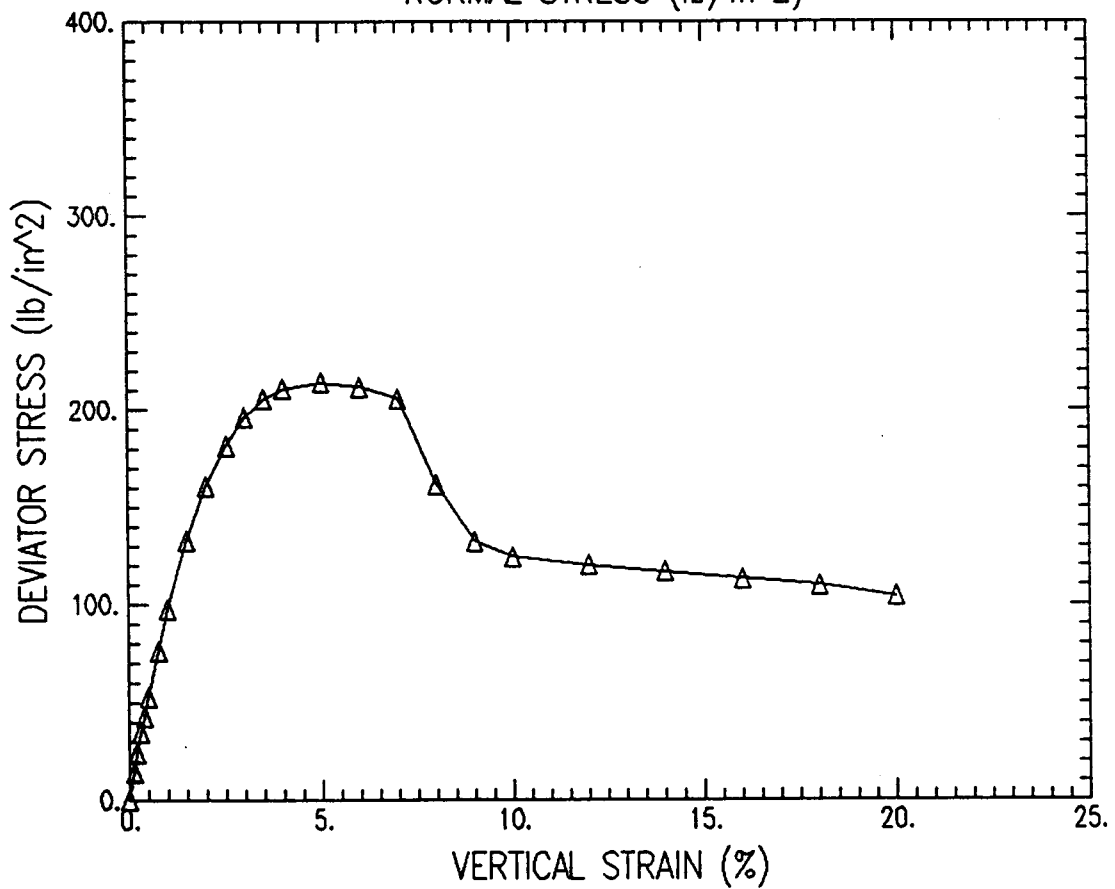
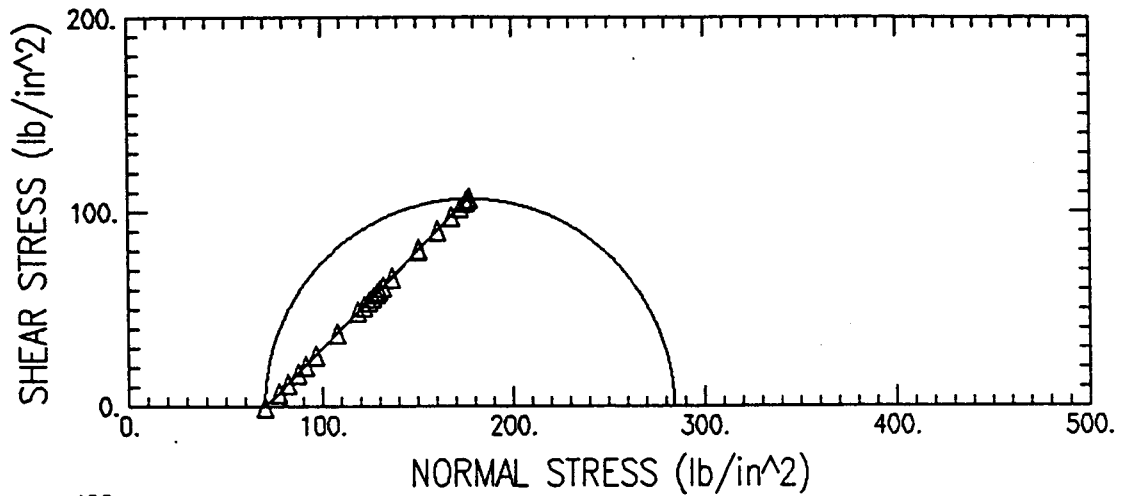


APPENDIX C: SOILS DATA

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
GT-4	⊙70 PSI	70-71 FEET	GT4-70	GT4-70.UU

Wed Mar 19 17:14:58 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT4-70

Boring No. : GT-4

Test Date : 03/11/97

Tested by : C. WASON

Sample No. : 270 PSI

Depth : 70-71 FEET

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : LT. ORANGE BROWN FINE SA-SILT / SILTY FINE SAND

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 70 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	70.00	70.00
2)	0.004	0.11	1.61	0.00	22.98	22.98	14.28	84.28	84.28
3)	0.007	0.20	1.61	0.00	38.49	38.49	23.89	93.89	93.89
4)	0.011	0.31	1.61	0.00	56.30	56.30	34.88	104.88	104.88
5)	0.014	0.39	1.62	0.00	68.94	68.94	42.65	112.65	112.65
6)	0.018	0.50	1.62	0.00	86.18	86.18	53.21	123.21	123.21
7)	0.027	0.75	1.63	0.00	124.09	124.09	76.30	146.30	146.30
8)	0.036	1.00	1.63	0.00	159.71	159.71	97.78	167.78	167.78
9)	0.054	1.51	1.65	0.00	219.46	219.46	133.22	203.22	203.22
10)	0.072	2.01	1.66	0.00	267.72	267.72	161.12	231.12	231.12
11)	0.090	2.51	1.68	0.00	304.49	304.49	181.66	251.66	251.66
12)	0.107	2.99	1.69	0.00	331.49	331.49	196.13	266.13	266.13
13)	0.125	3.49	1.71	0.00	350.45	350.45	205.52	275.52	275.52
14)	0.143	3.99	1.72	0.00	362.51	362.51	210.71	280.71	280.71
15)	0.179	5.00	1.75	0.00	375.15	375.15	214.14	284.14	284.14
16)	0.215	6.00	1.78	0.00	378.02	378.02	211.84	281.84	281.84
17)	0.251	7.01	1.82	0.00	374.00	374.00	205.69	275.69	275.69
18)	0.287	8.01	1.85	0.00	299.89	299.89	161.80	231.80	231.80
19)	0.322	8.99	1.89	0.00	250.48	250.48	132.61	202.61	202.61
20)	0.358	9.99	1.93	0.00	239.57	239.57	124.33	194.33	194.33
21)	0.430	12.00	2.01	0.00	241.29	241.29	120.19	190.19	190.19
22)	0.502	14.01	2.10	0.00	244.74	244.74	116.80	186.80	186.80
23)	0.573	15.99	2.19	0.00	247.61	247.61	113.08	183.08	183.08
24)	0.645	18.00	2.29	0.00	251.63	251.63	109.67	179.67	179.67
25)	0.717	20.01	2.41	0.00	250.48	250.48	103.95	173.95	173.95

Wed Mar 19 17:31:24 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT4-70

Boring No. : GT-4

Test Date : 03/11/97

Tested by : C. WASON

Sample No. : 070 PSI

Depth : 70-71 FEET

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : LT. ORANGE BROWN FINE SA-SILT / SILTY FINE SAND

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 70 PSI

Liquid Limit : 0

Plastic Limit : 0

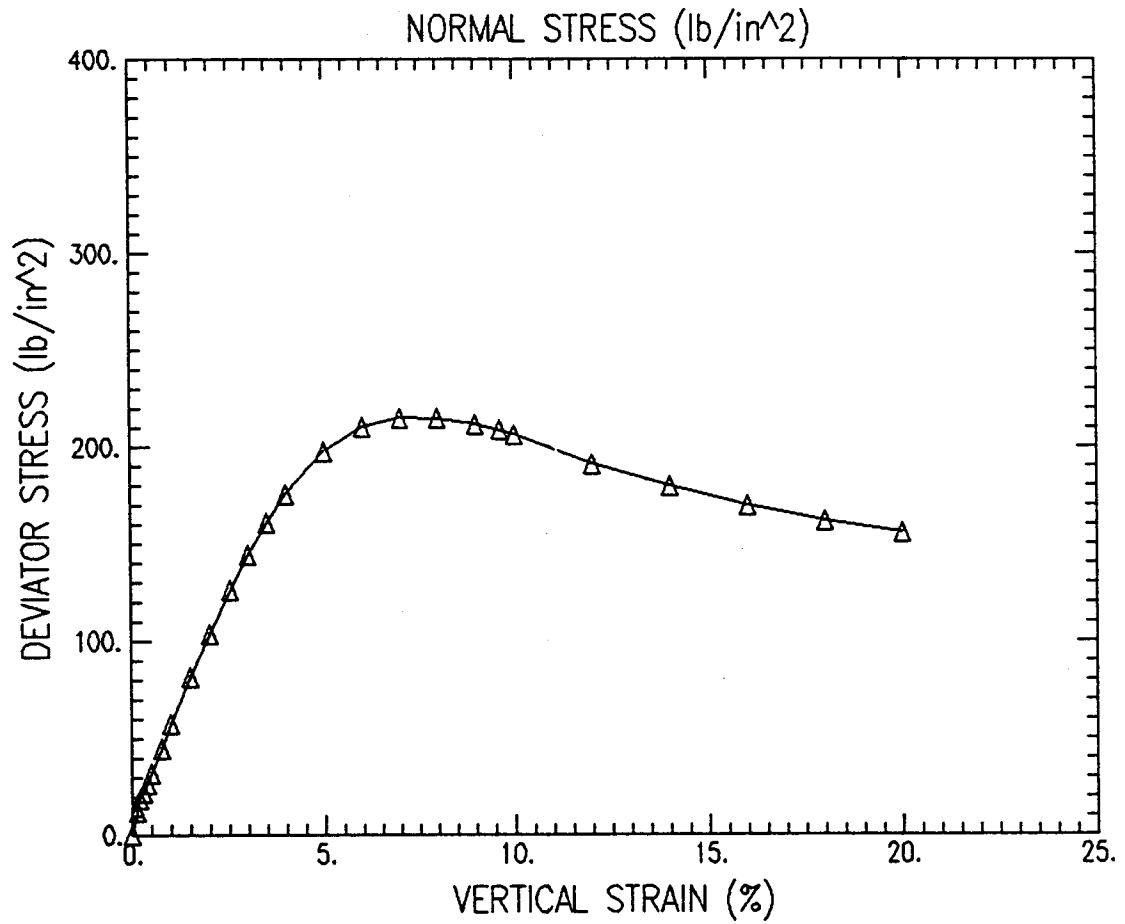
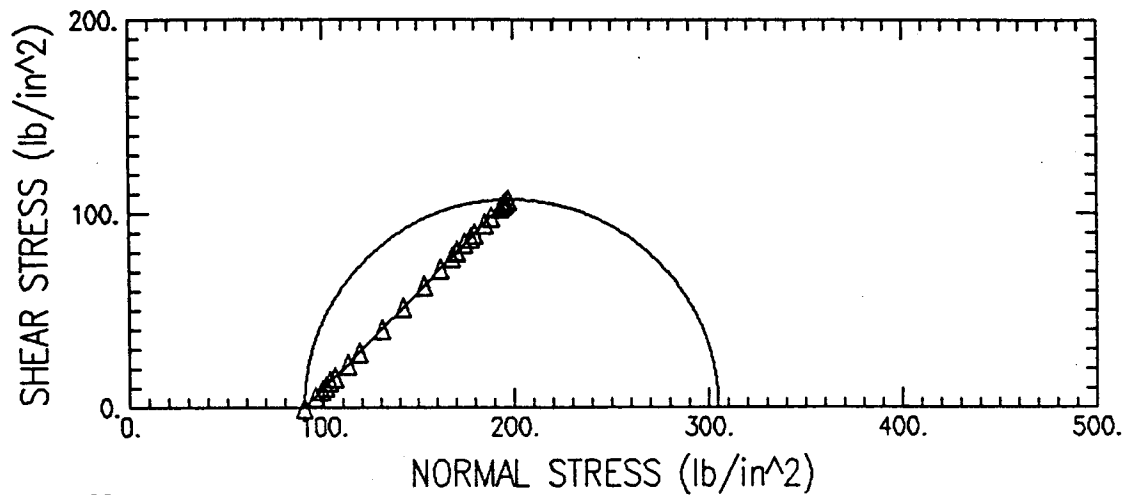
Specific Gravity : 2.72

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	135.70	135.70	0.00
WT CONTAINER + DRY SOIL (gm)	128.20	128.20	0.00
WT WATER (gm)	7.50	7.50	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	128.20	128.20	0.00
WATER CONTENT (%)	5.85	5.85	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	5.85	5.85
VOID RATIO	0.82	0.82
WET DENSITY (lb/ft ³)	98.78	98.78
DRY DENSITY (lb/ft ³)	93.32	93.32
DEGREE OF SATURATION (%)	19.43	19.43

Maximum Shear Stress = 107.07 (lb/in²) at a Vertical Strain of 5.00 %

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
GT-4	@90 PSI	90-91 FEET	GT4-90	GT4-90.UU

Wed Mar 19 17:17:01 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT4-90

Boring No. : GT-4

Test Date : 03/12/97

Tested by : C. WASON

Sample No. : 090 PSI

Depth : 90-91 FEET

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : LT. GRAYISH BROWN FINE SANDY SILTY CLAY

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 90 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	90.00	90.00
2)	0.004	0.11	1.61	0.00	19.64	19.64	12.20	102.20	102.20
3)	0.007	0.20	1.61	0.00	30.61	30.61	19.00	109.00	109.00
4)	0.011	0.31	1.61	0.00	36.38	36.38	22.54	112.54	112.54
5)	0.014	0.39	1.62	0.00	43.89	43.89	27.15	117.15	117.15
6)	0.018	0.50	1.62	0.00	51.98	51.98	32.09	122.09	122.09
7)	0.027	0.75	1.63	0.00	72.77	72.77	44.74	134.74	134.74
8)	0.036	1.00	1.63	0.00	93.56	93.56	57.28	147.28	147.28
9)	0.054	1.51	1.65	0.00	133.98	133.98	81.33	171.33	171.33
10)	0.072	2.01	1.66	0.00	172.10	172.10	103.57	193.57	193.57
11)	0.090	2.51	1.68	0.00	211.37	211.37	126.10	216.10	216.10
12)	0.107	2.99	1.69	0.00	243.71	243.71	144.19	234.19	234.19
13)	0.125	3.49	1.71	0.00	274.31	274.31	160.87	250.87	250.87
14)	0.143	3.99	1.72	0.00	302.61	302.61	175.89	265.89	265.89
15)	0.179	5.00	1.75	0.00	346.50	346.50	197.79	287.79	287.79
16)	0.215	6.00	1.78	0.00	375.38	375.38	210.36	300.36	300.36
17)	0.251	7.01	1.82	0.00	390.97	390.97	215.02	305.02	305.02
18)	0.287	8.01	1.85	0.00	398.48	398.48	214.99	304.99	304.99
19)	0.322	8.99	1.89	0.00	400.21	400.21	211.87	301.87	301.87
20)	0.345	9.63	1.91	0.00	399.63	399.63	208.90	298.90	298.90
21)	0.358	9.99	1.93	0.00	397.90	397.90	206.50	296.50	296.50
22)	0.430	12.00	2.01	0.00	383.46	383.46	191.01	281.01	281.01
23)	0.502	14.01	2.10	0.00	376.53	376.53	179.71	269.71	269.71
24)	0.573	15.99	2.19	0.00	371.91	371.91	169.85	259.85	259.85
25)	0.645	18.00	2.29	0.00	371.33	371.33	161.84	251.84	251.84
26)	0.717	20.01	2.41	0.00	375.38	375.38	155.78	245.78	245.78

Wed Mar 19 17:17:01 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT4-90

Boring No. : GT-4

Test Date : 03/12/97

Tested by : C. WASON

Sample No. : @90 PSI

Depth : 90-91 FEET

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : LT. GRAYISH BROWN FINE SANDY SILTY CLAY

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 90 PSI

Liquid Limit : 0

Plastic Limit : 0

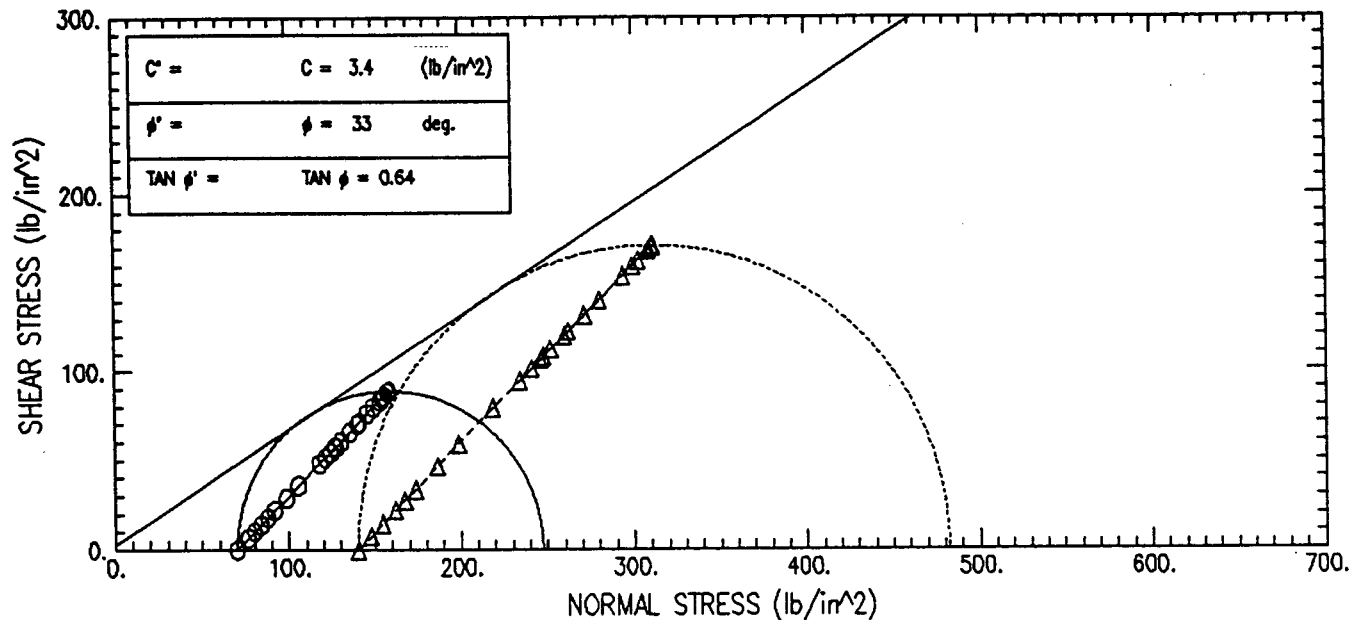
Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	166.00	166.00	0.00
WT CONTAINER + DRY SOIL (gm)	138.43	138.43	0.00
WT WATER (gm)	27.57	27.57	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	138.43	138.43	0.00
WATER CONTENT (%)	19.92	19.92	0.00

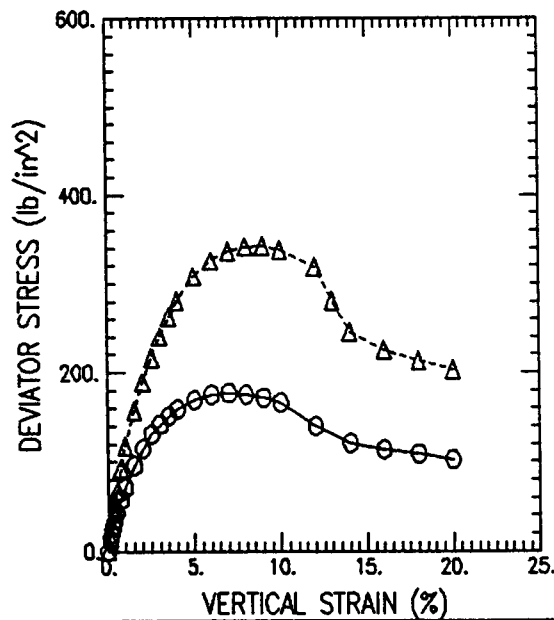
	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	19.92	19.92
VOID RATIO	0.85	0.85
WET DENSITY (lb/ft ³)	109.90	109.90
DRY DENSITY (lb/ft ³)	91.65	91.65
DEGREE OF SATURATION (%)	63.58	63.58

Maximum Shear Stress = 107.51 (lb/in²) at a Vertical Strain of 7.01 %

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		O	Δ		
TEST NO.		GT5-70A	GT5-70B		
INITIAL	WATER CONTENT (%)	4.87	5.48		
	DRY DENSITY (lb/ft ³)	97.07	97.29		
	SATURATION (%)	17.69	20.03		
	VOID RATIO	0.748	0.744		
BEFORE SHEAR	WATER CONTENT (%)	4.87	5.48		
	DRY DENSITY (lb/ft ³)	97.07	97.29		
	SATURATION (%)	17.69	20.03		
	VOID RATIO	0.748	0.744		
	BACK PRESS. (lb/in ²)	0.00	0.00		
	MINOR PRIN. STRESS (lb/in ²)	70.00	140.00		
MAX. DEV. STRESS (lb/in ²)		177.22	342.11		
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		1.43	1.43		
INITIAL HEIGHT (in)		3.74	3.50		

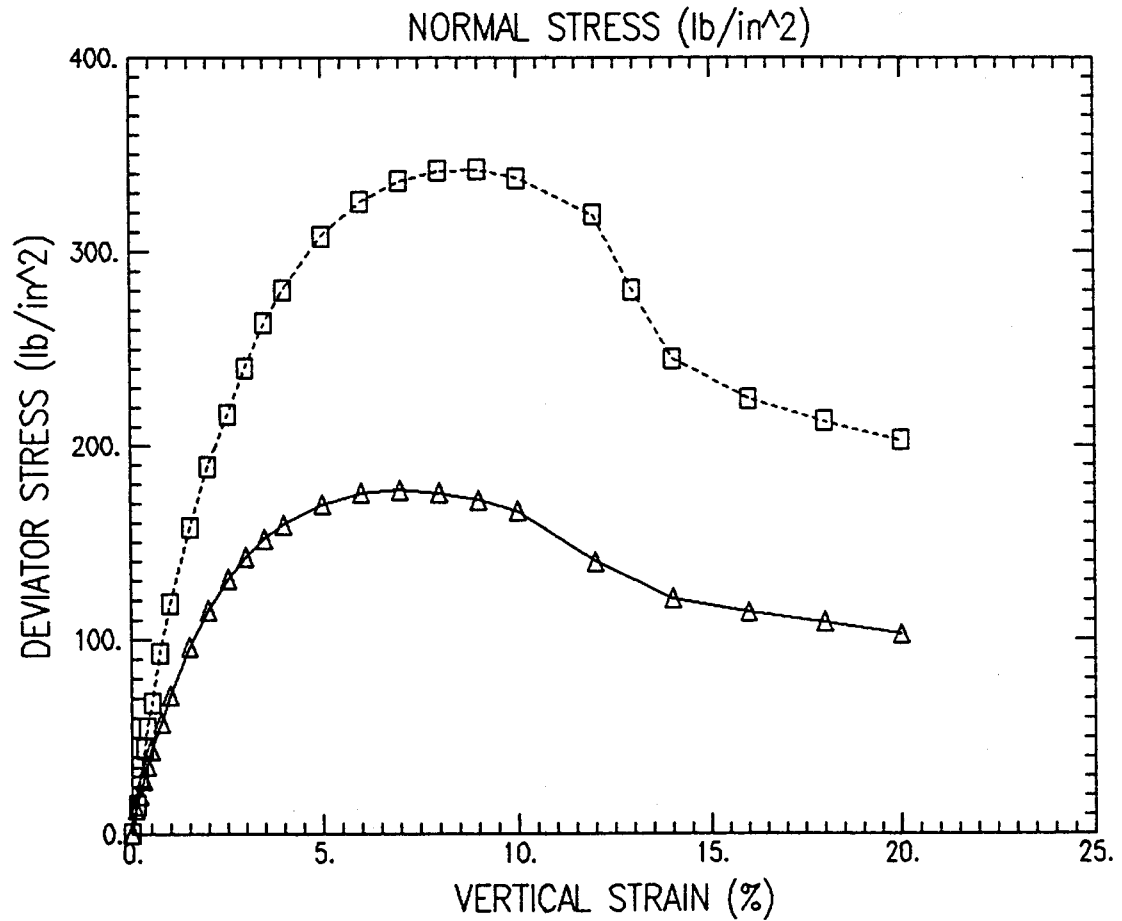
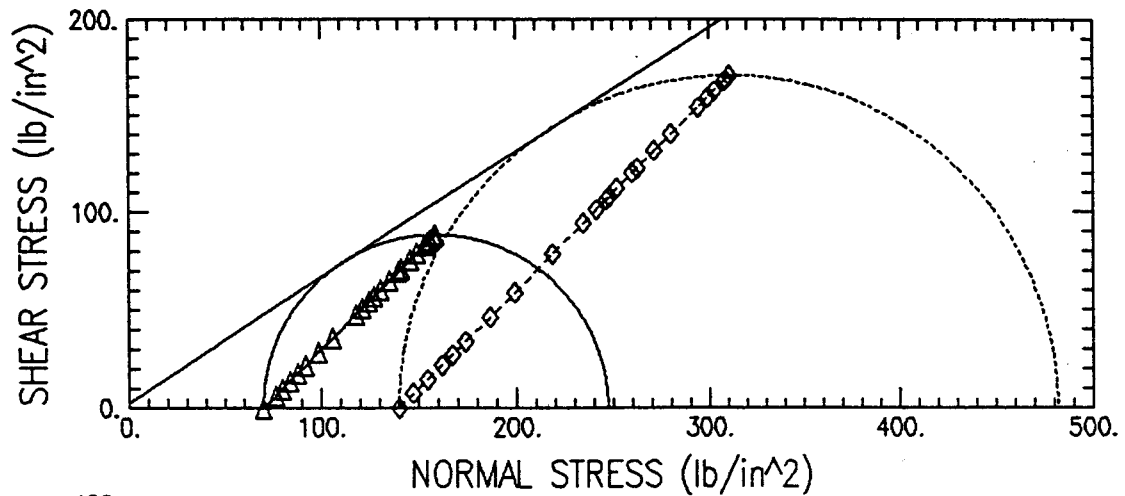
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) BROWN SILTY SAND WITH CLAYSTONE & SANDSTONE FRAGS

2) BROWN SILTY SAND

LL	PL	PI	GS 2.72	TYPE OF SPECIMEN		TUBE		TYPE OF TEST		UNDRAINED	
REMARKS:				PROJECT C. E. L. P.O. #3689							
1) TXUU TEST WITH CONFINING PRESSURE OF 70 PSI											
2) TXUU TEST WITH CONFINING PRESSURE OF 140 PSI				BORING NO. GT-5		SAMPLE NO.		A @70 PSI		B @140 PSI	
				TECH. C. WASON		DEPTH/ELEV		70-71 FEET		70-71 FEET	
				LABORATORY		DATE		03/12/97		03/12/97	
				TRIAxIAL COMPRESSION TEST REPORT							

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
GT-5	A @70 PSI	70-71 FEET	GT5-70A	GT5A-70.UU
GT-5	B @140 PSI	70-71 FEET	GT5-70B	GT5B-70.UU

Failure Criteria: Peak Deviator Stress

Wed Mar 19 17:23:07 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT5-70A

Boring No. : GT-5

Test Date : 03/12/97

Tested by : C. WASON

Sample No. : A @70 PSI

Depth : 70-71 FEET

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : BROWN SILTY SAND WITH CLAYSTONE & SANDSTONE FRAGS

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 70 PSI

Height : 3.740 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 6.01 (in³)

Piston Weight : 0.00 (gm)

Area Correction : None

	CHANGE	VERTICAL						TOTAL	EFFECTIVE
	IN LENGTH	STRAIN	CORR.	PORE	DEV.	CORR. DEV.	DEV.	VERTICAL	VERTICAL
	(in)	(%)	AREA	PRESSURE	LOAD	LOAD	STRESS	STRESS	STRESS
	(in)	(%)	(in ²)	(lb/in ²)	(lb)	(lb)	(lb/in ²)	(lb/in ²)	(lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	70.00	70.00
2)	0.004	0.11	1.61	0.00	20.79	20.79	12.95	82.95	82.95
3)	0.007	0.19	1.61	0.00	32.34	32.34	20.14	90.14	90.14
4)	0.011	0.29	1.61	0.00	45.05	45.05	28.05	98.05	98.05
5)	0.015	0.40	1.61	0.00	57.75	57.75	35.96	105.96	105.96
6)	0.019	0.51	1.61	0.00	70.46	70.46	43.87	113.87	113.87
7)	0.028	0.75	1.61	0.00	93.56	93.56	58.25	128.25	128.25
8)	0.037	0.99	1.61	0.00	116.66	116.66	72.64	142.64	142.64
9)	0.056	1.50	1.61	0.00	158.24	158.24	98.53	168.53	168.53
10)	0.075	2.01	1.61	0.00	190.58	190.58	118.66	188.66	188.66
11)	0.094	2.51	1.61	0.00	219.45	219.45	136.64	206.64	206.64
12)	0.112	2.99	1.61	0.00	240.24	240.24	149.59	219.59	219.59
13)	0.131	3.50	1.61	0.00	258.72	258.72	161.10	231.10	231.10
14)	0.150	4.01	1.61	0.00	273.74	273.74	170.45	240.45	240.45
15)	0.187	5.00	1.61	0.00	296.84	296.84	184.83	254.83	254.83
16)	0.224	5.99	1.61	0.00	313.01	313.01	194.90	264.90	264.90
17)	0.262	7.01	1.61	0.00	322.25	322.25	200.65	270.65	270.65
18)	0.299	7.99	1.61	0.00	325.13	325.13	202.45	272.45	272.45
19)	0.337	9.01	1.61	0.00	324.56	324.56	202.09	272.09	272.09
20)	0.374	10.00	1.61	0.00	320.51	320.51	199.57	269.57	269.57
21)	0.449	12.01	1.61	0.00	280.67	280.67	174.76	244.76	244.76
22)	0.524	14.01	1.61	0.00	252.95	252.95	157.50	227.50	227.50
23)	0.598	15.99	1.61	0.00	249.48	249.48	155.34	225.34	225.34
24)	0.673	17.99	1.61	0.00	249.48	249.48	155.34	225.34	225.34
25)	0.748	20.00	1.61	0.00	247.17	247.17	153.90	223.90	223.90

Wed Mar 19 17:24:24 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT5-70A

Boring No. : GT-5

Test Date : 03/12/97

Tested by : C. WASON

Sample No. : A 270 PSI

Depth : 70-71 FEET

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : BROWN SILTY SAND WITH CLAYSTONE & SANDSTONE FRAGS

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 70 PSI

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.72

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	160.50	159.40	0.00
WT CONTAINER + DRY SOIL (gm)	153.05	152.00	0.00
WT WATER (gm)	7.45	7.40	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	153.05	152.00	0.00
WATER CONTENT (%)	4.87	4.87	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	4.87	4.87
VOID RATIO	0.75	0.75
WET DENSITY (lb/ft ³)	101.80	101.80
DRY DENSITY (lb/ft ³)	97.07	97.07
DEGREE OF SATURATION (%)	17.69	17.69

Maximum Shear Stress = 101.22 (lb/in²) at a Vertical Strain of 7.99 %

Wed Mar 19 16:30:16 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT5-708

Boring No. : GT-5

Test Date : 03/12/97

Tested by : C. WASON

Sample No. : B @140 PSI

Depth : 70-71 FEET

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : BROWN SILTY SAND

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 140 PSI

Height : 3.505 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.63 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL							TOTAL	EFFECTIVE
	CHANGE	STRAIN	CORR.	PORE	DEV.	CORR. DEV.	DEV.	VERTICAL	VERTICAL
	IN LENGTH		AREA	PRESSURE	LOAD	LOAD	STRESS	STRESS	STRESS
	(in)	(%)	(in ²)	(lb/in ²)	(lb)	(lb)	(lb/in ²)	(lb/in ²)	(lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	140.00	140.00
2)	0.004	0.11	1.61	0.00	24.26	24.26	15.07	155.07	155.07
3)	0.007	0.20	1.61	0.00	47.36	47.36	29.39	169.39	169.39
4)	0.011	0.31	1.61	0.00	71.61	71.61	44.36	184.36	184.36
5)	0.014	0.40	1.62	0.00	88.94	88.94	55.01	195.01	195.01
6)	0.018	0.51	1.62	0.00	109.73	109.73	67.74	207.74	207.74
7)	0.026	0.74	1.63	0.00	151.31	151.31	93.05	233.05	233.05
8)	0.035	1.00	1.63	0.00	192.89	192.89	118.10	258.10	258.10
9)	0.053	1.51	1.65	0.00	259.88	259.88	157.74	297.74	297.74
10)	0.070	2.00	1.66	0.00	314.16	314.16	189.11	329.11	329.11
11)	0.088	2.51	1.68	0.00	362.67	362.67	216.37	356.37	356.37
12)	0.105	3.00	1.69	0.00	406.56	406.56	240.51	380.51	380.51
13)	0.123	3.51	1.71	0.00	449.30	449.30	263.40	403.40	403.40
14)	0.140	3.99	1.72	0.00	482.79	482.79	280.60	420.60	420.60
15)	0.175	4.99	1.75	0.00	539.39	539.39	307.91	447.91	447.91
16)	0.210	5.99	1.78	0.00	580.97	580.97	325.62	465.62	465.62
17)	0.245	6.99	1.82	0.00	611.00	611.00	336.12	476.12	476.12
18)	0.280	7.99	1.85	0.00	632.94	632.94	341.64	481.64	481.64
19)	0.315	8.99	1.89	0.00	646.22	646.22	342.11	482.11	482.11
20)	0.350	9.99	1.93	0.00	650.84	650.84	337.81	477.81	477.81
21)	0.420	11.98	2.01	0.00	639.87	639.87	318.85	458.85	458.85
22)	0.455	12.98	2.05	0.00	575.19	575.19	280.66	420.66	420.66
23)	0.491	14.01	2.10	0.00	513.98	513.98	245.31	385.31	385.31
24)	0.561	16.01	2.19	0.00	492.03	492.03	224.64	364.64	364.64
25)	0.631	18.00	2.29	0.00	488.57	488.57	212.93	352.93	352.93
26)	0.701	20.00	2.41	0.00	488.57	488.57	202.81	342.81	342.81

Wed Mar 19 16:30:16 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT5-708
 Boring No. : GT-5 Test Date : 03/12/97 Tested by : C. WASON
 Sample No. : B @140 PSI Depth : 70-71 FEET Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : BROWN SILTY SAND
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 140 PSI

Liquid Limit : 0

Plastic Limit : 0

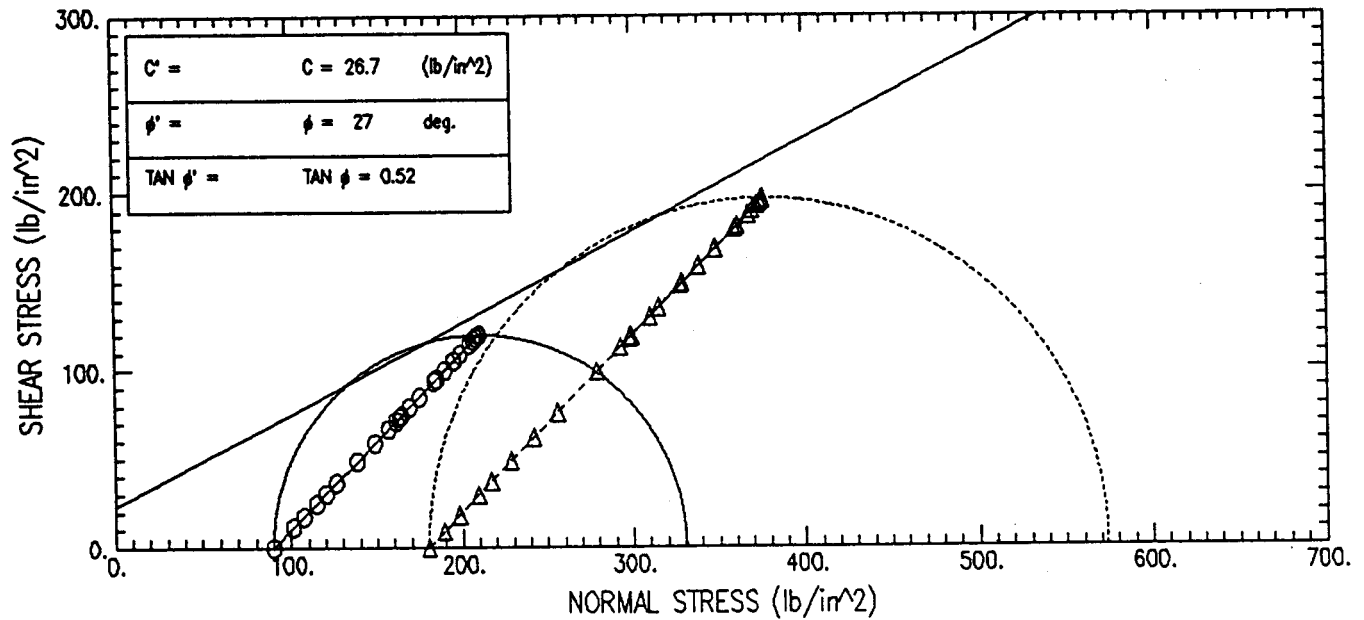
Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	151.60	151.10	0.00
WT CONTAINER + DRY SOIL (gm)	143.72	143.25	0.00
WT WATER (gm)	7.88	7.85	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	143.72	143.25	0.00
WATER CONTENT (%)	5.48	5.48	0.00

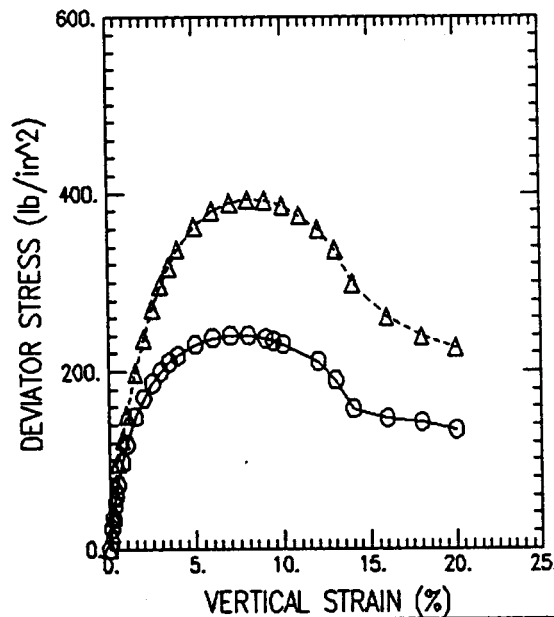
	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	5.48	5.48
VOID RATIO	0.74	0.74
WET DENSITY (lb/ft ³)	102.63	102.63
DRY DENSITY (lb/ft ³)	97.29	97.29
DEGREE OF SATURATION (%)	20.03	20.03

Maximum Shear Stress = 171.05 (lb/in²) at a Vertical Strain of 8.99 %

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		O	Δ		
TEST NO.		GT5-90A	GT5-90B		
INITIAL	WATER CONTENT (%)	4.91	4.73		
	DRY DENSITY (lb/ft ³)	91.22	91.53		
	SATURATION (%)	15.66	15.19		
	VOID RATIO	0.847	0.841		
BEFORE SHEAR	WATER CONTENT (%)	4.91	4.73		
	DRY DENSITY (lb/ft ³)	91.22	91.53		
	SATURATION (%)	15.66	15.19		
	VOID RATIO	0.847	0.841		
	BACK PRESS. (lb/in ²)	0.00	0.00		
MINOR PRIN. STRESS (lb/in ²)		90.00	180.00		
MAX. DEV. STRESS (lb/in ²)		240.43	393.22		
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		1.43	1.43		
INITIAL HEIGHT (in)		3.58	3.58		

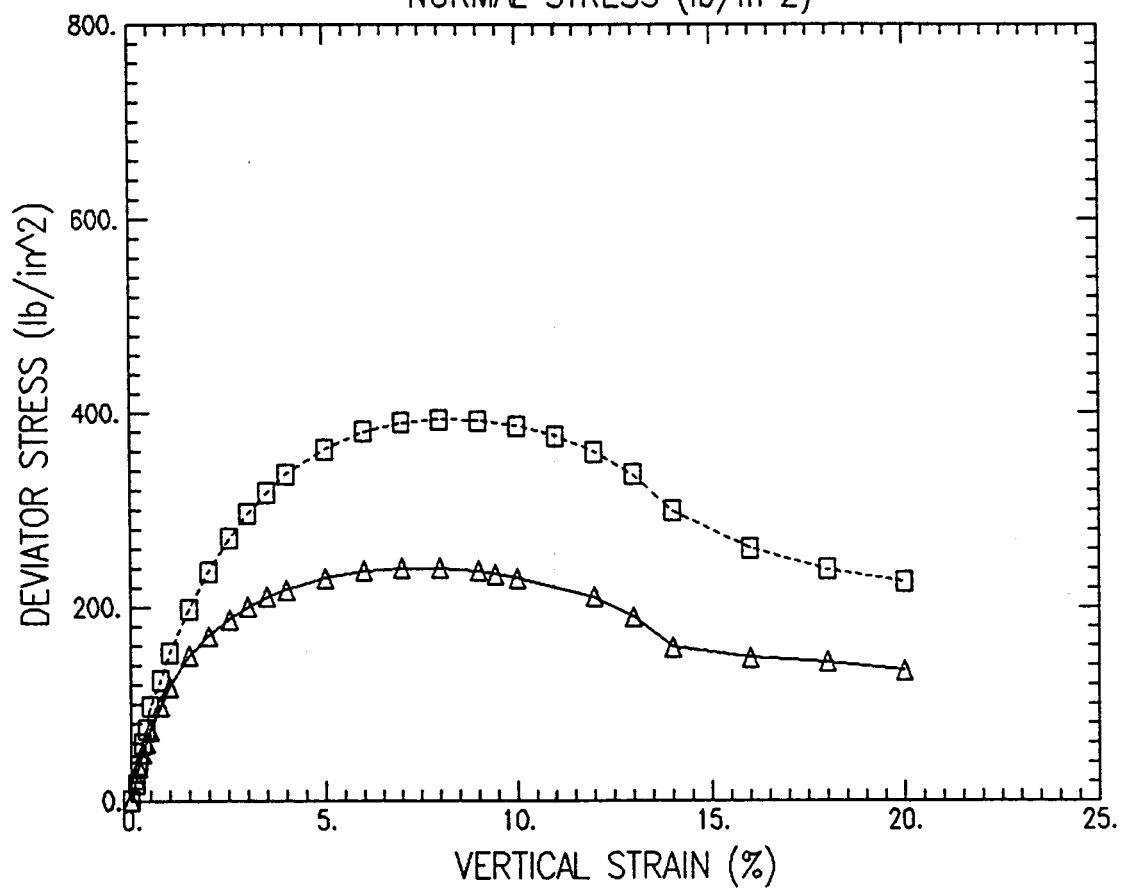
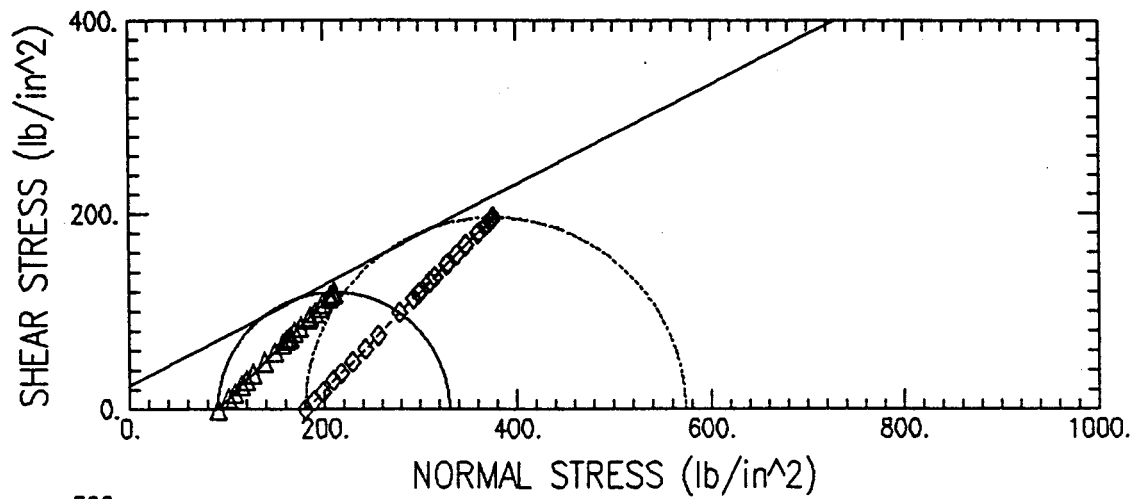
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) BROWN SILTY SAND

2) BROWN SILTY SAND

LL	PL	PI	GS 2.70	TYPE OF SPECIMEN TUBE		TYPE OF TEST UNDRAINED			
REMARKS:				PROJECT C. E. L. P.O. #3689					
1) TXUU TEST WITH CONFINING PRESSURE OF 90 PSI									
2) TXUU TEST WITH CONFINING PRESSURE OF 180 PSI				BORING NO. GT-5	SAMPLE NO.	A @90 PSI	B @180 PSI		
				TECH. C. WASON	DEPTH/ELEV	90-91 FEET	90-91 FEET		
				LABORATORY	DATE	03/13/97	03/13/97		
				TRIAxIAL COMPRESSION TEST REPORT					

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
GT-5	A @90 PSI	90-91 FEET	GT5-90A	GT5A-90.UU
GT-5	B @180 PSI	90-91 FEET	GT5-90B	GT5B-90.UU

Failure Criteria: Peak Deviator Stress

Wed Mar 19 16:31:04 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT5-90A

Boring No. : GT-5

Test Date : 03/13/97

Tested by : C. WASON

Sample No. : A @90 PSI

Depth : 90-91 FEET

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : BROWN SILTY SAND

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 90 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL							TOTAL	EFFECTIVE
	CHANGE	STRAIN	CORR.	PORE	DEV.	CORR. DEV.	DEV.	VERTICAL	VERTICAL
	IN LENGTH		AREA	PRESSURE	LOAD	LOAD	STRESS	STRESS	STRESS
	(in)	(%)	(in ²)	(lb/in ²)	(lb)	(lb)	(lb/in ²)	(lb/in ²)	(lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	90.00	90.00
2)	0.004	0.11	1.61	0.00	36.96	36.96	22.97	112.97	112.97
3)	0.007	0.20	1.61	0.00	56.60	56.60	35.12	125.12	125.12
4)	0.011	0.31	1.61	0.00	80.85	80.85	50.08	140.08	140.08
5)	0.014	0.39	1.62	0.00	98.18	98.18	60.73	150.73	150.73
6)	0.018	0.50	1.62	0.00	117.81	117.81	72.74	162.74	162.74
7)	0.027	0.75	1.63	0.00	158.24	158.24	97.29	187.29	187.29
8)	0.036	1.00	1.63	0.00	192.89	192.89	118.09	208.09	208.09
9)	0.054	1.51	1.65	0.00	246.02	246.02	149.34	239.34	239.34
10)	0.072	2.01	1.66	0.00	282.98	282.98	170.30	260.30	260.30
11)	0.090	2.51	1.68	0.00	314.16	314.16	187.43	277.43	277.43
12)	0.107	2.99	1.69	0.00	338.42	338.42	200.23	290.23	290.23
13)	0.125	3.49	1.71	0.00	359.21	359.21	210.66	300.66	300.66
14)	0.143	3.99	1.72	0.00	375.38	375.38	218.19	308.19	308.19
15)	0.179	5.00	1.75	0.00	403.10	403.10	230.09	320.09	320.09
16)	0.215	6.00	1.78	0.00	423.89	423.89	237.54	327.54	327.54
17)	0.251	7.01	1.82	0.00	437.17	437.17	240.43	330.43	330.43
18)	0.287	8.01	1.85	0.00	445.25	445.25	240.23	330.23	330.23
19)	0.322	8.99	1.89	0.00	448.14	448.14	237.25	327.25	327.25
20)	0.338	9.43	1.91	0.00	446.41	446.41	234.26	324.26	324.26
21)	0.358	9.99	1.93	0.00	443.52	443.52	230.18	320.18	320.18
22)	0.430	12.00	2.01	0.00	423.89	423.89	211.15	301.15	301.15
23)	0.466	13.01	2.05	0.00	390.39	390.39	190.39	280.39	280.39
24)	0.502	14.01	2.10	0.00	331.49	331.49	158.21	248.21	248.21
25)	0.573	15.99	2.19	0.00	322.25	322.25	147.17	237.17	237.17
26)	0.645	18.00	2.29	0.00	328.02	328.02	142.97	232.97	232.97
27)	0.717	20.01	2.41	0.00	323.40	323.40	134.21	224.21	224.21

Wed Mar 19 16:31:04 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT5-90A
 Boring No. : GT-5 Test Date : 03/13/97 Tested by : C. WASON
 Sample No. : A @90 PSI Depth : 90-91 FEET Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : BROWN SILTY SAND
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 90 PSI

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.7

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	144.55	144.10	0.00
WT CONTAINER + DRY SOIL (gm)	137.78	137.35	0.00
WT WATER (gm)	6.77	6.75	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	137.78	137.35	0.00
WATER CONTENT (%)	4.91	4.91	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	4.91	4.91
VOID RATIO	0.85	0.85
WET DENSITY (lb/ft ³)	95.70	95.70
DRY DENSITY (lb/ft ³)	91.22	91.22
DEGREE OF SATURATION (%)	15.66	15.66

Maximum Shear Stress = 120.21 (lb/in²) at a Vertical Strain of 7.01 %

Wed Mar 19 16:31:29 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT5-908

Boring No. : GT-5

Test Date : 03/13/97

Tested by : C. WASON

Sample No. : B @180 PSI

Depth : 90-91 FEET

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : BROWN SILTY SAND

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 180 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL		CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
	CHANGE IN LENGTH (in)	STRAIN (%)							
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	180.00	180.00
2)	0.004	0.11	1.61	0.00	28.88	28.88	17.95	197.95	197.95
3)	0.007	0.20	1.61	0.00	58.91	58.91	36.56	216.56	216.56
4)	0.011	0.31	1.61	0.00	95.87	95.87	59.39	239.39	239.39
5)	0.014	0.39	1.62	0.00	120.12	120.12	74.31	254.31	254.31
6)	0.018	0.50	1.62	0.00	158.24	158.24	97.70	277.70	277.70
7)	0.027	0.75	1.63	0.00	202.13	202.13	124.28	304.28	304.28
8)	0.036	1.00	1.63	0.00	248.33	248.33	152.03	332.03	332.03
9)	0.054	1.51	1.65	0.00	326.87	326.87	198.42	378.42	378.42
10)	0.072	2.01	1.66	0.00	393.86	393.86	237.03	417.03	417.03
11)	0.090	2.51	1.68	0.00	453.92	453.92	270.80	450.80	450.80
12)	0.107	2.99	1.69	0.00	501.27	501.27	296.59	476.59	476.59
13)	0.125	3.49	1.71	0.00	541.70	541.70	317.68	497.68	497.68
14)	0.143	3.99	1.72	0.00	579.81	579.81	337.01	517.01	517.01
15)	0.179	5.00	1.75	0.00	635.25	635.25	362.61	542.61	542.61
16)	0.215	6.00	1.78	0.00	679.14	679.14	380.59	560.59	560.59
17)	0.251	7.01	1.82	0.00	708.59	708.59	389.70	569.70	569.70
18)	0.287	8.01	1.85	0.00	728.81	728.81	393.22	573.22	573.22
19)	0.322	8.99	1.89	0.00	740.36	740.36	391.94	571.94	571.94
20)	0.358	9.99	1.93	0.00	743.82	743.82	386.02	566.02	566.02
21)	0.394	11.00	1.97	0.00	738.05	738.05	375.33	555.33	555.33
22)	0.430	12.00	2.01	0.00	721.88	721.88	359.58	539.58	539.58
23)	0.466	13.01	2.05	0.00	689.54	689.54	336.28	516.28	516.28
24)	0.502	14.01	2.10	0.00	626.01	626.01	298.77	478.77	478.77
25)	0.573	15.99	2.19	0.00	571.73	571.73	261.11	441.11	441.11
26)	0.645	18.00	2.29	0.00	548.63	548.63	239.12	419.12	419.12
27)	0.717	20.01	2.41	0.00	545.16	545.16	226.24	406.24	406.24

Wed Mar 19 16:31:29 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT5-908
 Boring No. : GT-5 Test Date : 03/13/97 Tested by : C. WASON
 Sample No. : B @180 PSI Depth : 90-91 FEET Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : BROWN SILTY SAND
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 180 PSI

Liquid Limit : 0

Plastic Limit : 0

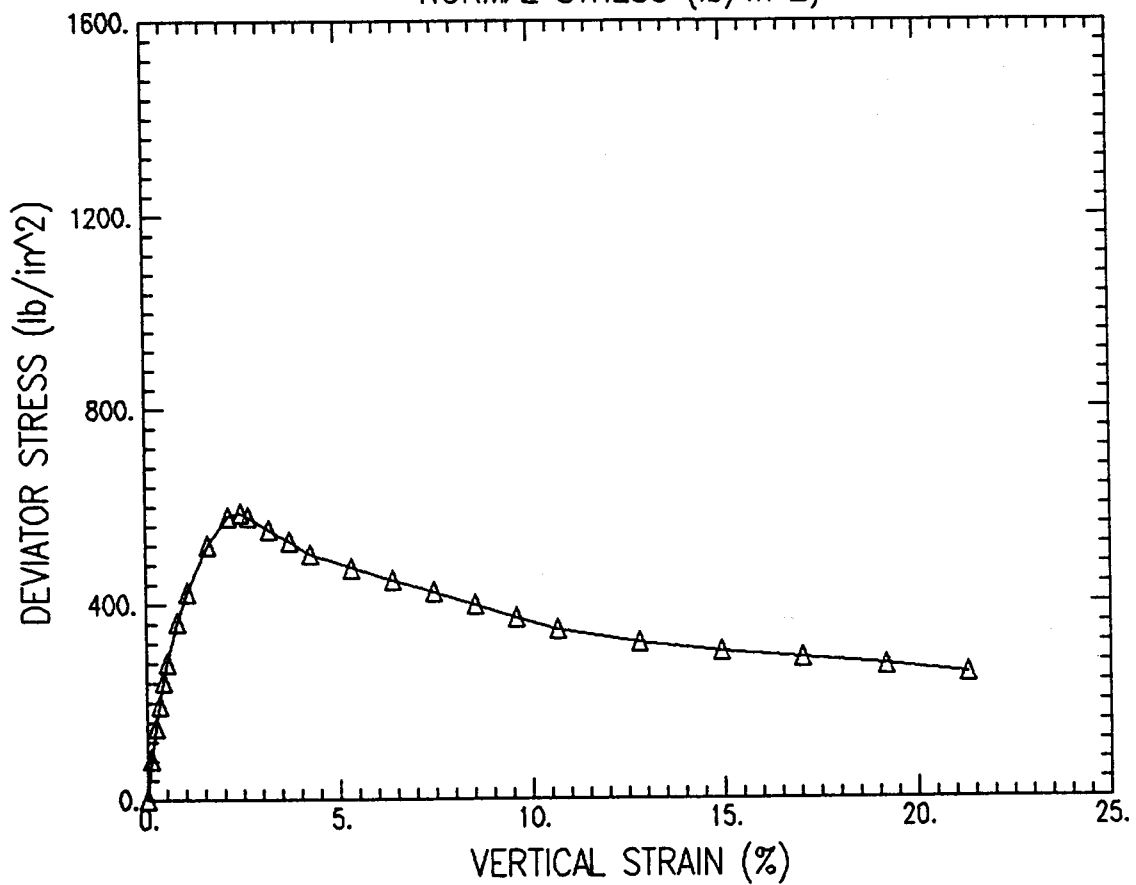
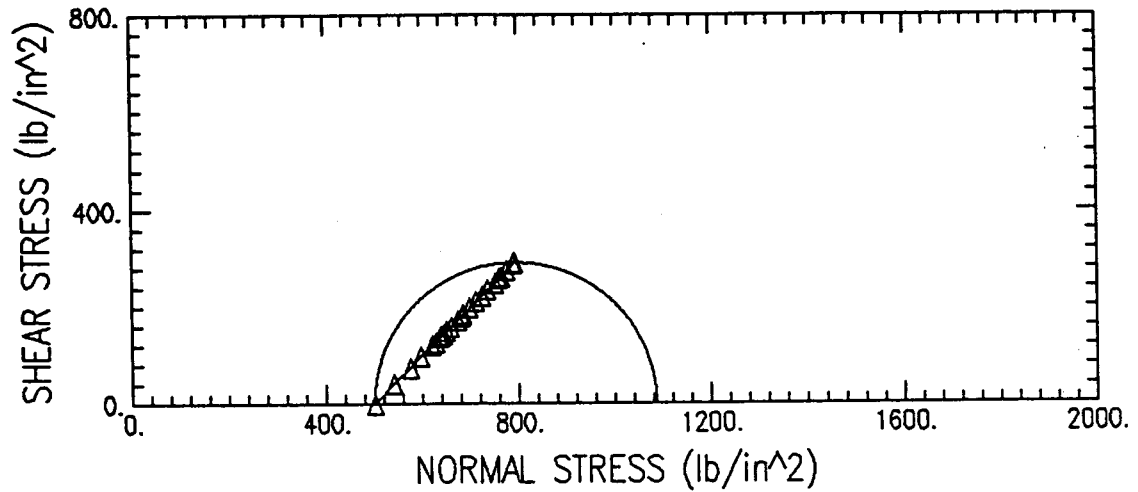
Specific Gravity : 2.7

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	144.80	144.32	0.00
WT CONTAINER + DRY SOIL (gm)	138.26	137.80	0.00
WT WATER (gm)	6.54	6.52	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	138.26	137.80	0.00
WATER CONTENT (%)	4.73	4.73	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	4.73	4.73
VOID RATIO	0.84	0.84
WET DENSITY (lb/ft ³)	95.86	95.86
DRY DENSITY (lb/ft ³)	91.53	91.53
DEGREE OF SATURATION (%)	15.19	15.19

Maximum Shear Stress = 196.61 (lb/in²) at a Vertical Strain of 8.01 %

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
PB-2	1 @500 PSI	522-524 FT	PB2-522	PB2-522.UU

Wed Mar 19 16:32:14 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : PB2-522

Boring No. : PB-2

Test Date : 03/17/97

Tested by : C. WASON

Sample No. : 1 @500 PSI

Depth : 522-524 FT

Checked by : C. CAPPS

Sample Type : PLASTIC TUBE

Elevation : NA

Soil Description : LT. BROWN SILTY CLAYSTONE -CH-

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 500 PSI

Height : 5.079 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 3.89 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 19.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	3.89	0.00	0.00	0.00	0.00	500.00	500.00
2)	0.005	0.10	3.89	0.00	328.02	328.02	84.23	584.23	584.23
3)	0.011	0.22	3.90	0.00	581.49	581.49	149.02	649.02	649.02
4)	0.016	0.32	3.91	0.00	767.87	767.87	196.46	696.46	696.46
5)	0.022	0.43	3.92	0.00	954.24	954.24	243.66	743.66	743.66
6)	0.027	0.53	3.92	0.00	1103.34	1103.34	281.27	781.27	781.27
7)	0.040	0.79	3.94	0.00	1431.36	1431.36	363.32	863.32	863.32
8)	0.054	1.06	3.96	0.00	1684.83	1684.83	425.66	925.66	925.66
9)	0.081	1.59	3.99	0.00	2079.95	2079.95	520.75	1020.75	1020.75
10)	0.108	2.13	4.03	0.00	2340.87	2340.87	580.74	1080.74	1080.74
11)	0.125	2.46	4.05	0.00	2378.15	2378.15	586.57	1086.57	1086.57
12)	0.135	2.66	4.07	0.00	2355.78	2355.78	579.07	1079.07	1079.07
13)	0.162	3.19	4.11	0.00	2266.32	2266.32	551.91	1051.91	1051.91
14)	0.189	3.72	4.15	0.00	2191.77	2191.77	528.76	1028.76	1028.76
15)	0.217	4.27	4.19	0.00	2102.31	2102.31	502.21	1002.21	1002.21
16)	0.271	5.34	4.27	0.00	2020.31	2020.31	473.42	973.42	973.42
17)	0.325	6.40	4.35	0.00	1953.21	1953.21	448.79	948.79	948.79
18)	0.379	7.46	4.44	0.00	1886.12	1886.12	424.78	924.78	924.78
19)	0.433	8.53	4.53	0.00	1804.11	1804.11	398.09	898.09	898.09
20)	0.487	9.59	4.63	0.00	1714.65	1714.65	370.53	870.53	870.53
21)	0.541	10.65	4.73	0.00	1640.10	1640.10	346.95	846.95	846.95
22)	0.650	12.80	4.94	0.00	1580.46	1580.46	319.79	819.79	819.79
23)	0.758	14.92	5.18	0.00	1558.10	1558.10	301.06	801.06	801.06
24)	0.866	17.05	5.43	0.00	1565.55	1565.55	288.23	788.23	788.23
25)	0.974	19.18	5.71	0.00	1565.55	1565.55	273.96	773.96	773.96
26)	1.083	21.32	6.03	0.00	1543.19	1543.19	255.85	755.85	755.85

Wed Mar 19 16:32:14 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : PB2-522
 Boring No. : PB-2 Test Date : 03/17/97 Tested by : C. WASON
 Sample No. : 1 @500 PSI Depth : 522-524 FT Checked by : C. CAPPS
 Sample Type : PLASTIC TUBE Elevation : NA
 Soil Description : LT. BROWN SILTY CLAYSTONE -CH-
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 500 PSI

Liquid Limit : 58.63

Plastic Limit : 23.68

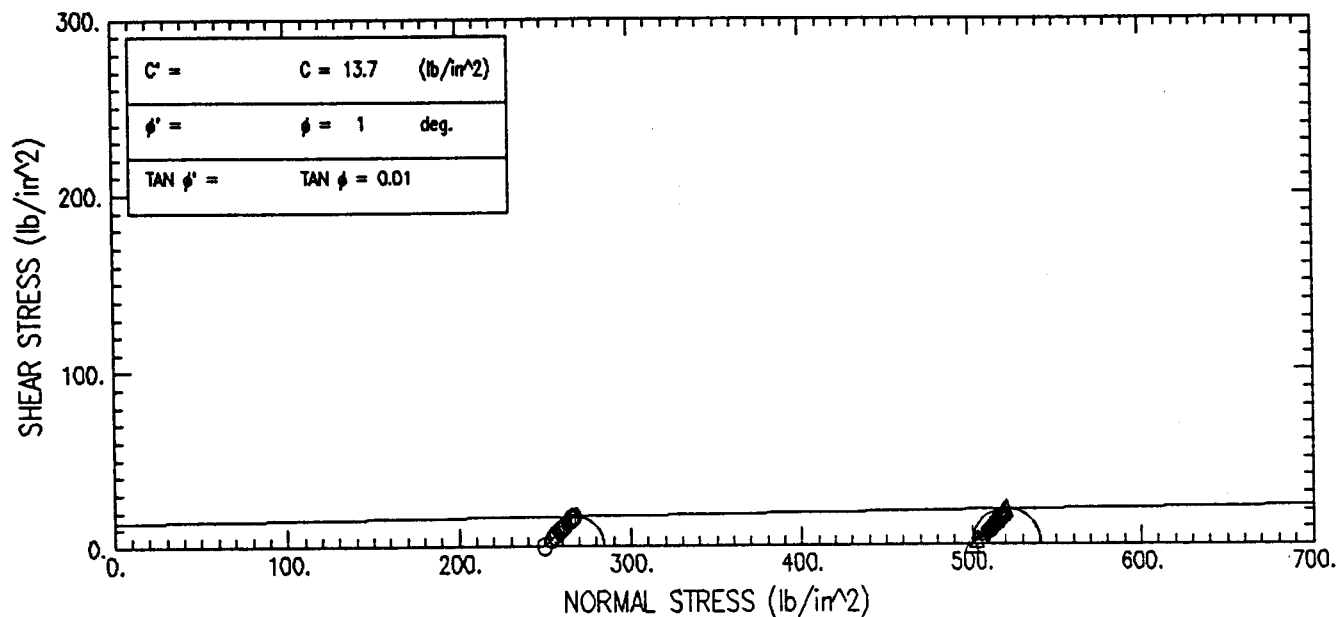
Specific Gravity : 2.72

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	544.40	544.40	0.00
WT CONTAINER + DRY SOIL (gm)	508.52	508.52	0.00
WT WATER (gm)	35.88	35.88	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	508.52	508.52	0.00
WATER CONTENT (%)	7.06	7.06	0.00

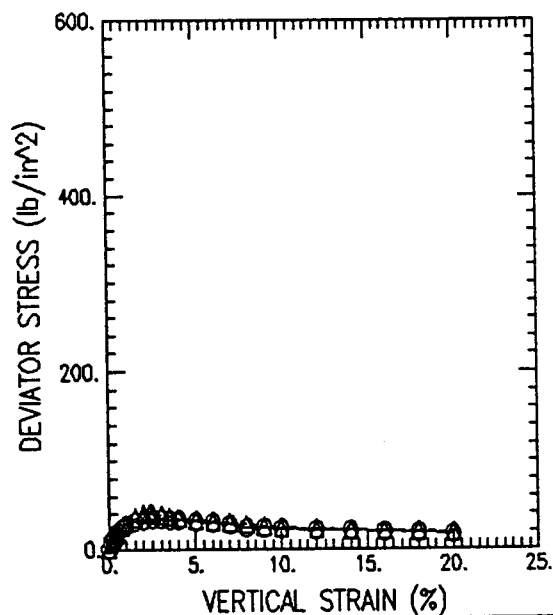
	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	7.06	7.06
VOID RATIO	0.73	0.73
WET DENSITY (lb/ft ³)	105.03	105.03
DRY DENSITY (lb/ft ³)	98.10	98.10
DEGREE OF SATURATION (%)	26.29	26.29

Maximum Shear Stress = 293.29 (lb/in²) at a Vertical Strain of 2.46 %

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		O	Δ		
TEST NO.		PB2-536A	PB2-536B		
INITIAL	WATER CONTENT (%)	31.29	31.87		
	DRY DENSITY (lb/ft ³)	85.34	84.61		
	SATURATION (%)	86.07	86.18		
	VOID RATIO	0.989	1.006		
BEFORE SHEAR	WATER CONTENT (%)	31.29	31.87		
	DRY DENSITY (lb/ft ³)	85.34	84.61		
	SATURATION (%)	86.07	86.18		
	VOID RATIO	0.989	1.006		
	BACK PRESS. (lb/in ²)	0.00	0.00		
	MINOR PRIN. STRESS (lb/in ²)	250.00	500.00		
	MAX. DEV. STRESS (lb/in ²)	34.33	40.84		
	TIME TO FAILURE (min)				
	RATE OF STRAIN INCR (%/min)	0.00	0.00		
	INITIAL DIAMETER (in)	2.35	2.35		
	INITIAL HEIGHT (in)	5.39	5.41		

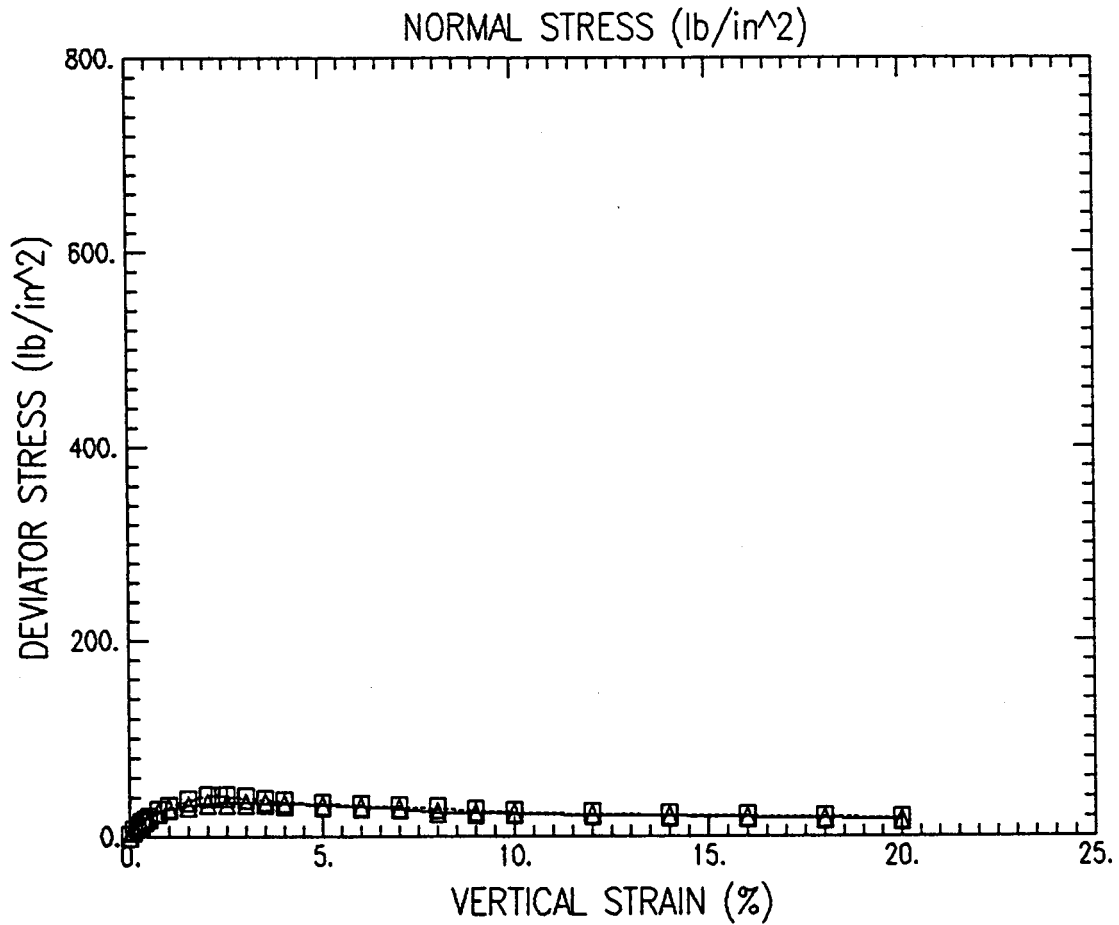
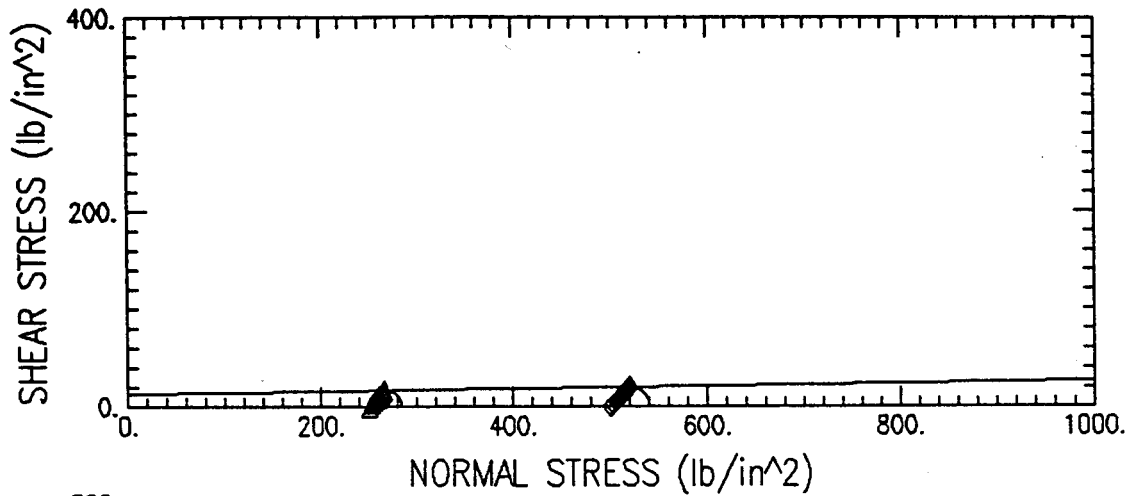
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) LT. GRAYISH BROWN SILTY CLAY -CH-

2) LT. GRAYISH BROWN SILTY CLAY -CH-

LL 58.06	PL 25.27	PI 32.79	GS 2.72	TYPE OF SPECIMEN PLASTIC TUBE		TYPE OF TEST UNDRAINED			
REMARKS:				PROJECT C. E. L. P.O. #3689					
1) TXUU TEST WITH CONFINING PRESSURE OF 250 PSI									
2) TXUU TEST WITH CONFINING PRESSURE OF 500 PSI				BORING NO. PB-2	SAMPLE NO.	A @250 PSI	B @500 PSI		
				TECH. C. WASON	DEPTH/ELEV	536-538 FT	536-538 FT		
				LABORATORY	DATE	03/17/97	03/17/97		
				TRIAxIAL COMPRESSION TEST REPORT					

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
PB-2	A @250 PSI	536-538 FT	PB2-536A	PB2A-536.UU
PB-2	B @500 PSI	536-538 FT	PB2-536B	PB2B-536.UU

Failure Criteria: Peak Deviator Stress

Wed Mar 19 16:34:02 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : PB2-536A

Boring No. : PB-2

Test Date : 03/17/97

Tested by : C. WASON

Sample No. : A 2250 PSI

Depth : 536-538 FT

Checked by : C. CAPPS

Sample Type : PLASTIC TUBE

Elevation : NA

Soil Description : LT. GRAYISH BROWN SILTY CLAY -CH-

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 250 PSI

Height : 5.394 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 4.33 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 23.36 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL							TOTAL	EFFECTIVE
	CHANGE	STRAIN	CORR.	PORE	DEV.	CORR. DEV.	DEV.	VERTICAL	VERTICAL
	IN LENGTH		AREA	PRESSURE	LOAD	LOAD	STRESS	STRESS	STRESS
	(in)	(%)	(in ²)	(lb/in ²)	(lb)	(lb)	(lb/in ²)	(lb/in ²)	(lb/in ²)
1)	0.000	0.00	4.33	0.00	0.00	0.00	0.00	250.00	250.00
2)	0.005	0.09	4.34	0.00	33.50	33.50	7.72	257.72	257.72
3)	0.011	0.20	4.34	0.00	50.82	50.82	11.70	261.70	261.70
4)	0.016	0.30	4.35	0.00	62.37	62.37	14.33	264.33	264.33
5)	0.022	0.41	4.36	0.00	76.23	76.23	17.49	267.49	267.49
6)	0.027	0.50	4.37	0.00	85.47	85.47	19.57	269.57	269.57
7)	0.040	0.74	4.38	0.00	106.26	106.26	24.24	274.24	274.24
8)	0.054	1.00	4.40	0.00	123.01	123.01	27.93	277.93	277.93
9)	0.081	1.50	4.44	0.00	138.60	138.60	31.21	281.21	281.21
10)	0.108	2.00	4.48	0.00	148.42	148.42	33.13	283.13	283.13
11)	0.135	2.50	4.52	0.00	154.19	154.19	34.12	284.12	284.12
12)	0.162	3.00	4.56	0.00	156.50	156.50	34.33	284.33	284.33
13)	0.189	3.50	4.60	0.00	153.62	153.62	33.41	283.41	283.41
14)	0.216	4.00	4.64	0.00	153.04	153.04	32.98	282.98	282.98
15)	0.270	5.01	4.72	0.00	149.57	149.57	31.66	281.66	281.66
16)	0.324	6.01	4.81	0.00	144.95	144.95	30.12	280.12	280.12
17)	0.378	7.01	4.90	0.00	136.87	136.87	27.92	277.92	277.92
18)	0.431	7.99	5.00	0.00	121.85	121.85	24.39	274.39	274.39
19)	0.485	8.99	5.09	0.00	120.70	120.70	23.70	273.70	273.70
20)	0.539	9.99	5.20	0.00	118.39	118.39	22.79	272.79	272.79
21)	0.647	11.99	5.41	0.00	115.50	115.50	21.34	271.34	271.34
22)	0.755	14.00	5.65	0.00	116.66	116.66	20.66	270.66	270.66
23)	0.863	16.00	5.90	0.00	113.77	113.77	19.27	269.27	269.27
24)	0.971	18.00	6.19	0.00	111.46	111.46	18.02	268.02	268.02
25)	1.079	20.00	6.50	0.00	109.73	109.73	16.89	266.89	266.89

Wed Mar 19 16:34:02 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : PB2-536A

Boring No. : PB-2

Test Date : 03/17/97

Tested by : C. WASON

Sample No. : A @250 PSI

Depth : 536-538 FT

Checked by : C. CAPPS

Sample Type : PLASTIC TUBE

Elevation : NA

Soil Description : LT. GRAYISH BROWN SILTY CLAY -CH-

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 250 PSI

Liquid Limit : 58.06

Plastic Limit : 25.27

Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	686.90	524.96	0.00
WT CONTAINER + DRY SOIL (gm)	523.19	399.86	0.00
WT WATER (gm)	163.71	125.10	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	523.19	399.86	0.00
WATER CONTENT (%)	31.29	31.29	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	31.29	31.29
VOID RATIO	0.99	0.99
WET DENSITY (lb/ft ³)	112.04	112.04
DRY DENSITY (lb/ft ³)	85.34	85.34
DEGREE OF SATURATION (%)	86.07	86.07

Maximum Shear Stress = 17.17 (lb/in²) at a Vertical Strain of 3.00 %

Wed Mar 19 16:34:33 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : PB2-5368

Boring No. : PB-2

Test Date : 03/17/97

Tested by : C. WASON

Sample No. : B @500 PSI

Depth : 536-538 FT

Checked by : C. CAPPS

Sample Type : PLASTIC TUBE

Elevation : NA

Soil Description : LT. GRAYISH BROWN SILTY CLAY -CH-

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 500 PSI

Height : 5.413 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 4.34 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 23.48 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	CHANGE IN LENGTH (in)	VERTICAL STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	4.34	0.00	0.00	0.00	0.00	500.00	500.00
2)	0.005	0.09	4.34	0.00	25.41	25.41	5.85	505.85	505.85
3)	0.011	0.20	4.35	0.00	45.05	45.05	10.35	510.35	510.35
4)	0.016	0.30	4.36	0.00	59.48	59.48	13.65	513.65	513.65
5)	0.022	0.41	4.37	0.00	73.92	73.92	16.93	516.93	516.93
6)	0.027	0.50	4.37	0.00	85.47	85.47	19.54	519.54	519.54
7)	0.040	0.74	4.39	0.00	110.88	110.88	25.25	525.25	525.25
8)	0.054	1.00	4.41	0.00	130.52	130.52	29.59	529.59	529.59
9)	0.081	1.50	4.45	0.00	161.12	161.12	36.22	536.22	536.22
10)	0.108	2.00	4.49	0.00	181.34	181.34	40.42	540.42	540.42
11)	0.125	2.31	4.51	0.00	184.22	184.22	40.84	540.84	540.84
12)	0.135	2.49	4.53	0.00	182.49	182.49	40.33	540.33	540.33
13)	0.162	2.99	4.56	0.00	175.56	175.56	38.46	538.46	538.46
14)	0.189	3.49	4.60	0.00	169.79	169.79	36.87	536.87	536.87
15)	0.217	4.01	4.65	0.00	162.86	162.86	35.04	535.04	535.04
16)	0.271	5.01	4.73	0.00	156.50	156.50	33.07	533.07	533.07
17)	0.325	6.00	4.82	0.00	151.31	151.31	31.40	531.40	531.40
18)	0.379	7.00	4.91	0.00	146.11	146.11	29.76	529.76	529.76
19)	0.433	8.00	5.00	0.00	139.76	139.76	27.93	527.93	527.93
20)	0.487	9.00	5.10	0.00	132.83	132.83	26.03	526.03	526.03
21)	0.541	9.99	5.20	0.00	127.05	127.05	24.41	524.41	524.41
22)	0.650	12.01	5.42	0.00	122.43	122.43	22.58	522.58	522.58
23)	0.758	14.00	5.66	0.00	120.70	120.70	21.33	521.33	521.33
24)	0.866	16.00	5.91	0.00	121.28	121.28	20.51	520.51	520.51
25)	0.974	17.99	6.19	0.00	121.28	121.28	19.58	519.58	519.58
26)	1.083	20.01	6.51	0.00	119.54	119.54	18.37	518.37	518.37

Wed Mar 19 16:34:33 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : PB2-5368
 Boring No. : PB-2 Test Date : 03/17/97 Tested by : C. WASON
 Sample No. : B 2500 PSI Depth : 536-538 FT Checked by : C. CAPPS
 Sample Type : PLASTIC TUBE Elevation : NA
 Soil Description : LT. GRAYISH BROWN SILTY CLAY -CH-
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 500 PSI

Liquid Limit : 58.06

Plastic Limit : 25.27

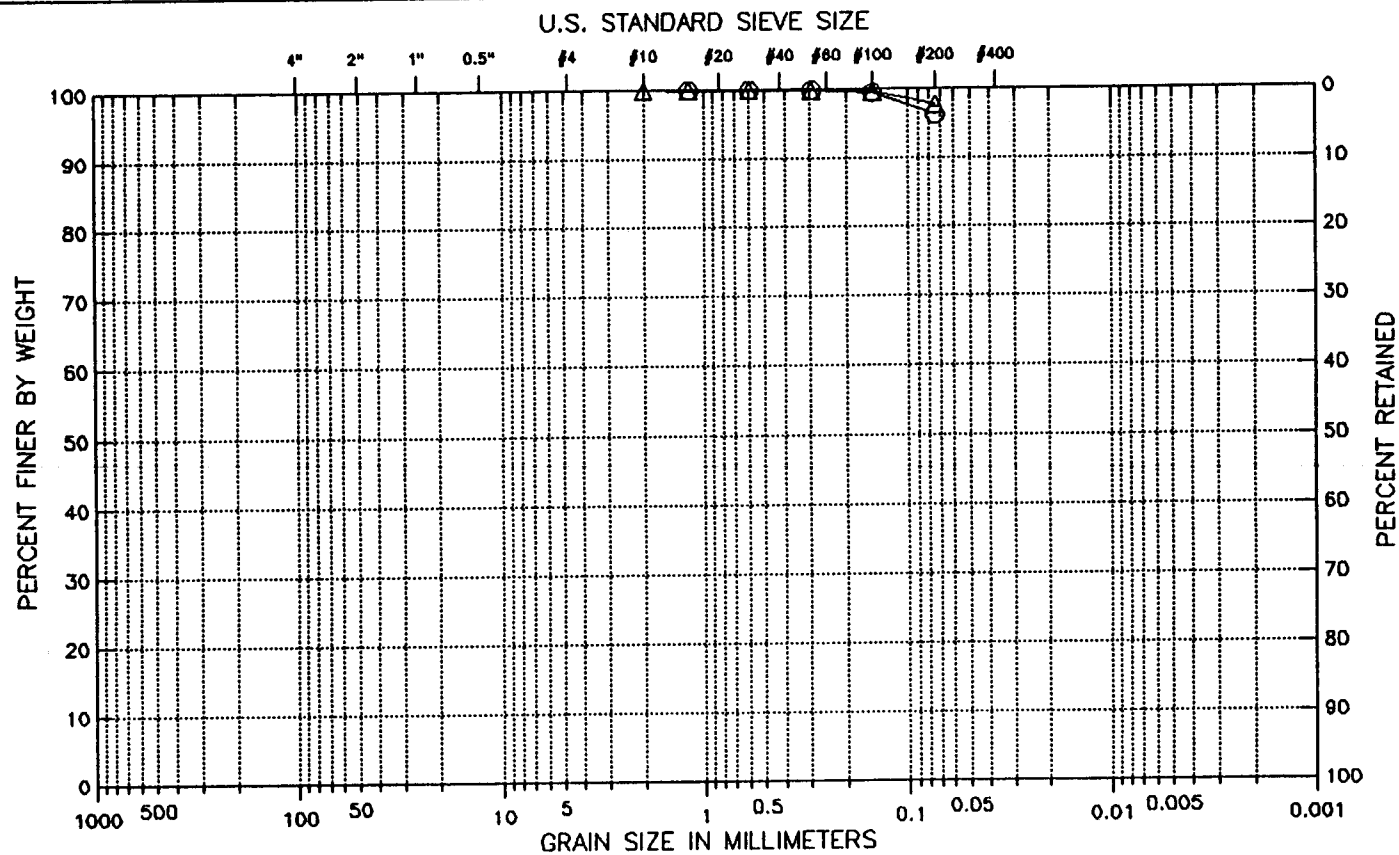
Specific Gravity : 2.72

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	687.60	510.80	0.00
WT CONTAINER + DRY SOIL (gm)	521.42	387.34	0.00
WT WATER (gm)	166.18	123.46	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	521.42	387.34	0.00
WATER CONTENT (%)	31.87	31.87	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	31.87	31.87
VOID RATIO	1.01	1.01
WET DENSITY (lb/ft ³)	111.58	111.58
DRY DENSITY (lb/ft ³)	84.61	84.61
DEGREE OF SATURATION (%)	86.18	86.18

Maximum Shear Stress = 20.42 (lb/in²) at a Vertical Strain of 2.31 %

Project : CONSOLIDATED ENGINEERING LABORATORY
 Project No.: 941138NA
 Location: PICKLES BUTTE LANDFILL, IDAHO
 Date : Wed Mar 19 1997

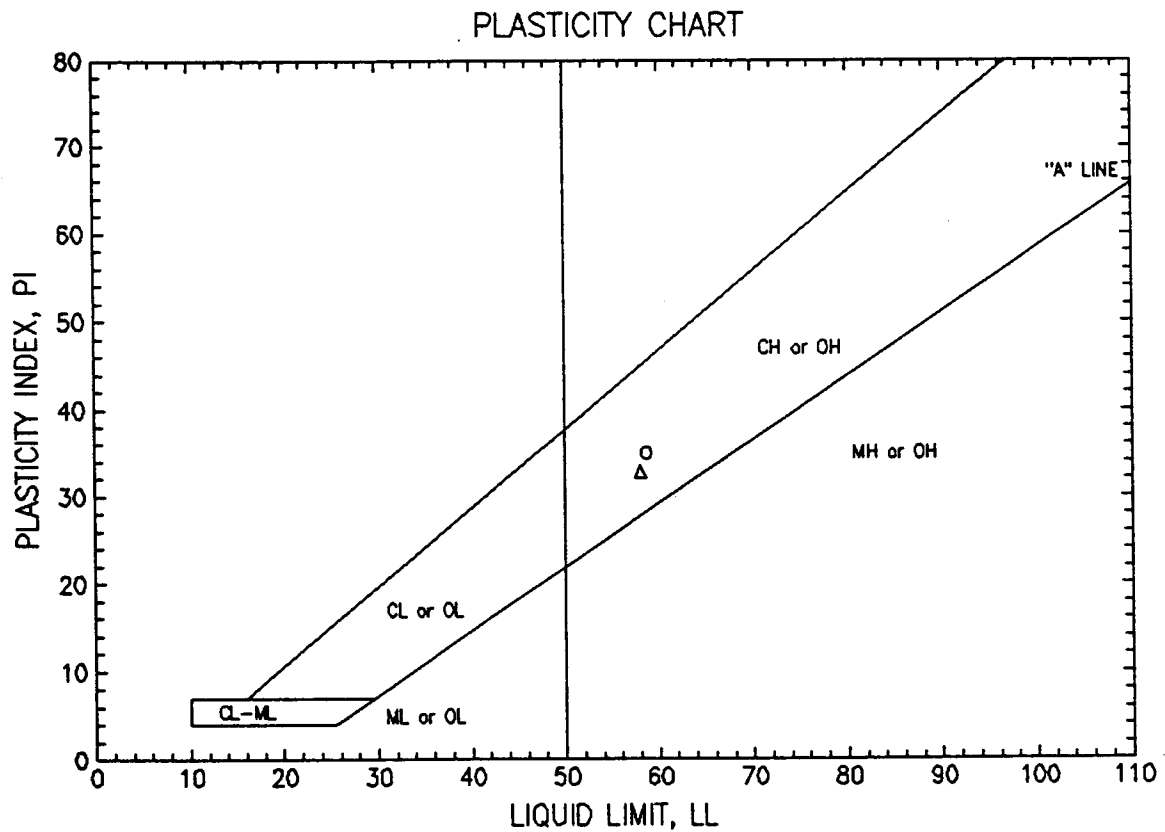


COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Boring No.	Sample No.	Depth	Filename	Classification / Description
⊖	PB-2	522-524	522-524 FEET	PB2-522	CH fat clay
△	PB-2	536-538	536-538 FEET	PB2-536	CH fat clay

Figure 1

Project : CONSOLIDATED ENGINEERING LABORATORY
 Project No. : 941138NA
 Location : PICKLES BUTTE LANDFILL, IDAHO
 Date : Wed Mar 19 1997

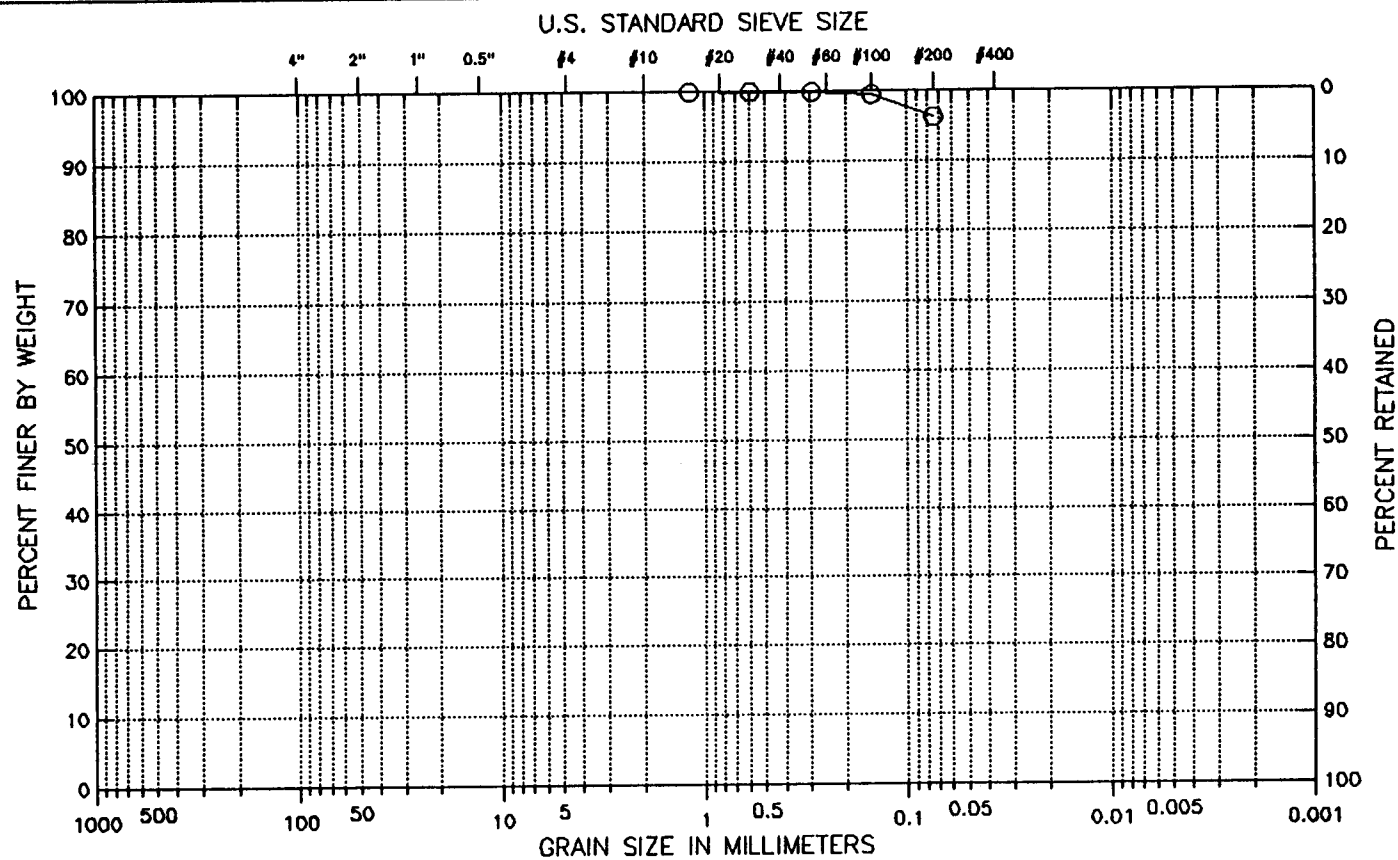


Symbol	Boring No.	Sample No.	Liquid Limit	Plastic Limit	Plasticity Index
O	PB-2	522-524	58.63	23.68	34.95
Δ	PB-2	536-538	58.06	25.27	32.79

Figure 1

Boring No. : PB-2
 Sample No: 522-524
 Tested by : C. WASON
 Filename : PB2-522

Project : CONSOLIDATED ENGINEERING LABORATORY
 Project No.: 941138NA
 Location: PICKLES BUTTE LANDFILL, IDAHO
 Date : Wed Mar 19 1997



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
 (CH) fat clay
 Visual Description :
 LT. BROWN SILTY CLAY -CH-

Remarks :
 P.O. # 3689

Figure 1

Wed Mar 19 14:47:45 1997

Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : CONSOLIDATED ENGINEERING LABORATORY

Filename : PB2-522

Project No. : 941138NA

Depth : 522-524 FEET

Elevation : NA

Boring No. : PB-2

Test Date : 03/18/97

Tested by : C. WASON

Sample No. : 522-524

Test Method : ASTM D422/4318

Checked by : C. CAPPS

Location : PICKLES BUTTE LANDFILL, IDAHO

Soil Description : LT. BROWN SILTY CLAY -CH-

Remarks : P.O. # 3689

Sieve Mesh	Sieve Openings		Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
	Inches	Millimeters			
#16	0.047	1.19	0.00	0.00	100
#30	0.023	0.60	0.11	0.11	100
#50	0.012	0.30	0.35	0.46	100
#100	0.006	0.15	1.82	2.28	100
#200	0.003	0.07	16.51	18.79	96

Total Dry Weight of Sample = 508.52

D85 : N/A

D60 : N/A

D50 : N/A

D30 : N/A

D15 : N/A

D10 : N/A

Soil Classification

ASTM Group Symbol : CH

ASTM Group Name : fat clay

AASHTO Group Symbol : A-7-6(42)

AASHTO Group Name : Clayey Soils

ATTERBERG LIMITS

PROJECT CONSOLIDATED ENGINEERING LABORATORY	PROJECT NUMBER 941138NA	TESTED BY C. WASON	BORING NUMBER PB-2
LOCATION PICKLES BUTTE LANDFILL, IDAHO	CHECKED BY C. CAPPS	SAMPLE NUMBER 522-524	
SAMPLE DESCRIPTION LT. BROWN SILTY CLAY -CH-	DATE Wed Mar 19 1997	FILENAME PB2-522	

LIQUID LIMIT DETERMINATIONS

CONTAINER NUMBER	44	88	91		
WT. WET SOIL + TARE	26.73	27.73	27.09		
WT. DRY SOIL + TARE	21	21.63	21		
WT. WATER	5.73	6.1	6.09		
TARE WT.	10.82	11.17	11.1		
WT. DRY SOIL	10.18	10.46	9.9		
WATER CONTENT, W_N (%)	56.29	58.32	61.52		
NUMBER OF BLOWS, N	35	27	16		
ONE-POINT LIQUID LIMIT, LL	58.63	58.86	58.28		

PLASTIC LIMIT DETERMINATIONS

CONTAINER NUMBER	26				
WT. WET SOIL + TARE	26.69				
WT. DRY SOIL + TARE	24.53				
WT. WATER	2.16				
TARE WT.	15.41				
WT. DRY SOIL	9.12				
WATER CONTENT (%)	23.68				

SUMMARY OF RESULTS

NATURAL WATER CONTENT, W (%)	7.1
LIQUID LIMIT, LL	58.6
PLASTIC LIMIT, PL	23.7
PLASTICITY INDEX, PI	35.0
LIQUIDITY INDEX, L_f^*	-0.48

$$*L_f = (W - PL)/PI$$

PLASTICITY CHART

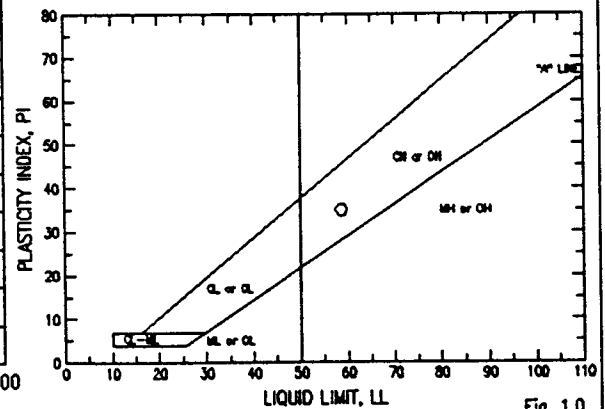
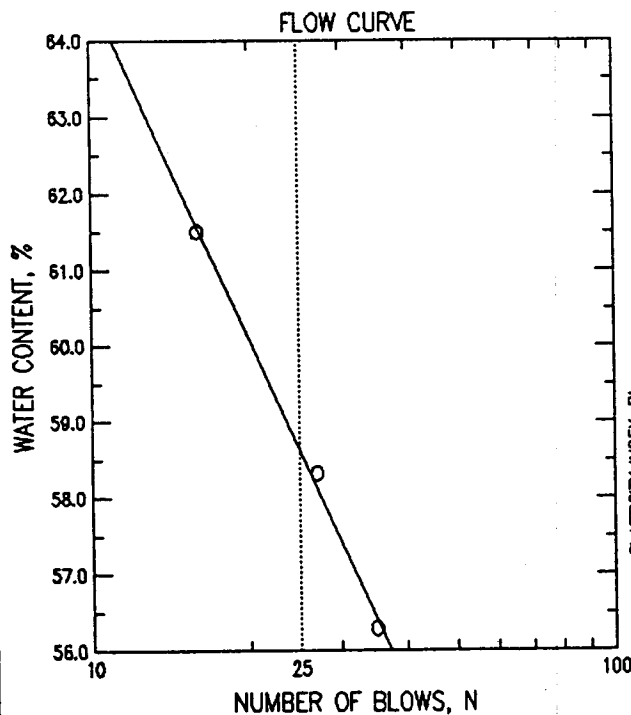


Fig. 1.0

Wed Mar 19 14:47:45 1997

Page : 2

GEOTECHNICAL LABORATORY TEST DATA

Project : CONSOLIDATED ENGINEERING LABORATORY

Filename : PB2-522

Project No. : 941138NA

Depth : 522-524 FEET

Elevation : NA

Boring No. : PB-2

Test Date : 03/18/97

Tested by : C. WASON

Sample No. : 522-524

Test Method : ASTM D422/4318

Checked by : C. CAPPS

Location : PICKLES BUTTE LANDFILL, IDAHO

Soil Description : LT. BROWN SILTY CLAY -CH-

Remarks : P.O. # 3689

Moisture Content ID	Natural Moisture Content			Moisture Content (%)
	Mass of Container (gm)	Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	
1) PB2-522	218.68	763.08	727.20	7.06

Average Moisture Content = 7.06

Moisture Content ID	Plastic Limit			Moisture Content (%)
	Mass of Container (gm)	Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	
1) 26	15.41	26.69	24.53	23.68

Plastic Limit = 23.68

Moisture Content ID	Liquid Limit			Number of Drops	Moisture Content (%)
	Mass of Container (gm)	Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)		
1) 44	10.82	26.73	21.00	35	56.29
2) 88	11.17	27.73	21.63	27	58.32
3) 91	11.10	27.09	21.00	16	61.52

Liquid Limit = 58.63

Plastic Index = 34.95

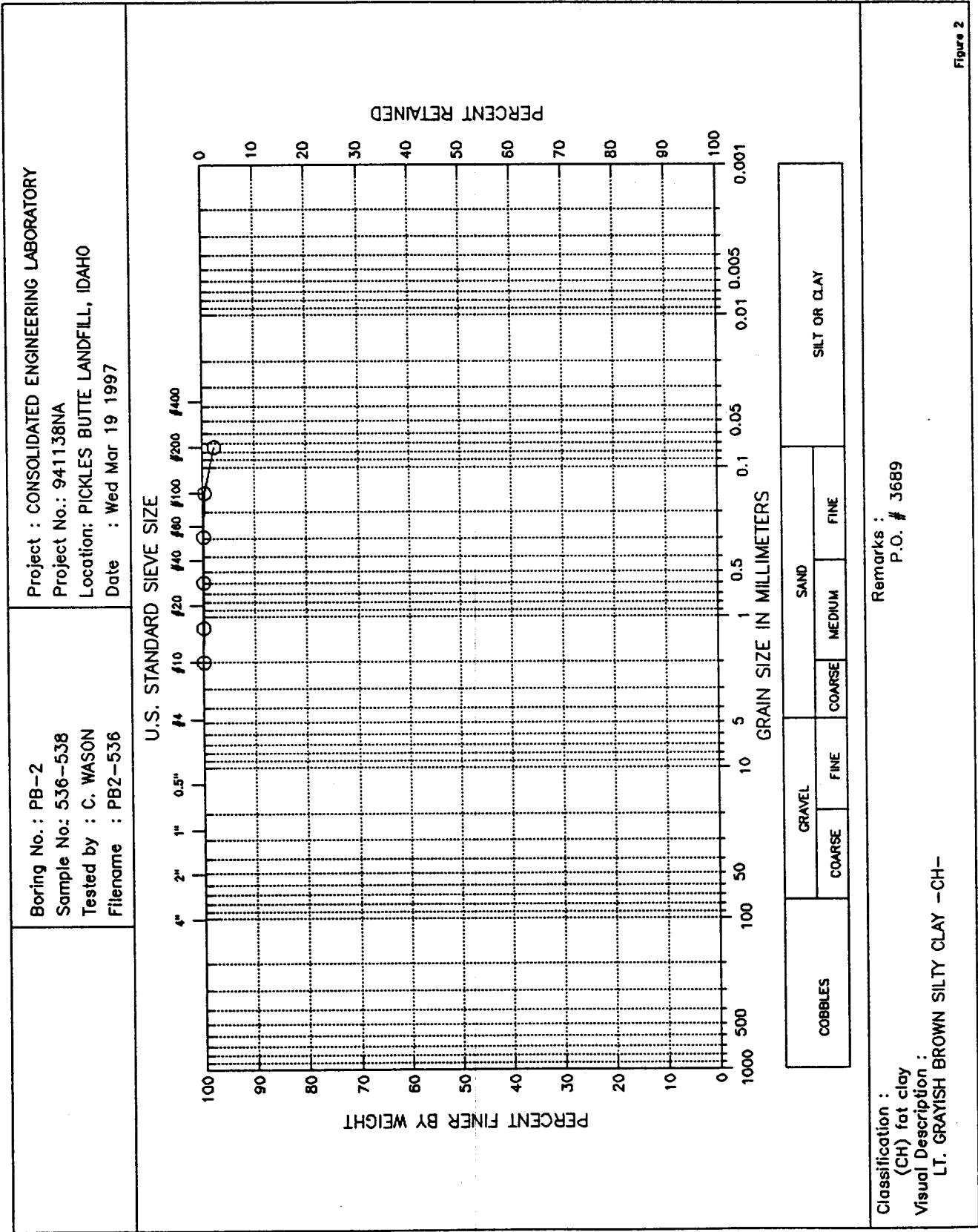


Figure 2

Wed Mar 19 14:47:51 1997

Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : CONSOLIDATED ENGINEERING LABORATORY

Filename : PB2-536

Project No. : 941138NA

Depth : 536-538 FEET

Elevation : NA

Boring No. : PB-2

Test Date : 03/18/97

Tested by : C. WASON

Sample No. : 536-538

Test Method : ASTM D422/4318

Checked by : C. CAPPS

Location : PICKLES BUTTE LANDFILL, IDAHO

Soil Description : LT. GRAYISH BROWN SILTY CLAY -CH-

Remarks : P.O. # 3689

Sieve Mesh	Sieve Openings		Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
	Inches	Millimeters			
#10	0.079	2.00	0.00	0.00	100
#16	0.047	1.19	0.09	0.09	100
#30	0.023	0.60	0.07	0.16	100
#50	0.012	0.30	0.20	0.36	100
#100	0.006	0.15	1.03	1.39	100
#200	0.003	0.07	7.44	8.83	98

Total Dry Weight of Sample = 399.86

D85 : N/A

D60 : N/A

D50 : N/A

D30 : N/A

D15 : N/A

D10 : N/A

Soil Classification

ASTM Group Symbol : CH

ASTM Group Name : fat clay

AASHTO Group Symbol : A-7-6(41)

AASHTO Group Name : Clayey Soils

Wed Mar 19 14:47:51 1997

Page : 2

GEOTECHNICAL LABORATORY TEST DATA

Project : CONSOLIDATED ENGINEERING LABORATORY

Filename : PB2-536

Project No. : 941138NA

Depth : 536-538 FEET

Elevation : NA

Boring No. : PB-2

Test Date : 03/18/97

Tested by : C. WASON

Sample No. : 536-538

Test Method : ASTM D422/4318

Checked by : C. CAPPS

Location : PICKLES BUTTE LANDFILL, IDAHO

Soil Description : LT. GRAYISH BROWN SILTY CLAY -CH-

Remarks : P.O. # 3689

Natural Moisture Content

Moisture Content ID	Mass of Container (gm)	Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Moisture Content (%)
-----	-----	-----	-----	-----
1) PB2-536	225.24	750.20	625.10	31.29

Average Moisture Content = 31.29

Plastic Limit

Moisture Content ID	Mass of Container (gm)	Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Moisture Content (%)
-----	-----	-----	-----	-----
1) 48	16.01	27.46	25.15	25.27

Plastic Limit = 25.27

Liquid Limit

Moisture Content ID	Mass of Container (gm)	Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Number of Drops	Moisture Content (%)
-----	-----	-----	-----	-----	-----
1) 18	10.70	26.54	20.80	31	56.83
2) 14	10.83	25.96	20.41	25	57.93
3) 8	11.12	26.94	21.00	18	60.12

Liquid Limit = 58.06

Plastic Index = 32.79

ATTERBERG LIMITS

PROJECT CONSOLIDATED ENGINEERING LABORATORY	PROJECT NUMBER 941138NA	TESTED BY C. WASON	BORING NUMBER PB-2
LOCATION PICKLES BUTTE LANDFILL, IDAHO	CHECKED BY C. CAPPS	SAMPLE NUMBER 536-538	
SAMPLE DESCRIPTION LT. GRAYISH BROWN SILTY CLAY -CH-	DATE Wed Mar 19 1997	FILENAME PB2-536	

LIQUID LIMIT DETERMINATIONS

CONTAINER NUMBER	18	14	8		
WT. WET SOIL + TARE	26.54	25.96	26.94		
WT. DRY SOIL + TARE	20.8	20.41	21		
WT. WATER	5.74	5.55	5.94		
TARE WT.	10.7	10.83	11.12		
WT. DRY SOIL	10.1	9.58	9.88		
WATER CONTENT, w_N (%)	56.83	57.93	60.12		
NUMBER OF BLOWS, N	31	25	18		
ONE-POINT LIQUID LIMIT, LL	58.33	57.93	57.78		

PLASTIC LIMIT DETERMINATIONS

CONTAINER NUMBER	48				
WT. WET SOIL + TARE	27.46				
WT. DRY SOIL + TARE	25.15				
WT. WATER	2.31				
TARE WT.	16.01				
WT. DRY SOIL	9.14				
WATER CONTENT (%)	25.27				

SUMMARY OF RESULTS

NATURAL WATER CONTENT, w (%)	31.3
LIQUID LIMIT, LL	58.1
PLASTIC LIMIT, PL	25.3
PLASTICITY INDEX, PI	32.8
LIQUIDITY INDEX, LI^*	0.18

$$*LI = (w - PL)/PI$$

PLASTICITY CHART

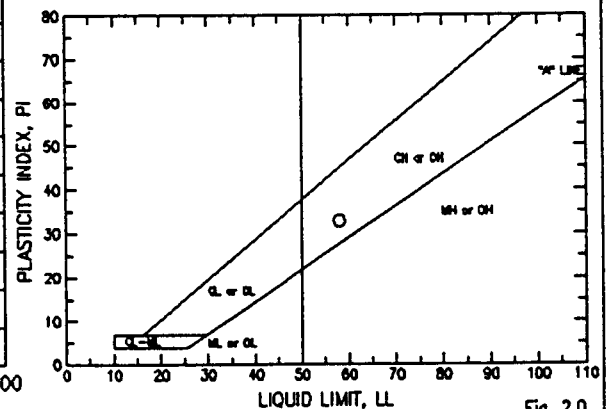
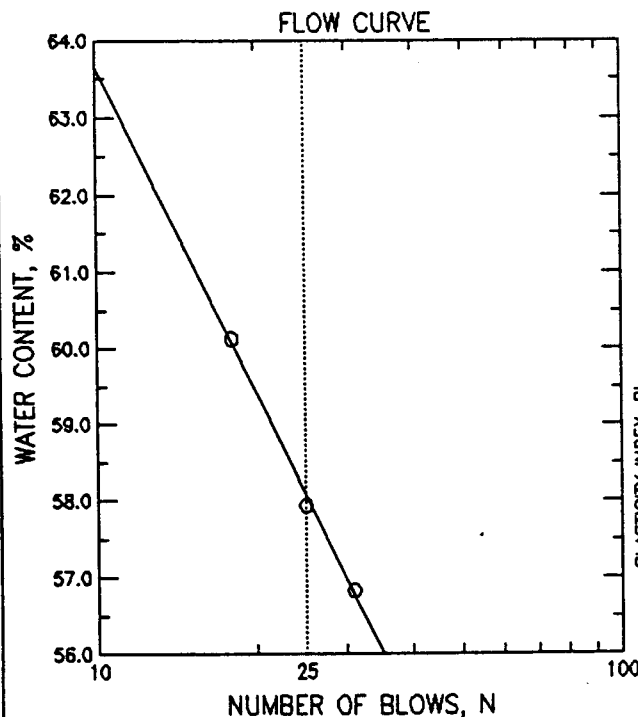


Fig. 2.0

ASTM D2937

WATER CONTENT(%), WET AND DRY UNIT WEIGHT(PCF)

Project Name <u>C.E.L P.O. 3689</u> Project Number <u>941138NA</u> Date <u>03/06/97</u>								
Tested By <u>C. WASON</u> Reduced By <u>C. WASON</u> Checked By <u>S. CAPPS</u>								
Location <u>PICKLES BUTTE LANDFILL</u>							Page <u>1</u> of <u>1</u>	
Specimen Number	Diam. Inch	Height CM.	Wet Wt. Grams	Dry Wt. Grams	Visual Description	Water Content	Wet Unit Weight	Dry Unit Weight
GT-4 15-17 mid	2.86	15.2	927.7	877.2	lt. brown clayey fine sandy silt/ clayey silty sand	5.76	91.9	86.9
GT-4 15-17 bottom	2.86	15.2	845.9	783.7	lt. brown clayey fine sandy silt/ clayey silty sand	7.94	83.8	77.6
GT-4 70-71 B	1.43	9.0	140.7	133.81	lt. orange brown fine sandy silt/ silty sand	5.15	94.1	89.5
GT-4 90-91 B	1.43	9.0	168.7	145.81	lt. grayish brown clayey silty sand to sandy silt	15.70	112.9	97.6
GT-5 65-67	1.43	14.45	222.92	212.0	lt. grayish brown silty sand	5.15	92.9	88.4
GT-5 80-81	1.43	13.0	204.32	191.52	grayish brown silty sand	6.68	94.7	88.7
GT-5 100-101	1.43	13.55	190.32	172.79	lt. grayish brown silty sand	10.15	84.6	76.8

Woodward-Clyde

RE: Soils Lab test data summary

Boring #:	Depth	c	φ	Water Content		Dry Unit Weight		Wet Unit Weight		Avg Wet Unit Weight Calculated	Visual Description
				Top	Bottom	Top	Bottom	Top	Bottom		
GT-1	10-12 ft	706	20	11.7	9.95	100.69	103.33	112.47	113.61	113.04	Brown silty sand to sandy silt with traces of clay & mica
	100-101 ft	9936	2	25.81	27.16	98.51	92.98	123.94	118.23	121.08	Lt. brown silty clay to clayey silt
	140-141 ft	6566	3	27.96	26.96	94.66	95.91	121.13	121.77	121.45	Grayish brown clayey silt to silty clay
	160-161 ft	3370	8	27.22	26.58	96.39	96.51	122.63	122.16	122.39	Grayish brown clayey silt to silty clay
	180-181 ft	7114	10	26.5	24.43	90.24	88.17	114.15	109.71	111.93	Lt. yellowish brown silty clay to clayey silt
	200-201 ft	7762	1	27.12	27.09	95.73	94.66	121.69	120.30	121.00	Lt. brown clayey silty to silty clay
GT-4	15-17 ft	One test	37	5.76	7.94	86.9	77.6	91.91	83.76	87.83	Lt. brown clayey fine sandy silt/clayey silty sand
	30-31 ft	1339		6.23	5.85	82.52	84.57	87.66	89.52	88.59	Lt. orange brown fine sandy silt/silty fine sand
	40-41 ft	One test	27	5.15	89.5	94.11	94.11	112.92	112.92	Lt. orange brown fine sandy silt/silty sand	
	70-71 ft	One test									
	90-91 ft	One test									
GT-5	65-67 ft	490	33	5.15	5.48	88.4	97.07	92.95	101.80	92.95	Lt. grayish brown silty sand
	70-71 ft			4.87		97.29		102.62		102.21	Brown silty sand
	80-81 ft			6.68		88.7		94.63		94.63	Grayish brown silty sand
	90-91 ft	3845	27	4.91	4.73	91.22	91.53	95.70	95.86	95.78	Brown silty sand
	100-101 ft	No test	10.15	76.8	84.60	84.60	84.60	Lt. grayish brown silty sand			
PB-2	429-430 ft	17928	9	22.98	23.31	93.27	93.1	114.70	114.80	114.75	Grayish brown silty clay/clayey silt
	456-457 ft	29765	2	21.88	22.92	93.08	92.53	113.45	113.74	113.59	Lt. grayish brown silty clay/clayey silt
	458-460 ft	29491	1	22.5	22.66	93.27	89.19	114.26	109.40	111.83	Lt. grayish brown silty clay/clayey silt
	474-475 ft	16128	7	24.79	25.22	91.46	90.11	114.13	112.84	113.48	Grayish brown sitly clay/clayey silt
	522-524 ft	One test	4	21.24	20.21	93.63	95.26	113.52	114.51	114.01	Brown silty clay/clayey silt
	530-531 ft	24336									
	536-538 ft	1973									



**CONSOLIDATED ENGINEERING
LABORATORIES**

June 30, 1997

Holladay Engineering Co.
P.O. Box 235
Payette, ID 83661
Bill Stroud

**RE: Pickles Butte Landfill
15500 Missouri
Caldwell, ID
CEL #11364
LAB #27735**

SOIL ANALYSIS REPORT

On 01/24/97, a Holladay Engineering representative in Payette, ID prepared various soil samples for analysis from the above project.

