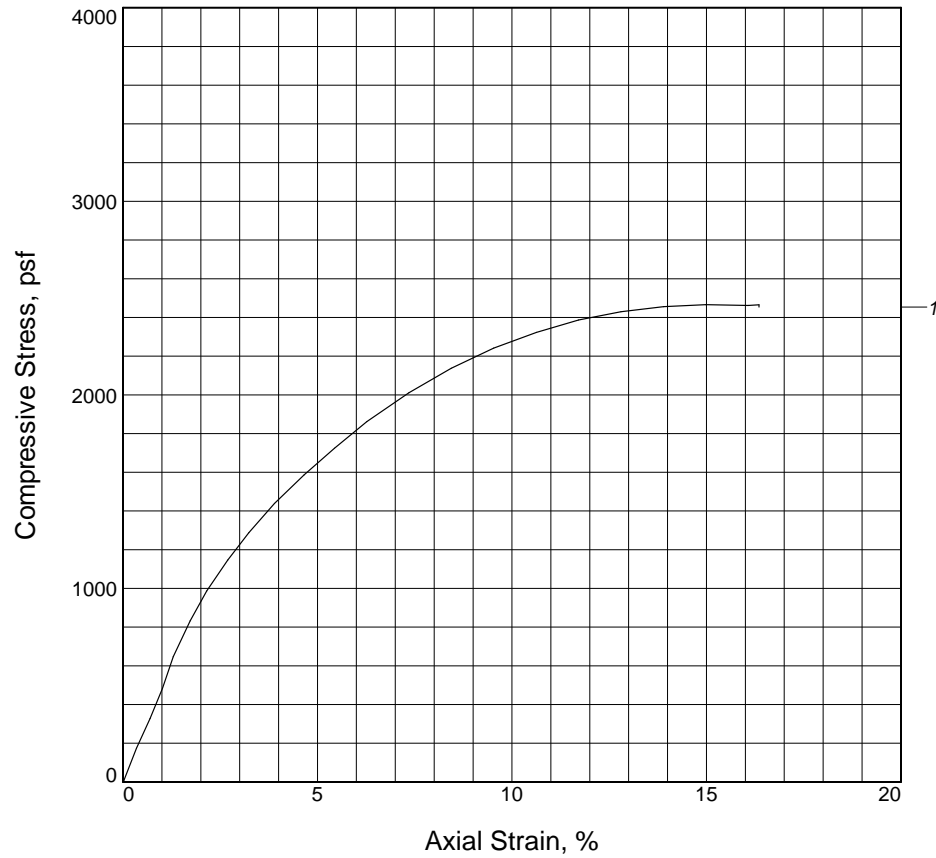


APPENDIX C
LABORATORY RESULTS

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psf	2466			
Undrained shear strength, psf	1233			
Failure strain, %	15.0			
Strain at peak, %	15.0			
Water content, %	20.8			
Wet density, pcf	123.1			
Dry density, pcf	101.9			
Saturation, %	85.9			
Void ratio	0.6540			
Specimen diameter, in.	2.75			
Specimen height, in.	5.81			
Height/diameter ratio	2.11			

