993
 1394 2993
 1401 2992
 1393
 1401
 1396

Checked by: SKMDate: 5/26/11

Shear Test Data
Specimen #1

5/26/2011
12:49 PM

Project: PLUM CREEK SITE 6
State: TX
Lab No: 11-1058
Specific Gravity (Gs): 2.74

Test Specifications:

Shear Cell No.:
Confining Pressure: 10 psi

Top Diameter: 1.396 inches
Middle Diameter: 1.397 inches
Middle Diameter: 1.397 inches
Bottom Diameter: 1.398 inches
Height of Specimen: 3.009 inches
Moist Weight of Specimen: 149.87 gms.
Mean Diameter: 1.397 inches
End Area: 1.533 sq. inches
Volume of Specimen: 4.612 cubic inches
Moist Unit Weight: 123.79 pcf

(Either measure two middle diameters
or enter in the same value)

(multiply gms/cubic inch by 3.8095 to
to achieve pcf)

Extensiometer Height Deformation: inches
Initial Volume of Base Cell: ml.
Final Volume of Base Cell: ml.
Is the Large Burette being Used? no (yes or no)
Calibrated Area of the Base Burette: cc

Burette Volume: cc
Burette Volume: cubic inches
Consolidated Volume: 4.612 cubic inches
Assumed Consolidated Height: inches
Assumed Height after Consolidation : 3.009 inches

note 1.00 ml = 1.00 cc

Moist Weight of Specimen + Can: 221.23 gms.
Dry Weight of Specimen + Can: 189.41 gms.
Weight of Can: 71.45 gms.
Weight of Water: 31.82 gms.
Weight of Dry Specimen: 117.96 gms.

Initial Water Content: 27.05 percent
Initial Dry Density: 97.43 pcf
Percent Saturated: 98.08 percent
Initial Void Ratio: 0.756
Initial Diameter: 1.397 inches
Initial Height: 3.009 inches

Final Water Content: 26.98 percent
Final Dry Density: 97.43 pcf
Percent Saturated: 97.81 percent
Final Void Ratio: 0.756
Final Diameter* : 1.397 inches
Final Height: 3.009 inches

*Diameter is estimated to be unchanged

Checked by: SKM

Shear Test Data
Specimen #2

5/26/2011
12:50 PM

Project: PLUM CREEK SITE 6
State: TX
Lab No: 11-1058
Specific Gravity (Gs): 2.74

Test Specifications:

Shear Cell No.:
Confining Pressure: 20 psi

Top Diameter: 1.394 inches
Middle Diameter: 1.399 inches (Either measure two middle diameters
Middle Diameter: 1.399 inches or enter in the same value)
Bottom Diameter: 1.399 inches
Height of Specimen: 3.009 inches
Moist Weight of Specimen: 150.00 gms.
Mean Diameter: 1.398 inches
End Area: 1.535 sq. inches
Volume of Specimen: 4.619 cubic inches
Moist Unit Weight: 123.72 pcf (multiply gms/cubic inch by 3.8095 to
to achieve pcf)

Extensiometer Height Deformation: inches
Initial Volume of Base Cell: ml.
Final Volume of Base Cell: ml.
Is the Large Burette being Used? no (yes or no)
Calibrated Area of the Base Burette: cc

Burette Volume: cc note 1.00 ml = 1.00 cc
Burette Volume: cubic inches
Consolidated Volume: 4.619 cubic inches
Assumed Consolidated Height: inches
Assumed Height after Consolidation : 3.009 inches

Moist Weight of Specimen + Can: 221.65 gms.
Dry Weight of Specimen + Can: 189.90 gms.
Weight of Can: 71.73 gms.
Weight of Water: 31.75 gms.
Weight of Dry Specimen: 118.17 gms.

Initial Water Content: 26.94 percent
Initial Dry Density: 97.46 pcf
Percent Saturated: 97.74 percent
Initial Void Ratio: 0.755
Initial Diameter: 1.398 inches
Initial Height: 3.009 inches

Final Water Content: 26.87 percent
Final Dry Density: 97.46 pcf
Percent Saturated: 97.50 percent
Final Void Ratio: 0.755
Final Diameter* : 1.398 inches
Final Height: 3.009 inches

*Diameter is estimated to be unchanged

Checked by: SKM

Shear Test Data
Specimen #3

5/26/2011
12:51 PM

Project: PLUM CREEK SITE 6
State: TX
Lab No: 11-1058
Specific Gravity (Gs): 2.74

Test Specifications:

Shear Cell No.:
Confining Pressure: 30 psi

Top Diameter: 1.398 inches -
Middle Diameter: 1.397 inches - (Either measure two middle diameters
Middle Diameter: 1.397 inches - or enter in the same value)
Bottom Diameter: 1.398 inches -
Height of Specimen: 2.993 inches -
Moist Weight of Specimen: 150.12 gms. -
Mean Diameter: 1.398 inches -
End Area: 1.535 sq. inches -
Volume of Specimen: 4.594 cubic inches -
Moist Unit Weight: 124.48 pcf (multiply gms/cubic inch by 3.8095 to
to achieve pcf)

Extensometer Height Deformation: inches
Initial Volume of Base Cell: ml.
Final Volume of Base Cell: ml.
Is the Large Burette being Used? no (yes or no)
Calibrated Area of the Base Burette: cc

Burette Volume: cc note 1.00 ml = 1.00 cc
Burette Volume: cubic inches
Consolidated Volume: 4.594 cubic inches
Assumed Consolidated Height: inches
Assumed Height after Consolidation : 2.993 inches

Moist Weight of Specimen + Can: 221.74 gms. -
Dry Weight of Specimen + Can: 190.58 gms. -
Weight of Can: 71.75 gms. -
Weight of Water: 31.16 gms. -
Weight of Dry Specimen: 118.83 gms. -

Initial Water Content: 26.33 percent
Initial Dry Density: 98.53 pcf -
Percent Saturated: 98.02 percent
Initial Void Ratio: 0.736
Initial Diameter: 1.398 inches
Initial Height: 2.993 inches

Final Water Content: 26.22 percent
Final Dry Density: 98.53 pcf
Percent Saturated: 97.61 percent
Final Void Ratio: 0.736
Final Diameter* : 1.398 inches
Final Height: 2.993 inches

*Diameter is estimated to be unchanged

Checked by: SKM

Mohr Circle Program

SITE NAME: Plum Creek Site 6
STATE: TX
SAMPLE NO: 11-1059
F10-1410

Total Strength Parameters:

PHI: 18.1 degrees

C: 509 psf

18.1 degrees

3.54 psi

Zero Cohesion:

Slope y=

Failure Criterion:

☐ Maximum Dev. Stress

☒ Maximum Stress Ratio

☐ Max. Pore Pressure

☐ <= 10% Strain

☐ Selected Points

Effective Strength Parameters:

PHI': 30.0 degrees

C': 385 psf

30.0 degrees

2.68 psi

Slope y=

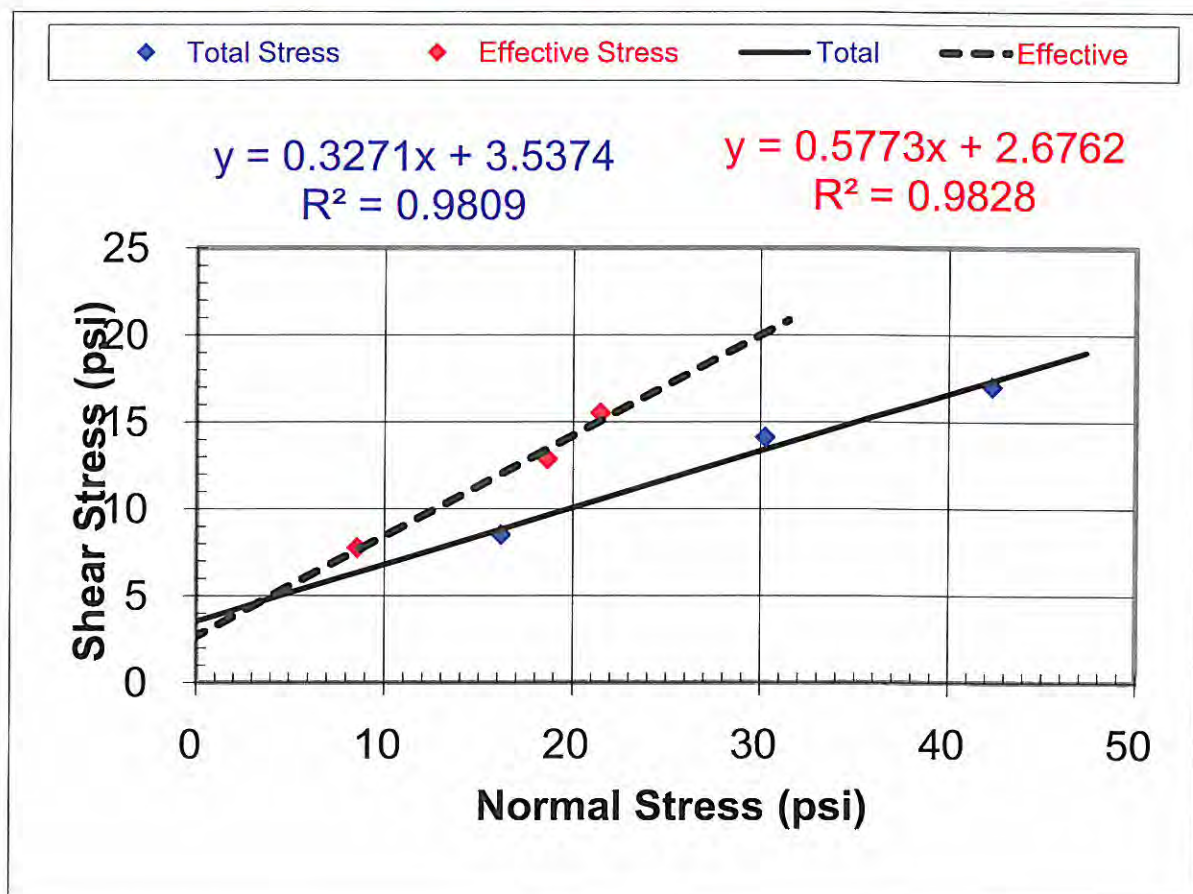
Stress path analysis from p-q plot:

PHI': 30.2 degrees

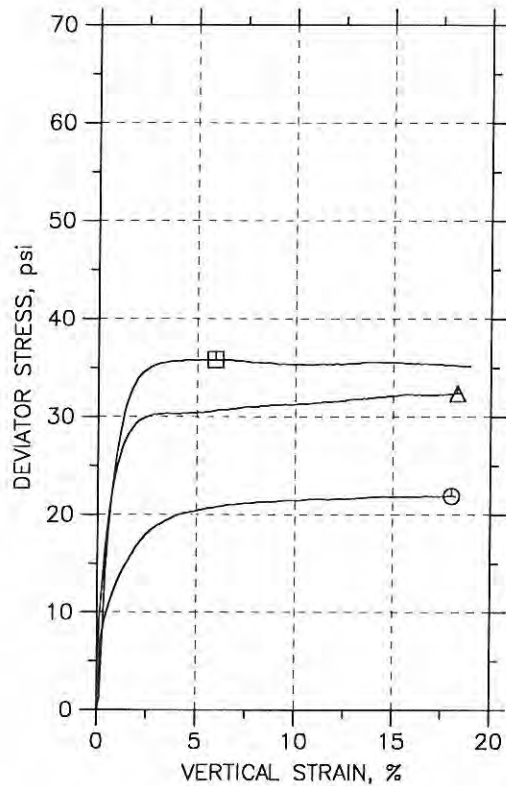
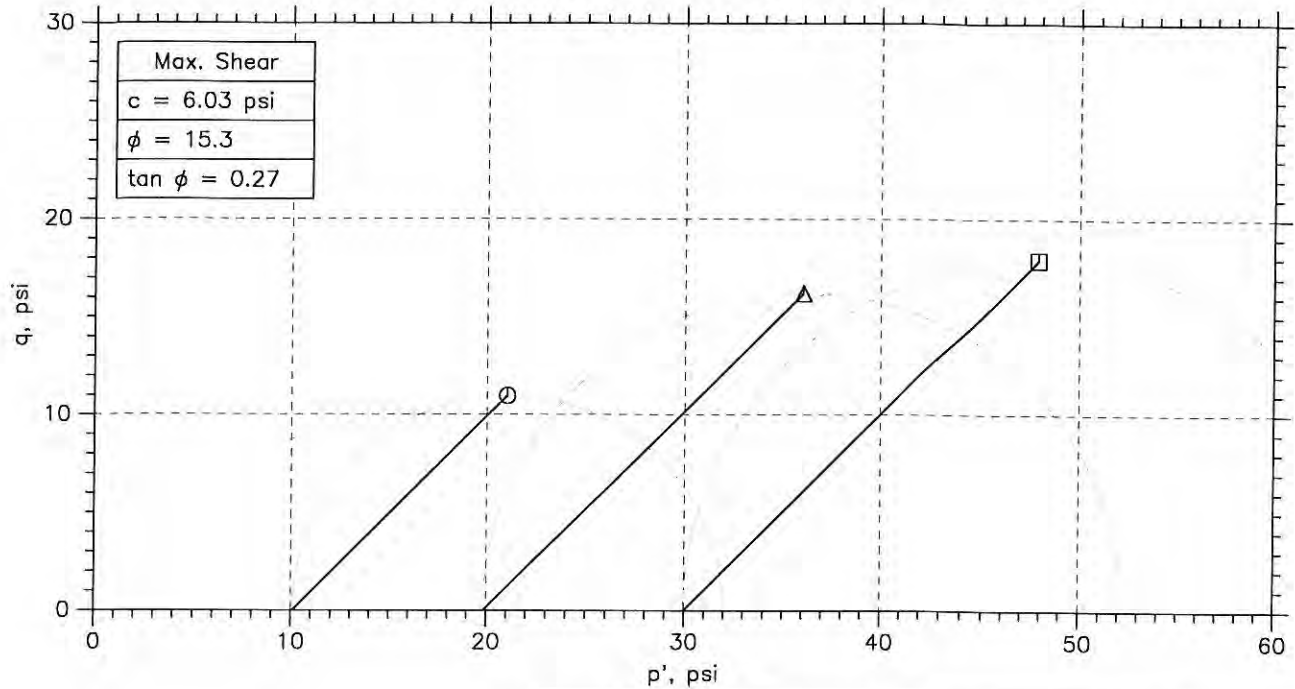
C': 367 psf

(All inputted values in the chart are in psi)

CELL PRESSURE	DEVIATOR STRESS AT FAILURE	PORE PRESSURE AT FAILURE	PERCENT STRAIN (Optional Entry)
10	17.9	5.9	2.4
20	29.7	8.8	2.2
30	35.8	17.5	5.4



CONSOLIDATED UNDRAINED TRIAXIAL TEST



Symbol	⊙	△	□	
Sample No.	11-1059	11-1059	11-1059	
Test No.	1	2	3	
Depth	7-9'	7-9'	7-9'	
Initial	Diameter, in	1.398	1.393	1.399
	Height, in	3.015	3.01	3.003
	Water Content, %	21.1	20.3	20.8
	Dry Density, pcf	99.04	104.	100.3
	Saturation, %	82.0	89.3	83.4
	Void Ratio	0.689	0.609	0.668
Before Shear	Water Content, %	26.2	24.0	24.7
	Dry Density, pcf	98.26	101.8	100.6
	Saturation*, %	100.0	100.0	100.0
	Void Ratio	0.703	0.644	0.663
	Back Press., psi	99.93	100.2	100
Ver. Eff. Cons. Stress, psi		10.07	19.83	29.97
Shear Strength, psi		10.95	16.2	17.91
Strain at Failure, %		18	18.3	5.93
Strain Rate, %/min		0.06	0.06	0.06
B-Value		0.00	0.00	0.00
Measured Specific Gravity		2.68	2.68	2.68
Liquid Limit		---	---	---
Plastic Limit		---	---	---



Project: PLUM CREEK SITE 6

Location: TX

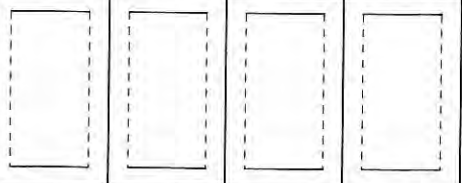
Project No.: 11-1059

Boring No.: F10-1410

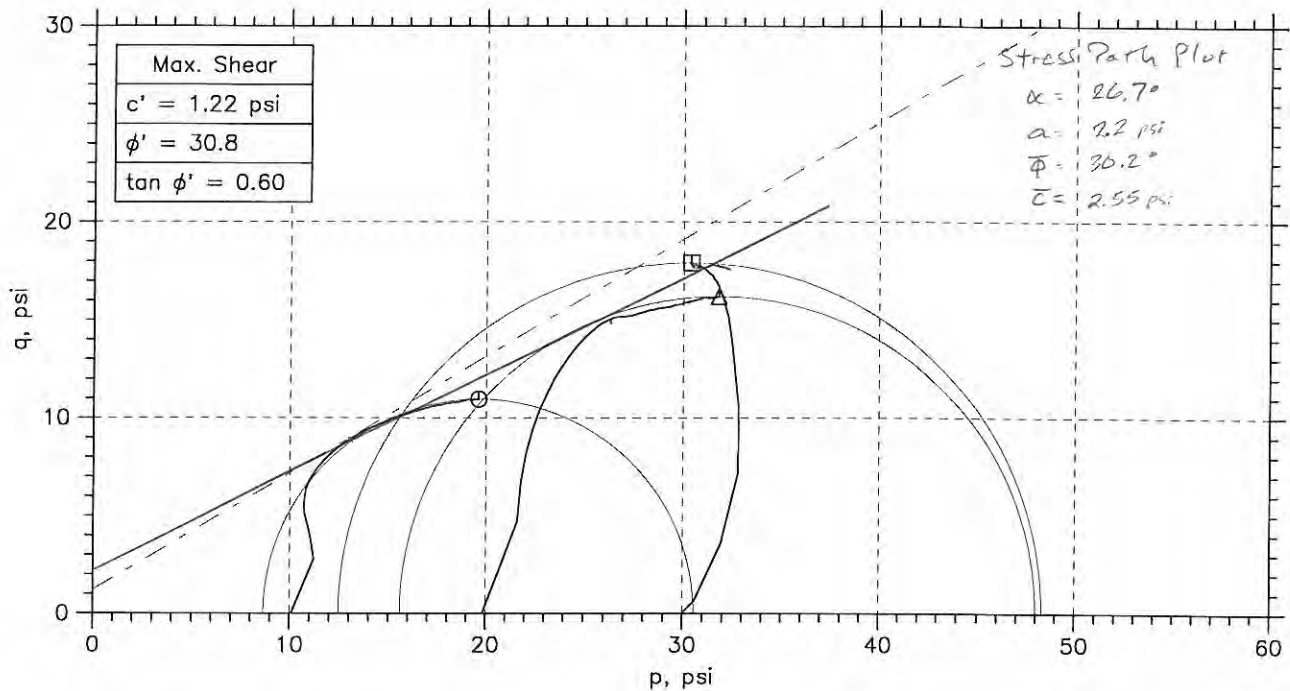
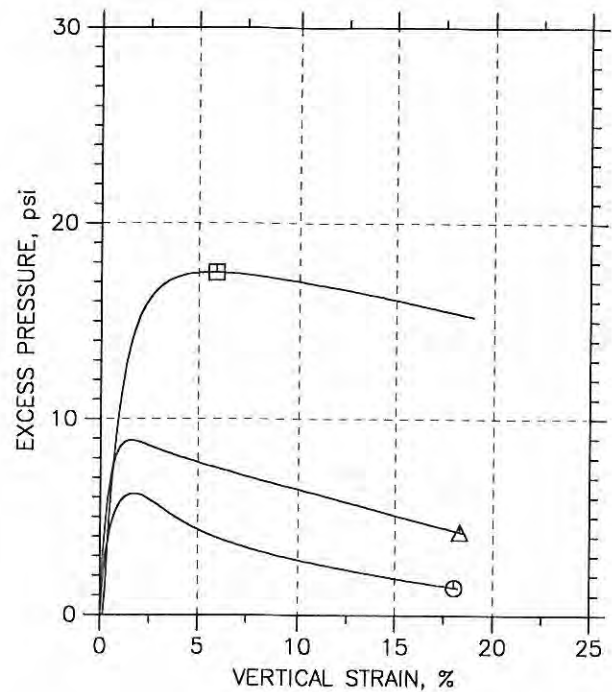
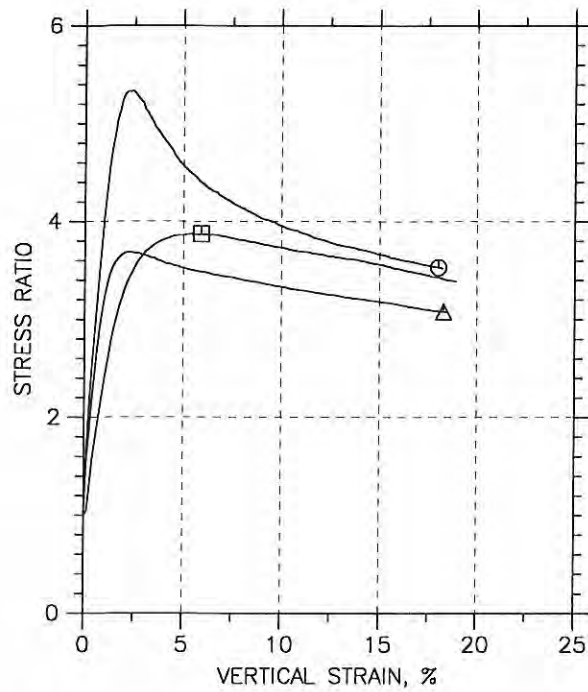
Sample Type: CORE

Description: HOLE 302.1

Remarks:



CONSOLIDATED UNDRAINED TRIAXIAL TEST



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
○	11-1059	1	7-9'	SKM	5/24/11	SKM		11-1059-10eng.dat
△	11-1059	2	7-9'	SKM	5/24/11	SKM		11-1059-20eng.dat
□	11-1059	3	7-9'	SKM	5/24/11	SKM		11-1059-30eng.dat