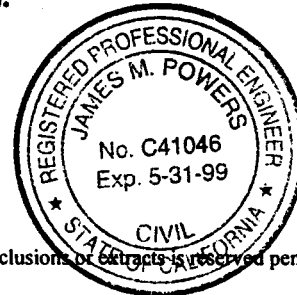
The samples were transported to Consolidated Engineering Laboratories in Pleasanton for testing as requested. Please refer to the attached data sheets for results.

REVIEWED BY: LORENZO K. LAWSON, LABORATORY MANAGER

REVIEWING ENGINEER: JAMES M. POWERS, R.C.E.

cc: Holladay Engineering Co.

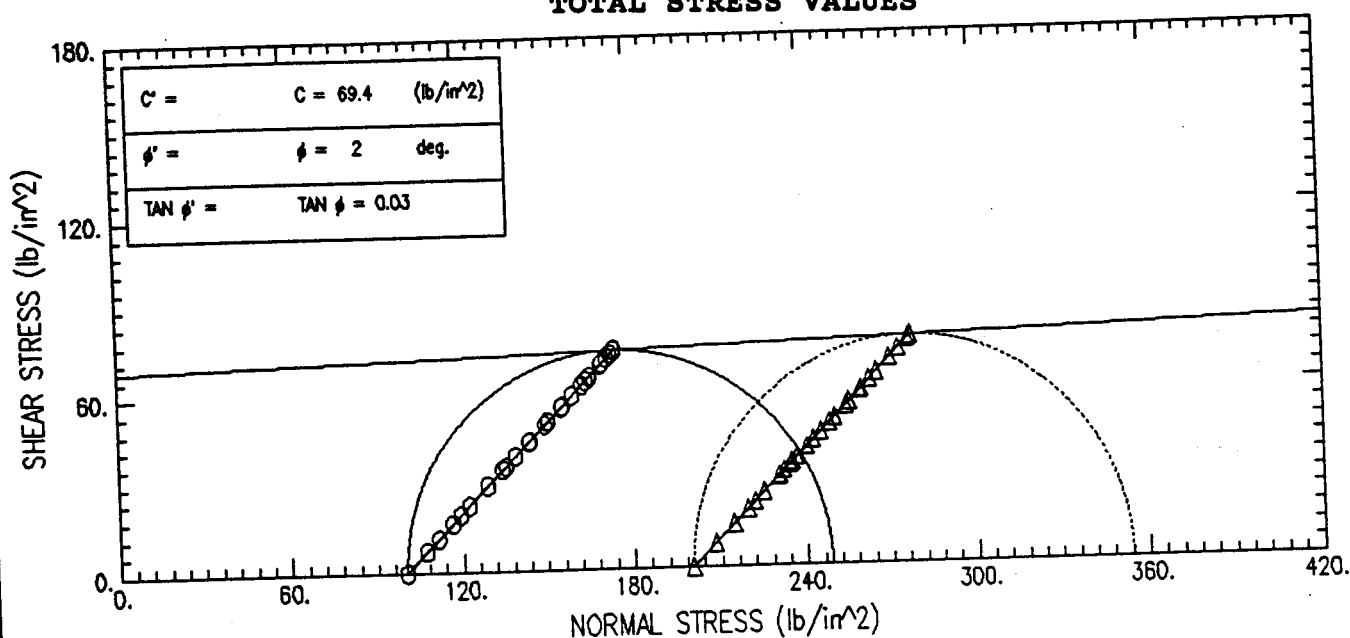
Enclosures



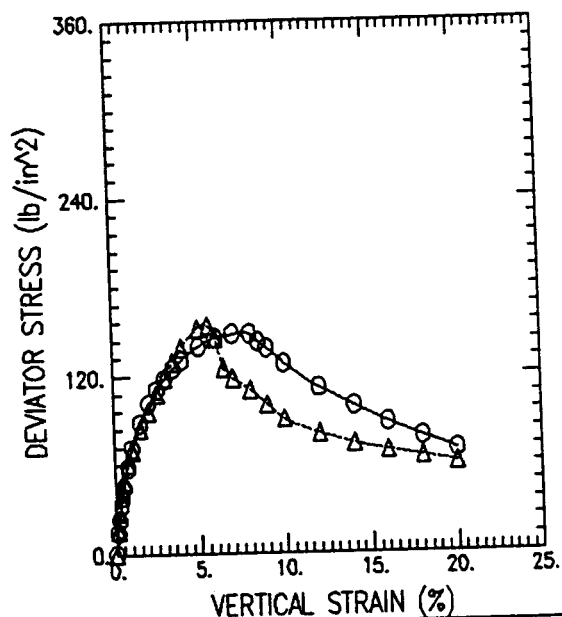
All reports are submitted as the confidential property of clients. Publication of statements, conclusions or extracts is reserved pending our written approval.

RECEIVED
JUL 14 1997
HOLLADAY ENGINEERING CO.
PAYETTE, ID

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		O	Δ		
TEST NO.		GT1-100A	GT1-100B		
INITIAL	WATER CONTENT (%)	25.81	27.16		
	DRY DENSITY (lb/ft ³)	98.51	92.98		
	SATURATION (%)	97.10	89.52		
	VOID RATIO	0.723	0.825		
BEFORE SHEAR	WATER CONTENT (%)	25.81	27.16		
	DRY DENSITY (lb/ft ³)	98.51	92.98		
	SATURATION (%)	97.10	89.52		
	VOID RATIO	0.723	0.825		
	BACK PRESS. (lb/in ²)	0.00	0.00		
MINOR PRIN. STRESS (lb/in ²)		100.00	200.00		
MAX. DEV. STRESS (lb/in ²)		148.31	153.94		
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		1.43	1.43		
INITIAL HEIGHT (in)		3.58	3.58		

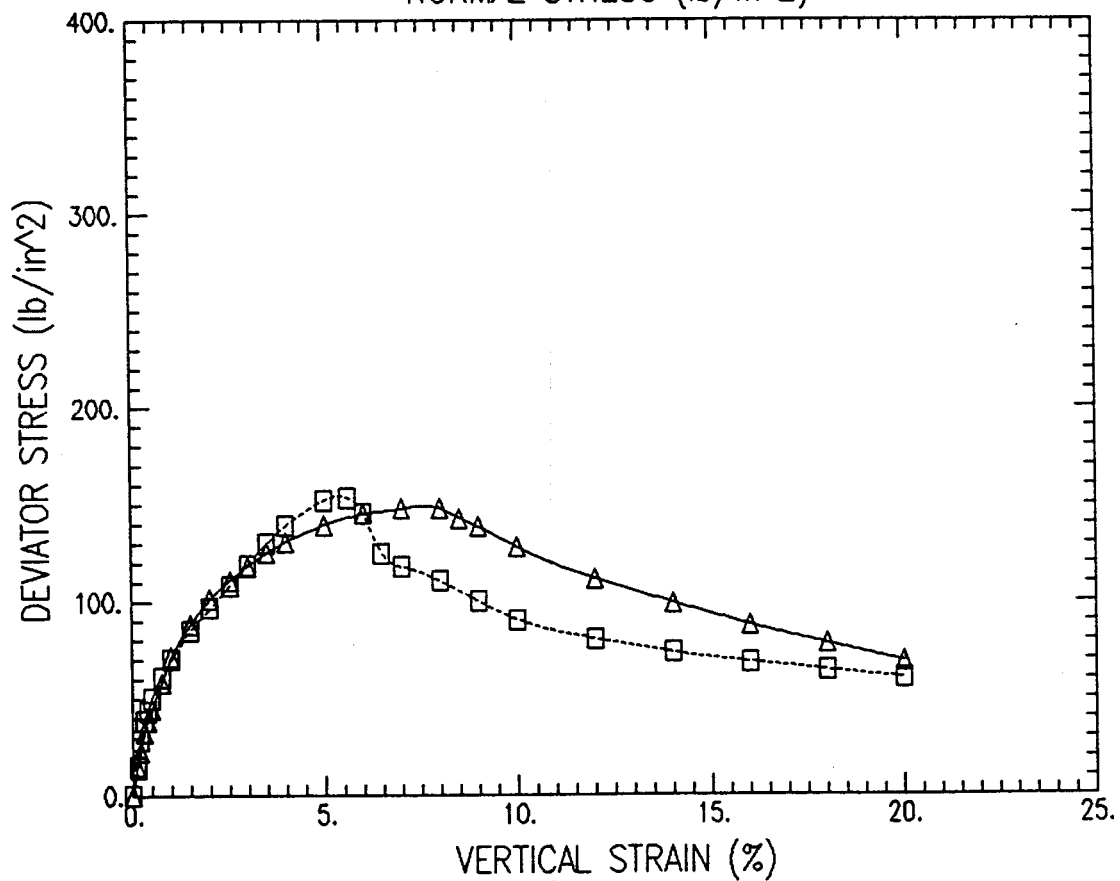
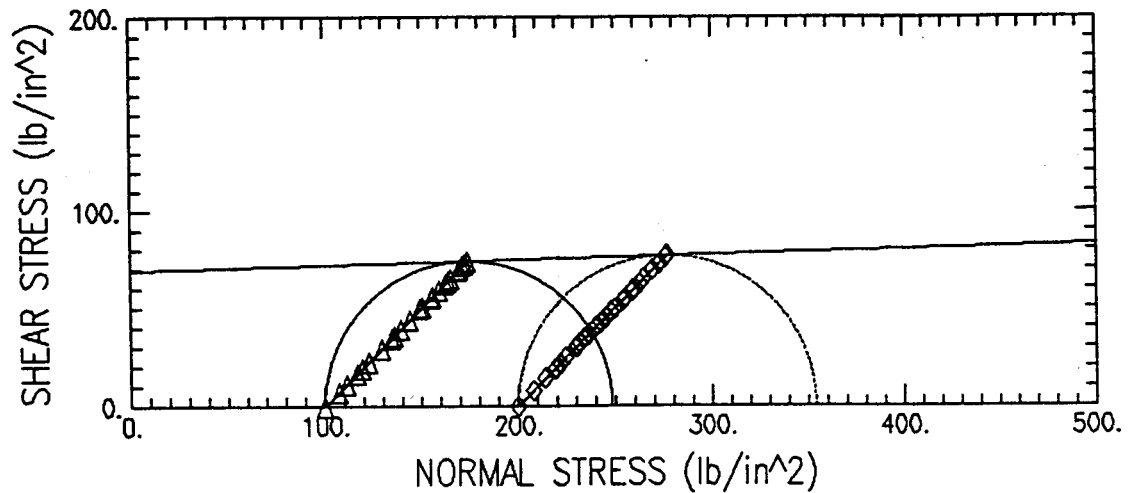
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) LT. BROWN SILTY CLAY TO CLAYEY SILT

2) LT. BROWN SLTY CLAY TO CLAYEY SLT

LL	PL	PI	GS 2.72	TYPE OF SPECIMEN	TUBE	TYPE OF TEST	UNDRAINED
REMARKS:				PROJECT C. E. L. P.O. #3689			
1) TXUU TEST WITH CONFINING PRESSURE OF 100 PSI							
2) TXUU TEST WITH CONFINING PRESSURE OF 200 PSI				BORING NO.	GT-1	SAMPLE NO.	A @100 PSI
				TECH.	C. WASON	DEPTH/ELEV	100-101 FT
				LABORATORY	DATE	03/13/97	03/13/97
				TRIAxIAL COMPRESSION TEST REPORT			

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
GT-1	A @100 PSI	100-101 FT	GT1-100A	GT1A-100.UU
GT-1	B @200 PSI	100-101 FT	GT1-100B	GT1B-100.UU

Failure Criteria: Peak Deviator Stress

Wed Mar 19 15:58:56 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT1-100A

Boring No. : GT-1

Test Date : 03/13/97

Tested by : C. WASON

Sample No. : A @100 PSI

Depth : 100-101 FT

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : LT. BROWN SILTY CLAY TO CLAYEY SILT

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 100 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL							TOTAL	EFFECTIVE
	CHANGE	STRAIN	CORR.	PORE	DEV.	CORR. DEV.	DEV.	VERTICAL	VERTICAL
	IN LENGTH		AREA	PRESSURE	LOAD	LOAD	STRESS	STRESS	STRESS
	(in)	(%)	(in ²)	(lb/in ²)	(lb)	(lb)	(lb/in ²)	(lb/in ²)	(lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	100.00	100.00
2)	0.004	0.11	1.61	0.00	23.10	23.10	14.36	114.36	114.36
3)	0.007	0.20	1.61	0.00	36.96	36.96	22.94	122.94	122.94
4)	0.011	0.31	1.61	0.00	53.13	53.13	32.91	132.91	132.91
5)	0.014	0.39	1.62	0.00	62.37	62.37	38.58	138.58	138.58
6)	0.018	0.50	1.62	0.00	72.77	72.77	44.93	144.93	144.93
7)	0.027	0.75	1.63	0.00	94.71	94.71	58.23	158.23	158.23
8)	0.036	1.00	1.63	0.00	116.66	116.66	71.42	171.42	171.42
9)	0.054	1.51	1.65	0.00	145.53	145.53	88.34	188.34	188.34
10)	0.072	2.01	1.66	0.00	168.63	168.63	101.48	201.48	201.48
11)	0.090	2.51	1.68	0.00	185.96	185.96	110.94	210.94	210.94
12)	0.107	2.99	1.69	0.00	200.39	200.39	118.57	218.57	218.57
13)	0.125	3.49	1.71	0.00	213.68	213.68	125.31	225.31	225.31
14)	0.143	3.99	1.72	0.00	225.23	225.23	130.91	230.91	230.91
15)	0.179	5.00	1.75	0.00	244.86	244.86	139.77	239.77	239.77
16)	0.215	6.00	1.78	0.00	259.88	259.88	145.63	245.63	245.63
17)	0.251	7.01	1.82	0.00	269.12	269.12	148.00	248.00	248.00
18)	0.287	8.01	1.85	0.00	274.89	274.89	148.31	248.31	248.31
19)	0.305	8.51	1.87	0.00	267.96	267.96	143.18	243.18	243.18
20)	0.322	8.99	1.89	0.00	262.19	262.19	138.80	238.80	238.80
21)	0.358	9.99	1.93	0.00	247.17	247.17	128.27	228.27	228.27
22)	0.430	12.00	2.01	0.00	224.07	224.07	111.61	211.61	211.61
23)	0.502	14.01	2.10	0.00	207.90	207.90	99.22	199.22	199.22
24)	0.573	15.99	2.19	0.00	192.31	192.31	87.83	187.83	187.83
25)	0.645	18.00	2.29	0.00	179.03	179.03	78.03	178.03	178.03
26)	0.717	20.01	2.41	0.00	166.32	166.32	69.02	169.02	169.02

Wed Mar 19 15:58:56 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT1-100A
 Boring No. : GT-1 Test Date : 03/13/97 Tested by : C. WASON
 Sample No. : A @100 PSI Depth : 100-101 FT Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : LT. BROWN SILTY CLAY TO CLAYEY SILT
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 100 PSI

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	187.20	186.47	0.00
WT CONTAINER + DRY SOIL (gm)	148.80	148.21	0.00
WT WATER (gm)	38.40	38.26	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	148.80	148.21	0.00
WATER CONTENT (%)	25.81	25.81	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	25.81	25.81
VOID RATIO	0.72	0.72
WET DENSITY (lb/ft ³)	123.93	123.93
DRY DENSITY (lb/ft ³)	98.51	98.51
DEGREE OF SATURATION (%)	97.10	97.10

Maximum Shear Stress = 74.16 (lb/in²) at a Vertical Strain of 8.01 %

Wed Mar 19 16:00:58 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT1-1008

Boring No. : GT-1

Test Date : 03/13/97

Tested by : C. WASON

Sample No. : B 2200 PSI

Depth : 100-101 FT

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : LT. BROWN SILTY CLAY TO CLAYEY SILT

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 200 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	200.00	200.00
2)	0.004	0.11	1.61	0.00	25.41	25.41	15.79	215.79	215.79
3)	0.007	0.20	1.61	0.00	46.20	46.20	28.67	228.67	228.67
4)	0.011	0.31	1.61	0.00	62.37	62.37	38.64	238.64	238.64
5)	0.014	0.39	1.62	0.00	70.46	70.46	43.58	243.58	243.58
6)	0.018	0.50	1.62	0.00	80.85	80.85	49.92	249.92	249.92
7)	0.027	0.75	1.63	0.00	99.33	99.33	61.07	261.07	261.07
8)	0.036	1.00	1.63	0.00	114.35	114.35	70.01	270.01	270.01
9)	0.054	1.51	1.65	0.00	140.33	140.33	85.19	285.19	285.19
10)	0.072	2.01	1.66	0.00	160.55	160.55	96.62	296.62	296.62
11)	0.090	2.51	1.68	0.00	181.34	181.34	108.18	308.18	308.18
12)	0.107	2.99	1.69	0.00	201.55	201.55	119.25	319.25	319.25
13)	0.125	3.49	1.71	0.00	221.76	221.76	130.05	330.05	330.05
14)	0.143	3.99	1.72	0.00	239.66	239.66	139.30	339.30	339.30
15)	0.179	5.00	1.75	0.00	266.81	266.81	152.30	352.30	352.30
16)	0.200	5.58	1.77	0.00	272.58	272.58	153.94	353.94	353.94
17)	0.215	6.00	1.78	0.00	259.88	259.88	145.63	345.63	345.63
18)	0.232	6.48	1.80	0.00	225.23	225.23	125.11	325.11	325.11
19)	0.251	7.01	1.82	0.00	214.83	214.83	118.15	318.15	318.15
20)	0.287	8.01	1.85	0.00	205.01	205.01	110.61	310.61	310.61
21)	0.322	8.99	1.89	0.00	189.42	189.42	100.28	300.28	300.28
22)	0.358	9.99	1.93	0.00	174.41	174.41	90.51	290.51	290.51
23)	0.430	12.00	2.01	0.00	161.70	161.70	80.55	280.55	280.55
24)	0.502	14.01	2.10	0.00	153.62	153.62	73.32	273.32	273.32
25)	0.573	15.99	2.19	0.00	150.15	150.15	68.57	268.57	268.57
26)	0.645	18.00	2.29	0.00	147.84	147.84	64.44	264.44	264.44
27)	0.717	20.01	2.41	0.00	145.53	145.53	60.39	260.39	260.39

Wed Mar 19 16:00:58 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT1-1008
 Boring No. : GT-1 Test Date : 03/13/97 Tested by : C. WASON
 Sample No. : B @200 PSI Depth : 100-101 FT Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : LT. BROWN SILTY CLAY TO CLAYEY SILT
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 200 PSI

Liquid Limit : 0

Plastic Limit : 0

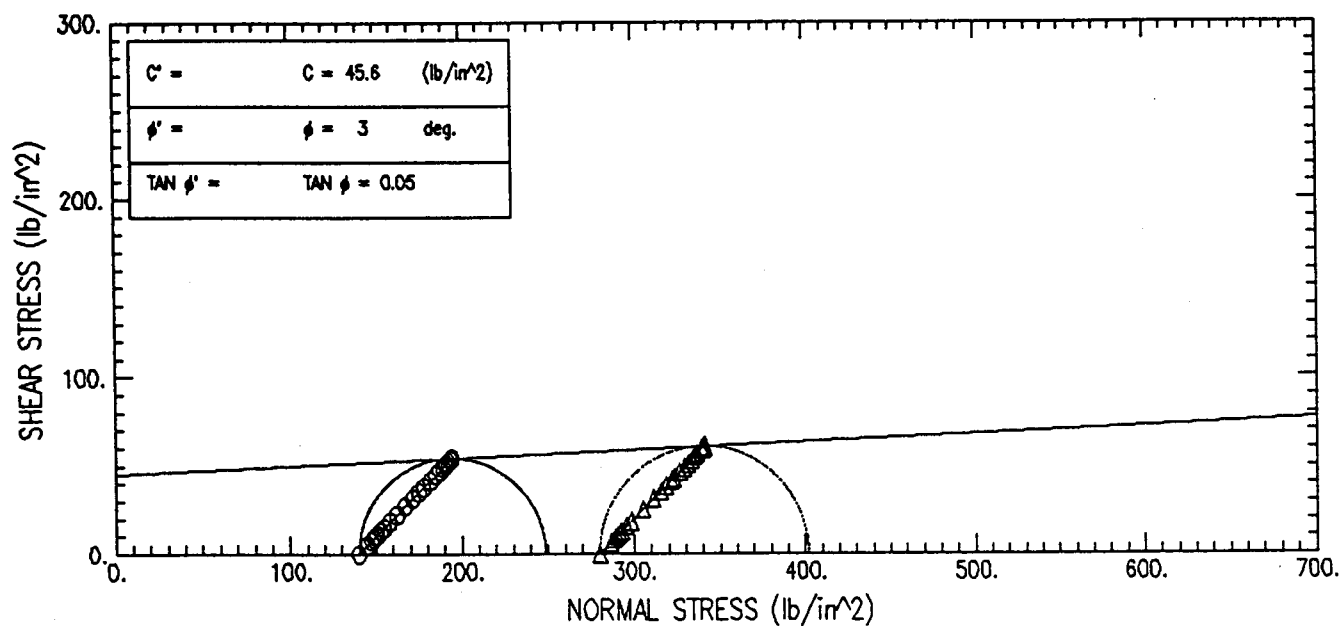
Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	178.60	178.32	0.00
WT CONTAINER + DRY SOIL (gm)	140.45	140.23	0.00
WT WATER (gm)	38.15	38.09	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	140.45	140.23	0.00
WATER CONTENT (%)	27.16	27.16	0.00

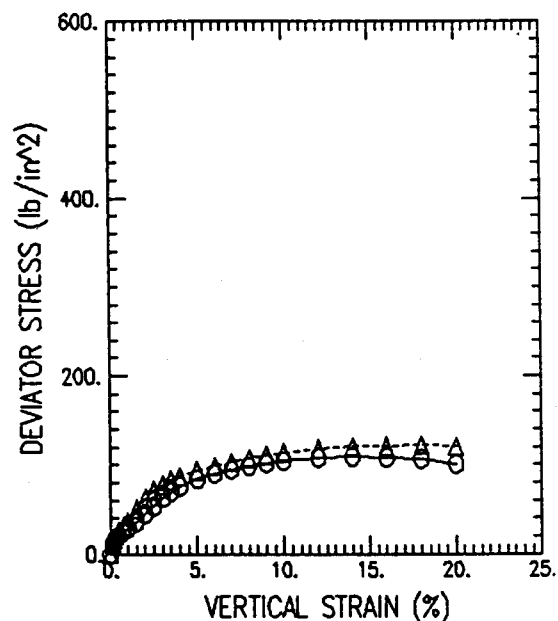
	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	27.16	27.16
VOID RATIO	0.83	0.83
WET DENSITY (lb/ft ³)	118.24	118.24
DRY DENSITY (lb/ft ³)	92.98	92.98
DEGREE OF SATURATION (%)	89.52	89.52

Maximum Shear Stress = 76.97 (lb/in²) at a Vertical Strain of 5.58 %

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		O	Δ		
TEST NO.		GT1-140A	GT1-140B		
INITIAL	WATER CONTENT (%)	27.96	26.96		
	DRY DENSITY (lb/ft ³)	94.66	95.91		
	SATURATION (%)	95.91	95.26		
	VOID RATIO	0.793	0.770		
BEFORE SHEAR	WATER CONTENT (%)	27.96	26.96		
	DRY DENSITY (lb/ft ³)	94.66	95.91		
	SATURATION (%)	95.91	95.26		
	VOID RATIO	0.793	0.770		
	BACK PRESS. (lb/in ²)	0.00	0.00		
	MINOR PRIN. STRESS (lb/in ²)	140.00	280.00		
MAX. DEV. STRESS (lb/in ²)		108.61	121.82		
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		1.43	1.43		
INITIAL HEIGHT (in)		3.56	3.58		

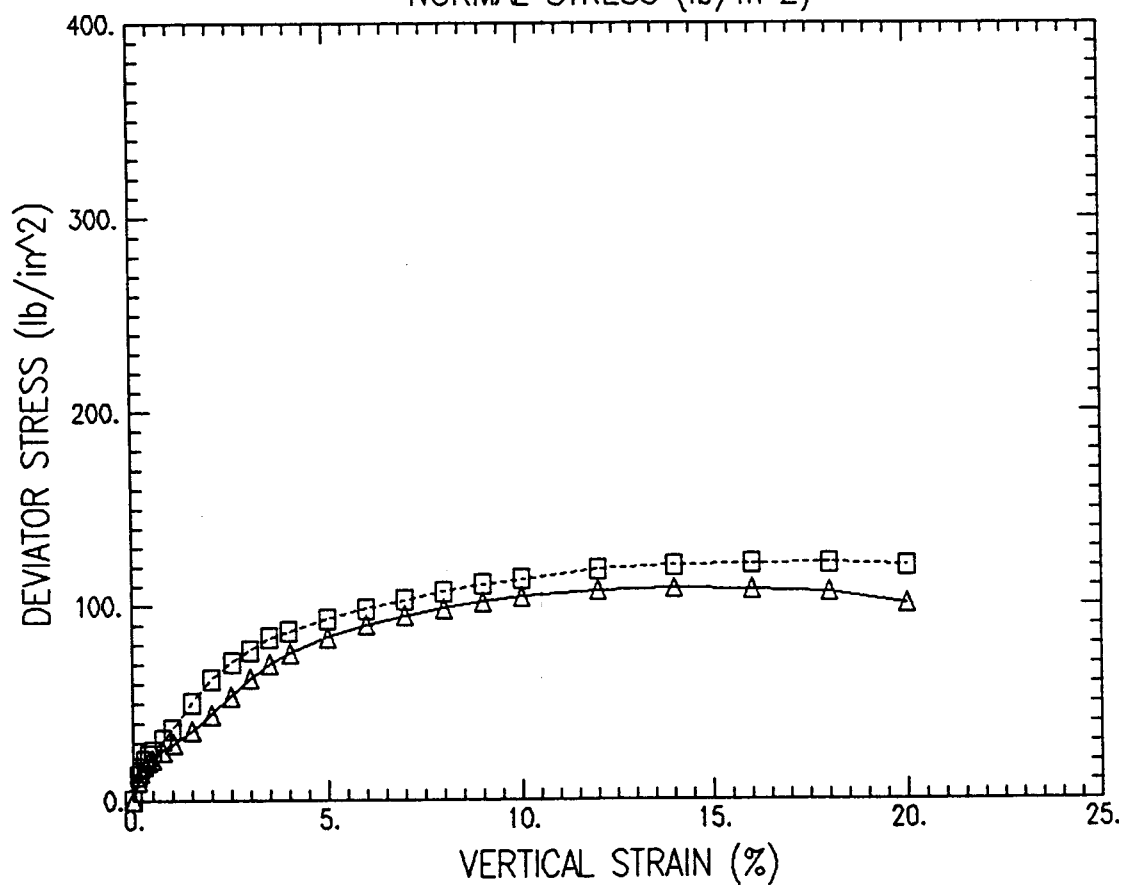
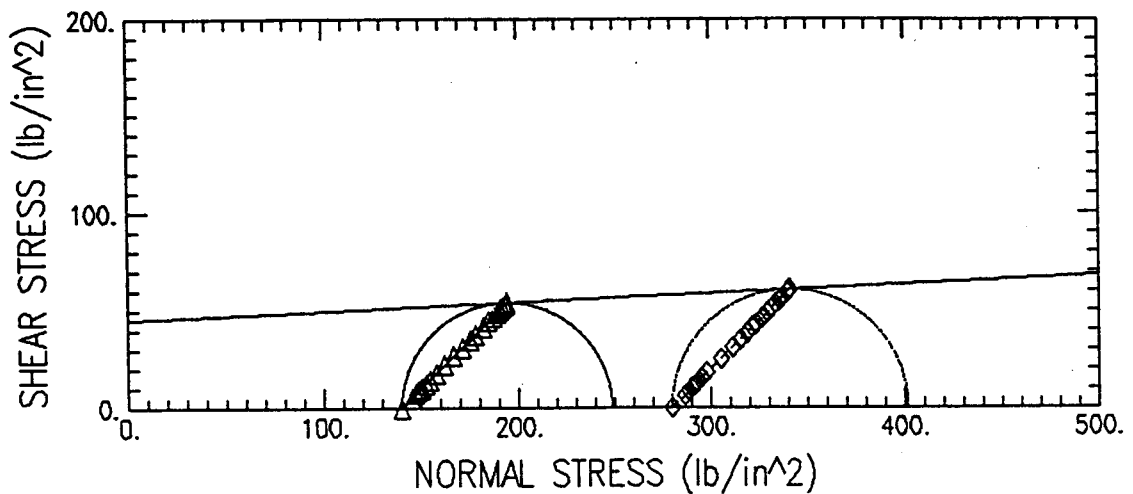
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) GRAYISH BROWN CLAYEY SILT TO SILTY CLAY

2) GRAYISH BROWN CLAYEY SILT TO SILTY CLAY

LL	PL	PI	GS 2.72	TYPE OF SPECIMEN TUBE		TYPE OF TEST UNDRAINED			
REMARKS:				PROJECT C. E. L. P.O. #3689					
1) TXUU TEST WITH CONFINING PRESSURE OF 140 PSI									
2) TXUU TEST WITH CONFINING PRESSURE OF 280 PSI				BORING NO. GT-1	SAMPLE NO.	A @140 PSI	B @280 PSI		
				TECH. C. WASON	DEPTH/ELEV	140-141 FT	140-141 FT		
				LABORATORY	DATE	03/14/97	03/14/97		
				TRIAxIAL COMPRESSION TEST REPORT					

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
GT-1	A @140 PSI	140-141 FT	GT1-140A	GT1A-140.UU
GT-1	B @280 PSI	140-141 FT	GT1-140B	GT1B-140.UU

Failure Criteria: Peak Deviator Stress

Wed Mar 19 16:01:30 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PIKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT1-140A

Boring No. : GT-1

Test Date : 03/14/97

Tested by : C. WASON

Sample No. : A @140 PSI

Depth : 140-141 FT

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : GRAYISH BROWN CLAYEY SILT TO SILTY CLAY

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 140 PSI

Height : 3.563 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.72 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL							TOTAL	EFFECTIVE
	CHANGE	STRAIN	CORR.	PORE	DEV.	CORR. DEV.	DEV.	VERTICAL	VERTICAL
	IN LENGTH		AREA	PRESSURE	LOAD	LOAD	STRESS	STRESS	STRESS
	(in)	(%)	(in ²)	(lb/in ²)	(lb)	(lb)	(lb/in ²)	(lb/in ²)	(lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	140.00	140.00
2)	0.004	0.11	1.61	0.00	16.17	16.17	10.05	150.05	150.05
3)	0.007	0.20	1.61	0.00	24.26	24.26	15.05	155.05	155.05
4)	0.011	0.31	1.61	0.00	28.88	28.88	17.89	157.89	157.89
5)	0.014	0.39	1.62	0.00	32.34	32.34	20.01	160.01	160.01
6)	0.018	0.51	1.62	0.00	34.65	34.65	21.39	161.39	161.39
7)	0.027	0.76	1.63	0.00	41.58	41.58	25.56	165.56	165.56
8)	0.036	1.01	1.63	0.00	47.93	47.93	29.34	169.34	169.34
9)	0.053	1.49	1.65	0.00	59.48	59.48	36.12	176.12	176.12
10)	0.071	1.99	1.66	0.00	73.92	73.92	44.50	184.50	184.50
11)	0.089	2.50	1.68	0.00	90.09	90.09	53.76	193.76	193.76
12)	0.107	3.00	1.69	0.00	106.26	106.26	62.85	202.85	202.85
13)	0.125	3.51	1.71	0.00	119.54	119.54	70.08	210.08	210.08
14)	0.143	4.01	1.72	0.00	130.52	130.52	75.83	215.83	215.83
15)	0.178	5.00	1.75	0.00	146.69	146.69	83.73	223.73	223.73
16)	0.214	6.01	1.78	0.00	160.55	160.55	89.96	229.96	229.96
17)	0.249	6.99	1.82	0.00	172.10	172.10	94.68	234.68	234.68
18)	0.285	8.00	1.85	0.00	182.49	182.49	98.48	238.48	238.48
19)	0.321	9.01	1.89	0.00	192.31	192.31	101.76	241.76	241.76
20)	0.356	9.99	1.93	0.00	200.97	200.97	104.30	244.30	244.30
21)	0.428	12.01	2.01	0.00	215.99	215.99	107.56	247.56	247.56
22)	0.499	14.01	2.10	0.00	227.54	227.54	108.61	248.61	248.61
23)	0.570	16.00	2.19	0.00	236.78	236.78	108.12	248.12	248.12
24)	0.641	17.99	2.29	0.00	244.86	244.86	106.75	246.75	246.75
25)	0.713	20.01	2.41	0.00	243.13	243.13	100.90	240.90	240.90

Wed Mar 19 16:01:30 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PIKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT1-140A
 Boring No. : GT-1 Test Date : 03/14/97 Tested by : C. WASON
 Sample No. : A @140 PSI Depth : 140-141 FT Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : GRAYISH BROWN CLAYEY SILT TO SILTY CLAY
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 140 PSI

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	181.94	181.94	0.00
WT CONTAINER + DRY SOIL (gm)	142.18	142.18	0.00
WT WATER (gm)	39.76	39.76	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	142.18	142.18	0.00
WATER CONTENT (%)	27.96	27.96	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	27.96	27.96
VOID RATIO	0.79	0.79
WET DENSITY (lb/ft ³)	121.13	121.13
DRY DENSITY (lb/ft ³)	94.66	94.66
DEGREE OF SATURATION (%)	95.91	95.91

Maximum Shear Stress = 54.30 (lb/in²) at a Vertical Strain of 14.01 %

Wed Mar 19 16:03:51 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT1-140B

Boring No. : GT-1

Test Date : 03/14/97

Tested by : C. WASON

Sample No. : B 2280 PSI

Depth : 140-141 FT

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : GRAYISH BROWN CLAYEY SILT TO SILTY CLAY

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 280 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	CHANGE IN LENGTH (in)	VERTICAL STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	280.00	280.00
2)	0.004	0.11	1.61	0.00	20.79	20.79	12.92	292.92	292.92
3)	0.007	0.20	1.61	0.00	27.72	27.72	17.20	297.20	297.20
4)	0.011	0.31	1.61	0.00	33.50	33.50	20.75	300.75	300.75
5)	0.014	0.39	1.62	0.00	38.12	38.12	23.58	303.58	303.58
6)	0.018	0.50	1.62	0.00	41.58	41.58	25.67	305.67	305.67
7)	0.027	0.75	1.63	0.00	50.82	50.82	31.25	311.25	311.25
8)	0.036	1.00	1.63	0.00	60.06	60.06	36.77	316.77	316.77
9)	0.054	1.51	1.65	0.00	83.16	83.16	50.48	330.48	330.48
10)	0.072	2.01	1.66	0.00	103.95	103.95	62.56	342.56	342.56
11)	0.090	2.51	1.68	0.00	118.97	118.97	70.97	350.97	350.97
12)	0.107	2.99	1.69	0.00	130.52	130.52	77.22	357.22	357.22
13)	0.125	3.49	1.71	0.00	142.07	142.07	83.32	363.32	363.32
14)	0.143	3.99	1.72	0.00	149.00	149.00	86.60	366.60	366.60
15)	0.179	5.00	1.75	0.00	162.86	162.86	92.96	372.96	372.96
16)	0.215	6.00	1.78	0.00	175.56	175.56	98.38	378.38	378.38
17)	0.251	7.01	1.82	0.00	187.11	187.11	102.90	382.90	382.90
18)	0.287	8.01	1.85	0.00	198.66	198.66	107.18	387.18	387.18
19)	0.322	8.99	1.89	0.00	209.06	209.06	110.67	390.67	390.67
20)	0.358	9.99	1.93	0.00	218.30	218.30	113.29	393.29	393.29
21)	0.430	12.00	2.01	0.00	237.93	237.93	118.52	398.52	398.52
22)	0.502	14.01	2.10	0.00	252.37	252.37	120.45	400.45	400.45
23)	0.573	15.99	2.19	0.00	265.65	265.65	121.32	401.32	401.32
24)	0.645	18.00	2.29	0.00	279.51	279.51	121.82	401.82	401.82
25)	0.717	20.01	2.41	0.00	289.91	289.91	120.31	400.31	400.31

Wed Mar 19 16:03:51 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT1-140B
 Boring No. : GT-1 Test Date : 03/14/97 Tested by : C. WASON
 Sample No. : B @280 PSI Depth : 140-141 FT Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : GRAYISH BROWN CLAYEY SILT TO SILTY CLAY
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 280 PSI

Liquid Limit : 0

Plastic Limit : 0

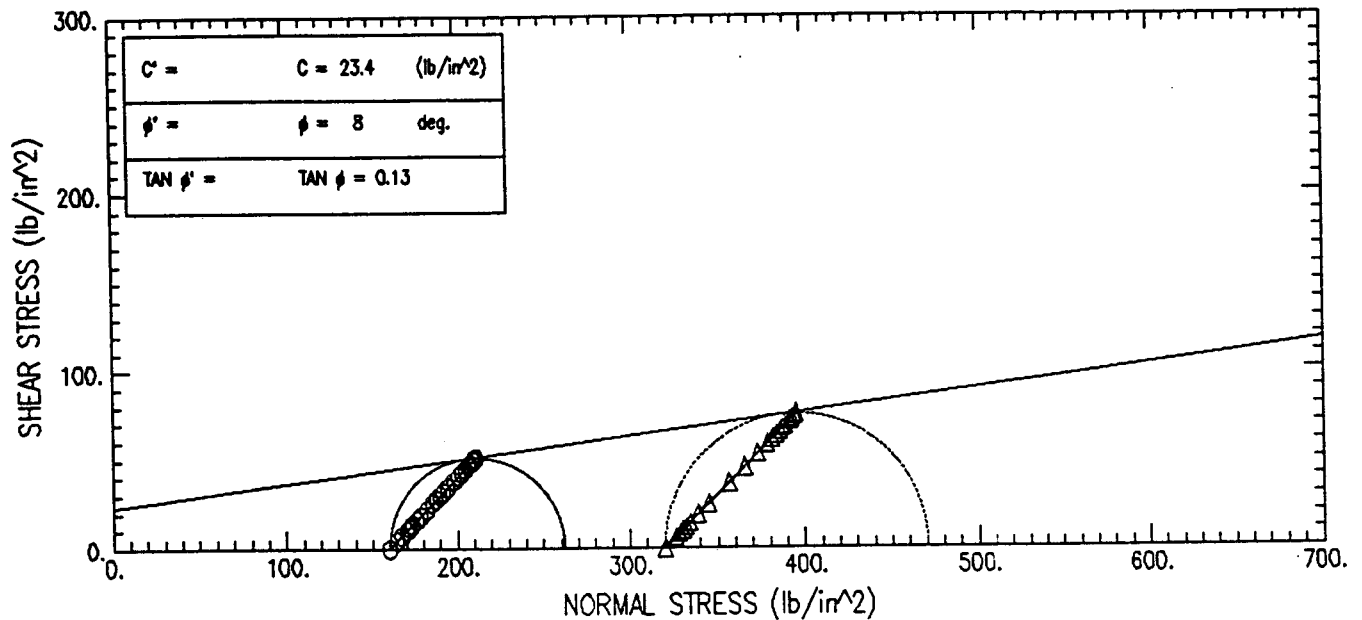
Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	183.92	183.92	0.00
WT CONTAINER + DRY SOIL (gm)	144.87	144.87	0.00
WT WATER (gm)	39.05	39.05	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	144.87	144.87	0.00
WATER CONTENT (%)	26.96	26.96	0.00

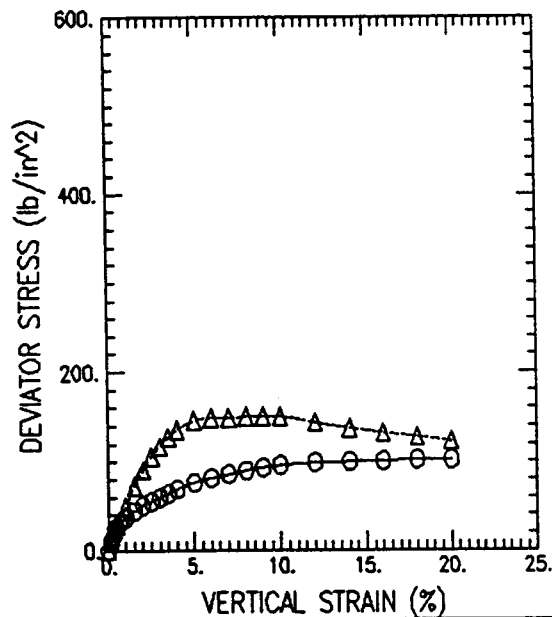
	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	26.96	26.96
VOID RATIO	0.77	0.77
WET DENSITY (lb/ft ³)	121.76	121.76
DRY DENSITY (lb/ft ³)	95.91	95.91
DEGREE OF SATURATION (%)	95.26	95.26

Maximum Shear Stress = 60.91 (lb/in²) at a Vertical Strain of 18.00 %

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		○	△		
TEST NO.		GT1-160A	GT1-160B		
INITIAL	WATER CONTENT (%)	27.22	26.58		
	DRY DENSITY (lb/ft ³)	96.39	96.51		
	SATURATION (%)	97.30	95.30		
	VOID RATIO	0.761	0.759		
BEFORE SHEAR	WATER CONTENT (%)	27.22	26.58		
	DRY DENSITY (lb/ft ³)	96.39	96.51		
	SATURATION (%)	97.30	95.30		
	VOID RATIO	0.761	0.759		
	BACK PRESS. (lb/in ²)	0.00	0.00		
	MINOR PRIN. STRESS (lb/in ²)	160.00	320.00		
MAX. DEV. STRESS (lb/in ²)	101.94	150.42			
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		1.43	1.43		
INITIAL HEIGHT (in)		3.58	3.58		

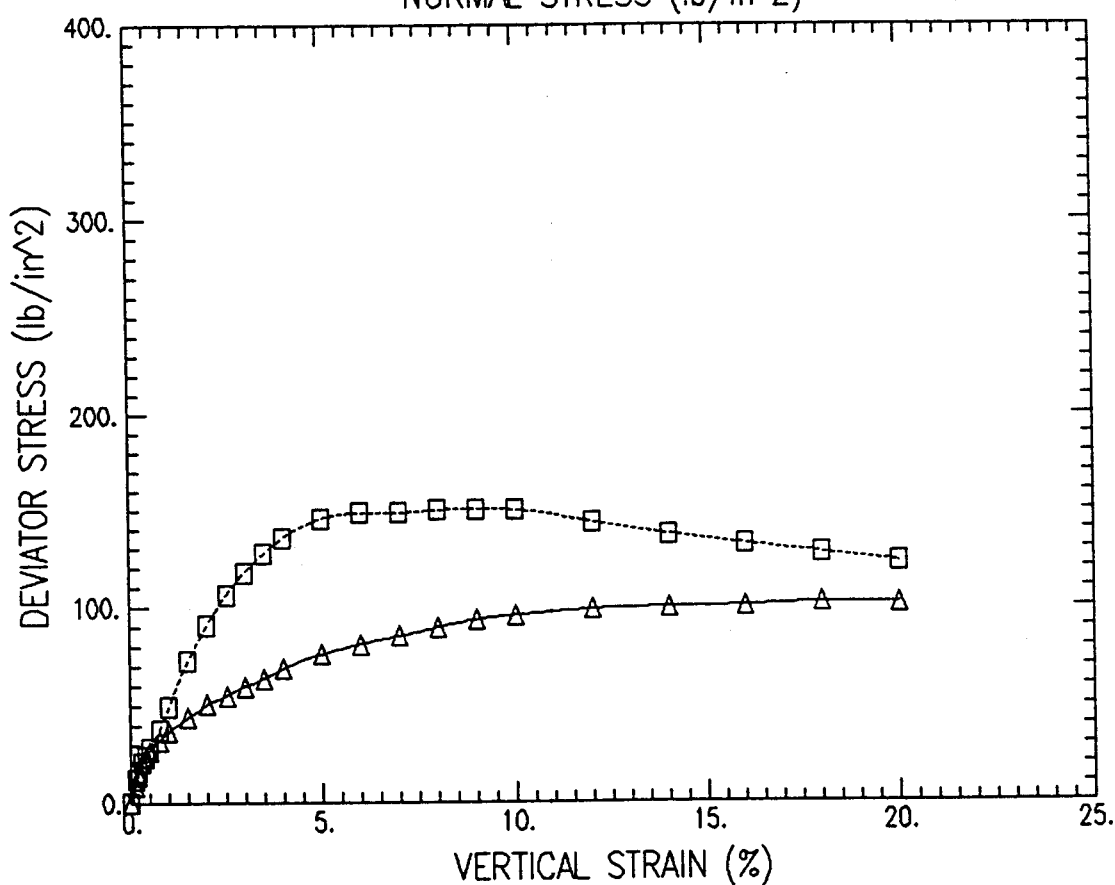
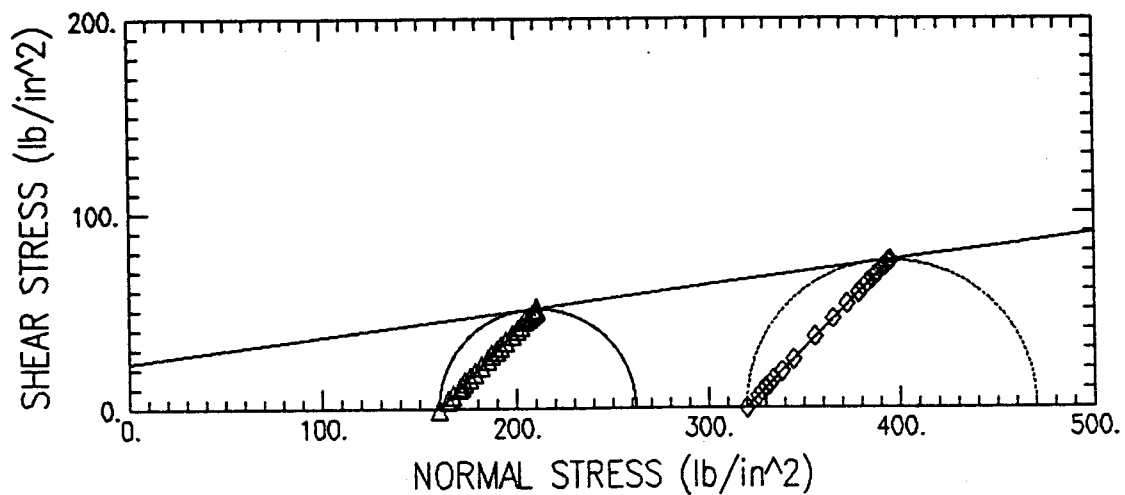
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) GRAYISH BROWN CLAYEY SILT TO SILTY CLAY

2) GRAYISH BROWN CLAYEY SILT TO SILTY CLAY

LL	PL	PI	GS 2.72	TYPE OF SPECIMEN TUBE		TYPE OF TEST UNDRAINED			
REMARKS:				PROJECT C. E. L. P.O. #3689					
1) TXUU TEST WITH CONFINING PRESSURE OF 160 PSI									
2) TXUU TEST WITH CONFINING PRESSURE OF 320 PSI				BORING NO. GT-1	SAMPLE NO.	A @160 PSI	B @320 PSI		
				TECH. C. WASON	DEPTH/ELEV	160-161 FT	160-161 FT		
				LABORATORY	DATE	03/14/97	03/14/97		
				TRIAxIAL COMPRESSION TEST REPORT					

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
GT-1	A @160 PSI	160-161 FT	GT1-160A	GT1A-160.UU
GT-1	B @320 PSI	160-161 FT	GT1-160B	GT1B-160.UU

. Failure Criteria: Peak Deviator Stress

Wed Mar 19 16:05:04 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT1-160A

Boring No. : GT-1

Test Date : 03/14/97

Tested by : C. WASON

Sample No. : A @160 PSI

Depth : 160-161 FT

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : GRAYISH BROWN CLAYEY SILT TO SILTY CLAY

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 160 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	160.00	160.00
2)	0.004	0.11	1.61	0.00	13.86	13.86	8.61	168.61	168.61
3)	0.007	0.20	1.61	0.00	23.10	23.10	14.34	174.34	174.34
4)	0.011	0.31	1.61	0.00	33.50	33.50	20.75	180.75	180.75
5)	0.014	0.39	1.62	0.00	38.12	38.12	23.58	183.58	183.58
6)	0.018	0.50	1.62	0.00	43.89	43.89	27.10	187.10	187.10
7)	0.027	0.75	1.63	0.00	52.55	52.55	32.31	192.31	192.31
8)	0.036	1.00	1.63	0.00	60.06	60.06	36.77	196.77	196.77
9)	0.054	1.51	1.65	0.00	72.77	72.77	44.17	204.17	204.17
10)	0.072	2.01	1.66	0.00	84.32	84.32	50.74	210.74	210.74
11)	0.090	2.51	1.68	0.00	92.40	92.40	55.13	215.13	215.13
12)	0.107	2.99	1.69	0.00	101.06	101.06	59.80	219.80	219.80
13)	0.125	3.49	1.71	0.00	108.57	108.57	63.67	223.67	223.67
14)	0.143	3.99	1.72	0.00	118.39	118.39	68.81	228.81	228.81
15)	0.179	5.00	1.75	0.00	133.40	133.40	76.15	236.15	236.15
16)	0.215	6.00	1.78	0.00	144.95	144.95	81.23	241.23	241.23
17)	0.251	7.01	1.82	0.00	155.35	155.35	85.44	245.44	245.44
18)	0.287	8.01	1.85	0.00	166.32	166.32	89.74	249.74	249.74
19)	0.322	8.99	1.89	0.00	176.72	176.72	93.55	253.55	253.55
20)	0.358	9.99	1.93	0.00	184.22	184.22	95.61	255.61	255.61
21)	0.430	12.00	2.01	0.00	198.08	198.08	98.67	258.67	258.67
22)	0.502	14.01	2.10	0.00	209.06	209.06	99.77	259.77	259.77
23)	0.573	15.99	2.19	0.00	220.03	220.03	100.49	260.49	260.49
24)	0.645	18.00	2.29	0.00	233.89	233.89	101.94	261.94	261.94
25)	0.717	20.01	2.41	0.00	244.86	244.86	101.62	261.62	261.62

Wed Mar 19 16:05:04 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT1-160A
 Boring No. : GT-1 Test Date : 03/14/97 Tested by : C. WASON
 Sample No. : A @160 PSI Depth : 160-161 FT Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : GRAYISH BROWN CLAYEY SILT TO SILTY CLAY
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 160 PSI

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	185.22	185.22	0.00
WT CONTAINER + DRY SOIL (gm)	145.59	145.59	0.00
WT WATER (gm)	39.63	39.63	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	145.59	145.59	0.00
WATER CONTENT (%)	27.22	27.22	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	27.22	27.22
VOID RATIO	0.76	0.76
WET DENSITY (lb/ft ³)	122.62	122.62
DRY DENSITY (lb/ft ³)	96.39	96.39
DEGREE OF SATURATION (%)	97.30	97.30

Maximum Shear Stress = 50.97 (lb/in²) at a Vertical Strain of 18.00 %

Wed Mar 19 16:07:39 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT1-1608

Boring No. : GT-1

Test Date : 03/14/97

Tested by : C. WASON

Sample No. : B @320 PSI

Depth : 160-161 FT

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : GRAYISH BROWN CLAYEY SILT TO SILTY CLAY

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 320 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL		CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL	EFFECTIVE
	CHANGE IN LENGTH (in)	STRAIN (%)						VERTICAL STRESS (lb/in ²)	VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	320.00	320.00
2)	0.004	0.11	1.61	0.00	19.64	19.64	12.20	332.20	332.20
3)	0.007	0.20	1.61	0.00	26.57	26.57	16.49	336.49	336.49
4)	0.011	0.31	1.61	0.00	33.50	33.50	20.75	340.75	340.75
5)	0.014	0.39	1.62	0.00	39.27	39.27	24.29	344.29	344.29
6)	0.018	0.50	1.62	0.00	46.20	46.20	28.53	348.53	348.53
7)	0.027	0.75	1.63	0.00	61.22	61.22	37.64	357.64	357.64
8)	0.036	1.00	1.63	0.00	80.85	80.85	49.50	369.50	369.50
9)	0.054	1.51	1.65	0.00	120.12	120.12	72.92	392.92	392.92
10)	0.072	2.01	1.66	0.00	151.31	151.31	91.06	411.06	411.06
11)	0.090	2.51	1.68	0.00	177.87	177.87	106.12	426.12	426.12
12)	0.107	2.99	1.69	0.00	198.66	198.66	117.54	437.54	437.54
13)	0.125	3.49	1.71	0.00	217.14	217.14	127.34	447.34	447.34
14)	0.143	3.99	1.72	0.00	233.31	233.31	135.61	455.61	455.61
15)	0.179	5.00	1.75	0.00	255.26	255.26	145.70	465.70	465.70
16)	0.215	6.00	1.78	0.00	265.65	265.65	148.87	468.87	468.87
17)	0.251	7.01	1.82	0.00	270.27	270.27	148.64	468.64	468.64
18)	0.287	8.01	1.85	0.00	278.36	278.36	150.18	470.18	470.18
19)	0.322	8.99	1.89	0.00	284.13	284.13	150.42	470.42	470.42
20)	0.358	9.99	1.93	0.00	289.33	289.33	150.15	470.15	470.15
21)	0.430	12.00	2.01	0.00	288.17	288.17	143.54	463.54	463.54
22)	0.502	14.01	2.10	0.00	287.60	287.60	137.26	457.26	457.26
23)	0.573	15.99	2.19	0.00	289.33	289.33	132.14	452.14	452.14
24)	0.645	18.00	2.29	0.00	292.79	292.79	127.61	447.61	447.61
25)	0.717	20.01	2.41	0.00	296.26	296.26	122.95	442.95	442.95

Wed Mar 19 16:07:39 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT1-160B

Boring No. : GT-1

Test Date : 03/14/97

Tested by : C. WASON

Sample No. : B @320 PSI

Depth : 160-161 FT

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : GRAYISH BROWN CLAYEY SILT TO SILTY CLAY

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 320 PSI

Liquid Limit : 0

Plastic Limit : 0

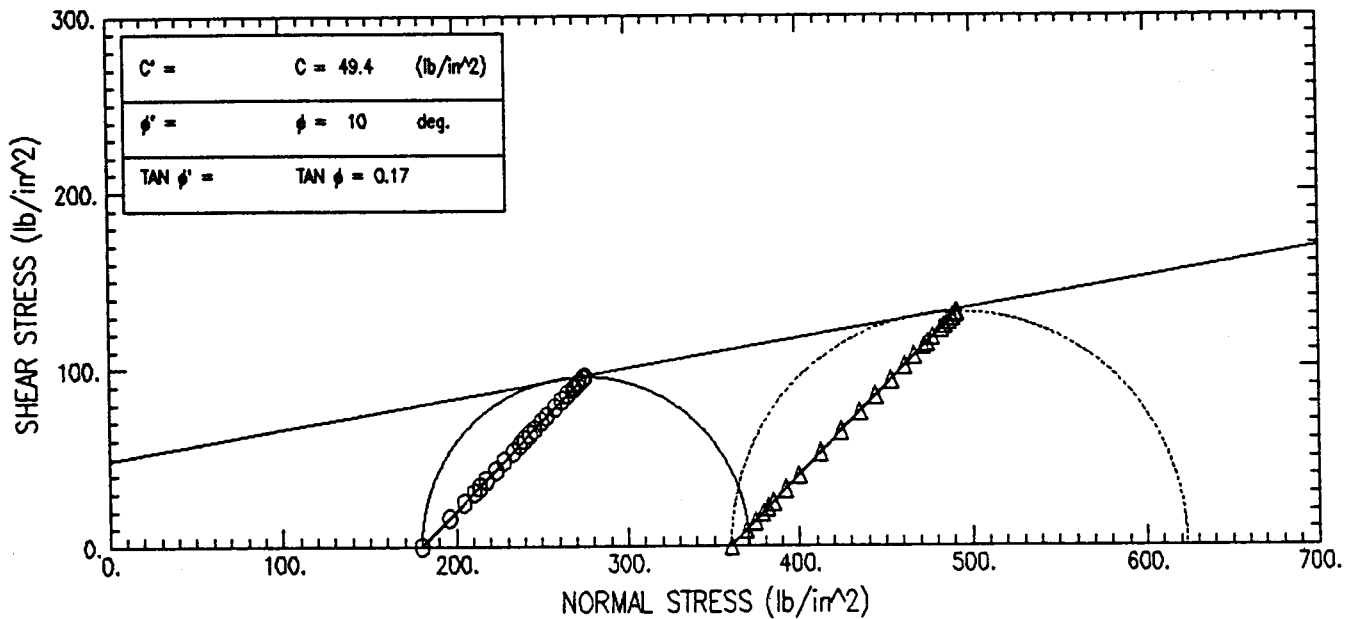
Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	184.52	184.52	0.00
WT CONTAINER + DRY SOIL (gm)	145.77	145.77	0.00
WT WATER (gm)	38.75	38.75	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	145.77	145.77	0.00
WATER CONTENT (%)	26.58	26.58	0.00

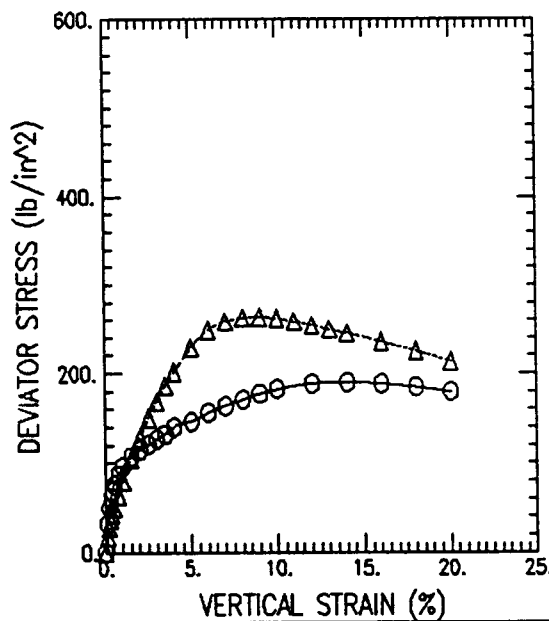
	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	26.58	26.58
VOID RATIO	0.76	0.76
WET DENSITY (lb/ft ³)	122.16	122.16
DRY DENSITY (lb/ft ³)	96.51	96.51
DEGREE OF SATURATION (%)	95.30	95.30

Maximum Shear Stress = 75.21 (lb/in²) at a Vertical Strain of 8.99 %

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		O	Δ		
TEST NO.		GT1-180A	GT1-180B		
INITIAL	WATER CONTENT (%)	26.50	24.43		
	DRY DENSITY (lb/ft ³)	90.24	88.17		
	SATURATION (%)	81.82	71.85		
	VOID RATIO	0.881	0.925		
BEFORE SHEAR	WATER CONTENT (%)	26.50	24.43		
	DRY DENSITY (lb/ft ³)	90.24	88.17		
	SATURATION (%)	81.82	71.85		
	VOID RATIO	0.881	0.925		
	BACK PRESS. (lb/in ²)	0.00	0.00		
	MINOR PRIN. STRESS (lb/in ²)	180.00	360.00		
MAX. DEV. STRESS (lb/in ²)		190.18	263.23		
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		1.43	1.43		
INITIAL HEIGHT (in)		3.58	3.58		

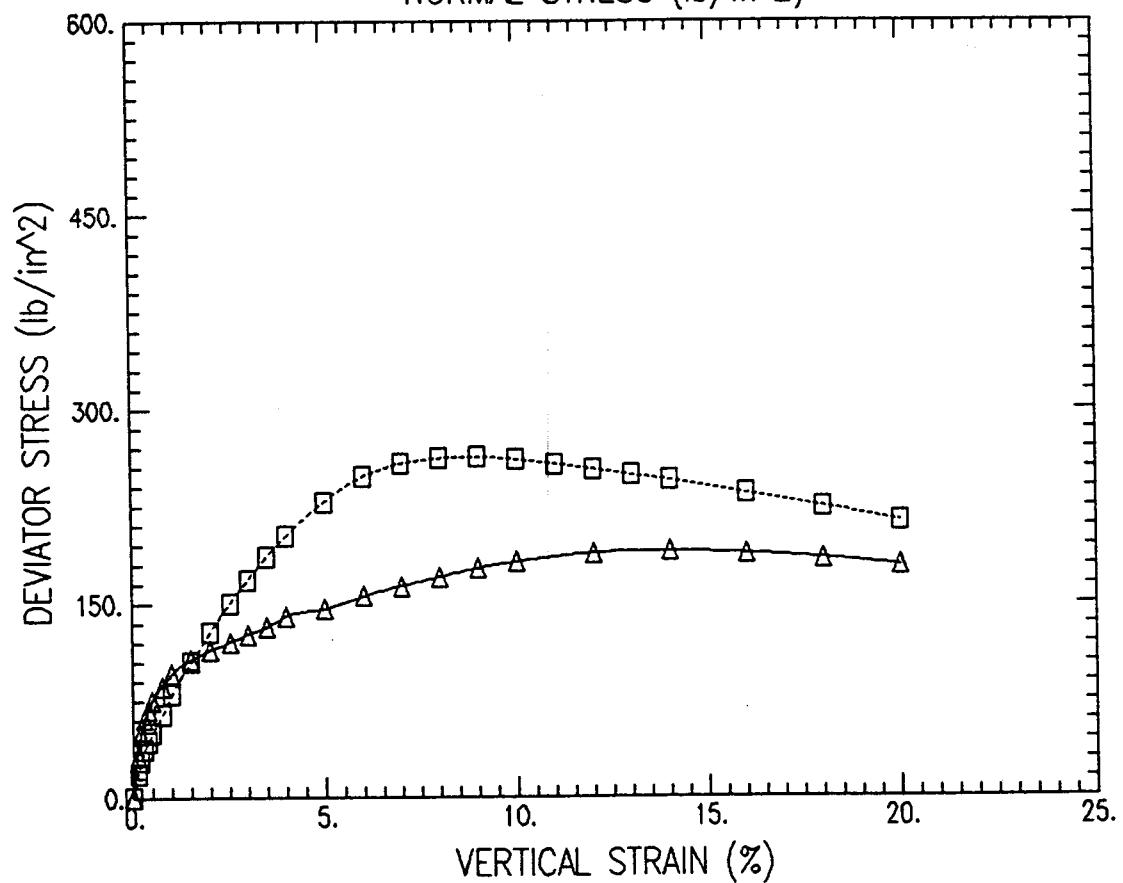
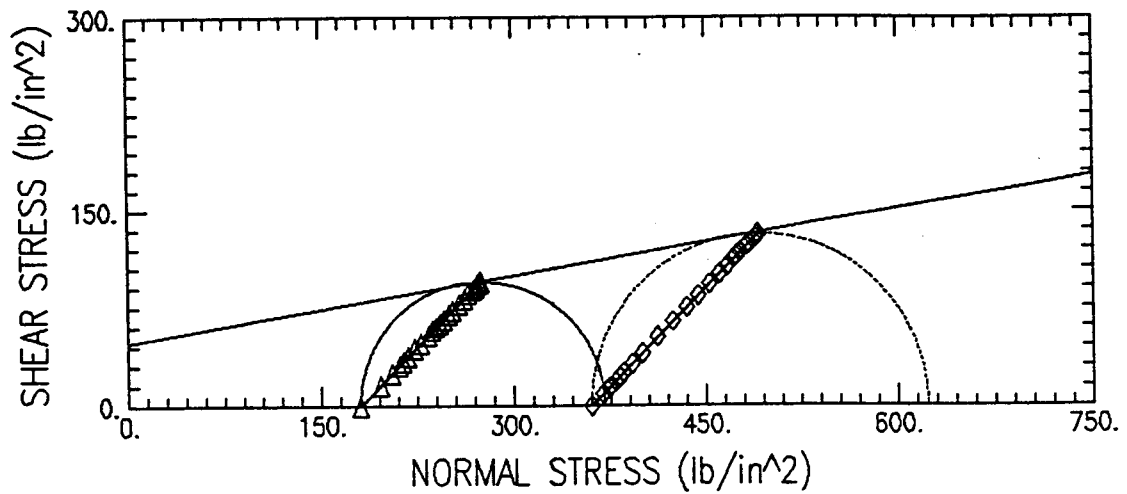
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) LT. YELLOWISH BROWN SI-CLAY TO CLAYEY SILT

2) LT. YELLOWISH BROWN SI-CLAY TO CLAYEY SILT

LL	PL	PI	GS 2.72	TYPE OF SPECIMEN TUBE		TYPE OF TEST		UNDRAINED	
REMARKS:				PROJECT C. E. L. P.O. #3689					
1) TXUU TEST WITH CONFINING PRESSURE OF 180 PSI									
2) TXUU TEST WITH CONFINING PRESSURE OF 360 PSI				BORING NO. GT-1	SAMPLE NO.	A @180 PSI	B @360 PSI		
				TECH. C. WASON	DEPTH/ELEV	180-181 FT	180-181 FT		
				LABORATORY	DATE	03/14/97	03/14/97		
				TRIAxIAL COMPRESSION TEST REPORT					

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
GT-1	A @180 PSI	180-181 FT	GT1-180A	GT1A-180.UU
GT-1	B @360 PSI	180-181 FT	GT1-180B	GT1B-180.UU

Failure Criteria: Peak Deviator Stress

Wed Mar 19 16:08:26 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT1-180A

Boring No. : GT-1

Test Date : 03/14/97

Tested by : C. WASON

Sample No. : A @180 PSI

Depth : 180-181 FT

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : LT. YELLOWISH BROWN SI-CLAY TO CLAYEY SILT

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 180 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	180.00	180.00
2)	0.004	0.11	1.61	0.00	51.98	51.98	32.30	212.30	212.30
3)	0.007	0.20	1.61	0.00	79.70	79.70	49.46	229.46	229.46
4)	0.011	0.31	1.61	0.00	99.33	99.33	61.53	241.53	241.53
5)	0.014	0.39	1.62	0.00	109.73	109.73	67.88	247.88	247.88
6)	0.018	0.50	1.62	0.00	122.43	122.43	75.59	255.59	255.59
7)	0.027	0.75	1.63	0.00	140.91	140.91	86.64	266.64	266.64
8)	0.036	1.00	1.63	0.00	157.08	157.08	96.17	276.17	276.17
9)	0.054	1.51	1.65	0.00	176.72	176.72	107.27	287.27	287.27
10)	0.072	2.01	1.66	0.00	190.58	190.58	114.69	294.69	294.69
11)	0.090	2.51	1.68	0.00	202.13	202.13	120.59	300.59	300.59
12)	0.107	2.99	1.69	0.00	213.68	213.68	126.43	306.43	306.43
13)	0.125	3.49	1.71	0.00	225.23	225.23	132.09	312.09	312.09
14)	0.143	3.99	1.72	0.00	241.40	241.40	140.31	320.31	320.31
15)	0.179	5.00	1.75	0.00	256.41	256.41	146.36	326.36	326.36
16)	0.215	6.00	1.78	0.00	278.36	278.36	155.99	335.99	335.99
17)	0.251	7.01	1.82	0.00	297.99	297.99	163.88	343.88	343.88
18)	0.287	8.01	1.85	0.00	316.47	316.47	170.75	350.75	350.75
19)	0.322	8.99	1.89	0.00	334.95	334.95	177.32	357.32	357.32
20)	0.358	9.99	1.93	0.00	351.12	351.12	182.22	362.22	362.22
21)	0.430	12.00	2.01	0.00	378.84	378.84	188.71	368.71	368.71
22)	0.502	14.01	2.10	0.00	398.48	398.48	190.18	370.18	370.18
23)	0.573	15.99	2.19	0.00	412.34	412.34	188.31	368.31	368.31
24)	0.645	18.00	2.29	0.00	423.89	423.89	184.75	364.75	364.75
25)	0.717	20.01	2.41	0.00	431.97	431.97	179.27	359.27	359.27

Wed Mar 19 16:08:26 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT1-180A
 Boring No. : GT-1 Test Date : 03/14/97 Tested by : C. WASON
 Sample No. : A @180 PSI Depth : 180-181 FT Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : LT. YELLOWISH BROWN SI-CLAY TO CLAYEY SILT
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 180 PSI

Liquid Limit : 0 Plastic Limit : 0 Specific Gravity : 2.72

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	172.42	172.42	0.00
WT CONTAINER + DRY SOIL (gm)	136.30	136.30	0.00
WT WATER (gm)	36.12	36.12	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	136.30	136.30	0.00
WATER CONTENT (%)	26.50	26.50	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	26.50	26.50
VOID RATIO	0.88	0.88
WET DENSITY (lb/ft ³)	114.15	114.15
DRY DENSITY (lb/ft ³)	90.24	90.24
DEGREE OF SATURATION (%)	81.82	81.82

Maximum Shear Stress = 95.09 (lb/in²) at a Vertical Strain of 14.01 %

Wed Mar 19 16:09:01 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT1-1808

Boring No. : GT-1

Test Date : 03/14/97

Tested by : C. WASON

Sample No. : 8 @360 PSI

Depth : 180-181 FT

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : LT. YELLOWISH BROWN SI-CLAY TO CLAYEY SILT

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 360 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL		CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
	CHANGE IN LENGTH (in)	STRAIN (%)							
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	360.00	360.00
2)	0.004	0.11	1.61	0.00	28.88	28.88	17.95	377.95	377.95
3)	0.007	0.20	1.61	0.00	45.05	45.05	27.96	387.96	387.96
4)	0.011	0.31	1.61	0.00	60.06	60.06	37.21	397.21	397.21
5)	0.014	0.39	1.62	0.00	70.46	70.46	43.58	403.58	403.58
6)	0.018	0.50	1.62	0.00	80.85	80.85	49.92	409.92	409.92
7)	0.027	0.75	1.63	0.00	103.95	103.95	63.91	423.91	423.91
8)	0.036	1.00	1.63	0.00	130.52	130.52	79.91	439.91	439.91
9)	0.054	1.51	1.65	0.00	173.25	173.25	105.17	465.17	465.17
10)	0.072	2.01	1.66	0.00	213.68	213.68	128.59	488.59	488.59
11)	0.090	2.51	1.68	0.00	251.79	251.79	150.22	510.22	510.22
12)	0.107	2.99	1.69	0.00	284.71	284.71	168.45	528.45	528.45
13)	0.125	3.49	1.71	0.00	317.63	317.63	186.27	546.27	546.27
14)	0.143	3.99	1.72	0.00	347.66	347.66	202.07	562.07	562.07
15)	0.179	5.00	1.75	0.00	400.79	400.79	228.78	588.78	588.78
16)	0.215	6.00	1.78	0.00	443.52	443.52	248.55	608.55	608.55
17)	0.251	7.01	1.82	0.00	469.51	469.51	258.21	618.21	618.21
18)	0.287	8.01	1.85	0.00	486.26	486.26	262.35	622.35	622.35
19)	0.322	8.99	1.89	0.00	497.23	497.23	263.23	623.23	623.23
20)	0.358	9.99	1.93	0.00	503.58	503.58	261.35	621.35	621.35
21)	0.394	11.00	1.97	0.00	507.05	507.05	257.86	617.86	617.86
22)	0.430	12.00	2.01	0.00	509.36	509.36	253.72	613.72	613.72
23)	0.466	13.01	2.05	0.00	511.09	511.09	249.25	609.25	609.25
24)	0.502	14.01	2.10	0.00	513.40	513.40	245.03	605.03	605.03
25)	0.573	15.99	2.19	0.00	515.13	515.13	235.26	595.26	595.26
26)	0.645	18.00	2.29	0.00	515.71	515.71	224.77	584.77	584.77
27)	0.717	20.01	2.41	0.00	514.55	514.55	213.54	573.54	573.54

Wed Mar 19 16:09:01 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT1-1808
 Boring No. : GT-1 Test Date : 03/14/97 Tested by : C. WASON
 Sample No. : B @360 PSI Depth : 180-181 FT Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : LT. YELLOWISH BROWN SI-CLAY TO CLAYEY SILT
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 360 PSI

Liquid Limit : 0

Plastic Limit : 0

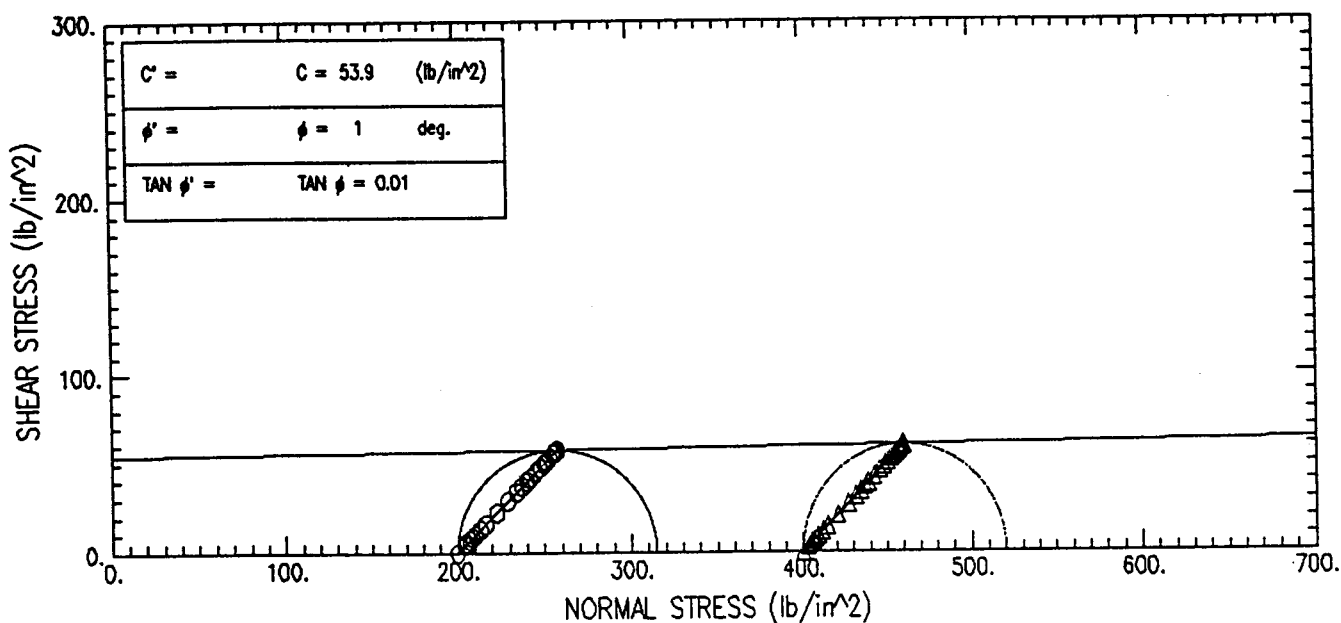
Specific Gravity : 2.72

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	165.72	164.68	0.00
WT CONTAINER + DRY SOIL (gm)	133.18	132.35	0.00
WT WATER (gm)	32.54	32.33	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	133.18	132.35	0.00
WATER CONTENT (%)	24.43	24.43	0.00

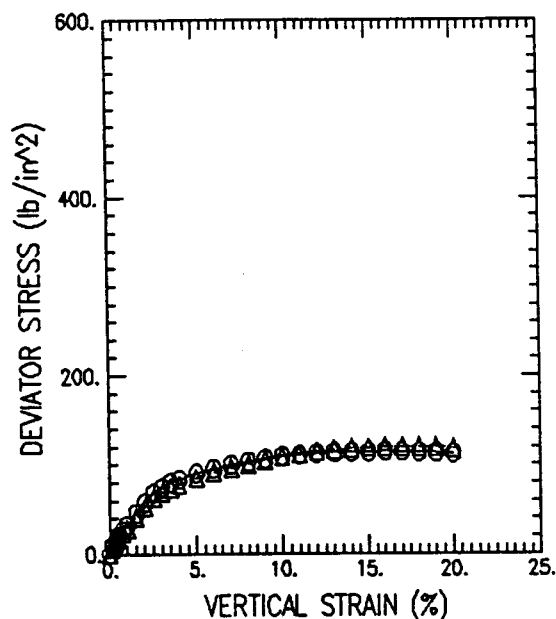
	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	24.43	24.43
VOID RATIO	0.92	0.92
WET DENSITY (lb/ft ³)	109.71	109.71
DRY DENSITY (lb/ft ³)	88.17	88.17
DEGREE OF SATURATION (%)	71.85	71.85

Maximum Shear Stress = 131.62 (lb/in²) at a Vertical Strain of 8.99 %

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		O	Δ		
TEST NO.		GT1-200A	GT1-200B		
INITIAL	WATER CONTENT (%)	27.12	27.09		
	DRY DENSITY (lb/ft ³)	95.73	94.66		
	SATURATION (%)	95.44	92.93		
	VOID RATIO	0.773	0.793		
BEFORE SHEAR	WATER CONTENT (%)	27.12	27.09		
	DRY DENSITY (lb/ft ³)	95.73	94.66		
	SATURATION (%)	95.44	92.93		
	VOID RATIO	0.773	0.793		
	BACK PRESS. (lb/in ²)	0.00	0.00		
MINOR PRIN. STRESS (lb/in ²)		200.00	400.00		
MAX. DEV. STRESS (lb/in ²)		114.47	119.74		
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		1.43	1.43		
INITIAL HEIGHT (in)		3.58	3.58		

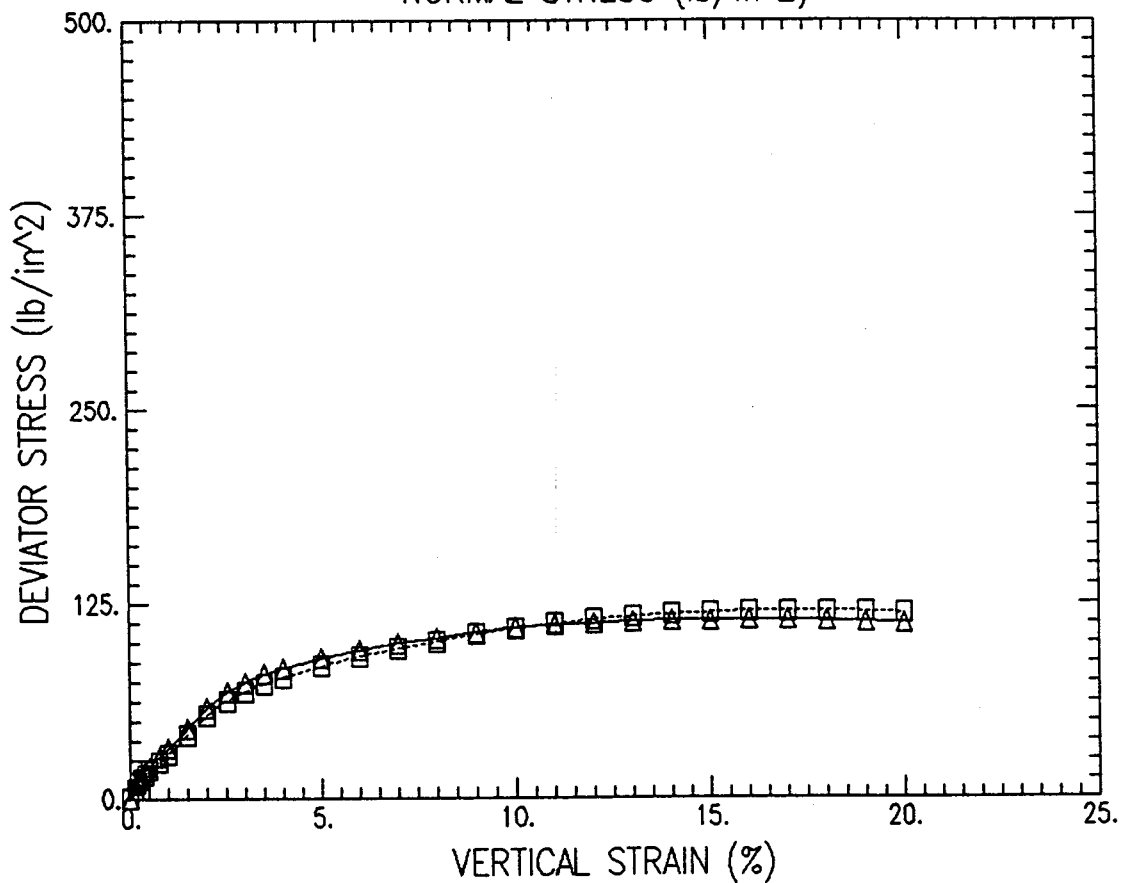
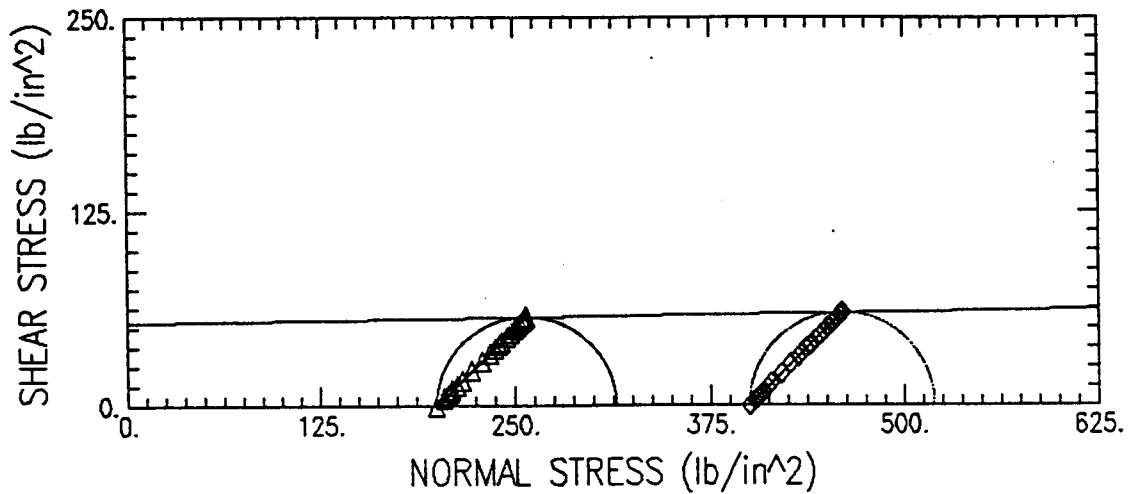
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) LT. BROWN CLAYEY SILT TO SILTY CLAY

2) LT. BROWN CLAYEY SILT TO SILTY CLAY

LL	PL	PI	GS 2.72	TYPE OF SPECIMEN TUBE		TYPE OF TEST UNDRAINED			
REMARKS:				PROJECT C. E. L. P.O. #3689					
1) TXUU TEST WITH CONFINING PRESSURE OF 200 PSI									
2) TXUU TEST WITH CONFINING PRESSURE OF 400 PSI				BORING NO. GT-1	SAMPLE NO.	A @200 PSI	B @400 PSI		
				TECH. C. WASON	DEPTH/ELEV	200-201 FT	200-201 FT		
				LABORATORY	DATE	03/17/97	03/17/97		
				TRIAxIAL COMPRESSION TEST REPORT					

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
GT-1	A @200 PSI	200-201 FT	GT1-200A	GT1A-200.UU
GT-1	B @400 PSI	200-201 FT	GT1-200B	GT1B-200.UU

Failure Criteria: Peak Deviator Stress

Wed Mar 19 16:09:30 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT1-200A

Boring No. : GT-1

Test Date : 03/17/97

Tested by : C. WASON

Sample No. : A @200 PSI

Depth : 200-201 FT

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : LT. BROWN CLAYEY SILT TO SILTY CLAY

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 200 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	200.00	200.00
2)	0.004	0.11	1.61	0.00	15.02	15.02	9.33	209.33	209.33
3)	0.007	0.20	1.61	0.00	17.33	17.33	10.75	210.75	210.75
4)	0.011	0.31	1.61	0.00	23.10	23.10	14.31	214.31	214.31
5)	0.014	0.39	1.62	0.00	28.30	28.30	17.51	217.51	217.51
6)	0.018	0.50	1.62	0.00	33.50	33.50	20.68	220.68	220.68
7)	0.027	0.75	1.63	0.00	43.31	43.31	26.63	226.63	226.63
8)	0.036	1.00	1.63	0.00	53.13	53.13	32.53	232.53	232.53
9)	0.054	1.51	1.65	0.00	75.08	75.08	45.57	245.57	245.57
10)	0.072	2.01	1.66	0.00	97.02	97.02	58.39	258.39	258.39
11)	0.090	2.51	1.68	0.00	114.35	114.35	68.22	268.22	268.22
12)	0.107	2.99	1.69	0.00	125.90	125.90	74.49	274.49	274.49
13)	0.125	3.49	1.71	0.00	136.29	136.29	79.93	279.93	279.93
14)	0.143	3.99	1.72	0.00	143.80	143.80	83.58	283.58	283.58
15)	0.179	5.00	1.75	0.00	157.66	157.66	89.99	289.99	289.99
16)	0.215	6.00	1.78	0.00	169.79	169.79	95.15	295.15	295.15
17)	0.251	7.01	1.82	0.00	181.34	181.34	99.73	299.73	299.73
18)	0.287	8.01	1.85	0.00	190.58	190.58	102.82	302.82	302.82
19)	0.322	8.99	1.89	0.00	200.97	200.97	106.39	306.39	306.39
20)	0.358	9.99	1.93	0.00	210.79	210.79	109.39	309.39	309.39
21)	0.394	11.00	1.97	0.00	218.30	218.30	111.01	311.01	311.01
22)	0.430	12.00	2.01	0.00	224.65	224.65	111.90	311.90	311.90
23)	0.466	13.01	2.05	0.00	232.16	232.16	113.22	313.22	313.22
24)	0.502	14.01	2.10	0.00	238.51	238.51	113.83	313.83	313.83
25)	0.538	15.02	2.14	0.00	244.28	244.28	114.04	314.04	314.04
26)	0.573	15.99	2.19	0.00	250.64	250.64	114.47	314.47	314.47
27)	0.609	17.00	2.24	0.00	255.83	255.83	114.17	314.17	314.17
28)	0.645	18.00	2.29	0.00	261.03	261.03	113.77	313.77	313.77
29)	0.681	19.01	2.35	0.00	265.65	265.65	113.01	313.01	313.01
30)	0.717	20.01	2.41	0.00	270.27	270.27	112.16	312.16	312.16

Wed Mar 19 16:09:30 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT1-200A
 Boring No. : GT-1 Test Date : 03/17/97 Tested by : C. WASON
 Sample No. : A @200 PSI Depth : 200-201 FT Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : LT. BROWN CLAYEY SILT TO SILTY CLAY
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 200 PSI

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	183.82	183.82	0.00
WT CONTAINER + DRY SOIL (gm)	144.60	144.60	0.00
WT WATER (gm)	39.22	39.22	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	144.60	144.60	0.00
WATER CONTENT (%)	27.12	27.12	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	27.12	27.12
VOID RATIO	0.77	0.77
WET DENSITY (lb/ft ³)	121.70	121.70
DRY DENSITY (lb/ft ³)	95.73	95.73
DEGREE OF SATURATION (%)	95.44	95.44

Maximum Shear Stress = 57.23 (lb/in²) at a Vertical Strain of 15.99 %

Wed Mar 19 16:10:09 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT1-200B
 Boring No. : GT-1 Test Date : 03/17/97 Tested by : C. WASON
 Sample No. : B 2400 PSI Depth : 200-201 FT Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : LT. BROWN CLAYEY SILT TO SILTY CLAY
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 400 PSI

Height : 3.583 (in) Piston Diameter : 0.000 (in) Filter Correction : 0.00 (lb/in²)
 Area : 1.61 (in²) Piston Friction : 0.00 (lb) Membrane Correction : 0.00 (lb/in)
 Volume : 5.75 (in³) Piston Weight : 0.00 (gm) Area Correction : Parabolic

	CHANGE IN LENGTH (in)	VERTICAL STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	400.00	400.00
2)	0.004	0.11	1.61	0.00	10.40	10.40	6.46	406.46	406.46
3)	0.007	0.20	1.61	0.00	16.17	16.17	10.04	410.04	410.04
4)	0.011	0.31	1.61	0.00	20.79	20.79	12.88	412.88	412.88
5)	0.014	0.39	1.62	0.00	24.83	24.83	15.36	415.36	415.36
6)	0.018	0.50	1.62	0.00	29.45	29.45	18.19	418.19	418.19
7)	0.027	0.75	1.63	0.00	38.12	38.12	23.43	423.43	423.43
8)	0.036	1.00	1.63	0.00	47.36	47.36	28.99	428.99	428.99
9)	0.054	1.51	1.65	0.00	68.15	68.15	41.37	441.37	441.37
10)	0.072	2.01	1.66	0.00	89.51	89.51	53.87	453.87	453.87
11)	0.090	2.51	1.68	0.00	105.68	105.68	63.05	463.05	463.05
12)	0.107	2.99	1.69	0.00	116.66	116.66	69.02	469.02	469.02
13)	0.125	3.49	1.71	0.00	125.90	125.90	73.83	473.83	473.83
14)	0.143	3.99	1.72	0.00	133.98	133.98	77.88	477.88	477.88
15)	0.179	5.00	1.75	0.00	149.00	149.00	85.05	485.05	485.05
16)	0.215	6.00	1.78	0.00	162.86	162.86	91.26	491.26	491.26
17)	0.251	7.01	1.82	0.00	174.98	174.98	96.23	496.23	496.23
18)	0.287	8.01	1.85	0.00	186.53	186.53	100.64	500.64	500.64
19)	0.322	8.99	1.89	0.00	198.66	198.66	105.17	505.17	505.17
20)	0.358	9.99	1.93	0.00	209.63	209.63	108.79	508.79	508.79
21)	0.394	11.00	1.97	0.00	219.45	219.45	111.60	511.60	511.60
22)	0.430	12.00	2.01	0.00	229.85	229.85	114.49	514.49	514.49
23)	0.466	13.01	2.05	0.00	238.51	238.51	116.32	516.32	516.32
24)	0.502	14.01	2.10	0.00	246.59	246.59	117.69	517.69	517.69
25)	0.538	15.02	2.14	0.00	254.10	254.10	118.62	518.62	518.62
26)	0.573	15.99	2.19	0.00	262.19	262.19	119.74	519.74	519.74
27)	0.609	17.00	2.24	0.00	267.96	267.96	119.58	519.58	519.58
28)	0.645	18.00	2.29	0.00	274.31	274.31	119.56	519.56	519.56
29)	0.681	19.01	2.35	0.00	280.67	280.67	119.40	519.40	519.40
30)	0.717	20.01	2.41	0.00	285.29	285.29	118.39	518.39	518.39

Wed Mar 19 16:10:09 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT1-2008
 Boring No. : GT-1 Test Date : 03/17/97 Tested by : C. WASON
 Sample No. : B @400 PSI Depth : 200-201 FT Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : LT. BROWN CLAYEY SILT TO SILTY CLAY
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 400 PSI

Liquid Limit : 0

Plastic Limit : 0

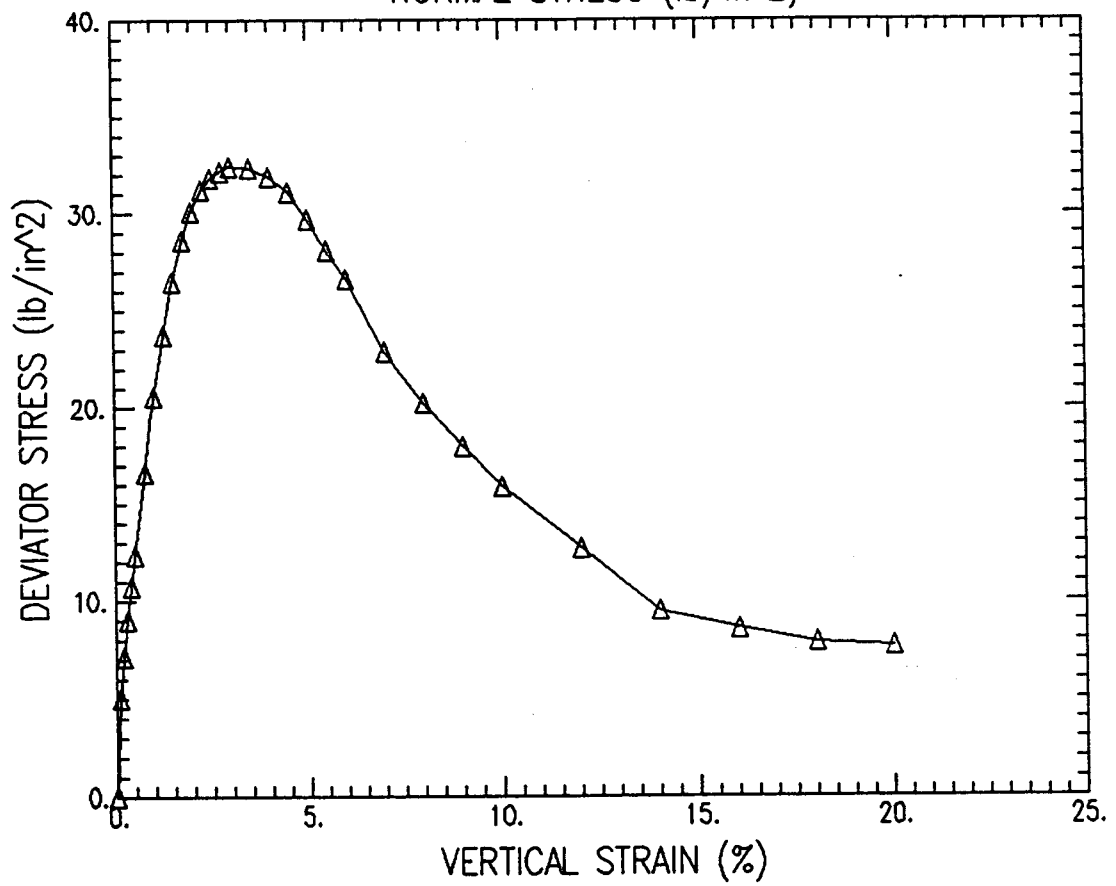
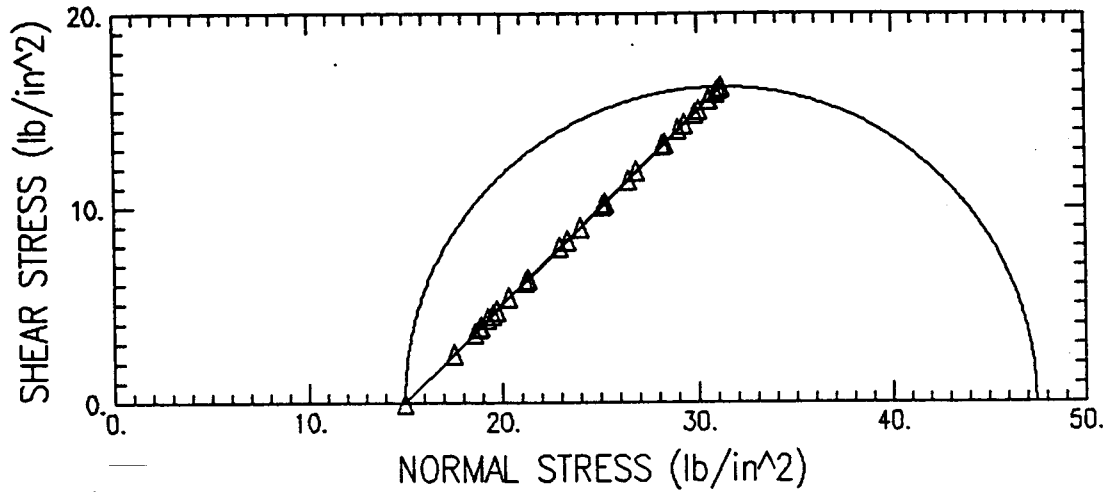
Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	181.72	181.72	0.00
WT CONTAINER + DRY SOIL (gm)	142.98	142.98	0.00
WT WATER (gm)	38.74	38.74	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	142.98	142.98	0.00
WATER CONTENT (%)	27.09	27.09	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	27.09	27.09
VOID RATIO	0.79	0.79
WET DENSITY (lb/ft ³)	120.31	120.31
DRY DENSITY (lb/ft ³)	94.66	94.66
DEGREE OF SATURATION (%)	92.93	92.93

Maximum Shear Stress = 59.87 (lb/in²) at a Vertical Strain of 15.99 %

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689				
Boring No:	Sample No	Depth	Test No	Filename
GT-4	BOTTOM	15-17 FEET	GT4-BOTTOM	GT4-15.UU

Wed Mar 19 16:54:36 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT4-BOTTOM

Boring No. : GT-4

Test Date : 03/06/97

Tested by : C. WASON

Sample No. : BOTTOM

Depth : 15-17 FEET

Checked by : C. CAPPS

Sample Type : SHELBY

Elevation : NA

Soil Description : LT. BRN CLAYEY FINE SA-SILT / CLAYEY SI-FINE SAND

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 15 PSI

Height : 5.984 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 6.42 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 38.44 (in³)

Piston Weight : 0.00 (gm)

Area Correction : None

	CHANGE	VERTICAL					TOTAL	EFFECTIVE
	IN LENGTH	STRAIN	CORR.	PORE	DEV.	CORR. DEV.	VERTICAL	VERTICAL
	(in)	(%)	AREA	PRESSURE	LOAD	LOAD	STRESS	STRESS
	(in)	(%)	(in ²)	(lb/in ²)	(lb)	(lb)	(lb/in ²)	(lb/in ²)
1)	0.000	0.00	6.42	0.00	0.00	0.00	15.00	15.00
2)	0.006	0.10	6.42	0.00	32.17	32.17	5.01	20.01
3)	0.012	0.20	6.42	0.00	45.96	45.96	7.15	22.15
4)	0.018	0.30	6.42	0.00	58.02	58.02	9.03	24.03
5)	0.024	0.40	6.42	0.00	68.94	68.94	10.73	25.73
6)	0.030	0.50	6.42	0.00	79.28	79.28	12.34	27.34
7)	0.045	0.75	6.42	0.00	106.86	106.86	16.63	31.63
8)	0.060	1.00	6.42	0.00	132.14	132.14	20.57	35.57
9)	0.075	1.25	6.42	0.00	152.82	152.82	23.79	38.79
10)	0.090	1.50	6.42	0.00	170.05	170.05	26.47	41.47
11)	0.105	1.75	6.42	0.00	183.84	183.84	28.62	43.62
12)	0.120	2.01	6.42	0.00	193.61	193.61	30.14	45.14
13)	0.135	2.26	6.42	0.00	200.50	200.50	31.21	46.21
14)	0.150	2.51	6.42	0.00	204.52	204.52	31.84	46.84
15)	0.165	2.76	6.42	0.00	206.82	206.82	32.19	47.19
16)	0.180	3.01	6.42	0.00	208.54	208.54	32.46	47.46
17)	0.209	3.49	6.42	0.00	207.97	207.97	32.37	47.37
18)	0.239	3.99	6.42	0.00	205.10	205.10	31.93	46.93
19)	0.269	4.50	6.42	0.00	199.93	199.93	31.12	46.12
20)	0.299	5.00	6.42	0.00	190.73	190.73	29.69	44.69
21)	0.329	5.50	6.42	0.00	180.39	180.39	28.08	43.08
22)	0.359	6.00	6.42	0.00	171.20	171.20	26.65	41.65
23)	0.419	7.00	6.42	0.00	147.07	147.07	22.89	37.89
24)	0.479	8.00	6.42	0.00	129.84	129.84	20.21	35.21
25)	0.539	9.01	6.42	0.00	115.47	115.47	17.98	32.98
26)	0.598	9.99	6.42	0.00	102.26	102.26	15.92	30.92
27)	0.718	12.00	6.42	0.00	81.58	81.58	12.70	27.70
28)	0.838	14.00	6.42	0.00	60.90	60.90	9.48	24.48
29)	0.957	15.99	6.42	0.00	55.15	55.15	8.59	23.59
30)	1.077	18.00	6.42	0.00	50.56	50.56	7.87	22.87
31)	1.197	20.00	6.42	0.00	49.41	49.41	7.69	22.69

Wed Mar 19 17:35:05 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT4-BOTTOM
 Boring No. : GT-4 Test Date : 03/06/97 Tested by : C. WASON
 Sample No. : BOTTOM Depth : 15-17 FEET Checked by : C. CAPPS
 Sample Type : SHELBY Elevation : NA
 Soil Description : LT. BRN CLAYEY FINE SA-SILT / CLAYEY SI-FINE SAND
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 15 PSI