Description: Stiff Gray to Brown Fat Clay (CH) with Fe nodules

LL = **PL =** **PI =** **GS= 2.7** **Type:** Undisturbed

Project No.: APS 1312 G065

Date Sampled: 1/2/2014

Remarks:
Multi Shear Failure

Figure _____

Client: URS

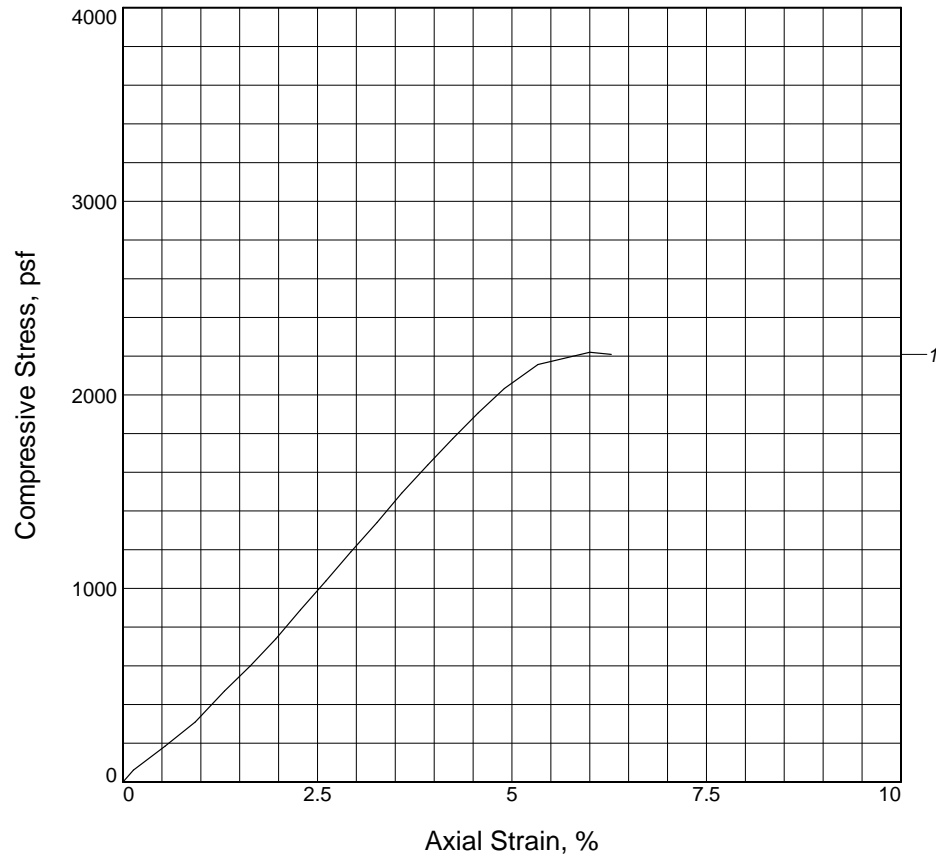
Project: VAMC Parking Garage

Source of Sample: B-01 **Depth:** 4-6

Sample Number: 3

UNCONFINED COMPRESSION TEST
APS Design and Testing, LLC
Baton Rouge, Louisiana

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psf	2220			
Undrained shear strength, psf	1110			
Failure strain, %	6.0			
Strain at peak, %	6.0			
Water content, %	24.5			
Wet density, pcf	119.9			
Dry density, pcf	96.3			
Saturation, %	88.0			
Void ratio	0.7502			
Specimen diameter, in.	2.78			
Specimen height, in.	5.81			
Height/diameter ratio	2.09			