Project: PLUM CREEK SITE 6

Location: TX

Project No.: 11-1059

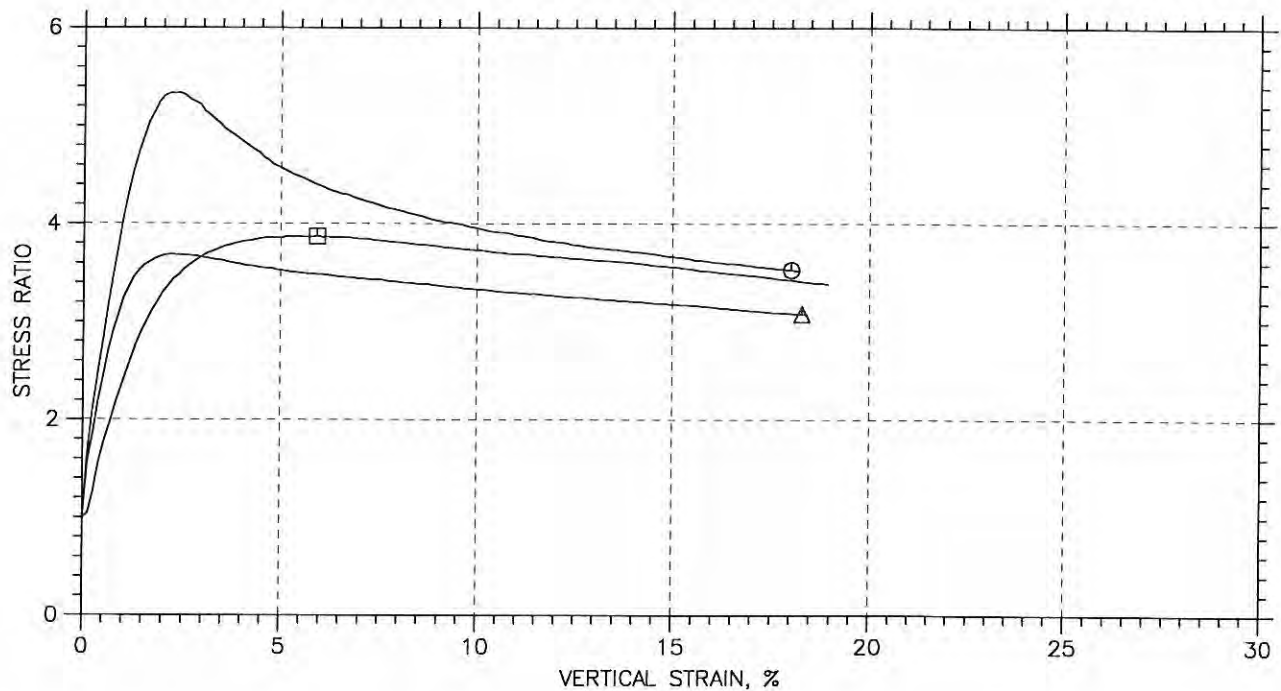
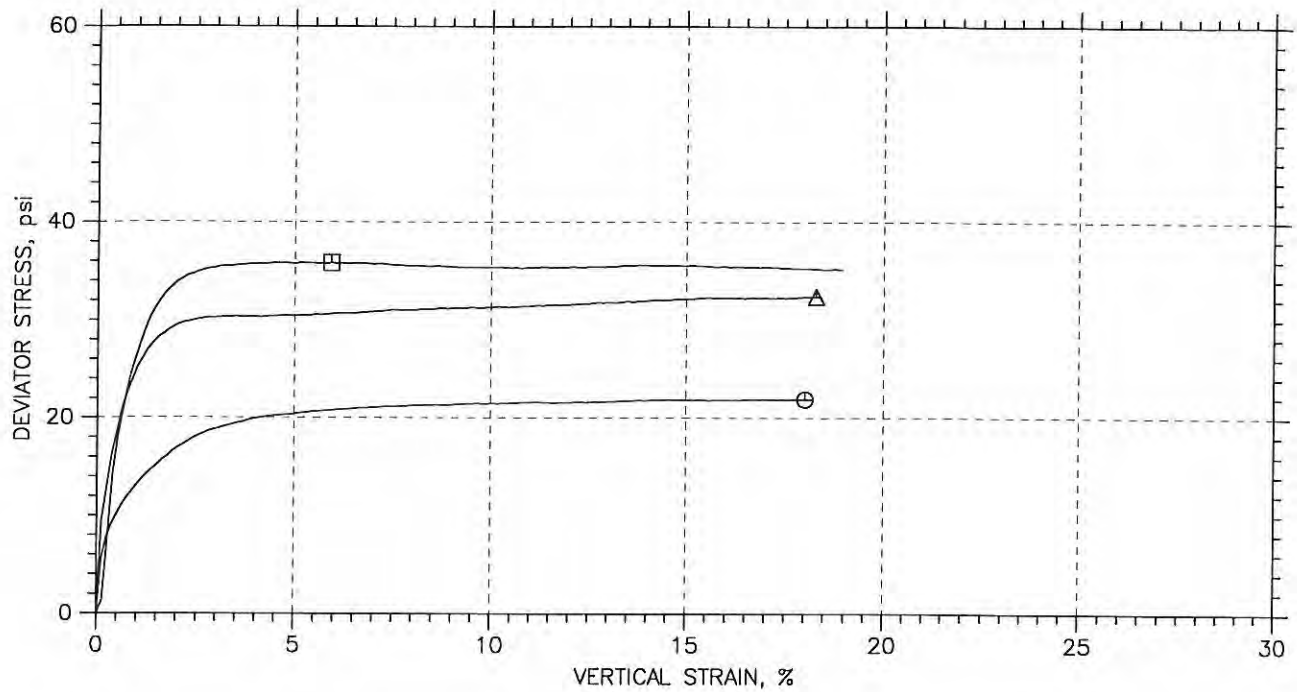
Boring No.: F10-1410

Sample Type: CORE

Description: HOLE 302.1

Remarks:

CONSOLIDATED UNDRAINED TRIAXIAL TEST



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
○	11-1059	1	7-9'	SKM	5/24/11	SKM		11-1059-10eng.dat
Δ	11-1059	2	7-9'	SKM	5/24/11	SKM		11-1059-20eng.dat
□	11-1059	3	7-9'	SKM	5/24/11	SKM		11-1059-30eng.dat



Project: PLUM CREEK SITE 6

Location: TX

Project No.: 11-1059

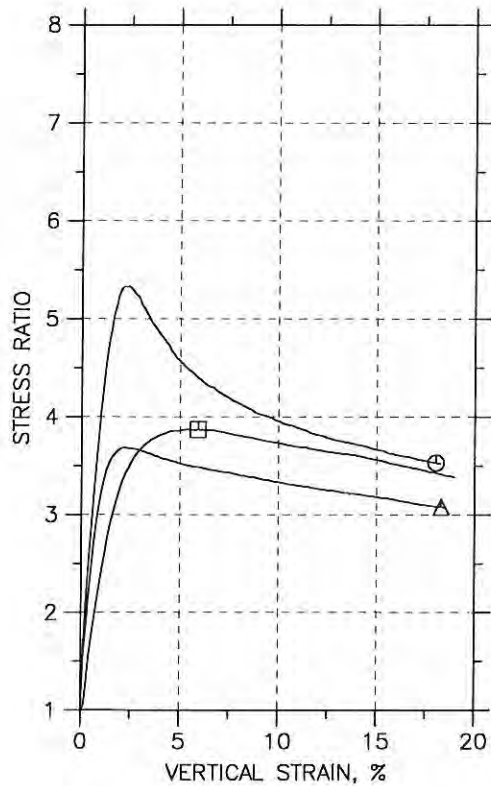
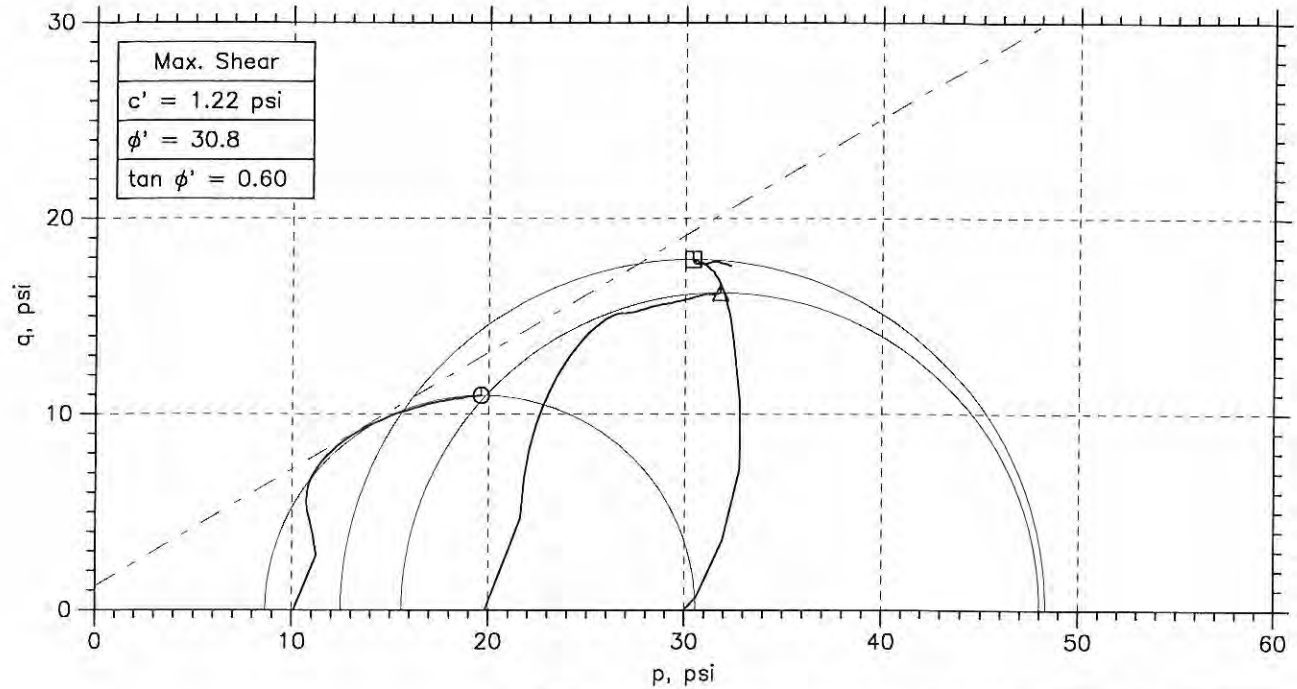
Boring No.: F10-1410

Sample Type: CORE

Description: HOLE 302.1

Remarks:

CONSOLIDATED UNDRAINED TRIAXIAL TEST



Symbol	⊙	Δ	□	
Sample No.	11-1059	11-1059	11-1059	
Test No.	1	2	3	
Depth	7-9'	7-9'	7-9'	
Initial	Diameter, in	1.398	1.393	1.399
	Height, in	3.015	3.01	3.003
	Water Content, %	21.1	20.3	20.8
	Dry Density, pcf	99.04	104.	100.3
	Saturation, %	82.0	89.3	83.4
	Void Ratio	0.689	0.609	0.668
Before Shear	Water Content, %	26.2	24.0	24.7
	Dry Density, pcf	98.26	101.8	100.6
	Saturation*, %	100.0	100.0	100.0
	Void Ratio	0.703	0.644	0.663
	Back Press., psi	99.93	100.2	100
Ver. Eff. Cons. Stress, psi		10.07	19.83	29.97
Shear Strength, psi		10.95	16.2	17.91
Strain at Failure, %		18	18.3	5.93
Strain Rate, %/min		0.06	0.06	0.06
B-Value		0.00	0.00	0.00
Measured Specific Gravity		2.68	2.68	2.68
Liquid Limit		---	---	---
Plastic Limit		---	---	---



Project: PLUM CREEK SITE 6

Location: TX

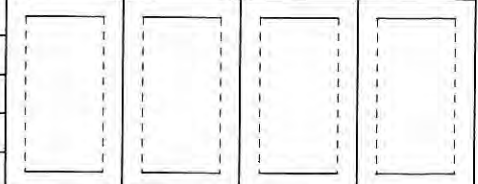
Project No.: 11-1059

Boring No.: F10-1410

Sample Type: CORE

Description: HOLE 302.1

Remarks:



TRIAXIAL TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1410
Sample No.: 11-1059
Test No.: 1

Location: TX
Tested By: SKM
Test Date: 5/24/11
Sample Type: CORE

Project No.: 11-1059
Checked By: SKM
Depth: 7-9'
Elevation: N/A

Soil Description: HOLE 302, 1
Remarks:

Specimen Height: 3.02 in
Specimen Area: 1.53 in²
Specimen Volume: 75.84 cc

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb

Liquid Limit: ---

Plastic Limit: ---

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Measured Specific Gravity: 2.68

Container ID

Wt. Container + wet soil, gm
Wt. Container + Dry soil, gm
Wt. Container, gm
Wt. Dry Soil, gm
Water Content, %
Void Ratio
Degree of Saturation, %
Dry Unit weight, pcf

Before Test
Trimings

Before Test
Specimen+Ring

After Test
Specimen+Ring

After Test
Trimings

---	---	---	---
145.7	145.7	151.87	223
120.32	120.32	120.32	191.45
0	---	0	71.13
120.32	120.32	120.32	120.32
21.09	21.09	26.22	26.22
---	0.69	0.70	---
---	82.02	100.00	---
---	99.043	98.257	---

Initial

End of Initialization

End of Consolidation/A

End of Saturation

End of Consolidation/B

End of Shear

At Failure

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1410
 Sample No.: 11-1059
 Test No.: 1

Soil Description: HOLE 302.1
 Remarks:

Location: TX
 Tested By: SKM
 Test Date: 5/24/11
 Sample Type: CORE

Project No.: 11-1059
 Checked By: SKM
 Depth: 7-9'
 Elevation: N/A

Specimen Height: 3.02 in
 Specimen Area: 1.53 in²
 Specimen Volume: 75.84 cc

Piston Area: 0.00 in²
 Piston Friction: 0.00 lb
 Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
 Membrane Correction: 1.65 lb/in
 Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.68

	Time min	Vertical Strain %	Corrected Area in ²	Deviator Load lb	Deviator Stress psi	Pore Pressure psi	Horizontal Stress psi	Vertical Stress psi
1	0	0	1.5152	0	0	99.93	110	110
2	2.004	0.11361	1.5169	8.4796	5.5847	101.57	110	115.58
3	4.0039	0.235	1.5187	11.878	7.8096	102.87	110	117.81
4	6.0038	0.36884	1.5208	14.025	9.2045	103.73	110	119.2
5	8.0038	0.49645	1.5227	15.6	10.221	104.36	110	120.22
6	10.004	0.62251	1.5246	17.006	11.124	104.84	110	121.12
7	12.004	0.75013	1.5266	18.21	11.893	105.21	110	121.89
8	14.004	0.88241	1.5286	19.261	12.558	105.48	110	122.56
9	16.004	0.99913	1.5304	20.234	13.173	105.69	110	123.17
10	18.003	1.1236	1.5324	21.176	13.766	105.84	110	123.77
11	20.003	1.2435	1.5342	21.994	14.277	105.96	110	124.28
12	22.003	1.3604	1.5364	22.813	14.784	106.04	110	124.78
13	24.003	1.5174	1.5385	23.539	15.229	106.09	110	125.23
14	26.003	1.6357	1.5403	24.327	15.716	106.11	110	125.72
15	28.003	1.7788	1.5426	25.006	16.127	106.11	110	126.13
16	30.003	1.8878	1.5443	25.717	16.564	106.09	110	126.56
17	32.003	2.0325	1.5466	26.381	16.962	106.06	110	126.96
18	34.003	2.1679	1.5487	26.952	17.302	106	110	127.3
19	36.003	2.2893	1.5506	27.462	17.603	105.93	110	127.6
20	38.003	2.4045	1.5525	27.987	17.915	105.87	110	127.92
21	40.003	2.5352	1.5546	28.42	18.163	105.79	110	128.16
22	42.003	2.669	1.5567	28.852	18.41	105.69	110	128.41
23	44.003	2.7935	1.5587	29.238	18.628	105.61	110	128.63
24	46.003	2.932	1.5609	29.532	18.783	105.54	110	128.78
25	48.003	3.0488	1.5628	29.825	18.943	105.43	110	128.94
26	50.003	3.181	1.5649	30.088	19.079	105.36	110	129.08
27	52.003	3.3009	1.5669	30.35	19.217	105.27	110	129.22
28	54.003	3.4238	1.5689	30.628	19.365	105.19	110	129.36
29	56.003	3.5421	1.5708	30.845	19.473	105.1	110	129.47
30	58.003	3.6837	1.5731	31.092	19.595	105.02	110	129.59
31	60.003	3.816	1.5753	31.416	19.768	104.93	110	129.77
32	62.003	3.9343	1.5772	31.617	19.865	104.86	110	129.87
33	64.003	4.0557	1.5792	31.864	19.991	104.78	110	129.99
34	66.003	4.1911	1.5814	32.019	20.055	104.71	110	130.05
35	68.003	4.3125	1.5834	32.188	20.131	104.64	110	130.13
36	70.002	4.4432	1.5856	32.358	20.205	104.58	110	130.2
37	72.002	4.5615	1.5876	32.436	20.223	104.5	110	130.22
38	74.002	4.6766	1.5895	32.575	20.281	104.44	110	130.28
39	76.002	4.8042	1.5916	32.683	20.316	104.37	110	130.32
40	78.002	4.9334	1.5938	32.791	20.35	104.32	110	130.35
41	80.002	5.061	1.5959	32.976	20.433	104.25	110	130.43
42	82.002	5.1871	1.598	33.115	20.487	104.2	110	130.49
43	84.002	5.3069	1.6001	33.254	20.543	104.14	110	130.54
44	86.002	5.4361	1.6022	33.424	20.615	104.08	110	130.61
45	88.002	5.5668	1.6045	33.563	20.667	104.04	110	130.67
46	90.002	5.6898	1.6066	33.671	20.702	103.99	110	130.7
47	92.002	5.8189	1.6088	33.764	20.725	103.93	110	130.73
48	94.002	5.9341	1.6107	33.887	20.772	103.88	110	130.77
49	96.002	6.0726	1.6131	34.042	20.83	103.83	110	130.83
50	98.002	6.2002	1.6153	34.135	20.854	103.78	110	130.85
51	100	6.3107	1.6172	34.227	20.882	103.74	110	130.88
52	102	6.429	1.6193	34.366	20.936	103.7	110	130.94
53	104	6.566	1.6216	34.49	20.975	103.65	110	130.98

54	6.7013	1.624	34.644	21.034	103.62	110	131.62
55	6.829	1.6262	34.691	21.028	103.58	110	131.03
56	6.9519	1.6284	34.768	21.042	103.54	110	131.04
57	7.0842	1.6307	34.891	21.082	103.5	110	131.08
58	7.2025	1.6327	34.984	21.107	103.46	110	131.11
59	7.3301	1.635	35.185	21.138	103.42	110	131.14
60	7.4484	1.6371	35.247	21.163	103.38	110	131.16
61	7.5775	1.6394	35.324	21.165	103.34	110	131.17
62	7.7129	1.6418	35.447	21.175	103.3	110	131.18
63	7.839	1.644	35.54	21.216	103.27	110	131.22
64	7.931	1.646	35.679	21.241	103.24	110	131.24
65	8.0989	1.6487	35.741	21.285	103.2	110	131.29
66	8.2327	1.6511	35.834	21.286	103.16	110	131.29
67	8.3588	1.6534	35.895	21.307	103.12	110	131.31
68	8.4911	1.6557	36.003	21.308	103.09	110	131.31
69	8.6234	1.6581	36.003	21.336	103.06	110	131.34
70	8.7339	1.6601	36.003	21.306	103.03	110	131.31
71	8.8833	1.6629	36.096	21.32	102.99	110	131.32
72	9	1.665	36.189	21.343	102.96	110	131.34
73	9.1291	1.6674	36.312	21.382	102.92	110	131.38
74	9.2863	1.6703	36.421	21.402	102.9	110	131.4
75	9.3937	1.6722	36.56	21.456	102.87	110	131.46
76	9.5213	1.6746	36.606	21.448	102.84	110	131.45
77	9.6521	1.677	36.699	21.466	102.82	110	131.47
78	9.775	1.6793	36.729	21.45	102.78	110	131.45
79	9.9011	1.6817	36.807	21.461	102.75	110	131.46
80	10.036	1.6842	36.884	21.468	102.73	110	131.47
81	10.169	1.6867	36.93	21.459	102.7	110	131.46
82	10.293	1.689	37.007	21.469	102.66	110	131.47
83	10.408	1.6912	37.1	21.491	102.64	110	131.49
84	10.539	1.6936	37.208	21.518	102.62	110	131.52
85	10.664	1.696	37.316	21.547	102.6	110	131.55
86	10.783	1.6983	37.424	21.576	102.58	110	131.58
87	10.908	1.7007	37.471	21.568	102.54	110	131.57
88	11.034	1.7031	37.548	21.578	102.51	110	131.58
89	11.154	1.7054	37.656	21.607	102.49	110	131.61
90	11.291	1.708	37.687	21.586	102.47	110	131.59
91	11.42	1.7105	37.764	21.594	102.45	110	131.59
92	11.544	1.7129	37.749	21.55	102.42	110	131.55
93	11.671	1.7153	37.78	21.532	102.39	110	131.53
94	11.789	1.7176	37.903	21.57	102.37	110	131.57
95	11.912	1.72	37.981	21.579	102.34	110	131.58
96	12.049	1.7227	38.073	21.594	102.33	110	131.59
97	12.181	1.7253	38.166	21.61	102.3	110	131.61
98	12.309	1.7278	38.259	21.626	102.28	110	131.63
99	12.425	1.7301	38.243	21.584	102.25	110	131.58
100	12.558	1.7327	38.351	21.608	102.23	110	131.61
101	12.668	1.7349	38.444	21.63	102.2	110	131.63
102	12.794	1.7374	38.49	21.62	102.18	110	131.63
103	12.92	1.74	38.598	21.645	102.16	110	131.62
104	13.046	1.7425	38.706	21.671	102.13	110	131.65
105	13.163	1.7448	38.784	21.681	102.12	110	131.67
106	13.297	1.7475	38.892	21.704	102.09	110	131.68
107	13.41	1.7498	39	21.733	102.07	110	131.7
108	13.543	1.7525	39.093	21.747	102.06	110	131.73
109	13.663	1.7549	39.185	21.765	102.03	110	131.75
110	13.796	1.7576	39.324	21.765	102.02	110	131.76
111	13.93	1.7604	39.355	21.804	102	110	131.8
112	14.053	1.7629	39.479	21.783	101.98	110	131.78
113	14.173	1.7654	39.571	21.817	101.95	110	131.82
114	14.31	1.7682	39.633	21.834	101.94	110	131.83
115	14.436	1.7708	39.726	21.828	101.92	110	131.83
116	14.559	1.7733	39.819	21.843	101.9	110	131.84
117	14.708	1.7764	39.88	21.859	101.87	110	131.86
118	14.824	1.7788	39.911	21.85	101.85	110	131.85
119	14.954	1.7816	39.988	21.833	101.83	110	131.83
120	15.076	1.7841	40.05	21.837	101.81	110	131.84
121	15.202	1.7868	40.127	21.836	101.79	110	131.84
122	15.314	1.7891	40.236	21.842	101.78	110	131.84
123	15.452	1.7921	40.282	21.869	101.75	110	131.87
124	15.577	1.7947	40.282	21.853	101.73	110	131.85
125	15.711	1.7976	40.405	21.816	101.7	110	131.82
126	15.835	1.8002	40.467	21.842	101.66	110	131.84

127	252	15.915	1.8028	40.529	21.84	101.65	110	131.84
128	254	16.101	1.8059	40.591	21.83	101.62	110	131.83
129	256	16.221	1.8085	40.699	21.854	101.61	110	131.85
130	258	16.347	1.8112	40.73	21.833	101.59	110	131.83
131	260	16.49	1.8143	40.884	21.875	101.58	110	131.88
132	262	16.612	1.817	40.977	21.89	101.55	110	131.89
133	264	16.722	1.8194	41.07	21.907	101.54	110	131.91
134	266	16.85	1.8222	41.085	21.877	101.51	110	131.88
135	268	16.982	1.8251	41.193	21.896	101.49	110	131.9
136	270	17.11	1.8279	41.193	21.857	101.47	110	131.86
137	272	17.242	1.8308	41.301	21.876	101.46	110	131.88
138	274	17.379	1.8339	41.363	21.868	101.44	110	131.87
139	276	17.51	1.8368	41.471	21.888	101.42	110	131.89
140	278	17.619	1.8392	41.518	21.88	101.39	110	131.88
141	280	17.746	1.842	41.626	21.899	101.37	110	131.9
142	282	17.889	1.8453	41.718	21.906	101.36	110	131.91
143	284	18.016	1.8481	41.796	21.909	101.34	110	131.91
144	286	18.131	1.8507	41.826	21.89	101.33	110	131.89
145	287.48	18.237	1.8531	41.888	21.891	101.32	110	131.89

TRIAxIAL TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1410
 Sample No.: 11-1059
 Test No.: 1