Liquid Limit : 0

Plastic Limit : 0

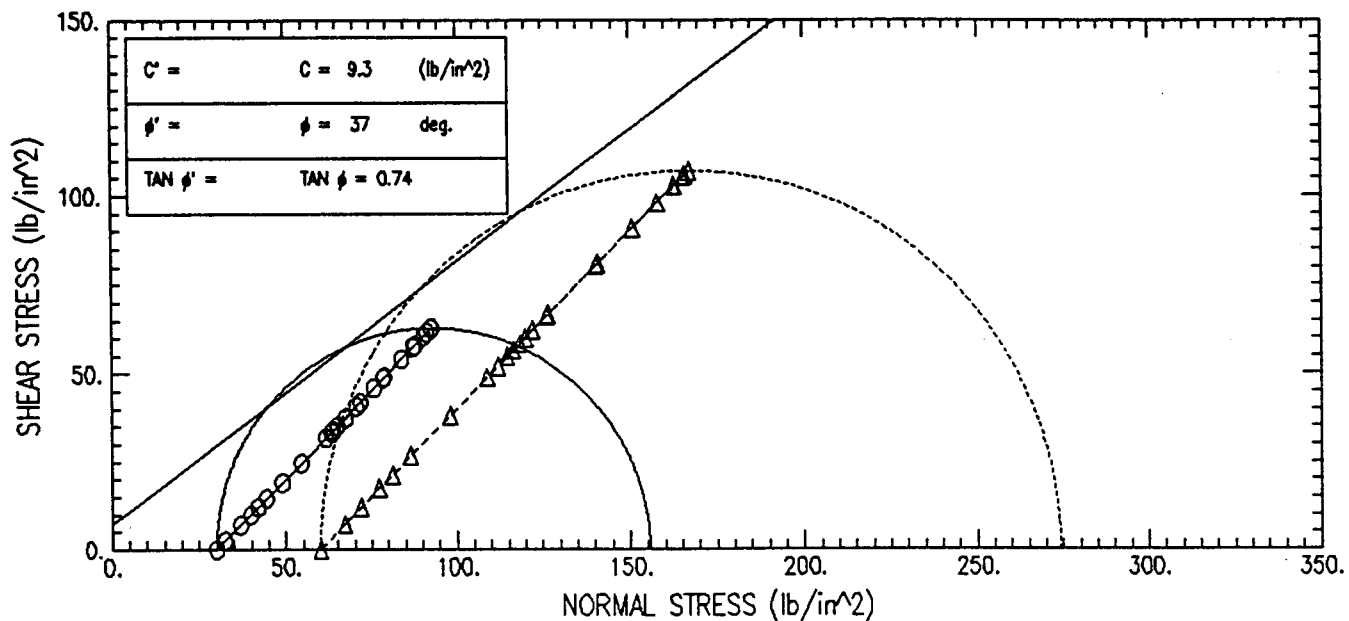
Specific Gravity : 2.72

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	1005.60	1005.40	0.00
WT CONTAINER + DRY SOIL (gm)	951.30	951.10	0.00
WT WATER (gm)	54.30	54.30	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	951.30	951.10	0.00
WATER CONTENT (%)	5.71	5.71	0.00

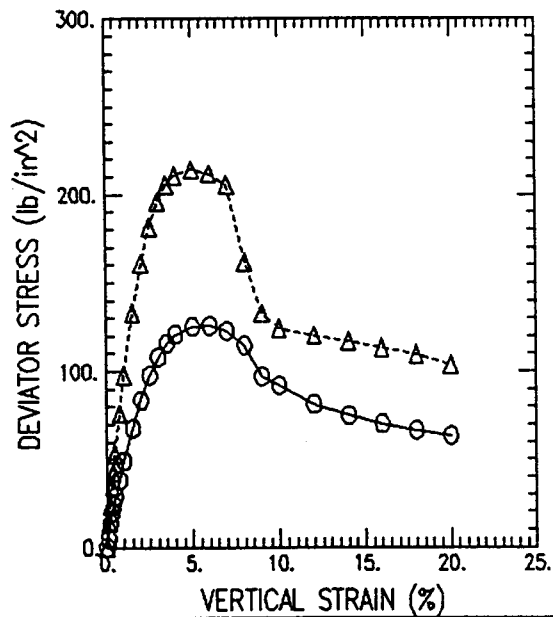
	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	5.71	5.71
VOID RATIO	0.80	0.80
WET DENSITY (lb/ft ³)	99.66	99.66
DRY DENSITY (lb/ft ³)	94.28	94.28
DEGREE OF SATURATION (%)	19.40	19.40

Maximum Shear Stress = 16.23 (lb/in²) at a Vertical Strain of 3.01 %

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		O	Δ	
TEST NO.		GT4-30A	GT4-30B	
INITIAL	WATER CONTENT (%)	6.23	5.85	
	DRY DENSITY (lb/ft ³)	82.52	84.87	
	SATURATION (%)	16.05	15.92	
	VOID RATIO	1.057	1.000	
BEFORE SHEAR	WATER CONTENT (%)	6.23	5.85	
	DRY DENSITY (lb/ft ³)	82.52	84.87	
	SATURATION (%)	16.05	15.92	
	VOID RATIO	1.057	1.000	
	BACK PRESS. (lb/in ²)	0.00	0.00	
MINOR PRIN. STRESS (lb/in ²)		30.00	60.00	
MAX. DEV. STRESS (lb/in ²)		125.58	214.14	
TIME TO FAILURE (min)				
RATE OF STRAIN INCR (%/min)		0.00	0.00	
INITIAL DIAMETER (in)		1.43	1.43	
INITIAL HEIGHT (in)		3.50	3.58	

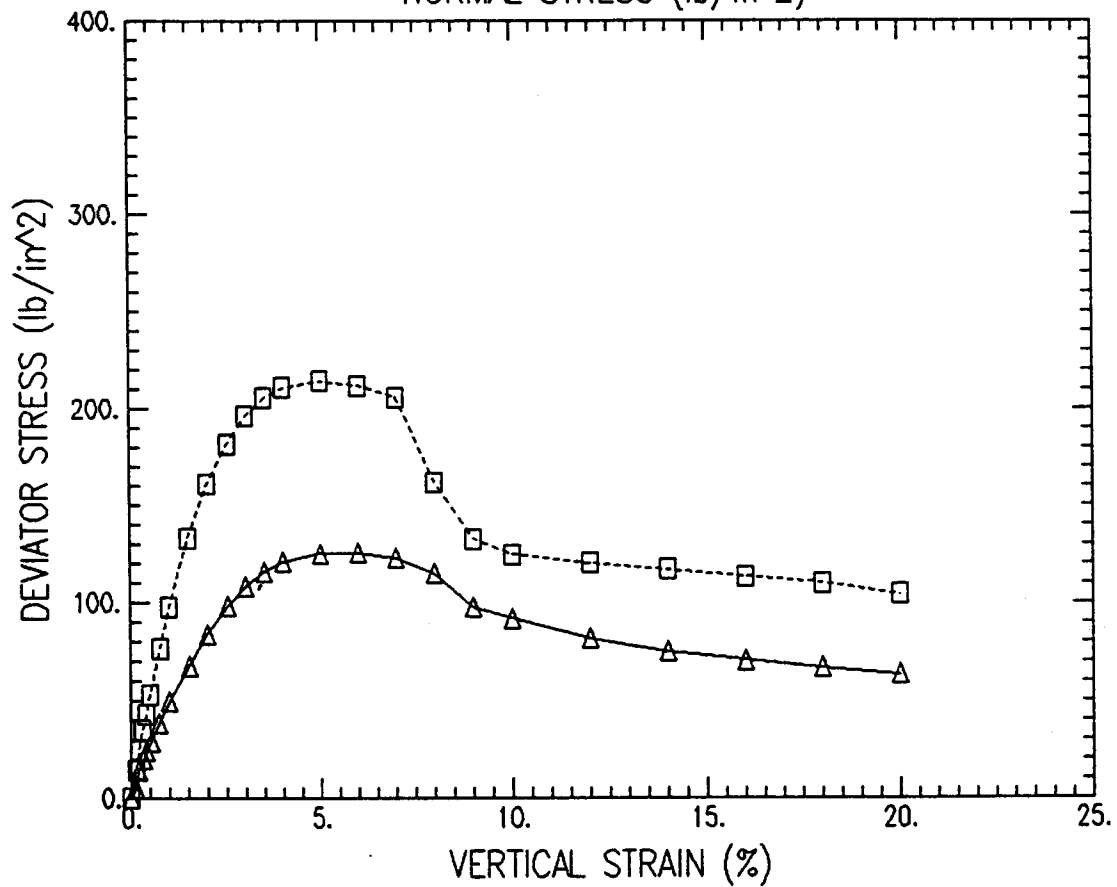
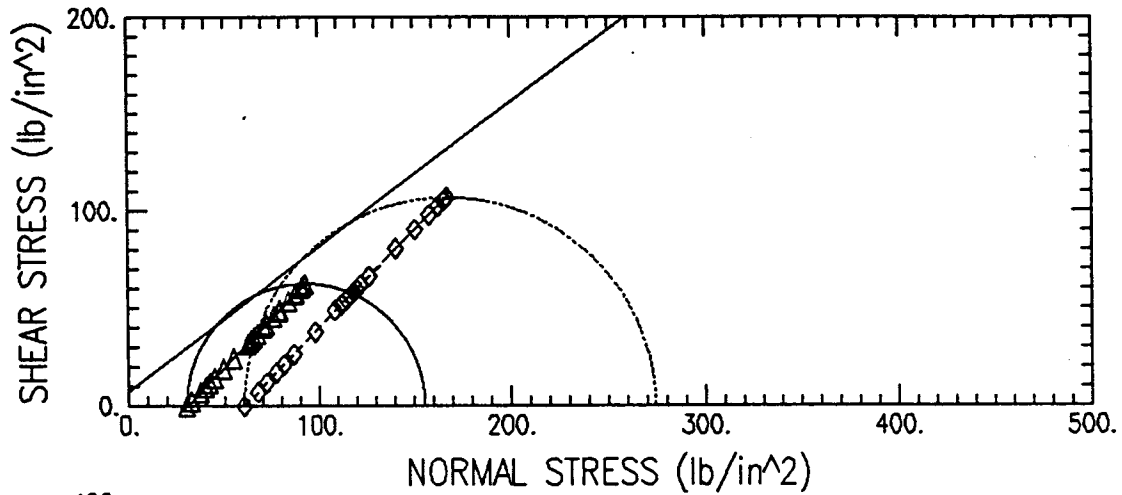
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) LT. ORANGE BROWN FINE SA-SILT / SILTY FINE SAND

2) LT. ORANGE BROWN FINE SA-SILT / SILTY FINE SAND

LL	PL	PI	GS 2.72	TYPE OF SPECIMEN	TUBE	TYPE OF TEST				UNDRAINED
REMARKS:				PROJECT C. E. L. P.O. #3689						
1) TXUU TEST WITH CONFINING PRESSURE OF 30 PSI										
2) TXUU TEST WITH CONFINING PRESSURE OF 60 PSI				BORING NO.	GT-4	SAMPLE NO.	A @30 PSI	B @60 PSI		
				TECH.	C. WASON	DEPTH/ELEV	30-31 FEET	30-31 FEET		
				LABORATORY		DATE	03/11/97	03/11/97		
				TRIAxIAL COMPRESSION TEST REPORT						

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
GT-4	A @30 PSI	30-31 FEET	GT4-30A	GT4A-30.UU
GT-4	B @60 PSI	30-31 FEET	GT4-30B	GT4B-30.UU

Failure Criteria: Peak Deviator Stress

Wed Mar 19 16:13:31 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT4-30A

Boring No. : GT-4

Test Date : 03/11/97

Tested by : C. WASON

Sample No. : A @30 PSI

Depth : 30-31 FEET

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : LT. ORANGE BROWN FINE SA-SILT / SILTY FINE SAND

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 30 PSI

Height : 3.504 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.63 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	30.00	30.00
2)	0.004	0.11	1.61	0.00	8.04	8.04	5.00	35.00	35.00
3)	0.007	0.20	1.61	0.00	22.41	22.41	13.90	43.90	43.90
4)	0.011	0.31	1.61	0.00	32.17	32.17	19.93	49.93	49.93
5)	0.014	0.40	1.62	0.00	39.07	39.07	24.16	54.16	54.16
6)	0.018	0.51	1.62	0.00	47.11	47.11	29.08	59.08	59.08
7)	0.026	0.74	1.63	0.00	62.05	62.05	38.16	68.16	68.16
8)	0.035	1.00	1.63	0.00	80.43	80.43	49.25	79.25	79.25
9)	0.053	1.51	1.65	0.00	111.45	111.45	67.65	97.65	97.65
10)	0.070	2.00	1.66	0.00	139.03	139.03	83.69	113.69	113.69
11)	0.088	2.51	1.68	0.00	164.31	164.31	98.03	128.03	128.03
12)	0.105	3.00	1.69	0.00	182.69	182.69	108.07	138.07	138.07
13)	0.123	3.51	1.71	0.00	197.63	197.63	115.86	145.86	145.86
14)	0.140	4.00	1.72	0.00	207.97	207.97	120.87	150.87	150.87
15)	0.175	4.99	1.75	0.00	219.46	219.46	125.27	155.27	155.27
16)	0.210	5.99	1.78	0.00	224.06	224.06	125.58	155.58	155.58
17)	0.245	6.99	1.82	0.00	223.48	223.48	122.94	152.94	152.94
18)	0.280	7.99	1.85	0.00	212.57	212.57	114.73	144.73	144.73
19)	0.315	8.99	1.89	0.00	183.84	183.84	97.32	127.32	127.32
20)	0.350	9.99	1.93	0.00	176.95	176.95	91.84	121.84	121.84
21)	0.420	11.99	2.01	0.00	163.16	163.16	81.30	111.30	111.30
22)	0.491	14.01	2.10	0.00	156.84	156.84	74.85	104.85	104.85
23)	0.561	16.01	2.19	0.00	153.97	153.97	70.29	100.29	100.29
24)	0.631	18.01	2.29	0.00	152.82	152.82	66.59	96.59	96.59
25)	0.701	20.01	2.41	0.00	152.82	152.82	63.43	93.43	93.43

Wed Mar 19 16:13:31 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT4-30A
 Boring No. : GT-4 Test Date : 03/11/97 Tested by : C. WASON
 Sample No. : A @30 PSI Depth : 30-31 FEET Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : LT. ORANGE BROWN FINE SA-SILT / SILTY FINE SAND
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 30 PSI

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.72

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	129.50	129.50	0.00
WT CONTAINER + DRY SOIL (gm)	121.90	121.90	0.00
WT WATER (gm)	7.60	7.60	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	121.90	121.90	0.00
WATER CONTENT (%)	6.23	6.23	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	6.23	6.23
VOID RATIO	1.06	1.06
WET DENSITY (lb/ft ³)	87.67	87.67
DRY DENSITY (lb/ft ³)	82.52	82.52
DEGREE OF SATURATION (%)	16.05	16.05

Maximum Shear Stress = 62.79 (lb/in²) at a Vertical Strain of 5.99 %

Wed Mar 19 16:15:25 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT4-30B

Boring No. : GT-4

Test Date : 03/11/97

Tested by : C. WASON

Sample No. : B @60 PSI

Depth : 30-31 FEET

Checked by : C. CAPPS

Sample Type : TUBE

Elevation : NA

Soil Description : LT. ORANGE BROWN FINE SA-SILT / SILTY FINE SAND

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 60 PSI

Height : 3.583 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 1.61 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 5.75 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	1.61	0.00	0.00	0.00	0.00	60.00	60.00
2)	0.004	0.11	1.61	0.00	22.98	22.98	14.28	74.28	74.28
3)	0.007	0.20	1.61	0.00	38.49	38.49	23.89	83.89	83.89
4)	0.011	0.31	1.61	0.00	56.30	56.30	34.88	94.88	94.88
5)	0.014	0.39	1.62	0.00	68.94	68.94	42.65	102.65	102.65
6)	0.018	0.50	1.62	0.00	86.18	86.18	53.21	113.21	113.21
7)	0.027	0.75	1.63	0.00	124.09	124.09	76.30	136.30	136.30
8)	0.036	1.00	1.63	0.00	159.71	159.71	97.78	157.78	157.78
9)	0.054	1.51	1.65	0.00	219.46	219.46	133.22	193.22	193.22
10)	0.072	2.01	1.66	0.00	267.72	267.72	161.12	221.12	221.12
11)	0.090	2.51	1.68	0.00	304.49	304.49	181.66	241.66	241.66
12)	0.107	2.99	1.69	0.00	331.49	331.49	196.13	256.13	256.13
13)	0.125	3.49	1.71	0.00	350.45	350.45	205.52	265.52	265.52
14)	0.143	3.99	1.72	0.00	362.51	362.51	210.71	270.71	270.71
15)	0.179	5.00	1.75	0.00	375.15	375.15	214.14	274.14	274.14
16)	0.215	6.00	1.78	0.00	378.02	378.02	211.84	271.84	271.84
17)	0.251	7.01	1.82	0.00	374.00	374.00	205.69	265.69	265.69
18)	0.287	8.01	1.85	0.00	299.89	299.89	161.80	221.80	221.80
19)	0.322	8.99	1.89	0.00	250.48	250.48	132.61	192.61	192.61
20)	0.358	9.99	1.93	0.00	239.57	239.57	124.33	184.33	184.33
21)	0.430	12.00	2.01	0.00	241.29	241.29	120.19	180.19	180.19
22)	0.502	14.01	2.10	0.00	244.74	244.74	116.80	176.80	176.80
23)	0.573	15.99	2.19	0.00	247.61	247.61	113.08	173.08	173.08
24)	0.645	18.00	2.29	0.00	251.63	251.63	109.67	169.67	169.67
25)	0.717	20.01	2.41	0.00	250.48	250.48	103.95	163.95	163.95

Wed Mar 19 16:15:25 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F- IDAHO
 Project No. : 941138NA Test No. : GT4-30B
 Boring No. : GT-4 Test Date : 03/11/97 Tested by : C. WASON
 Sample No. : B @60 PSI Depth : 30-31 FEET Checked by : C. CAPPS
 Sample Type : TUBE Elevation : NA
 Soil Description : LT. ORANGE BROWN FINE SA-SILT / SILTY FINE SAND
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 60 PSI

Liquid Limit : 0

Plastic Limit : 0

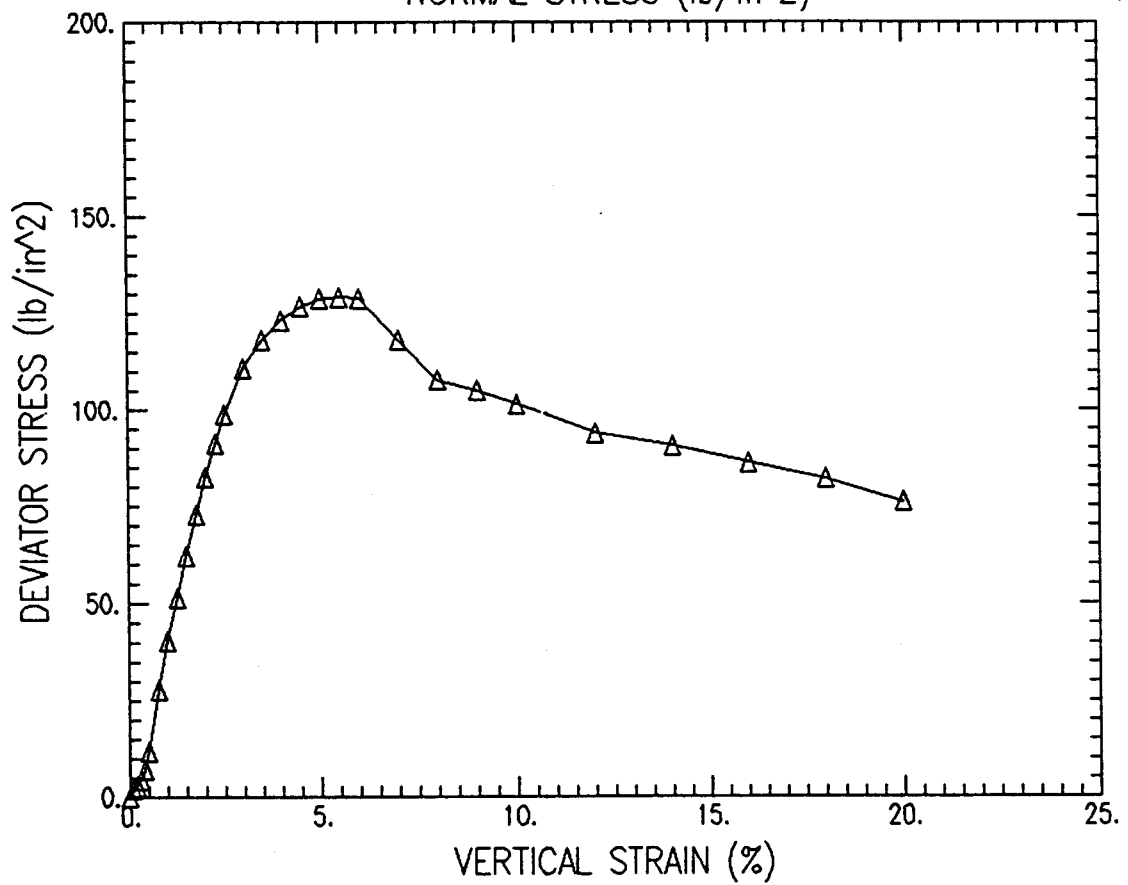
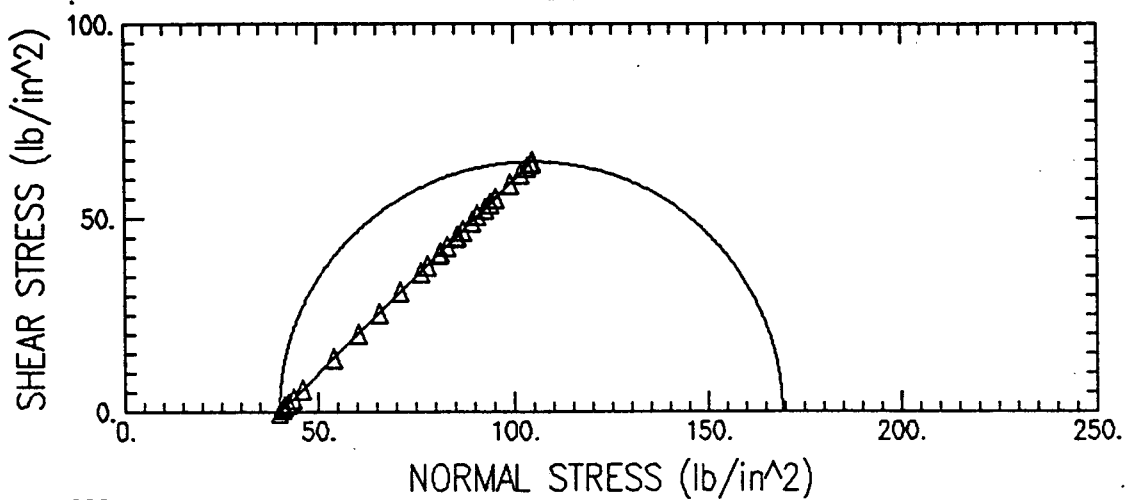
Specific Gravity : 2.72

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	135.70	135.70	0.00
WT CONTAINER + DRY SOIL (gm)	128.20	128.20	0.00
WT WATER (gm)	7.50	7.50	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	128.20	128.20	0.00
WATER CONTENT (%)	5.85	5.85	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	5.85	5.85
VOID RATIO	1.00	1.00
WET DENSITY (lb/ft ³)	89.84	89.84
DRY DENSITY (lb/ft ³)	84.87	84.87
DEGREE OF SATURATION (%)	15.92	15.92

Maximum Shear Stress = 107.07 (lb/in²) at a Vertical Strain of 5.00 %

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
GT-4	@40 PSI	40-41 FEET	GT4-40	GT4-40.UU

Wed Mar 19 17:12:53 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT4-40

Boring No. : GT-4

Test Date : 03/06/97

Tested by : C. WASON

Sample No. : 240 PSI

Depth : 40-41 FEET

Checked by : C. CAPPS

Sample Type : SHELBY

Elevation : NA

Soil Description : BROWN SA-SILT / SI-SAND W/ IRON OXIDE STAIN & CLAY

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 40 PSI

Height : 5.984 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 6.42 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 38.44 (in³)

Piston Weight : 0.00 (gm)

Area Correction : None

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	6.42	0.00	0.00	0.00	0.00	40.00	40.00
2)	0.006	0.10	6.42	0.00	12.64	12.64	1.97	41.97	41.97
3)	0.012	0.20	6.42	0.00	18.38	18.38	2.86	42.86	42.86
4)	0.018	0.30	6.42	0.00	29.30	29.30	4.56	44.56	44.56
5)	0.024	0.40	6.42	0.00	44.81	44.81	6.98	46.98	46.98
6)	0.030	0.50	6.42	0.00	75.83	75.83	11.80	51.80	51.80
7)	0.045	0.75	6.42	0.00	179.24	179.24	27.90	67.90	67.90
8)	0.060	1.00	6.42	0.00	260.82	260.82	40.60	80.60	80.60
9)	0.075	1.25	6.42	0.00	330.91	330.91	51.51	91.51	91.51
10)	0.090	1.50	6.42	0.00	399.85	399.85	62.24	102.24	102.24
11)	0.105	1.75	6.42	0.00	467.64	467.64	72.80	112.80	112.80
12)	0.120	2.01	6.42	0.00	530.84	530.84	82.63	122.63	122.63
13)	0.135	2.26	6.42	0.00	584.84	584.84	91.04	131.04	131.04
14)	0.150	2.51	6.42	0.00	634.25	634.25	98.73	138.73	138.73
15)	0.180	3.01	6.42	0.00	712.38	712.38	110.89	150.89	150.89
16)	0.209	3.49	6.42	0.00	758.34	758.34	118.05	158.05	158.05
17)	0.239	3.99	6.42	0.00	791.66	791.66	123.23	163.23	163.23
18)	0.269	4.50	6.42	0.00	814.07	814.07	126.72	166.72	166.72
19)	0.299	5.00	6.42	0.00	826.71	826.71	128.69	168.69	168.69
20)	0.329	5.50	6.42	0.00	830.73	830.73	129.32	169.32	169.32
21)	0.359	6.00	6.42	0.00	827.85	827.85	128.87	168.87	168.87
22)	0.419	7.00	6.42	0.00	758.34	758.34	118.05	158.05	158.05
23)	0.479	8.00	6.42	0.00	692.27	692.27	107.76	147.76	147.76
24)	0.538	8.99	6.42	0.00	675.04	675.04	105.08	145.08	145.08
25)	0.598	9.99	6.42	0.00	652.63	652.63	101.59	141.59	141.59
26)	0.718	12.00	6.42	0.00	603.23	603.23	93.90	133.90	133.90
27)	0.838	14.00	6.42	0.00	581.97	581.97	90.59	130.59	130.59
28)	0.957	15.99	6.42	0.00	553.82	553.82	86.21	126.21	126.21
29)	1.077	18.00	6.42	0.00	527.39	527.39	82.10	122.10	122.10
30)	1.197	20.00	6.42	0.00	488.33	488.33	76.02	116.02	116.02

Wed Mar 19 17:32:53 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT4-40

Boring No. : GT-4

Test Date : 03/06/97

Tested by : C. WASON

Sample No. : @40 PSI

Depth : 40-41 FEET

Checked by : C. CAPPS

Sample Type : SHELBY

Elevation : NA

Soil Description : BROWN SA-SILT / SI-SAND W/ IRON OXIDE STAIN & CLAY

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 40 PSI

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	906.90	904.40	0.00
WT CONTAINER + DRY SOIL (gm)	851.50	849.20	0.00
WT WATER (gm)	55.40	55.20	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	851.50	849.20	0.00
WATER CONTENT (%)	6.51	6.50	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	6.51	6.51
VOID RATIO	1.01	1.01
WET DENSITY (lb/ft ³)	89.88	89.88
DRY DENSITY (lb/ft ³)	84.39	84.39
DEGREE OF SATURATION (%)	17.50	17.50

Maximum Shear Stress = 64.66 (lb/in²) at a Vertical Strain of 5.50 %

Thu Jul 03 14:15:56 1997

Page : 2

GEOTECHNICAL LABORATORY TEST DATA

Project : HOLLADAY ENGINEERING CO. 030496
 Project No. : 971144NA Depth : 429-430 FEET
 Boring No. : PB-2 Test Date : 07/02/97
 Sample No. : 429-430 FT Test Method : ASTM D4318/422
 Location : PICKLES BUTTE LANDFILL
 Soil Description : GRAYISH BROWN SILTY CLAY
 Remarks : 429-430 FEET

Filename : PB2-430
 Elevation : NA
 Tested by : C. WASON
 Checked by : S. CAPPS

Moisture Content ID	Mass of Container (gm)	Plastic Limit Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Moisture Content (%)
1) 10	16.22	27.09	24.95	24.51

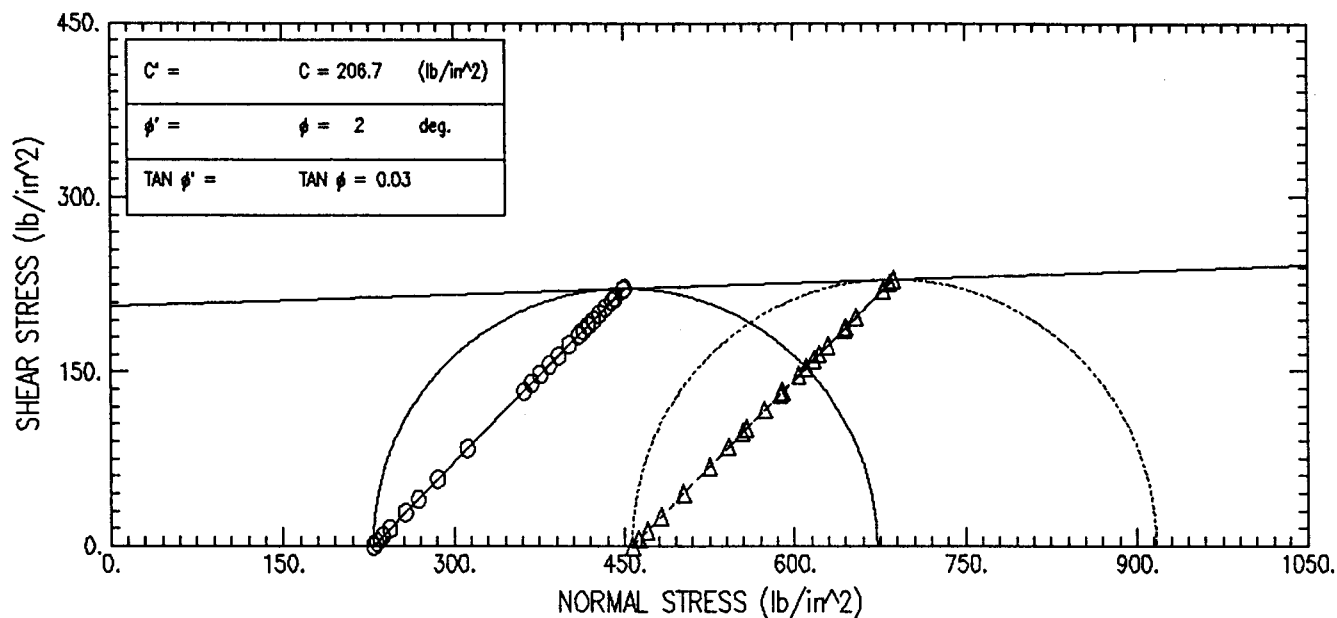
Plastic Limit = 24.51

Moisture Content ID	Mass of Container (gm)	Liquid Limit Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Number of Drops	Moisture Content (%)
1) 8	11.11	27.18	22.01	30	47.43
2) F	10.81	28.50	22.69	24	48.91
3) 90	11.13	28.49	22.64	17	50.83

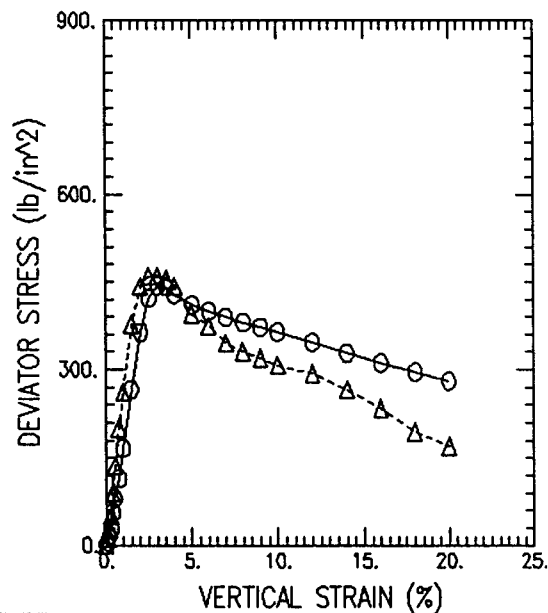
Liquid Limit = 48.57

Plastic Index = 24.06

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		O	Δ		
TEST NO.		PB2-22B	PB2-457		
INITIAL	WATER CONTENT (%)	21.88	22.92		
	DRY DENSITY (lb/ft ³)	93.08	92.53		
	SATURATION (%)	71.94	74.39		
	VOID RATIO	0.830	0.841		
BEFORE SHEAR	WATER CONTENT (%)	21.88	22.92		
	DRY DENSITY (lb/ft ³)	93.08	92.53		
	SATURATION (%)	71.94	74.39		
	VOID RATIO	0.830	0.841		
	BACK PRESS. (lb/in ²)	0.00	0.00		
MINOR PRIN. STRESS (lb/in ²)		228.50	457.00		
MAX. DEV. STRESS (lb/in ²)		443.71	459.76		
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		2.14	2.15		
INITIAL HEIGHT (in)		3.03	3.74		

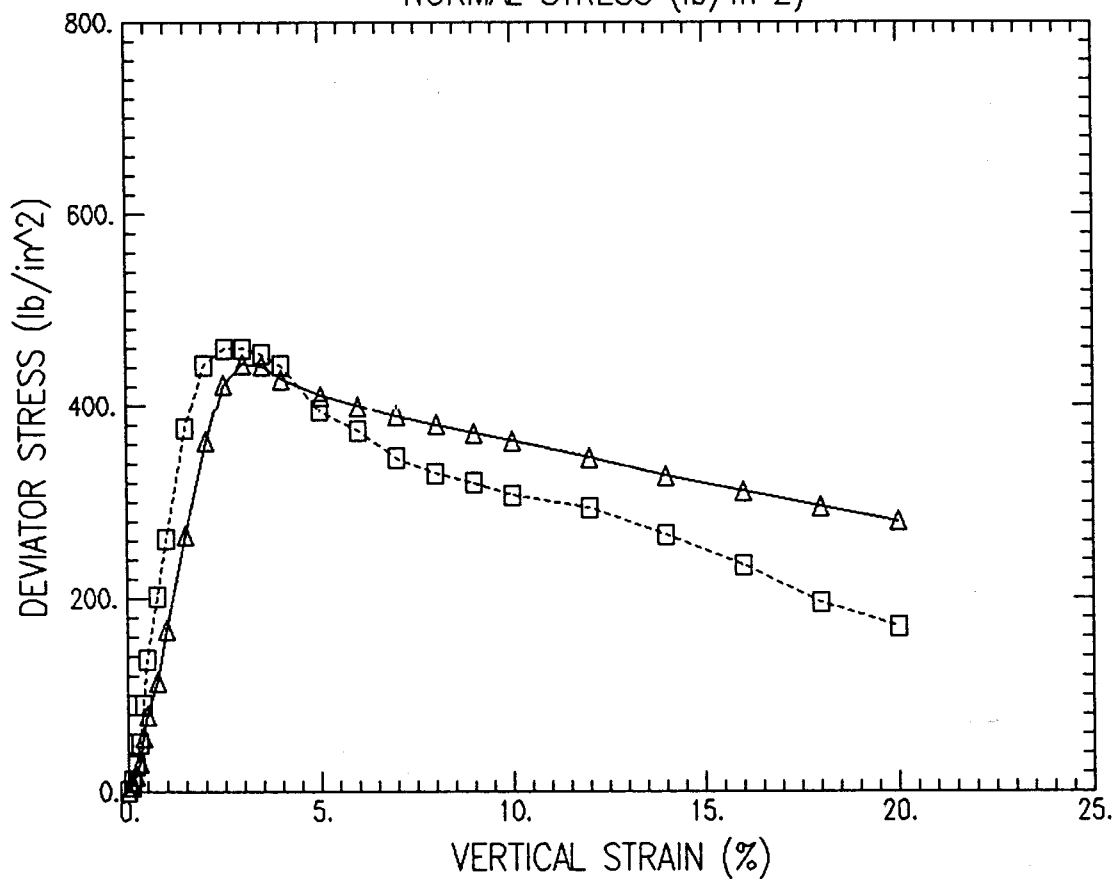
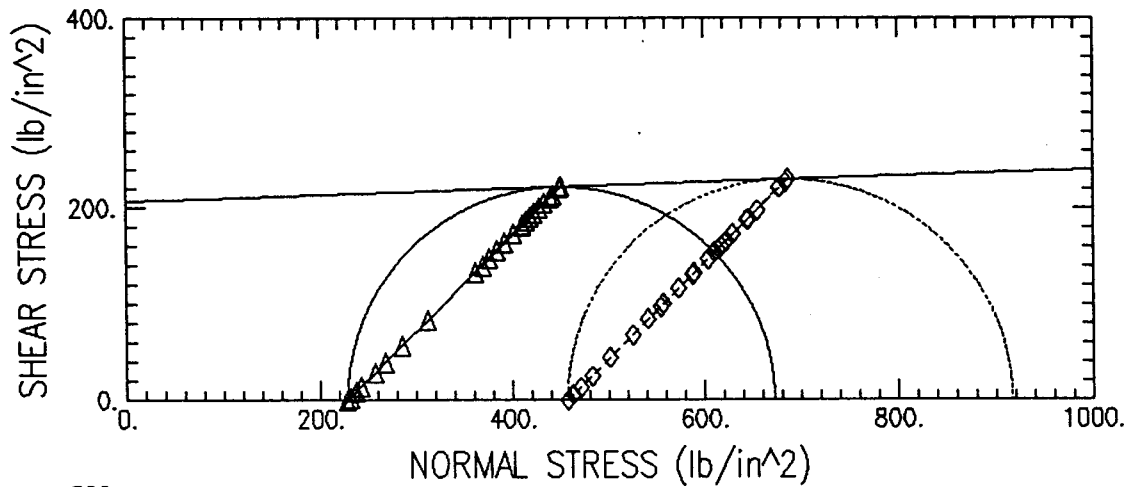
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) LT. GRAYISH BROWN SILTY CLAY/CLAYEY SILT

2) LT. GRAYISH BROWN SILTY CLAY/CLAYEY SILT

LL 50.19	PL 25.08	PI 25.11	GS 2.73	TYPE OF SPECIMEN CORE		TYPE OF TEST UNDRAINED			
REMARKS:				PROJECT HOLLADAY ENGINEERING CO.					
1)									
2)				BORING NO. PB-2	SAMPLE NO.	228.5 PSI	457 PSI		
				TECH. S. CAPPS	DEPTH/ELEV	456-457 FT	456-457 FT		
				LABORATORY	DATE	06/25/97	06/25/97		
				TRIAxIAL COMPRESSION TEST REPORT					

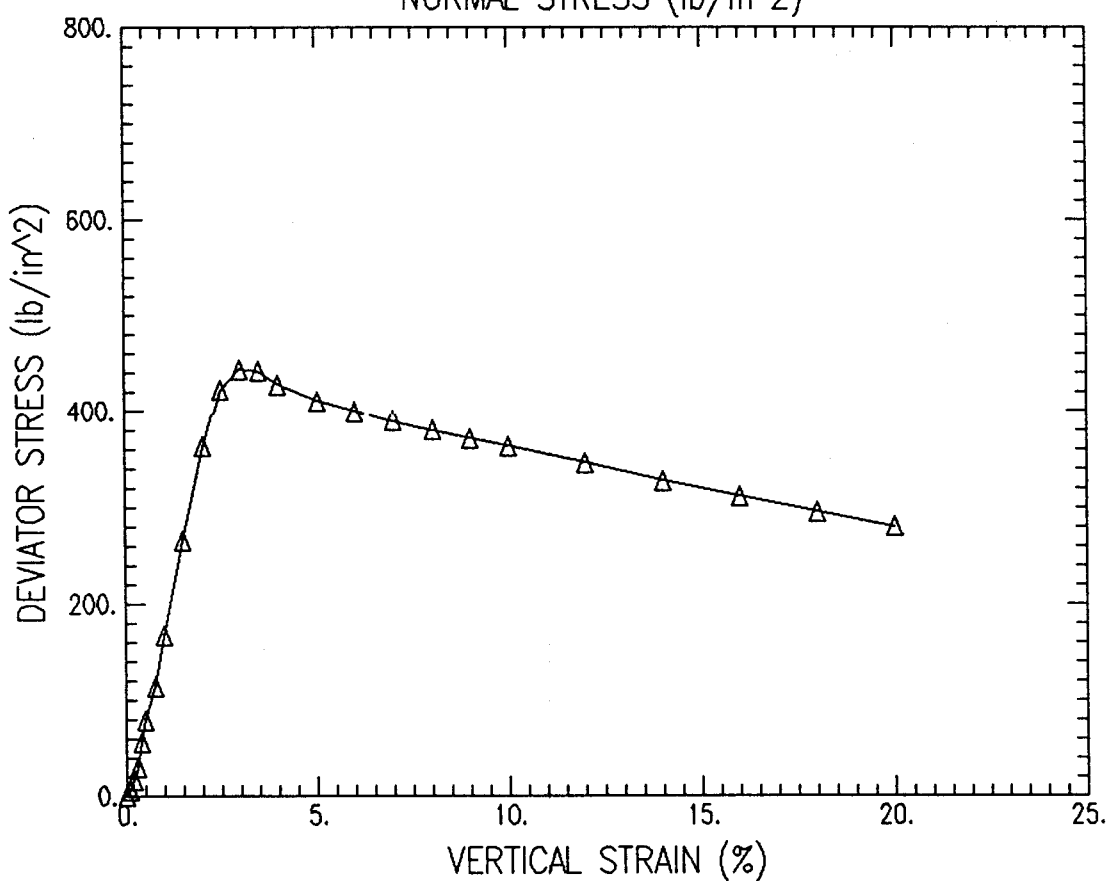
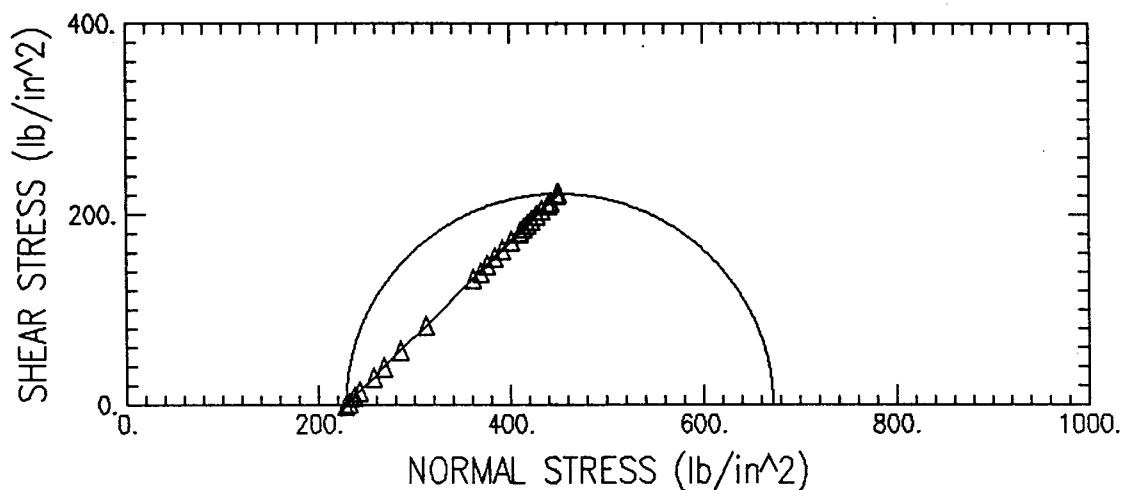
UNDRAINED TRIAXIAL TEST



Project Name : HOLLADAY ENGINEERING CO.

Boring No:	Sample No	Depth	Test No	Filename
PB-2	228.5 PSI	456-457 FT	PB2-228	PB2-228.UU
PB-2	457 PSI	456-457 FT	PB2-457	PB2-457.UU

UNDRAINED TRIAXIAL TEST



Project Name : HOLLADAY ENGINEERING CO.

Boring No:	Sample No	Depth	Test No	Filename
PB-2	228.5 PSI	456-457 FT	PB2-228	PB2-228.UU

Fri Jun 27 07:41:02 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-228
 Boring No. : PB-2 Test Date : 06/25/97 Tested by : S. CAPPS
 Sample No. : 228.5 PSI Depth : 456-457 FT Checked by : C. WASON
 Sample Type : CORE Elevation :
 Soil Description : LT. GRAYISH BROWN SILTY CLAY/CLAYEY SILT
 Remarks :

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.73

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	324.30	324.30	0.00
WT CONTAINER + DRY SOIL (gm)	266.09	266.09	0.00
WT WATER (gm)	58.21	58.21	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	266.09	266.09	0.00
WATER CONTENT (%)	21.88	21.88	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	21.88	21.88
VOID RATIO	0.83	0.83
WET DENSITY (lb/ft ³)	113.44	113.44
DRY DENSITY (lb/ft ³)	93.08	93.08
DEGREE OF SATURATION (%)	71.94	71.94

Maximum Shear Stress = 221.85 (lb/in²) at a Vertical Strain of 3.00 %

Fri Jun 27 07:41:02 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

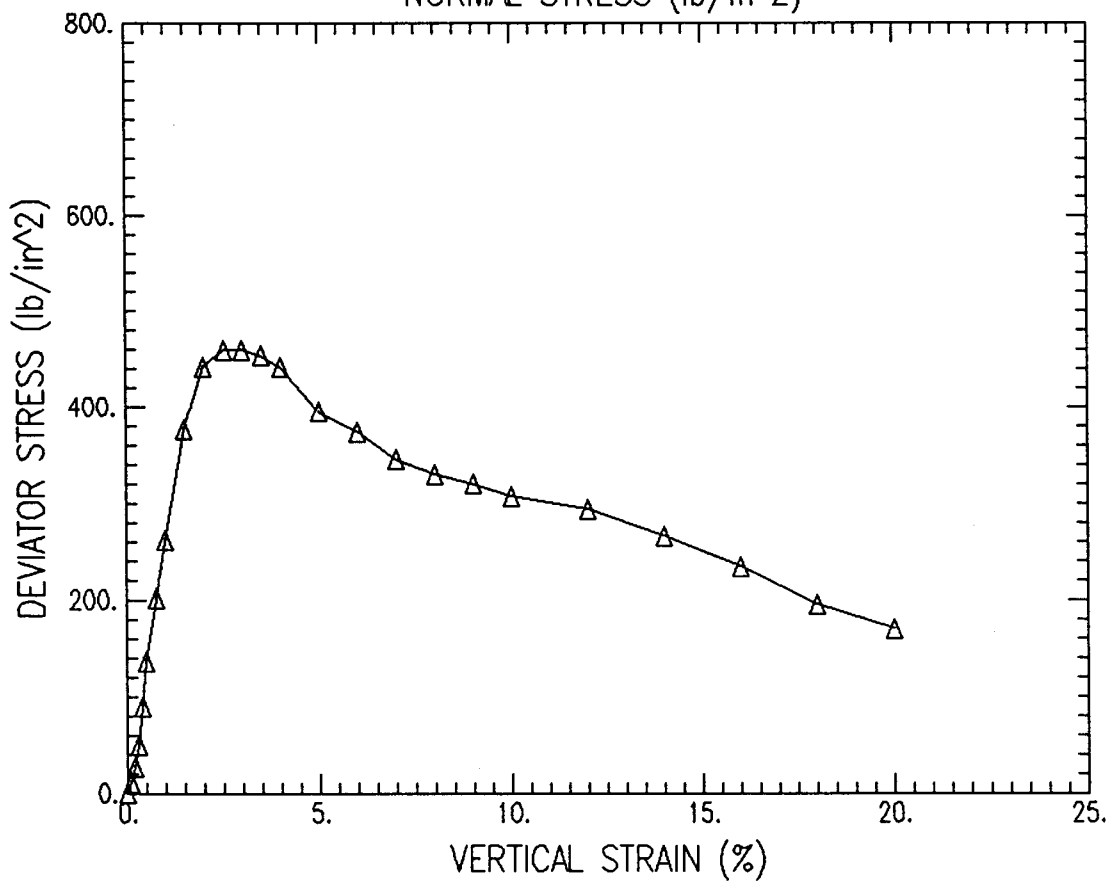
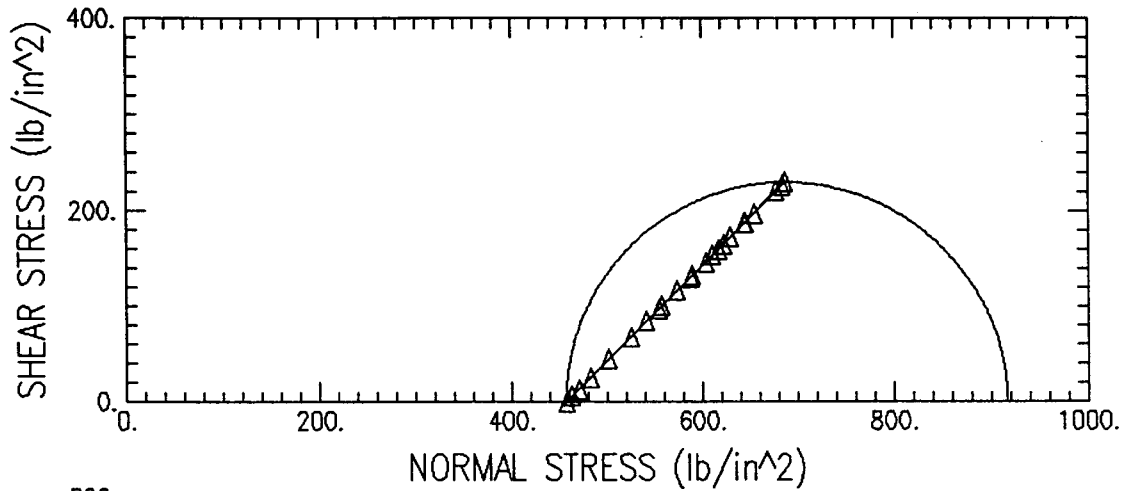
Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-228
 Boring No. : PB-2 Test Date : 06/25/97
 Sample No. : 228.5 PSI Depth : 456-457 FT
 Sample Type : CORE Elevation :
 Soil Description : LT. GRAYISH BROWN SILTY CLAY/CLAYEY SILT
 Remarks :

Tested by : S. CAPPS
 Checked by : C. WASON

Height : 3.031 (in) Piston Diameter : 0.000 (in) Filter Correction : 0.00 (lb/in²)
 Area : 3.59 (in²) Piston Friction : 0.00 (lb) Membrane Correction : 0.00 (lb/in)
 Volume : 10.89 (in³) Piston Weight : 0.00 (gm) Area Correction : Parabolic

	CHANGE IN LENGTH (in)	VERTICAL STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	3.59	0.00	0.00	0.00	0.00	228.50	228.50
2)	0.003	0.10	3.60	0.00	20.79	20.79	5.78	234.28	234.28
3)	0.006	0.20	3.60	0.00	61.22	61.22	16.98	245.48	245.48
4)	0.009	0.30	3.61	0.00	105.11	105.11	29.11	257.61	257.61
5)	0.012	0.40	3.62	0.00	205.59	205.59	56.84	285.34	285.34
6)	0.015	0.49	3.62	0.00	288.75	288.75	79.70	308.20	308.20
7)	0.023	0.76	3.64	0.00	415.80	415.80	114.26	342.76	342.76
8)	0.030	0.99	3.65	0.00	609.84	609.84	166.93	395.43	395.43
9)	0.045	1.48	3.68	0.00	981.75	981.75	266.48	494.98	494.98
10)	0.061	2.01	3.72	0.00	1350.20	1350.20	363.18	591.68	591.68
11)	0.076	2.51	3.75	0.00	1582.35	1582.35	421.99	650.49	650.49
12)	0.091	3.00	3.78	0.00	1678.22	1678.22	443.71	672.21	672.21
13)	0.106	3.50	3.82	0.00	1686.30	1686.30	441.97	670.47	670.47
14)	0.121	3.99	3.85	0.00	1645.88	1645.88	427.60	656.10	656.10
15)	0.152	5.01	3.92	0.00	1610.07	1610.07	410.66	639.16	639.16
16)	0.182	6.00	3.99	0.00	1595.06	1595.06	399.51	628.01	628.01
17)	0.212	6.99	4.07	0.00	1583.51	1583.51	389.34	617.84	617.84
18)	0.243	8.02	4.15	0.00	1576.58	1576.58	380.16	608.66	608.66
19)	0.273	9.01	4.23	0.00	1571.96	1571.96	371.83	600.33	600.33
20)	0.303	10.00	4.31	0.00	1568.49	1568.49	363.81	592.31	592.31
21)	0.364	12.01	4.49	0.00	1556.94	1556.94	346.59	575.09	575.09
22)	0.424	13.99	4.69	0.00	1536.15	1536.15	327.86	556.36	556.36
23)	0.485	16.00	4.90	0.00	1525.76	1525.76	311.40	539.90	539.90
24)	0.546	18.01	5.13	0.00	1516.52	1516.52	295.35	523.85	523.85
25)	0.606	19.99	5.39	0.00	1510.74	1510.74	280.36	508.86	508.86

UNDRAINED TRIAXIAL TEST



Project Name : HOLLADAY ENGINEERING CO.

Boring No:	Sample No	Depth	Test No	Filename
PB-2	457 PSI	456-457 FT	PB2-457	PB2-457.UU

Fri Jun 27 07:42:26 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-457
 Boring No. : PB-2 Test Date : 06/25/97
 Sample No. : 457 PSI Depth : 456-457 FT
 Sample Type : CORE Elevation :
 Soil Description : LT. GRAYISH BROWN SILTY CLAY/CLAYEY SILT
 Remarks :

Tested by : S. CAPPS
 Checked by : C. WASON

Height : 3.740 (in)
 Area : 3.65 (in²)
 Volume : 13.64 (in³)

Piston Diameter : 0.000 (in)
 Piston Friction : 0.00 (lb)
 Piston Weight : 0.00 (gm)

Filter Correction : 0.00 (lb/in²)
 Membrane Correction : 0.00 (lb/in)
 Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	3.65	0.00	0.00	0.00	0.00	457.00	457.00
2)	0.004	0.11	3.65	0.00	42.74	42.74	11.70	468.70	468.70
3)	0.007	0.19	3.66	0.00	98.18	98.18	26.84	483.84	483.84
4)	0.011	0.29	3.66	0.00	184.80	184.80	50.42	507.42	507.42
5)	0.015	0.40	3.67	0.00	330.33	330.33	89.97	546.97	546.97
6)	0.019	0.51	3.68	0.00	502.43	502.43	136.60	593.60	593.60
7)	0.028	0.75	3.69	0.00	744.98	744.98	201.72	658.72	658.72
8)	0.037	0.99	3.71	0.00	970.20	970.20	261.64	718.64	718.64
9)	0.056	1.50	3.74	0.00	1409.10	1409.10	376.73	833.73	833.73
10)	0.075	2.01	3.77	0.00	1668.98	1668.98	442.33	899.33	899.33
11)	0.094	2.51	3.81	0.00	1749.83	1749.83	459.70	916.70	916.70
12)	0.112	2.99	3.84	0.00	1764.84	1764.84	459.76	916.76	916.76
13)	0.131	3.50	3.87	0.00	1757.91	1757.91	453.88	910.88	910.88
14)	0.150	4.01	3.91	0.00	1726.73	1726.73	441.82	898.82	898.82
15)	0.187	5.00	3.98	0.00	1570.80	1570.80	394.82	851.82	851.82
16)	0.224	5.99	4.05	0.00	1516.52	1516.52	374.32	831.32	831.32
17)	0.262	7.01	4.13	0.00	1426.43	1426.43	345.46	802.46	802.46
18)	0.299	7.99	4.21	0.00	1390.62	1390.62	330.50	787.50	787.50
19)	0.337	9.01	4.29	0.00	1374.45	1374.45	320.27	777.27	777.27
20)	0.374	10.00	4.38	0.00	1346.73	1346.73	307.73	764.73	764.73
21)	0.449	12.01	4.56	0.00	1340.96	1340.96	294.12	751.12	751.12
22)	0.524	14.01	4.76	0.00	1265.88	1265.88	266.05	723.05	723.05
23)	0.598	15.99	4.97	0.00	1163.09	1163.09	233.93	690.93	690.93
24)	0.673	17.99	5.21	0.00	1017.56	1017.56	195.33	652.33	652.33
25)	0.748	20.00	5.47	0.00	929.78	929.78	169.96	626.96	626.96

Fri Jun 27 07:42:26 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-457
 Boring No. : PB-2 Test Date : 06/25/97 Tested by : S. CAPPS
 Sample No. : 457 PSI Depth : 456-457 FT Checked by : C. WASON
 Sample Type : CORE Elevation :
 Soil Description : LT. GRAYISH BROWN SILTY CLAY/CLAYEY SILT
 Remarks :

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.73

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	407.22	407.22	0.00
WT CONTAINER + DRY SOIL (gm)	331.30	331.30	0.00
WT WATER (gm)	75.92	75.92	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	331.30	331.30	0.00
WATER CONTENT (%)	22.92	22.92	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	22.92	22.92
VOID RATIO	0.84	0.84
WET DENSITY (lb/ft ³)	113.74	113.74
DRY DENSITY (lb/ft ³)	92.53	92.53
DEGREE OF SATURATION (%)	74.39	74.39

Maximum Shear Stress = 229.88 (lb/in²) at a Vertical Strain of 2.99 %

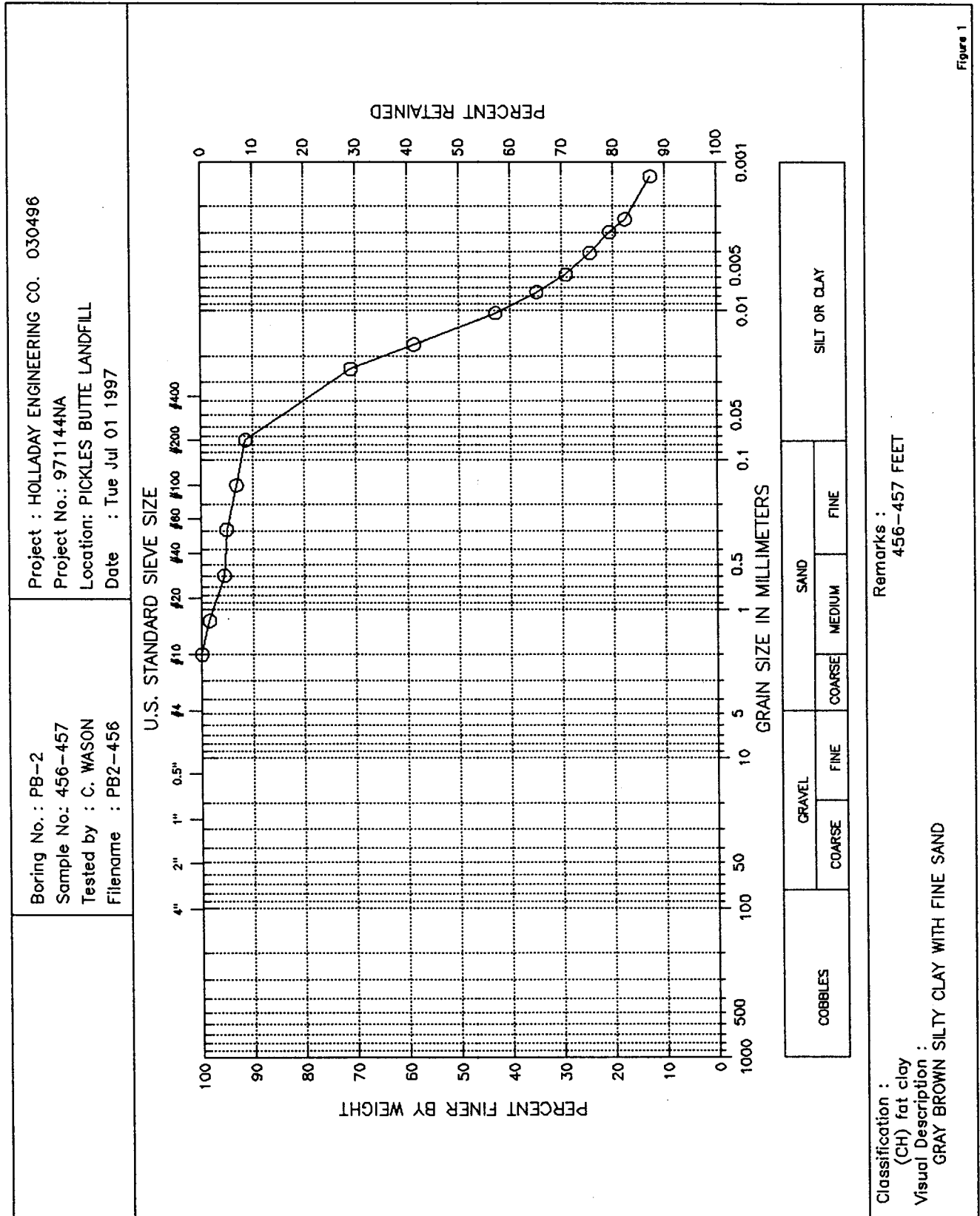


Figure 1

Tue Jul 01 12:59:04 1997

Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : HOLLADAY ENGINEERING CO. 030496 Filename : PB2-456
 Project No. : 971144NA Depth : 456-457 FEET Elevation : NA
 Boring No. : PB-2 Test Date : 06/30/97 Tested by : C. WASON
 Sample No. : 456-457 Test Method : ASTM D4318/422 Checked by : S. CAPPS
 Location : PICKLES BUTTE LANDFILL
 Soil Description : GRAY BROWN SILTY CLAY WITH FINE SAND
 Remarks : 456-457 FEET

HYDROMETER

Hydrometer ID : 1734
 Weight of air-dried soil = 70 gm
 Specific Gravity = 2.73

Hydroscopic Moisture Content :
 Weight of Wet Soil = 70 gm
 Weight of Dry Soil = 66.37 gm
 Moisture Content = 0.0546934

Elapsed Time (min)	Reading	Temperature (deg. C)	Corrected Reading	Particle Size (mm)	Percent Finer (%)	Adjusted Particle Size
2.00	56.00	22.40	47.80	0.024	71	0.024
5.00	47.80	22.40	39.60	0.017	59	0.017
16.00	37.20	22.20	28.91	0.010	43	0.010
33.00	32.00	21.80	23.53	0.008	35	0.008
60.00	28.20	21.70	19.68	0.006	29	0.006
122.00	24.80	22.10	16.47	0.004	24	0.004
240.00	22.20	22.20	13.91	0.003	21	0.003
360.00	20.00	22.60	11.90	0.002	18	0.002
1440.00	17.00	21.90	8.57	0.001	13	0.001

Sieve Mesh	Sieve Openings		FINE SIEVE SET		Cumulative Weight Retained (gm)	Percent Finer (%)
	Inches	Millimeters	Weight Retained (gm)			
#10	0.079	2.00	0.00	0.00	100	
#16	0.047	1.19	0.98	0.98	99	
#30	0.023	0.60	1.91	2.89	96	
#50	0.012	0.30	0.32	3.21	95	
#100	0.006	0.15	1.31	4.52	93	
#200	0.003	0.07	1.14	5.66	91	
Pan			60.71	66.37	0	

Total Wet Weight of Sample = 66.37
 Total Dry Weight of Sample = 66.37
 Moisture Content = 0.0546934

D85 : 0.0522 mm
 D60 : 0.0175 mm
 D50 : 0.0129 mm
 D30 : 0.0060 mm
 D15 : 0.0017 mm
 D10 : 0.0009 mm

Soil Classification

ASTM Group Symbol : CH
 ASTM Group Name : fat clay
 AASHTO Group Symbol : A-7-6(28)
 AASHTO Group Name : Clayey Soils

ATTERBERG LIMITS

PROJECT HOLLADAY ENGINEERING CO. 030496	PROJECT NUMBER 971144NA	TESTED BY C. WASON	BORING NUMBER PB-2
LOCATION PICKLES BUTTE LANDFILL	CHECKED BY S. CAPPS	SAMPLE NUMBER 456-457	
SAMPLE DESCRIPTION GRAY BROWN SILTY CLAY WITH FINE SAND	DATE Tue Jul 01 1997	FILENAME PB2-456	

LIQUID LIMIT DETERMINATIONS

CONTAINER NUMBER	0	17	55		
WT. WET SOIL + TARE	27.25	28.3	26.88		
WT. DRY SOIL + TARE	21.89	22.44	21.44		
WT. WATER	5.36	5.86	5.44		
TARE WT.	10.93	10.79	11.12		
WT. DRY SOIL	10.96	11.65	10.32		
WATER CONTENT, w_N (%)	48.91	50.30	52.71		
NUMBER OF BLOWS, N	30	25	17		
ONE-POINT LIQUID LIMIT, LL	50.00	50.30	50.31		

PLASTIC LIMIT DETERMINATIONS

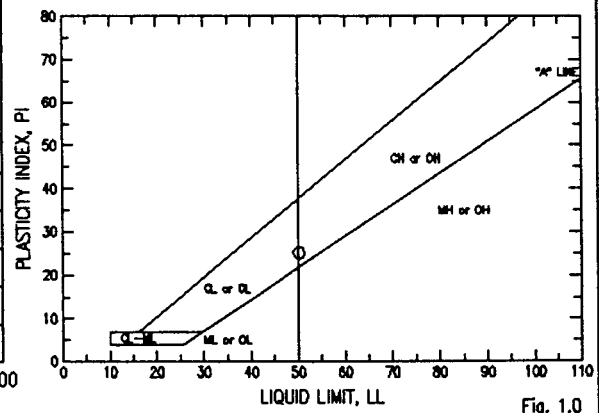
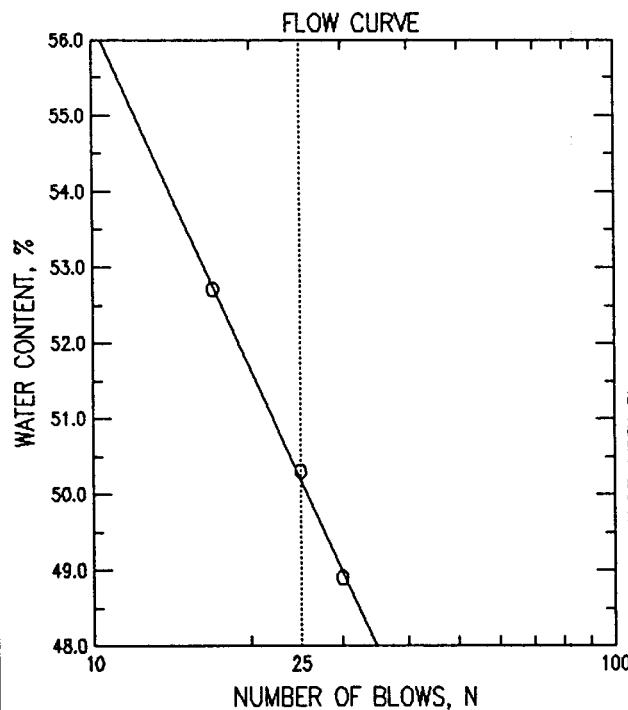
CONTAINER NUMBER	6				
WT. WET SOIL + TARE	26.9				
WT. DRY SOIL + TARE	24.67				
WT. WATER	2.23				
TARE WT.	15.78				
WT. DRY SOIL	8.89				
WATER CONTENT (%)	25.08				

SUMMARY OF RESULTS

NATURAL WATER CONTENT, w (%)	
LIQUID LIMIT, LL	50.2
PLASTIC LIMIT, PL	25.1
PLASTICITY INDEX, PI	25.1
LIQUIDITY INDEX, LI^*	

$$*LI = (w - PL)/PI$$

PLASTICITY CHART



Tue Jul 01 12:59:04 1997

Page : 2

GEOTECHNICAL LABORATORY TEST DATA

Project : HOLLADAY ENGINEERING CO. 030496
 Project No. : 971144NA Depth : 456-457 FEET
 Boring No. : PB-2 Test Date : 06/30/97
 Sample No. : 456-457 Test Method : ASTM D4318/422
 Location : PICKLES BUTTE LANDFILL
 Soil Description : GRAY BROWN SILTY CLAY WITH FINE SAND
 Remarks : 456-457 FEET

Filename : PB2-456
 Elevation : NA
 Tested by : C. WASON
 Checked by : S. CAPPS

Moisture Content ID	Mass of Container (gm)	Plastic Limit Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Moisture Content (%)
1) 6	15.78	26.90	24.67	25.08

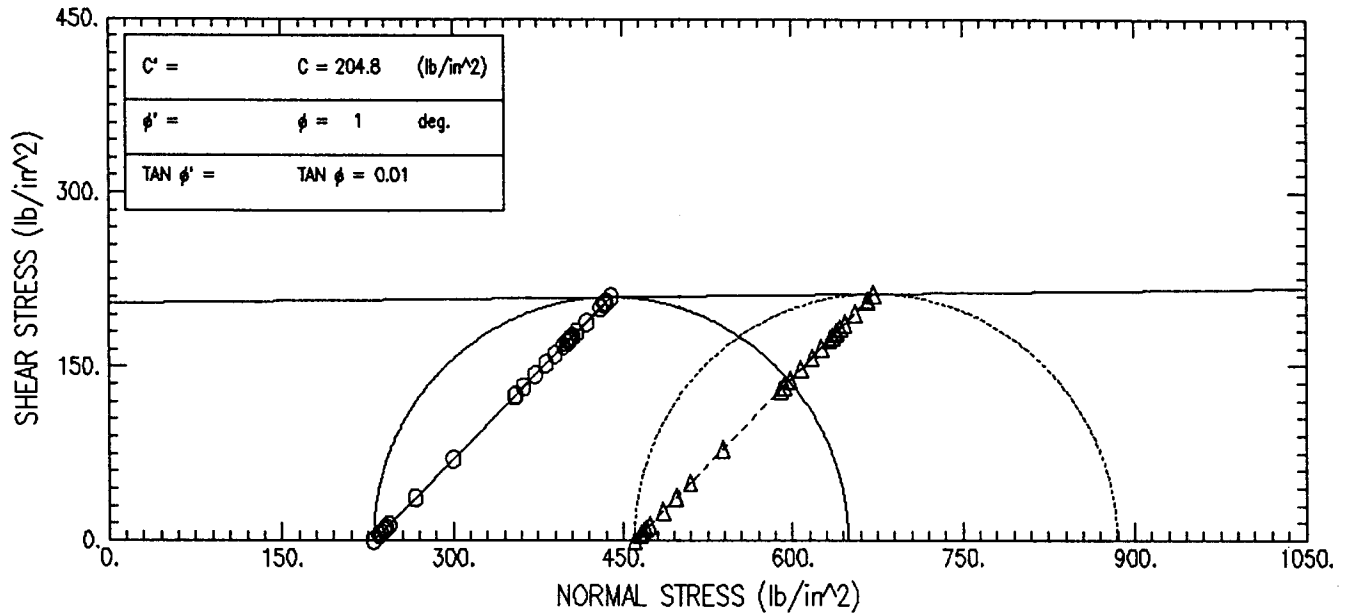
Plastic Limit = 25.08

Moisture Content ID	Mass of Container (gm)	Liquid Limit Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Number of Drops	Moisture Content (%)
1) 0	10.93	27.25	21.89	30	48.91
2) 17	10.79	28.30	22.44	25	50.30
3) 55	11.12	26.88	21.44	17	52.71

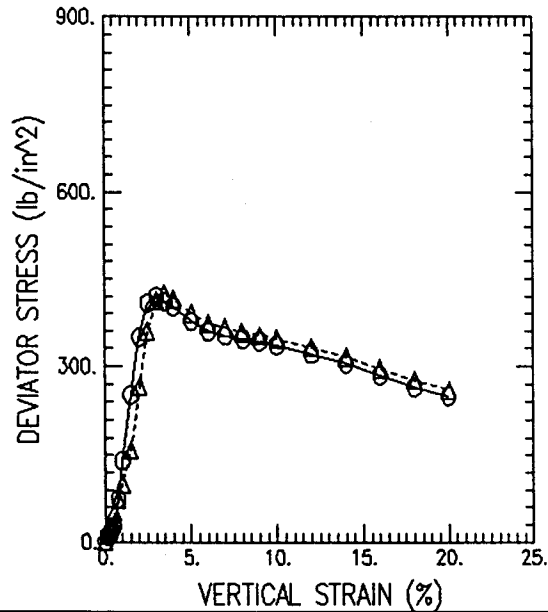
Liquid Limit = 50.19

Plastic Index = 25.11

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		ϕ	Δ		
TEST NO.		PB2-230	PB2-460		
INITIAL	WATER CONTENT (%)	22.50	22.66		
	DRY DENSITY (lb/ft ³)	93.27	89.19		
	SATURATION (%)	74.32	67.97		
	VOID RATIO	0.827	0.910		
BEFORE SHEAR	WATER CONTENT (%)	22.50	22.66		
	DRY DENSITY (lb/ft ³)	93.27	89.19		
	SATURATION (%)	74.32	67.97		
	VOID RATIO	0.827	0.910		
	BACK PRESS. (lb/in ²)	0.00	0.00		
MINOR PRIN. STRESS (lb/in ²)		230.00	460.00		
MAX. DEV. STRESS (lb/in ²)		419.14	424.22		
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		2.14	2.18		
INITIAL HEIGHT (in)		3.96	3.98		

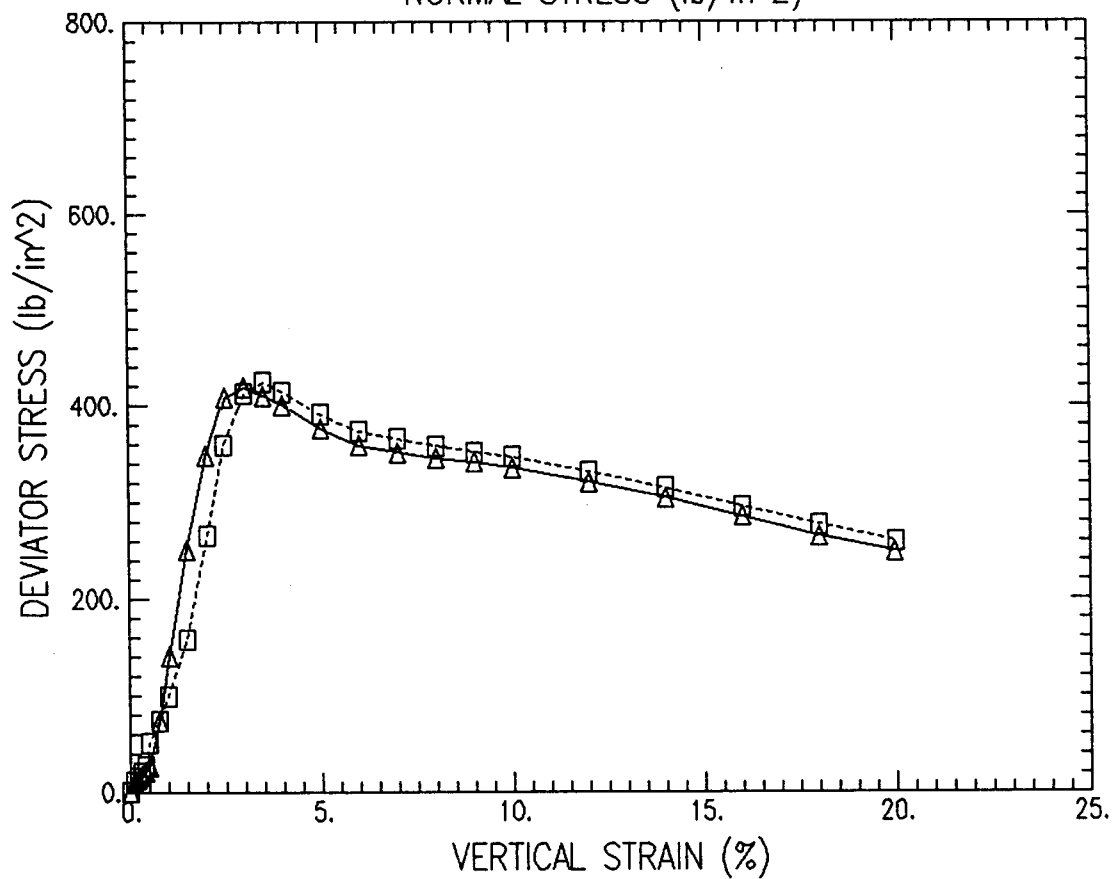
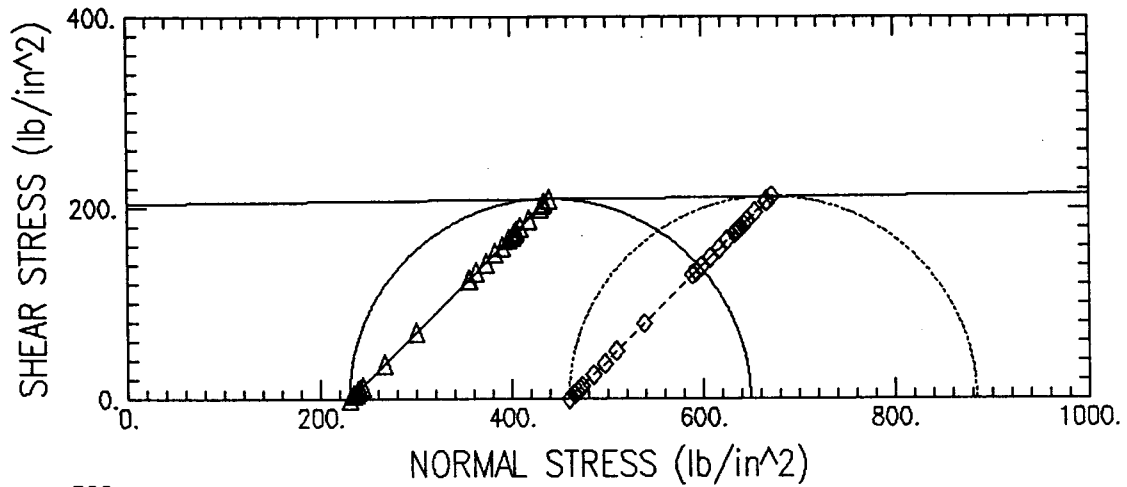
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) LT. GRAYISH BROWN SILTY CLAY/CLAYEY SILT

2) LT. GRAYISH BROWN SILTY CLAY/CLAYEY SILT

LL 49.21	PL 25.51	PI 23.70	GS 2.73	TYPE OF SPECIMEN CORE		TYPE OF TEST UNDRAINED			
REMARKS:				PROJECT HOLLADAY ENGINEERING CO.					
1)									
2)				BORING NO. PB-2	SAMPLE NO.	230 PSI	460 PSI		
				TECH. S. CAPPS	DEPTH/ELEV	458-460 FT	458-460 FT		
				LABORATORY	DATE	06/25/97	06/26/97		
				TRIAXIAL COMPRESSION TEST REPORT					

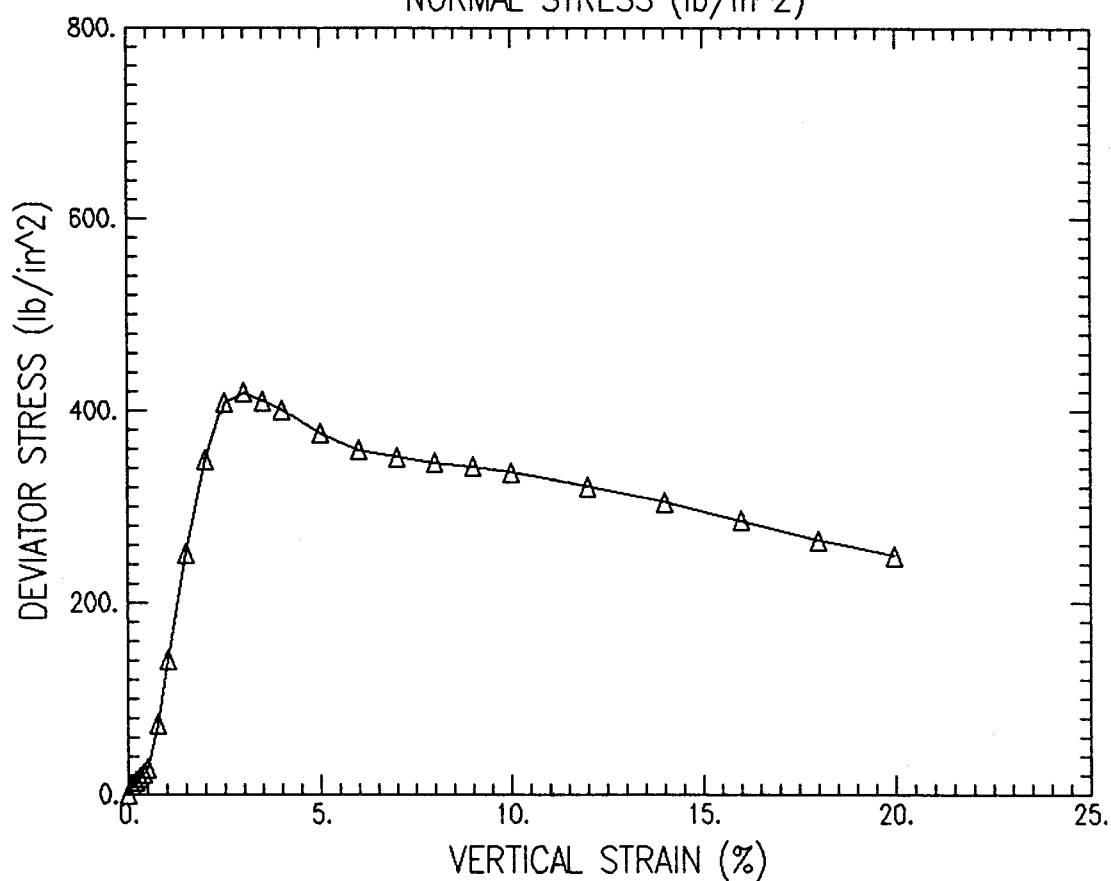
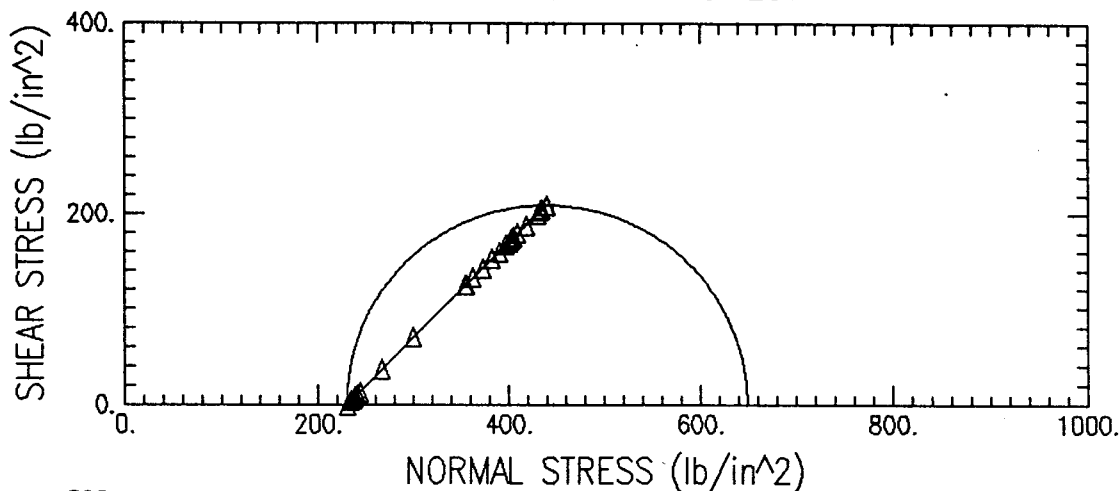
UNDRAINED TRIAXIAL TEST



Project Name : HOLLADAY ENGINEERING CO.

Boring No:	Sample No	Depth	Test No	Filename
PB-2	230 PSI	458-460 FT	PB2-230	PB2-230.UU
PB-2	460 PSI	458-460 FT	PB2-460	PB2-460.UU

UNDRAINED TRIAXIAL TEST



Project Name : HOLLADAY ENGINEERING CO.

Boring No:	Sample No	Depth	Test No	Filename
PB-2	230 PSI	458-460 FT	PB2-230	PB2-230.UU

Fri Jun 27 07:43:17 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL

Project No. : 971144NA

Test No. : PB2-230

Boring No. : PB-2

Test Date : 06/25/97

Tested by : S. CAPPS

Sample No. : 230 PSI

Depth : 458-460 FT

Checked by : C. WASON

Sample Type : CORE

Elevation :

Soil Description : LT. GRAYISH BROWN SILTY CLAY/CLAYEY SILT

Remarks :

Height : 3.957 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 3.59 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 14.19 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	CHANGE IN LENGTH (in)	VERTICAL STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	3.59	0.00	0.00	0.00	0.00	230.00	230.00
2)	0.004	0.10	3.59	0.00	33.50	33.50	9.32	239.32	239.32
3)	0.008	0.20	3.60	0.00	48.51	48.51	13.48	243.48	243.48
4)	0.012	0.30	3.60	0.00	65.84	65.84	18.27	248.27	248.27
5)	0.016	0.40	3.61	0.00	76.23	76.23	21.11	251.11	251.11
6)	0.020	0.51	3.62	0.00	97.02	97.02	26.83	256.83	256.83
7)	0.030	0.76	3.63	0.00	265.65	265.65	73.14	303.14	303.14
8)	0.040	1.01	3.65	0.00	512.82	512.82	140.60	370.60	370.60
9)	0.059	1.49	3.68	0.00	924.00	924.00	251.27	481.27	481.27
10)	0.079	2.00	3.71	0.00	1293.60	1293.60	348.73	578.73	578.73
11)	0.099	2.50	3.74	0.00	1526.91	1526.91	408.04	638.04	638.04
12)	0.119	3.01	3.78	0.00	1582.35	1582.35	419.14	649.14	649.14
13)	0.138	3.49	3.81	0.00	1562.72	1562.72	410.45	640.45	640.45
14)	0.158	3.99	3.84	0.00	1539.62	1539.62	400.77	630.77	630.77
15)	0.198	5.00	3.91	0.00	1472.63	1472.63	376.41	606.41	606.41
16)	0.237	5.99	3.98	0.00	1429.89	1429.89	358.94	588.94	588.94
17)	0.277	7.00	4.06	0.00	1428.74	1428.74	351.94	581.94	581.94
18)	0.317	8.01	4.14	0.00	1431.05	1431.05	345.78	575.78	575.78
19)	0.356	9.00	4.22	0.00	1440.29	1440.29	341.42	571.42	571.42
20)	0.396	10.01	4.30	0.00	1444.91	1444.91	335.72	565.72	565.72
21)	0.475	12.00	4.48	0.00	1437.98	1437.98	320.77	550.77	550.77
22)	0.554	14.00	4.68	0.00	1426.43	1426.43	304.96	534.96	534.96
23)	0.633	16.00	4.89	0.00	1395.24	1395.24	285.34	515.34	515.34
24)	0.712	17.99	5.12	0.00	1357.13	1357.13	264.96	494.96	494.96
25)	0.791	19.99	5.38	0.00	1339.80	1339.80	249.14	479.14	479.14

Fri Jun 27 07:43:17 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-230
 Boring No. : PB-2 Test Date : 06/25/97 Tested by : S. CAPPS
 Sample No. : 230 PSI Depth : 458-460 FT Checked by : C. WASON
 Sample Type : CORE Elevation :
 Soil Description : LT. GRAYISH BROWN SILTY CLAY/CLAYEY SILT
 Remarks :

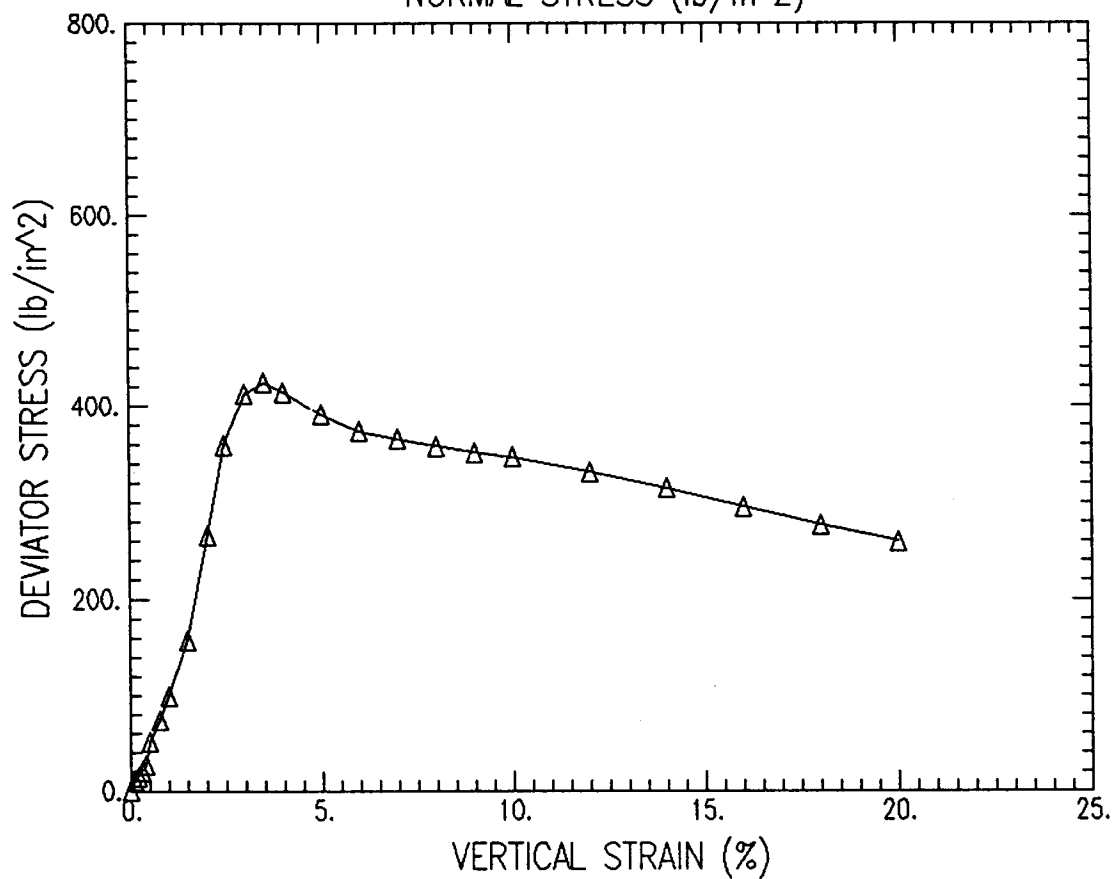
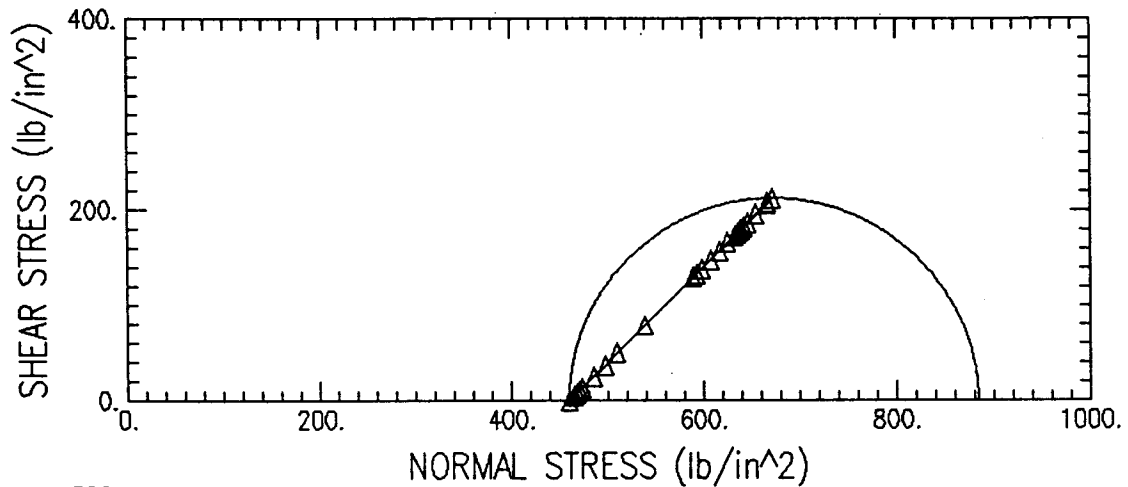
Liquid Limit : 0 Plastic Limit : 0 Specific Gravity : 2.73

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	425.20	425.20	0.00
WT CONTAINER + DRY SOIL (gm)	347.10	347.10	0.00
WT WATER (gm)	78.10	78.10	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	347.10	347.10	0.00
WATER CONTENT (%)	22.50	22.50	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	22.50	22.50
VOID RATIO	0.83	0.83
WET DENSITY (lb/ft ³)	114.25	114.25
DRY DENSITY (lb/ft ³)	93.27	93.27
DEGREE OF SATURATION (%)	74.32	74.32

Maximum Shear Stress = 209.57 (lb/in²) at a Vertical Strain of 3.01 %

UNDRAINED TRIAXIAL TEST



Project Name : HOLLADAY ENGINEERING CO.

Boring No:	Sample No	Depth	Test No	Filename
PB-2	460 PSI	458-460 FT	PB2-460	PB2-460.UU

Fri Jun 27 07:48:05 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-460
 Boring No. : PB-2 Test Date : 06/26/97
 Sample No. : 460 PSI Depth : 458-460 FT
 Sample Type : CORE Elevation :
 Soil Description : LT. GRAYISH BROWN SILTY CLAY/CLAYEY SILT
 Remarks :

Tested by : S. CAPPS
 Checked by : C. WASON

Height : 3.976 (in) Piston Diameter : 0.000 (in) Filter Correction : 0.00 (lb/in²)
 Area : 3.75 (in²) Piston Friction : 0.00 (lb) Membrane Correction : 0.00 (lb/in)
 Volume : 14.89 (in³) Piston Weight : 0.00 (gm) Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	3.75	0.00	0.00	0.00	0.00	460.00	460.00
2)	0.004	0.10	3.75	0.00	41.58	41.58	11.08	471.08	471.08
3)	0.008	0.20	3.76	0.00	58.91	58.91	15.67	475.67	475.67
4)	0.012	0.30	3.76	0.00	78.54	78.54	20.86	480.86	480.86
5)	0.016	0.40	3.77	0.00	100.49	100.49	26.64	486.64	486.64
6)	0.020	0.50	3.78	0.00	190.58	190.58	50.45	510.45	510.45
7)	0.030	0.75	3.79	0.00	280.67	280.67	73.98	533.98	533.98
8)	0.040	1.01	3.81	0.00	378.84	378.84	99.44	559.44	559.44
9)	0.060	1.51	3.84	0.00	607.53	607.53	158.10	618.10	618.10
10)	0.080	2.01	3.88	0.00	1032.57	1032.57	266.40	726.40	726.40
11)	0.098	2.46	3.91	0.00	1404.48	1404.48	359.53	819.53	819.53
12)	0.119	2.99	3.94	0.00	1626.24	1626.24	412.47	872.47	872.47
13)	0.139	3.50	3.98	0.00	1687.46	1687.46	424.22	884.22	884.22
14)	0.159	4.00	4.01	0.00	1663.20	1663.20	414.40	874.40	874.40
15)	0.199	5.01	4.09	0.00	1597.37	1597.37	390.85	850.85	850.85
16)	0.239	6.01	4.16	0.00	1554.63	1554.63	373.43	833.43	833.43
17)	0.278	6.99	4.24	0.00	1550.01	1550.01	365.56	825.56	825.56
18)	0.318	8.00	4.32	0.00	1547.70	1547.70	358.09	818.09	818.09
19)	0.358	9.00	4.41	0.00	1551.17	1551.17	351.95	811.95	811.95
20)	0.398	10.01	4.50	0.00	1560.41	1560.41	347.06	807.06	807.06
21)	0.477	12.00	4.68	0.00	1553.48	1553.48	331.78	791.78	791.78
22)	0.557	14.01	4.89	0.00	1540.77	1540.77	315.28	775.28	775.28
23)	0.636	16.00	5.11	0.00	1509.59	1509.59	295.55	755.55	755.55
24)	0.716	18.01	5.35	0.00	1481.87	1481.87	276.86	736.86	736.86
25)	0.795	19.99	5.62	0.00	1459.92	1459.92	259.85	719.85	719.85

Fri Jun 27 07:48:05 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-460
 Boring No. : PB-2 Test Date : 06/26/97 Tested by : S. CAPPS
 Sample No. : 460 PSI Depth : 458-460 FT Checked by : C. WASON
 Sample Type : CORE Elevation :
 Soil Description : LT. GRAYISH BROWN SILTY CLAY/CLAYEY SILT
 Remarks :

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.73

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	427.70	427.70	0.00
WT CONTAINER + DRY SOIL (gm)	348.70	348.70	0.00
WT WATER (gm)	79.00	79.00	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	348.70	348.70	0.00
WATER CONTENT (%)	22.66	22.66	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	22.66	22.66
VOID RATIO	0.91	0.91
WET DENSITY (lb/ft ³)	109.40	109.40
DRY DENSITY (lb/ft ³)	89.19	89.19
DEGREE OF SATURATION (%)	67.97	67.97

Maximum Shear Stress = 212.11 (lb/in²) at a Vertical Strain of 3.50 %

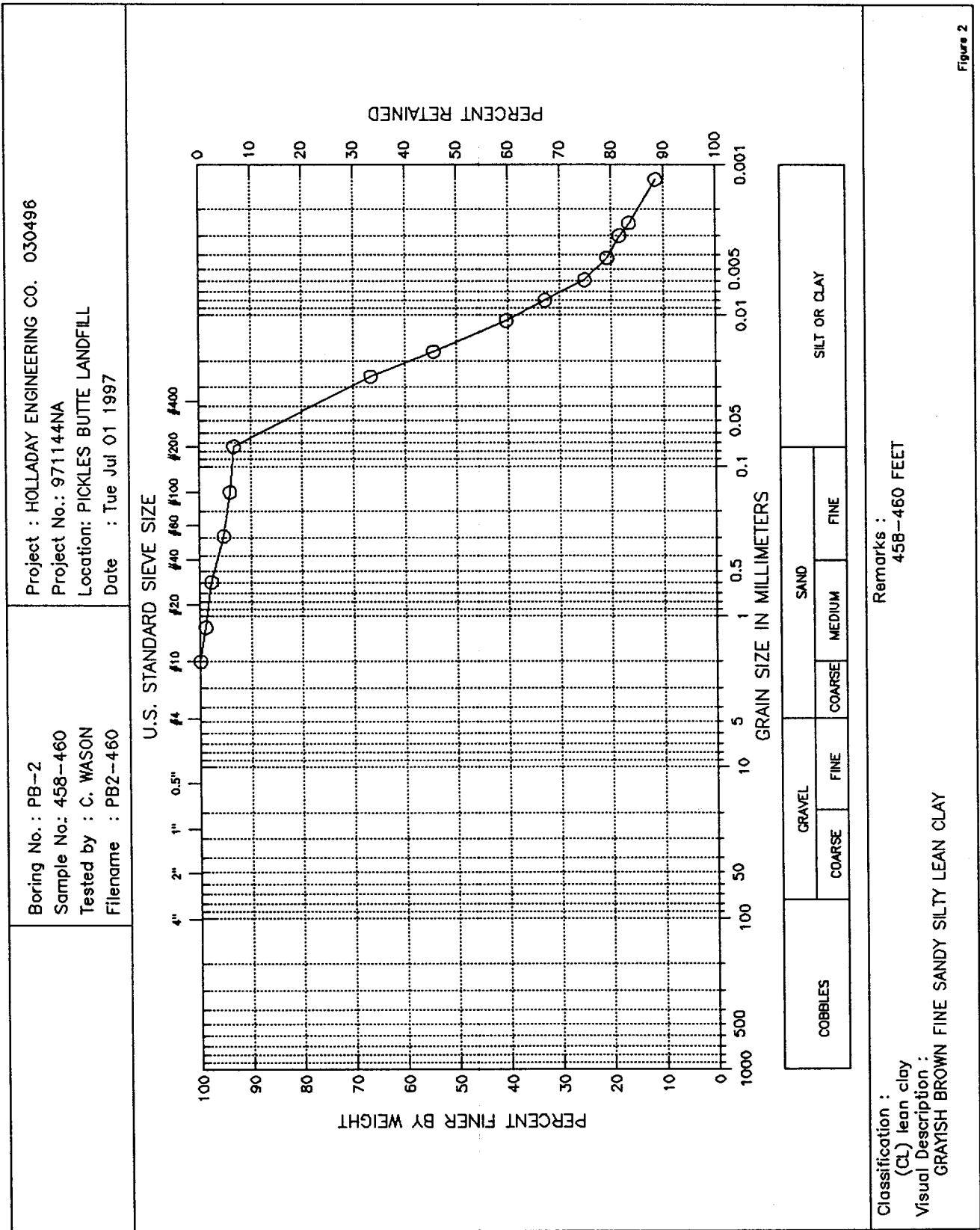


Figure 2

Tue Jul 01 12:59:29 1997

Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : HOLLADAY ENGINEERING CO. 030496 Filename : PB2-460
 Project No. : 971144NA Depth : 458-460 FEET Elevation : NA
 Boring No. : PB-2 Test Date : 06/30/97 Tested by : C. WASON
 Sample No. : 458-460 Test Method : ASTM D4318/422 Checked by : S. CAPPS
 Location : PICKLES BUTTE LANDFILL
 Soil Description : GRAYISH BROWN FINE SANDY SILTY LEAN CLAY
 Remarks : 458-460 FEET

HYDROMETER

Hydrometer ID : 1734
 Weight of air-dried soil = 70 gm
 Specific Gravity = 2.73

Hydroscopic Moisture Content :
 Weight of Wet Soil = 70 gm
 Weight of Dry Soil = 64.7 gm
 Moisture Content = 0.0819165

Elapsed Time (min)	Reading	Temperature (deg. C)	Corrected Reading	Particle Size (mm)	Percent Finer (%)	Adjusted Particle Size
2.00	52.00	22.40	43.80	0.026	67	0.026
5.00	44.00	22.40	35.80	0.017	54	0.017
15.00	34.80	22.20	26.51	0.011	40	0.011
30.00	30.00	22.00	21.62	0.008	33	0.008
60.00	25.00	21.80	16.53	0.006	25	0.006
120.00	22.00	22.10	13.67	0.004	21	0.004
240.00	20.40	22.20	12.11	0.003	18	0.003
360.00	19.00	22.60	10.90	0.002	17	0.002
1440.00	16.00	21.80	7.53	0.001	11	0.001

Sieve Mesh	Sieve Openings		FINE SIEVE SET		Percent Finer (%)
	Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	
#10	0.079	2.00	0.00	0.00	100
#16	0.047	1.19	0.66	0.66	99
#30	0.023	0.60	0.77	1.43	98
#50	0.012	0.30	1.55	2.98	95
#100	0.006	0.15	0.77	3.75	94
#200	0.003	0.07	0.52	4.27	93
Pan			60.43	64.70	0

Total Wet Weight of Sample = 64.7
 Total Dry Weight of Sample = 64.7
 Moisture Content = 0.0819165

D85 : 0.0530 mm
 D60 : 0.0208 mm
 D50 : 0.0150 mm
 D30 : 0.0071 mm
 D15 : 0.0020 mm
 D10 : 0.0011 mm

Soil Classification

ASTM Group Symbol : CL
 ASTM Group Name : lean clay
 AASHTO Group Symbol : A-7-6(27)
 AASHTO Group Name : Clayey Soils

ATTERBERG LIMITS

PROJECT HOLLADAY ENGINEERING CO. 030496	PROJECT NUMBER 971144NA	TESTED BY C. WASON	BORING NUMBER PB-2
LOCATION PICKLES BUTTE LANDFILL	CHECKED BY S. CAPPS	SAMPLE NUMBER 458-460	
SAMPLE DESCRIPTION GRAYISH BROWN FINE SANDY SILTY LEAN CLAY	DATE Tue Jul 01 1997	FILENAME PB2-460	

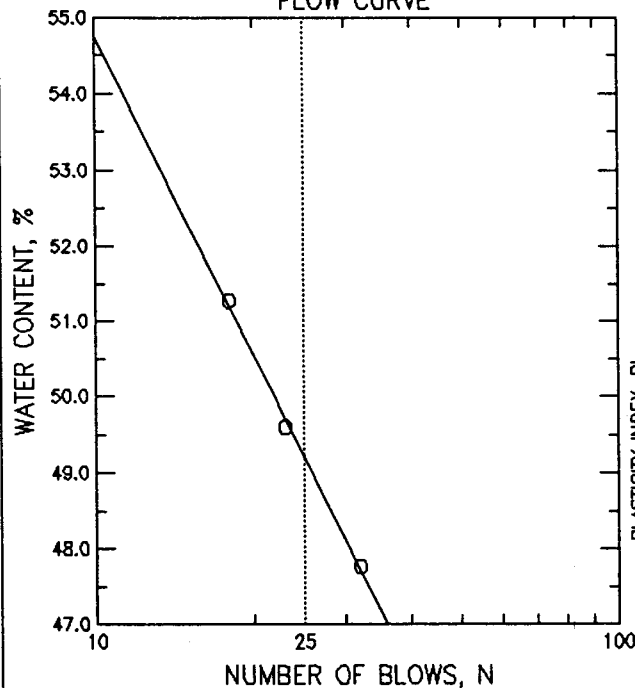
LIQUID LIMIT DETERMINATIONS

CONTAINER NUMBER	11	12	45		
WT. WET SOIL + TARE	27.25	27.63	27.93		
WT. DRY SOIL + TARE	21.91	22.1	22.07		
WT. WATER	5.34	5.53	5.86		
TARE WT.	10.73	10.95	10.64		
WT. DRY SOIL	11.18	11.15	11.43		
WATER CONTENT, W_N (%)	47.76	49.60	51.27		
NUMBER OF BLOWS, N	32	23	18		
ONE-POINT LIQUID LIMIT, LL	49.21	49.10	49.27		

PLASTIC LIMIT DETERMINATIONS

CONTAINER NUMBER	47				
WT. WET SOIL + TARE	27.35				
WT. DRY SOIL + TARE	24.97				
WT. WATER	2.38				
TARE WT.	15.64				
WT. DRY SOIL	9.33				
WATER CONTENT (%)	25.51				

FLOW CURVE



SUMMARY OF RESULTS

NATURAL WATER CONTENT, W (%)	
LIQUID LIMIT, LL	49.2
PLASTIC LIMIT, PL	25.5
PLASTICITY INDEX, PI	23.7
LIQUIDITY INDEX, LI^*	

$$*LI = (W - PL)/PI$$

PLASTICITY CHART

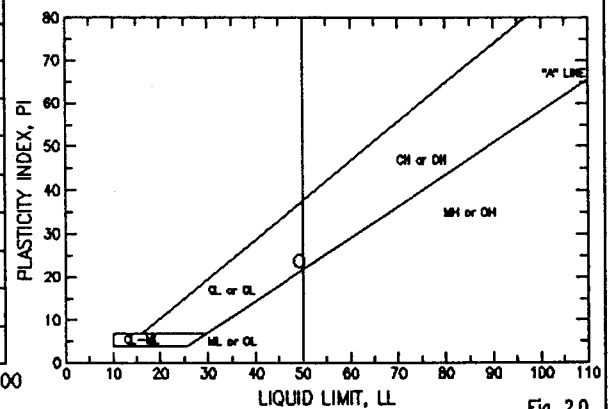


Fig. 2.0

Tue Jul 01 12:59:29 1997

Page : 2

GEOTECHNICAL LABORATORY TEST DATA

Project : HOLLADAY ENGINEERING CO. 030496
 Project No. : 971144NA Depth : 458-460 FEET
 Boring No. : PB-2 Test Date : 06/30/97
 Sample No. : 458-460 Test Method : ASTM D4318/422
 Location : PICKLES BUTTE LANDFILL
 Soil Description : GRAYISH BROWN FINE SANDY SILTY LEAN CLAY
 Remarks : 458-460 FEET

Filename : PB2-460
 Elevation : NA
 Tested by : C. WASON
 Checked by : S. CAPPS

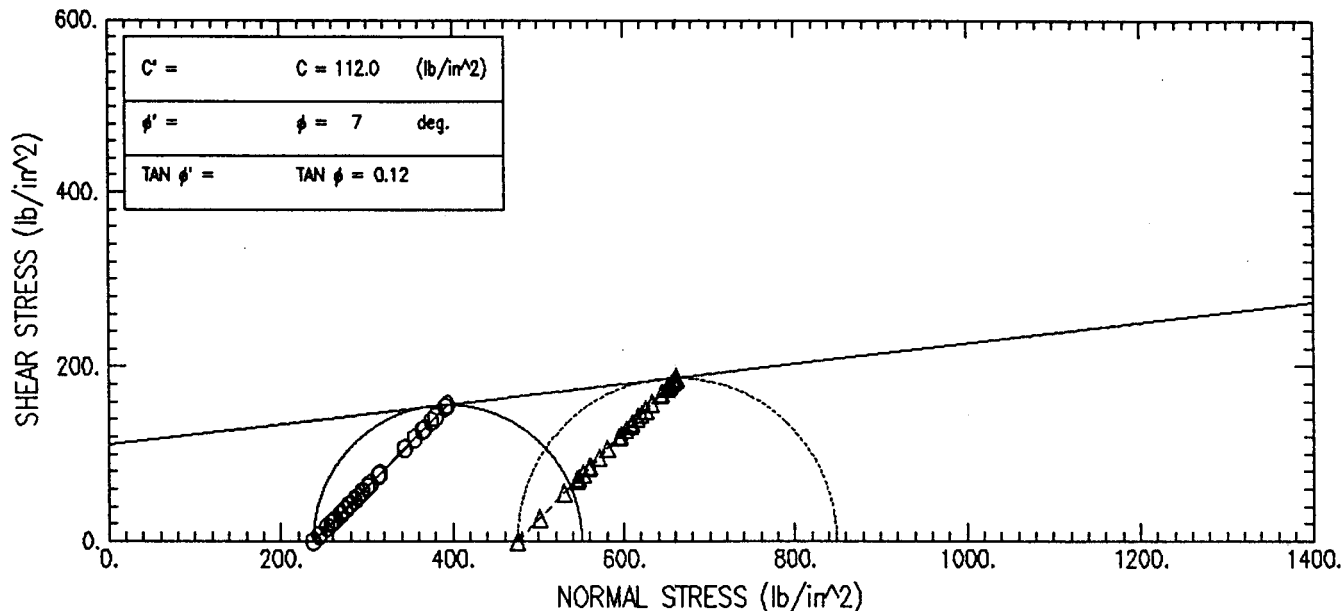
Moisture Content ID	Mass of Container (gm)	Plastic Limit Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Moisture Content (%)
1) 47	15.64	27.35	24.97	25.51

Plastic Limit = 25.51

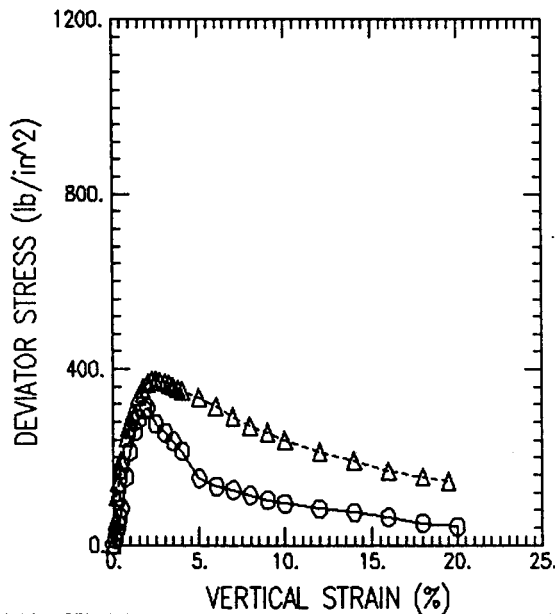
Moisture Content ID	Mass of Container (gm)	Liquid Limit Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Number of Drops	Moisture Content (%)
1) 11	10.73	27.25	21.91	32	47.76
2) 12	10.95	27.63	22.10	23	49.60
3) 45	10.64	27.93	22.07	18	51.27

Liquid Limit = 49.21
 Plastic Index = 23.70

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		O	Δ		
TEST NO.		PB2-237	PB2-475		
INITIAL	WATER CONTENT (%)	24.79	25.22		
	DRY DENSITY (lb/ft ³)	91.46	90.11		
	SATURATION (%)	78.47	77.33		
	VOID RATIO	0.863	0.890		
BEFORE SHEAR	WATER CONTENT (%)	24.79	25.22		
	DRY DENSITY (lb/ft ³)	91.46	90.11		
	SATURATION (%)	78.47	77.33		
	VOID RATIO	0.863	0.890		
	BACK PRESS. (lb/in ²)	0.00	0.00		
MINOR PRIN. STRESS (lb/in ²)		237.50	475.00		
MAX. DEV. STRESS (lb/in ²)		312.84	374.27		
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		2.36	2.19		
INITIAL HEIGHT (in)		5.73	4.49		

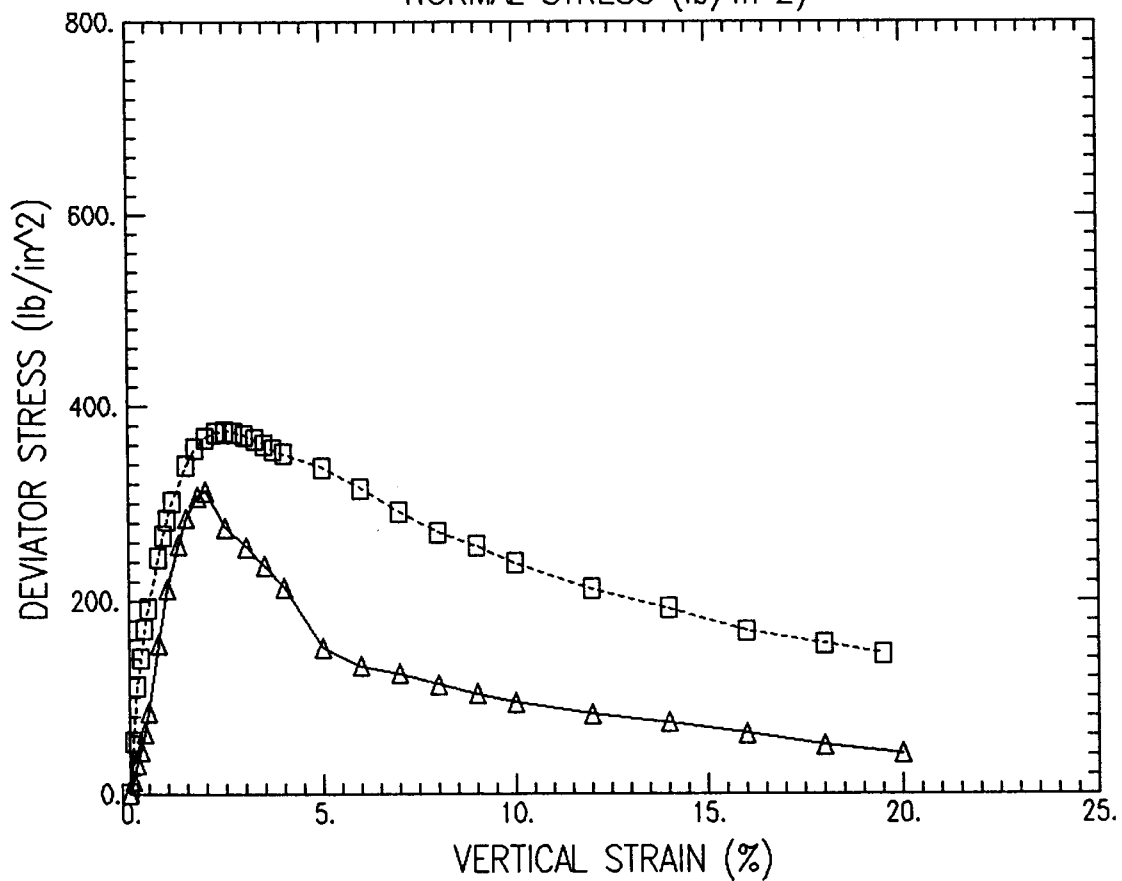
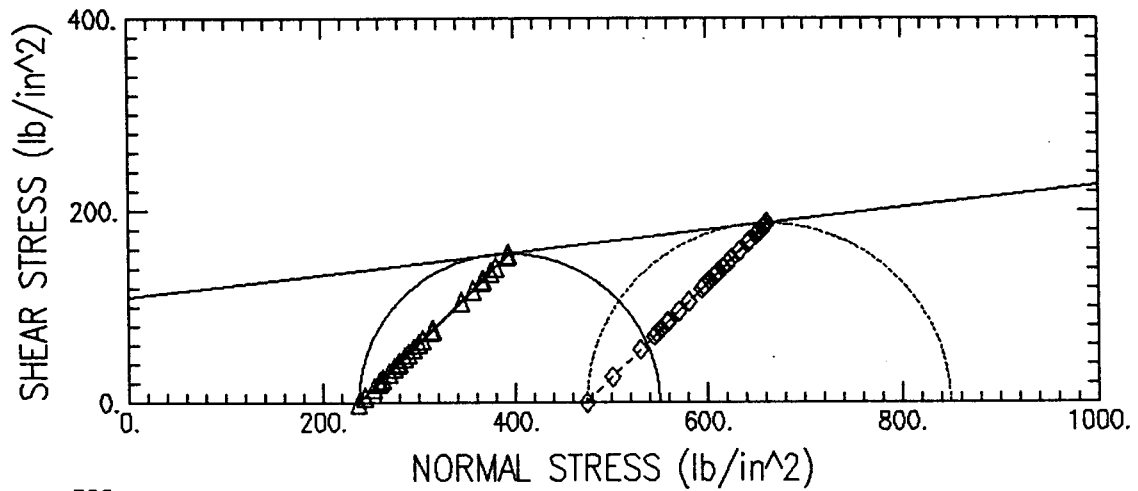
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) GRAYISH BROWN SI CLAY / CLAYEY SILT

2) GRAYISH BROWN SI CLAY / CLAYEY SILT

LL 54.76	PL 25.96	PI 28.80	GS 2.73	TYPE OF SPECIMEN CORE		TYPE OF TEST UNDRAINED			
REMARKS:				PROJECT HOLLADAY ENGINEERING CO.					
1)									
2)				BORING NO. PB-2	SAMPLE NO.	237.5 PSI	475 PSI		
				TECH. C. WASON	DEPTH/ELEV	474-475 FT	474-475 FT		
				LABORATORY	DATE	07/01/97	07/01/97		
				TRIAxIAL COMPRESSION TEST REPORT					

UNDRAINED TRIAXIAL TEST



Project Name : HOLLADAY ENGINEERING CO.