Description: Stiff Gray to Brown Fat Clay (CH) with Fe nodules and roots

LL = **PL =** **PI =** **GS= 2.7** **Type: B-01**

Project No.: APS 1312 G065

Date Sampled: 1/2/2014

Remarks:
Multi Shear Failure

Figure _____

Client: URS

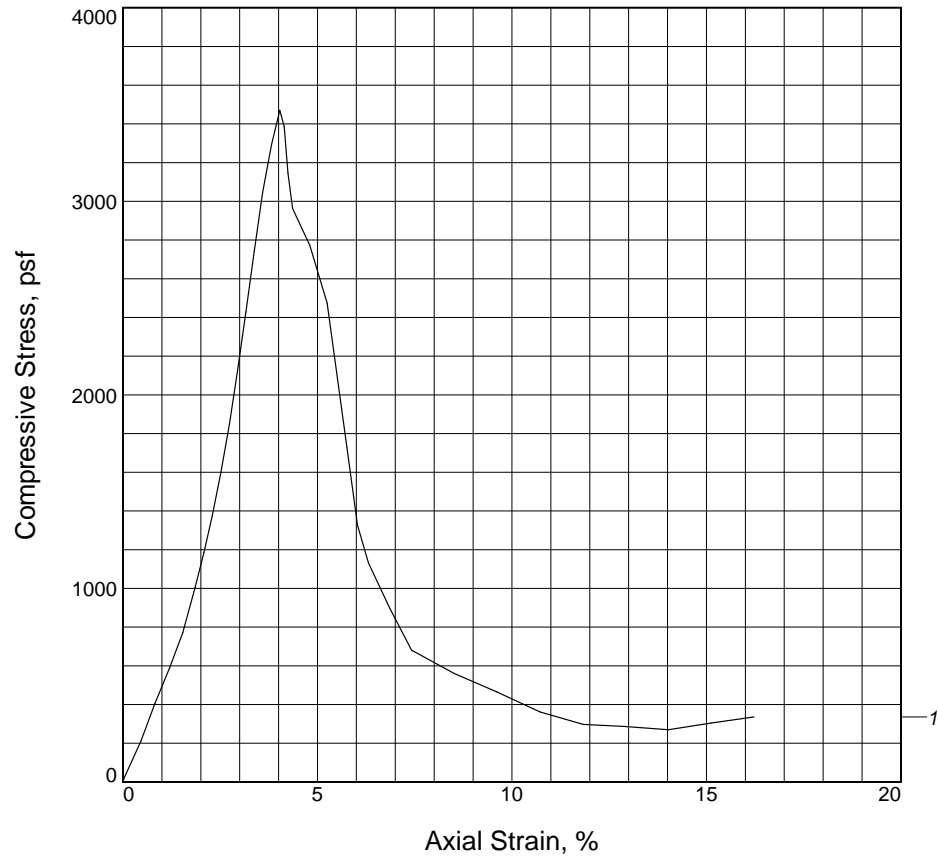
Project: VAMC Parking Garage

Source of Sample: B-01 **Depth:** 8-10

Sample Number: 5

UNCONFINED COMPRESSION TEST
APS Design and Testing, LLC
Baton Rouge, Louisiana

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psf	3470			
Undrained shear strength, psf	1735			
Failure strain, %	4.0			
Strain at peak, %	4.0			
Water content, %	25.0			
Wet density, pcf	125.5			
Dry density, pcf	100.4			
Saturation, %	99.5			
Void ratio	0.6789			
Specimen diameter, in.	2.86			
Specimen height, in.	5.52			
Height/diameter ratio	1.93			

Description: Dense Brown Clayed Silt (ML)