Location: TX
 Tested By: SKM
 Test Date: 5/24/11
 Sample Type: CORE

Project No.: 11-1059
 Checked By: SKM
 Depth: 7-9'
 Elevation: N/A

Soil Description: HOLE 302.1
 Remarks:

Specimen Height: 3.02 in
 Specimen Area: 1.53 in²
 Specimen Volume: 75.84 cc

Piston Area: 0.00 in²
 Piston Friction: 0.00 lb
 Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
 Membrane Correction: 1.65 lb/in
 Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.68

	Vertical Strain %	Total Vertical Stress psi	Total Horizontal Stress psi	Excess Pore Pressure psi	Parameter A	Effective Vertical Stress psi	Effective Horizontal Stress psi	Stress Ratio	Effective p psi	q psi
1	0.00	110	110	0	0.000	10.07	10.07	1.000	10.07	0
2	0.11	115.58	110	1.6378	0.293	14.017	8.4326	1.662	11.225	2.7924
3	0.23	117.81	110	2.9367	0.376	14.943	7.1337	2.095	11.038	3.9048
4	0.37	119.2	110	3.8	0.413	15.475	6.2704	2.468	10.873	4.6022
5	0.50	120.22	110	4.4293	0.433	15.862	5.6411	2.812	10.752	5.1106
6	0.62	121.12	110	4.9134	0.442	16.281	5.157	3.157	10.719	5.5621
7	0.75	121.89	110	5.2764	0.444	16.687	4.794	3.481	10.74	5.9465
8	0.88	122.56	110	5.5507	0.442	17.078	4.5197	3.779	10.799	6.279
9	1.00	123.17	110	5.7605	0.437	17.483	4.3099	4.057	10.897	6.5867
10	1.12	123.77	110	5.9138	0.430	17.922	4.1566	4.312	11.04	6.8829
11	1.24	124.28	110	6.0268	0.422	18.321	4.0437	4.531	11.182	7.1385
12	1.38	124.78	110	6.1074	0.413	18.747	3.963	4.730	11.355	7.3918
13	1.52	125.23	110	6.1558	0.404	19.143	3.8904	4.890	11.529	7.6143
14	1.64	125.72	110	6.18	0.393	19.606	3.8904	5.040	11.748	7.858
15	1.78	126.13	110	6.1639	0.383	20.017	3.8904	5.145	11.954	8.0635
16	1.89	126.56	110	6.1316	0.372	20.471	3.9065	5.240	12.189	8.282
17	2.03	126.96	110	6.0752	0.361	20.901	3.9388	5.306	12.42	8.4812
18	2.17	127.3	110	6.0026	0.351	21.297	3.9952	5.327	12.646	8.6508
19	2.29	127.6	110	5.938	0.341	21.671	4.0679	5.335	12.869	8.8015
20	2.40	127.92	110	5.8573	0.331	22.048	4.1324	5.327	13.09	8.9576
21	2.54	128.16	110	5.7605	0.322	22.376	4.2131	5.311	13.295	9.0817
22	2.67	128.41	110	5.6798	0.313	22.72	4.3099	5.272	13.515	9.205
23	2.79	128.63	110	5.6153	0.305	23.019	4.3906	5.243	13.705	9.3142
24	2.93	128.78	110	5.5023	0.299	23.239	4.4551	5.216	13.847	9.3917
25	3.05	128.94	110	5.4297	0.290	23.511	4.5681	5.147	14.04	9.4716
26	3.18	129.08	110	5.341	0.285	23.72	4.6407	5.111	14.18	9.5395
27	3.30	129.22	110	5.2603	0.278	23.947	4.7294	5.063	14.338	9.6087
28	3.42	129.36	110	5.1716	0.272	24.175	4.8101	5.026	14.492	9.6823
29	3.54	129.47	110	5.0909	0.266	24.372	4.8989	4.975	14.635	9.7365
30	3.68	129.59	110	5.0021	0.260	24.575	4.9795	4.935	14.777	9.7975
31	3.82	129.77	110	4.8488	0.253	24.836	5.0683	4.900	14.952	9.884
32	3.93	129.87	110	4.7843	0.248	25.006	5.1409	4.864	15.074	9.9327
33	4.06	129.99	110	4.7117	0.243	25.213	5.2216	4.829	15.217	9.9956
34	4.19	130.05	110	4.6471	0.239	25.341	5.2861	4.794	15.313	10.027
35	4.31	130.13	110	4.5665	0.234	25.49	5.3587	4.726	15.424	10.065
36	4.44	130.2	110	4.4374	0.230	25.628	5.4233	4.674	15.526	10.102
37	4.56	130.22	110	4.389	0.222	25.727	5.504	4.647	15.615	10.111
38	4.68	130.28	110	4.3244	0.216	25.841	5.5604	4.606	15.701	10.14
39	4.80	130.32	110	4.2679	0.212	25.949	5.633	4.582	15.791	10.158
40	4.93	130.35	110	4.2115	0.208	26.031	5.6814	4.536	15.856	10.175
41	5.06	130.43	110	4.155	0.205	26.179	5.746	4.506	15.962	10.216
42	5.19	130.49	110	4.1066	0.202	26.29	5.8025	4.465	16.046	10.244
43	5.31	130.54	110	4.0582	0.199	26.402	5.8589	4.431	16.13	10.271
44	5.44	130.61	110	4.0017	0.196	26.53	5.9154	4.403	16.223	10.307
45	5.57	130.67	110	3.9533	0.193	26.631	5.9638	4.379	16.363	10.351
46	5.69	130.7	110	3.9049	0.190	26.714	6.0122	4.351	16.431	10.363
47	5.82	130.73	110	3.8484	0.185	26.794	6.0687	4.324	16.503	10.386
48	5.93	130.77	110	3.8081	0.182	26.889	6.1655	4.299	16.581	10.415
49	6.07	130.83	110	3.7677	0.180	26.996	6.2622	4.272	16.649	10.427
50	6.20	130.85	110			27.076	6.3027	4.244	16.703	10.441
51	6.31	130.88	110			27.144		4.216	16.771	10.468
52	6.43	130.94	110			27.238		4.188		

53	6.57	130.98	110	3.7193	0.177	27.326	6.3511	4.303	16.839	10.488
54	6.70	131.03	110	3.6951	0.176	27.409	6.3753	4.299	16.892	10.517
55	6.83	131.03	110	3.6467	0.173	27.452	6.4237	4.273	16.938	10.514
56	6.95	131.04	110	3.6064	0.171	27.506	6.464	4.255	16.985	10.521
57	7.08	131.08	110	3.566	0.169	27.587	6.5044	4.241	17.045	10.541
58	7.20	131.11	110	3.5257	0.167	27.652	6.5447	4.225	17.098	10.553
59	7.33	131.14	110	3.4934	0.165	27.715	6.577	4.214	17.146	10.569
60	7.45	131.16	110	3.4531	0.163	27.778	6.6173	4.198	17.199	10.581
61	7.58	131.17	110	3.4127	0.161	27.823	6.6577	4.179	17.24	10.583
62	7.71	131.18	110	3.3724	0.159	27.873	6.698	4.179	17.286	10.583
63	7.84	131.22	110	3.3401	0.157	27.946	6.7303	4.152	17.338	10.588
64	7.95	131.24	110	3.3079	0.156	28.004	6.7626	4.152	17.383	10.608
65	8.10	131.29	110	3.2675	0.154	28.088	6.8029	4.141	17.445	10.621
66	8.23	131.29	110	3.2272	0.152	28.129	6.8432	4.129	17.486	10.643
67	8.36	131.31	110	3.1949	0.150	28.182	6.8755	4.110	17.529	10.643
68	8.49	131.31	110	3.1626	0.148	28.215	6.9078	4.099	17.562	10.653
69	8.62	131.34	110	3.1304	0.147	28.276	6.9408	4.074	17.608	10.654
70	8.73	131.31	110	3.0981	0.145	28.278	6.9723	4.056	17.652	10.668
71	8.88	131.32	110	3.0578	0.143	28.333	7.0049	4.040	17.673	10.653
72	9.00	131.34	110	3.0255	0.142	28.388	7.0449	4.030	17.717	10.66
73	9.13	131.38	110	2.9932	0.140	28.459	7.0772	4.021	17.768	10.672
74	9.29	131.4	110	2.969	0.139	28.504	7.1014	4.014	17.803	10.691
75	9.39	131.46	110	2.9367	0.137	28.589	7.1337	4.008	17.861	10.701
76	9.52	131.45	110	2.9125	0.136	28.605	7.1579	3.996	17.882	10.728
77	9.65	131.47	110	2.8883	0.135	28.648	7.1821	3.989	17.915	10.724
78	9.78	131.45	110	2.848	0.133	28.672	7.2224	3.970	17.947	10.733
79	9.90	131.46	110	2.8238	0.132	28.707	7.2466	3.961	17.977	10.725
80	10.04	131.47	110	2.7996	0.130	28.739	7.2708	3.953	18.005	10.73
81	10.17	131.46	110	2.7673	0.129	28.762	7.3031	3.938	18.032	10.734
82	10.29	131.47	110	2.735	0.127	28.805	7.3354	3.920	18.07	10.729
83	10.41	131.49	110	2.7108	0.126	28.851	7.3596	3.914	18.105	10.735
84	10.54	131.52	110	2.6866	0.125	28.902	7.3838	3.914	18.143	10.746
85	10.66	131.55	110	2.6705	0.124	28.947	7.3999	3.912	18.173	10.759
86	10.78	131.58	110	2.6463	0.123	29.001	7.4241	3.906	18.212	10.773
87	10.91	131.57	110	2.614	0.121	29.025	7.4564	3.893	18.241	10.788
88	11.03	131.58	110	2.5817	0.120	29.066	7.4887	3.881	18.278	10.784
89	11.15	131.59	110	2.5414	0.118	29.112	7.5129	3.876	18.316	10.789
90	11.29	131.59	110	2.5172	0.117	29.147	7.532	3.867	18.352	10.804
91	11.42	131.59	110	2.493	0.116	29.127	7.5532	3.859	18.385	10.797
92	11.54	131.55	110	2.4607	0.114	29.141	7.5774	3.844	18.419	10.793
93	11.67	131.53	110	2.4365	0.113	29.204	7.6097	3.829	18.452	10.775
94	11.79	131.57	110	2.4123	0.112	29.237	7.6339	3.826	18.485	10.766
95	11.91	131.58	110	2.3962	0.111	29.268	7.6581	3.818	18.519	10.785
96	12.05	131.59	110	2.372	0.110	29.308	7.6742	3.814	18.548	10.79
97	12.18	131.61	110	2.3478	0.109	29.349	7.6984	3.807	18.571	10.797
98	12.31	131.63	110	2.3236	0.108	29.381	7.7226	3.800	18.593	10.805
99	12.43	131.58	110	2.2994	0.106	29.414	7.7468	3.786	18.616	10.813
100	12.56	131.61	110	2.2752	0.105	29.445	7.771	3.781	18.639	10.813
101	12.67	131.63	110	2.251	0.104	29.478	7.7952	3.775	18.661	10.804
102	12.79	131.62	110	2.2268	0.103	29.509	7.8195	3.769	18.684	10.815
103	12.92	131.65	110	2.2025	0.102	29.539	7.8437	3.760	18.707	10.823
104	13.05	131.67	110	2.1864	0.101	29.565	7.8679	3.754	18.73	10.835
105	13.16	131.68	110	2.1622	0.100	29.595	7.884	3.750	18.756	10.841
106	13.30	131.7	110	2.138	0.098	29.622	7.9082	3.745	18.779	10.852
107	13.41	131.73	110	2.1299	0.098	29.655	7.9324	3.740	18.802	10.866
108	13.54	131.75	110	2.0977	0.096	29.687	7.9405	3.739	18.824	10.873
109	13.66	131.76	110	2.0735	0.095	29.737	7.9669	3.727	18.847	10.882
110	13.80	131.8	110	2.0493	0.094	29.801	8.0212	3.716	18.869	10.902
111	13.93	131.78	110	2.0251	0.093	29.862	8.0454	3.712	18.891	10.908
112	14.05	131.82	110	2.0089	0.092	29.895	8.0615	3.708	18.914	10.917
113	14.17	131.83	110	1.9928	0.091	29.906	8.0776	3.702	18.937	10.922
114	14.31	131.83	110	1.9686	0.090	29.945	8.1018	3.696	19.023	10.914
115	14.44	131.84	110	1.9444	0.089	29.985	8.126	3.690	19.056	10.922
116	14.56	131.86	110	1.9202	0.088	30.007	8.1502	3.681	19.075	10.93
117	14.71	131.85	110	1.896	0.087	30.028	8.1744	3.671	19.091	10.925
118	14.82	131.83	110	1.8798	0.086	30.043	8.1906	3.666	19.109	10.916
119	14.95	131.84	110	1.8637	0.085	30.064	8.2067	3.661	19.125	10.919
120	15.08	131.84	110	1.8476	0.085	30.116	8.2229	3.656	19.144	10.918
121	15.20	131.87	110	1.8234	0.083	30.124	8.2471	3.652	19.181	10.921
122	15.31	131.87	110	1.7992	0.082	30.124	8.2713	3.647	19.198	10.934
123	15.45	131.85	110	1.7769	0.081	30.119	8.3035	3.627	19.211	10.927
124	15.58	131.82	110	1.7558	0.081	30.156	8.3116	3.628	19.234	10.908
125	15.71	131.84	110	1.7346	0.081	30.156	8.3116	3.628	19.234	10.922

126	15.84	131.84	1.7346	0.079	30.177	8.3358	3.620	19.257	10.921
127	15.96	131.84	1.7185	0.079	30.192	8.3519	3.615	19.272	10.92
128	16.10	131.83	1.6943	0.078	30.206	8.3761	3.606	19.291	10.915
129	16.22	131.85	1.6781	0.077	30.246	8.3923	3.604	19.319	10.927
130	16.35	131.83	1.662	0.076	30.242	8.4084	3.597	19.325	10.917
131	16.49	131.88	1.6459	0.075	30.3	8.4245	3.597	19.362	10.938
132	16.61	131.89	1.6217	0.074	30.338	8.4488	3.591	19.394	10.945
133	16.72	131.91	1.6055	0.073	30.372	8.4649	3.588	19.418	10.954
134	16.85	131.88	1.5813	0.072	30.366	8.4891	3.577	19.428	10.939
135	16.98	131.9	1.5652	0.071	30.401	8.5052	3.574	19.453	10.948
136	17.11	131.86	1.541	0.071	30.387	8.5294	3.563	19.458	10.929
137	17.24	131.88	1.5329	0.070	30.414	8.5375	3.562	19.476	10.938
138	17.38	131.87	1.5087	0.069	30.43	8.5617	3.554	19.496	10.934
139	17.51	131.89	1.4926	0.068	30.465	8.5778	3.552	19.522	10.944
140	17.62	131.88	1.4603	0.067	30.49	8.6101	3.541	19.55	10.94
141	17.75	131.9	1.4442	0.066	30.526	8.6262	3.539	19.576	10.95
142	17.89	131.91	1.428	0.065	30.548	8.6424	3.535	19.595	10.953
143	18.02	131.91	1.4119	0.064	30.568	8.6585	3.530	19.613	10.955
144	18.13	131.89	1.3958	0.064	30.565	8.6747	3.523	19.62	10.945
145	18.24	131.89	1.3877	0.063	30.574	8.6827	3.521	19.628	10.946

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1410
Sample No.: 11-1059
Test No.: 2
Soil Description: HOLE 302.1
Remarks:

Location: TX
Tested By: SKM
Test Date: 5/24/11
Sample Type: CORE

Project No.: 11-1059
Checked By: SKM
Depth: 7-9'
Elevation: N/A

Specimen Height: 3.01 in
Specimen Area: 1.52 in²
Specimen Volume: 75.17 cc
Liquid Limit: ---

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb
Plastic Limit: ---

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform
Measured Specific Gravity: 2.68

Container ID
Wt. Container + Wet Soil, gm
Wt. Container + Dry Soil, gm
Wt. Container, gm
Wt. Dry Soil, gm
Water Content, %
Void Ratio
Degree of Saturation, %
Dry Unit Weight, pcf

Before Test
Trimings

Before Test
Specimen+Ring

After Test
Specimen+Ring

After Test
Trimings

Initial
End of Initialization
End of Consolidation/A
End of Saturation
End of Consolidation/B
End of Shear
At Failure

226.43
196.36
71.18
125.18
24.02

155.25
125.18
0
125.18
24.02
0.64
100.00
101.78

150.59
125.18

125.18
20.30
0.61
89.27
103.96

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1410
 Sample No.: 11-1059
 Test No.: 2

Location: TX
 Tested By: SKM
 Test Date: 5/24/11
 Sample Type: CORE

Project No.: 11-1059
 Checked By: SKM
 Depth: 7-9'
 Elevation: N/A

Soil Description: HOLE 302.1

Remarks:

Specimen Height: 3.01 in
 Specimen Area: 1.52 in²
 Specimen Volume: 75.17 cc

Piston Area: 0.00 in²
 Piston Friction: 0.00 lb
 Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
 Membrane Correction: 1.65 lb/in
 Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.68

	Time min	Vertical Strain %	Corrected Area in ²	Deviator Load lb	Deviator Stress psi	Pore Pressure psi	Horizontal Stress psi	Vertical Stress psi
1	0	0	1.4904	0	0	100.17	120	120
2	2.0039	0.11859	1.4921	14.098	9.4427	103.1	120	129.44
3	4.0038	0.26406	1.4943	20.103	13.44	104.92	120	133.44
4	6.0038	0.3779	1.496	24.575	16.409	106.14	120	136.41
5	8.0037	0.50439	1.4979	28.212	18.81	107.02	120	138.81
6	10.004	0.62456	1.4997	31.323	20.855	107.68	120	140.86
7	12.004	0.75106	1.5016	33.954	22.575	108.15	120	142.57
8	14.004	0.8882	1.5037	36.105	23.967	108.49	120	143.97
9	16.003	1.0104	1.5056	38.008	25.197	108.74	120	145.2
10	18.003	1.1432	1.5076	39.54	26.173	108.9	120	146.17
11	20.003	1.2634	1.5094	40.825	26.986	109	120	146.99
12	22.003	1.4057	1.5116	41.955	27.688	109.06	120	147.69
13	24.003	1.5416	1.5137	42.852	28.236	109.07	120	148.24
14	26.003	1.6745	1.5158	43.487	28.61	109.06	120	148.61
15	28.003	1.8025	1.5177	44.137	28.995	109.04	120	149
16	30.003	1.9195	1.5195	44.663	29.301	109.01	120	149.3
17	32.003	2.0445	1.5215	45.127	29.563	108.98	120	149.56
18	34.004	2.1804	1.5236	45.468	29.739	108.93	120	149.74
19	36.004	2.322	1.526	45.746	29.868	108.87	120	149.87
20	38.003	2.4398	1.5276	45.978	29.982	108.81	120	149.98
21	40.003	2.5726	1.5297	46.18	30.067	108.77	120	150.07
22	42.004	2.7054	1.5318	46.412	30.171	108.72	120	150.17
23	44.004	2.835	1.5339	46.613	30.256	108.67	120	150.26
24	46.003	2.96	1.5358	46.644	30.231	108.62	120	150.23
25	48.003	3.0959	1.538	46.814	30.293	108.57	120	150.29
26	50.003	3.2319	1.5401	46.891	30.295	108.52	120	150.29
27	52.003	3.3553	1.5421	46.984	30.31	108.48	120	150.31
28	54.003	3.4912	1.5443	47.155	30.372	108.44	120	150.37
29	56.003	3.624	1.5464	47.155	30.324	108.39	120	150.32
30	58.003	3.7521	1.5485	47.216	30.317	108.35	120	150.32
31	60.003	3.866	1.5503	47.309	30.336	108.31	120	150.34
32	62.003	3.9925	1.5523	47.371	30.33	108.27	120	150.33
33	64.003	4.1205	1.5544	47.387	30.294	108.22	120	150.29
34	66.003	4.2592	1.5568	47.557	30.349	108.19	120	150.35
35	68.003	4.3957	1.5589	47.665	30.373	108.14	120	150.37
36	70.003	4.5222	1.561	47.727	30.366	108.1	120	150.37
37	72.003	4.6597	1.5632	47.851	30.395	108.06	120	150.4
38	74.003	4.7831	1.5652	47.99	30.439	108.02	120	150.44
39	76.002	4.8985	1.5671	48.006	30.407	107.98	120	150.41
40	78.002	5.0297	1.5693	48.099	30.418	107.94	120	150.42
41	80.002	5.1467	1.5712	48.207	30.444	107.9	120	150.44
42	82.002	5.2701	1.5733	48.269	30.438	107.86	120	150.44
43	84.002	5.4029	1.5755	48.408	30.478	107.82	120	150.48
44	86.002	5.5389	1.5778	48.563	30.526	107.78	120	150.53
45	88.002	5.6812	1.5801	48.625	30.513	107.75	120	150.51
46	90.002	5.8029	1.5822	48.795	30.575	107.72	120	150.58
47	92.002	5.9278	1.5843	48.919	30.607	107.69	120	150.61
48	94.002	6.0448	1.5863	49.089	30.671	107.65	120	150.67
49	96.002	6.1729	1.5884	49.197	30.692	107.61	120	150.69
50	98.002	6.3184	1.5909	49.321	30.715	107.57	120	150.72
51	100	6.4512	1.5931	49.383	30.705	107.53	120	150.7
52	102	6.5714	1.5952	49.46	30.708	107.5	120	150.71
53	104	6.7042	1.5975	49.662	30.785	107.47	120	150.78