Boring No:	Sample No	Depth	Test No	Filename
PB-2	237.5 PSI	474-475 FT	PB2-237	PB2-237.UU
PB-2	475 PSI	474-475 FT	PB2-475	PB2-475.UU

Failure Criteria: Peak Deviator Stress

Thu Jul 03 15:45:46 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-237
 Boring No. : PB-2 Test Date : 07/01/97
 Sample No. : 237.5 PSI Depth : 474-475 FT
 Sample Type : CORE Elevation :
 Soil Description : GRAYISH BROWN SI CLAY / CLAYEY SILT
 Remarks :

Tested by : C. WASON
 Checked by : C. CAPPS

Height : 5.728 (in) Piston Diameter : 0.000 (in) Filter Correction : 0.00 (lb/in²)
 Area : 4.38 (in²) Piston Friction : 0.00 (lb) Membrane Correction : 0.00 (lb/in)
 Volume : 25.10 (in³) Piston Weight : 0.00 (gm) Area Correction : Parabolic

	CHANGE IN LENGTH (in)	VERTICAL STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	4.38	0.00	0.00	0.00	0.00	237.50	237.50
2)	0.006	0.10	4.39	0.00	57.75	57.75	13.16	250.66	250.66
3)	0.011	0.19	4.40	0.00	138.60	138.60	31.53	269.03	269.03
4)	0.017	0.30	4.40	0.00	196.35	196.35	44.59	282.09	282.09
5)	0.023	0.40	4.41	0.00	277.20	277.20	62.84	300.34	300.34
6)	0.029	0.51	4.42	0.00	371.91	371.91	84.16	321.66	321.66
7)	0.043	0.75	4.44	0.00	686.07	686.07	154.61	392.11	392.11
8)	0.057	1.00	4.46	0.00	947.10	947.10	212.55	450.05	450.05
9)	0.074	1.29	4.48	0.00	1157.31	1157.31	258.42	495.92	495.92
10)	0.086	1.50	4.49	0.00	1282.05	1282.05	285.25	522.75	522.75
11)	0.103	1.80	4.52	0.00	1390.62	1390.62	307.84	545.34	545.34
12)	0.115	2.01	4.53	0.00	1418.34	1418.34	312.84	550.34	550.34
13)	0.143	2.50	4.57	0.00	1258.95	1258.95	275.35	512.85	512.85
14)	0.173	3.02	4.61	0.00	1178.10	1178.10	255.32	492.82	492.82
15)	0.200	3.49	4.65	0.00	1099.56	1099.56	236.32	473.82	473.82
16)	0.229	4.00	4.69	0.00	1004.85	1004.85	214.03	451.53	451.53
17)	0.286	4.99	4.78	0.00	723.03	723.03	151.27	388.77	388.77
18)	0.344	6.01	4.87	0.00	644.49	644.49	132.36	369.86	369.86
19)	0.401	7.00	4.96	0.00	616.77	616.77	124.33	361.83	361.83
20)	0.458	8.00	5.06	0.00	571.73	571.73	113.08	350.58	350.58
21)	0.516	9.01	5.16	0.00	528.99	528.99	102.59	340.09	340.09
22)	0.573	10.00	5.26	0.00	496.65	496.65	94.44	331.94	331.94
23)	0.687	11.99	5.48	0.00	450.45	450.45	82.25	319.75	319.75
24)	0.802	14.00	5.72	0.00	421.58	421.58	73.76	311.26	311.26
25)	0.916	15.99	5.97	0.00	371.91	371.91	62.25	299.75	299.75
26)	1.031	18.00	6.26	0.00	311.85	311.85	49.82	287.32	287.32
27)	1.146	20.01	6.57	0.00	271.43	271.43	41.29	278.79	278.79

Thu Jul 03 15:45:46 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-237
 Boring No. : PB-2 Test Date : 07/01/97 Tested by : C. WASON
 Sample No. : 237.5 PSI Depth : 474-475 FT Checked by : C. CAPPS
 Sample Type : CORE Elevation :
 Soil Description : GRAYISH BROWN SI CLAY / CLAYEY SILT
 Remarks :

Liquid Limit : 54.76

Plastic Limit : 25.96

Specific Gravity : 2.73

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	752.00	752.00	0.00
WT CONTAINER + DRY SOIL (gm)	602.60	602.60	0.00
WT WATER (gm)	149.40	149.40	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	602.60	602.60	0.00
WATER CONTENT (%)	24.79	24.79	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	24.79	24.79
VOID RATIO	0.86	0.86
WET DENSITY (lb/ft ³)	114.14	114.14
DRY DENSITY (lb/ft ³)	91.46	91.46
DEGREE OF SATURATION (%)	78.47	78.47

Maximum Shear Stress = 156.42 (lb/in²) at a Vertical Strain of 2.01 %

Thu Jul 03 14:45:31 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-475
 Boring No. : PB-2 Test Date : 07/01/97
 Sample No. : 475 PSI Depth : 474-475 FT
 Sample Type : CORE Elevation :
 Soil Description : GRAYISH BROWN SI CLAY / CLAYEY SILT
 Remarks :

Tested by : C. WASON
 Checked by : C. CAPPS

Height : 4.488 (in) Piston Diameter : 0.000 (in) Filter Correction : 0.00 (lb/in²)
 Area : 3.77 (in²) Piston Friction : 0.00 (lb) Membrane Correction : 0.00 (lb/in)
 Volume : 16.91 (in³) Piston Weight : 0.00 (gm) Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	3.77	0.00	0.00	0.00	0.00	475.00	475.00
2)	0.004	0.09	3.77	0.00	200.97	200.97	53.26	528.26	528.26
3)	0.009	0.20	3.78	0.00	418.11	418.11	110.59	585.59	585.59
4)	0.013	0.29	3.79	0.00	531.30	531.30	140.32	615.32	615.32
5)	0.018	0.40	3.79	0.00	647.96	647.96	170.81	645.81	645.81
6)	0.022	0.49	3.80	0.00	729.96	729.96	192.14	667.14	667.14
7)	0.034	0.76	3.82	0.00	930.93	930.93	243.94	718.94	718.94
8)	0.040	0.89	3.82	0.00	1022.18	1022.18	267.25	742.25	742.25
9)	0.045	1.00	3.83	0.00	1085.70	1085.70	283.32	758.32	758.32
10)	0.051	1.14	3.84	0.00	1158.47	1158.47	301.63	776.63	776.63
11)	0.067	1.49	3.86	0.00	1310.93	1310.93	339.25	814.25	814.25
12)	0.078	1.74	3.88	0.00	1382.54	1382.54	356.29	831.29	831.29
13)	0.090	2.01	3.90	0.00	1432.20	1432.20	367.39	842.39	842.39
14)	0.101	2.25	3.91	0.00	1461.08	1461.08	373.21	848.21	848.21
15)	0.112	2.50	3.93	0.00	1471.47	1471.47	374.27	849.27	849.27
16)	0.123	2.74	3.95	0.00	1472.63	1472.63	372.97	847.97	847.97
17)	0.135	3.01	3.97	0.00	1468.01	1468.01	370.07	845.07	845.07
18)	0.146	3.25	3.98	0.00	1457.61	1457.61	365.87	840.87	840.87
19)	0.157	3.50	4.00	0.00	1443.75	1443.75	360.82	835.82	835.82
20)	0.168	3.74	4.02	0.00	1426.43	1426.43	354.94	829.94	829.94
21)	0.180	4.01	4.04	0.00	1416.03	1416.03	350.68	825.68	825.68
22)	0.224	4.99	4.11	0.00	1383.69	1383.69	336.67	811.67	811.67
23)	0.269	5.99	4.19	0.00	1322.48	1322.48	315.91	790.91	790.91
24)	0.314	7.00	4.27	0.00	1245.09	1245.09	291.91	766.91	766.91
25)	0.359	8.00	4.35	0.00	1175.79	1175.79	270.44	745.44	745.44
26)	0.404	9.00	4.43	0.00	1136.52	1136.52	256.37	731.37	731.37
27)	0.449	10.00	4.52	0.00	1079.93	1079.93	238.82	713.82	713.82
28)	0.539	12.01	4.71	0.00	1000.23	1000.23	212.32	687.32	687.32
29)	0.628	13.99	4.91	0.00	944.79	944.79	192.26	667.26	667.26
30)	0.718	16.00	5.14	0.00	867.41	867.41	168.82	643.82	643.82
31)	0.808	18.00	5.38	0.00	836.22	836.22	155.34	630.34	630.34
32)	0.875	19.50	5.58	0.00	809.66	809.66	145.05	620.05	620.05

Thu Jul 03 14:45:31 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-475
 Boring No. : PB-2 Test Date : 07/01/97 Tested by : C. WASON
 Sample No. : 475 PSI Depth : 474-475 FT Checked by : C. CAPPS
 Sample Type : CORE Elevation :
 Soil Description : GRAYISH BROWN SI CLAY / CLAYEY SILT
 Remarks :

Liquid Limit : 54.76 Plastic Limit : 25.96 Specific Gravity : 2.73

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	500.90	500.90	0.00
WT CONTAINER + DRY SOIL (gm)	400.00	400.00	0.00
WT WATER (gm)	100.90	100.90	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	400.00	400.00	0.00
WATER CONTENT (%)	25.22	25.22	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	25.22	25.22
VOID RATIO	0.89	0.89
WET DENSITY (lb/ft ³)	112.84	112.84
DRY DENSITY (lb/ft ³)	90.11	90.11
DEGREE OF SATURATION (%)	77.33	77.33

Maximum Shear Stress = 187.14 (lb/in²) at a Vertical Strain of 2.50 %

Grain Size Distribution Data:

Grain Size (mm)	Percent Finer (%)
0.075	100
0.15	100
0.3	100
0.6	100
1.2	100
2.5	100
5.0	100
10.0	100
20.0	100
40.0	100
75.0	100
150	100
300	100
600	100
1000	100

Soil Classification: CLAY

Thu Jul 03 14:29:09 1997

Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : HOLLADAY ENGINEERING CO. 030496 Filename : PB2-475
 Project No. : 971144NA Depth : 474-475 FEET Elevation : NA
 Boring No. : PB-2 Test Date : 07/02/97 Tested by : C. WASON
 Sample No. : 474-475 FT Test Method : ASTM D4318/422 Checked by : S. CAPPS
 Location : PICKLES BUTTE LANDFILL
 Soil Description : GRAYISH BROWN SILTY CLAY
 Remarks : 474-475 FFET

HYDROMETER

Hydrometer ID : 1734
 Weight of air-dried soil = 70 gm
 Specific Gravity = 2.73

Hydroscopic Moisture Content :
 Weight of Wet Soil = 70 gm
 Weight of Dry Soil = 62.09 gm
 Moisture Content = 0.127396

Elapsed Time (min)	Reading	Temperature (deg. C)	Corrected Reading	Particle Size (mm)	Percent Finer (%)	Adjusted Particle Size
2.00	51.50	22.40	43.30	0.026	69	0.026
5.00	43.00	22.40	34.80	0.018	55	0.018
15.00	34.00	22.30	25.76	0.011	41	0.011
30.00	29.20	22.20	20.91	0.008	33	0.008
60.00	26.00	22.10	17.67	0.006	28	0.006
120.00	23.30	22.00	14.92	0.004	24	0.004
244.00	21.00	22.50	12.85	0.003	20	0.003
360.00	20.00	22.80	11.99	0.002	19	0.002
1440.00	16.80	21.90	8.37	0.001	13	0.001

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#10	0.079	2.00	0.00	0.00	100
#16	0.047	1.19	0.00	0.00	100
#30	0.023	0.60	0.03	0.03	100
#50	0.012	0.30	0.03	0.06	100
#100	0.006	0.15	0.23	0.29	100
#200	0.003	0.07	2.14	2.43	96
Pan			59.66	62.09	0

Total Wet Weight of Sample = 70
 Total Dry Weight of Sample = 62.09
 Moisture Content = 0.127396

D85 : 0.0482 mm
 D60 : 0.0202 mm
 D50 : 0.0148 mm
 D30 : 0.0066 mm
 D15 : 0.0015 mm
 D10 : 0.0009 mm

Soil Classification

ASTM Group Symbol : CH
 ASTM Group Name : fat clay
 AASHTO Group Symbol : A-7-6(35)
 AASHTO Group Name : Clayey Soils

ATTERBERG LIMITS

PROJECT HOLLADAY ENGINEERING CO. 030496	PROJECT NUMBER 971144NA	TESTED BY C. WASON	BORING NUMBER PB-2
LOCATION PICKLES BUTTE LANDFILL	CHECKED BY S. CAPPS	SAMPLE NUMBER 474-475 FT	FILENAME PB2-475
SAMPLE DESCRIPTION GRAYISH BROWN SILTY CLAY	DATE Thu Jul 03 1997		

LIQUID LIMIT DETERMINATIONS

CONTAINER NUMBER	13	14	18		
WT. WET SOIL + TARE	27.48	27.62	27.51		
WT. DRY SOIL + TARE	21.78	21.66	21.4		
WT. WATER	5.7	5.96	6.11		
TARE WT.	11.04	10.82	10.71		
WT. DRY SOIL	10.74	10.84	10.69		
WATER CONTENT, W_N (%)	53.07	54.98	57.16		
NUMBER OF BLOWS, N	33	24	17		
ONE-POINT LIQUID LIMIT, LL	54.89	54.71	54.55		

PLASTIC LIMIT DETERMINATIONS

CONTAINER NUMBER	2				
WT. WET SOIL + TARE	27.29				
WT. DRY SOIL + TARE	24.93				
WT. WATER	2.36				
TARE WT.	15.84				
WT. DRY SOIL	9.09				
WATER CONTENT (%)	25.96				

SUMMARY OF RESULTS

NATURAL WATER CONTENT, W (%)	
LIQUID LIMIT, LL	54.8
PLASTIC LIMIT, PL	26.0
PLASTICITY INDEX, PI	28.8
LIQUIDITY INDEX, L_I^*	

$$*L_I = (W - PL)/PI$$

PLASTICITY CHART

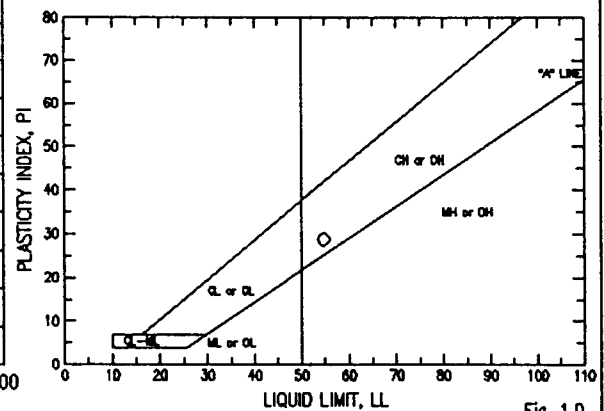
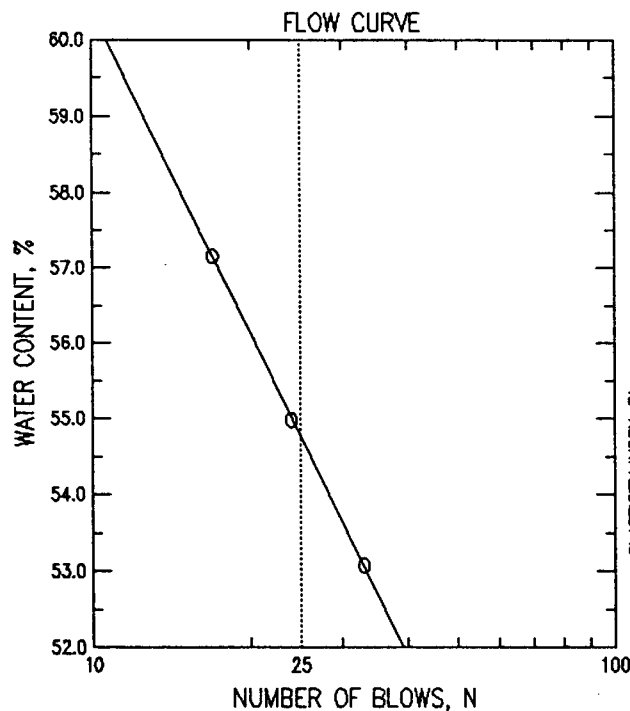


Fig. 1.0

Thu Jul 03 14:29:09 1997

Page : 2

GEOTECHNICAL LABORATORY TEST DATA

Project : HOLLADAY ENGINEERING CO. 030496
 Project No. : 971144NA Depth : 474-475 FEET
 Boring No. : PB-2 Test Date : 07/02/97
 Sample No. : 474-475 FT Test Method : ASTM D4318/422
 Location : PICKLES BUTTE LANDFILL
 Soil Description : GRAYISH BROWN SILTY CLAY
 Remarks : 474-475 FFET

Filename : PB2-475
 Elevation : NA
 Tested by : C. WASON
 Checked by : S. CAPPS

Moisture Content ID	Mass of Container (gm)	Plastic Limit Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Moisture Content (%)
1) 2	15.84	27.29	24.93	25.96

Plastic Limit = 25.96

Moisture Content ID	Mass of Container (gm)	Liquid Limit Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Number of Drops	Moisture Content (%)
1) 13	11.04	27.48	21.78	33	53.07
2) 14	10.82	27.62	21.66	24	54.98
3) 18	10.71	27.51	21.40	17	57.16

Liquid Limit = 54.76
 Plastic Index = 28.80

$C' =$ $C = 169.0$ (lb/in^2)
 $\phi' =$ $\phi = 4$ deg.
 $\text{TAN } \phi' =$ $\text{TAN } \phi = 0.07$

SHEAR STRESS (lb/in^2)

NORMAL STRESS (lb/in^2)

Figure 1 is a line graph with two data series. The y-axis is labeled 'DEVIATOR STRESS (lb/in²)' and ranges from 0 to 900 with major ticks every 300 units. The x-axis is labeled 'VERTICAL STRAIN (%)' and ranges from 0 to 25 with major ticks every 5 units. The first series, represented by open circles, starts at (0,0), rises to a peak of approximately 350 lb/in² at 3% strain, and then gradually decreases to about 150 lb/in² at 20% strain. The second series, represented by open triangles, also starts at (0,0), rises to a higher peak of approximately 400 lb/in² at 3% strain, and then follows a similar downward trend, ending at approximately 180 lb/in² at 20% strain. Both curves are smooth and show a characteristic peak-and-then-decline behavior.

Vertical Strain (%)	Deviator Stress (lb/in ²) - Circles	Deviator Stress (lb/in ²) - Triangles
0	0	0
1	250	300
2	320	360
3	350	400
4	340	380
5	320	350
6	300	320
7	280	300
8	260	280
9	240	260
10	220	240
12	190	210
14	170	190
16	160	180
18	150	170
20	150	180

SYMBOL		ϕ	Δ		
TEST NO.		PB2-265	PB2-531		
INITIAL	WATER CONTENT (%)	21.24	20.21		
	DRY DENSITY (lb/ft ³)	93.63	95.26		
	SATURATION (%)	70.76	69.99		
	VOID RATIO	0.819	0.788		
BEFORE SHEAR	WATER CONTENT (%)	21.24	20.21		
	DRY DENSITY (lb/ft ³)	93.63	95.26		
	SATURATION (%)	70.76	69.99		
	VOID RATIO	0.819	0.788		
	BACK PRESS. (lb/in ²)	0.00	0.00		
MINOR PRIN. STRESS (lb/in ²)		265.50	531.00		
MAX. DEV. STRESS (lb/in ²)		399.73	437.99		
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		1.99	1.98		
INITIAL HEIGHT (in)		3.97	3.78		

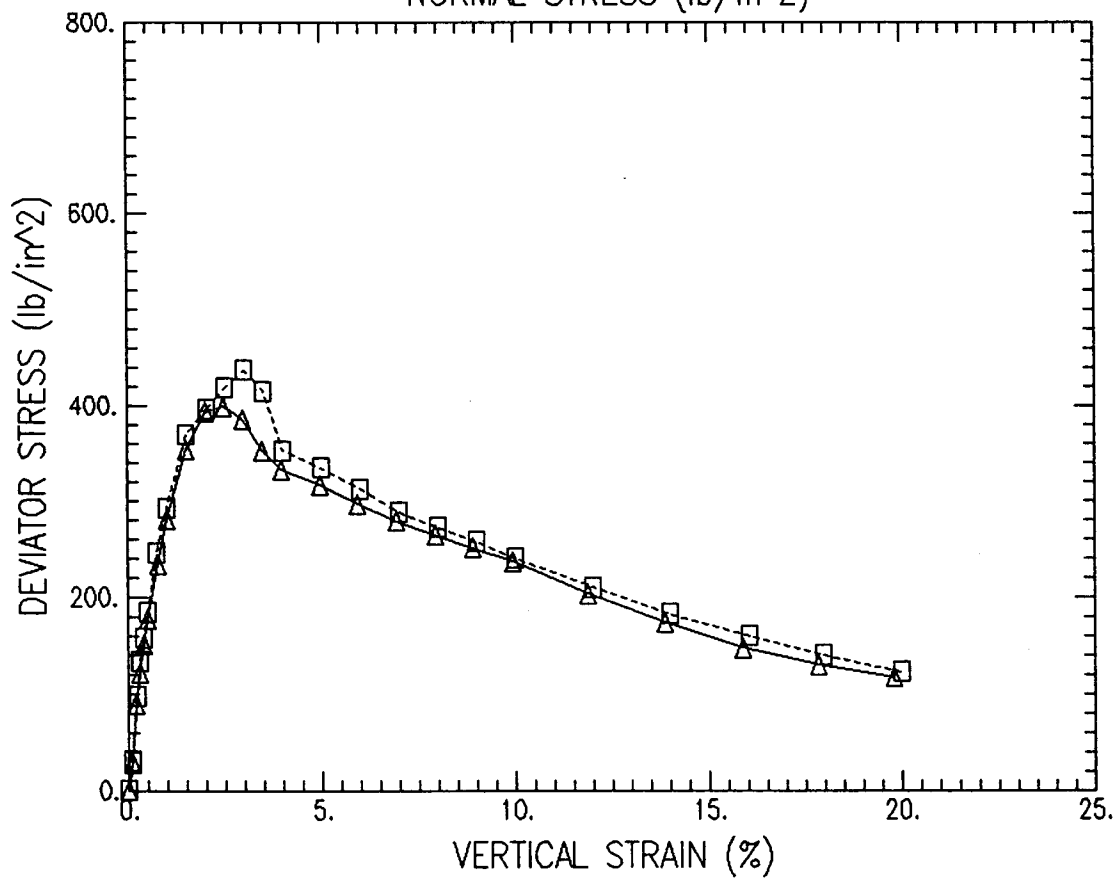
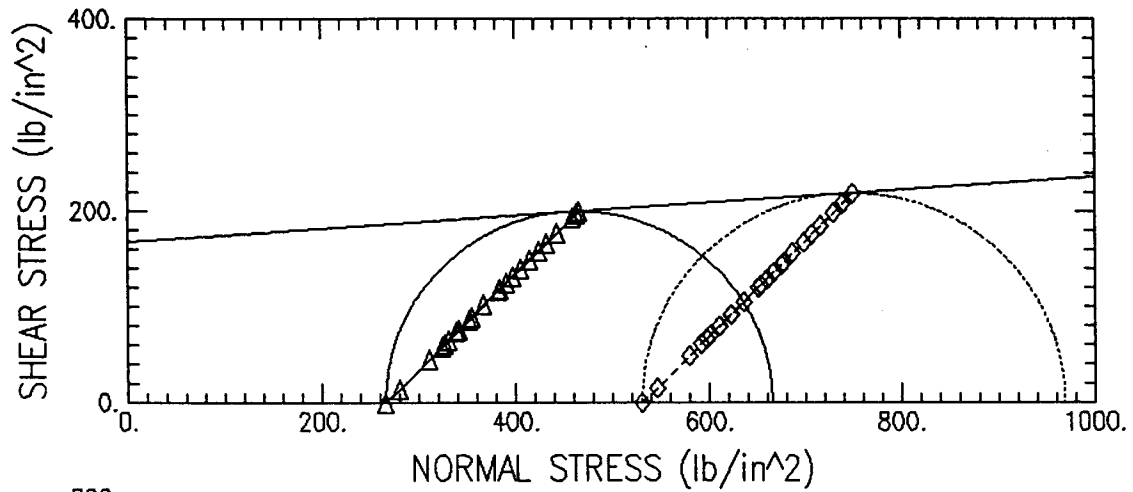
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) BROWN SILTY CLAY/CLAYEY SILT

2) BROWN SILTY CLAY/CLAYEY SILT

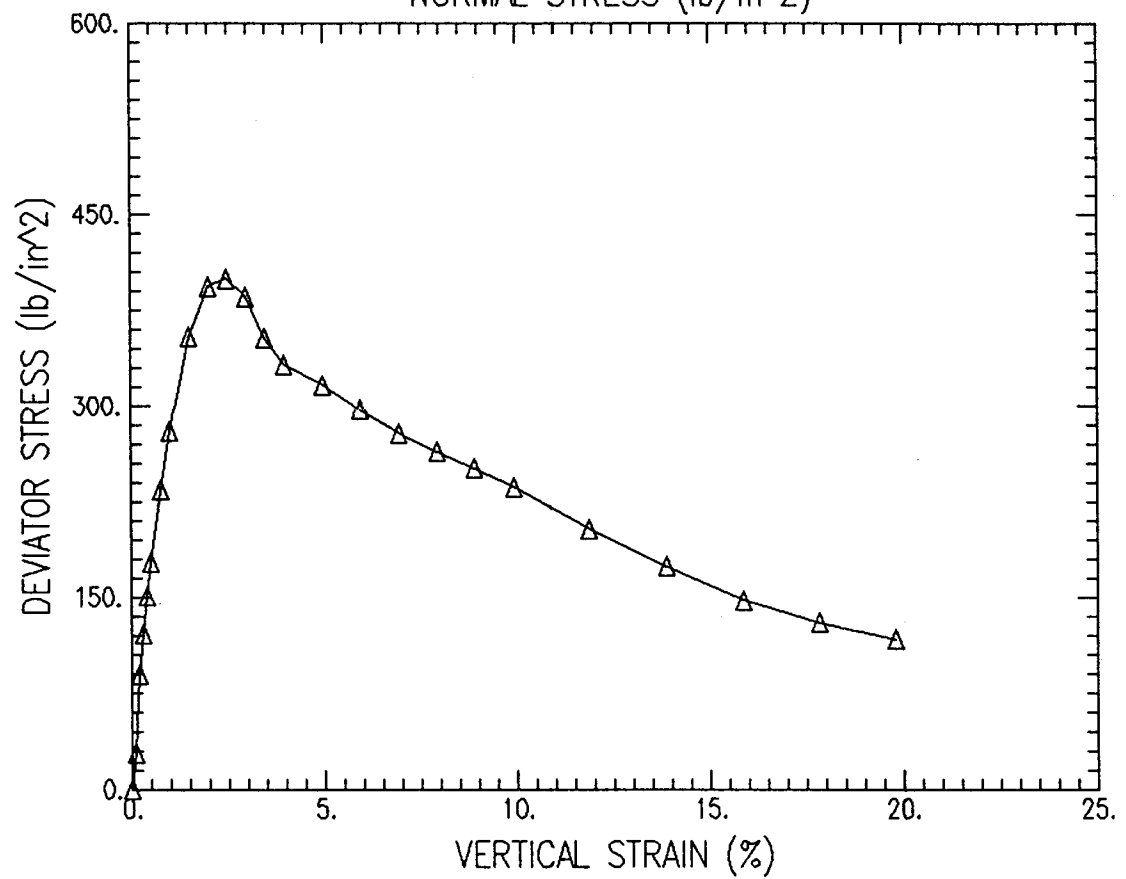
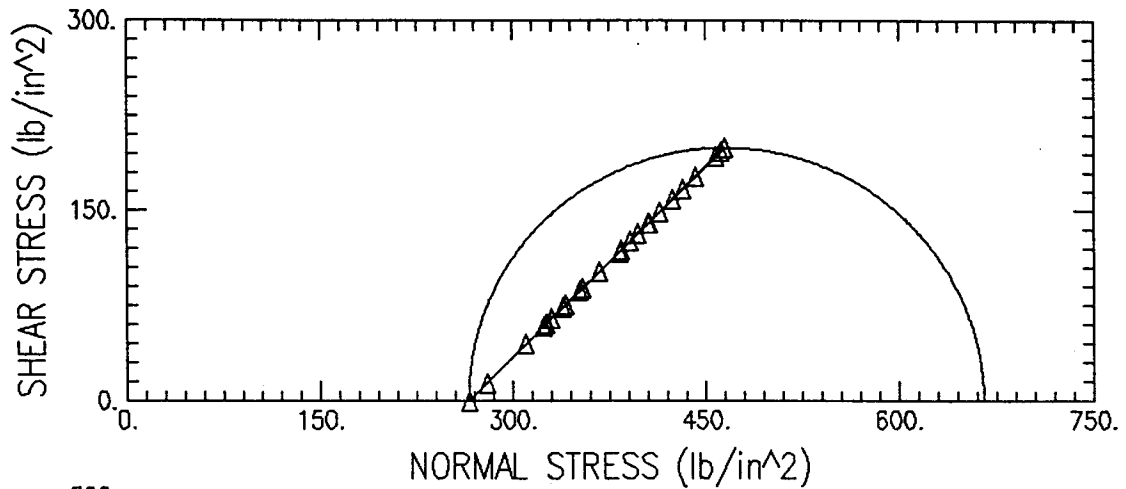
LL 55.01	PL 24.30	PI 30.71	GS 2.73	TYPE OF SPECIMEN CORE		TYPE OF TEST UNDRAINED			
REMARKS:				PROJECT HOLLADAY ENGINEERING CO.					
1)									
2)				BORING NO. PB-2	SAMPLE NO.	265.5 PSI	531 PSI		
				TECH. S. CAPPS	DEPTH/ELEV	530-531 FT	530-531 FT		
				LABORATORY	DATE	06/27/97	06/27/97		
				TRIAxIAL COMPRESSION TEST REPORT					

UNDRAINED TRIAXIAL TEST



Project Name : HOLLADAY ENGINEERING CO.				
Boring No:	Sample No	Depth	Test No	Filename
PB-2	265.5 PSI	530-531 FT	PB2-265	PB2-265.UU
PB-2	531 PSI	530-531 FT	PB2-531	PB2-531.UU

UNDRAINED TRIAXIAL TEST



Project Name : HOLLADAY ENGINEERING CO.

Boring No:	Sample No	Depth	Test No	Filename
PB-2	265.5 PSI	530-531 FT	PB2-265	PB2-265.UU

Mon Jun 30 08:12:41 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL

Project No. : 971144NA

Test No. : PB2-265

Boring No. : PB-2

Test Date : 06/27/97

Tested by : S. CAPPS

Sample No. : 265.5 PSI

Depth : 530-531 FT

Checked by : C. WASON

Sample Type : CORE

Elevation :

Soil Description : BROWN SILTY CLAY/CLAYEY SILT

Remarks :

Height : 3.973 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 3.12 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 12.38 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	VERTICAL CHANGE IN LENGTH	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	3.12	0.00	0.00	0.00	0.00	265.50	265.50
2)	0.004	0.10	3.12	0.00	88.94	88.94	28.48	293.98	293.98
3)	0.008	0.20	3.13	0.00	279.51	279.51	89.37	354.87	354.87
4)	0.012	0.30	3.13	0.00	381.15	381.15	121.67	387.17	387.17
5)	0.016	0.40	3.14	0.00	473.55	473.55	150.91	416.41	416.41
6)	0.020	0.50	3.14	0.00	557.87	557.87	177.47	442.97	442.97
7)	0.030	0.76	3.16	0.00	739.20	739.20	234.17	499.67	499.67
8)	0.039	0.98	3.17	0.00	889.35	889.35	280.65	546.15	546.15
9)	0.059	1.49	3.20	0.00	1131.90	1131.90	354.15	619.65	619.65
10)	0.079	1.99	3.22	0.00	1269.35	1269.35	393.74	659.24	659.24
11)	0.098	2.47	3.25	0.00	1299.38	1299.38	399.73	665.23	665.23
12)	0.118	2.97	3.28	0.00	1264.73	1264.73	385.67	651.17	651.17
13)	0.138	3.47	3.31	0.00	1168.86	1168.86	353.29	618.79	618.79
14)	0.157	3.95	3.34	0.00	1111.11	1111.11	332.99	598.49	598.49
15)	0.197	4.96	3.40	0.00	1076.46	1076.46	316.81	582.31	582.31
16)	0.236	5.94	3.46	0.00	1027.95	1027.95	297.14	562.64	562.64
17)	0.276	6.95	3.53	0.00	982.91	982.91	278.83	544.33	544.33
18)	0.315	7.93	3.59	0.00	948.26	948.26	264.02	529.52	529.52
19)	0.354	8.91	3.66	0.00	919.38	919.38	251.15	516.65	516.65
20)	0.394	9.92	3.73	0.00	884.73	884.73	236.93	502.43	502.43
21)	0.472	11.88	3.89	0.00	791.18	791.18	203.57	469.07	469.07
22)	0.551	13.87	4.05	0.00	705.71	705.71	174.07	439.57	439.57
23)	0.630	15.86	4.24	0.00	624.86	624.86	147.49	412.99	412.99
24)	0.709	17.85	4.44	0.00	576.35	576.35	129.91	395.41	395.41
25)	0.787	19.81	4.65	0.00	545.16	545.16	117.16	382.66	382.66

Mon Jun 30 08:12:41 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-265
 Boring No. : PB-2 Test Date : 06/27/97 Tested by : S. CAPPS
 Sample No. : 265.5 PSI Depth : 530-531 FT Checked by : C. WASON
 Sample Type : CORE Elevation :
 Soil Description : BROWN SILTY CLAY/CLAYEY SILT
 Remarks :

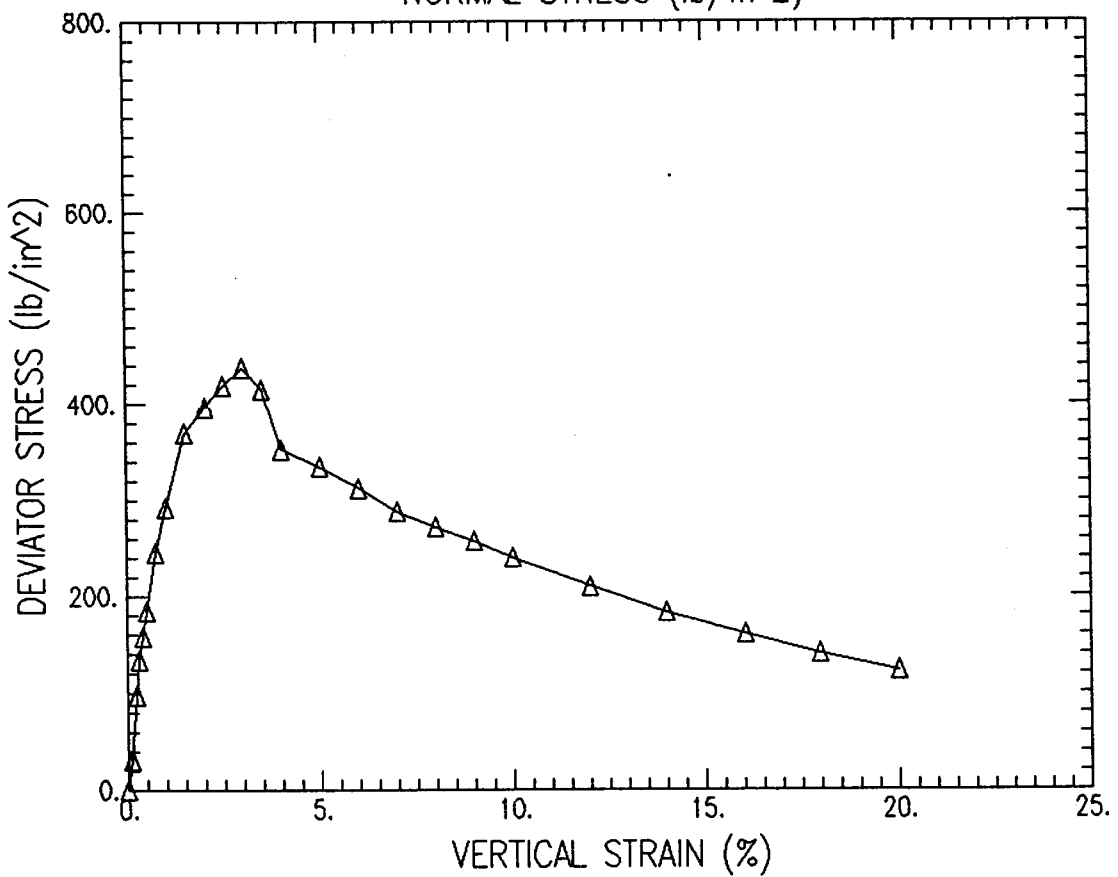
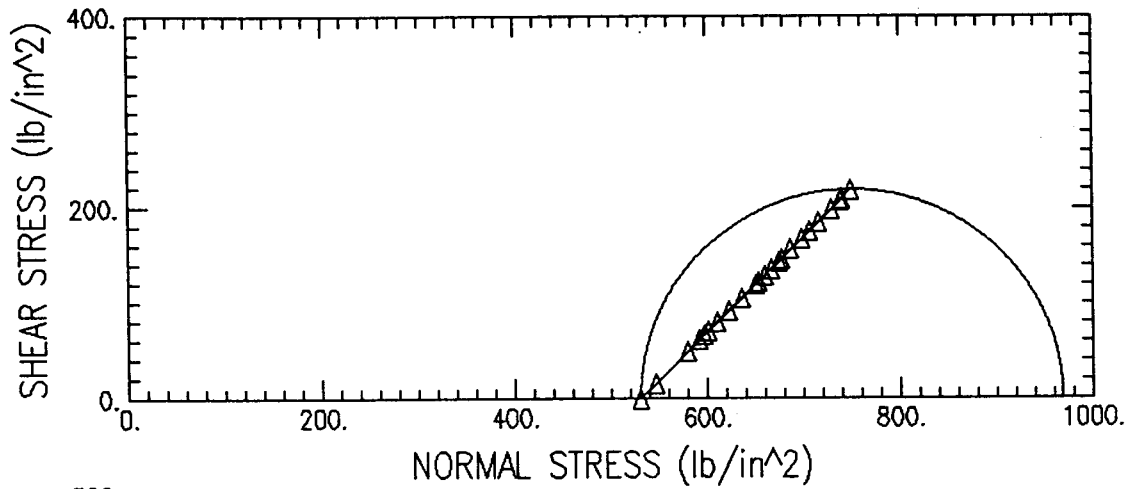
Liquid Limit : 0 Plastic Limit : 0 Specific Gravity : 2.73

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	369.00	369.00	0.00
WT CONTAINER + DRY SOIL (gm)	304.36	304.36	0.00
WT WATER (gm)	64.64	64.64	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	304.36	304.36	0.00
WATER CONTENT (%)	21.24	21.24	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	21.24	21.24
VOID RATIO	0.82	0.82
WET DENSITY (lb/ft ³)	113.51	113.51
DRY DENSITY (lb/ft ³)	93.63	93.63
DEGREE OF SATURATION (%)	70.76	70.76

Maximum Shear Stress = 199.86 (lb/in²) at a Vertical Strain of 2.47 %

UNDRAINED TRIAXIAL TEST



Project Name : HOLLADAY ENGINEERING CO.

Boring No:	Sample No	Depth	Test No	Filename
PB-2	531 PSI	530-531 FT	PB2-531	PB2-531.UU

Mon Jun 30 08:13:41 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-531
 Boring No. : PB-2 Test Date : 06/27/97
 Sample No. : 531 PSI Depth : 530-531 FT
 Sample Type : CORE Elevation :
 Soil Description : BROWN SILTY CLAY/CLAYEY SILT
 Remarks :

Tested by : S. CAPPS
 Checked by : C. WASON

Height : 3.780 (in) Piston Diameter : 0.000 (in) Filter Correction : 0.00 (lb/in²)
 Area : 3.09 (in²) Piston Friction : 0.00 (lb) Membrane Correction : 0.00 (lb/in)
 Volume : 11.69 (in³) Piston Weight : 0.00 (gm) Area Correction : Parabolic

	CHANGE IN LENGTH (in)	VERTICAL STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	3.09	0.00	0.00	0.00	0.00	531.00	531.00
2)	0.004	0.11	3.10	0.00	97.02	97.02	31.32	562.32	562.32
3)	0.008	0.21	3.10	0.00	301.46	301.46	97.15	628.15	628.15
4)	0.011	0.29	3.11	0.00	414.65	414.65	133.45	664.45	664.45
5)	0.015	0.40	3.11	0.00	493.19	493.19	158.45	689.45	689.45
6)	0.019	0.50	3.12	0.00	575.19	575.19	184.47	715.47	715.47
7)	0.028	0.74	3.13	0.00	768.08	768.08	245.34	776.34	776.34
8)	0.038	1.01	3.14	0.00	920.54	920.54	292.73	823.73	823.73
9)	0.057	1.51	3.17	0.00	1172.33	1172.33	369.62	900.62	900.62
10)	0.076	2.01	3.20	0.00	1269.35	1269.35	396.77	927.77	927.77
11)	0.094	2.49	3.23	0.00	1352.51	1352.51	419.29	950.29	950.29
12)	0.113	2.99	3.25	0.00	1425.27	1425.27	437.99	968.99	968.99
13)	0.132	3.49	3.28	0.00	1364.06	1364.06	415.48	946.48	946.48
14)	0.151	3.99	3.31	0.00	1168.86	1168.86	352.86	883.86	883.86
15)	0.189	5.00	3.37	0.00	1129.59	1129.59	334.88	865.88	865.88
16)	0.227	6.01	3.44	0.00	1075.31	1075.31	312.96	843.96	843.96
17)	0.265	7.01	3.50	0.00	1009.47	1009.47	288.33	819.33	819.33
18)	0.302	7.99	3.57	0.00	971.36	971.36	272.32	803.32	803.32
19)	0.340	8.99	3.64	0.00	937.86	937.86	257.85	788.85	788.85
20)	0.378	10.00	3.71	0.00	890.51	890.51	240.00	771.00	771.00
21)	0.454	12.01	3.87	0.00	811.97	811.97	210.04	741.04	741.04
22)	0.529	13.99	4.03	0.00	738.05	738.05	183.02	714.02	714.02
23)	0.606	16.03	4.22	0.00	676.83	676.83	160.41	691.41	691.41
24)	0.680	17.99	4.42	0.00	620.24	620.24	140.45	671.45	671.45
25)	0.756	20.00	4.64	0.00	568.26	568.26	122.52	653.52	653.52

Mon Jun 30 08:13:41 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-531
 Boring No. : PB-2 Test Date : 06/27/97 Tested by : S. CAPPS
 Sample No. : 531 PSI Depth : 530-531 FT Checked by : C. WASON
 Sample Type : CORE Elevation :
 Soil Description : BROWN SILTY CLAY/CLAYEY SILT
 Remarks :

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.73

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	351.32	351.32	0.00
WT CONTAINER + DRY SOIL (gm)	292.26	292.26	0.00
WT WATER (gm)	59.06	59.06	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	292.26	292.26	0.00
WATER CONTENT (%)	20.21	20.21	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	20.21	20.21
VOID RATIO	0.79	0.79
WET DENSITY (lb/ft ³)	114.51	114.51
DRY DENSITY (lb/ft ³)	95.26	95.26
DEGREE OF SATURATION (%)	69.99	69.99

Maximum Shear Stress = 218.99 (lb/in²) at a Vertical Strain of 2.99 %

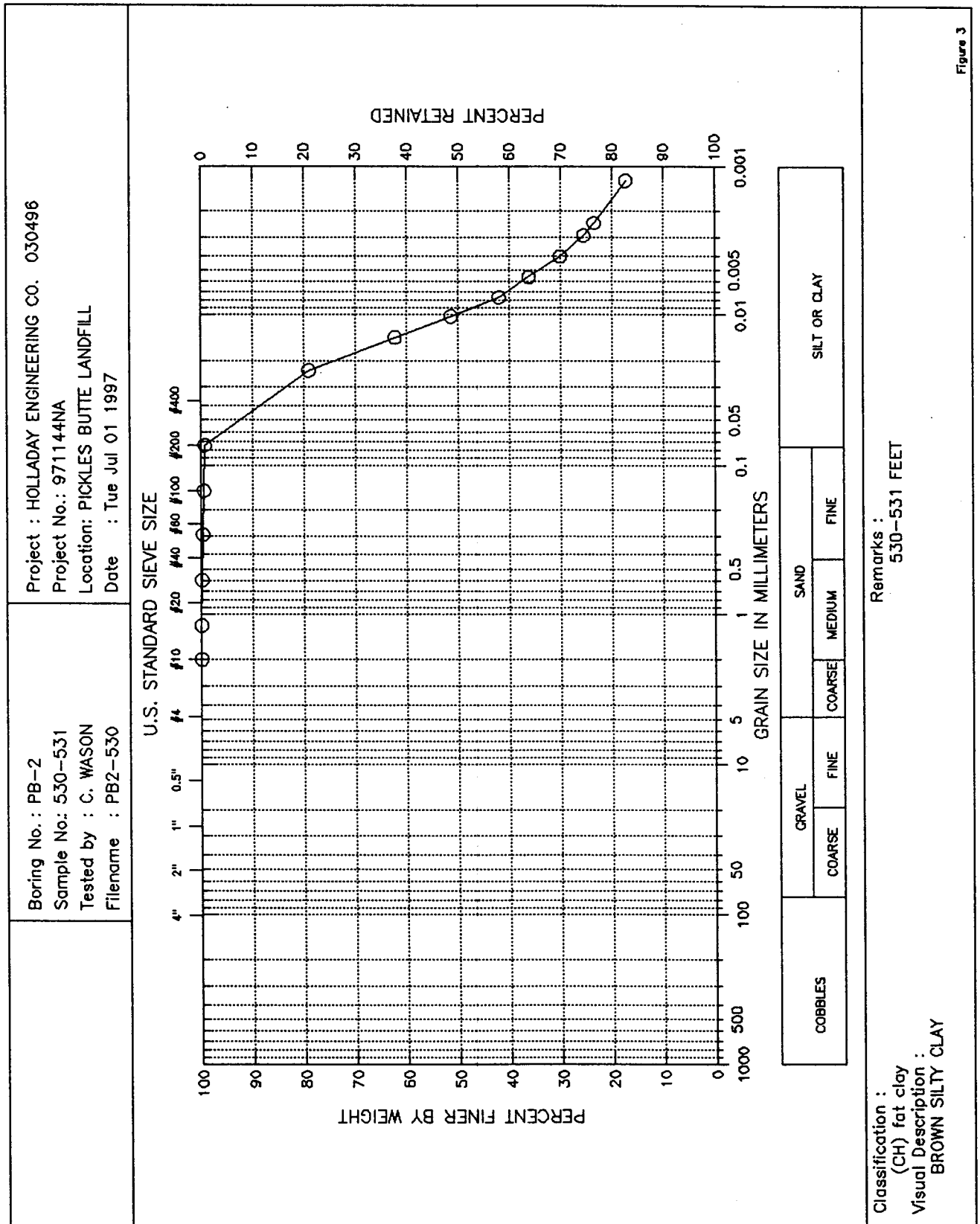


Figure 3

Tue Jul 01 12:59:38 1997

Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : HOLLADAY ENGINEERING CO. 030496 Filename : PB2-530
 Project No. : 971144NA Depth : 530-531 FEET Elevation : NA
 Boring No. : PB-2 Test Date : 06/30/97 Tested by : C. WASON
 Sample No. : 530-531 Test Method : ASTM D4318/422 Checked by : S. CAPPS
 Location : PICKLES BUTTE LANDFILL
 Soil Description : BROWN SILTY CLAY
 Remarks : 530-531 FEET

HYDROMETER

Hydrometer ID : 1734
 Weight of air-dried soil = 70 gm
 Specific Gravity = 2.73

Hydroscopic Moisture Content :
 Weight of Wet Soil = 70 gm
 Weight of Dry Soil = 64.46 gm
 Moisture Content = 0.0859448

Elapsed Time (min)	Reading	Temperature (deg. C)	Corrected Reading	Particle Size (mm)	Percent Finer (%)	Adjusted Particle Size
2.00	60.00	22.40	51.80	0.023	79	0.023
7.00	49.00	22.40	40.80	0.014	62	0.014
15.00	42.00	22.10	33.67	0.010	51	0.010
30.00	36.00	21.80	27.53	0.008	42	0.008
60.00	32.20	21.80	23.73	0.006	36	0.006
120.00	28.00	22.20	19.71	0.004	30	0.004
240.00	25.00	22.20	16.71	0.003	26	0.003
360.00	23.50	22.60	15.40	0.002	24	0.002
1440.00	20.00	21.40	11.34	0.001	17	0.001

Sieve Mesh	Sieve Openings		FINE SIEVE SET		Percent Finer (%)
	Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	
#10	0.079	2.00	0.00	0.00	100
#16	0.047	1.19	0.00	0.00	100
#30	0.023	0.60	0.05	0.05	100
#50	0.012	0.30	0.14	0.19	100
#100	0.006	0.15	0.13	0.32	100
#200	0.003	0.07	0.12	0.44	99
Pan			64.02	64.46	0

Total Wet Weight of Sample = 64.46
 Total Dry Weight of Sample = 64.46
 Moisture Content = 0.0859448

D85 : 0.0326 mm
 D60 : 0.0132 mm
 D50 : 0.0099 mm
 D30 : 0.0040 mm
 D15 : N/A
 D10 : N/A

Soil Classification

ASTM Group Symbol : CH
 ASTM Group Name : fat clay
 AASHTO Group Symbol : A-7-6(38)
 AASHTO Group Name : Clayey Soils

ATTERBERG LIMITS

PROJECT HOLLADAY ENGINEERING CO. 030496	PROJECT NUMBER 971144NA	TESTED BY C. WASON	BORING NUMBER PB-2
LOCATION PICKLES BUTTE LANDFILL		CHECKED BY S. CAPPS	SAMPLE NUMBER 530-531
SAMPLE DESCRIPTION BROWN SILTY CLAY		DATE Tue Jul 01 1997	FILENAME PB2-530

LIQUID LIMIT DETERMINATIONS

CONTAINER NUMBER	J	14	33		
WT. WET SOIL + TARE	28.24	27.4	27.99		
WT. DRY SOIL + TARE	22.17	21.54	21.72		
WT. WATER	6.07	5.86	6.27		
TARE WT.	10.88	10.86	10.75		
WT. DRY SOIL	11.29	10.68	10.97		
WATER CONTENT, W_N (%)	53.76	54.87	57.16		
NUMBER OF BLOWS, N	32	25	17		
ONE-POINT LIQUID LIMIT, LL	55.39	54.87	54.55		

PLASTIC LIMIT DETERMINATIONS

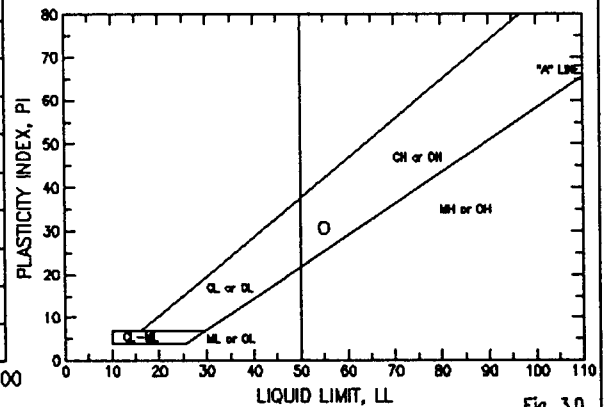
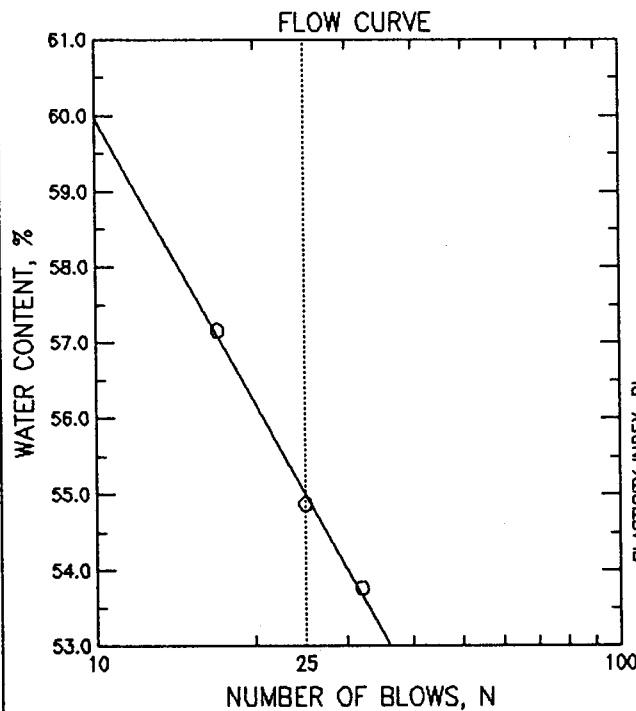
CONTAINER NUMBER	98				
WT. WET SOIL + TARE	26.22				
WT. DRY SOIL + TARE	24.15				
WT. WATER	2.07				
TARE WT.	15.63				
WT. DRY SOIL	8.52				
WATER CONTENT (%)	24.30				

SUMMARY OF RESULTS

NATURAL WATER CONTENT, W (%)	
LIQUID LIMIT, LL	55.0
PLASTIC LIMIT, PL	24.3
PLASTICITY INDEX, PI	30.7
LIQUIDITY INDEX, LI^*	

$$*LI = (W - PL)/PI$$

PLASTICITY CHART



Tue Jul 01 12:59:38 1997

Page : 2

GEOTECHNICAL LABORATORY TEST DATA

Project : HOLLADAY ENGINEERING CO. 030496
 Project No. : 971144NA
 Boring No. : PB-2
 Sample No. : 530-531
 Location : PICKLES BUTTE LANDFILL
 Soil Description : BROWN SILTY CLAY
 Remarks : 530-531 FEET

Filename : PB2-530
 Depth : 530-531 FEET
 Test Date : 06/30/97
 Test Method : ASTM D4318/422
 Elevation : NA
 Tested by : C. WASON
 Checked by : S. CAPPS

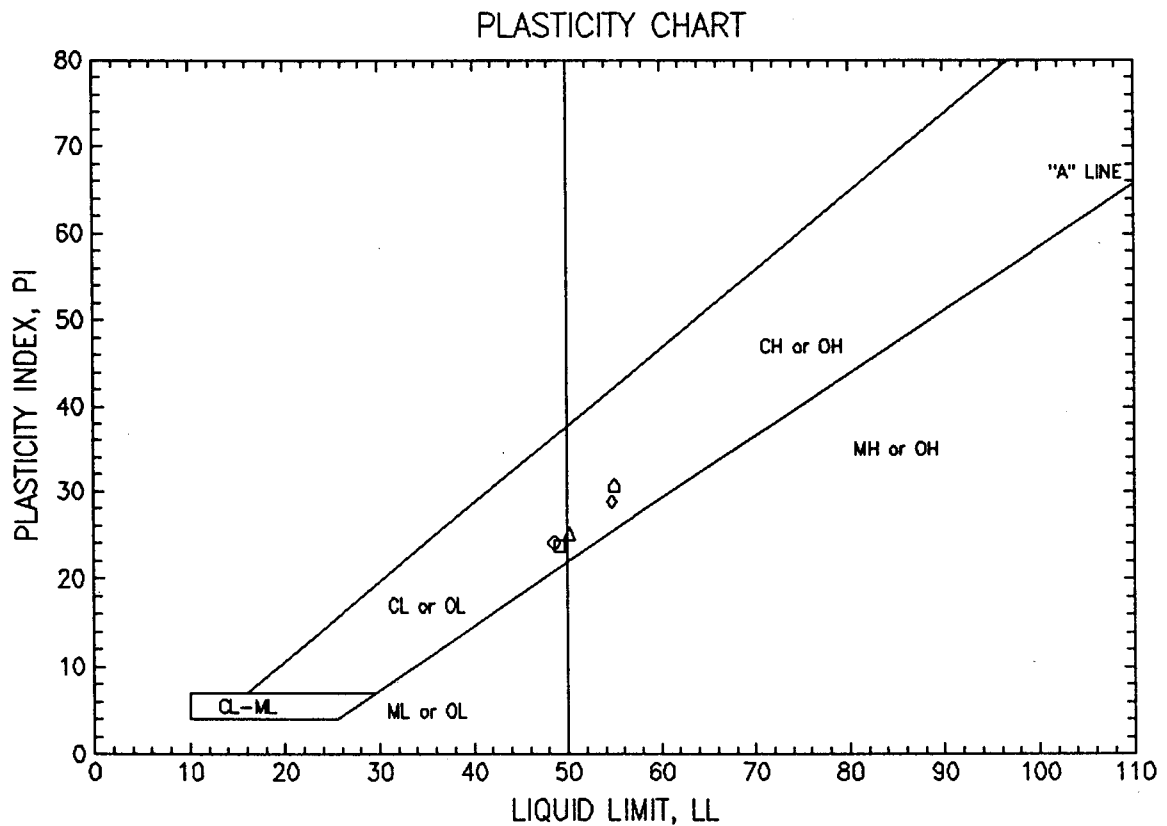
Moisture Content ID	Mass of Container (gm)	Plastic Limit Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Moisture Content (%)
1) 98	15.63	26.22	24.15	24.30

Plastic Limit = 24.30

Moisture Content ID	Mass of Container (gm)	Liquid Limit Mass of Container and Moist Soil (gm)	Mass of Container and Dried Soil (gm)	Number of Drops	Moisture Content (%)
1) J	10.88	28.24	22.17	32	53.76
2) 14	10.86	27.40	21.54	25	54.87
3) 33	10.75	27.99	21.72	17	57.16

Liquid Limit = 55.01
 Plastic Index = 30.72

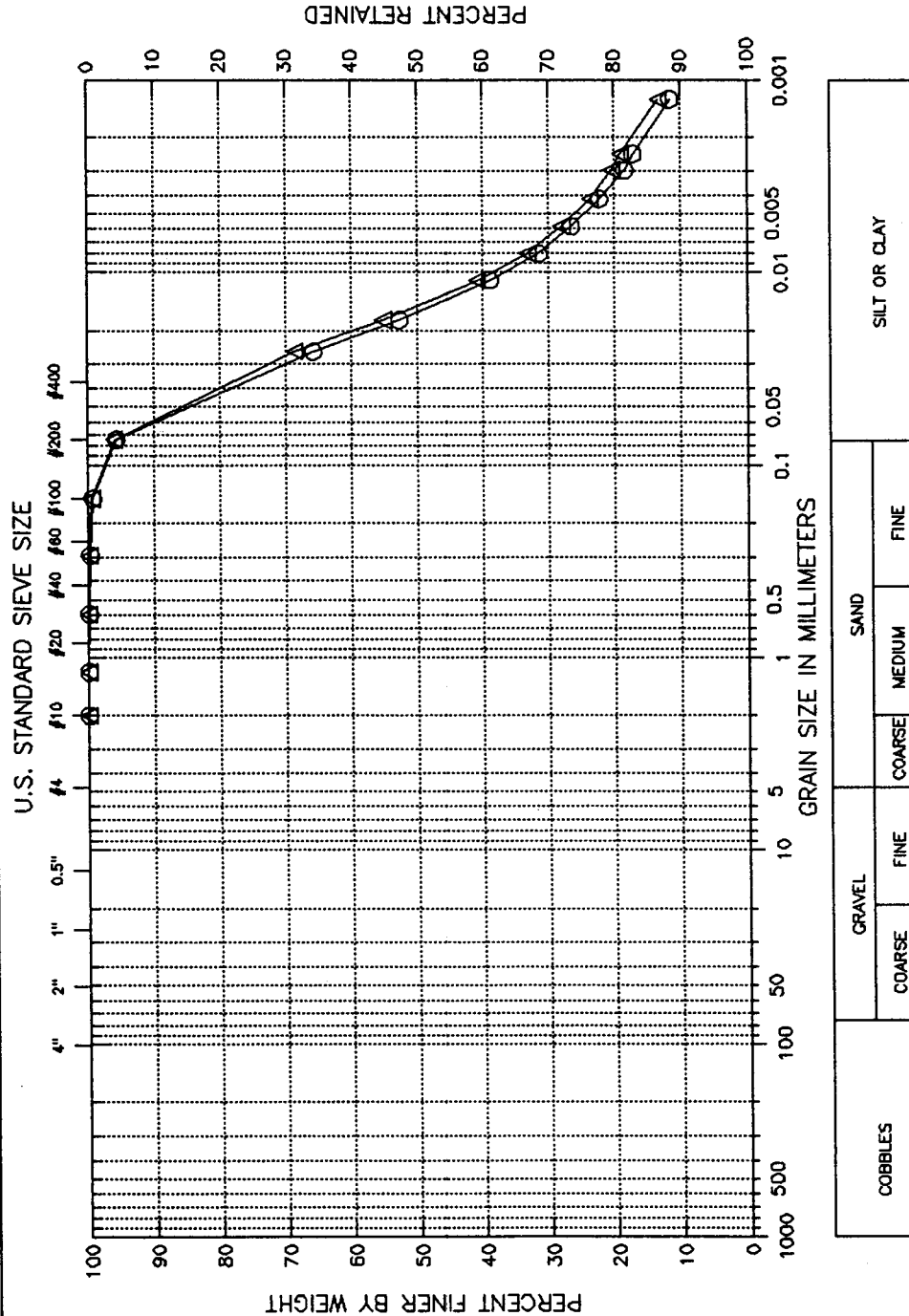
Project : HOLLADAY ENGINEERING CO. 030496
 Project No. : 971144NA
 Location : PICKLES BUTTE LANDFILL
 Date : Thu Jul 03 1997



Symbol	Boring No.	Sample No.	Liquid Limit	Plastic Limit	Plasticity Index
○	PB-2	429-430 FT	48.57	24.51	24.06
△	PB-2	456-457	50.19	25.08	25.11
□	PB-2	458-460	49.21	25.51	23.70
◇	PB-2	474-475 FT	54.76	25.96	28.80
△	PB-2	530-531	55.01	24.30	30.72

Figure 1

Date : Thu Jul 03 1997



Symbol	Boring No.	Sample No.	Depth	Filename	Classification / Description
⊖	PB-2	429-430 FT	429-430 FEET	PB2-430	CL lean clay
⊕	PB-2	474-475 FT	474-475 FEET	PB2-475	CH fat clay

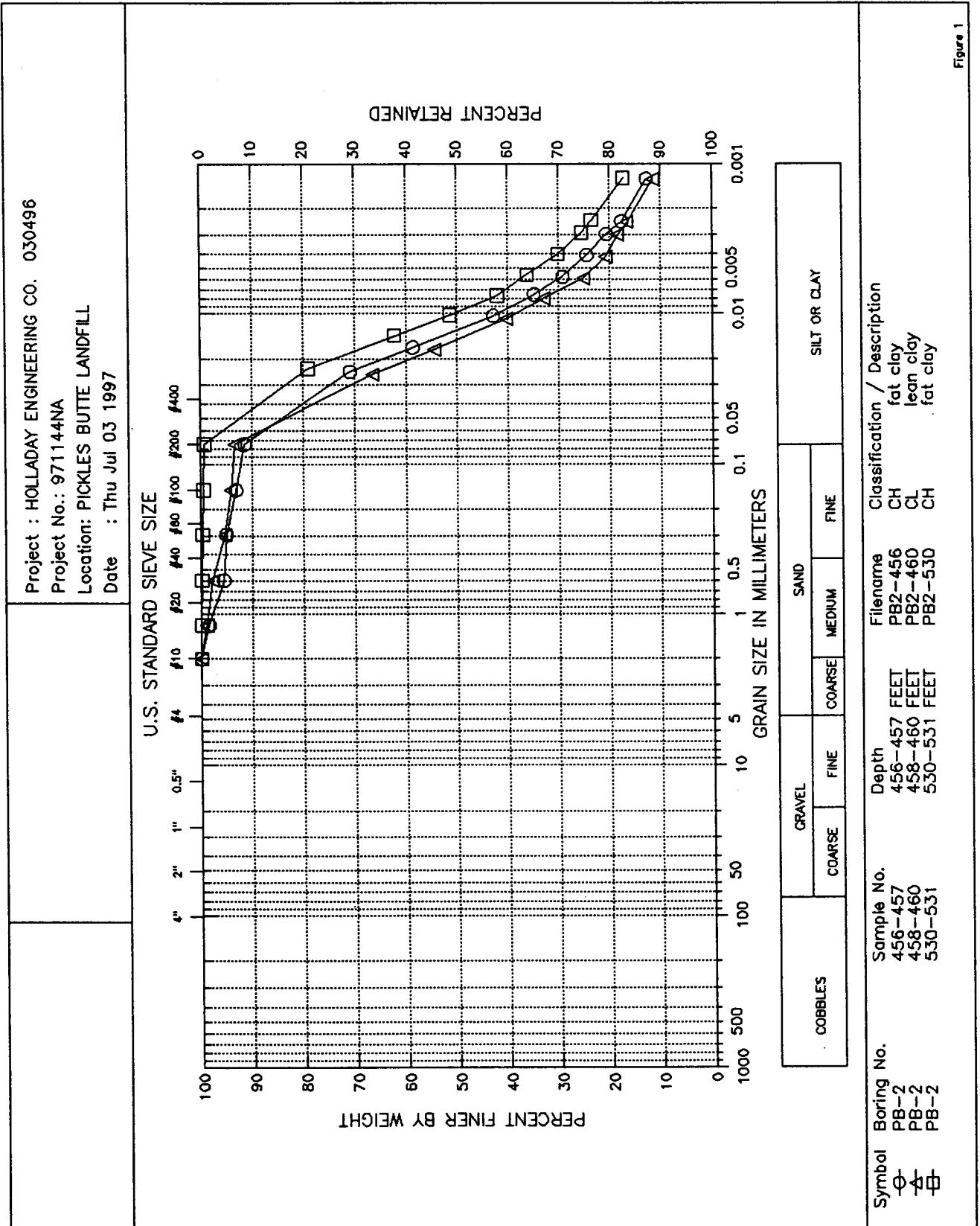
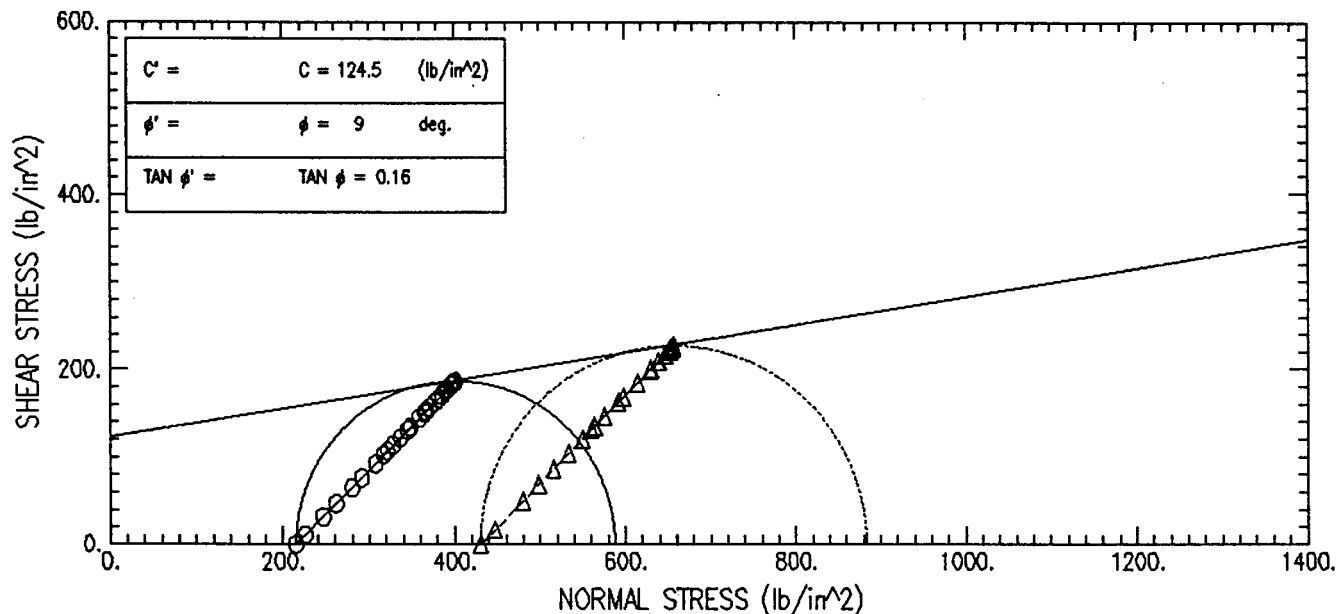
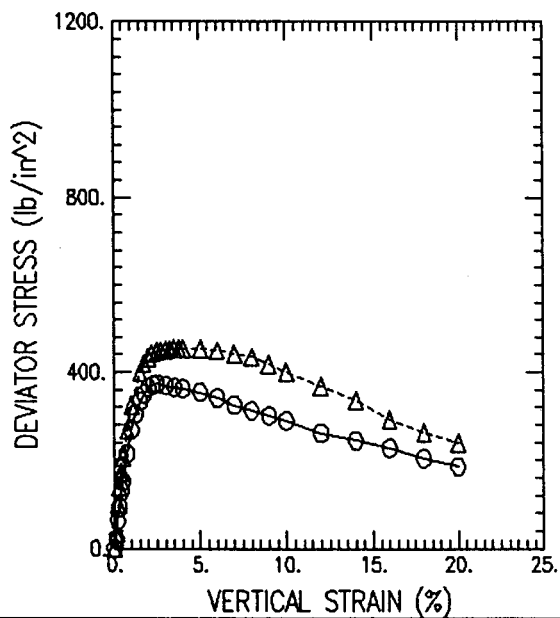


Figure 1

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		O	Δ		
TEST NO.		PB2-215	PB2-430		
INITIAL	WATER CONTENT (%)	22.98	23.31		
	DRY DENSITY (lb/ft ³)	93.27	93.10		
	SATURATION (%)	75.90	76.71		
	VOID RATIO	0.826	0.830		
BEFORE SHEAR	WATER CONTENT (%)	22.98	23.31		
	DRY DENSITY (lb/ft ³)	93.27	93.10		
	SATURATION (%)	75.90	76.71		
	VOID RATIO	0.826	0.830		
	BACK PRESS. (lb/in ²)	0.00	0.00		
MINOR PRIN. STRESS (lb/in ²)		215.00	430.00		
MAX. DEV. STRESS (lb/in ²)		372.81	453.61		
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		2.10	2.09		
INITIAL HEIGHT (in)		4.69	4.37		

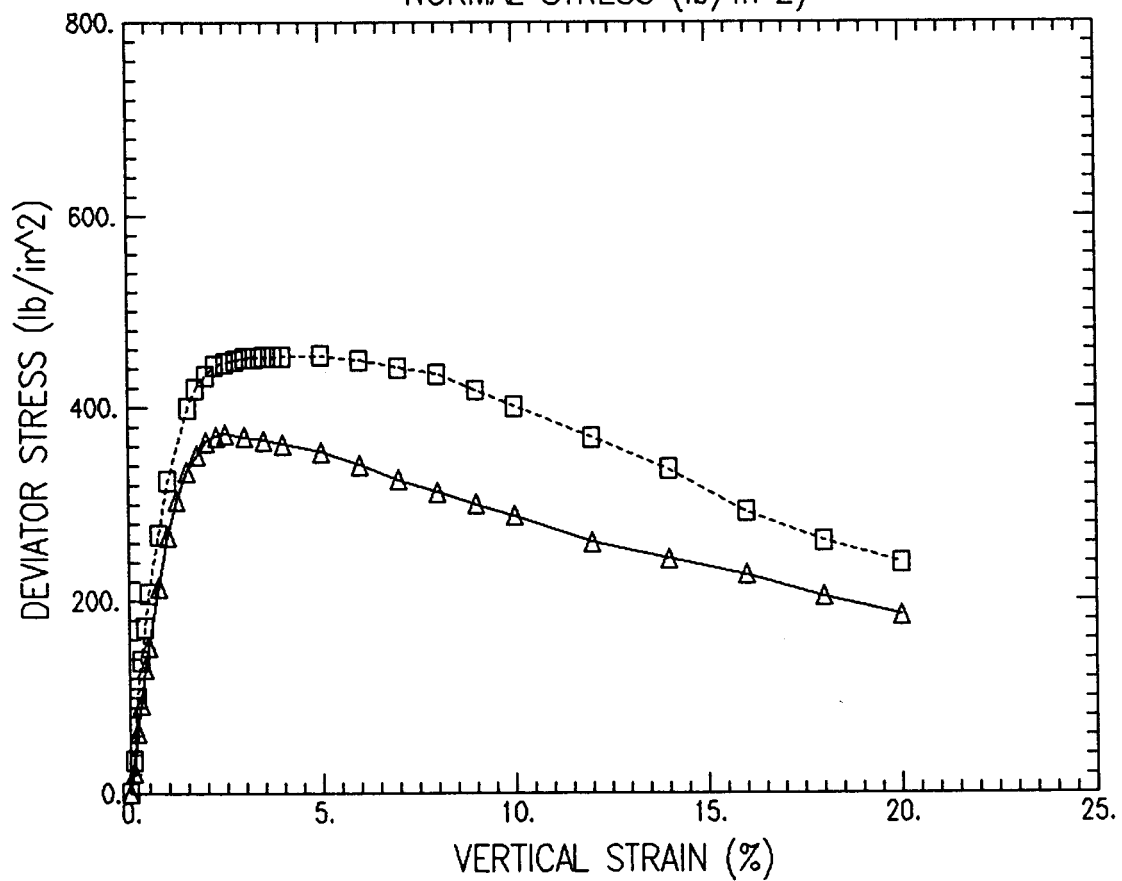
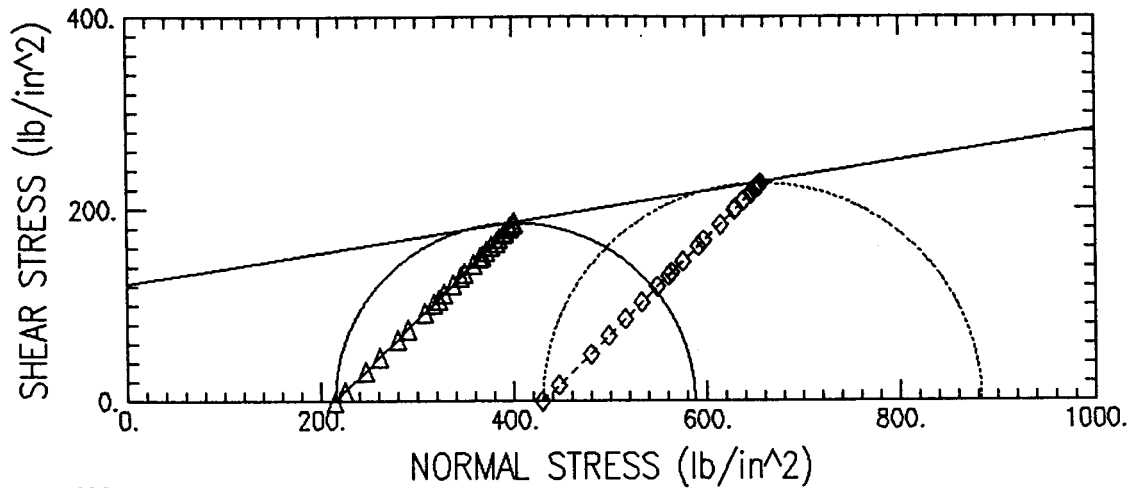
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) GRAYISH BROWN SI CLAY / CLAYEY SILT

2) GRAYISH BROWN SI CLAY / CLAYEY SILT

LL 48.57	PL 24.51	PI 24.06	GS 2.73	TYPE OF SPECIMEN CORE		TYPE OF TEST UNDRAINED			
REMARKS:				PROJECT HOLLADAY ENGINEERING CO.					
1)									
2)				BORING NO. PB-2	SAMPLE NO.	215 PSI	430 PSI		
				TECH. C. WASON	DEPTH/ELEV	429-430 FT	429-430 FT		
				LABORATORY	DATE	07/01/97	07/01/97		
				TRIAxIAL COMPRESSION TEST REPORT					

UNDRAINED TRIAXIAL TEST



Project Name : HOLLADAY ENGINEERING CO.

Boring No:	Sample No	Depth	Test No	Filename
PB-2	215 PSI	429-430 FT	PB2-215	PB2-215.UU
PB-2	430 PSI	429-430 FT	PB2-430	PB2-430.UU

Failure Criteria: Peak Deviator Stress

Thu Jul 03 14:40:36 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-215
 Boring No. : PB-2 Test Date : 07/01/97
 Sample No. : 215 PSI Depth : 429-430 FT
 Sample Type : CORE Elevation :
 Soil Description : GRAYISH BROWN SI CLAY / CLAYEY SILT
 Remarks :

Tested by : C. WASON
 Checked by : C. CAPPS

Height : 4.685 (in) Piston Diameter : 0.000 (in) Filter Correction : 0.00 (lb/in²)
 Area : 3.47 (in²) Piston Friction : 0.00 (lb) Membrane Correction : 0.00 (lb/in)
 Volume : 16.25 (in³) Piston Weight : 0.00 (gm) Area Correction : Parabolic

	CHANGE IN LENGTH (in)	VERTICAL STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	3.47	0.00	0.00	0.00	0.00	215.00	215.00
2)	0.005	0.11	3.47	0.00	75.08	75.08	21.61	236.61	236.61
3)	0.009	0.19	3.48	0.00	219.45	219.45	63.08	278.08	278.08
4)	0.014	0.30	3.49	0.00	324.56	324.56	93.12	308.12	308.12
5)	0.019	0.41	3.49	0.00	452.76	452.76	129.67	344.67	344.67
6)	0.023	0.49	3.50	0.00	532.46	532.46	152.28	367.28	367.28
7)	0.035	0.75	3.51	0.00	751.91	751.91	214.11	429.11	429.11
8)	0.047	1.00	3.53	0.00	944.79	944.79	267.88	482.88	482.88
9)	0.058	1.24	3.54	0.00	1078.77	1078.77	304.65	519.65	519.65
10)	0.070	1.49	3.56	0.00	1188.50	1188.50	334.17	549.17	549.17
11)	0.082	1.75	3.57	0.00	1254.33	1254.33	351.14	566.14	566.14
12)	0.094	2.01	3.59	0.00	1308.62	1308.62	364.72	579.72	579.72
13)	0.106	2.26	3.60	0.00	1334.03	1334.03	370.16	585.16	585.16
14)	0.117	2.50	3.62	0.00	1349.04	1349.04	372.81	587.81	587.81
15)	0.141	3.01	3.65	0.00	1349.04	1349.04	369.48	584.48	584.48
16)	0.164	3.50	3.68	0.00	1347.89	1347.89	365.99	580.99	580.99
17)	0.187	3.99	3.72	0.00	1346.73	1346.73	362.50	577.50	577.50
18)	0.234	4.99	3.78	0.00	1340.96	1340.96	354.48	569.48	569.48
19)	0.281	6.00	3.85	0.00	1313.24	1313.24	340.82	555.82	555.82
20)	0.328	7.00	3.93	0.00	1277.43	1277.43	325.37	540.37	540.37
21)	0.375	8.00	4.00	0.00	1253.18	1253.18	313.15	528.15	528.15
22)	0.422	9.01	4.08	0.00	1226.61	1226.61	300.60	515.60	515.60
23)	0.469	10.01	4.16	0.00	1200.05	1200.05	288.30	503.30	503.30
24)	0.562	12.00	4.33	0.00	1130.75	1130.75	260.86	475.86	475.86
25)	0.656	14.00	4.52	0.00	1103.03	1103.03	243.83	458.83	458.83
26)	0.750	16.01	4.73	0.00	1073.00	1073.00	226.85	441.85	441.85
27)	0.843	17.99	4.95	0.00	1011.78	1011.78	204.25	419.25	419.25
28)	0.937	20.00	5.20	0.00	963.27	963.27	185.17	400.17	400.17

Thu Jul 03 14:40:36 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-215
 Boring No. : PB-2 Test Date : 07/01/97 Tested by : C. WASON
 Sample No. : 215 PSI Depth : 429-430 FT Checked by : C. CAPPS
 Sample Type : CORE Elevation :
 Soil Description : GRAYISH BROWN SI CLAY / CLAYEY SILT
 Remarks :

Liquid Limit : 48.57 Plastic Limit : 24.51 Specific Gravity : 2.73

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	489.20	489.20	0.00
WT CONTAINER + DRY SOIL (gm)	397.80	397.80	0.00
WT WATER (gm)	91.40	91.40	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	397.80	397.80	0.00
WATER CONTENT (%)	22.98	22.98	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	22.98	22.98
VOID RATIO	0.83	0.83
WET DENSITY (lb/ft ³)	114.70	114.70
DRY DENSITY (lb/ft ³)	93.27	93.27
DEGREE OF SATURATION (%)	75.90	75.90

Maximum Shear Stress = 186.40 (lb/in²) at a Vertical Strain of 2.50 %

Thu Jul 03 14:38:41 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-430
 Boring No. : PB-2 Test Date : 07/01/97
 Sample No. : 430 PSI Depth : 429-430 FT
 Sample Type : CORE Elevation :
 Soil Description : GRAYISH BROWN SI CLAY / CLAYEY SILT
 Remarks :

Tested by : C. WASON
 Checked by : C. CAPPS

Height : 4.370 (in) Piston Diameter : 0.000 (in) Filter Correction : 0.00 (lb/in²)
 Area : 3.44 (in²) Piston Friction : 0.00 (lb) Membrane Correction : 0.00 (lb/in)
 Volume : 15.04 (in³) Piston Weight : 0.00 (gm) Area Correction : Parabolic

	CHANGE IN LENGTH (in)	VERTICAL STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	3.44	0.00	0.00	0.00	0.00	430.00	430.00
2)	0.004	0.09	3.45	0.00	114.35	114.35	33.17	463.17	463.17
3)	0.009	0.21	3.45	0.00	343.04	343.04	99.32	529.32	529.32
4)	0.013	0.30	3.46	0.00	475.86	475.86	137.57	567.57	567.57
5)	0.017	0.39	3.46	0.00	597.14	597.14	172.36	602.36	602.36
6)	0.022	0.50	3.47	0.00	718.41	718.41	206.97	636.97	636.97
7)	0.033	0.76	3.49	0.00	937.86	937.86	269.05	699.05	699.05
8)	0.044	1.01	3.50	0.00	1135.37	1135.37	324.32	754.32	754.32
9)	0.066	1.51	3.53	0.00	1410.26	1410.26	399.41	829.41	829.41
10)	0.076	1.74	3.54	0.00	1485.33	1485.33	419.02	849.02	849.02
11)	0.087	1.99	3.56	0.00	1540.77	1540.77	432.79	862.79	862.79
12)	0.097	2.22	3.57	0.00	1582.35	1582.35	442.71	872.71	872.71
13)	0.109	2.49	3.59	0.00	1603.14	1603.14	446.40	876.40	876.40
14)	0.120	2.75	3.61	0.00	1620.47	1620.47	449.25	879.25	879.25
15)	0.131	3.00	3.62	0.00	1633.17	1633.17	450.78	880.78	880.78
16)	0.142	3.25	3.64	0.00	1644.72	1644.72	451.96	881.96	881.96
17)	0.153	3.50	3.66	0.00	1653.96	1653.96	452.48	882.48	882.48
18)	0.164	3.75	3.67	0.00	1662.05	1662.05	452.67	882.67	882.67
19)	0.175	4.00	3.69	0.00	1670.13	1670.13	452.84	882.84	882.84
20)	0.219	5.01	3.76	0.00	1703.63	1703.63	453.61	883.61	883.61
21)	0.262	6.00	3.82	0.00	1716.33	1716.33	448.82	878.82	878.82
22)	0.306	7.00	3.90	0.00	1719.80	1719.80	441.34	871.34	871.34
23)	0.350	8.01	3.97	0.00	1725.57	1725.57	434.41	864.41	864.41
24)	0.393	8.99	4.05	0.00	1689.77	1689.77	417.34	847.34	847.34
25)	0.437	10.00	4.13	0.00	1657.43	1657.43	401.27	831.27	831.27
26)	0.524	11.99	4.30	0.00	1585.82	1585.82	368.65	798.65	798.65
27)	0.612	14.00	4.49	0.00	1509.59	1509.59	336.21	766.21	766.21
28)	0.699	16.00	4.69	0.00	1372.14	1372.14	292.37	722.37	722.37
29)	0.787	18.01	4.92	0.00	1291.29	1291.29	262.55	692.55	692.55
30)	0.874	20.00	5.16	0.00	1238.16	1238.16	239.81	669.81	669.81

Thu Jul 03 14:38:41 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : HOLLADAY ENGINEERING CO. Location : PICKLES BUTTE LANDFILL
 Project No. : 971144NA Test No. : PB2-430
 Boring No. : PB-2 Test Date : 07/01/97 Tested by : C. WASON
 Sample No. : 430 PSI Depth : 429-430 FT Checked by : C. CAPPS
 Sample Type : CORE Elevation :
 Soil Description : GRAYISH BROWN SI CLAY / CLAYEY SILT
 Remarks :

Liquid Limit : 48.57

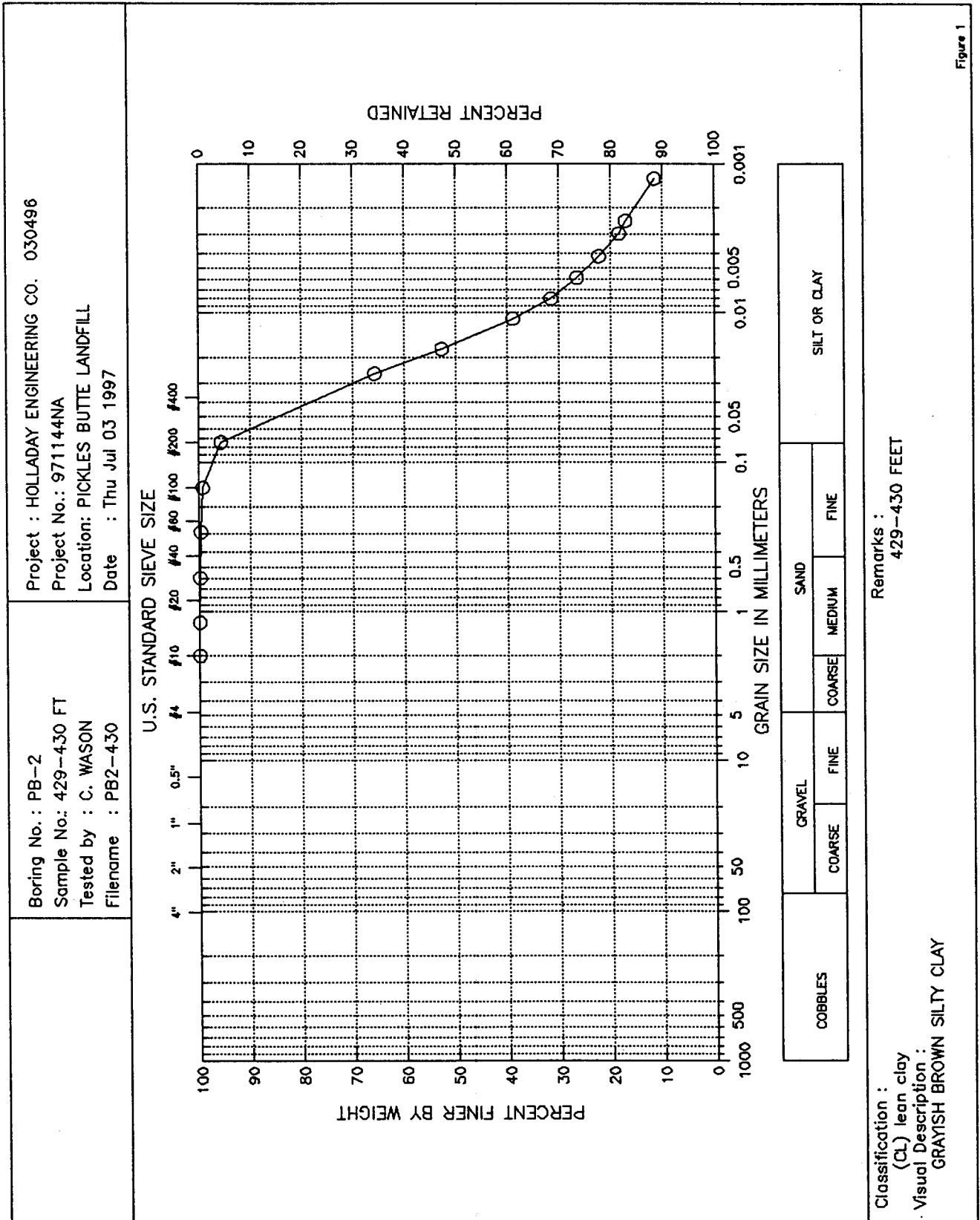
Plastic Limit : 24.51

Specific Gravity : 2.73

	BEFORE TEST	WATER CONTENT AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	453.30	453.30	0.00
WT CONTAINER + DRY SOIL (gm)	367.60	367.60	0.00
WT WATER (gm)	85.70	85.70	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	367.60	367.60	0.00
WATER CONTENT (%)	23.31	23.31	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	23.31	23.31
VOID RATIO	0.83	0.83
WET DENSITY (lb/ft ³)	114.81	114.81
DRY DENSITY (lb/ft ³)	93.10	93.10
DEGREE OF SATURATION (%)	76.71	76.71

Maximum Shear Stress = 226.81 (lb/in²) at a Vertical Strain of 5.01 %



Thu Jul 03 14:15:56 1997

Page : 1

GEOTECHNICAL LABORATORY TEST DATA

Project : HOLLADAY ENGINEERING CO. 030496 Filename : PB2-430
 Project No. : 971144NA Depth : 429-430 FEET Elevation : NA
 Boring No. : PB-2 Test Date : 07/02/97 Tested by : C. WASON
 Sample No. : 429-430 FT Test Method : ASTM D4318/422 Checked by : S. CAPPS
 Location : PICKLES BUTTE LANDFILL
 Soil Description : GRAYISH BROWN SILTY CLAY
 Remarks : 429-430 FEET

HYDROMETER

Hydrometer ID : 1734
 Weight of air-dried soil = 70 gm
 Specific Gravity = 2.73

Hydroscopic Moisture Content :
 Weight of Wet Soil = 70 gm
 Weight of Dry Soil = 64.59 gm
 Moisture Content = 0.0837591

Elapsed Time (min)	Reading	Temperature (deg. C)	Corrected Reading	Particle Size (mm)	Percent Finer (%)	Adjusted Particle Size
2.00	51.30	22.50	43.15	0.026	66	0.026
5.00	42.80	22.40	34.60	0.018	53	0.018
15.00	33.80	22.30	25.56	0.011	39	0.011
30.00	29.00	22.10	20.67	0.008	32	0.008
60.00	25.80	22.00	17.42	0.006	27	0.006
120.00	23.00	22.00	14.62	0.004	22	0.004
245.00	20.20	22.50	12.05	0.003	18	0.003
362.00	19.20	22.90	11.23	0.002	17	0.002
1440.00	16.00	21.90	7.57	0.001	12	0.001

Sieve Mesh	Sieve Openings		FINE SIEVE SET		Cumulative Weight Retained (gm)	Percent Finer (%)
	Inches	Millimeters	Weight Retained (gm)			
#10	0.079	2.00	0.00		0.00	100
#16	0.047	1.19	0.00		0.00	100
#30	0.023	0.60	0.08		0.08	100
#50	0.012	0.30	0.09		0.17	100
#100	0.006	0.15	0.24		0.41	99
#200	0.003	0.07	2.33		2.74	96
Pan			61.85		64.59	0

Total Wet Weight of Sample = 70
 Total Dry Weight of Sample = 64.59
 Moisture Content = 0.0837591

D85 : 0.0506 mm
 D60 : 0.0218 mm
 D50 : 0.0161 mm
 D30 : 0.0073 mm
 D15 : 0.0019 mm
 D10 : 0.0011 mm

Soil Classification

ASTM Group Symbol : CL
 ASTM Group Name : lean clay
 AASHTO Group Symbol : A-7-6(28)
 AASHTO Group Name : Clayey Soils

ATTERBERG LIMITS

PROJECT HOLLADAY ENGINEERING CO. 030496	PROJECT NUMBER 971144NA	TESTED BY C. WASON	BORING NUMBER PB-2
LOCATION PICKLES BUTTE LANDFILL	CHECKED BY S. CAPPS	SAMPLE NUMBER 429-430 FT	
SAMPLE DESCRIPTION GRAYISH BROWN SILTY CLAY	DATE Thu Jul 03 1997	FILENAME PB2-430	

LIQUID LIMIT DETERMINATIONS

CONTAINER NUMBER	8	F	90		
WT. WET SOIL + TARE	27.18	28.5	28.49		
WT. DRY SOIL + TARE	22.01	22.69	22.64		
WT. WATER	5.17	5.81	5.85		
TARE WT.	11.11	10.81	11.13		
WT. DRY SOIL	10.9	11.88	11.51		
WATER CONTENT, W_N (%)	47.43	48.91	50.83		
NUMBER OF BLOWS, N	30	24	17		
ONE-POINT LIQUID LIMIT, LL	48.49	48.66	48.51		

PLASTIC LIMIT DETERMINATIONS

CONTAINER NUMBER	10				
WT. WET SOIL + TARE	27.09				
WT. DRY SOIL + TARE	24.95				
WT. WATER	2.14				
TARE WT.	16.22				
WT. DRY SOIL	8.73				
WATER CONTENT (%)	24.51				

SUMMARY OF RESULTS

NATURAL WATER CONTENT, W (%)	
LIQUID LIMIT, LL	48.6
PLASTIC LIMIT, PL	24.5
PLASTICITY INDEX, PI	24.1
LIQUIDITY INDEX, LI^*	

$$*LI = (W - PL)/PI$$

PLASTICITY CHART

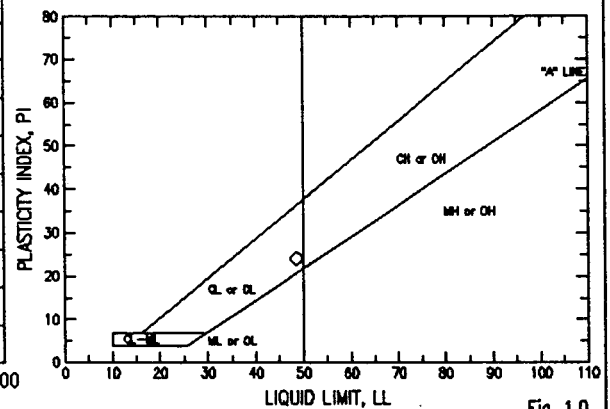
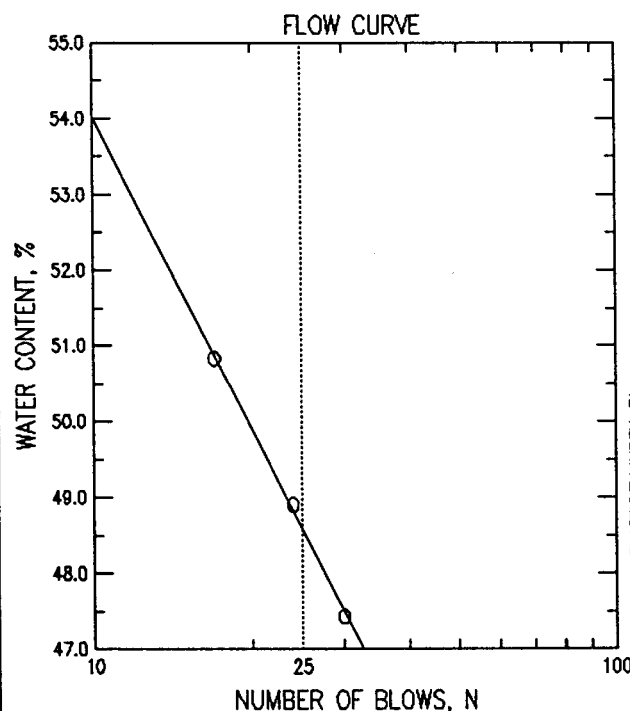
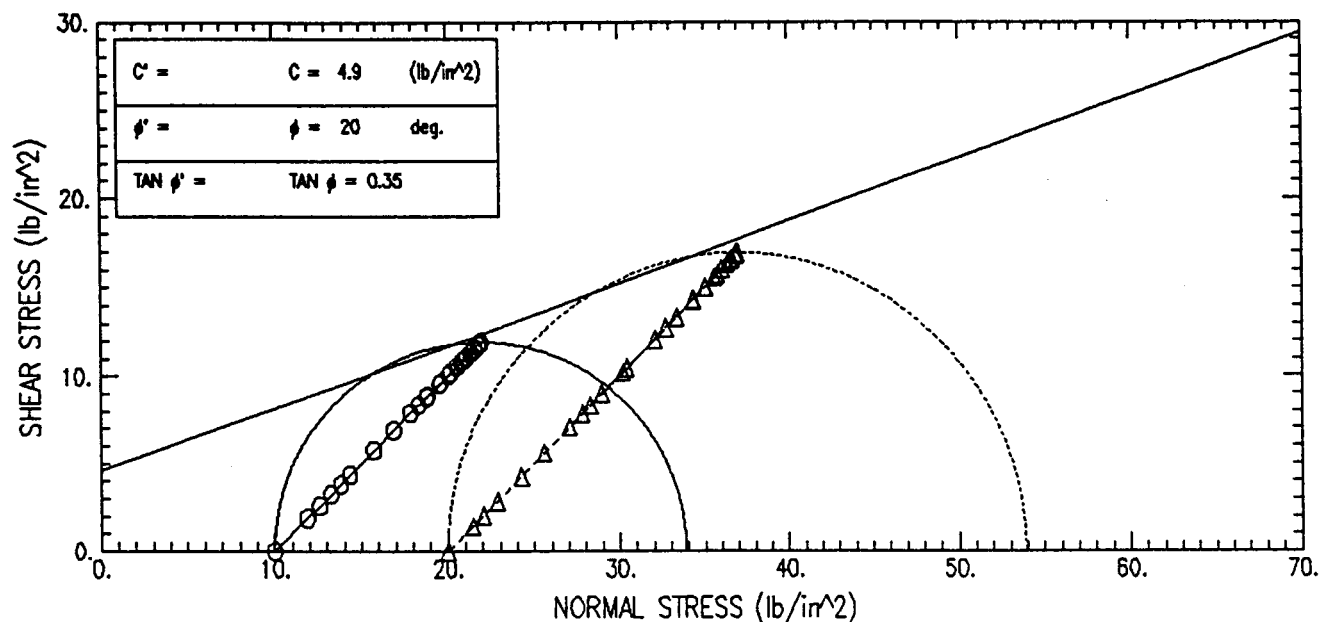
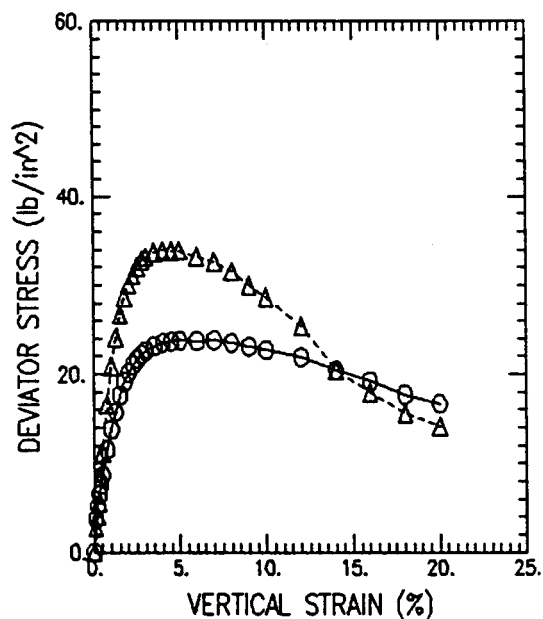