LL = **PL =** **PI =** **GS= 2.7** **Type: B-01**

Project No.: APS 1312 G065

Date Sampled: 1/2/2014

Remarks:
Multi Shear Failure

Figure _____

Client: URS

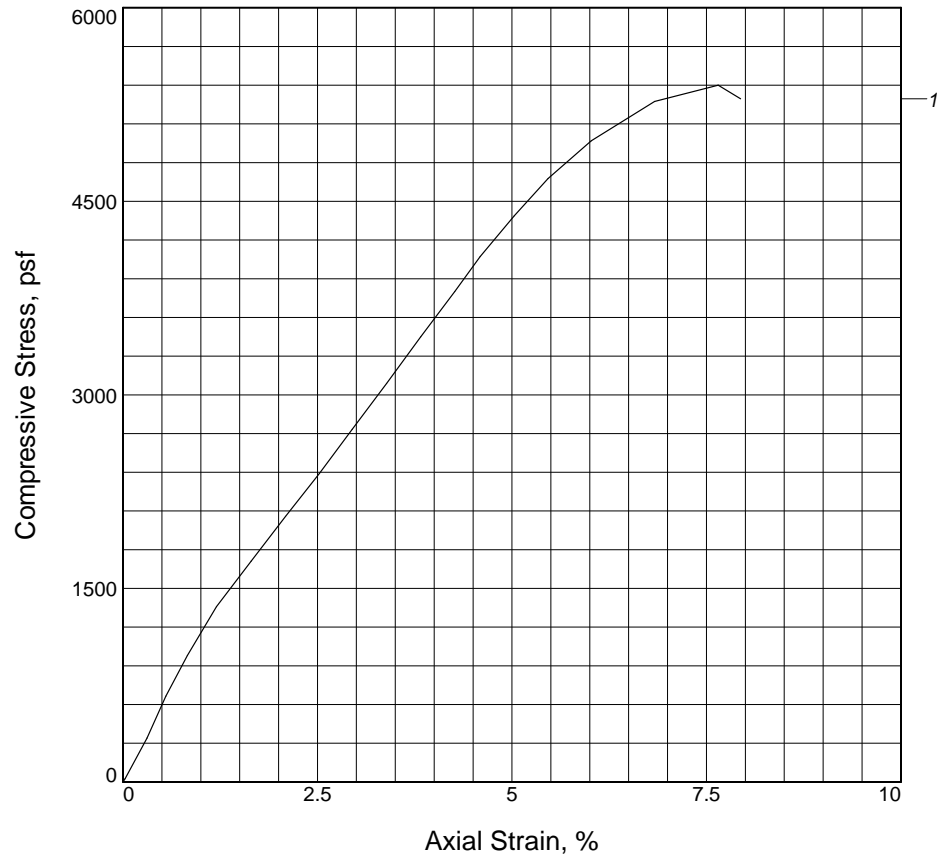
Project: VAMC Parking Garage

Source of Sample: B-01 **Depth:** 18-20

Sample Number: 7

UNCONFINED COMPRESSION TEST
APS Design and Testing, LLC
Baton Rouge, Louisiana

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psf	5400			
Undrained shear strength, psf	2700			
Failure strain, %	7.7			
Strain at peak, %	7.7			
Water content, %	18.5			
Wet density, pcf	127.4			
Dry density, pcf	107.5			
Saturation, %	88.1			
Void ratio	0.5683			
Specimen diameter, in.	2.82			
Specimen height, in.	5.77			
Height/diameter ratio	2.05			

Description: Stiff Brown Clayey Silt (ML)