54	106	6.8307	1.5996	49.77	30.805	107.43	120	150.8
55	108	6.9493	1.6017	49.863	30.818	107.39	120	150.82
56	110	7.0884	1.6041	50.033	30.872	107.35	120	150.87
57	112	7.1991	1.606	50.157	30.907	107.31	120	150.91
58	114	7.3256	1.6082	50.296	30.946	107.28	120	150.95
59	116	7.4537	1.6104	50.497	31.023	107.25	120	151.02
60	118	7.5896	1.6128	50.606	31.038	107.22	120	151.04
61	120	7.7193	1.615	50.606	31.026	107.18	120	150.99
62	122	7.8474	1.6173	50.745	31.026	107.14	120	151.03
63	124	7.9675	1.6194	50.822	31.028	107.11	120	151.03
64	126	8.0988	1.6217	50.884	31.016	107.07	120	151.02
65	128	8.2332	1.6241	51.116	31.108	107.04	120	151.11
66	130	8.3676	1.6265	51.178	31.108	107.04	120	151.11
67	132	8.4893	1.6286	51.271	31.094	107	120	151.09
68	134	8.619	1.6309	51.426	31.105	106.97	120	151.1
69	136	8.755	1.6334	51.612	31.15	106.94	120	151.15
70	138	8.8767	1.6356	51.612	31.211	106.91	120	151.21
71	140	8.9937	1.6377	51.735	31.164	106.87	120	151.16
72	142	9.1344	1.6397	51.735	31.195	106.84	120	151.19
73	144	9.2562	1.6402	51.859	31.216	106.8	120	151.22
74	146	9.3843	1.6424	51.921	31.206	106.76	120	151.21
75	148	9.5108	1.6447	52.06	31.241	106.73	120	151.24
76	150	9.6562	1.647	52.2	31.277	106.7	120	151.28
77	152	9.7906	1.6521	52.308	31.22	106.67	120	151.22
78	154	9.9234	1.6546	52.478	31.233	106.64	120	151.23
79	156	10.052	1.6569	52.571	31.284	106.6	120	151.28
80	158	10.178	1.6592	52.741	31.29	106.57	120	151.29
81	160	10.308	1.6616	52.803	31.343	106.53	120	151.34
82	162	10.436	1.664	52.834	31.33	106.5	120	151.33
83	164	10.572	1.6666	52.942	31.298	106.47	120	151.3
84	166	10.69	1.6688	53.082	31.31	106.43	120	151.31
85	168	10.814	1.6711	53.221	31.346	106.4	120	151.35
86	170	10.956	1.6737	53.329	31.381	106.37	120	151.38
87	172	11.081	1.6761	53.5	31.39	106.34	120	151.39
88	174	11.214	1.6786	53.639	31.442	106.31	120	151.44
89	176	11.334	1.6809	53.716	31.472	106.27	120	151.47
90	178	11.457	1.6832	53.948	31.47	106.23	120	151.47
91	180	11.593	1.6858	54.01	31.559	106.2	120	151.56
92	182	11.724	1.6883	54.088	31.542	106.17	120	151.54
93	184	11.846	1.6906	54.196	31.535	106.14	120	151.54
94	186	11.988	1.6934	54.32	31.55	106.1	120	151.55
95	188	12.115	1.6958	54.428	31.567	106.06	120	151.57
96	190	12.232	1.6981	54.552	31.58	106.02	120	151.58
97	192	12.368	1.7007	54.707	31.606	105.99	120	151.61
98	194	12.494	1.7032	54.8	31.642	105.96	120	151.64
99	196	12.61	1.7054	54.985	31.645	105.93	120	151.65
100	198	12.728	1.7077	55.186	31.708	105.9	120	151.71
101	200	12.872	1.7106	55.248	31.777	105.86	120	151.78
102	202	12.997	1.713	55.388	31.755	105.82	120	151.76
103	204	13.132	1.7157	55.48	31.786	105.8	120	151.79
104	206	13.268	1.7184	55.573	31.785	105.75	120	151.78
105	208	13.386	1.7207	55.759	31.843	105.68	120	151.84
106	210	13.505	1.7231	55.945	31.843	105.65	120	151.9
107	212	13.628	1.7255	55.898	31.902	105.61	120	151.82
108	214	13.755	1.7281	56.146	31.825	105.61	120	151.92
109	216	13.902	1.731	56.285	31.916	105.59	120	151.94
110	218	14.033	1.7337	56.44	31.936	105.56	120	151.97
111	220	14.174	1.7365	56.641	31.971	105.52	120	152.03
112	222	14.289	1.7388	56.734	32.029	105.48	120	152.03
113	224	14.425	1.7416	56.796	32.034	105.44	120	152.01
114	226	14.544	1.744	56.92	32.013	105.41	120	152.04
115	228	14.67	1.7466	57.121	32.035	105.38	120	152.1
116	230	14.779	1.7488	57.276	32.098	105.35	120	152.14
117	232	14.917	1.7517	57.353	32.141	105.31	120	152.13
118	234	15.062	1.7547	57.539	32.127	105.27	120	152.17
119	236	15.181	1.7571	57.616	32.172	105.23	120	152.22
120	238	15.314	1.7599	57.817	32.166	105.2	120	152.27
121	240	15.432	1.7623	57.988	32.225	105.17	120	152.22
122	242	15.549	1.7648	58.111	32.271	105.14	120	152.29
123	244	15.676	1.7674	58.189	32.292	105.11	120	152.28
124	246	15.813	1.7703	58.297	32.282	105.07	120	152.29
125	248	15.956	1.7733	58.405	32.285	105.04	120	152.29
126	250	16.077	1.7759	58.452	32.286	105	120	152.26

127	252	16.199	1.7785	58.529	32.252	104.93	120	152.25
128	254	16.352	1.7817	58.699	32.283	104.91	120	152.28
129	256	16.458	1.784	58.668	32.22	104.88	120	152.22
130	258	16.594	1.7869	58.854	32.266	104.85	120	152.27
131	260	16.715	1.7895	58.932	32.258	104.81	120	152.26
132	262	16.835	1.7921	58.978	32.232	104.78	120	152.23
133	264	16.979	1.7952	59.133	32.257	104.75	120	152.26
134	266	17.11	1.798	59.21	32.244	104.72	120	152.24
135	268	17.238	1.8008	59.287	32.232	104.68	120	152.23
136	270	17.382	1.8039	59.473	32.273	104.65	120	152.27
137	272	17.507	1.8067	59.52	32.245	104.62	120	152.24
138	274	17.636	1.8095	59.674	32.275	104.59	120	152.27
139	276	17.753	1.8121	59.814	32.301	104.55	120	152.3
140	278	17.891	1.8151	59.984	32.335	104.51	120	152.34
141	280	18.038	1.8184	60.154	32.365	104.47	120	152.37
142	282	18.146	1.8208	60.262	32.378	104.44	120	152.38
143	284	18.291	1.824	60.433	32.408	104.42	120	152.41
144	285.74	18.405	1.8265	60.479	32.384	104.39	120	152.38

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1410
 Sample No.: 11-1059
 Test No.: 2

Location: TX
 Tested By: SKM
 Test Date: 5/24/11
 Sample Type: CORE

Project No.: 11-1059
 Checked By: SKM
 Depth: 7-9'
 Elevation: N/A

Soil Description: HOLE 302.1

Remarks:
 Specimen Height: 3.01 in
 Specimen Area: 1.52 in²
 Specimen Volume: 75.17 cc

Piston Area: 0.00 in²
 Piston Friction: 0.00 lb
 Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
 Membrane Correction: 1.65 lb/in
 Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.68

	Vertical Strain %	Total Vertical Stress psi	Total Horizontal Stress psi	Excess Pore Pressure psi	A Parameter	Effective Vertical Stress psi	Effective Horizontal Stress psi	Stress Ratio	Effective p psi	q psi
1	0.00	120	120	0	0.000	19.832	19.832	1.000	19.832	0
2	0.12	129.44	120	2.9278	0.310	26.347	16.904	1.559	21.626	4.7213
3	0.26	133.44	120	4.7507	0.353	28.522	15.081	1.891	21.801	6.7201
4	0.38	136.41	120	5.9767	0.364	30.264	13.855	2.184	22.06	8.2045
5	0.50	138.81	120	6.8478	0.364	31.794	12.984	2.449	22.389	9.4049
6	0.62	140.86	120	7.5092	0.360	33.178	12.323	2.692	22.751	10.428
7	0.75	142.57	120	7.985	0.354	34.422	11.847	2.906	23.134	11.287
8	0.89	143.97	120	8.3238	0.347	35.476	11.508	3.083	23.492	11.984
9	1.01	145.2	120	8.5738	0.340	36.455	11.258	3.238	23.856	12.598
10	1.14	146.17	120	8.7352	0.334	37.27	11.097	3.359	24.183	13.086
11	1.26	146.99	120	8.8319	0.327	37.986	11	3.453	24.493	13.493
12	1.41	147.69	120	8.8884	0.321	38.631	10.944	3.530	24.788	13.844
13	1.54	148.24	120	8.9045	0.315	39.164	10.928	3.584	25.046	14.118
14	1.67	148.61	120	8.8965	0.311	39.546	10.936	3.616	25.241	14.305
15	1.80	149	120	8.8723	0.306	39.955	10.96	3.646	25.457	14.498
16	1.92	149.3	120	8.84	0.302	40.293	10.992	3.666	25.643	14.651
17	2.04	149.56	120	8.8077	0.298	40.587	11.024	3.682	25.806	14.782
18	2.18	149.74	120	8.7593	0.295	40.812	11.073	3.686	25.942	14.87
19	2.33	149.87	120	8.7029	0.291	40.998	11.129	3.684	26.063	14.934
20	2.44	149.98	120	8.6464	0.288	41.168	11.186	3.680	26.177	14.991
21	2.57	150.07	120	8.598	0.286	41.301	11.234	3.676	26.267	15.033
22	2.71	150.17	120	8.5496	0.283	41.453	11.282	3.674	26.368	15.086
23	2.84	150.26	120	8.5012	0.281	41.587	11.331	3.670	26.459	15.116
24	2.96	150.23	120	8.4529	0.280	41.61	11.379	3.657	26.574	15.147
25	3.10	150.29	120	8.4045	0.277	41.721	11.428	3.651	26.623	15.155
26	3.23	150.29	120	8.3561	0.276	41.771	11.476	3.640	26.68	15.147
27	3.36	150.31	120	8.3077	0.274	41.835	11.524	3.630	26.742	15.186
28	3.49	150.37	120	8.2754	0.272	41.928	11.557	3.628	26.767	15.162
29	3.62	150.32	120	8.227	0.271	41.929	11.605	3.613	26.812	15.159
30	3.75	150.32	120	8.1786	0.270	41.971	11.653	3.602	26.854	15.168
31	3.87	150.34	120	8.1464	0.269	42.022	11.686	3.596	26.899	15.165
32	3.99	150.33	120	8.098	0.267	42.064	11.734	3.585	26.929	15.147
33	4.12	150.29	120	8.0496	0.266	42.076	11.783	3.571	26.989	15.175
34	4.27	150.35	120	8.0173	0.264	42.164	11.815	3.569	27.05	15.186
35	4.40	150.37	120	7.9689	0.262	42.236	11.863	3.560	27.087	15.183
36	4.52	150.37	120	7.9286	0.261	42.27	11.904	3.551	27.142	15.198
37	4.66	150.4	120	7.8883	0.260	42.339	11.944	3.545	27.196	15.22
38	4.78	150.44	120	7.856	0.258	42.415	11.976	3.545	27.228	15.204
39	4.90	150.41	120	7.8076	0.257	42.432	12.024	3.529	27.266	15.209
40	5.03	150.42	120	7.7753	0.256	42.475	12.057	3.523	27.319	15.222
41	5.15	150.44	120	7.735	0.254	42.541	12.097	3.517	27.357	15.219
42	5.27	150.44	120	7.6947	0.253	42.576	12.137	3.508	27.417	15.239
43	5.40	150.48	120	7.6543	0.251	42.656	12.178	3.503	27.481	15.263
44	5.54	150.53	120	7.614	0.249	42.744	12.218	3.498	27.507	15.256
45	5.68	150.51	120	7.5818	0.248	42.763	12.25	3.489	27.57	15.288
46	5.80	150.58	120	7.5495	0.247	42.858	12.283	3.485	27.619	15.304
47	5.93	150.61	120	7.5172	0.246	42.922	12.315	3.484	27.683	15.336
48	6.04	150.67	120	7.485	0.244	43.018	12.347	3.478	27.733	15.346
49	6.17	150.69	120	7.4446	0.243	43.079	12.387	3.478	27.786	15.358
50	6.32	150.72	120	7.4043	0.241	43.143	12.428	3.463	27.82	15.352
51	6.45	150.7	120	7.364	0.240	43.173	12.468	3.457	27.855	15.354
52	6.57	150.71	120	7.3317	0.239	43.209	12.5			

53	6.70	150.78	7.2995	0.237	43.317	12.533	3.456	27.925	15.392
54	6.83	150.8	7.2591	0.236	43.378	12.573	3.450	27.975	15.402
55	6.95	150.82	7.2188	0.234	43.432	12.613	3.443	28.022	15.409
56	7.09	150.87	7.1865	0.233	43.518	12.646	3.441	28.082	15.436
57	7.20	150.91	7.1462	0.231	43.593	12.686	3.436	28.14	15.454
58	7.33	150.95	7.1139	0.230	43.664	12.718	3.433	28.191	15.473
59	7.45	151.02	7.0817	0.228	43.773	12.75	3.428	28.262	15.511
60	7.59	151.04	7.0494	0.227	43.821	12.783	3.417	28.302	15.519
61	7.72	150.99	7.0091	0.226	43.812	12.823	3.414	28.317	15.494
62	7.85	151.03	6.9768	0.225	43.881	12.855	3.408	28.368	15.513
63	7.97	151.03	6.9446	0.224	43.916	12.888	3.404	28.402	15.514
64	8.10	151.02	6.9042	0.223	43.944	12.928	3.399	28.436	15.508
65	8.23	151.11	6.872	0.221	44.068	12.96	3.400	28.514	15.554
66	8.37	151.09	6.8316	0.220	44.095	13	3.392	28.548	15.547
67	8.49	151.1	6.7994	0.219	44.137	13.033	3.387	28.585	15.552
68	8.62	151.15	6.7752	0.218	44.207	13.057	3.386	28.632	15.575
69	8.75	151.21	6.7429	0.216	44.3	13.089	3.385	28.695	15.606
70	8.88	151.16	6.7026	0.215	44.294	13.129	3.374	28.712	15.582
71	8.99	151.19	6.6703	0.214	44.356	13.162	3.370	28.759	15.597
72	9.13	151.22	6.63	0.212	44.418	13.202	3.364	28.81	15.608
73	9.26	151.21	6.5897	0.211	44.448	13.242	3.357	28.845	15.603
74	9.38	151.24	6.5655	0.210	44.508	13.267	3.355	28.887	15.621
75	9.51	151.28	6.5332	0.209	44.575	13.299	3.352	28.937	15.638
76	9.66	151.22	6.501	0.208	44.551	13.331	3.342	28.941	15.61
77	9.79	151.23	6.4687	0.207	44.597	13.363	3.337	28.98	15.617
78	9.92	151.28	6.4364	0.206	44.68	13.396	3.335	29.038	15.642
79	10.05	151.29	6.4042	0.205	44.718	13.428	3.330	29.073	15.645
80	10.18	151.34	6.3638	0.203	44.812	13.468	3.327	29.14	15.672
81	10.31	151.33	6.3316	0.202	44.83	13.501	3.321	29.165	15.665
82	10.44	151.3	6.2993	0.201	44.831	13.533	3.313	29.182	15.649
83	10.57	151.31	6.267	0.200	44.845	13.565	3.308	29.22	15.655
84	10.69	151.35	6.2348	0.199	44.944	13.597	3.305	29.27	15.673
85	10.81	151.38	6.2025	0.198	45.011	13.63	3.302	29.32	15.691
86	10.96	151.39	6.1703	0.195	45.051	13.662	3.298	29.357	15.695
87	11.08	151.44	6.138	0.194	45.136	13.694	3.296	29.415	15.721
88	11.21	151.47	6.0977	0.192	45.206	13.734	3.291	29.47	15.736
89	11.33	151.47	6.0573	0.192	45.245	13.775	3.285	29.51	15.735
90	11.46	151.56	6.0331	0.191	45.358	13.799	3.287	29.579	15.778
91	11.59	151.54	6.0009	0.190	45.373	13.831	3.280	29.602	15.771
92	11.72	151.54	5.9686	0.189	45.398	13.863	3.275	29.631	15.768
93	11.85	151.55	5.9364	0.188	45.446	13.896	3.271	29.671	15.775
94	11.99	151.57	5.896	0.187	45.503	13.936	3.265	29.719	15.783
95	12.11	151.58	5.8557	0.185	45.556	13.976	3.259	29.766	15.79
96	12.23	151.61	5.8234	0.184	45.614	14.009	3.256	29.811	15.803
97	12.37	151.64	5.7912	0.183	45.683	14.041	3.254	29.862	15.821
98	12.49	151.65	5.7589	0.182	45.718	14.073	3.249	29.896	15.823
99	12.61	151.71	5.7347	0.181	45.805	14.097	3.249	29.951	15.854
100	12.73	151.78	5.6944	0.179	45.915	14.138	3.248	30.026	15.889
101	12.87	151.76	5.6541	0.178	45.933	14.178	3.240	30.056	15.878
102	13.00	151.79	5.6299	0.177	45.988	14.202	3.238	30.095	15.893
103	13.13	151.78	5.5815	0.176	46.036	14.251	3.230	30.143	15.892
104	13.27	151.78	5.5492	0.175	46.066	14.283	3.225	30.175	15.892
105	13.39	151.84	5.5169	0.173	46.158	14.315	3.224	30.237	15.921
106	13.50	151.9	5.4847	0.172	46.25	14.347	3.224	30.298	15.951
107	13.63	151.82	5.4443	0.171	46.212	14.388	3.212	30.3	15.912
108	13.75	151.94	5.4201	0.170	46.328	14.412	3.215	30.37	15.912
109	13.90	151.94	5.3879	0.169	46.38	14.444	3.211	30.412	15.958
110	14.03	151.97	5.3476	0.167	46.456	14.485	3.207	30.47	15.986
111	14.17	152.03	5.3072	0.166	46.554	14.525	3.205	30.539	16.014
112	14.29	152.03	5.275	0.165	46.591	14.557	3.201	30.574	16.017
113	14.43	152.01	5.2427	0.164	46.603	14.589	3.194	30.596	16.007
114	14.54	152.04	5.2104	0.163	46.657	14.622	3.190	30.639	16.018
115	14.67	152.1	5.1782	0.161	46.751	14.654	3.190	30.703	16.049
116	14.78	152.14	5.1459	0.160	46.827	14.686	3.188	30.756	16.07
117	14.92	152.13	5.1056	0.159	46.854	14.726	3.182	30.79	16.064
118	15.06	152.17	5.0653	0.157	46.939	14.767	3.179	30.853	16.086
119	15.18	152.17	5.033	0.156	46.965	14.799	3.174	30.882	16.083
120	15.31	152.22	5.0007	0.155	47.056	14.831	3.173	30.944	16.112
121	15.43	152.27	4.9685	0.154	47.135	14.864	3.171	30.999	16.136
122	15.55	152.28	4.9443	0.153	47.18	14.888	3.169	31.034	16.146
123	15.68	152.29	4.9039	0.152	47.211	14.928	3.168	31.069	16.141
124	15.81	152.29	4.8717	0.151	47.246	14.96	3.158	31.103	16.143
125	15.96	152.29	4.8314	0.150	47.287	15.001	3.152	31.144	16.143

126	16.08	152.26	120	4.7991	0.149	47.293	15.033	3.146	31.163	16.13
127	16.20	152.25	120	4.7668	0.138	47.317	15.065	3.141	31.191	16.126
128	16.35	152.28	120	4.7426	0.147	47.372	15.089	3.139	31.231	16.141
129	16.46	152.22	120	4.7104	0.146	47.342	15.122	3.131	31.232	16.11
130	16.59	152.27	120	4.6781	0.145	47.42	15.154	3.129	31.287	16.133
131	16.71	152.26	120	4.6458	0.144	47.444	15.186	3.124	31.315	16.129
132	16.83	152.23	120	4.6136	0.143	47.451	15.219	3.118	31.335	16.116
133	16.98	152.26	120	4.5813	0.142	47.508	15.251	3.115	31.379	16.129
134	17.11	152.24	120	4.5491	0.141	47.527	15.283	3.110	31.405	16.122
135	17.24	152.23	120	4.5087	0.140	47.555	15.323	3.103	31.439	16.116
136	17.38	152.27	120	4.4845	0.139	47.621	15.348	3.103	31.484	16.136
137	17.51	152.24	120	4.4523	0.138	47.625	15.38	3.097	31.502	16.122
138	17.64	152.27	120	4.42	0.137	47.687	15.412	3.094	31.549	16.137
139	17.75	152.3	120	4.3797	0.136	47.753	15.452	3.090	31.603	16.15
140	17.89	152.34	120	4.3393	0.134	47.828	15.493	3.087	31.66	16.168
141	18.04	152.37	120	4.3071	0.133	47.89	15.525	3.085	31.708	16.183
142	18.15	152.38	120	4.2748	0.132	47.935	15.557	3.081	31.746	16.189
143	18.29	152.41	120	4.2506	0.131	47.989	15.581	3.080	31.785	16.204
144	18.40	152.38	120	4.2184	0.130	47.997	15.614	3.074	31.806	16.192

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1410
 Sample No.: 11-1059
 Test No.: 3

Location: TX
 Tested By: SKM
 Test Date: 5/24/11
 Sample Type: CORE

Project No.: 11-1059
 Checked By: SKM
 Depth: 7-9'
 Elevation: N/A

Soil Description: HOLE 302.1
 Remarks:

Specimen Height: 3.00 in
 Specimen Area: 1.54 in²
 Specimen Volume: 75.65 cc

Piston Area: 0.00 in²
 Piston Friction: 0.00 lb
 Piston Weight: 0.00 lb

Filter strip Correction: 0.00 psi
 Membrane Correction: 1.65 lb/in
 Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.68

Container ID

Wt. Container + Wet Soil, gm
 Wt. Container + Dry Soil, gm
 Wt. Container, gm
 Wt. Dry Soil, gm
 Water Content, %
 Void Ratio
 Degree of Saturation, %
 Dry Unit weight, pcf

Before Test
 Trimmings

146.79
 121.53
 0
 121.53
 20.78

Before Test
 Specimen+Ring

146.79
 121.53

 121.53
 20.78
 0.67
 83.37
 100.3

After Test
 Trimmings

223
 192.94
 71.41
 121.53
 24.73

After Test
 Specimen+Ring

151.59
 121.53
 0
 121.53
 24.73
 0.66
 100.00
 100.61

Initial

End of Initialization

End of Consolidation/A

End of Saturation

End of Consolidation/B

End of Shear

At Failure

TRIAxIAL TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1410
Sample No.: 11-1059
Test No.: 3

Location: TX
Tested By: SKM
Test Date: 5/24/11
Sample Type: CORE

Project No.: 11-1059
Checked By: SKM
Depth: 7-9;
Elevation: N/A

Soil Description: HOLE 302.1
Remarks:

Specimen Height: 3.00 in
Specimen Area: 1.54 in²
Specimen Volume: 75.65 cc

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston weight: 0.00 lb

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

Measured Specific Gravity: 2.68

	Time min	Vertical Strain %	Corrected Area in ²	Deviator Load lb	Deviator Stress psi	Pore Pressure psi	Horizontal Stress psi	Vertical Stress psi
1	0	0	1.4612	0	0	100.03	130	130
2	2.0039	0.12844	1.4631	1.9363	1.3171	100.06	130	131.32
3	4.0039	0.25363	1.4649	10.499	7.1546	101.65	130	137.15
4	6.0038	0.39182	1.4669	21.065	14.341	104.34	130	144.34
5	8.0037	0.53652	1.4691	27.074	18.403	106.38	130	148.4
6	10.004	0.68447	1.4713	31.748	21.545	107.99	130	151.55
7	12.004	0.81454	1.4732	35.287	23.913	109.3	130	153.91
8	14.004	0.94623	1.4751	38.325	25.934	110.41	130	155.93
9	16.003	1.0812	1.4772	40.845	27.598	111.34	130	157.6
10	18.003	1.2047	1.479	43.065	29.059	112.17	130	159.06
11	20.003	1.325	1.4808	45.001	30.325	112.9	130	160.32
12	22.003	1.4649	1.4829	46.57	31.333	113.54	130	161.33
13	24.003	1.5998	1.4849	47.872	32.16	114.08	130	162.16
14	26.003	1.7331	1.487	48.974	32.851	114.54	130	162.85
15	28.003	1.8811	1.4892	49.892	33.411	114.93	130	163.41
16	30.003	1.9981	1.491	50.66	33.881	115.27	130	163.88
17	32.003	2.1347	1.4931	51.227	34.207	115.57	130	164.21
18	34.003	2.268	1.4951	51.828	34.556	115.82	130	164.56
19	36.003	2.4192	1.4974	52.179	34.729	116.04	130	164.73
20	38.003	2.5298	1.4991	52.529	34.918	116.24	130	164.92
21	40.003	2.6582	1.5011	52.846	35.077	116.41	130	165.08
22	42.003	2.8062	1.5034	53.18	35.239	116.56	130	165.24
23	44.003	2.92	1.5051	53.331	35.292	116.68	130	165.29
24	46.003	3.0582	1.5073	53.631	35.434	116.81	130	165.43
25	48.003	3.1948	1.5094	53.815	35.499	116.91	130	165.5
26	50.003	3.3183	1.5113	53.931	35.525	116.99	130	165.53
27	52.003	3.4289	1.5131	54.032	35.546	117.07	130	165.55
28	54.003	3.5671	1.5152	54.232	35.62	117.14	130	165.62
29	56.003	3.7101	1.5175	54.365	35.649	117.2	130	165.65
30	58.003	3.837	1.5195	54.516	35.695	117.26	130	165.65
31	60.003	3.9865	1.5219	54.633	35.709	117.31	130	165.69
32	62.003	4.102	1.5237	54.733	35.726	117.35	130	165.71
33	64.003	4.2385	1.5259	54.783	35.702	117.38	130	165.73
34	66.003	4.3686	1.5279	54.983	35.778	117.41	130	165.7
35	68.003	4.4954	1.53	55.117	35.812	117.44	130	165.78
36	70.002	4.6239	1.532	55.2	35.812	117.46	130	165.81
37	72.002	4.7507	1.5341	55.267	35.802	117.48	130	165.8
38	74.002	4.8856	1.5362	55.317	35.777	117.48	130	165.78
39	76.002	5.0108	1.5383	55.355	35.746	117.49	130	165.75
40	78.002	5.1522	1.5406	55.567	35.827	117.52	130	165.83
41	80.002	5.2709	1.5425	55.634	35.82	117.52	130	165.82
42	82.002	5.4075	1.5447	55.717	35.816	117.52	130	165.79
43	84.002	5.5538	1.5471	55.768	35.786	117.52	130	165.78
44	86.002	5.6644	1.5489	55.834	35.782	117.52	130	165.75
45	88.002	5.8075	1.5513	55.884	35.753	117.52	130	165.83
46	90.002	5.931	1.5533	56.085	35.83	117.52	130	165.76
47	92.002	6.0676	1.5556	56.068	35.761	117.52	130	165.8
48	94.002	6.1863	1.5575	56.202	35.796	117.52	130	165.75
49	96.002	6.3391	1.5601	56.235	35.752	117.5	130	165.81
50	98.002	6.4578	1.5621	56.402	35.808	117.5	130	165.79
51	100	6.5992	1.5644	56.469	35.79	117.49	130	165.81
52	102	6.7423	1.5668	56.602	35.813	117.48	130	165.81
53	104	6.8691	1.569	56.569	35.738	117.47	130	165.74