Fig. 1.0

TOTAL STRESS VALUES



Failure Criteria: Peak Deviator Stress



SYMBOL		O	Δ		
TEST NO.		GT1-TOP	GT1-BOTTOM		
INITIAL	WATER CONTENT (%)	11.70	9.95		
	DRY DENSITY (lb/ft ³)	100.69	103.33		
	SATURATION (%)	46.42	42.10		
	VOID RATIO	0.686	0.643		
BEFORE SHEAR	WATER CONTENT (%)	11.70	9.95		
	DRY DENSITY (lb/ft ³)	100.69	103.33		
	SATURATION (%)	46.42	42.10		
	VOID RATIO	0.686	0.643		
	BACK PRESS. (lb/in ²)	0.00	0.00		
	MINOR PRIN. STRESS (lb/in ²)	10.00	20.00		
MAX. DEV. STRESS (lb/in ²)		23.86	33.89		
TIME TO FAILURE (min)					
RATE OF STRAIN INCR (%/min)		0.00	0.00		
INITIAL DIAMETER (in)		2.86	2.86		
INITIAL HEIGHT (in)		5.98	5.98		

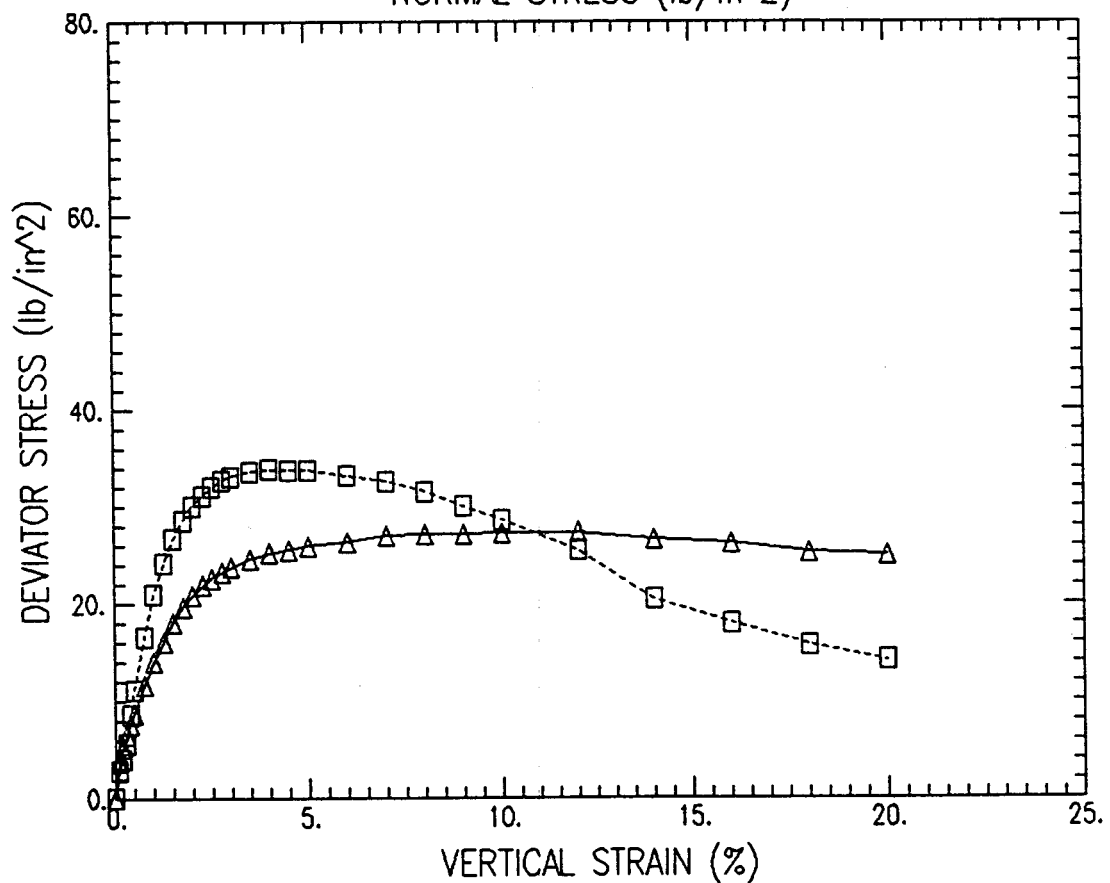
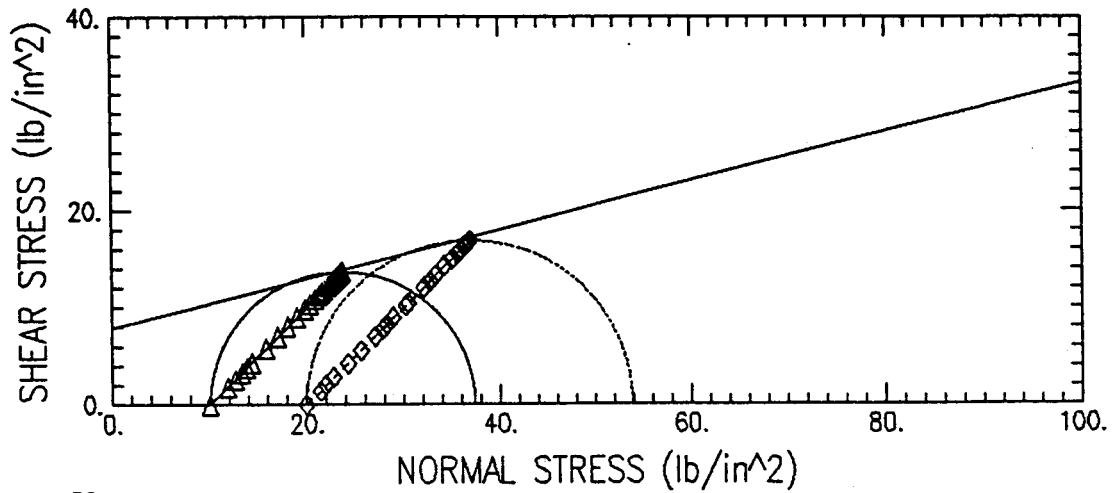
CONTROLLED STRAIN TEST

DESCRIPTION OF SPECIMENS: 1) BROWN SI-SAND TO SA-SILT W/ TRACES OF CLAY & MICA

2) BROWN SI-SAND TO SA-SILT W/ TRACES OF CLAY & MICA

LL	PL	PI	GS 2.72	TYPE OF SPECIMEN SHELBY		TYPE OF TEST UNDRAINED		
REMARKS:				PROJECT C. E. L. P.O. #3689				
1) TXUU TEST WITH CONFINING PRESSURE OF 10 PSI								
2) TXUU TEST WITH CONFINING PRESSURE OF 20 PSI				BORING NO. GT-1	SAMPLE NO.	TOP	BOTTOM	
				TECH. C. WASON	DEPTH/ELEV	10-12 FEET	10-12 FEET	
				LABORATORY	DATE	03/06/97	03/06/97	
				TRIAxIAL COMPRESSION TEST REPORT				

UNDRAINED TRIAXIAL TEST



Project Name : C. E. L. P.O. #3689

Boring No:	Sample No	Depth	Test No	Filename
GT-1	TOP	10-12 FEET	GT1-TOP	GT1A-10.UU
GT-1	BOTTOM	10-12 FEET	GT1-BOTTOM	GT1B-10.UU

Failure Criteria: Peak Deviator Stress

Wed Mar 19 16:49:15 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F, IDAHO

Project No. : 941138NA

Test No. : GT1-TOP

Boring No. : GT-1

Test Date : 03/06/97

Tested by : C. WASON

Sample No. : TOP

Depth : 10-12 FEET

Checked by : C. CAPPS

Sample Type : SHELBY

Elevation : NA

Soil Description : BROWN SI-SAND TO SA-SILT W/ TRACES OF CLAY & MICA

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 10 PSI

Height : 5.984 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 6.42 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 38.44 (in³)

Piston Weight : 0.00 (gm)

Area Correction : None

	VERTICAL CHANGE IN LENGTH (in)	STRAIN (%)	CORR. AREA (in ²)	PORE PRESSURE (lb/in ²)	DEV. LOAD (lb)	CORR. DEV. LOAD (lb)	DEV. STRESS (lb/in ²)	TOTAL VERTICAL STRESS (lb/in ²)	EFFECTIVE VERTICAL STRESS (lb/in ²)
1)	0.000	0.00	6.42	0.00	0.00	0.00	0.00	10.00	10.00
2)	0.006	0.10	6.42	0.00	24.13	24.13	3.76	13.76	13.76
3)	0.012	0.20	6.42	0.00	33.32	33.32	5.19	15.19	15.19
4)	0.018	0.30	6.42	0.00	41.94	41.94	6.53	16.53	16.53
5)	0.024	0.40	6.42	0.00	49.41	49.41	7.69	17.69	17.69
6)	0.030	0.50	6.42	0.00	56.30	56.30	8.76	18.76	18.76
7)	0.045	0.75	6.42	0.00	74.69	74.69	11.63	21.63	21.63
8)	0.060	1.00	6.42	0.00	90.20	90.20	14.04	24.04	24.04
9)	0.075	1.25	6.42	0.00	103.41	103.41	16.10	26.10	26.10
10)	0.090	1.50	6.42	0.00	116.05	116.05	18.06	28.06	28.06
11)	0.105	1.75	6.42	0.00	126.39	126.39	19.67	29.67	29.67
12)	0.120	2.01	6.42	0.00	133.86	133.86	20.84	30.84	30.84
13)	0.135	2.26	6.42	0.00	140.75	140.75	21.91	31.91	31.91
14)	0.150	2.51	6.42	0.00	145.35	145.35	22.63	32.63	32.63
15)	0.165	2.76	6.42	0.00	149.37	149.37	23.25	33.25	33.25
16)	0.180	3.01	6.42	0.00	152.82	152.82	23.79	33.79	33.79
17)	0.209	3.49	6.42	0.00	157.99	157.99	24.59	34.59	34.59
18)	0.239	3.99	6.42	0.00	162.01	162.01	25.22	35.22	35.22
19)	0.269	4.50	6.42	0.00	164.31	164.31	25.58	35.58	35.58
20)	0.299	5.00	6.42	0.00	166.61	166.61	25.93	35.93	35.93
21)	0.359	6.00	6.42	0.00	169.48	169.48	26.38	36.38	36.38
22)	0.419	7.00	6.42	0.00	173.50	173.50	27.01	37.01	37.01
23)	0.479	8.00	6.42	0.00	174.65	174.65	27.19	37.19	37.19
24)	0.539	9.01	6.42	0.00	174.65	174.65	27.19	37.19	37.19
25)	0.598	9.99	6.42	0.00	175.22	175.22	27.28	37.28	37.28
26)	0.718	12.00	6.42	0.00	175.80	175.80	27.37	37.37	37.37
27)	0.838	14.00	6.42	0.00	171.20	171.20	26.65	36.65	36.65
28)	0.957	15.99	6.42	0.00	168.33	168.33	26.20	36.20	36.20
29)	1.077	18.00	6.42	0.00	162.58	162.58	25.31	35.31	35.31
30)	1.197	20.00	6.42	0.00	160.86	160.86	25.04	35.04	35.04

Wed Mar 19 17:38:48 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689 Location : PICKLES BUTTE L/F, IDAHO
 Project No. : 941138NA Test No. : GT1-TOP
 Boring No. : GT-1 Test Date : 03/06/97 Tested by : C. WASON
 Sample No. : TOP Depth : 10-12 FEET Checked by : C. CAPPS
 Sample Type : SHELBY Elevation : NA
 Soil Description : BROWN SI-SAND TO SA-SILT W/ TRACES OF CLAY & MICA
 Remarks : TXUU TEST WITH CONFINING PRESSURE OF 10 PSI

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.72

	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	1134.90	1134.90	0.00
WT CONTAINER + DRY SOIL (gm)	1016.00	1016.00	0.00
WT WATER (gm)	118.90	118.90	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	1016.00	1016.00	0.00
WATER CONTENT (%)	11.70	11.70	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	11.70	11.70
VOID RATIO	0.69	0.69
WET DENSITY (lb/ft ³)	112.47	112.47
DRY DENSITY (lb/ft ³)	100.69	100.69
DEGREE OF SATURATION (%)	46.42	46.42

Maximum Shear Stress = 13.68 (lb/in²) at a Vertical Strain of 12.00 %

Wed Mar 19 16:48:23 1997

Page : 1

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT1-BOTTOM

Boring No. : GT-1

Test Date : 03/06/97

Tested by : C. WASON

Sample No. : BOTTOM

Depth : 10-12 FEET

Checked by : C. CAPPS

Sample Type : SHELBY

Elevation : NA

Soil Description : BROWN SI-SAND TO SA-SILT W/ TRACES OF CLAY & MICA

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 20 PSI

Height : 5.984 (in)

Piston Diameter : 0.000 (in)

Filter Correction : 0.00 (lb/in²)Area : 6.42 (in²)

Piston Friction : 0.00 (lb)

Membrane Correction : 0.00 (lb/in)

Volume : 38.44 (in³)

Piston Weight : 0.00 (gm)

Area Correction : Parabolic

	CHANGE	VERTICAL					TOTAL	EFFECTIVE
	IN LENGTH	STRAIN	CORR.	PORE	DEV.	CORR. DEV.	VERTICAL	VERTICAL
	(in)	(%)	AREA	PRESSURE	LOAD	LOAD	STRESS	STRESS
	(in)	(%)	(in ²)	(lb/in ²)	(lb)	(lb)	(lb/in ²)	(lb/in ²)
1)	0.000	0.00	6.42	0.00	0.00	0.00	20.00	20.00
2)	0.006	0.10	6.43	0.00	18.38	18.38	22.86	22.86
3)	0.012	0.20	6.45	0.00	26.43	26.43	24.10	24.10
4)	0.018	0.30	6.46	0.00	36.77	36.77	25.69	25.69
5)	0.024	0.40	6.47	0.00	55.15	55.15	28.53	28.53
6)	0.030	0.50	6.48	0.00	72.39	72.39	31.17	31.17
7)	0.045	0.75	6.51	0.00	108.01	108.01	36.60	36.60
8)	0.060	1.00	6.53	0.00	136.73	136.73	40.93	40.93
9)	0.075	1.25	6.56	0.00	158.56	158.56	44.17	44.17
10)	0.090	1.50	6.59	0.00	175.80	175.80	46.68	46.68
11)	0.105	1.75	6.62	0.00	189.59	189.59	48.65	48.65
12)	0.120	2.01	6.65	0.00	199.93	199.93	50.08	50.08
13)	0.135	2.26	6.67	0.00	207.97	207.97	51.16	51.16
14)	0.150	2.51	6.70	0.00	214.86	214.86	52.05	52.05
15)	0.165	2.76	6.73	0.00	220.61	220.61	52.76	52.76
16)	0.180	3.01	6.76	0.00	224.06	224.06	53.13	53.13
17)	0.209	3.49	6.82	0.00	229.80	229.80	53.69	53.69
18)	0.239	3.99	6.88	0.00	233.25	233.25	53.89	53.89
19)	0.269	4.50	6.94	0.00	234.97	234.97	53.84	53.84
20)	0.299	5.00	7.01	0.00	237.27	237.27	53.86	53.86
21)	0.359	6.00	7.14	0.00	237.27	237.27	53.24	53.24
22)	0.419	7.00	7.27	0.00	237.27	237.27	52.62	52.62
23)	0.479	8.00	7.41	0.00	233.82	233.82	51.54	51.54
24)	0.539	9.01	7.56	0.00	226.93	226.93	50.02	50.02
25)	0.598	9.99	7.71	0.00	220.61	220.61	48.62	48.62
26)	0.718	12.00	8.03	0.00	204.52	204.52	45.47	45.47
27)	0.838	14.00	8.38	0.00	171.20	171.20	40.43	40.43
28)	0.957	15.99	8.76	0.00	157.41	157.41	37.97	37.97
29)	1.077	18.00	9.18	0.00	143.63	143.63	35.65	35.65
30)	1.197	20.00	9.64	0.00	136.16	136.16	34.13	34.13

Wed Mar 19 17:39:34 1997

Page : 2

UNDRAINED TRIAXIAL COMPRESSION TEST

Project : C. E. L. P.O. #3689

Location : PICKLES BUTTE L/F- IDAHO

Project No. : 941138NA

Test No. : GT1-BOTTOM

Boring No. : GT-1

Test Date : 03/06/97

Tested by : C. WASON

Sample No. : BOTTOM

Depth : 10-12 FEET

Checked by : C. CAPPS

Sample Type : SHELBY

Elevation : NA

Soil Description : BROWN SI-SAND TO SA-SILT W/ TRACES OF CLAY & MICA

Remarks : TXUU TEST WITH CONFINING PRESSURE OF 20 PSI

Liquid Limit : 0

Plastic Limit : 0

Specific Gravity : 2.72

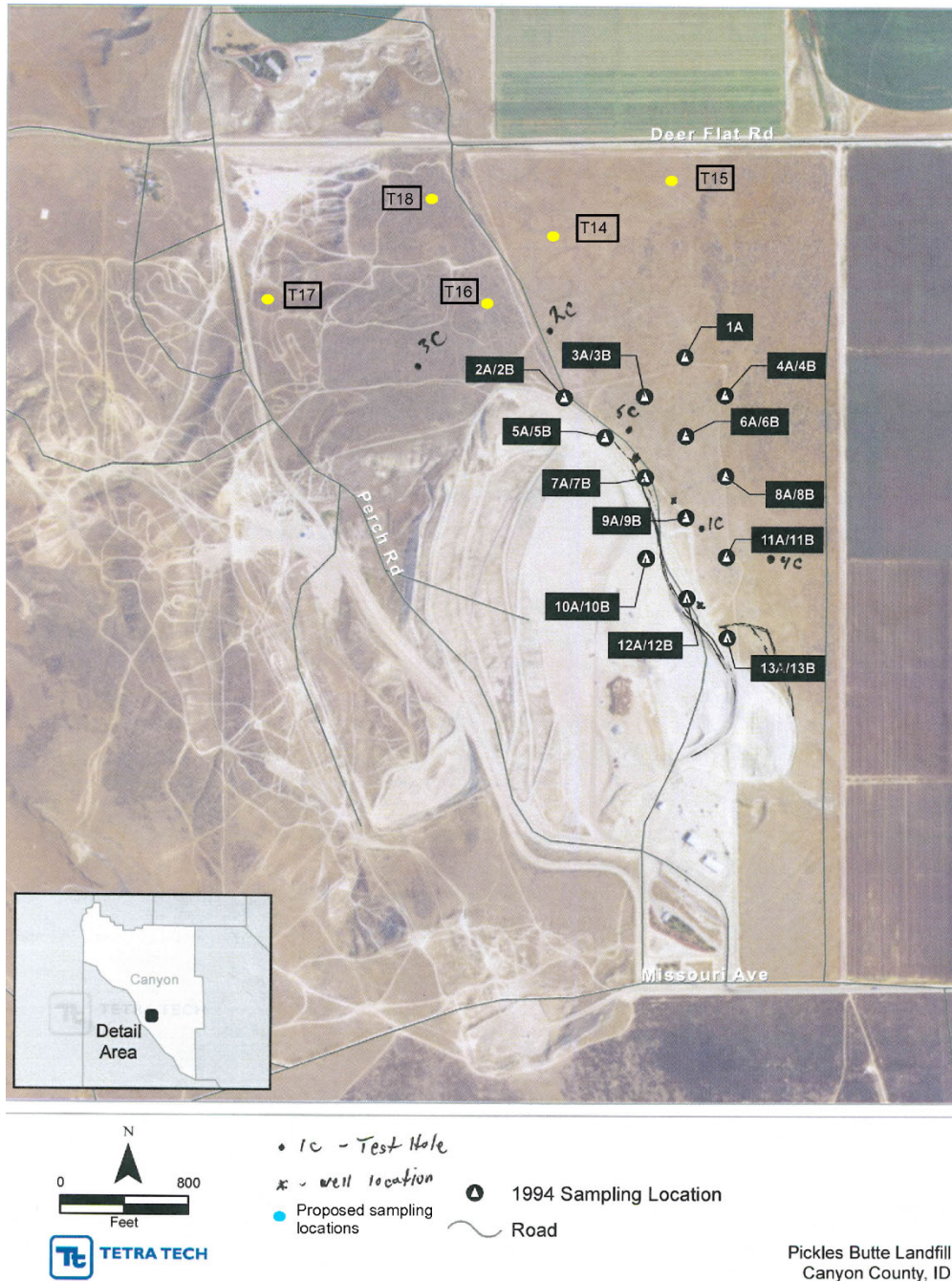
	WATER CONTENT		
	BEFORE TEST	AFTER TEST	TRIMMINGS
CONTAINER NO.			
WT CONTAINER + WET SOIL (gm)	1146.40	1146.40	0.00
WT CONTAINER + DRY SOIL (gm)	1042.70	1042.70	0.00
WT WATER (gm)	103.70	103.70	0.00
WT CONTAINER (gm)	0.00	0.00	0.00
WT DRY SOIL (gm)	1042.70	1042.70	0.00
WATER CONTENT (%)	9.95	9.95	0.00

	INITIAL	AT CONSOLIDATION
WATER CONTENT (%)	9.95	9.95
VOID RATIO	0.64	0.64
WET DENSITY (lb/ft ³)	113.61	113.61
DRY DENSITY (lb/ft ³)	103.33	103.33
DEGREE OF SATURATION (%)	42.10	42.10

Maximum Shear Stress = 16.95 (lb/in²) at a Vertical Strain of 3.99 %

Sample Results for Pickles Butte Landfill, Canyon County, Idaho

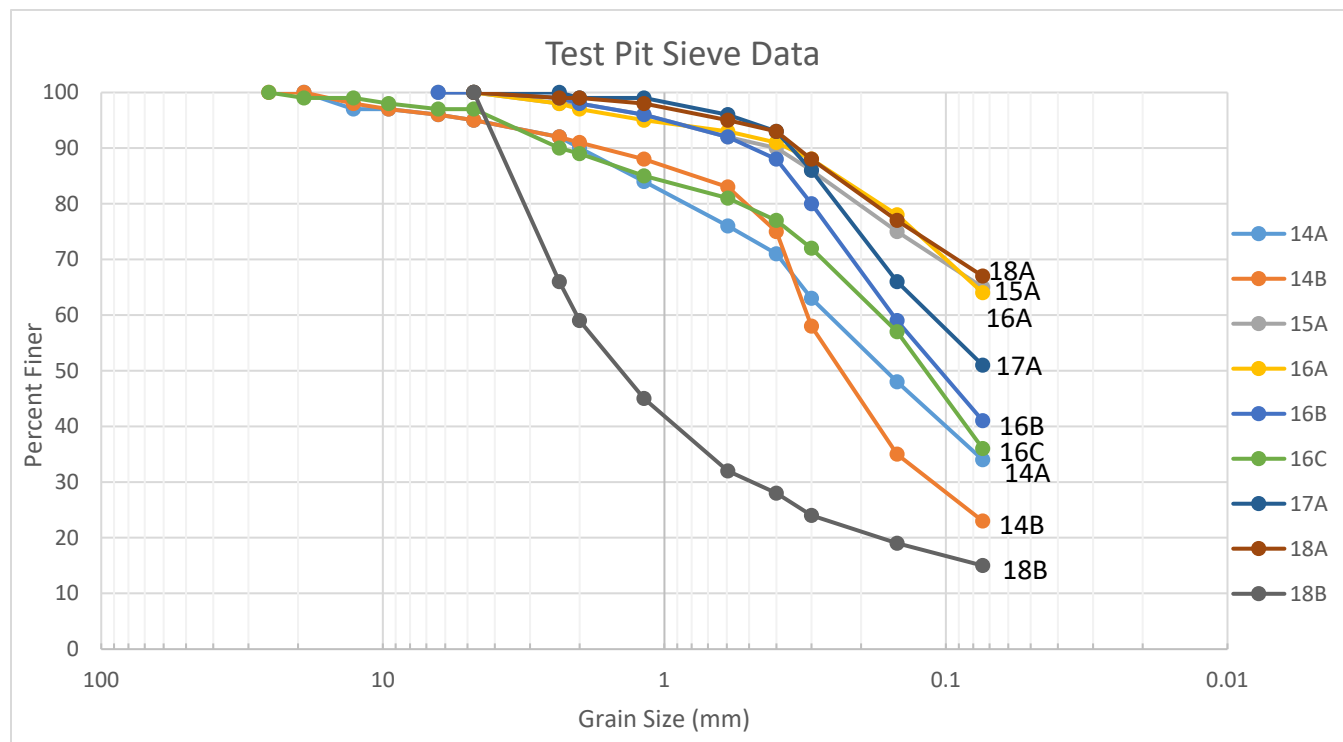
The Pickles Butte Landfill is evaluating the use of a Monolithic Cover rather than the Capillary Barrier Cover approved as part of the original landfill design. Soil samples were collected to analyze soil that could potentially be part of the final landfill cover from the area east of Perch Road, North of the existing landfill, and south of Deer Flat Rd at the sample locations marked on the figure.



Samples were selected for analysis of capillary rise, permeability, modified proctor compaction, and sieve analysis. Laboratory test were not conducted on all samples.

Based on various test, the best soil for the final cover is ML (silt with low plasticity). Soil sample 15A represents the ML material for permeability. The sample has a permeability of 4.24 E-5 cm/s , and the percent passing a 200 sieve is 65%. This material is present below the topsoil/organic material and varies in thickness between two to six feet across the site. The estimated area for borrow material for the final cover is approximately 70 acres. If the landfill CAP for a 116 area landfill is 3 feet thick that means that the average depth of the borrow material would need to be 4.9 feet to have enough material for the CAP. So there is sufficient material available for the CAP.

Sample 18B was not selected because, although the permeability is low, the compaction test indicates that the material does not compact well or at a sufficient pressure to be used for cover. The differences between samples can be seen well in the sieve data. Samples 18A, 15A, 16A and 17A are all ML samples that exhibit a high percentage of fines (>50%). The other material is not as well suited for the cover. So sieve data, along with field observations can be used to delineate ML material in the field. These results are consistent with the analysis conducted in 2014 that indicates that ML material is in the upper layer below the topsoil, and that when the percent fines is >50% the material is generally classified as ML for this site.



Modeling decision:

- For 3 feet of CAP use the permeability and capillary rise properties for sample T15A.
- For 1 foot of intermediate cover, conservatively assume properties of SM material found below the ML and use the permeability and capillary properties from sample T16B.



IAS Laboratories

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Date: April 28, 2016

Submitted by: Tetra Tech

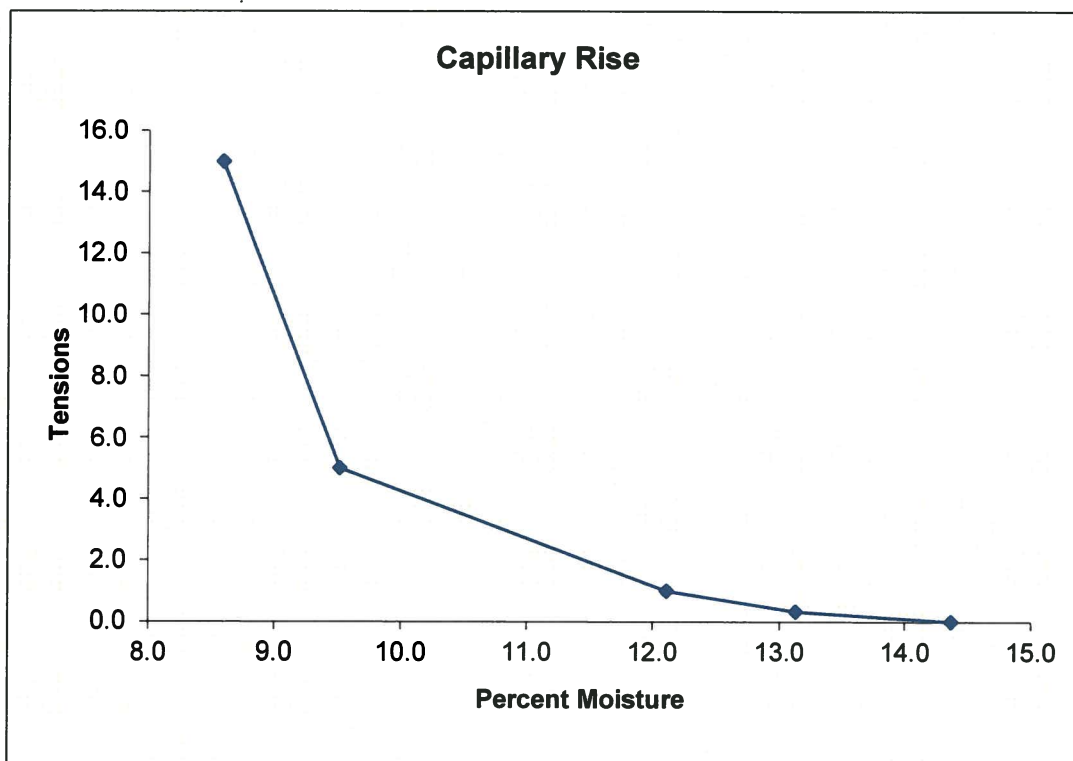
Report to: Keith A. Johnson

Report #: 6652671

Date Received: April 18, 2016

Lab#: 884

Sender ID: T14B



Moisture %	Equivalent Pressure		Tension Bars	
	psi	mmHg		
14.37	1.5	76	0.0	<i>Field Capacity</i>
13.13	4.9	251	0.33	
12.11	29.4	1520	1.0	
9.52	73.5	3800	5.0	<i>Wilting Point</i>
8.59	220.5	11400	15.0	

Analysis modified ASTM D3152 and ASTM D2325



IAS Laboratories

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Date: April 28, 2016

Submitted by: Tetra Tech

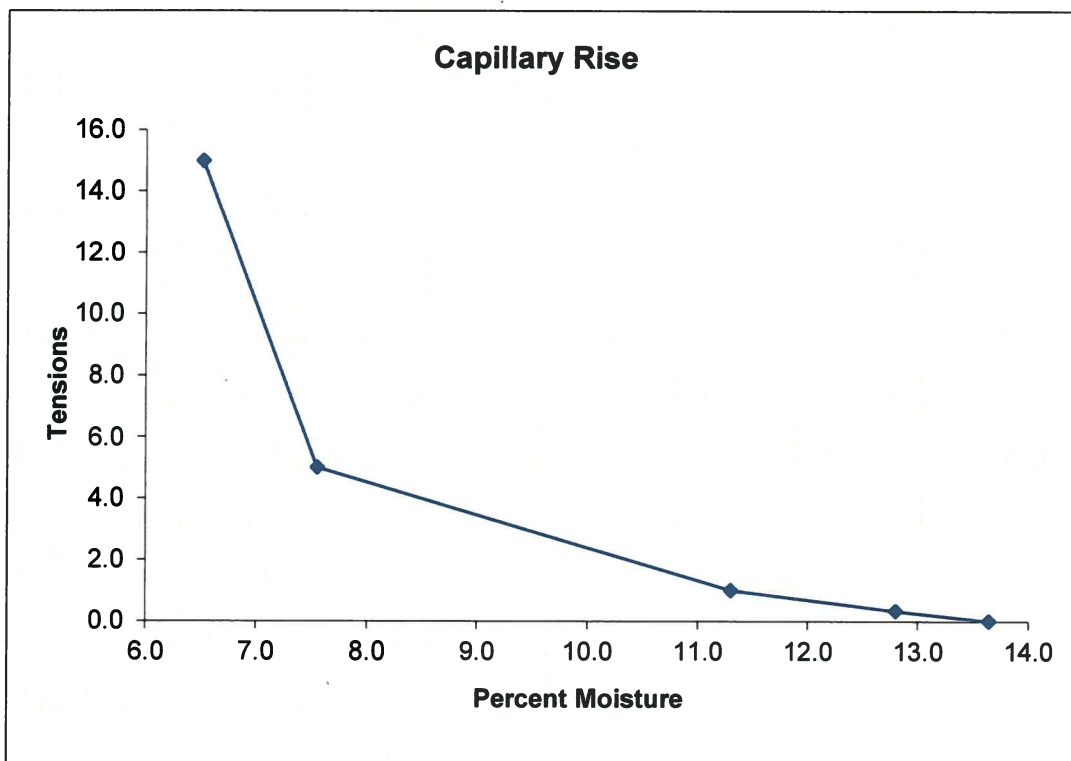
Report to: Keith A. Johnson

Report #: 6652671

Date Received: April 18, 2016

Lab#: 887

Sender ID: T17A



Moisture %	Equivalent Pressure		Tension Bars	
	psi	mmHg		
13.64	1.5	76	0.0	Field Capacity
12.80	4.9	251	0.33	
11.30	29.4	1520	1.0	
7.55	73.5	3800	5.0	Wilting Point
6.52	220.5	11400	15.0	

Analysis modified ASTM D3152 and ASTM D2325



IAS Laboratories

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Date: April 28, 2016

Submitted by: Tetra Tech

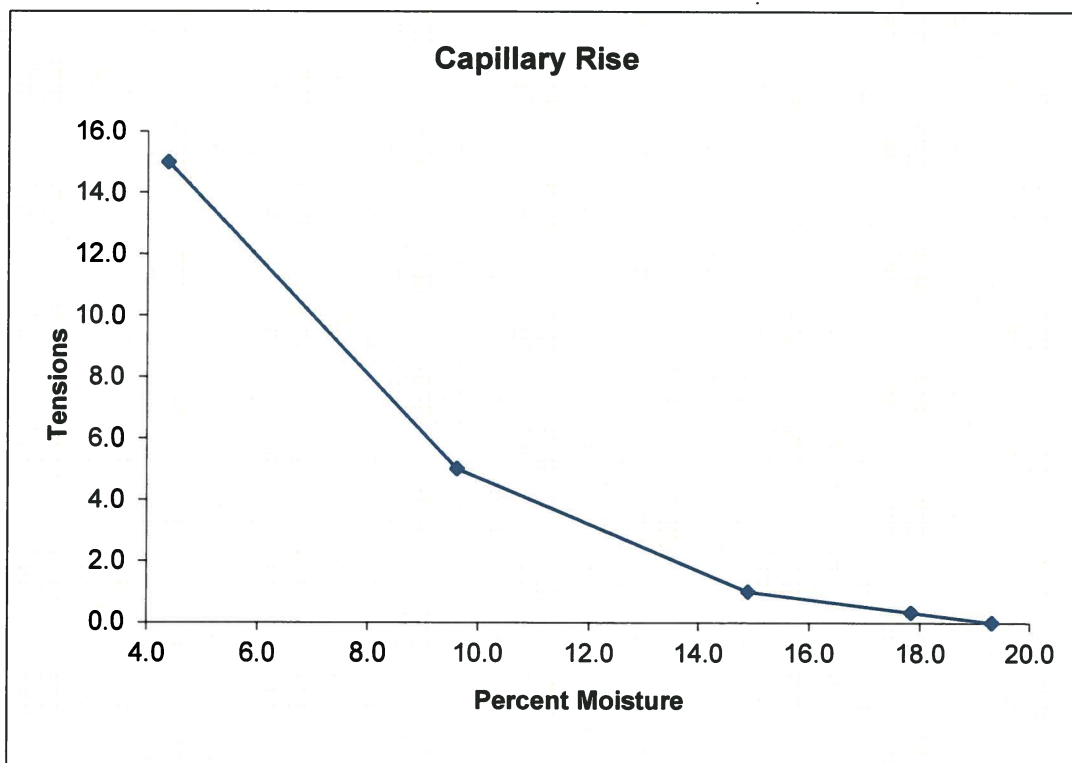
Report to: Keith A. Johnson

Report #: 6652671

Date Received: April 18, 2016

Lab#: 885

Sender ID: T15A



Moisture %	Equivalent Pressure		Tension Bars	
	psi	mmHg		
19.31	1.5	76	0.0	Field Capacity
17.84	4.9	251	0.33	
14.90	29.4	1520	1.0	
9.62	73.5	3800	5.0	Wilting Point
4.37	220.5	11400	15.0	

Analysis modified ASTM D3152 and ASTM D2325



IAS Laboratories

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Date: April 28, 2016

Submitted by: Tetra Tech

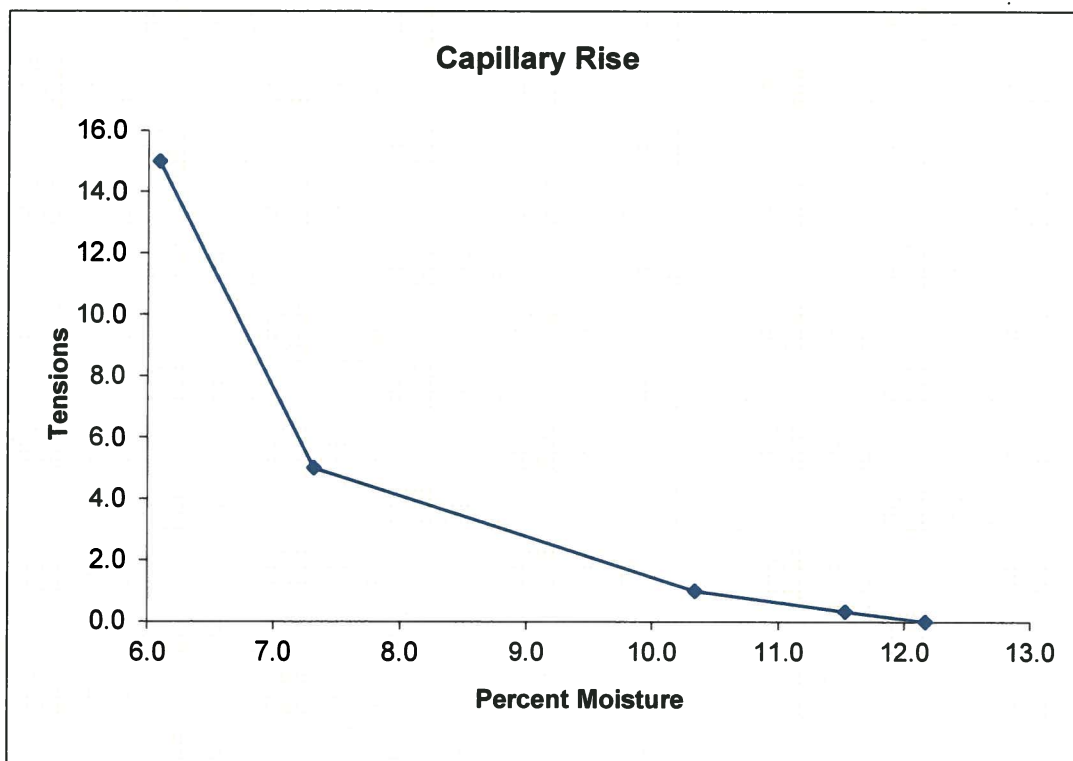
Report to: Keith A. Johnson

Report #: 6652671

Date Received: April 18, 2016

Lab#: 886

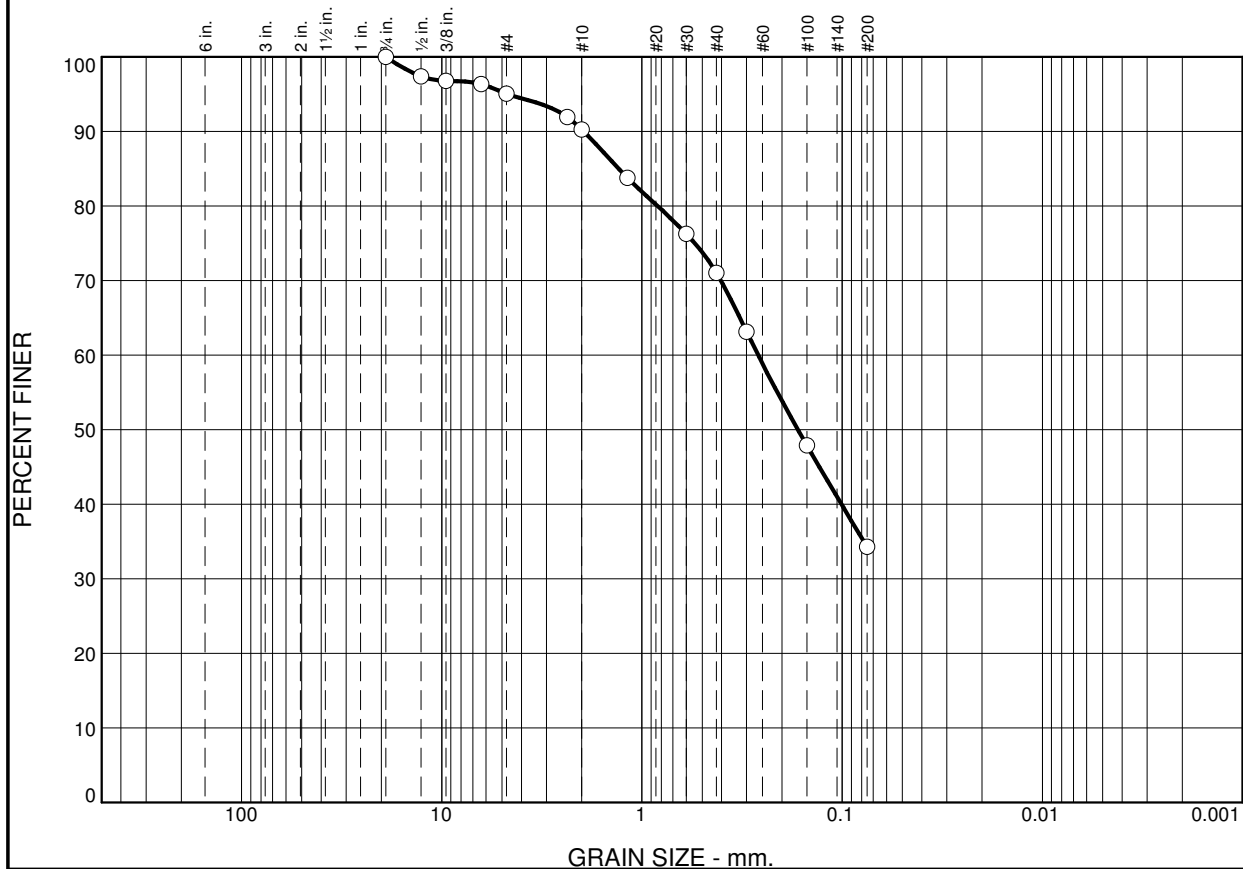
Sender ID: T16B



Moisture %	Equivalent Pressure		Tension Bars	
	psi	mmHg		
12.17	1.5	76	0.0	Field Capacity
11.53	4.9	251	0.33	
10.34	29.4	1520	1.0	
7.32	73.5	3800	5.0	Wilting Point
6.09	220.5	11400	15.0	

Analysis modified ASTM D3152 and ASTM D2325

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	5	5	19	37	34	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100		
1/2"	97		
3/8"	97		
1/4"	96		
#4	95		
#8	92		
#10	90		
#16	84		
#30	76		
#40	71		
#50	63		
#100	48		
#200	34		

* (no specification provided)

Soil Description

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= 1.9557 D₈₅= 1.3048 D₆₀= 0.2628
 D₅₀= 0.1663 D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

Location: T14A
Sample Number: 16L0094

Date: 4-16-16

Hoque & Associates, Inc.
4325 South 34th Street
Phoenix, Arizona 85040

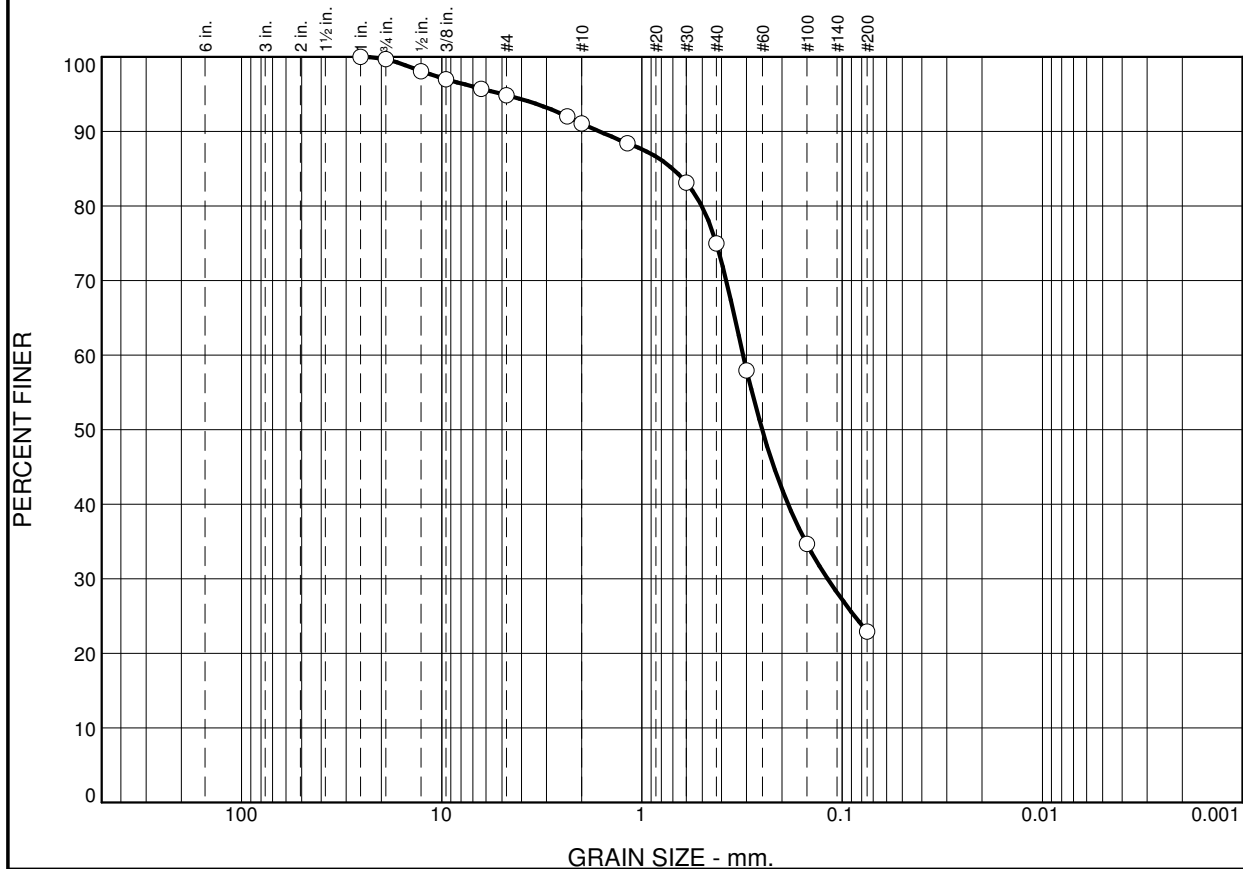
Client: Tetra Tech
Project: Pickles Butte Landfill

Project No: 16042

Lab Number 16L0094

Tested By: AJ Checked By: TT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	5	4	16	52	23	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100		
3/4"	100		
1/2"	98		
3/8"	97		
1/4"	96		
#4	95		
#8	92		
#10	91		
#16	88		
#30	83		
#40	75		
#50	58		
#100	35		
#200	23		

* (no specification provided)

<u>Soil Description</u>		
silty sand		
<u>Atterberg Limits</u>		
PL= NP	LL= NV	PI= NP
<u>Coefficients</u>		
D ₉₀ = 1.6326	D ₈₅ = 0.7020	D ₆₀ = 0.3125
D ₅₀ = 0.2508	D ₃₀ = 0.1185	D ₁₅ =
D ₁₀ =	C _u =	C _c =
<u>Classification</u>		
USCS= SM	AASHTO= A-2-4(0)	
<u>Remarks</u>		

Location: T14B
Sample Number: 16L0095

Date: 4-16-16

Hoque & Associates, Inc.
4325 South 34th Street
Phoenix, Arizona 85040

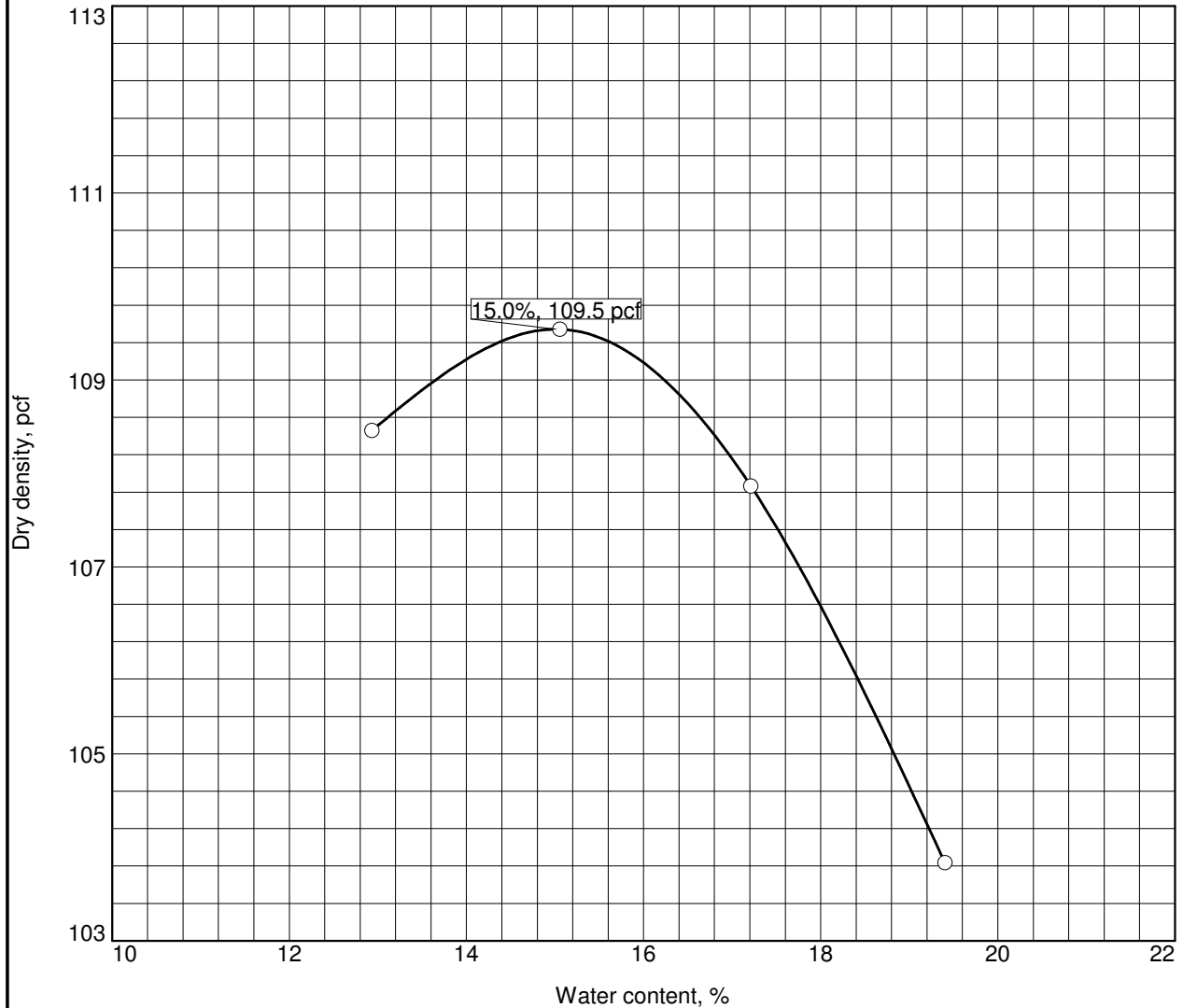
Client: Tetra Tech
Project: Pickles Butte Landfill

Project No: 16042

Lab Number 16L0095

Tested By: AJ Checked By: TT

COMPACTION TEST REPORT



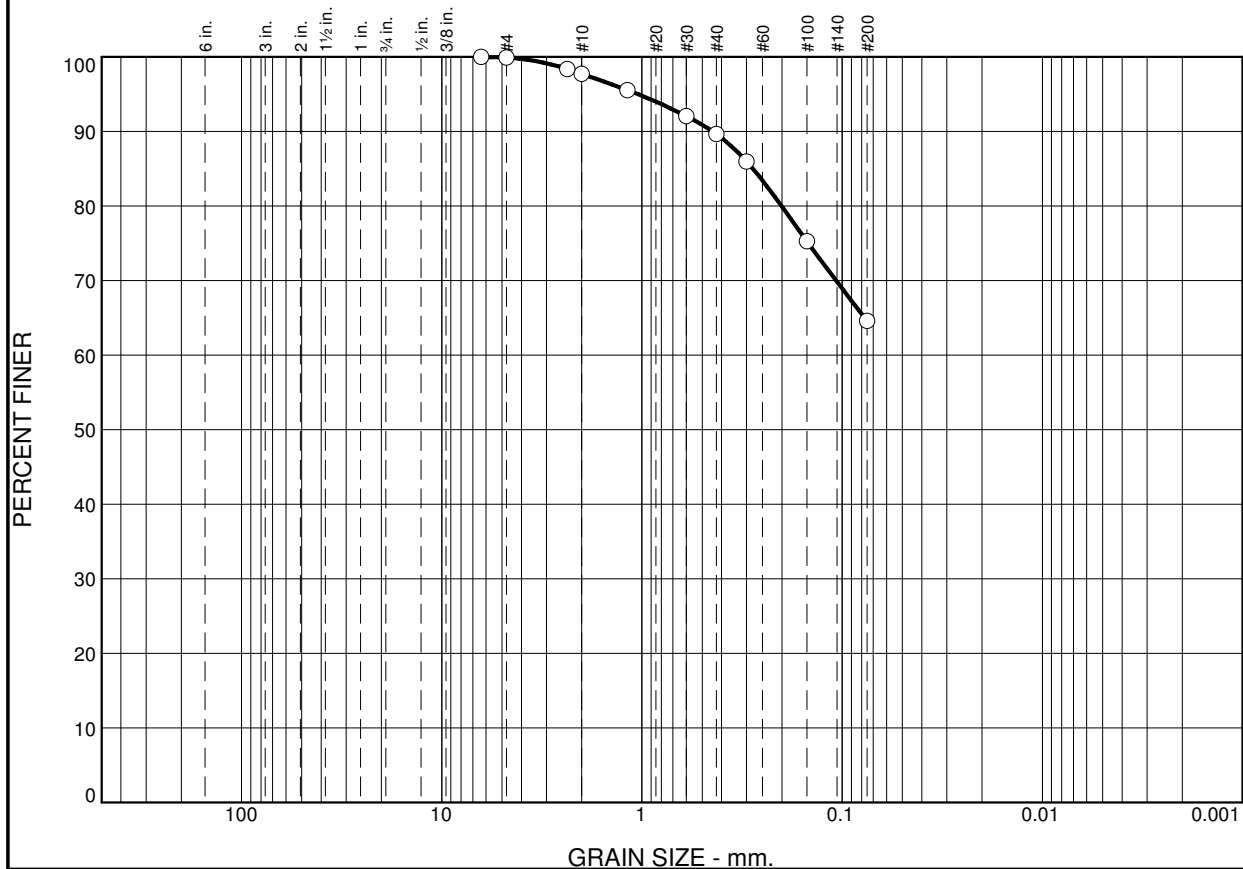
Test specification: ASTM D 1557-00 Method A Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
	SM	A-2-4(0)			NV	NP	5	23

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 109.5 pcf Optimum moisture = 15.0 %	silty sand
Project No. 16042 Client: Tetra Tech Project: Pickles Butte Landfill Location: T14B Sample Number: 16L0095 Hoque & Associates, Inc. 4325 South 34th Street Phoenix, Arizona 85040	Remarks: Lab Number 16L0095

Tested By: AJ Checked By: TT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	2	8	25	65	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/4"	100		
#4	100		
#8	98		
#10	98		
#16	96		
#30	92		
#40	90		
#50	86		
#100	75		
#200	65		

* (no specification provided)

Soil Description

sandy silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.4430

D₈₅= 0.2793

D₆₀=

D₅₀=

D₃₀=

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= ML

AASHTO= A-4(0)

Remarks

Location: T15A
Sample Number: 16L0096

Date: 4-16-16

Hoque & Associates, Inc.
4325 South 34th Street
Phoenix, Arizona 85040

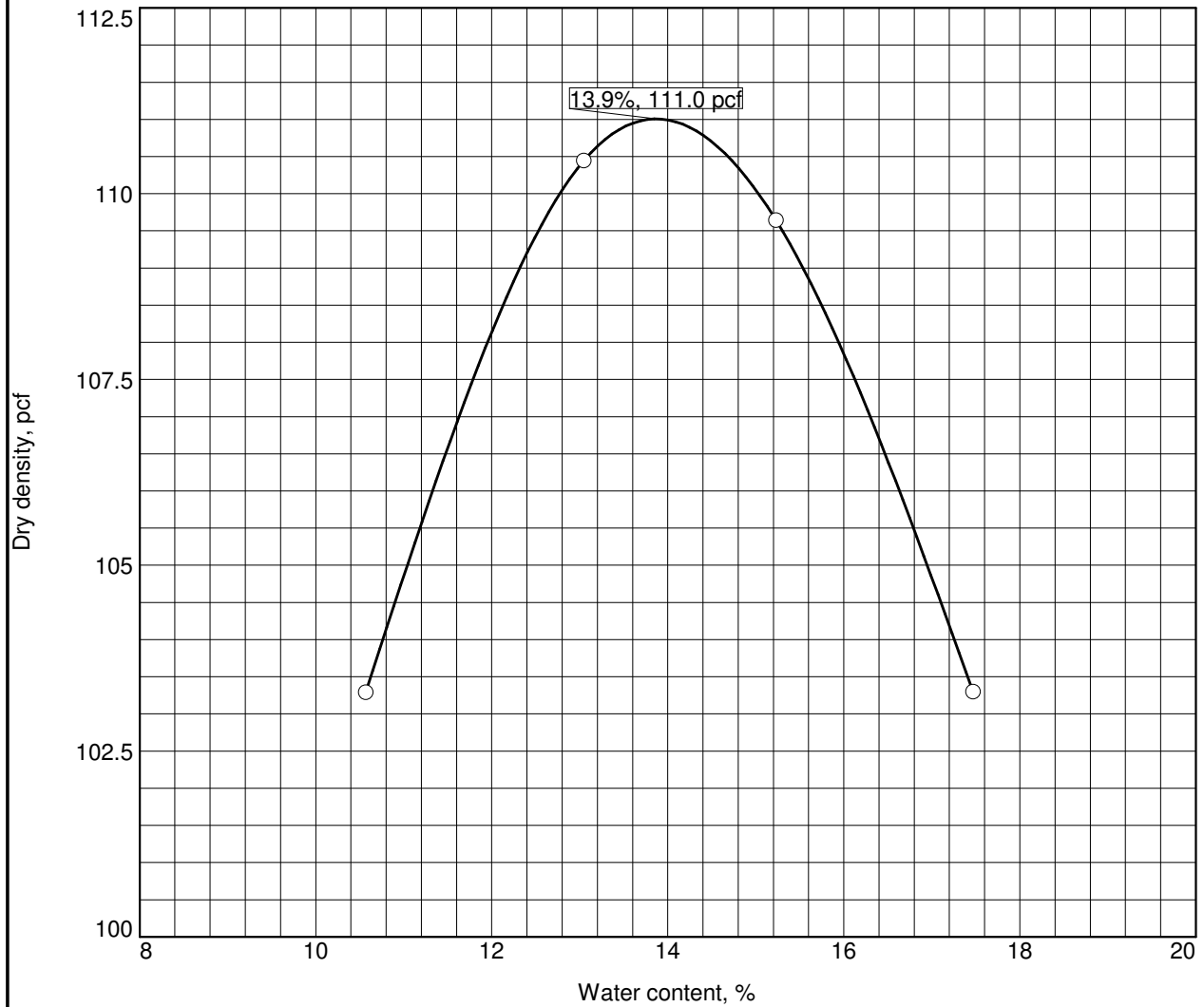
Client: Tetra Tech
Project: Pickles Butte Landfill

Project No: 16042

Lab Number 16L0096

Tested By: AJ Checked By: TT

COMPACTION TEST REPORT



Test specification: ASTM D 1557-00 Method A Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
	ML	A-4(0)			NV	NP	0	65

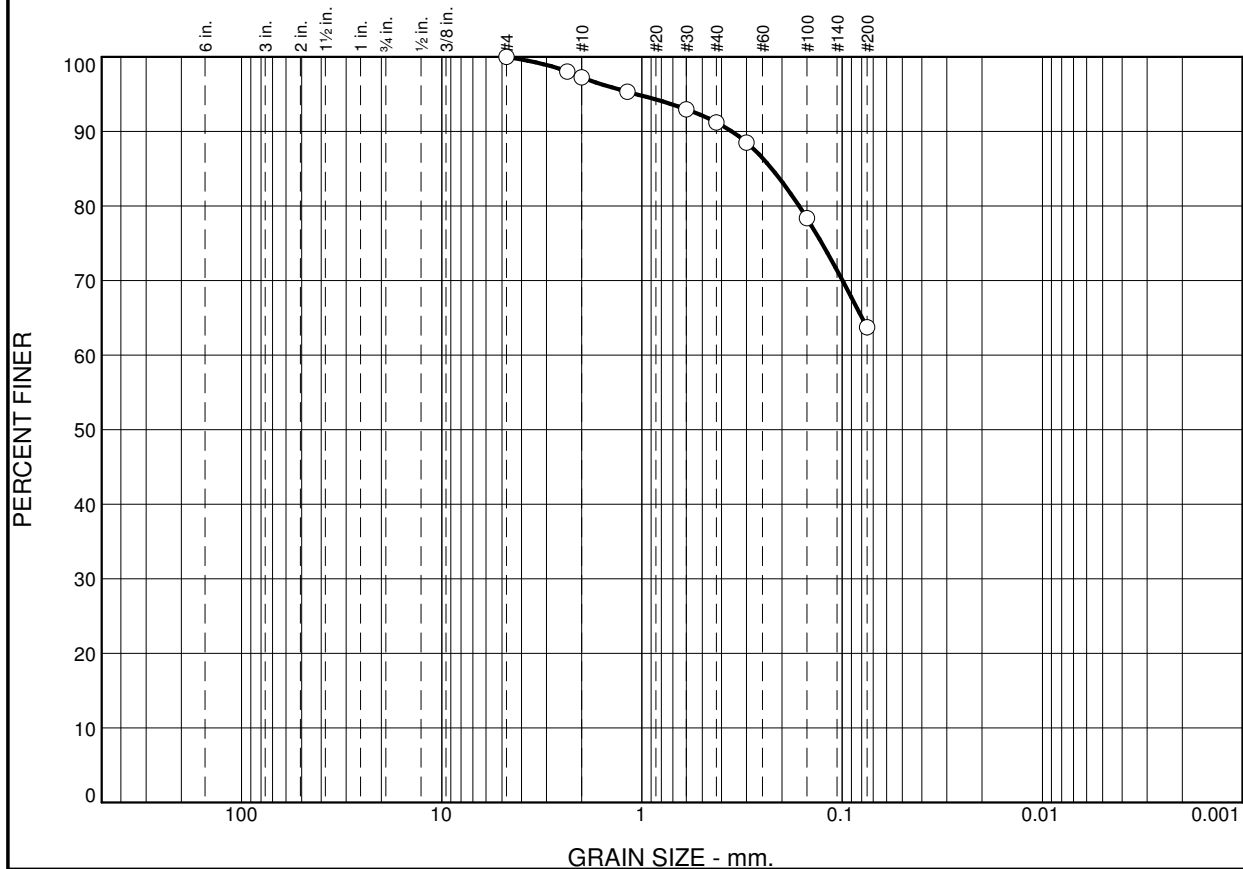
TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 111.0 pcf Optimum moisture = 13.9 %	sandy silt

Project No. 16042 Client: Tetra Tech Project: Pickles Butte Landfill Location: T15A Sample Number: 16L0096	Remarks:
Hoque & Associates, Inc. 4325 South 34th Street Phoenix, Arizona 85040	

Lab Number 16L0096

Tested By: AJ Checked By: TT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	3	6	27	64	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100		
#8	98		
#10	97		
#16	95		
#30	93		
#40	91		
#50	88		
#100	78		
#200	64		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3558 D₈₅= 0.2245 D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Location: T16A
Sample Number: 16L0097

Date: 4-16-16

Hoque & Associates, Inc.
4325 South 34th Street
Phoenix, Arizona 85040

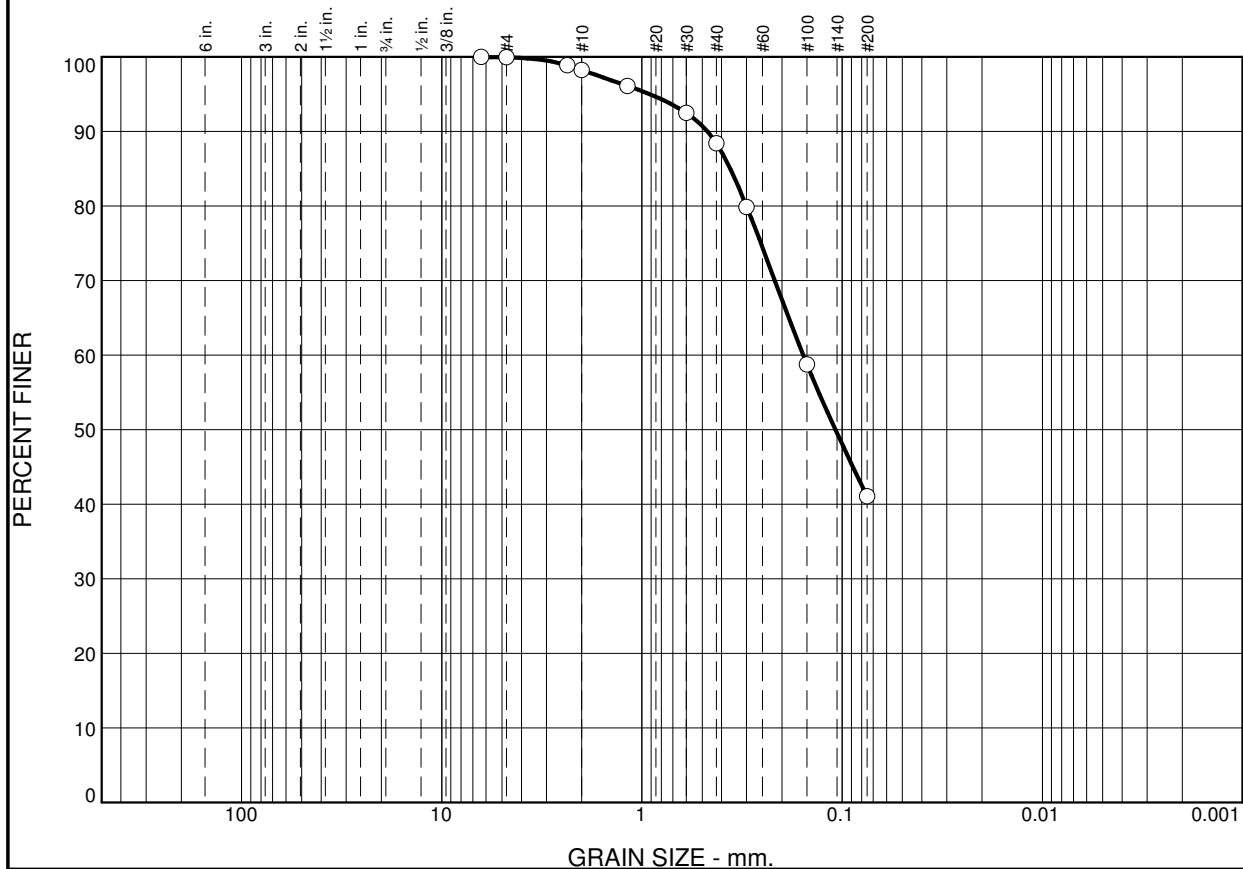
Client: Tetra Tech
Project: Pickles Butte Landfill

Project No: 16042

Lab Number 16L0097

Tested By: AJ Checked By: TT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	2	10	47	41	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/4"	100		
#4	100		
#8	99		
#10	98		
#16	96		
#30	92		
#40	88		
#50	80		
#100	59		
#200	41		

* (no specification provided)

Soil Description
silty sand

Atterberg Limits
 PL= NP LL= NV PI= NP

Coefficients
 D₉₀= 0.4697 D₈₅= 0.3623 D₆₀= 0.1565
 D₅₀= 0.1082 D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= SM AASHTO= A-4(0)

Remarks

Location: T16B
Sample Number: 16L0098

Date: 4-16-16

Hoque & Associates, Inc.
4325 South 34th Street
Phoenix, Arizona 85040

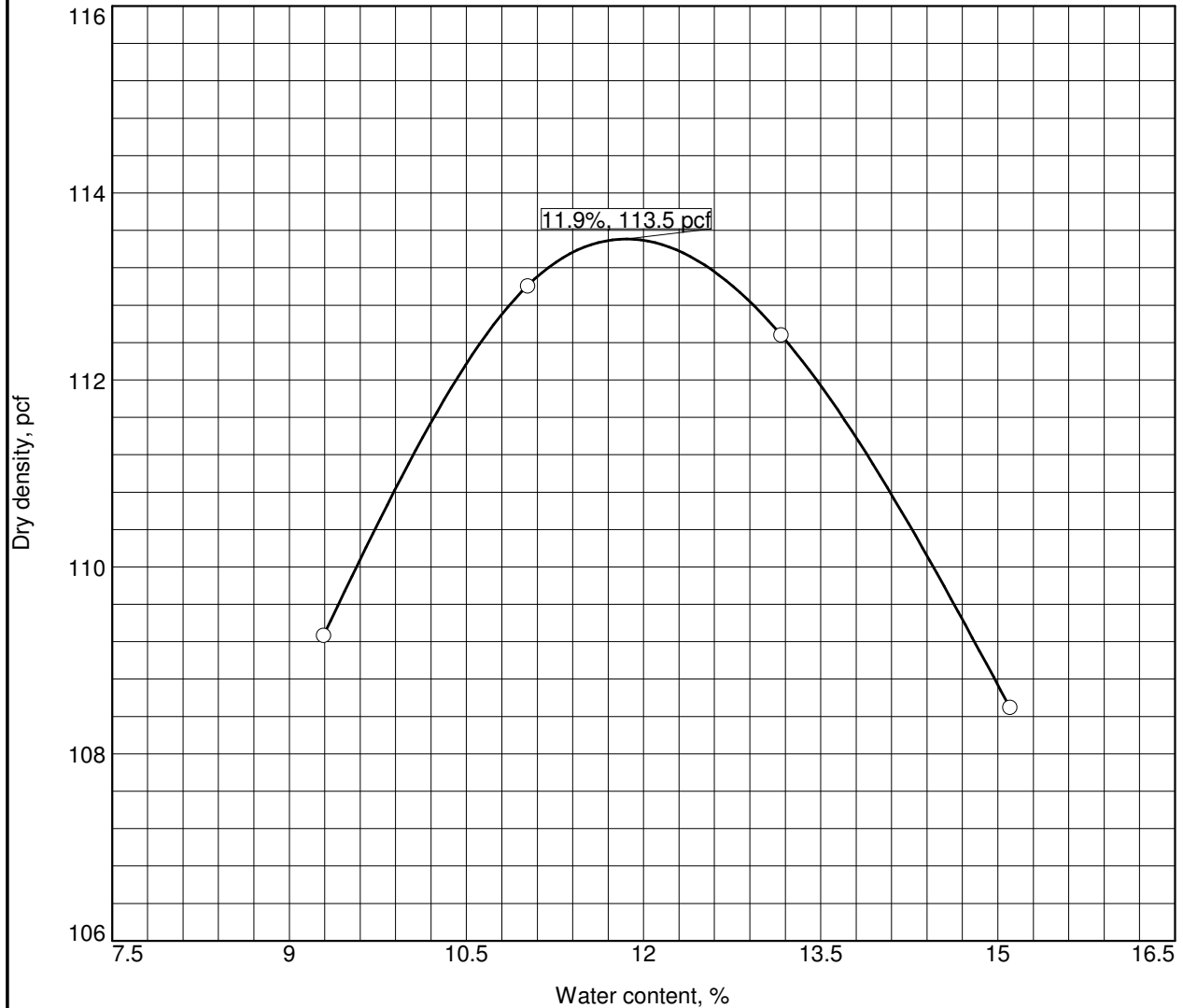
Client: Tetra Tech
Project: Pickles Butte Landfill

Project No: 16042

Lab Number 16L0098

Tested By: AJ Checked By: TT

COMPACTION TEST REPORT



Test specification: ASTM D 1557-00 Method A Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
	SM	A-4(0)			NV	NP	0	41

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 113.5 pcf Optimum moisture = 11.9 %	silty sand

Project No. 16042 Client: Tetra Tech Project: Pickles Butte Landfill Location: T16B Sample Number: 16L0098	Remarks:
Hoque & Associates, Inc. 4325 South 34th Street Phoenix, Arizona 85040	

Lab Number 16L0098

Tested By: AJ Checked By: TT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	1	2	8	12	41	36	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100		
3/4"	99		
1/2"	99		
3/8"	98		
1/4"	97		
#4	97		
#8	90		
#10	89		
#16	85		
#30	81		
#40	77		
#50	72		
#100	57		
#200	36		

* (no specification provided)

Soil Description

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= 2.2967 D₈₅= 1.2234 D₆₀= 0.1719
 D₅₀= 0.1180 D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

Location: T16C
Sample Number: 16L0099

Date: 4-16-16

Hoque & Associates, Inc.
4325 South 34th Street
Phoenix, Arizona 85040

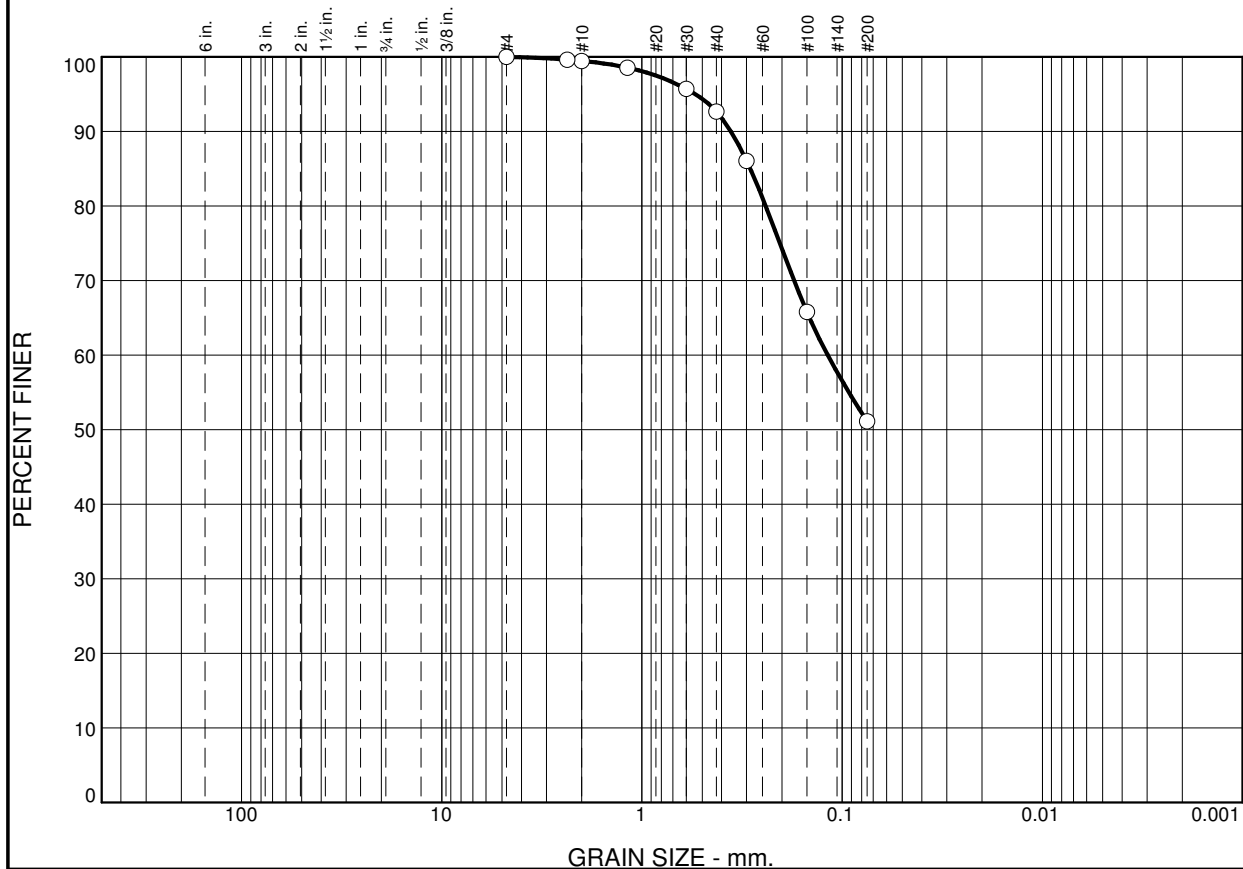
Client: Tetra Tech
Project: Pickles Butte Landfill

Project No: 16042

Lab Number 16L0099

Tested By: AJ Checked By: TT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	1	6	42	51	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100		
#8	100		
#10	99		
#16	99		
#30	96		
#40	93		
#50	86		
#100	66		
#200	51		

* (no specification provided)

Soil Description

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= 0.3599 D₈₅= 0.2880 D₆₀= 0.1182
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

Location: T17A
 Sample Number: 16L0100

Date: 4-16-16

Hoque & Associates, Inc.
 4325 South 34th Street
 Phoenix, Arizona 85040

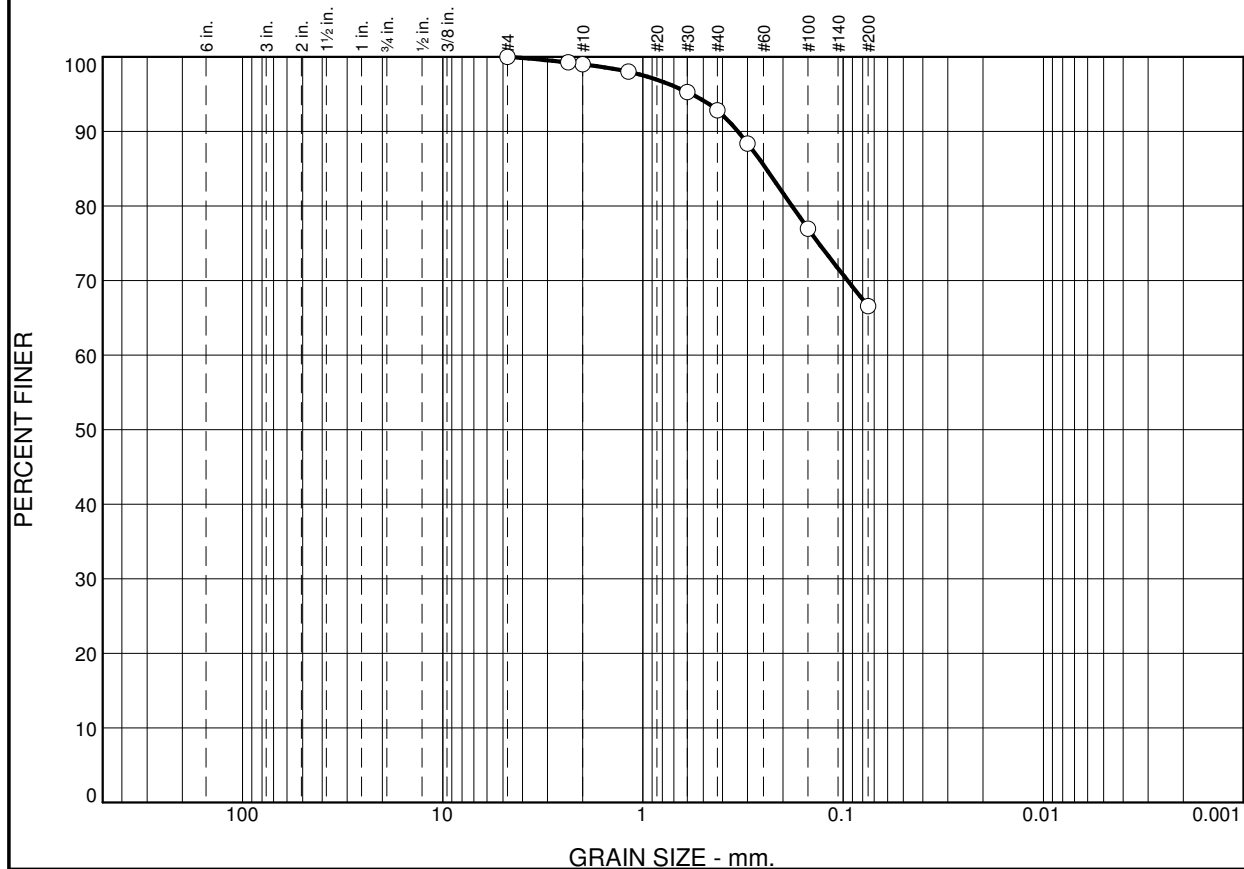
Client: Tetra Tech
 Project: Pickles Butte Landfill

Project No: 16042

Lab Number 16L0100

Tested By: AJ Checked By: TT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	1	6	26	67	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100		
#8	99		
#10	99		
#16	98		
#30	95		
#40	93		
#50	88		
#100	77		
#200	67		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3360 D₈₅= 0.2425 D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Location: T18A
Sample Number: 16L0101

Date: 4-16-16

Hoque & Associates, Inc.
4325 South 34th Street
Phoenix, Arizona 85040

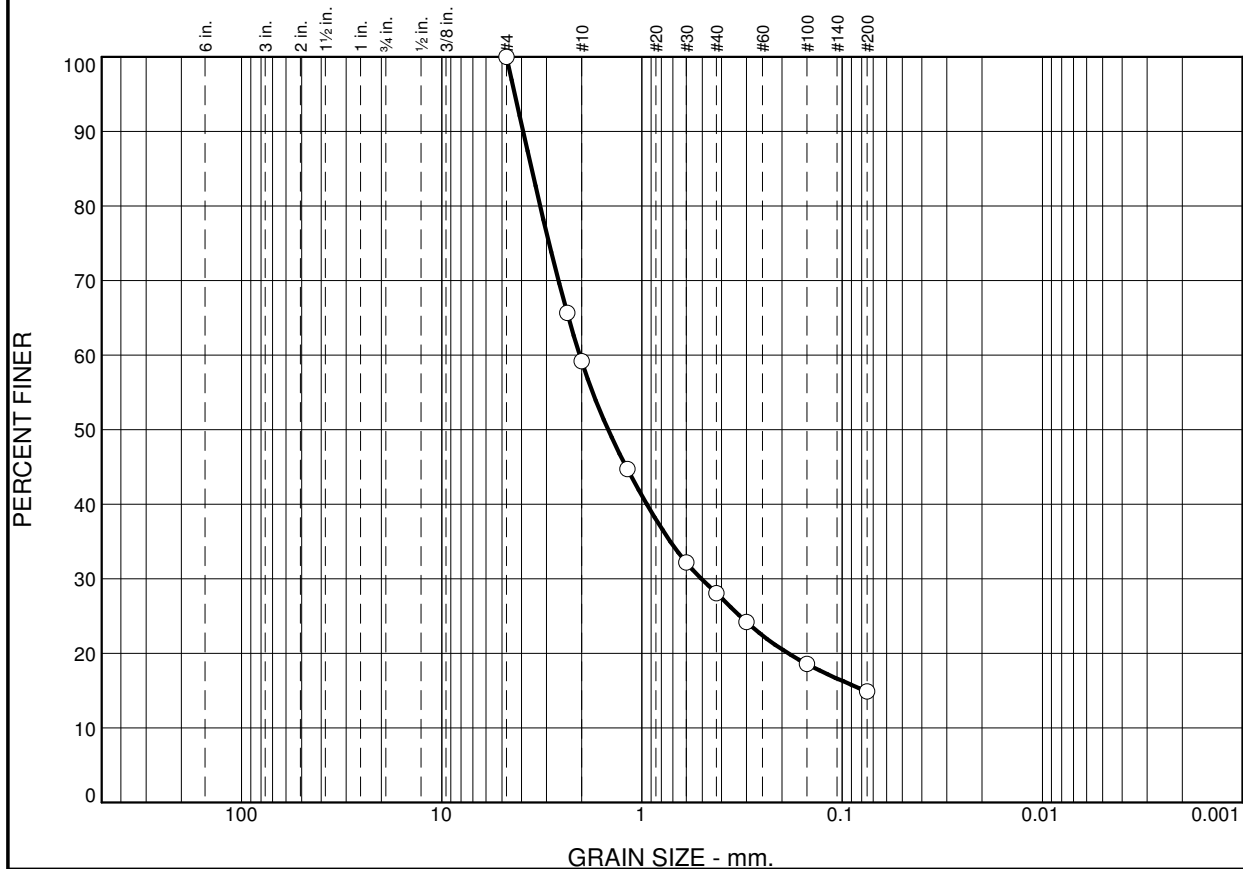
Client: Tetra Tech
Project: Pickles Butte Landfill

Project No: 16042

Lab Number 16L0101

Tested By: AJ Checked By: TT

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	41	31	13	15	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100		
#8	66		
#10	59		
#16	45		
#30	32		
#40	28		
#50	24		
#100	19		
#200	15		

* (no specification provided)

Soil Description

silty sand

Atterberg Limits

PL= 42

LL= 64

PI= 22

Coefficients

D₉₀= 3.9244

D₈₅= 3.5604

D₆₀= 2.0461

D₅₀= 1.4768

D₃₀= 0.5046

D₁₅= 0.0768

D₁₀=

C_u=

C_c=

Classification

USCS= SM

AASHTO= A-2-7(0)

Remarks

Location: T18B
Sample Number: 16L0102

Date: 4-16-16

Hoque & Associates, Inc.
4325 South 34th Street
Phoenix, Arizona 85040

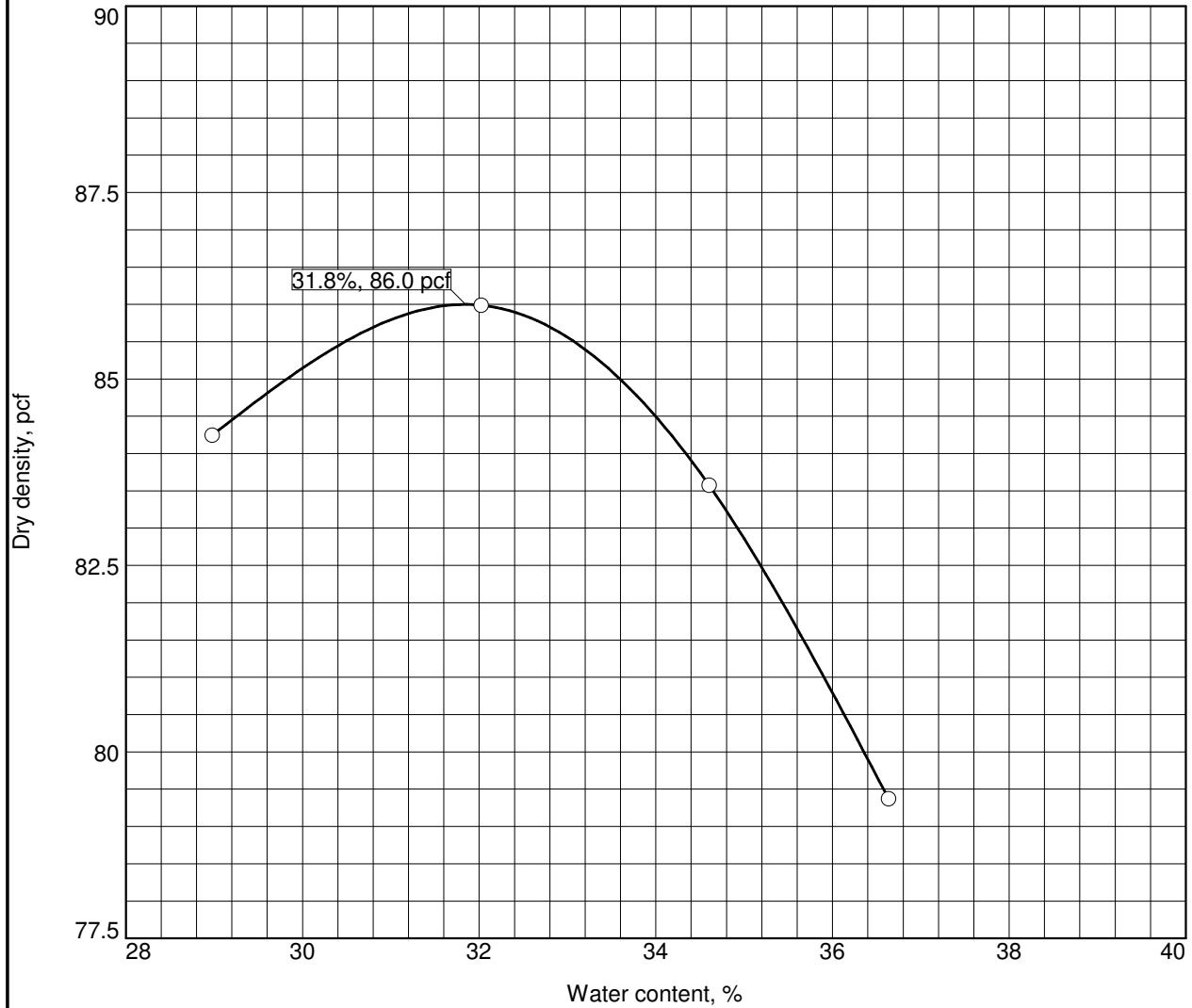
Client: Tetra Tech
Project: Pickles Butte Landfill

Project No: 16042

Lab Number 16L0102

Tested By: AJ Checked By: TT

COMPACTION TEST REPORT



Test specification: ASTM D 1557-00 Method A Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
	SM	A-2-7(0)			64	22	0	15

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 86.0 pcf Optimum moisture = 31.8 %	silty sand

Project No. 16042 Client: Tetra Tech Project: Pickles Butte Landfill Location: T18B Sample Number: 16L0102 Hoque & Associates, Inc. 4325 South 34th Street Phoenix, Arizona 85040	Remarks: Lab Number 16L0102
--	--

Tested By: AJ Checked By: TT

PERMEABILITY



4325 South 34th Street
Phoenix, Arizona 85040
Tel : 480-921-1368
Fax : 480-921-0194

Client :	Tetra Tech BAS	HA Project No. :	16042
Project :	Pickles Butte Sanitary Landfill	HA Lab No.:	16L0095
Location:	Nampa, ID	Date Received :	4/16/16
		Test Type:	
Material :	Silty Sand	Method:	ASTM D5084
Mat. Source :	T14B	Tested By :	AJ/TT
Sampled By :	Client	Test Dates :	4/28/2016
Sampled Date :		Notes:	
Submitted by :	Client		

Sample No.:	16L0095
Dry density (pcf):	96.3
Moisture Content:	15.6%

Cell Pressure (psi):	66.0
Top Pressure (psi):	60.0
Bottom Pressure (psi):	61.0
Bias Pressure (psi):	1.0

Volume of flow (cm ³):	24.3
Length of sample (cm):	11.7
Area of sample (cm ²):	41.5
Time of flow (sec):	173.0

Permeability, k = 7.98E-01 in/hr 5.63E-04 cm/sec)

PERMEABILITY



4325 South 34th Street
Phoenix, Arizona 85040
Tel : 480-921-1368
Fax : 480-921-0194

Client :	Tetra Tech BAS	HA Project No. :	16042
Project :	Pickles Butte Sanitary Landfill	HA Lab No.:	16L0096
Location:	Nampa, ID	Date Received :	4/16/16
		Test Type:	
Material :	Sandy Silt	Method:	ASTM D5084
Mat. Source :	T15A	Tested By :	AJ/TT
Sampled By :	Client	Test Dates :	5/10/2016
Sampled Date :		Notes:	
Submitted by :	Client		

Sample No.:	16L0096
Dry density (pcf):	96.3
Moisture Content:	14.6%

Cell Pressure (psi):	67.0
Top Pressure (psi):	60.0
Bottom Pressure (psi):	62.0
Bias Pressure (psi):	2.0

Volume of flow (cm ³):	23.7
Length of sample (cm):	12.2
Area of sample (cm ²):	40.2
Time of flow (sec):	1200.0

Permeability, k = 6.01E-02 in/hr 4.24E-05 cm/sec)

PERMEABILITY



4325 South 34th Street
Phoenix, Arizona 85040
Tel : 480-921-1368
Fax : 480-921-0194

Client :	Tetra Tech BAS	HA Project No. :	16042
Project :	Pickles Butte Sanitary Landfill	HA Lab No.:	16L0098
Location:	Nampa, ID	Date Received :	4/16/16
		Test Type:	
Material :	Silty Sand	Method:	ASTM D5084
Mat. Source :	T16B	Tested By :	AJ/TT
Sampled By :	Client	Test Dates :	5/12/2016
Sampled Date :		Notes:	
Submitted by :	Client		

Sample No.:	16L0098
Dry density (pcf):	95.3
Moisture Content:	12.0%

Cell Pressure (psi):	67.0
Top Pressure (psi):	60.0
Bottom Pressure (psi):	62.0
Bias Pressure (psi):	2.0

Volume of flow (cm ³):	24.0
Length of sample (cm):	12.5
Area of sample (cm ²):	40.8
Time of flow (sec):	300.0

Permeability, k = 2.46E-01 in/hr 1.74E-04 cm/sec)

PERMEABILITY



4325 South 34th Street
Phoenix, Arizona 85040
Tel : 480-921-1368
Fax : 480-921-0194

Client :	Tetra Tech BAS	HA Project No. :	16042
Project :	Pickles Butte Sanitary Landfill	HA Lab No.:	16L0102
Location:	Nampa, ID	Date Received :	4/16/16
		Test Type:	
Material :	Silty Sand	Method:	ASTM D5084
Mat. Source :	T18B	Tested By :	AJ/TT
Sampled By :	Client	Test Dates :	5/13/2016
Sampled Date :		Notes:	
Submitted by :	Client		

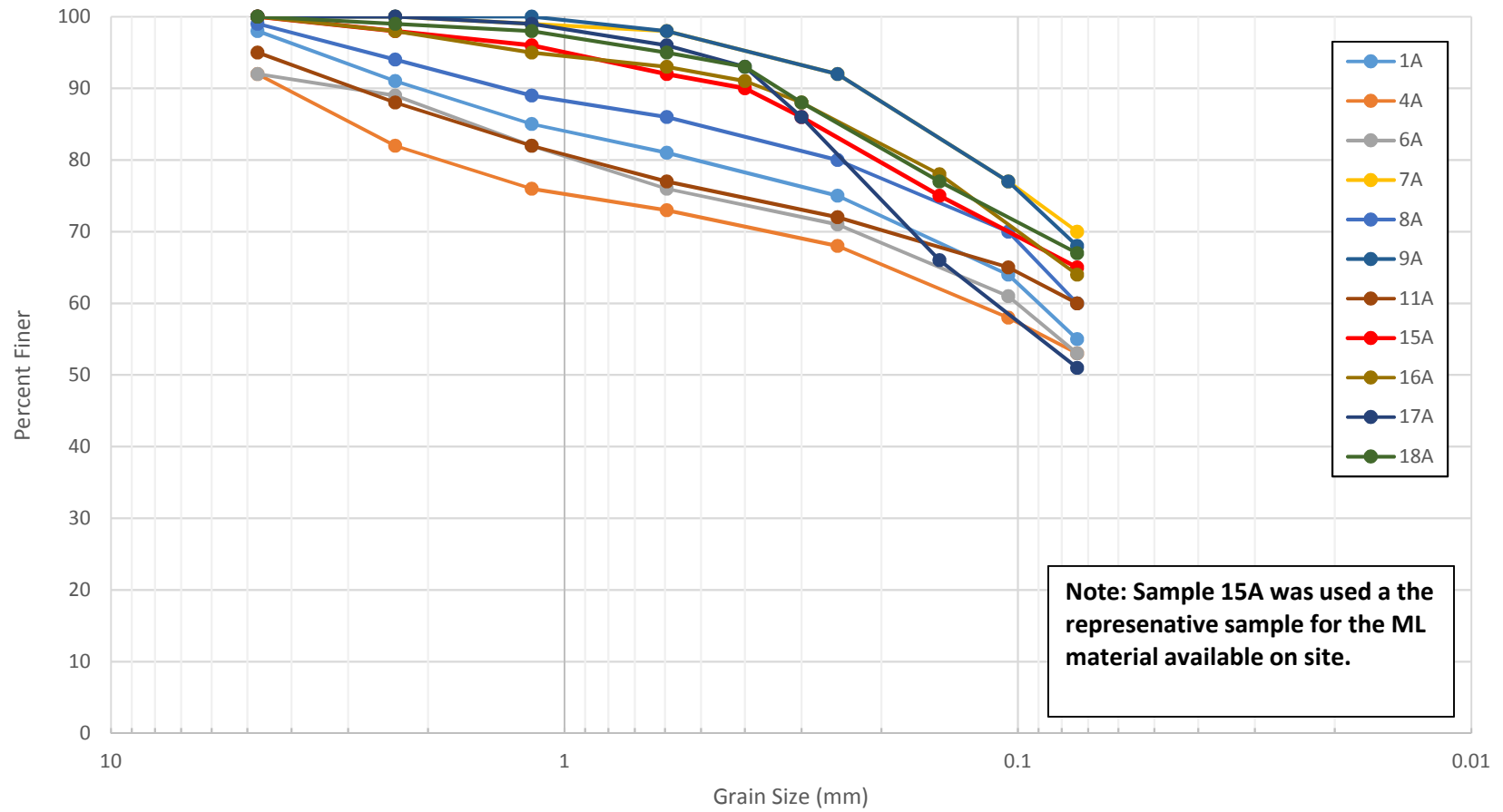
Sample No.:	16L0102
Dry density (pcf):	79.6
Moisture Content:	32.6%

Cell Pressure (psi):	68.0
Top Pressure (psi):	60.0
Bottom Pressure (psi):	63.0
Bias Pressure (psi):	3.0

Volume of flow (cm ³):	16.1
Length of sample (cm):	12.2
Area of sample (cm ²):	41.0
Time of flow (sec):	1860.0

Permeability, k = 1.73E-02 in/hr 1.22E-05 cm/sec)

Test Pit Sieve Data



TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T14

Legal				Descriptive	
Location:	T	R	S	Tract	Location:
					North of active landfill

Date	Date	Excavation Company/
Started: <u>4/8/2016</u>	Completed: <u>4/8/2016</u>	Operator: <u>Canyon County Solid Waste / Randy</u>

Excavation	Test Pit	Total Depth
Method: <u>Backhoe</u>	size (ft.) <u>3 x 12</u>	Excavated (ft.): <u>12.5</u>
Logged by: <u>R. Phillips</u>		

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.75 feet. Depth to bottom of usable material = 3.5 feet.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design
City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T15
Legal **Descriptive**
Location: **T** **R** **S** **Tract** **Location:** North of active landfill, close to Deer Flat Road
Date **Date** **Excavation Company/**
Started: 4/8/2016 **Completed:** 4/8/2016 **Operator:** Canyon County Solid Waste / Randy
Excavation **Test Pit** **Total Depth**
Method: Backhoe **size (ft.)** 3 x 16 **Excavated (ft.):** 13.5 **Logged by:** R. Phillips
Groundwater Encountered? N **Approx. Depth:** NA **Groundwater Samples Collected?** NA
REMARKS: Depth to top of usable material = 0.5 feet. Depth to bottom of usable material = 7.5 feet.

Depth (FT) below ground surface	LITHOLOGIC DESCRIPTION	Sample Collected
0	Topsoil, organic material (roots)	
0.5	SILT with sand; stiff to hard at 12", moist, non plastic. Trace clay, sand is fine	15A (5 gallon bucket)
	grained, a few cemented nodules and layers beginning at about 12", cementation is	
	moderate, then out of the harder cementation by 3.8 feet. Weaker cementation below	
	that (ML)	
5.0	SILT; hard, slightly moist, non-plastic, moderately to weakly cemented. Most	15B (1 gallon bag of
	cemented pieces crumble with moderate to firm thumb pressure. However there are	cemented pieces)
	layers, usually ~1" thick, that are strongly cemented and cannot be broken by hand.(ML)	
7.5	SILT with sand; as above, but there has been a gradual increase in fine sand. (ML)	
9.5	Silty SAND; dense, slightly moist, poorly graded, fine grained. Cementation present,	15C (5 gallon bucket)
	~10% to 15% of spoils are cemented pieces, usually strong, very light brown (SM)	
12.0	Sand/silt ratio increases with depth, by ~12 feet I would classify as Poorly Graded	
	SAND with silt. Still fine grained, but grain size has increased. Cementation still	
	present as described in the layer from 9.5 to 12 feet.	
13.5	Bottom of Hole	

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design
City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T16
Legal **Descriptive**
Location: **T** **R** **S** **Tract** **Location:** North of landfill, near top of slope to west
Date **Date** **Excavation Company/**
Started: 4/8/2016 **Completed:** 4/8/2016 **Operator:** Canyon County Solid Waste / Randy
Excavation **Test Pit** **Total Depth**
Method: Backhoe **size (ft.)** 3 x 16 **Excavated (ft.):** 12.5 **Logged by:** R. Phillips
Groundwater Encountered? N **Approx. Depth:** NA **Groundwater Samples Collected?** NA

REMARKS: Depth to top of usable material = 0.33 feet. Depth to bottom of usable material = 5.5 feet.

The material from 8.5 to 10.5 could also be useful, but it is under 3 feet of unusable material.

Depth (FT) below ground surface	LITHOLOGIC DESCRIPTION	Sample Collected
0	Topsoil, organic material (roots)	
0.33	SILT with sand and clay; firm to stiff, moist, non plastic, medium to dark brown	16A (5 gallon bucket)
	(ML)	(from 6 to 18")
	some cementation beginning at 1.5 feet, then stronger at 2 feet	
	Lighter color (medium brown) below 3.5 feet but still similar material. Sand content	
	probably increases at that depth. Moderately hard to dig, but cemented pieces break	16B (5 gallon bucket)
	with moderate to firm thumb pressure	(from 4 to 5.5')
5.5	Silty SAND: loose to medium dense, slightly moist, fine grained, poorly graded, some	
	cementation, light brown (SM)	
7.3	Cemented SILT; hard, dry, very light brown (typical SW Idaho 'hardpan')	
8.5	Back into Sandy SILT. Quite similar to the material from 3.5 to 5.5, with smaller	16C (4 - 1 gallon bags)
	blocks in the spoils, and a lighter color. Blocks crumble easily. Silt/Sand ratio	(8.5 to 9.5)
	increases with depth, becoming SILT with sand then SILT	
	Stronger cementation again below 10.5 feet, continues to bottom of hole	
12.5	Bottom of Hole	

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T17

Legal				Descriptive	
Location:	T	R	S	Tract	Location:
					Northwest of Landfill, near Perch Road

Date	Date	Excavation Company/
Started: <u>4/8/2016</u>	Completed: <u>4/8/2016</u>	Operator: <u>Canyon County Solid Waste / Randy</u>

Excavation	Test Pit	Total Depth
Method: <u>Backhoe</u>	size (ft.) <u>3 x 16</u>	Excavated (ft.): <u>9.5</u>
Logged by: <u>R. Phillips</u>		

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.5 feet. Depth to bottom of usable material = 5.5 feet.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T18

Legal				Descriptive	
Location:	T _____	R _____	S _____	Tract _____	Location: N. of LF, near top of slope to W and Deer Flat Rd.