LL = **PL =** **PI =** **Assumed GS= 2.7** **Type:** Undisturbed

Project No.: APS-1312-G065

Date Sampled: 01-03-14

Remarks:
Multi-Shear Failure

Figure _____

Client: URS

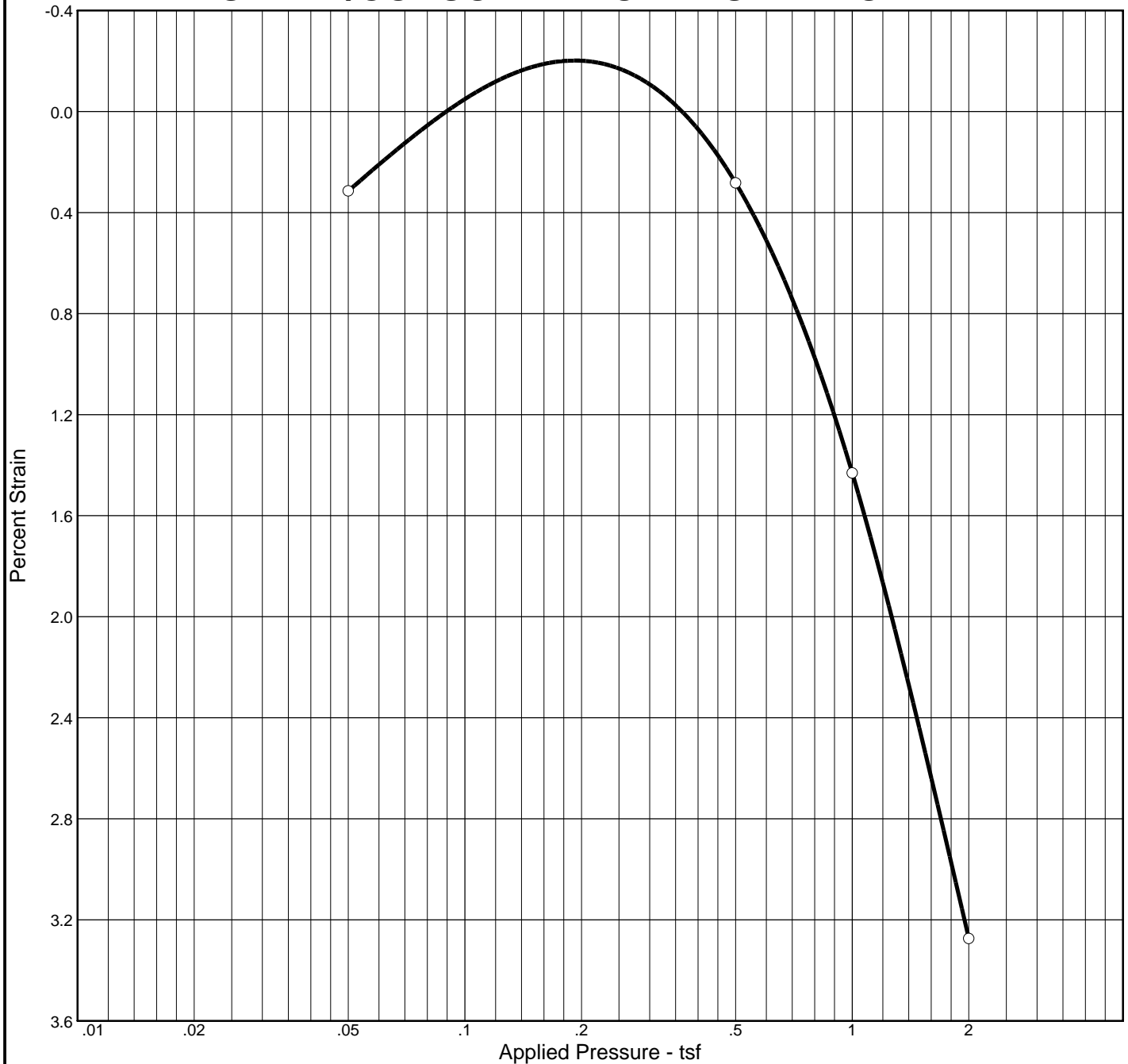
Project: VAMC Parking Garage

Source of Sample: B-2 **Depth:** 2-4

Sample Number: 2

UNCONFINED COMPRESSION TEST
APS Design and Testing, LLC
Baton Rouge, Louisiana

SWELL/CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	USCS	AASHTO	Initial Void Ratio
Saturation	Moisture							
79.6 %	22.4 %	96.7	60	42	2.75	CH		0.775

MATERIAL DESCRIPTION

Fat Clay

Project No. APS1312-G065 **Client:** URS

Project: VAMC Parking Garage

Source: B-1

Sample No.: 2

Elev./Depth: 2-4

Remarks:

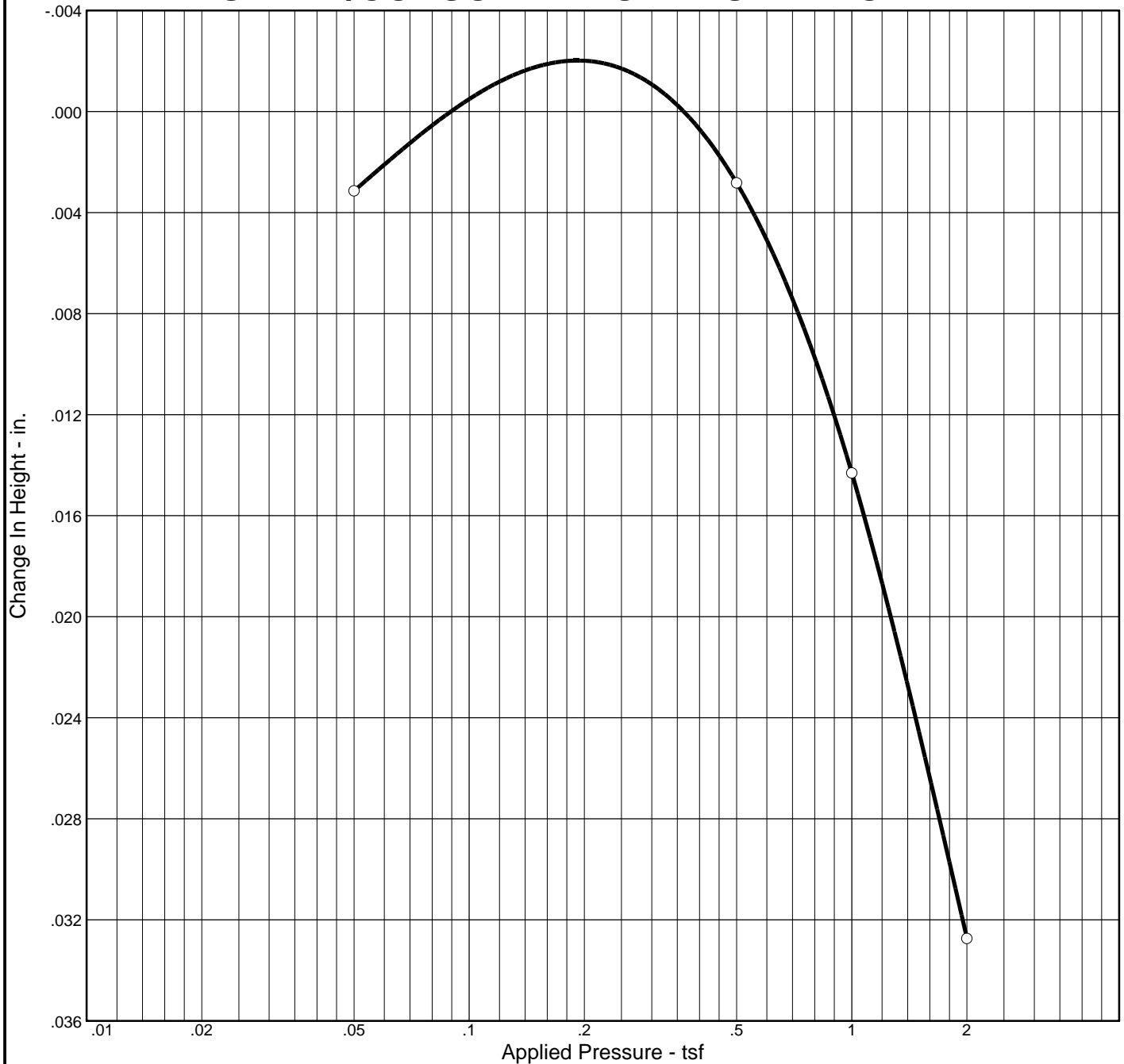
Swell Pressure=445.76 psf
Final Moisture=25.1%

SWELL/CONSOLIDATION TEST REPORT

APS Design and Testing, LLC

Figure 1

SWELL/CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	USCS	AASHTO	Initial Void Ratio
Saturation	Moisture							
79.6 %	22.4 %	96.7	60	42	2.75	CH		0.775

MATERIAL DESCRIPTION

Fat Clay

Project No. APS1312-G065 **Client:** URS

Project: VAMC Parking Garage

Source: B-1

Sample No.: 2

Elev./Depth: 2-4

Remarks:

Swell Pressure=445.76 psf
Final Moisture=25.1%

SWELL/CONSOLIDATION TEST REPORT

APS Design and Testing, LLC

Figure 1

CONSOLIDATION TEST DATA

Client: URS
Project: VAMC Parking Garage
Project Number: APS1312-G065

Sample Data

Source: B-1
Sample No.: 2
Depth: 2-4
Location:
Description: Fat Clay
Liquid Limit: 60
USCS: CH
Testing Remarks: Swell Pressure=445.76 psf
Final Moisture=25.1%

Sample Length(in./cm.):
Plasticity Index: 42
AASHTO:
Figure No.: 1

Test Specimen Data

TOTAL SAMPLE	BEFORE TEST	AFTER TEST
Wet w+t = 340.56 g.	Consolidometer # = 1	Wet w+t = 208.35 g.
Dry w+t = 288.12 g.		Dry w+t = 177.57 g.
Tare Wt. = 54.51 g.	Spec. Gravity = 2.75	Tare Wt. = 54.75 g.
Height = 1.00 in.	Height = 1.00 in.	
Diameter = 2.50 in.	Diameter = 2.50 in.	
Weight = 152.59 g.	Defl. Table = Swell Set 2 (psf)	
Moisture = 22.4 %	Ht. Solids = 0.5633 in.	Moisture = 25.1 %
Wet Den. = 118.4 pcf	Dry Wt. = 124.62 g.*	Dry Wt. = 122.82 g.
Dry Den. = 96.7 pcf	Void Ratio = 0.775	Void Ratio = 0.717
	Saturation = 79.6 %	

* Initial dry weight used in calculations

End-of-Load Summary

Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C _v (ft. ² /day)	C _α	Void Ratio	% Compression /Swell
start	1.49786				0.775	
0.05	1.50100	0.00000	0.21		0.770	0.3 Compr.
0.50	1.50497	0.00429	7.07		0.770	0.3 Compr.
1.00	1.51771	0.00554	0.11		0.750	1.4 Compr.
2.00	1.53739	0.00679	0.28		0.717	3.3 Compr.

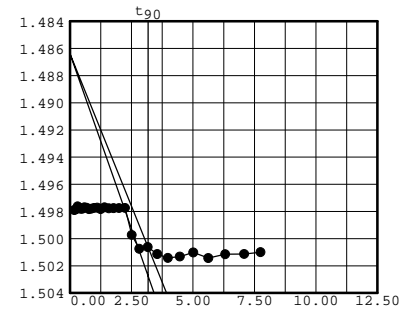
C_c = 0.06 P_c = 0.53 tsf

Pressure: 0.05 tsf

TEST READINGS

Load No. 1

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	1.49786	16	2.50	1.49777
2	0.03	1.49790	17	3.15	1.49776
3	0.07	1.49783	18	3.98	1.49775
4	0.10	1.49763	19	5.02	1.49774
5	0.15	1.49776	20	6.32	1.49973
6	0.20	1.49781	21	7.95	1.50075
7	0.27	1.49780	22	10.00	1.50062
8	0.35	1.49770	23	12.60	1.50114
9	0.47	1.49773	24	15.87	1.50142
10	0.60	1.49783	25	19.97	1.50132
11	0.77	1.49780	26	25.13	1.50102
12	0.97	1.49774	27	31.65	1.50143
13	1.23	1.49772	28	39.83	1.50115
14	1.57	1.49783	29	50.15	1.50113
15	1.98	1.49770	30	60.05	1.50100



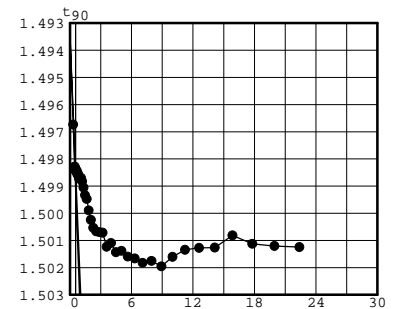
Void Ratio = 0.770 Compression = 0.3 %
 $D_0 = 1.48640$ $D_{90} = 1.50064$ $D_{100} = 1.50223$
 C_v at 10.1 min. = 0.21 ft.²/day

Pressure: 0.50 tsf

TEST READINGS

Load No. 2

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	1.49714	24	12.80	1.50552
2	0.10	1.50102	25	16.07	1.50538
3	0.22	1.50257	26	20.17	1.50572
4	0.25	1.50266	27	25.35	1.50567
5	0.28	1.50264	28	31.85	1.50588
6	0.32	1.50273	29	40.05	1.50595
7	0.38	1.50275	30	50.37	1.50611
8	0.45	1.50272	31	63.35	1.50604
9	0.53	1.50285	32	79.68	1.50624
10	0.63	1.50284	33	100.27	1.50589
11	0.77	1.50300	34	126.17	1.50563
12	0.93	1.50302	35	158.77	1.50556
13	1.15	1.50298	36	199.80	1.50555
14	1.42	1.50311	37	251.47	1.50510
15	1.75	1.50334	38	316.52	1.50541
16	2.17	1.50362	39	398.40	1.50549
17	2.68	1.50376	40	501.48	1.50553
18	3.35	1.50418	41	631.25	1.50507
19	4.17	1.50453	42	794.63	1.50497
20	5.20	1.50482	43	1000.30	1.50512
21	6.50	1.50495	44	1259.23	1.50509
22	8.15	1.50498	45	1440.27	1.50497
23	10.20	1.50500			



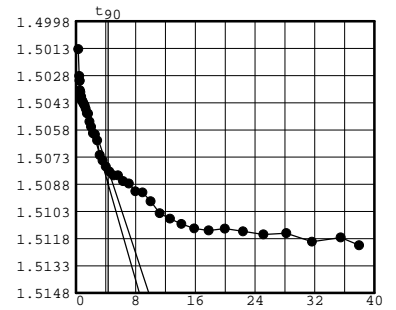
Void Ratio = 0.770 Compression = 0.3 %
 $D_0 = 1.49345$ $D_{90} = 1.49840$ $D_{100} = 1.49895$
 C_v at 0.3 min. = 7.07 ft.²/day

Pressure: 1.00 tsf

TEST READINGS

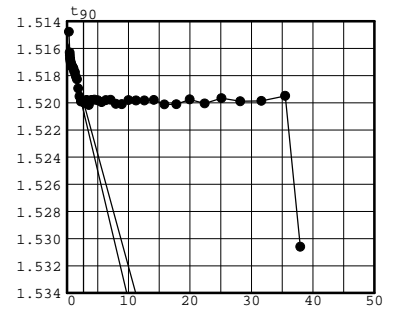
Load No. 3

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	1.50415	24	12.78	1.51303
2	0.10	1.50688	25	16.05	1.51336
3	0.20	1.50836	26	20.15	1.51364
4	0.23	1.50861	27	25.32	1.51385
5	0.27	1.50863	28	31.83	1.51385
6	0.30	1.50915	29	40.02	1.51417
7	0.37	1.50926	30	50.33	1.51430
8	0.43	1.50951	31	63.32	1.51473
9	0.52	1.50951	32	79.67	1.51479
10	0.62	1.50970	33	100.23	1.51528
11	0.75	1.50973	34	126.13	1.51594
12	0.92	1.50983	35	158.73	1.51624
13	1.13	1.50992	36	199.77	1.51653
14	1.40	1.51000	37	251.43	1.51678
15	1.72	1.51017	38	316.48	1.51689
16	2.13	1.51042	39	398.37	1.51679
17	2.67	1.51044	40	501.45	1.51694
18	3.32	1.51088	41	631.22	1.51711
19	4.15	1.51117	42	794.60	1.51704
20	5.18	1.51152	43	1000.08	1.51751
21	6.48	1.51159	44	1259.02	1.51728
22	8.12	1.51192	45	1440.08	1.51771
23	10.18	1.51273			



Void Ratio = 0.750 Compression = 1.4 %
 $D_0 = 1.50259$ $D_{90} = 1.50800$ $D_{100} = 1.50860$
 C_v at 18.7 min. = 0.11 ft.²/day

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	1.51622	24	12.78	1.52695
2	0.10	1.52156	25	16.05	1.52658
3	0.20	1.52309	26	20.15	1.52656
4	0.23	1.52329	27	25.32	1.52661
5	0.27	1.52352	28	31.83	1.52674
6	0.32	1.52367	29	40.02	1.52660
7	0.37	1.52381	30	50.33	1.52657
8	0.43	1.52387	31	63.32	1.52687
9	0.52	1.52400	32	79.65	1.52689
10	0.63	1.52410	33	100.23	1.52659
11	0.77	1.52411	34	126.13	1.52662
12	0.93	1.52420	35	158.73	1.52662
13	1.13	1.52428	36	199.77	1.52658
14	1.40	1.52449	37	251.43	1.52691
15	1.73	1.52454	38	316.48	1.52690
16	2.15	1.52487	39	398.37	1.52654
17	2.67	1.52506	40	501.45	1.52684
18	3.33	1.52573	41	631.22	1.52645
19	4.15	1.52632	42	794.60	1.52668
20	5.18	1.52669	43	1000.27	1.52665
21	6.48	1.52670	44	1259.20	1.52628
22	8.13	1.52680	45	1440.00	1.53739
23	10.18	1.52658			



Void Ratio = 0.717 Compression = 3.3 %
 $D_0 = 1.51550$ $D_{90} = 1.51996$ $D_{100} = 1.52045$
 C_v at 7.2 min. = 0.28 ft.²/day