TRIAXIAL TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1410
Sample No.: 11-1059
Test No.: 3

Location: TX
Tested By: SKM
Test Date: 5/24/11
Sample Type: CORE

Project No.: 11-1059
Checked By: SKM
Depth: 7-9'
Elevation: N/A

Soil Description: HOLE 302.1

Remarks:

Specimen Height: 3.00 in
Specimen Area: 1.54 in²
Specimen Volume: 75.65 cc

Piston Area: 0.00 in²
Piston Friction: 0.00 lb
Piston Weight: 0.00 lb

Filter Strip Correction: 0.00 psi
Membrane Correction: 1.65 lb/in
Correction Type: Uniform

Liquid Limit: ---

Plastic Limit: ---

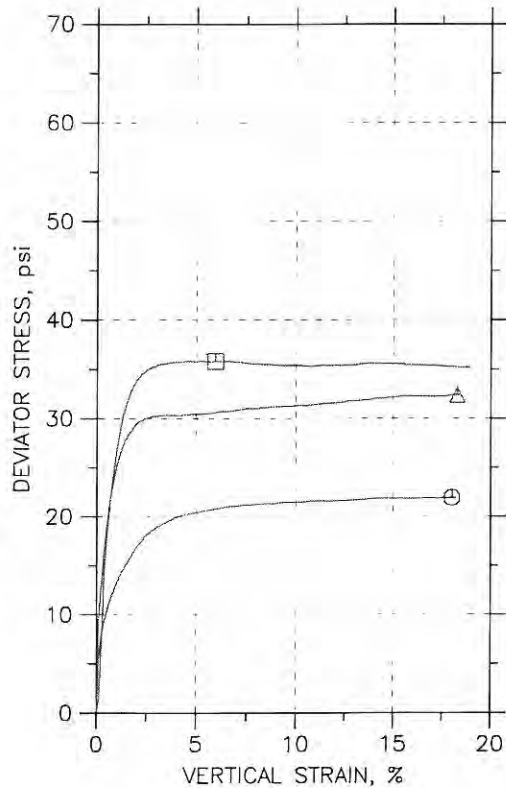
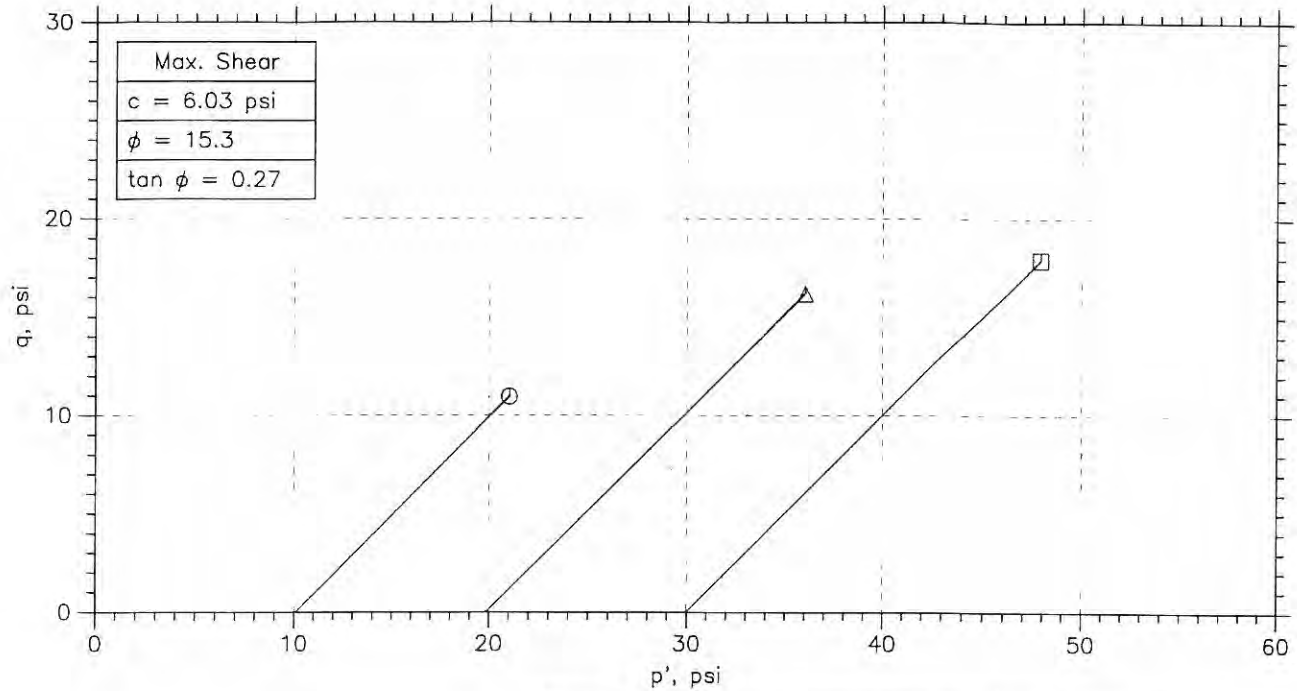
Measured Specific Gravity: 2.68

	Vertical Strain %	Total Vertical Stress psi	Total Horizontal Stress psi	Excess Pore Pressure psi	A Parameter	Effective Vertical Stress psi	Effective Horizontal Stress psi	Stress Ratio	Effective p psi	q psi
1	0.00	130	130	0	0.000	29.965	29.965	1.000	29.965	0
2	0.13	131.32	130	0.02428	0.018	31.258	29.941	1.044	30.6	0.65853
3	0.25	137.15	130	1.6187	0.226	35.501	28.347	1.252	31.924	3.5773
4	0.39	144.34	130	4.3462	0.303	39.96	25.619	1.560	32.79	7.1703
5	0.54	148.4	130	6.3452	0.345	42.023	23.62	1.779	32.822	9.2015
6	0.68	151.55	130	7.9558	0.369	43.555	22.01	1.979	32.782	10.773
7	0.81	153.91	130	9.267	0.388	44.611	20.698	2.155	32.655	11.956
8	0.95	155.93	130	10.376	0.400	45.523	19.59	2.324	32.557	12.967
9	1.08	157.6	130	11.306	0.410	46.257	18.659	2.479	32.458	13.799
10	1.20	159.06	130	12.132	0.418	46.892	17.833	2.629	32.363	14.529
11	1.33	160.32	130	12.869	0.424	47.422	17.097	2.774	32.259	15.162
12	1.46	161.33	130	13.508	0.431	47.791	16.458	3.020	32.124	15.667
13	1.60	162.16	130	14.042	0.437	48.084	15.923	3.125	32.004	16.08
14	1.73	162.85	130	14.503	0.441	48.313	15.462	3.218	31.888	16.426
15	1.88	163.41	130	14.9	0.446	48.477	15.065	3.301	31.771	16.706
16	2.00	163.88	130	15.24	0.450	48.606	14.726	3.370	31.666	16.94
17	2.13	164.21	130	15.531	0.454	48.641	14.434	3.438	31.538	17.103
18	2.27	164.56	130	15.79	0.457	48.731	14.175	3.488	31.453	17.278
19	2.42	164.73	130	16.009	0.461	48.686	13.957	3.537	31.321	17.364
20	2.53	164.92	130	16.203	0.464	48.68	13.762	3.581	31.221	17.459
21	2.66	165.08	130	16.373	0.467	48.67	13.592	3.622	31.131	17.539
22	2.81	165.24	130	16.527	0.469	48.677	13.439	3.650	31.058	17.619
23	2.92	165.29	130	16.648	0.472	48.609	13.317	3.687	30.963	17.646
24	3.06	165.43	130	16.778	0.473	48.622	13.188	3.712	30.905	17.717
25	3.19	165.5	130	16.875	0.475	48.59	13.091	3.731	30.84	17.75
26	3.32	165.53	130	16.956	0.477	48.535	13.01	3.749	30.772	17.763
27	3.43	165.55	130	17.037	0.479	48.475	12.929	3.771	30.702	17.773
28	3.57	165.62	130	17.109	0.480	48.476	12.856	3.785	30.666	17.81
29	3.71	165.65	130	17.166	0.482	48.448	12.799	3.801	30.624	17.824
30	3.84	165.69	130	17.223	0.483	48.437	12.743	3.813	30.59	17.847
31	3.99	165.71	130	17.271	0.484	48.403	12.694	3.829	30.548	17.854
32	4.10	165.73	130	17.312	0.485	48.38	12.654	3.842	30.517	17.863
33	4.24	165.7	130	17.344	0.486	48.323	12.621	3.856	30.472	17.851
34	4.37	165.78	130	17.377	0.486	48.367	12.589	3.867	30.478	17.889
35	4.50	165.81	130	17.409	0.486	48.368	12.556	3.859	30.462	17.906
36	4.62	165.81	130	17.425	0.487	48.352	12.54	3.859	30.446	17.906
37	4.75	165.8	130	17.441	0.487	48.326	12.524	3.859	30.425	17.901
38	4.89	165.78	130	17.449	0.488	48.293	12.516	3.858	30.405	17.889
39	5.01	165.75	130	17.457	0.488	48.254	12.508	3.870	30.381	17.873
40	5.15	165.83	130	17.482	0.488	48.311	12.484	3.869	30.397	17.914
41	5.27	165.82	130	17.482	0.488	48.302	12.484	3.871	30.394	17.91
42	5.41	165.82	130	17.49	0.488	48.292	12.476	3.867	30.384	17.908
43	5.55	165.79	130	17.482	0.489	48.27	12.484	3.867	30.377	17.893
44	5.66	165.78	130	17.49	0.489	48.258	12.476	3.866	30.352	17.877
45	5.81	165.75	130	17.49	0.489	48.229	12.476	3.866	30.352	17.891
46	5.93	165.83	130	17.49	0.488	48.305	12.476	3.872	30.339	17.915
47	6.07	165.76	130	17.482	0.488	48.244	12.484	3.867	30.364	17.88
48	6.19	165.8	130	17.482	0.489	48.251	12.5	3.860	30.381	17.898
49	6.34	165.75	130	17.466	0.489	48.251	12.5	3.861	30.376	17.876
50	6.46	165.81	130	17.466	0.488	48.307	12.5	3.861	30.404	17.904
51	6.60	165.79	130	17.457	0.488	48.298	12.508	3.861	30.403	17.895
52	6.74	165.81	130	17.449	0.487	48.329	12.516	3.861	30.423	17.907

53	6.87	165.74	130	17.433	0.488	48.227	12.532	3.852	30.401	17.869
54	7.01	165.72	130	17.425	0.488	48.226	12.54	3.848	30.4	17.86
55	7.15	165.73	130	17.409	0.487	48.29	12.556	3.846	30.423	17.867
56	7.28	165.71	130	17.393	0.487	48.281	12.573	3.840	30.427	17.854
57	7.40	165.65	130	17.377	0.487	48.237	12.589	3.832	30.413	17.824
58	7.55	165.61	130	17.368	0.488	48.209	12.597	3.827	30.403	17.806
59	7.69	165.59	130	17.352	0.488	48.199	12.613	3.821	30.406	17.793
60	7.81	165.53	130	17.336	0.488	48.162	12.629	3.814	30.396	17.766
61	7.94	165.55	130	17.32	0.487	48.196	12.646	3.811	30.421	17.775
62	8.10	165.55	130	17.304	0.487	48.208	12.662	3.807	30.435	17.773
63	8.22	165.52	130	17.288	0.487	48.193	12.678	3.801	30.436	17.758
64	8.35	165.49	130	17.263	0.486	48.193	12.702	3.794	30.447	17.745
65	8.49	165.48	130	17.247	0.486	48.2	12.718	3.790	30.459	17.741
66	8.62	165.52	130	17.231	0.485	48.255	12.735	3.789	30.495	17.76
67	8.75	165.48	130	17.207	0.485	48.241	12.759	3.781	30.5	17.741
68	8.90	165.45	130	17.19	0.485	48.225	12.775	3.775	30.5	17.725
69	9.04	165.41	130	17.174	0.485	48.201	12.791	3.768	30.496	17.705
70	9.16	165.37	130	17.15	0.485	48.185	12.815	3.760	30.5	17.685
71	9.30	165.39	130	17.126	0.484	48.228	12.84	3.756	30.534	17.694
72	9.43	165.39	130	17.109	0.484	48.241	12.856	3.752	30.549	17.693
73	9.56	165.38	130	17.077	0.483	48.267	12.888	3.745	30.577	17.689
74	9.70	165.37	130	17.061	0.482	48.273	12.905	3.741	30.589	17.684
75	9.84	165.37	130	17.045	0.482	48.293	12.921	3.738	30.607	17.686
76	9.96	165.37	130	17.029	0.481	48.306	12.937	3.734	30.622	17.685
77	10.09	165.37	130	17.004	0.481	48.327	12.961	3.729	30.644	17.683
78	10.23	165.36	130	16.98	0.480	48.35	12.985	3.723	30.667	17.682
79	10.37	165.33	130	16.948	0.480	48.353	13.018	3.714	30.685	17.667
80	10.49	165.31	130	16.923	0.479	48.352	13.042	3.707	30.697	17.655
81	10.63	165.33	130	16.907	0.479	48.39	13.058	3.706	30.724	17.666
82	10.77	165.29	130	16.883	0.478	48.375	13.083	3.698	30.729	17.646
83	10.88	165.32	130	16.859	0.477	48.43	13.107	3.695	30.768	17.661
84	11.02	165.34	130	16.842	0.477	48.458	13.123	3.693	30.791	17.668
85	11.15	165.36	130	16.818	0.476	48.506	13.147	3.689	30.826	17.679
86	11.28	165.4	130	16.802	0.475	48.563	13.168	3.689	30.863	17.7
87	11.41	165.4	130	16.778	0.474	48.592	13.188	3.685	30.89	17.702
88	11.55	165.36	130	16.745	0.474	48.582	13.22	3.675	30.901	17.681
89	11.69	165.38	130	16.721	0.474	48.626	13.244	3.671	30.935	17.691
90	11.81	165.37	130	16.705	0.472	48.63	13.261	3.667	30.945	17.685
91	11.95	165.37	130	16.681	0.472	48.651	13.285	3.662	30.968	17.683
92	12.09	165.41	130	16.656	0.470	48.722	13.309	3.661	31.016	17.707
93	12.23	165.37	130	16.632	0.470	48.707	13.333	3.653	31.02	17.687
94	12.35	165.36	130	16.608	0.470	48.715	13.358	3.647	31.036	17.679
95	12.49	165.41	130	16.575	0.468	48.796	13.39	3.644	31.093	17.703
96	12.63	165.41	130	16.559	0.468	48.82	13.406	3.642	31.113	17.707
97	12.76	165.41	130	16.535	0.467	48.845	13.431	3.637	31.138	17.707
98	12.89	165.42	130	16.502	0.466	48.887	13.463	3.631	31.175	17.712
99	13.01	165.46	130	16.478	0.465	48.948	13.487	3.629	31.217	17.73
100	13.16	165.45	130	16.454	0.464	48.963	13.512	3.624	31.237	17.726
101	13.28	165.5	130	16.422	0.463	49.041	13.544	3.621	31.293	17.749
102	13.41	165.55	130	16.397	0.461	49.118	13.568	3.620	31.343	17.775
103	13.54	165.58	130	16.365	0.460	49.179	13.601	3.616	31.39	17.789
104	13.68	165.58	130	16.341	0.459	49.209	13.625	3.612	31.417	17.792
105	13.83	165.6	130	16.324	0.459	49.244	13.641	3.610	31.443	17.802
106	14.08	165.6	130	16.292	0.458	49.277	13.673	3.604	31.475	17.802
107	14.22	165.59	130	16.268	0.457	49.285	13.698	3.598	31.491	17.794
108	14.37	165.59	130	16.243	0.456	49.312	13.722	3.594	31.517	17.795
109	14.49	165.58	130	16.211	0.456	49.339	13.754	3.587	31.547	17.792
110	14.62	165.55	130	16.171	0.455	49.341	13.795	3.577	31.568	17.773
111	14.75	165.57	130	16.146	0.454	49.384	13.819	3.574	31.602	17.783
112	14.89	165.57	130	16.114	0.453	49.417	13.851	3.568	31.634	17.778
113	15.02	165.56	130	16.098	0.453	49.424	13.882	3.564	31.646	17.778
114	15.16	165.56	130	16.074	0.452	49.451	13.916	3.560	31.671	17.779
115	15.28	165.57	130	16.049	0.451	49.488	13.949	3.556	31.702	17.786
116	15.42	165.54	130	16.017	0.451	49.484	13.981	3.548	31.716	17.788
117	15.55	165.5	130	15.984	0.450	49.517	14.013	3.542	31.749	17.768
118	15.67	165.46	130	15.952	0.449	49.511	14.046	3.533	31.762	17.749
119	15.81	165.45	130	15.92	0.449	49.504	14.07	3.524	31.775	17.729
120	15.95	165.48	130	15.895	0.448	49.524	14.094	3.520	31.797	17.727
121	16.09	165.41	130	15.871	0.447	49.571	14.119	3.517	31.832	17.738
122	16.20	165.45	130	15.847	0.448	49.529	14.151	3.508	31.824	17.705
123	16.33	165.44	130	15.815	0.446	49.605	14.183	3.505	31.878	17.727
124	16.48	165.44	130	15.782	0.445	49.626	14.208	3.499	31.905	17.721
125	16.61	165.4	130	15.758	0.445	49.61		3.492	31.909	17.701

126	16.60	130	15.734	0.444	49.655	14.232	3.489	31.943	17.711
127	16.72	130	15.701	0.443	49.686	14.264	3.483	31.975	17.711
128	16.85	130	15.677	0.443	49.67	14.288	3.476	31.979	17.691
129	17.01	130	15.645	0.442	49.72	14.321	3.472	32.02	17.699
130	17.14	130	15.62	0.441	49.731	14.345	3.467	32.038	17.693
131	17.27	130	15.588	0.441	49.743	14.378	3.460	32.06	17.683
132	17.39	130	15.556	0.440	49.764	14.41	3.453	32.087	17.677
133	17.53	130	15.531	0.439	49.79	14.434	3.449	32.112	17.678
134	17.65	130	15.491	0.439	49.754	14.475	3.437	32.114	17.64
135	17.81	130	15.467	0.438	49.788	14.499	3.434	32.144	17.645
136	17.94	130	15.442	0.437	49.816	14.523	3.430	32.17	17.647
137	18.07	130	15.418	0.437	49.836	14.547	3.426	32.192	17.644
138	18.20	130	15.386	0.437	49.817	14.58	3.417	32.198	17.618
139	18.33	130	15.353	0.436	49.834	14.612	3.410	32.223	17.611
140	18.47	130	15.313	0.435	49.845	14.653	3.402	32.249	17.596
141	18.61	130	15.28	0.434	49.879	14.685	3.397	32.282	17.597
142	18.75	130	15.264	0.434	49.91	14.701	3.395	32.305	17.604
143	18.88	130	15.232	0.433	49.921	14.734	3.388	32.327	17.594
144	18.93	130	15.224	0.433	49.92	14.742	3.386	32.331	17.589

CONSOLIDATED UNDRAINED TRIAXIAL TEST



Symbol	⊙	△	□	
Sample No.	11-1059	11-1059	11-1059	
Test No.	1	2	3	
Depth	7-9'	7-9'	7-9'	
Initial	Diameter, in	1.398	1.393	1.399
	Height, in	3.015	3.01	3.003
	Water Content, %	21.1	20.3	20.8
	Dry Density, pcf	99.04	104.	100.3
	Saturation, %	82.0	89.3	83.4
	Void Ratio	0.689	0.609	0.668
Before Shear	Water Content, %	26.2	24.0	24.7
	Dry Density, pcf	98.26	101.8	100.6
	Saturation*, %	100.0	100.0	100.0
	Void Ratio	0.703	0.644	0.663
	Back Press., psi	99.93	100.2	100
Ver. Eff. Cons. Stress, psi		10.07	19.83	29.97
Shear Strength, psi		10.95	16.2	17.91
Strain at Failure, %		18	18.3	5.93
Strain Rate, %/min		0.06	0.06	0.06
B-Value		0.00	0.00	0.00
Measured Specific Gravity		2.68	2.68	2.68
Liquid Limit		---	---	---
Plastic Limit		---	---	---



Project: PLUM CREEK SITE 6

Location: TX

Project No.: 11-1059

Boring No.: F10-1410

Sample Type: CORE

Description: HOLE 302.1

Remarks:

BASE

SHEAR TEST DATA

<input type="checkbox"/> UU <input type="checkbox"/> qu <input checked="" type="checkbox"/> CUBAR <input type="checkbox"/> VS <input checked="" type="checkbox"/> BP	CELL NO. <u>D</u> BURETTE NO. <u>4</u> MACHINE NO. <u>4</u> COMPACTED _____ UNDISTURBED <input checked="" type="checkbox"/>	LOAD CH. _____ STRAIN CH. _____ P.P. CH. _____ Gs <u>2.68</u>	1 of 2 TOP LAB. NO. <u>11-1059</u> <u>11-1059-10</u> TEST DATE <u>5/25/11</u>
Cell <u>110</u> PSI Base <u>100</u> PSI Test <u>10</u> PSI B <u>0.97</u> RATE OF STRAIN <u>0.6</u> in./min.			

SPECIMEN DATA TECHNICIAN <u>SKM</u>	MOISTURE DATA TECHNICIAN <u>SKM</u>
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DIAMETER		INITIAL	IN MACHINE			INITIAL	FINAL
TOP	IN.		1.398	WET WT. SPEC. + CAN	(GM.)		223.00
MIDDLE	IN.		1.397	DRY WT. SPEC. + CAN	(GM.)		191.45
BOTTOM	IN.		1.399	WT. MOISTURE	(GM.)		
MEAN DIAMETER	IN.		1.398	WT. CAN	(GM.)		71.13
HEIGHT	IN.		3.015	WT DRY SOIL	(GM.)		
MOIST WT.	GM.		145.70	PERCENT MOISTURE		21.09	26.22
END AREA	IN. ²		1.535	DRY UNIT WEIGHT	(GM/CC)		
VOLUME	IN. ³		4.628	PERCENT POROSITY			
MOIST UNIT WT.	PCF		119.93	THEORETICAL SAT. %			
CONSOLIDATION DATA TECHNICIAN <u>SKM</u>				PERCENT SAT. @ START			

EXTENSOMETER READINGS		DATE: <u>5/24/11</u>
INITIAL READING	<u>0.000</u> IN.	TIME: <u>2:05</u>
FINAL READING	<u>0.134</u> IN.	TIME: <u>7:15</u>
HT. DEFORMATION		IN.
INITIAL BURETTE READING	<u>9.00</u>	CM
FINAL BURETTE READING	<u>8.02</u>	CM
VOL. CHANGE	<u>0.980</u> CC x 0.061	IN. ³
CONS. VOLUME OF SPECIMEN	<u>4.568</u>	IN. ³
CONS. HEIGHT OF SPECIMEN	<u>2.976</u>	IN.
AVG. AREA OF CONS. SPECIMEN		IN. ²
CONSOLIDATED MOIST UNIT WT.		PCF

FAILURE SKETCH 120.32


 INITIAL DRY DENSITY = 99.04
 FINAL DRY DENSITY = 100.34

REMARKS:

110.1 100.4 --- 9.7	1399 97 1403 1390 1400 1398	30/0 16 20
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Checked by: SKM Date: 5/26/11

BASE

SHEAR TEST DATA

<input type="checkbox"/>	CELL NO.	<u>E</u>	LOAD CH.	<u>10F2 Bottom</u>	
<input type="checkbox"/>	UU	BURETTE NO. <u>5</u>	STRAIN CH.		
<input type="checkbox"/>	qu	MACHINE NO. <u>5</u>	P.P. CH.	LAB. NO. <u>11-1059</u>	
<input checked="" type="checkbox"/>	CUBAR			<u>11-1059-20</u>	
<input type="checkbox"/>	VS	COMPACTED <u> </u>		TEST DATE <u>5/25/11</u>	
<input checked="" type="checkbox"/>	BP	UNDISTURBED <u>✓</u>	Gs <u>2.68</u>		
Cell <u>120</u> PSI Base <u>100</u> PSI Test <u>20</u> PSI B <u>0.98</u> RATE OF STRAIN <u>0.06</u> in./%/min.					

SPECIMEN DATA	MOISTURE DATA
TECHNICIAN <u>SKM</u>	TECHNICIAN <u>SKM</u>

DIAMETER	INITIAL	IN MACHINE	INITIAL	FINAL
TOP IN.		<u>1.393</u>	WET WT. SPEC. + CAN (GM.)	<u>226.43</u>
MIDDLE IN.		<u>1.393</u>	DRY WT. SPEC. + CAN (GM.)	<u>196.36</u>
BOTTOM IN.		<u>1.393</u>	WT. MOISTURE (GM.)	
MEAN DIAMETER IN.		<u>1.393</u>	WT. CAN (GM.)	<u>71.18</u>
HEIGHT IN.		<u>3.010</u>	WT DRY SOIL (GM.)	
MOIST WT. GM.		<u>150.54</u>	PERCENT MOISTURE	<u>20.30</u> <u>24.02</u>
END AREA IN. ²		<u>1.524</u>	DRY UNIT WEIGHT (GM/CC)	
VOLUME IN. ³		<u>4.587</u>	PERCENT POROSITY	
MOIST UNIT WT. PCF		<u>125.06</u>	THEORETICAL SAT. %	

CONSOLIDATION DATA	FAILURE SKETCH <u>125.18</u>
TECHNICIAN <u>SKM</u>	

EXTENSOMETER READINGS		DATE: <u>5/24/11</u>
INITIAL READING	<u>0.0000</u> IN.	TIME: <u>2:05</u>
FINAL READING	<u>0.0194</u> IN.	TIME: <u>7:15</u>
HT. DEFORMATION	IN.	
INITIAL BURETTE READING	<u>9.20</u>	CM
FINAL BURETTE READING	<u>7.54</u>	CM
VOL. CHANGE	<u>1.660</u> CC x 0.061	IN. ³
CONS. VOLUME OF SPECIMEN	<u>4.486</u>	IN. ³
CONS. HEIGHT OF SPECIMEN	<u>2.944</u>	IN.
AVG. AREA OF CONS. SPECIMEN		IN. ²
CONSOLIDATED MOIST UNIT WT.		PCF

INITIAL DRY DENSITY = 10395
 FINAL DRY DENSITY = 106.30

REMARKS:

120.1
100.6
19.5

1395
91
95
91
95
91

3010
10
10

Checked by: SKMDate: 5/26/11

BASE

SHEAR TEST DATA

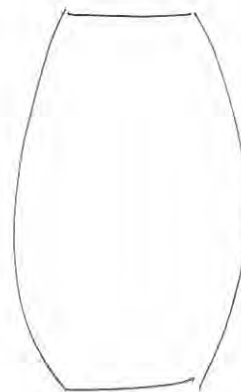
<input type="checkbox"/>	CELL NO.	<u>F</u>	LOAD CH.	<u>10F2 Top 2</u>
<input type="checkbox"/>	UU	BURETTE NO. <u>4</u>	STRAIN CH.	
<input type="checkbox"/>	qu	MACHINE NO. <u>6</u>	P.P. CH.	LAB. NO. <u>11-1059</u>
<input checked="" type="checkbox"/>	CUBAR			<u>11-1059-30</u>
<input type="checkbox"/>	VS	COMPACTED <u> </u>		TEST DATE <u>5/25/11</u>
<input checked="" type="checkbox"/>	BP	UNDISTURBED <u> </u>	Gs <u>2.68</u>	
<input type="checkbox"/>				

Cell 130 PSI Base 100 PSI Test 30 PSI B 0.98 RATE OF STRAIN .06 in./%/min.

SPECIMEN DATA	MOISTURE DATA
TECHNICIAN <u>SKM</u>	TECHNICIAN <u>SKM</u>

DIAMETER		INITIAL		IN MACHINE		INITIAL		FINAL	
TOP	IN.			<u>1.397</u>	WET WT. SPEC. + CAN	(GM.)			<u>223.00</u>
MIDDLE	IN.			<u>1.398</u>	DRY WT. SPEC. + CAN	(GM.)			<u>192.94</u>
BOTTOM	IN.			<u>1.402</u>	WT. MOISTURE	(GM.)			
MEAN DIAMETER	IN.			<u>1.399</u>	WT. CAN	(GM.)			<u>71.41</u>
HEIGHT	IN.			<u>3.003</u>	WT DRY SOIL	(GM.)			
MOIST WT.	GM.			<u>146.79</u>	PERCENT MOISTURE		<u>26.78</u>		<u>24.73</u>
END AREA	IN. ²			<u>1.537</u>	DRY UNIT WEIGHT	(GM/CC)			
VOLUME	IN. ³			<u>4.616</u>	PERCENT POROSITY				
MOIST UNIT WT.	PCF			<u>121.14</u>	THEORETICAL SAT. %				
CONSOLIDATION DATA TECHNICIAN <u>SKM</u>					PERCENT SAT. @ START				

EXTENSOMETER READINGS		DATE: <u>5/24/11</u>
INITIAL READING	<u>0.0030</u>	IN. TIME: <u>2:05</u>
FINAL READING	<u>6.0333</u>	IN. TIME: <u>7:15</u>
HT. DEFORMATION	IN.	
INITIAL BURETTE READING	<u>9.40</u>	CM
FINAL BURETTE READING	<u>5.66</u>	CM
VOL. CHANGE	<u>3.740</u> CC x 0.061	IN. ³
CONS. VOLUME OF SPECIMEN	<u>4.388</u>	IN. ³
CONS. HEIGHT OF SPECIMEN	<u>2.855</u>	IN.
AVG. AREA OF CONS. SPECIMEN		IN. ²
CONSOLIDATED MOIST UNIT WT.		PCF

FAILURE SKETCH 121.53

INITIAL DRY DENSITY = 100.29
 FINAL DRY DENSITY = 105.51

REMARKS:

1400
1394 3.004
119.9
1004 4
19.5 2
1401
1394
1405
1400

Checked by: SKMDate: 5/26/11

Shear Test Data
Specimen #1

5/26/2011
11:41 AM

Project:	PLUM CREEK SITE 6	
State:	TX	
Lab No:	11-1059	Test Specifications:
Specific Gravity (Gs):	2.68	
Shear Cell No.:	4	
Confining Pressure:	10 psi	
Top Diameter:	1.398 inches	
Middle Diameter:	1.397 inches	(Either measure two middle diameters
Middle Diameter:	1.397 inches	or enter in the same value)
Bottom Diameter:	1.399 inches	
Height of Specimen:	3.015 inches	
Moist Weight of Specimen:	145.70 gms.	
Mean Diameter:	1.398 inches	
End Area:	1.535 sq. inches	
Volume of Specimen:	4.628 cubic inches	
Moist Unit Weight:	119.93 pcf	(multiply gms/cubic inch by 3.8095 to to achieve pcf)
Extensometer Height Deformation:	inches	
Initial Volume of Base Cell:	9.00 ml.	
Final Volume of Base Cell:	8.02 ml.	
Is the Large Burette being Used?	no (yes or no)	
Calibrated Area of the Base Burette:	0.19610 cc	
Burette Volume:	0.980 cc	note 1.00 ml = 1.00 cc
Burette Volume:	0.060 cubic inches	
Consolidated Volume:	4.568 cubic inches	
Assumed Consolidated Height:	0.039 inches	
Assumed Height after Consolidation :	2.976 inches	
Moist Weight of Specimen + Can:	223.00 gms.	
Dry Weight of Specimen + Can:	191.45 gms.	
Weight of Can:	71.13 gms.	
Weight of Water:	31.55 gms.	
Weight of Dry Specimen:	120.32 gms.	
Initial Water Content:	21.09 percent	
Initial Dry Density:	99.04 pcf	
Percent Saturated:	82.01 percent	
Initial Void Ratio:	0.689	
Initial Diameter:	1.398 inches	
Initial Height:	3.015 inches	
Final Water Content:	26.22 percent	
Final Dry Density:	100.34 pcf	
Percent Saturated:	105.28 percent	
Final Void Ratio:	0.668	
Final Diameter* :	1.398 inches	
Final Height:	2.976 inches	

*Diameter is estimated to be unchanged

Checked by: SKM

Shear Test Data
Specimen #2

5/26/2011
11:42 AM

Project:	PLUM CREEK SITE 6	
State:	TX	
Lab No:	11-1059	Test Specifications:
Specific Gravity (Gs):	2.68	
Shear Cell No.:	5	
Confining Pressure:	20 psi	
Top Diameter:	1.393 inches	
Middle Diameter:	1.393 inches	(Either measure two middle diameters
Middle Diameter:	1.393 inches	or enter in the same value)
Bottom Diameter:	1.393 inches	
Height of Specimen:	3.010 inches	
Moist Weight of Specimen:	150.59 gms.	
Mean Diameter:	1.393 inches	
End Area:	1.524 sq. inches	
Volume of Specimen:	4.587 cubic inches	
Moist Unit Weight:	125.06 pcf	(multiply gms/cubic inch by 3.8095 to to achieve pcf)
Extensiometer Height Deformation:	inches	
Initial Volume of Base Cell:	9.20 ml.	
Final Volume of Base Cell:	7.54 ml.	
Is the Large Burette being Used?	no (yes or no)	
Calibrated Area of the Base Burette:	0.19610 cc	
Burette Volume:	1.660 cc	note 1.00 ml = 1.00 cc
Burette Volume:	0.101 cubic inches	
Consolidated Volume:	4.486 cubic inches	
Assumed Consolidated Height:	0.066 inches	
Assumed Height after Consolidation :	2.944 inches	
Moist Weight of Specimen + Can:	226.43 gms.	
Dry Weight of Specimen + Can:	196.36 gms.	
Weight of Can:	71.18 gms.	
Weight of Water:	30.07 gms.	
Weight of Dry Specimen:	125.18 gms.	
Initial Water Content:	20.30 percent	
Initial Dry Density:	103.95 pcf	
Percent Saturated:	89.26 percent	
Initial Void Ratio:	0.609	
Initial Diameter:	1.393 inches	
Initial Height:	3.010 inches	
Final Water Content:	24.02 percent	
Final Dry Density:	106.30 pcf	
Percent Saturated:	112.17 percent	
Final Void Ratio:	0.574	
Final Diameter* :	1.393 inches	
Final Height:	2.944 inches	

*Diameter is estimated to be unchanged

Checked by: SKM

Shear Test Data
Specimen #3

5/26/2011
11:43 AM

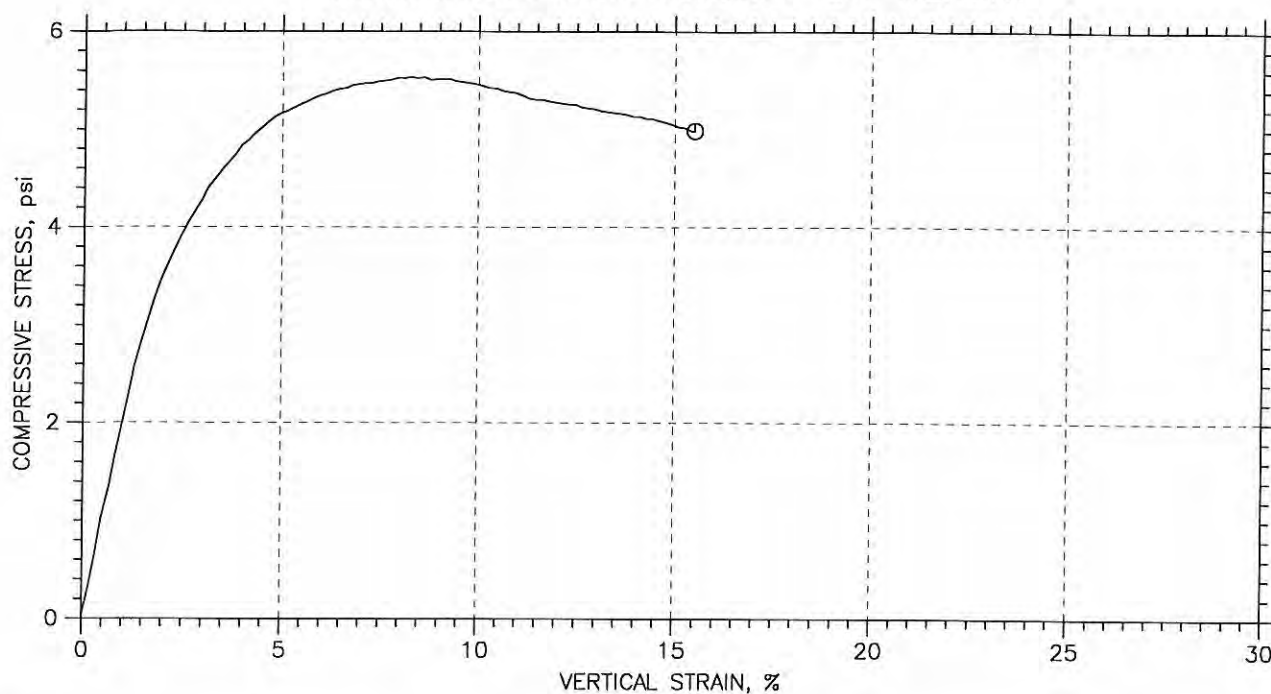
Project:	PLUM CREEK SITE 6	
State:	TX	
Lab No:	11-1059	Test Specifications:
Specific Gravity (Gs):	2.68	
Shear Cell No.:	6	
Confining Pressure:	30 psi	
Top Diameter:	1.397 inches	
Middle Diameter:	1.398 inches	(Either measure two middle diameters
Middle Diameter:	1.398 inches	or enter in the same value)
Bottom Diameter:	1.402 inches	
Height of Specimen:	3.003 inches	
Moist Weight of Specimen:	146.79 gms.	
Mean Diameter:	1.399 inches	
End Area:	1.537 sq. inches	
Volume of Specimen:	4.616 cubic inches	
Moist Unit Weight:	121.14 pcf	(multiply gms/cubic inch by 3.8095 to to achieve pcf)
Extensometer Height Deformation:	inches	
Initial Volume of Base Cell:	9.40 ml.	
Final Volume of Base Cell:	5.66 ml.	
Is the Large Burette being Used?	no (yes or no)	
Calibrated Area of the Base Burette:	0.19570 cc	
Burette Volume:	3.740 cc	note 1.00 ml = 1.00 cc
Burette Volume:	0.228 cubic inches	
Consolidated Volume:	4.388 cubic inches	
Assumed Consolidated Height:	0.148 inches	
Assumed Height after Consolidation :	2.855 inches	
Moist Weight of Specimen + Can:	223.00 gms.	
Dry Weight of Specimen + Can:	192.94 gms.	
Weight of Can:	71.41 gms.	
Weight of Water:	30.06 gms.	
Weight of Dry Specimen:	121.53 gms.	
Initial Water Content:	20.78 percent	
Initial Dry Density:	100.29 pcf	
Percent Saturated:	83.36 percent	
Initial Void Ratio:	0.668	
Initial Diameter:	1.399 inches	
Initial Height:	3.003 inches	
Final Water Content:	24.73 percent	
Final Dry Density:	105.51 pcf	
Percent Saturated:	113.17 percent	
Final Void Ratio:	0.586	
Final Diameter* :	1.399 inches	
Final Height:	2.855 inches	

*Diameter is estimated to be unchanged

Checked by: SKM

MATERIALS TESTING REPORT		U.S. DEPARTMENT of AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE		UNDISTURBED SAMPLE CHARACTERISTICS		
PROJECT and STATE <u>Plum Creek Co. TX</u>						
TESTED AT <u>NDCSMC - Lincoln, NE</u>			APPROVED BY		DATE <u>5-5-11</u>	
FIELD SAMPLE NO.	DEPTH (FT.) FROM TO		SAMPLE LOCATION		TYPE OF SAMPLE	LABORATORY NO.
<u>F10-1411</u>	<u>7</u>	<u>8.5'</u>	<u>303.1</u>		<u>3" Shelby</u>	<u>11-1060</u>
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
<u>BROWN</u>	<u>Moist</u>	<u>stiff</u>	<u>—</u>	<u>Smooth</u>	<u>1.5</u>	<u>CL</u>
ω <u>28.0</u> % γ_d <u>1.51</u> g/cc			DESCRIBED BY <u>SKM, RM</u>			
REMARKS <div style="display: flex; justify-content: space-between;"><div style="width: 30%;"></div><div style="width: 60%;"><p>Good uniform core - CL material</p><p>Unit weight & H₂O taken</p></div></div> <p style="text-align: right;">Photos taken 2</p>						
FIELD SAMPLE NO.	DEPTH (FT.) FROM TO		SAMPLE LOCATION		TYPE OF SAMPLE	LABORATORY NO.
COLOR	RELATIVE MOISTURE	CONSISTENCY	POROSITY OR STRUCTURE	TEXTURE	POCKET PENETROMETER (T.S.F.)	VISUAL CLASSIFICATION (USCS)
ω _____ % γ_d _____ g/cc			DESCRIBED BY			
REMARKS 						

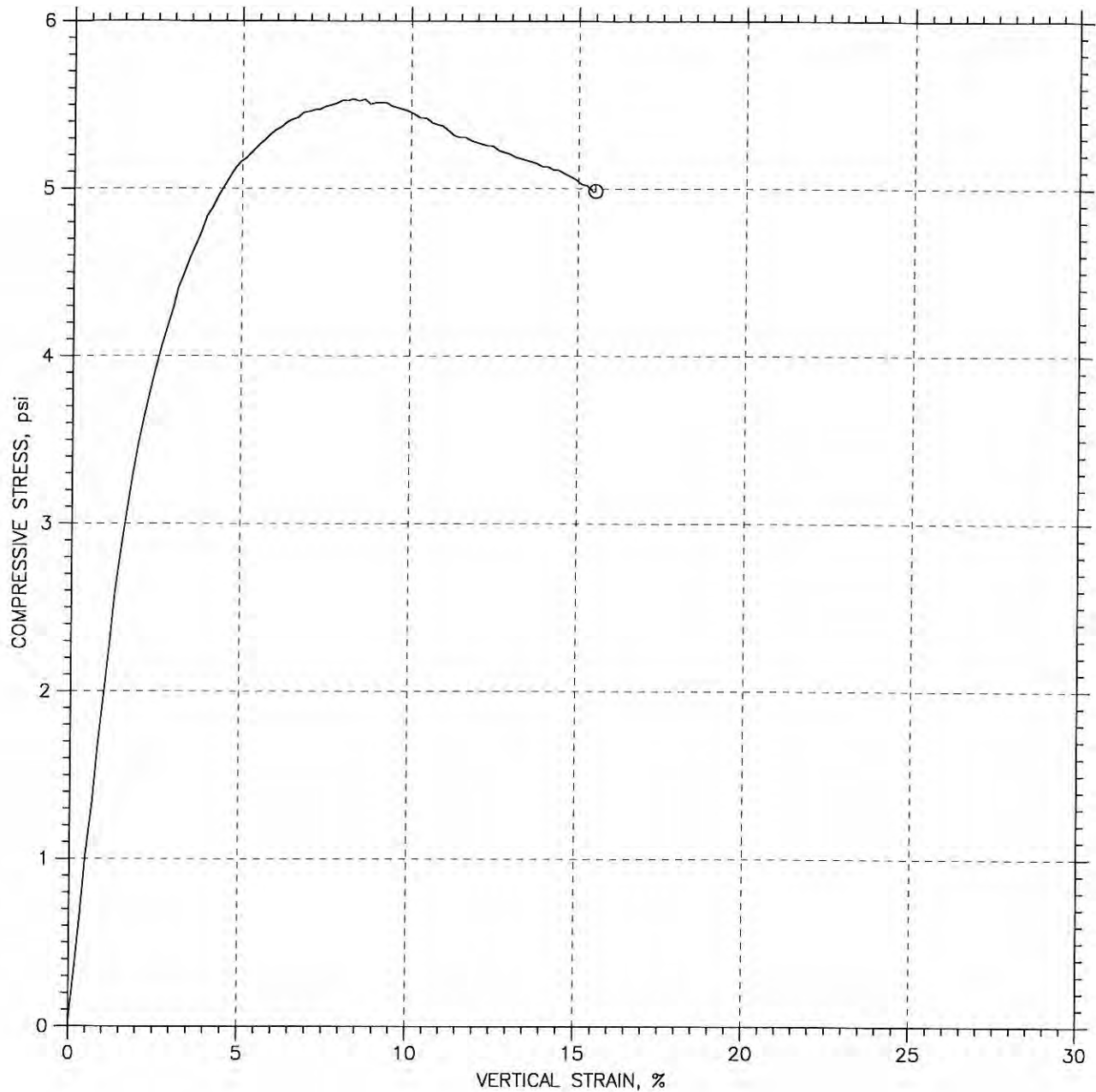
UNCONFINED COMPRESSION TEST REPORT




Symbol	⊙			
Test No.	1			
Initial	Diameter, in	1.399		
	Height, in	3.053		
	Water Content, %	31.56		
	Dry Density, pcf	89.72		
	Saturation, %	97.38		
	Void Ratio	0.872		
Unconfined Compressive Strength, psi q_u		5.534		
Undrained Shear Strength, psi $q_u/2 \Rightarrow c_u =$		2.767 ps = 398 pSF		
Time to Failure, min		8.336	Record $c_u =$	400 pSF @ 0.2% strain
Strain Rate, %/min		1		
Measured Specific Gravity		2.69		
Liquid Limit		---		
Plastic Limit		---		
Plasticity Index		---		
Failure Sketch				

 Natural Resources Conservation Service	Project: PLUM CREEK SITE 6
	Location: TX
	Project No.: 11-1060
	Boring No.: F10-1411
	Sample Type: CORE
	Description: HOLE 303.1
	Remarks: VACCUUM SATURATED

UNCONFINED COMPRESSION TEST REPORT



 NRCS Natural Resources Conservation Service	Project: PLUM CREEK SITE 6	Location: TX	Project No.: 11-1060
	Boring No.: F10-1411	Tested By: SKM	Checked By: SKM
	Sample No.: 11-1060	Test Date: 5/25/11	Depth: 7-8.5'
	Test No.: 1	Sample Type: CORE	Elevation: N/A
	Description: HOLE 303.1		
	Remarks: VACCUUM SATURATED		

UNCONFINED COMPRESSION TEST

Project: PLUM CREEK SITE 6
Boring No.: F10-1411
Sample No.: 11-1060
Test No.: 1

Location: TX
Tested By: SKM
Test Date: 5/25/11
Sample Type: CORE

Project No.: 11-1060
Checked By: SKM
Depth: 7-8.5'
Elevation: N/A

Soil Description: HOLE 303.1
Remarks: VACCUUM SATURATED

Specimen Height: 3.05 in
Specimen Area: 1.54 in²
Specimen Volume: 76.90 cc

Liquid Limit: ---
Plastic Limit: ---
Measured Specific Gravity: 2.69

Cap Mass: 0 gm

Water Content Information

Container ID	
Wt. Container, gm	0
Wt. Container + Wet Soil, gm	145.4
Wt. Container + Dry Soil, gm	110.52
Wt. Dry Soil, gm	110.52
Water Content, %	31.56
Void Ratio	0.87
Degree of Saturation, %	97.38
Wet Unit Weight, pcf	118.03
Dry Unit Weight, pcf	89.715

UNCONFINED COMPRESSION TEST

Project: PLUM CREEK SITE 6
 Boring No.: F10-1411
 Sample No.: 11-1060
 Test No.: 1

Location: TX
 Tested By: SKM
 Test Date: 5/25/11
 Sample Type: CORE

Project No.: 11-1060
 Checked By: SKM
 Depth: 7-8.5'
 Elevation: N/A

Soil Description: HOLE 303.1
 Remarks: VACCUUM SATURATED

Specimen Height: 3.05 in
 Specimen Area: 1.54 in²
 Specimen Volume: 76.90 cc

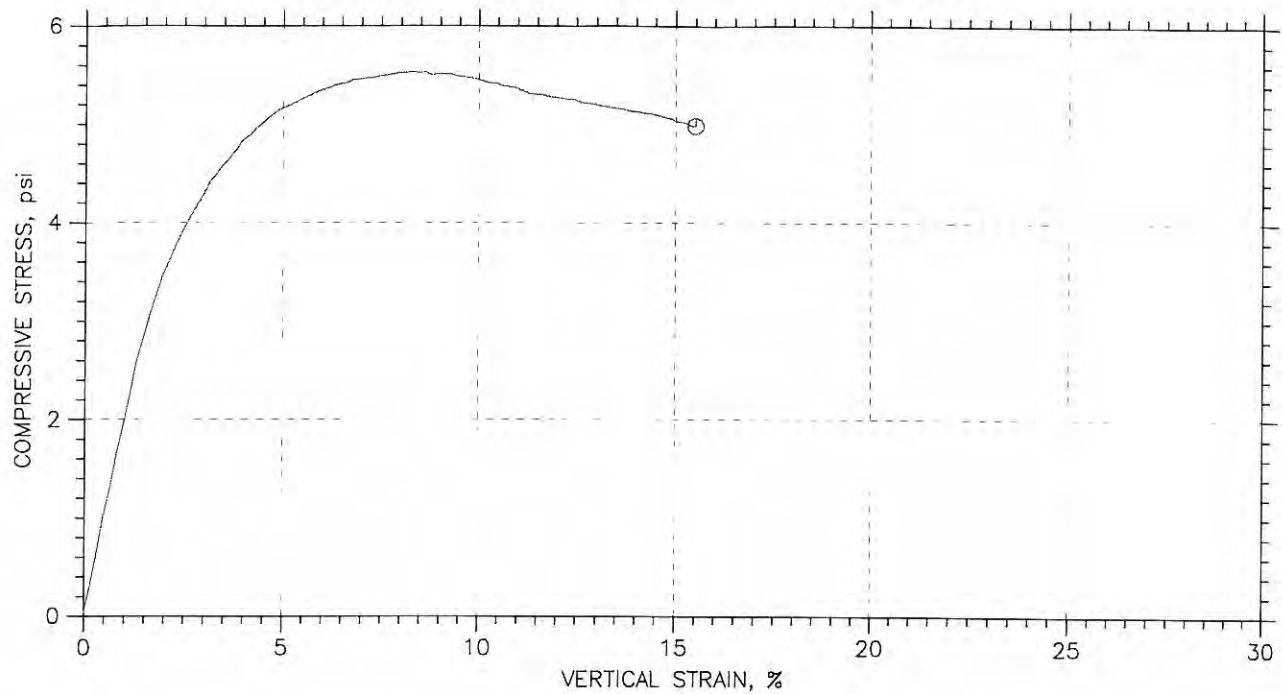
Liquid Limit: ---
 Plastic Limit: ---
 Measured Specific Gravity: 2.69

Cap Mass: 0 gm

	Time min	Axial Displacement in	Axial Strain %	Load lb	Corrected Area in ²	Corrected Vertical Stress psi	Corrected Shear Stress psi
1	0	0	0	0.062544	1.5372	0.040687	0.020344
2	0.17065	0.0049573	0.16237	0.53162	1.5397	0.34528	0.17264
3	0.3334	0.0094049	0.30805	1.0007	1.5419	0.64899	0.3245
4	0.50027	0.014316	0.46891	1.5792	1.5444	1.0225	0.51127
5	0.66672	0.020153	0.66012	2.0796	1.5474	1.3439	0.67196
6	0.83338	0.02474	0.81035	2.5799	1.5497	1.6647	0.83237
7	1.0002	0.030253	0.99093	3.0959	1.5526	1.9941	0.99703
8	1.1667	0.035257	1.1548	3.5806	1.5551	2.3024	1.1512
9	1.3336	0.039473	1.2929	4.0341	1.5573	2.5904	1.2952
10	1.5005	0.044754	1.4659	4.425	1.5601	2.8364	1.4182
11	1.667	0.049897	1.6344	4.8002	1.5627	3.0717	1.5359
12	1.8336	0.054947	1.7998	5.1442	1.5654	3.2863	1.6431
13	2.0005	0.059904	1.9621	5.4413	1.5679	3.4703	1.7352
14	2.1669	0.065278	2.1382	5.7071	1.5708	3.6333	1.8167
15	2.3339	0.070375	2.3051	5.9573	1.5735	3.7861	1.8931
16	2.5008	0.0751	2.4599	6.1762	1.5759	3.919	1.9595
17	2.6674	0.080474	2.6359	6.3951	1.5788	4.0506	2.0253
18	2.8341	0.085802	2.8104	6.5984	1.5816	4.1719	2.0859
19	3.0009	0.091038	2.9819	6.786	1.5844	4.2829	2.1415
20	3.1674	0.095485	3.1276	6.9893	1.5868	4.4046	2.2023
21	3.3341	0.10077	3.3006	7.1456	1.5896	4.4951	2.2475
22	3.501	0.10596	3.4705	7.302	1.5924	4.5854	2.2927
23	3.6674	0.11073	3.6268	7.4271	1.595	4.6564	2.3282
24	3.8341	0.11587	3.7953	7.5678	1.5978	4.7363	2.3682
25	4.0008	0.12111	3.9668	7.7398	1.6007	4.8353	2.4177
26	4.1674	0.12611	4.1307	7.8336	1.6034	4.8856	2.4428
27	4.3341	0.13107	4.293	7.9587	1.6061	4.9552	2.4776
28	4.501	0.13635	4.466	8.0681	1.609	5.0142	2.5071
29	4.6674	0.14093	4.6163	8.162	1.6116	5.0646	2.5323
30	4.834	0.14636	4.7938	8.2714	1.6146	5.1229	2.5615
31	5.0009	0.15159	4.9653	8.3496	1.6175	5.162	2.581
32	5.1674	0.15608	5.1125	8.3965	1.62	5.183	2.5915
33	5.334	0.16183	5.3007	8.4747	1.6232	5.2209	2.6104
34	5.5011	0.16734	5.4812	8.5529	1.6263	5.259	2.6295
35	5.6676	0.17235	5.6451	8.6154	1.6291	5.2883	2.6441
36	5.8345	0.17679	5.7908	8.6779	1.6317	5.3184	2.6592
37	6.0015	0.18208	5.9638	8.7405	1.6347	5.3469	2.6735
38	6.1681	0.18708	6.1277	8.7874	1.6375	5.3663	2.6831
39	6.3348	0.19217	6.2946	8.8499	1.6404	5.3948	2.6974
40	6.5017	0.19746	6.4676	8.8968	1.6435	5.4134	2.7067
41	6.6686	0.20232	6.627	8.9281	1.6463	5.4232	2.7116
42	6.8353	0.20695	6.7787	8.9907	1.649	5.4523	2.7262
43	7.0022	0.21279	6.9699	9.0219	1.6523	5.4601	2.73
44	7.1686	0.21738	7.1202	9.0532	1.655	5.4701	2.7351
45	7.3355	0.22178	7.2643	9.0688	1.6576	5.4711	2.7355
46	7.5027	0.22711	7.4388	9.1157	1.6607	5.489	2.7445
47	7.6691	0.23193	7.5966	9.147	1.6636	5.4985	2.7492
48	7.8358	0.23702	7.7636	9.1783	1.6666	5.5073	2.7537
49	8.0027	0.24235	7.9381	9.2252	1.6697	5.525	2.7625
50	8.1693	0.24763	8.1111	9.2408	1.6729	5.5239	2.762
51	8.336	0.2518	8.2477	9.2721	1.6754	5.5344	2.7672
52	8.5031	0.25759	8.4373	9.2721	1.6788	5.523	2.7615
53	8.6696	0.26283	8.6088	9.3034	1.682	5.5312	2.7656
54	8.8365	0.26788	8.7742	9.2721	1.685	5.5026	2.7513
55	9.0034	0.27297	8.9412	9.3034	1.6881	5.5111	2.7555
56	9.1701	0.27779	9.099	9.319	1.6911	5.5108	2.7554
57	9.337	0.28312	9.2735	9.3346	1.6943	5.5094	2.7547
58	9.5039	0.28747	9.4161	9.319	1.697	5.4916	2.7458
59	9.6703	0.29303	9.5982	9.319	1.7004	5.4805	2.7403
60	9.837	0.29757	9.747	9.319	1.7032	5.4715	2.7357
61	10.004	0.30313	9.9291	9.319	1.7066	5.4605	2.7302
62	10.17	0.30869	10.111	9.3034	1.7101	5.4403	2.7201
63	10.337	0.31337	10.264	9.2877	1.713	5.4219	2.7109
64	10.504	0.31879	10.442	9.3034	1.7164	5.4203	2.7101
65	10.67	0.3244	10.626	9.2721	1.7199	5.391	2.6955
66	10.837	0.32862	10.764	9.2721	1.7226	5.3826	2.6913
67	11.004	0.33408	10.943	9.2721	1.7261	5.3718	2.6859
68	11.17	0.33983	11.131	9.2408	1.7297	5.3424	2.6712
69	11.337	0.34451	11.284	9.2096	1.7327	5.3151	2.6576
70	11.504	0.34932	11.442	9.2096	1.7358	5.3057	2.6528
71	11.67	0.35465	11.617	9.2252	1.7392	5.3042	2.6521
72	11.837	0.35989	11.788	9.2096	1.7426	5.285	2.6425
73	12.004	0.36471	11.946	9.2096	1.7457	5.2755	2.6377
74	12.17	0.36948	12.102	9.2096	1.7488	5.2661	2.6331
75	12.337	0.37467	12.272	9.2096	1.7522	5.256	2.628
76	12.504	0.38004	12.448	9.2252	1.7557	5.2543	2.6272

77	12.67	0.38542	12.624	9.1939	1.7593	5.226	2.613
78	12.837	0.39028	12.783	9.1939	1.7625	5.2164	2.6082
79	13.004	0.39575	12.963	9.1939	1.7661	5.2057	2.6029
80	13.17	0.40052	13.119	9.1783	1.7693	5.1875	2.5938
81	13.337	0.40566	13.287	9.1783	1.7727	5.1775	2.5887
82	13.504	0.41076	13.454	9.1783	1.7761	5.1675	2.5838
83	13.67	0.41516	13.598	9.1783	1.7791	5.1589	2.5795
84	13.837	0.41984	13.752	9.1783	1.7823	5.1498	2.5749
85	14.001	0.42507	13.923	9.1627	1.7858	5.1308	2.5654
86	14.168	0.43003	14.086	9.1783	1.7892	5.1298	2.5649
87	14.334	0.4348	14.242	9.1627	1.7925	5.1118	2.5559
88	14.502	0.43962	14.4	9.1783	1.7958	5.1111	2.5555
89	14.668	0.44444	14.557	9.1627	1.7991	5.093	2.5465
90	14.835	0.45023	14.747	9.147	1.8031	5.073	2.5365
91	15.002	0.4557	14.926	9.1314	1.8069	5.0537	2.5268
92	15.168	0.46038	15.079	9.1001	1.8101	5.0273	2.5136
93	15.335	0.46561	15.251	9.1001	1.8138	5.0171	2.5086
94	15.502	0.47103	15.429	9.0532	1.8176	4.9808	2.4904
95	15.59	0.4733	15.503	9.0688	1.8192	4.985	2.4925

UNCONFINED COMPRESSION TEST REPORT



Symbol	⊙			
Test No.	1			
Initial	Diameter, in	1.399		
	Height, in	3.053		
	Water Content, %	31.56		
	Dry Density, pcf	89.72		
	Saturation, %	97.38		
	Void Ratio	0.872		
Unconfined Compressive Strength, psi		5.534		
Undrained Shear Strength, psi		2.767		
Time to Failure, min		8.336		
Strain Rate, %/min		1		
Measured Specific Gravity		2.69		
Liquid Limit		---		
Plastic Limit		---		
Plasticity Index		---		
Failure Sketch				

 Natural Resources Conservation Service	Project: PLUM CREEK SITE 6
	Location: TX
	Project No.: 11-1060
	Boring No.: F10-1411
	Sample Type: CORE
	Description: HOLE 303.1
Remarks: VACCUUM SATURATED	

BASE

SHEAR TEST DATA

<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	CELL NO. _____ BURETTE NO. _____ MACHINE NO. <u>3</u> CUBAR COMPACTED _____ UNDISTURBED <input checked="" type="checkbox"/>	LOAD CH. _____ STRAIN CH. _____ P.P. CH. _____ Gs <u>2.69</u>	LAB. NO. <u>11-1060</u> <u>11-1060 gu</u> TEST DATE <u>5/25/11</u>
Cell <u> </u> PSI Base <u> </u> PSI Test <u> </u> PSI B <u> </u> RATE OF STRAIN <u>1</u> in./min.			

SPECIMEN DATA TECHNICIAN <u>Skm</u>	MOISTURE DATA TECHNICIAN <u>Skm</u>
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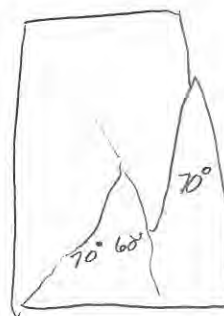
DIAMETER		INITIAL IN MACHINE		INITIAL FINAL	
TOP	IN.	1.395	1.402	WET WT. SPEC. + CAN (GM.)	215.98
MIDDLE	IN.	1.390	1.398	DRY WT. SPEC. + CAN (GM.)	181.65
BOTTOM	IN.	1.397	1.399	WT. MOISTURE (GM.)	
MEAN DIAMETER	IN.	1.393	1.399	WT. CAN (GM.)	71.13
HEIGHT	IN.	3.013	3.053	WT DRY SOIL Initial (GM.)	
MOIST WT.	GM.	140.07	145.40	PERCENT MOISTURE 24.74	31.56 31.00
END AREA	IN. ²	1.524	1.537	DRY UNIT WEIGHT (GM/CC)	
VOLUME	IN. ³	4.592	4.693	PERCENT POROSITY	
MOIST UNIT WT.	PCF	116.20	118.03	THEORETICAL SAT. %	

CONSOLIDATION DATA TECHNICIAN _____

EXTENSOMETER READINGS		DATE:
INITIAL READING	IN.	TIME:
FINAL READING	IN.	TIME:
HT. DEFORMATION	IN.	

INITIAL BURETTE READING	CM
FINAL BURETTE READING	CM
VOL. CHANGE	CC x 0.061
CONS. VOLUME OF SPECIMEN	IN. ³
CONS. HEIGHT OF SPECIMEN	IN.
AVG. AREA OF CONS. SPECIMEN	IN. ²
CONSOLIDATED MOIST UNIT WT.	PCF

FAILURE SKETCH 110.52



INITIAL DRY DENSITY = 89.71
 FINAL DRY DENSITY = 89.71

REMARKS:

1394
95
90
90
95
99

3008
14
17

1401
1402
1396
1400
1402
1396

3051
3053
3056

Checked by: SkmDate: 5/26/11

Project:	PLUM CREEK SITE 6	
State:	TX	
Lab No:	11-1060	Test Specifications:
Specific Gravity (Gs):	2.69	
Shear Cell No.:		
Confining Pressure:	psi	
Top Diameter:	1.402 inches	
Middle Diameter:	1.398 inches	(Either measure two middle diameters
Middle Diameter:	1.398 inches	or enter in the same value)
Bottom Diameter:	1.399 inches	
Height of Specimen:	3.053 inches	
Moist Weight of Specimen:	145.40 gms.	
Mean Diameter:	1.399 inches	
End Area:	1.537 sq. inches	
Volume of Specimen:	4.693 cubic inches	
Moist Unit Weight:	118.03 pcf	(multiply gms/cubic inch by 3.8095 to to achieve pcf)
Extensiometer Height Deformation:	inches	
Initial Volume of Base Cell:	ml.	
Final Volume of Base Cell:	ml.	
Is the Large Burette being Used?	no (yes or no)	
Calibrated Area of the Base Burette:	cc	
Burette Volume:	cc	note 1.00 ml = 1.00 cc
Burette Volume:	cubic inches	
Consolidated Volume:	4.693 cubic inches	
Assumed Consolidated Height:	inches	
Assumed Height after Consolidation :	3.053 inches	
Moist Weight of Specimen + Can:	215.98 gms.	
Dry Weight of Specimen + Can:	181.65 gms.	
Weight of Can:	71.13 gms.	
Weight of Water:	34.33 gms.	
Weight of Dry Specimen:	110.52 gms.	
Initial Water Content:	31.56 percent	
Initial Dry Density:	89.71 pcf	
Percent Saturated:	97.37 percent	
Initial Void Ratio:	0.872	
Initial Diameter:	1.399 inches	
Initial Height:	3.053 inches	
Final Water Content:	31.06 percent	
Final Dry Density:	89.71 pcf	
Percent Saturated:	95.83 percent	
Final Void Ratio:	0.872	
Final Diameter* :	1.399 inches	
Final Height:	3.053 inches	

*Diameter is estimated to be unchanged

Checked by: SKM

Attachment 4

Foundation Consolidation Soil Test Data, 2 sheets

Attachment 5

Consolidation Estimate Plum Creek, Site 6 - Job No. 7420

Summary of Basic Assumptions:

Section Analyzed	Toe near PS
Depth of Compressible Foundation, feet:	15
Height of Embankment, feet:	5
Moist Unit Weight Embankment, pcf:	115
b Value Used, feet:	

Layer Number	Thickness feet	Po psf	ΔP psf	Po+ ΔP psf	e0	Cc	Cr	Pc psf	Rebound su1	Virgin su2	Total Su	Total Settlement Feet
1	5	860	575	1,435	0.799	0.246	0.114	9,500	0.0140902	0.0000	1.41%	0.07
2	10	860	1,150	2,010	0.799	0.246	0.114	9,500	0.0233638	0.0000	2.3%	0.23
Total Settlement												0.30
Taylor Estimate												
											3.0%	0.15
											4.8%	0.48
Total												0.63

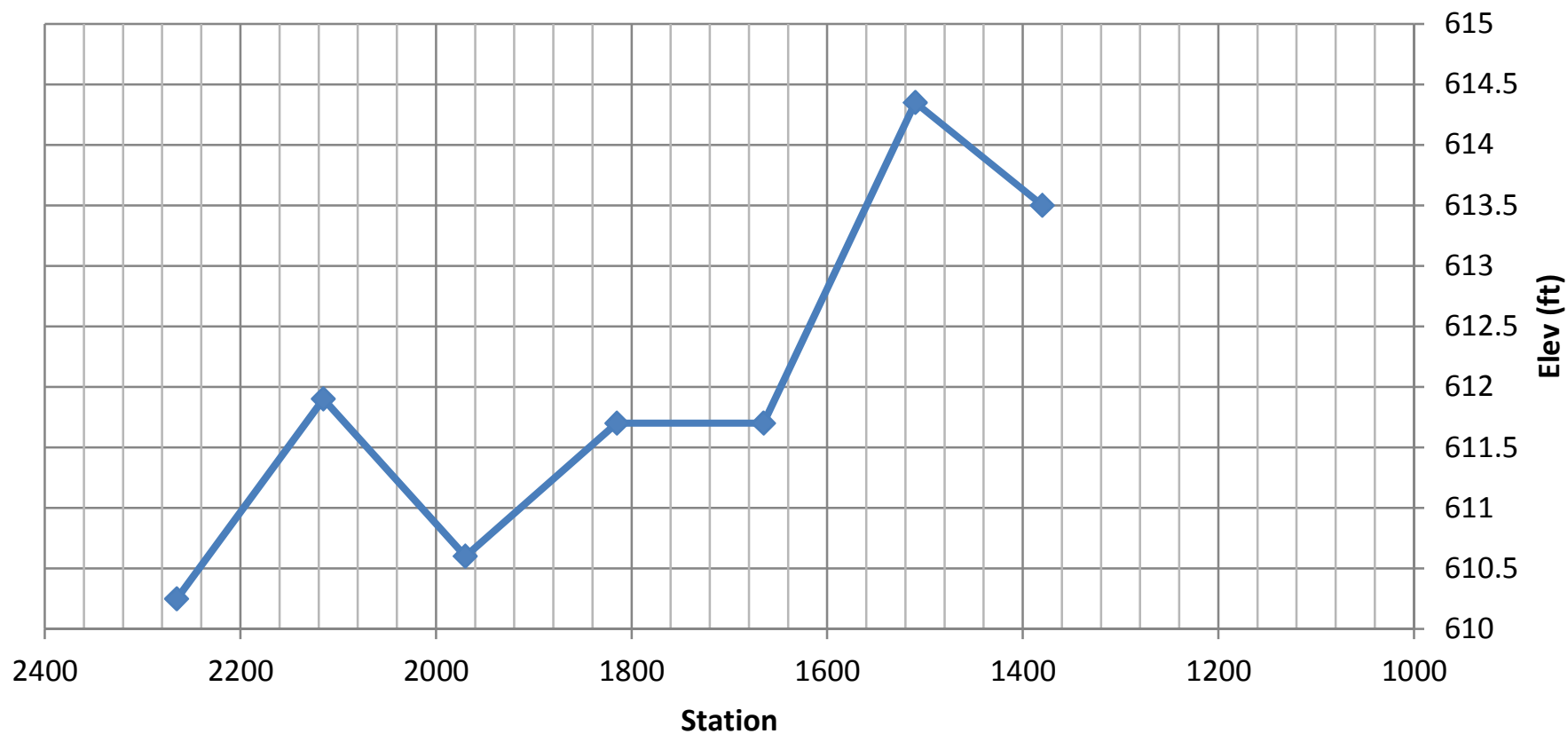
[illegible]

Attachment 5

Water Elevation Data, 1 sheet

Plum Creek # 6 Water Level @ Downstream Toe

—◆— Peizo Leves on 8/13/2010



Attachment 6

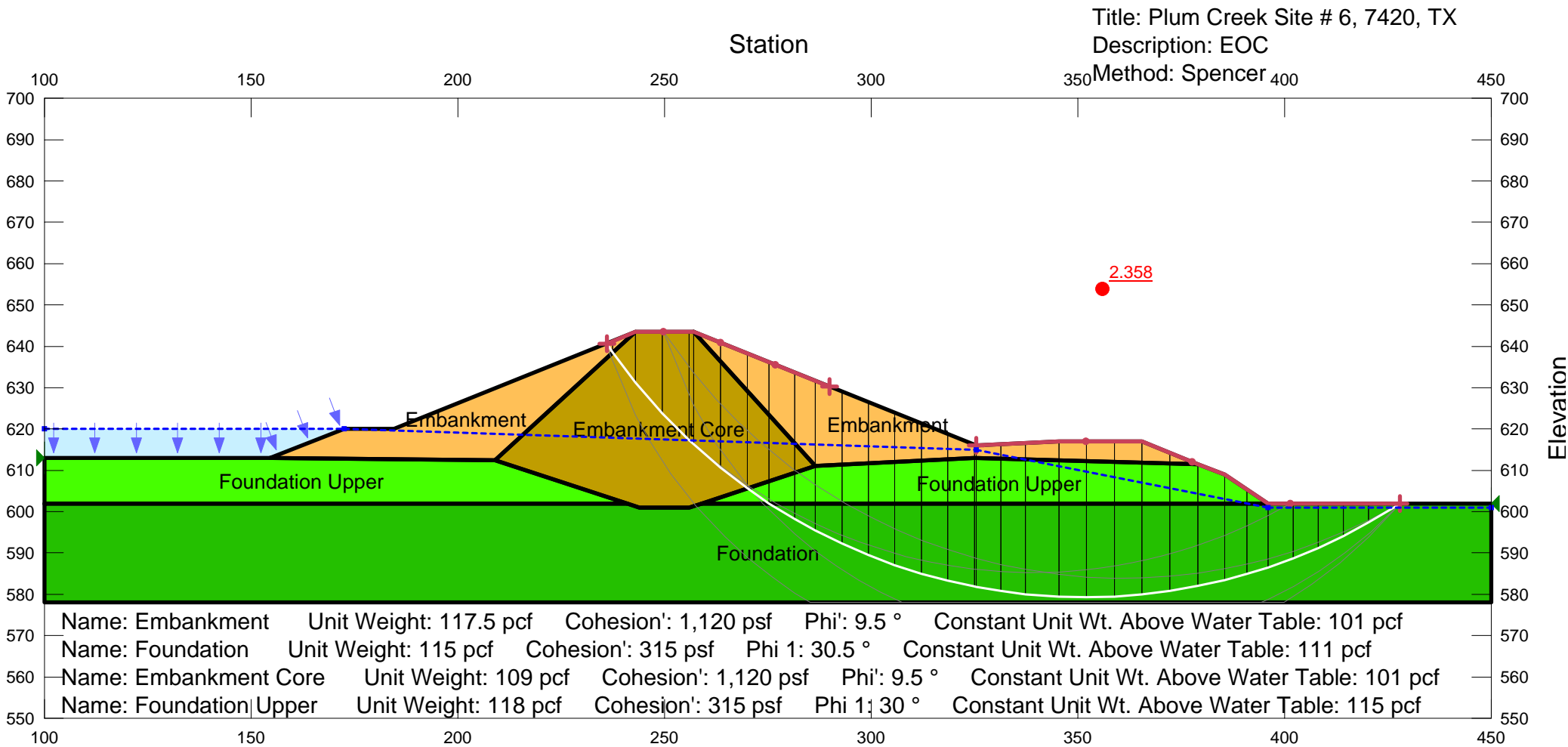
Bi-Linear Strength Parameters, 1 sheet

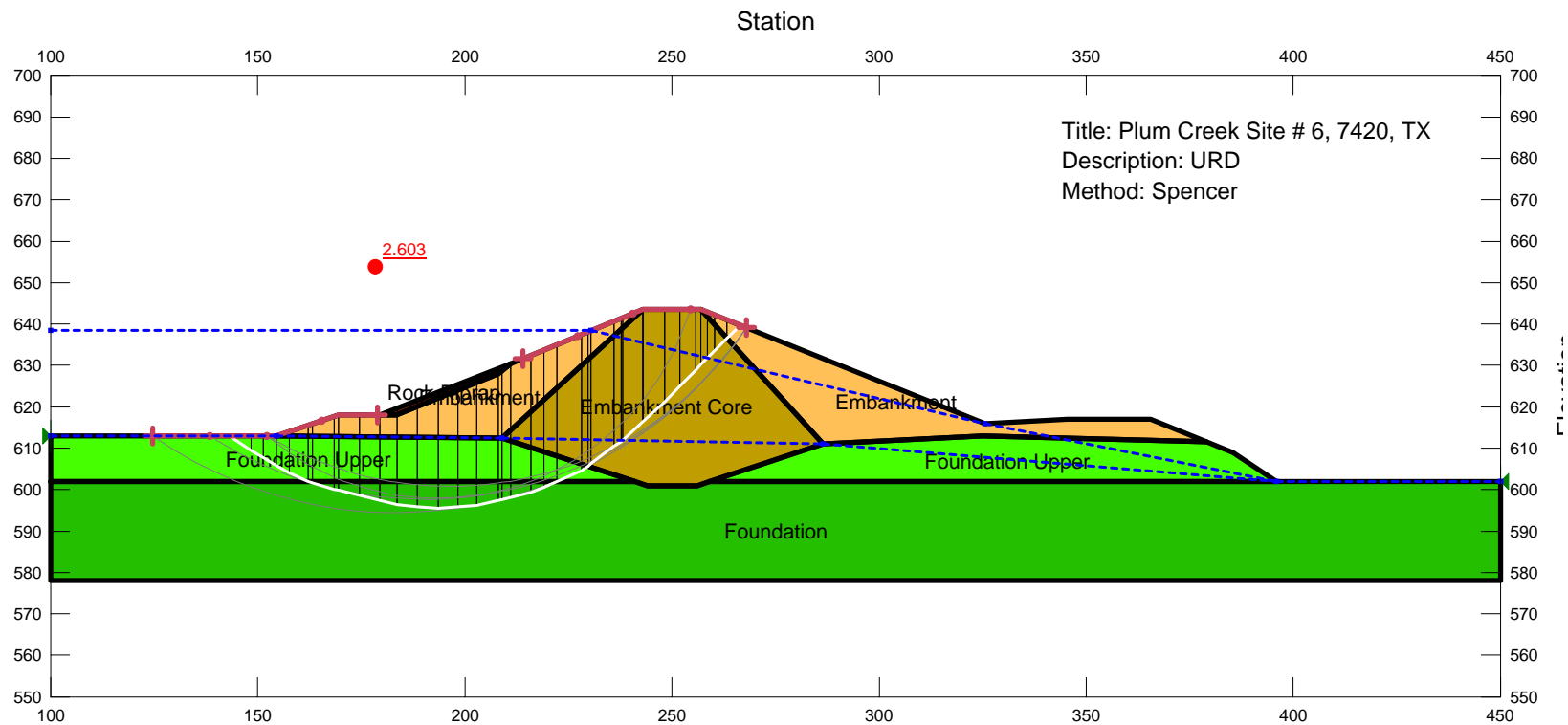
Non-Linear Envelope Calculation for SLOPE/W
Input for Downstream Steady Seepage and
Upstream Drawdown Conditions
Plum Creek, Site 6, TX - Job No. 7420

P.S. 301.1 (10-1409)				P.S. 803.1 (10-1410)			
Total Stress ϕ	22	deg.		Total Stress ϕ	18	deg.	
Total Stress c	335	psf		Total Stress c	510	psf	
Effective Stress ϕ	30.5	deg.		Effective Stress ϕ	30	deg.	
Effective Stress c	315	psf		Effective Stress c	365	psf	
Composite for US DD		FERC Envelope		Composite for US DD		FERC Envelope	
Cohesion	315	Cohesion	315	Cohesion	365	Cohesion	365
Phi - 1	30.5	Phi - 1	30.5	Phi - 1	30.0	Phi - 1	30.0
Phi - 2	22.0	Phi - 2	26.3	Phi - 2	18.0	Phi - 2	24.0
N @ xsct	108	N @ xsct	108	N @ xsct	574	N @ xsct	574
P.S. 802.1 (10-1411)				Plum Watershed Avg			
Total Stress ϕ		deg.		Total Stress ϕ	6.8	deg.	
Total Stress c	400	psf		Total Stress c	1400	psf	
Effective Stress ϕ		deg.		Effective Stress ϕ	9.5	deg.	
Effective Stress c		psf		Effective Stress c	1120	psf	
Composite for US DD		FERC Envelope		Composite for US DD		FERC Envelope	
Cohesion	0	Cohesion	0	Cohesion	1,120	Cohesion	1,120
Phi - 1	0.0	Phi - 1	0.0	Phi - 1	9.5	Phi - 1	9.5
Phi - 2	0.0	Phi - 2	0.0	Phi - 2	6.8	Phi - 2	8.2
N @ xsct	#DIV/0!	N @ xsct	#DIV/0!	N @ xsct	5,821	N @ xsct	5,821

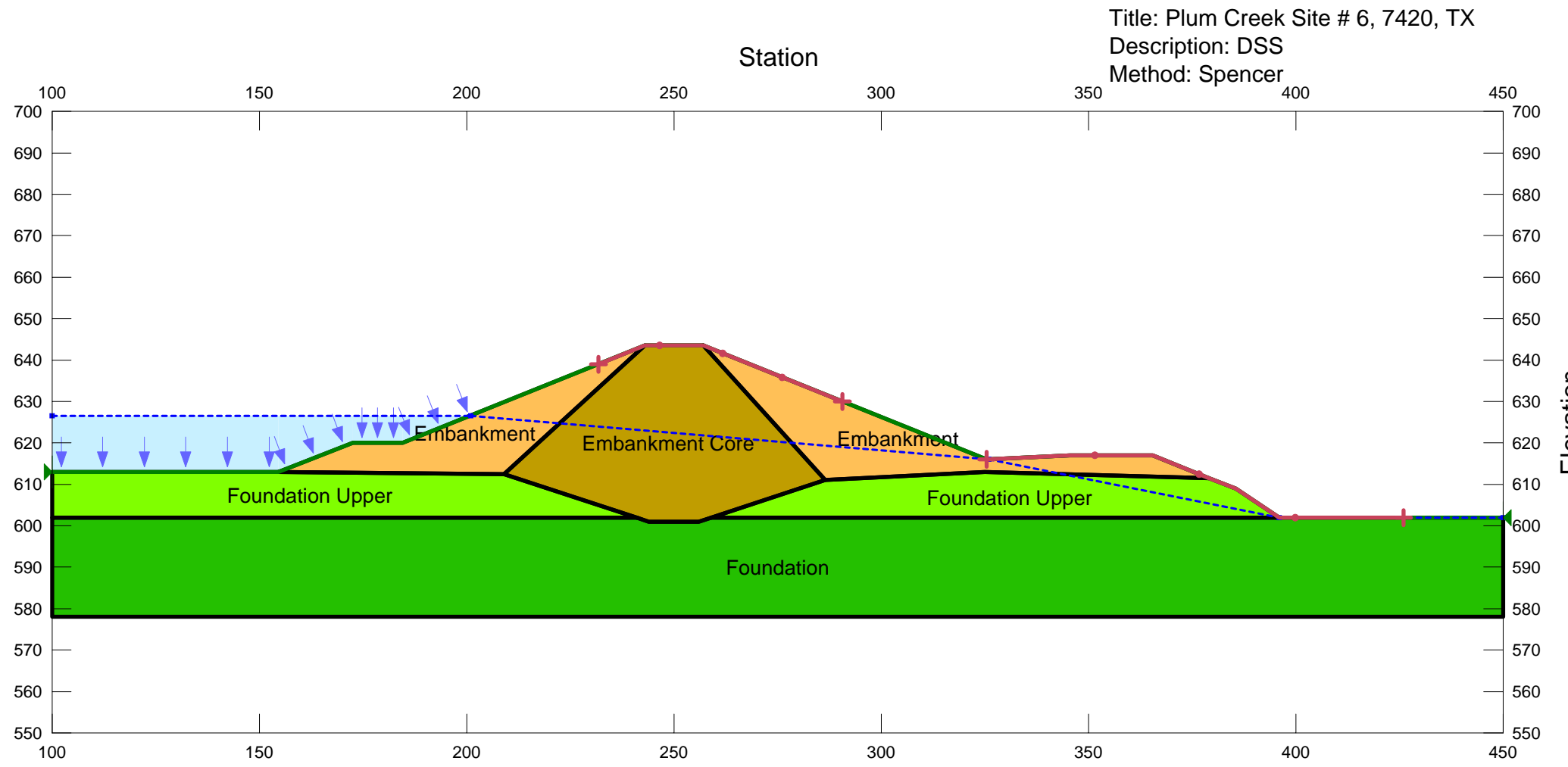
Attachment 7

Graphical Summaries of Slope Stability Analysis, 4 sheets



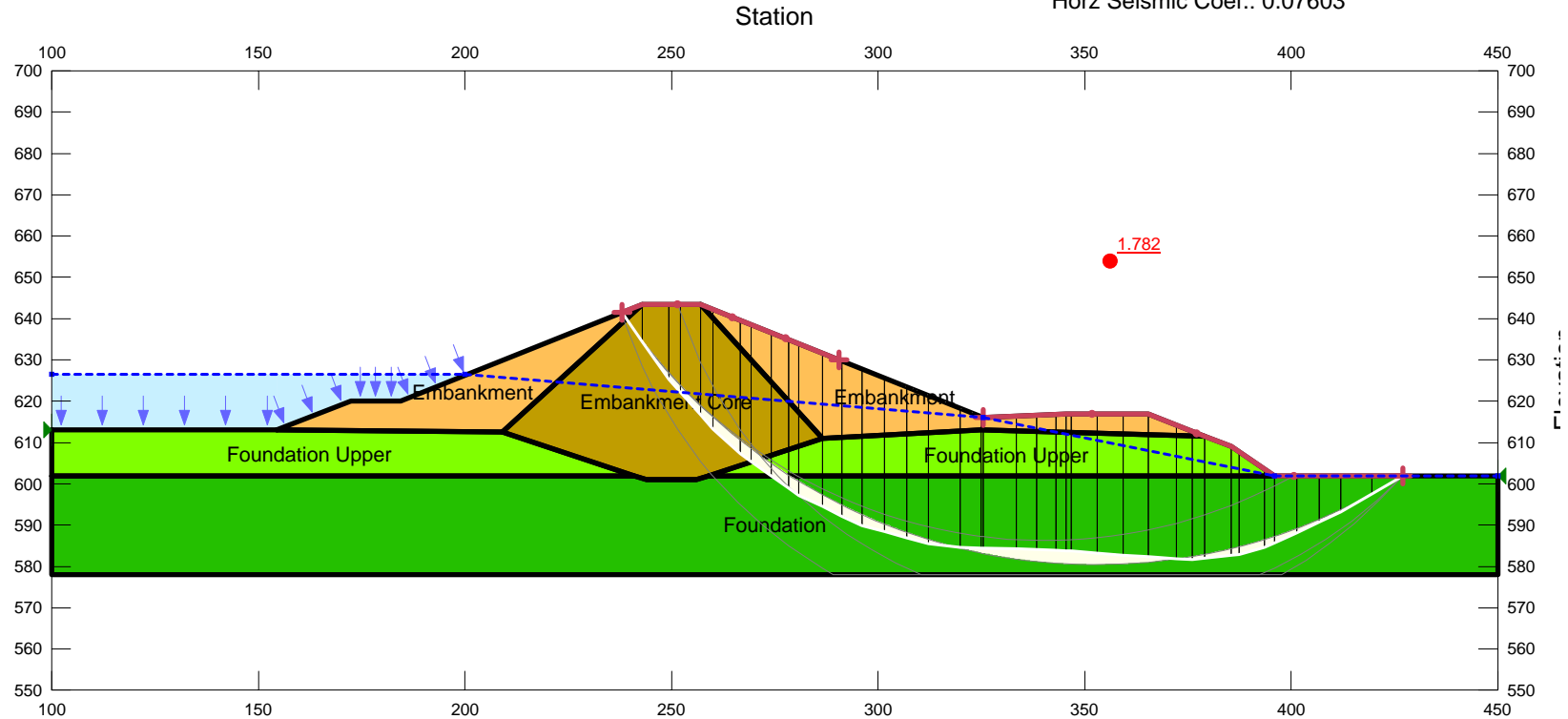


Name: Embankment	Unit Weight: 117.5 pcf	Cohesion': 1,120 psf	Phi': 9.5 °	Total Cohesion: 1,400 psf	Total Phi: 7 °
Name: Foundation	Unit Weight: 115 pcf	Cohesion': 315 psf	Phi': 30.5 °	Total Cohesion: 335 psf	Total Phi: 22 °
Name: Embankment Core	Unit Weight: 109 pcf	Cohesion': 1,120 psf	Phi': 9.5 °	Total Cohesion: 1,400 psf	Total Phi: 7 °
Name: Rock Riprap	Unit Weight: 120 pcf	Cohesion': 0 psf	Phi': 40 °	Total Cohesion: 1 psf	Total Phi: 38 °
Name: Foundation Upper	Unit Weight: 118 pcf	Cohesion': 365 psf	Phi': 30 °	Total Cohesion: 510 psf	Total Phi: 18 °



Name: Embankment	Unit Weight: 117.5 pcf	Cohesion': 1,120 psf	Phi 1: 9.5 °	Constant Unit Wt. Above Water Table: 101 pcf
Name: Foundation	Unit Weight: 115 pcf	Cohesion': 315 psf	Phi 1: 30.5 °	Constant Unit Wt. Above Water Table: 115 pcf
Name: Embankment Core	Unit Weight: 109 pcf	Cohesion': 1,120 psf	Phi 1: 9.5 °	Constant Unit Wt. Above Water Table: 101 pcf
Name: Foundation Upper	Unit Weight: 118 pcf	Cohesion': 365 psf	Phi 1: 30.5 °	Constant Unit Wt. Above Water Table: 115 pcf

Title: Plum Creek Site # 6, 7420, TX
 Description: Seismic pga
 Method: Spencer
 Horz Seismic Coef.: 0.07603

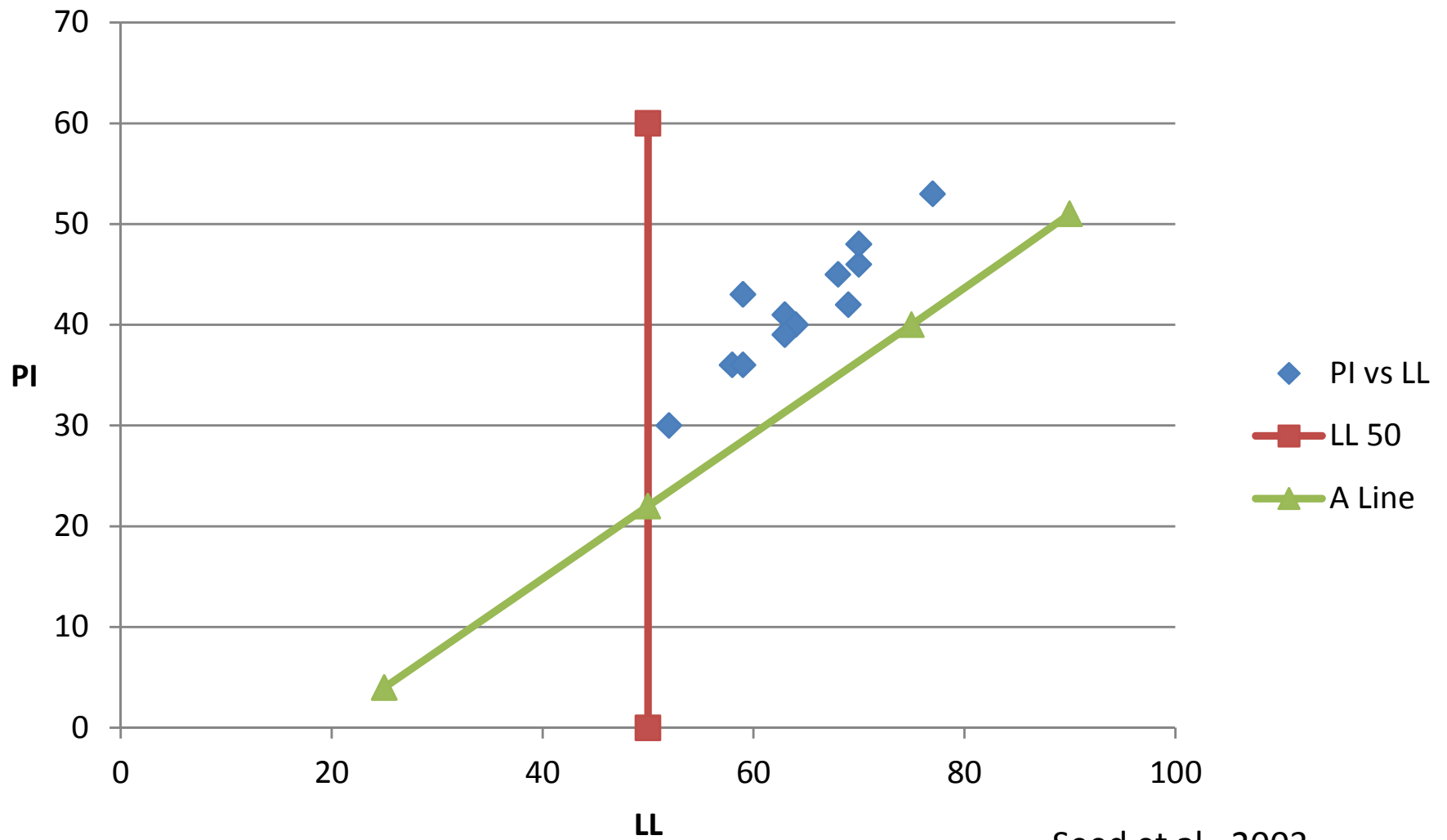


Name: Embankment Unit Weight: 117.5 pcf Cohesion': 1,120 psf Phi 1: 9.5 ° Constant Unit Wt. Above Water Table: 101 pcf
 Name: Foundation Unit Weight: 115 pcf Cohesion': 315 psf Phi 1: 30.5 ° Constant Unit Wt. Above Water Table: 111 pcf
 Name: Embankment Core Unit Weight: 109 pcf Cohesion': 1,120 psf Phi 1: 9.5 ° Constant Unit Wt. Above Water Table: 101 pcf
 Name: Foundation Upper Unit Weight: 118 pcf Cohesion': 365 psf Phi 1: 30.5 ° Constant Unit Wt. Above Water Table: 115 pcf

Attachment 8

Seed Chart Plotting Plasticity Index versus Liquid Limit, 1 sheet

Plum Creek Site # 6



Seed et al., 2003