Date	Date	Excavation Company/
Started: <u>4/8/2016</u>	Completed: <u>4/8/2016</u>	Operator: <u>Canyon County Solid Waste / Randy</u>

Excavation	Test Pit	Total Depth
Method: <u>Backhoe</u>	size (ft.) <u>3 x 16</u>	Excavated (ft.): <u>10</u>
Logged by: <u>R. Phillips</u>		

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.5 feet. Depth to bottom of usable material = 3.9 feet.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No.	114-571040		Project Name:	Pickles Butte Sanitary Landfill Monolithic Cover Design	
City:	South of Nampa	State:	ID	County:	Canyon
				Test Pit No.:	T19
Legal Location:	T _____ R _____ S _____	Tract	_____	Descriptive Location:	North of LF, NW part of potential borrow area
Date Started:	Date 7/6/2016	Completed:	7/6/2016	Excavation Company/Operator:	Canyon County Solid Waste / Daniel
Excavation Method:	Backhoe	Approx. Test Pit size (ft.)	3 x 15	Total Depth Excavated (ft.):	10.6
				Logged by:	R. Phillips
Groundwater Encountered?	N	Approx. Depth:	NA	Groundwater Samples Collected?	NA

REMARKS: Depth to top of usable material = 1.2 feet. Depth to bottom of usable material = 4 feet.
Material from 4 to 6.7 may also be usable.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T20

Legal				Descriptive	
Location:	T	R	S	Tract	Location:
					NE corner of potential borrow area

Date	Date	Excavation Company/
Started: <u>7/5/2016</u>	Completed: <u>7/5/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u>13.3</u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.5 feet. Depth to bottom of usable material = 5 feet.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T21

Legal				Descriptive	
Location:	T	R	S	Tract	Location:
					Western part of potential borrow area

Date	Date	Excavation Company/
Started: <u>7/6/2016</u>	Completed: <u>7/6/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u>9</u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: The good usable material was not found at this location. The material from 5 to 7.5 *may* be usable.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T22

Legal				Descriptive	
Location:	T	R	S	Tract	Location: <u>W-Central part of northern potential borrow area</u>

Date	Date	Excavation Company/
Started: <u>7/6/2016</u>	Completed: <u>7/6/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u> </u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: The good usable material was not found at this location.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T23

Legal	Descriptive
Location: T _____ R _____ S _____ Tract _____	Location: Center of northern part of potential borrow area

Date	Date	Excavation Company/
Started: <u>7/5/2016</u>	Completed: <u>7/5/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u>10.8</u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.6 feet. Depth to bottom of usable material = 10 feet.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T24

Legal				Descriptive	
Location:	T	R	S	Tract	Location:
					W Central part of northern potential borrow area

Date	Date	Excavation Company/
Started: <u>7/5/2016</u>	Completed: <u>7/5/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u>6</u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.4 feet. Depth to bottom of usable material = 1.1 feet.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T25

Legal Location: T _____ R _____ S _____ Tract _____ Descriptive Location: SW corner of northern potential borrow area

Date	Date	Excavation Company/
Started: <u>7/6/2016</u>	Completed: <u>7/6/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u>7.5</u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Good usable material not found. Material from 2 feet to 6.7 *may* be usable.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T26

Legal **Descriptive**
Location: T _____ R _____ S _____ Tract _____ **Location:** Near the middle of the potential borrow area

Date	Date	Excavation Company/
Started: <u>7/5/2016</u>	Completed: <u>7/5/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u>5.6</u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.25 feet. Depth to bottom of usable material = 4.2 feet.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T27

Legal				Descriptive	
Location:	T	R	S	Tract	Location:
					Eastern edge of potential borrow area

Date	Date	Excavation Company/
Started: <u>7/5/2016</u>	Completed: <u>7/5/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u>8.3</u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.4 feet. Depth to bottom of usable material = 5.5 feet.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T28

Legal **Descriptive**
Location: T _____ R _____ S _____ Tract _____ **Location:** Near the middle of the potential borrow area

Date	Date	Excavation Company/
Started: <u>7/5/2016</u>	Completed: <u>7/5/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u>10.5</u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.25 feet. Depth to bottom of usable material = 4.2 feet.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T29

Legal				Descriptive	
Location:	T	R	S	Tract	Location:
					Eastern edge of potential borrow area

Date	Date	Excavation Company/
Started: <u>7/5/2016</u>	Completed: <u>7/5/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u>8.5</u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.25 feet. Depth to bottom of usable material = 5.5 feet.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T30

Legal	Descriptive
Location: T _____ R _____ S _____ Tract _____	Location: Southern part of potential borrow area

Date	Date	Excavation Company/
Started: <u>7/5/2016</u>	Completed: <u>7/5/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u>5.8</u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.7 feet. Depth to bottom of usable material = 1.9 feet.

Material from 1.9 to 3 feet *may* be usable.

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T31

Legal				Descriptive
Location:	T _____	R _____	S _____	Tract _____
				Location: Southern extent of potential borrow area

Date	Date	Excavation Company/
Started: <u>7/5/2016</u>	Completed: <u>7/5/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u>2</u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.25 feet. Depth to bottom of usable material = 1.4 feet.

Excavation was moved north of proposed location due to topography

[illegible]

TEST PIT LITHOLOGIC LOG

Project No. 114-571040 **Project Name:** Pickles Butte Sanitary Landfill Monolithic Cover Design

City: South of Nampa **State:** ID **County:** Canyon **Test Pit No.:** T32

Legal				Descriptive
Location:	T _____	R _____	S _____	Tract _____
				Location: Northwest central part of borrow area

Date	Date	Excavation Company/
Started: <u>7/6/2016</u>	Completed: <u>7/6/2016</u>	Operator: <u>Canyon County Solid Waste / Daniel</u>

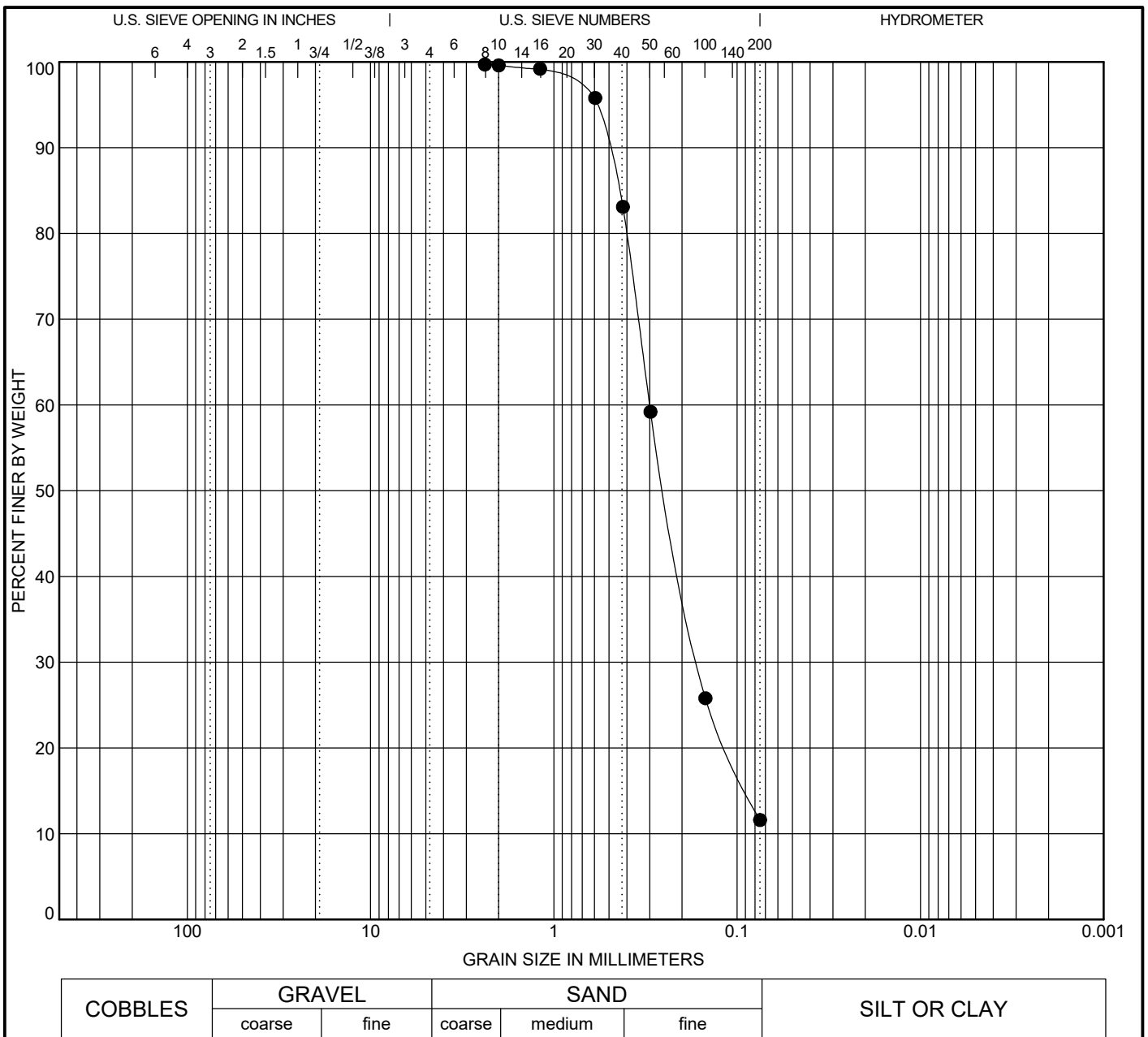
Excavation	Approx. Test	Total Depth
Method: <u>Backhoe</u>	Pit size (ft.) <u>3 x 15</u>	Excavated (ft.): <u>7.7</u>
		Logged by: <u>R. Phillips</u>

Groundwater Encountered? N Approx. Depth: NA Groundwater Samples Collected? NA

REMARKS: Depth to top of usable material = 0.4 feet. Depth to bottom of usable material = 2.5 feet.

Material from 2.5 to 6.8 feet *may* be usable.

[illegible]



SIEVE SIZE	% PASSING
No. 8	99.7
No. 10	99.6
No. 16	99.2
No. 30	95.8
No. 40	83.1
No. 50	59.2
No. 100	25.8
No. 200	11.6

Specimen Identification
B2021-1 - (3 - 6 ft)

Classification					
POORLY GRADED SAND with					
SILT(SP-SM)					
LL	PL	PI	Cc	Cu	
NV	NV	NP	1.27	4.33	

% Gravel	% Sand	% Silt	% Clay
0	88	12	

D100	D60	D30	D10
2.38	0.3	0.163	

GRAIN SIZE DISTRIBUTION

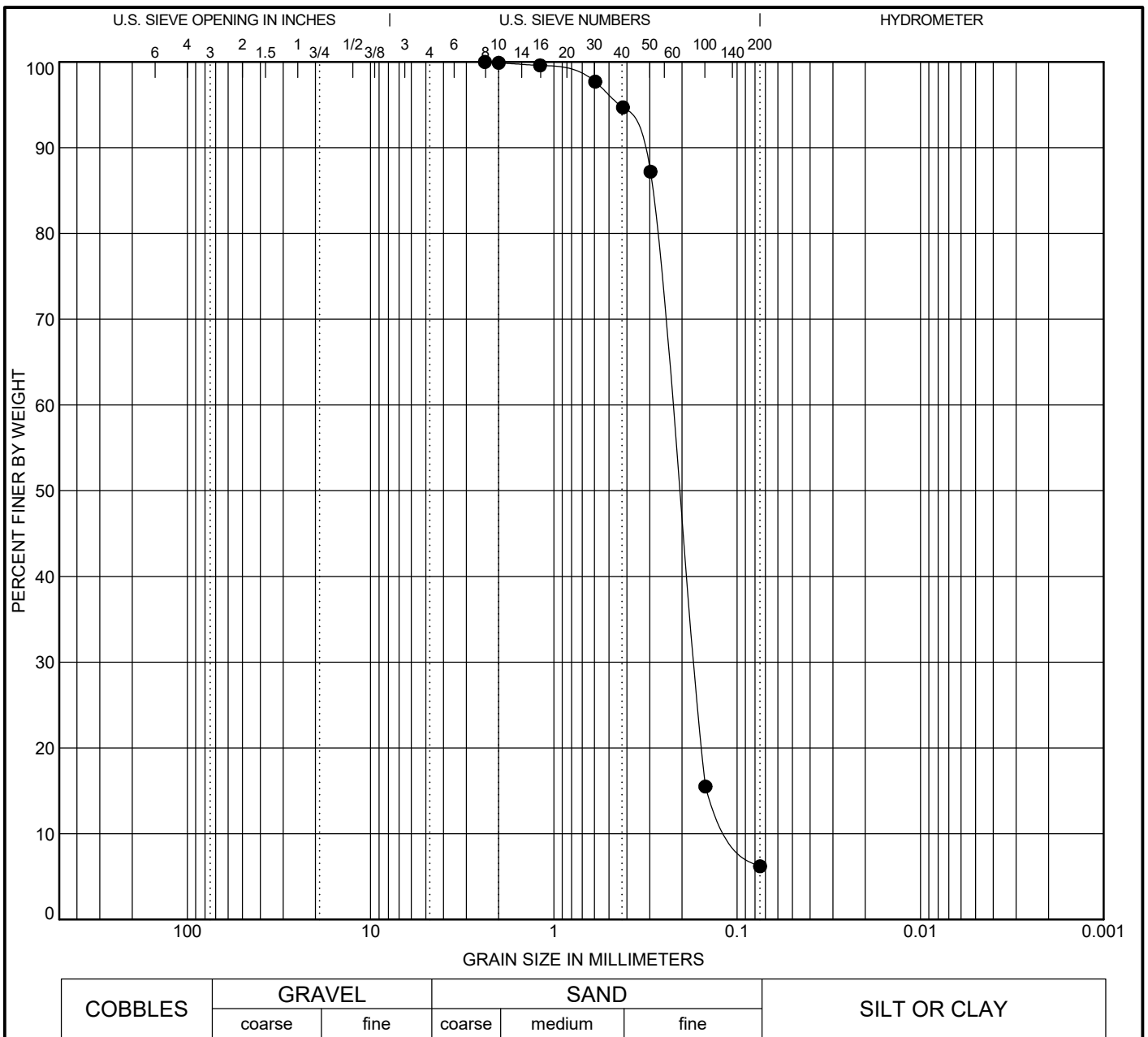
Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 9





SIEVE SIZE	% PASSING
No. 8	100
No. 10	99.9
No. 16	99.6
No. 30	97.7
No. 40	94.7
No. 50	87.2
No. 100	15.5
No. 200	6.2

Specimen Identification
B2021-1 - (25 - 27 ft)

Classification					
POORLY GRADED SAND with					
SILT(SP-SM)					
LL	PL	PI	Cc	Cu	
NV	NV	NP	1.29	2.30	

% Gravel	% Sand	% Silt	% Clay
0	94	6	

D100	D60	D30	D10
2.38	0.229	0.171	0.099

GRAIN SIZE DISTRIBUTION

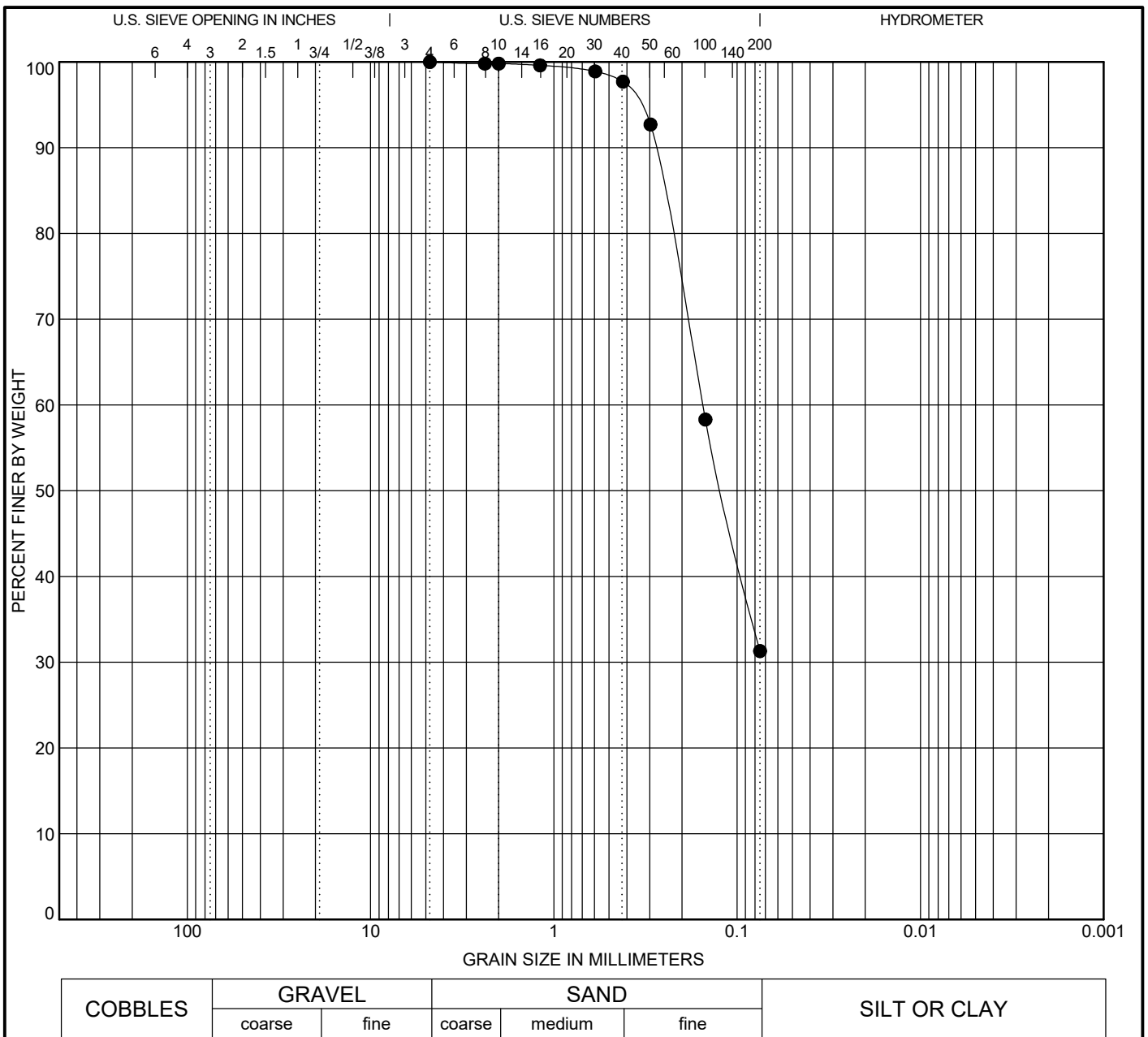


Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 10



SIEVE SIZE	% PASSING
No. 4	100
No. 8	99.8
No. 10	99.8
No. 16	99.6
No. 30	98.9
No. 40	97.7
No. 50	92.7
No. 100	58.3
No. 200	31.3

Specimen Identification
B2021-3 - (25 - 27 ft)

Classification					
SILTY SAND(SM)					
LL	PL	PI	Cc	Cu	
NV	NV	NP			

% Gravel	% Sand	% Silt	% Clay
0	69	31	

D100	D60	D30	D10
4.75	0.154		

GRAIN SIZE DISTRIBUTION

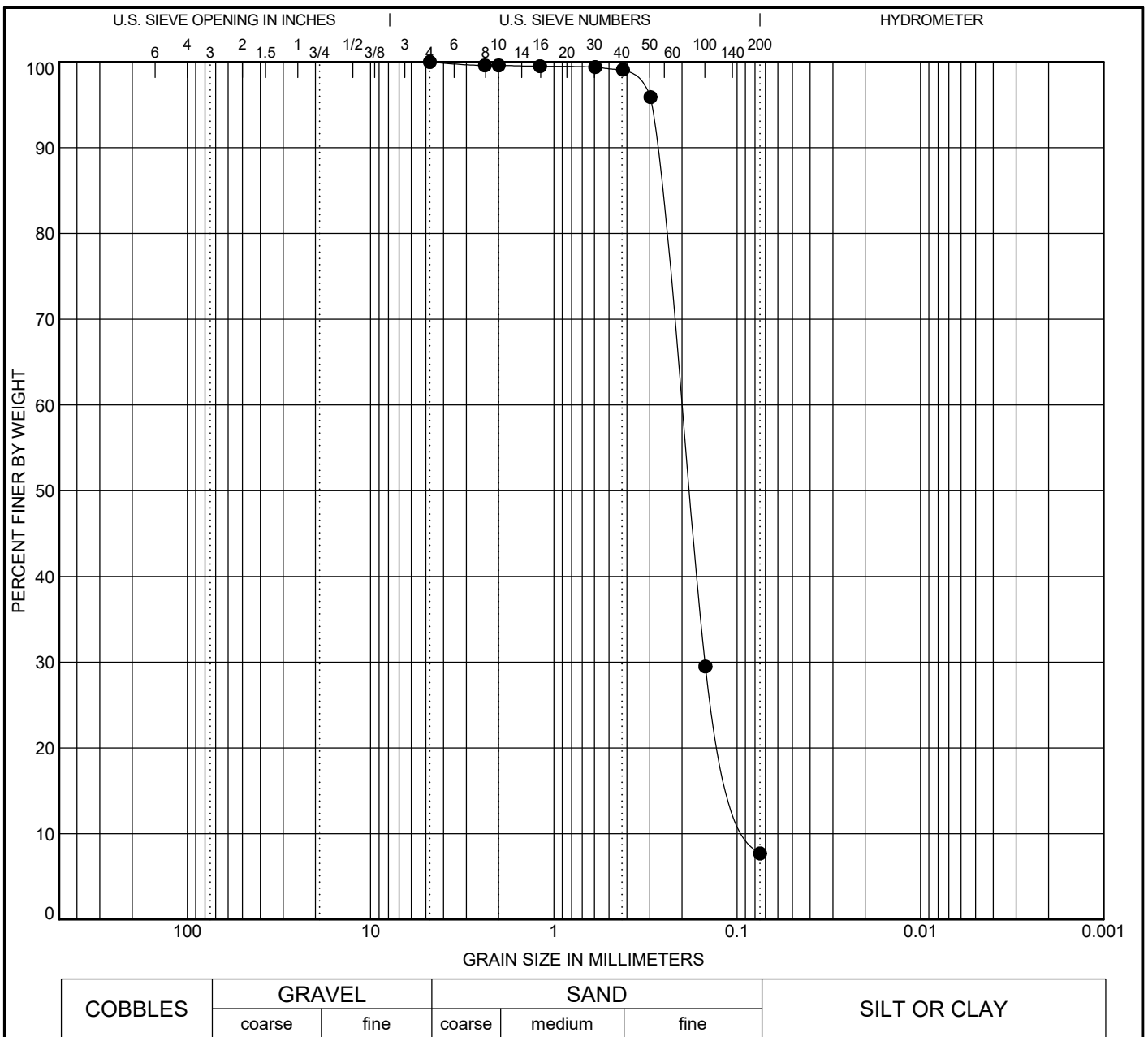
Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 11





SIEVE SIZE	% PASSING
No. 4	100
No. 8	99.6
No. 10	99.6
No. 16	99.5
No. 30	99.4
No. 40	99.1
No. 50	95.9
No. 100	29.5
No. 200	7.7

Specimen Identification
B2021-3 - (61 - 65 ft)

Classification					
POORLY GRADED SAND with					
SILT(SP-SM)					
LL	PL	PI	Cc	Cu	
NV	NV	NP	1.36	2.54	

% Gravel	% Sand	% Silt	% Clay
0	92	8	

D100	D60	D30	D10
4.75	0.205	0.15	0.081

GRAIN SIZE DISTRIBUTION

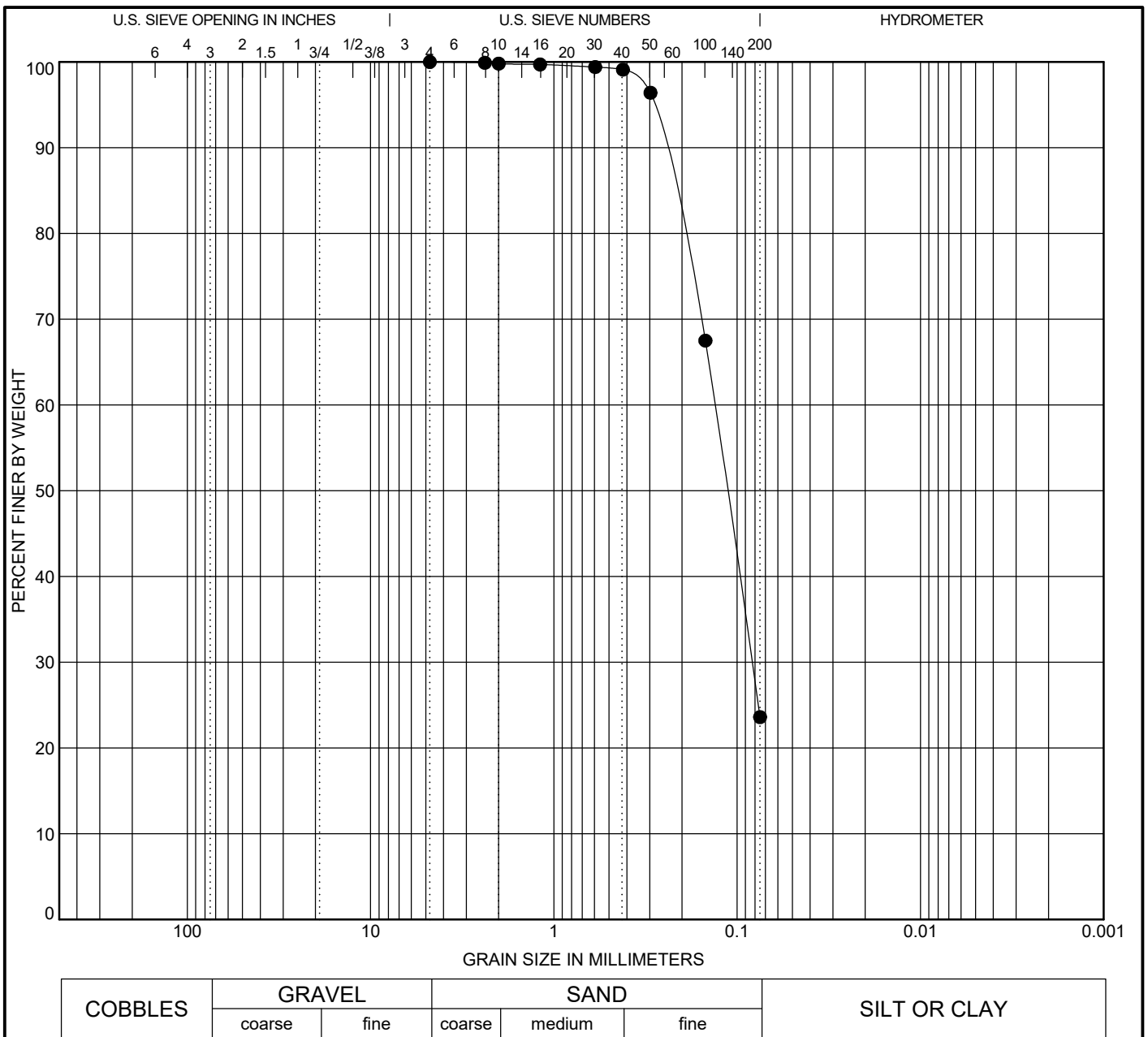
Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 13





SIEVE SIZE	% PASSING
No. 4	100
No. 8	99.9
No. 10	99.8
No. 16	99.7
No. 30	99.4
No. 40	99.1
No. 50	96.4
No. 100	67.5
No. 200	23.6

Specimen Identification
B2021-3 - (80 - 82 ft)

Classification				
SILTY SAND(SM)				
LL	PL	PI	Cc	Cu
NV	NV	NP		

% Gravel	% Sand	% Silt	% Clay
0	76	24	

D100	D60	D30	D10
4.75	0.133	0.083	

GRAIN SIZE DISTRIBUTION

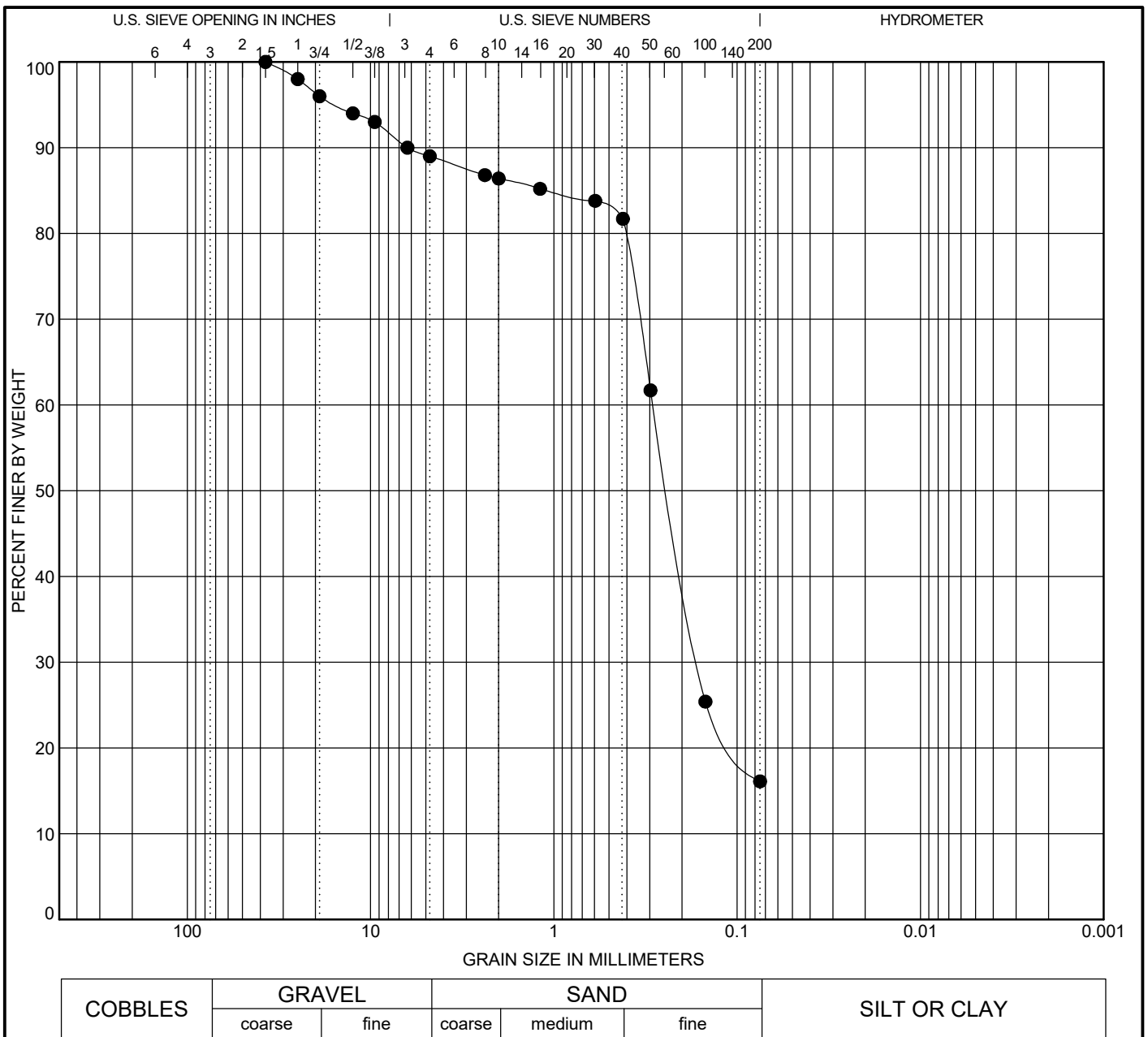
Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 14





SIEVE SIZE	% PASSING
1.5 in	100
1 in	98
3/4 in	96
1/2 in	94
3/8 in	93
1/4 in	90
No. 4	89
No. 8	86.8
No. 10	86.4
No. 16	85.2
No. 30	83.8
No. 40	81.7
No. 50	61.7
No. 100	25.4
No. 200	16.1

Specimen Identification
B2021-3 - (116 - 120 ft)

Classification					
SILTY SAND(SM)					
LL	PL	PI	Cc	Cu	
NV	NV	NP			

% Gravel	% Sand	% Silt	% Clay
11	73	16	

D100	D60	D30	D10
37.5	0.288	0.163	

GRAIN SIZE DISTRIBUTION

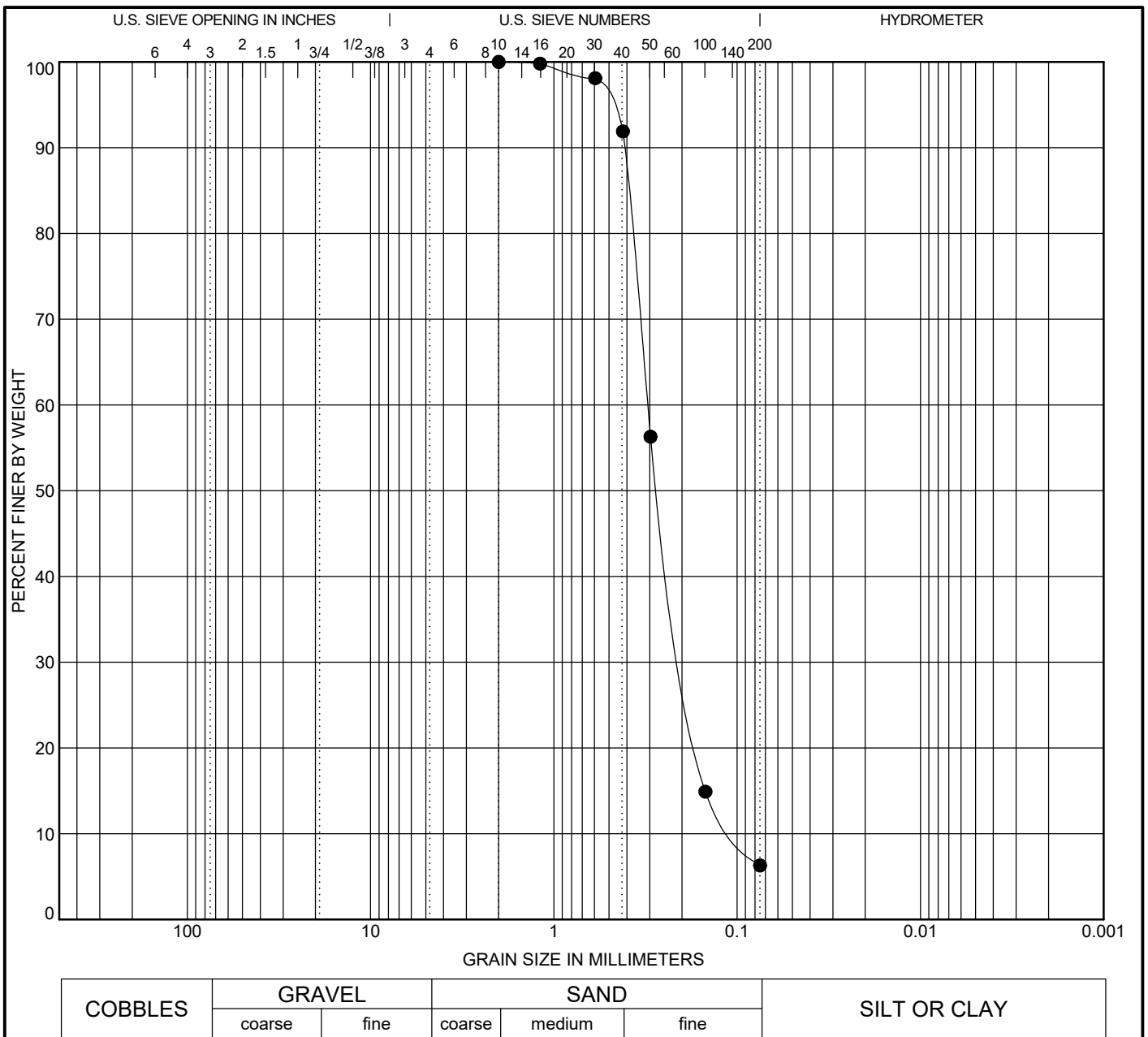
Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 15





SIEVE SIZE	% PASSING
No. 10	100
No. 16	99.8
No. 30	98.1
No. 40	91.9
No. 50	56.3
No. 100	14.9
No. 200	6.3

Specimen Identification
B2021-4 - (50 - 51.5 ft)

Classification					
POORLY GRADED SAND with					
SILT(SP-SM)					
LL	PL	PI	Cc	Cu	
NV	NV	NP	1.18	3.06	

% Gravel	% Sand	% Silt	% Clay
0	94	6	

D100	D60	D30	D10
2	0.308	0.192	0.101

GRAIN SIZE DISTRIBUTION

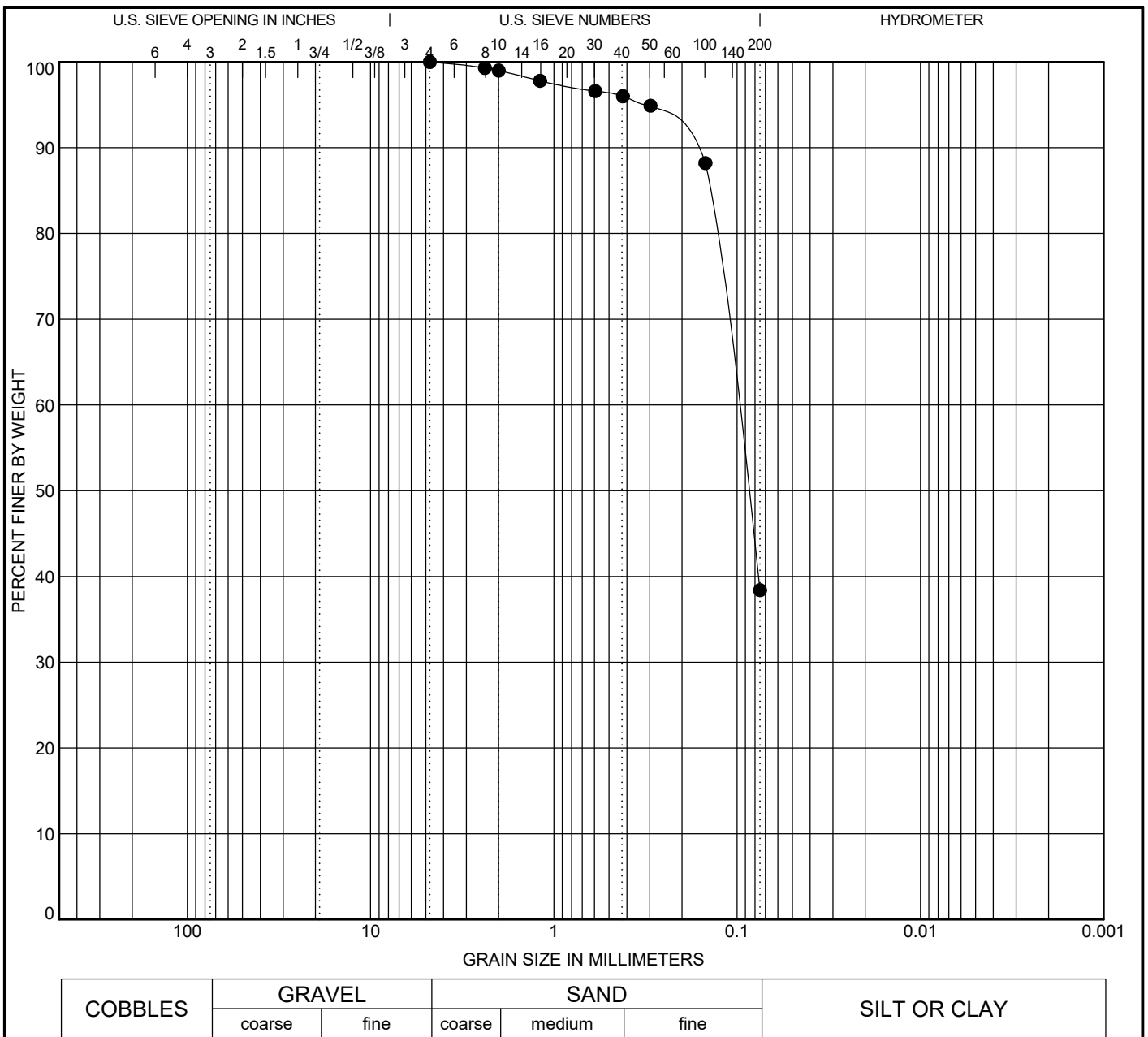
Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 16





SIEVE SIZE	% PASSING
No. 4	100
No. 8	99.3
No. 10	99
No. 16	97.8
No. 30	96.6
No. 40	96
No. 50	94.9
No. 100	88.2
No. 200	38.4

Specimen Identification
B2021-4 - (90 - 91.5 ft)

Classification				
SILTY SAND(SM)				
LL	PL	PI	Cc	Cu
NV	NV	NP		

% Gravel	% Sand	% Silt	% Clay
0	62	38	

D100	D60	D30	D10
4.75	0.101		

GRAIN SIZE DISTRIBUTION

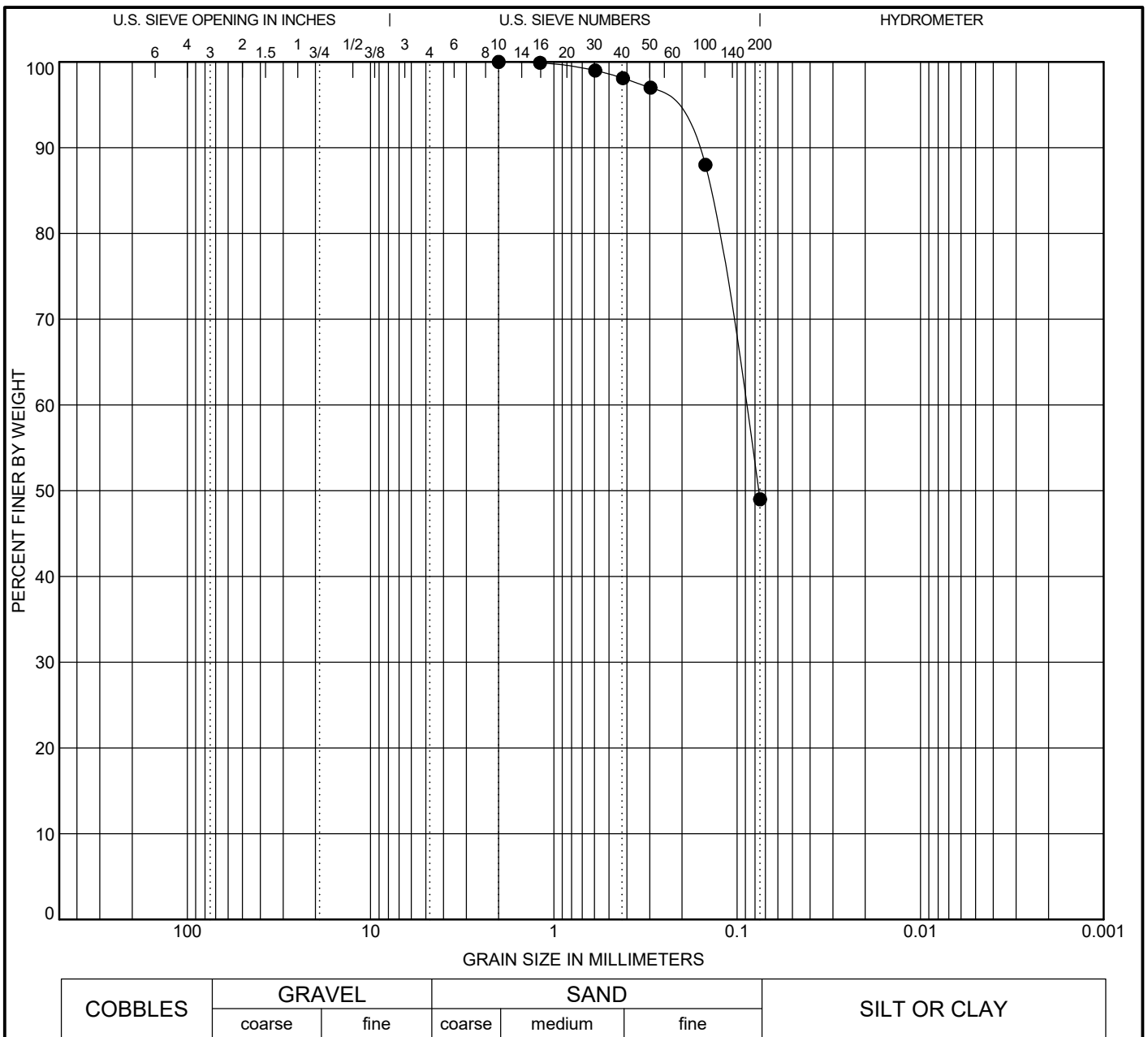


Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 17



SIEVE SIZE	% PASSING
No. 10	100
No. 16	99.9
No. 30	99
No. 40	98.1
No. 50	97
No. 100	88
No. 200	49

Specimen Identification
B2021-4 - (120 - 120.9 ft)

Classification				
SILTY SAND(SM)				
LL	PL	PI	Cc	Cu
NV	NV	NP		

% Gravel	% Sand	% Silt	% Clay
0	51	49	

D100	D60	D30	D10
2	0.091		

GRAIN SIZE DISTRIBUTION

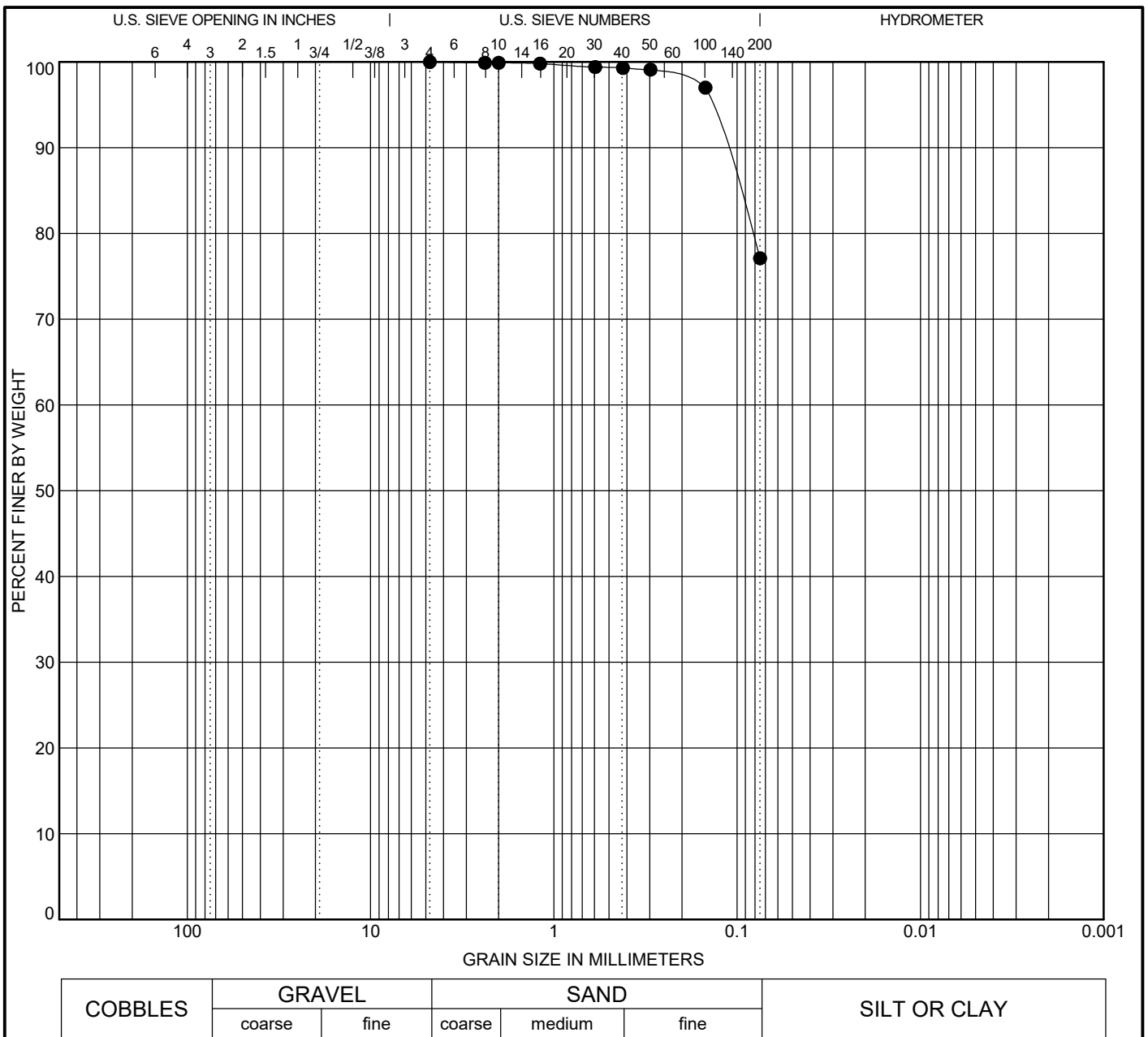


Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 18



SIEVE SIZE	% PASSING
No. 4	100
No. 8	99.9
No. 10	99.9
No. 16	99.8
No. 30	99.4
No. 40	99.3
No. 50	99.1
No. 100	97
No. 200	77.1

Specimen Identification
B2021-5 - (69 - 70 ft)

Classification					
SILT with SAND(ML)					
LL	PL	PI	Cc	Cu	
27	20	7			

% Gravel	% Sand	% Silt	% Clay
0	23	77	

D100	D60	D30	D10
4.75			

GRAIN SIZE DISTRIBUTION

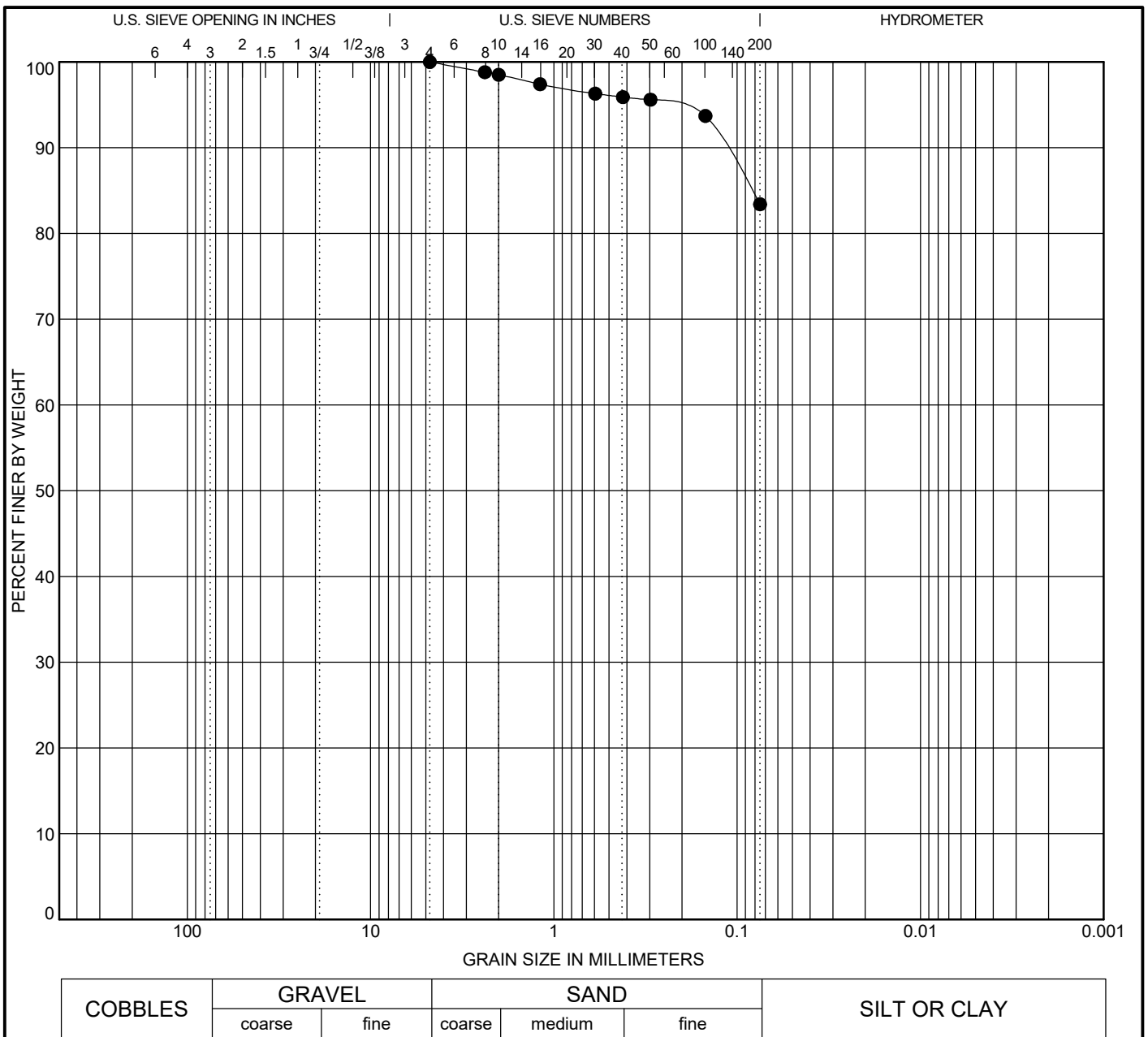


Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 19



SIEVE SIZE	% PASSING
No. 4	100
No. 8	98.8
No. 10	98.5
No. 16	97.4
No. 30	96.3
No. 40	95.9
No. 50	95.6
No. 100	93.7
No. 200	83.4

Specimen Identification
B2021-5 - (80 - 81.5 ft)

Classification					
LEAN CLAY with SAND(CL)					
LL	PL	PI	Cc	Cu	
35	21	14			

% Gravel	% Sand	% Silt	% Clay
0	17	83	

D100	D60	D30	D10
4.75			

GRAIN SIZE DISTRIBUTION

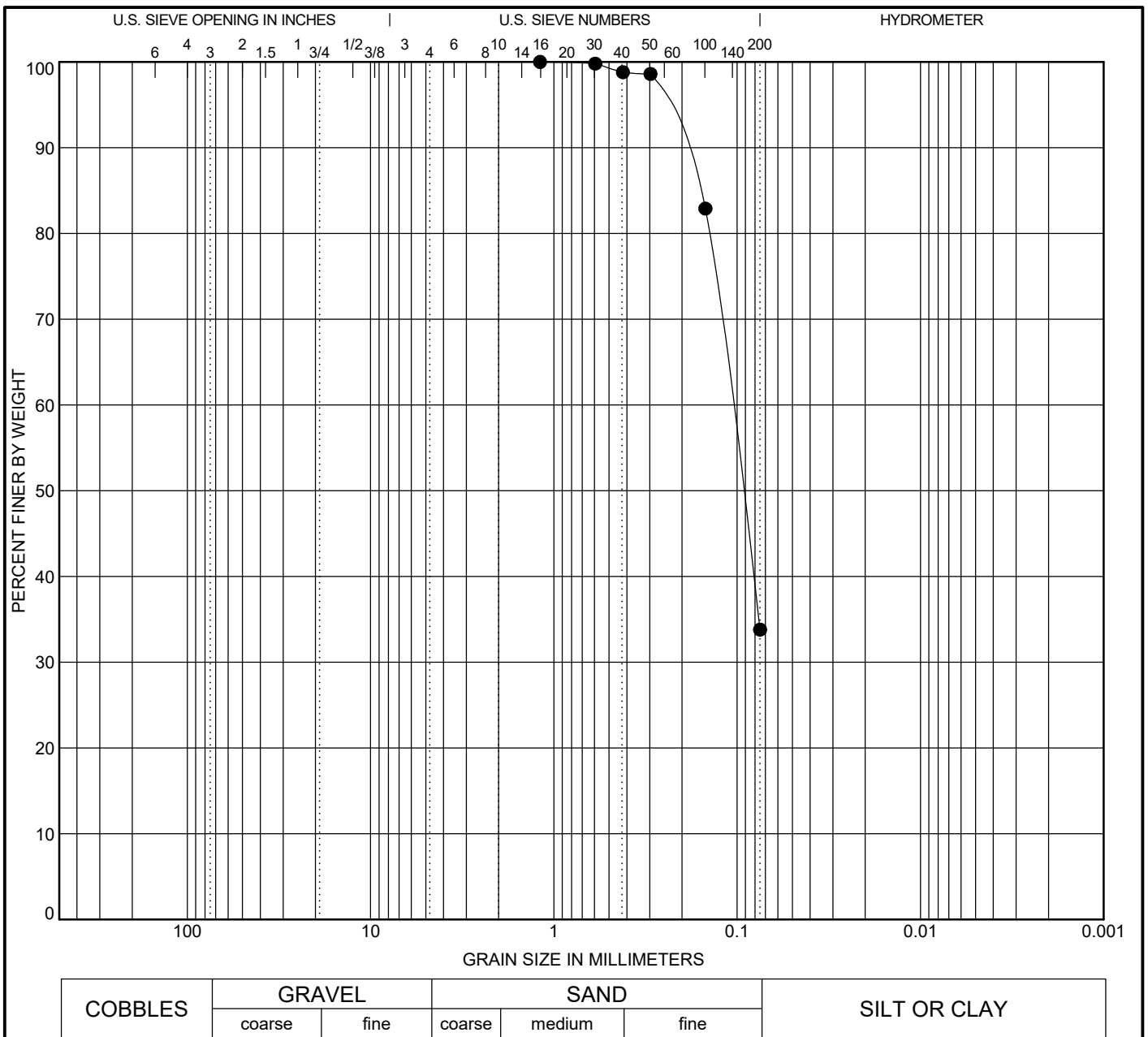


Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 20



SIEVE SIZE	% PASSING
No. 16	100
No. 30	99.8
No. 40	98.8
No. 50	98.6
No. 100	82.9
No. 200	33.8

Specimen Identification
B2021-5 - (90 - 91.5 ft)

Classification				
SILTY SAND(SM)				
LL	PL	PI	Cc	Cu
NV	NV	NP		

% Gravel	% Sand	% Silt	% Clay
0	66	34	

D100	D60	D30	D10
1.19	0.108		

GRAIN SIZE DISTRIBUTION

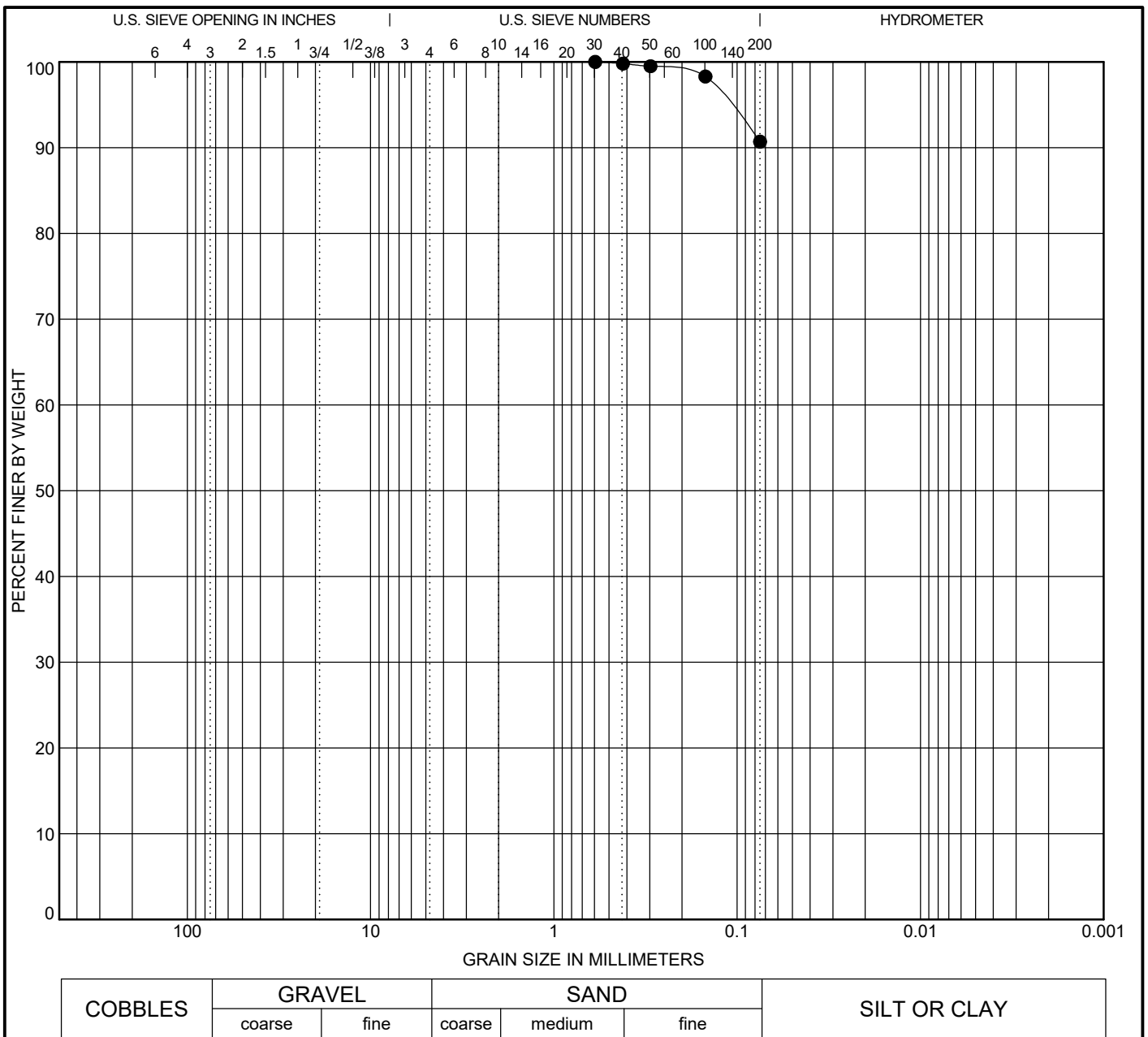


Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 21



SIEVE SIZE	% PASSING
No. 30	100
No. 40	99.8
No. 50	99.5
No. 100	98.3
No. 200	90.7

Specimen Identification
B2021-6 - (79 - 81 ft)

Classification	LL	PL	PI	Cc	Cu
FAT CLAY(CH)	67	19	48		

% Gravel	% Sand	% Silt	% Clay
0	9	91	

D100	D60	D30	D10
0.595			

GRAIN SIZE DISTRIBUTION

Project: Pickles Butte Sanitary Landfill - Canyon County, ID

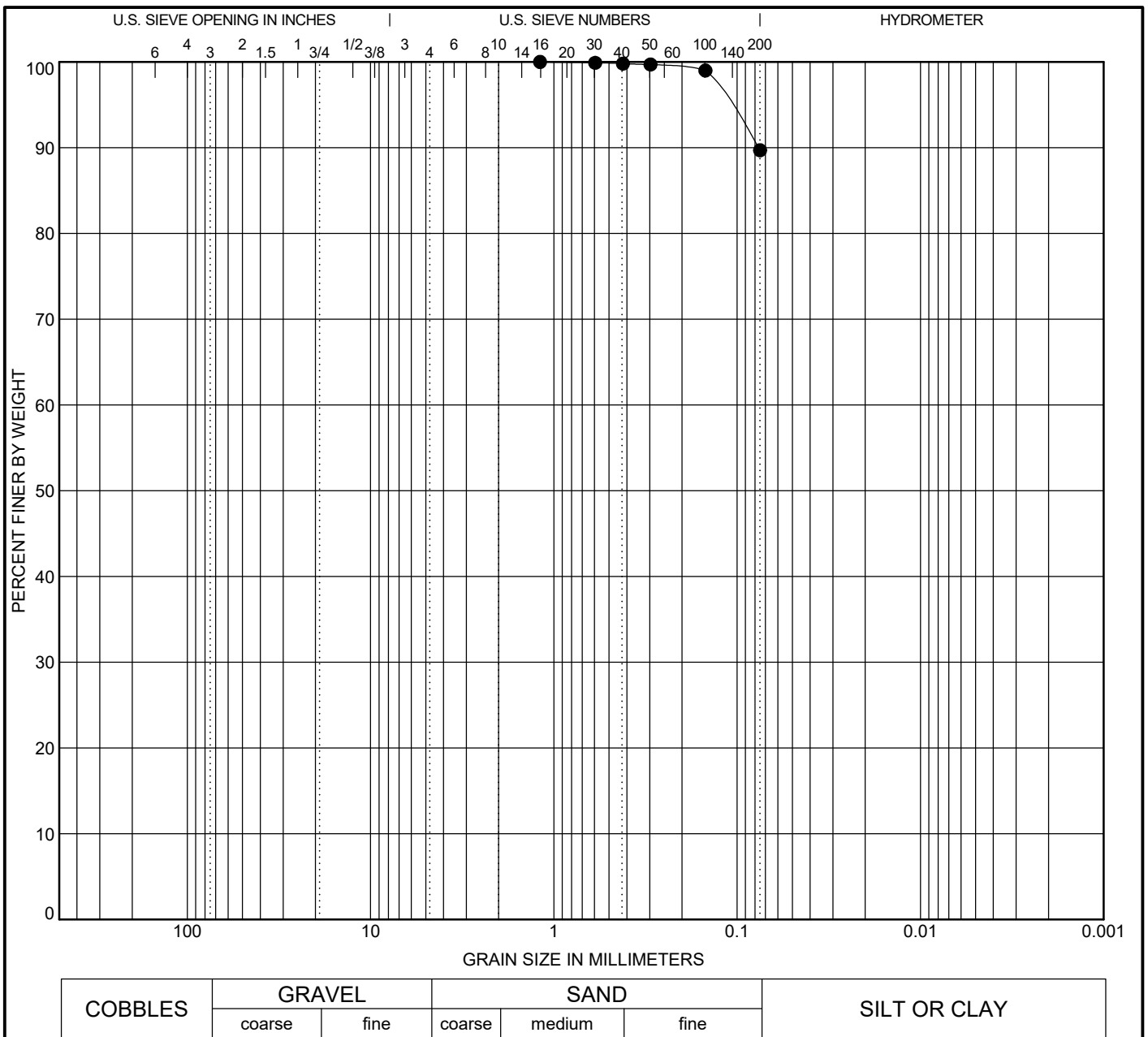
Location: Refer to site map.

Number: 114-571040-2022

Figure No. 22



TETRA TECH



SIEVE SIZE	% PASSING
No. 16	100
No. 30	99.9
No. 40	99.8
No. 50	99.7
No. 100	99
No. 200	89.7

Specimen Identification
B2021-6 - (99 - 102 ft)

Classification					
FAT CLAY(CH)					
LL	PL	PI	Cc	Cu	
56	22	34			

% Gravel	% Sand	% Silt	% Clay
0	10	90	

D100	D60	D30	D10
1.19			

GRAIN SIZE DISTRIBUTION

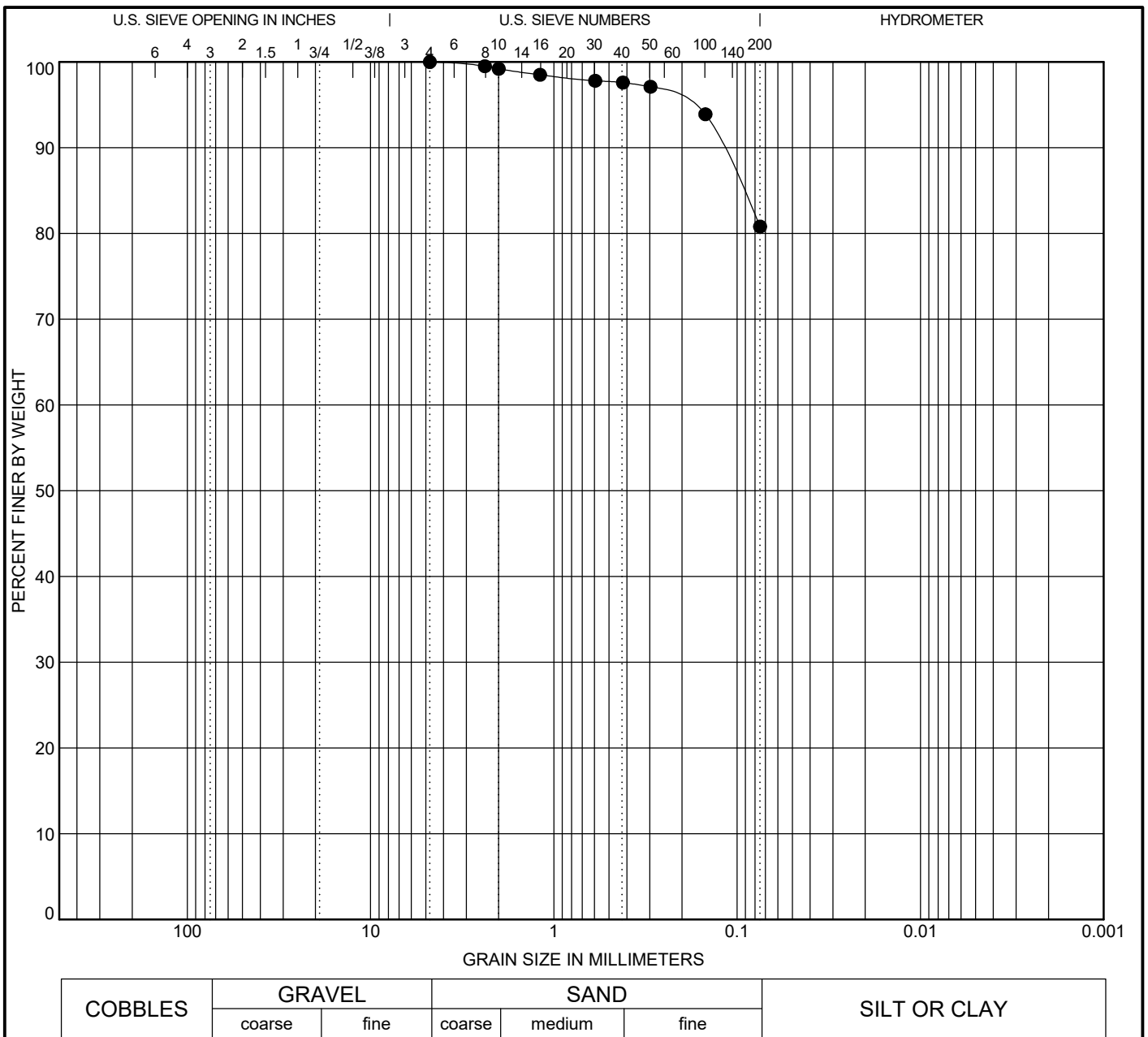


Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 23



SIEVE SIZE	% PASSING
No. 4	100
No. 8	99.5
No. 10	99.2
No. 16	98.5
No. 30	97.8
No. 40	97.6
No. 50	97.1
No. 100	93.9
No. 200	80.8

Specimen Identification
B2021-6 - (106 - 107 ft)

Classification					
LEAN CLAY with SAND(CL)					
LL	PL	PI	Cc	Cu	
47	22	25			

% Gravel	% Sand	% Silt	% Clay
0	19	81	

D100	D60	D30	D10
4.75			

GRAIN SIZE DISTRIBUTION

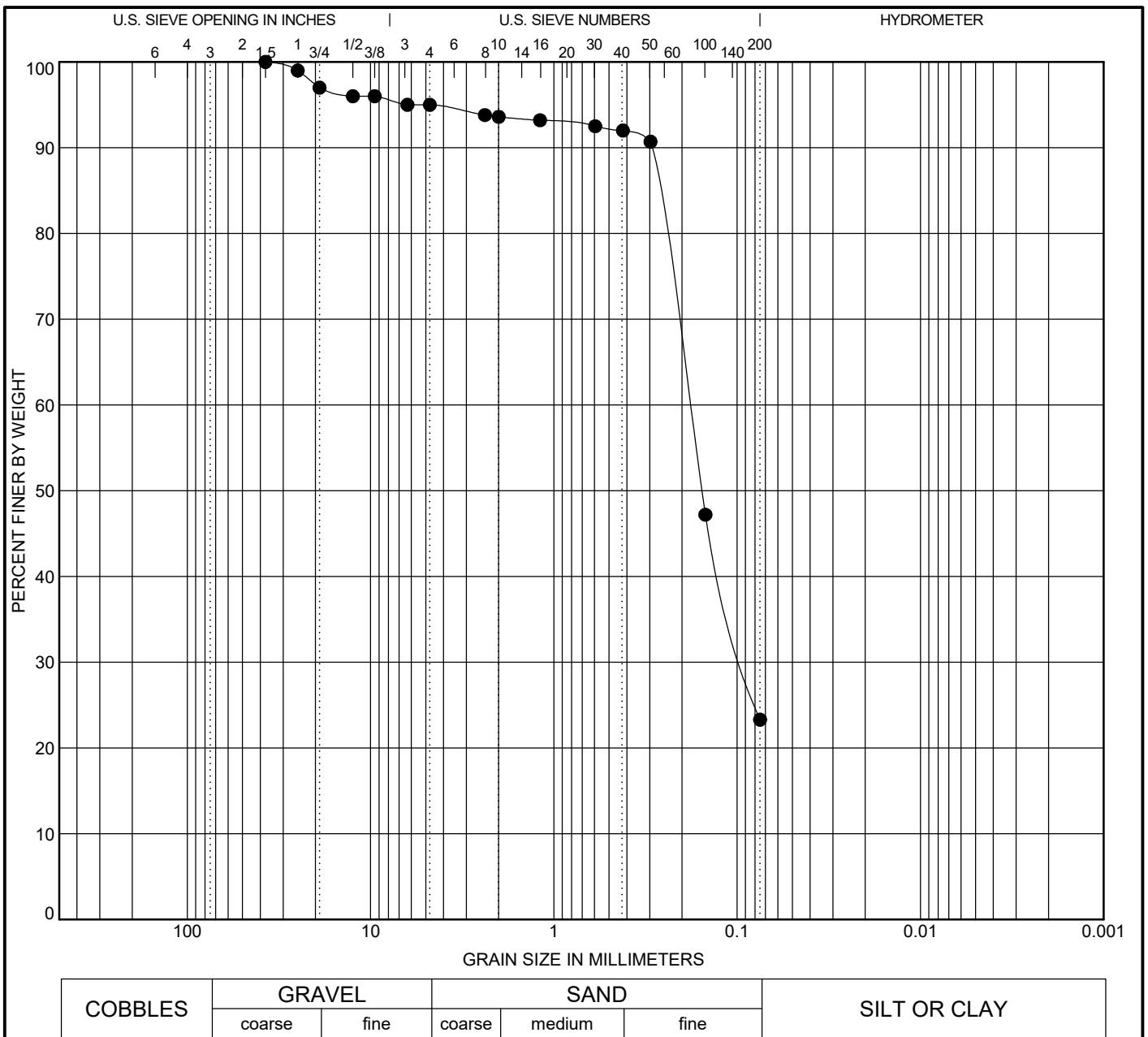


Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 24



SIEVE SIZE	% PASSING
1.5 in	100
1 in	99
3/4 in	97
1/2 in	96
3/8 in	96
1/4 in	95
No. 4	95
No. 8	93.8
No. 10	93.6
No. 16	93.2
No. 30	92.5
No. 40	92
No. 50	90.7
No. 100	47.2
No. 200	23.3

Specimen Identification
B2021-7 - (39 - 41 ft)

Classification					
SILTY SAND(SM)					
LL	PL	PI	Cc	Cu	
NV	NV	NP			

% Gravel	% Sand	% Silt	% Clay
5	72	23	

D100	D60	D30	D10
37.5	0.183	0.091	

GRAIN SIZE DISTRIBUTION

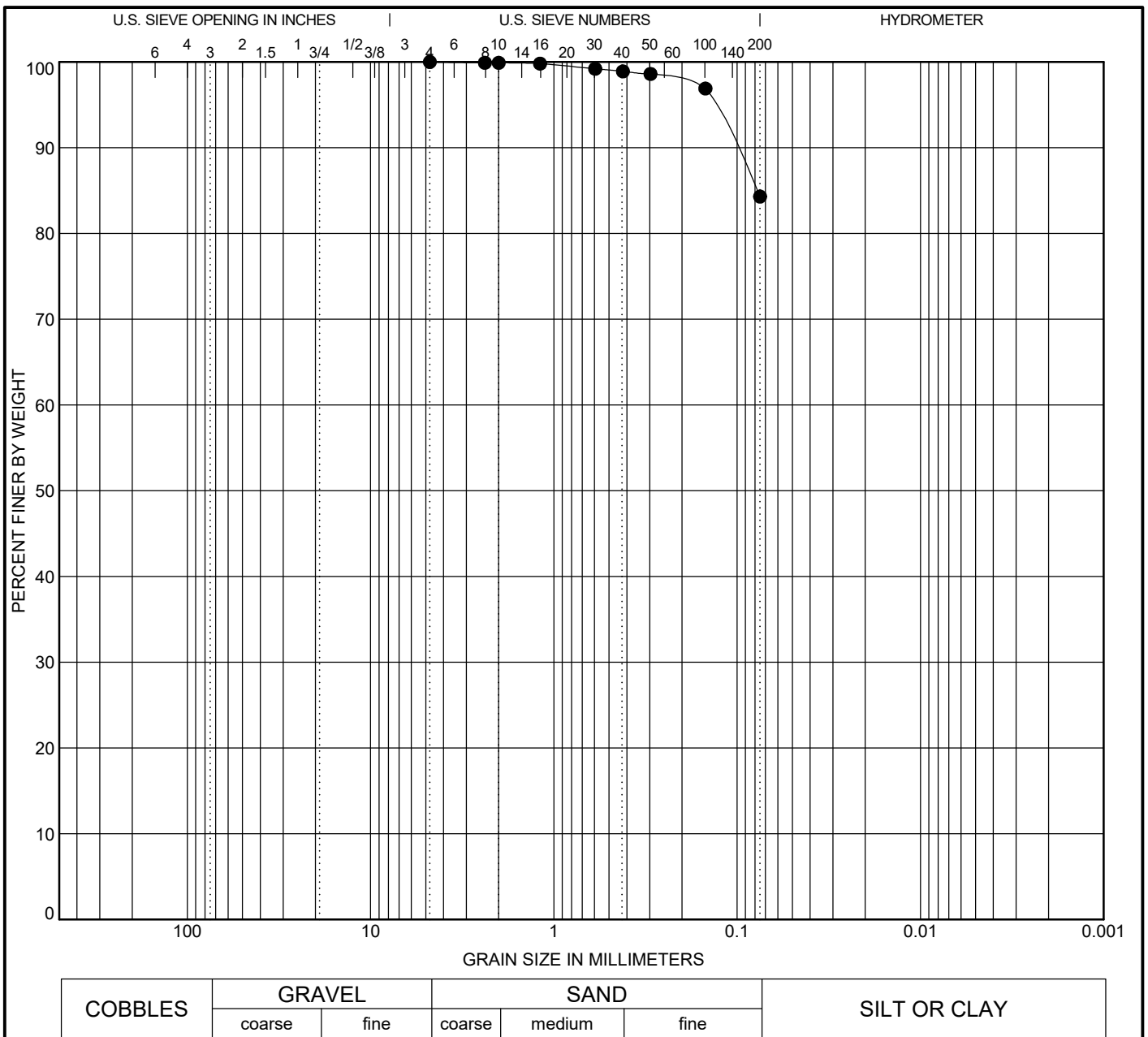
Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 25





SIEVE SIZE	% PASSING
No. 4	100
No. 8	99.9
No. 10	99.9
No. 16	99.8
No. 30	99.2
No. 40	98.9
No. 50	98.6
No. 100	96.9
No. 200	84.3

Specimen Identification
B2021-7 - (59 - 60 ft)

Classification					
SILT with SAND(ML)					
LL	PL	PI	Cc	Cu	
NV	NV	NP			

% Gravel	% Sand	% Silt	% Clay
0	16	84	

D100	D60	D30	D10
4.75			

GRAIN SIZE DISTRIBUTION

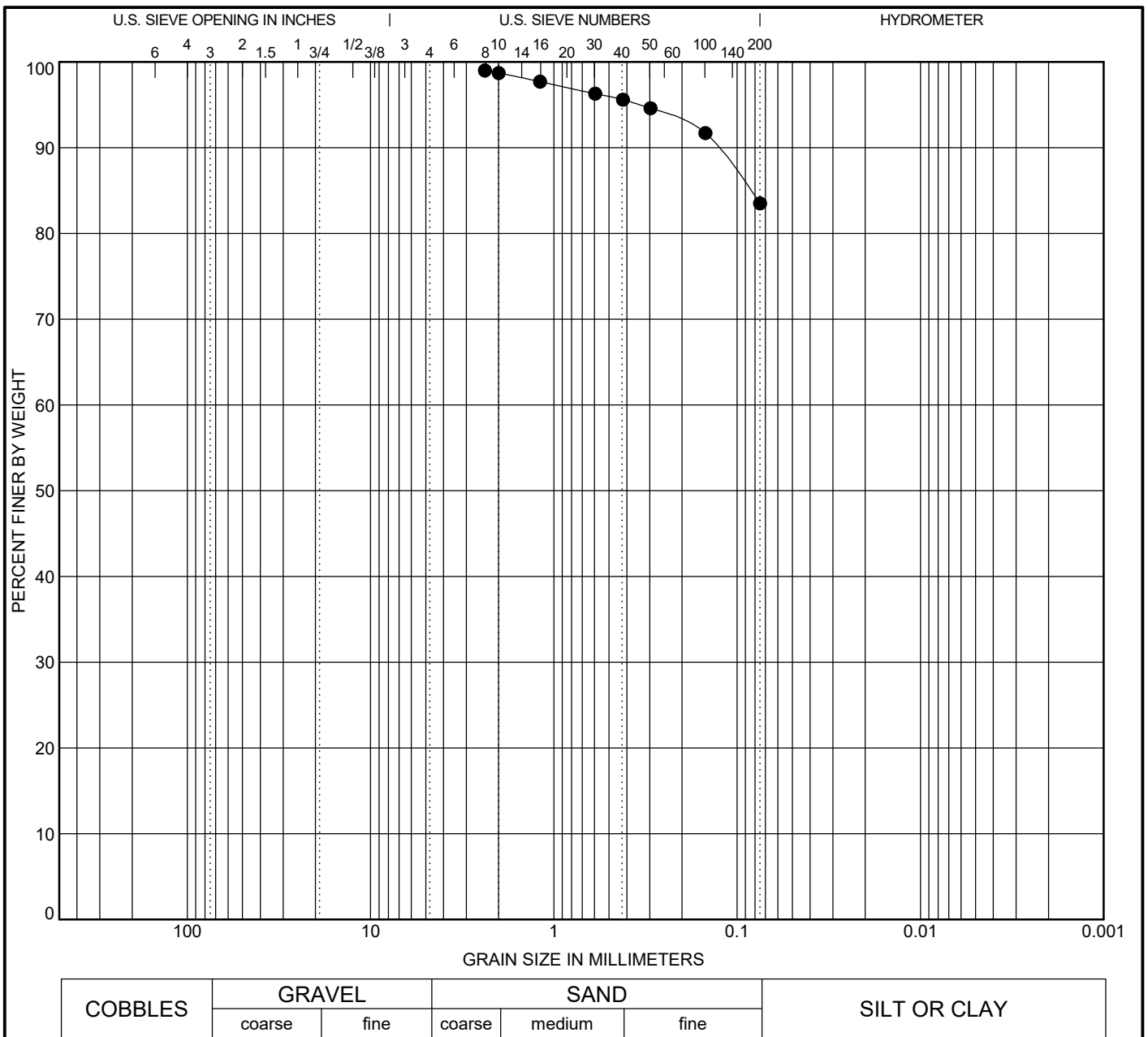


Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 26



SIEVE SIZE	% PASSING
No. 8	99
No. 10	98.7
No. 16	97.7
No. 30	96.3
No. 40	95.6
No. 50	94.6
No. 100	91.7
No. 200	83.5

Specimen Identification
B2021-8 - (1 - 4 ft)

Classification					
SILT with SAND(ML)					
LL	PL	PI	Cc	Cu	
NV	NV	NP			

% Gravel	% Sand	% Silt	% Clay
0	15	84	

D100	D60	D30	D10
2.38			

GRAIN SIZE DISTRIBUTION

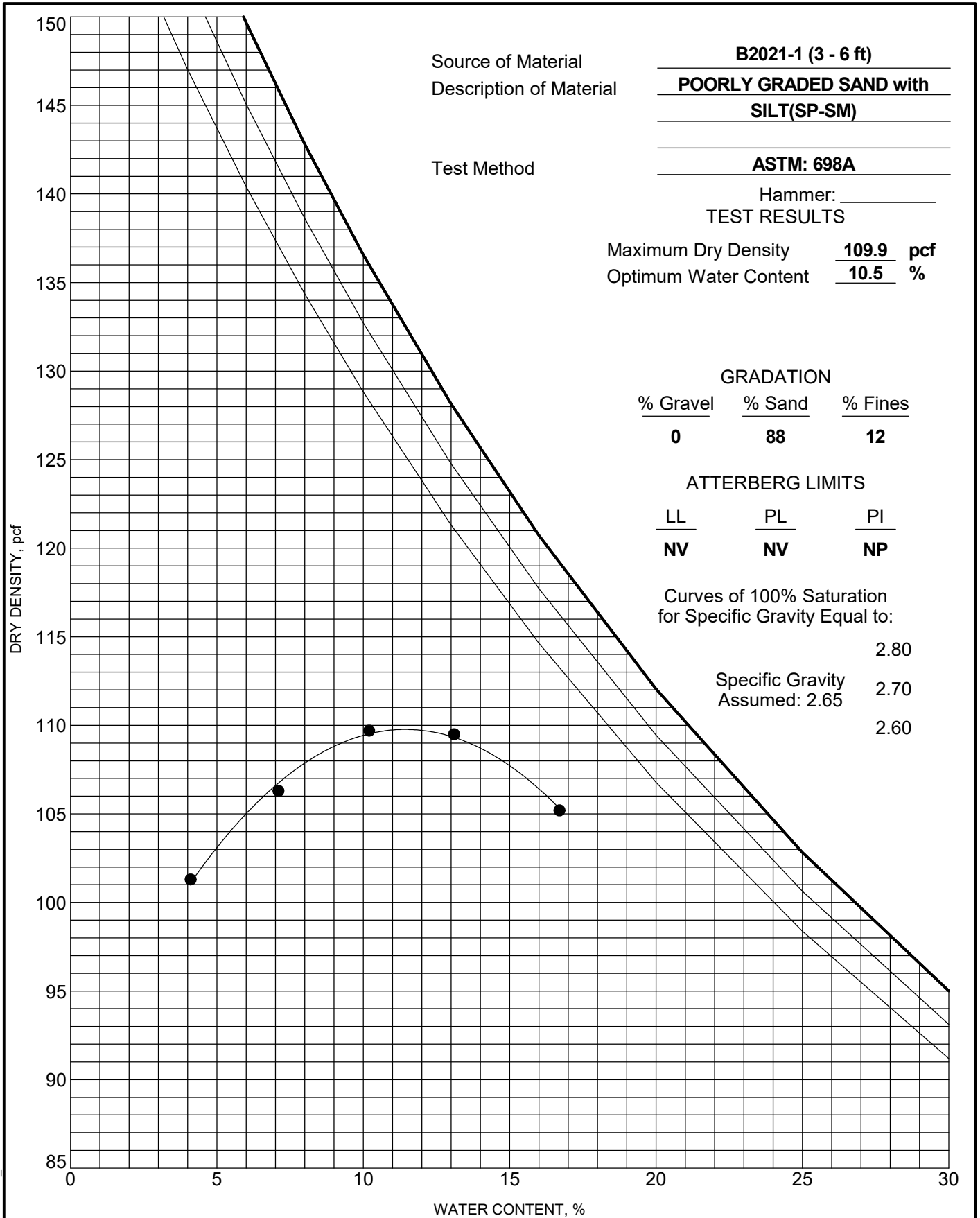
Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 27





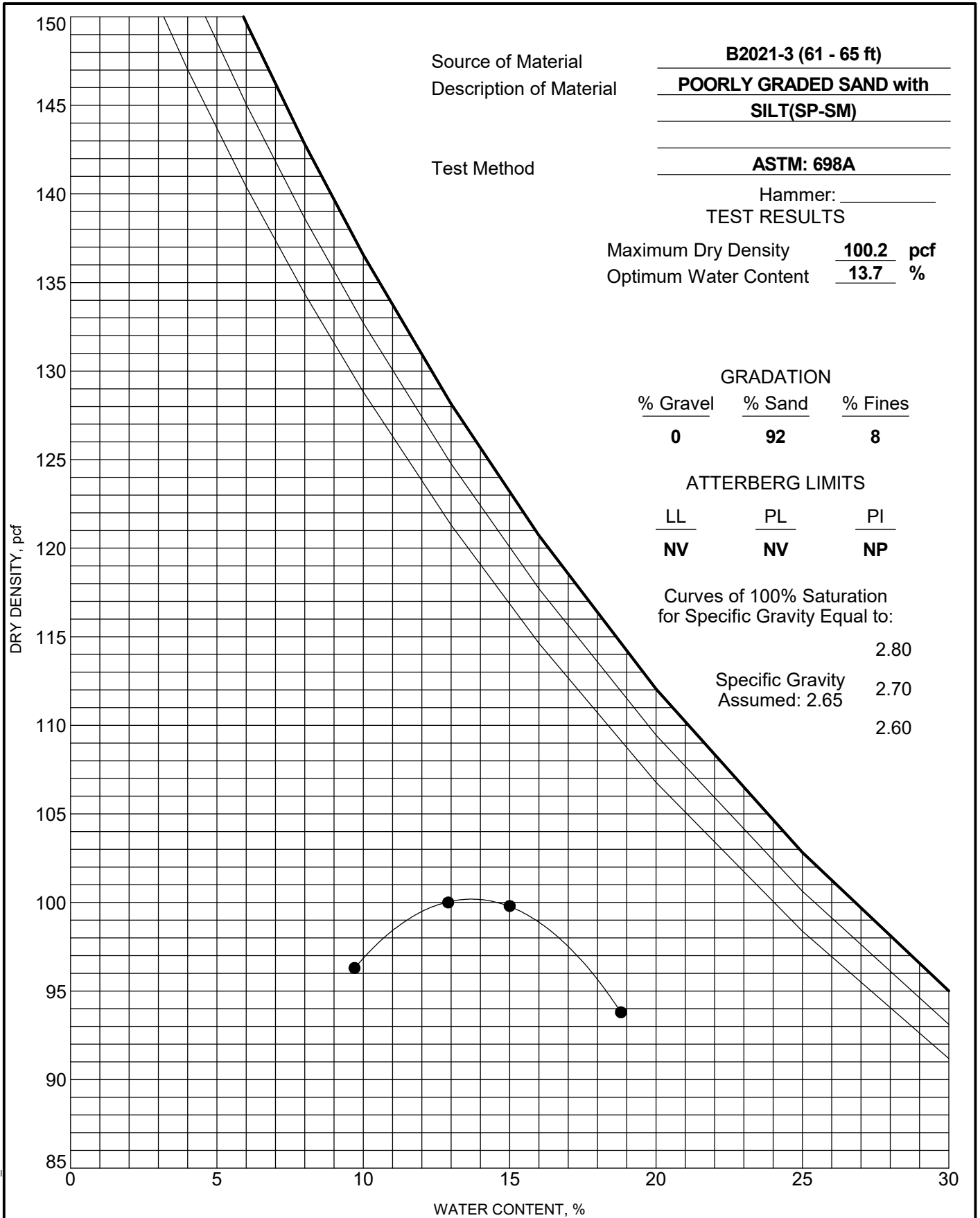
MOISTURE-DENSITY RELATIONSHIP

Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 28



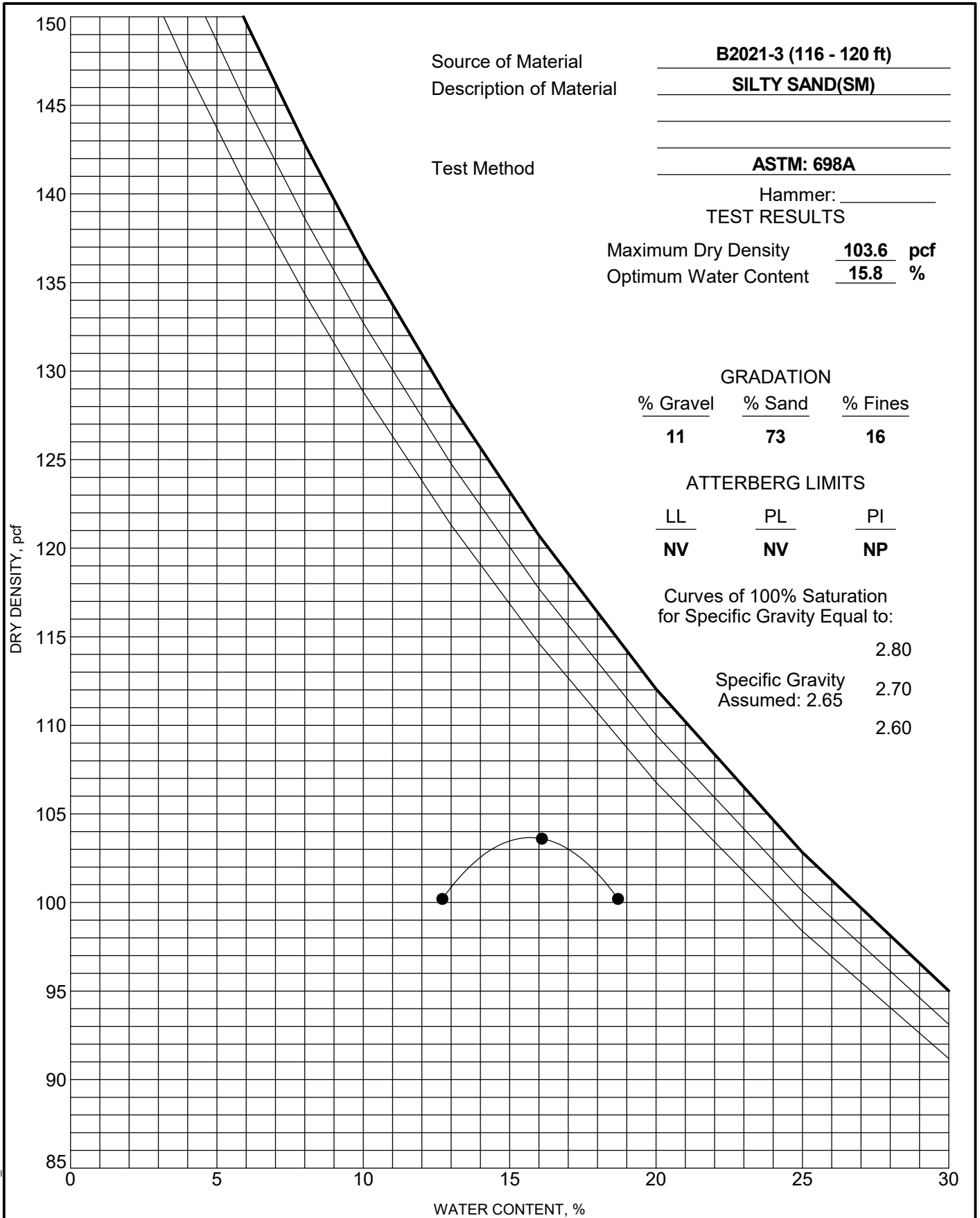
MOISTURE-DENSITY RELATIONSHIP

Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 29

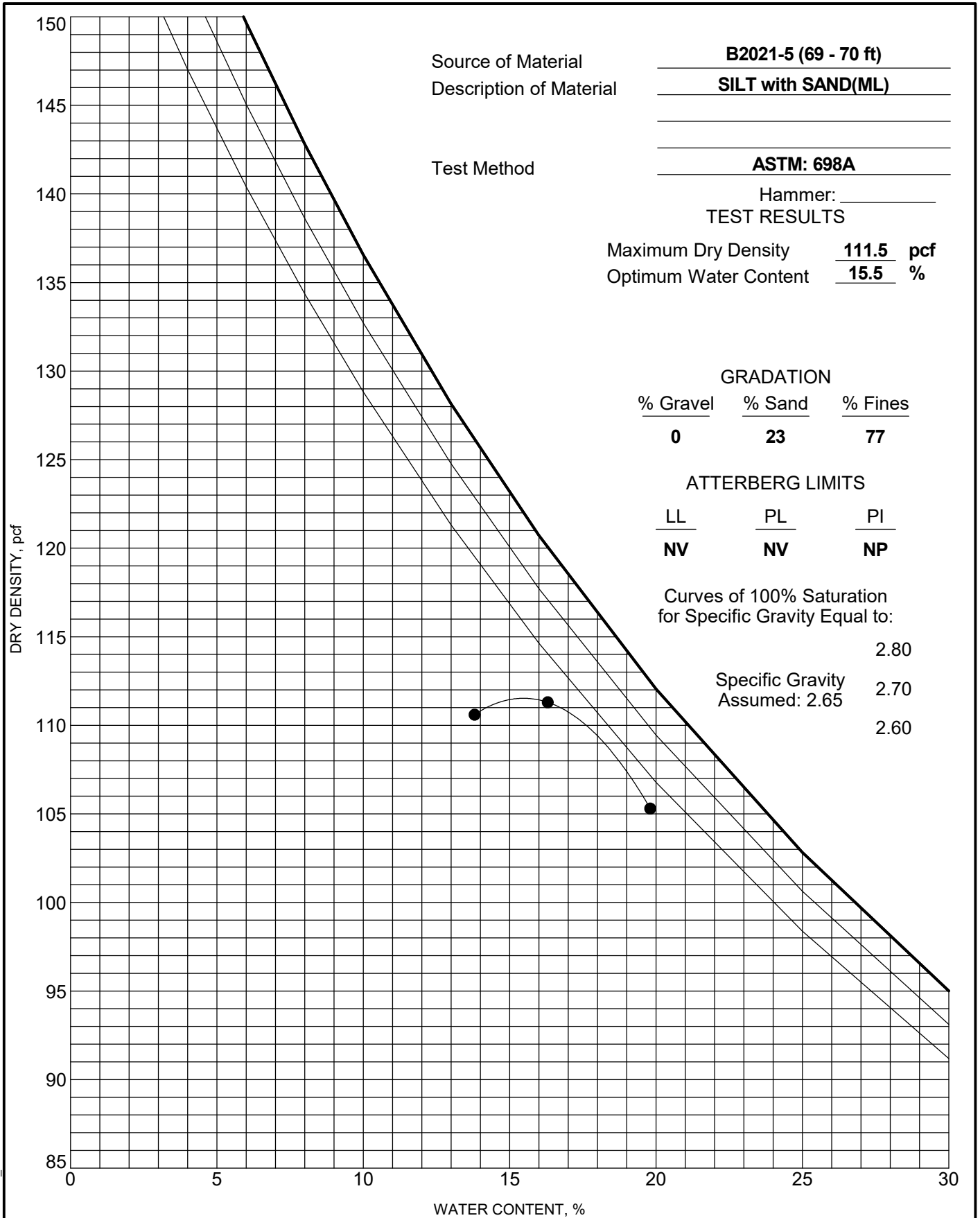


Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 30

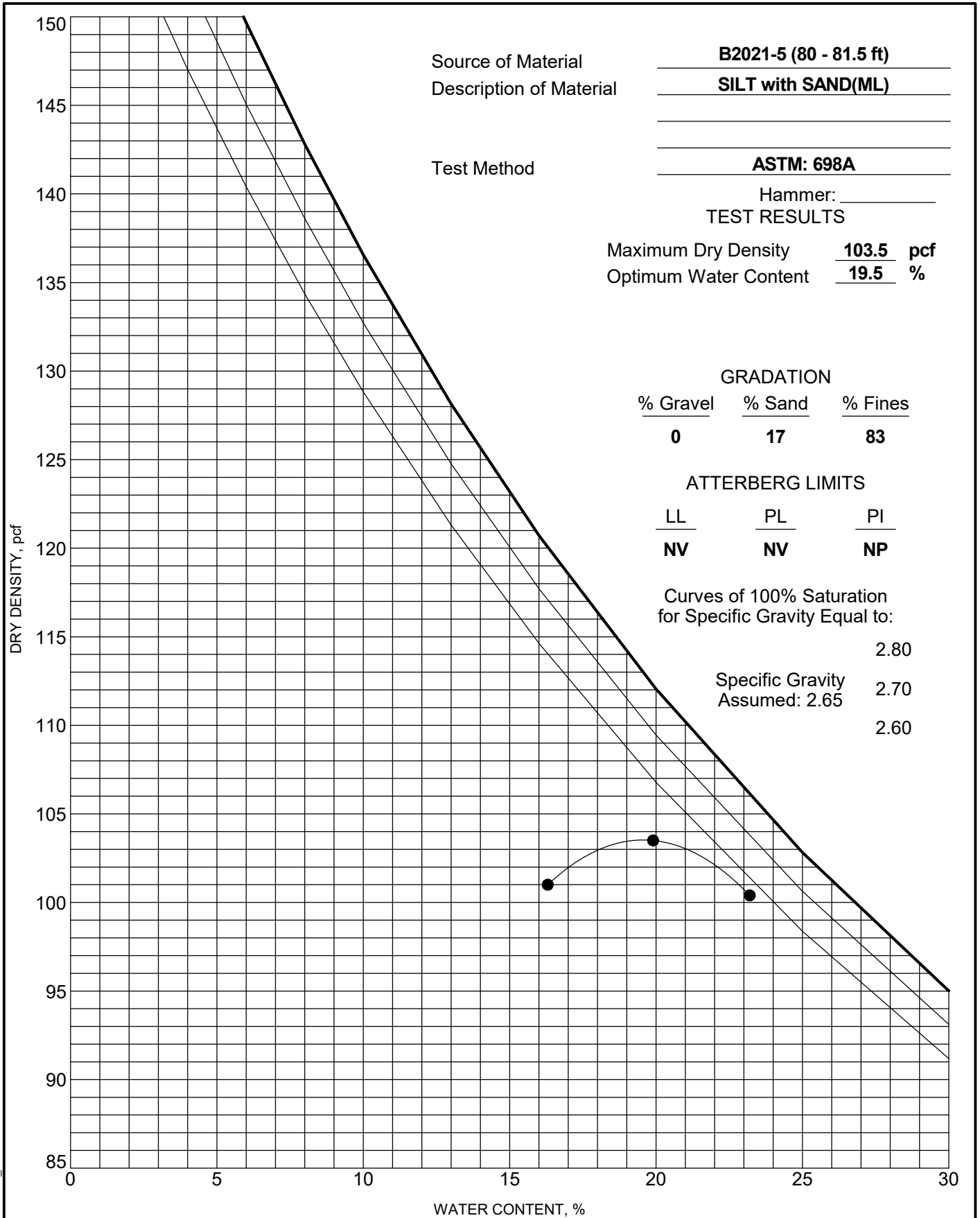


Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 31



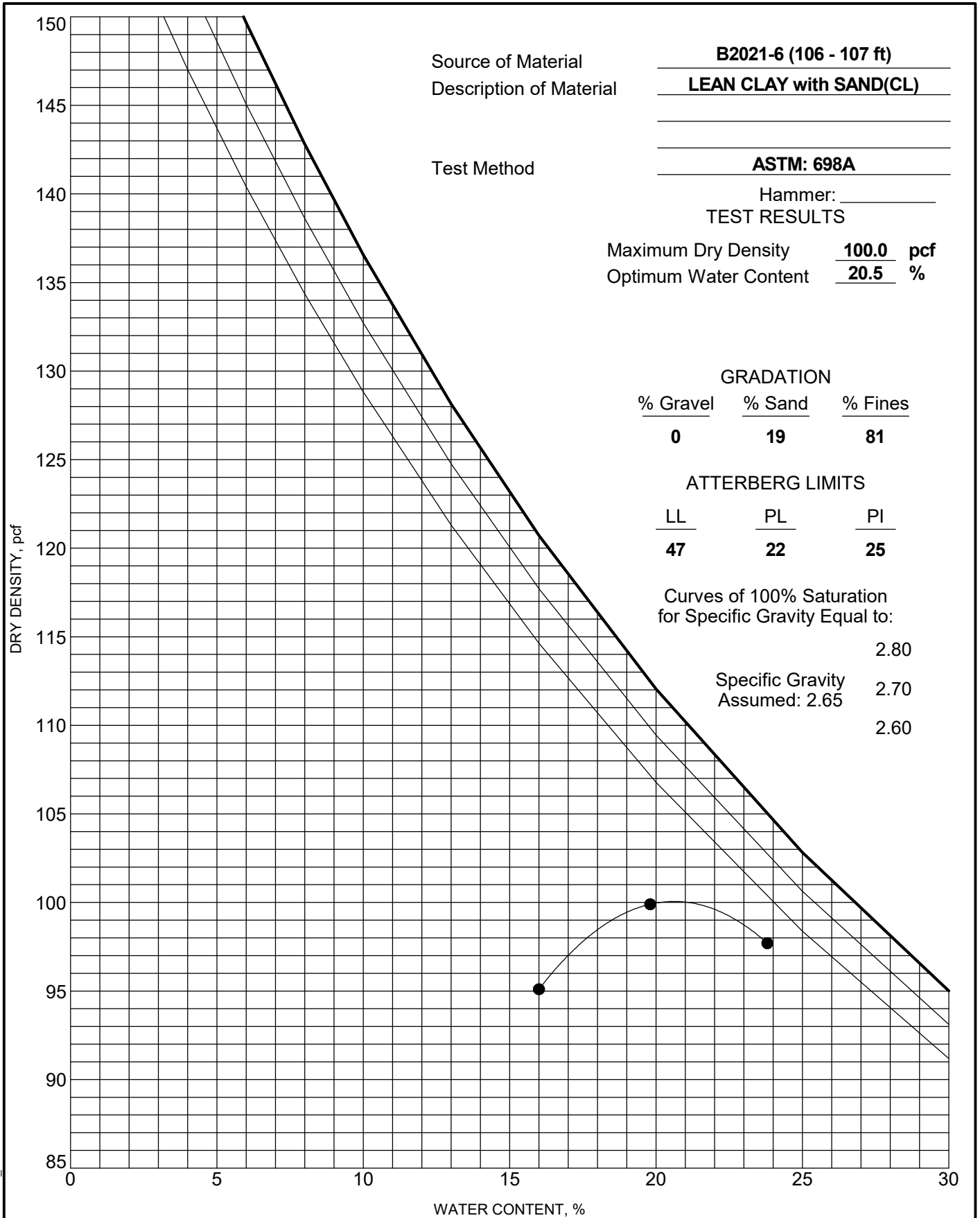
MOISTURE-DENSITY RELATIONSHIP

Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 32

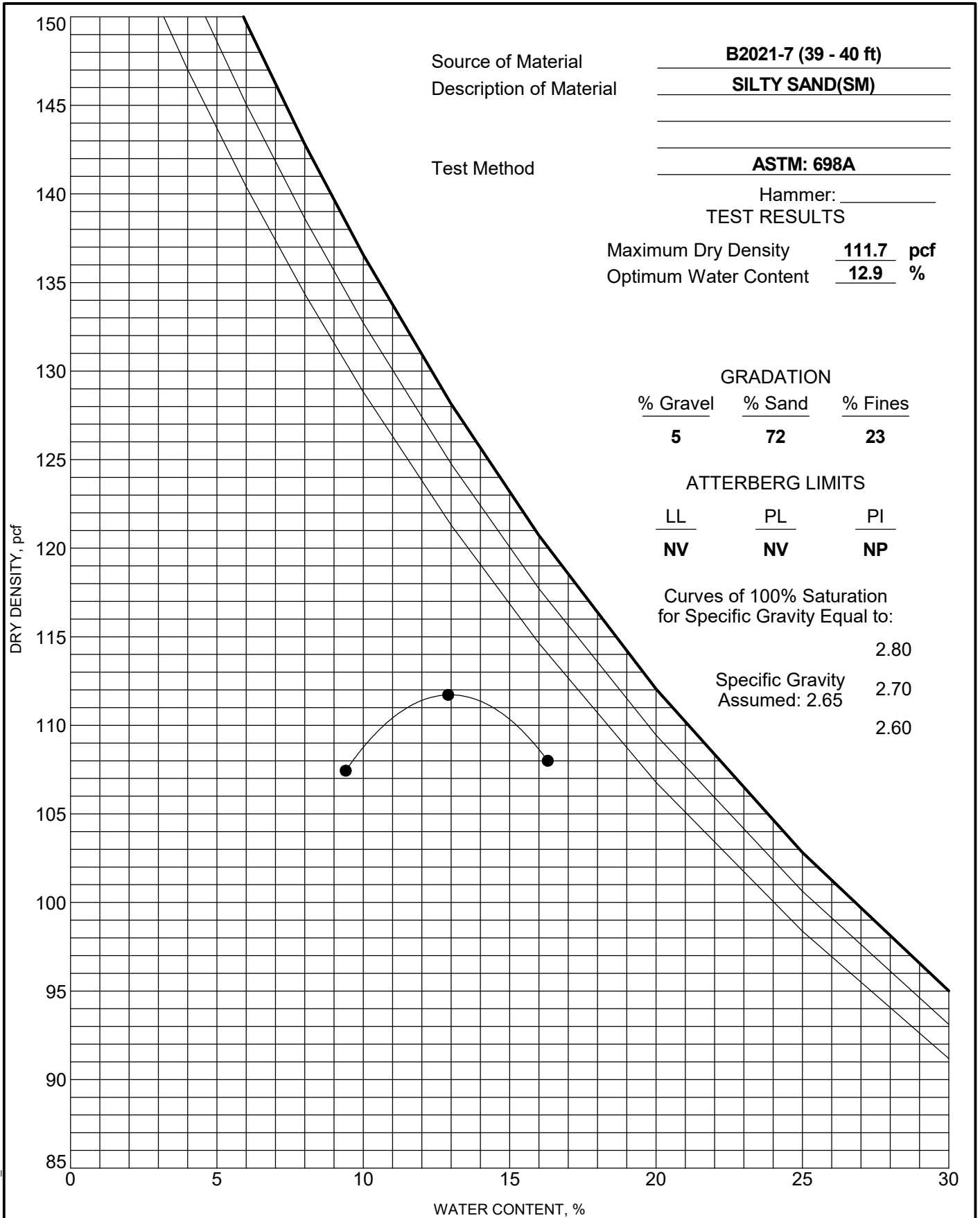


Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 33



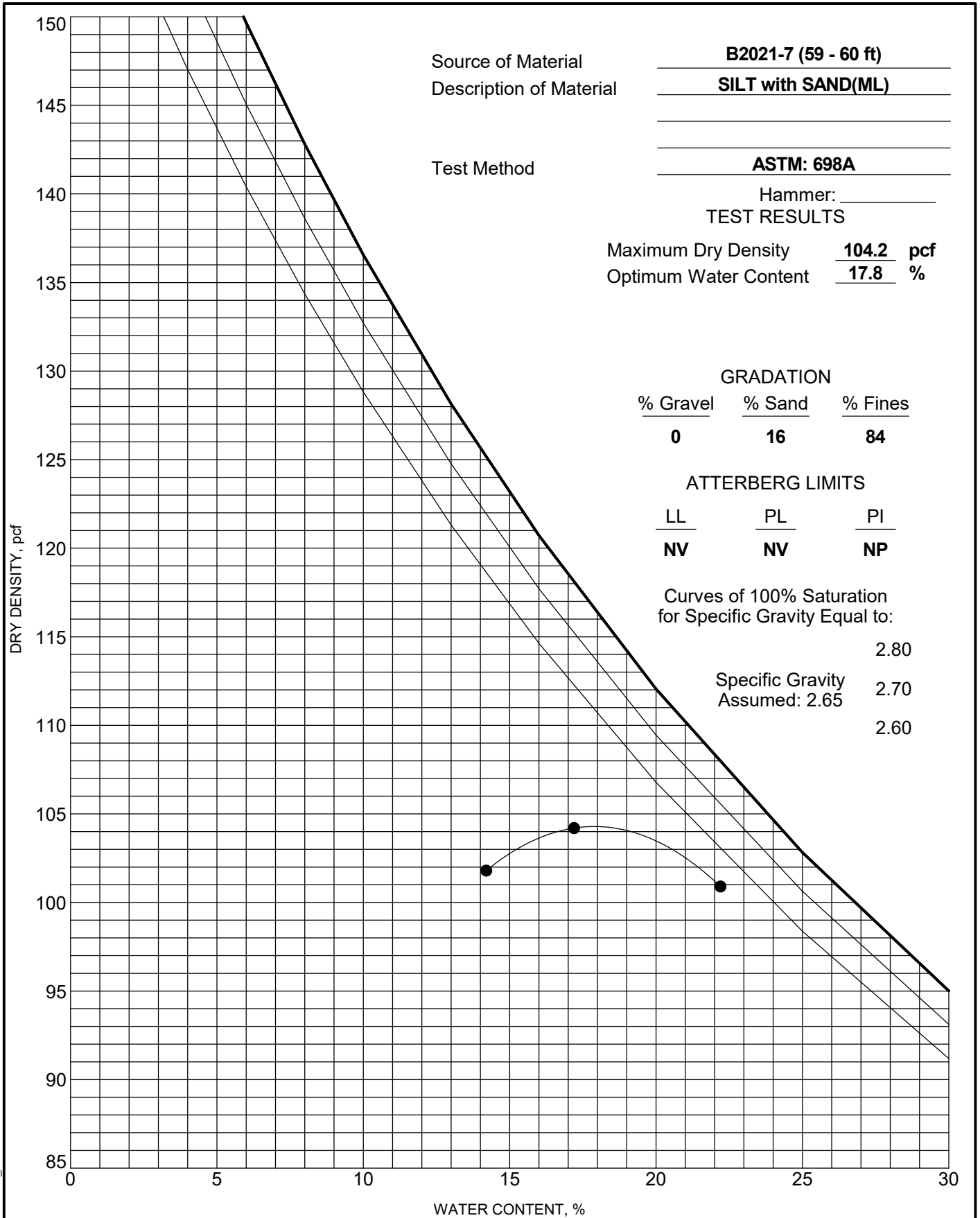
MOISTURE-DENSITY RELATIONSHIP

Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 34



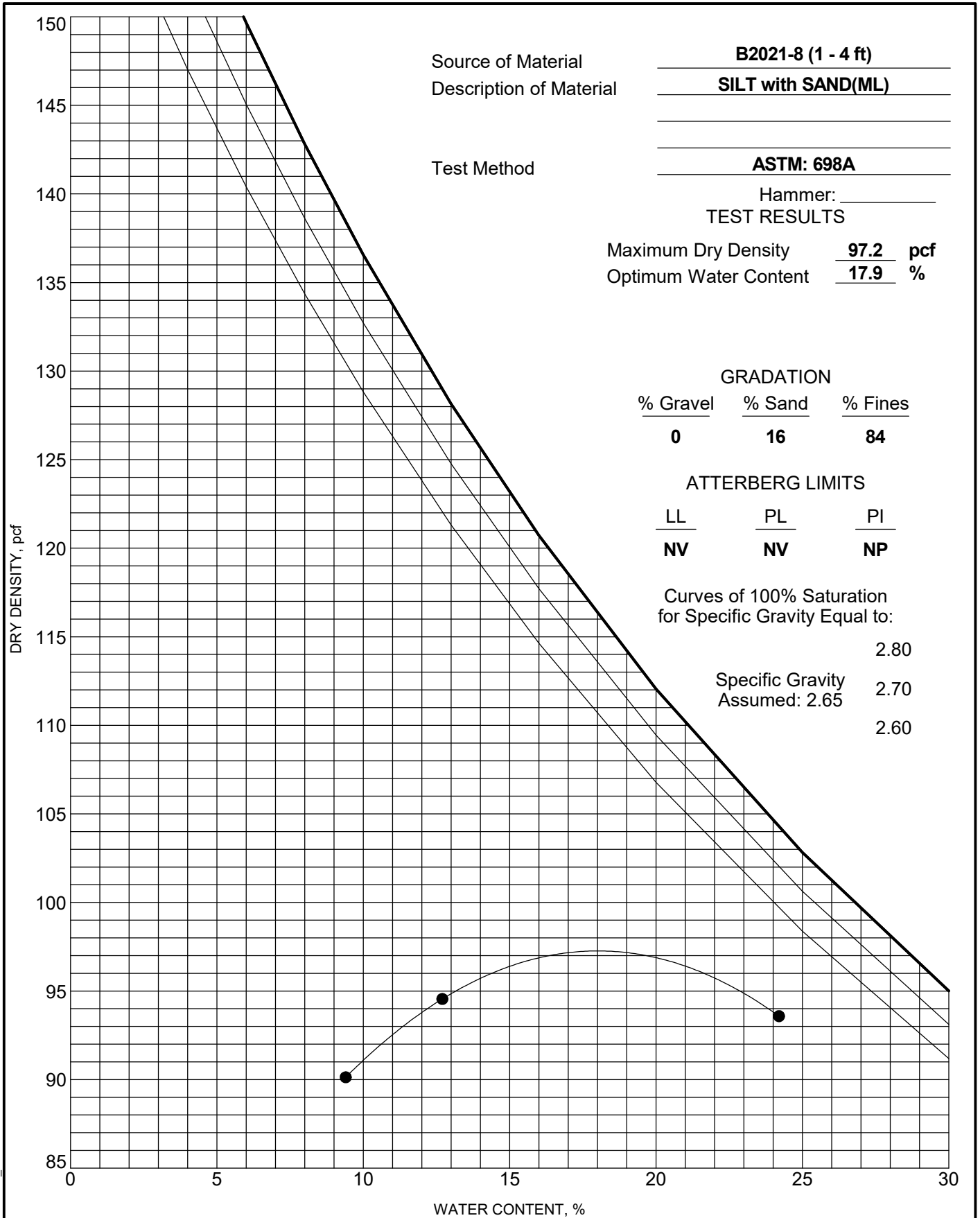
MOISTURE-DENSITY RELATIONSHIP

Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 35



MOISTURE-DENSITY RELATIONSHIP

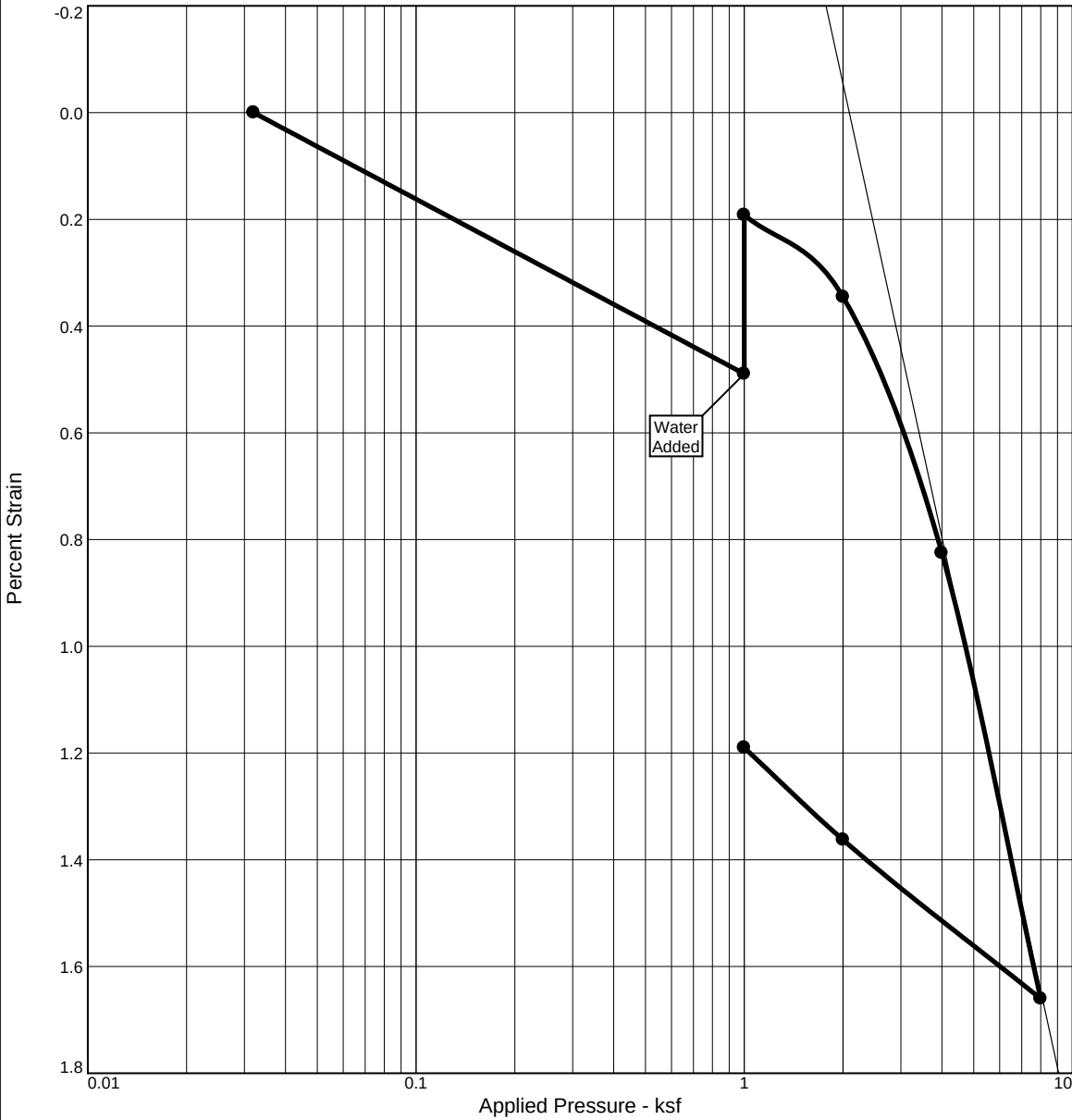
Project: Pickles Butte Sanitary Landfill - Canyon County, ID

Location: Refer to site map.

Number: 114-571040-2022

Figure No. 36

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (ksf)	P _C (ksf)	C _C	C _S	Swell Press. (ksf)	Swell %	e ₀
Sat.	Moist.											
24.8 %	3.5 %	120.1	NV	NP	2.65		3.0	0.04	0.01	2.6	0.3	0.375

MATERIAL DESCRIPTION	USCS	AASHTO
Silty Sand	SM	

Project No. 1145710402022

Project: Pickles Butte

Source of Sample: B2021-3

Depth: 25-27 ft

Tetra Tech

Missoula, MT

Remarks:

Figure 37

The graph illustrates the consolidation behavior of a soil sample. The x-axis represents Applied Pressure in ksf on a logarithmic scale, and the y-axis represents Percent Strain. The compression curve shows the relationship between pressure and strain during consolidation. The expansion curve shows the relationship between pressure and strain during deconsolidation. The vertical line at 1 ksf indicates the point where water was added, causing a sudden increase in strain (expansion).

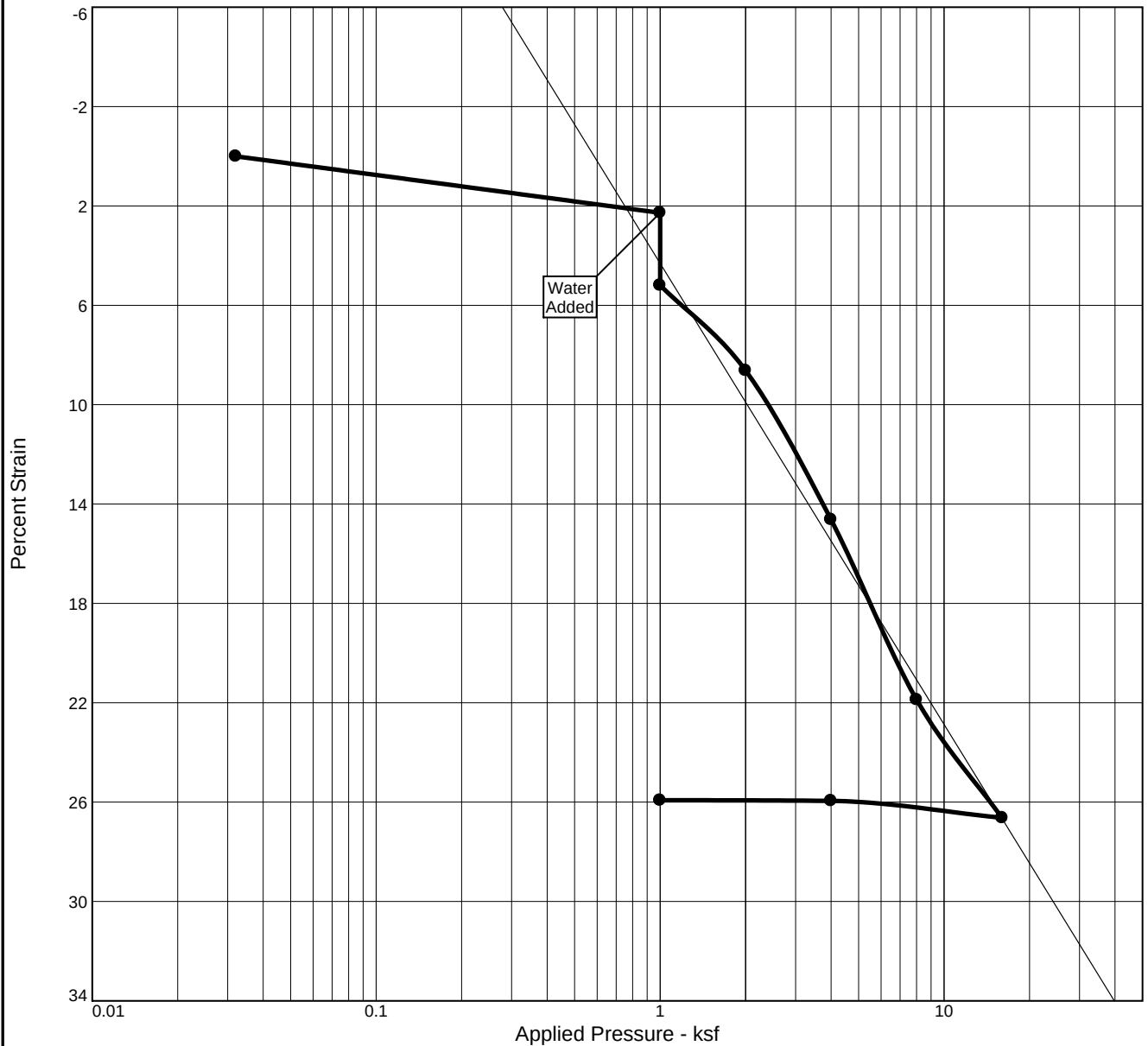
Applied Pressure (ksf)	Percent Strain	Curve Type
0.03	0.0	Compression
1.0	0.3	Compression
1.0	1.3	Expansion
2.0	0.8	Expansion
3.0	-0.3	Expansion
4.0	-1.0	Expansion
6.0	-2.3	Expansion

Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (ksf)	P _C (ksf)	C _C	C _S	Swell Press. (ksf)	Swell %	e ₀
Sat.	Moist.											
63.8 %	23.7 %	90.1	54	30	2.65		4.8	0.06	0.09	2.8	1.0	0.984

MATERIAL DESCRIPTION	USCS	AASHTO
Silty Clay	CL-ML	

Project No. 1145710402022	Remarks:
Project: Pickles Butte	
Source of Sample: B2021-5 Depth: 50-51.5 ft	
Tetra Tech	
Missoula, MT	Figure 38

CONSOLIDATION TEST REPORT

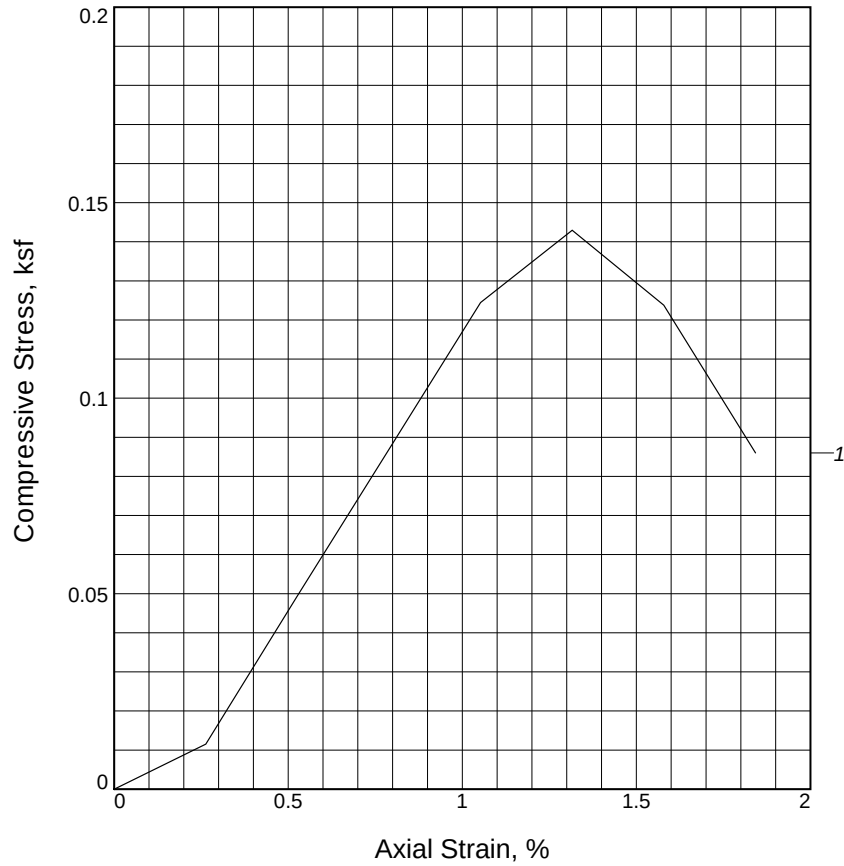


Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (ksf)	P _c (ksf)	C _c	C _s	Swell Press. (ksf)	Clpse. %	e ₀
Sat.	Moist.											
52.0 %	20.4 %	83.5	33	10	2.65		1.5	0.38	0.01	0	2.9	1.038

MATERIAL DESCRIPTION										USCS	AASHTO
Silty Clay										CL-ML	

Project No. 1145710402022 Project: Pickles Butte Source of Sample: B2021-7 Depth: 120-121.3 ft Tetra Tech Missoula, MT	Remarks:
--	---

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, ksf	0.143			
Undrained shear strength, ksf	0.071			
Failure strain, %	1.3			
Strain rate, in./min.	0.030			
Water content, %	8.3			
Wet density, pcf	103.1			
Dry density, pcf	95.2			
Saturation, %	29.7			
Void ratio	0.7369			
Specimen diameter, in.	2.790			
Specimen height, in.	5.700			
Height/diameter ratio	2.04			

Description: bulk

LL = NV

PL = NV

PI = NV

Assumed GS= 2.65

Type: SP

Project No.: 1145710402022

Date Sampled:

Remarks:

Project: Pickles Butte

Source of Sample: B2021-3

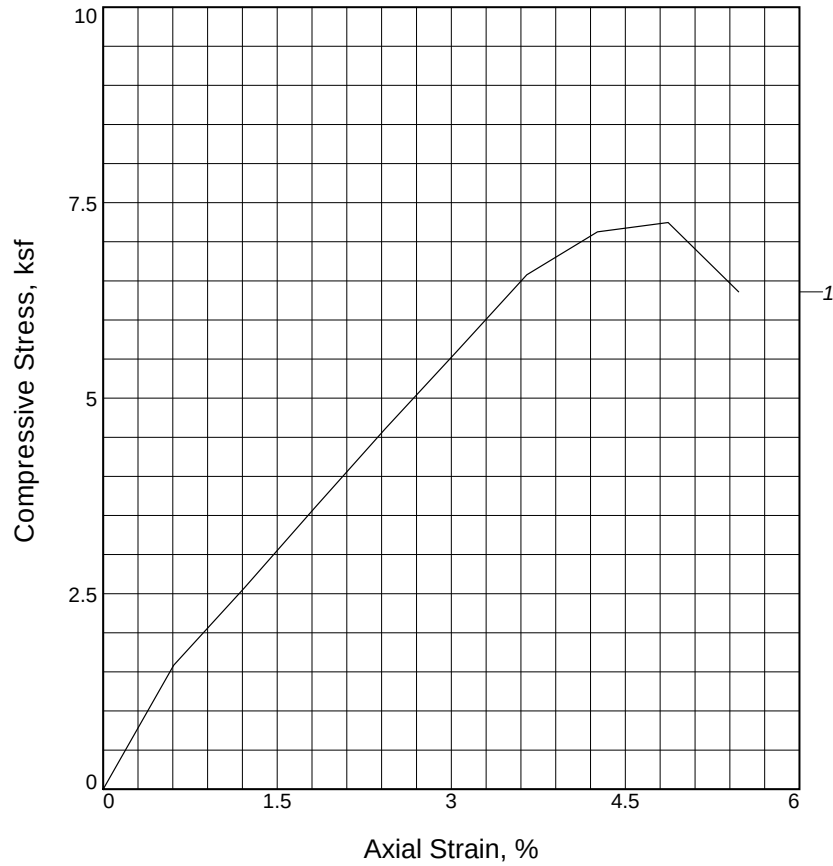
Depth: 61-65 ft

UNCONFINED COMPRESSION TEST

Tetra Tech
Missoula, MT

Figure 40

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, ksf	7.246			
Undrained shear strength, ksf	3.623			
Failure strain, %	4.9			
Strain rate, in./min.	0.060			
Water content, %	24.0			
Wet density, pcf	119.4			
Dry density, pcf	96.3			
Saturation, %	88.5			
Void ratio	0.7184			
Specimen diameter, in.	2.450			
Specimen height, in.	4.930			
Height/diameter ratio	2.01			

Description: Special

LL = N/A	PL = N/A	PI = N/A	Assumed GS= 2.65	Type: ML
----------	----------	----------	------------------	----------

Project No.: 1145710402022

Date Sampled:

Remarks:

Project: Pickles Butte

Source of Sample: B2021-6

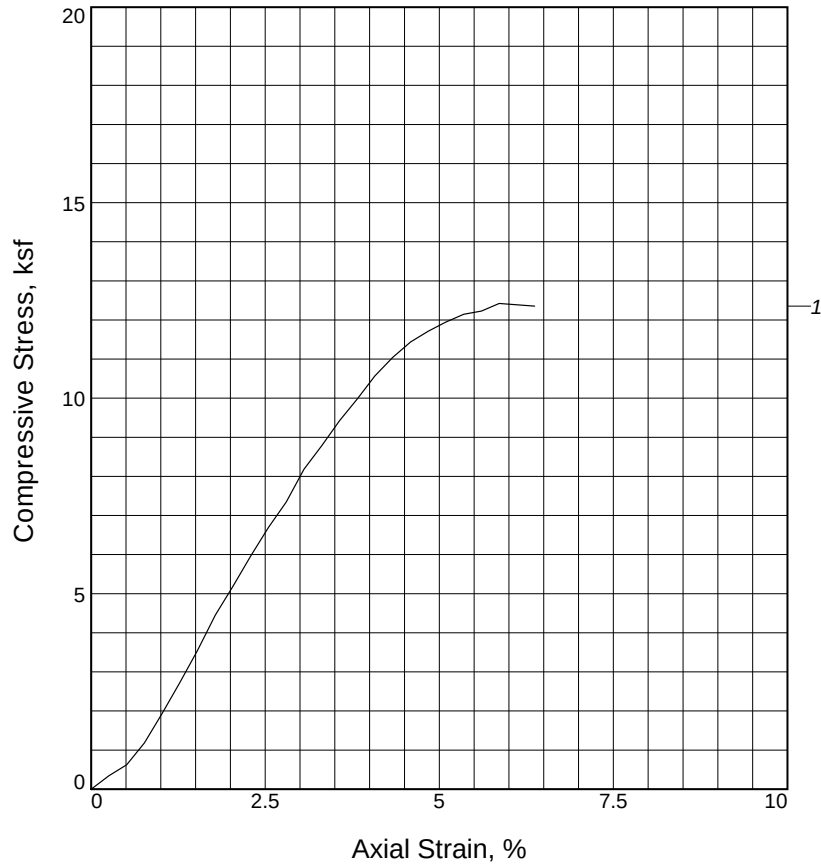
Depth: 57-58 ft

UNCONFINED COMPRESSION TEST

Tetra Tech
Missoula, MT

Figure 41

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, ksf	12.421			
Undrained shear strength, ksf	6.211			
Failure strain, %	5.9			
Strain rate, in./min.	0.020			
Water content, %	24.6			
Wet density, pcf	124.9			
Dry density, pcf	100.2			
Saturation, %	100.3			
Void ratio	0.6508			
Specimen diameter, in.	1.918			
Specimen height, in.	3.925			
Height/diameter ratio	2.05			

Description: Special

LL = 67 **PL =** 19 **PI =** 48 **Assumed GS=** 2.65 **Type:** CH

Project No.: 1145710402022

Date Sampled:

Remarks:

Project: Pickles Butte

Source of Sample: B2021-6

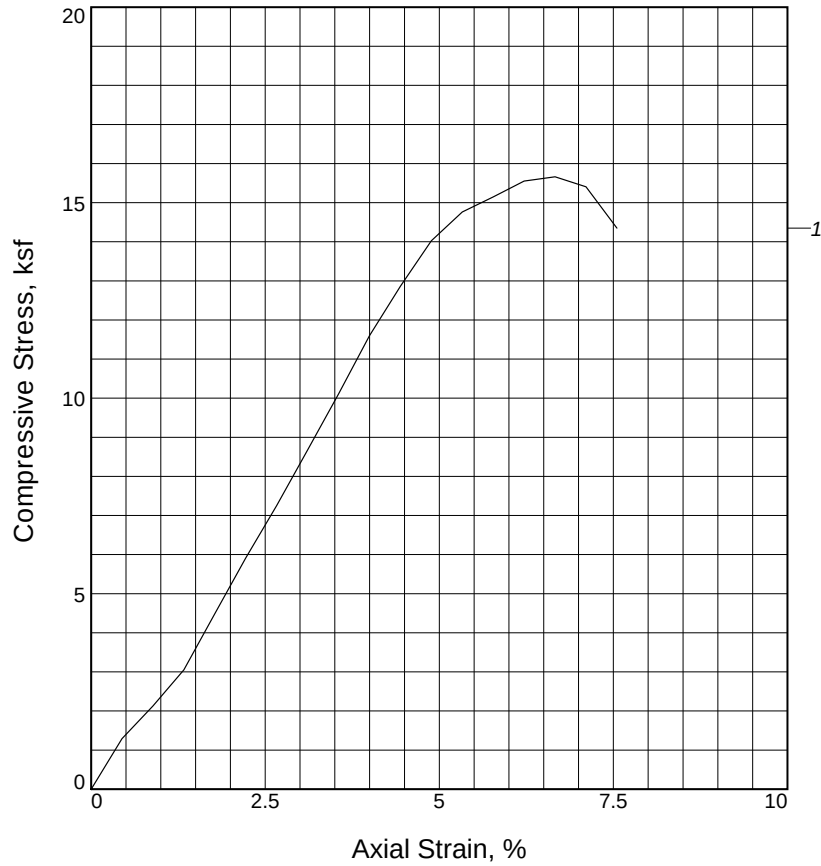
Depth: 79-81 ft

UNCONFINED COMPRESSION TEST

Tetra Tech
Missoula, MT

Figure 42

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, ksf	15.661			
Undrained shear strength, ksf	7.831			
Failure strain, %	6.7			
Strain rate, in./min.	0.050			
Water content, %	22.8			
Wet density, pcf	122.8			
Dry density, pcf	100.0			
Saturation, %	92.4			
Void ratio	0.6550			
Specimen diameter, in.	2.473			
Specimen height, in.	5.629			
Height/diameter ratio	2.28			

Description: Special

LL = 56 **PL = 22** **PI = 34** **Assumed GS= 2.65** **Type: CH**

Project No.: 1145710402022

Date Sampled:

Remarks:

Project: Pickles Butte

Source of Sample: B2021-6

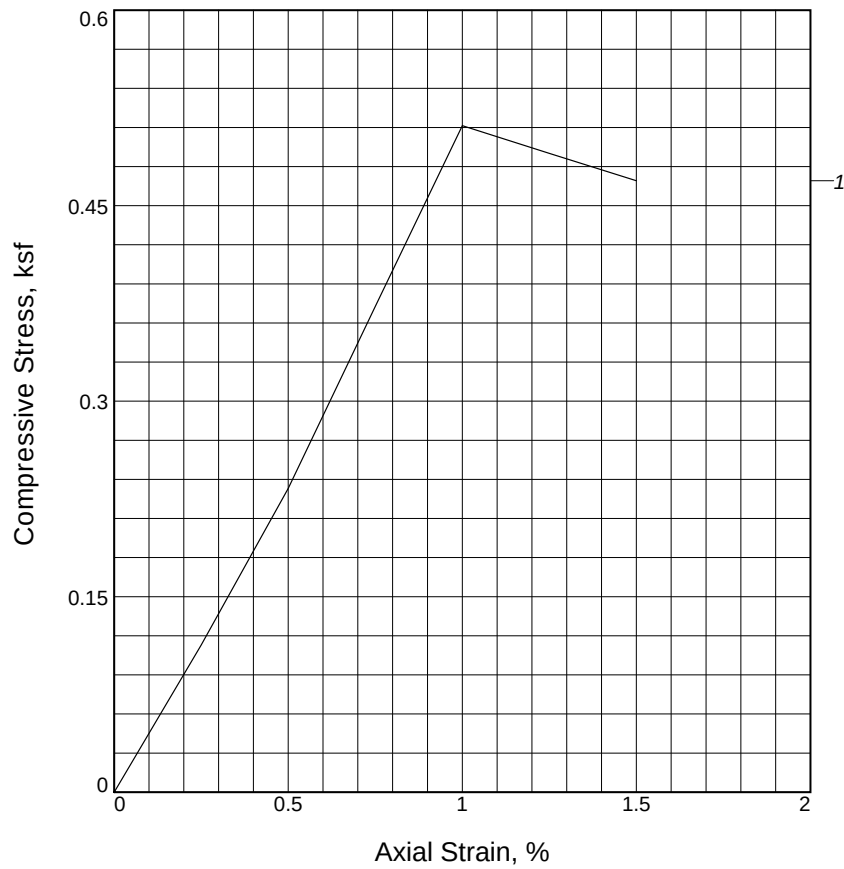
Depth: 99-102 ft

UNCONFINED COMPRESSION TEST

Tetra Tech
Missoula, MT

Figure 43

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, ksf	0.511			
Undrained shear strength, ksf	0.256			
Failure strain, %	1.0			
Strain rate, in./min.	0.030			
Water content, %	4.5			
Wet density, pcf	109.9			
Dry density, pcf	105.2			
Saturation, %	20.8			
Void ratio	0.5722			
Specimen diameter, in.	2.710			
Specimen height, in.	6.000			
Height/diameter ratio	2.21			

Description: grab

LL = NV

PL = NV

PI = NV

Assumed GS= 2.65

Type: SP

Project No.: 1145710402022

Date Sampled:

Remarks:

Project: Pickles Butte

Source of Sample: B2021-7

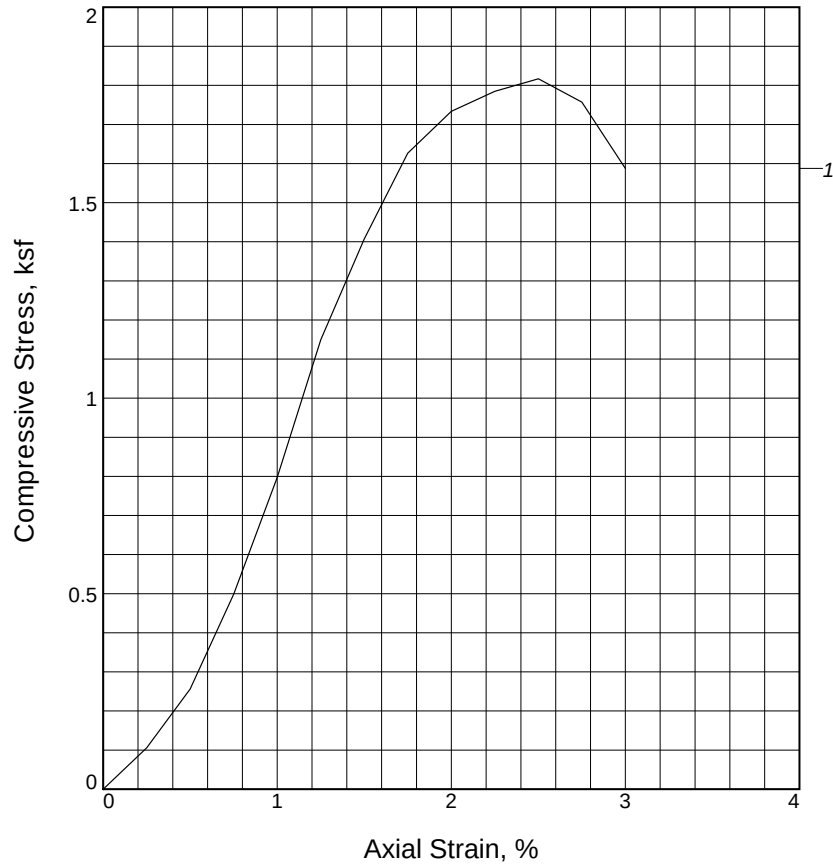
Depth: 39-40 ft

UNCONFINED COMPRESSION TEST

Tetra Tech
Missoula, MT

Figure 44

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, ksf	1.817			
Undrained shear strength, ksf	0.908			
Failure strain, %	2.5			
Strain rate, in./min.	0.030			
Water content, %	19.9			
Wet density, pcf	112.4			
Dry density, pcf	93.8			
Saturation, %	68.9			
Void ratio	0.7646			
Specimen diameter, in.	2.800			
Specimen height, in.	6.000			
Height/diameter ratio	2.14			

Description: grab

LL = NV PL = NV PI = NV Assumed GS= 2.65 Type: ML

Project No.: 1145710402022

Date Sampled:

Remarks:

Project: Pickles Butte

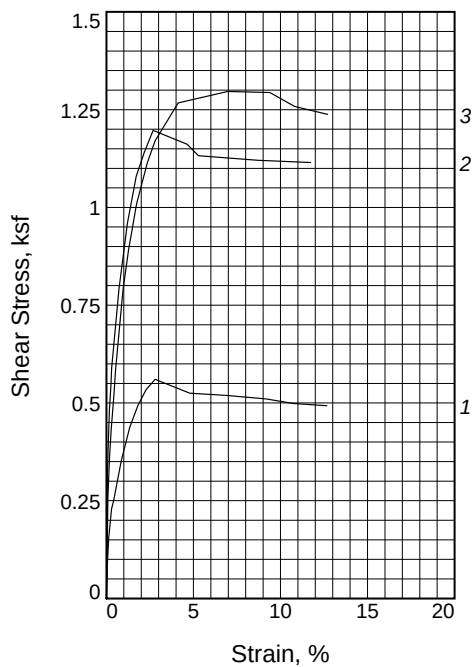
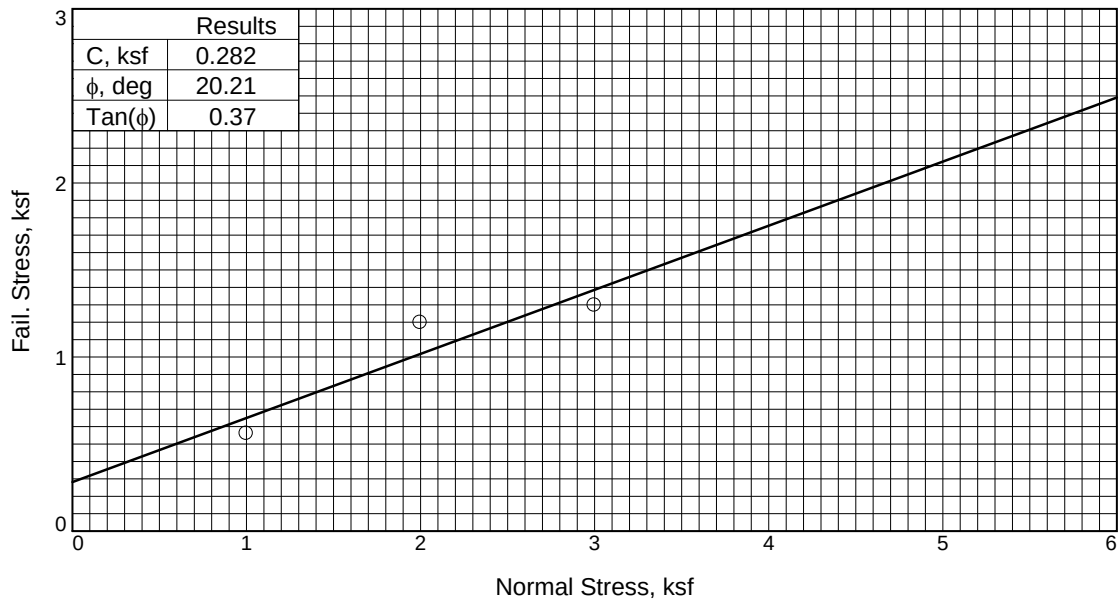
Source of Sample: B2021-7

Depth: 59-60 ft

UNCONFINED COMPRESSION TEST

Tetra Tech
Missoula, MT

Figure 45



Sample No.		1	2	3
Initial	Water Content, %	12.2	11.6	12.3
	Dry Density, pcf	104.5	106.4	101.5
	Saturation, %	55.7	55.5	51.6
	Void Ratio	0.5829	0.5554	0.6306
	Diameter, in.	2.500	2.500	2.500
	Height, in.	1.210	1.200	1.259
At Test	Water Content, %	16.4	17.4	18.2
	Dry Density, pcf	104.6	106.6	104.8
	Saturation, %	74.7	83.4	83.5
	Void Ratio	0.5816	0.5524	0.5787
	Diameter, in.	2.500	2.500	2.500
	Height, in.	1.209	1.198	1.219
Normal Stress, ksf		1.000	2.000	3.000
Fail. Stress, ksf		0.560	1.197	1.297
Strain, %		2.8	2.7	7.0
Ult. Stress, ksf				
Strain, %				
Strain rate, in./min.		0.001	0.001	0.001

Sample Type: Shelby
Description: Silty Sand

Assumed Specific Gravity= 2.65
Remarks: Remolded

Project: Pickles Butte

Source of Sample: B2021-3

Proj. No.: 1145710402022

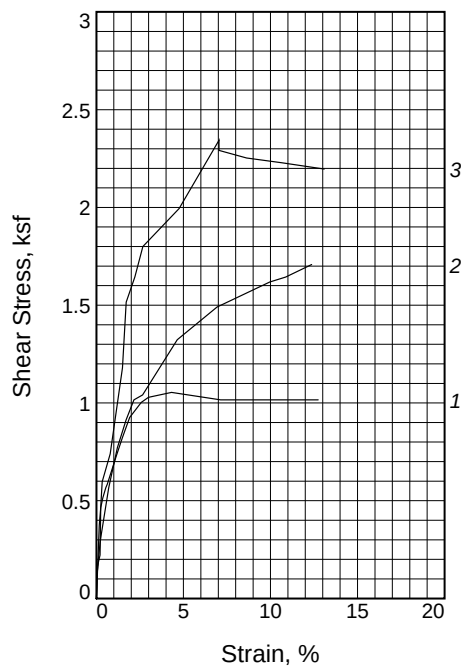
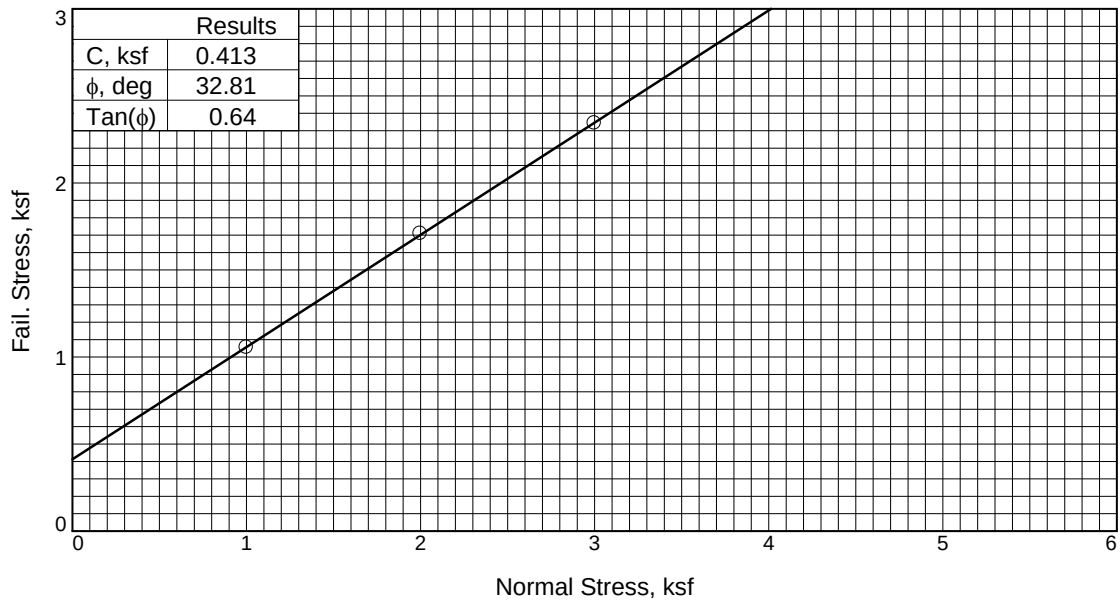
Depth: 60-62 ft

Date Sampled:

DIRECT SHEAR TEST REPORT

Tetra Tech
Missoula, MT

Figure 46



Sample No.	1	2	3
Initial	Water Content, %	13.7	12.8
	Dry Density, pcf	104.1	92.2
	Saturation, %	61.7	42.7
	Void Ratio	0.5892	0.7944
	Diameter, in.	2.410	2.410
	Height, in.	0.934	1.068
At Test	Water Content, %	21.2	22.3
	Dry Density, pcf	105.2	96.7
	Saturation, %	98.1	83.1
	Void Ratio	0.5722	0.7104
	Diameter, in.	2.410	2.410
	Height, in.	0.924	1.018
Normal Stress, ksf		1.000	2.000
Fail. Stress, ksf		1.054	1.708
Strain, %		4.3	12.4
Ult. Stress, ksf			7.0
Strain, %			
Strain rate, in./min.		0.001	0.001

Sample Type: Shelby
Description: Silty Sand

Assumed Specific Gravity= 2.65
Remarks: Remolded

Project: Pickles Butte

Source of Sample: B2021-3

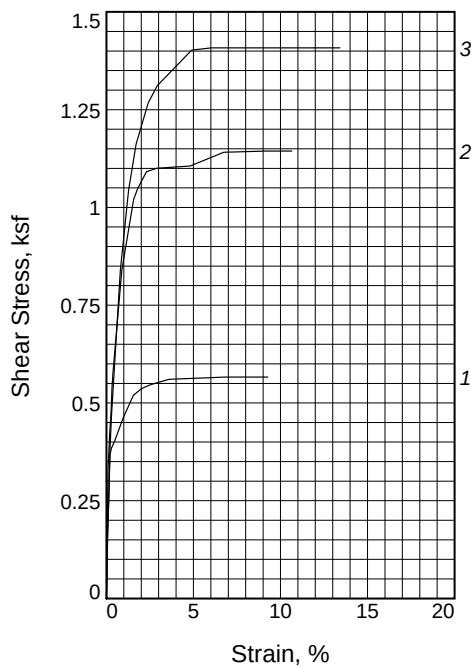
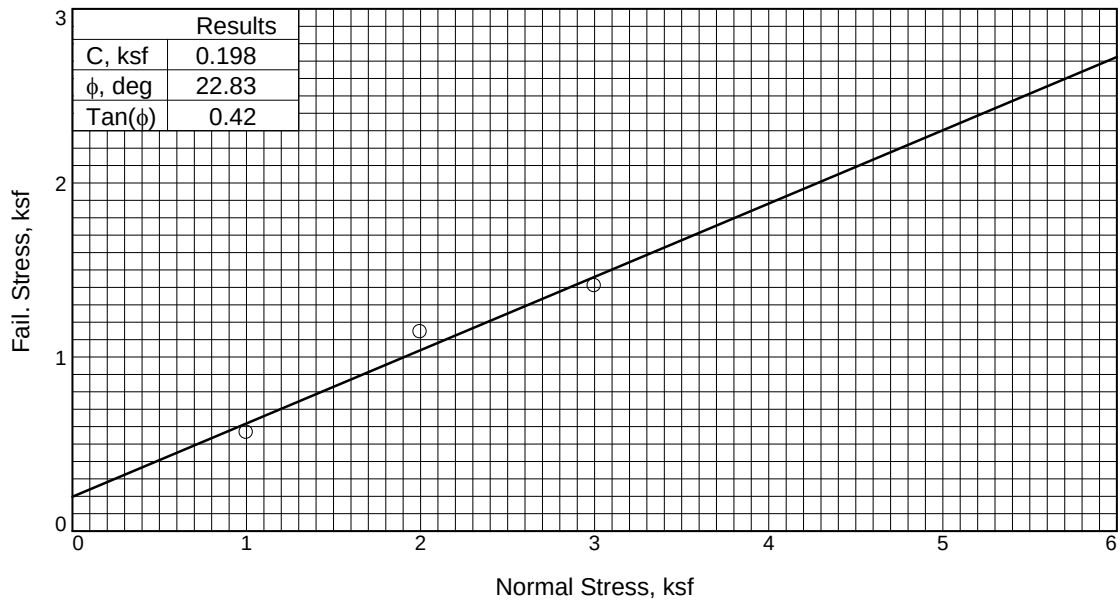
Proj. No.: 1145710402022

Depth: 80-82 ft

Date Sampled:

DIRECT SHEAR TEST REPORT

Tetra Tech
 Missoula, MT



Sample No.	1	2	3
Initial	Water Content, %	15.0	15.0
	Dry Density, pcf	97.7	89.6
	Saturation, %	57.4	47.0
	Void Ratio	0.6932	0.8458
	Diameter, in.	2.500	2.500
	Height, in.	1.210	1.310
At Test	Water Content, %	29.0	29.5
	Dry Density, pcf	97.8	89.9
	Saturation, %	111.2	93.0
	Void Ratio	0.6910	0.8400
	Diameter, in.	2.500	2.500
	Height, in.	1.208	1.306
Normal Stress, ksf		1.000	2.000
Fail. Stress, ksf		0.566	1.144
Strain, %		6.8	9.2
Ult. Stress, ksf			
Strain, %			
Strain rate, in./min.		0.001	0.001

Sample Type: MC

Description: Silty Sand

LL= NV

PI= NP

Assumed Specific Gravity= 2.65

Remarks:

Project: Pickles Butte

Source of Sample: B2021-4

Proj. No.: 1145710402022

Depth: 90-91.5 ft

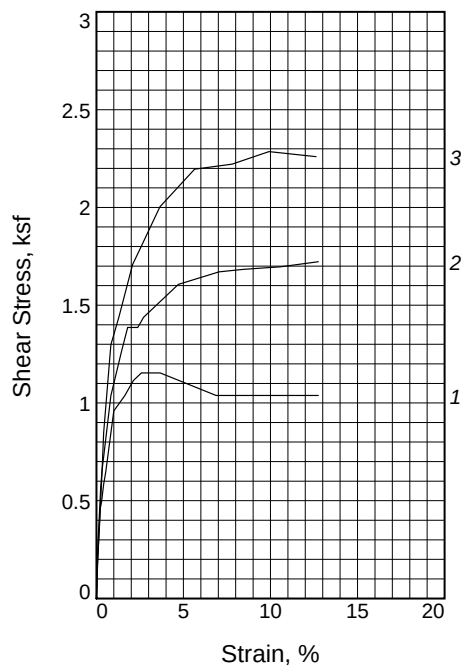
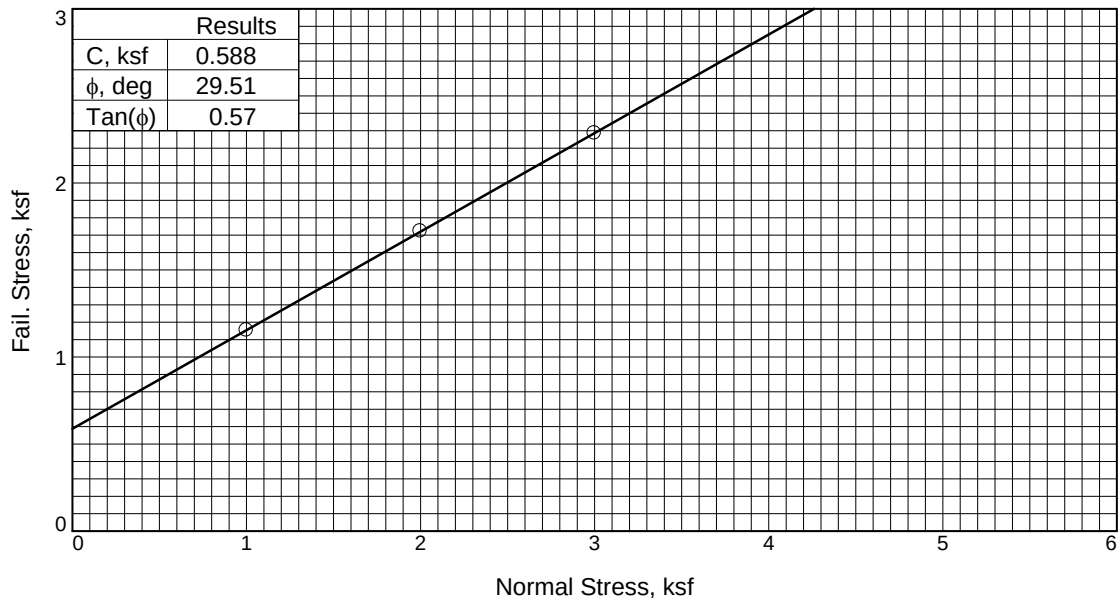
Date Sampled:

DIRECT SHEAR TEST REPORT

Tetra Tech

Missoula, MT

Figure 48



Sample No.	1	2	3
Initial	Water Content, %	6.9	6.2
	Dry Density, pcf	89.6	94.1
	Saturation, %	21.8	21.8
	Void Ratio	0.8457	0.7582
	Diameter, in.	2.400	2.400
	Height, in.	1.150	1.138
At Test	Water Content, %	28.7	27.7
	Dry Density, pcf	90.0	96.2
	Saturation, %	90.8	101.9
	Void Ratio	0.8377	0.7195
	Diameter, in.	2.400	2.400
	Height, in.	1.145	1.113
Normal Stress, ksf		1.000	2.000
Fail. Stress, ksf		1.153	1.723
Strain, %		2.6	12.8
Ult. Stress, ksf			
Strain, %			
Strain rate, in./min.		0.001	0.001

Sample Type: MC

Description: Silty Sand

Assumed Specific Gravity= 2.65

Remarks: Remolded

Project: Pickles Butte

Source of Sample: B2021-4

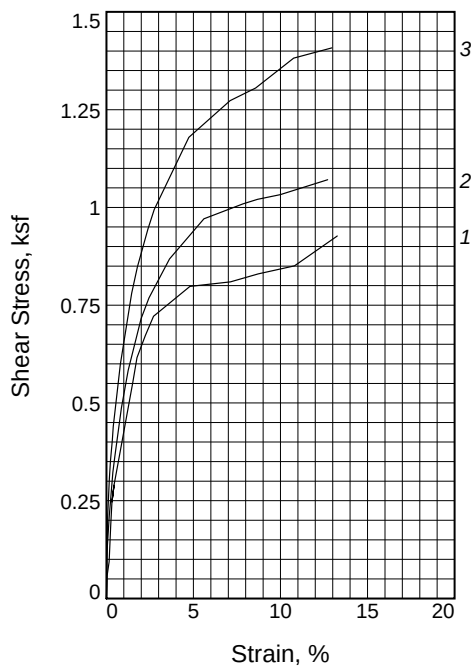
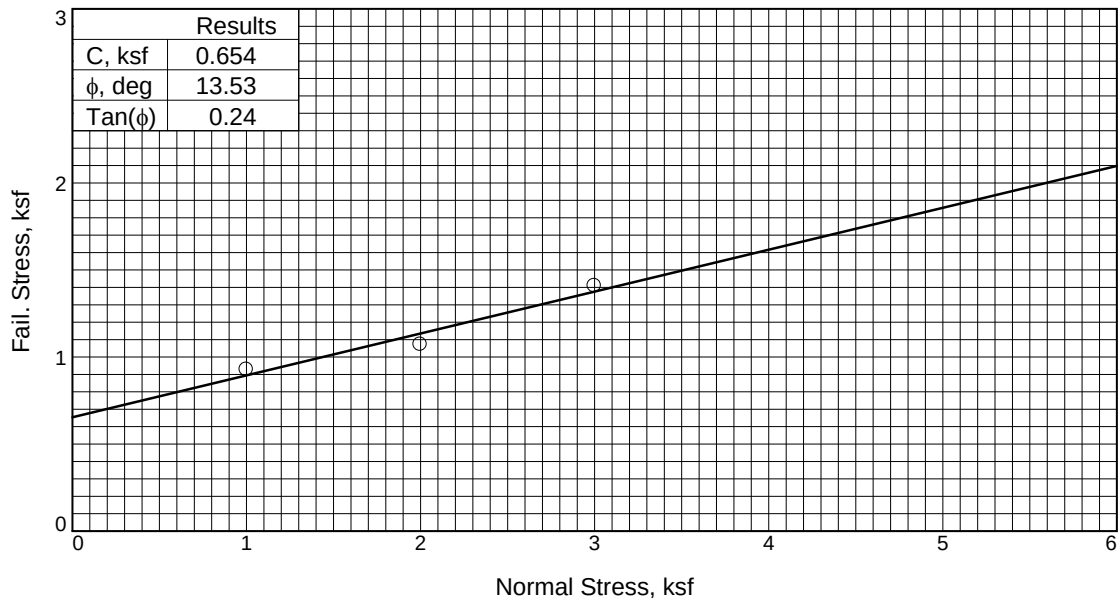
Proj. No.: 1145710402022

Depth: 120-120.9 ft

Date Sampled:

DIRECT SHEAR TEST REPORT

Tetra Tech
Missoula, MT



Sample No.		1	2	3
Initial	Water Content, %	11.3	11.3	11.2
	Dry Density, pcf	99.2	98.3	98.8
	Saturation, %	44.6	43.7	43.8
	Void Ratio	0.6682	0.6829	0.6750
	Diameter, in.	2.500	2.500	2.500
	Height, in.	1.200	1.190	1.206
At Test	Water Content, %	27.5	25.7	27.1
	Dry Density, pcf	101.9	102.9	102.0
	Saturation, %	117.0	112.1	115.6
	Void Ratio	0.6233	0.6075	0.6217
	Diameter, in.	2.500	2.500	2.500
	Height, in.	1.168	1.137	1.168
Normal Stress, ksf		1.000	2.000	3.000
Fail. Stress, ksf		0.927	1.071	1.408
Strain, %		13.3	12.7	13.0
Ult. Stress, ksf				
Strain, %				
Strain rate, in./min.		0.001	0.001	0.001

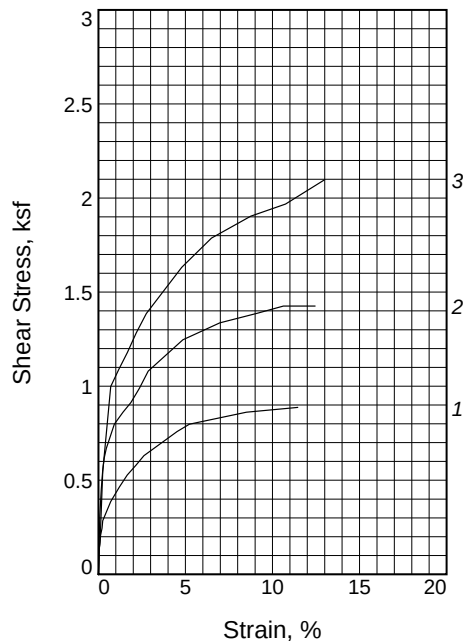
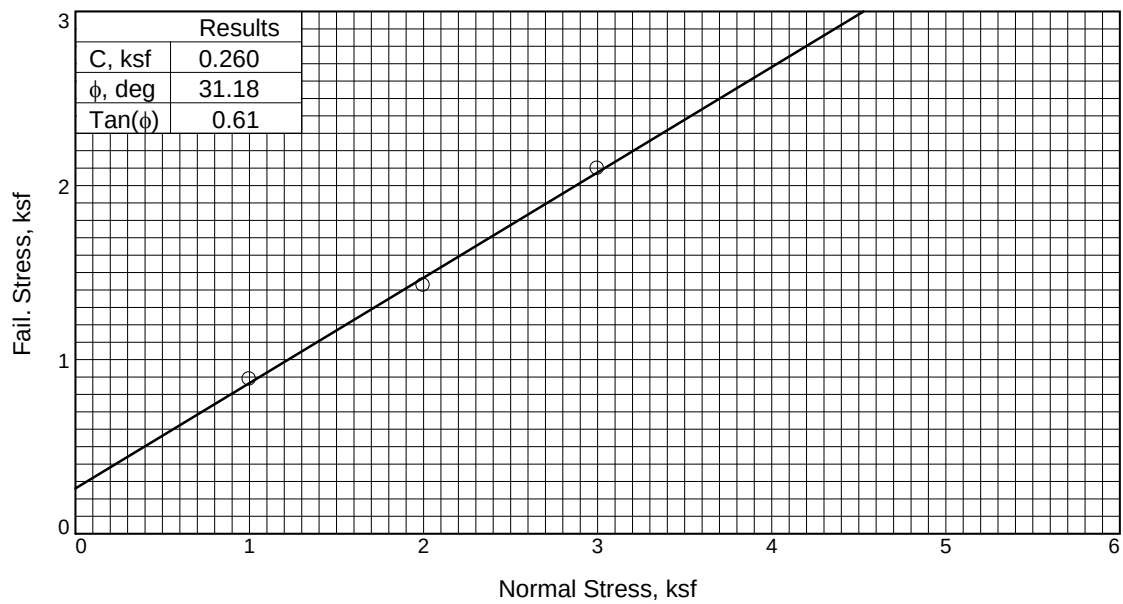
Sample Type: MC
Description: Lean Clay With Sand
Assumed Specific Gravity= 2.65
Remarks: Remolded

Project: Pickles Butte
Source of Sample: B2021-5
Proj. No.: 1145710402022 **Depth:** 80.0-81.5 ft

Date Sampled:

DIRECT SHEAR TEST REPORT

Tetra Tech
Missoula, MT



Sample No.		1	2	3
Initial	Water Content, %	18.0	18.2	18.3
	Dry Density, pcf	80.6	84.6	78.3
	Saturation, %	45.3	50.4	43.7
	Void Ratio	1.0522	0.9546	1.1118
	Diameter, in.	2.410	2.410	2.400
	Height, in.	1.240	1.190	1.250
At Test	Water Content, %	25.0	24.1	24.1
	Dry Density, pcf	82.7	87.5	82.3
	Saturation, %	66.2	71.7	63.1
	Void Ratio	1.0009	0.8905	1.0104
	Diameter, in.	2.410	2.410	2.400
	Height, in.	1.209	1.151	1.190
Normal Stress, ksf		1.000	2.000	3.000
Fail. Stress, ksf		0.887	1.426	2.098
Strain, %		11.5	10.6	13.0
Ult. Stress, ksf				
Strain, %				
Strain rate, in./min.		0.001	0.001	0.001

Sample Type: MC
Description: Silty Sand

Assumed Specific Gravity= 2.65
Remarks: Remolded

Figure 51

Project: Pickles Butte

Source of Sample: B2021-5

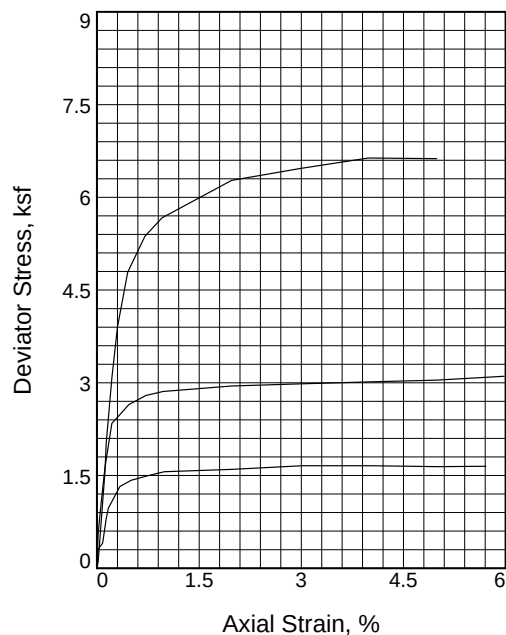
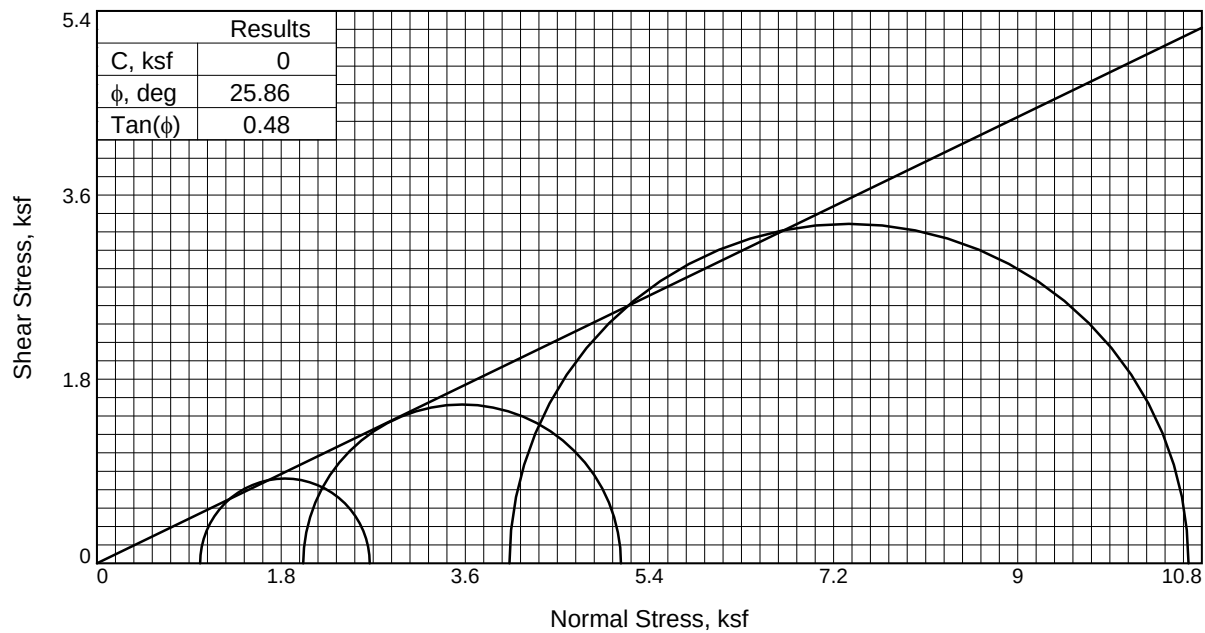
Proj. No.: 1145710402022

Depth: 90-91.5 ft

Date Sampled:

DIRECT SHEAR TEST REPORT
Tetra Tech
Missoula, MT

Tested By: DB **Checked By:** LP



Sample No.		1	2	3
Initial	Water Content, %	5.0	5.0	5.0
	Dry Density, pcf	100.9	100.9	100.9
	Saturation, %	20.7	20.7	20.7
	Void Ratio	0.6394	0.6394	0.6394
	Diameter, in.	2.803	2.803	2.803
	Height, in.	6.001	6.001	6.001
At Test	Water Content, %	22.7	21.8	20.9
	Dry Density, pcf	101.4	102.9	104.6
	Saturation, %	95.4	95.2	95.0
	Void Ratio	0.6312	0.6074	0.5820
	Diameter, in.	2.803	2.869	2.945
	Height, in.	5.972	5.616	5.247
Strain rate, in./min.		0.001	0.001	0.001
Back Pressure, psi		85.000	85.000	85.000
Cell Pressure, psi		92.000	99.000	113.000
Fail. Stress, ksf		1.66	3.11	6.64
Ult. Stress, ksf				
σ_1 Failure, ksf		2.67	5.12	10.67
σ_3 Failure, ksf		1.01	2.02	4.03

Type of Test:

Consolidated Undrained

Description: Silty Sand

Assumed Specific Gravity=

2.65 **Remarks:**

Project: Pickles Butte

Source of Sample: B2021-3

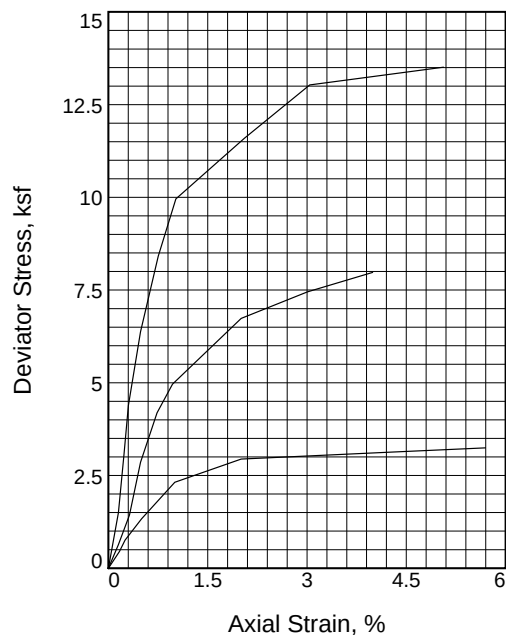
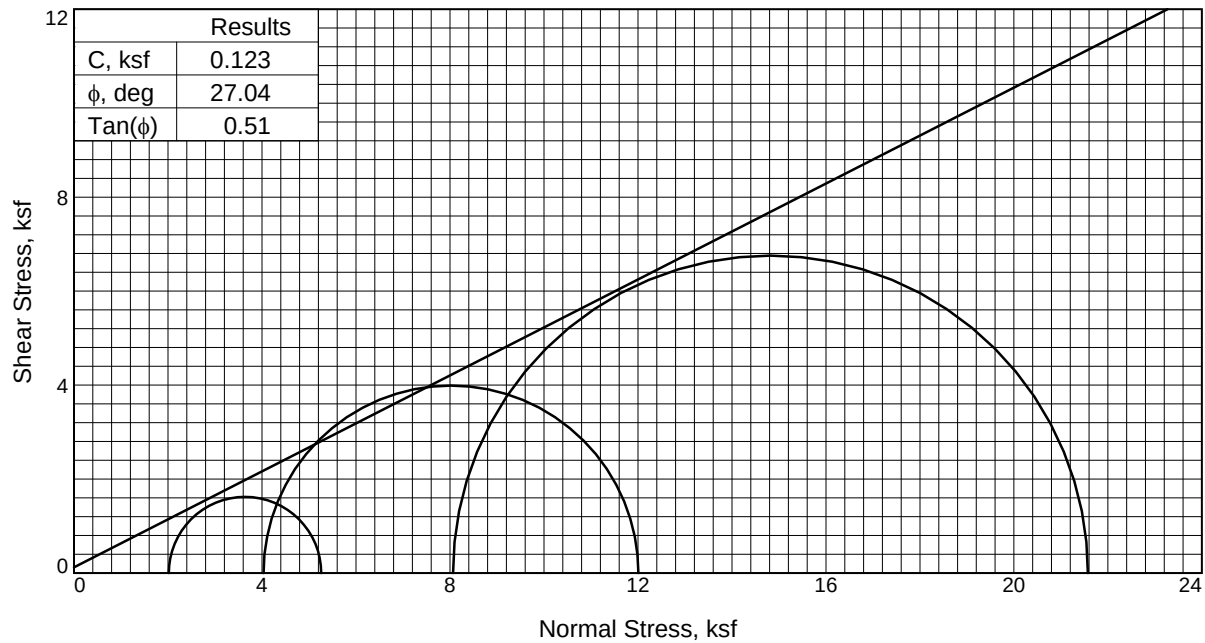
Proj. No.: 1145710402022

Depth: 25-27 ft

Date Sampled:

TRIAXIAL SHEAR TEST REPORT

Tetra Tech
Missoula, MT



Sample No.		1	2	3
Initial	Water Content, %	5.0	5.0	5.0
	Dry Density, pcf	100.4	100.4	100.4
	Saturation, %	20.5	20.5	20.5
	Void Ratio	0.6481	0.6481	0.6481
	Diameter, in.	2.801	2.801	2.801
	Height, in.	6.001	6.001	6.001
At Test	Water Content, %	23.2	22.3	20.9
	Dry Density, pcf	100.7	102.2	104.5
	Saturation, %	95.5	95.3	95.0
	Void Ratio	0.6431	0.6195	0.5836
	Diameter, in.	2.800	2.865	2.895
	Height, in.	5.986	5.638	5.397
Strain rate, in./min.		0.001	0.001	0.001
Back Pressure, psi		103.000	103.000	103.000
Cell Pressure, psi		117.000	131.000	159.000
Fail. Stress, ksf		3.24	7.98	13.51
Ult. Stress, ksf				
σ_1 Failure, ksf		5.26	12.01	21.57
σ_3 Failure, ksf		2.02	4.03	8.06

Type of Test:

Consolidated Undrained

Description: Poorly Graded Sand with Silt

Assumed Specific Gravity= 2.65

Remarks:

Project: Pickles Butte

Source of Sample: B2021-4

Proj. No.: 1145710402022

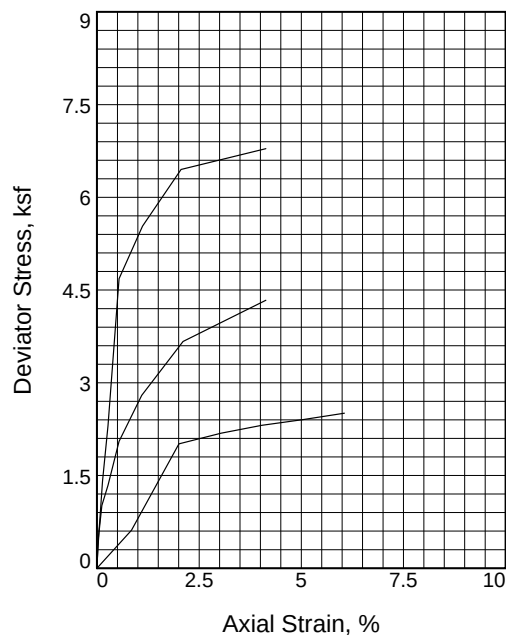
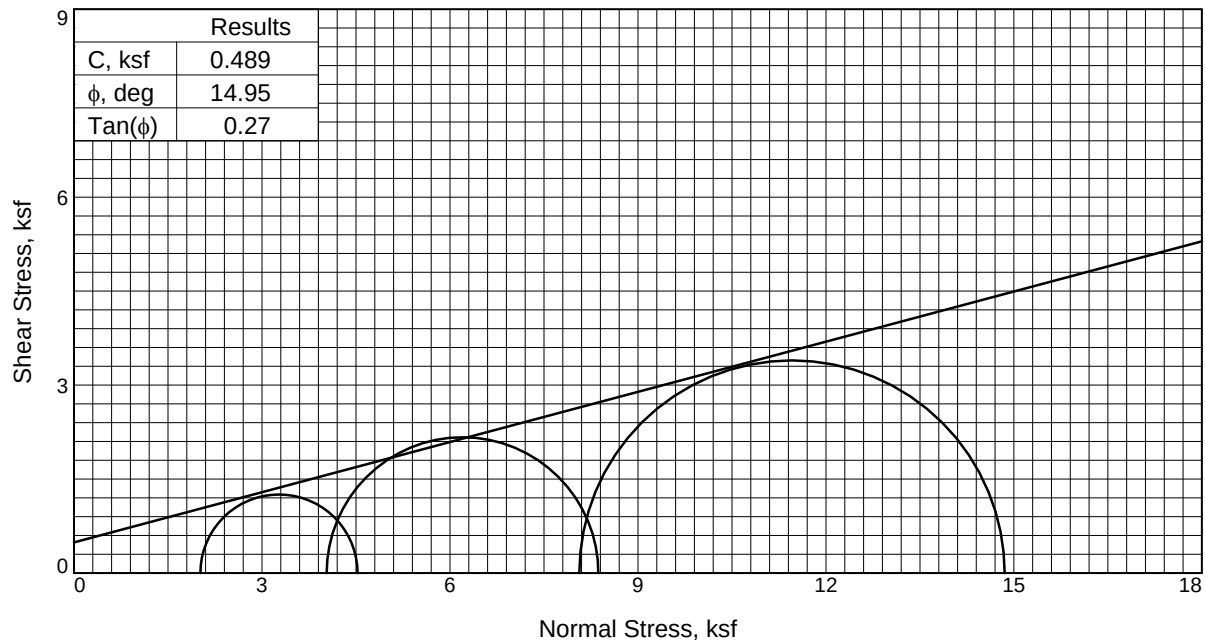
Depth: 50-51.5 ft

Date Sampled:

TRIAXIAL SHEAR TEST REPORT

Tetra Tech

Missoula, MT



Sample No.		1	2	3
Initial	Water Content, %	23.0	23.0	23.0
	Dry Density, pcf	90.1	90.1	90.1
	Saturation, %	73.0	73.0	73.0
	Void Ratio	0.8354	0.8354	0.8354
	Diameter, in.	2.800	2.800	2.800
	Height, in.	6.030	6.030	6.030
At Test	Water Content, %	27.4	23.7	21.3
	Dry Density, pcf	95.2	100.9	104.9
	Saturation, %	98.4	98.2	98.0
	Void Ratio	0.7372	0.6404	0.5770
	Diameter, in.	2.747	2.776	2.793
	Height, in.	5.930	5.481	5.206
Strain rate, in./min.		0.001	0.001	0.001
Back Pressure, psi		63.000	63.000	63.000
Cell Pressure, psi		77.000	91.000	119.000
Fail. Stress, ksf		2.51	4.34	6.79
Ult. Stress, ksf				
σ_1 Failure, ksf		4.52	8.37	14.85
σ_3 Failure, ksf		2.02	4.03	8.06

Type of Test:

Consolidated Undrained

Description: Silty Clay

Assumed Specific Gravity= 2.65

Remarks:

Project: Pickles Butte

Source of Sample: B2021-5

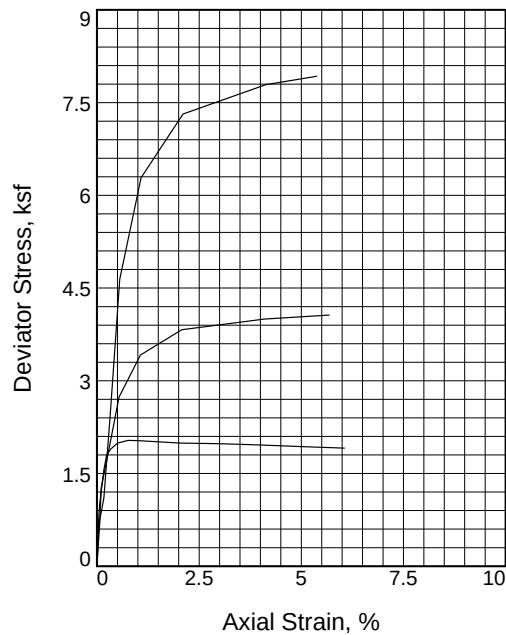
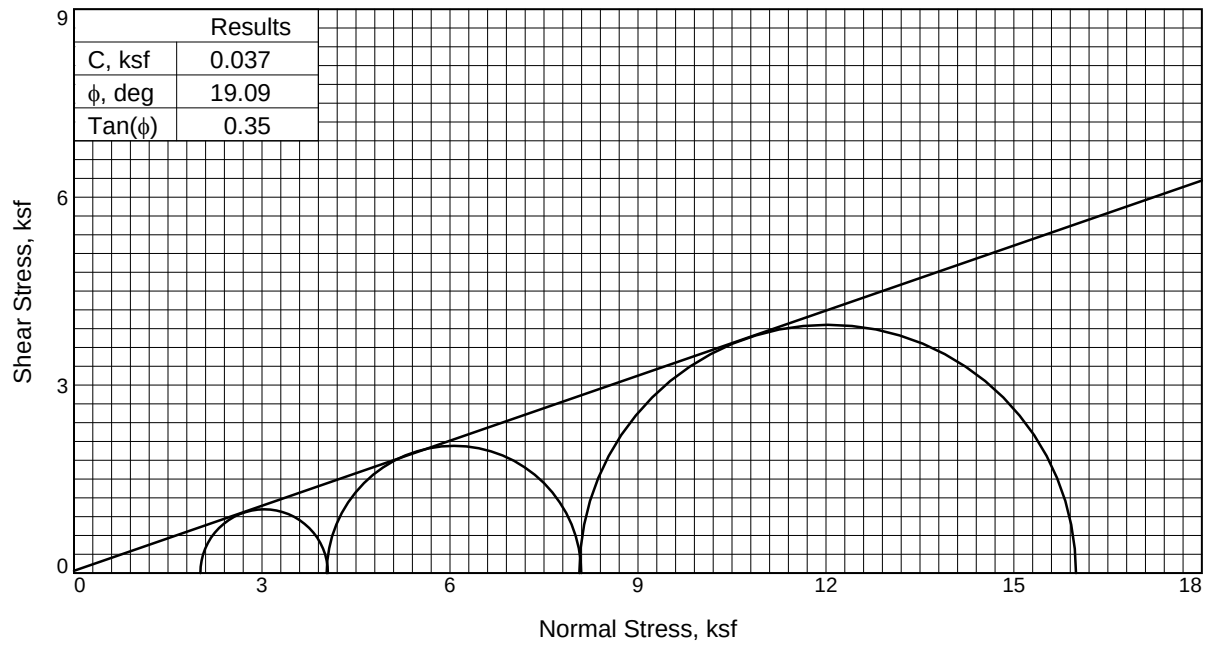
Proj. No.: 1145710402022

Depth: 50-51.5 ft

Date Sampled:

TRIAXIAL SHEAR TEST REPORT

Tetra Tech
Missoula, MT



Sample No.		1	2	3
Initial	Water Content, %	16.2	16.2	16.2
	Dry Density, pcf	101.9	101.9	101.9
	Saturation, %	69.1	69.1	69.1
	Void Ratio	0.6231	0.6231	0.6231
	Diameter, in.	2.790	2.790	2.790
	Height, in.	6.000	6.000	6.000
At Test	Water Content, %	22.2	21.2	19.2
	Dry Density, pcf	102.4	104.1	107.8
	Saturation, %	95.7	95.5	95.0
	Void Ratio	0.6160	0.5892	0.5344
	Diameter, in.	2.800	2.873	2.924
	Height, in.	5.930	5.541	5.164
Strain rate, in./min.		0.001	0.001	0.001
Back Pressure, psi		53.000	53.000	53.000
Cell Pressure, psi		67.000	81.000	109.000
Fail. Stress, ksf		2.03	4.06	7.93
Ult. Stress, ksf				
σ_1 Failure, ksf		4.05	8.09	15.99
σ_3 Failure, ksf		2.02	4.03	8.06

Type of Test:

Consolidated Undrained

Description:

Silt

Assumed Specific Gravity= 2.65

Remarks:

Project: Pickles Butte

Source of Sample: B2021-5

Proj. No.: 1145710402022

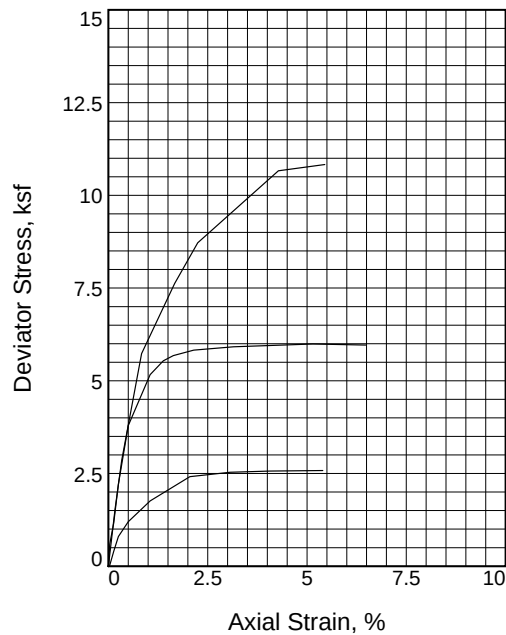
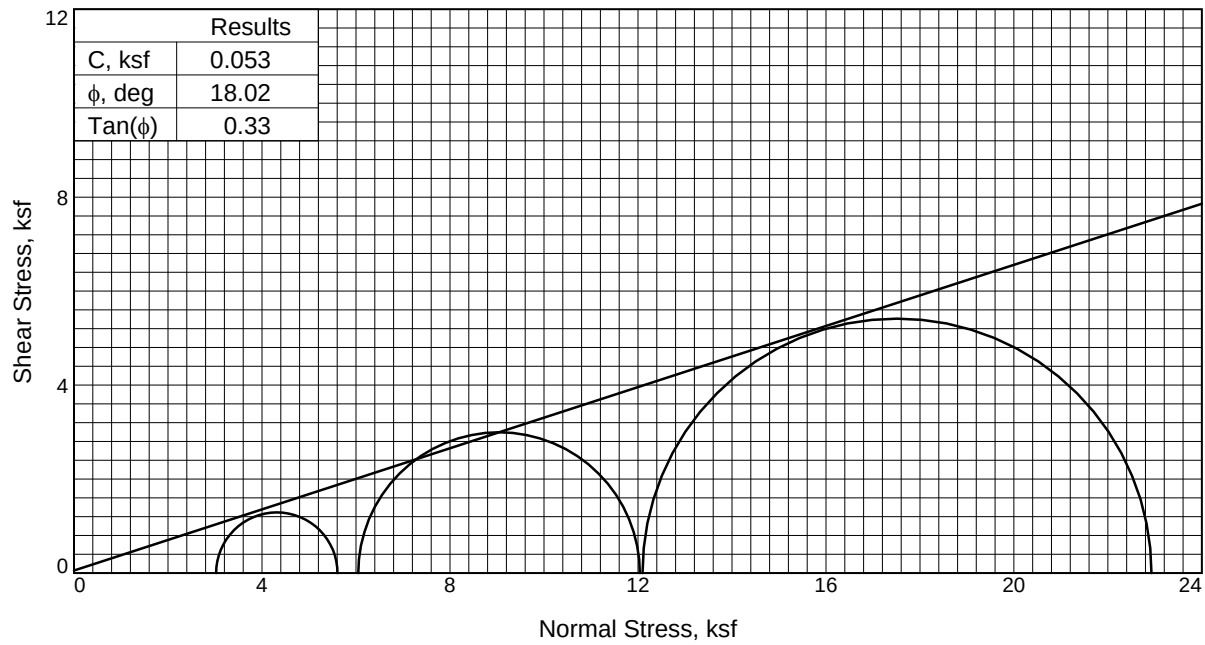
Depth: 69-70 ft

Date Sampled:

TRIAXIAL SHEAR TEST REPORT

Tetra Tech

Missoula, MT



Sample No.		1	2	3
Initial	Water Content, %	18.1	18.1	18.1
	Dry Density, pcf	85.7	85.7	85.7
	Saturation, %	51.4	51.4	51.4
	Void Ratio	0.9314	0.9314	0.9314
	Diameter, in.	2.801	2.801	2.801
	Height, in.	6.020	6.020	6.020
At Test	Water Content, %	24.5	24.5	24.5
	Dry Density, pcf	98.3	98.3	98.3
	Saturation, %	95.0	95.0	95.0
	Void Ratio	0.6826	0.6826	0.6826
	Diameter, in.	2.618	2.694	2.795
	Height, in.	6.004	5.670	5.268
Strain rate, in./min.		0.001	0.001	0.001
Back Pressure, psi		65.000	65.000	65.000
Cell Pressure, psi		86.000	107.000	149.000
Fail. Stress, ksf		2.58	5.99	10.83
Ult. Stress, ksf				
σ_1 Failure, ksf		5.61	12.04	22.93
σ_3 Failure, ksf		3.02	6.05	12.10

Type of Test:

Consolidated Undrained

Description: Clay

Assumed Specific Gravity= 2.65

Remarks:

Project: Pickles Butte

Source of Sample: B2021-7

Proj. No.: 1145710402022

Depth: 120-121.3 ft

Date Sampled:

TRIAXIAL SHEAR TEST REPORT

Tetra Tech

Missoula, MT



PROJECT NUMBER 114-571040-2022

PROJECT NAME Pickles Butte Sanitary Landfill - Canyon County, ID

Boring Number	Date Drilled	Latitude	Longitude	Elevation (feet)	Depth (feet)	Soil Class (USCS)	LL (%)	PI (%)	Liquidity Index	10 Mesh (%)	40 Mesh (%)	200 Mesh (%)	In-Place Density (pcf)	Maximum Dry Density (pcf)	Percent Natural Moisture	Percent Optimum Moisture	Friction Angle (degrees)	Cohesion (ksf)	Unconfined Compressive Strength (ksf)	Splitting Tensile Strength (psi)	Cc	pH	Resistivity (ohm-cm)	Sulfate Content (%)	California Bearing Ratio
B2021-1	11/15/2021	43.502927	-116.624204	2740.3976	0 - 1.5																				
B2021-1	11/15/2021	43.502927	-116.624204	2740.3976	2 - 3.5										9										
B2021-1	11/15/2021	43.502927	-116.624204	2740.3976	-		NV	NP		99.6	83.1	11.6	110	109.9		10.5									
B2021-1	11/15/2021	43.502927	-116.624204	2740.3976	4 - 5.5																				
B2021-1	11/15/2021	43.502927	-116.624204	2740.3976	6 - 7.5										8										
B2021-1	11/15/2021	43.502927	-116.624204	2740.3976	8 - 9.5																				
B2021-1	11/15/2021	43.502927	-116.624204	2740.3976	10 - 11.5										6										
B2021-1	11/15/2021	43.502927	-116.624204	2740.3976	15 - 16.5										5										
B2021-1	11/15/2021	43.502927	-116.624204	2740.3976	20 - 21.5																				
B2021-1	11/15/2021	43.502927	-116.624204	2740.3976	25 - 27		NV	NP		99.9	94.7	6.2	113								0.03				
B2021-1	11/15/2021	43.502927	-116.624204	2740.3976	27 - 28.5																				
B2021-1	11/15/2021	43.502927	-116.624204	2740.3976	30 - 31.5																				
B2021-2	11/16/2021	43.501658	-116.713829	2739.0394	0 - 1.5										7										
B2021-2	11/16/2021	43.501658	-116.713829	2739.0394	2 - 3.5																				
B2021-2	11/16/2021	43.501658	-116.713829	2739.0394	4 - 5.5										3										
B2021-2	11/16/2021	43.501658	-116.713829	2739.0394	6 - 7.5																				
B2021-2	11/16/2021	43.501658	-116.713829	2739.0394	8 - 9.5										3										
B2021-2	11/16/2021	43.501658	-116.713829	2739.0394	10 - 11.5																				
B2021-2	11/16/2021	43.501658	-116.713829	2739.0394	15 - 16.5										5										
B2021-2	11/16/2021	43.501658	-116.713829	2739.0394	20 - 21										3										
B2021-2	11/16/2021	43.501658	-116.713829	2739.0394	25 - 26.5																				
B2021-2	11/16/2021	43.501658	-116.713829	2739.0394	30 - 31.5																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	5 - 6.5																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	10 - 11.5																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	15 - 16.5																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	20 - 21.5										3										
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	25 - 27		NV	NP		99.8	97.7	31.3					25.86	0			0.04				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	26 - 30																				



PROJECT NUMBER 114-571040-2022

PROJECT NAME Pickles Butte Sanitary Landfill - Canyon County, ID

Boring Number	Date Drilled	Latitude	Longitude	Elevation (feet)	Depth (feet)	Soil Class (USCS)	LL (%)	PI (%)	Liquidity Index	10 Mesh (%)	40 Mesh (%)	200 Mesh (%)	In-Place Density (pcf)	Maximum Dry Density (pcf)	Percent Natural Moisture	Percent Optimum Moisture	Friction Angle (degrees)	Cohesion (ksf)	Unconfined Compressive Strength (ksf)	Splitting Tensile Strength (psi)	Cc	pH	Resistivity (ohm-cm)	Sulfate Content (%)	California Bearing Ratio
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	27 - 28.5																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	30 - 31.5										3										
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	35 - 36.5																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	40 - 41.5																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	45 - 46.5																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	50 - 51.5										3										
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	60 - 62		NV	NP		99.4	97.9	19.2					20.21	0.282							
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	61 - 65		NV	NP		99.6	99.1	7.7	100	100.2		13.7			0.143						
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	70 - 71.5																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	80 - 82		NV	NP		99.8	99.1	23.6					32.81	0.413							
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	82 - 83.5										2										
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	90 - 91.5																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	100 - 100.2																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	101 - 107																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	110 - 110.7																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	112 - 115																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	116 - 120		NV	NP		86.4	81.7	16.1	104	103.6		15.75									
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	121 - 121.8										4										
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	135 - 138																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	139 - 142																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	140 - 141.5																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	147 - 151																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	150 - 151.5																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	159 - 161																				
B2021-3	11/22/2021	43.500874	-116.716768	2737.6687	160 - 161.5																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	5 - 6.5										6										
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	9 - 10																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	10 - 11.5																				



PROJECT NUMBER 114-571040-2022

PROJECT NAME Pickles Butte Sanitary Landfill - Canyon County, ID

Boring Number	Date Drilled	Latitude	Longitude	Elevation (feet)	Depth (feet)	Soil Class (USCS)	LL (%)	PI (%)	Liquidity Index	10 Mesh (%)	40 Mesh (%)	200 Mesh (%)	In-Place Density (pcf)	Maximum Dry Density (pcf)	Percent Natural Moisture	Percent Optimum Moisture	Friction Angle (degrees)	Cohesion (ksf)	Unconfined Compressive Strength (ksf)	Splitting Tensile Strength (psi)	Cc	pH	Resistivity (ohm-cm)	Sulfate Content (%)	California Bearing Ratio
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	15 - 16.5																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	20 - 21.5										5										
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	25 - 26.5																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	30 - 31.5																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	35 - 36.5										8										
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	40 - 41.5																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	44 - 45																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	45 - 46.5										16										
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	50 - 51.5		NV	NP		100	91.9	6.3					27.04	0.123							
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	51 - 52																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	60 - 61.5										2										
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	69 - 70																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	70 - 71.5																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	79 - 80																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	80 - 81.5																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	89 - 90																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	90 - 91.5		NV	NP		99	96	38.4					22.83	0.198							
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	98 - 99																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	99 - 100.5										22										
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	109 - 110																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	110 - 111.5																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	119 - 120																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	120 - 120.9		NV	NP		100	98.1	49					29.51	0.588							
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	129 - 130																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	130 - 131.5																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	139 - 140																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	140 - 141.5										2										
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	149 - 150																				



PROJECT NUMBER 114-571040-2022

PROJECT NAME Pickles Butte Sanitary Landfill - Canyon County, ID

Boring Number	Date Drilled	Latitude	Longitude	Elevation (feet)	Depth (feet)	Soil Class (USCS)	LL (%)	PI (%)	Liquidity Index	10 Mesh (%)	40 Mesh (%)	200 Mesh (%)	In-Place Density (pcf)	Maximum Dry Density (pcf)	Percent Natural Moisture	Percent Optimum Moisture	Friction Angle (degrees)	Cohesion (ksf)	Unconfined Compressive Strength (ksf)	Splitting Tensile Strength (psi)	Cc	pH	Resistivity (ohm-cm)	Sulfate Content (%)	California Bearing Ratio
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	150 - 150.9																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	157 - 159																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	160 - 160.9																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	169 - 170																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	170 - 170.8																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	175 - 177																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	179 - 180																				
B2021-4	12/14/2021	43.665364	-116.688388	2797.1687	189 - 190																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	5 - 6.5										4										
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	9 - 10																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	10 - 11.5																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	15 - 16.5										3										
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	19 - 20																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	20 - 21.5																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	27 - 28																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	30 - 31.5																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	35 - 36.5										4										
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	39 - 40																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	40 - 41																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	45 - 46.5																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	49 - 50																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	50 - 51.5		54	30									14.95	0.489			0.06				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	59 - 60																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	60 - 60.6										4										
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	69 - 70		NV	NP		99.9	99.3	77.1	112	111.5		15.5	19.09	0.037							
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	70 - 71.5										29										
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	79 - 80																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	80 - 81.5		35	14	0.000	98.5	95.9	83.4	104	103.5	21	19.5	31.18	0.26							



PROJECT NUMBER 114-571040-2022

PROJECT NAME Pickles Butte Sanitary Landfill - Canyon County, ID

Boring Number	Date Drilled	Latitude	Longitude	Elevation (feet)	Depth (feet)	Soil Class (USCS)	LL (%)	PI (%)	Liquidity Index	10 Mesh (%)	40 Mesh (%)	200 Mesh (%)	In-Place Density (pcf)	Maximum Dry Density (pcf)	Percent Natural Moisture	Percent Optimum Moisture	Friction Angle (degrees)	Cohesion (ksf)	Unconfined Compressive Strength (ksf)	Splitting Tensile Strength (psi)	Cc	pH	Resistivity (ohm-cm)	Sulfate Content (%)	California Bearing Ratio
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	89 - 90																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	90 - 90.8		NV	NP			98.8	33.8					13.53	0.654							
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	99 - 100										11										
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	100 - 101.3																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	109 - 110																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	110 - 110.6																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	119 - 120																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	120 - 121.5																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	126 - 127																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	130 - 131.4																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	139 - 140																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	140 - 140.9																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	149 - 150																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	150 - 151.4																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	159 - 160																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	160 - 160.6																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	169 - 170																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	170 - 171.5																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	174 - 175																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	179 - 180																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	189 - 190																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	199 - 200																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	204 - 205																				
B2021-5	12/19/2021	43.499133	-116.713491	2661.6331	209 - 210																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	5 - 6.5																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	9 - 11																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	10 - 11.5										6										
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	20 - 21.5																				



PROJECT NUMBER 114-571040-2022

PROJECT NAME Pickles Butte Sanitary Landfill - Canyon County, ID

Boring Number	Date Drilled	Latitude	Longitude	Elevation (feet)	Depth (feet)	Soil Class (USCS)	LL (%)	PI (%)	Liquidity Index	10 Mesh (%)	40 Mesh (%)	200 Mesh (%)	In-Place Density (pcf)	Maximum Dry Density (pcf)	Percent Natural Moisture	Percent Optimum Moisture	Friction Angle (degrees)	Cohesion (ksf)	Unconfined Compressive Strength (ksf)	Splitting Tensile Strength (psi)	Cc	pH	Resistivity (ohm-cm)	Sulfate Content (%)	California Bearing Ratio
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	25 - 26.5										18										
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	39 - 41																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	40 - 41.5										22										
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	45 - 46.5																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	50 - 51.5																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	57 - 58														7.246						
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	59 - 61																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	60 - 61.5										25										
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	68 - 69																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	69 - 71																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	70 - 71.5																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	75 - 76																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	79 - 81		67	48			99.8	90.7													
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	80 - 81.1																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	84 - 85																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	89 - 91																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	90 - 91.5																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	99 - 102		56	34			99.8	89.7							15.661						
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	100 - 101.5																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	106 - 107		47	25		99.2	97.6	80.8	100	100		20.5									
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	110 - 111.5										21										
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	120 - 121.5										22										
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	129 - 130																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	130 - 131.3																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	140 - 141.5																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	149 - 150																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	150 - 151.4																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	159 - 160																				



PROJECT NUMBER 114-571040-2022

PROJECT NAME Pickles Butte Sanitary Landfill - Canyon County, ID

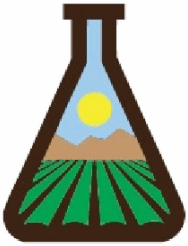
Boring Number	Date Drilled	Latitude	Longitude	Elevation (feet)	Depth (feet)	Soil Class (USCS)	LL (%)	PI (%)	Liquidity Index	10 Mesh (%)	40 Mesh (%)	200 Mesh (%)	In-Place Density (pcf)	Maximum Dry Density (pcf)	Percent Natural Moisture	Percent Optimum Moisture	Friction Angle (degrees)	Cohesion (ksf)	Unconfined Compressive Strength (ksf)	Splitting Tensile Strength (psi)	Cc	pH	Resistivity (ohm-cm)	Sulfate Content (%)	California Bearing Ratio
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	160 - 161.3																				
B2021-6	12/2/2021	43.495196	-116.715718	2636.7423	164 - 165																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	5 - 6.5										4										
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	10 - 11.5																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	15 - 16.5																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	19 - 20																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	25 - 26.5																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	30 - 30.6																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	35 - 35.8																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	39 - 40		NV	NP		93.6	92	23.3	112	111.7		12.9			0.511						
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	40 - 41.4										23										
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	45 - 46.5																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	49 - 50																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	50 - 51.5																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	59 - 60		NV	NP		99.9	98.9	84.3	104	104.2		17.8			1.817						
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	60 - 61.4										12										
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	69 - 70																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	70 - 71.5																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	79 - 80																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	80 - 80.7																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	89 - 90																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	90 - 90.3																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	99 - 100																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	100 - 101.5										20										
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	110 - 111.5																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	120 - 121.3		33	10									18.02	0.053			0.38				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	125 - 126																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	129 - 130																				



PROJECT NUMBER 114-571040-2022

PROJECT NAME Pickles Butte Sanitary Landfill - Canyon County, ID

Boring Number	Date Drilled	Latitude	Longitude	Elevation (feet)	Depth (feet)	Soil Class (USCS)	LL (%)	PI (%)	Liquidity Index	10 Mesh (%)	40 Mesh (%)	200 Mesh (%)	In-Place Density (pcf)	Maximum Dry Density (pcf)	Percent Natural Moisture	Percent Optimum Moisture	Friction Angle (degrees)	Cohesion (ksf)	Unconfined Compressive Strength (ksf)	Splitting Tensile Strength (psi)	Cc	pH	Resistivity (ohm-cm)	Sulfate Content (%)	California Bearing Ratio
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	130 - 131.5										19										
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	139 - 140																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	140 - 141.5										24										
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	149 - 150																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	150 - 151.5																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	160 - 161.4																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	169 - 170																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	170 - 171.5																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	179 - 180																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	189 - 190																				
B2021-7	12/7/2021	43.495280	-116.712592	2659.5036	199 - 200																				
B2021-8	11/15/2021	43.489880	-116.703147	2956.6206	0 - 1.5										11										
B2021-8	11/15/2021	43.489880	-116.703147	2956.6206	1 - 4		NV	NP		98.7	95.6	83.5	97	97.2		17.9									
B2021-8	11/15/2021	43.489880	-116.703147	2956.6206	2 - 3.5																				
B2021-8	11/15/2021	43.489880	-116.703147	2956.6206	4 - 5.5										11										
B2021-8	11/15/2021	43.489880	-116.703147	2956.6206	8 - 10										12										
B2021-8	11/15/2021	43.489880	-116.703147	2956.6206	10 - 11.5										6										
B2021-8	11/15/2021	43.489880	-116.703147	2956.6206	11 - 15																				
B2021-8	11/15/2021	43.489880	-116.703147	2956.6206	15 - 16.5										5										
B2021-8	11/15/2021	43.489880	-116.703147	2956.6206	20 - 21.5										5										



IAS LABORATORIES

2515 East University Drive
Phoenix, AZ 85034
Office: (602) 273-7248
Fax: (602) 275-3836
www.iaslabs.com

November 15, 2022

Maureen McGraw
Tetra Tech
3822 E University
Phoenix, AZ 85034

Project: Pickles Butte Landfill

Enclosed are the results of analyses for samples received by our laboratory on 10/17/2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sheri McLane
Certified Professional Agronomist
Certified Crop Advisor
License #359920



IAS Laboratories

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Date Received: October 17, 2022

Work Order: 22J0250

Submitted By: Maureen McGraw

Report To: Tetra Tech

Project: Pickles Butte Landfill

Sample Results

Sample Name: PBSL-TP-3 (2-3)

IAS Lab ID: 22J0250-01 (Soil)

Result	MRL	Units	Method
--------	-----	-------	--------

Chemical Properties

SMR - Field Capacity (1/3 Bar)	35.2	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:09:18PM				
SMR - (2 Bar)	11.5	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:16:09PM				
SMR - (5 Bar)	10.1	<0.01	%	ASTM D6836
Time Analyzed: 11/8/2022 10:31:13AM				
SMR - (10 Bar)	9.73	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:17:26PM				
SMR - Wilting Point (15 Bar)	8.85	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:11:10PM				

Physical Properties

Porosity	48.44	<0.01	%	Methods of Soil Analysis - ASA/SSSA
Time Analyzed: 10/28/2022 4:47:45PM				

MRL: Minimum Reporting Limit

ND: None Detected

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.



IAS Laboratories

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Date Received: October 17, 2022

Work Order: 22J0250

Submitted By: Maureen McGraw

Report To: Tetra Tech

Project: Pickles Butte Landfill

Sample Results

Sample Name: PBSL-TP-4 (4-5)

IAS Lab ID: 22J0250-02 (Soil)

Result	MRL	Units	Method
--------	-----	-------	--------

Chemical Properties

SMR - Field Capacity (1/3 Bar)	37.6	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:09:18PM				
SMR - (2 Bar)	9.78	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:16:09PM				
SMR - (5 Bar)	8.34	<0.01	%	ASTM D6836
Time Analyzed: 11/8/2022 10:31:13AM				
SMR - (10 Bar)	6.65	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:17:26PM				
SMR - Wilting Point (15 Bar)	6.10	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:11:10PM				

Physical Properties

Porosity	51.82	<0.01	%	Methods of Soil Analysis - ASA/SSSA
Time Analyzed: 10/28/2022 4:47:45PM				

MRL: Minimum Reporting Limit

ND: None Detected

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.



IAS Laboratories

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Date Received: October 17, 2022

Work Order: 22J0250

Submitted By: Maureen McGraw

Report To: Tetra Tech

Project: Pickles Butte Landfill

Sample Results

Sample Name: PBSL-TP-7 (5-4)

IAS Lab ID: 22J0250-03 (Soil)

Result	MRL	Units	Method
--------	-----	-------	--------

Chemical Properties

SMR - Field Capacity (1/3 Bar)	36.3	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:09:18PM				
SMR - (2 Bar)	8.51	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:16:09PM				
SMR - (5 Bar)	7.07	<0.01	%	ASTM D6836
Time Analyzed: 11/8/2022 10:31:13AM				
SMR - (10 Bar)	7.05	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:17:26PM				
SMR - Wilting Point (15 Bar)	6.60	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:11:10PM				

Physical Properties

Porosity	48.67	<0.01	%	Methods of Soil Analysis - ASA/SSSA
Time Analyzed: 10/28/2022 4:47:45PM				

MRL: Minimum Reporting Limit

ND: None Detected



IAS Laboratories

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Date Received: October 17, 2022

Work Order: 22J0250

Submitted By: Maureen McGraw

Report To: Tetra Tech

Project: Pickles Butte Landfill

Sample Results

Sample Name: PBSL-TP-9 (4-8)

IAS Lab ID: 22J0250-04 (Soil)

Result	MRL	Units	Method
--------	-----	-------	--------

Chemical Properties

SMR - Field Capacity (1/3 Bar)	41.6	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:09:18PM				
SMR - (2 Bar)	9.61	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:16:09PM				
SMR - (5 Bar)	8.39	<0.01	%	ASTM D6836
Time Analyzed: 11/8/2022 10:31:13AM				
SMR - (10 Bar)	7.37	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:17:26PM				
SMR - Wilting Point (15 Bar)	7.15	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:11:10PM				

Physical Properties

Porosity	53.14	<0.01	%	Methods of Soil Analysis - ASA/SSSA
Time Analyzed: 10/28/2022 4:47:45PM				

MRL: Minimum Reporting Limit

ND: None Detected

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.



IAS Laboratories

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Date Received: October 17, 2022

Work Order: 22J0250

Submitted By: Maureen McGraw

Report To: Tetra Tech

Project: Pickles Butte Landfill

Sample Results

Sample Name: PBSL-TP-10 (5-6)

IAS Lab ID: 22J0250-05 (Soil)

Result	MRL	Units	Method
--------	-----	-------	--------

Chemical Properties

SMR - Field Capacity (1/3 Bar)	37.4	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:09:18PM				
SMR - (2 Bar)	10.1	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:16:09PM				
SMR - (5 Bar)	8.87	<0.01	%	ASTM D6836
Time Analyzed: 11/8/2022 10:31:13AM				
SMR - (10 Bar)	8.69	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:17:26PM				
SMR - Wilting Point (15 Bar)	8.43	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:11:10PM				

Physical Properties

Porosity	49.85	<0.01	%	Methods of Soil Analysis - ASA/SSSA
Time Analyzed: 10/28/2022 4:47:45PM				

MRL: Minimum Reporting Limit

ND: None Detected



IAS Laboratories

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Date Received: October 17, 2022

Work Order: 22J0250

Submitted By: Maureen McGraw

Report To: Tetra Tech

Project: Pickles Butte Landfill

Sample Results

Sample Name: PBSL-TP-14 (4-5)

IAS Lab ID: 22J0250-06 (Soil)

Result	MRL	Units	Method
--------	-----	-------	--------

Chemical Properties

SMR - Field Capacity (1/3 Bar)	36.6	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:09:18PM				
SMR - (2 Bar)	12.0	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:16:09PM				
SMR - (5 Bar)	10.2	<0.01	%	ASTM D6836
Time Analyzed: 11/8/2022 10:31:13AM				
SMR - (10 Bar)	9.73	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:17:26PM				
SMR - Wilting Point (15 Bar)	10.8	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:11:10PM				

Physical Properties

Porosity	50.86	<0.01	%	Methods of Soil Analysis - ASA/SSSA
Time Analyzed: 10/28/2022 4:47:45PM				

MRL: Minimum Reporting Limit

ND: None Detected



IAS Laboratories

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Date Received: October 17, 2022

Work Order: 22J0250

Submitted By: Maureen McGraw

Report To: Tetra Tech

Project: Pickles Butte Landfill

Sample Results

Sample Name: PBSL-TP-16 (4-8)

IAS Lab ID: 22J0250-07 (Soil)

Result	MRL	Units	Method
--------	-----	-------	--------

Chemical Properties

SMR - Field Capacity (1/3 Bar)	40.8	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:09:18PM				
SMR - (2 Bar)	11.4	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:16:09PM				
SMR - (5 Bar)	9.95	<0.01	%	ASTM D6836
Time Analyzed: 11/8/2022 10:31:13AM				
SMR - (10 Bar)	9.72	<0.01	%	ASTM D6836
Time Analyzed: 11/4/2022 5:17:26PM				
SMR - Wilting Point (15 Bar)	8.11	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:11:10PM				

Physical Properties

Porosity	53.68	<0.01	%	Methods of Soil Analysis - ASA/SSSA
Time Analyzed: 10/28/2022 4:47:45PM				

MRL: Minimum Reporting Limit

ND: None Detected

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.



IAS Laboratories

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Date Received: October 17, 2022

Work Order: 22J0250

Submitted By: Maureen McGraw

Report To: Tetra Tech

Project: Pickles Butte Landfill

Sample Results

Sample Name: PBSL-TP-17 (1-3)

IAS Lab ID: 22J0250-08 (Soil)

Result	MRL	Units	Method
--------	-----	-------	--------

Chemical Properties

SMR - Field Capacity (1/3 Bar)	37.7	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:09:18PM				
SMR - (2 Bar)	8.28	<0.01	%	ASTM D6836
Time Analyzed: 11/8/2022 10:45:44AM				
SMR - (5 Bar)	7.49	<0.01	%	ASTM D6836
Time Analyzed: 11/11/2022 12:28:41PM				
SMR - (10 Bar)	7.15	<0.01	%	ASTM D6836
Time Analyzed: 11/15/2022 11:11:48AM				
SMR - Wilting Point (15 Bar)	6.96	<0.01	%	ASTM D6836
Time Analyzed: 11/1/2022 3:11:10PM				

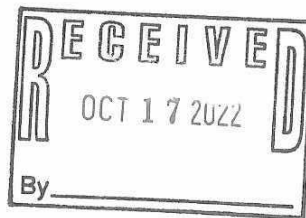
Physical Properties

Porosity	51.15	<0.01	%	Methods of Soil Analysis - ASA/SSSA
Time Analyzed: 10/28/2022 4:47:45PM				

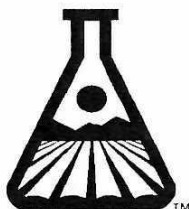
MRL: Minimum Reporting Limit

ND: None Detected

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.



2250250

**IAS Laboratories**

2515 East University Drive
Phoenix, Arizona 85034
(602) 273-7248
Fax (602) 275-3836

Chain of Custody

(Print and send in with Samples)

Date
Time

12 October 2022

Name Maureen A. McGraw, Tetra Tech
Address 3380 Americana Terrace, Suite 201
Boise, ID 83706

Email: maureen.mcgraw@tetratech.com
Phone 406-546-7839

Sample ID	Sample Description (What are your concerns)	Lab No	Test Required
PBSL-TP-3 (2-3)	Landfill cover material evaluation		Capillary Rise (field capacity & wilting point), porosity
PBSL-TP-4 (4-5)	Landfill cover material evaluation		Capillary Rise (field capacity & wilting point), porosity
PBSL-TP-7 (5-4)	Landfill cover material evaluation		Capillary Rise (field capacity & wilting point), porosity
PBSL-TP-9 (4-8)	Landfill cover material evaluation		Capillary Rise (field capacity & wilting point), porosity
PBSL-TP-10 (5-6)	Landfill cover material evaluation		Capillary Rise (field capacity & wilting point), porosity
PBSL-TP-14 (4-5)	Landfill cover material evaluation		Capillary Rise (field capacity & wilting point), porosity
PBSL-TP-16 (4-8)	Landfill cover material evaluation		Capillary Rise (field capacity & wilting point), porosity
PBSL-TP-17 (1-3)	Landfill cover material evaluation		Capillary Rise (field capacity & wilting point), porosity

Method of Shipment _____

Relinquished by:

Maureen A. McGraw

Payment _____
Paypal, CC#, Check #

Print Name:

Maureen A. McGraw

IAS Labs

From: McGraw, Maureen <Maureen.McGraw@tetrattech.com>
Sent: Friday, October 14, 2022 9:32 AM
To: IAS Labs
Subject: Pickles Butte Landfill Samples
Attachments: PBSL Cover Soil IAS COC 111222.pdf

Hi Shari,

I wanted to let you know that we shipped soil samples to you yesterday that are expected to arrive on Monday the 17th. There are 8 samples for Pickles Butte Landfill. I have attached the COC to the email. Similar for Bear Lake and IDAWY, the invoice for these samples should come to me. Please let me know if you need anything else.

Maureen

Maureen McGraw, Ph.D., PE (ID, MT, NM) | Project Manager/Senior Engineer
406.546.7839 Cell, 208.389.1030 Office, 208.489.2826 Direct
maureen.mcgraw@tetrattech.com

Tetra Tech | *Leading with Science*[®] | Environmental Commercial Accounts (ECA)
3380 Americana Terrace, Suite 201 | Boise, ID 83706 | www.tetrattech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

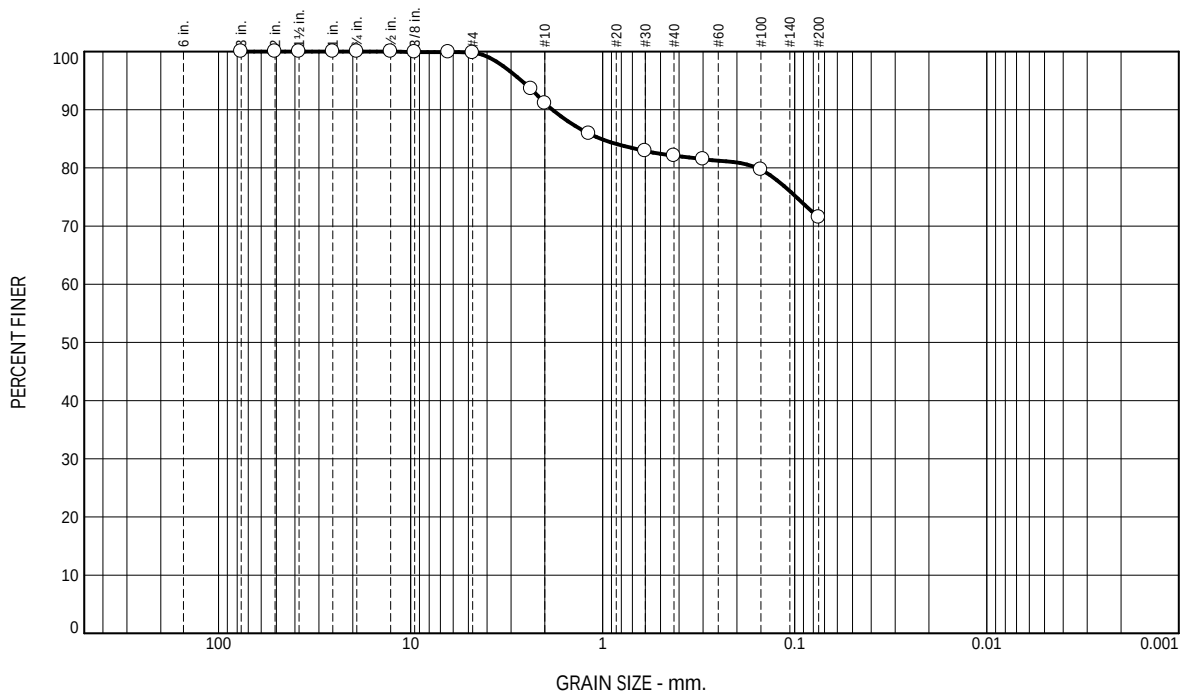


Please consider the environment before printing. [Read more](#)



TETRA TECH

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	8.7	9.0	10.6	71.5	

Test Results (ASTM D422)			
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	100.0		
.375	99.9		
.25	99.9		
#4	99.8		
#8	93.6		
#10	91.1		
#16	85.9		
#30	82.9		
#40	82.1		
#50	81.5		
#100	79.7		
#200	71.5		

· (no specification provided)

Location: TP-01
Depth: 2-3 ft

Material Description

Sieve Test (ASTM D422)

Test Date: 11-9-22 Technician: PL/AB

Test Notes

Hydrometer Test

Test Date: Technician:

Test Notes

Atterberg (ASTM D4318)

PL= NP LL= NP PI= NP

Coefficients

D₉₀= 1.8253 D₈₅= 1.0229

D₆₀= D₅₀=

D₃₀= D₁₅=

D₁₀=

C_u= C_c=

USCS (ASTM D2487)

ML

Date Sampled:

Date Received:

Checked By: LP

Title:

Tetra Tech

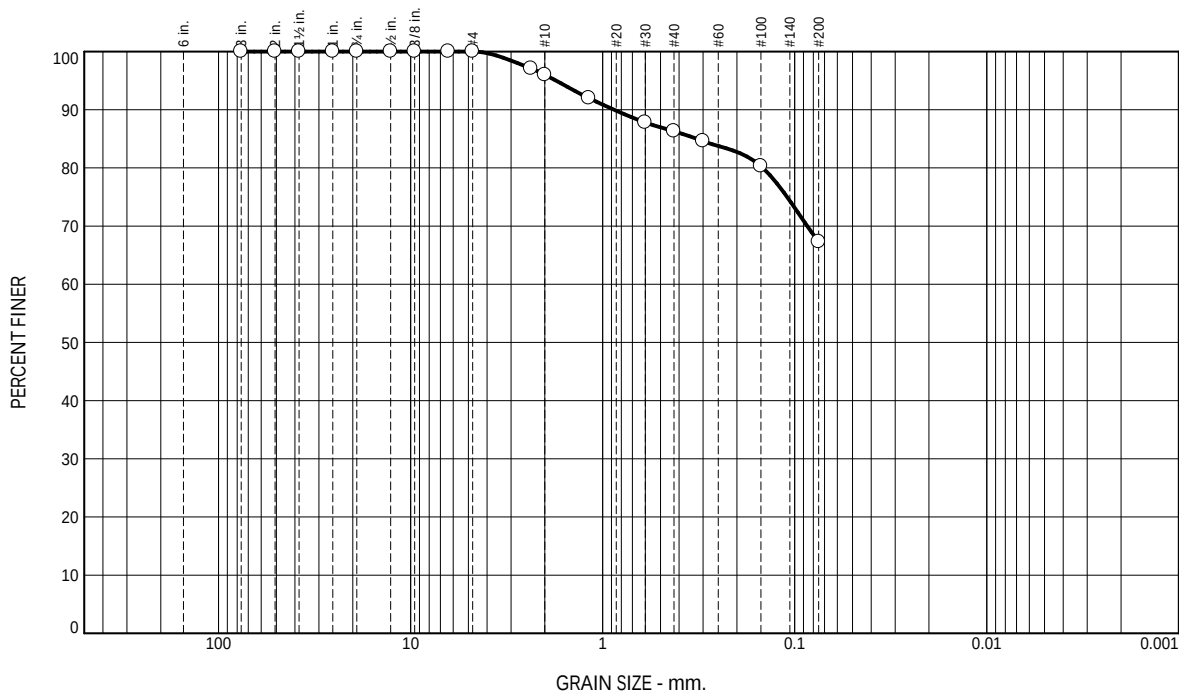
Missoula, MT

Client:
Project: Pickles Butte

Project No: 114-571040-2023

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	4.0	9.7	19.0	67.3	

Test Results (ASTM D422)			
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
.25	100.0		
#4	100.0		
#8	97.1		
#10	96.0		
#16	92.0		
#30	87.8		
#40	84.6		
#50	80.3		
#100	67.3		
#200			

· (no specification provided)

Location: TP-02
Depth: 6-8 ft

Material Description

Sieve Test (ASTM D422)

Test Date: 11-10-22 Technician: PM

Test Notes

Hydrometer Test

Test Date: Technician:

Test Notes

Atterberg (ASTM D4318)

PL= NP LL= NP PI= NP

Coefficients

D₉₀= 0.8735 D₈₅= 0.3234

D₆₀= D₅₀=

D₃₀= D₁₅=

D₁₀=

C_u= C_c=

USCS (ASTM D2487)

ML

Date Sampled:

Date Received:

Checked By: LP

Title:

Tetra Tech

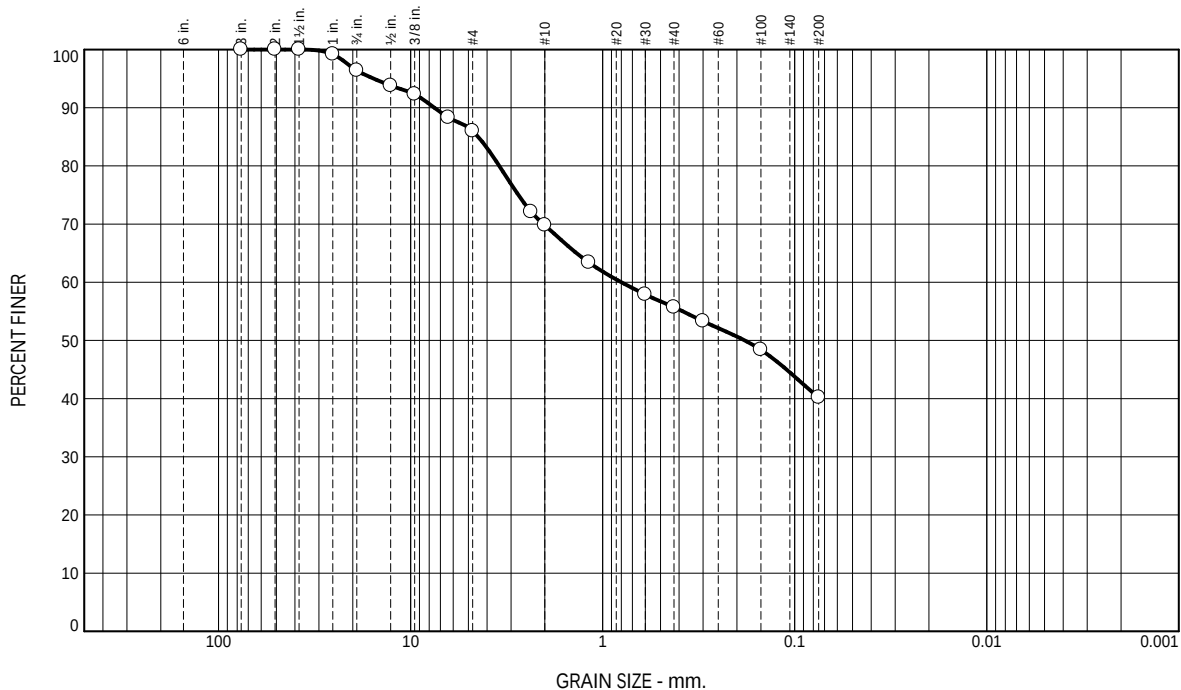
Missoula, MT

Client:
Project: Pickles Butte

Project No: 114-571040-2023

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.6	10.4	16.2	14.1	15.5	40.2	

Test Results (ASTM D422)			
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)
3	100.0		
2	100.0		
1.5	100.0		
1	99.2		
.75	96.4		
.5	93.8		
.375	92.3		
.25	88.3		
#4	86.0		
#8	72.1		
#10	69.8		
#16	63.4		
#30	57.9		
#40	55.7		
#50	53.3		
#100	48.4		
#200	40.2		

· (no specification provided)

Location: TP-03
Depth: 2-3 ft

Material Description

Sieve Test (ASTM D422)

Test Date: 11-14-22 Technician: AB/PM

Test Notes

Hydrometer Test

Test Date: Technician:

Test Notes

Atterberg (ASTM D4318)

PL= LL= PI=

Coefficients

D₉₀= 7.5143 D₈₅= 4.4480

D₆₀= 0.7984 D₅₀= 0.1818

D₃₀= D₁₅=

D₁₀=

C_u= C_c=

USCS (ASTM D2487)

Date Sampled:

Date Received:

Checked By: LP

Title:

Tetra Tech

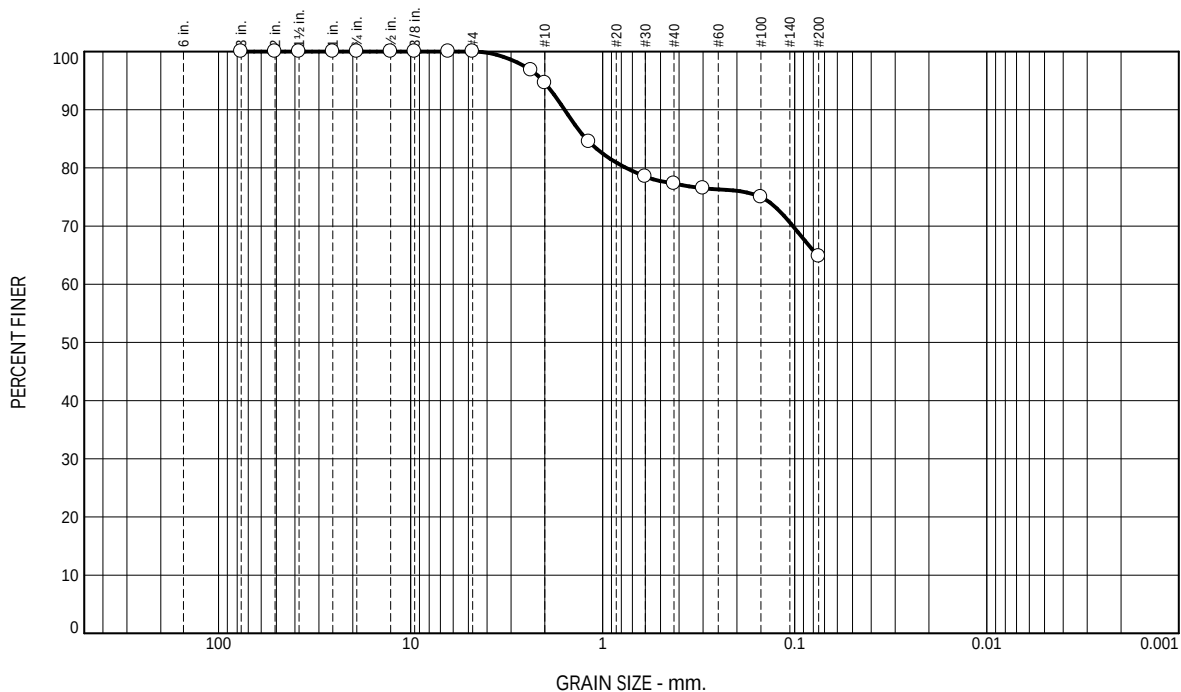
Missoula, MT

Client:
Project: Pickles Butte

Project No: 114-571040-2023

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	5.4	17.3	12.5	64.8	

Test Results (ASTM D422)			
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
.25	100.0		
#4	100.0		
#8	96.8		
#10	94.6		
#16	84.5		
#30	78.5		
#40	77.3		
#50	76.5		
#100	75.0		
#200	64.8		

· (no specification provided)

Location: TP-04
Depth: 4-5 ft

Material Description

Sieve Test (ASTM D422)

Test Date: 11-15-22 Technician: AB

Test Notes

Hydrometer Test

Test Date: Technician:

Test Notes

Atterberg (ASTM D4318)

PL= LL= PI=

Coefficients

D₉₀= 1.5800 D₈₅= 1.2205

D₆₀= D₅₀=

D₃₀= D₁₅=

D₁₀=

C_u= C_c=

USCS (ASTM D2487)

Date Sampled:

Date Received:

Checked By: LP

Title:

Tetra Tech

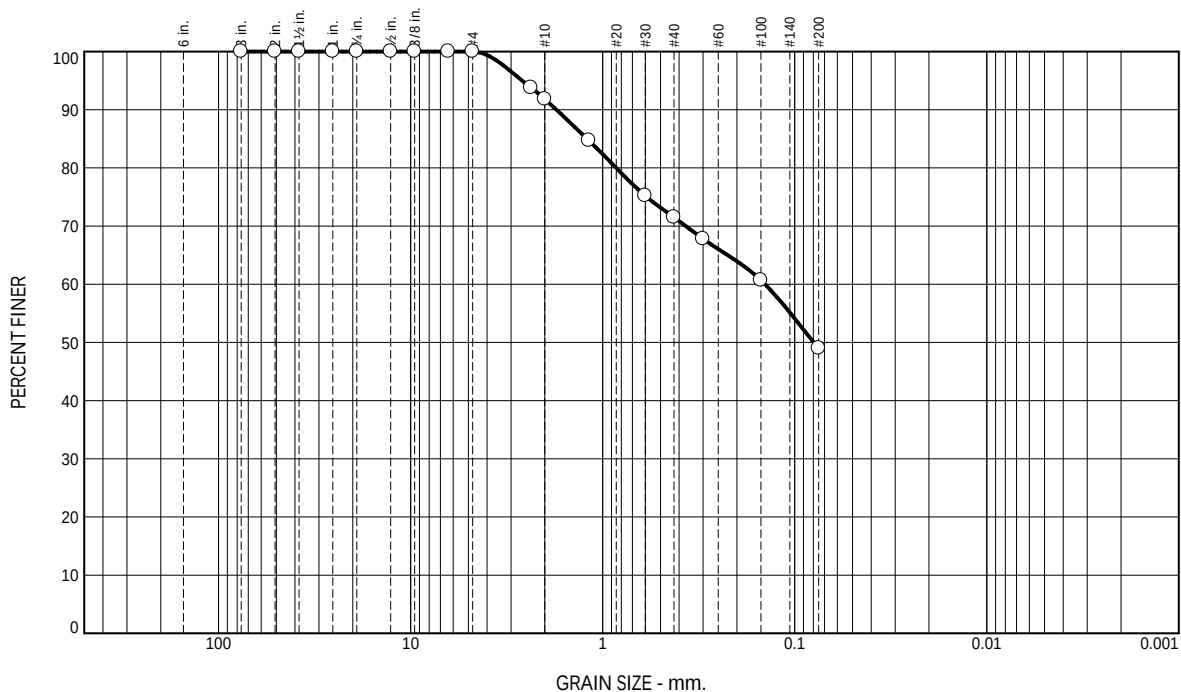
Missoula, MT

Client:
Project: Pickles Butte

Project No: 114-571040-2023

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	8.2	20.3	22.5	49.0	

Test Results (ASTM D422)			
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
.25	100.0		
#4	100.0		
#8	93.8		
#10	91.8		
#16	84.7		
#30	75.2		
#40	71.5		
#50	67.8		
#100	60.7		
#200	49.0		

· (no specification provided)

Location: TP-05
Depth: 2-3 ft

Material Description

Sieve Test (ASTM D422)

Test Date: 11-10-22 Technician: PM/TL

Test Notes

Hydrometer Test

Test Date: Technician:

Test Notes

Atterberg (ASTM D4318)

PL= NP LL= NP PI= NP

Coefficients

D₉₀= 1.7419 D₈₅= 1.2060
D₆₀= 0.1427 D₅₀= 0.0795
D₃₀= D₁₅=
D₁₀=
C_u= C_c=

USCS (ASTM D2487)

SM

Date Sampled:

Date Received:

Checked By: LP

Title:

Tetra Tech

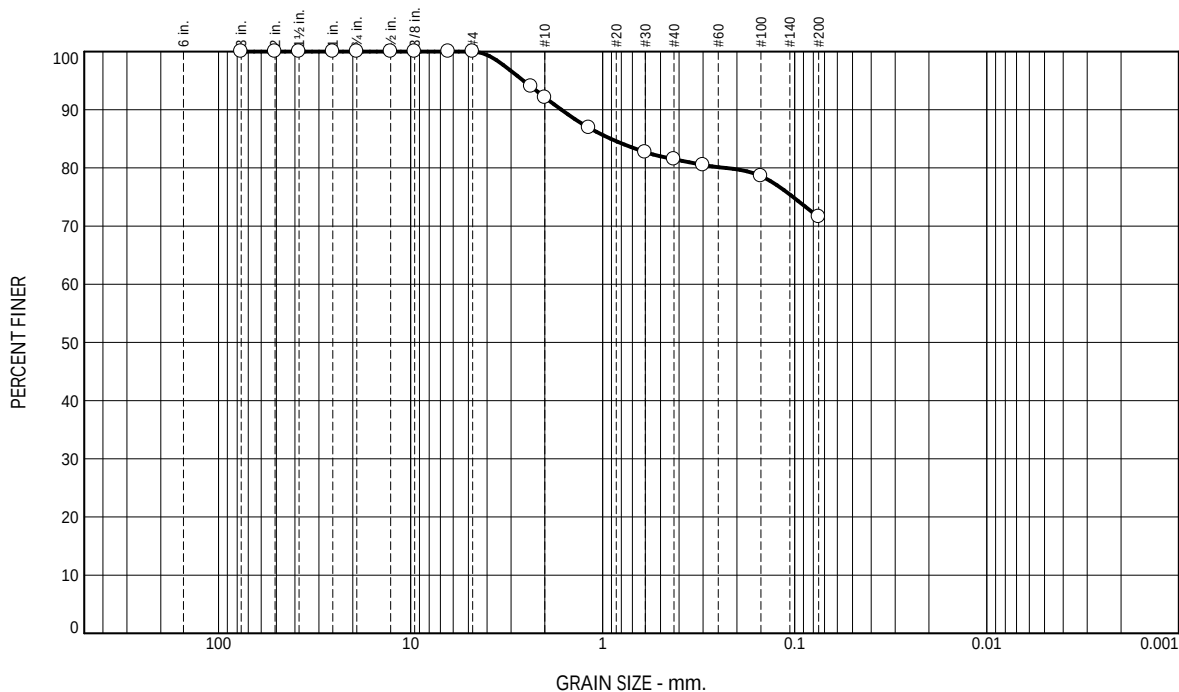
Missoula, MT

Client:
Project: Pickles Butte

Project No: 114-571040-2023

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	7.9	10.6	9.9	71.6	

Test Results (ASTM D422)			
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
.25	100.0		
#4	100.0		
#8	94.0		
#10	92.1		
#16	86.9		
#30	82.7		
#40	81.5		
#50	80.5		
#100	78.6		
#200	71.6		

· (no specification provided)

Location: TP-06
Depth: 2-3 ft

Material Description

Sieve Test (ASTM D422)

Test Date: 11-16-22 Technician: SH/AB

Test Notes

Hydrometer Test

Test Date: Technician:

Test Notes

Atterberg (ASTM D4318)

PL= LL= PI=

Coefficients

D₉₀= 1.6405 D₈₅= 0.9068

D₆₀= D₅₀=

D₃₀= D₁₅=

D₁₀=

C_u= C_c=

USCS (ASTM D2487)

Date Sampled:

Date Received:

Checked By: LP

Title:

Tetra Tech

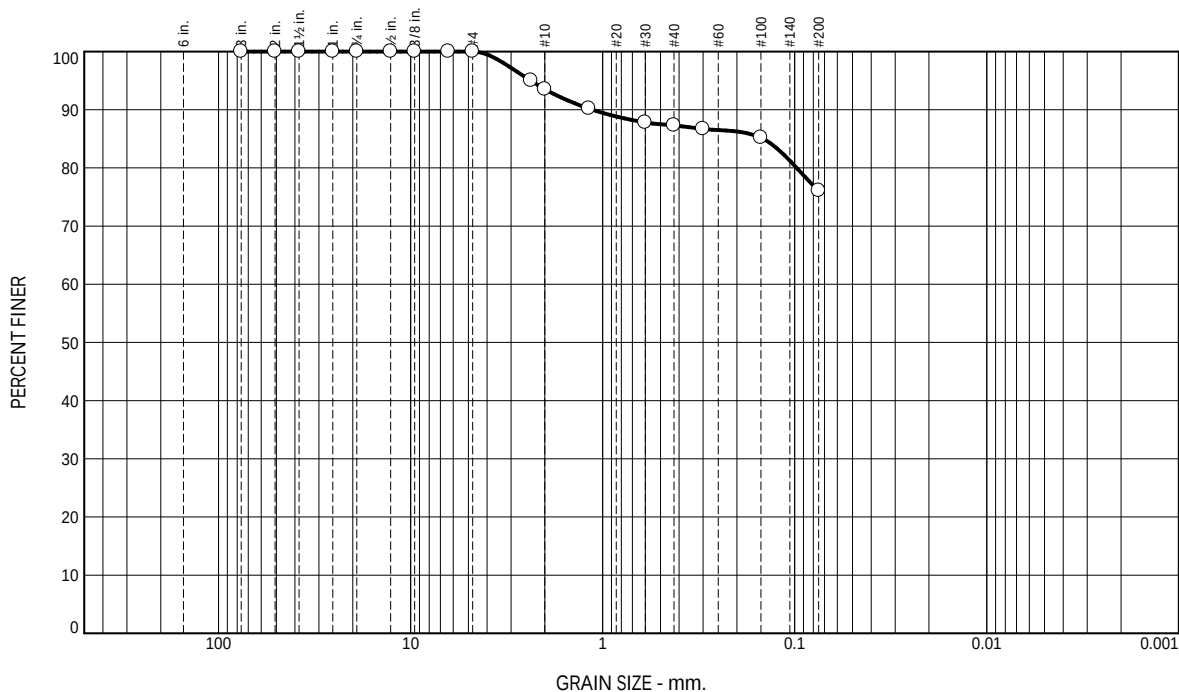
Missoula, MT

Client:
Project: Pickles Butte

Project No: 114-571040-2023

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	6.5	6.2	11.2	76.1	

Test Results (ASTM D422)			
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
.25	100.0		
#4	100.0		
#8	95.0		
#10	93.5		
#16	90.2		
#30	87.8		
#40	87.3		
#50	86.7		
#100	85.2		
#200	76.1		

· (no specification provided)

Location: TP-07
Depth: 4-5 ft

Material Description

Sieve Test (ASTM D422)

Test Date: 11-14-22 Technician: TL/PM

Test Notes

Hydrometer Test

Test Date: Technician:

Test Notes

Atterberg (ASTM D4318)

PL= LL= PI=

Coefficients

D₉₀= 1.1318 D₈₅= 0.1457

D₆₀= D₅₀=

D₃₀= D₁₅=

D₁₀=

C_u= C_c=

USCS (ASTM D2487)

Date Sampled:

Date Received:

Checked By: LP

Title:

Tetra Tech

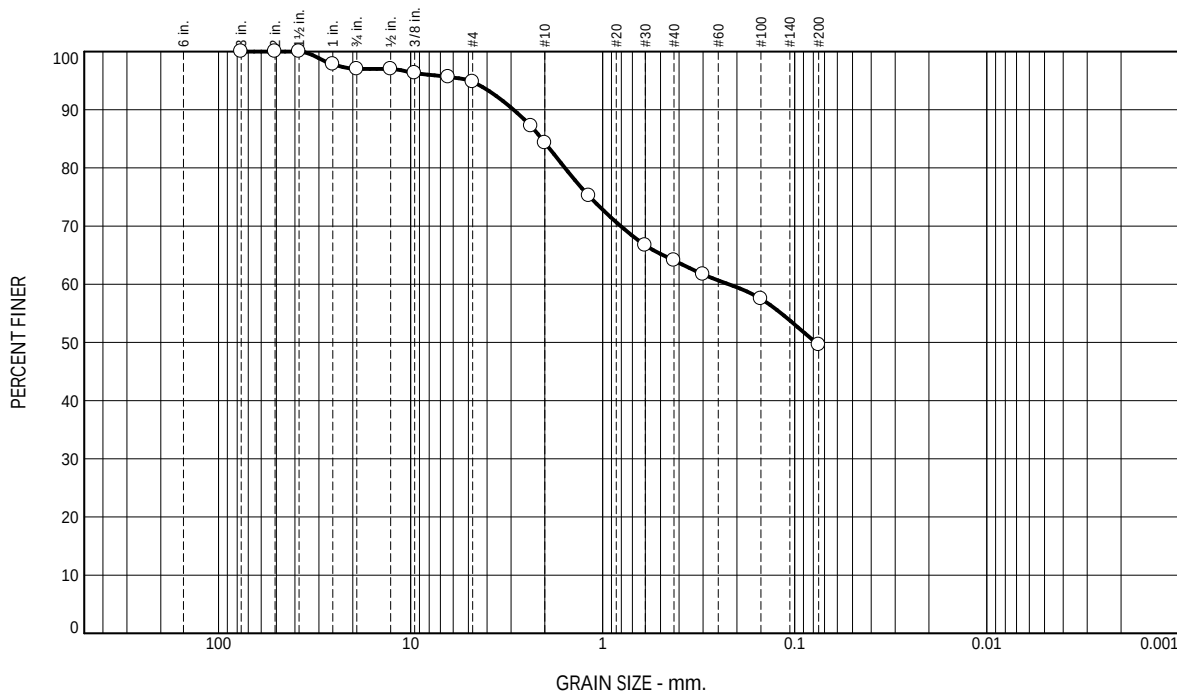
Missoula, MT

Client:
Project: Pickles Butte

Project No: 114-571040-2023

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.0	2.2	10.5	20.2	14.5	49.6	

Test Results (ASTM D422)			
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)
3	100.0		
2	100.0		
1.5	100.0		
1	97.8		
.75	97.0		
.5	97.0		
.375	96.3		
.25	95.6		
#4	94.8		
#8	87.2		
#10	84.3		
#16	75.2		
#30	66.7		
#40	64.1		
#50	61.7		
#100	57.5		
#200	49.6		

· (no specification provided)

Location: TP-08
Depth: 2-3 ft

Material Description

Sieve Test (ASTM D422)

Test Date: 11-15-22 Technician: TL/AB

Test Notes

Hydrometer Test

Test Date: Technician:

Test Notes

Atterberg (ASTM D4318)

PL= LL= PI=

Coefficients

D₉₀= 2.9108 D₈₅= 2.0791
D₆₀= 0.2206 D₅₀= 0.0776
D₃₀= D₁₅=
D₁₀=
C_u= C_c=

USCS (ASTM D2487)

Date Sampled:

Date Received:

Checked By: LP

Title:

Tetra Tech

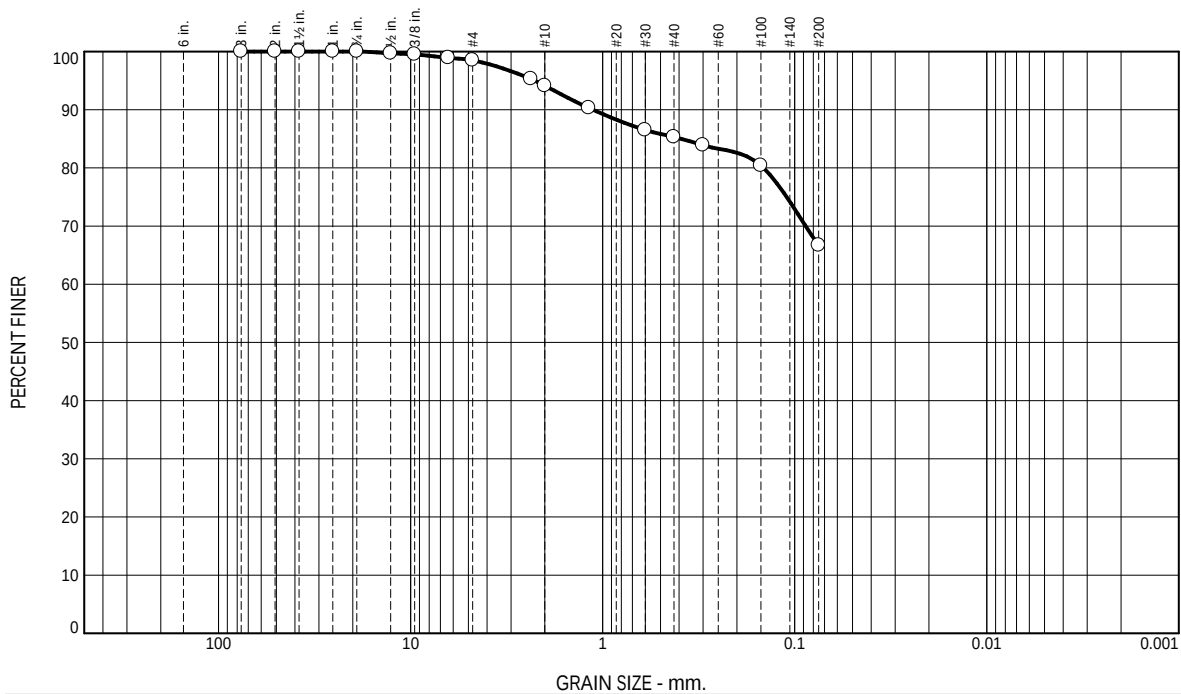
Missoula, MT

Client:
Project: Pickles Butte

Project No: 114-571040-2023

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.5	4.4	8.8	18.6	66.7	

Test Results (ASTM D422)			
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	99.7		
.375	99.5		
.25	98.9		
#4	98.5		
#8	95.3		
#10	94.1		
#16	90.3		
#30	86.5		
#40	85.3		
#50	83.9		
#100	80.4		
#200	66.7		

· (no specification provided)

Location: TP-10
Depth: 5-6 ft

Material Description

Sieve Test (ASTM D422)

Test Date: 11-16-22 Technician: AB

Test Notes

Hydrometer Test

Test Date: Technician:

Test Notes

Atterberg (ASTM D4318)

PL= LL= PI=

Coefficients

D₉₀= 1.1257 D₈₅= 0.3925

D₆₀= D₅₀=

D₃₀= D₁₅=

D₁₀=

C_u= C_c=

USCS (ASTM D2487)

Date Sampled:

Date Received:

Checked By: LP

Title:

Tetra Tech

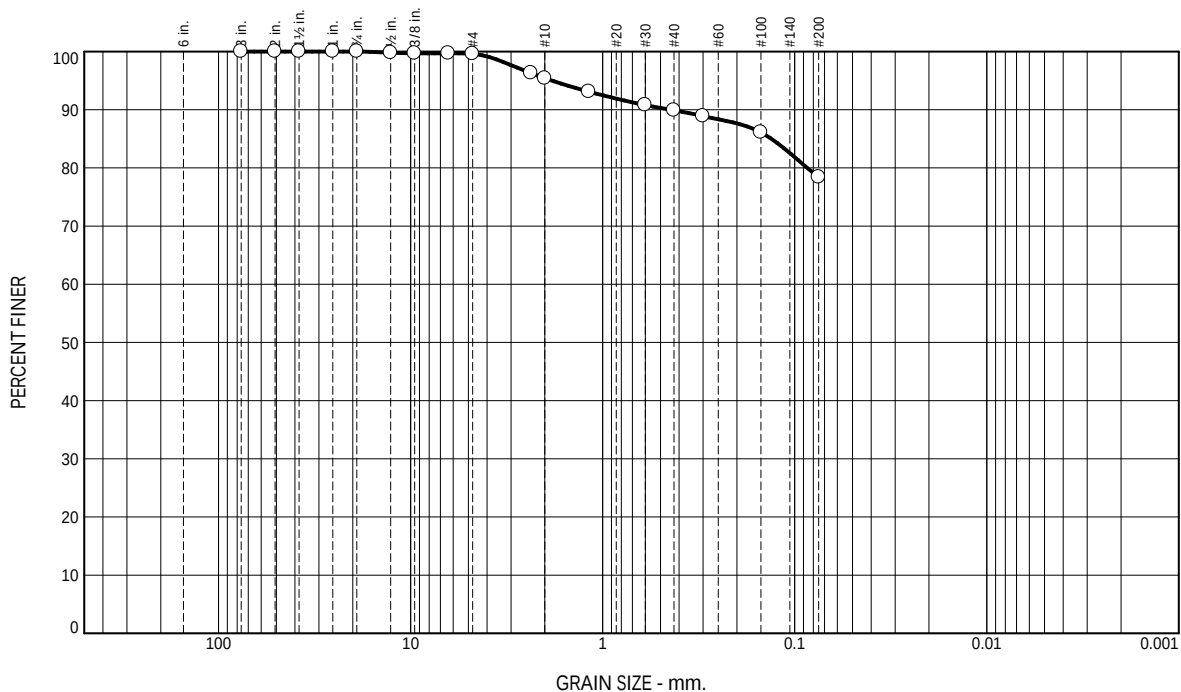
Missoula, MT

Client:
Project: Pickles Butte

Project No: 114-571040-2023

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	4.2	5.5	11.5	78.4	

Test Results (ASTM D422)			
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	99.8		
.375	99.7		
.25	99.7		
#4	99.6		
#8	96.3		
#10	95.4		
#16	93.1		
#30	90.8		
#40	89.9		
#50	88.9		
#100	86.1		
#200	78.4		

· (no specification provided)

Material Description

Atterberg (ASTM D4318)

PL= NP LL= NP PI= NP

Coefficients

D₉₀= 0.4412 D₈₅= 0.1323

D₆₀= D₅₀=

D₃₀= D₁₅=

D₁₀=

C_u= C_c=

Sieve Test (ASTM D422)

Test Date: 11-10-22 Technician: SH/TL

Test Notes

Hydrometer Test

USCS (ASTM D2487)

ML

Test Date: Technician:

Test Notes

Date Sampled:

Date Received:

Checked By: LP

Title:

Location: TP-14
Depth: 4-5 ft

Tetra Tech

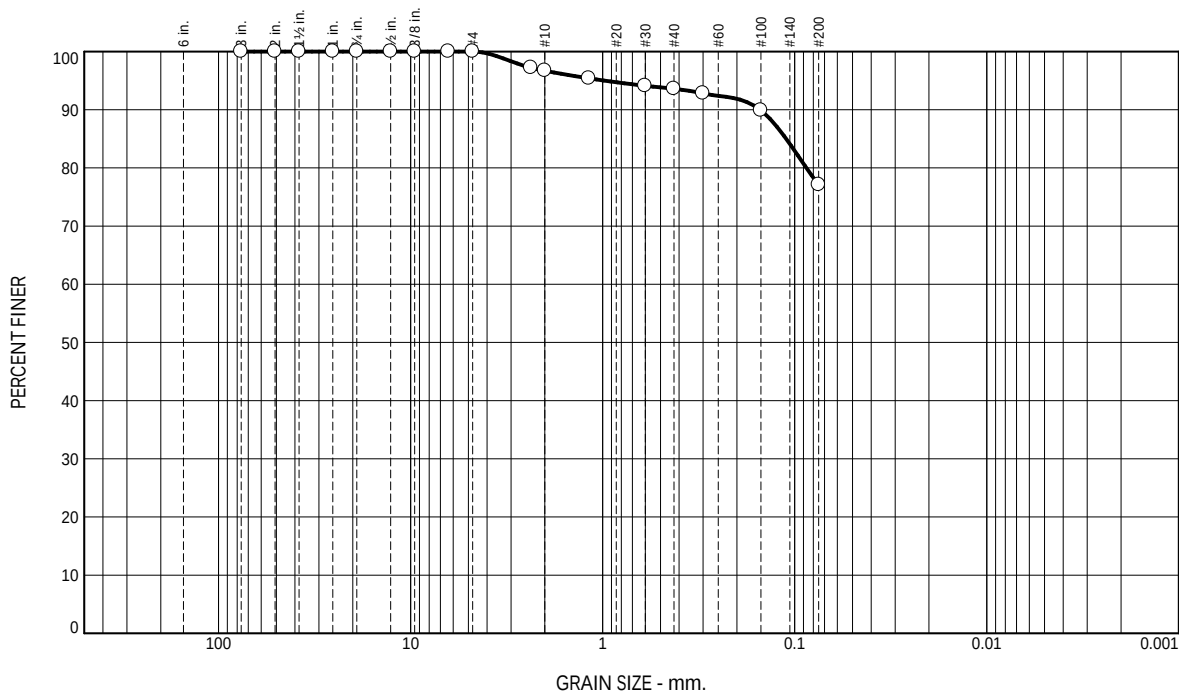
Missoula, MT

Client:
Project: Pickles Butte

Project No: 114-571040-2023

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	3.3	3.1	16.5	77.1	

Test Results (ASTM D422)			
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
.25	100.0		
#4	100.0		
#8	97.2		
#10	96.7		
#16	95.4		
#30	94.1		
#40	93.6		
#50	92.8		
#100	89.9		
#200	77.1		

· (no specification provided)

Location: TP-15
Depth: 2-3 ft

Material Description

Sieve Test (ASTM D422)

Test Date: 11-17-22 Technician: TL/AB

Test Notes

Hydrometer Test

Test Date: Technician:

Test Notes

Atterberg (ASTM D4318)

PL= LL= PI=

Coefficients

D₉₀= 0.1514 D₈₅= 0.1108

D₆₀= D₅₀=

D₃₀= D₁₅=

D₁₀=

C_u= C_c=

USCS (ASTM D2487)

Date Sampled:

Date Received:

Checked By: LP

Title:

Tetra Tech

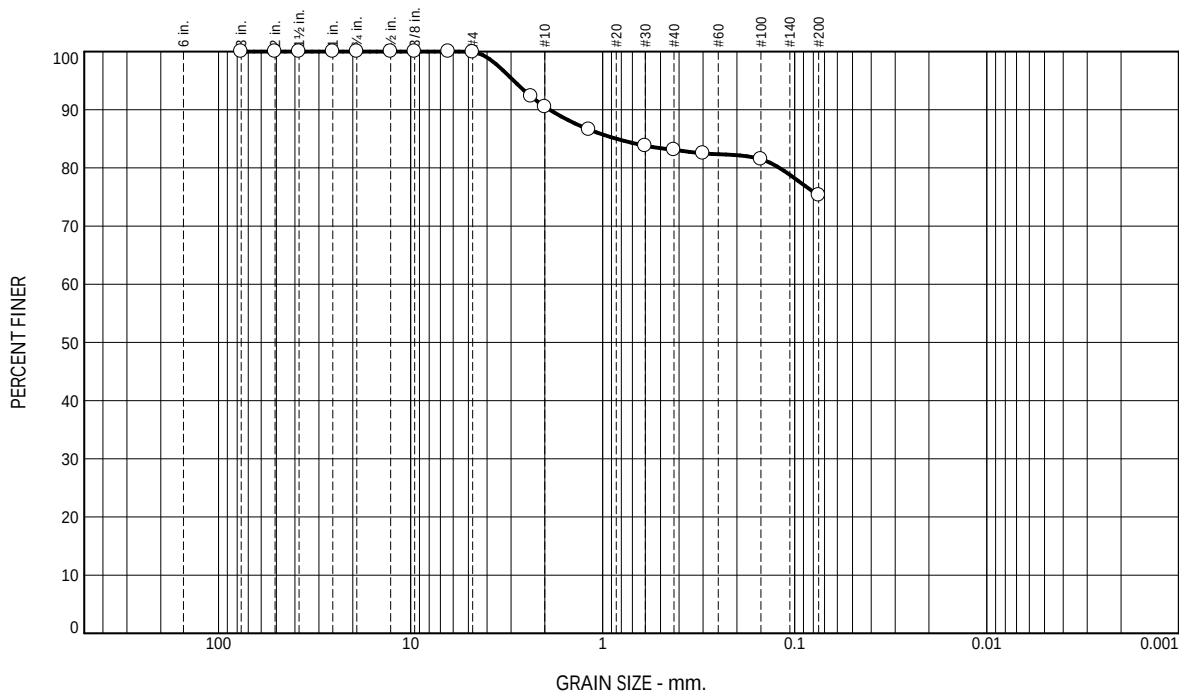
Missoula, MT

Client:
Project: Pickles Butte

Project No: 114-571040-2023

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	9.4	7.4	7.8	75.3	

Test Results (ASTM D422)			
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)
3	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	100.0		
.375	100.0		
.25	100.0		
#4	99.9		
#8	92.3		
#10	90.5		
#16	86.6		
#30	83.8		
#40	82.5		
#50	81.5		
#100	81.5		
#200	75.3		

· (no specification provided)

Location: TP-16
Depth: 4-8 ft

Material Description

Atterberg (ASTM D4318)

PL= NP LL= NP PI= NP

Coefficients

D₉₀= 1.8912 D₈₅= 0.8470

D₆₀= D₅₀=

D₃₀= D₁₅=

D₁₀=

C_u= C_c=

Sieve Test (ASTM D422)

Test Date: 11-9-22 Technician: TL/AB

Test Notes

Hydrometer Test

USCS (ASTM D2487)

ML

Test Date: Technician:

Test Notes

Date Sampled:

Date Received:

Checked By: LP

Title:

Tetra Tech

Missoula, MT

Client:
Project: Pickles Butte

Project No: 114-571040-2023

Figure

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-01

Depth: 2-3 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS: ML

AASHTO: A-4(0)

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit = NP

Plasticity Index = NP

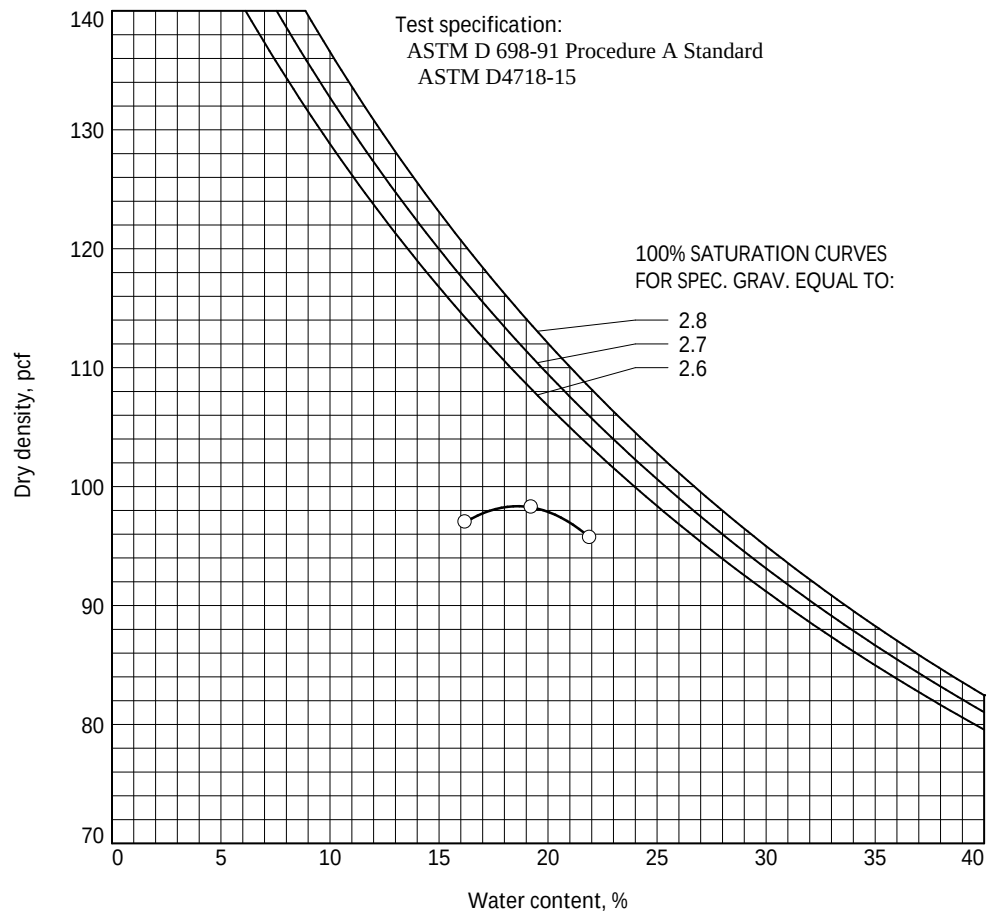
%<No.10 = 91.1 %

%<No.40 = 82.1 %

%<No.60 = 81.2 %

%<No.200 = 71.5 %

ROCK CORRECTED TEST RESULTS	UNCORRECTED
Maximum dry density = 98.4 pcf	98.4 pcf
Optimum moisture = 18.6 %	18.6 %



Figure

Tetra Tech

Tested By: TL

Checked By: LP

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-02

Depth: 6-8 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS: ML

AASHTO: A-4(0)

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit = NP

Plasticity Index = NP

%<No.10 = 96.0 %

%<No.40 = 86.3 %

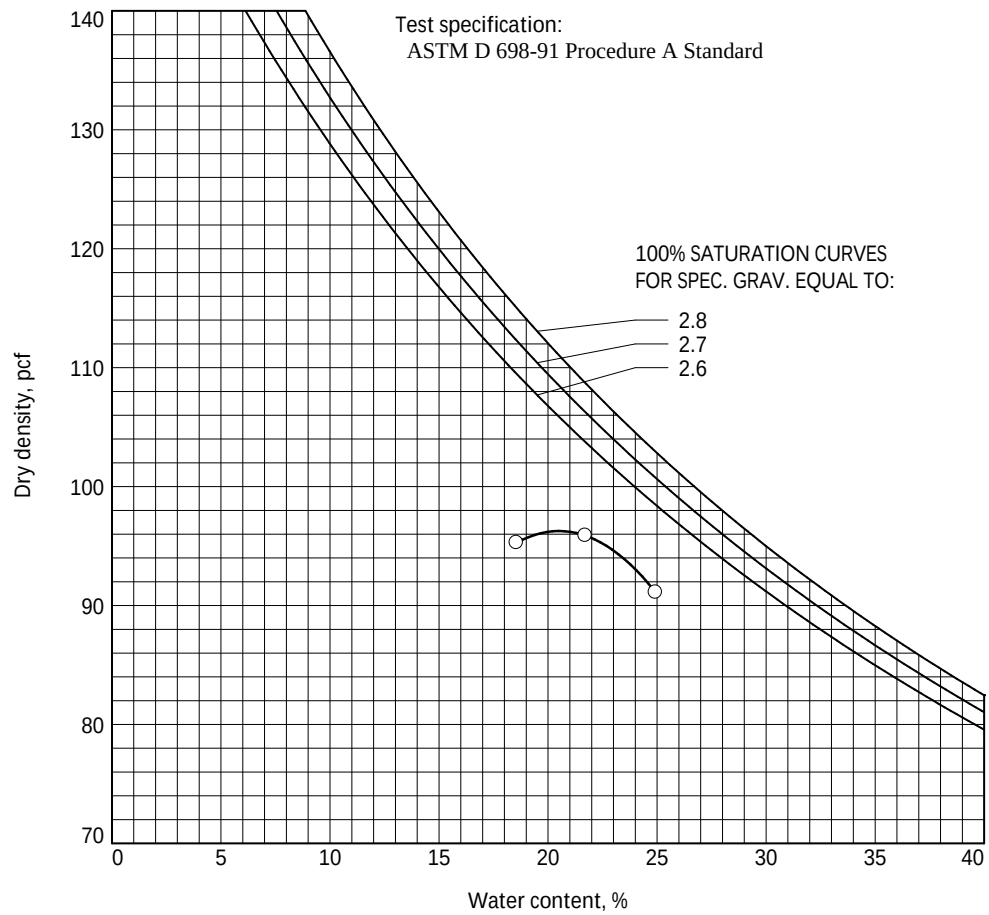
%<No.60 = 83.8 %

%<No.200 = 67.3 %

TEST RESULTS

Maximum dry density = 96.3 pcf

Optimum moisture = 20.5 %



Figure

Tetra Tech

Tested By: PM

Checked By: LP

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-03

Depth: 2-3 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS:

AASHTO:

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit =

Plasticity Index =

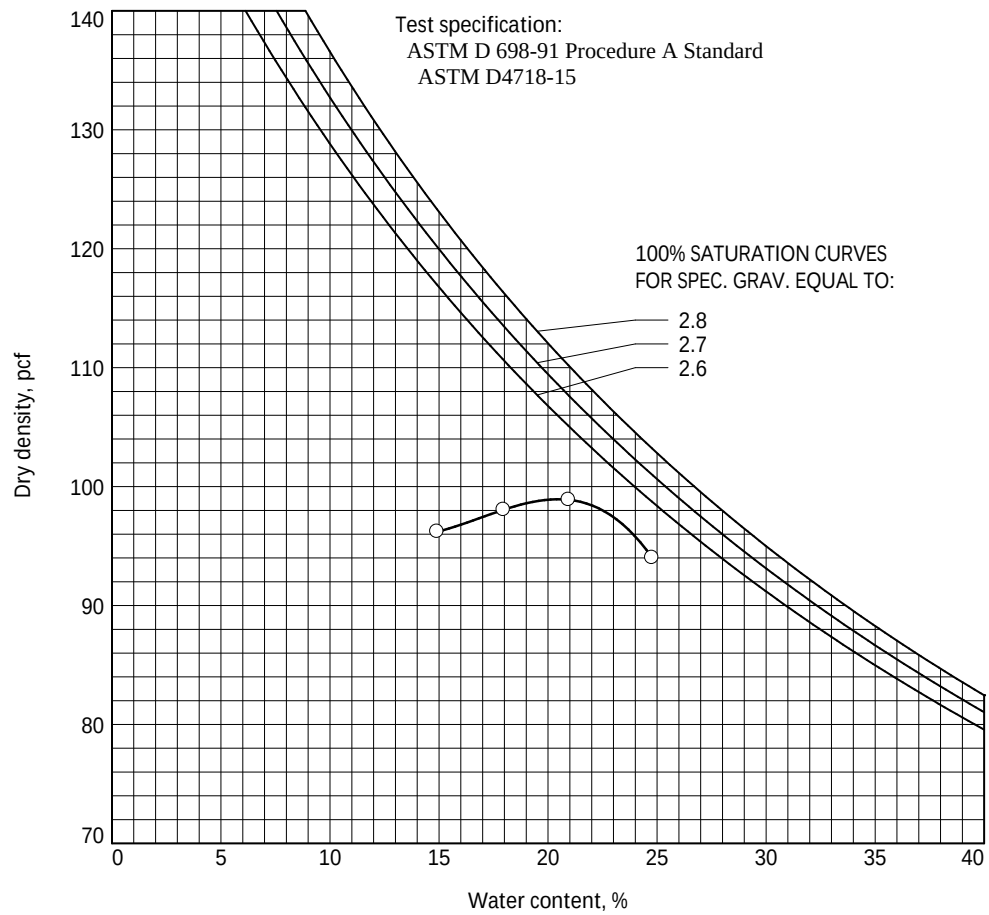
%<No.10 = 69.8 %

%<No.40 = 55.7 %

%<No.60 = 52.1 %

%<No.200 = 40.2 %

ROCK CORRECTED TEST RESULTS	UNCORRECTED
Maximum dry density = 104.8 pcf	98.9 pcf
Optimum moisture = 17.6 %	20.5 %



Tetra Tech

Figure

Tested By: AB

Checked By: LP

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-04

Depth: 4-5 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS:

AASHTO:

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit =

Plasticity Index =

%<No.10 = 94.6 %

%<No.40 = 77.3 %

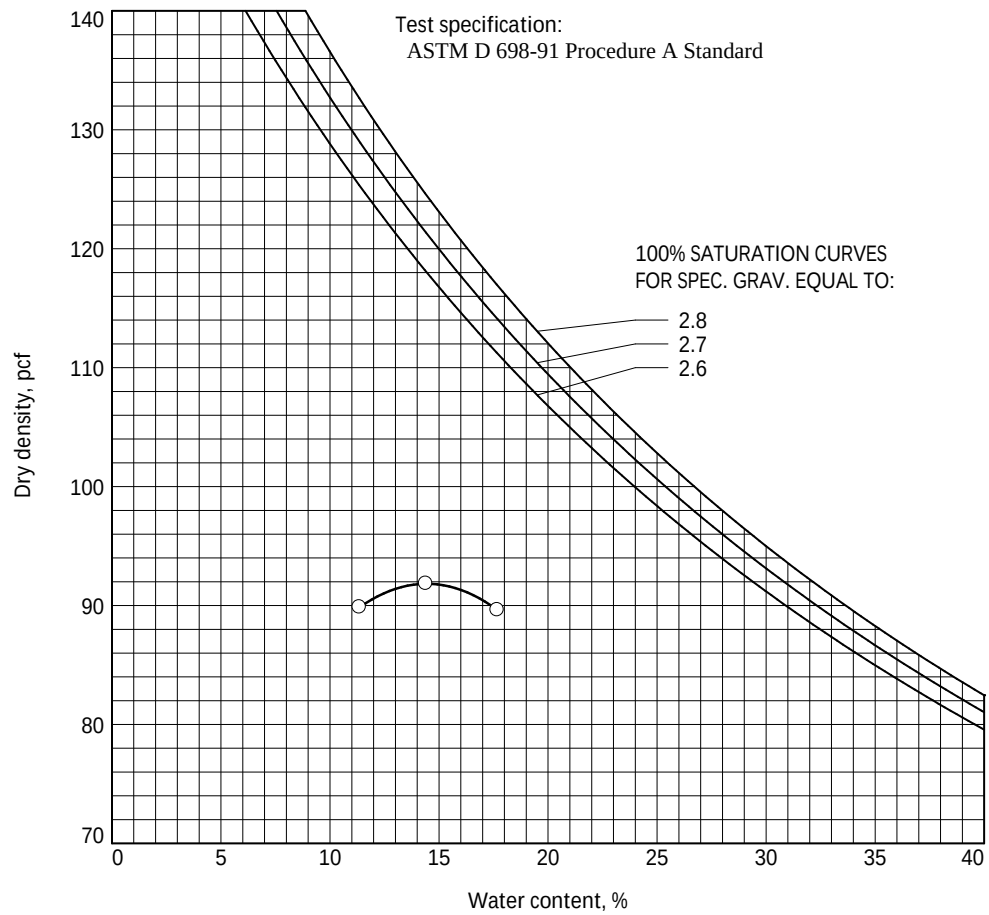
%<No.60 = 76.3 %

%<No.200 = 64.8 %

TEST RESULTS

Maximum dry density = 91.8 pcf

Optimum moisture = 14.4 %



Figure

Tetra Tech

Tested By: BA

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-05

Depth: 2-3 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS: SM

AASHTO: A-4(0)

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit = NP

Plasticity Index = NP

%<No.10 = 91.8 %

%<No.40 = 71.5 %

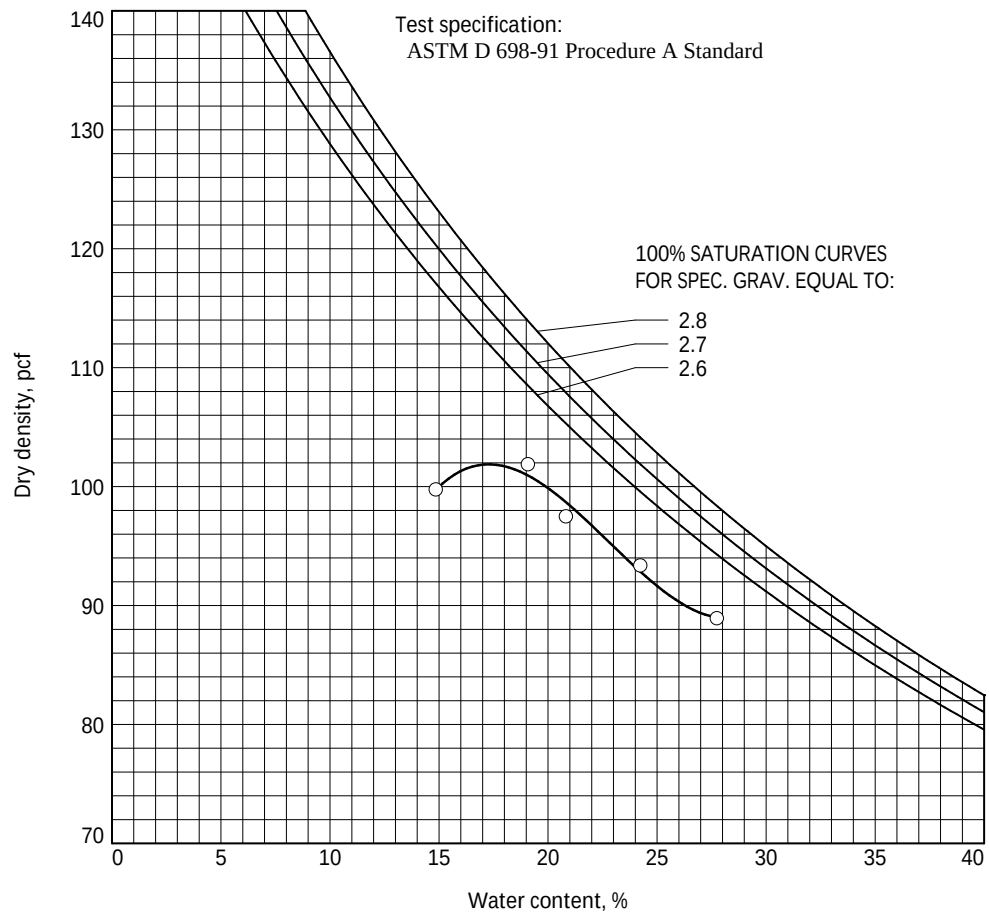
%<No.60 = 66.0 %

%<No.200 = 49.0 %

TEST RESULTS

Maximum dry density = 101.9 pcf

Optimum moisture = 17.3 %



Figure

Tetra Tech

Tested By: AB

Checked By: LP

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-06

Depth: 2-3 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS:

AASHTO:

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit =

Plasticity Index =

%<No.10 = 92.1 %

%<No.40 = 81.5 %

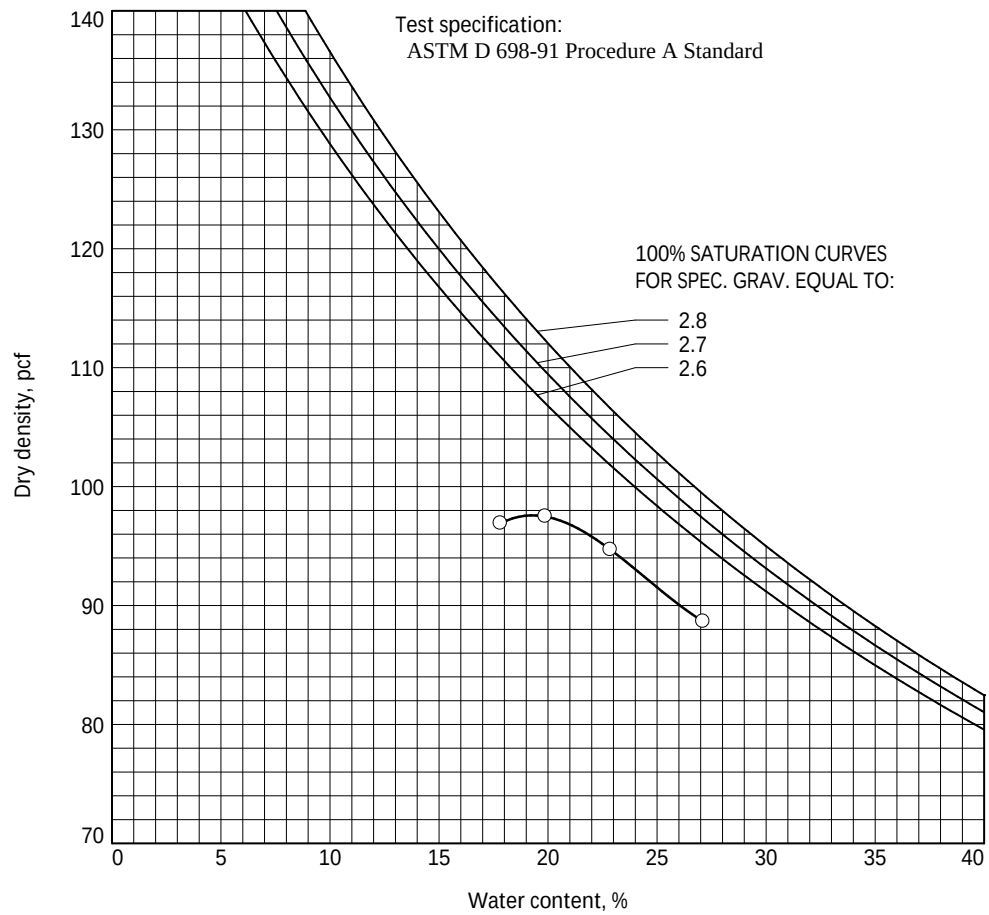
%<No.60 = 80.1 %

%<No.200 = 71.6 %

TEST RESULTS

Maximum dry density = 97.6 pcf

Optimum moisture = 19.3 %



Figure

Tetra Tech

Tested By: SH

Checked By: LP

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-07

Depth: 4-5 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS:

AASHTO:

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit =

Plasticity Index =

%<No.10 = 93.5 %

%<No.40 = 87.3 %

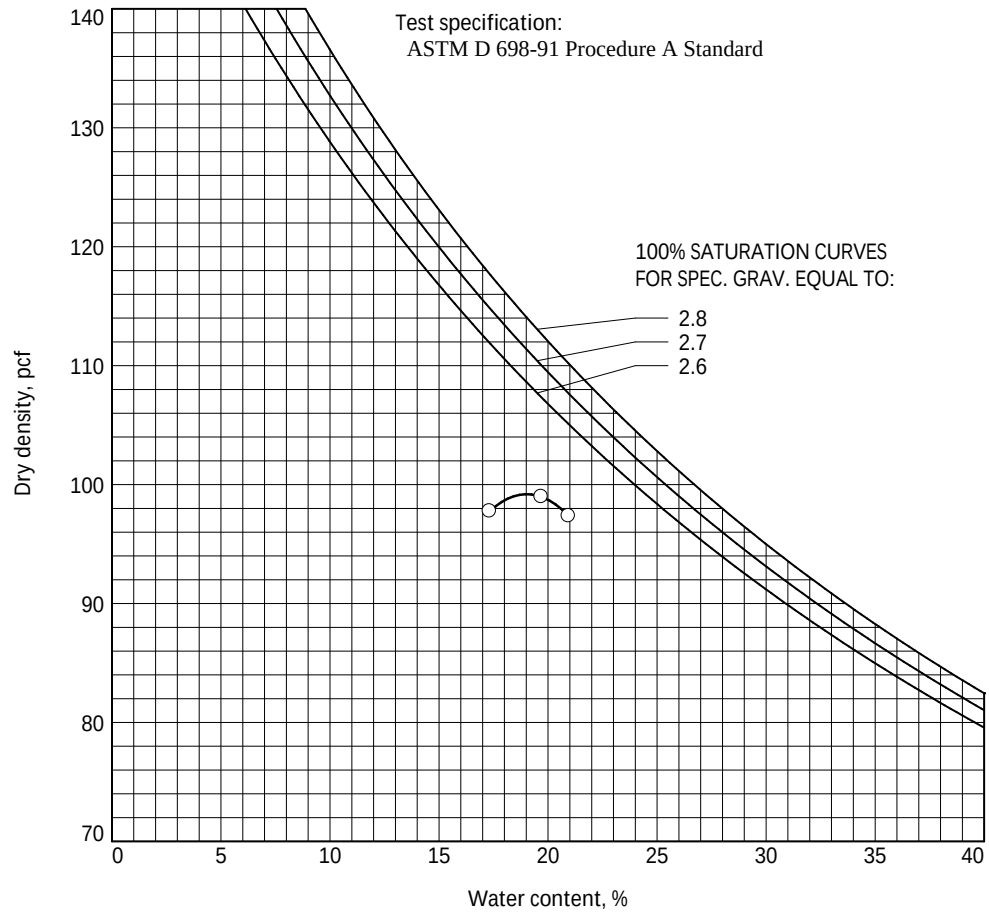
%<No.60 = 86.5 %

%<No.200 = 76.1 %

TEST RESULTS

Maximum dry density = 99.2 pcf

Optimum moisture = 19.0 %



Figure

Tetra Tech

Tested By: SH

Checked By: LP

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-08

Depth: 2-3 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS:

AASHTO:

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit =

Plasticity Index =

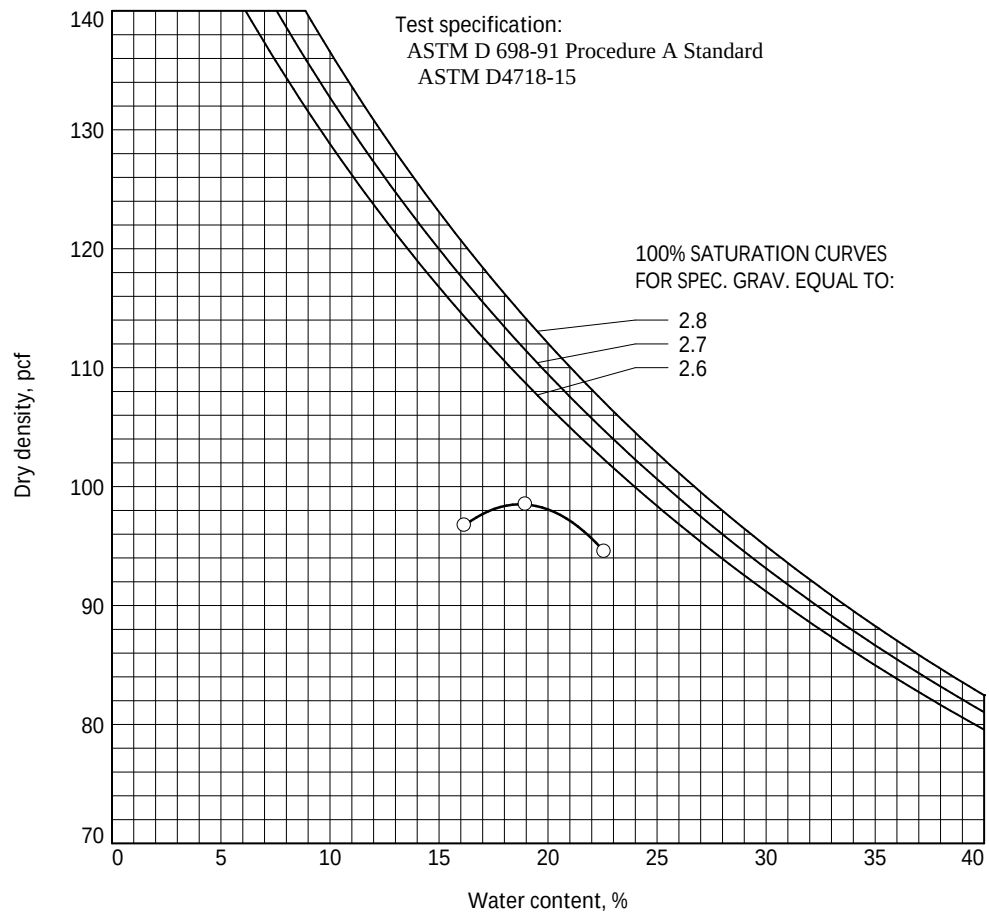
%<No.10 = 84.3 %

%<No.40 = 64.1 %

%<No.60 = 60.6 %

%<No.200 = 49.6 %

ROCK CORRECTED TEST RESULTS	UNCORRECTED
Maximum dry density = 100.6 pcf	98.5 pcf
Optimum moisture = 17.8 %	18.7 %



Tested By: TL _____ Checked By: LP _____

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-09

Depth: 4-8 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS:

AASHTO:

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit =

Plasticity Index =

%<No.10 =

%<No.40 =

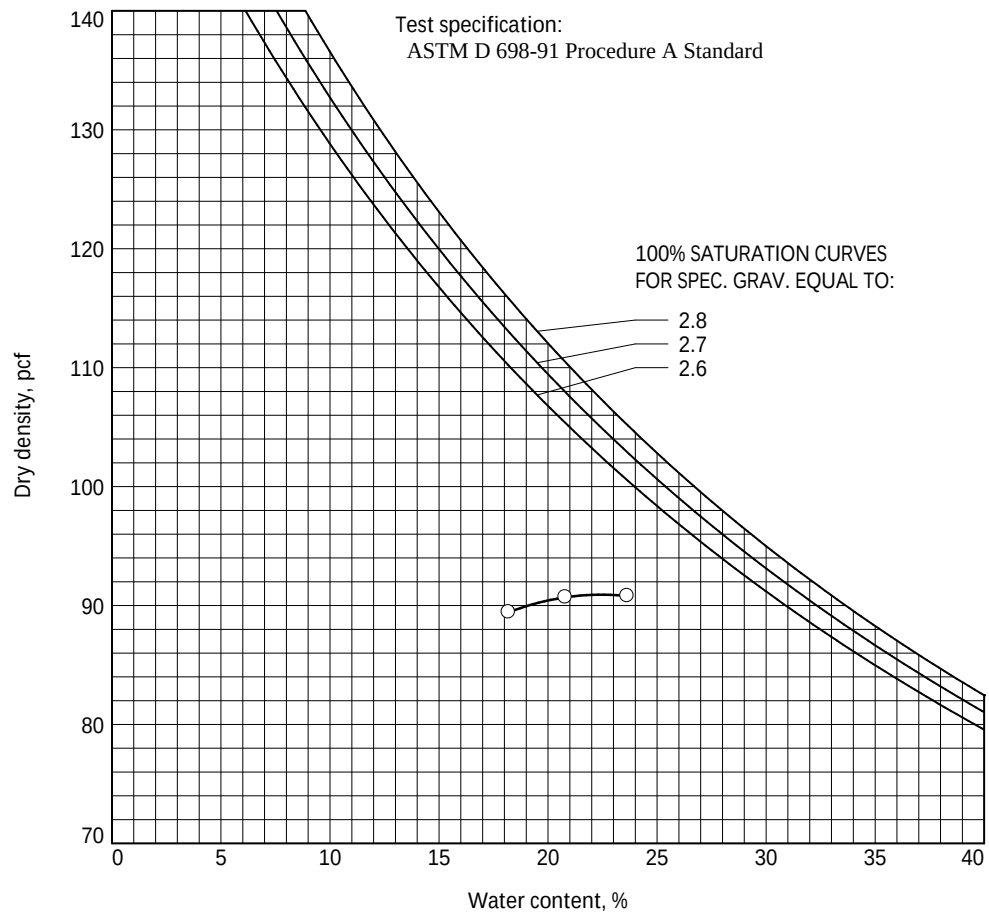
%<No.60 =

%<No.200 =

TEST RESULTS

Maximum dry density = 90.9 pcf

Optimum moisture = 22.4 %



Figure

Tetra Tech

Tested By: AB

Checked By: LP

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-10

Depth: 5-6 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS:

AASHTO:

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit =

Plasticity Index =

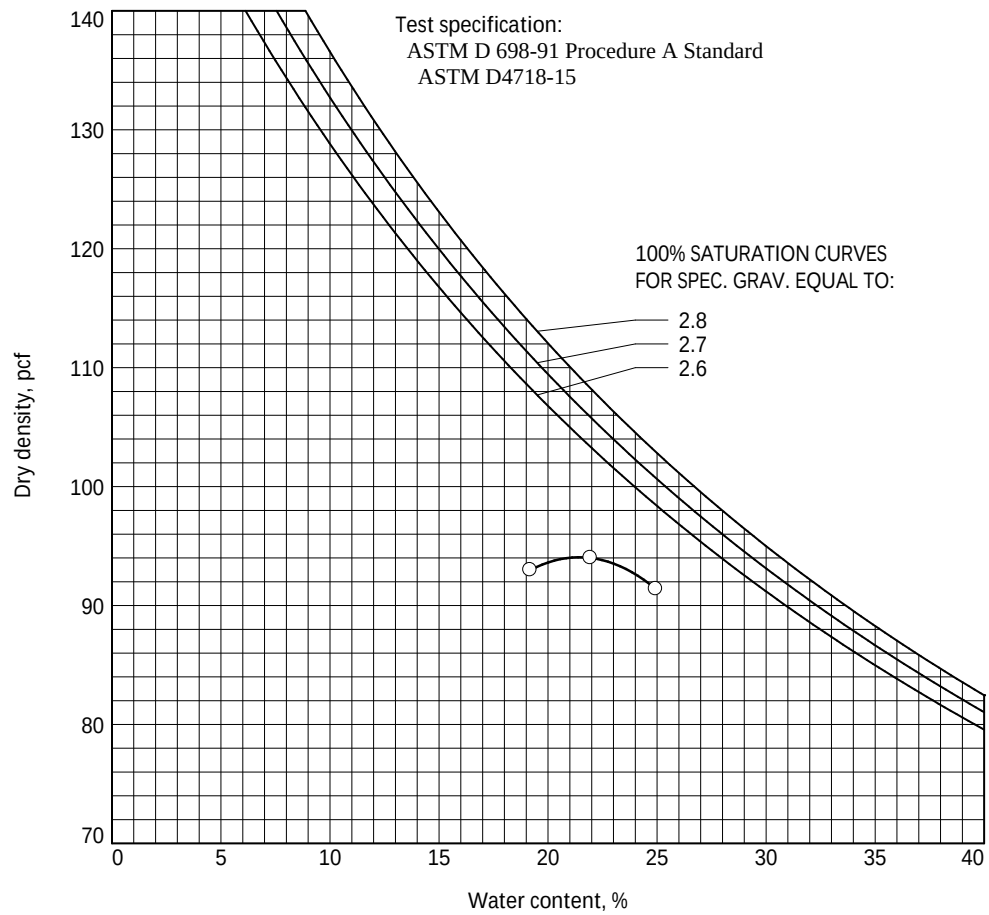
%<No.10 = 94.1 %

%<No.40 = 85.3 %

%<No.60 = 83.3 %

%<No.200 = 66.7 %

ROCK CORRECTED TEST RESULTS	UNCORRECTED
Maximum dry density = 94.7 pcf	94.1 pcf
Optimum moisture = 21.1 %	21.4 %



Figure

Tetra Tech

Tested By: AB

Checked By: LP

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-14

Depth: 4-5 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS: ML

AASHTO: A-4(0)

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit = NP

Plasticity Index = NP

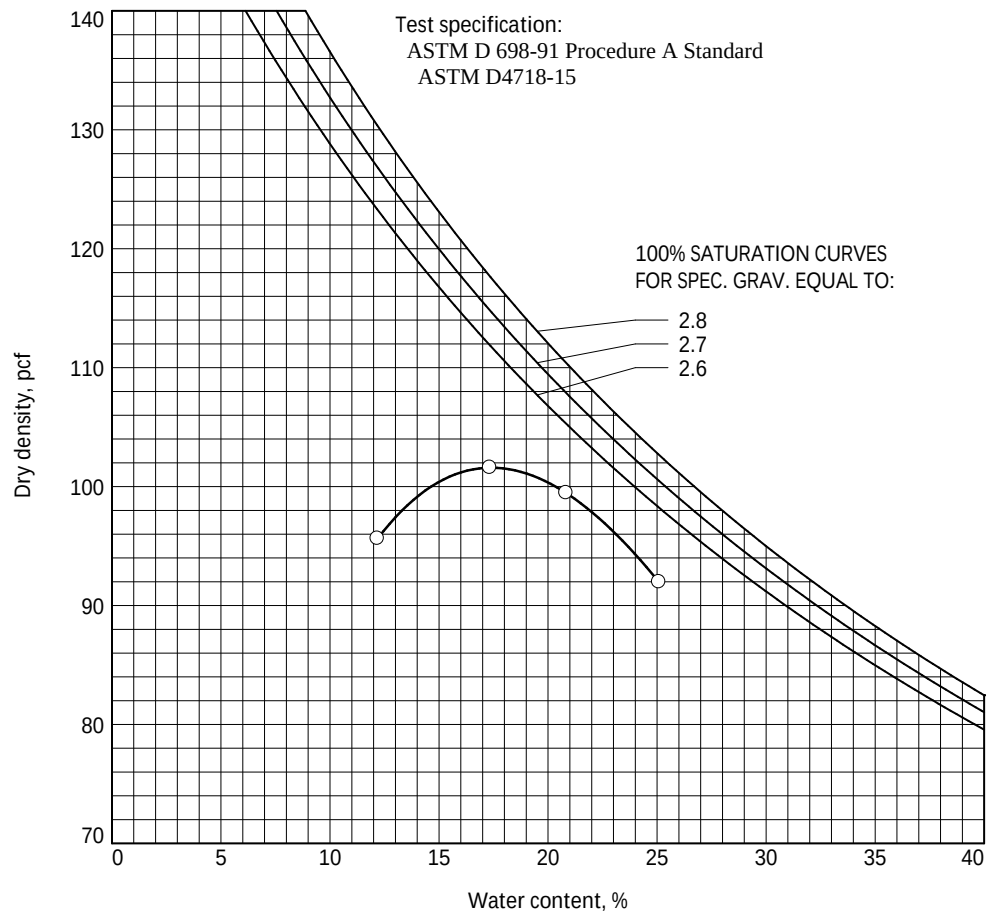
%<No.10 = 95.4 %

%<No.40 = 89.9 %

%<No.60 = 88.3 %

%<No.200 = 78.4 %

ROCK CORRECTED TEST RESULTS	UNCORRECTED
Maximum dry density = 101.7 pcf	101.6 pcf
Optimum moisture = 17.3 %	17.4 %



Figure

Tetra Tech

Tested By: SH

Checked By: LP

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-15

Depth: 2-3 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS:

AASHTO:

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit =

Plasticity Index =

%<No.10 = 96.7 %

%<No.40 = 93.6 %

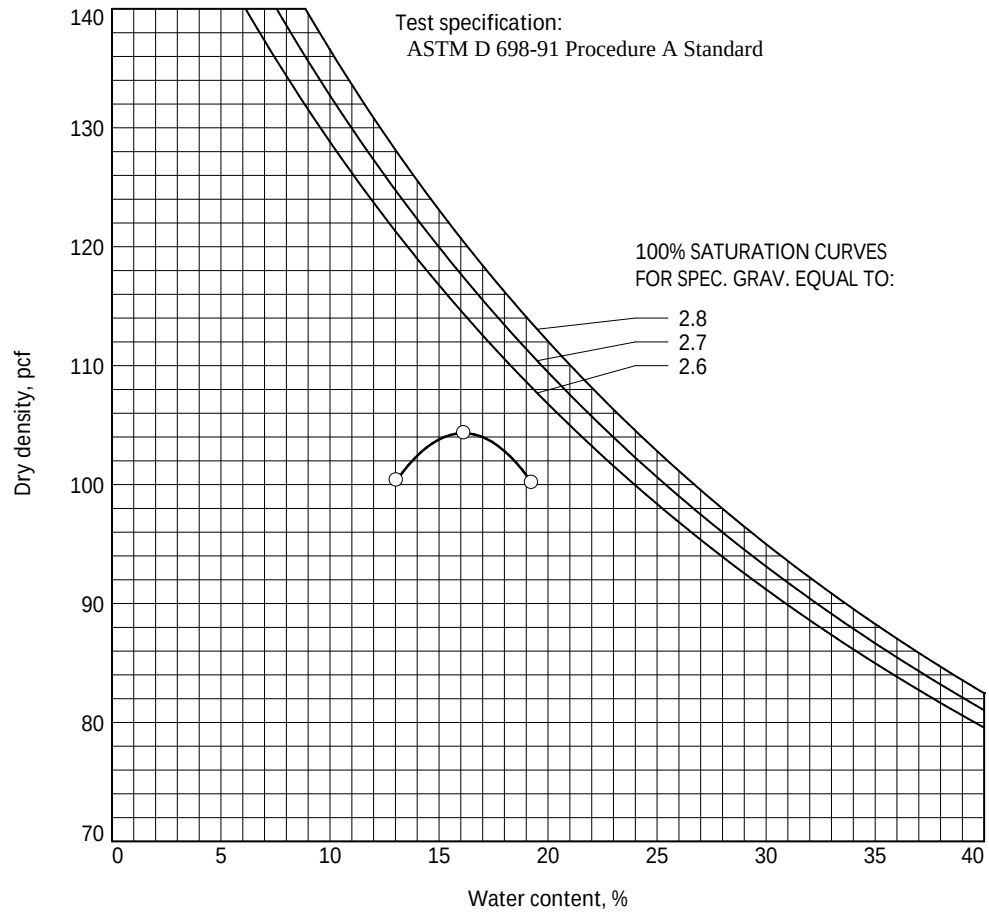
%<No.60 = 92.4 %

%<No.200 = 77.1 %

TEST RESULTS

Maximum dry density = 104.3 pcf

Optimum moisture = 16.1 %



Figure

Tetra Tech

Tested By: TL

Checked By: LP

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-16

Depth: 4-8 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS: ML

AASHTO: A-4(0)

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit = NP

Plasticity Index = NP

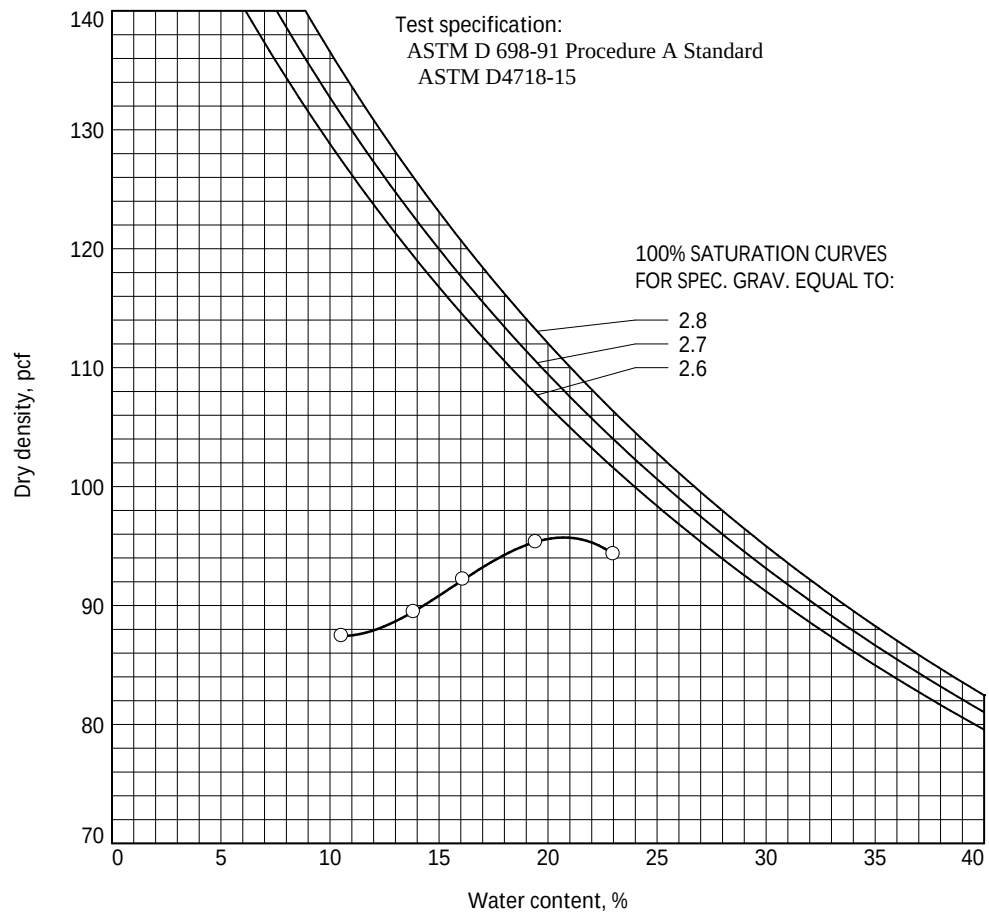
%<No.10 = 90.5 %

%<No.40 = 83.1 %

%<No.60 = 82.4 %

%<No.200 = 75.3 %

ROCK CORRECTED TEST RESULTS	UNCORRECTED
Maximum dry density = 95.8 pcf	95.7 pcf
Optimum moisture = 20.7 %	20.7 %



Figure

Tetra Tech

Tested By: PM

Checked By: LP

COMPACTION TEST REPORT

Project No.: 114-571040-2023

Date:

Project: Pickles Butte

Client:

Location: TP-17

Depth: 1-3 ft

Remarks:

MATERIAL DESCRIPTION

Description:

Classifications -

USCS:

AASHTO:

Nat. Moist. =

Sp.G. = 2.65

Liquid Limit =

Plasticity Index =

%<No.10 =

%<No.40 =

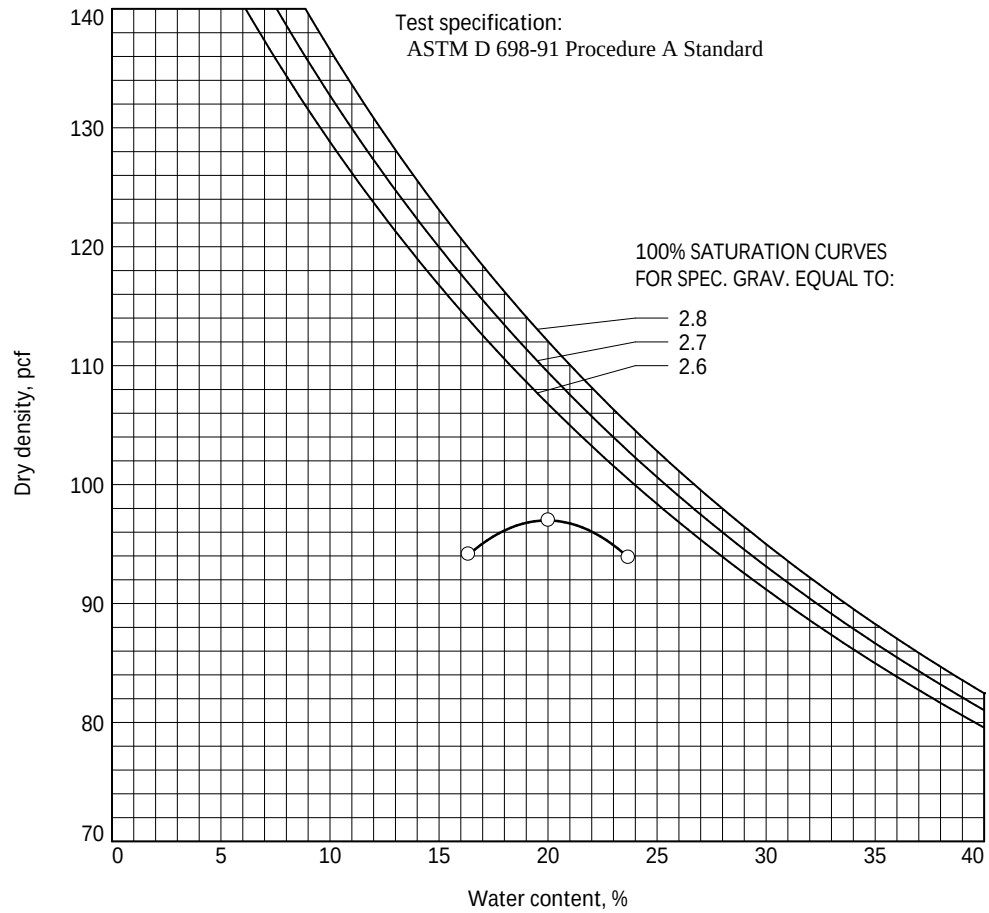
%<No.60 =

%<No.200 =

TEST RESULTS

Maximum dry density = 97.0 pcf

Optimum moisture = 19.9 %



Figure

Tetra Tech

Tested By: SH

Checked By: LP

Project: Pickles butte test pits		Rig: CAT 312D	Location Coordinates: Lat: 43.48655227 ft Long: -116.71010948 ft	Station: Offset:
Project Number: Pickles butte test pits	UPN:	Dimensions:	System: Decimal Degrees Datum: NAD83	Top of Surface Elevation:
Date Started: 10/11/22	Date Finished: 10/11/22	Abandonment Method: Backfilled with Cuttings	Location Source: Handheld GPS, Uncorrected	Elevation Source:
Contractor: Client Logger: Tetra Tech		Comments:		

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Elev. (ft)	Remarks and Other Tests
5							SILT (ML), moist, tan.			
							SILT, dry, tan, Soft, breakable by hand.	3.5		
							SILT (ML), moist, tan.	4.2		
							Silty SAND (SM), slightly moist, tan, Increasing sand content with depth.	6.2		
								8.5		

Test Pit Depth: 8.5 ft, Elevation:

		Remarks:

Project: Pickles butte test pits		Rig: CAT 312D	Location Coordinates Lat: 43.48770692 ft Long: -116.69973327 ft	Station: Offset:
Project Number: Pickles butte test pits	UPN:	Dimensions:	System: Decimal Degrees Datum: NAD83	Top of Surface Elevation:
Date Started: 10/11/22	Date Finished: 10/11/22	Abandonment Method: Backfilled with Cuttings	Location Source: Handheld GPS, Uncorrected	Elevation Source:
Contractor: Client Logger: Tetra Tech		Comments:		

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Elev. (ft)	Remarks and Other Tests
							(ML), moist, tan.			
								3.5		
							SILT, dry, tan, Soft, breakable by hand.		4.6	
							(ML), moist, tan.		5.5	
							Silty SAND (SM), slightly moist, tan, Increasing sand content with depth.			
									9.6	

Test Pit Depth: 9.6 ft, Elevation:

		Remarks:



TP-03

Project: Pickles butte test pits		Rig: CAT 312D		Location Lat: 43.48138965 ft Coordinates Long: -116.70383105 ft		Station: Offset:	
Project Number: Pickles butte test pits		UPN:		Dimensions:		System: Decimal Degrees Datum: NAD83	
Date Started: 10/11/22		Date Finished: 10/11/22		Abandonment Method: Backfilled with Cuttings		Location Source: Handheld GPS, Uncorrected	
Contractor: Client Logger: Tetra Tech				Comments:			

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)	
							Sandy SILT (ML), slightly moist, tan.		
5							Poorly-Graded SAND with gravel (SP), slightly moist, brown to black, fine to coarse grained, angular.	4.7	
								6.0	
Test Pit Depth: 6.0 ft, Elevation:									

		Remarks:

Project: Pickles butte test pits			Rig: CAT 312D		Location Lat: 43.485193 ft Coordinates Long: -116.71111918 ft		Station: Offset:		
Project Number: Pickles butte test pits		UPN:		Dimensions:		System: Decimal Degrees Datum: NAD83		Top of Surface Elevation:	
Date Started: 10/11/22		Date Finished: 10/11/22		Abandonment Method: Backfilled with Cuttings		Location Source: Handheld GPS, Uncorrected		Elevation Source:	
Contractor: Client Logger: Tetra Tech				Comments:					

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Elev. (ft)	Remarks and Other Tests
5							SILT (ML), slightly moist.	2.0 3.2		
							SILT (ML), dry, tan.			
							SILT (ML), slightly moist.			
Test Pit Depth: 9.5 ft, Elevation:										

		Remarks:
--	--	----------

Project: Pickles butte test pits		Rig: CAT 312D	Location Coordinates Lat: 43.48138965 ft Long: -116.70383105 ft	Station: Offset:
Project Number: Pickles butte test pits	UPN:	Dimensions:	System: Decimal Degrees Datum: NAD83	Top of Surface Elevation:
Date Started: 10/11/22	Date Finished: 10/11/22	Abandonment Method: Backfilled with Cuttings	Location Source: Handheld GPS, Uncorrected	Elevation Source:
Contractor: Client Logger: Tetra Tech		Comments:		

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)	
5							Sandy SILT (ML), slightly moist, tan.		
							Poorly-Graded SAND with gravel (SP), slightly moist, brown to black, fine to coarse grained, angular.	4.7	
								7.8	

Test Pit Depth: 7.8 ft, Elevation:

		Remarks:

Project: Pickles butte test pits		Rig: CAT 312D	Location Coordinates Lat: 43.48443481 ft Long: -116.70762806 ft	Station: Offset:
Project Number: Pickles butte test pits	UPN:	Dimensions:	System: Decimal Degrees Datum: NAD83	Top of Surface Elevation:
Date Started: 10/11/22	Date Finished: 10/11/22	Abandonment Method: Backfilled with Cuttings	Location Source: Handheld GPS, Uncorrected	Elevation Source:
Contractor: Client Logger: Tetra Tech		Comments:		

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)	
							SILT (ML), slightly moist, tan.		
5									

Project: Pickles butte test pits		Rig: CAT 312D	Location Lat: 43.48449268 ft Coordinates Long: -116.70415019 ft	Station: Offset:
Project Number: Pickles butte test pits	UPN:	Dimensions:	System: Decimal Degrees Datum: NAD83	Top of Surface Elevation:
Date Started: 10/11/22	Date Finished: 10/11/22	Abandonment Method: Backfilled with Cuttings	Location Source: Handheld GPS, Uncorrected	Elevation Source:
Contractor: Client Logger: Tetra Tech		Comments:		

Depth (ft)	Elev. (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Elev. (ft)	Remarks and Other Tests
5								SILT (ML), slightly moist, tan.			
								SILT (ML), dry, tan.	2.5		
								SILT (ML), slightly moist, tan.	3.3		
								Silty SAND (SM), moist, very fine grained, Increasing sand with depth.	5.5		
									8.5		

Test Pit Depth: 8.5 ft, Elevation:

		Remarks:

Project: Pickles butte test pits				Rig: CAT 312D		Location Coordinates Lat: 43.48743981 ft Long: -116.69702086 ft		Station: Offset:	
Project Number: Pickles butte test pits		UPN:		Dimensions:		System: Decimal Degrees		Top of Surface Elevation:	
Date Started: 10/11/22		Date Finished: 10/11/22		Abandonment Method: Backfilled with Cuttings		Location Source: Handheld GPS, Uncorrected		Elevation Source:	
Contractor: Client				Comments:					
Logger: Tetra Tech									

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)	
							Sandy SILT (ML), slightly moist, tan.		
5							Poorly-Graded SAND with gravel (SP), slightly moist, brown to black, fine to coarse grained, angular.	4.2	
								6.0	
Test Pit Depth: 6.0 ft, Elevation:									
									Remarks:

Project: Pickles butte test pits		Rig: CAT 312D	Location Lat: 43.48360081 ft Coordinates Long: -116.70130153 ft	Station: Offset:
Project Number: Pickles butte test pits	UPN:	Dimensions:	System: Decimal Degrees Datum: NAD83	Top of Surface Elevation:
Date Started: 10/11/22	Date Finished: 10/11/22	Abandonment Method: Backfilled with Cuttings	Location Source: Handheld GPS, Uncorrected	Elevation Source:
Contractor: Client Logger: Tetra Tech		Comments:		

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)	
							SILT (ML), slightly moist, tan.		
							SILT (ML), dry, tan.	3.0	
							SILT (ML), moist, tan.	4.5	
5							Silty SAND (SM), moist, brown, very fine grained.	6.0	
							Black. Pieces of basalt.	8.5	
								9.0	

Test Pit Depth: 9.0 ft, Elevation:

		Remarks:



TP-10

Project: Pickles butte test pits		Rig: CAT 312D	Location Coordinates Lat: 43.48282091 ft Long: -116.69717814 ft	Station: Offset:	
Project Number: Pickles butte test pits		UPN:	Dimensions:	System: Decimal Degrees Datum: NAD83	Top of Surface Elevation:
Date Started: 10/11/22	Date Finished: 10/11/22	Abandonment Method: Backfilled with Cuttings	Location Source: Handheld GPS, Uncorrected	Elevation Source:	
Contractor: Client Logger: Tetra Tech		Comments:			

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)	
5							Sandy SILT (ML), slightly moist, tan.		
								8.0	
							Poorly-Graded SAND with silt (SP-SM), slightly moist, brown to red, fine to medium grained, angular.	9.0	
Test Pit Depth: 9.0 ft, Elevation:									

		Remarks:

Project: Pickles butte test pits		Rig: CAT 312D	Location Coordinates: Lat: 43.48090709 ft Long: -116.69796449 ft	Station: Offset:
Project Number: Pickles butte test pits	UPN:	Dimensions:	System: Decimal Degrees Datum: NAD83	Top of Surface Elevation:
Date Started: 10/11/22	Date Finished: 10/11/22	Abandonment Method: Backfilled with Cuttings	Location Source: Handheld GPS, Uncorrected	Elevation Source:
Contractor: Client Logger: Tetra Tech		Comments:		

Depth (ft)	Elev. (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Elev. (ft)	Remarks and Other Tests
								SILT with gravel (ML), slightly moist, tan, Pieces of basalt.	0.9		
								BASALT, black.	1.0		
Test Pit Depth: 1.0 ft, Elevation:											

Project: Pickles butte test pits			Rig: CAT 312D		Location Coordinates Lat: 43.48134636 ft Long: -116.70124308 ft		Station: Offset:		
Project Number: Pickles butte test pits		UPN:		Dimensions:		System: Decimal Degrees Datum: NAD83		Top of Surface Elevation:	
Date Started: 10/11/22		Date Finished: 10/11/22		Abandonment Method: Backfilled with Cuttings		Location Source: Handheld GPS, Uncorrected		Elevation Source:	
Contractor: Client Logger: Tetra Tech				Comments:					

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Elev. (ft)	Remarks and Other Tests
							SILT with gravel (ML), slightly moist, tan, Pieces of basalt.	1.5		
							Poorly-Graded SAND with silt and gravel (SP-SM), slightly moist, brown to black, fine to coarse grained, angular.	4.0		
Test Pit Depth: 4.0 ft, Elevation:										

		Remarks:
--	--	----------

Project: Pickles butte test pits		Rig: CAT 312D	Location Lat: 43.48138965 ft Coordinates Long: -116.70383105 ft	Station: Offset:
Project Number: Pickles butte test pits	UPN:	Dimensions:	System: Decimal Degrees Datum: NAD83	Top of Surface Elevation:
Date Started: 10/11/22	Date Finished: 10/11/22	Abandonment Method: Backfilled with Cuttings	Location Source: Handheld GPS, Uncorrected	Elevation Source:
Contractor: Client Logger: Tetra Tech		Comments:		

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Elev. (ft)	Remarks and Other Tests
5							Silty SAND with gravel (SM), slightly moist, tan, Pieces of basalt.	1.5		
							BASALT, black.	1.5		

Test Pit Depth: 6.0 ft, Elevation:

		Remarks:

Project: Pickles butte test pits		Rig: CAT 312D	Location Coordinates: Lat: 43.48138965 ft Long: -116.70383105 ft	Station: Offset:
Project Number: Pickles butte test pits	UPN:	Dimensions:	System: Decimal Degrees Datum: NAD83	Top of Surface Elevation:
Date Started: 10/11/22	Date Finished: 10/11/22	Abandonment Method: Backfilled with Cuttings	Location Source: Handheld GPS, Uncorrected	Elevation Source:
Contractor: Client Logger: Tetra Tech		Comments:		

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Elev. (ft)	Remarks and Other Tests
5							Sandy SILT (ML), slightly moist, tan.	5.0		
							Poorly-Graded SAND with gravel (SP), slightly moist, brown to black, fine to coarse grained, angular.	6.9		

Test Pit Depth: 6.9 ft, Elevation:

		Remarks:

Project: Pickles butte test pits		Rig: CAT 312D	Location Coordinates: Lat: 43.47849928 ft Long: -116.69774994 ft	Station: Offset:
Project Number: Pickles butte test pits	UPN:	Dimensions:	System: Decimal Degrees Datum: NAD83	Top of Surface Elevation:
Date Started: 10/11/22	Date Finished: 10/11/22	Abandonment Method: Backfilled with Cuttings	Location Source: Handheld GPS, Uncorrected	Elevation Source:
Contractor: Client Logger: Tetra Tech		Comments:		

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Elev. (ft)	Remarks and Other Tests
5							SILT (ML), slightly moist, tan.			
								6.2		
							Silty SAND (SM), moist, brown, very fine grained.			
								8.2		

Test Pit Depth: 8.2 ft, Elevation:

		Remarks:

Project: Pickles butte test pits		Rig: CAT 312D	Location Coordinates: Lat: 43.48443481 ft Long: -116.70762806 ft	Station: Offset:
Project Number: Pickles butte test pits	UPN:	Dimensions:	System: Decimal Degrees Datum: NAD83	Top of Surface Elevation:
Date Started: 10/11/22	Date Finished: 10/11/22	Abandonment Method: Backfilled with Cuttings	Location Source: Handheld GPS, Uncorrected	Elevation Source:
Contractor: Client Logger: Tetra Tech		Comments:		

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Elev. (ft)	Remarks and Other Tests
5							SILT (ML), slightly moist, tan.	6.2		
							Silty SAND (SM), moist, tan, very fine grained.	9.1		

Test Pit Depth: 9.2 ft, Elevation:

		Remarks:

Project: Pickles butte test pits				Rig: CAT 312D		Location Lat: 43.47849928 ft		Station:	
Project Number: Pickles butte test pits				UPN:		Coordinates Long: -116.69774994 ft		Offset:	
Dimensions:				System: Decimal Degrees		Date: NAD83		Top of Surface Elevation:	
Date Started: 10/11/22		Date Finished: 10/11/22		Abandonment Method: Backfilled with Cuttings		Location Source: Handheld GPS, Uncorrected		Elevation Source:	
Contractor: Client				Comments:					
Logger: Tetra Tech									

Depth (ft)	Sample Type	MC (%)	LL	PL	-200 (%)	Lithology	Material Description	Depth (ft)	Elev. (ft)	Remarks and Other Tests
5							SILT (ML), slightly moist, tan.	3.9		
							Poorly-Graded SAND (SP), moist, red to black, medium to coarse grained.			
								6.2		
Test Pit Depth: 6.2 ft, Elevation:										

		Remarks: