LABORATORY TEST RESULTS SUMMARY SHEETS

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

Technical Responsibility: Roy Johnson

Quality Assurance Officer

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163**

PM: BOB SEGALL

Date of Issue: 9/24/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B01A	2-3	Firm, Brown SILT with clay	23.7	35	26	9	122.4	99.0	0.83									(ML)	
	7-8	Soft, Gray CLAY with trace of organics	35.6	67	24	43	110.0	81.1										(CH)	
	11-12	Soft, Gray CLAY	37.6	77	25	52	110.1	80.0										(CH)	Consolidation
	16-17	Medium to Stiff, Gray and Brown CLAY with silt pockets	32.7	57	31	26	118.1	88.9		1.02								(CH)	6.6 PSI
	22-23	Medium, Gray CLAY with silt	41.2				111.6	79.0		0.77								(CH)	9.0 PSI
	27-28	Medium, Gray CLAY with silt pockets	37.5	87	37	50	111.1	80.7		0.79								(CH)	11.0 PSI
	32-33	Medium, Gray CLAY with silt pockets and trace of shells	50.1				104.5	69.6		0.66								(CH)	13.0 PSI
	38-39	Stiff, Gray, Dark Gray, Black and Brown CLAY with organics	113.5	222	80	142	88.0	41.2		1.09								(CH/OH)	15.4 PSI
	42-43	Gray SILTY SAND with trace of clay	30.1												* 35.6			(SM)	
	47-48	Medium to Stiff, Gray CLAY with shells	52.8	97	37	60	105.3	68.8		0.99								(CH)	19.0 PSI
	53-54	Stiff, Light Gray CLAY with trace of silt	25.6				122.3	97.4	1.62									(CH)	
	58-59	Stiff, Light Gray and Greenish Gray CLAY with silt	21.0	56	23	33	130.4	107.7		3.27 2.73 3.19								(CH)	18.4 PSI 23.4 PSI 28.4 PSI

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/4/07
Date Testing Initiated: 9/15/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

Technical Responsibility: Roy Johnson — **Quality Assurance Officer**

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 9/24/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B01A	63-64	Stiff, Tan, Light Gray and Brown CLAY with concretions	30.3				118.1	90.6	1.17									(CH)	
	67-68	Medium, Light Gray, Red and Brown CLAY with silt pockets, streaks and layers	34.9	61	27	34	118.0	87.5	0.48									(CH) to (CL)	
	73-74	Very Stiff, Light Gray and Brown CLAY	32.1	71	27	44	121.1	91.6		2.05 2.01 0.73	(SLS's)							(CH)	24.4 PSI 29.4 PSI 34.4 PSI
	81-82	Medium, Red, Brown, Tan and Light Gray CLAY with silt and sand layers and lenses	37.8				111.6	81.0	0.91									(CL)	
	88-89	Stiff, Gray and Brown CLAY with silty sand and sandy silt lenses	41.8				106.4	75.0		1.11 1.05 1.15	(SLS's)							(CH)	30.4 PSI 35.4 PSI 40.5 PSI
	96-97	Stiff, Gray CLAY with silty sand layers and trace of shells	37.8	65	26	39	116.1	84.2	1.85									(CH)	
	106-107	Stiff, Gray CLAY with trace of silt	37.6	80	28	52	111.2	80.8		1.74 1.77 1.53	(SLS's)							(CH)	37.6 PSI 42.6 PSI 47.6 PSI
	115-116	Medium, Gray CLAY	34.2				111.1	82.8	0.81									(CH)	
	118-119	Stiff, Gray CLAY	37.1				110.1	80.3	1.81									(CH)	
	123-124	Stiff, Gray CLAY with silt lenses	36.3	72	26	46	113.6	83.4	1.85									(CH)	

* See attached curves

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Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

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Quality Assurance Officer

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7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163** PM: BOB SEGALL

Date of Issue: 9/26/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B02A	6-7	Medium, Light Tan and Brown CLAY with silty clay pockets	37.5	61	30	31	111.2	80.9	0.51									(CH)	
	10-11	Medium, Gray CLAY with silt streaks and ferrous nodules	45.1				107.9	74.4		0.56								(CH)	4.2 PSI
	16-17	Medium, Gray CLAY	38.8	59	26	33												(CH)	Consolidation
	22-24	Medium, Gray CLAY with silt pockets and trace of organics	34.6				114.2	84.8	0.59									(CH)	
	27-28	Medium, Gray and Light Gray CLAY and SILTY CLAY	31.1	58	24	34	116.6	88.9		0.69 1.12 1.48	(SLS's)							(CH)	6.0 PSI 11.0 PSI 16.0 PSI
	30-31																		Consolidation
	32-33	Medium, Light Gray and Brown CLAY with silt and ferrous nodules	73.8				113.6	65.4	0.78									(CH)	
	37-38	Medium, Light Gray and Brown CLAY with silt pockets	37.2	58	22	36	118.2	86.1			CIU							(CH)	31.7 PSI
	42-43	Medium, Gray CLAY with silt pockets and trace of organics	42.6				106.0	74.4	0.58									(CH)	
	47-48	Medium, Gray CLAY with organic pockets	50.3				107.5	71.5		0.82								(CH)	19.0 PSI
	53-54	Stiff, Gray, Dark Gray and Light Gray CLAY with organic pockets	49.4	65	23	42	117.0	78.3	1.07									(CH)	
	55-56	Gray CLAY with large sandy silt pockets and trace of shells	35.0	47	24	23												(CL)	

* See attached curves

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11519 Cloverland Ave Baton Rouge, LA 70809

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Date Samples Rec.: 9/4/07
Date Testing Initiated: 9/19/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

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Quality Assurance Officer

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7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163** PM: BOB SEGALL

Date of Issue: 9/26/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B02A	58-59	Medium, Gray CLAY with trace of shells	55.4	90	33	57	107.1	68.9	0.96									(CH)	
	63-64	Medium, Gray CLAY with silt	27.3				122.9	96.5		0.90								(CH)	25.4 PSI
	68-69	Very Stiff, Light Gray and Greenish Gray SILTY CLAY with calcareous nodules	21.9	49	19	30	130.0	106.6		3.42 3.27 3.49								(CL)	22.4 PSI 27.4 PSI 32.4 PSI
	77-78	Medium, Tan and Light Gray SILTY CLAY with clayey silt pockets	27.8	35	21	14	127.7	99.9	0.97									(CL to ML)	
	82-83	Brownish Tan and Light Gray CLAY with silt layers and pockets, trace of organics	29.1	43	21	22	125.6	97.3		0.69 0.88 0.52	(SLS's)							(CL)	28.0 PSI 33.0 PSI 38.0 PSI
	88-89	Very Stiff, Tan and Light Gray CLAY with calcareous nodules	41.9	90	32	58	110.3	77.8	2.08									(CH)	
	93-94	Light Gray CLAYEY SILT with silty clay	37.2	45	45	20	110.2	80.3		0.82								(CL)	37.4 PSI
	107-108	Stiff, Light Gray CLAY	35.2	65	23	42	118.9	87.9		1.53								(CH)	43.0 PSI
	116-117	Stiff, Light Gray CLAY	46.3	92	26	66	106.1	72.6	1.84									(CH)	
	123-124	Stiff, Light Gray and Gray CLAY with shell layers	43.5				108.5	75.6		1.76 2.25 1.67	(SLS's)							(CH)	44.4 PSI 49.4 PSI 54.4 PSI
	132-133	Stiff, Light Gray CLAY with silt and ferrous nodules	24.7	51	18	33	121.5	97.3		1.97								(CH)	53.0 PSI
	137-138	Light Gray SILT with sand and clay	21.6												* 87.6			(ML)	

* See attached curves

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11519 Cloverland Ave Baton Rouge, LA 70809

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Date Samples Rec.: 9/4/07
Date Testing Initiated: 9/19/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

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Quality Assurance Officer

Client: URS Corporation
7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163**

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			ASTM DESIGNATION																
			D2216	D4318 Atterberg Limits			D2166		D2166 Cohesion	D2850 Cohesion	D422, C136 or C117 Grain Size (% Passing)					D698 Std. Proctor		USCS	
Boring No.	Depth (ft)	Classification	ω %	LL	PL	PI	γ_{wet} pcf	γ_{dry} pcf	U ksf	UU ksf	Gravel	Sand	Silt	Clay	#200	γ_d max	ω_{opt}		Confining Stress, Resistivity and Remarks
B02A	142-143	Firm, Light Gray CLAYEY SILT or SILTY CLAY with trace of sand	23.5	32	19	13	123.2	99.7		2.47								(CL to ML)	57.0 PSI
	148-149	Medium, Light Gray SILTY CLAY with clayey silt	25.2	32	19	13	119.8	95.7	0.93									(CL to ML)	

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Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

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Quality Assurance Officer

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 9/27/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B-5	2-4	Stiff, Tan and Light Gray SILTY CLAY with ferrous and calcareous nodules and clay pockets	30.8	73	26	47	111.8	85.5	1.05									(CL/CH)	
	12-14	Medium, Gray and Greenish Gray CLAY with trace of organics	55.3	106	38	68	107.5	69.1	0.64									(CH)	
	14-16	Soft, Gray CLAY with organic pockets	80.4	122	36	86	97.2	53.9			CIU							(CH)	6.0 PSI
	16-18	Soft, Gray CLAY with silt pockets and trace of organics	51.8				107.3	70.7		0.29								(CH to CL)	6.8 PSI
	28-30	Soft, Light Gray CLAY	53.6				101.1	65.8		0.30								(CH)	11.6 PSI
	33-35	Stiff, Light Gray and Tan CLAY with trace of calcareous nodules	19.7	53	16	37	126.7	105.8		2.00								(CH)	13.6 PSI
	38-40	Stiff, Light Gray and Tan SILTY CLAY with clay pockets and trace of fine sand	27.4	39	16	23	125.4	98.4		1.15 0.70 1.20								(CL)	11.6 PSI 15.6 PSI 20.6 PSI
	43-45	Medium, Tan and Light Gray CLAY with silt streaks	35.7				114.8	84.6		0.49								(CH)	17.6 PSI
	48-50	Stiff, Tan and Light Gray CLAY with silt pockets and lenses	31.7				111.8	84.9		0.95								(CH)	19.6 PSI
	53-55	Tan and Light Gray SANDY SILT with clay	27.2												* 73.0			(ML)	
	58-60	Stiff, Tan and Light Gray SILTY CLAY with silt lenses	31.0	43	20	23	119.1	91.0		1.53								(CL)	23.6 PSI
	63-65	Stiff, Gray CLAY with sandy silt lenses and layers	46.3	57	21	36	114.1	78.0		1.22 1.35 0.90								(CL to CH)	20.6 PSI 25.6 PSI 30.6 PSI

* See attached curves

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11519 Cloverland Ave Baton Rouge, LA 70809

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Date Samples Rec.: 9/15/07
Date Testing Initiated: 9/25/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

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Project No.: **B07-163**

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Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B-5	68-70	Medium, Gray and Light Gray CLAY with silt streaks and pockets and calcareous nodules	26.3				116.8	92.5	0.84									(CH)	
	73-75	Stiff, Light Gray CLAY with silt streaks and pockets	31.6	75	19	56	112.5	85.5		1.06								(CH)	29.6 PSI
	78-80	Medium, Light Gray CLAY with silt pockets and streaks	30.2	78	19	59	113.5	87.2		0.90								(CH)	31.6 PSI

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7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 9/30/2007

Boring No.	Depth (ft)	Classification	D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γwet pcf	γdry pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γd max	ωopt	USCS	Confining Stress, Resistivity and Remarks
B-6	2-4	Soft, Gray and Brown CLAY	52.7	99	38	61	103.9	68.1	0.29									(CH)	
	6-8	Soft, Gray and Greenish Gray CLAY with silt pockets	45.7	53	21	32	114.3	78.5	0.42									(CH)	
	11-13	Very Soft, Gray CLAY with organic pockets and Organic CLAY	274.8	179	52	127	83.5	22.3		0.15								(CH) to (OH)	4.8 PSI
	14-16	Soft, Gray and Dark Gray Organic CLAY	117.8				76.6	35.1		0.32								(OH)	6.0 PSI
	18-20	Very Soft, Gray CLAY with organics	54.9				93.5	60.3		0.19								(CH)	7.6 PSI
	23-25	Soft, Gray CLAY with silt pockets	30.1 37.1 47.8	37	18	19	121.0 114.9 106.0	93.0 83.8 72.0		0.33 0.39 0.19								(CL/CH)	4.6 PSI 9.6 PSI 14.6 PSI
	28-30	Very Stiff, Light Gray and Tan CLAY with trace of silt pockets	23.9				126.8	102.3		2.19								(CH)	11.6 PSI
	33-35	Very Stiff, Brown, Tan and Light Gray CLAY with concretions	30.7 36.9 31.4	83	24	59	120.2 115.6 117.8	91.9 84.4 89.7		1.90 1.29 1.68								(CH)	8.6 PSI 13.6 PSI 18.6 PSI
	38-40	Stiff, Tan, Brown and Light Gray CLAY with concretions	37.4				114.1	83.1	0.47									(CH)	
	43-44	Stiff, Light Gray and Tan CLAY with sandy silt lenses and pockets	31.2				116.8	89.0	0.78									(CH) to (CL)	
	44-46	Tan and Light Gray SANDY SILT with clay	28.1												* 79.8			(ML)	
	53-55	Stiff, Red, Tan and Light Gray CLAY with silt lenses	38.8	79	29	50												(CH)	

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/4-16/07
Date Testing Initiated: 9/28/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

Technical Responsibility: Roy Johnson — Quality Assurance Officer

Client: URS Corporation

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Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 9/30/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γwet pcf	γdry pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γd max	ωopt	USCS	Confining Stress, Resistivity and Remarks
B-6	58-60	Stiff, Light Gray and Tan CLAY with sandy silt streaks	26.8	56	19	37	123.3	97.3	1.51									(CH)	
	63-65	Stiff, Light Gray CLAY with trace of silt pockets	31.3				121.2	92.3		1.49								(CH)	25.6 PSI
	68-70	Stiff, Gray CLAY with shell fragments	37.7	90	26	64	112.6	81.7		1.03								(CH)	27.6 PSI
	73-75	Stiff, Light Gray and Greenish Gray CLAY with trace of silt pockets	35.7 37.1 30.0				116.3 116.3 120.7	85.7 84.9 92.8		1.61 1.57 1.72								(CH)	24.6 PSI 29.6 PSI 34.6 PSI
	78-80	Stiff to Very Stiff, Light Gray and Greenish Gray CLAY	35.6 35.4 34.5				117.3 116.3 116.1	86.5 85.9 86.3		2.19 1.87 1.99								(CH)	26.6 PSI 31.6 PSI 36.6 PSI

* See attached curves

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Date Samples Rec.: 9/4-16/07
Date Testing Initiated: 9/28/07

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Quality Assurance Officer

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7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 10/4/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B-7	2-4	Medium, Brown and Gray CLAY with ferrous nodules	46.7	103	32	71	106.1	72.3		0.64								(CH)	1.2 PSI
	6-8	Soft, Gray CLAY with organic pockets	52.2				101.3	66.6		0.35								(CH)	2.8 PSI
	11-13	Soft, Gray and Brown CLAY with organic pockets	175.3	175	41	134	83.4	30.3		0.32								(CH to OH)	4.8 PSI * See Consolidation
	14-16	Very Soft, Gray and Brown CLAY with organic pockets	112.4	171	68	103	81.5	38.4		0.16	Drilling mud intrusion							(CH to OH)	6.0 PSI
	18-20	Medium, Light Gray SILTY CLAY with trace of fine sand and organics	28.9 29.0 27.0	39	18	21	123.0 119.9 124.4	95.4 93.0 98.0		0.70 0.69 0.62								(CL) (CL) (CL)	2.6 PSI 7.6 PSI 12.6 PSI
	23-25	Very Stiff, Light Gray, Greenish Gray and Tan CLAY with trace of silt	24.5				126.2	101.3		1.95								(CH)	9.6 PSI
	28-30	Medium to Stiff, Tan, Brown and Light Gray SILTY CLAY with clayey silt with sand layers	29.0				121.5	94.2	0.80									(CL)	
	33-35	Loose, Tan and Light Gray SANDY SILT with clay pockets	28.9				123.4	95.7		1.29								(ML)	13.6 PSI
	38-40	Stiff to Very Stiff, Light Gray and Brown CLAY with sandy silt pockets	29.4	71	22	49	118.7	91.7	1.41									(CH)	
	40-42	Brown, Tan and Light Gray SANDY SILT with clay	26.7												* 90.6			(ML)	
	48-50	Tan SILTY SAND or SANDY SILT with trace of clay	27.0												* 72.7			(ML)	
	53-55	Stiff, Greenish Gray, Light Gray and Tan CLAY with silt pockets	27.6				119.0	93.3		1.46								(CH)	21.6 PSI

* See attached curves

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Date Samples Rec.: 9/4-15/07
Date Testing Initiated: 9/30/07

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Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 10/4/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γwet pcf	γdry pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γd max	ωopt	USCS	Confining Stress, Resistivity and Remarks
B-7	58-60	Stiff, Gray CLAY with silt pockets, streaks and shells	28.4				121.1	94.3		1.20								(CH)	18.6 PSI
			27.4				121.8	95.6		1.15								(CH)	23.6 PSI
			28.6				121.0	94.1		1.06								(CH)	28.6 PSI
	63-65	Medium, Gray and Dark Gray CLAY with organics	53.3	88	33	55												(CH)	
	68-70	Stiff, Greenish Gray, Light Gray and Tan CLAY	27.3				122.6	96.3		1.75								(CH)	27.6 PSI
	73-75	Stiff, Greenish Gray, Light Gray and Tan CLAY becoming SILTY CLAY with clay and silty sand pockets	35.1				117.0	86.6		1.52								(CH)	24.6 PSI
			35.0				116.5	86.3		0.97								(CH)	29.6 PSI
			33.2				122.7	99.6		1.10								(CL)	34.6 PSI
	78-80	Stiff, Light Gray and Bluish Gray CLAY with silt pockets	27.9	78	26	56	120.4	94.2	1.02									(CH)	

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/4-15/07
Date Testing Initiated: 9/30/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas** Technical Responsibility: Roy Johnson **Quality Assurance Officer**

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806 Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 10/5/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B-8	2-4	Medium, Gray and Brown CLAY with trace of organics and ferrous nodules	44.0	95	36	59	110.1	76.5	0.78									(CH)	
	4-6	Medium, Gray and Brown CLAY with organic pockets	70.8	97	41	56												(CH)	
	6-8	Soft, Gray CLAY with organic pockets	61.6	79	36	43	101.4	62.8		0.35								(CH)	2.8 PSI * See Consolidation
	8-10	Soft, Gray CLAY with organic pockets	96.2 68.6 128.3				89.7 96.9 --	45.7 57.4 --		0.32 0.39 --	Unable to trim due to excess organics								1.6 PSI 3.6 PSI 5.6 PSI
	11-13	Very Soft, Gray CLAY with organics and organic clay pockets	169.9 371.5				85.6	31.7		0.19									4.8 PSI
	14-16	Medium, Gray and Brown CLAY with organics and organic clay	198.9 173.9 130.3				75.7 78.2 85.3	25.3 28.5 37.0		0.55 0.30 0.43									1.0 PSI 6.0 PSI 11.0 PSI
	18-20	Stiff, Greenish Gray and Tan CLAY with trace of organics	27.8				126.5	99.0	1.27									(CH)	
	23-25	Stiff, Light Gray, Tan and Red CLAY with trace of silt	22.2				124.7	102.1	1.66									(CH)	
	28-30	Stiff, Tan, Red and Light Gray SILTY CLAY with clay	27.0	35	23	12	123.2	97.0	0.87									(CL)	
	38-40	Firm, Tan CLAYEY SILT with clay pockets and trace of sand	26.6 27.6 20.9				122.7 122.7 131.4	96.9 96.2 108.7		0.84 0.74 1.80								(ML)	10.6 PSI 15.6 PSI 20.6 PSI
	44.5-42	Tan SANDY SILT with clay	26.2												* 85.3			(ML)	
	48-50	Tan SANDY SILT with clay	25.7												* 52.9			(ML)	

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/4-16/07
Date Testing Initiated: 9/27/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas** Technical Responsibility: Roy Johnson **Quality Assurance Officer**

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806 Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 10/11/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γwet pcf	γdry pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γd max	ωopt	USCS	Confining Stress, Resistivity and Remarks
B-9	2-4	Very Soft, Gray and Dark Gray CLAY with silt pockets	64.7	86	35	51	99.1	60.2		0.13								(CH)	1.2 PSI
	4-6	Soft, Gray and Dark Gray CLAY with organic pockets	76.2				95.7	54.3		0.34								(CH)	2.0 PSI
	6-8	Very Soft, Gray CLAY with organic pockets	132.7	130	39	91	87.6	37.6		0.21								(CH)	2.8 PSI
	10-12	Soft, Gray and Dark Gray CLAY with organic clay and organic pockets	183.0	185	67	118	76.4	27.0		0.11								(CH to OH)	4.4 PSI
	12-14	Very Soft, Gray CLAY with organic clay layers and silt pockets	36.7	61	24	37	102.1	74.7		0.25								(CH to OH)	5.2 PSI Consolidation
	14-16	Very Soft, Gray and Brown CLAY with organic pockets and organic clay layers	78.8				96.3	53.9		0.34								(CH to OH)	6.0 PSI 7.4% Organic Content
	18-20	Stiff, Greenish Gray and Light Gray CLAY with trace of silt	22.8				126.9	103.3		1.07								(CH)	7.6 PSI
	24-26	Stiff, Tan and Light Gray CLAY with calcareous nodules and silty clay pockets	28.4	57	24	37	124.6	97.1	1.33									(CH)	
	29-31	Stiff, Reddish Brown and Tan SILTY CLAY	31.2				121.3	92.5		0.88								(CL)	12.0 PSI
	34-36	Alternating layers of Stiff, Reddish Brown and Light Gray CLAY and Tan SANDY SILT to SILTY SAND	33.2				119.7	89.9		0.45								(CH to SM)	14.0 PSI
	44-46	Tan SANDY SILT with clay lenses	30.9												88.8			(ML)	

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/4-17/07
Date Testing Initiated: 10/1/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas** **Technical Responsibility:** Roy Johnson **Quality Assurance Officer**

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806 Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 10/11/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γwet pcf	γdry pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γd max	ωopt	USCS	Confining Stress, Resistivity and Remarks
B-10	2-4	Soft, Gray CLAY with organic pockets	60.6	97	27	70	102.8	63.9		0.46								(CH)	1.2 PSI
	4-6	Soft, Gray CLAY with organic pockets	63.6				99.7	60.9		0.66								(CH)	2.0 PSI
	6-8	Very Soft, Gray and Dark Gray CLAY with organic pockets	80.1				91.8	51.0		0.19								(CH)	2.8 PSI
	8-10	Very Soft to Medium, Gray CLAY with organic pockets	87.1 80.9 86.3	124	34	90	89.9 93.3 81.6	48.0 51.5 43.8		0.24 0.03 0.85								(CH) (CH) (CH)	1.6 PSI 3.6 PSI 5.6 PSI
	10-12	Soft, Gray CLAY with organic pockets	82.7	109	36	73												(CH)	* Consolidation
	12-14	Soft, Gray and Brown CLAY with organic pockets and organic clay layers	114.3				90.7	42.3	0.13									(CH to OH)	
	14-16	Very Soft, Brown and Gray Organic CLAY with wood	223.0	295	92	203	73.1	22.6		0.18								(OH)	6.0 PSI
	18-20	Soft, Gray CLAY with silt pockets and trace of organics becoming Soft, Light Gray SILTY CLAY	34.4 26.2				120.2 122.0	89.4 96.6		0.39 0.63	Too short for 3 points							(CH) (CL)	2.6 PSI 7.6 PSI
	24-26	Very Stiff, Greenish Gray and Light Gray CLAY with silt pockets and calcareous nodules	21.5				130.1	107.0	2.35									(CH)	
	29-31	Stiff, Light Gray, Greenish Gray and Brown SILTY CLAY with clay pockets	27.9				120.1	93.8		1.08								(CL)	12.0 PSI
	34-36	Laminated layers of Stiff, Red, Brown and Light Gray CLAY, SILTY CLAY, CLAYEY SILT and SANDY SILT	29.1 32.3 29.1				121.1 118.0 115.1	93.8 89.1 89.2		2.16 1.63 1.84								(CL) (CL) (CL)	9.0 PSI 14.0 PSI 19.0 PSI
	39-41	Medium, Reddish Brown and Light Gray CLAY	41.1				110.7	78.5	0.84									(CH)	

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/4-15/07
Date Testing Initiated: 10/1/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

Technical Responsibility: Roy Johnson

Quality Assurance Officer

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163**

PM: BOB SEGALL

Date of Issue: 10/11/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γwet pcf	γdry pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γd max	ωopt	USCS	Confining Stress, Resistivity and Remarks
B-10	44-46	Tan SILT with trace of clay and fine sand	30.7												* 96.8			(ML)	
	48-50	Tan SILT with trace of sand and clay lenses	35.2				123.9	91.6		0.47								(ML)	19.6 PSI

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/4-15/07
Date Testing Initiated: 10/1/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas** Technical Responsibility: Roy Johnson Quality Assurance Officer

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806 Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 10/15/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION: D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B-11	2-4	Soft, Gray CLAY with organic pockets	69.8	129	32	97	94.0	55.3		0.37								(CH)	1.2 PSI
	4-6	Soft, Gray CLAY with organic pockets and 3/4" vert. root	77.5				92.0	51.8		1.20	Root contributed to compressive strength							(CH)	2.0 PSI
	6-8	Very Soft, Gray CLAY with organic pockets	92.8				87.4	45.3		0.22								(CH)	2.8 PSI
	8-10	Soft, Gray CLAY with silt and organic pockets	34.0 34.4 32.4	40	18	22	115.0 118.8 118.6	85.8 88.3 89.5		0.37 0.30 0.40								(CH to CL) (CL) (CL/CH)	1.6 PSI 3.6 PSI 5.6 PSI
	10-12	Very Soft, Gray CLAY with trace of silt and organic pockets	46.4				110.5	75.5	0.07									(CH)	
	12-14	Soft, Greenish Gray and Light Gray CLAY with trace of organics	38.9	58	19	39												(CH)	* Consolidation
	14-16	Soft, Greenish Gray and Light Gray CLAY with trace of organics and silt pockets	29.9	57	16	41	114.3	88.0		0.49								(CH)	6.0 PSI
	16-18	Soft, Greenish Gray and Light Gray CLAY becoming SILTY CLAY	32.3				123.0	92.9	0.49									(CH to CL)	
	24-26	Firm, Tan SANDY SILT with clay pockets	28.6	34	26	8	118.1		0.51									(ML)	
	29-31	Tan SANDY SILT with clay	27.9												* 70.8			(ML)	
	34-36	Tan SANDY SILT with clay	28.5												* 78.9			(ML)	
	44-46	Tan fine SAND with silt	25.8												* 15.0			(SM)	
	51-53	Medium, Gray CLAY with shell fragments	43.8	70	22	48												(CH)	

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/4-15/07
Date Testing Initiated: 10/3/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

Technical Responsibility: Roy Johnson

Quality Assurance Officer

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163**

PM: BOB SEGALL

Date of Issue: 10/15/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B-12	2-4	Soft, Light Gray and Greenish Gray CLAY with ferrous nodules	58.7	107	36	71	100.7	63.5		0.43								(CH)	1.2 PSI
	4-6	Soft, Gray and Dark Gray CLAY with organic pockets	91.3 87.7				92.1 91.9	48.1 50.3		0.58 0.54								(CH) (CH)	2.0 PSI 4.0 PSI
	6-8	Very Soft, Gray and Dark Gray CLAY with organic pockets	108.9				88.8	42.5		0.21								(CH)	2.8 PSI
	8-10	Soft, Brown, Black and Gray Organic CLAY with organic pockets	145.5	259	75	184	82.2	33.5		0.27								(OH)	3.6 PSI Consolidation
	12-14	Soft, Light Gray and Gray SILTY CLAY with organic pockets	27.0 31.5				122.4 119.1	96.3 90.5		0.53 0.67								(CL) (CL)	1.2 PSI 5.2 PSI
	14-16	Soft, Greenish Gray and Light Gray SILTY CLAY with organic pockets	27.1	38	17	21	126.1	99.1		0.66								(CL)	6.0 PSI
	18-20	Soft to Medium, Gray, Greenish Gray and Light Gray SILTY CLAY with silt pockets	27.1				125.4	98.6		0.49								(CL)	7.6 PSI
	24-26	Stiff, Light Gray and Greenish Gray SILTY CLAY	25.6	37	20	17	127.0	101.1		1.06								(CL)	10.0 PSI
	29-31	Loose, Tan and Light Gray SANDY SILT with clay	28.3	32	25	7		Slumping under own weight										(ML)	
	34-36	Tan SILTY SAND with trace of clay	24.3												* 32.0			(SM)	
	39-41	Tan fine SILTY SAND with trace of clay	20.4												* 26.6			(SM)	

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/4-20/07
Date Testing Initiated: 10/10/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

Technical Responsibility: Roy Johnson

Quality Assurance Officer

Client: URS Corporation
7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163**

PM: BOB SEGALL

Date of Issue: 10/17/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γwet pcf	γdry pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γd max	ωopt	USCS	Confining Stress, Resistivity and Remarks
B-13	2-4	Soft, Greenish Gray and Light Gray CLAY with organic pockets	109.3	103	31	72	78.2	46.9		0.42								(CH)	1.2 PSI
	4-6	Soft, Gray CLAY with organic pockets	98.8				86.9	43.7		0.28								(CH)	2.0 PSI
	6-8	Very Soft to Soft, Gray CLAY with organic pockets and wood	106.7				Unable to trim for UU due to wood											(CH)	* Consolidation
	8-10	Very Soft, Gray and Dark Gray CLAY with organic pockets	71.8	125	33	92												(CH)	
	12-14	Medium, Greenish Gray and Light Gray CLAY with silt pockets and ferrous nodules	33.0				121.1	91.1		0.55								(CH)	5.2 PSI
	16-18	Medium, Light Gray, Greenish Gray and Tan CLAY with silt pockets and ferrous nodules	27.2				128.9	101.3	0.93									(CH)	
	18-20	Very Stiff, Light Gray, Greenish Gray and Tan SILTY CLAY with ferrous nodules	24.5 22.0				128.8 126.7	103.5 103.9		2.50 1.57								(CL) (CL)	7.6 PSI 12.6 PSI
	24-26	Tan SANDY SILT with trace of clay	33.9	NP	NP	NP									* 98.7			(ML)	
	29-31	Tan SANDY SILT or SILTY SAND	24.9												* 27.4			(SM)	
	39-41	Tan fine SAND with silt and clay	19.2												* 49.3			(SM)	

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/4-20/07
Date Testing Initiated: 10/9/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

Technical Responsibility: Roy Johnson — Quality Assurance Officer

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 10/17/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B-14	2-4	Soft, Gray and Dark Gray CLAY with organic pockets	96.4	116	34	82	88.7	45.2		0.28	Disturbed - misshapened							(CH)	1.2 PSI
	4-6	Soft, Gray and Dark Gray CLAY with organic pockets	94.6				87.8	45.2		0.26	Disturbed - misshapened							(CH)	2.0 PSI
	6-8	Very Soft, Gray and Brown CLAY with organic pockets and organic clay pockets	123.3				75.2	33.7		0.13	Disturbed - misshapened							(CH to OH)	2.8 PSI
	10-12	Very Soft, Gray and Dark Gray CLAY with organic pockets and organic clay pockets	122.7	50	23	27	81.3	36.5		0.18	Unable to trim due to excess organics							(CH to OH)	4.4 PSI
	14-16	Medium, Greenish Gray and Light Gray CLAY with organic and silt pockets	25.6	44	21	23												(CL)	Consolidation
	18-20	Stiff, Greenish Gray and Light Gray CLAY with silt pockets and ferrous nodules	23.2				127.4	103.4		1.57								(CH)	7.6 PSI
	24-26	Firm, Tan SILT with sand and trace of clay	29.2	32	28	4									* 96.8			(ML)	
	29-31	Stiff, Brown, Tan and Light Gray CLAY with sandy silt pockets, streaks and lenses	40.4				110.4	78.7	0.51									(CH)	
	34-36	Firm, Tan SILT with trace of fine sand and clay	27.7				123.8	97.0		0.46								(ML)	14.0 PSI
	39-41	Firm, Tan SILT with trace of fine sand and clay	26.8	29	26	3												(ML)	
	44-46	Stiff, Gray CLAY with trace of organics	34.5	72	21	51	114.3	85.0		1.80								(CH)	18.0 PSI
	48-50	Stiff, Gray CLAY with shell fragments and trace of organics	34.0 33.2				116.9 121.7	87.3 91.4		1.06 1.83								(CH) (CH)	14.6 PSI 19.6 PSI

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/13-31/07
Date Testing Initiated: 10/11/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

Technical Responsibility: Roy L. Johnson

Quality Assurance Officer

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163**

PM: BOB SEGALL

Date of Issue: 10/18/2007

			ASTM DESIGNATION																
			D2216	D4318 Atterberg Limits			D2166		D2166 Cohesion	D2850 Cohesion	D422, C136 or C117 Grain Size (% Passing)					D698 Std. Proctor		USCS	
Boring No.	Depth (ft)	Classification	ω %	LL	PL	PI	γ_{wet} pcf	γ_{dry} pcf	U ksf	UU ksf	Gravel	Sand	Silt	Clay	#200	γ_d max	ω_{opt}		Confining Stress, Resistivity and Remarks
B-15	2-4	Very Soft, Gray CLAY with organic pockets	129.6	170	60	110	83.8	36.5		0.23								(CH)	1.2 PSI
	4-6	Very Soft, Gray CLAY with organic pockets	132.4				80.0	34.4		0.24								(CH)	2.0 PSI
	8-10	Very Soft, Greenish Gray and Light Gray CLAY with trace of organics	75.2	51	17	34	107.7	61.5		0.11								(CH)	3.6 PSI
	12-14	Medium, Greenish Gray and Light Gray CLAY with trace of organic pockets	31.7	55	17	38												(CH)	Consolidation
	18-20	Stiff, Greenish Gray and Light Gray CLAY with calcareous nodules	27.3 27.2	56	19	37	125.9 127.8	98.9 100.5		1.54 1.85								(CH) (CH)	7.6 PSI 12.6 PSI
	24-26	Stiff, Brown, Tan and Light Gray CLAY with trace of silt and ferrous nodules	29.1				117.6	91.1		1.56								(CH)	10.0 PSI
	29-31	Stiff, Tan and Light Gray CLAY with silt pockets and ferrous nodules	28.2	68	24	44	116.2	90.7		1.31								(CH)	12.0 PSI
	39-41	Stiff, Light Gray and Tan CLAY with trace of silt pockets and ferrous nodules	39.0	80	25	55	111.4	80.1	1.04									(CH)	
	44-46	Stiff, Light Gray and Tan CLAY with trace of silt pockets and ferrous nodules	29.5				118.0	91.1	1.29									(CH)	
	49-51	Stiff, Light Gray and Tan CLAY with trace of silt pockets and ferrous nodules	34.2	85	30	55	114.1	85.0	1.45									(CH)	

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/15-10/4/07
Date Testing Initiated: 10/15/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas**

Technical Responsibility: Roy Johnson

Quality Assurance Officer

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806

Project No.: **B07-163**

PM: BOB SEGALL

Date of Issue: 10/18/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B-16	2-4	Very Soft, Gray and Dark Gray CLAY with organics	177.4	180	43	137												(CH) to (OH)	
	6-8	Very Soft, Gray and Dark Gray CLAY with organics	54.4	55	18	37												(CH)	
	8-10	Soft, Greenish Gray and Light Gray CLAY with vertical root masses	47.8	62	18	44	102.2	69.1		0.36								(CH)	3.6 PSI
	12-14	Stiff, Greenish Gray and Light Gray SILTY CLAY with trace of organics	25.2	44	16	28												(CL)	
	18-20	Medium, Greenish Gray and Light Gray CLAY with trace of organics	26.5	61	16	45	121.4	95.9		0.55								(CH)	7.6 PSI
	24-26	Stiff, Brown and Tan SILTY CLAY with trace of fine sand	29.5	33	23	10												(CL)	
	29-31	Stiff, Tan and Light Gray SILTY CLAY becoming CLAY	22.6				130.9	106.6		1.24								(CL bec. CH)	12.0 PSI
	34-36	Stiff, Tan and Light Gray CLAY with silt pockets	25.9				123.7	98.2	1.53									(CH)	
	39-41	Stiff to Very Stiff, Light Gray and Tan CLAY with silt pockets	31.9 23.6	77	24	53	121.3 128.4	91.9 103.9		1.59 4.03								(CH) (CH)	11.0 PSI 16.0 PSI
	43-45	Medium, Tan, Brown and Light Gray SILTY CLAY with trace of fine sand and ferrous nodules	26.9				122.7	96.7	0.89									(CL)	
	49-51	Stiff, Tan and Light Gray CLAY with silty clay layers	26.5				123.2	97.3		1.59								(CH to CL)	20.0 PSI

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/15-31/07
Date Testing Initiated: 10/16/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas** Technical Responsibility: Roy Johnson **Quality Assurance Officer**

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806 Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 10/19/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γwet pcf	γdry pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γd max	ωopt	USCS	Confining Stress, Resistivity and Remarks
B-17	2-4	Very Soft, Greenish Gray and Brown CLAY with organics	176.8	184	47	137		Unable to trim due to excess organics										(CH) to (OH)	
	4-6	Very Soft, Gray and Dark Gray Muck CLAY with organics	190.4	203	52	151		Unable to trim due to excess organics										(CH) to (OH)	
	10-12	Very Soft, Organic CLAY with clay and organics	301.6	285	97	188		Unable to trim due to excess organics										(OH)	Consolidation
	16-18	Very Soft, Light Gray and Dark Gray SILTY CLAY with organic pockets	46.8	45	17	28	115.5	78.7		0.18								(CL)	6.8 PSI
	18-20	Stiff, Greenish Gray and Light Gray SILTY CLAY with clay	23.1 24.2				129.4 127.6	105.1 102.7		1.95 1.72								(CL/CH) (CL/CH)	7.6 PSI 12.6 PSI
	24-26	Stiff, Greenish Gray and Light Gray CLAY with trace of silt pockets	21.7				130.4	107.2	2.16									(CH)	
	29-31	Medium, Light Green and Light Gray CLAY with calcareous nodules	33.0	91	28	63	114.6	86.2	0.95									(CH)	
	34-36	Medium, Greenish Gray and Light Gray CLAY with calcareous nodules	37.7				113.1	82.1	0.53									(CH)	
	39-41	Stiff, Greenish Gray and Light Gray CLAY with calcareous nodules and Medium, Greenish Gray and Light Gray SILTY CLAY with sand	30.8	56	21	35	120.2	91.9	0.78									(CH to CL)	
	44-46	Firm, Tan and Light Gray SANDY SILT with clay	32.7	36	20	16	124.3	93.7		0.26								(CL) to (ML)	18.0 PSI
	49-51	Stiff, Tan and Light Gray CLAY with calcareous nodules and silt pockets	36.8				118.0	86.3	1.10									(CH)	

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/15-10/4/07
Date Testing Initiated: 10/17/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas** Technical Responsibility: Roy Johnson Quality Assurance Officer

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806 Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 10/22/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γ_d max	ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
B-18	2-4	Very Soft, Gray and Black CLAY with organic pockets and organic clay	216.5	146	36	110		Unable to trim for compression										(CH/OH)	
	4-6	Very Soft, Gray and Black CLAY with organic pockets and Organic CLAY	173.2				79.8	18.5		0.18								(CH/OH)	2.0 PSI
	6-8	Very Soft, Gray and Black Organic CLAY and CLAY with organics	551.8	472	302	170		Unable to trim for compression										(OH)	
	8-10	Very Soft, Brown and Black Organic CLAY with organics	407.9	575	275	300		Unable to trim for compression										(OH)	Consolidation
	12-14	Very Soft, Gray, Brown and Black Organic CLAY with organics	200.4				79.0	26.3		0.07								(OH)	5.2 PSI
	18-20	Soft, Greenish Gray and Light Gray CLAY	40.4	70	19	51	117.7	83.8	0.43									(CH)	
	24-26	Stiff, Greenish Gray and Light Gray CLAY	23.4	53	21	32	128.3	104.0	1.82									(CH)	
	29-31	Very Stiff, Greenish Gray and Light Gray CLAY	20.5				131.7	109.3	3.45									(CH)	
	34-36	Very Stiff, Greenish Gray and Light Gray SILTY CLAY	20.3	47	16	31	132.5	110.2	3.06									(CL)	
	39-41	Very Stiff, Greenish Gray and Light Gray SILTY CLAY	21.4	48	25	23	128.9	106.2	2.91									(CL)	
	44-46	Very Stiff, Greenish Gray, Tan and Light Gray SILTY CLAY	17.2				132.6	113.1	3.82									(CL)	
	49-51	Very Stiff, Greenish Gray and Light Gray CLAY with calcareous nodules	28.0	63	17	46	124.2	97.0	1.22									(CH)	

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/15-24/07
Date Testing Initiated: 10/18/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **URS - LDNR Lake Maurepas** Technical Responsibility: Roy Johnson **Quality Assurance Officer**

Client: URS Corporation

7389 Florida Blvd., Suite 300 Baton Rouge, LA 70806 Project No.: **B07-163** PM: BOB SEGALL Date of Issue: 10/22/2007

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γwet pcf	γdry pcf	D2166 Cohesion U ksf	D2850 UU ksf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D698 Std. Proctor γd max	ωopt	USCS	Confining Stress, Resistivity and Remarks
B-19	2-4	Very Soft, Gray and Black Organic CLAY with organics	220.3	185	56	129												(OH)	
	4-6	Very Soft, Black and Brown Organic CLAY with organics	165.8	340	143	197	70.7	26.6	0.09									(OH)	
	6-8	Very Soft, Gray CLAY and Black and Brown Organic CLAY with organics	157.1	293	39	254	81.8	31.8	0.10									(CH/OH)	
	10-12	Soft, Gray, Light Gray and Dark Gray CLAY with organics, silt pockets and vertical roots	37.8				119.3	86.5		0.33								(CH)	4.4 PSI
	12-14	Medium, Greenish Gray and Light Gray CLAY with silt and organics	35.2	58	16	42												(CL/OH)	Consolidation
	18-20	Soft to Medium, Greenish Gray and Light Gray CLAY with silt and organic pockets	37.7				103.3	75.0		0.19								(CH)	7.6 PSI
	24-26	Stiff, Greenish Gray and Light Gray CLAY with trace of silt	25.8	67	16	51	126.1	100.2	1.41									(CH)	
	29-31	Stiff, Greenish Gray and Light Gray CLAY with trace of silt and roots	25.9				125.3	99.5	1.58									(CH)	
	34-36	Stiff, Greenish Gray and Light Gray SILTY CLAY with roots	23.2	50	17	33	123.4	100.2	1.72									(CL/CH)	
	39-41	Stiff, Greenish Gray and Light Gray SILTY CLAY with silt pockets	22.2	48	15	33	127.9	104.7	1.74									(CL)	
	44-46	Stiff, Greenish Gray and Light Gray CLAY with trace of silt	22.6	50	16	34	127.5	103.9	1.87									(CL/CH)	
	49-51	Stiff, Greenish Gray and Light Gray CLAY with trace of silt	22.1	60	17	43	130.4	106.8	1.85									(CH)	

* See attached curves

Geotechnical Lab
11519 Cloverland Ave Baton Rouge, LA 70809

The results presented only relate to those samples tested

Date Samples Rec.: 9/15-24/07
Date Testing Initiated: 10/19/07

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **Lake Maurepas Diversion Project**

Technical Responsibility:

Quality Assurance Officer

Client: URS Corporation

Project No.: **B11-046**

PM: RM

Date of Issue: 9/9/2011

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U psf	D2850 UU psf	Confining Pressure psi	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D2974 Organic Content %	USCS	Confining Stress, Resistivity and Remarks
B-1	2-4	Brown Lean CLAY	36.9													94.8		(CL)	
B-1	6-7	Gray and Tan SILT with clay pockets	32.3	33	24	9												(ML)	
B-1	10-11	Gray SILT with clay pockets	29.1													95.7		(ML)	
B-1	13-14	Gray SILTY SAND	25.6	NP	NP	NP										43.7		(SM)	
B-1	22-23	Gray SANDY SILT	24.8													63.5		(ML)	
B-1	26-27	Soft, Gray Lean CLAY with silt lenses and pockets	38.4	47	19	28	116.4	84.1		458.4 476.5 484.4	@ 17.8 @ 20.4 @ 31.1							(CL)	See Consolidation sheets
B-1	30-31	Soft, Gray Lean CLAY with silt lenses	39.1	46	20	26	116.8	84.0	411.7				3.1	55.1	41.8			(CL)	
B-1	33-34	Gray fat CLAY with organic pockets	51.4														2.4	(CH)	
B-1	38-39	Medium, Dark Gray fat CLAY with organics	95.0	161	43	118	90.5	46.4		948.8 914.0 962.2	@ 22.6 @ 34.2 @ 35.9						9.6	(CH)	See Consolidation sheets
B-1	43-44	Gray SILT with sand and clay pockets	29.9	NP	NP	NP							28.1	64.1	7.8			(ML)	
B-1	46-47	Medium, Gray fat CLAY with shell pockets	60.1				104.4	65.2	880.7									(CH)	
B-1	50-51	Gray fat CLAY with shell fragments	51.4	86	24	62												(CH)	See Consolidation sheets
B-1	54-55	Medium to Stiff, Greenish Gray Lean CLAY with concretions	24.3				128.9	103.7		812.0 1174.6 1152.8	@ 29.0 @ 40.6 @ 42.3							(CL)	
B-1	57-58	Greenish Gray and Light Gray Lean CLAY with silt	20.7	39	17	22							1.7	65.5	32.8			(CL)	
B-1	62-63	Stiff, Tan and Light Gray Lean CLAY with sandy silt pockets	26.8	40	17	23	123.4	97.3		1241.2 924.5 1616.7	@ 32.2 @ 43.8 @ 45.5							(CL)	

Geotechnical Lab
11638 Sun Belt Ct. Baton Rouge, LA 70809

The results presented only relate to those samples tested

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **Lake Maurepas Diversion Project**

Technical Responsibility:

Quality Assurance Officer

Client: URS Corporation

Project No.: **B11-046**

PM: RM

Date of Issue: 9/9/2011

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U psf	D2850 UU psf	Confining Pressure psi	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D2974 Organic Content %	USCS	Confining Stress, Resistivity and Remarks
B-1	66-67	Stiff, Tan and Light Gray fat CLAY, jointed	39.6				116.3	83.4	1195.6									(CH)	
B-1	70-71	Alternating layers of Tan, Brown and Light Gray Lean CLAY and SANDY SILT	28.2	35	20	15												(CL)	
B-1	74-75	Very Stiff, Tan and Light Gray fat CLAY with silt pockets and streaks	36.1				117.5	86.3		2187.4 2502.8 2485.8	@ 37.0 @ 48.6 @ 50.3							(CH)	
B-1	82-83	Medium to Stiff, Light Brown Lean CLAY with sandy silt layers and pockets	37.0	48	17	31	115.1	84.0		1093.5 1464.7 903.4	@ 40.2 @ 51.8 @ 53.5							(CL)	
B-1	85-86	Alternating layers of Gray fat CLAY and SILT	38.1				115.7	83.8										(CH/ML)	
B-1	87-88	Medium, Gray fat CLAY with silt lenses and layers	41.2	52	19	33	111.4	78.9		834.5 977.1 1039.2	@ 42.2 @ 53.8 @ 55.5							(CH)	
B-1	90-91	Alternating layers of Gray fat CLAY and Tan Lean CLAY	43.6	77	22	55												(CH/CL)	
B-1	94-95	Medium to Stiff, Gray fat CLAY with silt lenses and pockets	36.4				116.2	85.2		1031.3 1102.9 1131.0	@ 45.0 @ 56.6 @ 58.3							(CH)	
B-1	98-99	Gray fat CLAY with silt lenses	38.5	64	22	42												(CH)	
B-1	99-100	Stiff, Gray fat CLAY with silt pockets and lenses	38.6				116.1	83.8		1680.3 1695.1 1634.0	@ 47.0 @ 58.6 @ 82.0							(CH)	
B-1	102-103	Stiff, Gray fat CLAY with shells and silt lenses	33.3				120.0	90.0		1543.5 1708.9 1640.7	@ 48.2 @ 59.8 @ 61.5							(CH)	
B-1	106-107	Gray fat CLAY	36.6	65	23	42												(CH)	
B-1	110-111	Stiff, Gray fat CLAY	47.2				109.2	74.2	1688.5									(CH)	
B-1	114-115	Gray fat CLAY	48.2	87	28	59												(CH)	
B-1	118-119	Stiff, Gray fat CLAY	44.4				110.2	76.3		1451.7 2194.5 1397.3	@ 54.6 @ 66.2 @ 67.9							(CH)	

Geotechnical Lab
11638 Sun Belt Ct. Baton Rouge, LA 70809

The results presented only relate to those samples tested

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **Lake Maurepas Diversion Project**

Technical Responsibility:

Quality Assurance Officer

Client: URS Corporation

Project No.: **B11-046**

PM: RM

Date of Issue: 9/9/2011

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf	γ_{dry} pcf	D2166 Cohesion U psf	D2850 UU psf	Confining Pressure psi	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D2974 Organic Content %	USCS	Confining Stress, Resistivity and Remarks
B-1	122-123	Gray fat CLAY	49.5	89	27	62												(CH)	
B-1	126-127	Very Stiff, Gray fat CLAY with silt pockets	42.9				112.9	79.0	2126.4									(CH)	
B-1	129-130	Gray fat CLAY	46.2	82	28	54												(CH)	

Geotechnical Lab
11638 Sun Belt Ct. Baton Rouge, LA 70809

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Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **Lake Maurepas Diversion Project**

Technical Responsibility:

Quality Assurance Officer

Client: URS Corporation

Project No.: **B11-046**

PM: RM

Date of Issue: 9/9/2011

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω % *	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf *	γ_{dry} pcf *	D2166 Cohesion U psf	D2850 UU psf *	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D2974 Organic Content %	USCS	Confining Stress, Resistivity and Remarks
B-02A	6-7	Gray and Brown fat CLAY with ferrous nodules	40.5	64	19	45						1.7	39.7	58.6		2.4	(CH)	
B-02A	10-11	Medium, Gray and Brown fat CLAY, jointed	53.0				110.1	71.9	604.3						98.4	3.0	(CH)	
B-02A	14-15	Gray fat CLAY, jointed	46.1													2.6	(CH)	
B-02A	18-19	Medium, Gray fat CLAY, jointed	54.7	98	35	63	105.7	68.3		739.0							(CH)	Confining Pressure = 10.1, 21.8 and 23.4 psi
B-02A	22-23	Organic CLAY	150.3	231	86	145										17.7	(OH)	
B-02A	26-27	Soft, Dark Gray and Black fat CLAY with organics	96.8				92.2	46.9	449.6								(CH-OH)	
B-02A	30-31	Gray fat CLAY with silt and shells	70.6	89	24	65											(CH)	
B-02A	33-34	Soft, Gray fat CLAY with shell fragments	73.6				99.5	57.3		356.0							(CH)	Confining Pressure = 16.1, 27.8 and 29.4 psi
* Average of 3 pt. UU test																		

Geotechnical Lab
11638 Sun Belt Ct. Baton Rouge, LA 70809

The results presented only relate to those samples tested

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **Lake Maurepas Diversion Project**

Technical Responsibility:

Quality Assurance Officer

Client: URS Corporation

Project No.: **B11-046**

PM: RM

Date of Issue: 9/9/2011

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω % *	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf *	γ_{dry} pcf *	D2166 Cohesion U psf	D2850 UU psf *	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D2974 Organic Content %	USCS	Confining Stress, Resistivity and Remarks
B-03A	6-7	Light Gray and Tan fat CLAY with ferrous nodules and silt	31.1													2.6	(CH)	
B-03A	10-11	Soft, Gray fat CLAY, jointed	55.9	91	33	58	104.6	67.1	371.0				8.1	91.9		2.5	(CH)	
B-03A	18-19	Medium, Gray fat CLAY, jointed	58.8	94	31	63	103.1	64.9		577.3					99.0	2.8	(CH)	Confining Pressure = 10.8, 22.5 and 24.1 psi
B-03A	23-24	PEAT and ORGANICS with clay	191.3	266	100	166										20.2	(OH)	
B-03A	29-30	Soft, Gray fat CLAY with silt lenses and layers	49.9				107.3	71.6		306.8							(CH)	Confining Pressure = 15.2, 26.9 and 28.5 psi
B-03A	33-34	Very Soft, Gray fat CLAY with shell fragments	58.5	97	26	71	101.9	64.3	210.2								(CH)	

* Average of 3 pt. UU test

Geotechnical Lab
11638 Sun Belt Ct. Baton Rouge, LA 70809

The results presented only relate to those samples tested

Southern Earth Sciences, Inc.

Laboratory Test Results

Project: **Lake Maurepas Diversion Project**

Technical Responsibility:

Quality Assurance Officer

Client: URS Corporation

Project No.: **B11-046**

PM: RM

Date of Issue: 9/9/2011

Boring No.	Depth (ft)	Classification	ASTM DESIGNATION D2216 ω % *	D4318 Atterberg Limits LL	PL	PI	D2166 γ_{wet} pcf *	γ_{dry} pcf *	D2166 Cohesion U psf	D2850 UU psf *	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D2974 Organic Content %	USCS	Confining Stress, Resistivity and Remarks
B-04A	6-7	Gray and Brown fat CLAY with silt and ferrous nodules	26.3													2.9	(CH)	
B-04A	10-11	Medium, Light Gray and Brown fat CLAY, jointed	54.8				107.6	69.5	539.8							2.5	(CH)	
B-04A	14-15	Gray fat CLAY, jointed	48.8	77	25	52							16.6	83.4		2.3	(CH)	
B-04A	18-19	Medium, Gray fat CLAY with organic pockets and calcium nodules, jointed	60.8	97	31	66	102.4	63.7		650.6					99.1		(CH)	Confining Pressure = 13.4, 25.0 and 26.7 psi
B-04A	21-22	ORGANICS with clay	141.7	216	45	171										19.9	(OH)	
B-04A	25-26	Soft, Gray fat CLAY with organic pockets	67.0				101.9	61.0	514.6								(CH)	
B-04A	36-37	Medium, Gray fat CLAY with silt pockets	33.8	52	17	35	118.7	88.7		623.3							(CH)	Confining Pressure = 20.6, 32.2 and 33.9 psi
* Average of 3 pt. UU test																		

Geotechnical Lab
11638 Sun Belt Ct. Baton Rouge, LA 70809

The results presented only relate to those samples tested

APS Design and Testing, LLC

Laboratory Test Results

Project: **Lake Maurepas**

Technical Responsibility: *Sergio Aviles*

Quality Assurance Officer

Client: **URS**

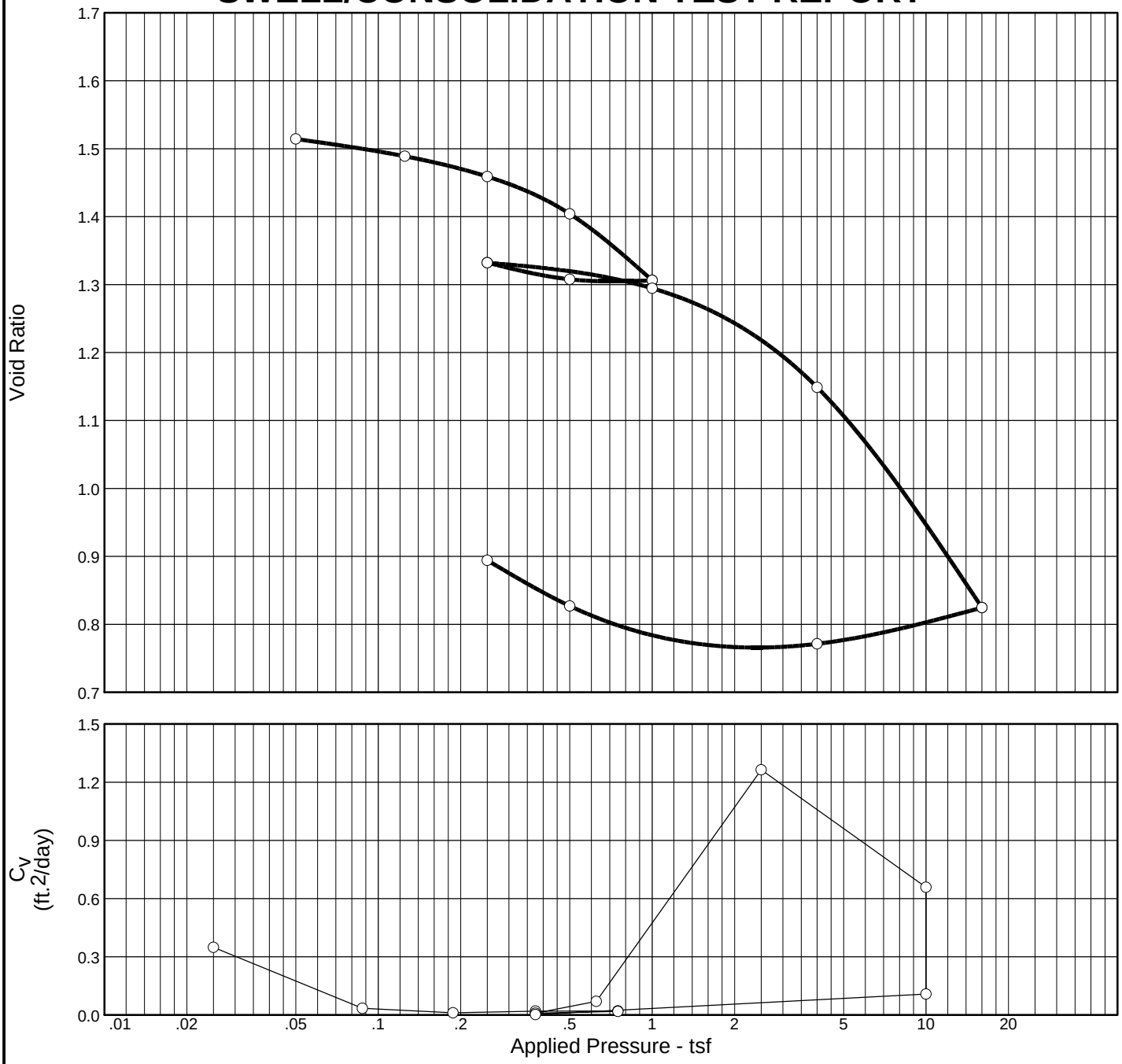
Project No.: **1301-G001**

PM: S. Aviles

Date of Issue: 2/13/2013

Boring No.	Depth (ft)	Classification (ASTM D-2488)	ASTM DESIGNATION D2216 ω %	D4318 Atterberg Limits LL	D4318 PL	D4318 PI	D2166 γ_{wet} pcf	D2166 γ_{dry} pcf	D2166 Shear Strength C psf	D2850 UU psf	D422, C136 or C117 Grain Size (% Passing) Gravel	Sand	Silt	Clay	#200	D5084 Triaxial Perm.	D2434 Fxd. Wall Perm. (cm/sec)	D698 γ_d max	D698 ω_{opt}	USCS	Confining Stress, Resistivity and Remarks
KCS-01	0-2	Medium to Stiff light grey Fat Clay (CH) with Fe nodules	42.6																	CH	
KCS-01	2-4	Soft to Medium light grey to brown Fat Clay (CH) with Fe nodules	45.3	100	38	62														CH	
KCS-02	4-6	Medium light grey to brown Fat Clay (CH) with Fe nodules	48.5				106.5	71.7	576.0											CH	Slicken-side Failure
KCS-03	6-8	Medium light grey to brown Fat Clay (CH) with sand lenses	39.1	58	28	30	114.3	82.2		523										CH	0.36 tsf; Bulge Failure
KCS-04	8-10	Stiff grey Fat Clay (CH) with Fe nodules and tree roots	44.3	82	33	49														CH	
KCS-05	13-15	Soft grey Fat Clay (CH) with organic content	98.7				90.8	45.7		323										CH	0.57 tsf; Top Bulge Failure
KCS-06	18-20	Soft grey Fat Clay (CH) with organic content	61.1	93	32	61	102.3	63.5		399										CH	0.7 tsf; Bulge Failure
KCS-07	23-25	Soft grey Fat Clay (CH) with organic content	50.4	70	27	43														CH	
KCS-08	28-30	Medium light grey Fat Clay (CH)	30.1				120.0	92.2	607.0											CH	Bulge Failure
KCS-09	33-35	Stiff grey Fat Clay (CH) with sand lenses	20.8	36	19	17														CH	
KCS-10	38-40	Stiff tan and light grey Fat Clay (CH)	36.9				115.0	84.0	1148.0											CH	45 Degree Failure
KCS-11	43-45	Stiff light grey to brown Fat Clay (CH) with sand pockets	28.8				123.0	95.5		1751										CH	1.43 tsf; 45 Degree Failure
KCS-12	48-50	Brown stiff Silt (ML) with sand; N=32	26.2												76.8					ML	
KCS-13	53-55	Stiff Brown Silt (ML) with sand; N=24	28.5												83.8					ML	
KCS-14	58-60	Stiff light grey to brown Fat Clay (CH); N=13	27.7	49	21	28														CH	
KCS-15	63-65	Stiff grey to brown Fat Clay (CH) with silt pockets	28.3				123.6	96.3	1157.0											CH	Bulge Failure
KCS-16	68-70	Medium to Stiff grey to brown Fat Clay (CH) with silt/sand lenses	34.9	51	21	30														CH	
KCS-17	73-75	Medium to Stiff grey to brown Fat Clay (CH) with shells	31.1	51	19	32														CH	**Could not run UU - due to shells**
KCS-18	78-80	Medium to Stiff grey to brown Fat Clay (CH)	42.8	79	27	52														CH	
KCS-19	83-85	Stiff grey Fat Clay (CH)	52.0				107.2	70.5		1395										CH	2.57 tsf; 45 Degree Failure
KCS-20	88-90	Medium to Stiff grey Fat Clay (CH)	48.1	95	29	66														CH	
KCS-21	93-95	Very Stiff grey Fat Clay (CH) with sand lenses	46.1				108.7	74.4		2273										CH	2.86 tsf; 45 Degree Failure
KCS-22	100-102	Medium Dense grey Sandy Silt (ML); N=17	22.1												62.9					ML	
KCS-23	103-105	Stiff grey Fat Clay (CH) with with sand lenses	29				122.4	94.9	1415.0											CH	Multi-Shear Failure
KCS-24	108-110	Stiff grey Silt (ML) with Clay	30.7	31	26	5	120.9	92.5		1627										ML	3.29 tsf; Bulge Failure
KCS-25	113-115	Hard grey Fat Clay (CH) with sand; N=64	32.3												82.5					ML	
KCS-26	118-120	Stiff grey Silt (ML); N=17	31												92.7					ML	
KCS-27	123-125	Medium grey Fat Clay (CH) with shells; N=14	30.3	48	25	23														CH	
KCS-28	128-130	Medium grey Fat Clay (CH) with shells	46.5																	CH	Broken Sample
KCS-29	133-135	Stiff grey Fat Clay (CH) with silt lenses	46.4	78	33	45	109.7	74.9	2015.0											CH	45 Degree Failure
KCS-30	138-140	Poorly graded Sand (SP) with silt	25.7												5.2					SP	
KCS-31	143-145	Very Dense Silty Sand (SM); N=55																		SM	
KCS-32	148-150	Dense Poorly graded Sand (SP) with silt; N=43	27.9												9.9					SP	
KCS-33	153-155	-----Sample lost-----																			

SWELL/CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
94.9 %	51.3 %	69.5	70	44	2.8	1.34	0.47	1.514

MATERIAL DESCRIPTION	USCS	AASHTO
Gray fat Clay (CH)	CH	

Project No. APS-1301-G001 **Client:**

Project: LAKE MAUREPAS

Source: B-1 **Sample No.:** 8 **Elev./Depth:** 23-25

Remarks:

SWELL/CONSOLIDATION TEST REPORT

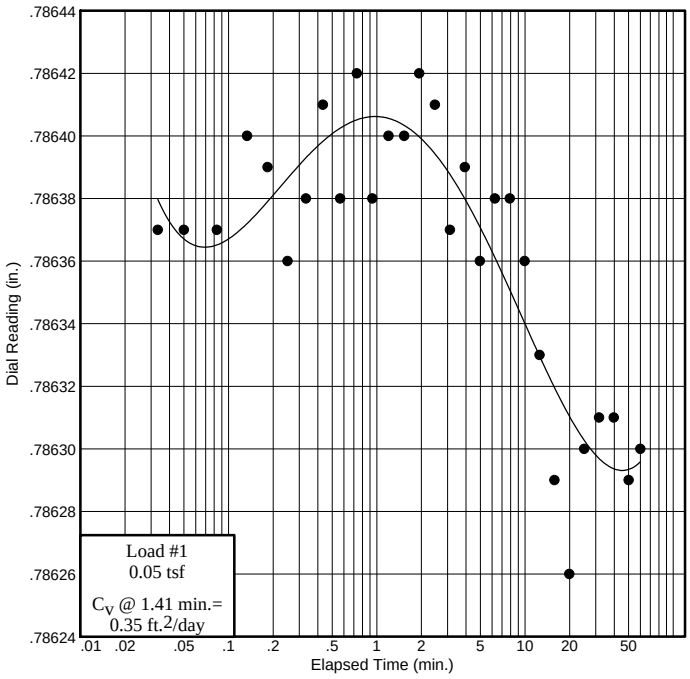
APS Design and Testing,LLC

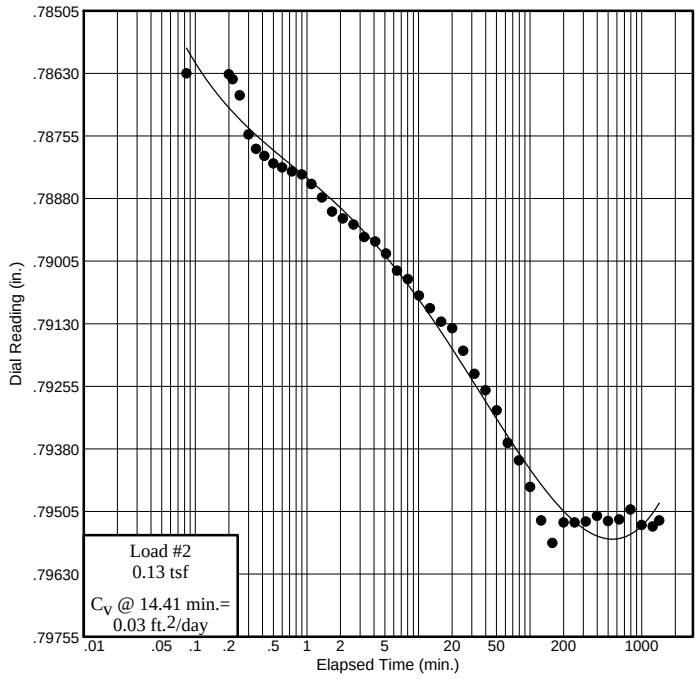
Figure

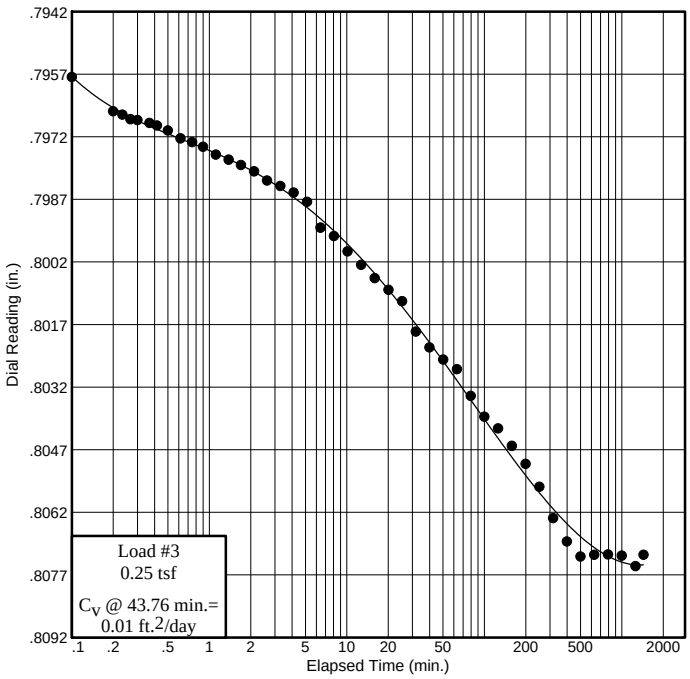
Dial Reading vs. Time

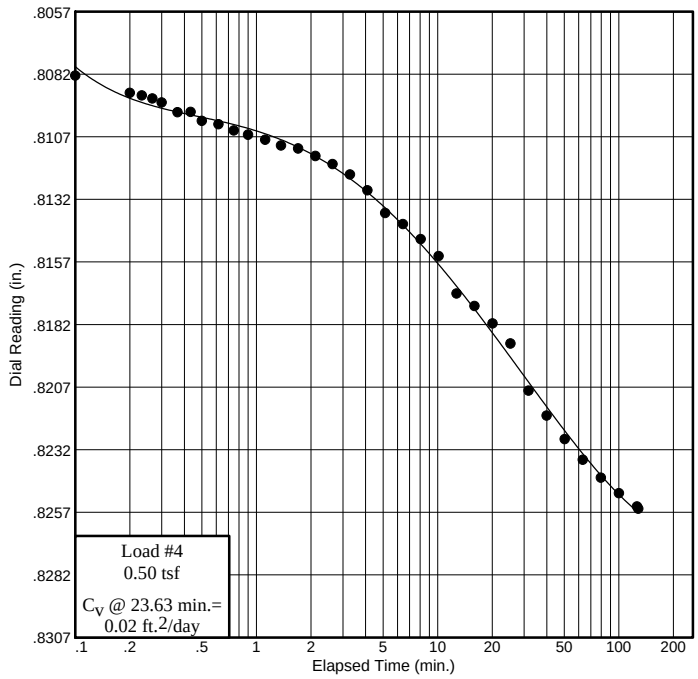
Project No.: APS-1301-G001
Project: LAKE MAUREPAS

Source: B-1 **Sample No.:** 8 **Elev./Depth:** 23-25









Dial Reading vs. Time

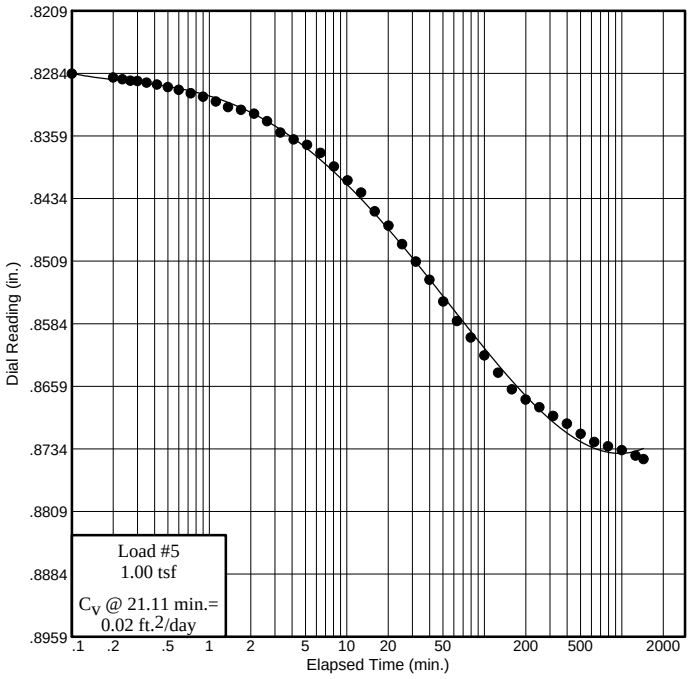
APS Design and Testing, LLC

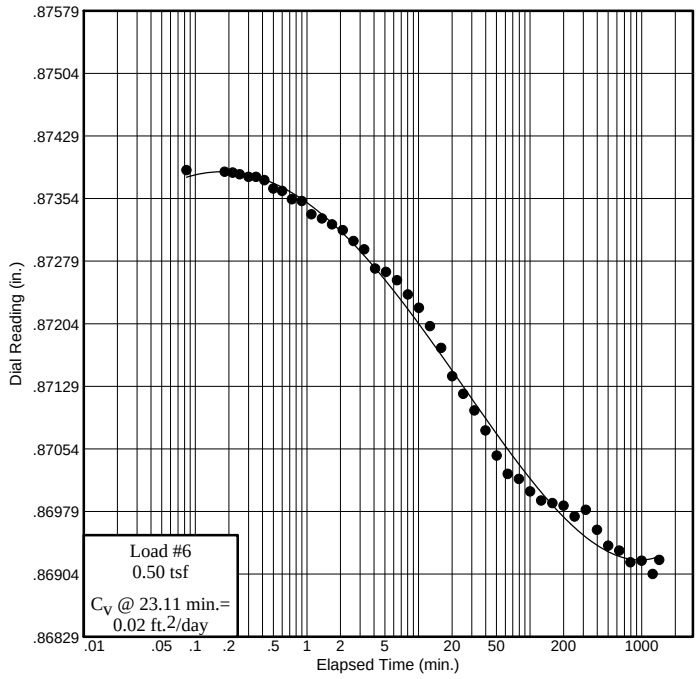
Figure

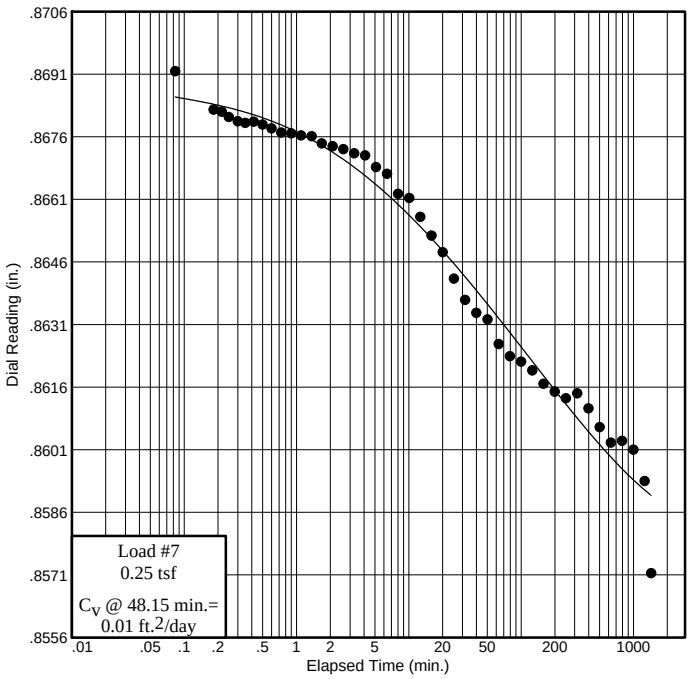
Dial Reading vs. Time

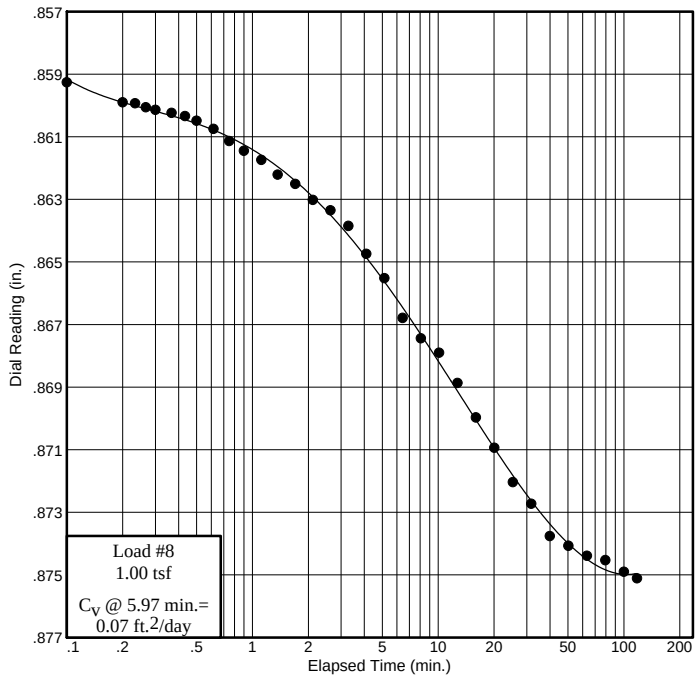
Project No.: APS-1301-G001
Project: LAKE MAUREPAS

Source: B-1 **Sample No.:** 8 **Elev./Depth:** 23-25









Dial Reading vs. Time

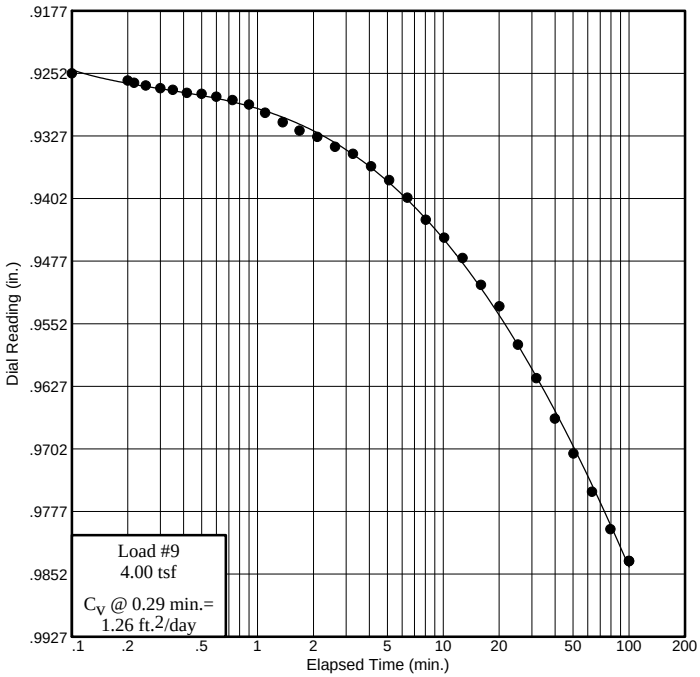
APS Design and Testing, LLC

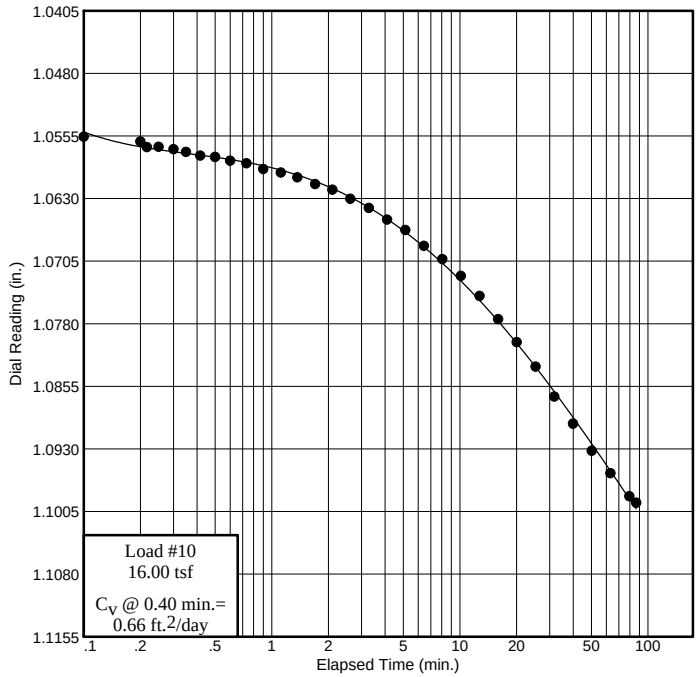
Figure

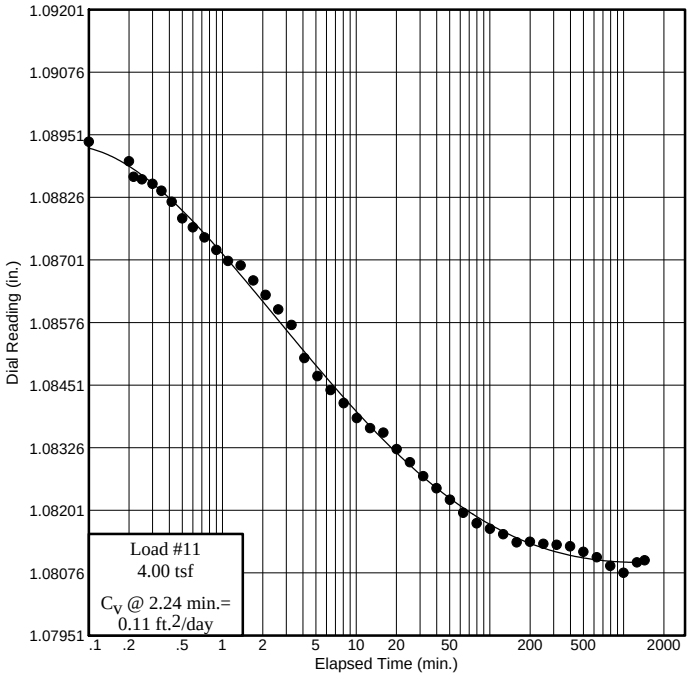
Dial Reading vs. Time

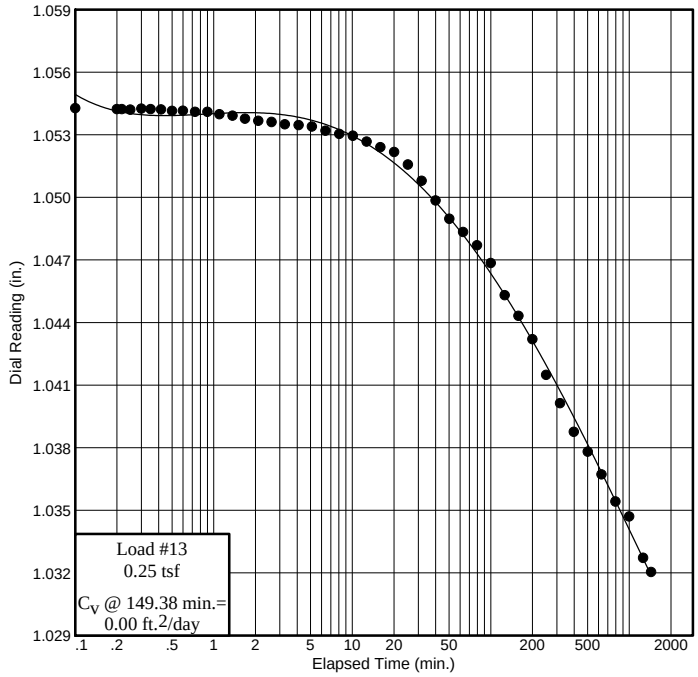
Project No.: APS-1301-G001
Project: LAKE MAUREPAS

Source: B-1 **Sample No.:** 8 **Elev./Depth:** 23-25





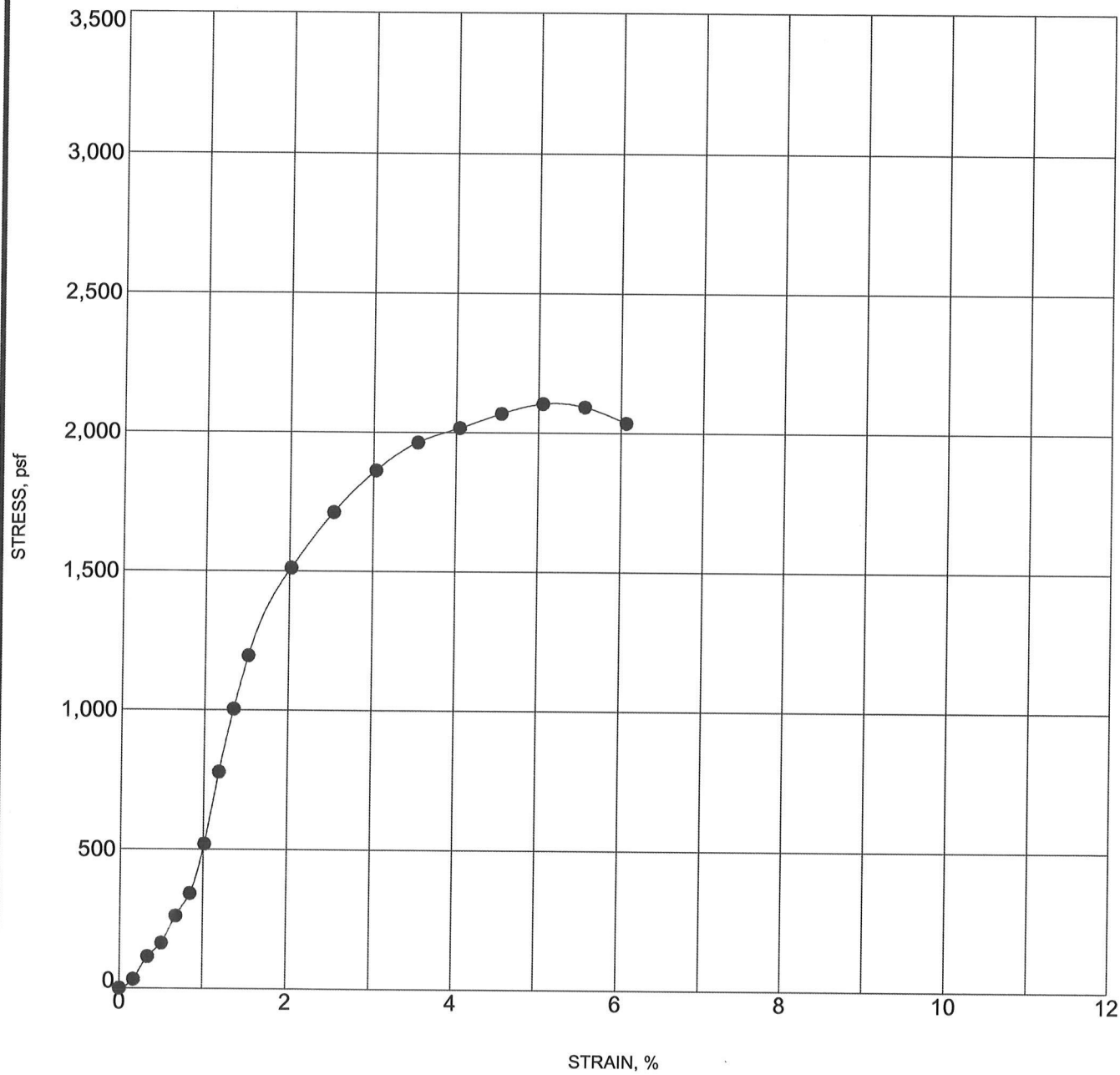




Dial Reading vs. Time

APS Design and Testing,LLC

Figure



Specimen Identification		Classification	Axial Strain Rate % per min	AXIAL LOAD AT FAILURE ksf
● B-5	2'-4'	**Stiff, Tan and Light Gray SILTY CLAY with ferrous and calcareous nodules and clay pockets (CL/CH)**	**1.0**	**2.10**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	2'-4'	**2.70**	**85.5**	**85.6**	**0.9108**	**30.8**	**73**	**26**	**47**

SOUTHERN EARTH SCIENCES, inc.

11519 Cloverland Avenue Baton Rouge, LA 70809

UNCONFINED COMPRESSION TEST - ASTM D2166

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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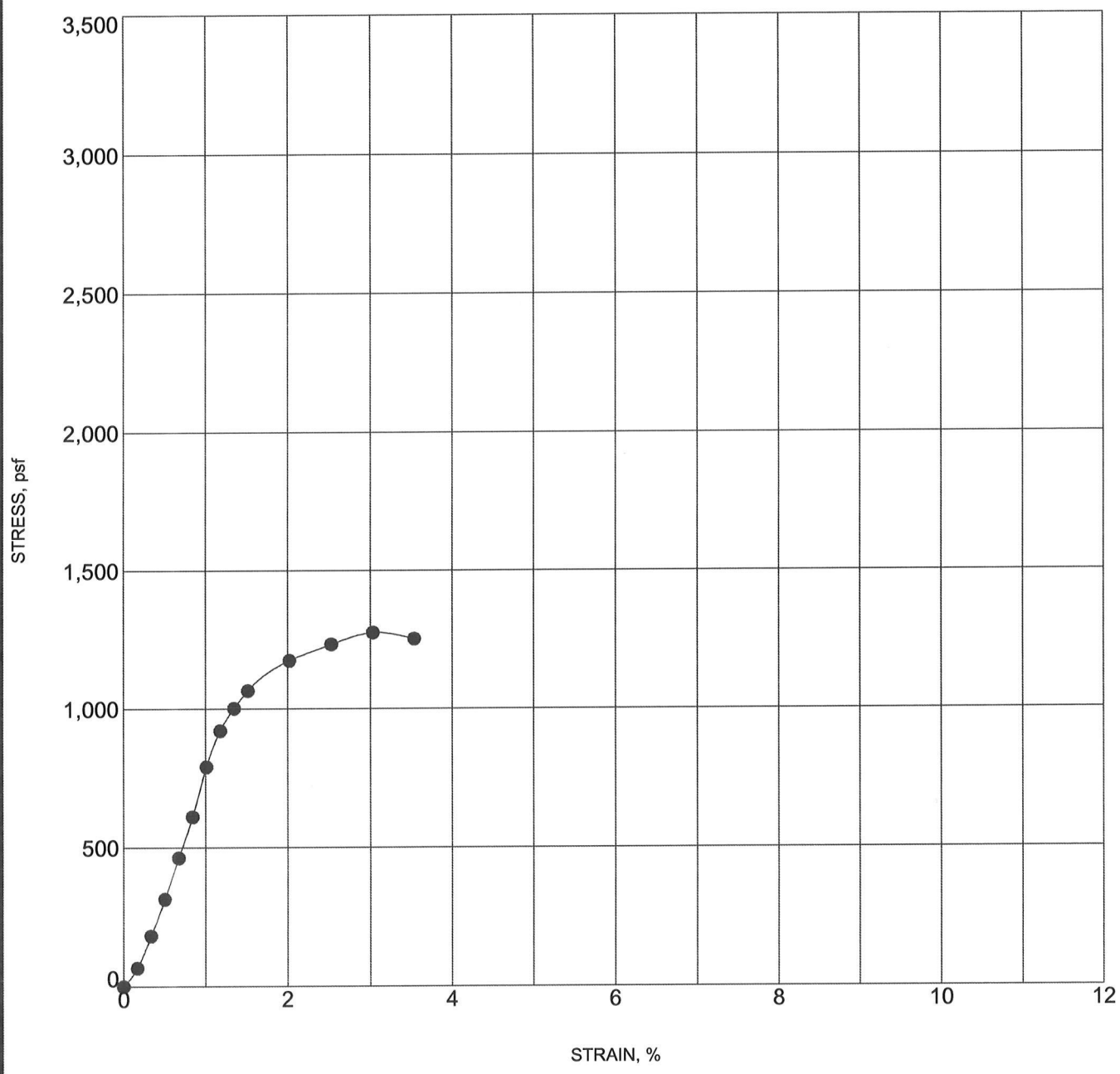

Specimen Identification		Classification	Axial Strain Rate % per min	AXIAL LOAD AT FAILURE ksf
● B-5	12'-14'	**Medium, Gray and Greenish Gray CLAY with trace of organics (CH)**	**1.0**	**1.28**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	12'-14'	**2.75**	**69.1**	**102.6**	**1.4833**	**55.3**	**106**	**38**	**68**

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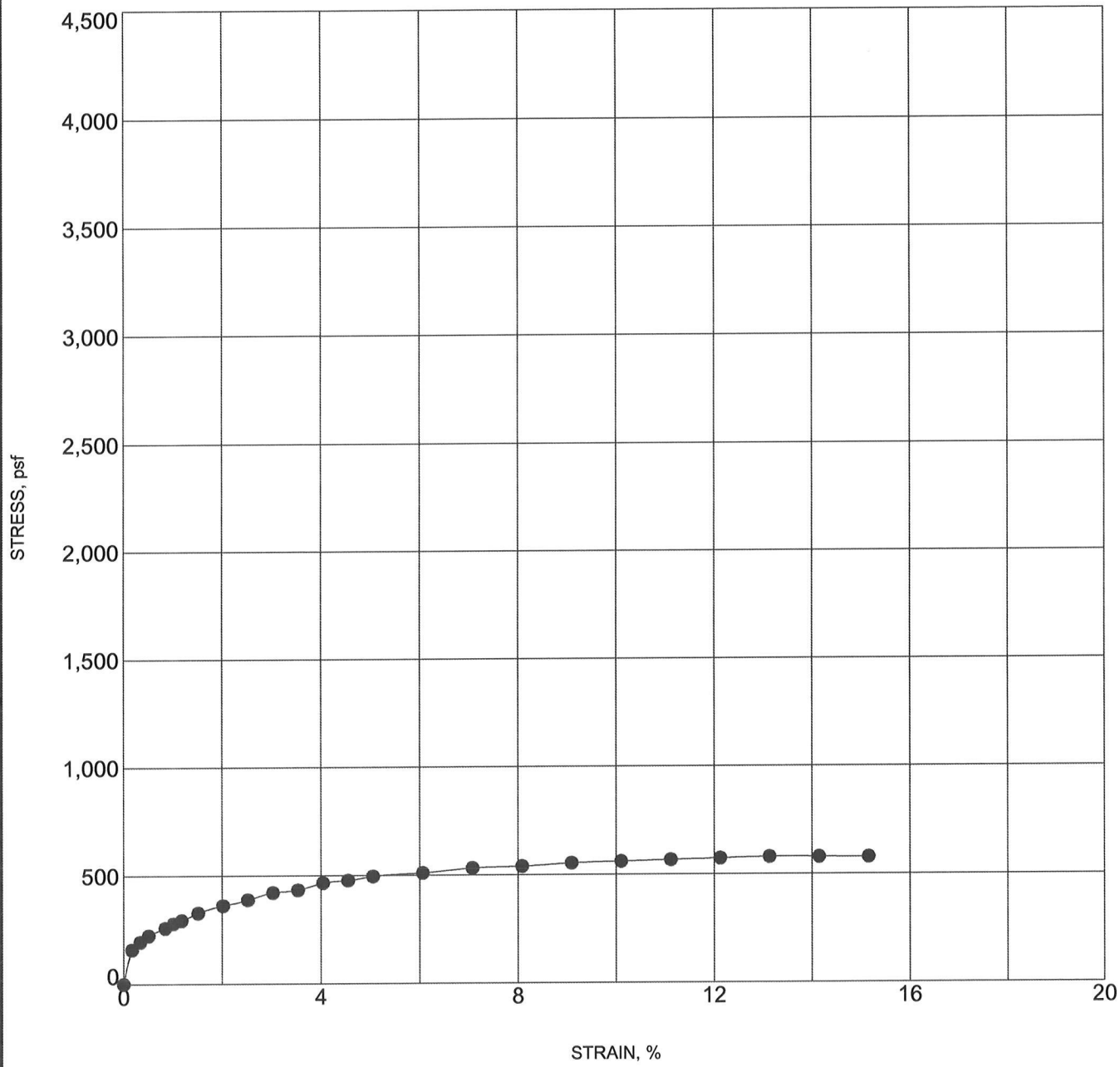

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	16'-18'	**Soft, Gray CLAY with silt pockets and trace of organics (CH to CL)**	**1.0**	**6.8**	**0.58**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	16'-18'	**2.70**	**70.7**	**101.0**	**1.384**	**51.8**			

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11519 Cloverland Avenue Baton Rouge, LA 70809

UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

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Number: B07-163

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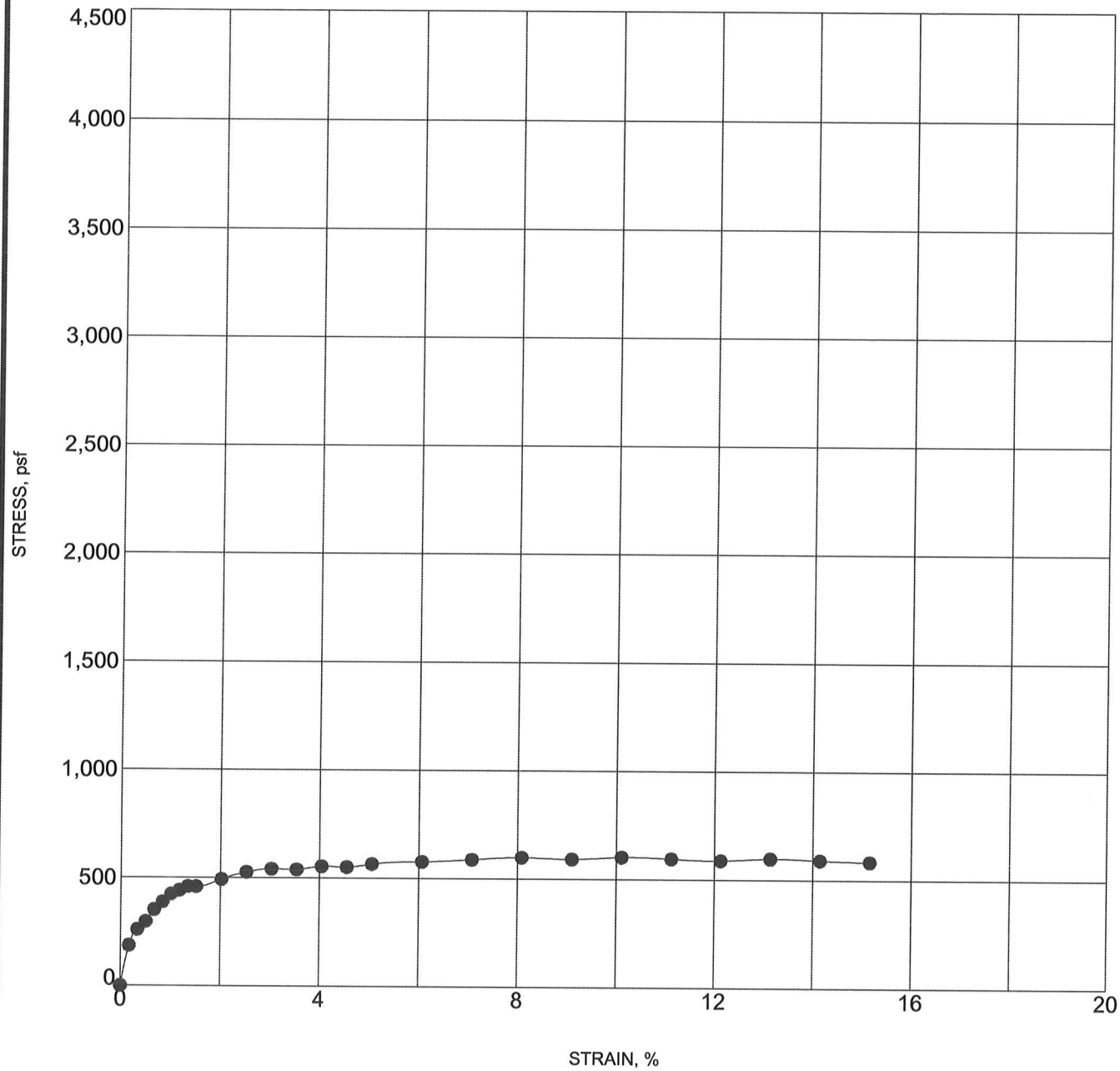

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	28'-30'	**Soft, Light Gray CLAY (CH)**	**1.0**	**11.6**	**0.60**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	28'-30'	**2.75**	**65.8**	**91.6**	**1.609**	**53.6**			

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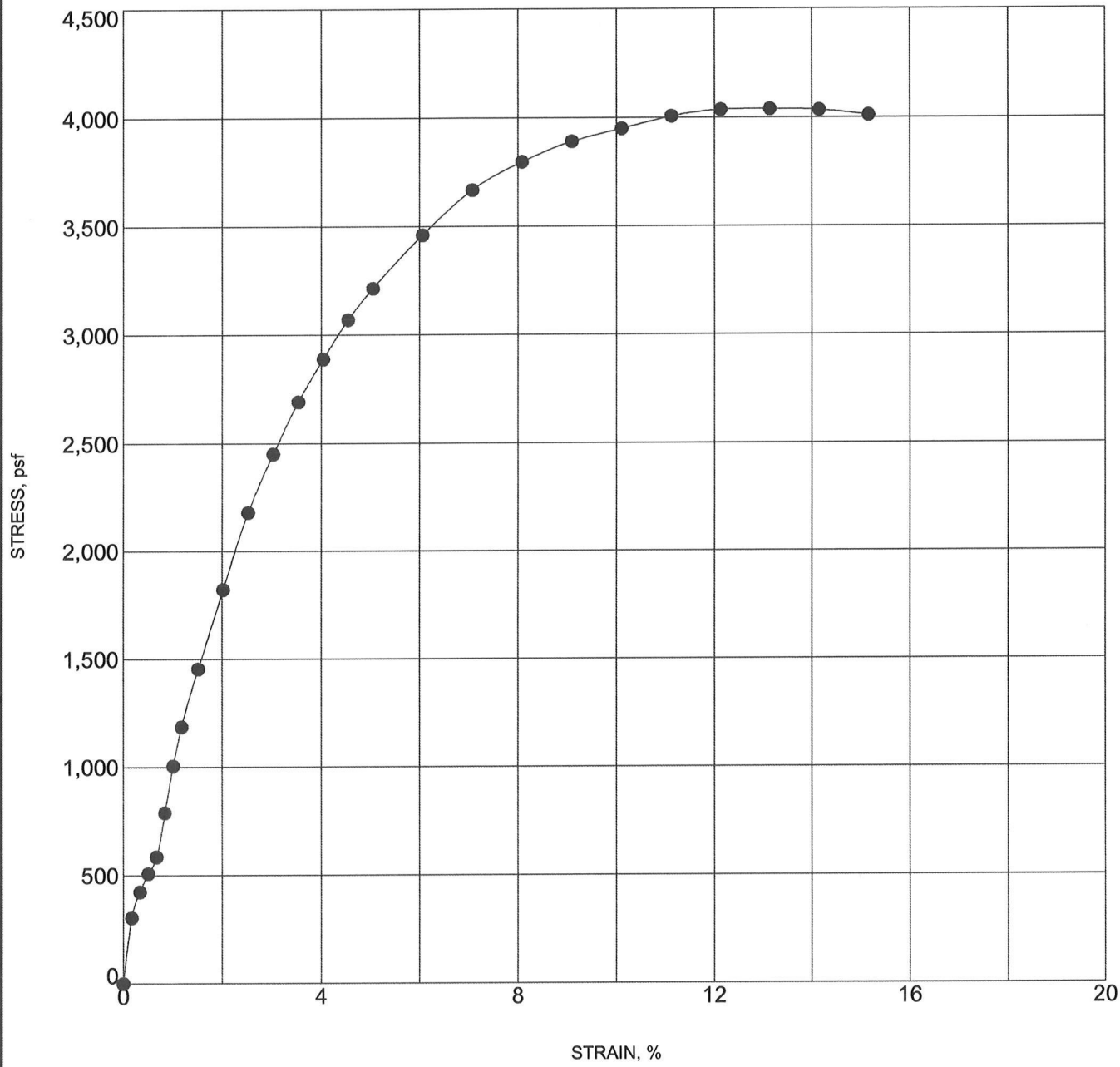

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	33'-35'	**Stiff, Light Gray and Tan CLAY with trace of calcareous nodules (CH)**	**1.0**	**13.6**	**4.04**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	33'-35'	**2.75**	**105.8**	**87.2**	**0.621**	**19.7**	**53**	**16**	**37**

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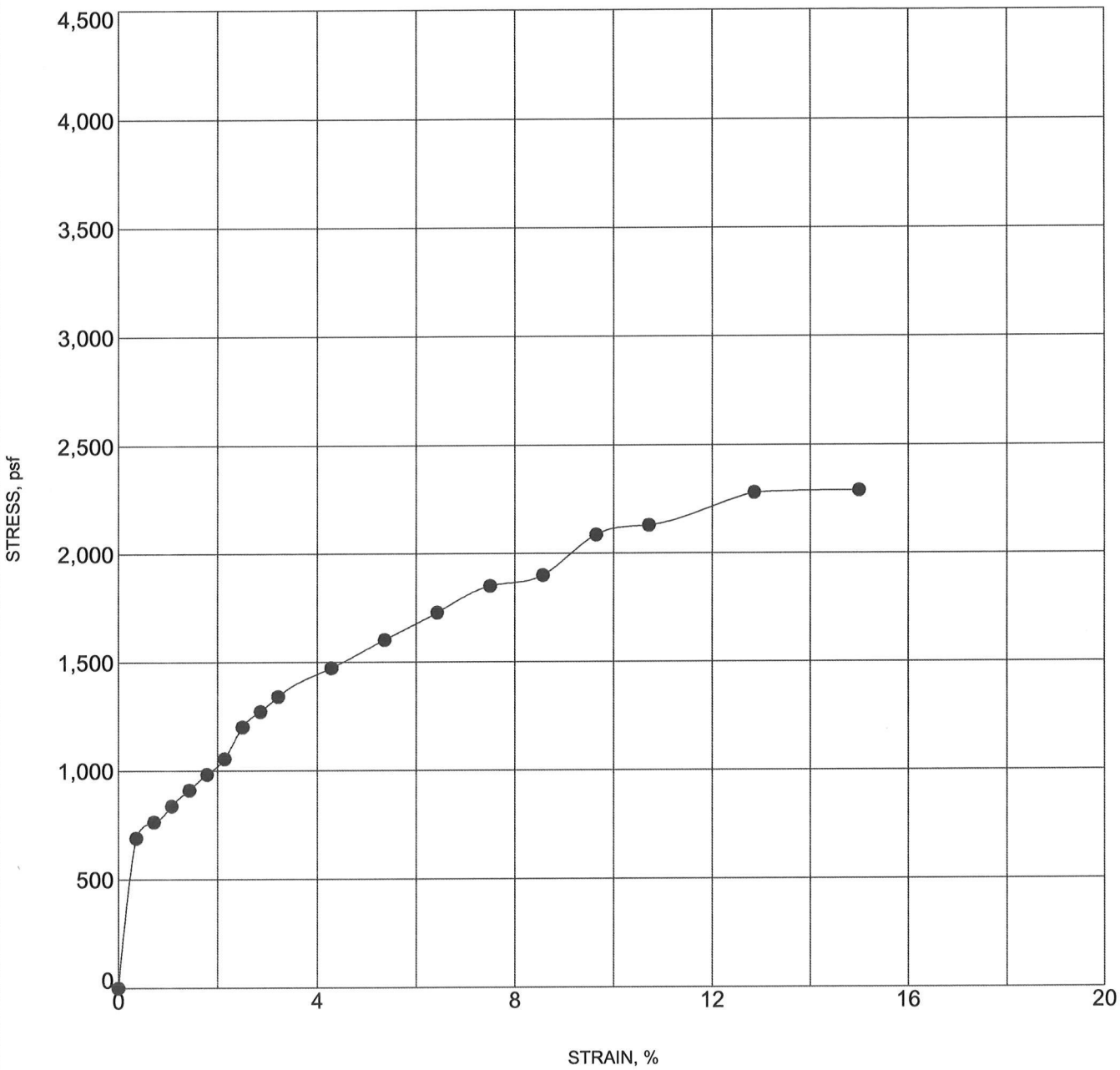

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	38'-40'	**Stiff, Light Gray and Tan SILTY CLAY with clay pockets and trace of fine sand (CL)**	**1.0**	**11.6**	**2.29**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	38'-40'	**2.65**	**98.4**	**106.5**	**0.681**	**27.4**	**39**	**16**	**23**

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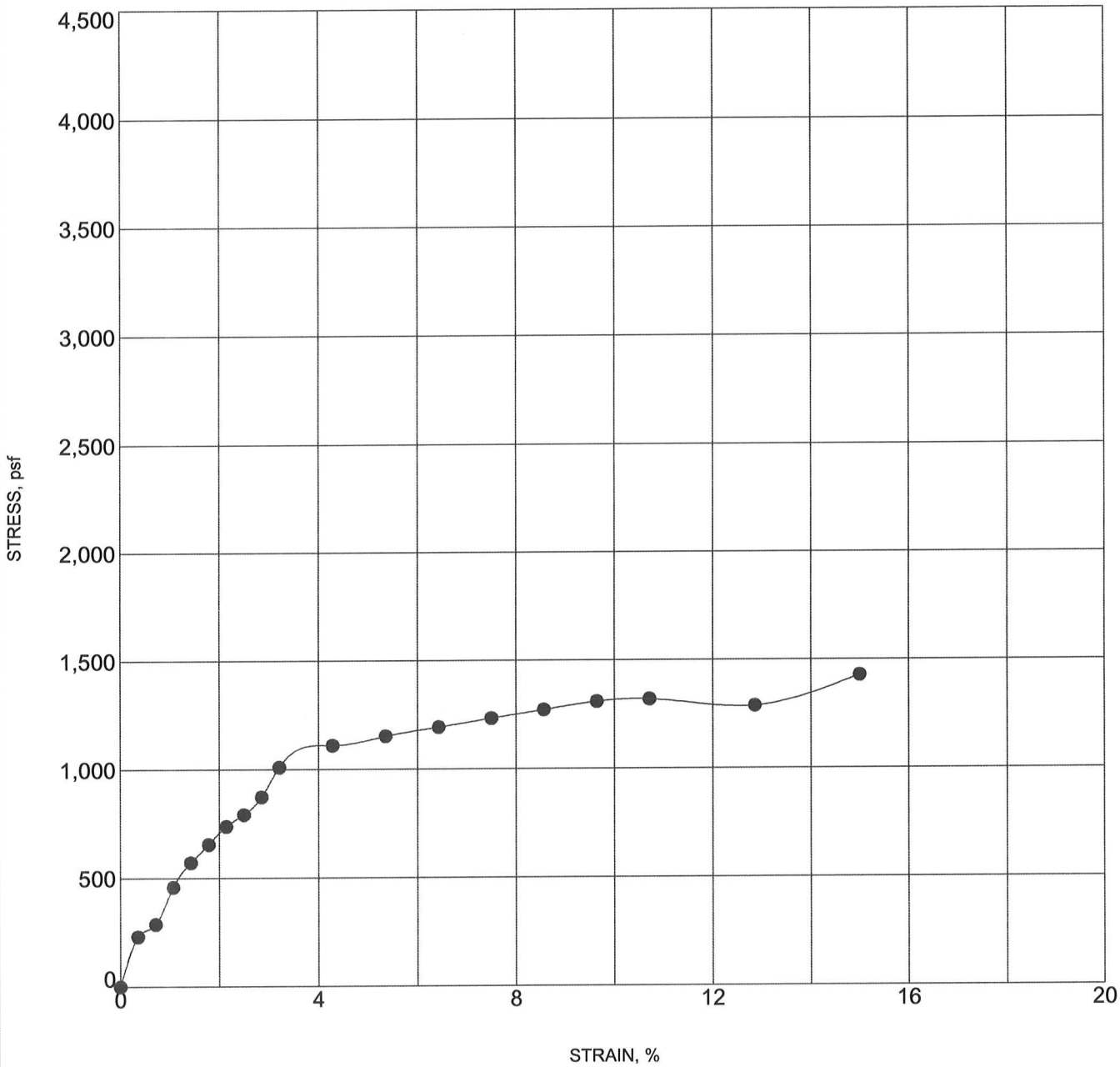

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	38'-40'	**Stiff, Light Gray and Tan SILTY CLAY with clay pockets and trace of fine sand (CL)**	**1.0**	**15.6**	**1.43**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	38'-40'	**2.65**	**96.3**	**104.5**	**0.718**	**28.3**	**39**	**16**	**23**

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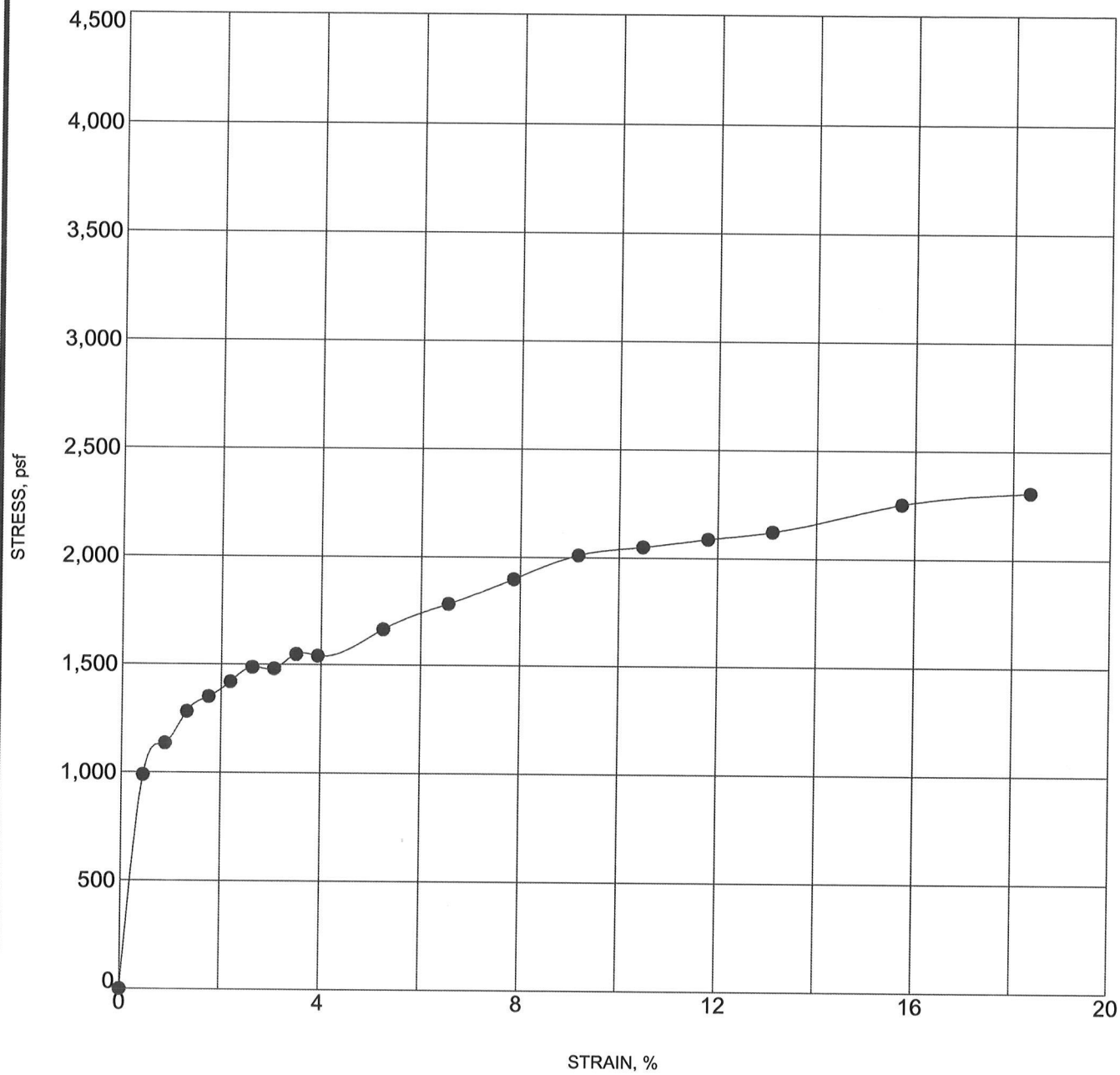

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	38'-40'	**Stiff, Light Gray and Tan SILTY CLAY with clay pockets and trace of fine sand (CL)**	**1.0**	**20.6**	**2.40**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	38'-40'	**2.65**	**98.2**	**107.7**	**0.683**	**27.8**	**39**	**16**	**23**

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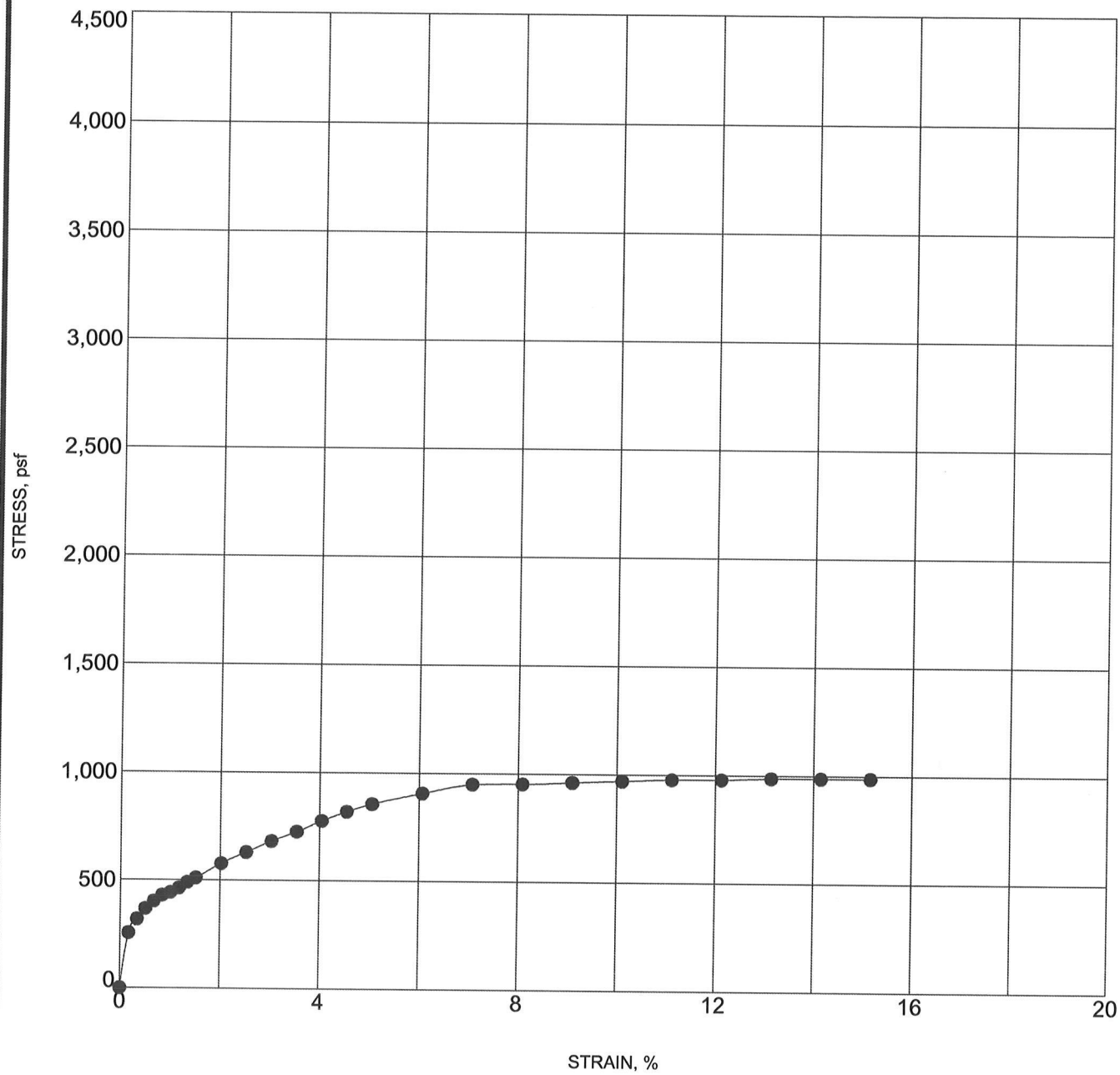

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	43'-45'	**Medium, Tan and Light Gray CLAY with silt streaks (CH)**	**1.0**	**17.6**	**0.99**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	43'-45'	**2.70**	**84.6**	**97.3**	**0.9938**	**35.7**			

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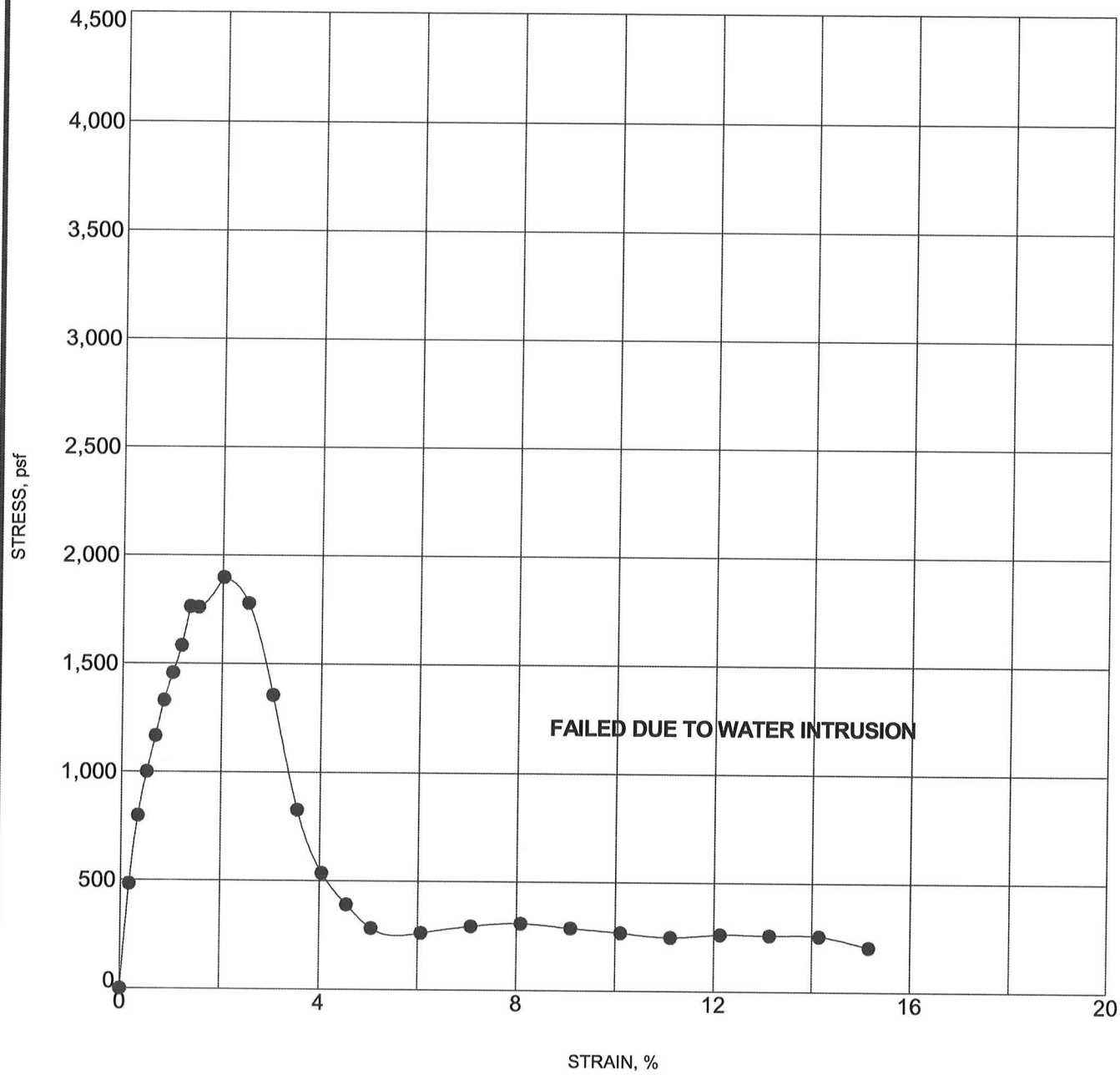

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	48'-50'	**Stiff, Tan and Light Gray CLAY with silt pockets and lenses (CH)**	**1.0**	**19.6**	**1.90**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	48'-50'	**2.70**	**84.9**	**86.9**	**0.9857**	**31.7**			

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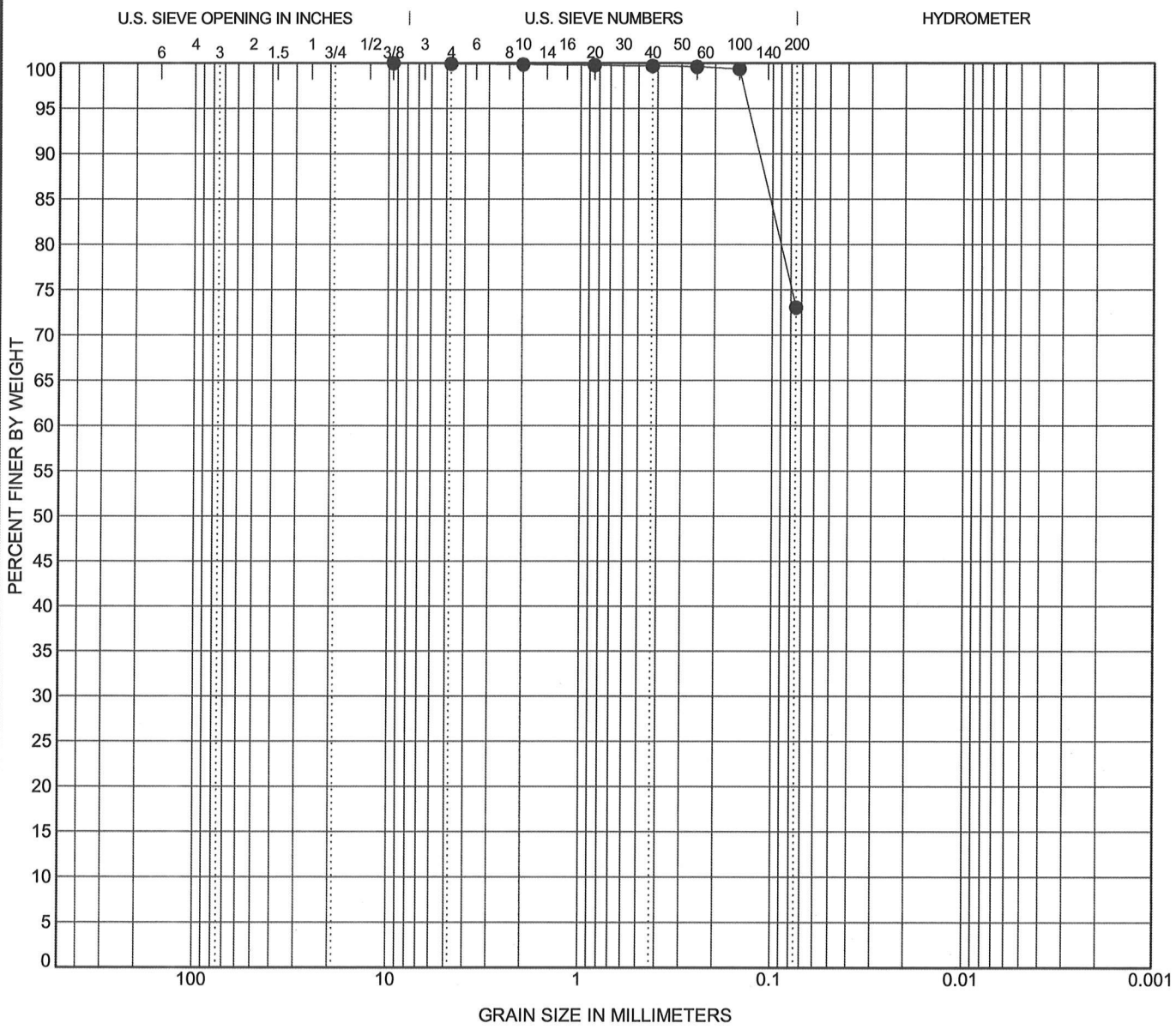

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	**B-5**	**53'-55'**	**Tan and Light Gray SANDY SILT with clay (ML)**					

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-5**	**53'-55'**	**9.5**				**0.1**	**26.9**	**73.0**	

SOUTHERN EARTH SCIENCES, inc.

11519 Cloverland Avenue Baton Rouge, LA 70809

GRAIN SIZE DISTRIBUTION - ASTM D422

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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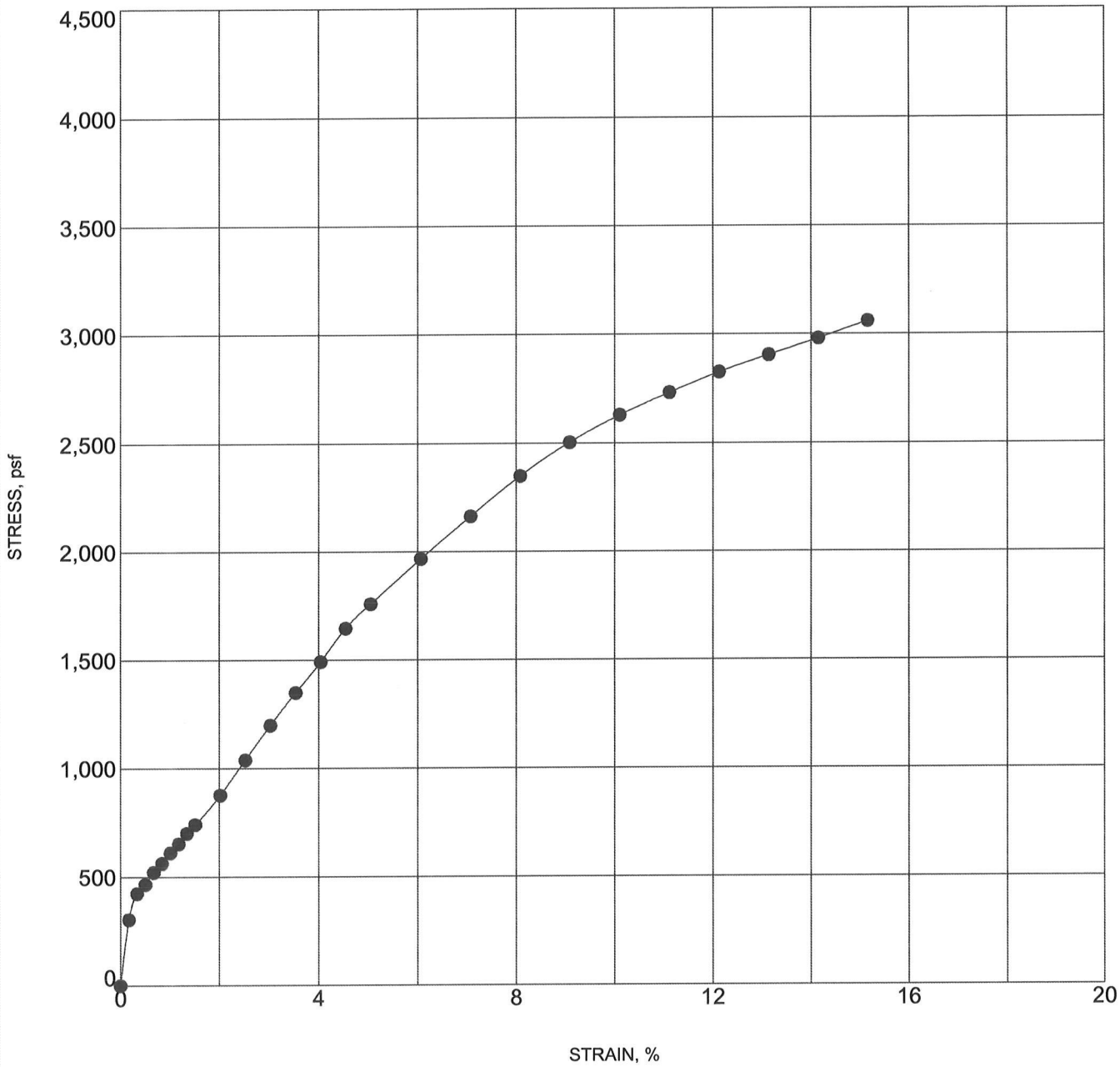

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	58'-60'	**Stiff, Tan and Light Gray SILTY CLAY with silt lenses (CL)**	**1.0**	**23.6**	**3.05**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	58'-60'	**2.70**	**91.0**	**98.2**	**0.8528**	**31.0**	**43**	**20**	**23**

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11519 Cloverland Avenue Baton Rouge, LA 70809

UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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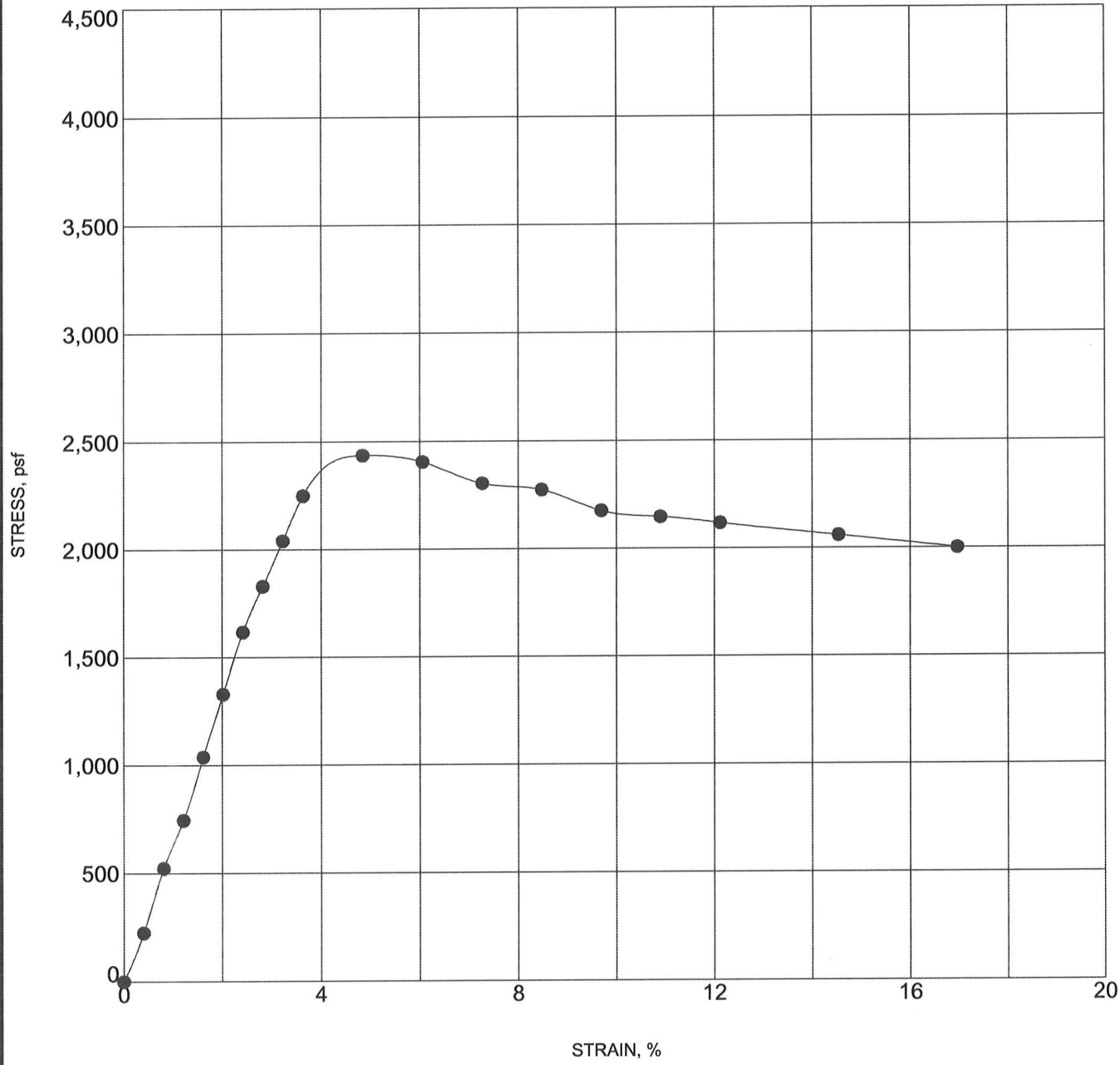

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	63'-65'	**Stiff, Gray CLAY with sandy silt lenses and layers (CL to CH)**	**1.0**	**20.6**	**2.44**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	63'-65'	**2.70**	**78.0**	**107.8**	**1.1605**	**46.3**	**57**	**21**	**36**

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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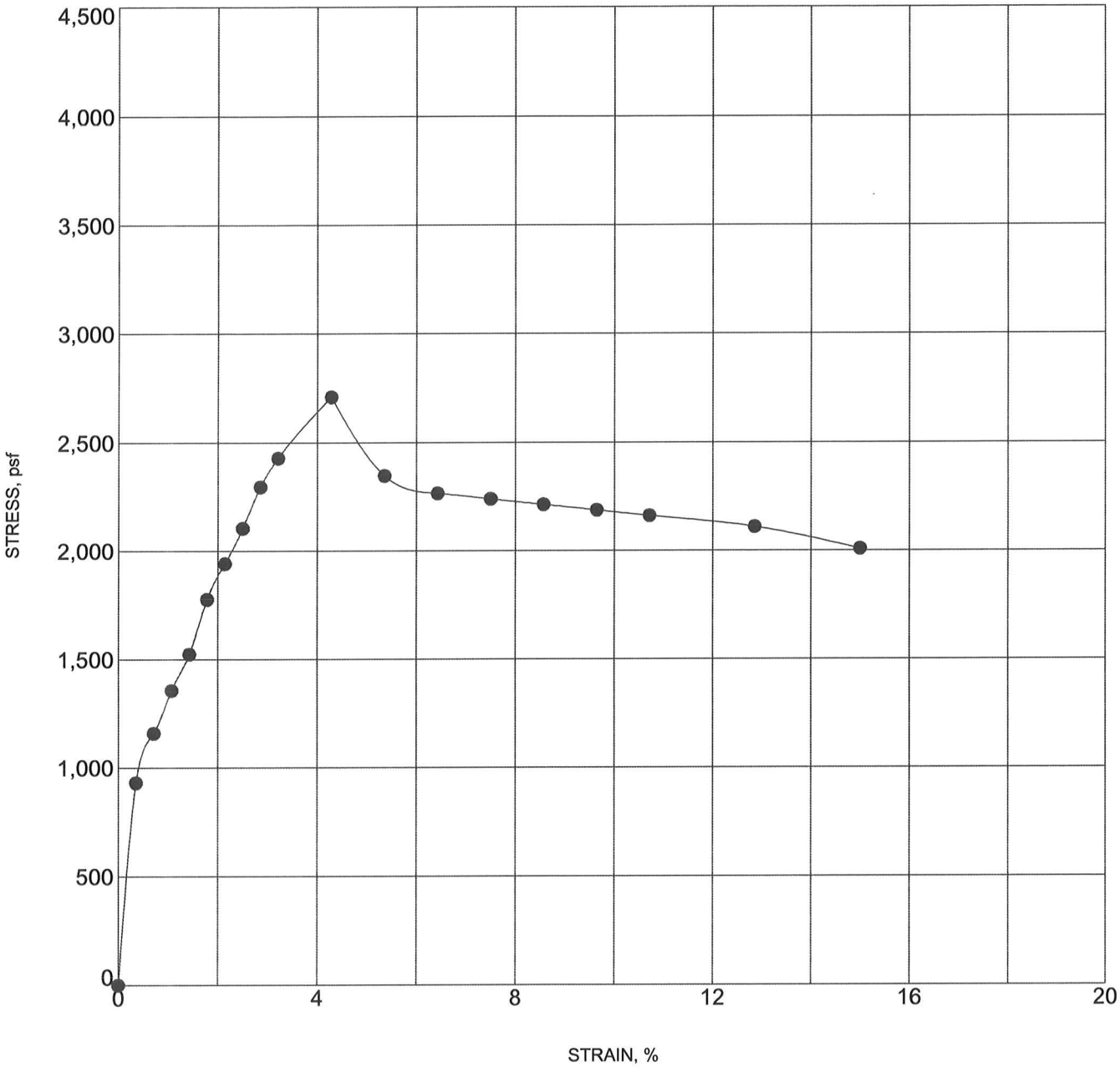

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	63'-65'	**Stiff, Gray CLAY with sandy silt lenses and layers (CL to CH)**	**1.0**	**25.6**	**2.71**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	63'-65'	**2.70**	**74.6**	**103.1**	**1.2584**	**48.1**	**57**	**21**	**36**

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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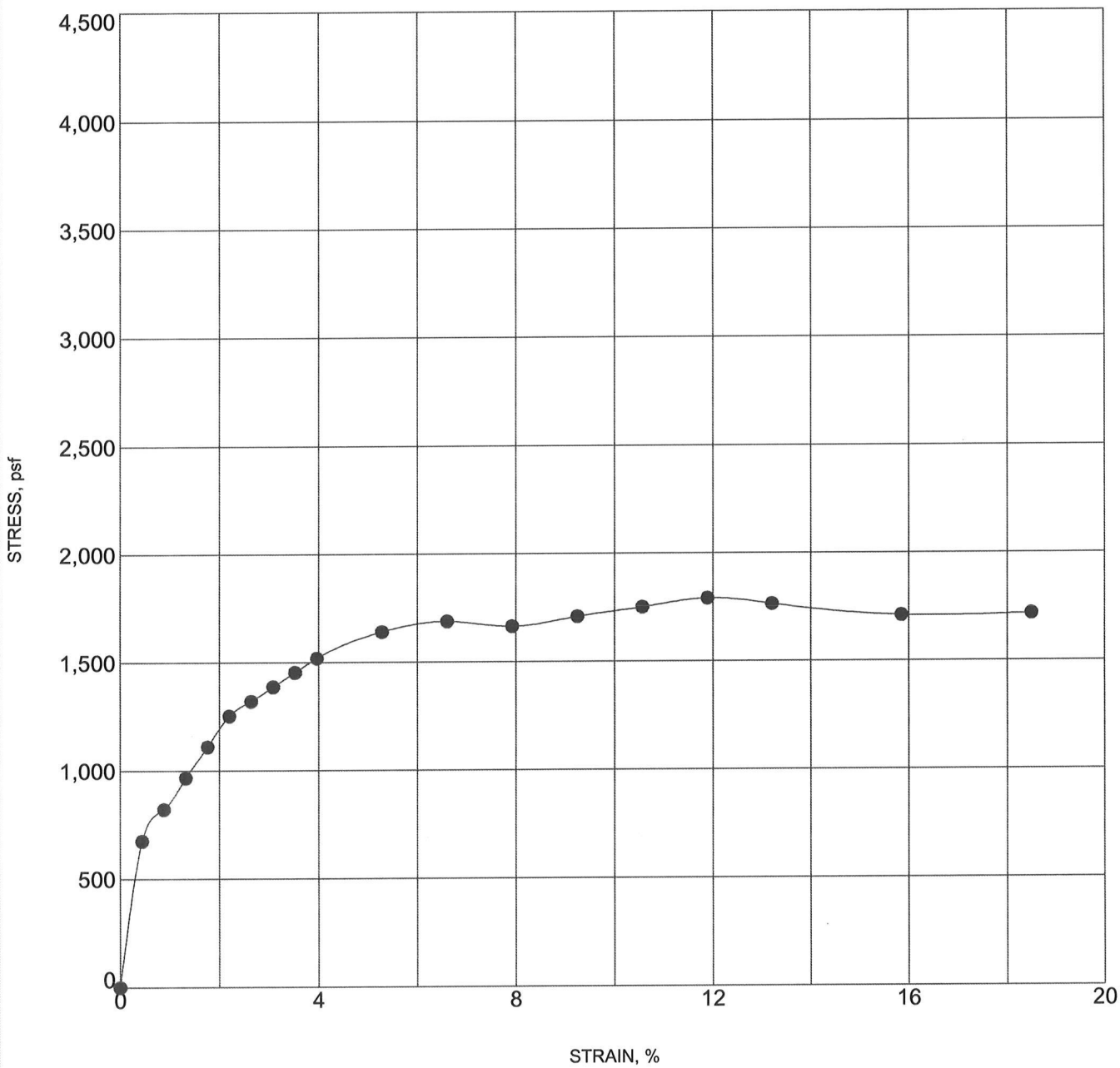

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	63'-65'	**Stiff, Gray CLAY with sandy silt lenses and layers (CL to CH)**	**1.0**	**30.6**	**1.79**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	63'-65'	**2.70**	**79.1**	**95.4**	**1.1311**	**39.9**	**57**	**21**	**36**

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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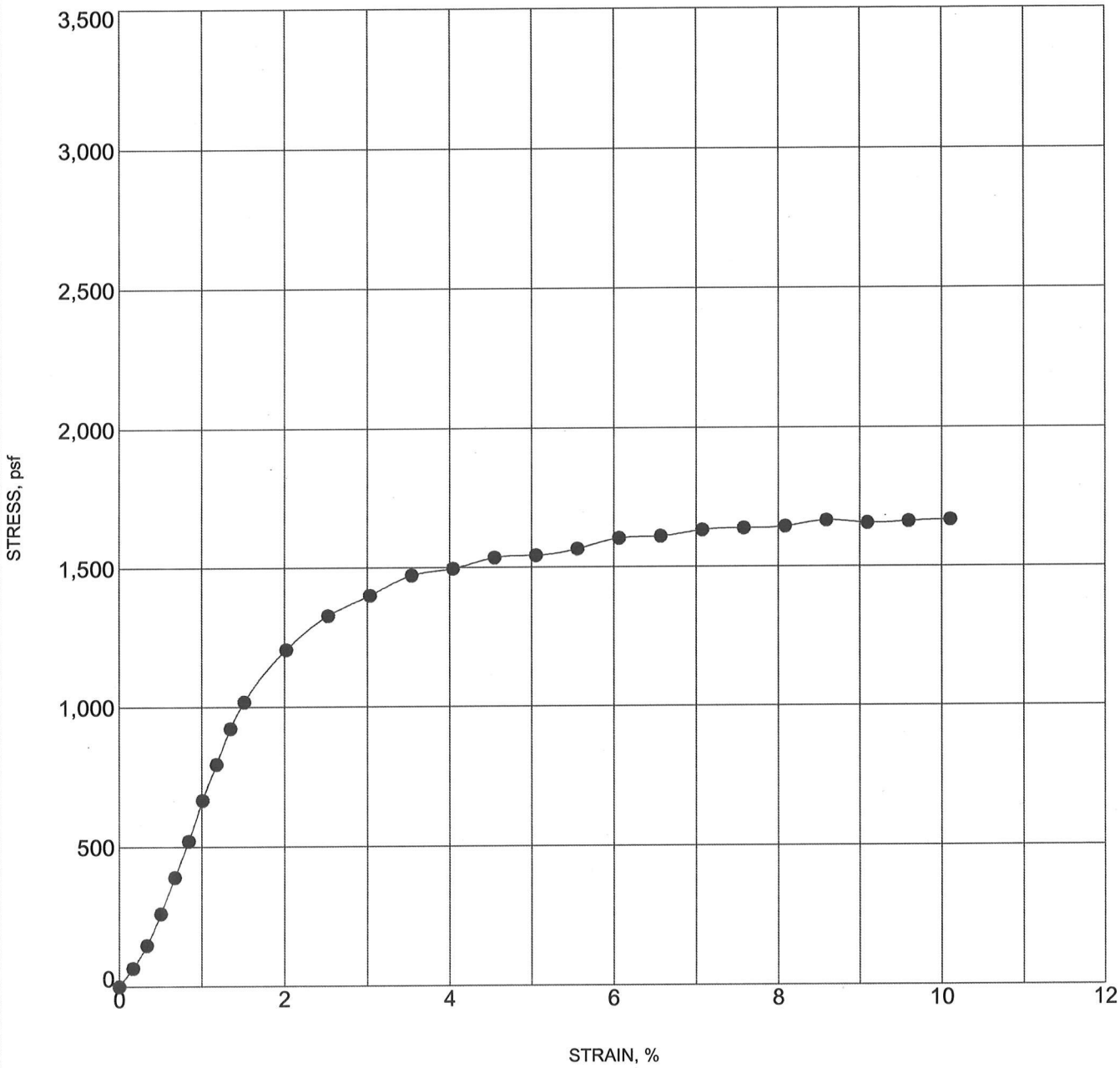

Specimen Identification		Classification	Axial Strain Rate % per min	AXIAL LOAD AT FAILURE ksf
● B-5	68'-70'	**Medium, Gray and Light Gray CLAY with silt streaks and pockets and calcareous nodules (CH)**	**1.0**	**1.67**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	68'-70'	2.70	92.5	86.5	0.8223	26.3			

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UNCONFINED COMPRESSION TEST - ASTM D2166

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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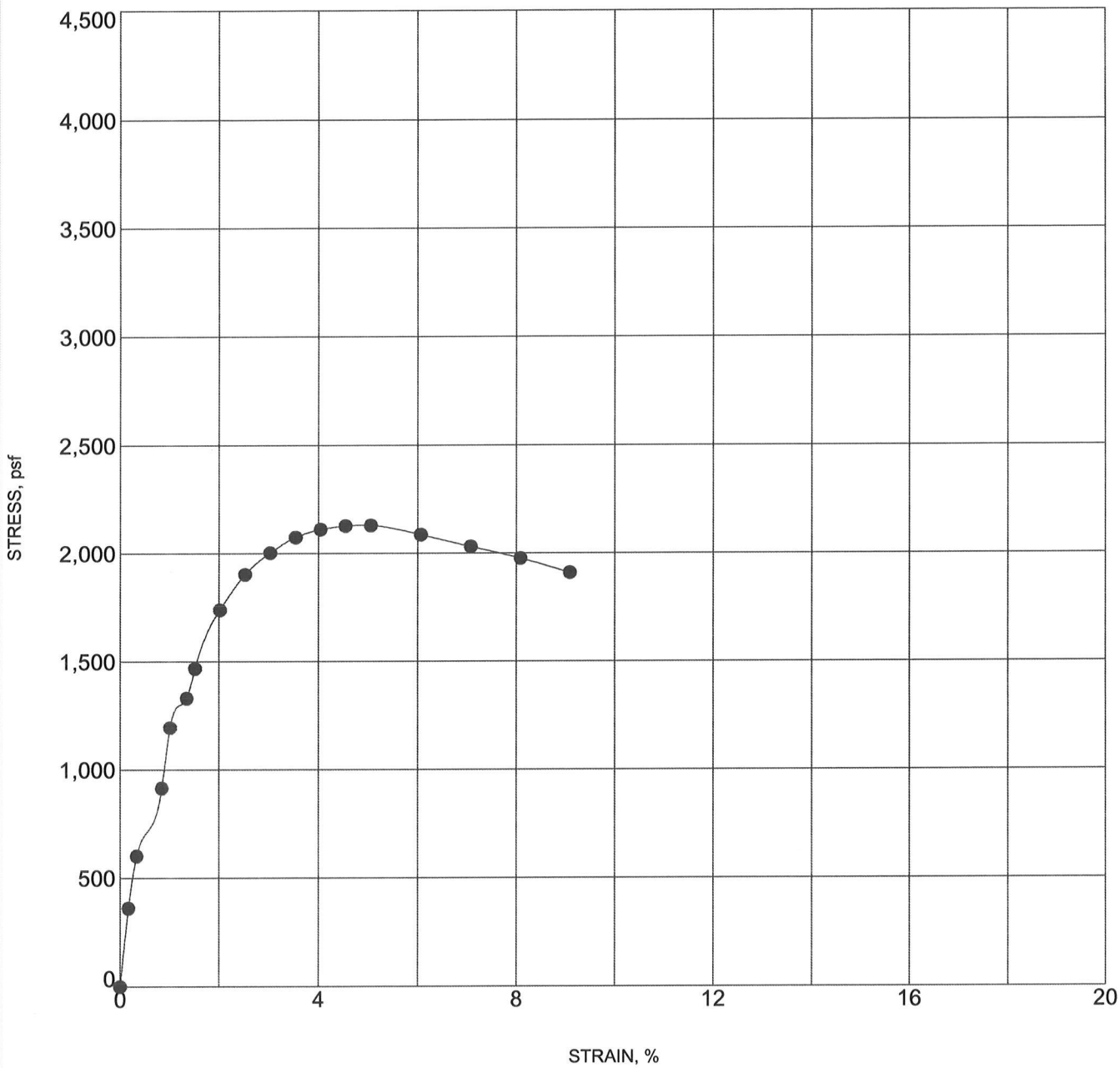

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	73'-75'	**Stiff, Light Gray CLAY with silt streaks and pockets (CH)**	**1.0**	**29.6**	**2.13**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	73'-75'	**2.70**	**85.5**	**87.8**	**0.9709**	**31.6**	**75**	**19**	**56**

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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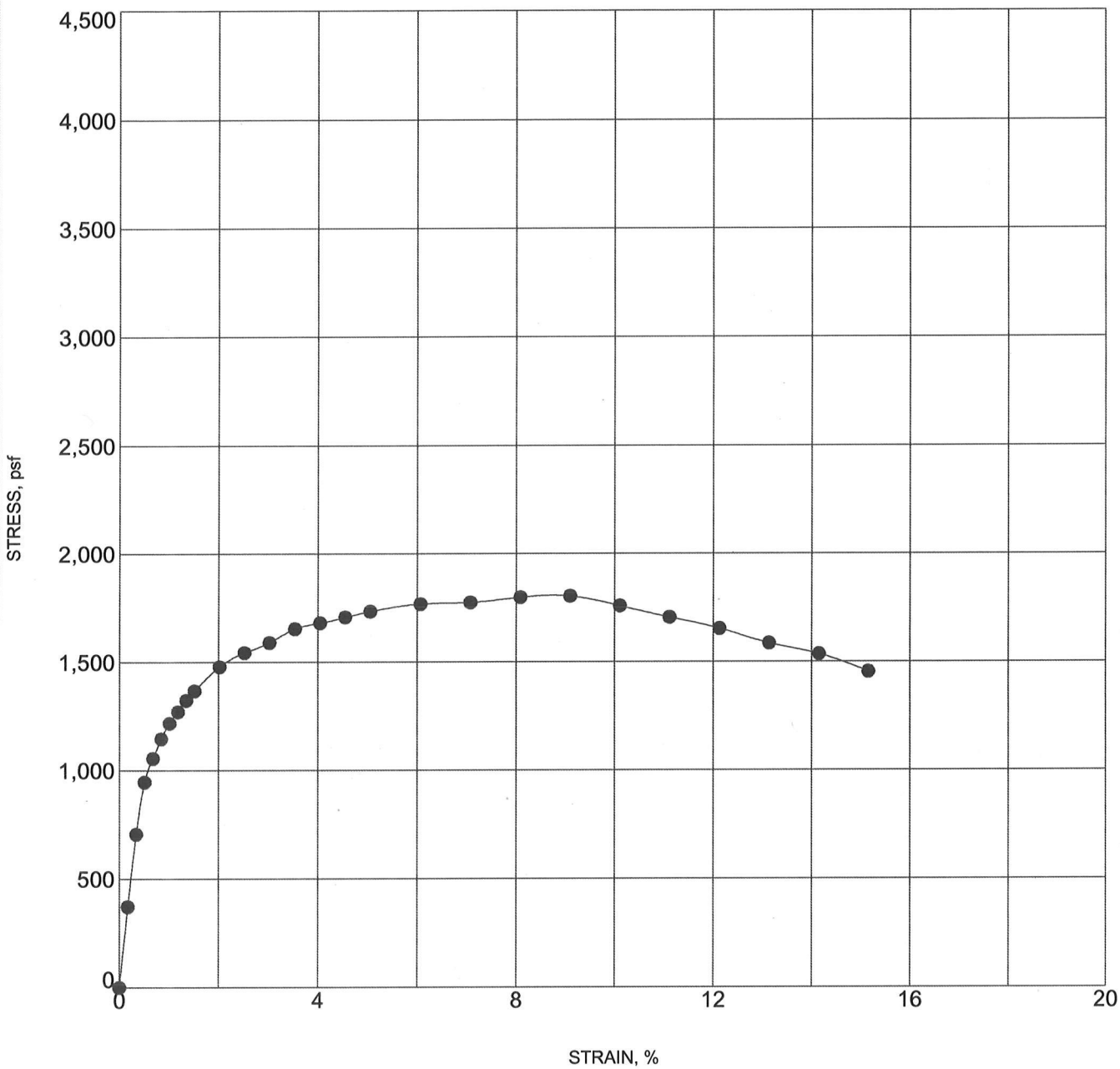

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-5	78'-80'	**Medium, Light Gray CLAY with silt pockets and streaks (CH)**	**1.0**	**31.6**	**1.80**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-5	78'-80'	**2.70**	**87.2**	**87.5**	**0.9341**	**30.2**	**78**	**19**	**59**

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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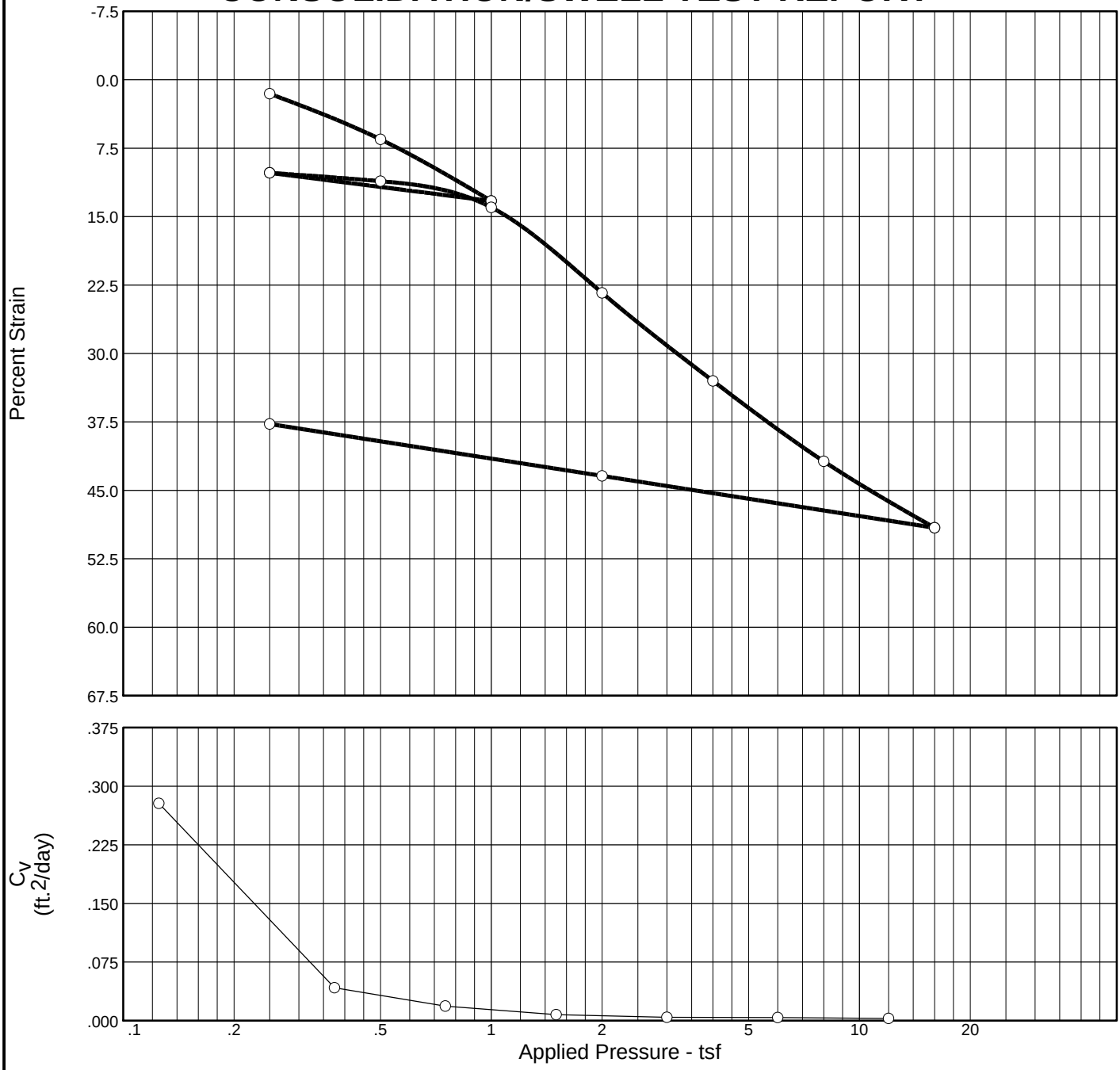
CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
95.3 %	126.6 %	36.9	179	127	2.75	0.17	1.11	3.652

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Gray CLAY (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

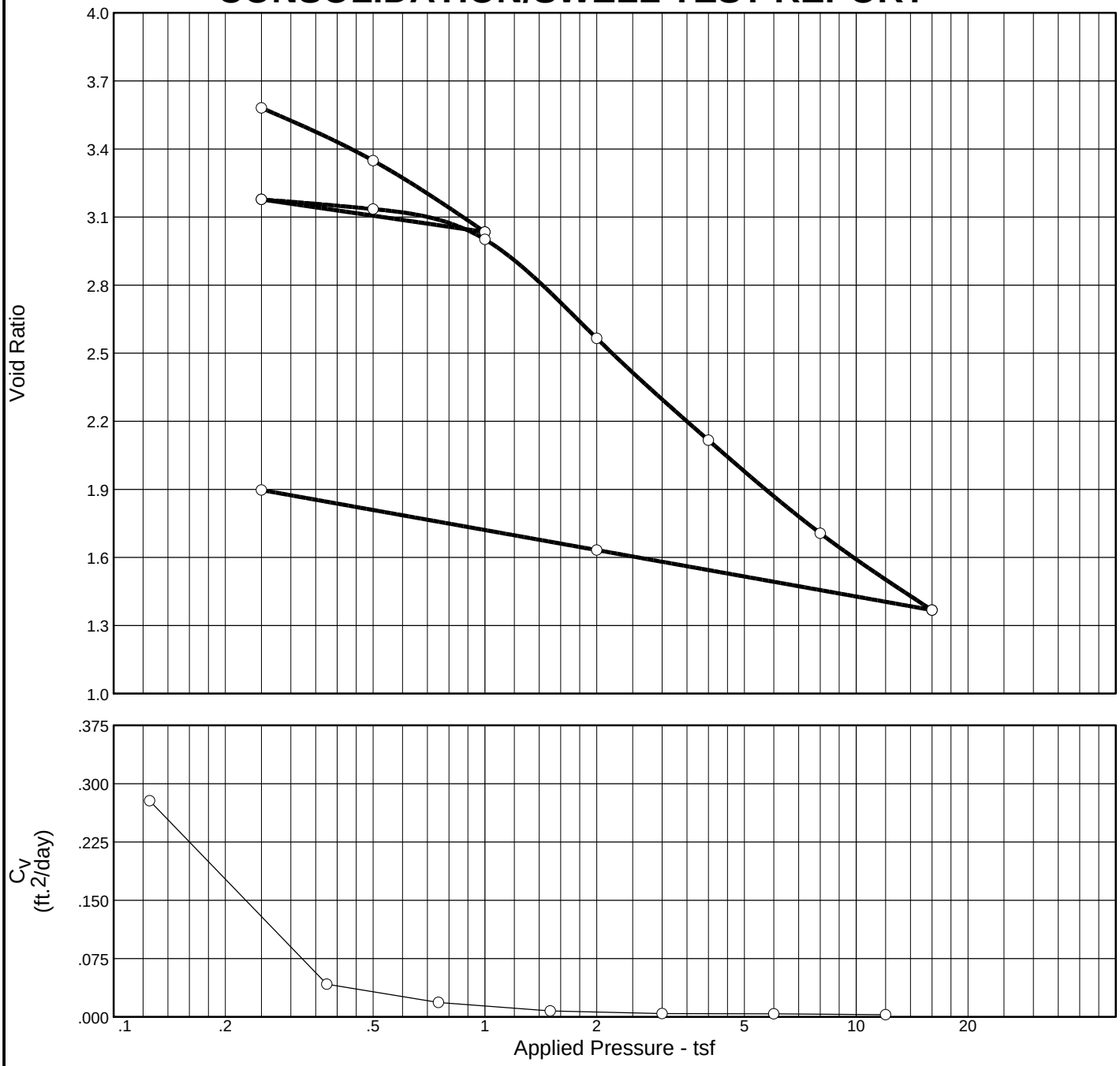
Source: B-6 **Elev./Depth:** 11'-13'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
95.3 %	126.6 %	36.9	179	127	2.75	0.17	1.11	3.652

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Gray CLAY (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-6 **Elev./Depth:** 11'-13'

Remarks:

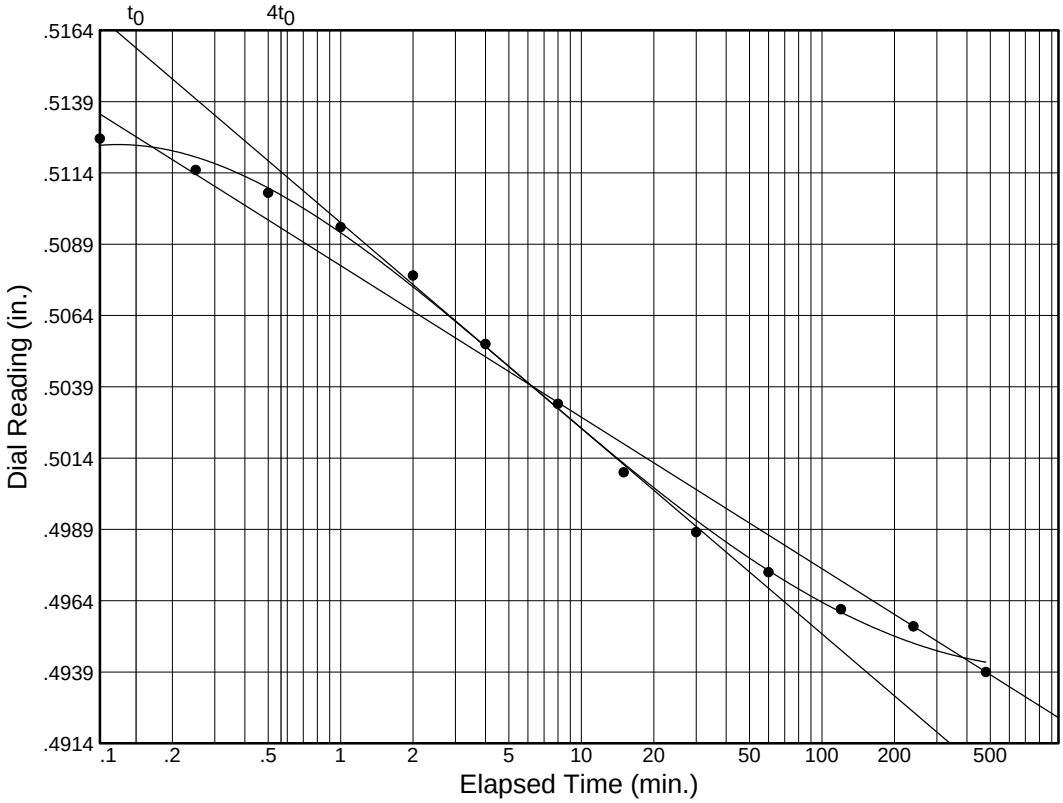
CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

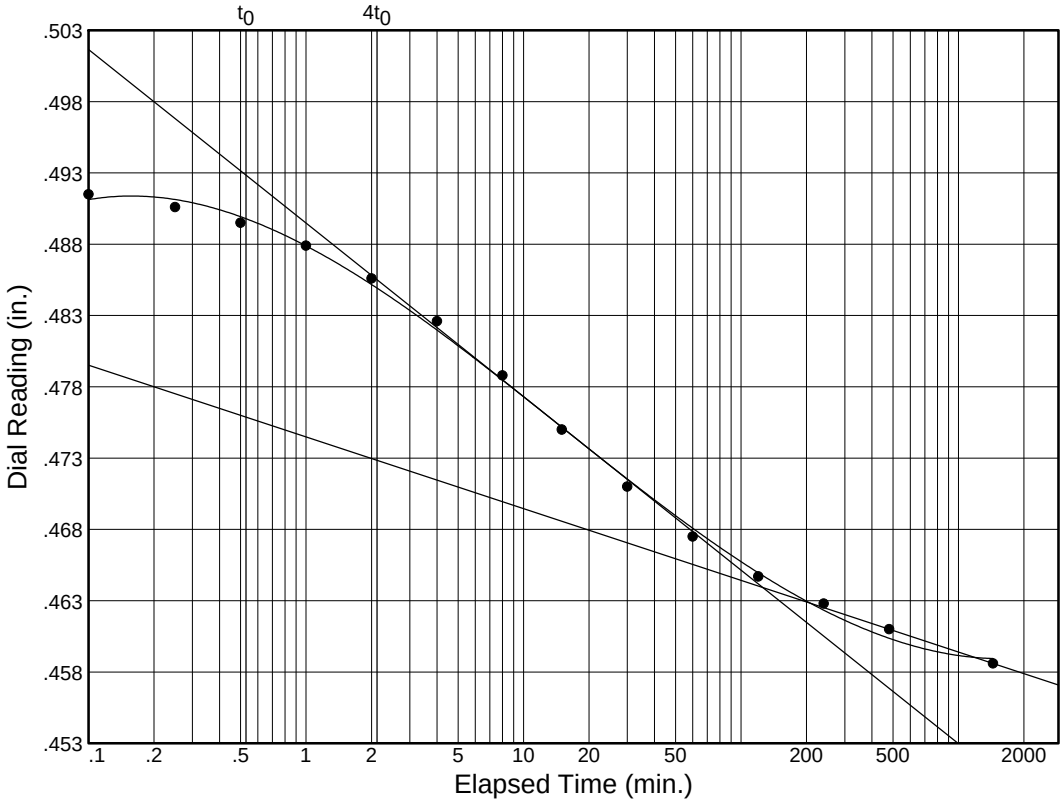
Source: B-6 Elev./Depth: 11'-13'



Load No.= 1
Load= 0.25 tsf
D_0 = 0.51411
D_{50} = 0.50903
D_{100} = 0.50394
T_{50} = 1.11 min.

C_v @ T_{50}
0.28 ft.^{2}/day

C_α = 0.007



Load No.= 2
Load= 0.50 tsf
D_0 = 0.49465
D_{50} = 0.47929
D_{100} = 0.46393
T_{50} = 6.84 min.

C_v @ T_{50}
0.04 ft.^{2}/day

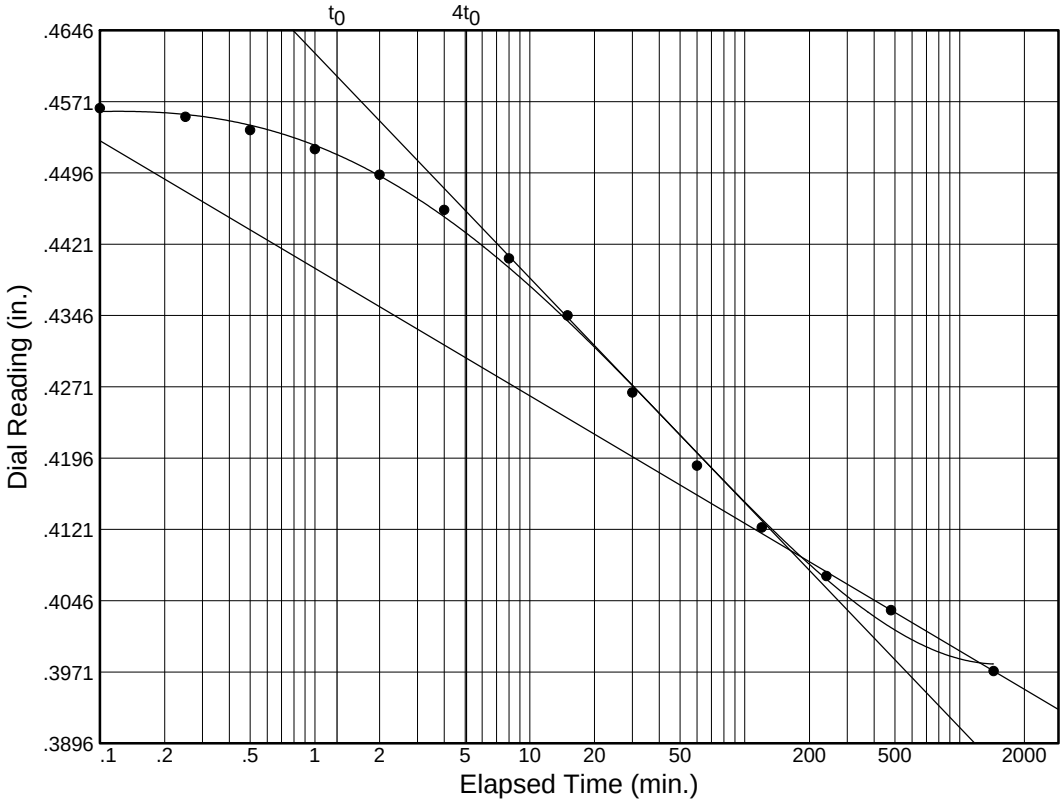
C_α = 0.006

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-6 Elev./Depth: 11'-13'



Load No.= 3

Load= 1.00 tsf

D_0 = 0.45980

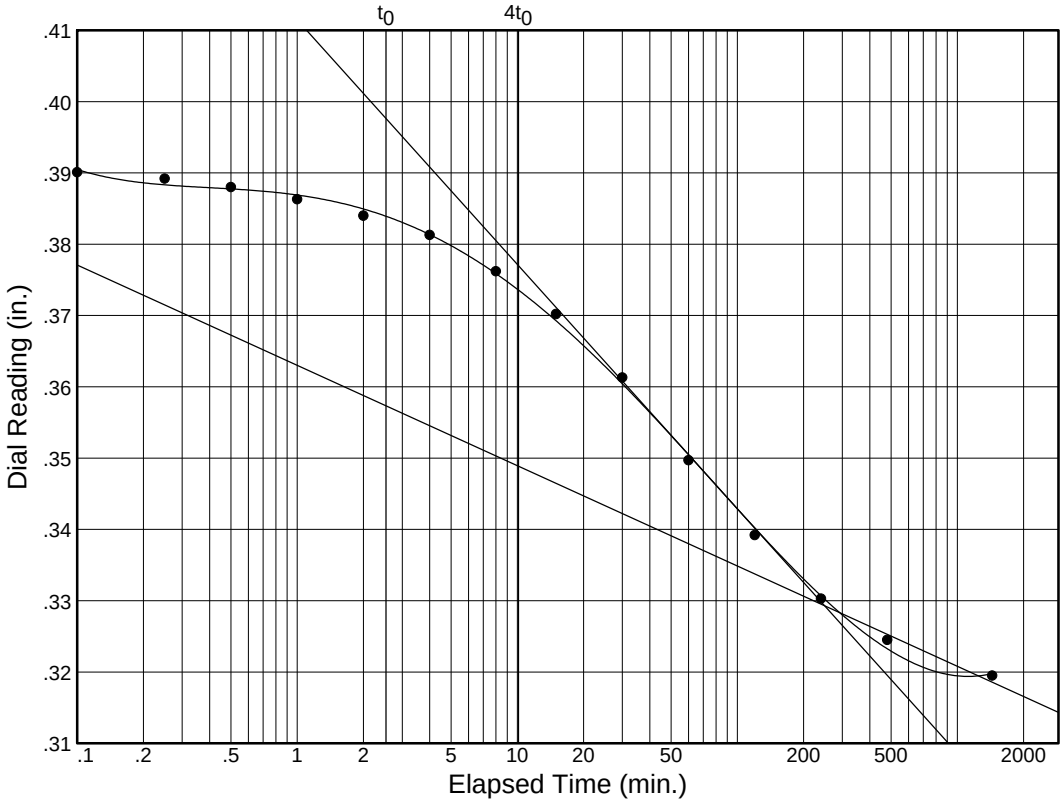
D_{50} = 0.43484

D_{100} = 0.40989

T_{50} = 13.74 min.

C_v @ T_{50}
0.02 ft.^{2}/day

C_α = 0.018



Load No.= 7

Load= 2.00 tsf

D_0 = 0.39427

D_{50} = 0.36179

D_{100} = 0.32930

T_{50} = 27.16 min.

C_v @ T_{50}
0.01 ft.^{2}/day

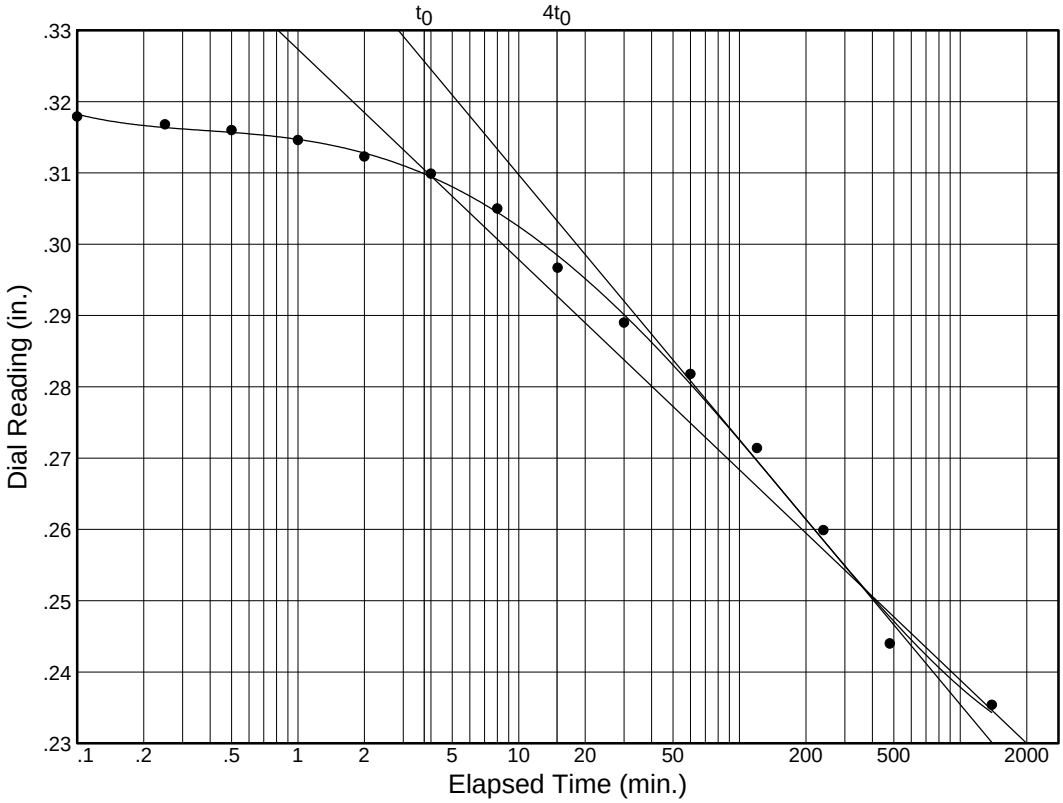
C_α = 0.021

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-6 Elev./Depth: 11'-13'



Load No.= 8

Load= 4.00 tsf

D_0 = 0.32127

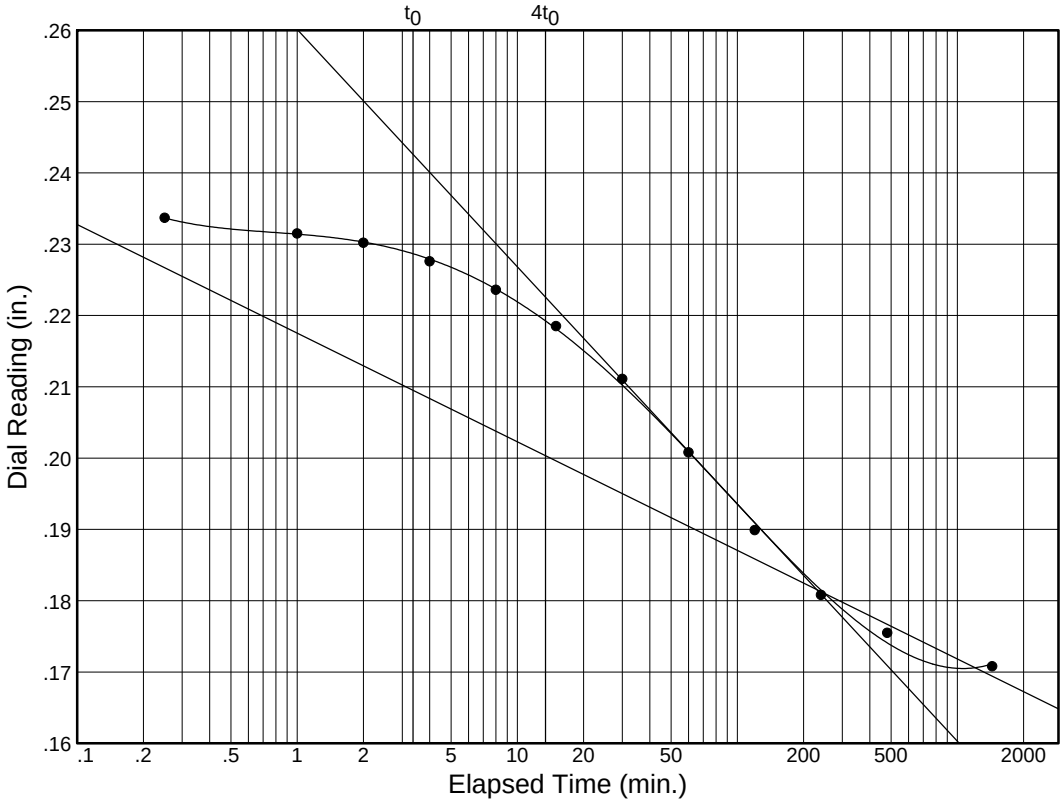
D_{50} = 0.28667

D_{100} = 0.25208

T_{50} = 38.74 min.

C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.049



Load No.= 9

Load= 8.00 tsf

D_0 = 0.23809

D_{50} = 0.20984

D_{100} = 0.18158

T_{50} = 30.98 min.

C_v @ T_{50}
0.00 ft.^{2}/day

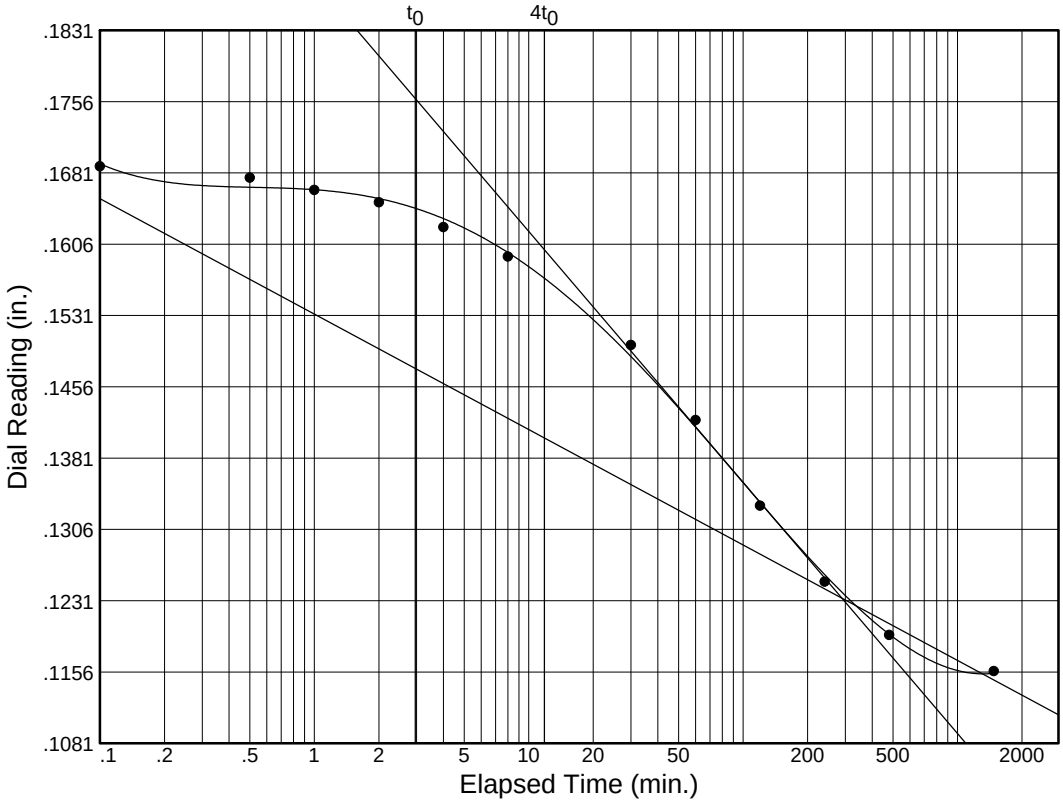
C_α = 0.029

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-6 Elev./Depth: 11'-13'



Load No.= 10

Load= 16.00 tsf

D_0 = 0.17174

D_{50} = 0.14756

D_{100} = 0.12337

T_{50} = 33.83 min.

C_v @ T_{50}

0.00 ft.^{2}/day

C_α = 0.027

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-6
Sample No.:
Elev. or Depth: 11'-13' **Sample Length(in./cm.):**
Location:
Description: Soft, Gray CLAY (CH)
Liquid Limit: 179 **Plasticity Index:** 127
USCS: (CH) **AASHTO:** **Figure No.:**
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE		BEFORE TEST	AFTER TEST
Wet w+t =	105.06 g.	**Consolidometer #** = 6	**Wet w+t** = 121.47 g.
Dry w+t =	80.23 g.		**Dry w+t** = 98.61 g.
Tare Wt. =	60.62 g.	**Spec. Gravity** = 2.75	**Tare Wt.** = 60.85 g.
Height =	.80 in.	**Height** = .80 in.	
Diameter =	2.50 in.	**Diameter** = 2.50 in.	
Weight =	86.20 g.	**Defl. Table** = n/a	
Moisture =	126.6 %	**Ht. Solids** = 0.1720 in.	**Moisture** = 60.5 %
Wet Den. =	83.6 pcf	**Dry Wt.** = 38.04 g.*	**Dry Wt.** = 37.76 g.
Dry Den. =	36.9 pcf	**Void Ratio** = 3.652	**Void Ratio** = 1.897
		Saturation = 95.3 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

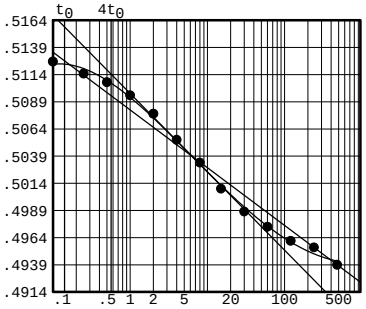
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	0.51620				3.652	
0.25	0.49390	0.00000	0.28	0.007	3.581*	1.5 Comprs.*
0.50	0.45860	0.00000	0.04	0.006	3.348*	6.5 Comprs.*
1.00	0.39720	0.00000	0.02	0.018	3.034*	13.3 Comprs.*
0.25	0.42190	0.00000			3.178	10.2 Comprs.
0.50	0.41460	0.00000			3.135	11.1 Comprs.
1.00	0.39160	0.00000			3.002	14.0 Comprs.
2.00	0.31950	0.00000	0.01	0.021	2.566*	23.4 Comprs.*
4.00	0.23540	0.00000	0.00	0.049	2.116*	33.0 Comprs.*
8.00	0.17080	0.00000	0.00	0.029	1.706*	41.8 Comprs.*
16.00	0.11570	0.00000	0.00	0.027	1.368*	49.1 Comprs.*
2.00	0.16120	0.00000			1.633	43.4 Comprs.
0.25	0.20670	0.00000			1.897	37.7 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 1.11 P_c = 0.17 tsf C_r = 0.28

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

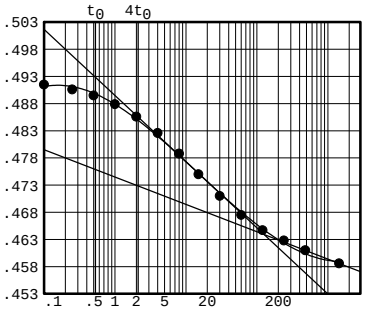
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.51620	11	60.00	0.49740
2	0.10	0.51260	12	120.00	0.49610
3	0.25	0.51150	13	240.00	0.49550
4	0.50	0.51070	14	480.00	0.49390
5	1.00	0.50950			
6	2.00	0.50780			
7	4.00	0.50540			
8	8.00	0.50330			
9	15.00	0.50090			
10	30.00	0.49880			



Void Ratio = 3.581 **Compression =** 1.5 % >>> CALCULATED USING D_{100}
D_0 = 0.51411 D_{50} = 0.50903 D_{100} = 0.50394
C_v **at 1.1 min. =** 0.28 ft.^{2}/day C_α = 0.007

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

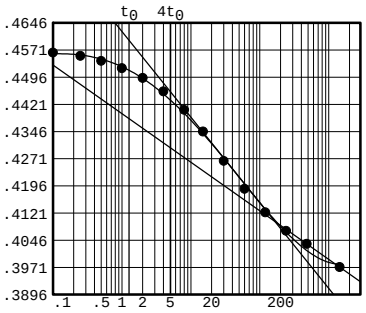
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.49370	11	60.00	0.46750
2	0.10	0.49150	12	120.00	0.46470
3	0.25	0.49060	13	240.00	0.46280
4	0.50	0.48950	14	480.00	0.46100
5	1.00	0.48790	15	1440.00	0.45860
6	2.00	0.48560			
7	4.00	0.48260			
8	8.00	0.47880			
9	15.00	0.47500			
10	30.00	0.47100			



Void Ratio = 3.348 **Compression =** 6.5 % >>> CALCULATED USING D_{100}
D_0 = 0.49465 D_{50} = 0.47929 D_{100} = 0.46393
C_v **at 6.8 min. =** 0.04 ft.^{2}/day C_α = 0.006

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.45860	11	60.00	0.41880
2	0.10	0.45640	12	120.00	0.41230
3	0.25	0.45550	13	240.00	0.40720
4	0.50	0.45410	14	480.00	0.40360
5	1.00	0.45210	15	1440.00	0.39720
6	2.00	0.44940			
7	4.00	0.44570			
8	8.00	0.44060			
9	15.00	0.43460			
10	30.00	0.42650			



Void Ratio = 3.034 **Compression =** 13.3 % >>> CALCULATED USING D_{100}
D_0 = 0.45980 D_{50} = 0.43484 D_{100} = 0.40989
C_v **at 13.7 min. =** 0.02 ft.^{2}/day C_α = 0.018

Pressure: 0.25 tsf **TEST READINGS** **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.39720	11	60.00	0.41550
2	0.10	0.39670	12	120.00	0.41790
3	0.25	0.39750	13	240.00	0.41960
4	0.50	0.39810	14	480.00	0.42080
5	1.00	0.39880	15	1440.00	0.42190
6	2.00	0.40020			
7	4.00	0.40210			
8	8.00	0.40490			
9	15.00	0.40810			
10	30.00	0.41190			

Void Ratio = 3.178 **Compression =** 10.2 %

Pressure: 0.50 tsf **TEST READINGS** **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.42190	11	60.00	0.41600
2	0.10	0.42160	12	120.00	0.41560
3	0.25	0.42150	13	240.00	0.41520
4	0.50	0.42130	14	480.00	0.41470
5	1.00	0.42110	15	1440.00	0.41460
6	2.00	0.42040			
7	4.00	0.41970			
8	8.00	0.41870			
9	15.00	0.41770			
10	30.00	0.41660			

Void Ratio = 3.135 **Compression =** 11.1 %

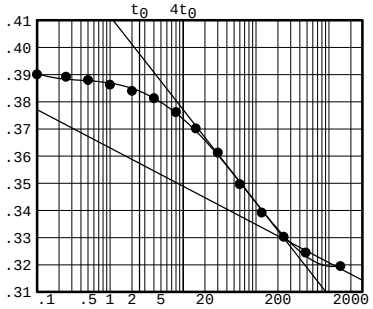
Pressure: 1.00 tsf **TEST READINGS** **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.41460	11	60.00	0.39750
2	0.10	0.41380	12	120.00	0.39570
3	0.25	0.41340	13	240.00	0.39440
4	0.50	0.41260	14	480.00	0.39290
5	1.00	0.41180	15	1440.00	0.39160
6	2.00	0.41070			
7	4.00	0.40860			
8	8.00	0.40610			
9	15.00	0.40330			
10	30.00	0.40010			

Void Ratio = 3.002 **Compression =** 14.0 %

Pressure: 2.00 tsf **TEST READINGS** **Load No. 7**

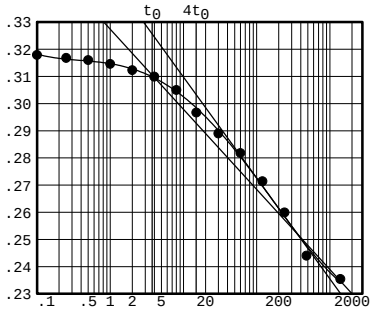
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.39160	11	60.00	0.34970
2	0.10	0.39010	12	120.00	0.33920
3	0.25	0.38920	13	240.00	0.33030
4	0.50	0.38800	14	480.00	0.32450
5	1.00	0.38630	15	1440.00	0.31950
6	2.00	0.38400			
7	4.00	0.38130			
8	8.00	0.37620			
9	15.00	0.37020			
10	30.00	0.36130			



Void Ratio = 2.566 **Compression =** 23.4 % >>> CALCULATED USING D_{100}
D_0 = 0.39427 D_{50} = 0.36179 D_{100} = 0.32930
C_v **at 27.2 min. =** 0.01 ft.^{2}/day C_α = 0.021

Pressure: 4.00 tsf **TEST READINGS** **Load No. 8**

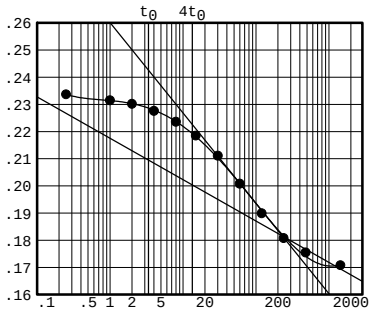
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.31950	11	60.00	0.28180
2	0.10	0.31790	12	120.00	0.27140
3	0.25	0.31680	13	240.00	0.25990
4	0.50	0.31600	14	480.00	0.24400
5	1.00	0.31460	15	1392.00	0.23540
6	2.00	0.31230			
7	4.00	0.30990			
8	8.00	0.30500			
9	15.00	0.29670			
10	30.00	0.28900			



Void Ratio = 2.116 **Compression =** 33.0 % >>> CALCULATED USING D_{100}
D_0 = 0.32127 D_{50} = 0.28667 D_{100} = 0.25208
C_v **at 38.7 min. =** 0.00 ft.^{2}/day C_α = 0.049

Pressure: 8.00 tsf **TEST READINGS** **Load No. 9**

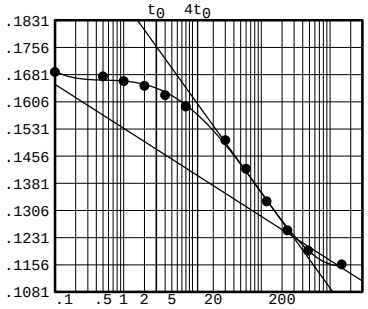
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.23540	11	240.00	0.18080
2	0.25	0.23370	12	480.00	0.17550
3	1.00	0.23150	13	1440.00	0.17080
4	2.00	0.23020			
5	4.00	0.22760			
6	8.00	0.22360			
7	15.00	0.21850			
8	30.00	0.21110			
9	60.00	0.20080			
10	120.00	0.18990			



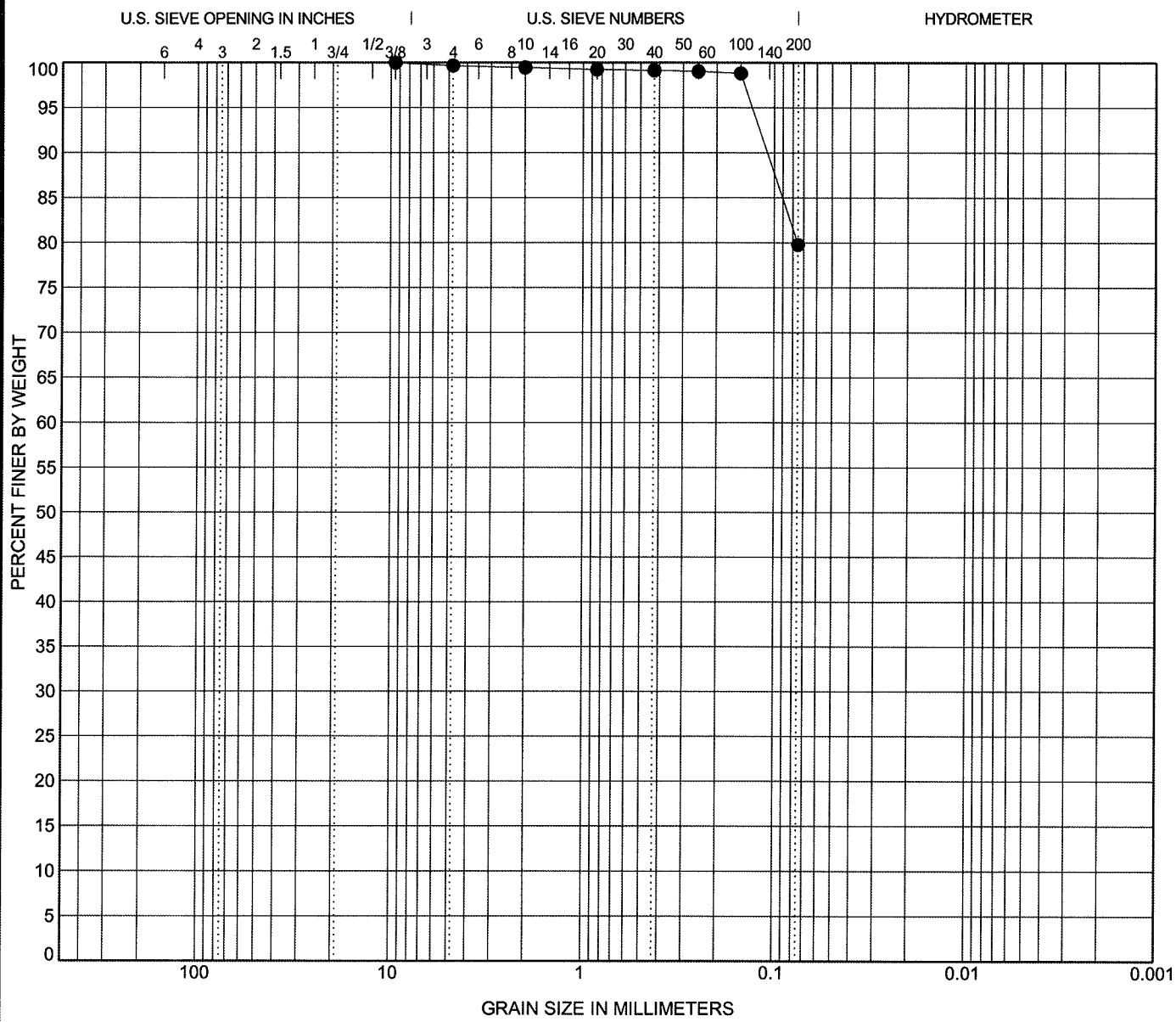
Void Ratio = 1.706 **Compression =** 41.8 % >>> CALCULATED USING D_{100}
D_0 = 0.23809 D_{50} = 0.20984 D_{100} = 0.18158
C_v **at 31.0 min. =** 0.00 ft.^{2}/day C_α = 0.029

Pressure: 16.00 tsf **TEST READINGS** **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.17080	11	240.00	0.12510
2	0.10	0.16880	12	480.00	0.11950
3	0.50	0.16760	13	1478.00	0.11570
4	1.00	0.16630			
5	2.00	0.16500			
6	4.00	0.16240			
7	8.00	0.15930			
8	30.00	0.15000			
9	60.00	0.14210			
10	120.00	0.13310			



Void Ratio = 1.368 **Compression =** 49.1 % >>> CALCULATED USING D_{100}
D_0 **=** 0.17174 D_{50} **=** 0.14756 D_{100} **=** 0.12337
C_v **at 33.8 min. =** 0.00 ft.^{2}/day C_α **=** 0.027



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	**B-6**	**44'-46'**	**Tan and Light Gray SANDY SILT with clay (ML)**					

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-6**	**44'-46'**	**9.5**				**0.3**	**19.9**	**79.8**	

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11519 Cloverland Avenue Baton Rouge, LA 70809

GRAIN SIZE DISTRIBUTION - ASTM D422

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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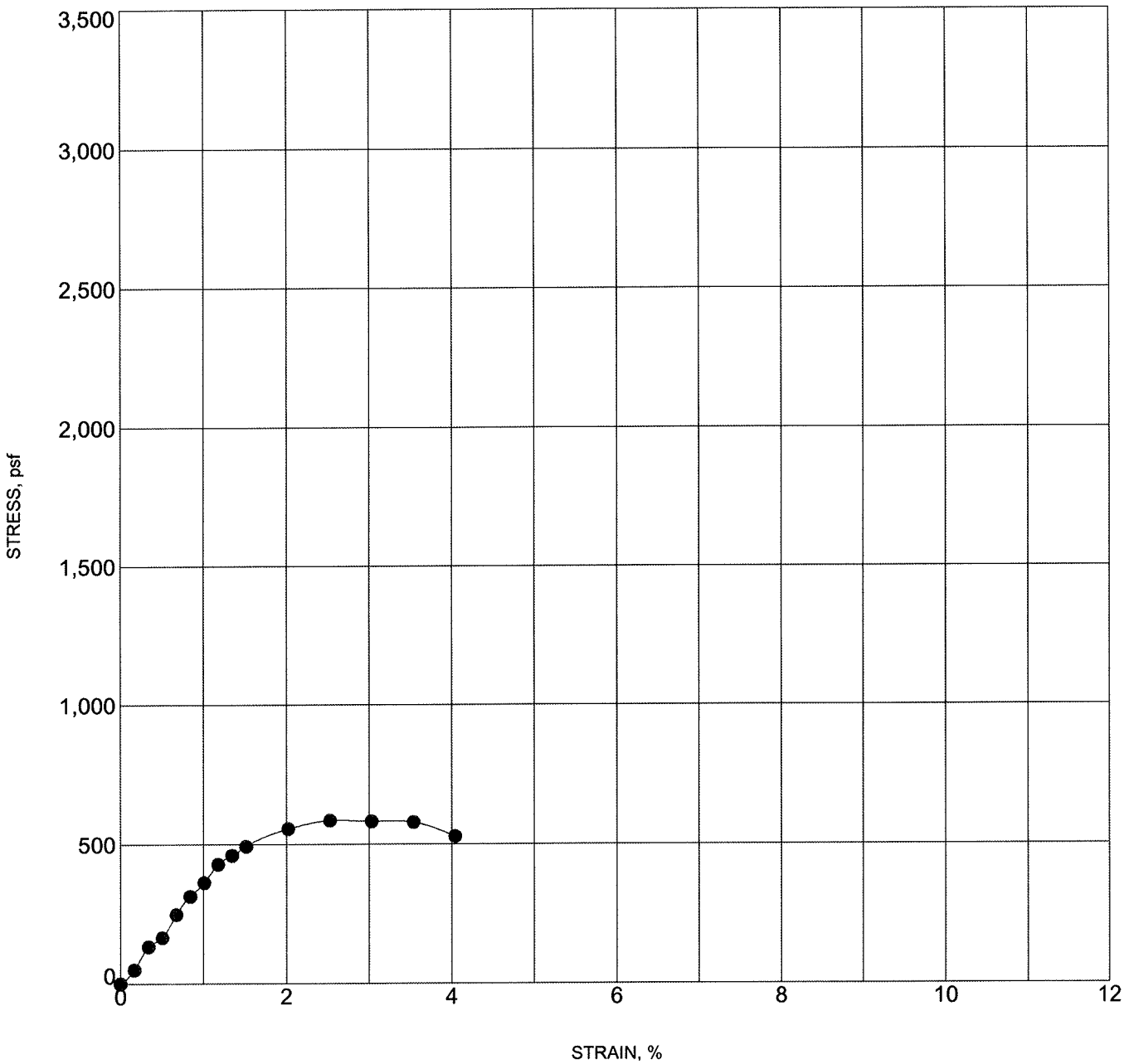

Specimen Identification		Classification	Axial Strain Rate % per min	AXIAL LOAD AT FAILURE ksf
● B-6	2'-4'	**Soft, Gray and Brown CLAY (CH)**	**1.0**	**0.59**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	2'-4'	**2.70**	**68.1**	**95.3**	**1.5221**	**52.7**	**99**	**38**	**61**

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UNCONFINED COMPRESSION TEST - ASTM D2166

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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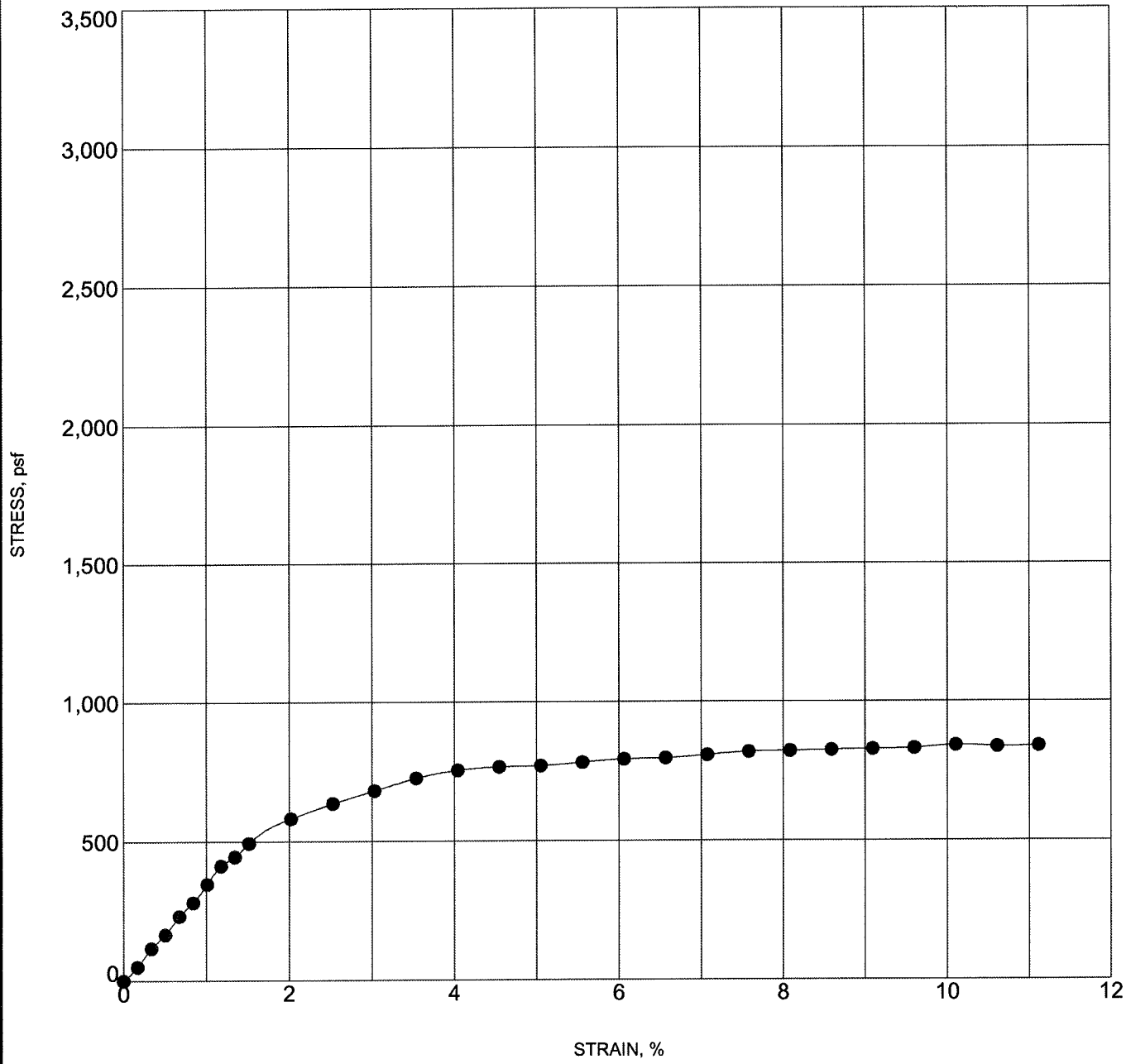

Specimen Identification		Classification	Axial Strain Rate % per min	AXIAL LOAD AT FAILURE ksf
● B-6	6'-8'	**Soft, Gray and Greenish Gray CLAY with silt pockets (CH)**	**1.0**	**0.84**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	6'-8'	**2.70**	**78.5**	**107.5**	**1.1485**	**45.7**	**53**	**21**	**32**

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UNCONFINED COMPRESSION TEST - ASTM D2166

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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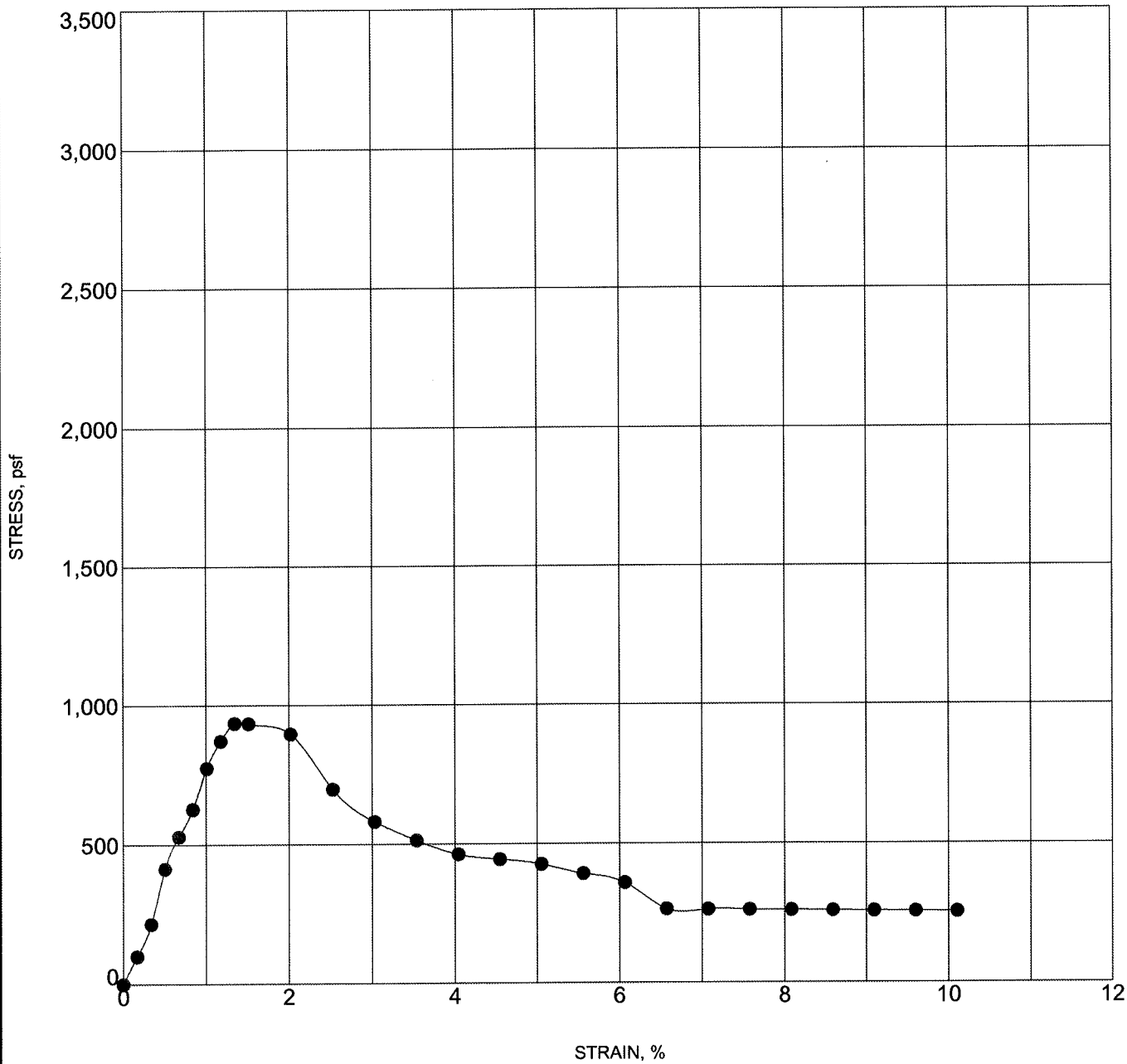

Specimen Identification		Classification	Axial Strain Rate % per min	AXIAL LOAD AT FAILURE ksf
● B-6	38'-40'	**Stiff, Tan, Brown and Light Gray CLAY with concretions (CH)**	**1.0**	**0.94**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	38'-40'	**2.70**	**83.1**	**98.1**	**1.0296**	**37.4**			

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UNCONFINED COMPRESSION TEST - ASTM D2166

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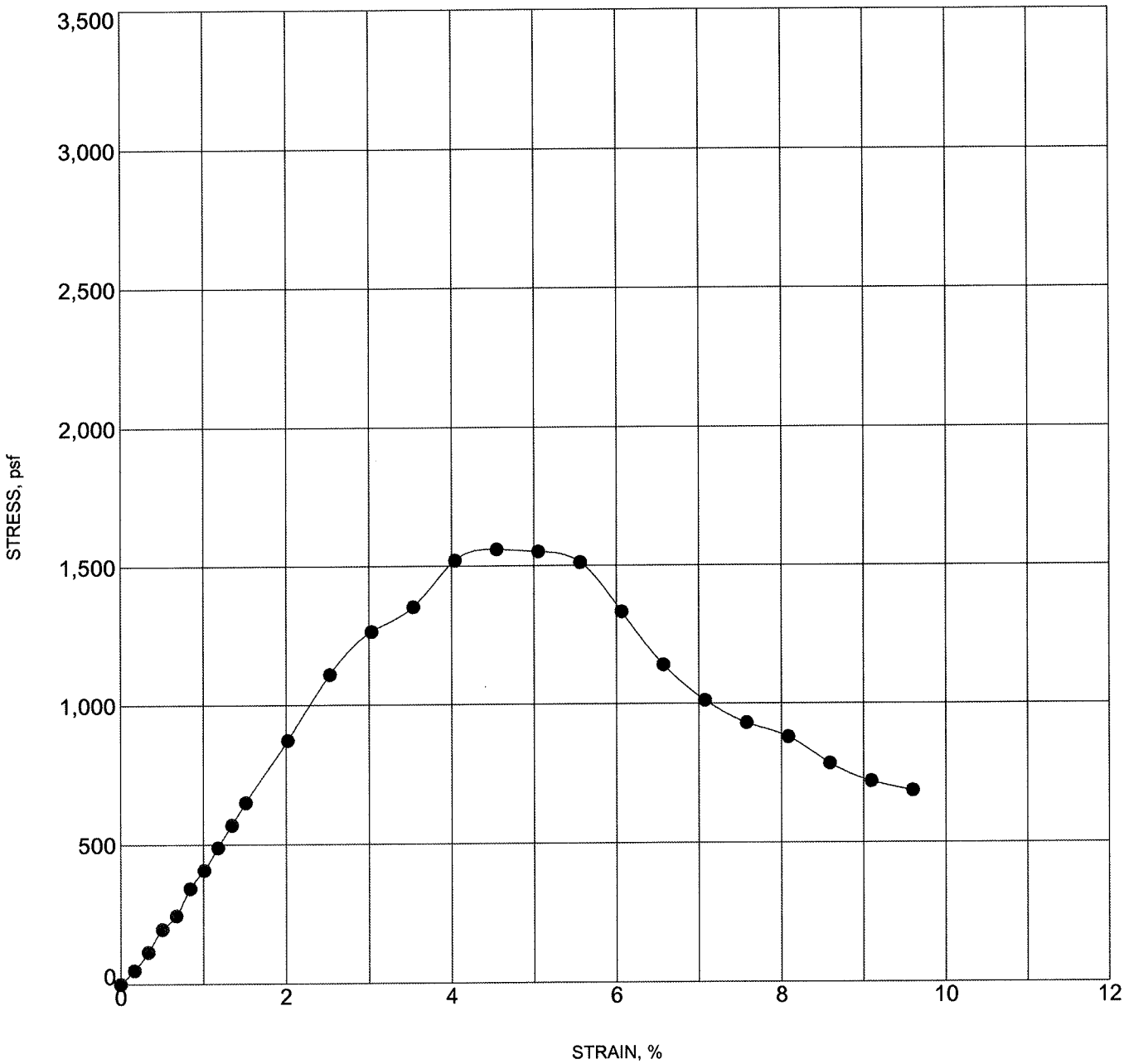

Specimen Identification		Classification	Axial Strain Rate % per min	AXIAL LOAD AT FAILURE ksf
● B-6	43'-44'	**Stiff, Light Gray and Tan CLAY with sandy silt lenses and pockets (CH) to (CL)**	**1.0**	**1.56**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	43'-44'	**2.70**	**89.0**	**94.5**	**0.8933**	**31.2**			

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UNCONFINED COMPRESSION TEST - ASTM D2166

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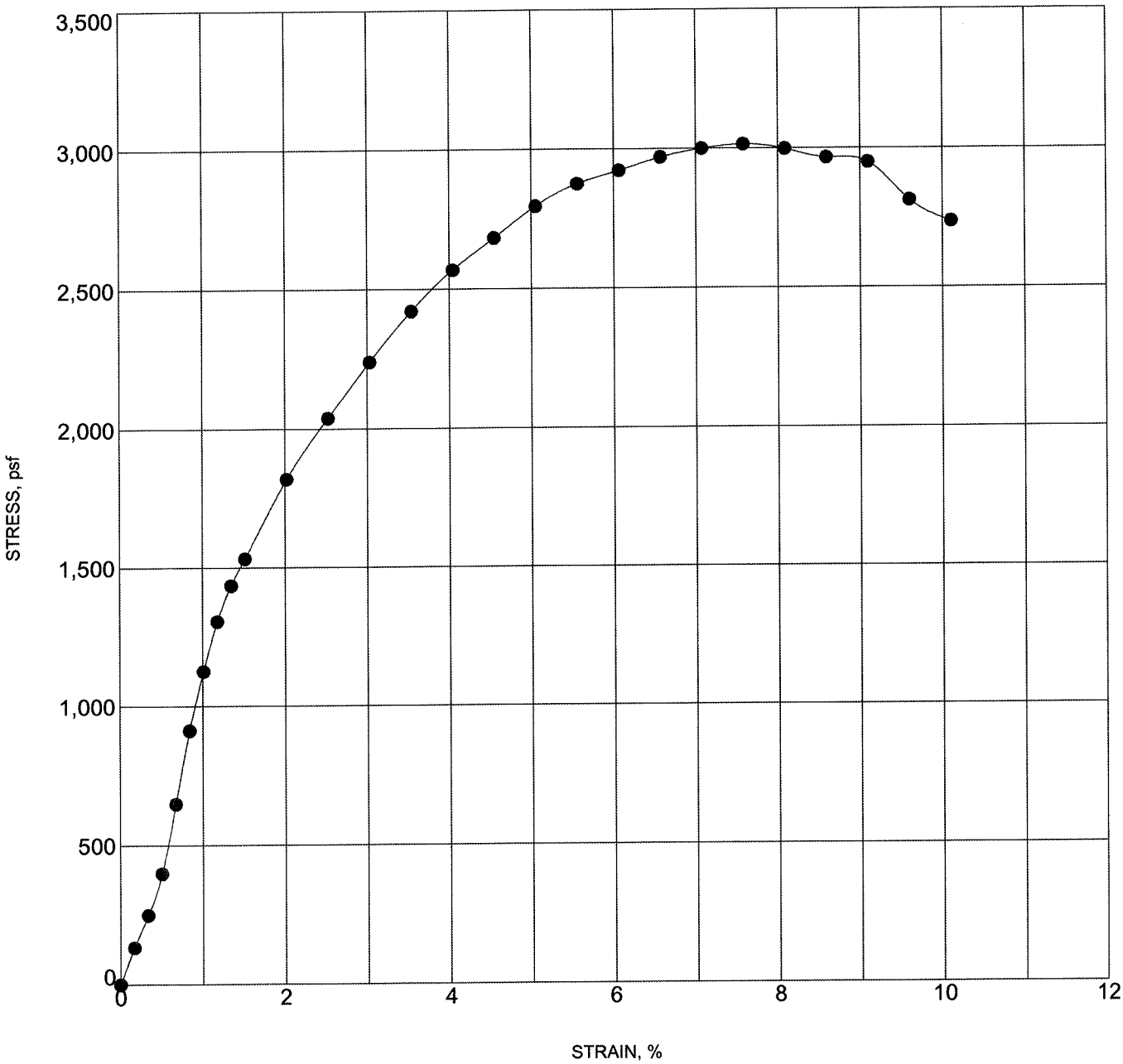

Specimen Identification		Classification	Axial Strain Rate % per min	AXIAL LOAD AT FAILURE ksf
● B-6	58'-60'	**Stiff, Light Gray and Tan CLAY with sandy silt streaks (CH)**	**1.0**	**3.01**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	58'-60'	**2.70**	**97.3**	**98.9**	**0.7330**	**26.8**	**56**	**19**	**37**

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UNCONFINED COMPRESSION TEST - ASTM D2166

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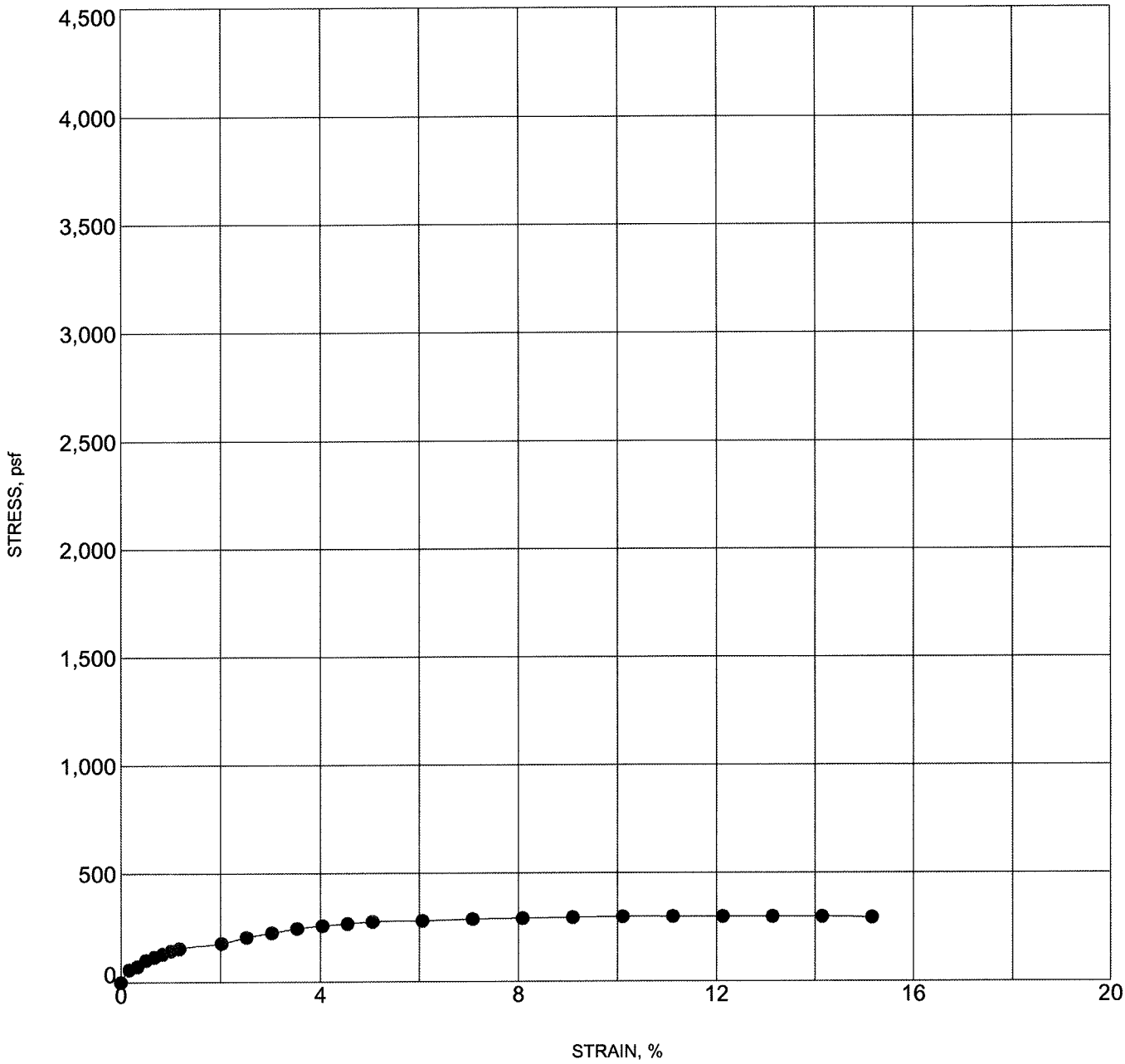

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	11'-13'	**Very Soft, Gray CLAY with organic pockets and Organic CLAY (CH) to (OH)**	**1.0**	**4.8**	**0.30**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	11'-13'	**2.75**	**22.3**	**112.7**	**6.706**	**274.8**	**179**	**52**	**127**

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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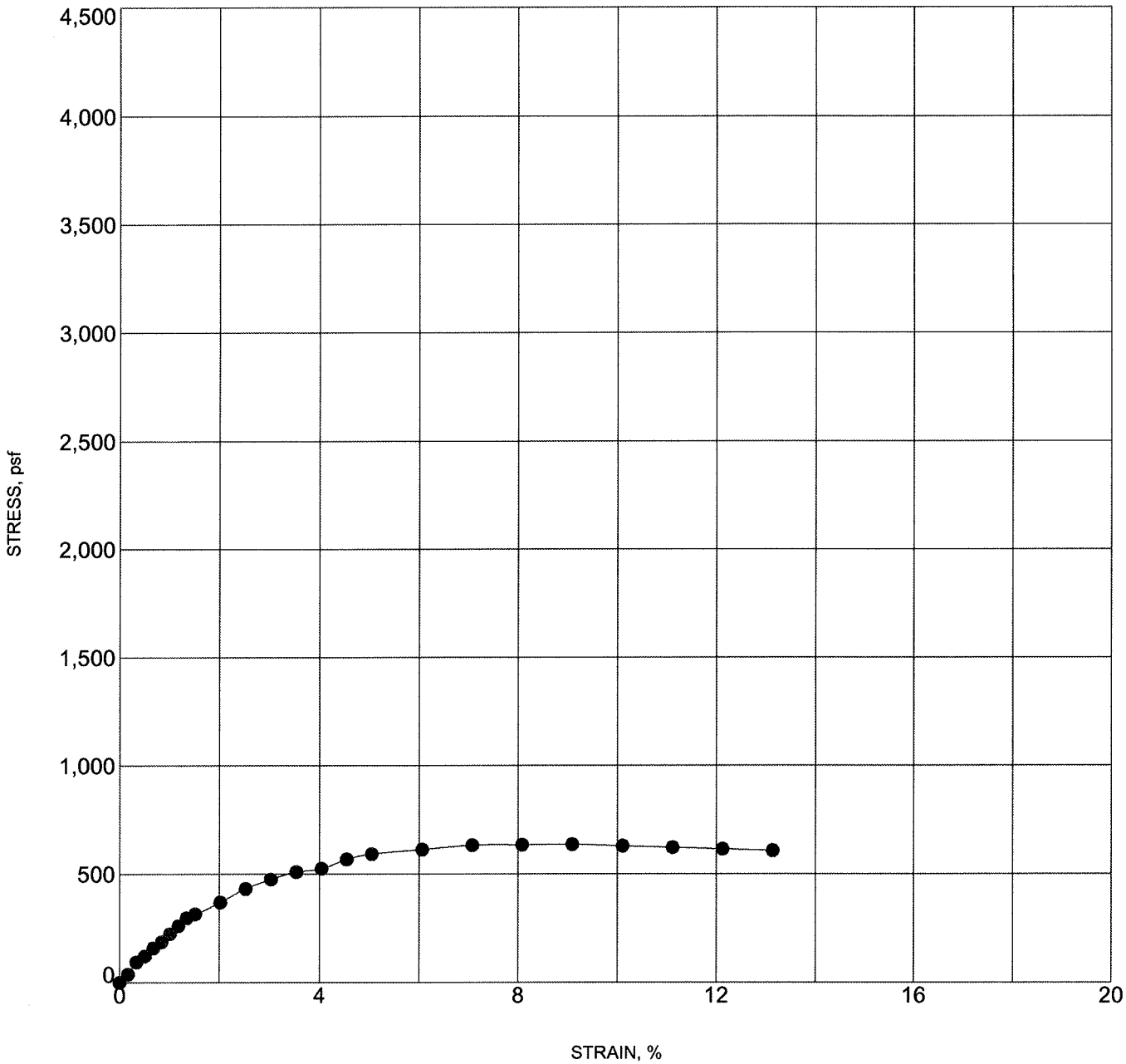

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	14'-16'	**Soft, Gray and Dark Gray Organic CLAY (OH)**	**1.0**	**6.0**	**0.64**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	14'-16'	**2.50**	**35.1**	**85.6**	**3.440**	**117.8**			

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

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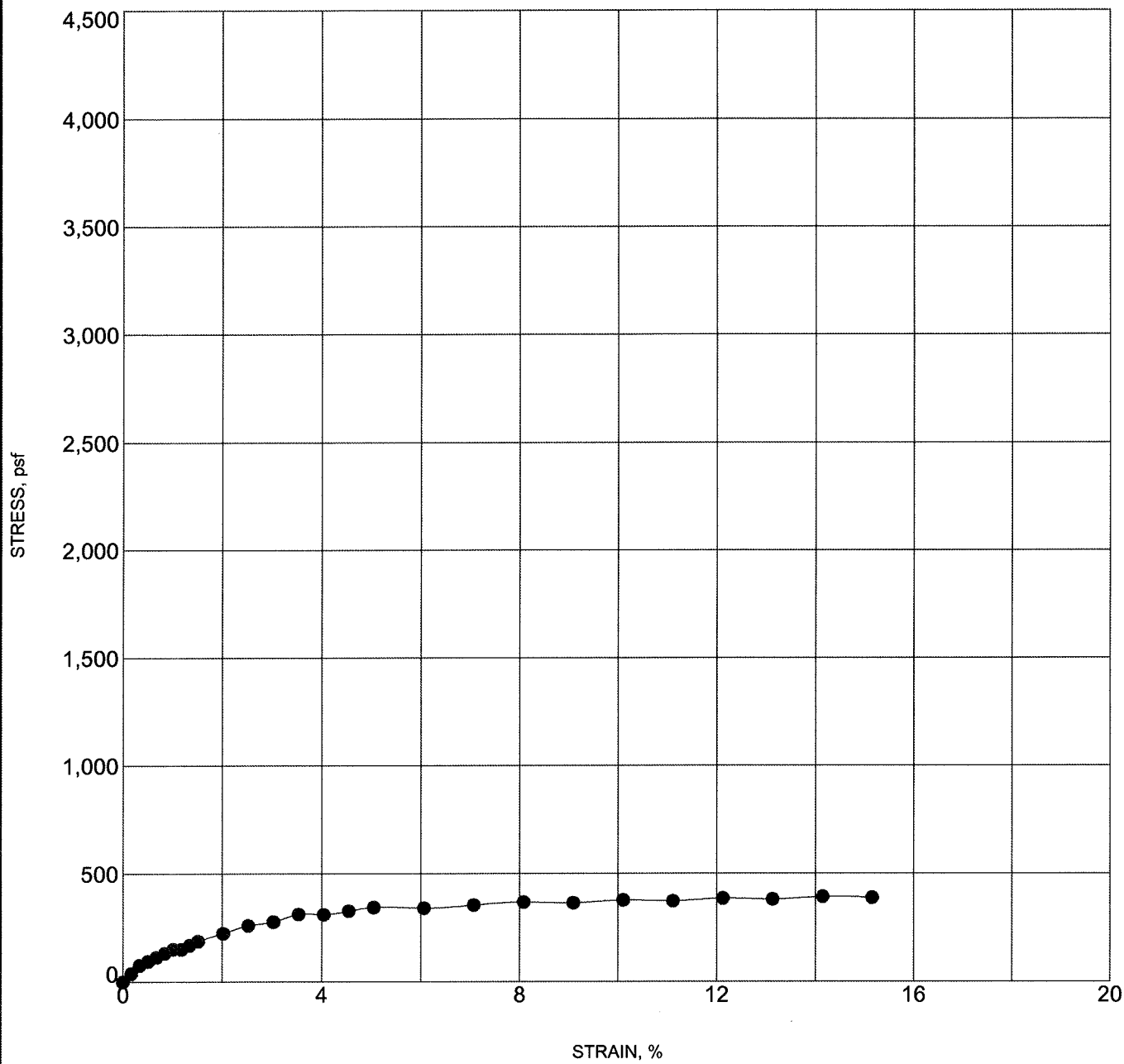

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	18'-20'	**Very Soft, Gray CLAY with organics (CH)**	**1.0**	**7.6**	**0.39**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	18'-20'	**2.75**	**60.3**	**81.8**	**1.844**	**54.9**			

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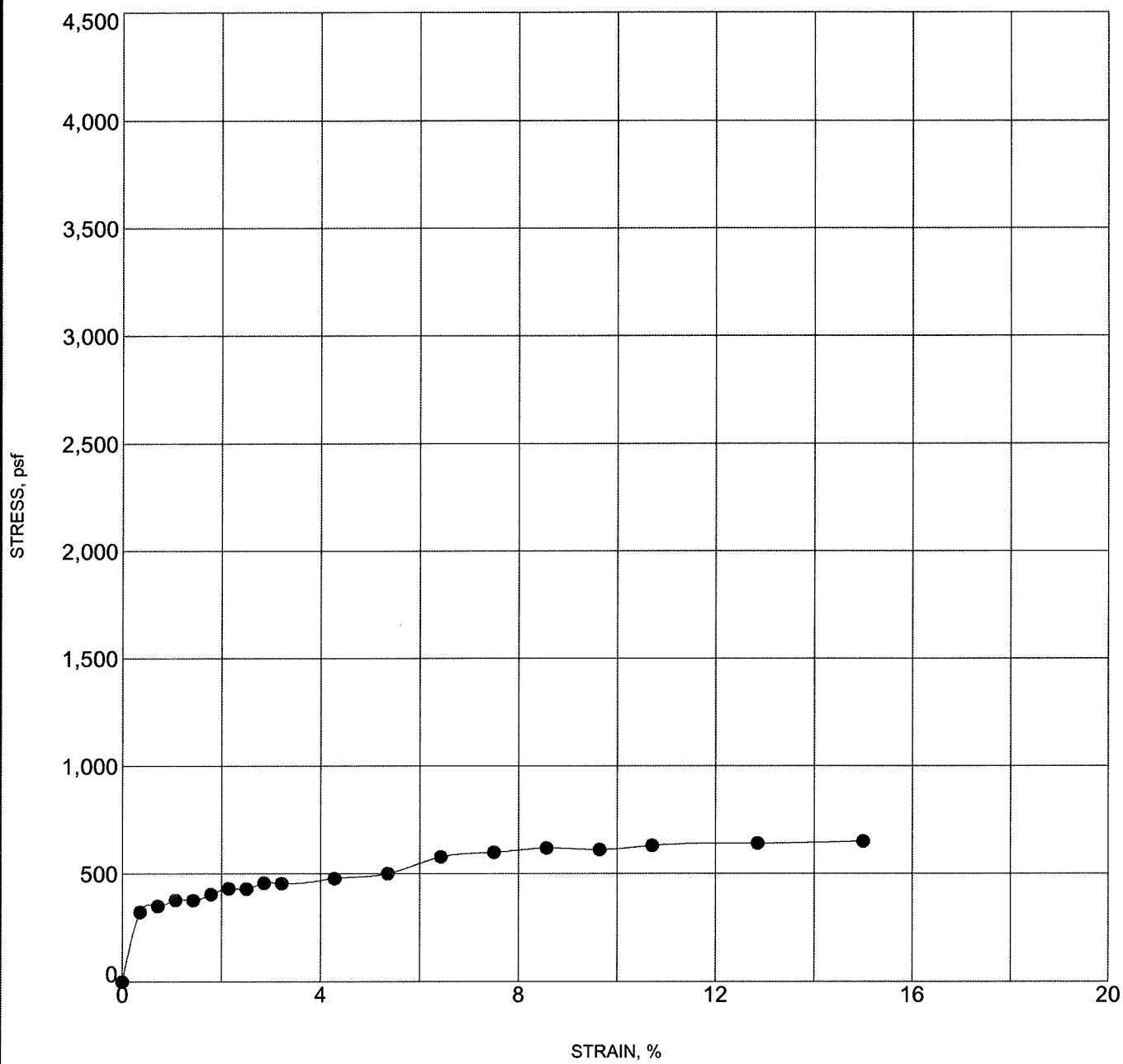

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	23'-25'	**Soft, Gray CLAY with silt pockets (CL/CH)**	**1.0**	**4.6**	**0.65**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	23'-25'	**2.70**	**93.0**	**100.0**	**0.812**	**30.1**	**37**	**18**	**19**

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

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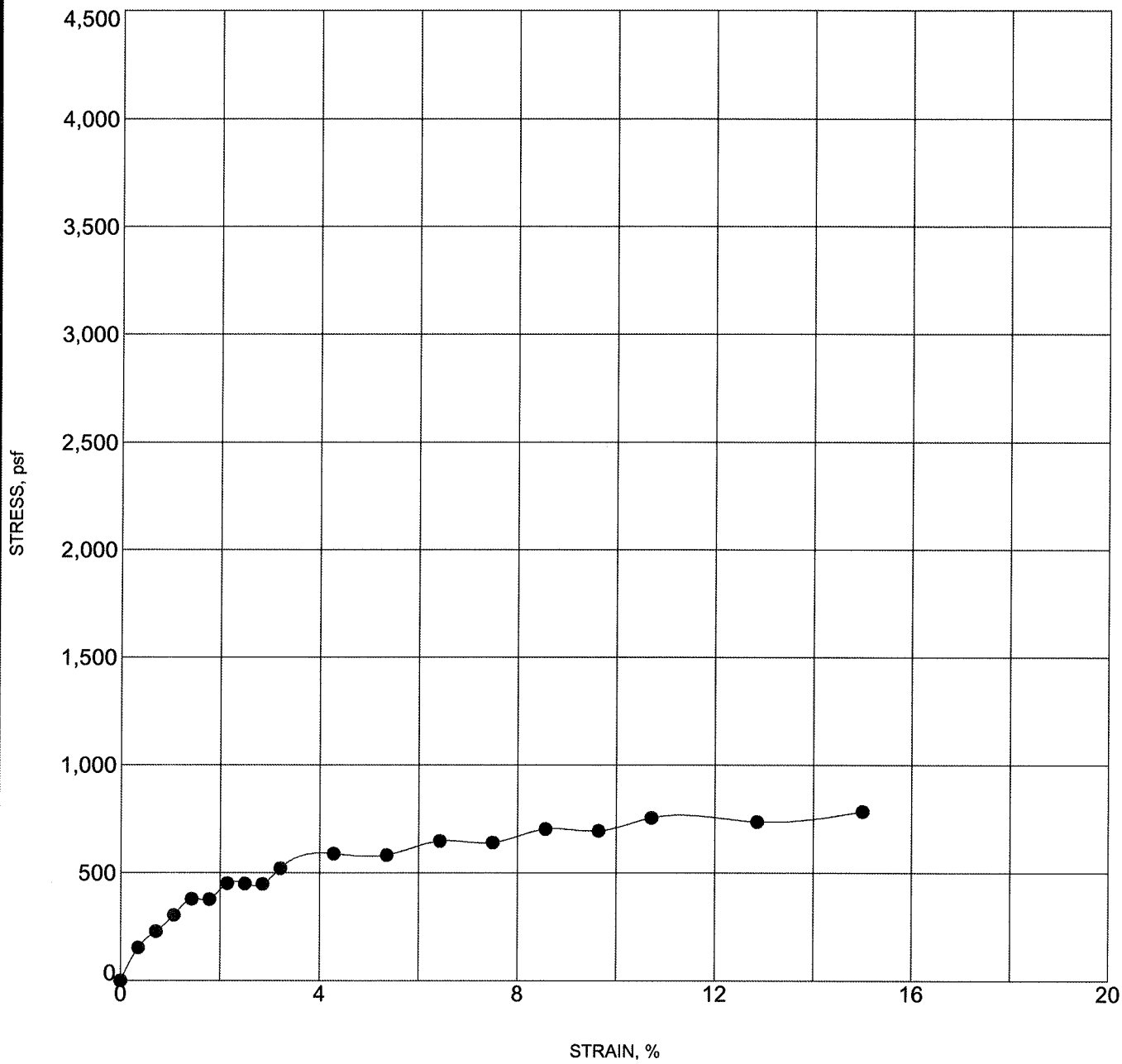

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	23'-25'	**Soft, Gray CLAY with silt pockets (CL/CH)**	**1.0**	**9.6**	**0.78**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	23'-25'	**2.70**	**83.8**	**99.1**	**1.011**	**37.1**	**37**	**18**	**19**

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

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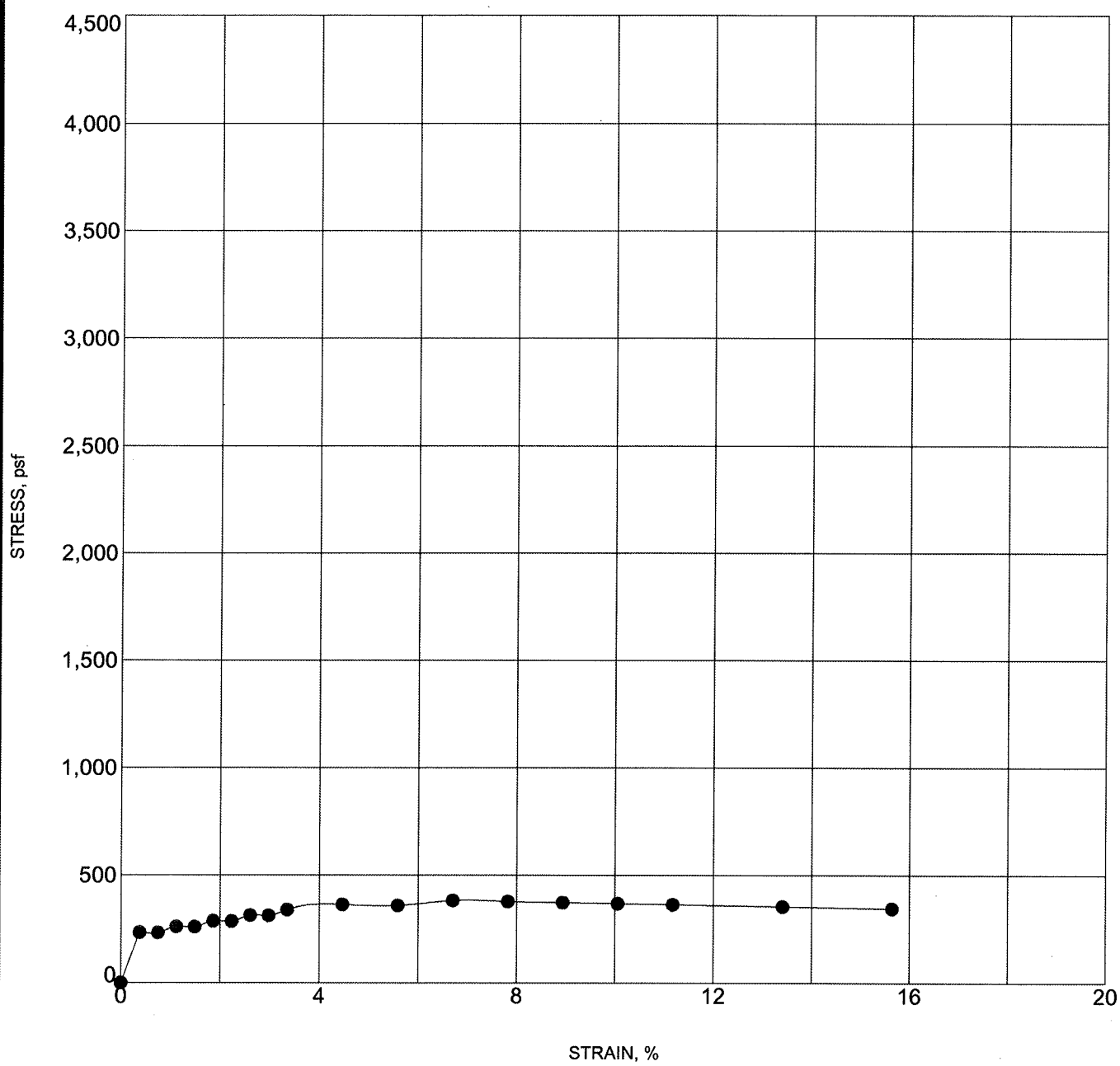

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	23'-25'	**Soft, Gray CLAY with silt pockets (CL/CH)**	**1.0**	**14.6**	**0.38**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	23'-25'	**2.70**	**72.0**	**96.2**	**1.341**	**47.8**	**37**	**18**	**19**

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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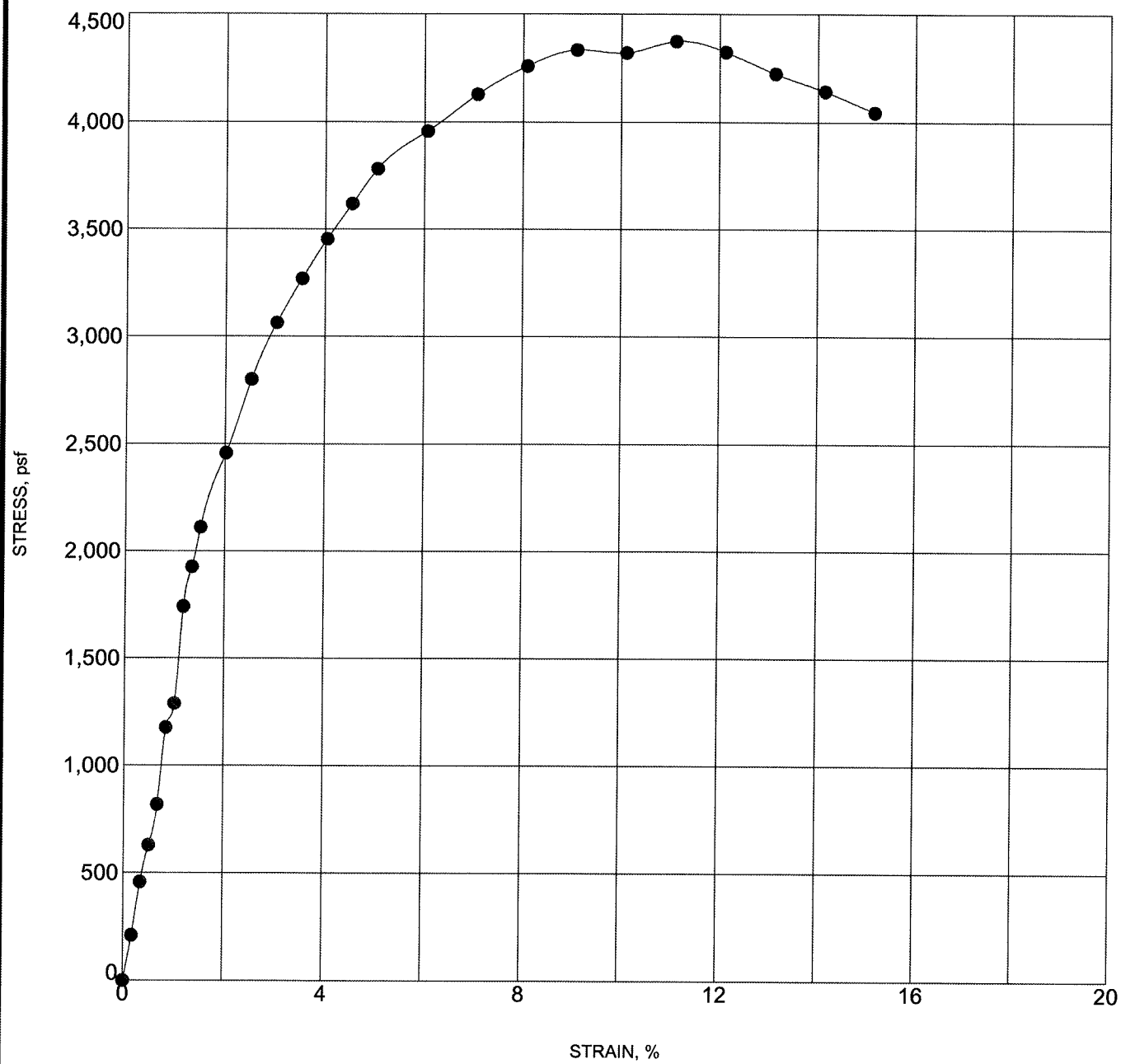

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	28'-30'	**Very Stiff, Light Gray and Tan CLAY with trace of silt pockets (CH)**	**1.0**	**11.6**	**4.37**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	28'-30'	**2.70**	**102.3**	**99.7**	**0.647**	**23.9**			

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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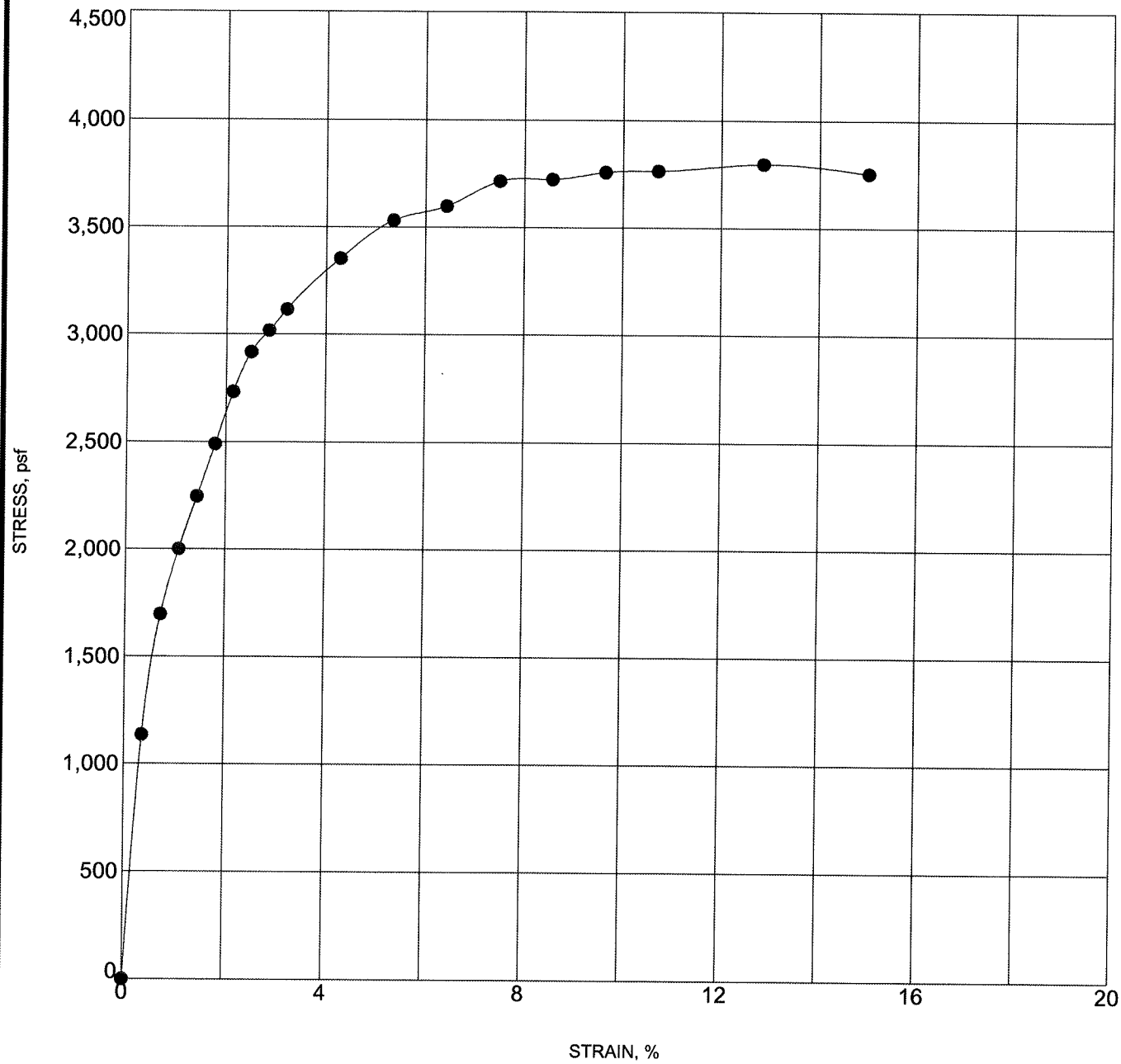

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	33'-35'	**Very Stiff, Brown, Tan and Light Gray CLAY with concretions (CH)**	**1.0**	**8.6**	**3.80**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	33'-35'	**2.70**	**91.9**	**99.5**	**0.833**	**30.7**	**83**	**24**	**59**

SOUTHERN EARTH SCIENCES, inc.

11519 Cloverland Avenue Baton Rouge, LA 70809

UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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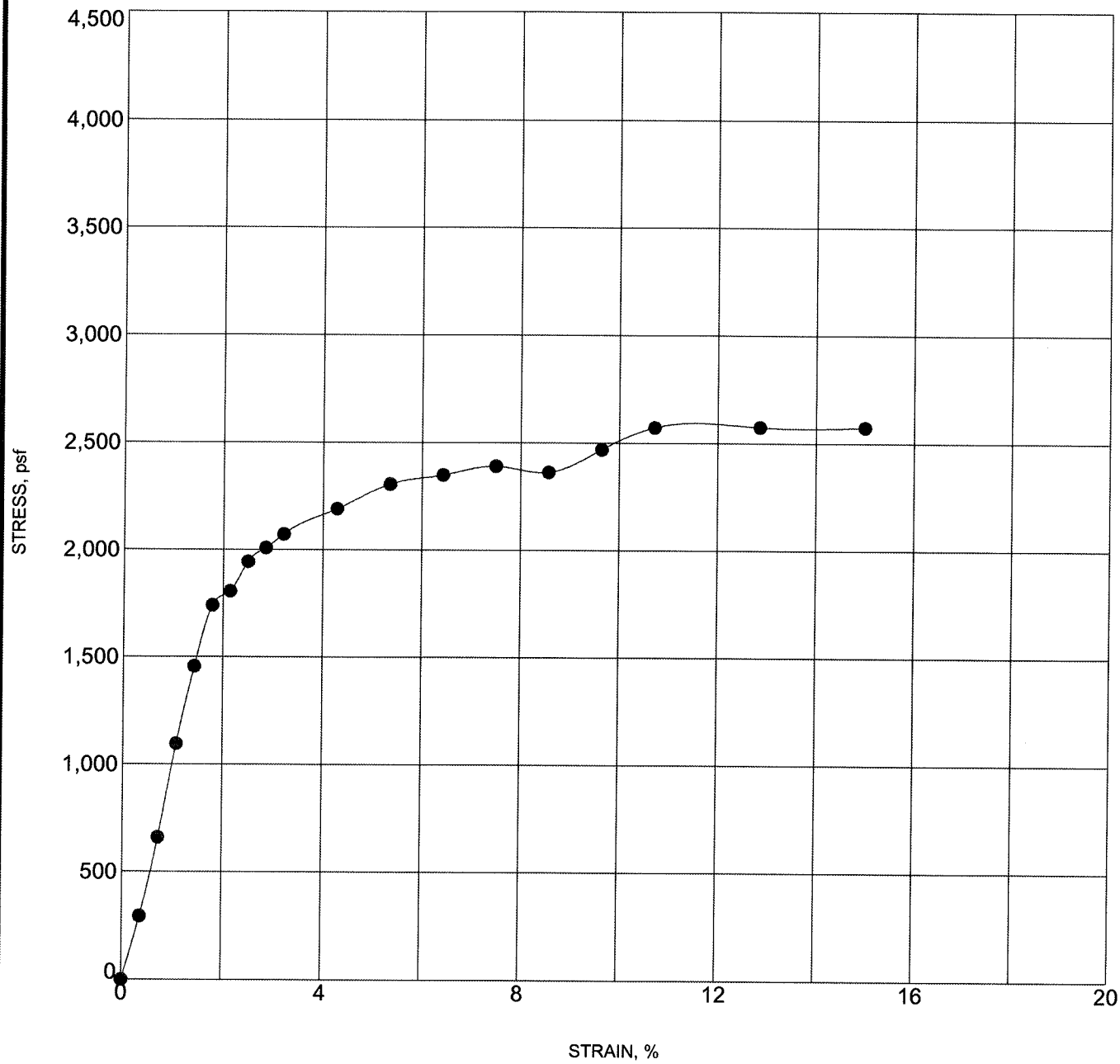

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	33'-35'	**Very Stiff, Brown, Tan and Light Gray CLAY with concretions (CH)**	**1.0**	**13.6**	**2.57**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	33'-35'	**2.70**	**84.4**	**99.9**	**0.996**	**36.9**	**83**	**24**	**59**

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

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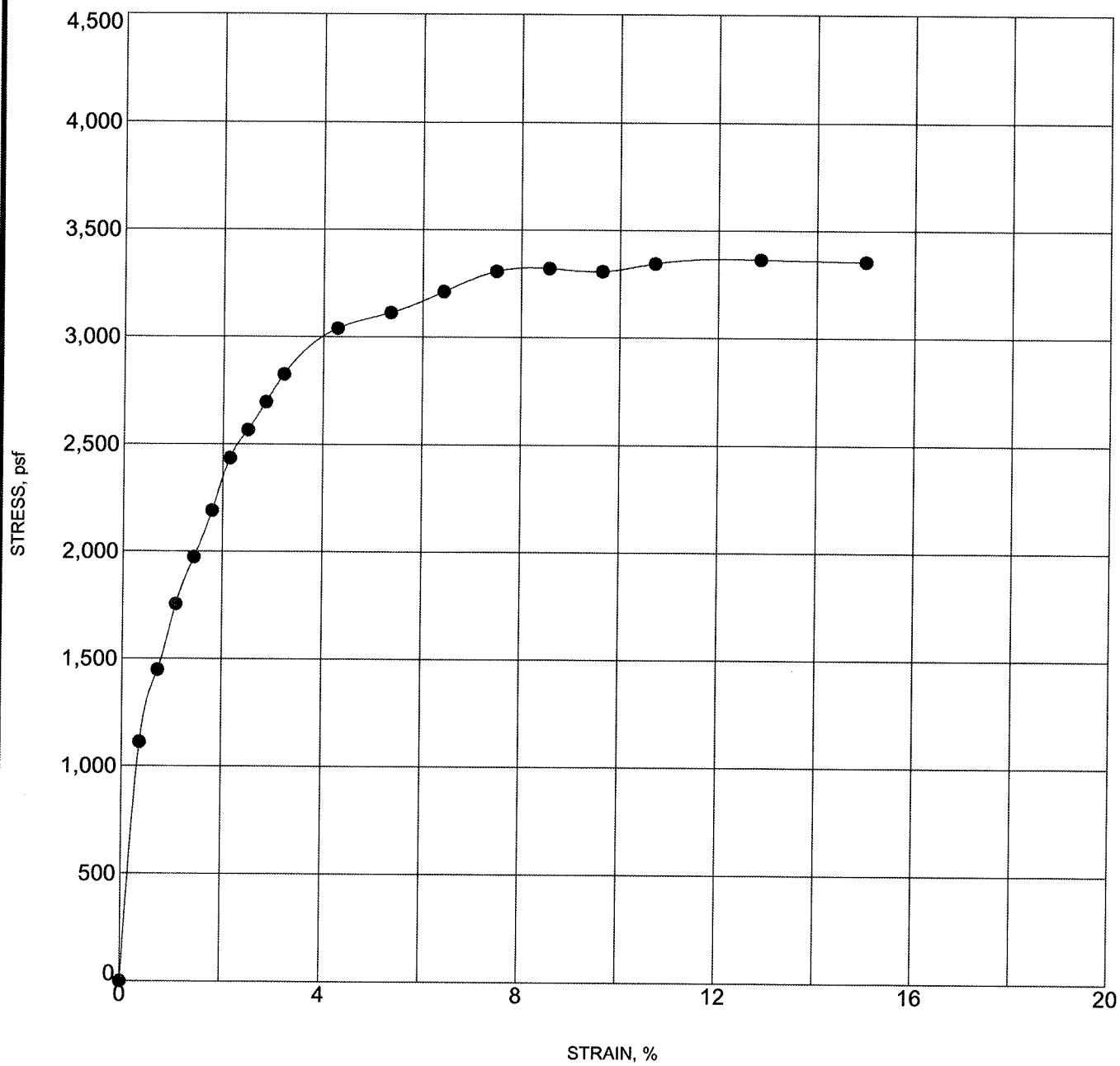

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	33'-35'	**Very Stiff, Brown, Tan and Light Gray CLAY with concretions (CH)**	**1.0**	**18.6**	**3.37**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	33'-35'	**2.70**	**89.7**	**96.4**	**0.879**	**31.4**	**83**	**24**	**59**

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

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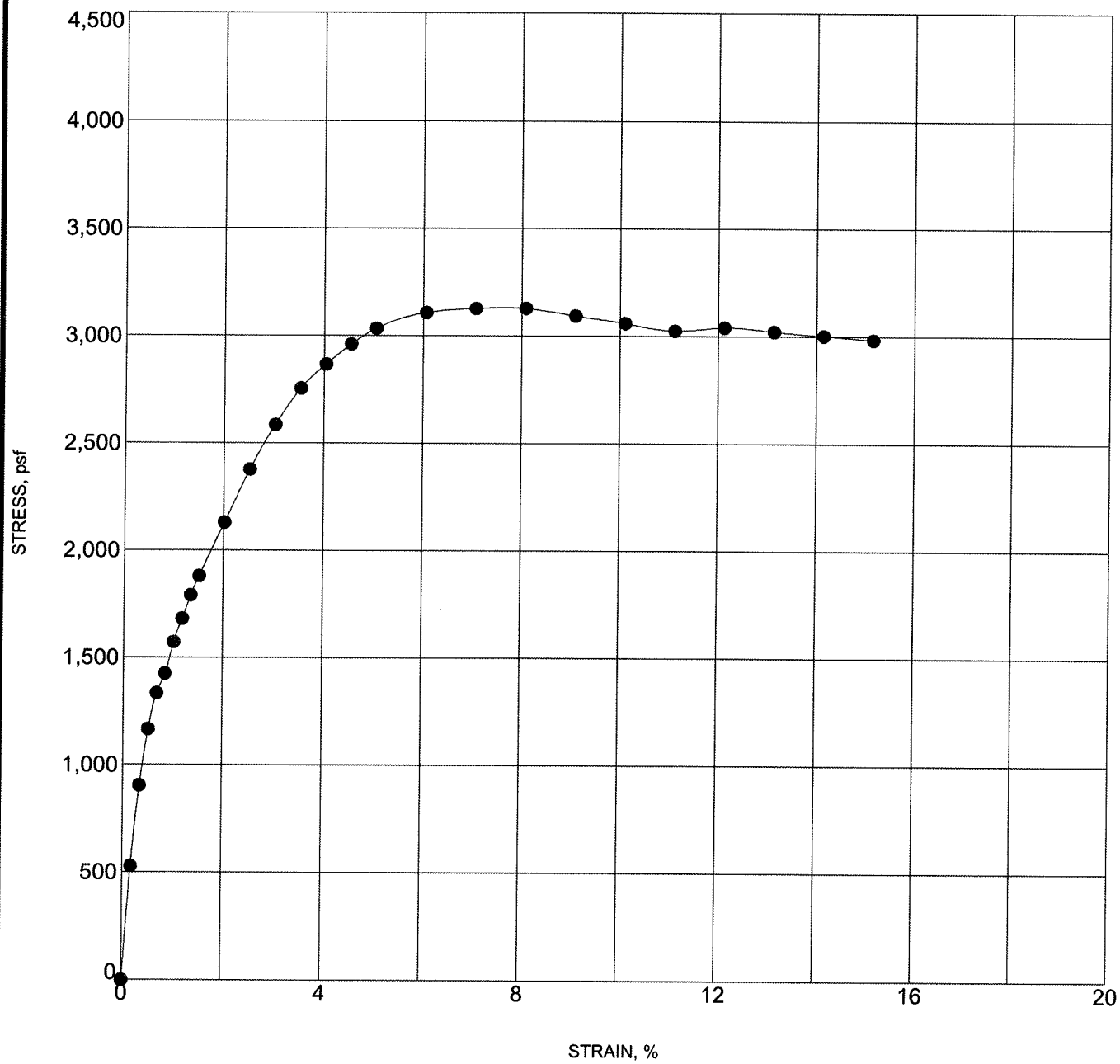

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	63'-65'	**Stiff, Light Gray CLAY with trace of silt pockets (CH)**	**1.0**	**25.6**	**3.13**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	63'-65'	**2.70**	**92.3**	**102.2**	**0.826**	**31.3**			

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

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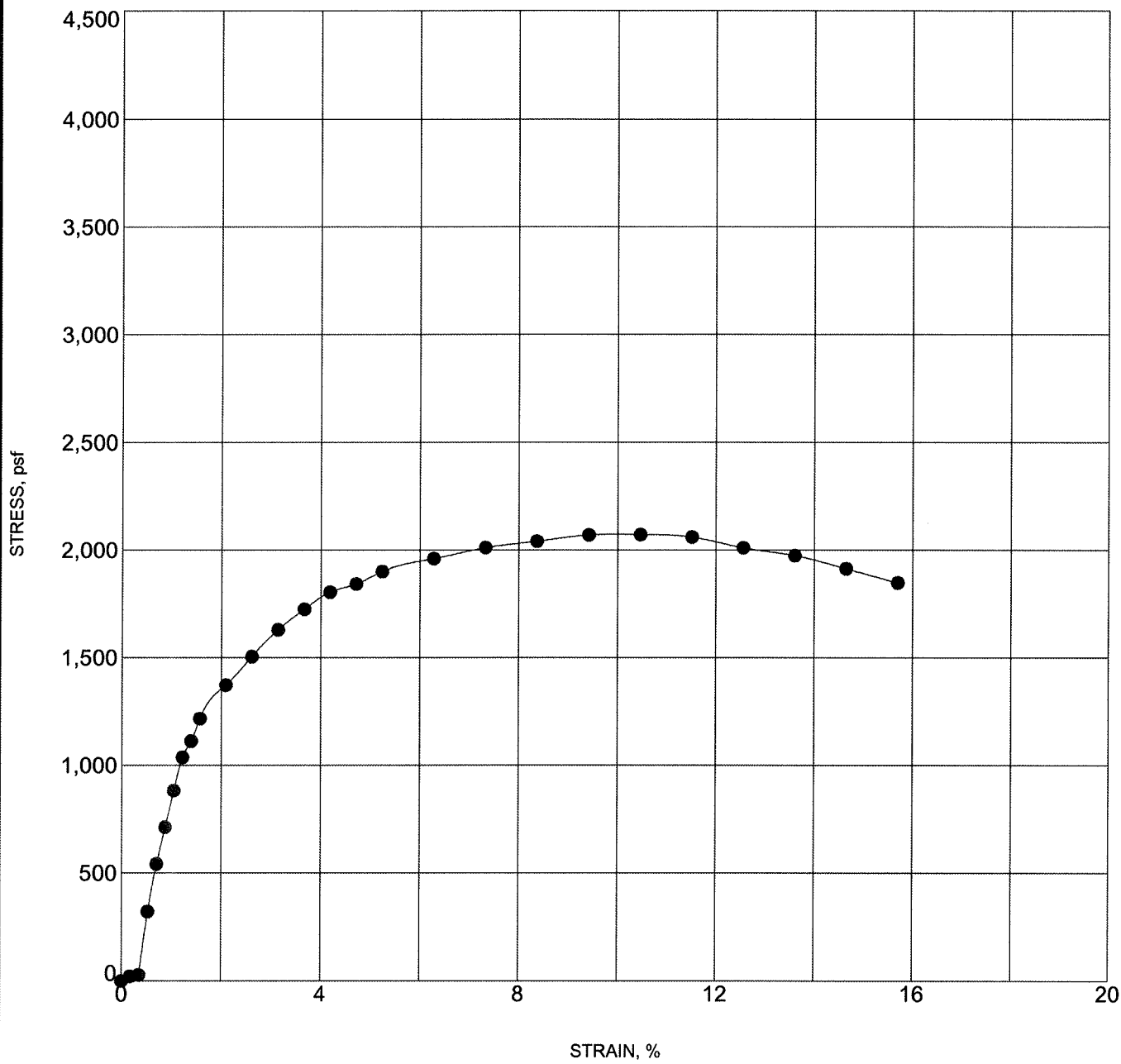

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	68'-70'	**Stiff, Gray CLAY with shell fragments (CH)**	**1.0**	**27.6**	**2.07**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	68'-70'	**2.70**	**81.7**	**95.9**	**1.062**	**37.7**	**90**	**26**	**64**

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

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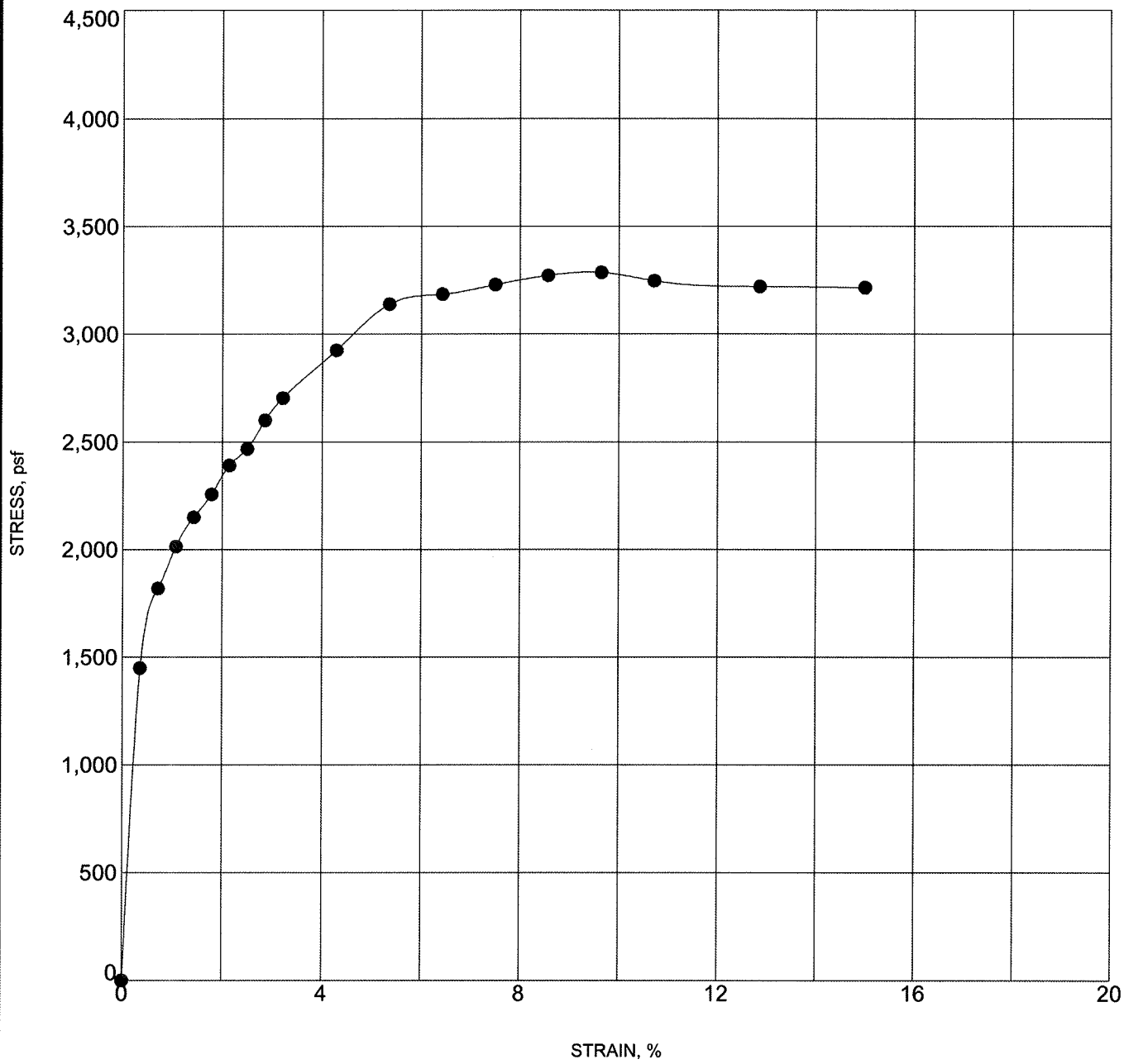

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	73'-75'	**Stiff, Light Gray and Greenish Gray CLAY with trace of silt pockets (CH)**	**1.0**	**24.6**	**3.29**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	73'-75'	**2.70**	**85.7**	**99.8**	**0.967**	**35.7**			

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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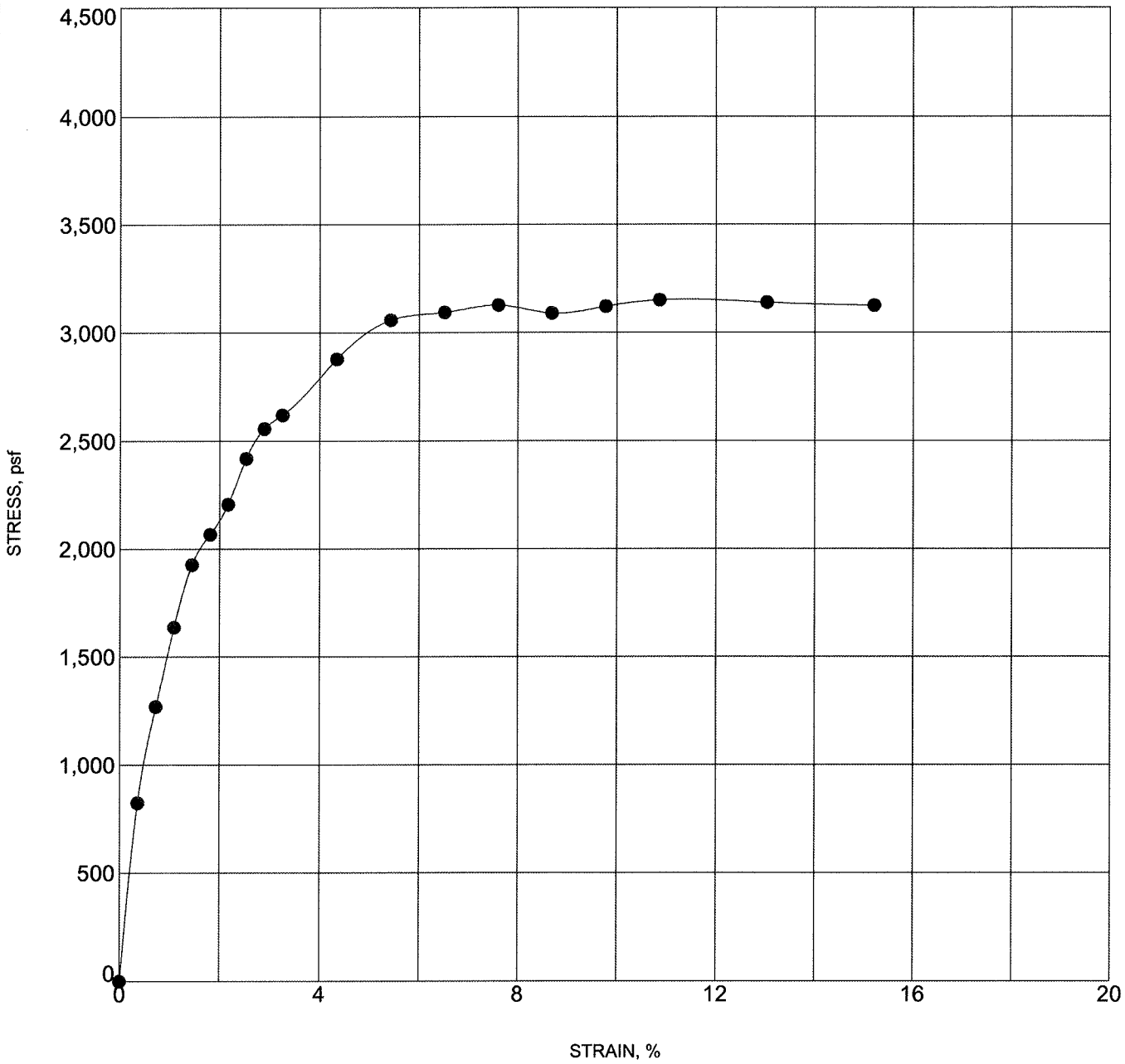

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	73'-75'	**Stiff, Light Gray and Greenish Gray CLAY with trace of silt pockets (CH)**	**1.0**	**29.6**	**3.15**

Specimen Identification		Assumed G_s	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	73'-75'	**2.70**	**84.9**	**101.7**	**0.985**	**32.1**			

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

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Number: B07-163

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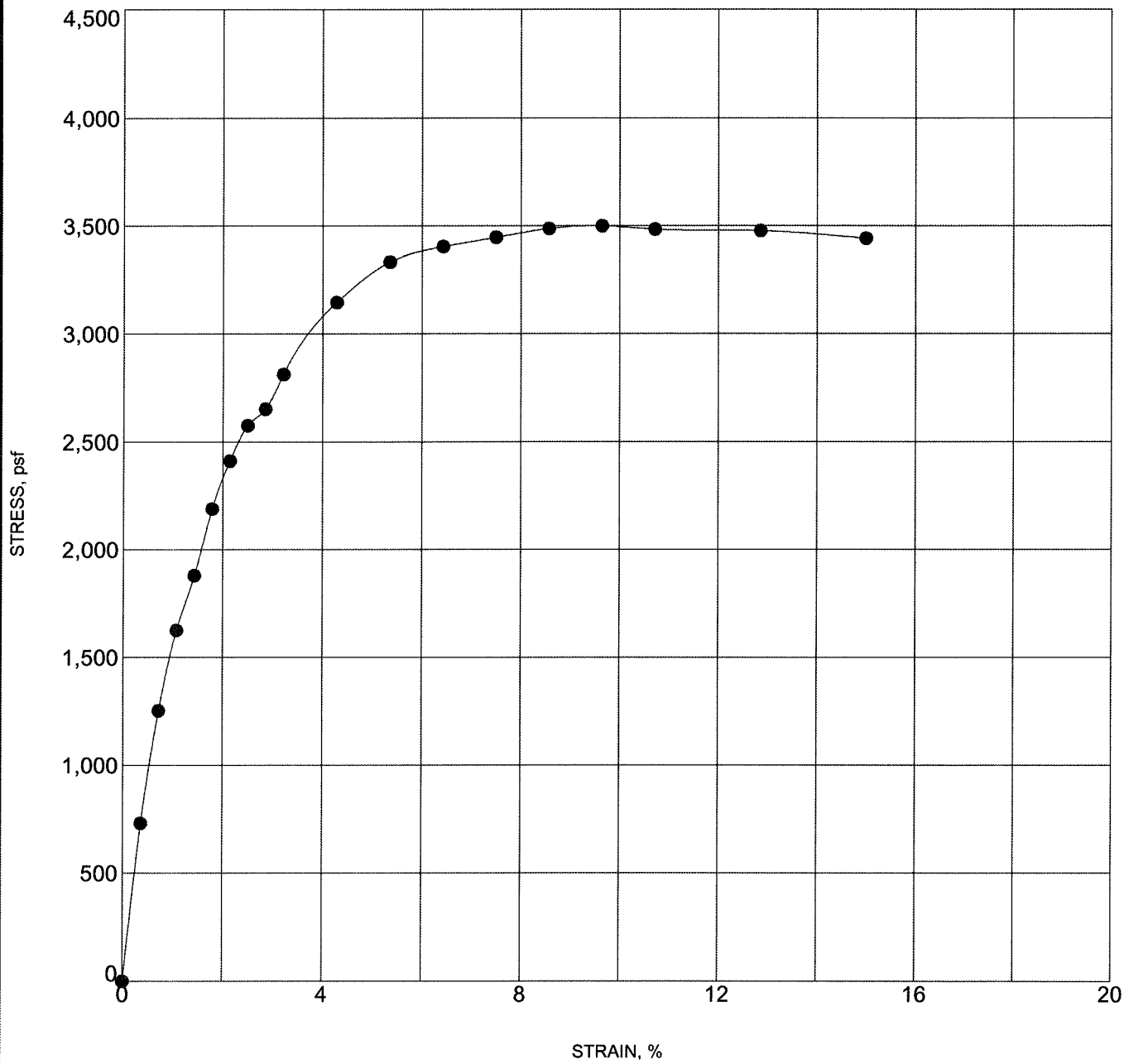

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	73'-75'	**Stiff, Light Gray and Greenish Gray CLAY with trace of silt pockets (CH)**	**1.0**	**34.6**	**3.50**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	73'-75'	**2.70**	**92.8**	**99.2**	**0.816**	**30.0**			

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

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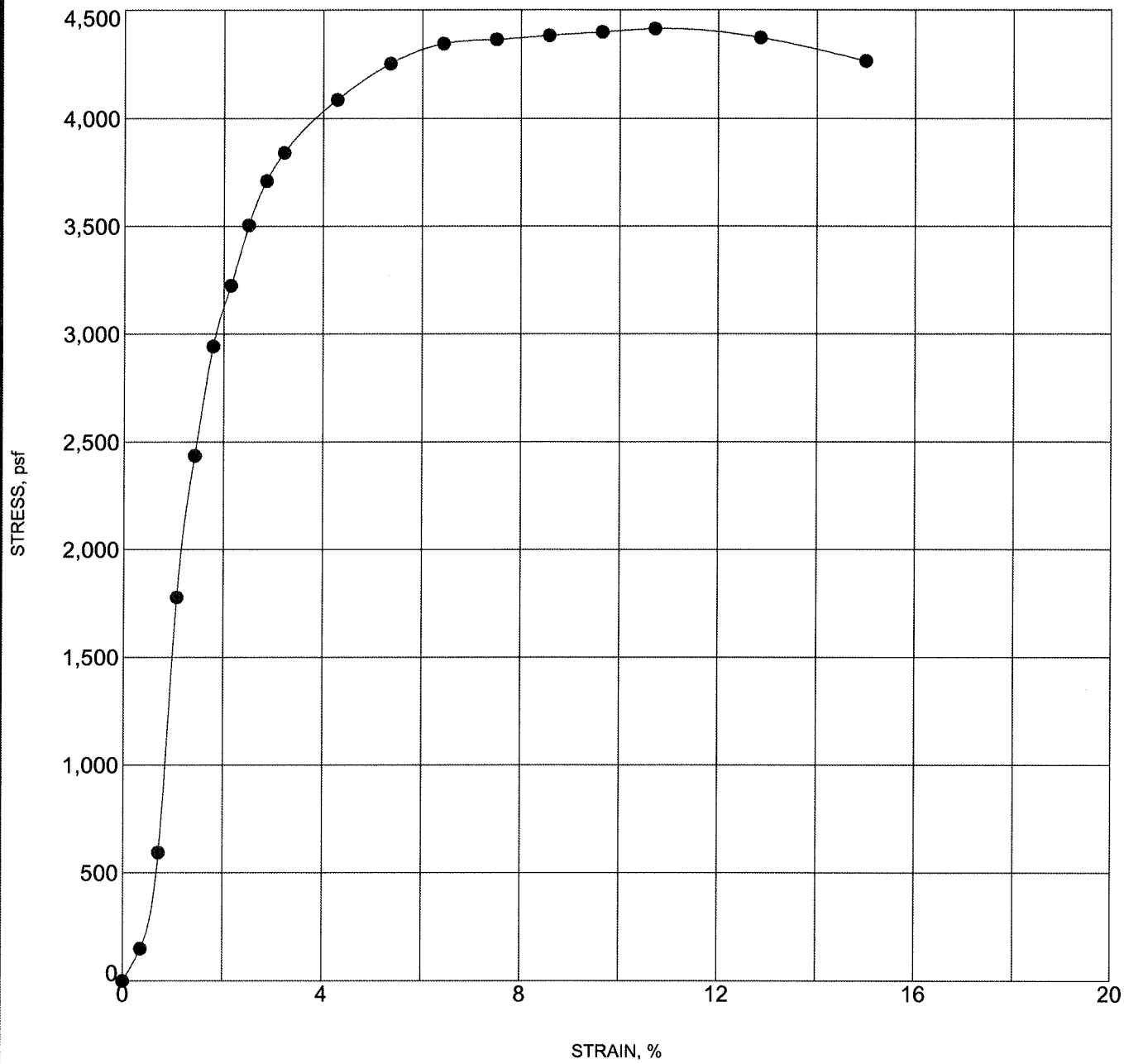

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	78'-80'	**Stiff to Very Stiff, Light Gray and Greenish Gray CLAY (CH)**	**1.0**	**26.6**	**4.41**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	78'-80'	**2.75**	**86.5**	**99.5**	**0.985**	**35.6**			

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

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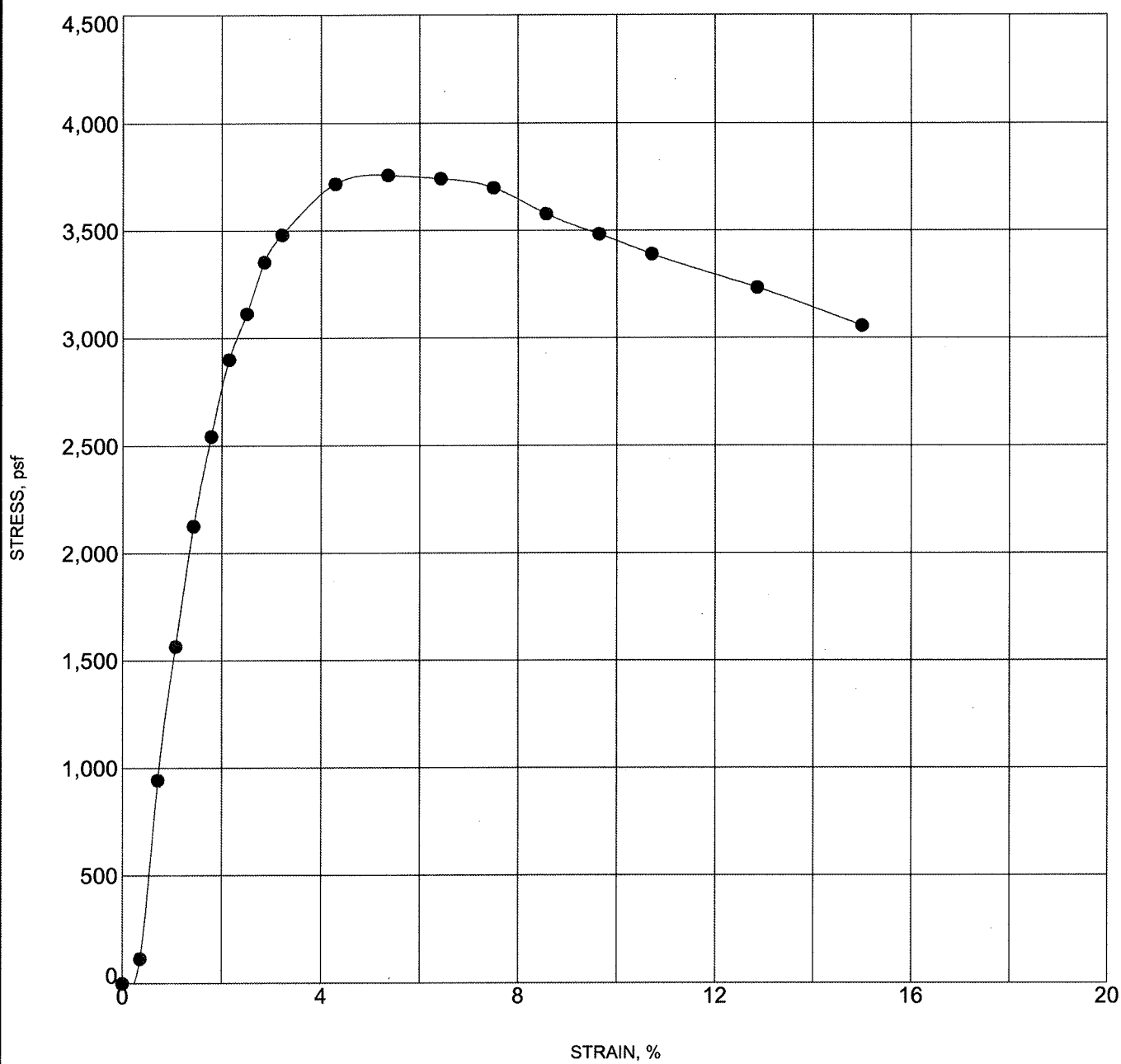

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	78'-80'	**Stiff to Very Stiff, Light Gray and Greenish Gray CLAY (CH)**	**1.0**	**31.6**	**3.76**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	78'-80'	**2.75**	**85.9**	**97.5**	**0.999**	**35.4**			

SOUTHERN EARTH SCIENCES, inc.

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

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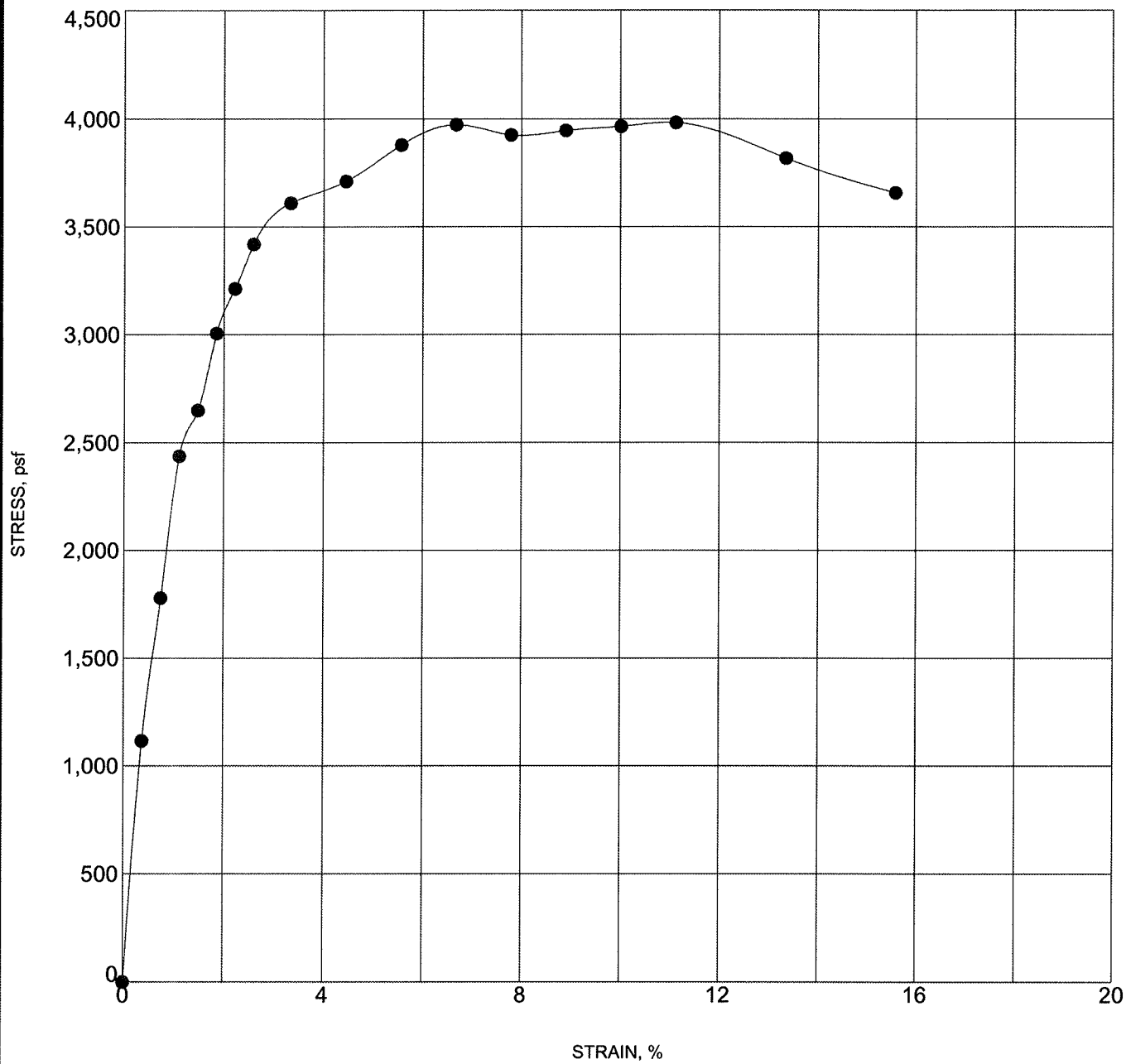

Specimen Identification		Classification	Axial Strain Rate % per min	CHAMBER PRESSURE psi	AXIAL LOAD AT FAILURE ksf
● B-6	78'-80'	**Stiff to Very Stiff, Light Gray and Greenish Gray CLAY (CH)**	**1.0**	**36.6**	**3.98**

Specimen Identification		Assumed G_S	γ_d	% SAT	Initial Void Ratio	MC%	LL	PL	PI
● B-6	78'-80'	**2.75**	**86.3**	**95.9**	**0.988**	**34.5**			

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UNCONSOLIDATED UNDRAINED COMPRESSION TEST - ASTM D2850

Project: LDNR LAKE MAUREPAS

Location: SAMPLES DELIVERED TO SESI LAB

Number: B07-163

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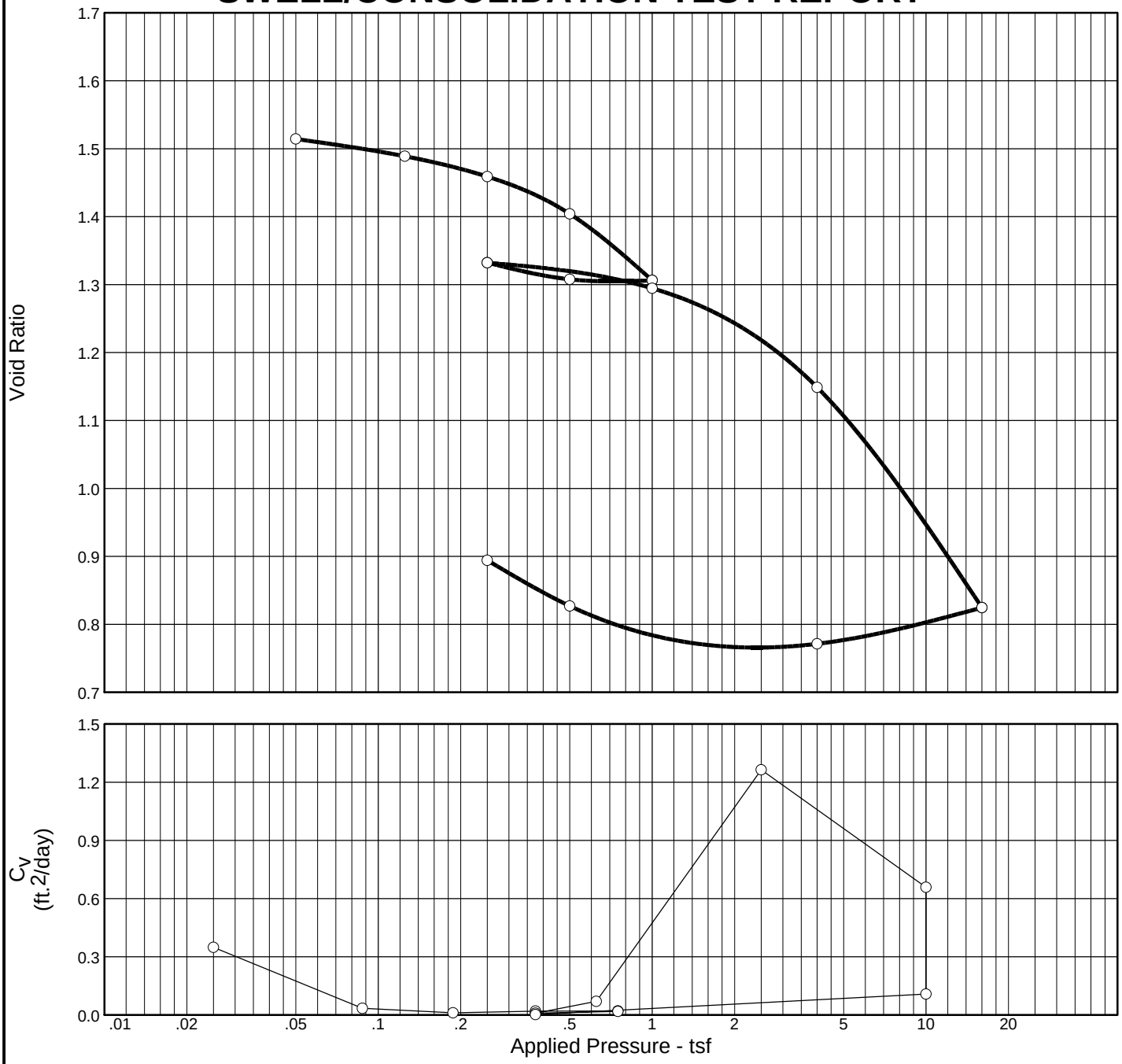
SWELL/CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
94.9 %	51.3 %	69.5	70	44	2.8	1.34	0.47	1.514

MATERIAL DESCRIPTION	USCS	AASHTO
Gray fat Clay (CH)	CH	

Project No. APS-1301-G001 **Client:**

Project: LAKE MAUREPAS

Source: B-1 **Sample No.:** 8 **Elev./Depth:** 23-25

Remarks:

SWELL/CONSOLIDATION TEST REPORT

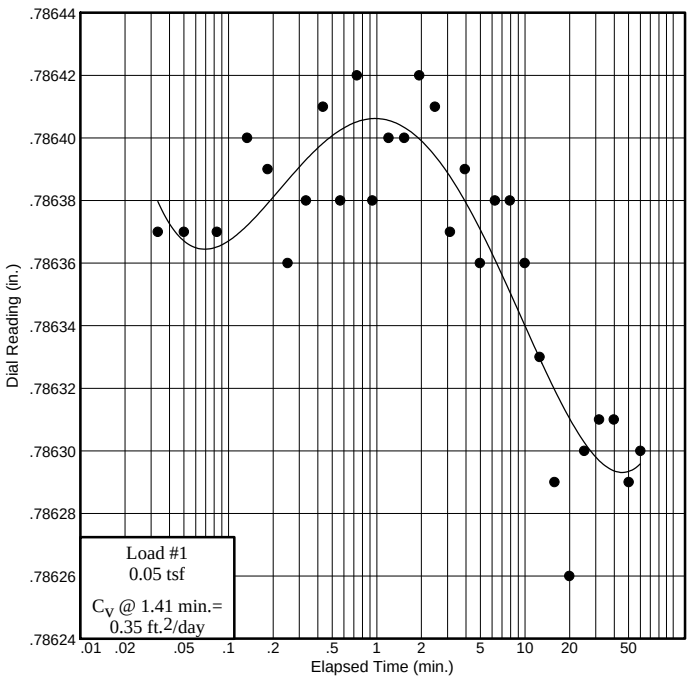
APS Design and Testing,LLC

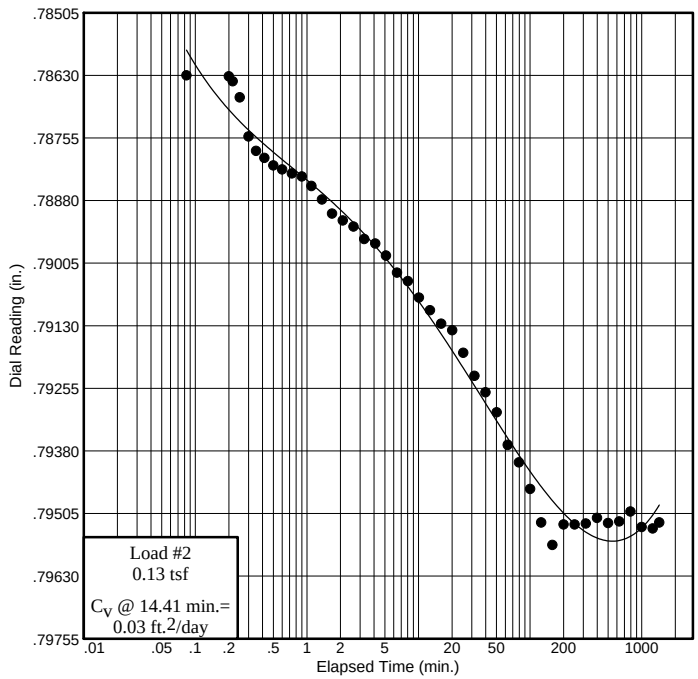
Figure

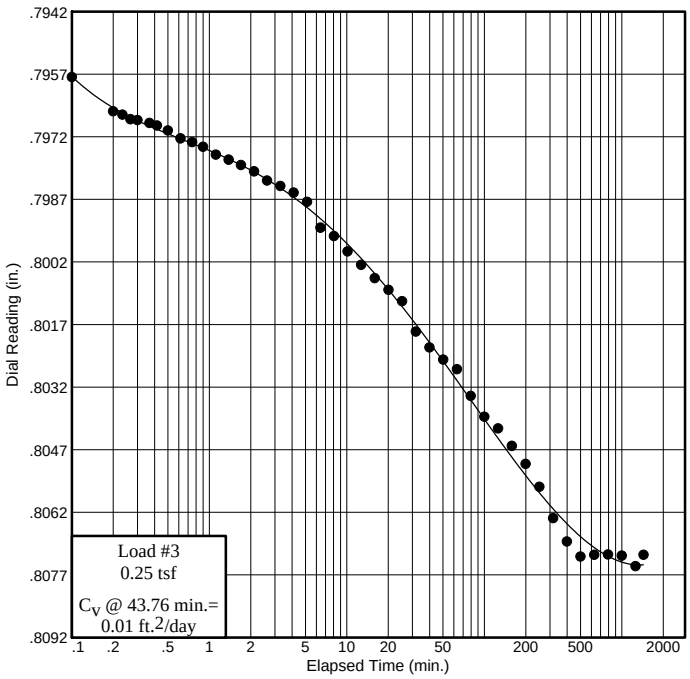
Dial Reading vs. Time

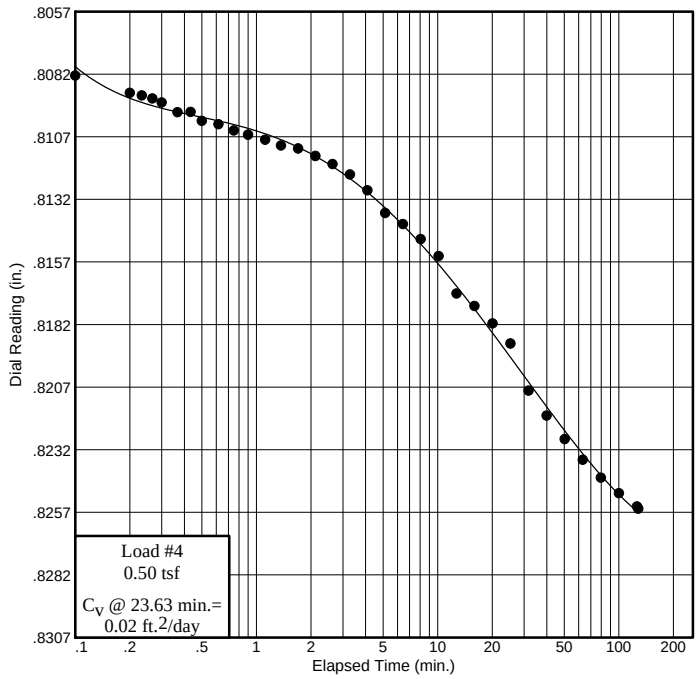
Project No.: APS-1301-G001
Project: LAKE MAUREPAS

Source: B-1 **Sample No.:** 8 **Elev./Depth:** 23-25









Dial Reading vs. Time

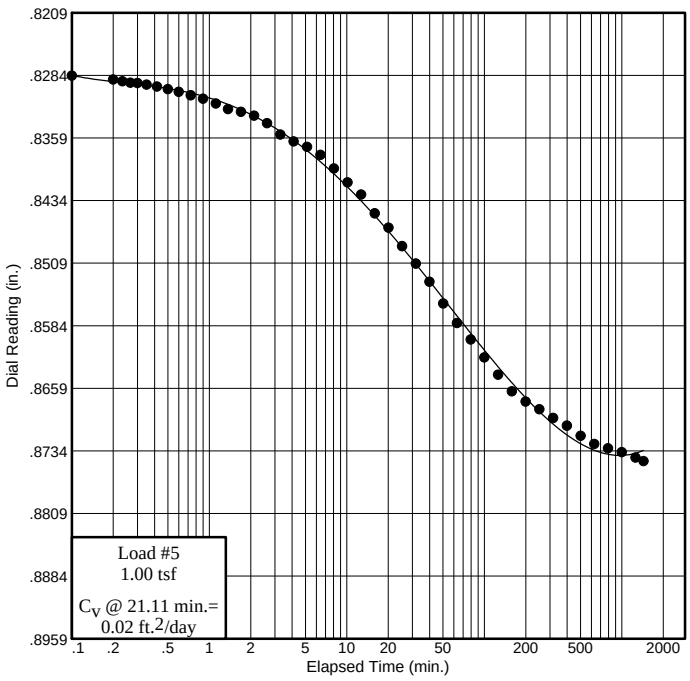
APS Design and Testing, LLC

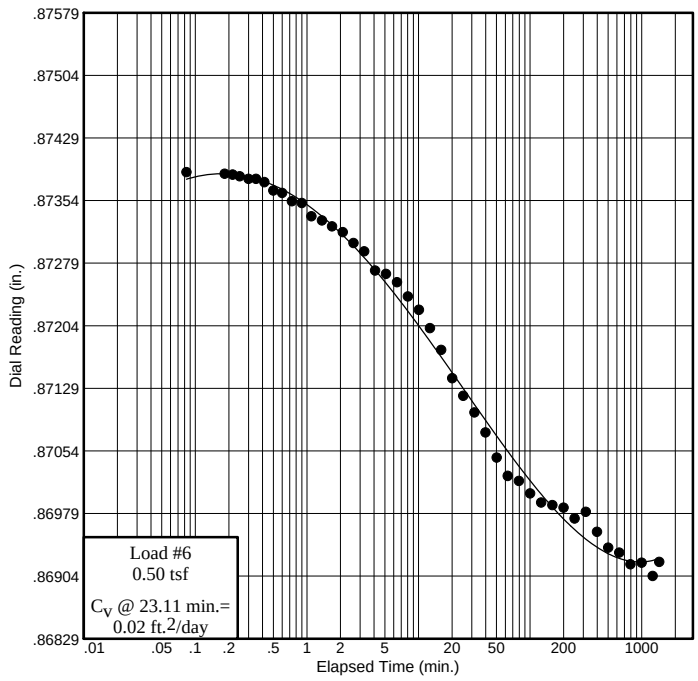
Figure

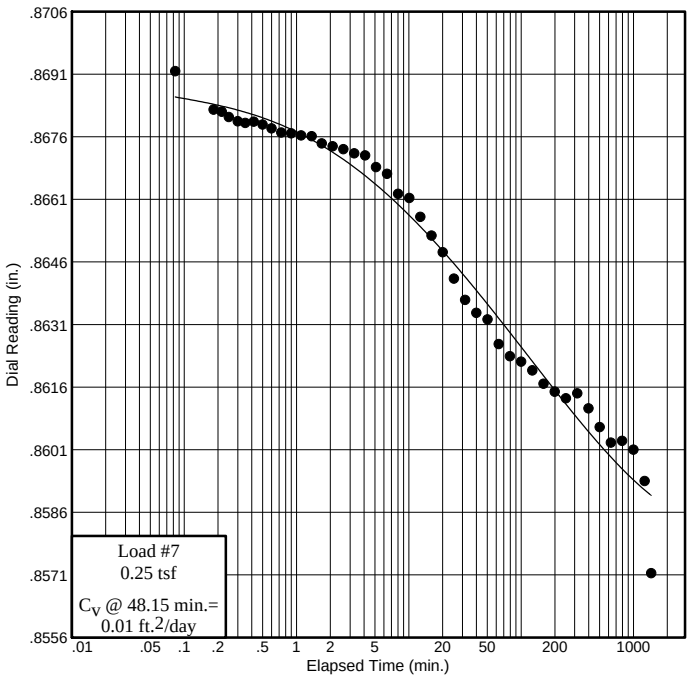
Dial Reading vs. Time

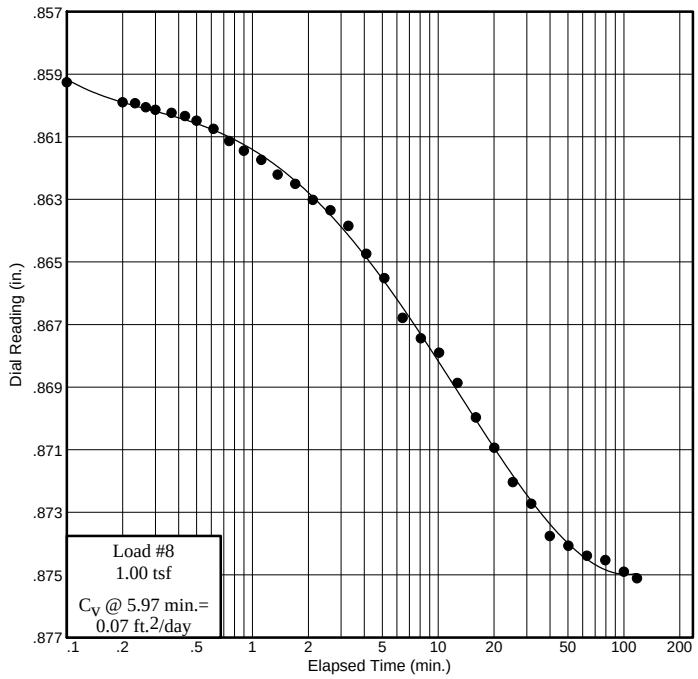
Project No.: APS-1301-G001
Project: LAKE MAUREPAS

Source: B-1 **Sample No.:** 8 **Elev./Depth:** 23-25









Dial Reading vs. Time

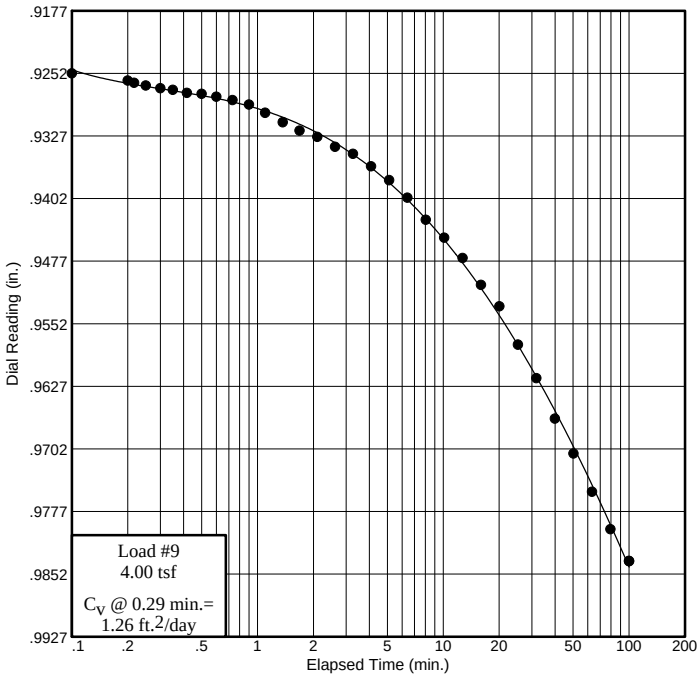
APS Design and Testing, LLC

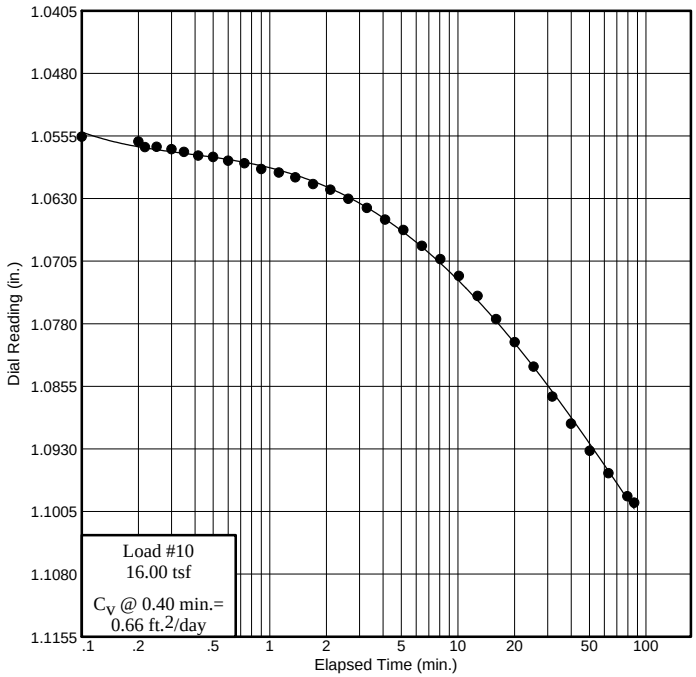
Figure

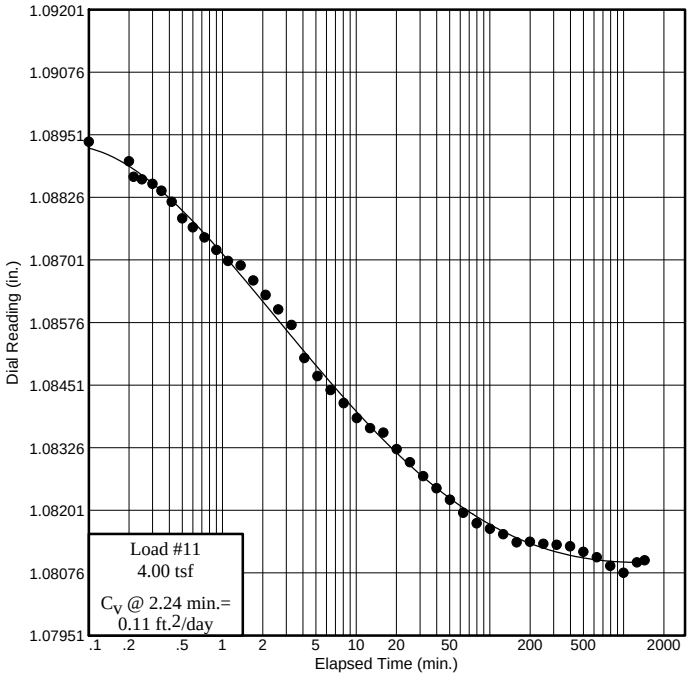
Dial Reading vs. Time

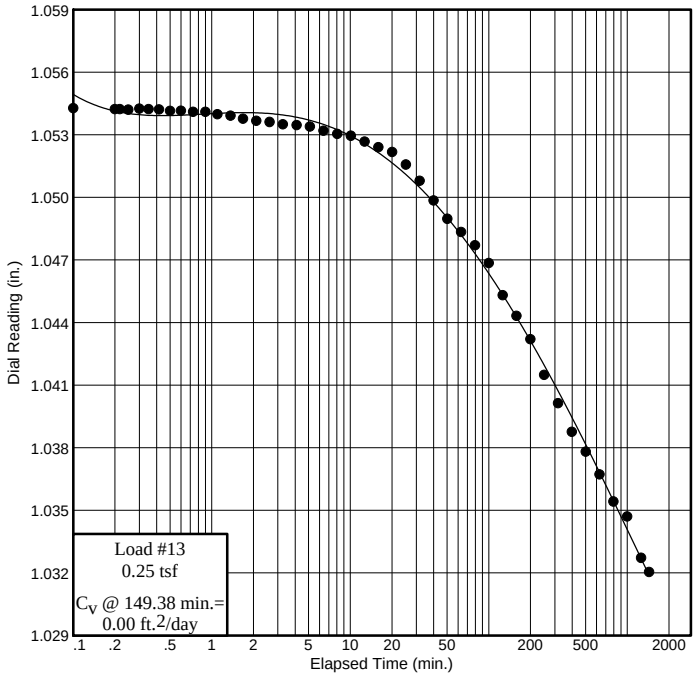
Project No.: APS-1301-G001
Project: LAKE MAUREPAS

Source: B-1 **Sample No.:** 8 **Elev./Depth:** 23-25







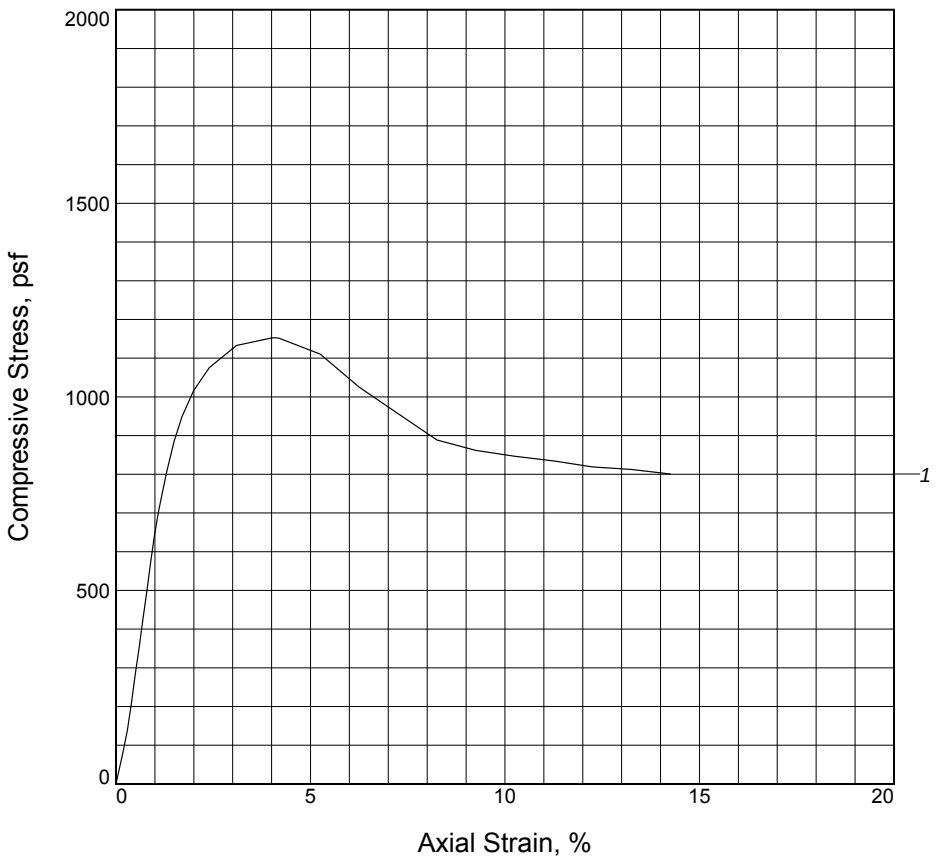


Dial Reading vs. Time

APS Design and Testing,LLC

Figure

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psf	1152.8			
Undrained shear strength, psf	576.4			
Failure strain, %	4.1			
Strain rate, in./min.	1.00			
Water content, %	48.5			
Wet density, pcf	106.5			
Dry density, pcf	71.7			
Saturation, %	97.0			
Void ratio	1.3504			
Specimen diameter, in.	2.82			
Specimen height, in.	5.77			
Height/diameter ratio	2.05			

Description: Medium Light Grey to Brown Fat Clay (CH) with Fe nodules

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

Project No.: APS-1301-G001

Date Sampled: 01-22-13

Remarks:
Slicken-side Failure

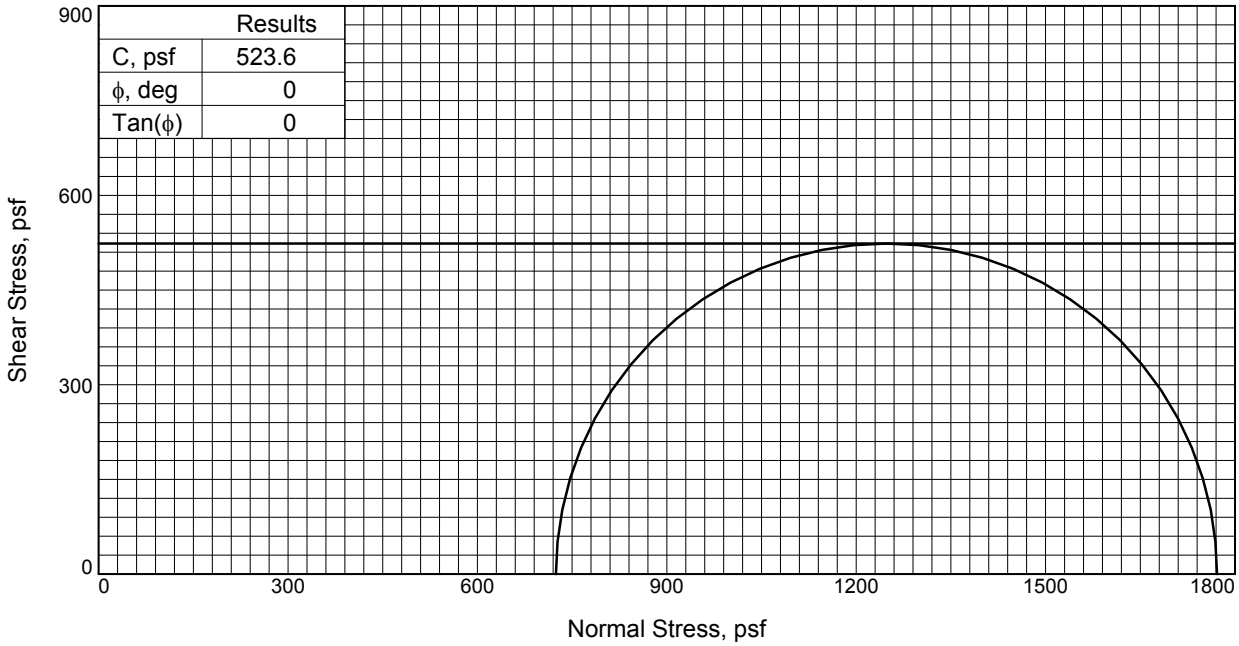
Figure _____

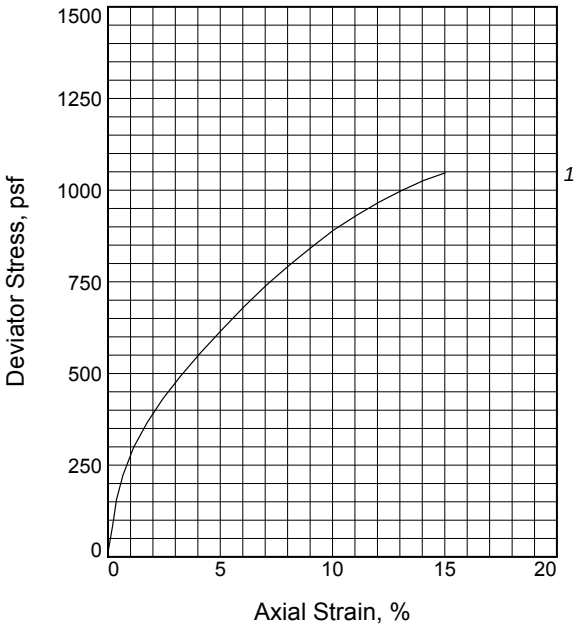
Client: URS

Project: Lake Maurepas

Source of Sample: B-1 **Depth:** 4-6
Sample Number: 3

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





Sample No.		1
Initial	Water Content, %	39.1
	Dry Density, pcf	82.2
	Saturation, %	98.8
	Void Ratio	1.0895
	Diameter, in.	2.84
	Height, in.	5.78
At Test	Water Content, %	39.1
	Dry Density, pcf	82.2
	Saturation, %	98.8
	Void Ratio	1.0895
	Diameter, in.	2.84
	Height, in.	5.78
Strain rate, in./min.		1.00
Back Pressure, tsf		0.0000
Cell Pressure, tsf		0.3622
Fail. Stress, psf		1047.2
Strain, %		15.0
Ult. Stress, psf		
Strain, %		
σ_1 Failure, psf		1771.6
σ_3 Failure, psf		724.3

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: Medium Light Grey Fat Clay (CH) with sand lenses

LL= 58 **PL=** 28 **PI=** 30

Assumed Specific Gravity= 2.75

Remarks: Bulge Failure

Figure _____

Client: URS

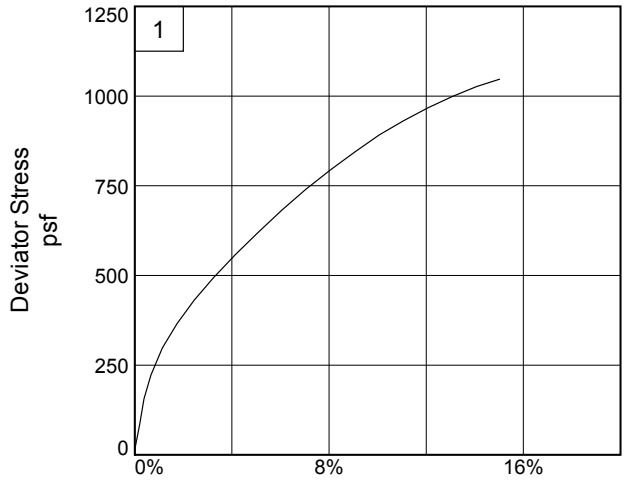
Project: Lake Maurepas

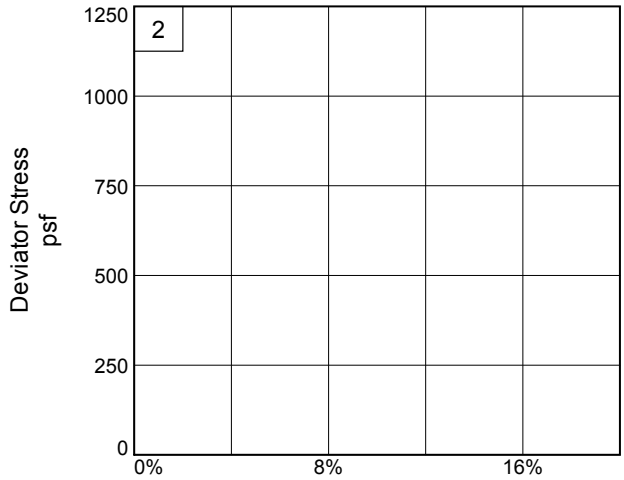
Source of Sample: B-1 **Depth:** 6-8

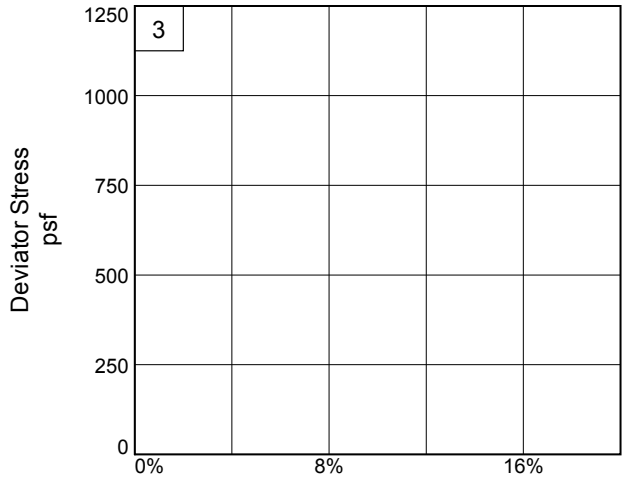
Sample Number: 4

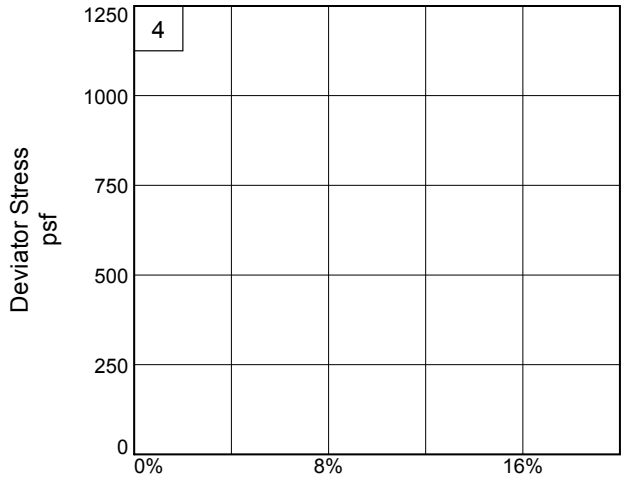
Proj. No.: APS-1301-G001 **Date Sampled:** 01-22-13

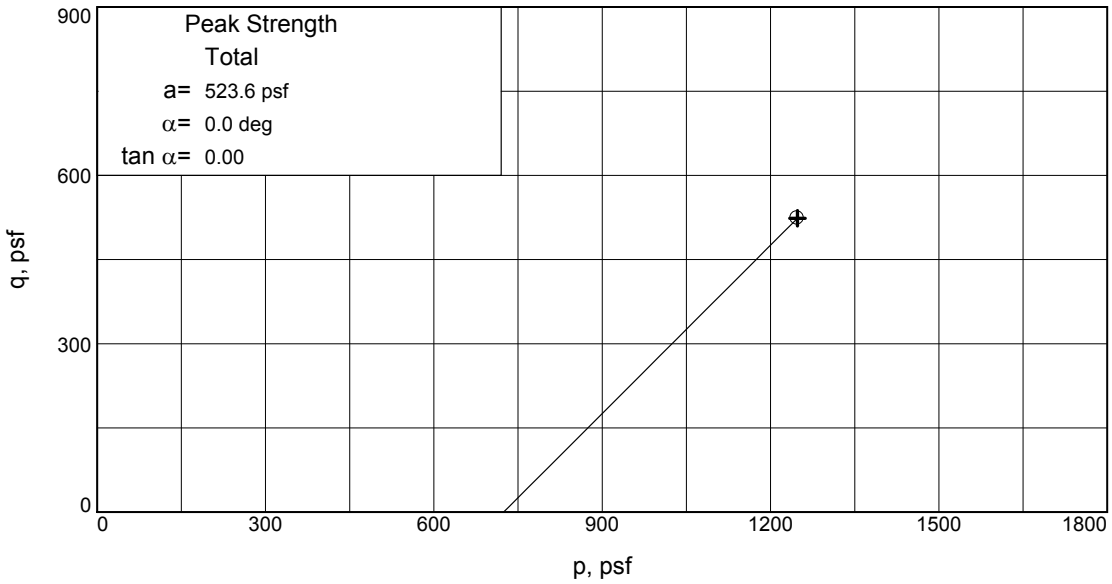
TRIAXIAL SHEAR TEST REPORT
APS Design and Testing, LLC
Baton Rouge, Louisiana











Stress Paths: o indicates peak + indicates end

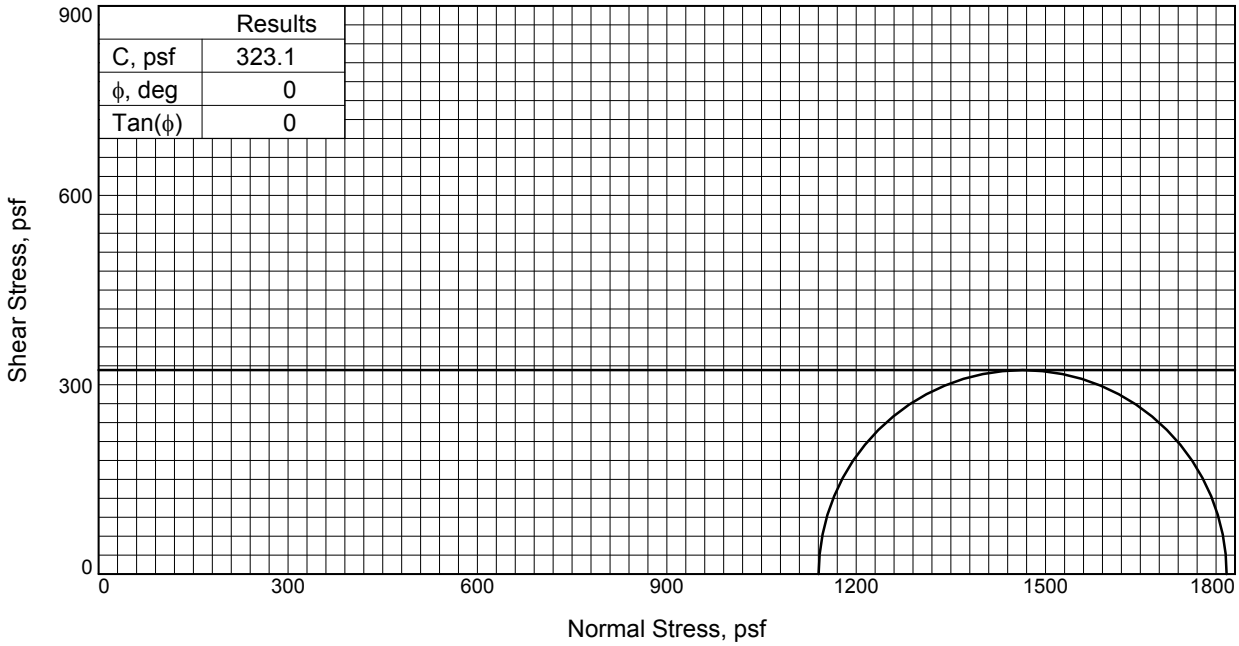
Client: URS

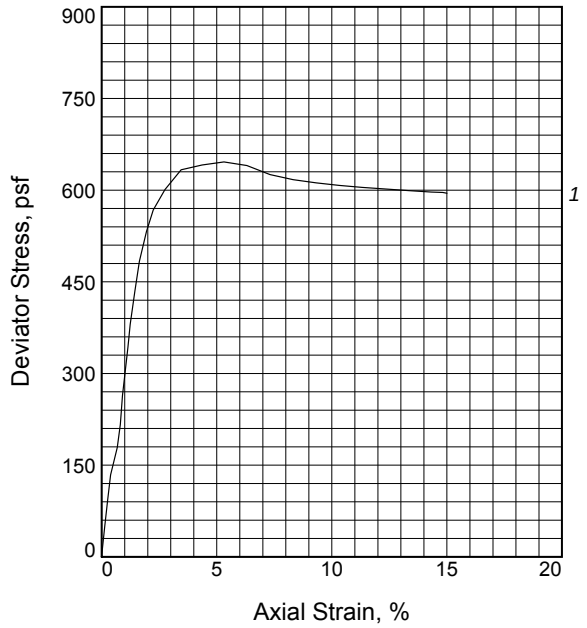
Project: Lake Maurepas

Source of Sample: B-1 **Depth:** 6-8 **Sample Number:** 4

Project No.: APS-1301-G001 **Figure** _____

APS Design and Testing, LLC





Sample No.		1
Initial	Water Content, %	98.7
	Dry Density, pcf	45.7
	Saturation, %	99.1
	Void Ratio	2.6889
	Diameter, in.	2.84
	Height, in.	5.81
At Test	Water Content, %	98.7
	Dry Density, pcf	45.7
	Saturation, %	99.1
	Void Ratio	2.6889
	Diameter, in.	2.84
	Height, in.	5.81
Strain rate, in./min.		1.00
Back Pressure, tsf		0.0000
Cell Pressure, tsf		0.5702
Fail. Stress, psf		646.3
Strain, %		5.3
Ult. Stress, psf		
Strain, %		
σ_1 Failure, psf		1786.7
σ_3 Failure, psf		1140.5

Type of Test: Unconsolidated Undrained

Sample Type: Undisturbed

Description: Soft Grey Fat Clay (CH) with Organic Content

Assumed Specific Gravity= 2.7

Remarks: Top Bulge Failure

Client: URS

Project: Lake Maurepas

Source of Sample: B-1 **Depth:** 13-15

Sample Number: 6

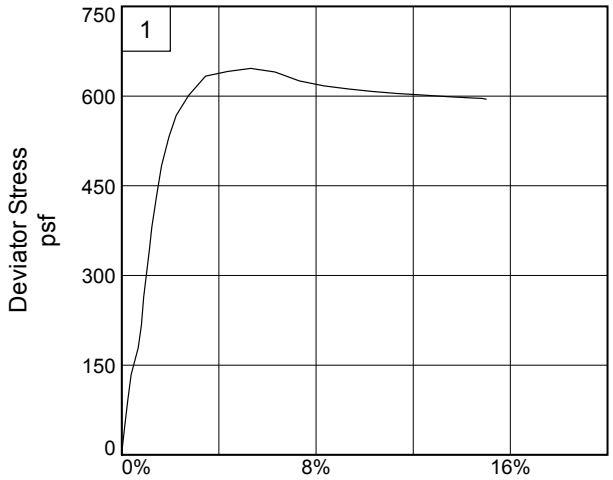
Proj. No.: APS-1301-G001 **Date Sampled:** 01-22-13

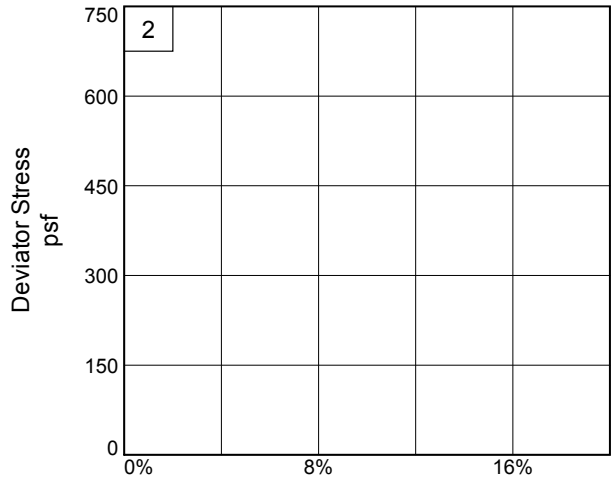
TRIAXIAL SHEAR TEST REPORT

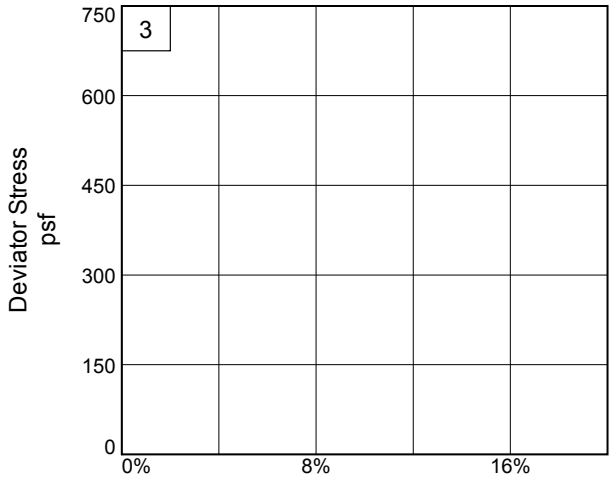
APS Design and Testing, LLC

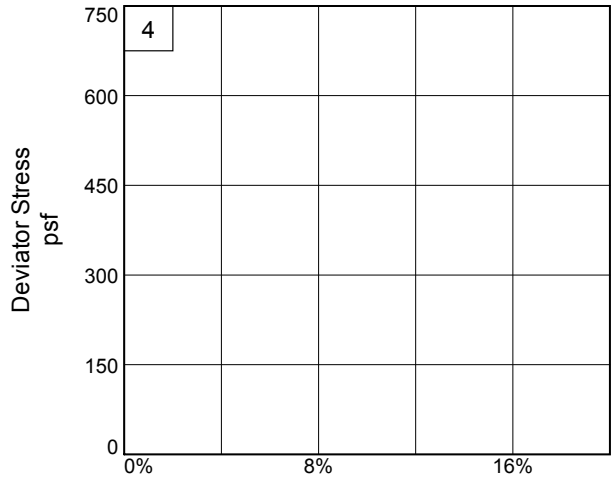
Baton Rouge, Louisiana

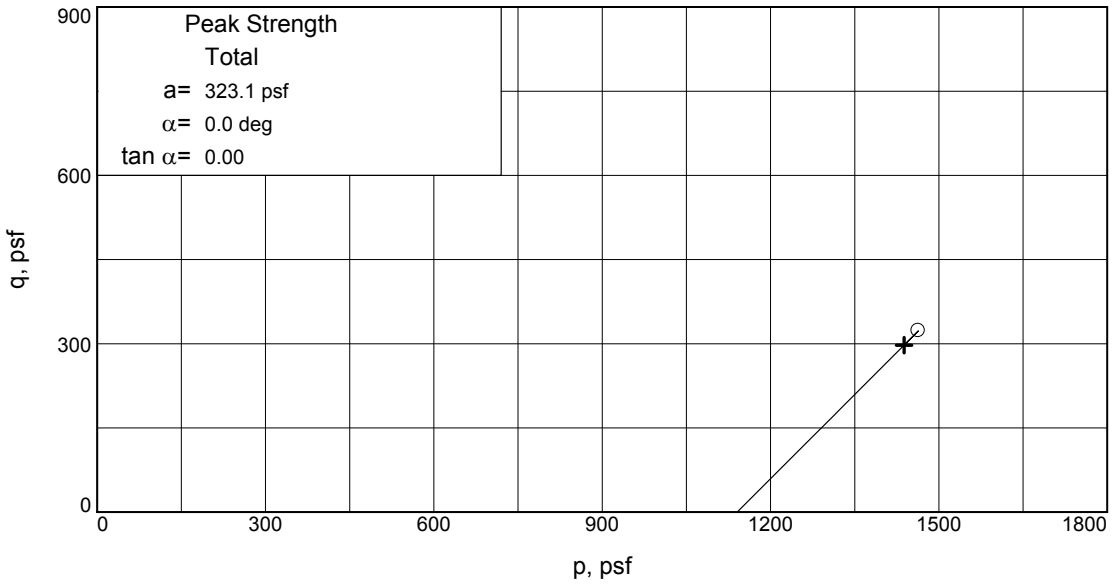
Figure _____







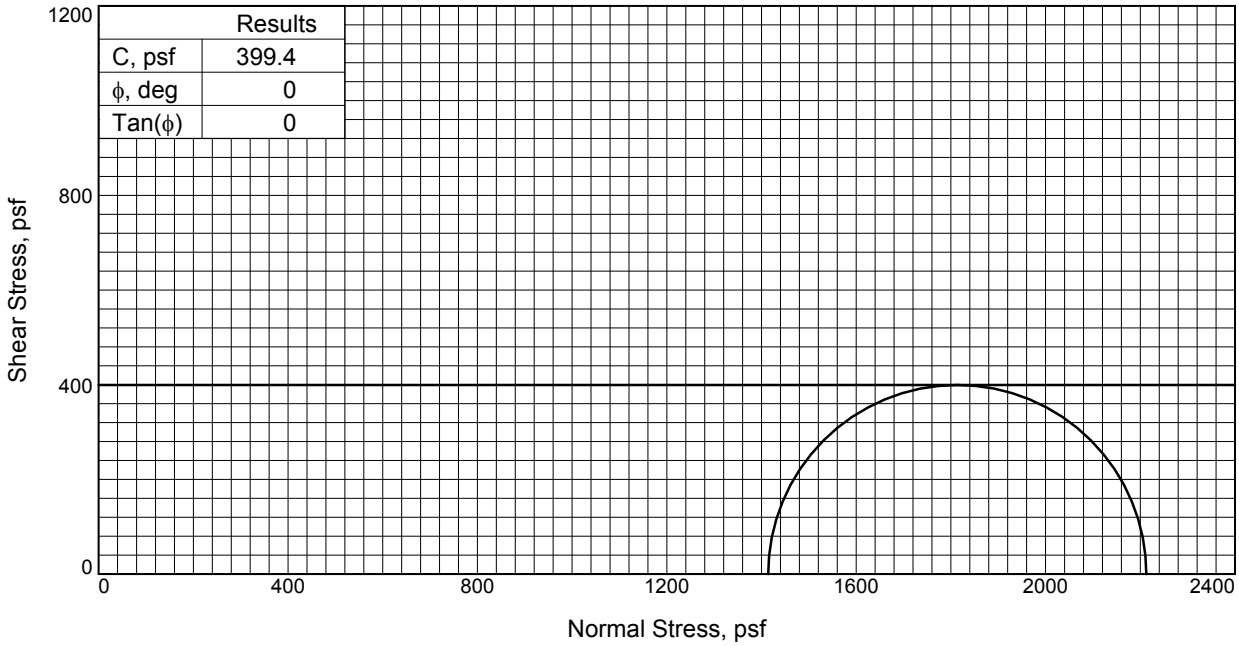


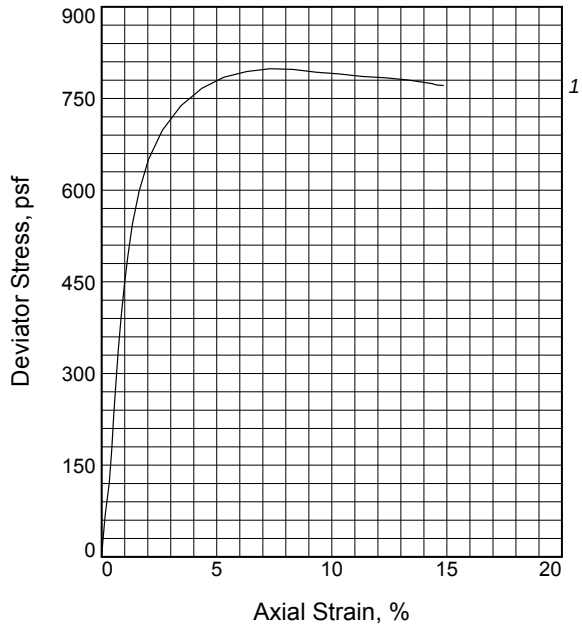


Stress Paths: o indicates peak + indicates end

Client: URS
Project: Lake Maurepas
Source of Sample: B-1 **Depth:** 13-15 **Sample Number:** 6
Project No.: APS-1301-G001 **Figure** _____

APS Design and Testing, LLC





Sample No.		1
Initial	Water Content, %	61.1
	Dry Density, pcf	63.5
	Saturation, %	99.8
	Void Ratio	1.6534
	Diameter, in.	2.84
	Height, in.	5.74
At Test	Water Content, %	61.1
	Dry Density, pcf	63.5
	Saturation, %	99.8
	Void Ratio	1.6534
	Diameter, in.	2.84
	Height, in.	5.74
Strain rate, in./min.		1.00
Back Pressure, tsf		0.0000
Cell Pressure, tsf		0.7070
Fail. Stress, psf		798.8
Strain, %		7.3
Ult. Stress, psf		
Strain, %		
σ_1 Failure, psf		2212.9
σ_3 Failure, psf		1414.1

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: Soft Grey Fat Clay (CH) with Organic Content

LL= 93 **PL=** 32 **PI=** 61

Assumed Specific Gravity= 2.7

Remarks: Bulge Failure

Figure _____

Client: URS

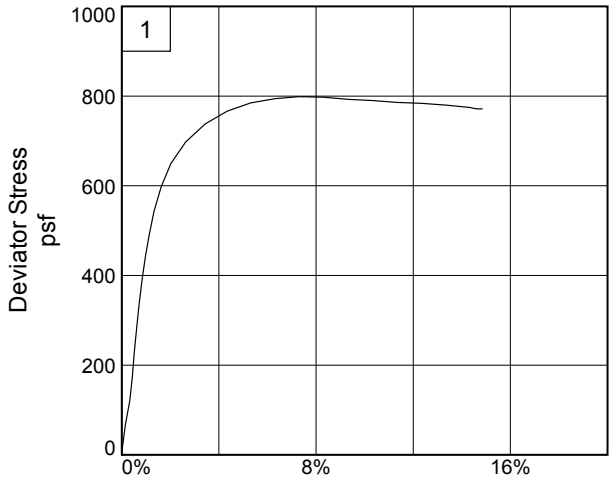
Project: Lake Maurepas

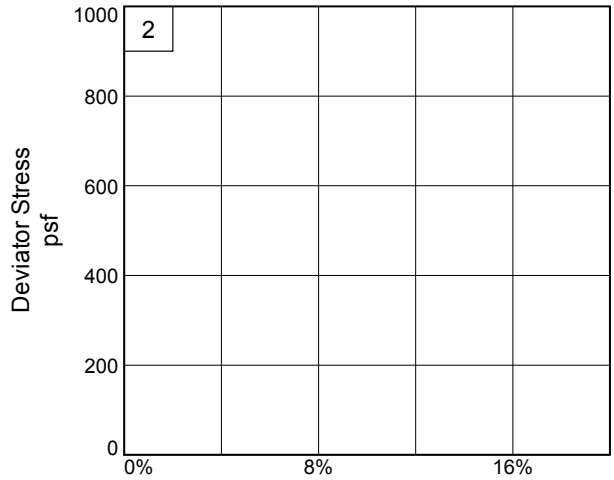
Source of Sample: B-1 **Depth:** 18-20

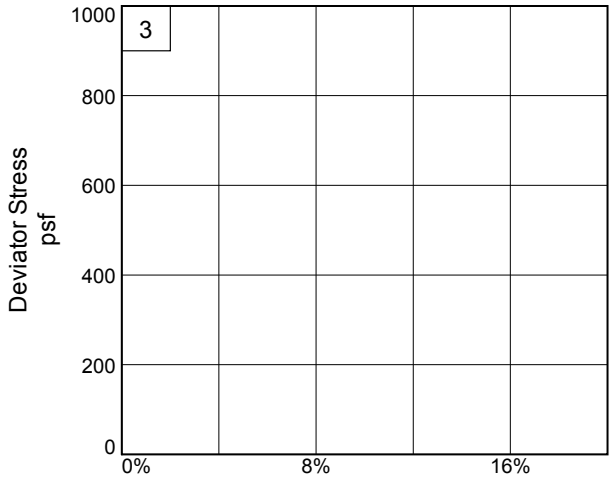
Sample Number: 7

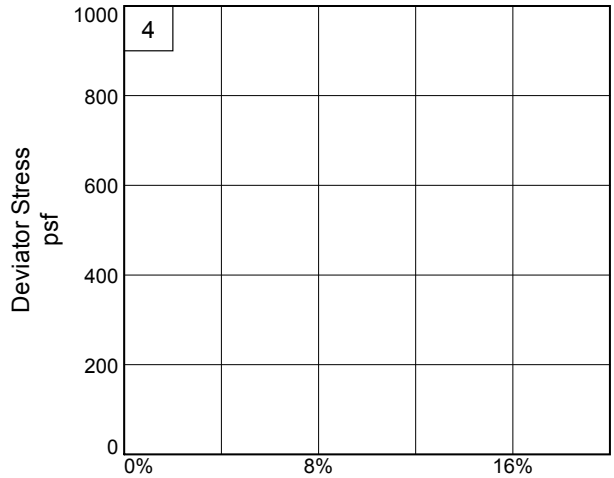
Proj. No.: APS-1301-G001 **Date Sampled:** 01-22-13

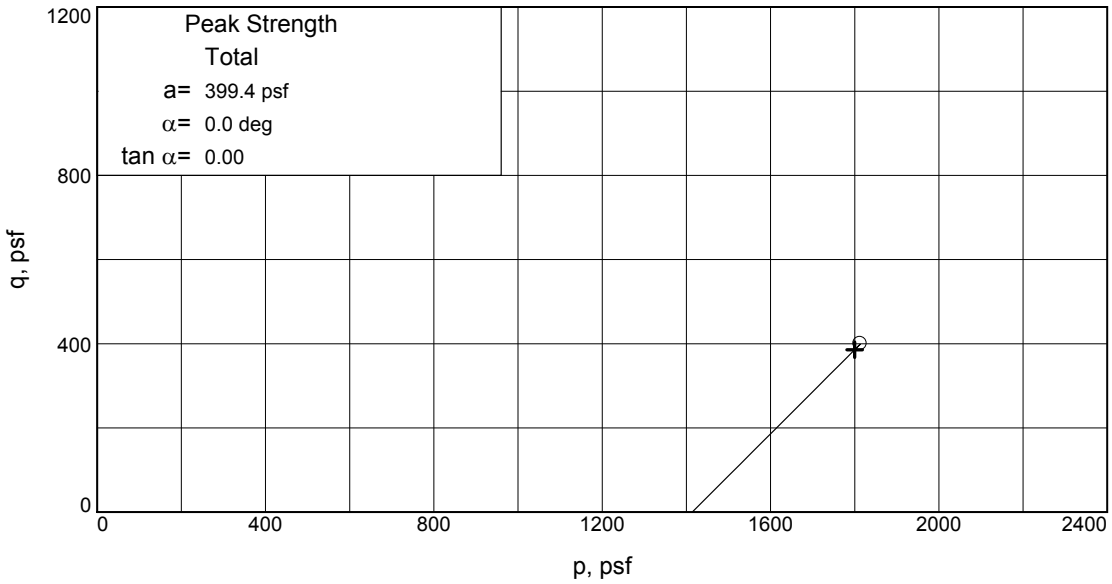
TRIAXIAL SHEAR TEST REPORT
APS Design and Testing, LLC
Baton Rouge, Louisiana









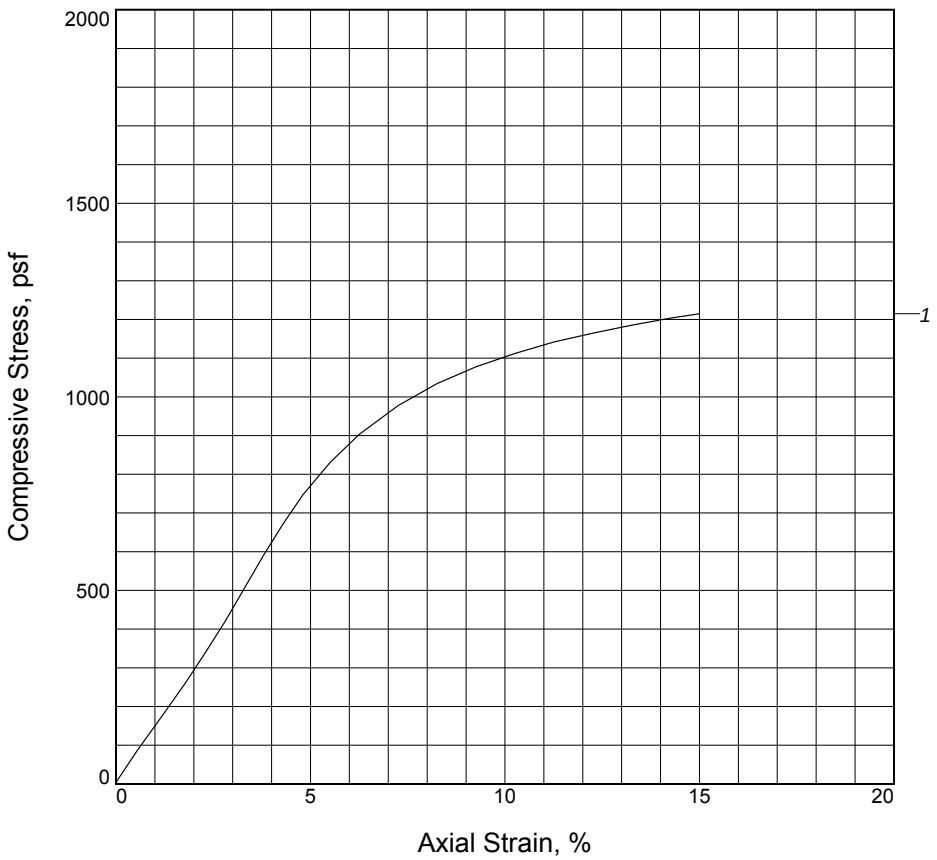


Stress Paths: o indicates peak + indicates end

Client: URS
Project: Lake Maurepas
Source of Sample: B-1 **Depth:** 18-20 **Sample Number:** 7
Project No.: APS-1301-G001 **Figure** _____

APS Design and Testing, LLC

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psf	1214.7			
Undrained shear strength, psf	607.4			
Failure strain, %	15.0			
Strain rate, in./min.	1.00			
Water content, %	30.1			
Wet density, pcf	120.0			
Dry density, pcf	92.2			
Saturation, %	98.1			
Void ratio	0.8280			
Specimen diameter, in.	2.85			
Specimen height, in.	5.78			
Height/diameter ratio	2.03			

Description: Medium Light Grey Fat Clay (CH)

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

Project No.: APS-1301-G001

Date Sampled: 01-22-13

Remarks:
Bulge Failure

Figure _____

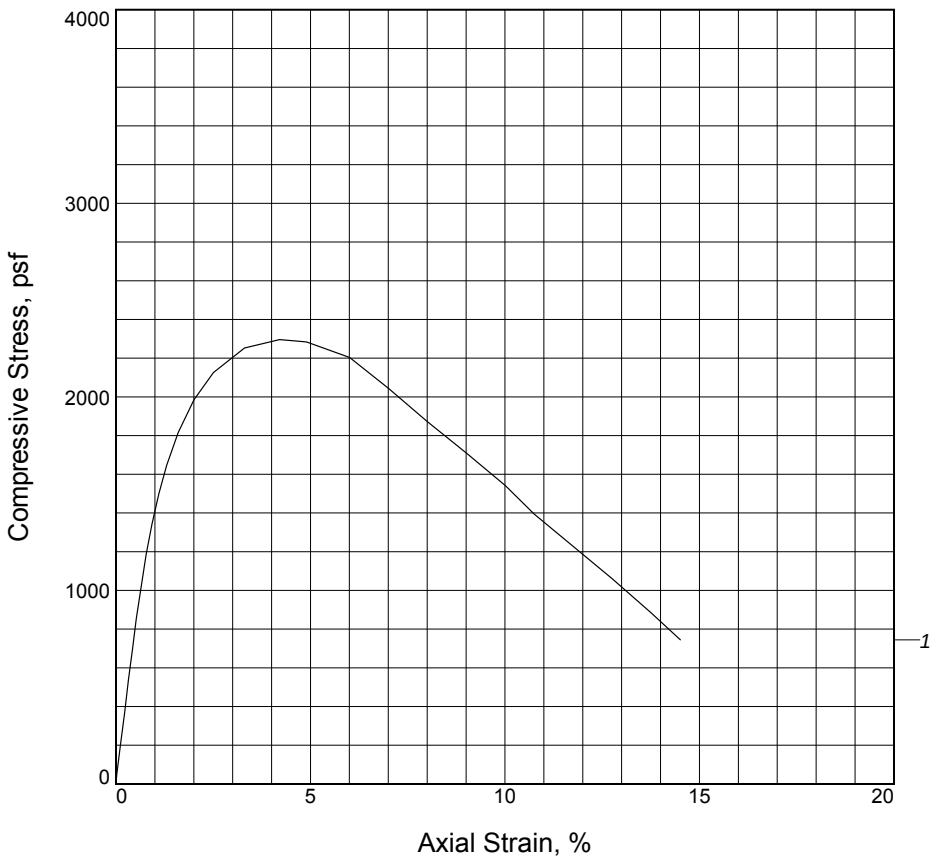
Client: URS

Project: Lake Maurepas

Source of Sample: B-1 **Depth:** 28-30
Sample Number: 9

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

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psf	2295.7			
Undrained shear strength, psf	1147.8			
Failure strain, %	4.2			
Strain rate, in./min.	1.00			
Water content, %	36.9			
Wet density, pcf	115.0			
Dry density, pcf	84.0			
Saturation, %	99.1			
Void ratio	1.0069			
Specimen diameter, in.	2.88			
Specimen height, in.	5.78			
Height/diameter ratio	2.01			

Description: Stiff Light Grey to Brown Fat Clay (CH)

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

Project No.: APS-1301-G001

Date Sampled: 01-22-13

Remarks:
45 Degree Failure

Figure _____

Client: URS

Project: Lake Maurepas

Source of Sample: B-1 **Depth:** 38-40
Sample Number: 11

UNCONFINED COMPRESSION TEST
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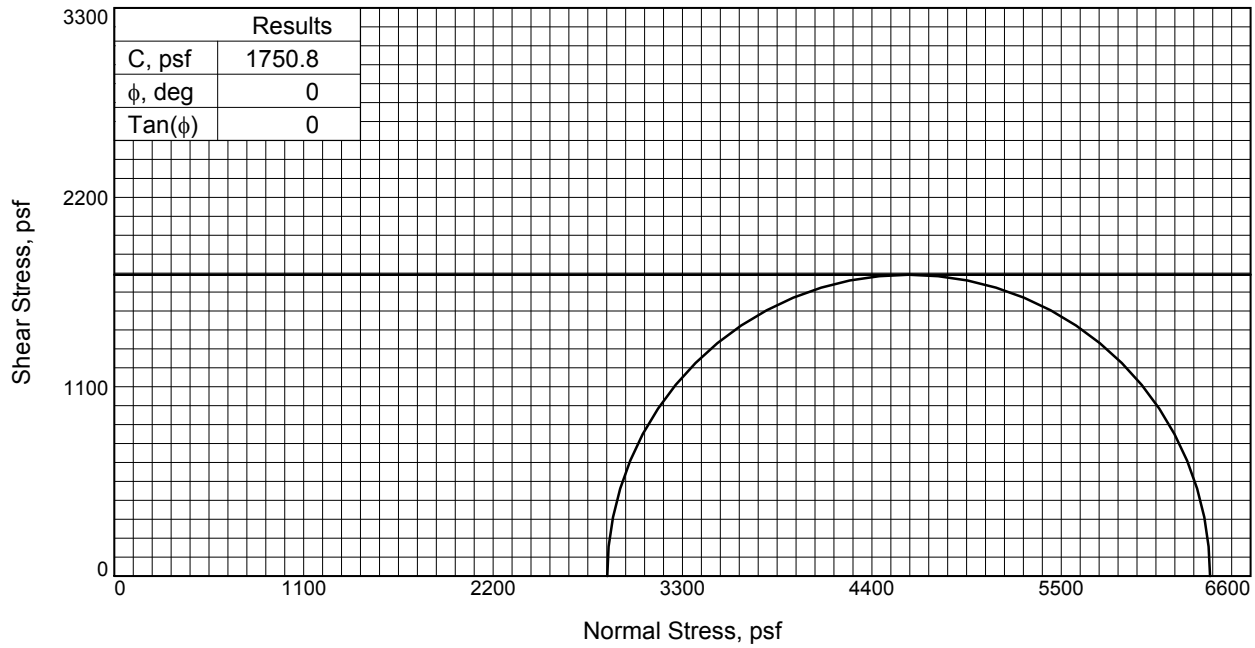
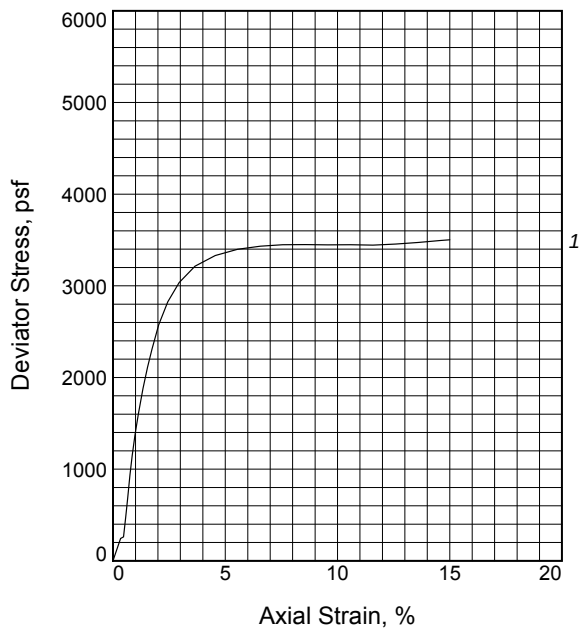
Baton Rouge, Louisiana





Sample No.		1
Initial	Water Content, %	28.8
	Dry Density, pcf	95.5
	Saturation, %	99.2
	Void Ratio	0.7978
	Diameter, in.	2.90
	Height, in.	5.77
At Test	Water Content, %	28.8
	Dry Density, pcf	95.5
	Saturation, %	99.2
	Void Ratio	0.7978
	Diameter, in.	2.90
	Height, in.	5.77
Strain rate, in./min.		1.00
Back Pressure, tsf		0.0000
Cell Pressure, tsf		1.4314
Fail. Stress, psf		3501.5
Strain, %		15.0
Ult. Stress, psf		
Strain, %		
σ_1 Failure, psf		6364.2
σ_3 Failure, psf		2862.7

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: Stiff Light Grey to Brown Fat Clay (CH) with sand pockets

Assumed Specific Gravity= 2.75

Remarks: 45 Degree Failure

Client: URS

Project: Lake Maurepas

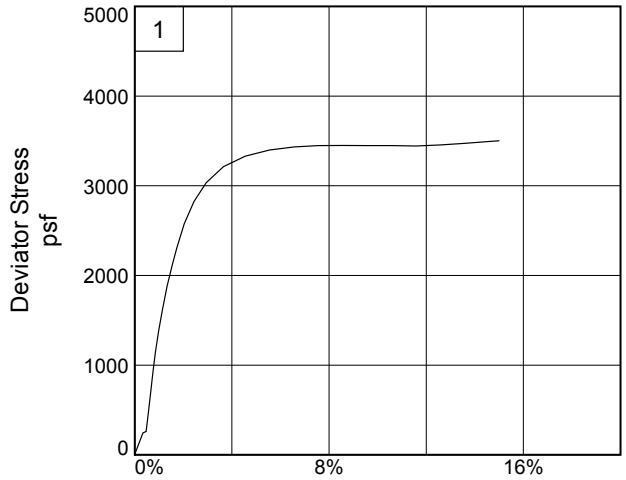
Source of Sample: B-1 **Depth:** 43-45

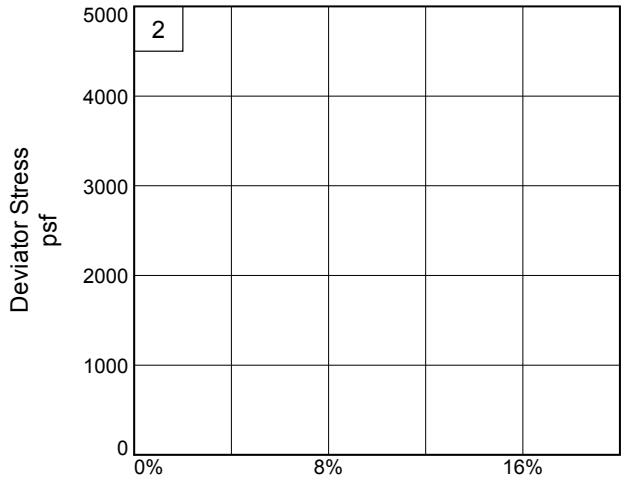
Sample Number: 12

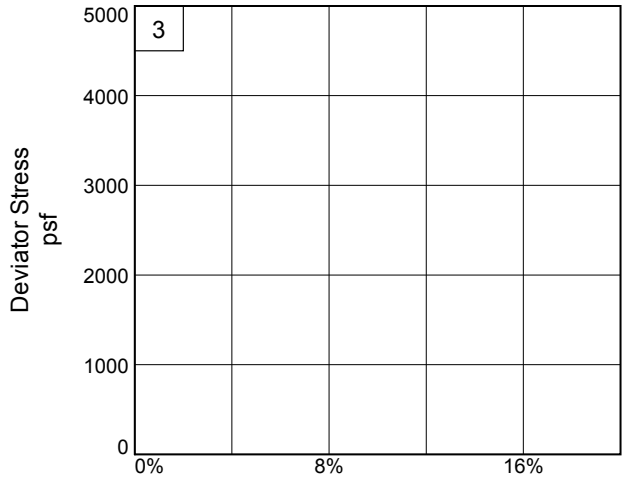
Proj. No.: APS-1301-G001 **Date Sampled:** 01-22-13

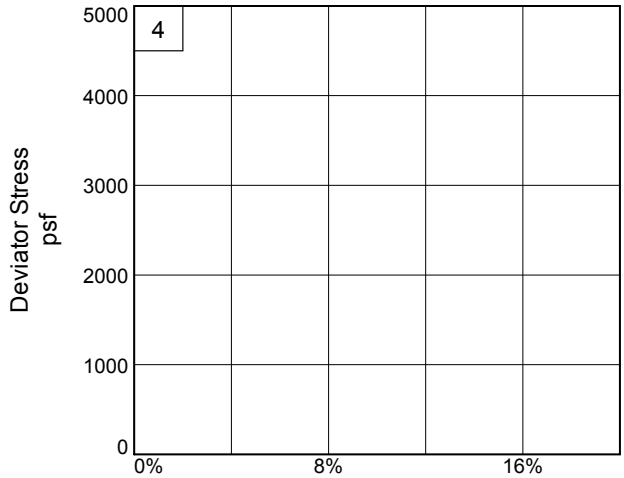
TRIAXIAL SHEAR TEST REPORT
APS Design and Testing, LLC
Baton Rouge, Louisiana

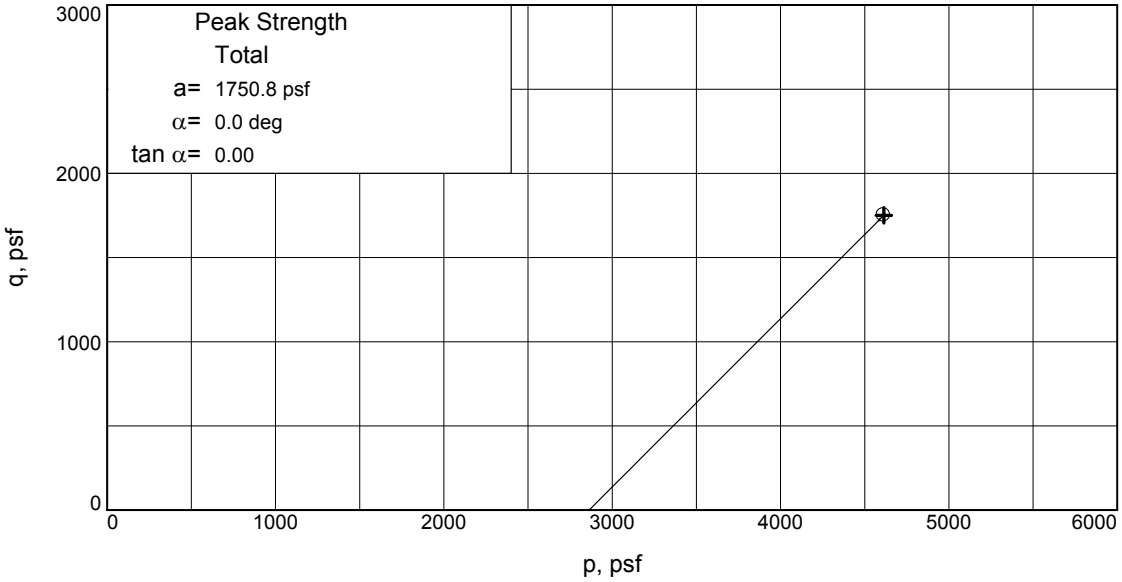
Figure _____









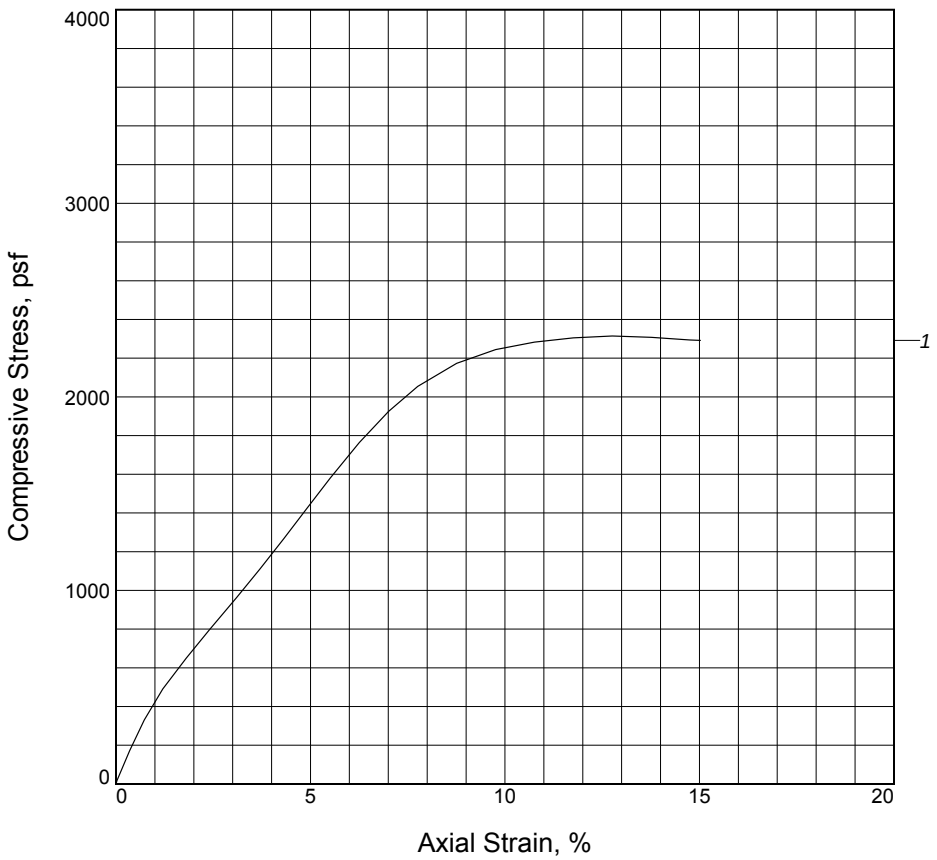


Stress Paths: o indicates peak + indicates end

Client: URS
Project: Lake Maurepas
Source of Sample: B-1 **Depth:** 43-45 **Sample Number:** 12
Project No.: APS-1301-G001 **Figure** _____

APS Design and Testing, LLC

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psf	2314.6			
Undrained shear strength, psf	1157.3			
Failure strain, %	12.8			
Strain rate, in./min.	1.00			
Water content, %	28.3			
Wet density, pcf	123.6			
Dry density, pcf	96.4			
Saturation, %	99.5			
Void ratio	0.7809			
Specimen diameter, in.	2.86			
Specimen height, in.	5.76			
Height/diameter ratio	2.01			

Description: Stiff Grey to Brown Fat Clay (CH)

LL =	**PL =**	**PI =**	**Assumed GS=** 2.75	**Type:** Undisturbed

Project No.: APS-1301-G001

Date Sampled: 01-22-13

Remarks:
Bulge Failure

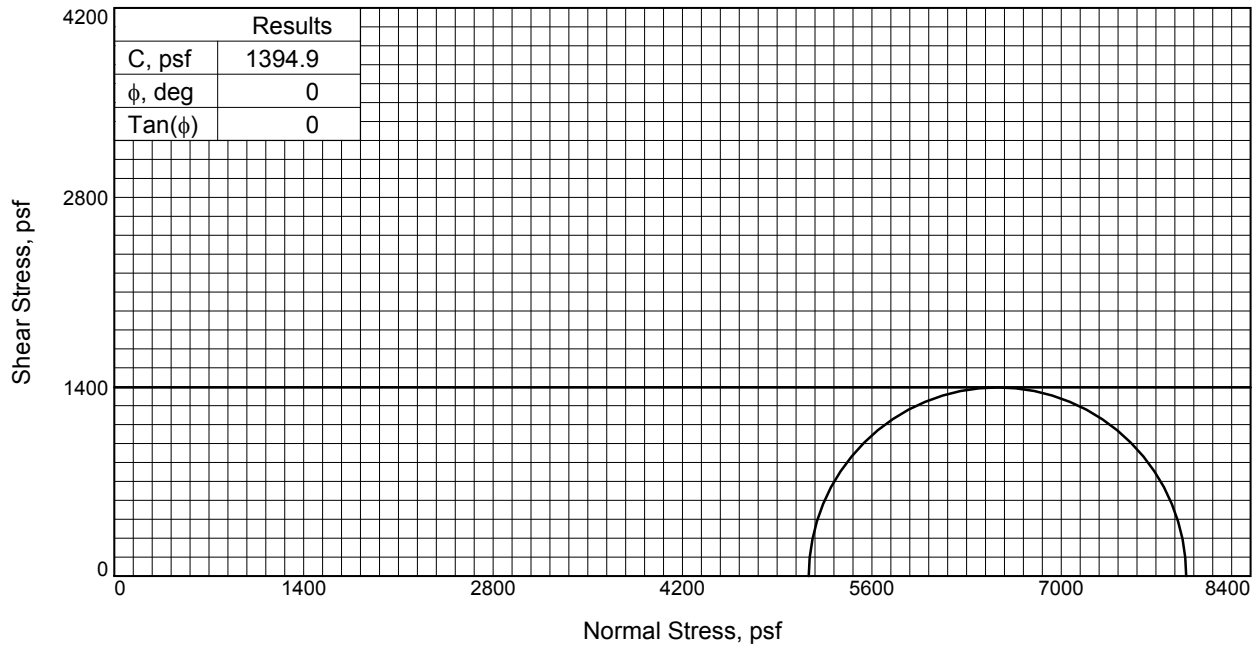
Figure _____

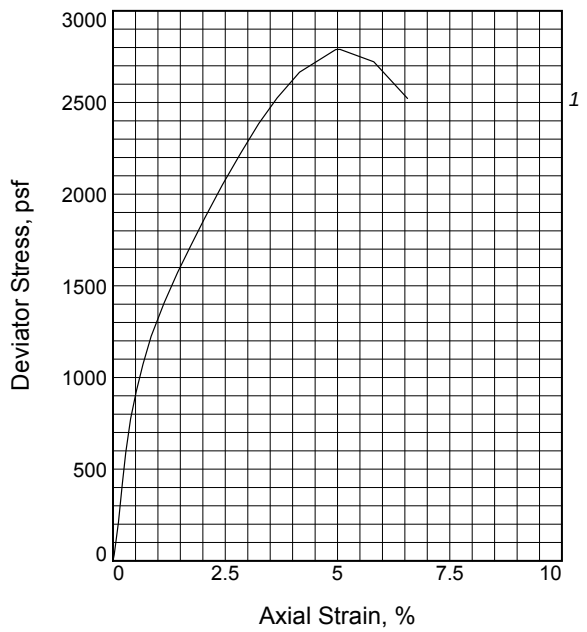
Client: URS

Project: Lake Maurepas

Source of Sample: B-1 **Depth:** 63-65
Sample Number: 16

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





Sample No.		1
Initial	Water Content, %	52.0
	Dry Density, pcf	70.5
	Saturation, %	99.6
	Void Ratio	1.4348
	Diameter, in.	2.89
	Height, in.	5.77
At Test	Water Content, %	52.0
	Dry Density, pcf	70.5
	Saturation, %	99.6
	Void Ratio	1.4348
	Diameter, in.	2.89
	Height, in.	5.77
Strain rate, in./min.		0.96
Back Pressure, tsf		0.0000
Cell Pressure, tsf		2.5668
Fail. Stress, psf		2789.7
Strain, %		5.1
Ult. Stress, psf		
Strain, %		
σ_1 Failure, psf		7923.3
σ_3 Failure, psf		5133.6

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: Stiff Grey Fat Clay (CH)

Assumed Specific Gravity= 2.75

Remarks: 45 Degree Failure

Figure _____

Client: URS

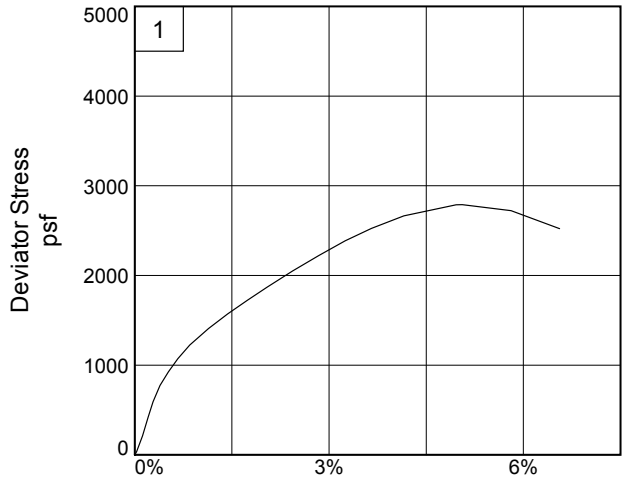
Project: Lake Maurepas

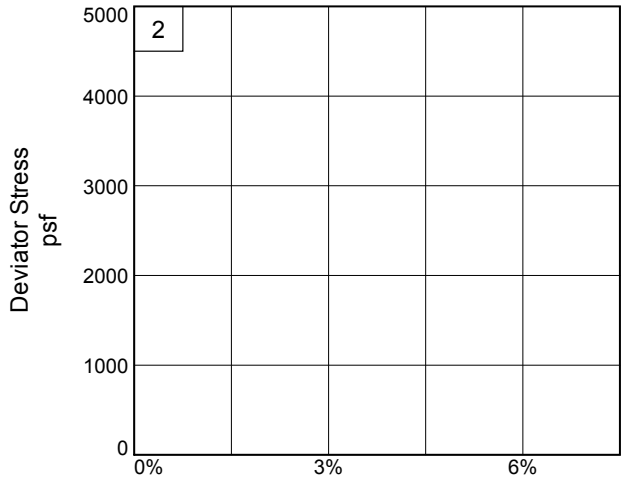
Source of Sample: B-1 **Depth:** 83-85

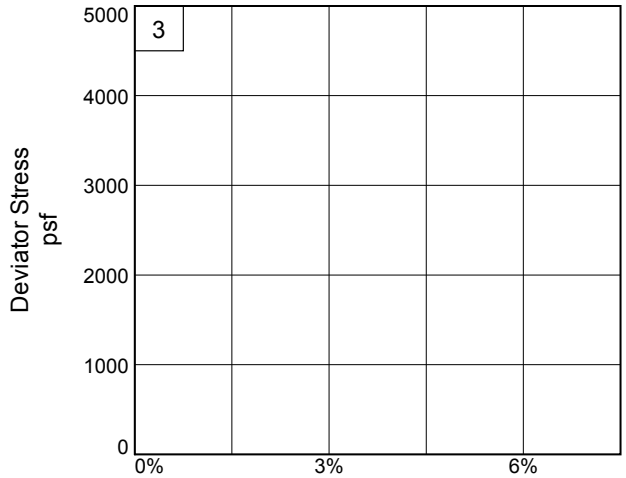
Sample Number: 20

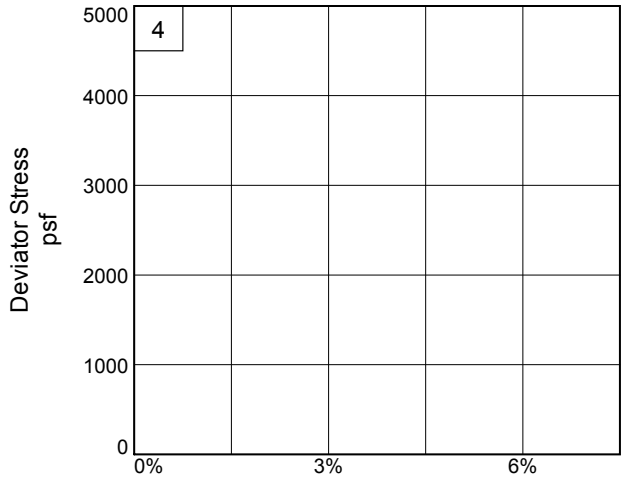
Proj. No.: APS-1301-G001 **Date Sampled:** 01-22-13

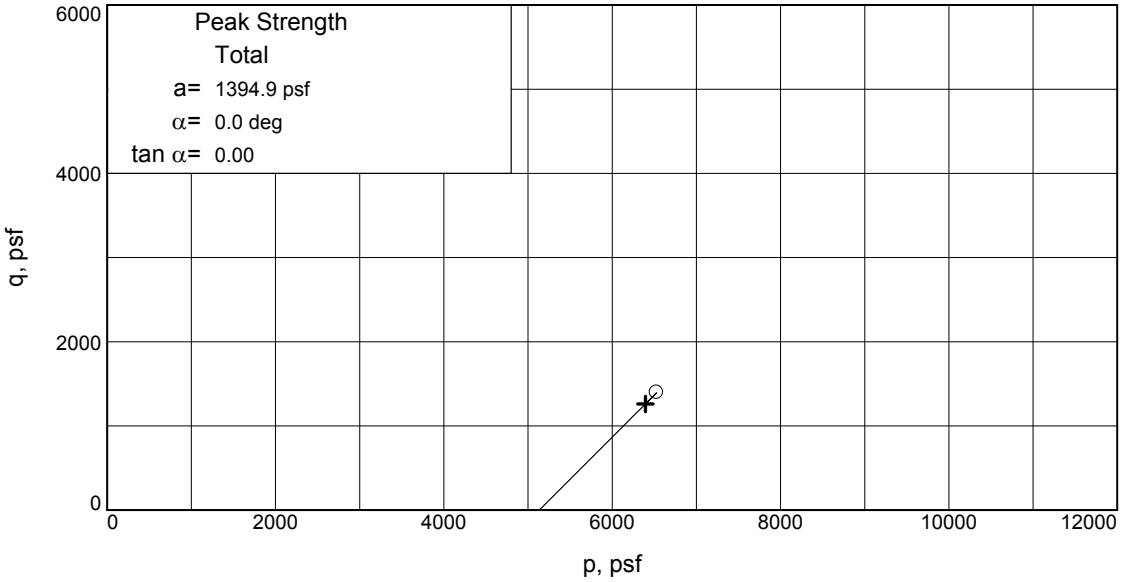
TRIAXIAL SHEAR TEST REPORT
APS Design and Testing, LLC
Baton Rouge, Louisiana







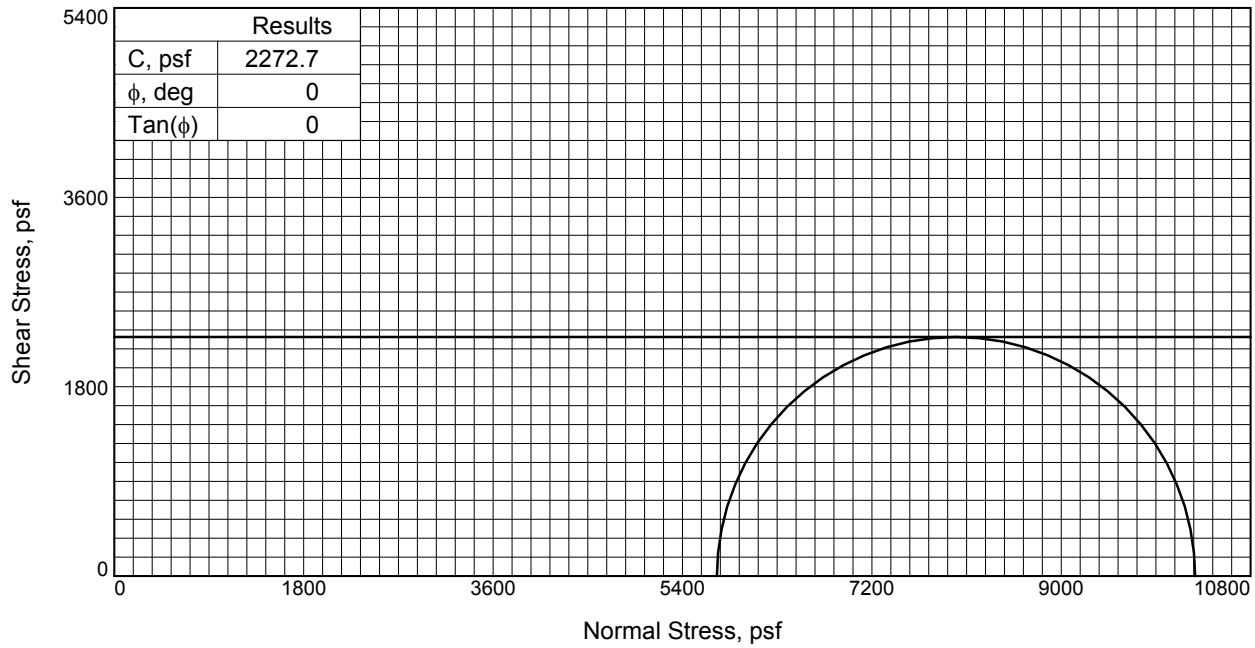


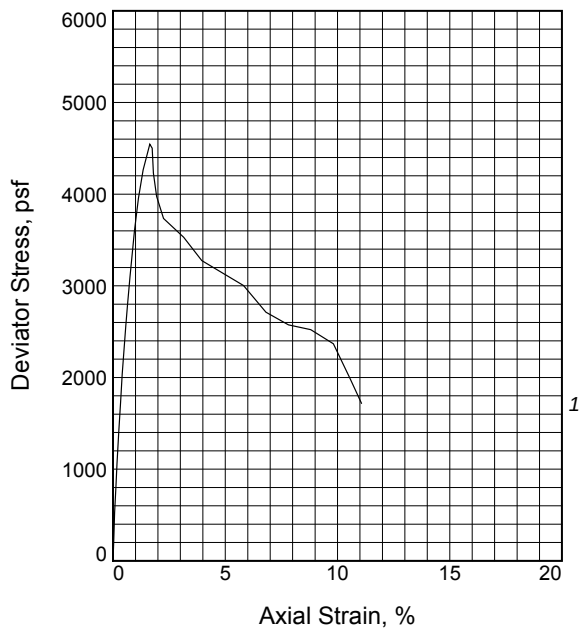


Stress Paths: o indicates peak + indicates end

Client: URS
Project: Lake Maurepas
Source of Sample: B-1 **Depth:** 83-85 **Sample Number:** 20
Project No.: APS-1301-G001 **Figure** _____

APS Design and Testing, LLC





Sample No.		1
Initial	Water Content, %	46.1
	Dry Density, pcf	74.4
	Saturation, %	97.0
	Void Ratio	1.3070
	Diameter, in.	2.87
	Height, in.	5.79
At Test	Water Content, %	46.1
	Dry Density, pcf	74.4
	Saturation, %	97.0
	Void Ratio	1.3070
	Diameter, in.	2.87
	Height, in.	5.79
Strain rate, in./min.		1.00
Back Pressure, tsf		0.0000
Cell Pressure, tsf		2.8634
Fail. Stress, psf		4545.3
Strain, %		1.6
Ult. Stress, psf		
Strain, %		
σ_1 Failure, psf		10272.2
σ_3 Failure, psf		5726.9

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: Very Stiff Grey Fat Clay (CH) with sand lenses

Assumed Specific Gravity= 2.75

Remarks: 45 Degree Failure

Client: URS

Project: Lake Maurepas

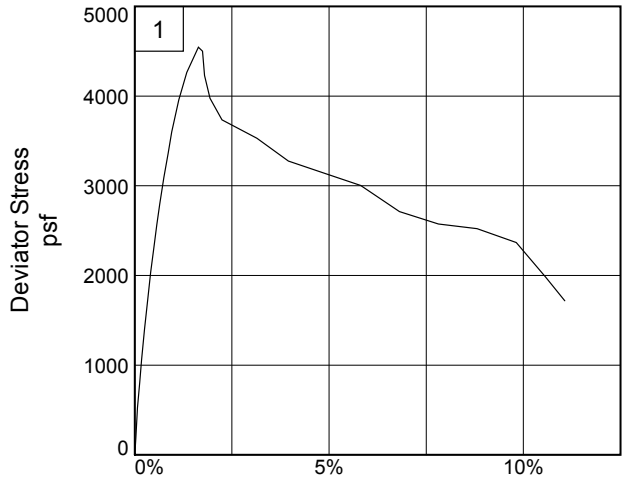
Source of Sample: B-1 **Depth:** 93-95

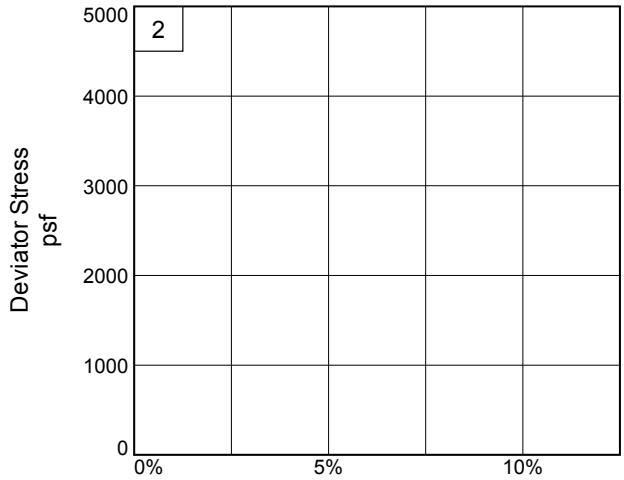
Sample Number: 22

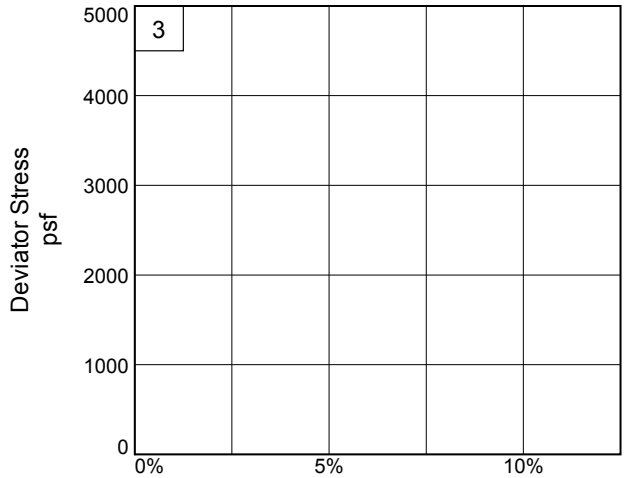
Proj. No.: APS-1301-G001 **Date Sampled:** 01-22-13

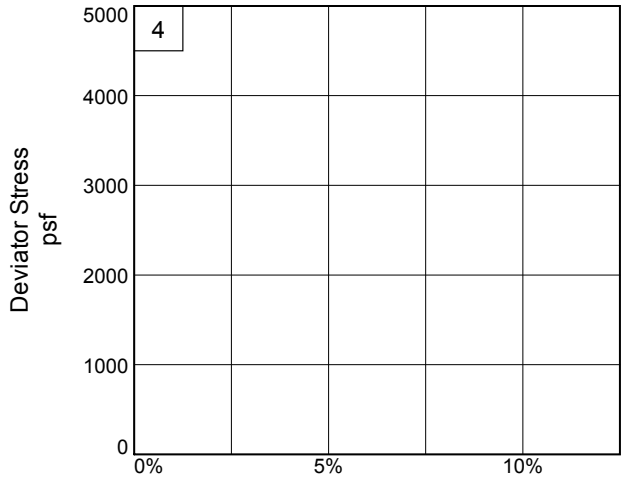
TRIAXIAL SHEAR TEST REPORT
APS Design and Testing, LLC
Baton Rouge, Louisiana

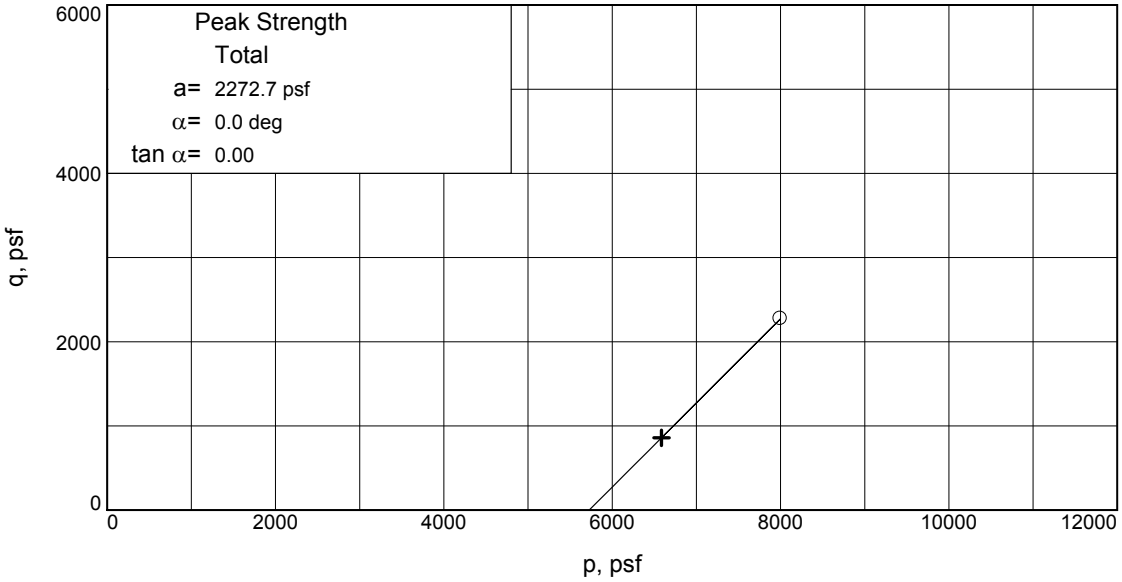
Figure _____









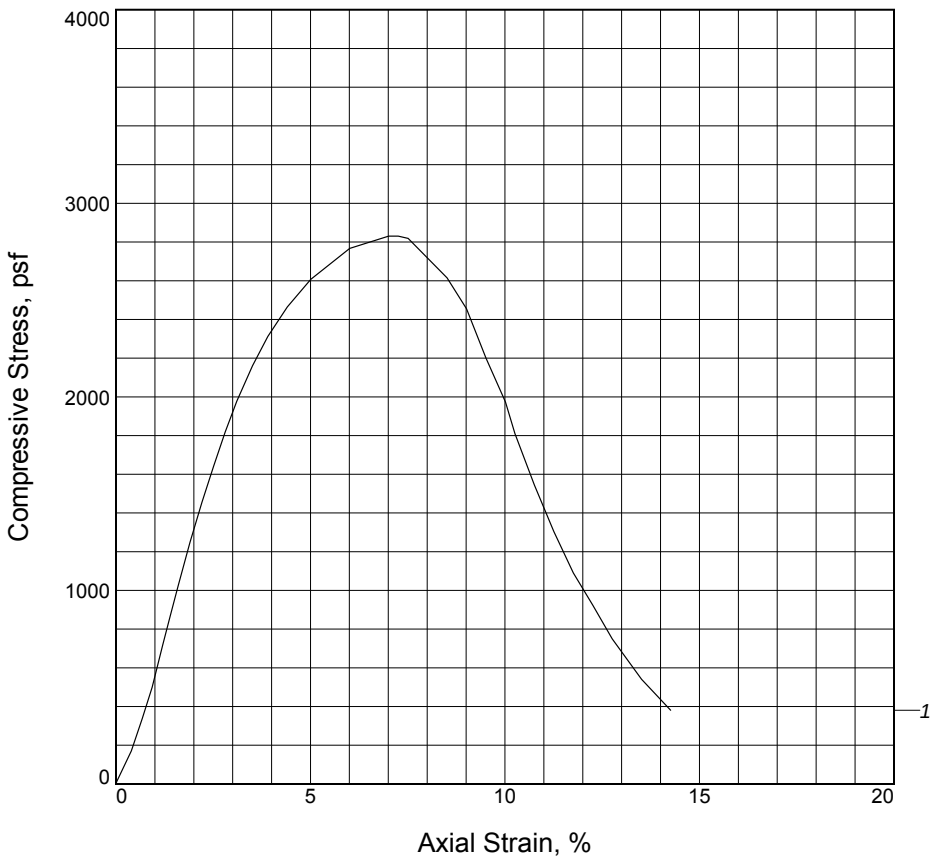


Stress Paths: o indicates peak + indicates end

Client: URS
Project: Lake Maurepas
Source of Sample: B-1 **Depth:** 93-95 **Sample Number:** 22
Project No.: APS-1301-G001 **Figure** _____

APS Design and Testing, LLC

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psf	2830.5			
Undrained shear strength, psf	1415.3			
Failure strain, %	7.0			
Strain rate, in./min.	1.00			
Water content, %	29.5			
Wet density, pcf	122.9			
Dry density, pcf	94.9			
Saturation, %	102.6			
Void ratio	0.7757			
Specimen diameter, in.	2.87			
Specimen height, in.	5.79			
Height/diameter ratio	2.02			

Description: Stiff Grey Fat Clay (CH) with sand lenses

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

Project No.: APS-1301-G001

Date Sampled: 01-22-13

Remarks:
Multi-Shear Failure

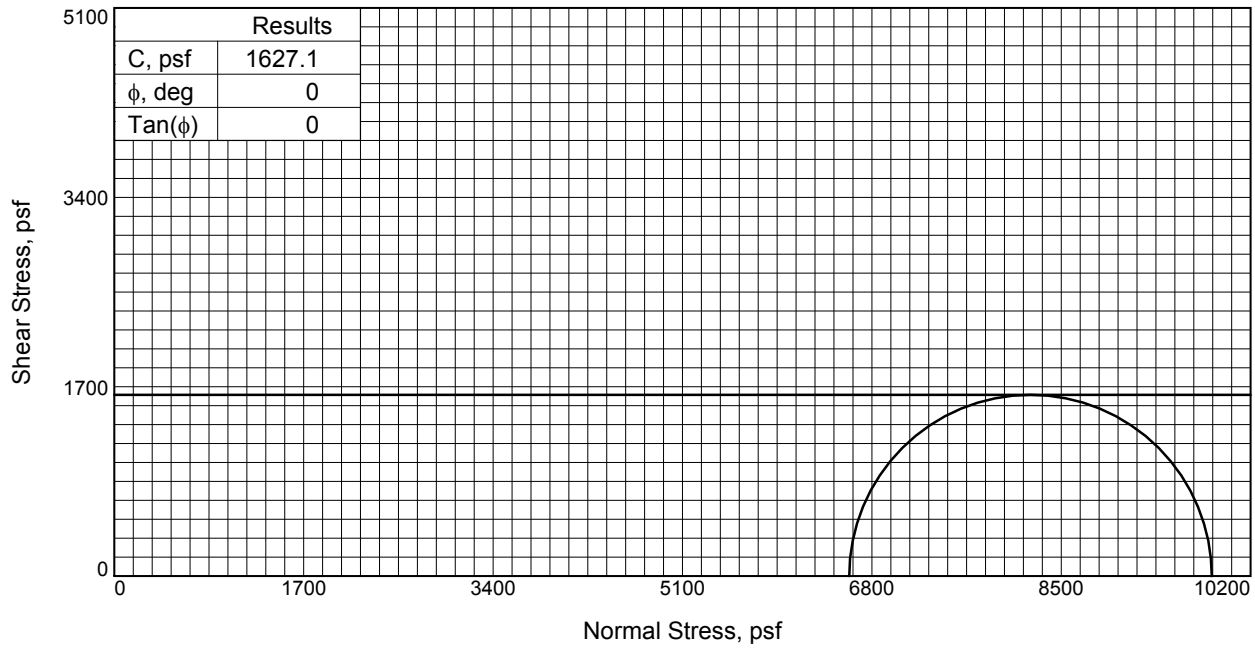
Figure _____

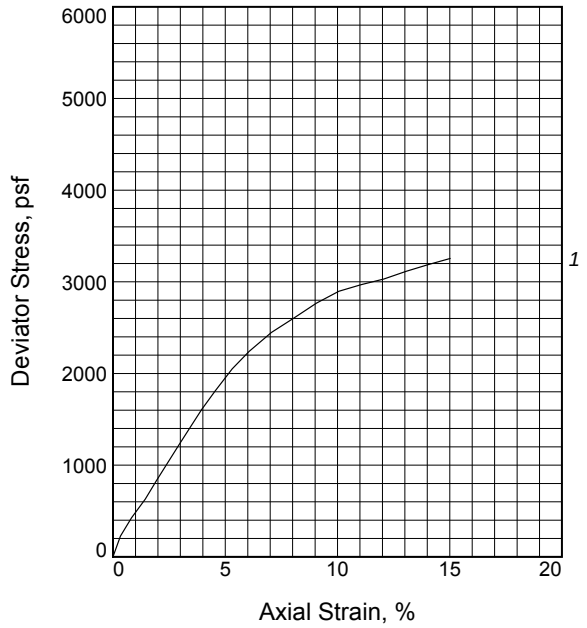
Client: URS

Project: Lake Maurepas

Source of Sample: B-1 **Depth:** 103-105
Sample Number: 24

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





Sample No.		1
Initial	Water Content, %	30.7
	Dry Density, pcf	92.5
	Saturation, %	98.6
	Void Ratio	0.8559
	Diameter, in.	2.85
	Height, in.	5.76
At Test	Water Content, %	30.7
	Dry Density, pcf	92.5
	Saturation, %	98.6
	Void Ratio	0.8559
	Diameter, in.	2.85
	Height, in.	5.76
Strain rate, in./min.		1.00
Back Pressure, tsf		0.0000
Cell Pressure, tsf		3.2983
Fail. Stress, psf		3254.3
Strain, %		15.0
Ult. Stress, psf		
Strain, %		
σ_1 Failure, psf		9850.9
σ_3 Failure, psf		6596.6

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: Stiff Grey Silt (ML) with Clay

LL= 31 **PL=** 26 **PI=** 5

Assumed Specific Gravity= 2.75

Remarks: Bulge Failure

Figure _____

Client: URS

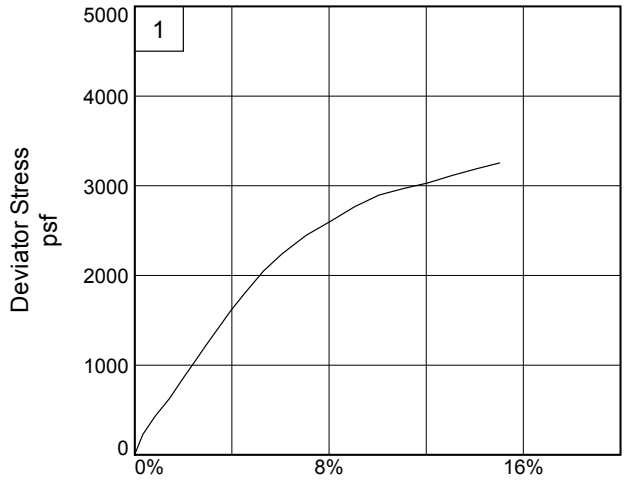
Project: Lake Maurepas

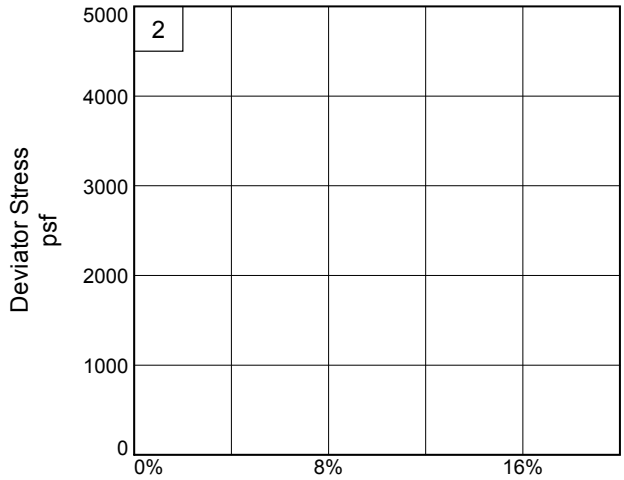
Source of Sample: B-1 **Depth:** 108-110

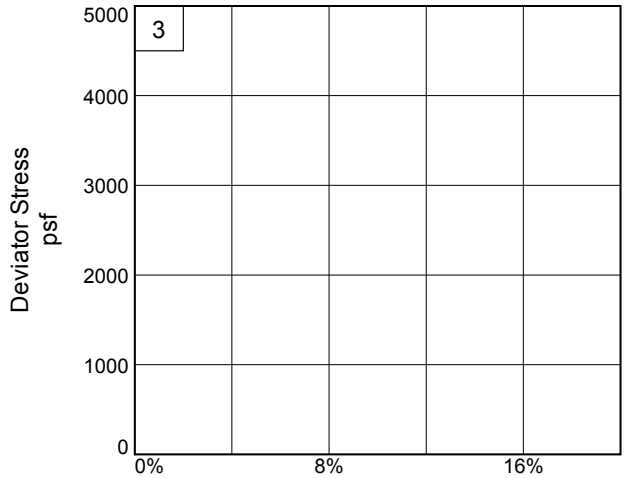
Sample Number: 25

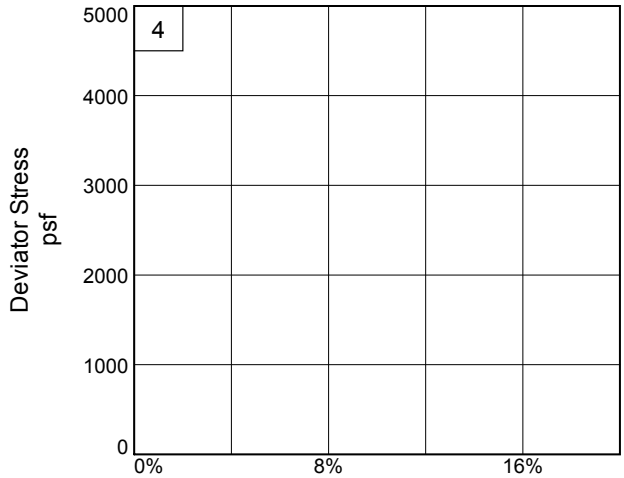
Proj. No.: APS-1301-G001 **Date Sampled:** 01-22-13

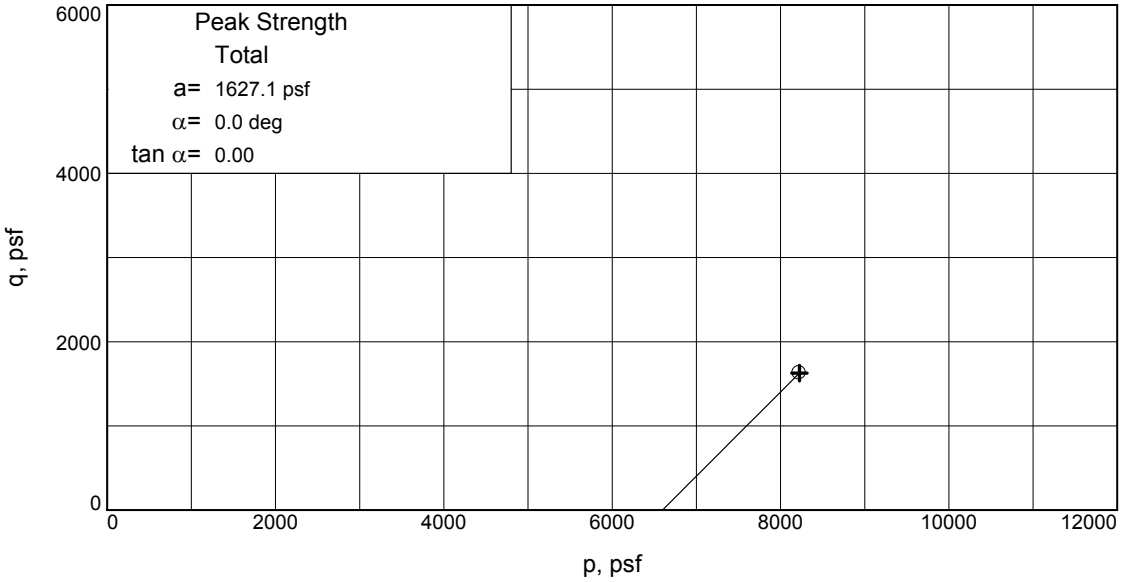
TRIAXIAL SHEAR TEST REPORT
APS Design and Testing, LLC
Baton Rouge, Louisiana











Stress Paths: o indicates peak + indicates end

Client: URS

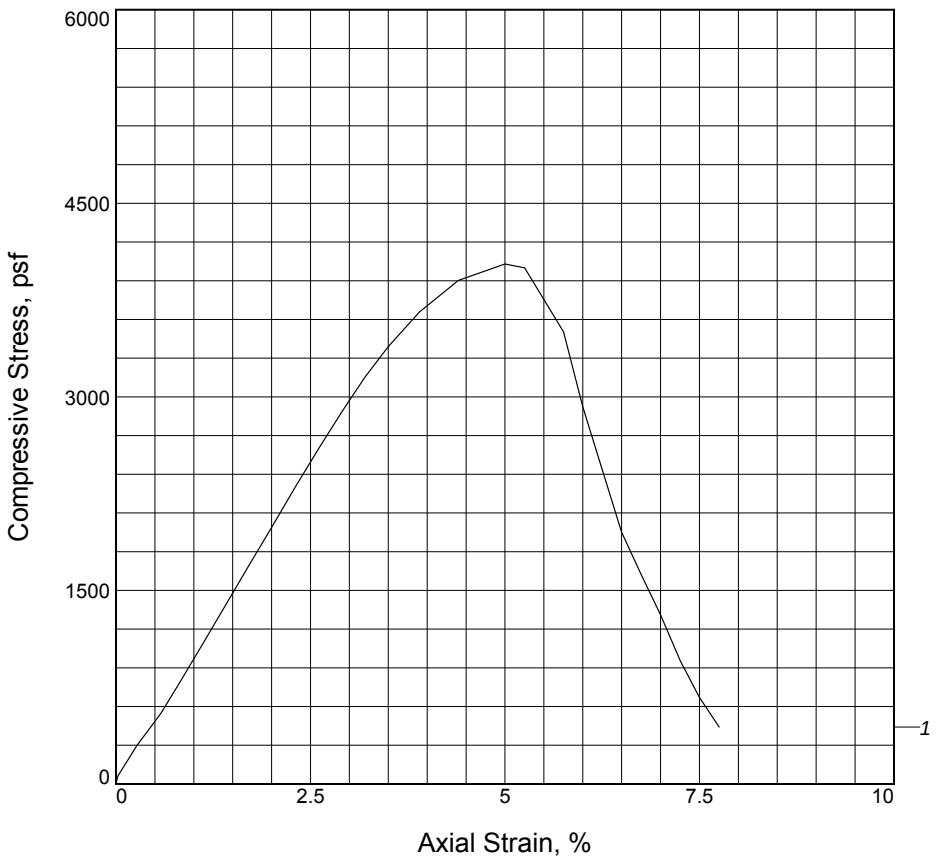
Project: Lake Maurepas

Source of Sample: B-1 **Depth:** 108-110 **Sample Number:** 25

Project No.: APS-1301-G001 **Figure** _____

APS Design and Testing, LLC

UNCONFINED COMPRESSION TEST



Sample No.	1			
Unconfined strength, psf	4029.5			
Undrained shear strength, psf	2014.8			
Failure strain, %	5.0			
Strain rate, in./min.	1.00			
Water content, %	46.6			
Wet density, pcf	109.7			
Dry density, pcf	74.9			
Saturation, %	99.0			
Void ratio	1.2926			
Specimen diameter, in.	2.88			
Specimen height, in.	5.77			
Height/diameter ratio	2.00			

Description: Stiff Grey Fat Clay (CH) with silt lenses

LL = 78	**PL =** 33	**PI =** 45	**Assumed GS=** 2.75	**Type:** Undisturbed

Project No.: APS-1301-G001

Date Sampled: 01-22-13

Remarks:
45 Degree Failure

Figure _____

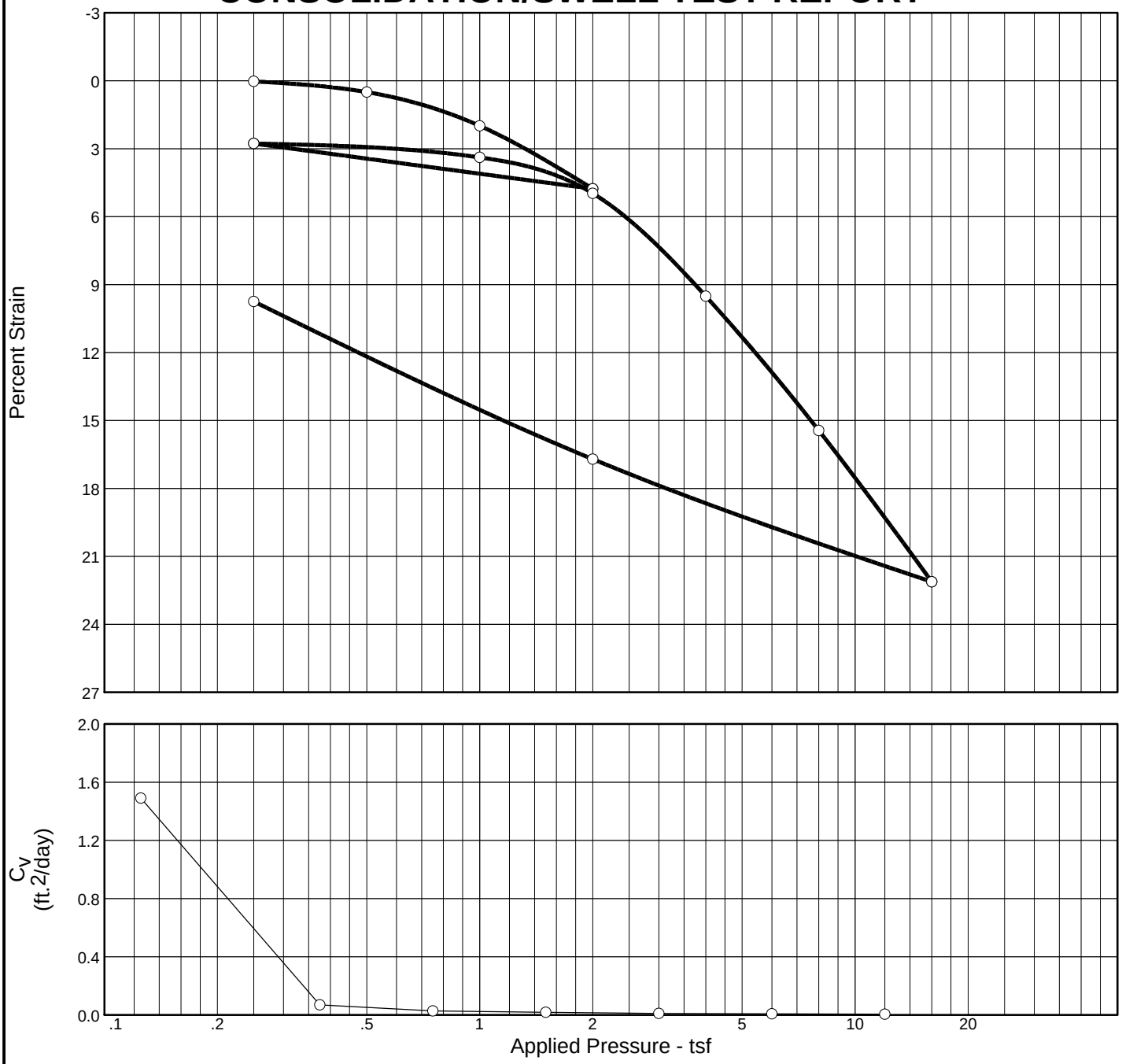
Client: URS

Project: Lake Maurepas

Source of Sample: B-1 **Depth:** 133-135
Sample Number: 30

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

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
99.7 %	51.6 %	70.8	106	68	2.75	3.00	0.54	1.423

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Gray CLAY (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

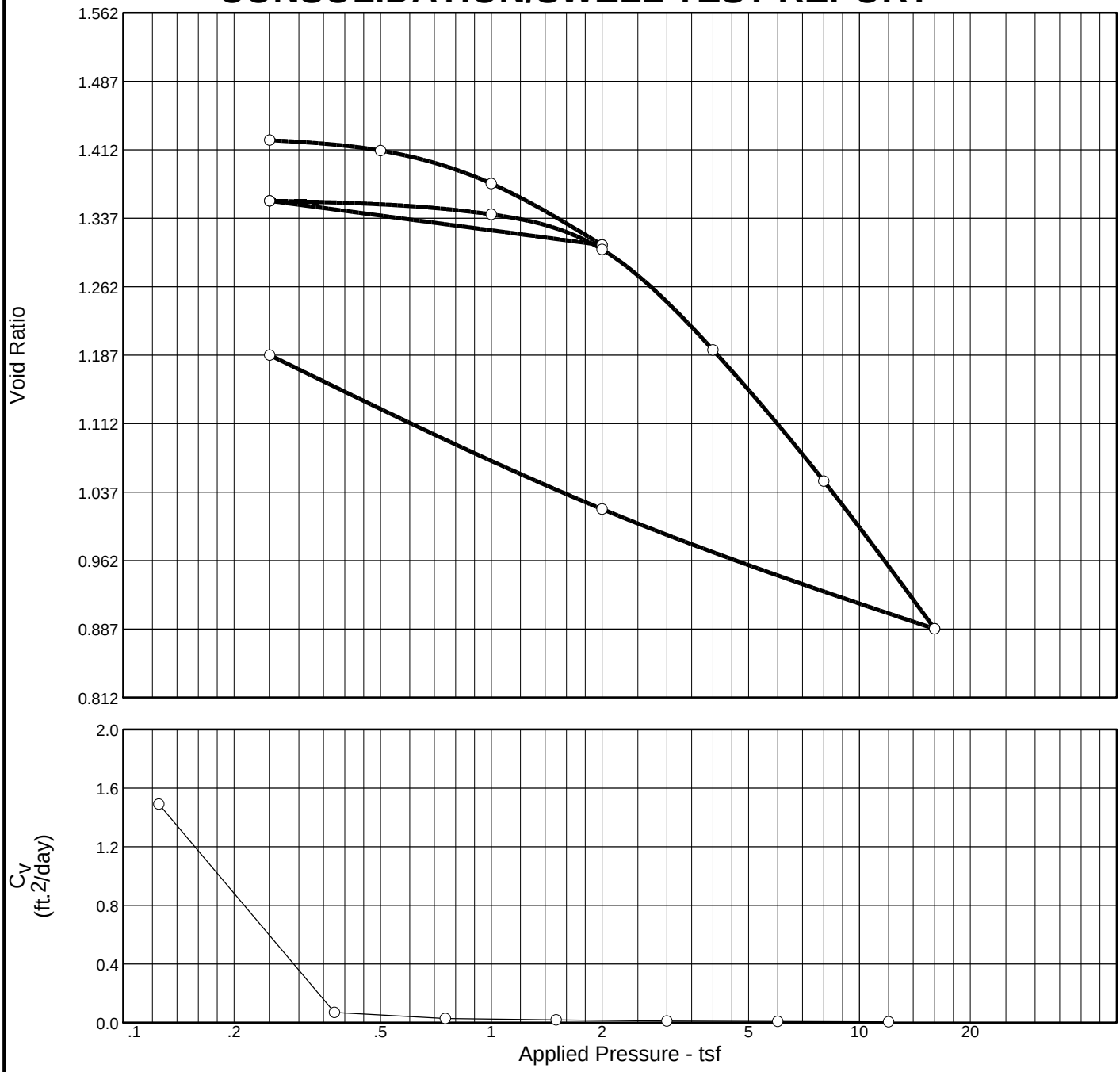
Source: B-05-A **Elev./Depth:** 12'-14'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
99.7 %	51.6 %	70.8	106	68	2.75	3.00	0.54	1.423

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Gray CLAY (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-05-A **Elev./Depth:** 12'-14'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

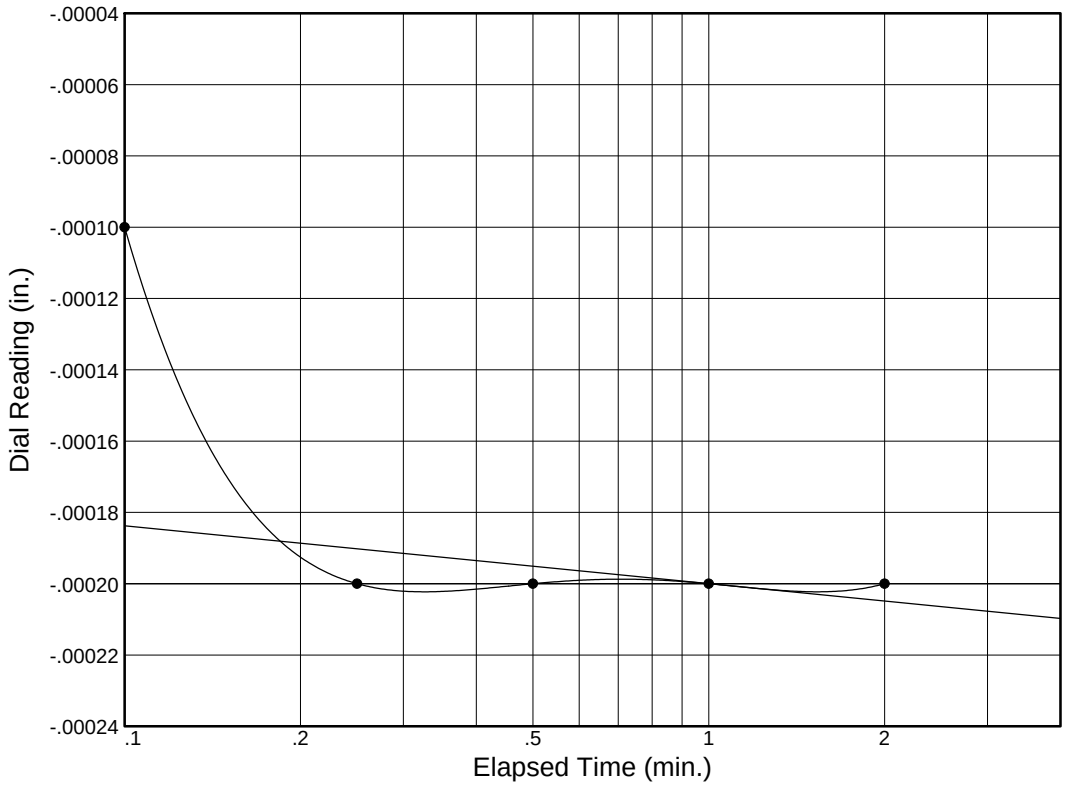
Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-05-A

Elev./Depth: 12'-14'



Load No.= 1

Load= 0.25 tsf

D_0 = 0.00000

D_{50} = -0.00010

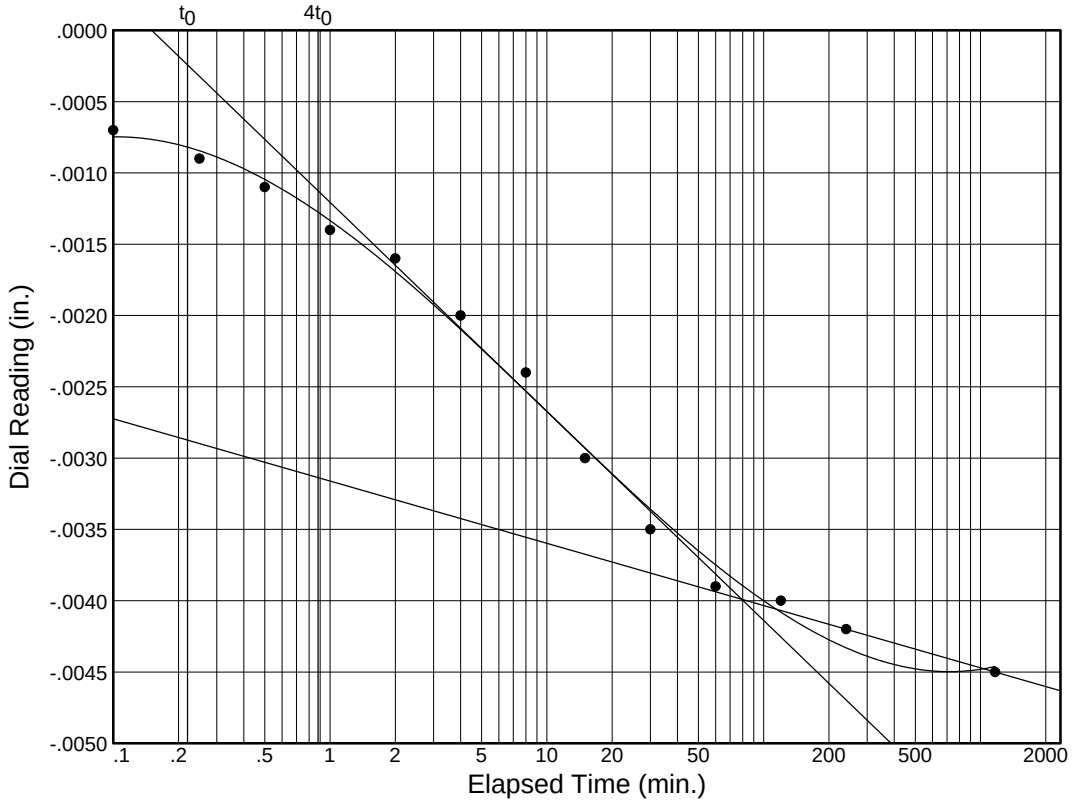
D_{100} = -0.00020

T_{50} = 0.21 min.

C_v @ T_{50}

1.49 ft.^{2}/day

C_α = 0.000



Load No.= 2

Load= 0.50 tsf

D_0 = -0.00036

D_{50} = -0.00218

D_{100} = -0.00399

T_{50} = 4.55 min.

C_v @ T_{50}

0.07 ft.^{2}/day

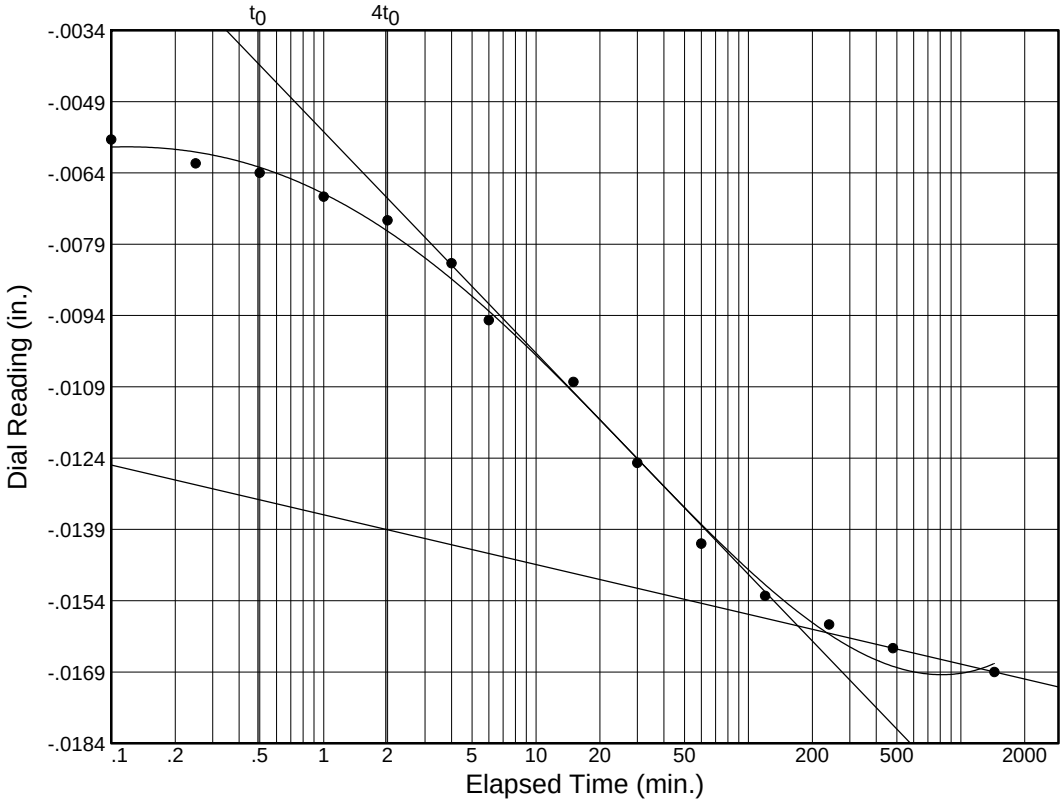
C_α = 0.001

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-05-A Elev./Depth: 12'-14'



Load No.= 3

Load= 1.00 tsf

D_0 = -0.00494

D_{50} = -0.01044

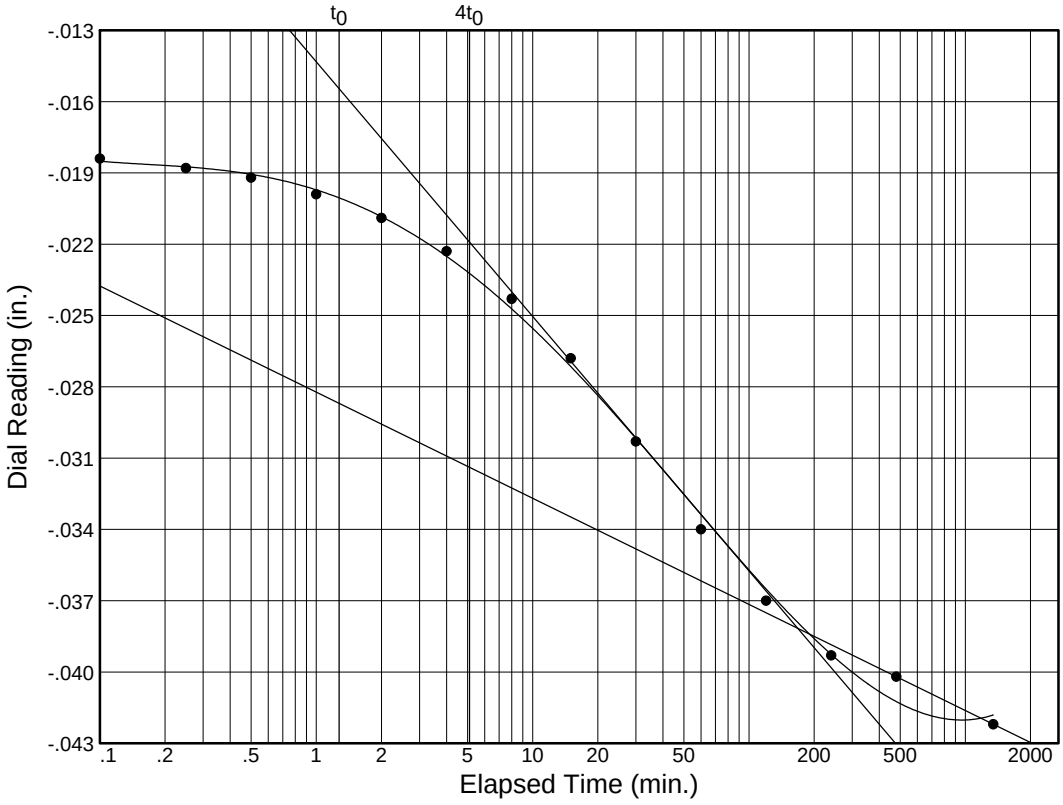
D_{100} = -0.01593

T_{50} = 11.10 min.

C_v @ T_{50}

0.03 ft.^{2}/day

C_α = 0.001



Load No.= 4

Load= 2.00 tsf

D_0 = -0.01688

D_{50} = -0.02752

D_{100} = -0.03816

T_{50} = 16.41 min.

C_v @ T_{50}

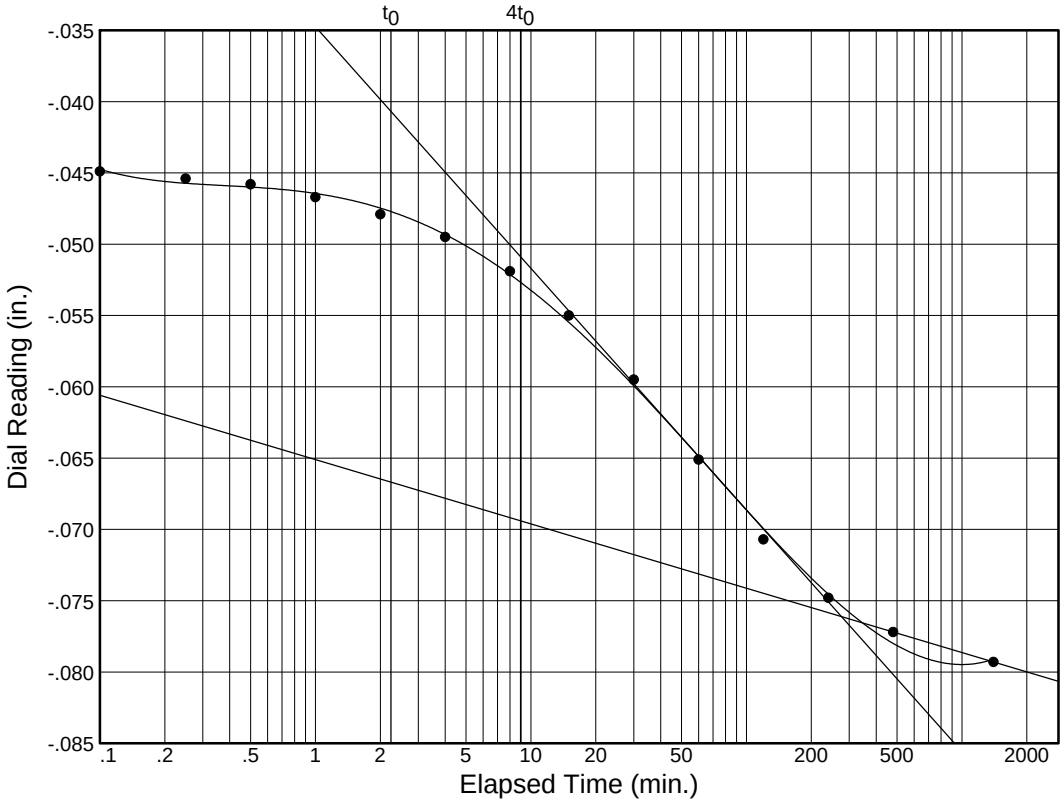
0.02 ft.^{2}/day

C_α = 0.006

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-05-A Elev./Depth: 12'-14'



Load No.= 8

Load= 4.00 tsf

D_0 = -0.04274

D_{50} = -0.05943

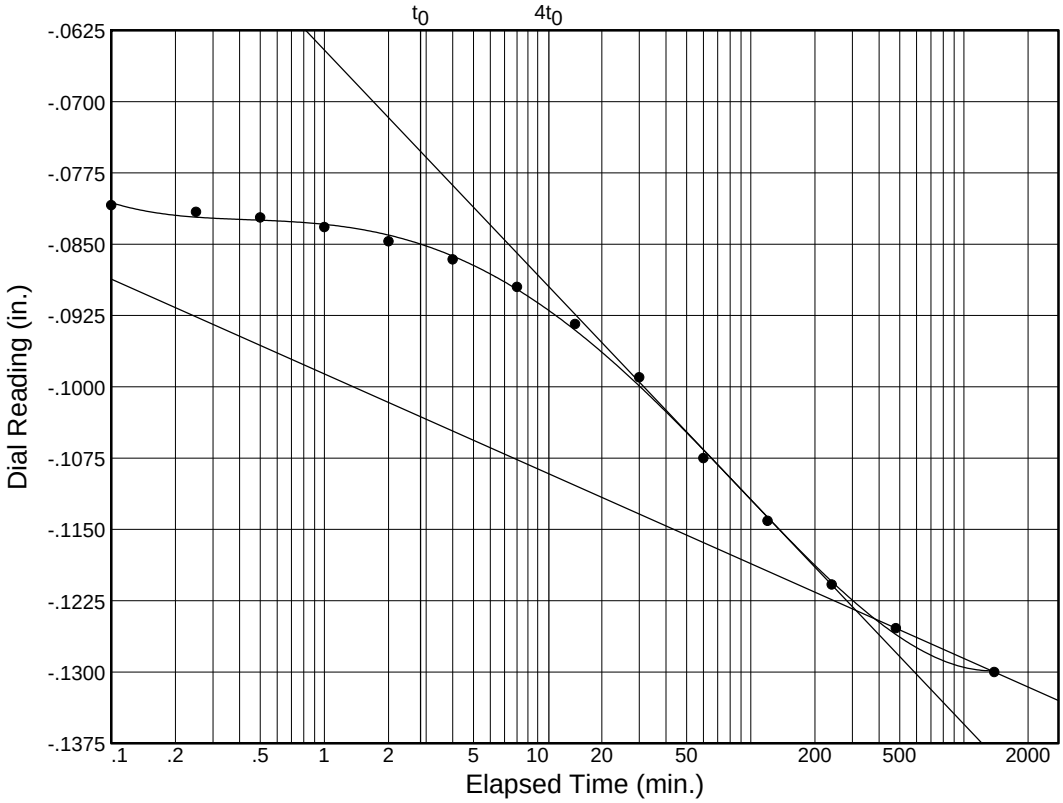
D_{100} = -0.07612

T_{50} = 27.89 min.

C_v @ T_{50}

0.01 ft.^{2}/day

C_α = 0.006



Load No.= 9

Load= 8.00 tsf

D_0 = -0.07800

D_{50} = -0.10077

D_{100} = -0.12353

T_{50} = 32.91 min.

C_v @ T_{50}

0.01 ft.^{2}/day

C_α = 0.014

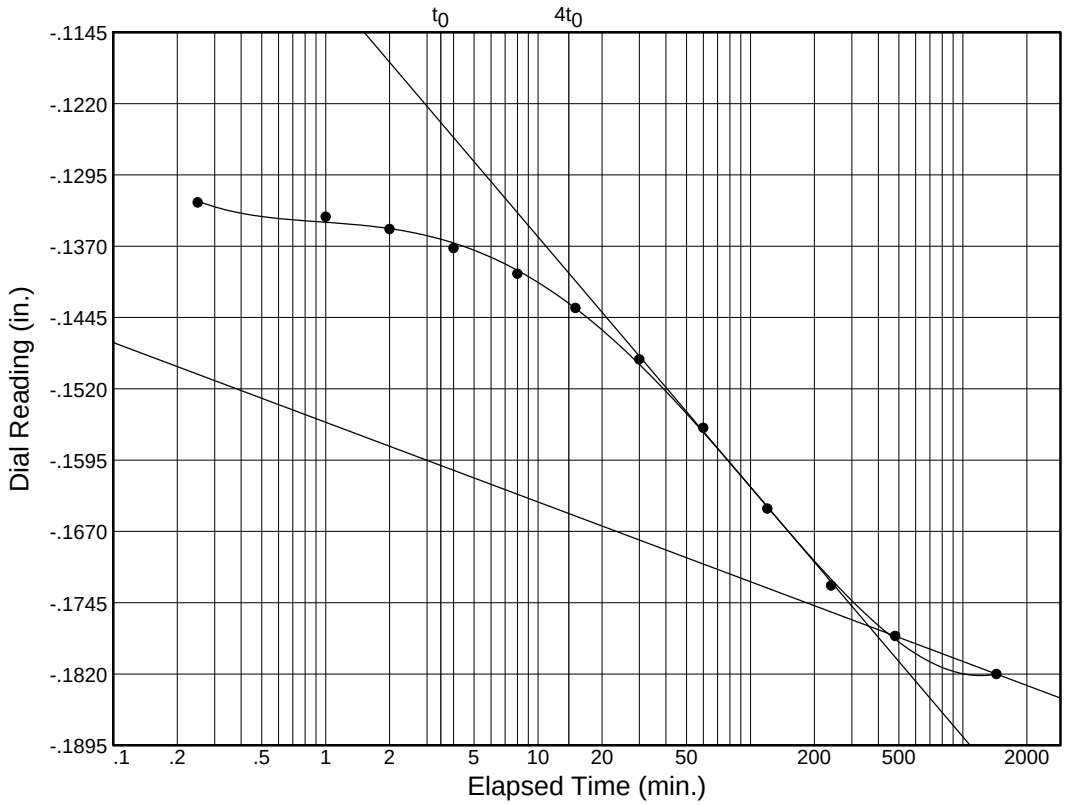
Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-05-A

Elev./Depth: 12'-14'



Load No.= 10

Load= 16.00 tsf

D_0 = -0.12953

D_{50} = -0.15324

D_{100} = -0.17696

T_{50} = 43.98 min.

C_v @ T_{50}

0.00 ft.^{2}/day

C_α = 0.013

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-05-A
Sample No.:
Elev. or Depth: 12'-14' **Sample Length(in./cm.):**
Location:
Description: Soft, Gray CLAY (CH)
Liquid Limit: 106 **Plasticity Index:** 68
USCS: (CH) **AASHTO:** **Figure No.:**
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE		BEFORE TEST	AFTER TEST
Wet w+t	= 141.70 g.	**Consolidometer #** = 6	**Wet w+t** = 163.84 g.
Dry w+t	= 108.82 g.		**Dry w+t** = .00 g.
Tare Wt.	= 45.13 g.	**Spec. Gravity** = 2.75	**Tare Wt.** = 60.70 g.
Height	= .80 in.	**Height** = .80 in.	
Diameter	= 2.50 in.	**Diameter** = 2.50 in.	
Weight	= 110.73 g.	**Defl. Table** = n/a	
Moisture	= 51.6 %	**Ht. Solids** = 0.3301 in.	**Moisture** = %
Wet Den.	= 107.4 pcf	**Dry Wt.** = 73.03 g.*	**Dry Wt.** = n/a
Dry Den.	= 70.8 pcf	**Void Ratio** = 1.423	**Void Ratio** = 1.187
		Saturation = 99.7 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

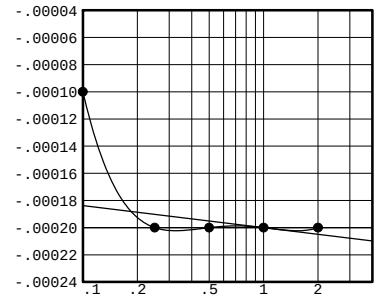
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	0.00000				1.423	
0.25	-0.00020	0.00000	1.49	0.000	1.423*	0.0 Comprs.*
0.50	-0.00450	0.00000	0.07	0.001	1.411*	0.5 Comprs.*
1.00	-0.01690	0.00000	0.03	0.001	1.375*	2.0 Comprs.*
2.00	-0.04220	0.00000	0.02	0.006	1.308*	4.8 Comprs.*
0.25	-0.02620	0.00000			1.356	2.8 Comprs.
1.00	-0.03110	0.00000			1.341	3.4 Comprs.
2.00	-0.04380	0.00000			1.303	5.0 Comprs.
4.00	-0.07930	0.00000	0.01	0.006	1.193*	9.5 Comprs.*
8.00	-0.13000	0.00000	0.01	0.014	1.049*	15.4 Comprs.*
16.00	-0.18200	0.00000	0.00	0.013	0.887*	22.1 Comprs.*
2.00	-0.13870	0.00000			1.018	16.7 Comprs.
0.25	-0.08300	0.00000			1.187	9.7 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 0.54 P_c = 3.00 tsf C_r = 0.11

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

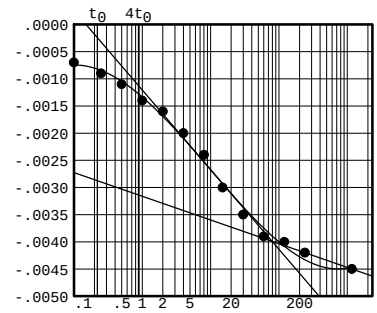
No.	Elapsed Time	Dial Reading
1	0.00	0.00000
2	0.10	-0.00010
3	0.25	-0.00020
4	0.50	-0.00020
5	1.00	-0.00020
6	2.00	-0.00020



Void Ratio = 1.423 **Compression =** 0.0 % >>> CALCULATED USING D_{100}
D_0 = 0.00000 D_{50} = -0.00010 D_{100} = -0.00020
C_v **at 0.2 min. =** 1.49 ft.^{2}/day C_α = 0.000

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

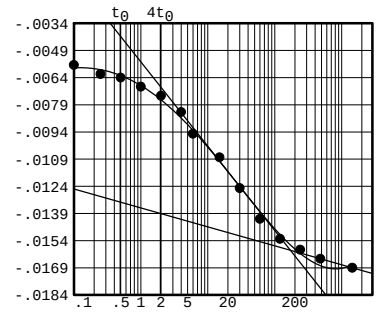
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.00020	11	60.00	-0.00390
2	0.10	-0.00070	12	120.00	-0.00400
3	0.25	-0.00090	13	240.00	-0.00420
4	0.50	-0.00110	14	1168.00	-0.00450
5	1.00	-0.00140			
6	2.00	-0.00160			
7	4.00	-0.00200			
8	8.00	-0.00240			
9	15.00	-0.00300			
10	30.00	-0.00350			



Void Ratio = 1.411 **Compression =** 0.5 % >>> CALCULATED USING D_{100}
D_0 = -0.00036 D_{50} = -0.00218 D_{100} = -0.00399
C_v **at 4.5 min. =** 0.07 ft.^{2}/day C_α = 0.001

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

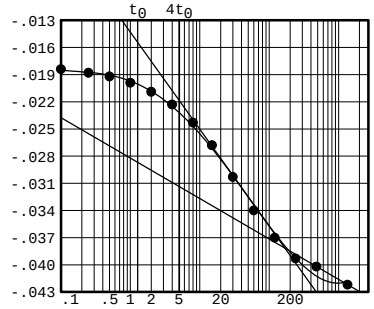
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.00450	11	60.00	-0.01420
2	0.10	-0.00570	12	120.00	-0.01530
3	0.25	-0.00620	13	240.00	-0.01590
4	0.50	-0.00640	14	480.00	-0.01640
5	1.00	-0.00690	15	1441.00	-0.01690
6	2.00	-0.00740			
7	4.00	-0.00830			
8	6.00	-0.00950			
9	15.00	-0.01080			
10	30.00	-0.01250			



Void Ratio = 1.375 **Compression =** 2.0 % >>> CALCULATED USING D_{100}
D_0 = -0.00494 D_{50} = -0.01044 D_{100} = -0.01593
C_v **at 11.1 min. =** 0.03 ft.^{2}/day C_α = 0.001

Pressure: 2.00 tsf **TEST READINGS** **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.01690	11	60.00	-0.03400
2	0.10	-0.01840	12	120.00	-0.03700
3	0.25	-0.01880	13	240.00	-0.03930
4	0.50	-0.01920	14	480.00	-0.04020
5	1.00	-0.01990	15	1346.00	-0.04220
6	2.00	-0.02090			
7	4.00	-0.02230			
8	8.00	-0.02430			
9	15.00	-0.02680			
10	30.00	-0.03030			



Void Ratio = 1.308 **Compression =** 4.8 % >>> CALCULATED USING D_{100}
D_0 = -0.01688 D_{50} = -0.02752 D_{100} = -0.03816
C_v **at 16.4 min. =** 0.02 ft.^{2}/day C_α = 0.006

Pressure: 0.25 tsf **TEST READINGS** **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.04220	11	60.00	-0.03020
2	0.10	-0.04170	12	120.00	-0.02830
3	0.25	-0.04150	13	240.00	-0.02730
4	0.50	-0.04120	14	480.00	-0.02680
5	1.00	-0.04060	15	1446.00	-0.02620
6	2.00	-0.03980			
7	4.00	-0.03870			
8	8.00	-0.03720			
9	15.00	-0.03510			
10	30.00	-0.03270			

Void Ratio = 1.356 **Compression =** 2.8 %

Pressure: 1.00 tsf **TEST READINGS** **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.02620	11	60.00	-0.03020
2	0.10	-0.02640	12	120.00	-0.03050
3	0.25	-0.02650	13	240.00	-0.03080
4	0.50	-0.02670	14	480.00	-0.03100
5	1.00	-0.02690	15	1420.00	-0.03110
6	2.00	-0.02710			
7	4.00	-0.02760			
8	6.00	-0.02810			
9	15.00	-0.02880			
10	30.00	-0.02950			

Void Ratio = 1.341 **Compression =** 3.4 %

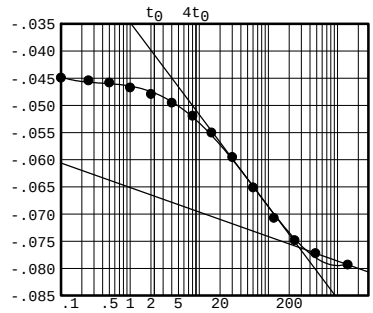
Pressure: 2.00 tsf **TEST READINGS** **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.03110	11	60.00	-0.04090
2	0.10	-0.03170	12	120.00	-0.04220
3	0.25	-0.03190	13	240.00	-0.04290
4	0.50	-0.03220	14	480.00	-0.04340
5	1.00	-0.03260	15	1440.00	-0.04380
6	2.00	-0.03330			
7	4.00	-0.03430			
8	8.00	-0.03560			
9	15.00	-0.03700			
10	30.00	-0.03910			

Void Ratio = 1.303 **Compression =** 5.0 %

Pressure: 4.00 tsf **TEST READINGS** **Load No. 8**

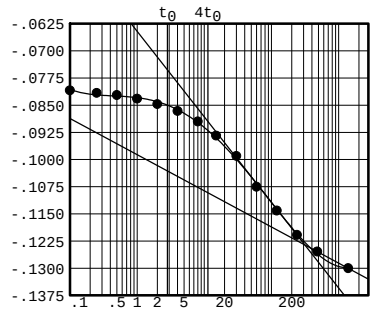
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.04380	11	60.00	-0.06510
2	0.10	-0.04490	12	120.00	-0.07070
3	0.25	-0.04540	13	240.00	-0.07480
4	0.50	-0.04580	14	480.00	-0.07720
5	1.00	-0.04670	15	1402.00	-0.07930
6	2.00	-0.04790			
7	4.00	-0.04950			
8	8.00	-0.05190			
9	15.00	-0.05500			
10	30.00	-0.05950			



Void Ratio = 1.193 **Compression =** 9.5 % >>> CALCULATED USING D_{100}
D_0 = -0.04274 D_{50} = -0.05943 D_{100} = -0.07612
C_v **at 27.9 min. =** 0.01 ft.^{2}/day C_α = 0.006

Pressure: 8.00 tsf **TEST READINGS** **Load No. 9**

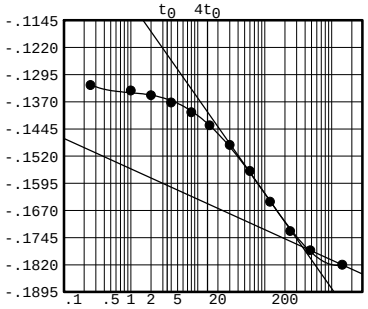
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.07930	11	60.00	-0.10750
2	0.10	-0.08090	12	120.00	-0.11410
3	0.25	-0.08160	13	240.00	-0.12080
4	0.50	-0.08220	14	480.00	-0.12540
5	1.00	-0.08320	15	1388.00	-0.13000
6	2.00	-0.08470			
7	4.00	-0.08660			
8	8.00	-0.08950			
9	15.00	-0.09340			
10	30.00	-0.09900			



Void Ratio = 1.049 **Compression =** 15.4 % >>> CALCULATED USING D_{100}
D_0 = -0.07800 D_{50} = -0.10077 D_{100} = -0.12353
C_v **at 32.9 min. =** 0.01 ft.^{2}/day C_α = 0.014

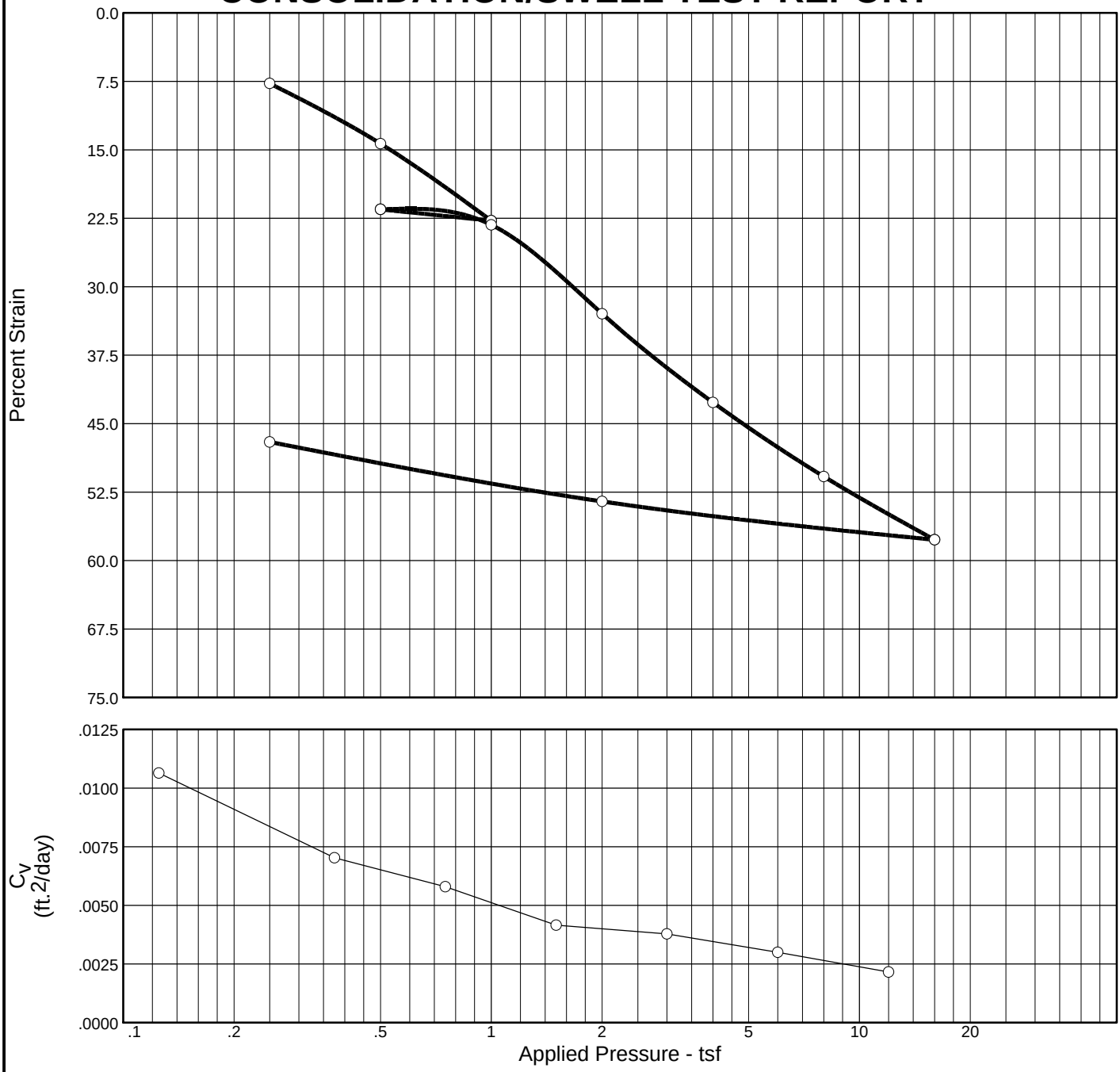
Pressure: 16.00 tsf **TEST READINGS** **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.13000	11	240.00	-0.17270
2	0.25	-0.13240	12	480.00	-0.17800
3	1.00	-0.13390	13	1440.00	-0.18200
4	2.00	-0.13520			
5	4.00	-0.13720			
6	8.00	-0.13990			
7	15.00	-0.14350			
8	30.00	-0.14890			
9	60.00	-0.15610			
10	120.00	-0.16460			



Void Ratio = 0.887 **Compression =** 22.1 % >>> CALCULATED USING D_{100}
D_0 **=** -0.12953 D_{50} **=** -0.15324 D_{100} **=** -0.17696
C_v **at 44.0 min. =** 0.00 ft.^{2}/day C_α **=** 0.013

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
99.8 %	194.4 %	26.4	185	118	2.40	0.07	1.30	4.677

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Black and Gray Organic CLAY (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-9 **Elev./Depth:** 12'-14'

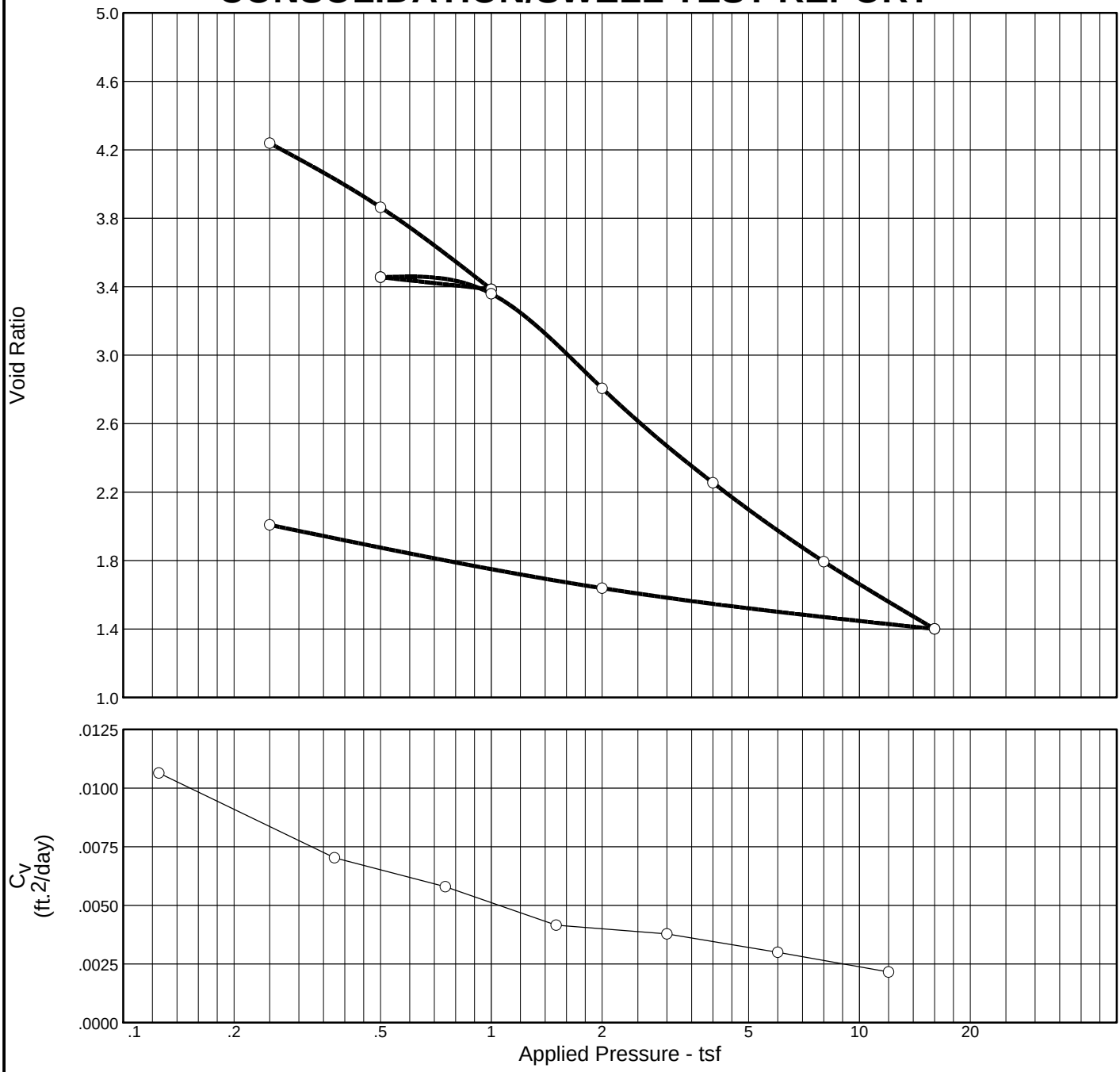
Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

1

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
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MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Black and Gray Organic CLAY (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-9 **Elev./Depth:** 12'-14'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

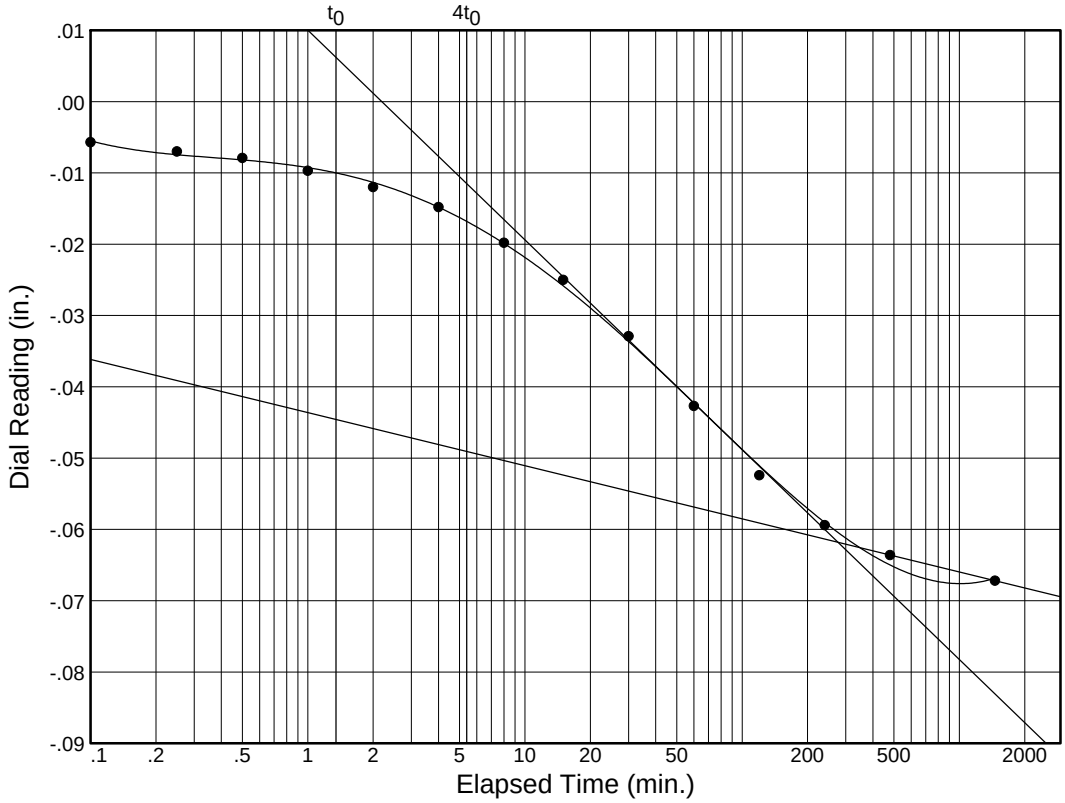
Southern Earth Sciences, Inc.

1

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-9 Elev./Depth: 12'-14'



Load No.= 1

Load= 0.25 tsf

D_0 = -0.00320

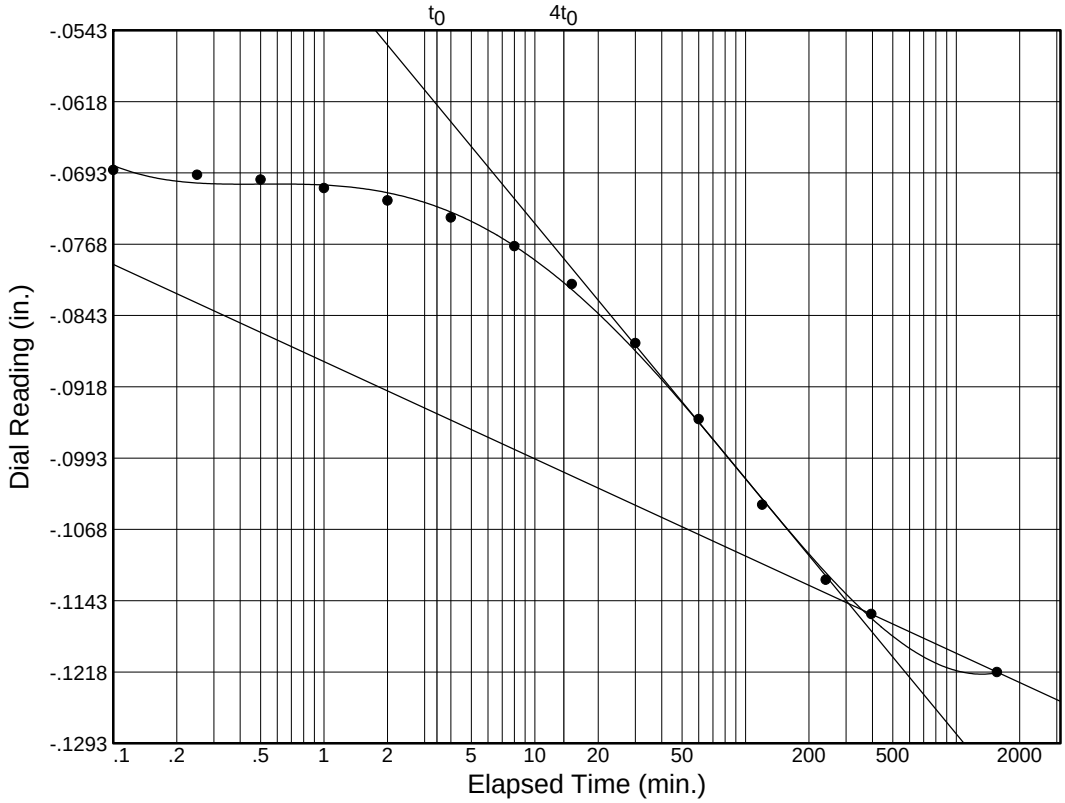
D_{50} = -0.03251

D_{100} = -0.06182

T_{50} = 27.26 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.009



Load No.= 2

Load= 0.50 tsf

D_0 = -0.06485

D_{50} = -0.08972

D_{100} = -0.11460

T_{50} = 35.35 min.

C_v @ T_{50}
0.01 ft.^{2}/day

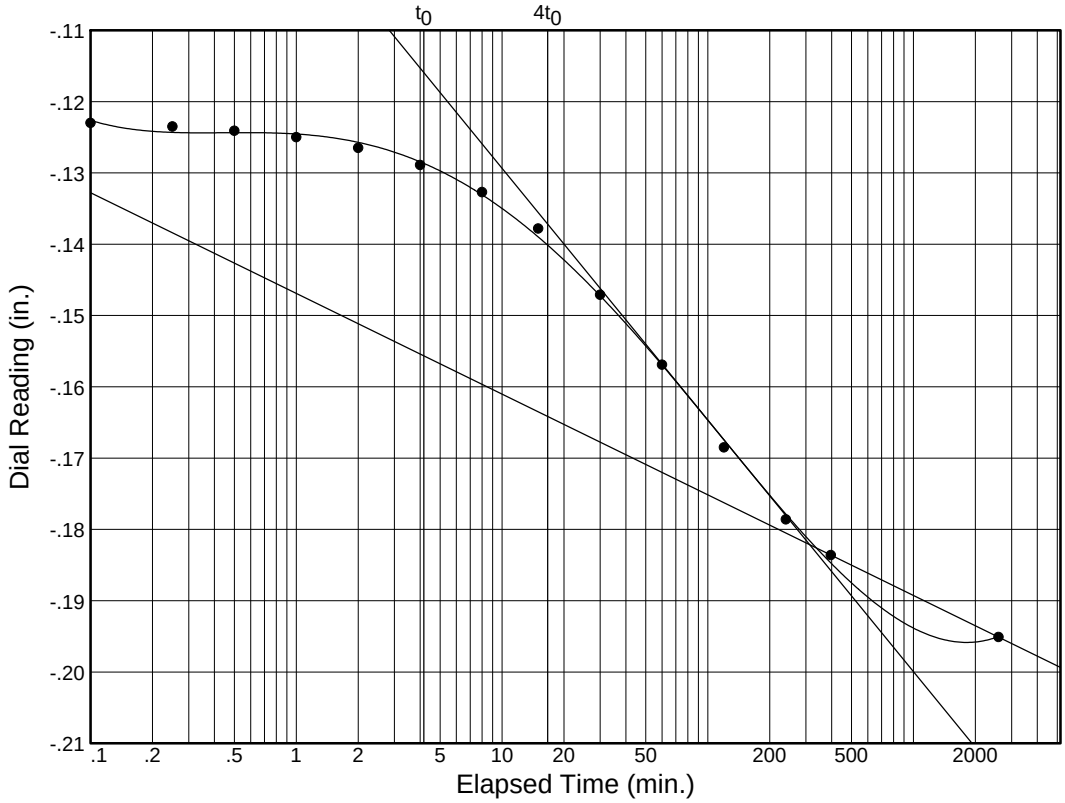
C_α = 0.014

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-9 Elev./Depth: 12'-14'



Load No.= 3

Load= 1.00 tsf

D_0 = -0.11720

D_{50} = -0.14967

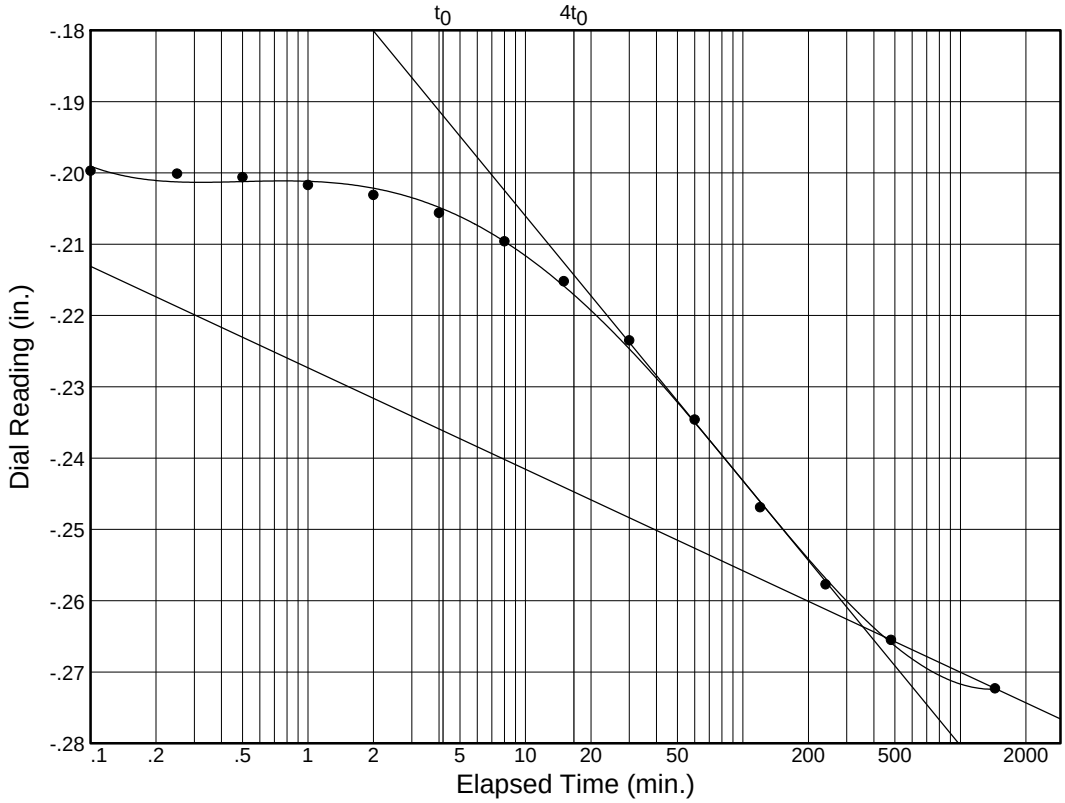
D_{100} = -0.18213

T_{50} = 35.97 min.

C_v @ T_{50}

0.01 ft.^{2}/day

C_α = 0.021



Load No.= 6

Load= 2.00 tsf

D_0 = -0.19302

D_{50} = -0.22834

D_{100} = -0.26366

T_{50} = 38.75 min.

C_v @ T_{50}

0.00 ft.^{2}/day

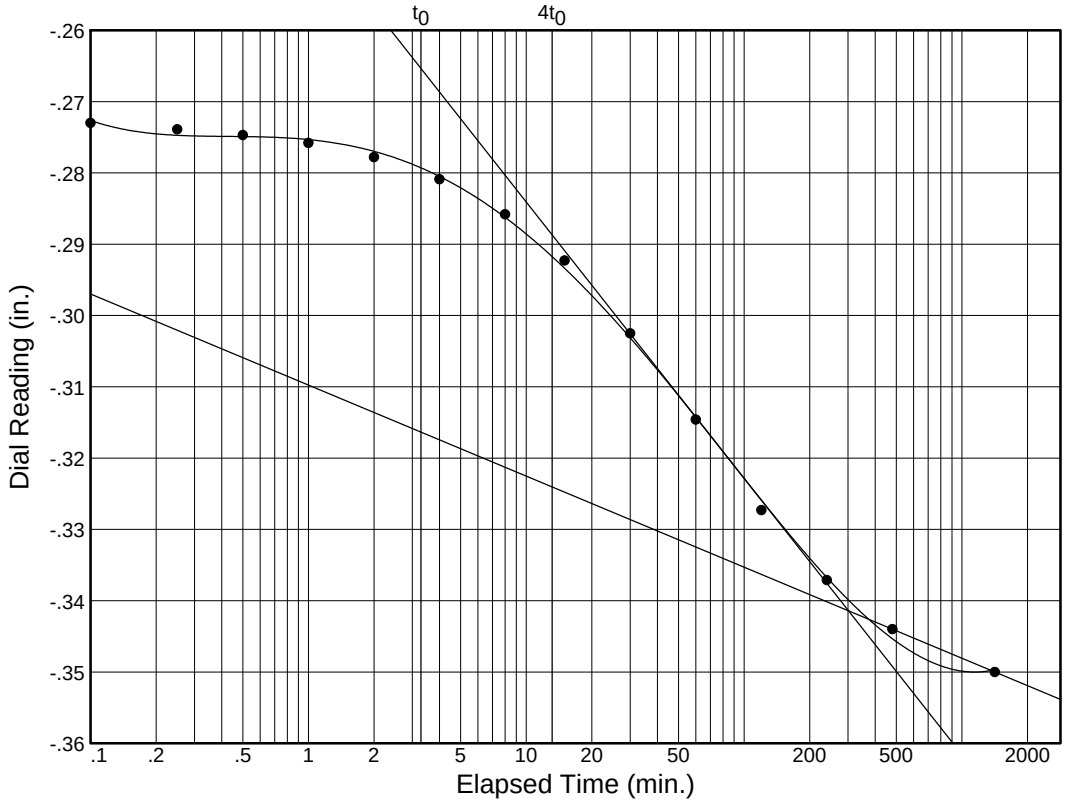
C_α = 0.024

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-9 Elev./Depth: 12'-14'



Load No.= 7

Load= 4.00 tsf

D_0 = -0.26684

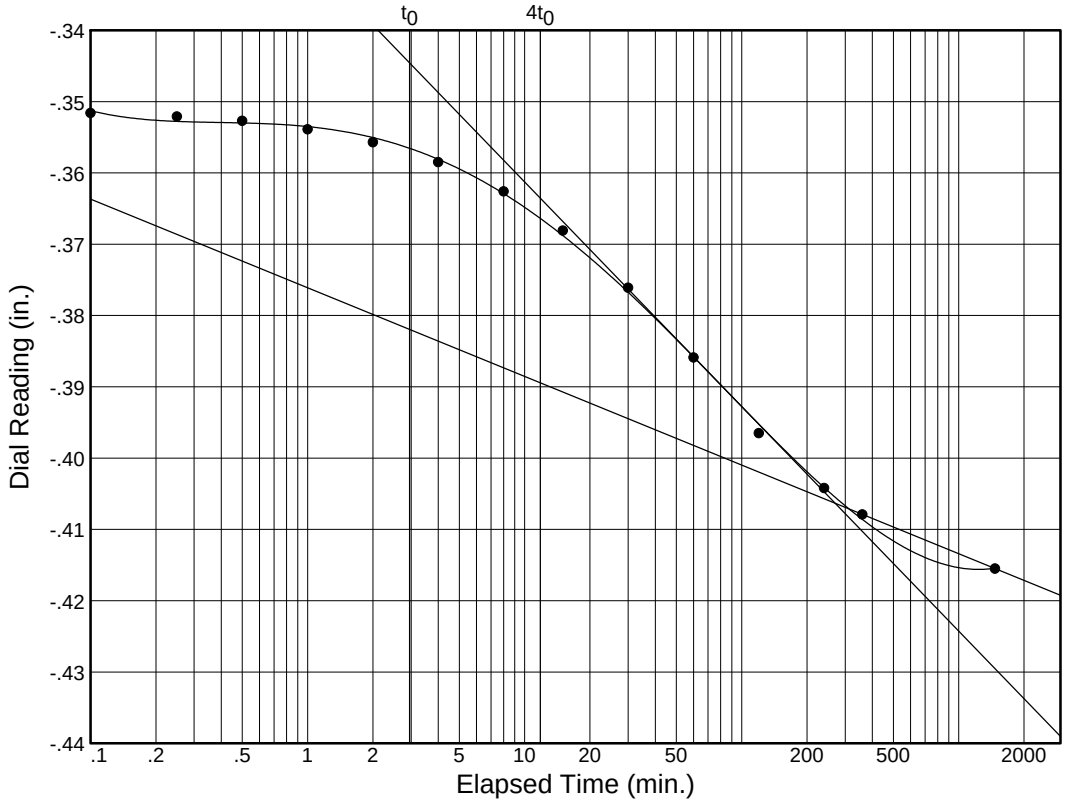
D_{50} = -0.30413

D_{100} = -0.34142

T_{50} = 32.04 min.

C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.024



Load No.= 8

Load= 8.00 tsf

D_0 = -0.34672

D_{50} = -0.37653

D_{100} = -0.40634

T_{50} = 29.49 min.

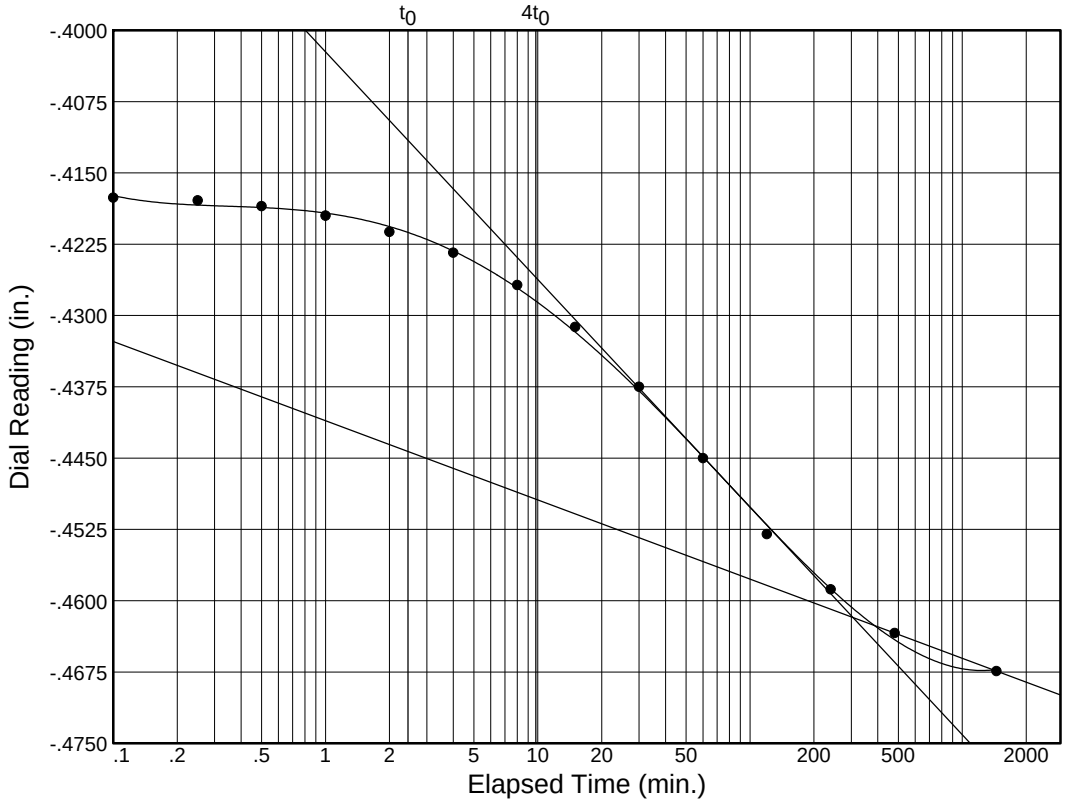
C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.028

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-9 Elev./Depth: 12'-14'



Load No.= 9

Load= 16.00 tsf

D_0 = -0.41405

D_{50} = -0.43791

D_{100} = -0.46176

T_{50} = 29.98 min.

C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.022

Southern Earth Sciences, Inc.

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-9
Sample No.:
Elev. or Depth: 12'-14' **Sample Length(in./cm.):**
Location:
Description: Soft, Black and Gray Organic CLAY (CH)
Liquid Limit: 185 **Plasticity Index:** 118
USCS: (CH) **AASHTO:** **Figure No.:** 1
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE	BEFORE TEST	AFTER TEST
Wet w+t = 144.08 g.	**Consolidometer #** = 6	**Wet w+t** = 109.54 g.
Dry w+t = 89.43 g.		**Dry w+t** = 88.89 g.
Tare Wt. = 61.32 g.	**Spec. Gravity** = 2.40	**Tare Wt.** = 60.62 g.
Height = .80 in.	**Height** = .80 in.	
Diameter = 2.50 in.	**Diameter** = 2.50 in.	
Weight = 80.09 g.	**Defl. Table** = n/a	
Moisture = 194.4 %	**Ht. Solids** = 0.1409 in.	**Moisture** = 73.0 %
Wet Den. = 77.7 pcf	**Dry Wt.** = 27.20 g.*	**Dry Wt.** = 28.27 g.
Dry Den. = 26.4 pcf	**Void Ratio** = 4.677	**Void Ratio** = 2.009
	Saturation = 99.8 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

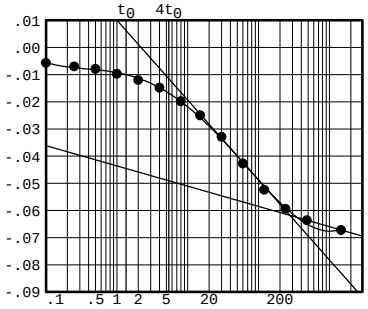
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	0.00000				4.677	
0.25	-0.06720	0.00000	0.01	0.009	4.239*	7.7 Comprs.*
0.50	-0.12180	0.00000	0.01	0.014	3.864*	14.3 Comprs.*
1.00	-0.19510	0.00000	0.01	0.021	3.385*	22.8 Comprs.*
0.50	-0.18510	0.00000			3.456	21.5 Comprs.
1.00	-0.19870	0.00000			3.359	23.2 Comprs.
2.00	-0.27230	0.00000	0.00	0.024	2.806*	33.0 Comprs.*
4.00	-0.35000	0.00000	0.00	0.024	2.254*	42.7 Comprs.*
8.00	-0.41550	0.00000	0.00	0.028	1.794*	50.8 Comprs.*
16.00	-0.46740	0.00000	0.00	0.022	1.400*	57.7 Comprs.*
2.00	-0.43380	0.00000			1.639	53.5 Comprs.
0.25	-0.38170	0.00000			2.009	47.0 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 1.30 P_c = 0.07 tsf C_r = 0.31

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

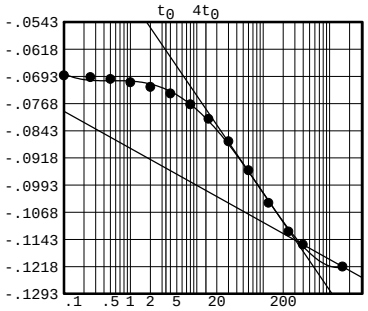
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.00000	11	60.00	-0.04270
2	0.10	-0.00570	12	120.00	-0.05240
3	0.25	-0.00700	13	240.00	-0.05940
4	0.50	-0.00790	14	480.00	-0.06360
5	1.00	-0.00970	15	1460.00	-0.06720
6	2.00	-0.01200			
7	4.00	-0.01480			
8	8.00	-0.01980			
9	15.00	-0.02500			
10	30.00	-0.03290			



Void Ratio = 4.239 **Compression =** 7.7 % >>> CALCULATED USING D_{100}
D_0 = -0.00320 D_{50} = -0.03251 D_{100} = -0.06182
C_v **at 27.3 min. =** 0.01 ft.^{2}/day C_α = 0.009

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

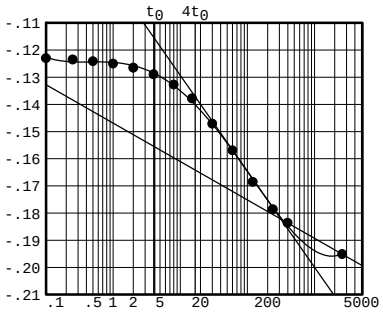
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.06720	11	60.00	-0.09520
2	0.10	-0.06900	12	120.00	-0.10420
3	0.25	-0.06950	13	240.00	-0.11210
4	0.50	-0.07000	14	395.00	-0.11570
5	1.00	-0.07090	15	1560.00	-0.12180
6	2.00	-0.07220			
7	4.00	-0.07400			
8	8.00	-0.07700			
9	15.00	-0.08100			
10	30.00	-0.08720			



Void Ratio = 3.864 **Compression =** 14.3 % >>> CALCULATED USING D_{100}
D_0 = -0.06485 D_{50} = -0.08972 D_{100} = -0.11460
C_v **at 35.3 min. =** 0.01 ft.^{2}/day C_α = 0.014

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.12180	11	60.00	-0.15690
2	0.10	-0.12300	12	120.00	-0.16850
3	0.25	-0.12350	13	240.00	-0.17860
4	0.50	-0.12410	14	397.00	-0.18360
5	1.00	-0.12500	15	2590.00	-0.19510
6	2.00	-0.12650			
7	4.00	-0.12890			
8	8.00	-0.13270			
9	15.00	-0.13780			
10	30.00	-0.14710			



Void Ratio = 3.385 **Compression =** 22.8 % >>> CALCULATED USING D_{100}
D_0 = -0.11720 D_{50} = -0.14967 D_{100} = -0.18213
C_v **at 36.0 min. =** 0.01 ft.^{2}/day C_α = 0.021

Pressure: 0.50 tsf **TEST READINGS** **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.19510	11	60.00	-0.18790
2	0.10	-0.19470	12	120.00	-0.18690
3	0.25	-0.19460	13	250.00	-0.18620
4	0.50	-0.19450	14	450.00	-0.18580
5	1.00	-0.19410	15	1322.00	-0.18510
6	2.00	-0.19370			
7	4.00	-0.19290			
8	8.00	-0.19170			
9	15.00	-0.19050			
10	30.00	-0.18910			

Void Ratio = 3.456 **Compression =** 21.5 %

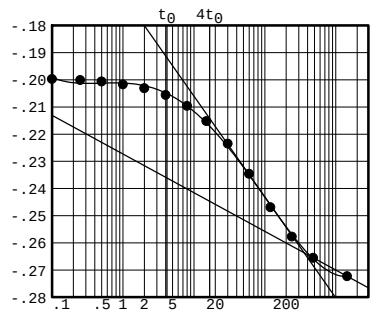
Pressure: 1.00 tsf **TEST READINGS** **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.18510	11	60.00	-0.19370
2	0.10	-0.18560	12	120.00	-0.19470
3	0.25	-0.18580	13	252.00	-0.19570
4	0.50	-0.18600	14	480.00	-0.19690
5	1.00	-0.18650	15	1440.00	-0.19870
6	2.00	-0.18710			
7	4.00	-0.18800			
8	8.00	-0.18930			
9	15.00	-0.19070			
10	30.00	-0.19240			

Void Ratio = 3.359 **Compression =** 23.2 %

Pressure: 2.00 tsf **TEST READINGS** **Load No. 6**

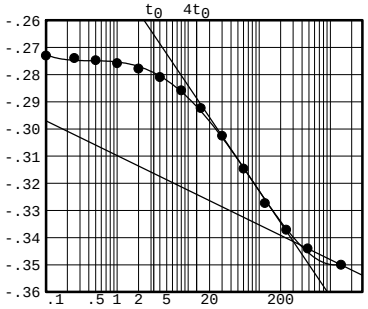
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.19870	11	60.00	-0.23460
2	0.10	-0.19970	12	120.00	-0.24690
3	0.25	-0.20010	13	240.00	-0.25770
4	0.50	-0.20060	14	480.00	-0.26550
5	1.00	-0.20170	15	1442.00	-0.27230
6	2.00	-0.20310			
7	4.00	-0.20560			
8	8.00	-0.20960			
9	15.00	-0.21520			
10	30.00	-0.22350			



Void Ratio = 2.806 **Compression =** 33.0 % >>> CALCULATED USING D_{100}
D_0 = -0.19302 D_{50} = -0.22834 D_{100} = -0.26366
C_v **at 38.8 min. =** 0.00 ft.^{2}/day C_α = 0.024

Pressure: 4.00 tsf **TEST READINGS** **Load No. 7**

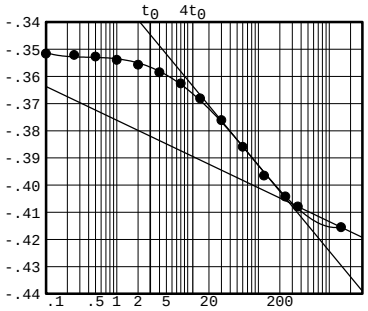
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.27230	11	60.00	-0.31460
2	0.10	-0.27300	12	120.00	-0.32730
3	0.25	-0.27390	13	240.00	-0.33710
4	0.50	-0.27470	14	480.00	-0.34400
5	1.00	-0.27580	15	1416.00	-0.35000
6	2.00	-0.27780			
7	4.00	-0.28090			
8	8.00	-0.28580			
9	15.00	-0.29230			
10	30.00	-0.30250			



Void Ratio = 2.254 **Compression =** 42.7 % >>> CALCULATED USING D_{100}
D_0 = -0.26684 D_{50} = -0.30413 D_{100} = -0.34142
C_v **at 32.0 min. =** 0.00 ft.^{2}/day C_α = 0.024

Pressure: 8.00 tsf **TEST READINGS** **Load No. 8**

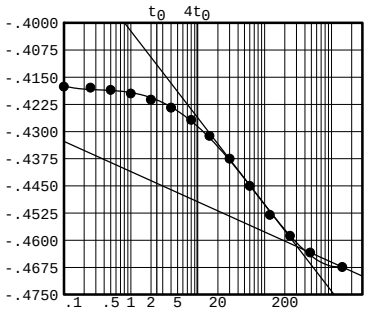
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.35000	11	60.00	-0.38590
2	0.10	-0.35160	12	120.00	-0.39650
3	0.25	-0.35210	13	240.00	-0.40420
4	0.50	-0.35270	14	360.00	-0.40790
5	1.00	-0.35390	15	1471.00	-0.41550
6	2.00	-0.35570			
7	4.00	-0.35850			
8	8.00	-0.36260			
9	15.00	-0.36810			
10	30.00	-0.37610			



Void Ratio = 1.794 **Compression =** 50.8 % >>> CALCULATED USING D_{100}
D_0 = -0.34672 D_{50} = -0.37653 D_{100} = -0.40634
C_v **at 29.5 min. =** 0.00 ft.^{2}/day C_α = 0.028

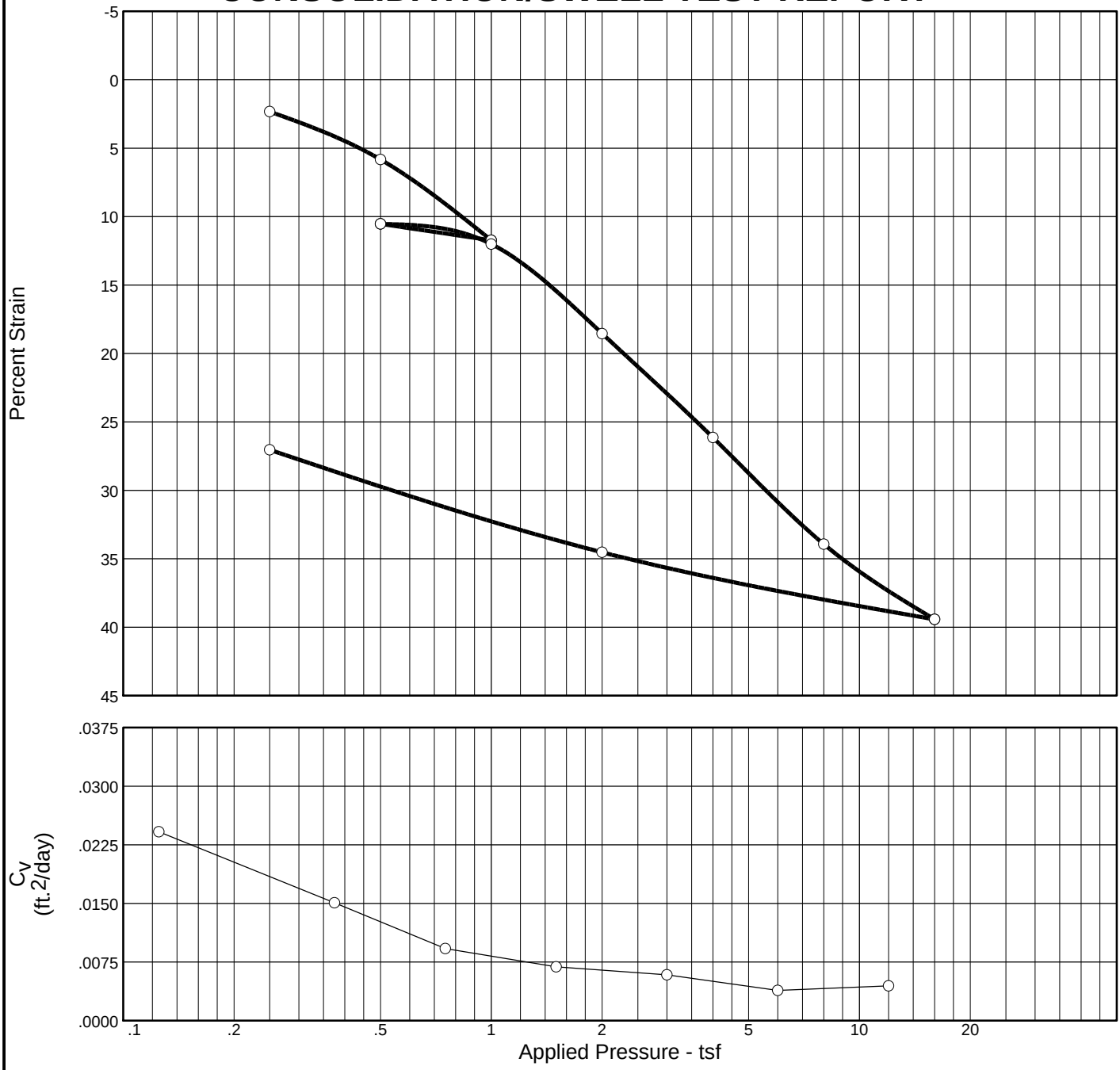
Pressure: 16.00 tsf **TEST READINGS** **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.41550	11	60.00	-0.44500
2	0.10	-0.41760	12	120.00	-0.45300
3	0.25	-0.41790	13	240.00	-0.45880
4	0.50	-0.41850	14	480.00	-0.46340
5	1.00	-0.41950	15	1450.00	-0.46740
6	2.00	-0.42120			
7	4.00	-0.42340			
8	8.00	-0.42680			
9	15.00	-0.43120			
10	30.00	-0.43750			



Void Ratio = 1.400 **Compression =** 57.7 % >>> CALCULATED USING D_{100}
D_0 = -0.41405 D_{50} = -0.43791 D_{100} = -0.46176
C_v **at 30.0 min. =** 0.00 ft.^{2}/day C_α = 0.022

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
98.3 %	82.9 %	51.7	109	73	2.75	0.10	0.59	2.320

MATERIAL DESCRIPTION	USCS	AASHTO
Gray CLAY with organic pockets (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-10 **Elev./Depth:** 10'-12'

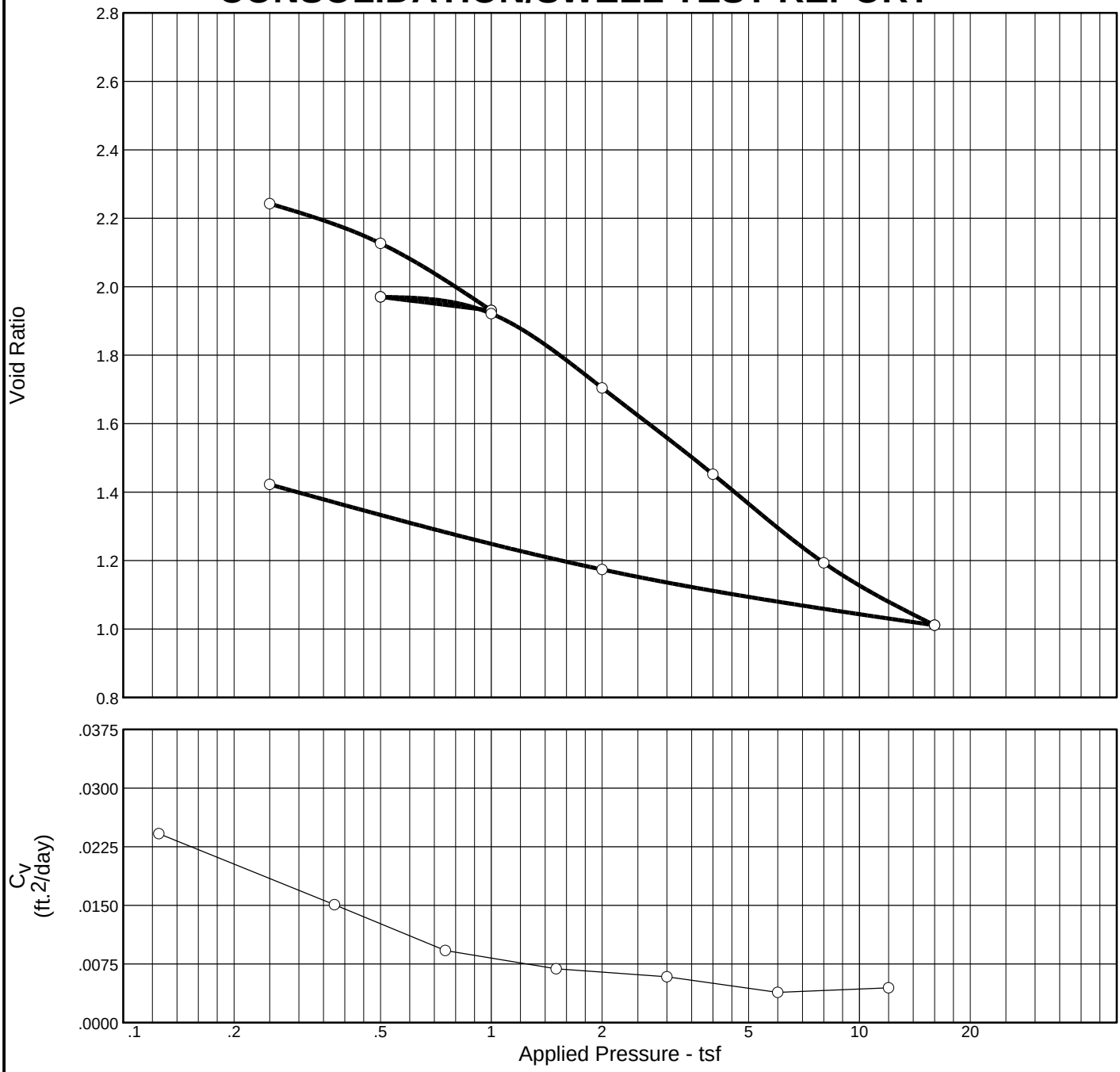
Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

1

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
98.3 %	82.9 %	51.7	109	73	2.75	0.10	0.59	2.320

MATERIAL DESCRIPTION	USCS	AASHTO
Gray CLAY with organic pockets (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-10 **Elev./Depth:** 10'-12'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

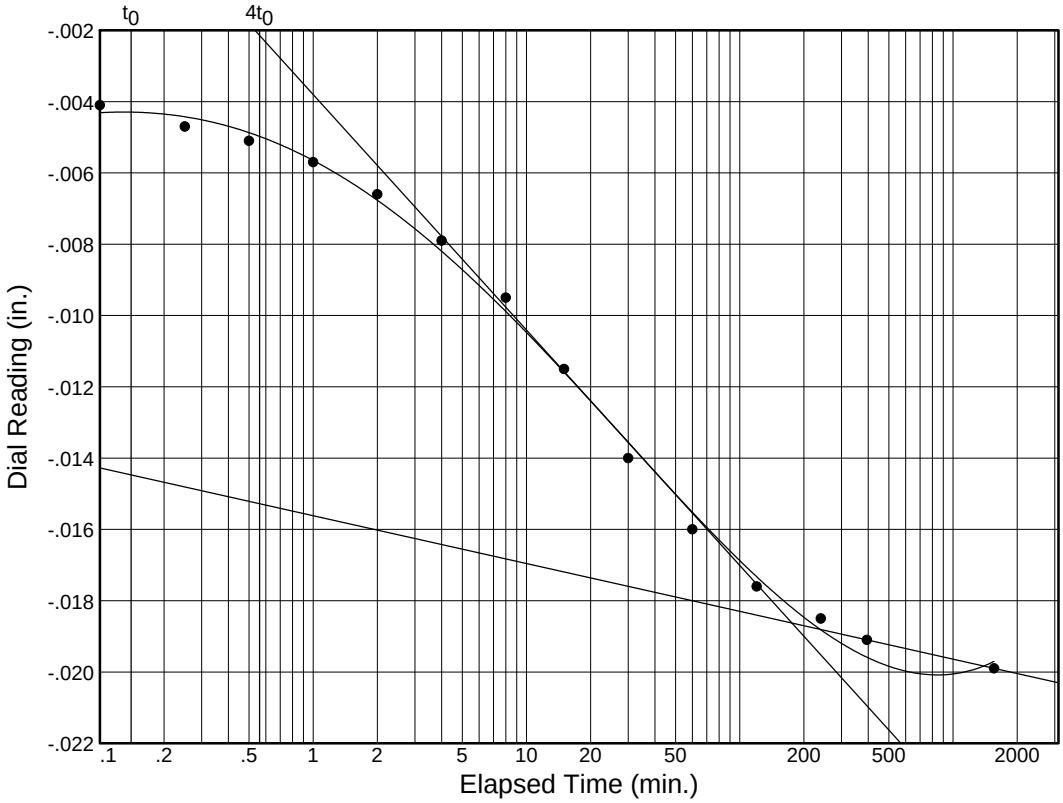
Southern Earth Sciences, Inc.

1

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-10 Elev./Depth: 10'-12'



Load No.= 1

Load= 0.25 tsf

D_0 = -0.00362

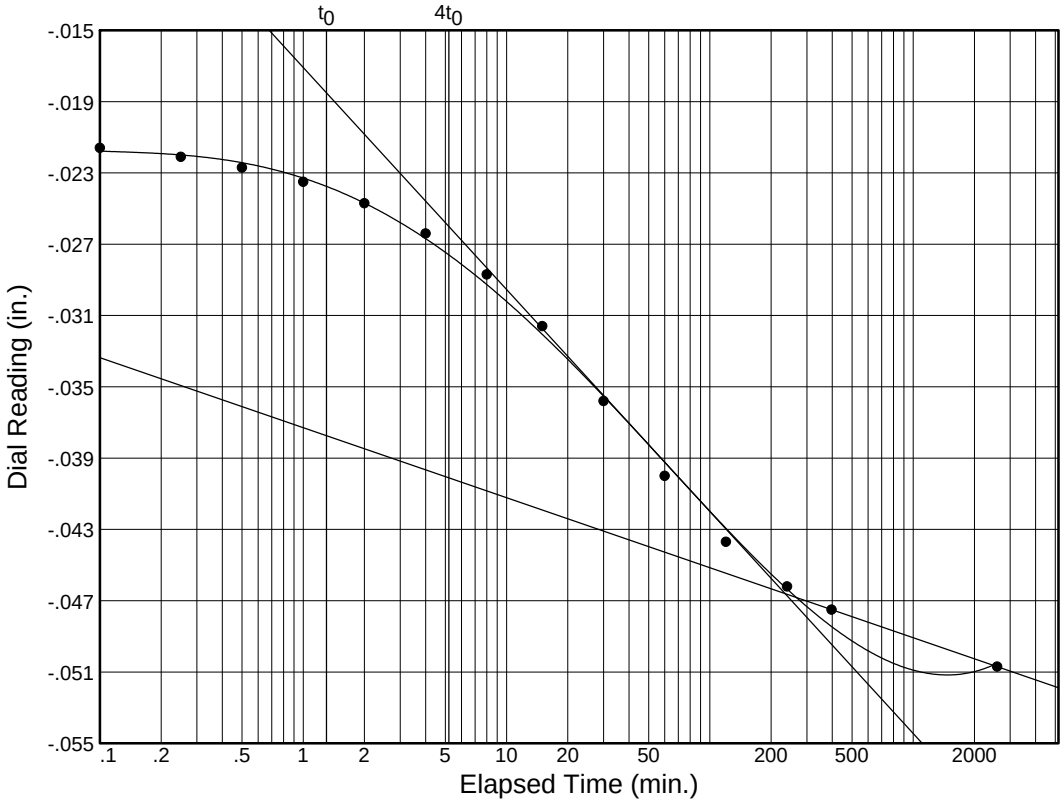
D_{50} = -0.01112

D_{100} = -0.01863

T_{50} = 12.68 min.

C_v @ T_{50}
0.02 ft.^{2}/day

C_α = 0.002



Load No.= 2

Load= 0.50 tsf

D_0 = -0.01991

D_{50} = -0.03326

D_{100} = -0.04660

T_{50} = 19.20 min.

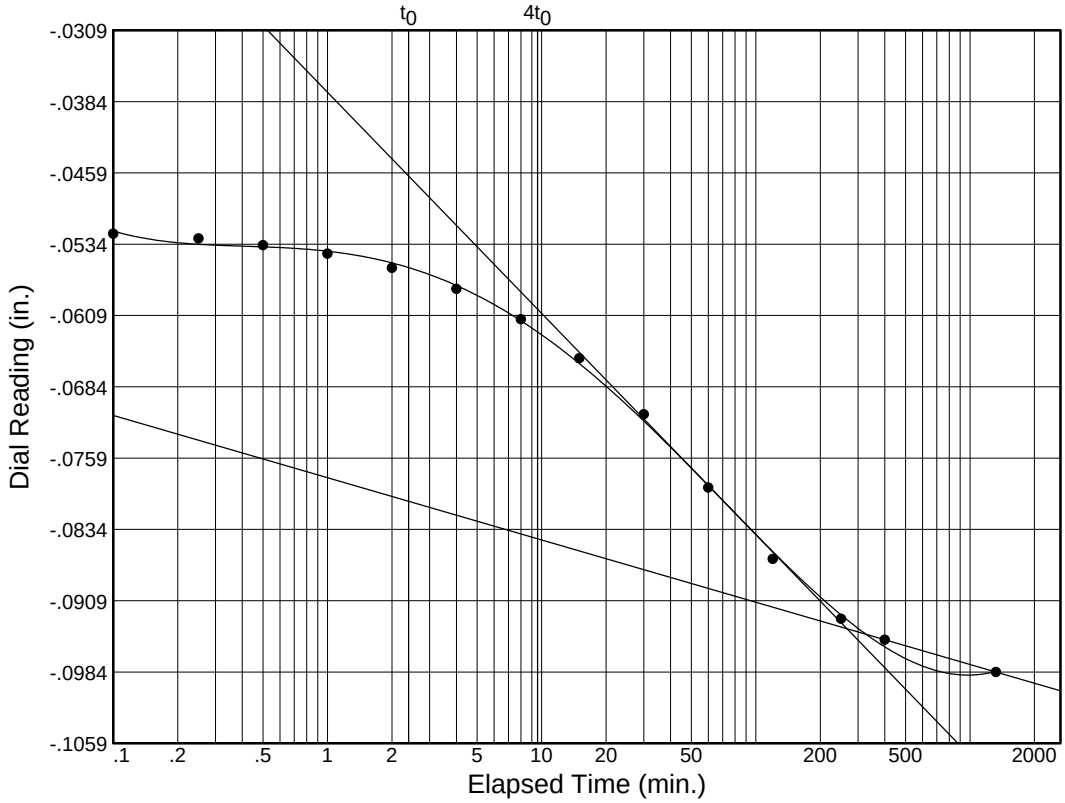
C_v @ T_{50}
0.02 ft.^{2}/day

C_α = 0.005

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-10 Elev./Depth: 10'-12'



Load No.= 3

Load= 1.00 tsf

D_0 = -0.04909

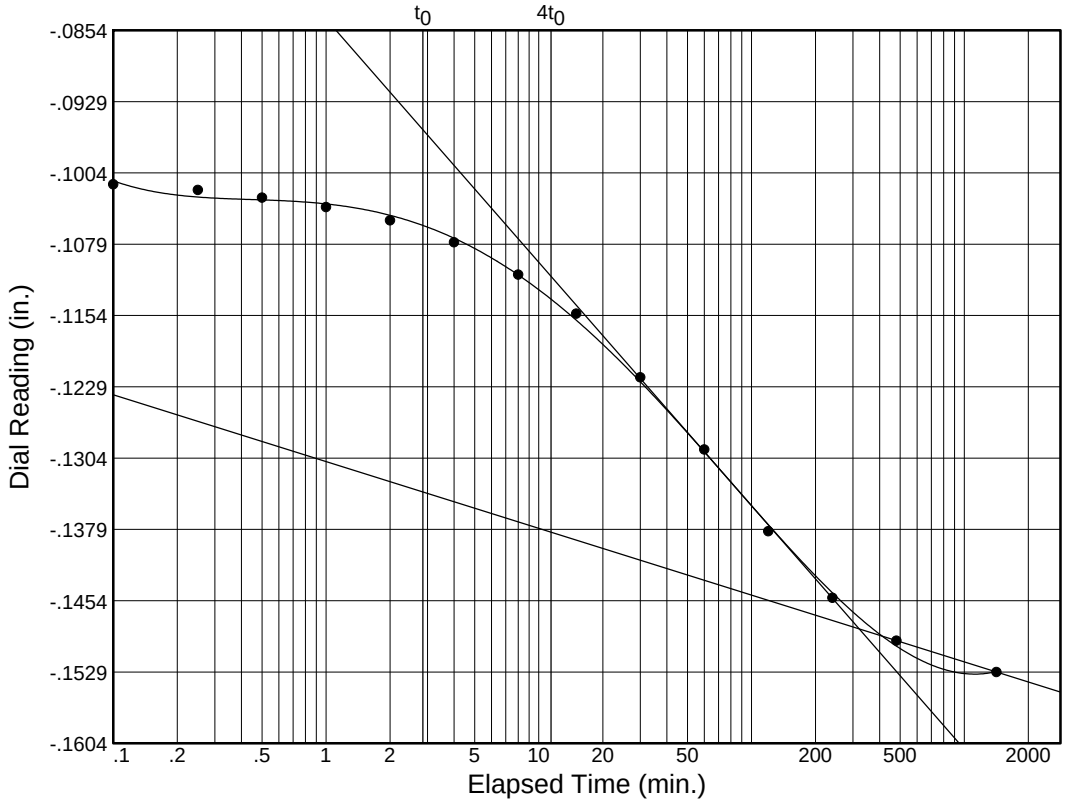
D_{50} = -0.07147

D_{100} = -0.09385

T_{50} = 28.35 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.009



Load No.= 6

Load= 2.00 tsf

D_0 = -0.09817

D_{50} = -0.12327

D_{100} = -0.14837

T_{50} = 32.81 min.

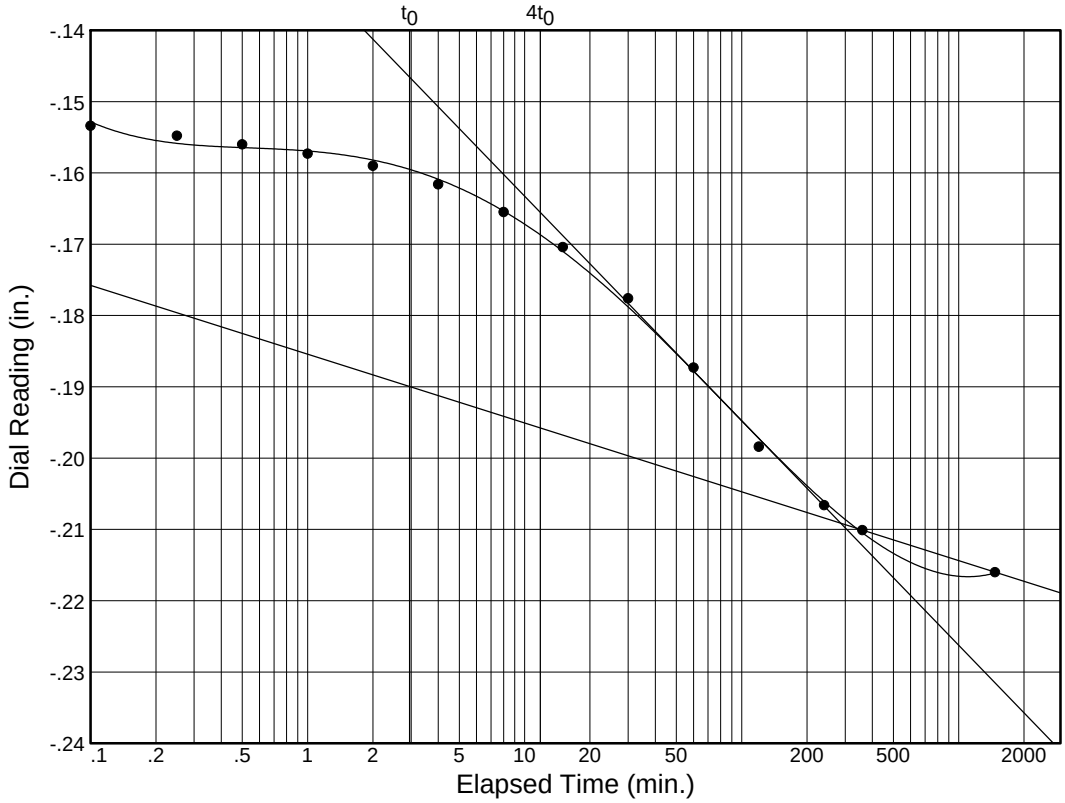
C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.010

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-10 Elev./Depth: 10'-12'



Load No.= 7

Load= 4.00 tsf

D_0 = -0.15033

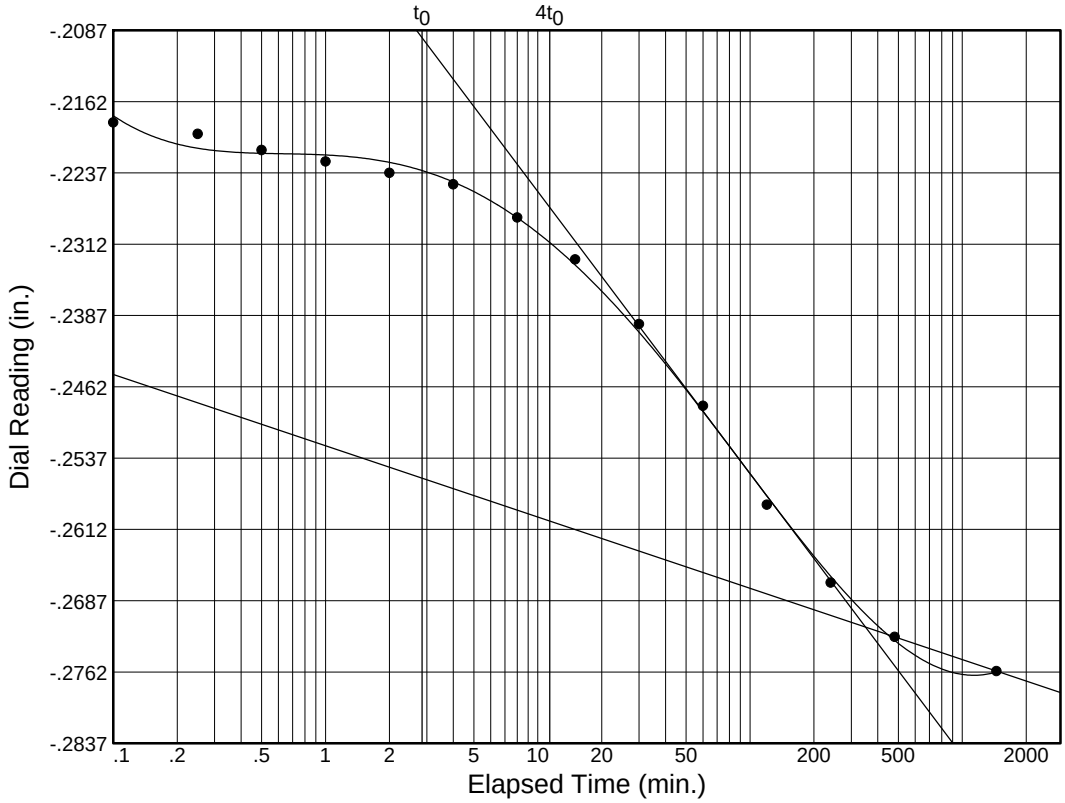
D_{50} = -0.17973

D_{100} = -0.20914

T_{50} = 32.36 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.015



Load No.= 8

Load= 8.00 tsf

D_0 = -0.21587

D_{50} = -0.24367

D_{100} = -0.27147

T_{50} = 39.58 min.

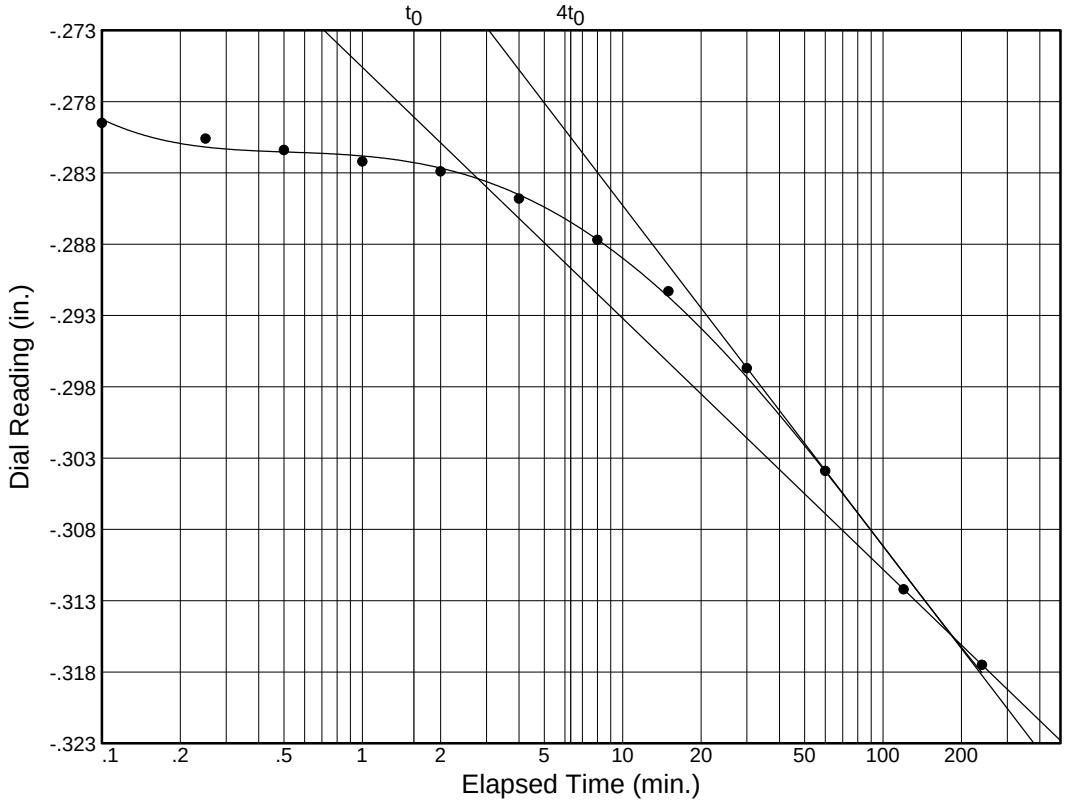
C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.013

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-10 Elev./Depth: 10'-12'



Load No.= 9

Load= 16.00 tsf

D_0 = -0.27810

D_{50} = -0.29675

D_{100} = -0.31541

T_{50} = 28.12 min.

C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.034

Southern Earth Sciences, Inc.

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-10
Sample No.:
Elev. or Depth: 10'-12' **Sample Length(in./cm.):**
Location:
Description: Gray CLAY with organic pockets (CH)
Liquid Limit: 109 **Plasticity Index:** 73
USCS: (CH) **AASHTO:** **Figure No.:** 1
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE	BEFORE TEST	AFTER TEST
Wet w+t = 191.51 g.	**Consolidometer #** = 6	**Wet w+t** = 140.46 g.
Dry w+t = 132.37 g.		**Dry w+t** = 113.18 g.
Tare Wt. = 61.03 g.	**Spec. Gravity** = 2.75	**Tare Wt.** = 61.54 g.
Height = .80 in.	**Height** = .80 in.	
Diameter = 2.50 in.	**Diameter** = 2.50 in.	
Weight = 97.49 g.	**Defl. Table** = n/a	
Moisture = 82.9 %	**Ht. Solids** = 0.2410 in.	**Moisture** = 52.8 %
Wet Den. = 94.6 pcf	**Dry Wt.** = 53.30 g.*	**Dry Wt.** = 51.64 g.
Dry Den. = 51.7 pcf	**Void Ratio** = 2.320	**Void Ratio** = 1.422
	Saturation = 98.3 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

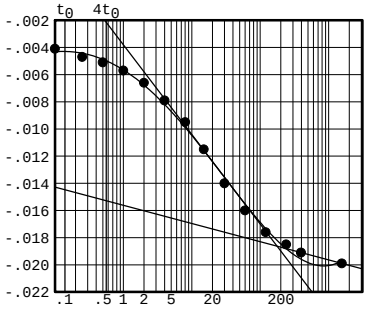
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	0.00000				2.320	
0.25	-0.01990	0.00000	0.02	0.002	2.243*	2.3 Comprs.*
0.50	-0.05070	0.00000	0.02	0.005	2.127*	5.8 Comprs.*
1.00	-0.09840	0.00000	0.01	0.009	1.931*	11.7 Comprs.*
0.50	-0.08880	0.00000			1.970	10.5 Comprs.
1.00	-0.10060	0.00000			1.921	12.0 Comprs.
2.00	-0.15290	0.00000	0.01	0.010	1.704*	18.5 Comprs.*
4.00	-0.21600	0.00000	0.01	0.015	1.452*	26.1 Comprs.*
8.00	-0.27610	0.00000	0.00	0.013	1.193*	33.9 Comprs.*
16.00	-0.31750	0.00000	0.00	0.034	1.011*	39.4 Comprs.*
2.00	-0.27830	0.00000			1.174	34.5 Comprs.
0.25	-0.21840	0.00000			1.422	27.0 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 0.59 **P_c** = 0.10 tsf **C_r** = 0.19

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

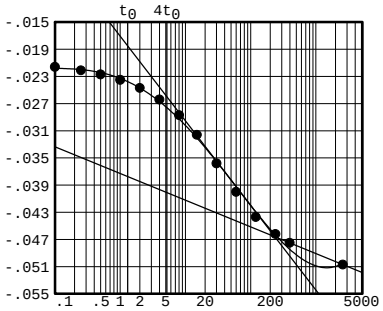
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.00000	11	60.00	-0.01600
2	0.10	-0.00410	12	120.00	-0.01760
3	0.25	-0.00470	13	240.00	-0.01850
4	0.50	-0.00510	14	395.00	-0.01910
5	1.00	-0.00570	15	1560.00	-0.01990
6	2.00	-0.00660			
7	4.00	-0.00790			
8	8.00	-0.00950			
9	15.00	-0.01150			
10	30.00	-0.01400			



Void Ratio = 2.243 **Compression =** 2.3 % >>> CALCULATED USING D_{100}
D_0 = -0.00362 D_{50} = -0.01112 D_{100} = -0.01863
C_v **at 12.7 min. =** 0.02 ft.^{2}/day C_α = 0.002

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

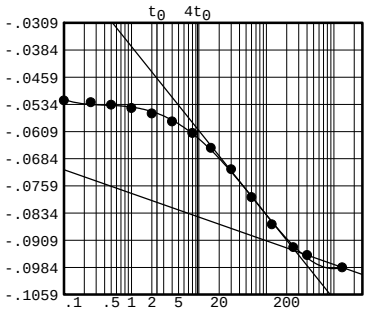
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.01990	11	60.00	-0.04000
2	0.10	-0.02160	12	120.00	-0.04370
3	0.25	-0.02210	13	240.00	-0.04620
4	0.50	-0.02270	14	397.00	-0.04750
5	1.00	-0.02350	15	2590.00	-0.05070
6	2.00	-0.02470			
7	4.00	-0.02640			
8	8.00	-0.02870			
9	15.00	-0.03160			
10	30.00	-0.03580			



Void Ratio = 2.127 **Compression =** 5.8 % >>> CALCULATED USING D_{100}
D_0 = -0.01991 D_{50} = -0.03326 D_{100} = -0.04660
C_v **at 19.2 min. =** 0.02 ft.^{2}/day C_α = 0.005

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.05070	11	60.00	-0.07900
2	0.10	-0.05230	12	120.00	-0.08650
3	0.25	-0.05280	13	250.00	-0.09280
4	0.50	-0.05350	14	400.00	-0.09500
5	1.00	-0.05440	15	1322.00	-0.09840
6	2.00	-0.05590			
7	4.00	-0.05810			
8	8.00	-0.06130			
9	15.00	-0.06540			
10	30.00	-0.07130			



Void Ratio = 1.931 **Compression =** 11.7 % >>> CALCULATED USING D_{100}
D_0 = -0.04909 D_{50} = -0.07147 D_{100} = -0.09385
C_v **at 28.4 min. =** 0.01 ft.^{2}/day C_α = 0.009

Pressure: 0.50 tsf **TEST READINGS** **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.09840	11	60.00	-0.09080
2	0.10	-0.09800	12	120.00	-0.09000
3	0.25	-0.09780	13	252.00	-0.08950
4	0.50	-0.09750	14	480.00	-0.08910
5	1.00	-0.09710	15	1440.00	-0.08880
6	2.00	-0.09660			
7	4.00	-0.09580			
8	8.00	-0.09470			
9	15.00	-0.09350			
10	30.00	-0.09200			

Void Ratio = 1.970 **Compression =** 10.5 %

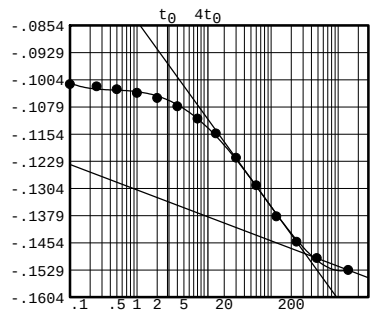
Pressure: 1.00 tsf **TEST READINGS** **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.08880	11	60.00	-0.09730
2	0.10	-0.08920	12	120.00	-0.09820
3	0.25	-0.08940	13	240.00	-0.09890
4	0.50	-0.08960	14	480.00	-0.09960
5	1.00	-0.09020	15	1442.00	-0.10060
6	2.00	-0.09080			
7	4.00	-0.09170			
8	8.00	-0.09300			
9	15.00	-0.09440			
10	30.00	-0.09600			

Void Ratio = 1.921 **Compression =** 12.0 %

Pressure: 2.00 tsf **TEST READINGS** **Load No. 6**

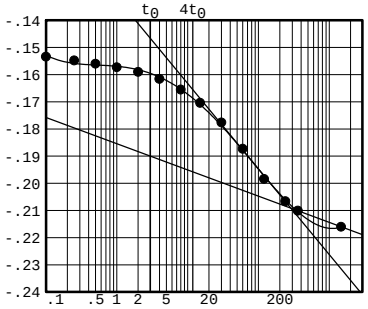
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.10060	11	60.00	-0.12950
2	0.10	-0.10160	12	120.00	-0.13810
3	0.25	-0.10220	13	240.00	-0.14510
4	0.50	-0.10300	14	480.00	-0.14960
5	1.00	-0.10400	15	1416.00	-0.15290
6	2.00	-0.10540			
7	4.00	-0.10770			
8	8.00	-0.11110			
9	15.00	-0.11520			
10	30.00	-0.12190			



Void Ratio = 1.704 **Compression =** 18.5 % >>> CALCULATED USING D_{100}
D_0 = -0.09817 D_{50} = -0.12327 D_{100} = -0.14837
C_v **at 32.8 min. =** 0.01 ft.^{2}/day C_α = 0.010

Pressure: 4.00 tsf **TEST READINGS** **Load No. 7**

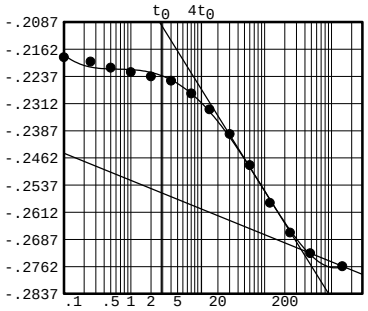
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.15290	11	60.00	-0.18730
2	0.10	-0.15340	12	120.00	-0.19840
3	0.25	-0.15480	13	240.00	-0.20660
4	0.50	-0.15600	14	360.00	-0.21010
5	1.00	-0.15730	15	1471.00	-0.21600
6	2.00	-0.15900			
7	4.00	-0.16160			
8	8.00	-0.16550			
9	15.00	-0.17040			
10	30.00	-0.17760			



Void Ratio = 1.452 **Compression =** 26.1 % >>> CALCULATED USING D_{100}
D_0 = -0.15033 **D_{50} =** -0.17973 **D_{100} =** -0.20914
C_v at 32.4 min. = 0.01 ft.^{2}/day **C_α =** 0.015

Pressure: 8.00 tsf **TEST READINGS** **Load No. 8**

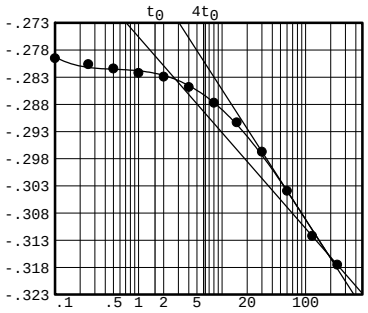
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.21600	11	60.00	-0.24820
2	0.10	-0.21840	12	120.00	-0.25860
3	0.25	-0.21960	13	240.00	-0.26680
4	0.50	-0.22130	14	480.00	-0.27250
5	1.00	-0.22250	15	1450.00	-0.27610
6	2.00	-0.22370			
7	4.00	-0.22490			
8	8.00	-0.22840			
9	15.00	-0.23280			
10	30.00	-0.23960			



Void Ratio = 1.193 **Compression =** 33.9 % >>> CALCULATED USING D_{100}
D_0 = -0.21587 **D_{50} =** -0.24367 **D_{100} =** -0.27147
C_v at 39.6 min. = 0.00 ft.^{2}/day **C_α =** 0.013

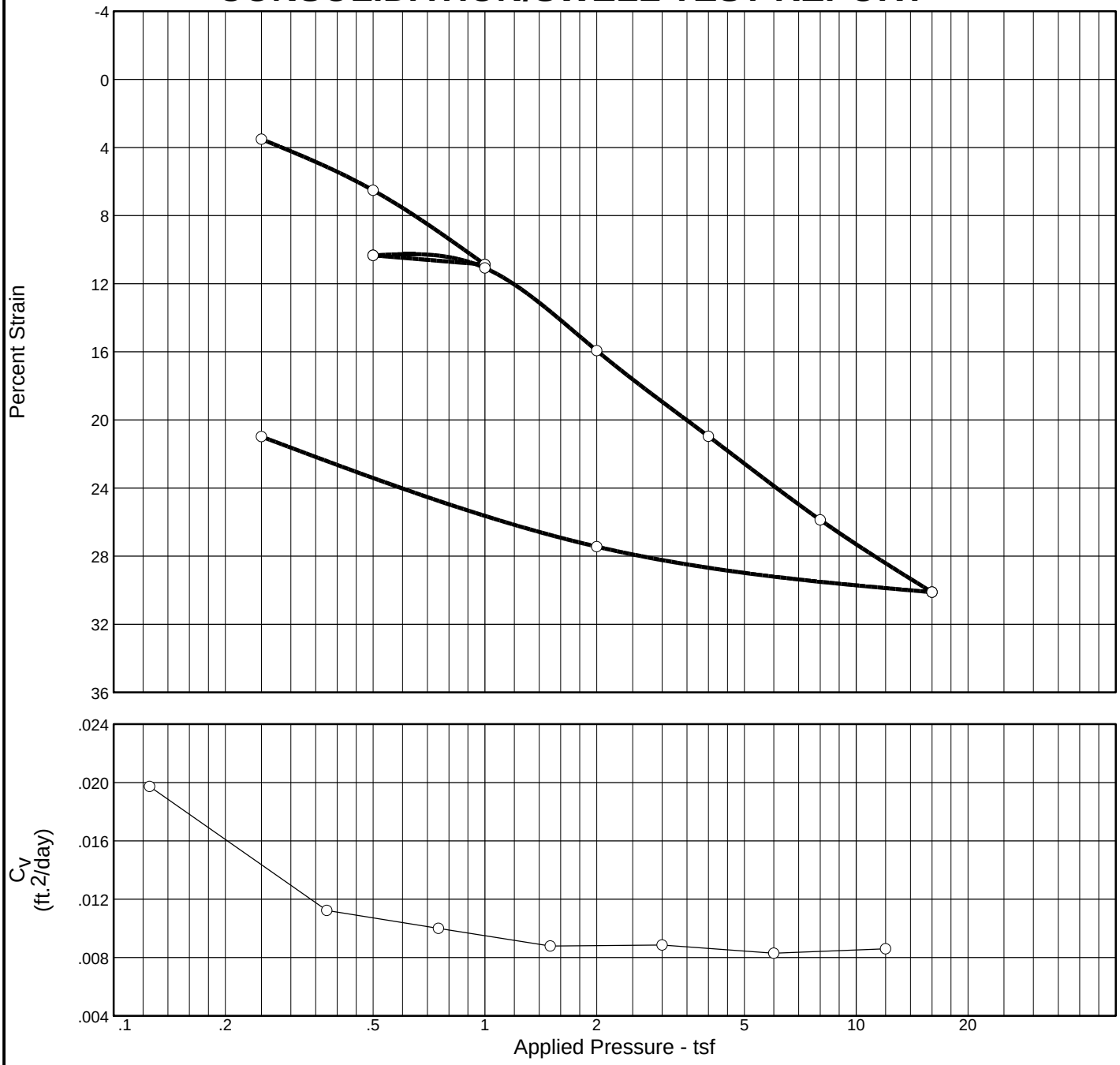
Pressure: 16.00 tsf **TEST READINGS** **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.27610	11	60.00	-0.30390
2	0.10	-0.27950	12	120.00	-0.31220
3	0.25	-0.28060	13	240.00	-0.31750
4	0.50	-0.28140			
5	1.00	-0.28220			
6	2.00	-0.28290			
7	4.00	-0.28480			
8	8.00	-0.28770			
9	15.00	-0.29130			
10	30.00	-0.29670			



Void Ratio = 1.011 **Compression =** 39.4 % >>> CALCULATED USING D_{100}
D_0 = -0.27810 **D_{50} =** -0.29675 **D_{100} =** -0.31541
C_v at 28.1 min. = 0.00 ft.^{2}/day **C_α =** 0.034

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
98.4 %	45.2 %	75.8	58	39	2.75	0.23	0.32	1.264

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Greenish Gray and Light Gray CLAY with trace of organics (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-11 **Elev./Depth:** 12'-14'

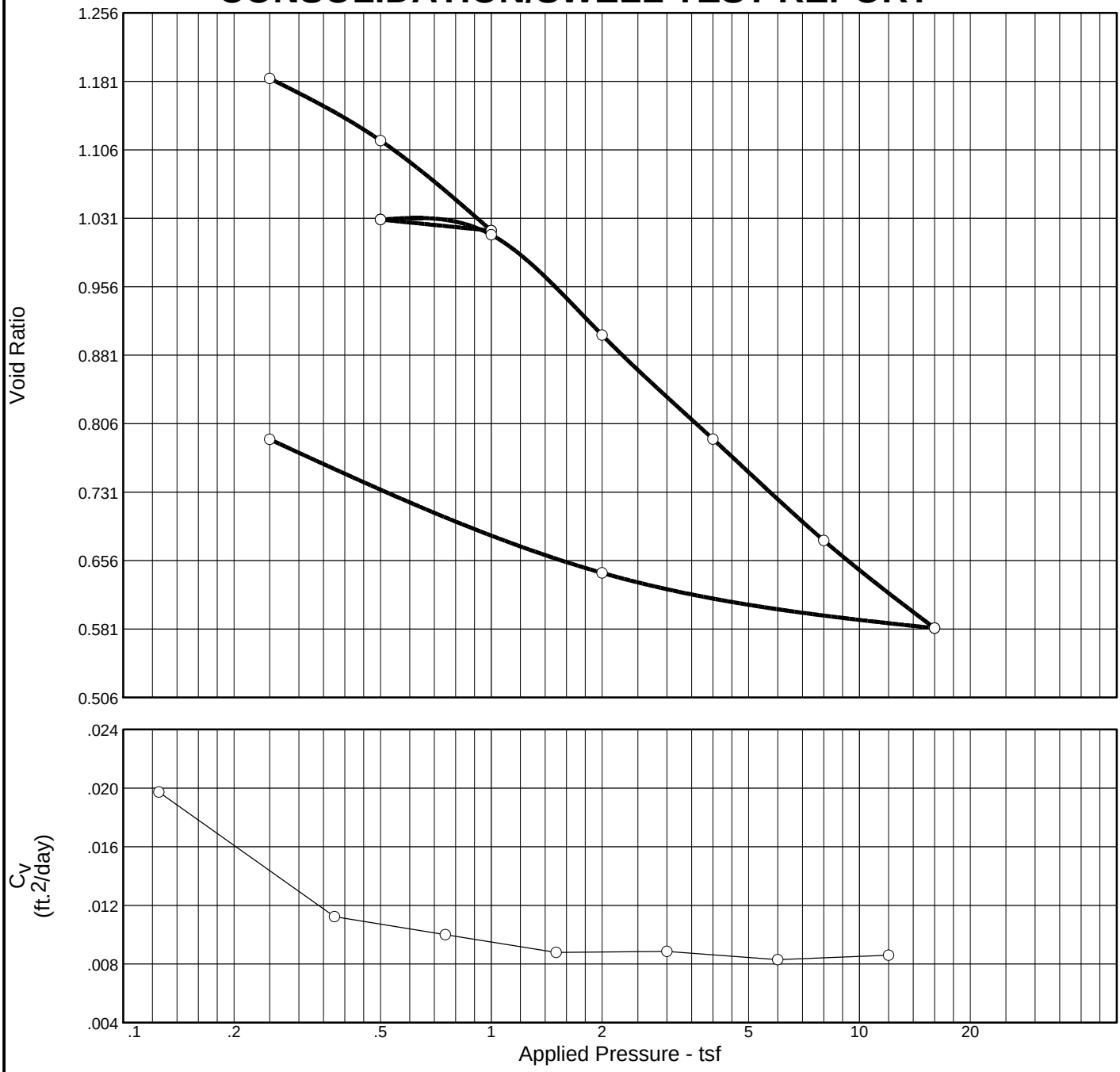
Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

1

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
98.4 %	45.2 %	75.8	58	39	2.75	0.23	0.32	1.264

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Greenish Gray and Light Gray CLAY with trace of organics (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-11 **Elev./Depth:** 12'-14'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

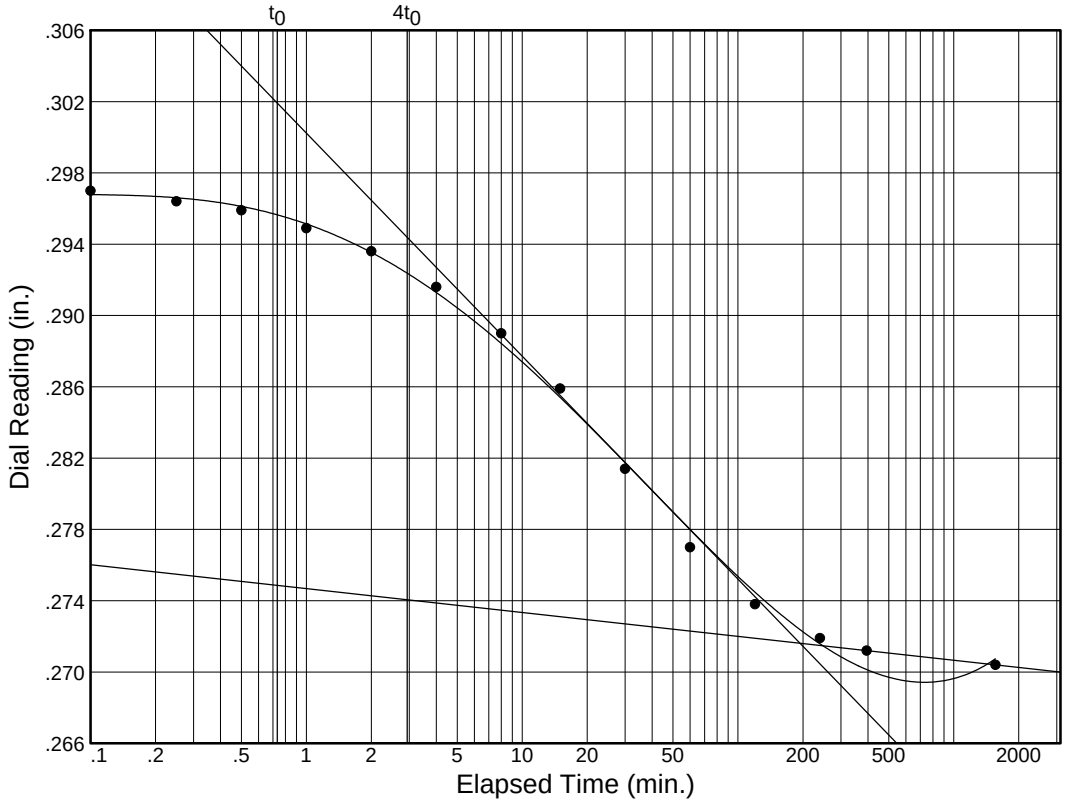
Southern Earth Sciences, Inc.

1

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-11 Elev./Depth: 12'-14'



Load No.= 1

Load= 0.25 tsf

D_0 = 0.29892

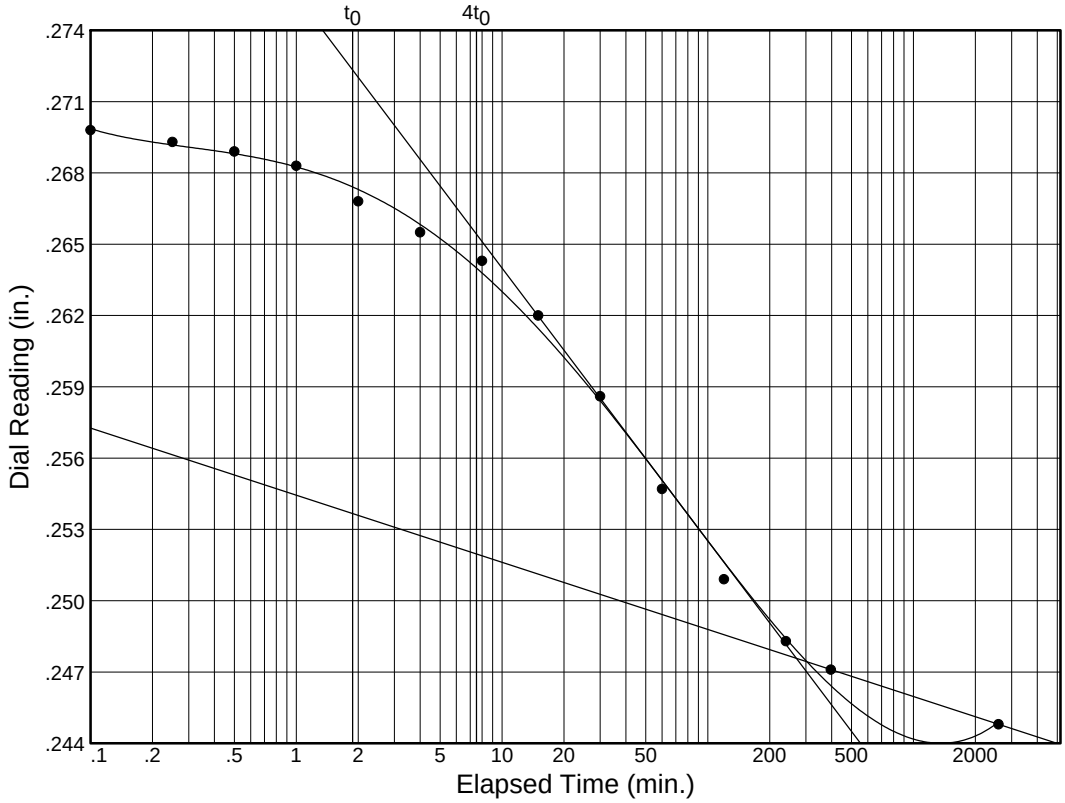
D_{50} = 0.28527

D_{100} = 0.27162

T_{50} = 15.41 min.

C_v @ T_{50}
0.02 ft.^{2}/day

C_α = 0.002



Load No.= 2

Load= 0.50 tsf

D_0 = 0.27082

D_{50} = 0.25920

D_{100} = 0.24757

T_{50} = 25.32 min.

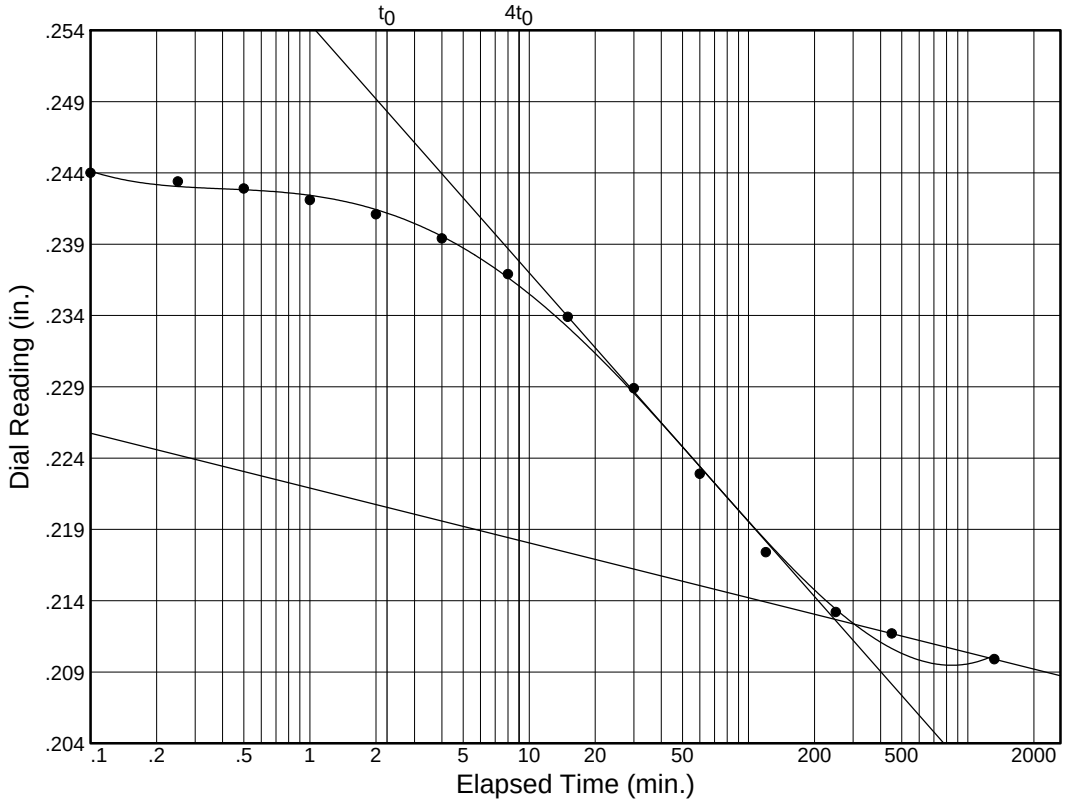
C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.004

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-11 Elev./Depth: 12'-14'



Load No.= 3

Load= 1.00 tsf

D_0 = 0.24629

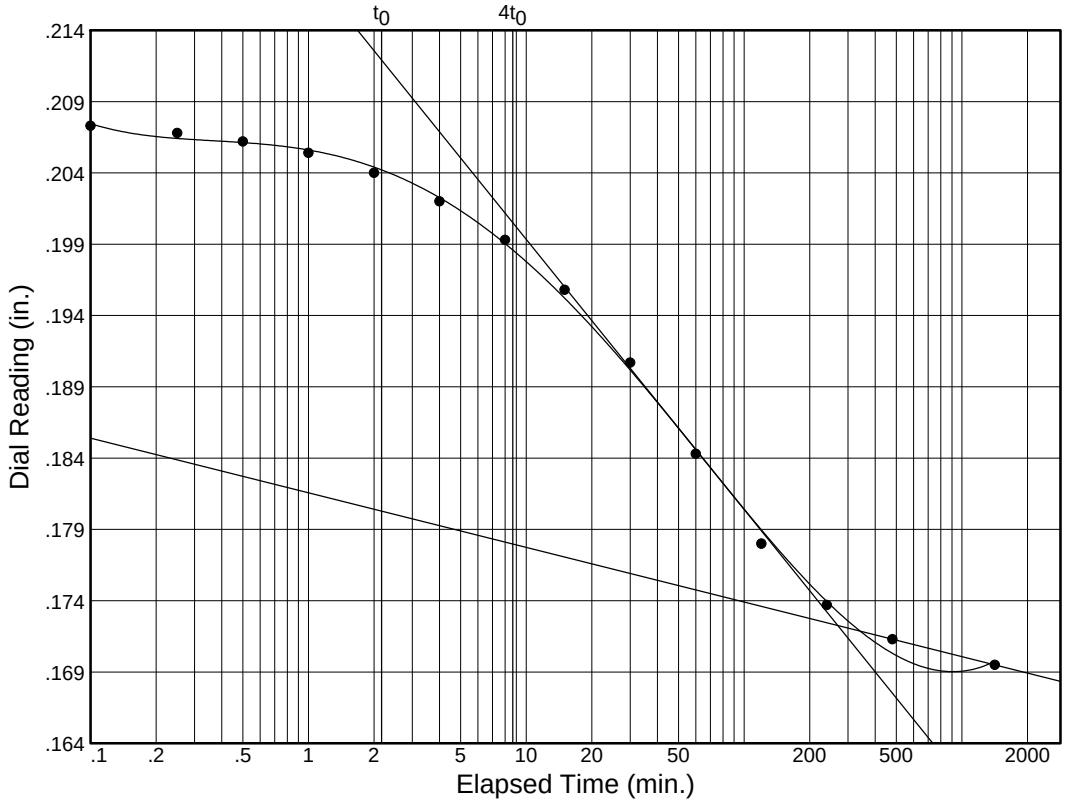
D_{50} = 0.22950

D_{100} = 0.21271

T_{50} = 26.24 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.005



Load No.= 6

Load= 2.00 tsf

D_0 = 0.20983

D_{50} = 0.19105

D_{100} = 0.17226

T_{50} = 26.81 min.

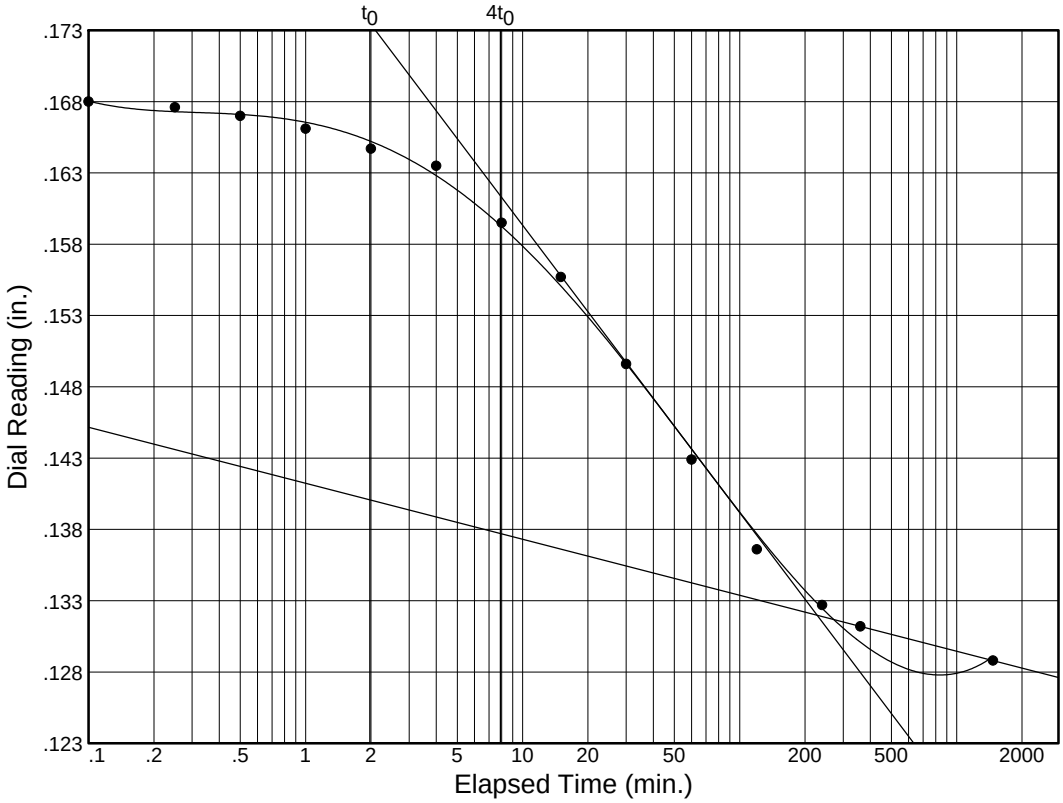
C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.005

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-11 Elev./Depth: 12'-14'



Load No.= 7

Load= 4.00 tsf

D_0 = 0.17116

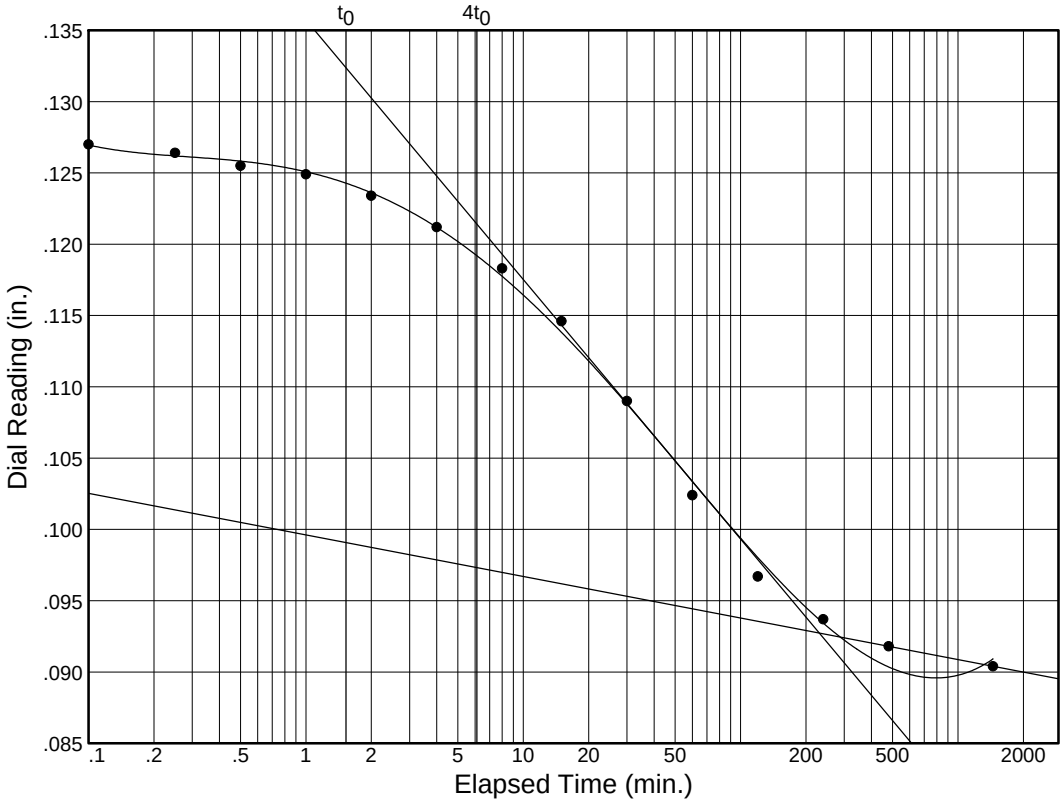
D_{50} = 0.15157

D_{100} = 0.13198

T_{50} = 23.64 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.006



Load No.= 8

Load= 8.00 tsf

D_0 = 0.12936

D_{50} = 0.11105

D_{100} = 0.09273

T_{50} = 22.19 min.

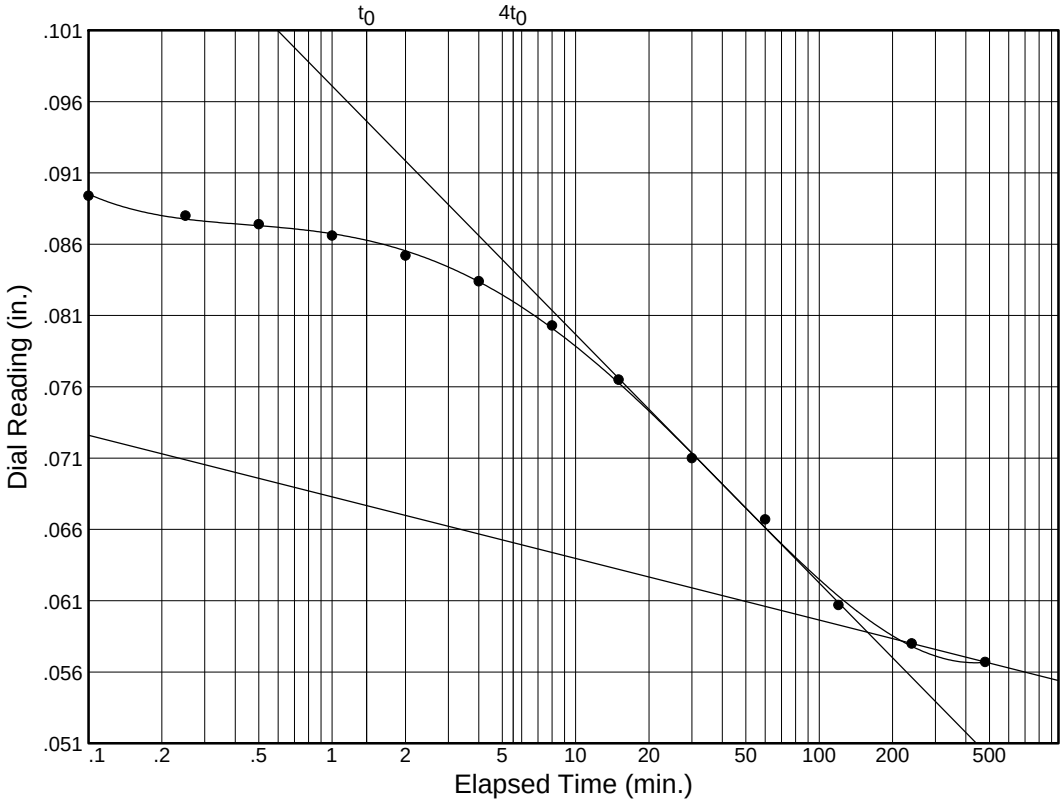
C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.005

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-11 Elev./Depth: 12'-14'



Load No.= 9

Load= 16.00 tsf

D_0 = 0.09058

D_{50} = 0.07468

D_{100} = 0.05878

T_{50} = 18.95 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.007

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-11
Sample No.:
Elev. or Depth: 12'-14' **Sample Length(in./cm.):**
Location:
Description: Soft, Greenish Gray and Light Gray CLAY with trace of organics (CH)
Liquid Limit: 58 **Plasticity Index:** 39
USCS: (CH) **AASHTO:** **Figure No.:** 1
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE	BEFORE TEST	AFTER TEST
Wet w+t = 235.19 g.	**Consolidometer #** = 6	**Wet w+t** = 144.42 g.
Dry w+t = 180.89 g.		**Dry w+t** = 122.36 g.
Tare Wt. = 60.77 g.	**Spec. Gravity** = 2.75	**Tare Wt.** = 46.08 g.
Height = .80 in.	**Height** = .80 in.	
Diameter = 2.50 in.	**Diameter** = 2.50 in.	
Weight = 113.52 g.	**Defl. Table** = n/a	
Moisture = 45.2 %	**Ht. Solids** = 0.3534 in.	**Moisture** = 28.9 %
Wet Den. = 110.1 pcf	**Dry Wt.** = 78.18 g.*	**Dry Wt.** = 76.28 g.
Dry Den. = 75.8 pcf	**Void Ratio** = 1.264	**Void Ratio** = 0.789
	Saturation = 98.4 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

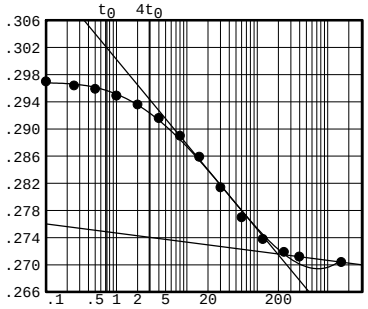
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	0.29970				1.264	
0.25	0.27040	0.00000	0.02	0.002	1.184*	3.5 Comprs.*
0.50	0.24480	0.00000	0.01	0.004	1.116*	6.5 Comprs.*
1.00	0.20990	0.00000	0.01	0.005	1.017*	10.9 Comprs.*
0.50	0.21420	0.00000			1.030	10.3 Comprs.
1.00	0.20830	0.00000			1.013	11.1 Comprs.
2.00	0.16950	0.00000	0.01	0.005	0.903*	15.9 Comprs.*
4.00	0.12880	0.00000	0.01	0.006	0.789*	21.0 Comprs.*
8.00	0.09040	0.00000	0.01	0.005	0.678*	25.9 Comprs.*
16.00	0.05670	0.00000	0.01	0.007	0.582*	30.1 Comprs.*
2.00	0.07810	0.00000			0.642	27.4 Comprs.
0.25	0.12980	0.00000			0.789	21.0 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 0.32 **P_c** = 0.23 tsf **C_r** = 0.08

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

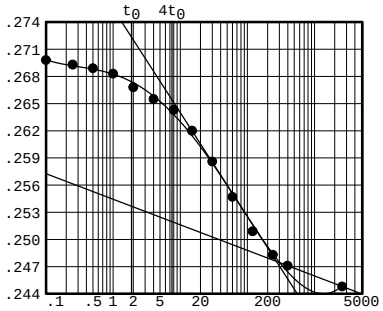
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.29970	11	60.00	0.27700
2	0.10	0.29700	12	120.00	0.27380
3	0.25	0.29640	13	240.00	-0.27190
4	0.50	0.29590	14	395.00	0.27120
5	1.00	0.29490	15	1560.00	0.27040
6	2.00	0.29360			
7	4.00	0.29160			
8	8.00	0.28900			
9	15.00	0.28590			
10	30.00	0.28140			



Void Ratio = 1.184 **Compression =** 3.5 % >>> CALCULATED USING D_{100}
D_0 = 0.29892 D_{50} = 0.28527 D_{100} = 0.27162
C_v **at 15.4 min. =** 0.02 ft.^{2}/day C_α = 0.002

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

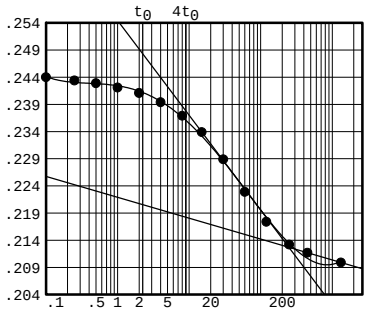
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.27040	11	60.00	0.25470
2	0.10	0.26980	12	120.00	0.25090
3	0.25	0.26930	13	240.00	0.24830
4	0.50	0.26890	14	397.00	0.24710
5	1.00	0.26830	15	2590.00	0.24480
6	2.00	0.26680			
7	4.00	0.26550			
8	8.00	0.26430			
9	15.00	0.26200			
10	30.00	0.25860			



Void Ratio = 1.116 **Compression =** 6.5 % >>> CALCULATED USING D_{100}
D_0 = 0.27082 D_{50} = 0.25920 D_{100} = 0.24757
C_v **at 25.3 min. =** 0.01 ft.^{2}/day C_α = 0.004

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.24480	11	60.00	0.22290
2	0.10	0.24400	12	120.00	0.21740
3	0.25	0.24340	13	250.00	0.21320
4	0.50	0.24290	14	450.00	0.21170
5	1.00	0.24210	15	1322.00	0.20990
6	2.00	0.24110			
7	4.00	0.23940			
8	8.00	0.23690			
9	15.00	0.23390			
10	30.00	0.22890			



Void Ratio = 1.017 **Compression =** 10.9 % >>> CALCULATED USING D_{100}
D_0 = 0.24629 D_{50} = 0.22950 D_{100} = 0.21271
C_v **at 26.2 min. =** 0.01 ft.^{2}/day C_α = 0.005

Pressure: 0.50 tsf **TEST READINGS** **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.20990	11	60.00	0.21350
2	0.10	0.21020	12	120.00	0.21380
3	0.25	0.21030	13	252.00	0.21390
4	0.50	0.21050	14	480.00	0.21400
5	1.00	0.21070	15	1440.00	0.21420
6	2.00	0.21100			
7	4.00	0.21140			
8	8.00	0.21200			
9	15.00	0.21260			
10	30.00	0.21310			

Void Ratio = 1.030 **Compression =** 10.3 %

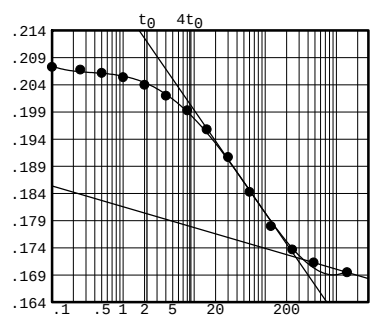
Pressure: 1.00 tsf **TEST READINGS** **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.21420	11	60.00	0.20990
2	0.10	0.21400	12	120.00	0.20960
3	0.25	0.21380	13	240.00	0.20920
4	0.50	0.21350	14	480.00	0.20880
5	1.00	0.21320	15	1442.00	0.20830
6	2.00	0.21280			
7	4.00	0.21220			
8	8.00	0.21150			
9	15.00	0.21090			
10	30.00	0.21030			

Void Ratio = 1.013 **Compression =** 11.1 %

Pressure: 2.00 tsf **TEST READINGS** **Load No. 6**

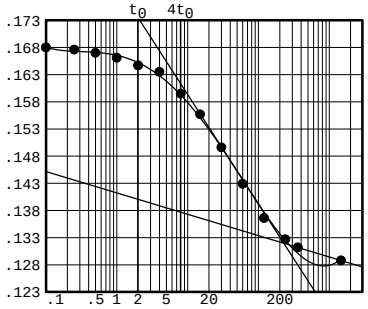
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.20830	11	60.00	0.18430
2	0.10	0.20730	12	120.00	0.17800
3	0.25	0.20680	13	240.00	0.17370
4	0.50	0.20620	14	480.00	0.17130
5	1.00	0.20540	15	1416.00	0.16950
6	2.00	0.20400			
7	4.00	0.20200			
8	8.00	0.19930			
9	15.00	0.19580			
10	30.00	0.19070			



Void Ratio = 0.903 **Compression =** 15.9 % >>> CALCULATED USING D_{100}
D_0 = 0.20983 D_{50} = 0.19105 D_{100} = 0.17226
C_v **at 26.8 min.** = 0.01 ft.^{2}/day C_α = 0.005

Pressure: 4.00 tsf **TEST READINGS** **Load No. 7**

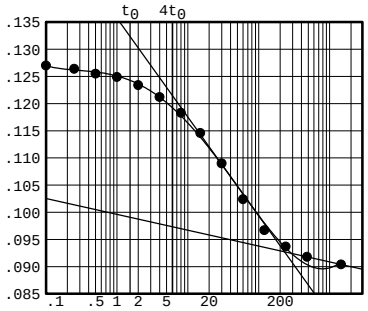
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.16950	11	60.00	0.14290
2	0.10	0.16800	12	120.00	0.13660
3	0.25	0.16760	13	240.00	0.13270
4	0.50	0.16700	14	360.00	0.13120
5	1.00	0.16610	15	1471.00	0.12880
6	2.00	0.16470			
7	4.00	0.16350			
8	8.00	0.15950			
9	15.00	0.15570			
10	30.00	0.14960			



Void Ratio = 0.789 **Compression =** 21.0 % >>> CALCULATED USING D_{100}
D_0 = 0.17116 D_{50} = 0.15157 D_{100} = 0.13198
C_v **at 23.6 min. =** 0.01 ft.^{2}/day C_α = 0.006

Pressure: 8.00 tsf **TEST READINGS** **Load No. 8**

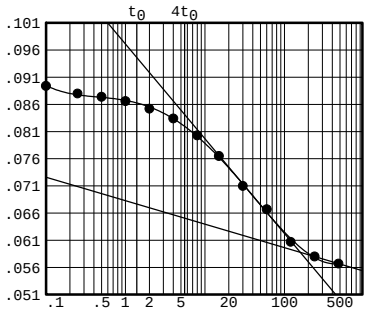
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.12880	11	60.00	0.10240
2	0.10	0.12700	12	120.00	0.09670
3	0.25	0.12640	13	240.00	0.09370
4	0.50	0.12550	14	480.00	0.09180
5	1.00	0.12490	15	1450.00	0.09040
6	2.00	0.12340			
7	4.00	0.12120			
8	8.00	0.11830			
9	15.00	0.11460			
10	30.00	0.10900			



Void Ratio = 0.678 **Compression =** 25.9 % >>> CALCULATED USING D_{100}
D_0 = 0.12936 D_{50} = 0.11105 D_{100} = 0.09273
C_v **at 22.2 min. =** 0.01 ft.^{2}/day C_α = 0.005

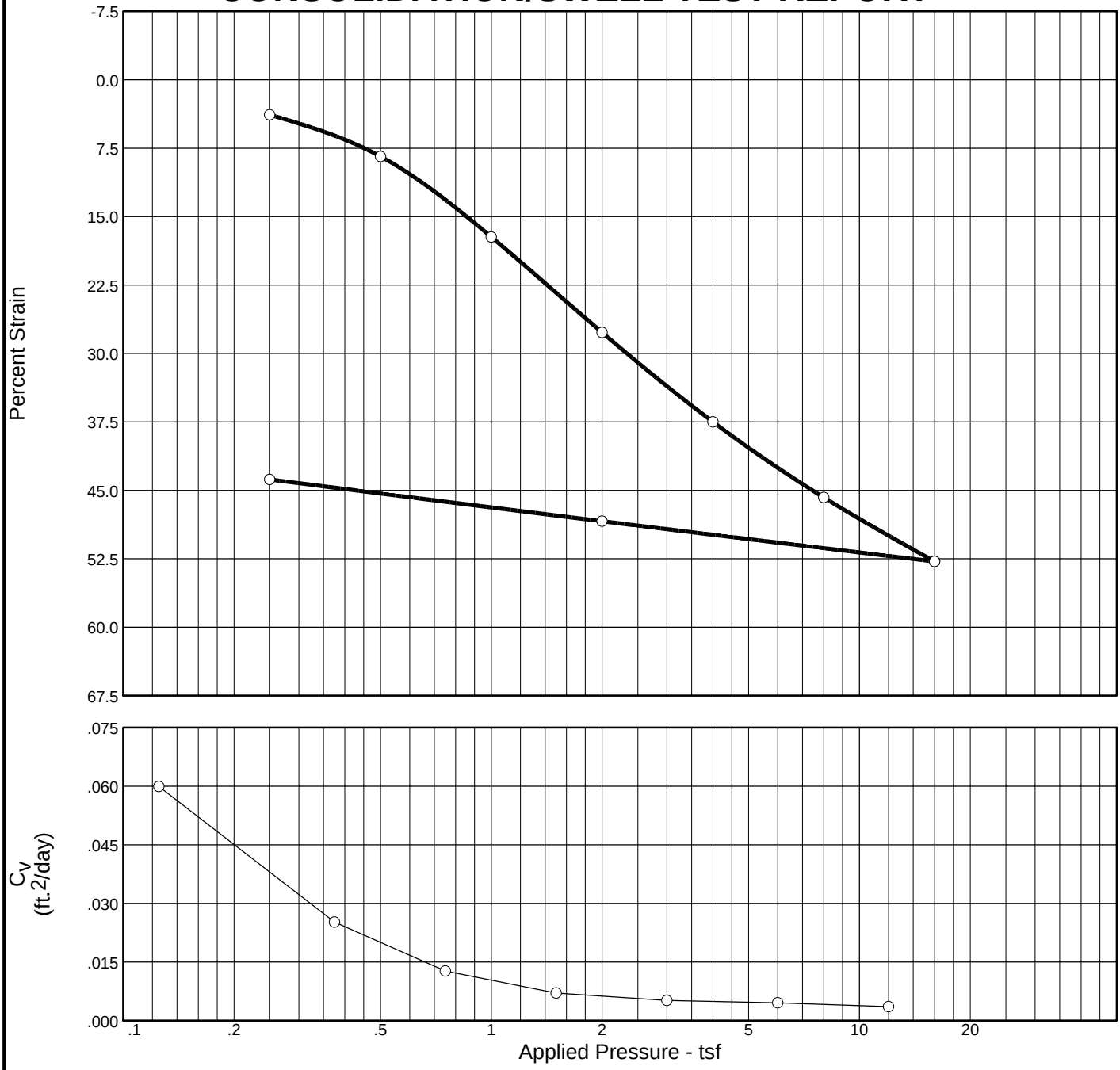
Pressure: 16.00 tsf **TEST READINGS** **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.09040	11	60.00	0.06670
2	0.10	0.08940	12	120.00	0.06070
3	0.25	0.08800	13	240.00	0.05800
4	0.50	0.08740	14	480.00	0.05670
5	1.00	0.08660			
6	2.00	0.08520			
7	4.00	0.08340			
8	8.00	0.08030			
9	15.00	0.07650			
10	30.00	0.07100			



Void Ratio = 0.582 **Compression =** 30.1 % >>> CALCULATED USING D_{100}
D_0 = 0.09058 D_{50} = 0.07468 D_{100} = 0.05878
C_v **at 19.0 min. =** 0.01 ft.^{2}/day C_α = 0.007

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
97.1 %	146.0 %	32.5	259	184	2.40	0.08	1.06	3.607

MATERIAL DESCRIPTION	USCS	AASHTO
Soft Organic CLAY with some wood (OH)	(OH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-12 **Elev./Depth:** 8'-10'

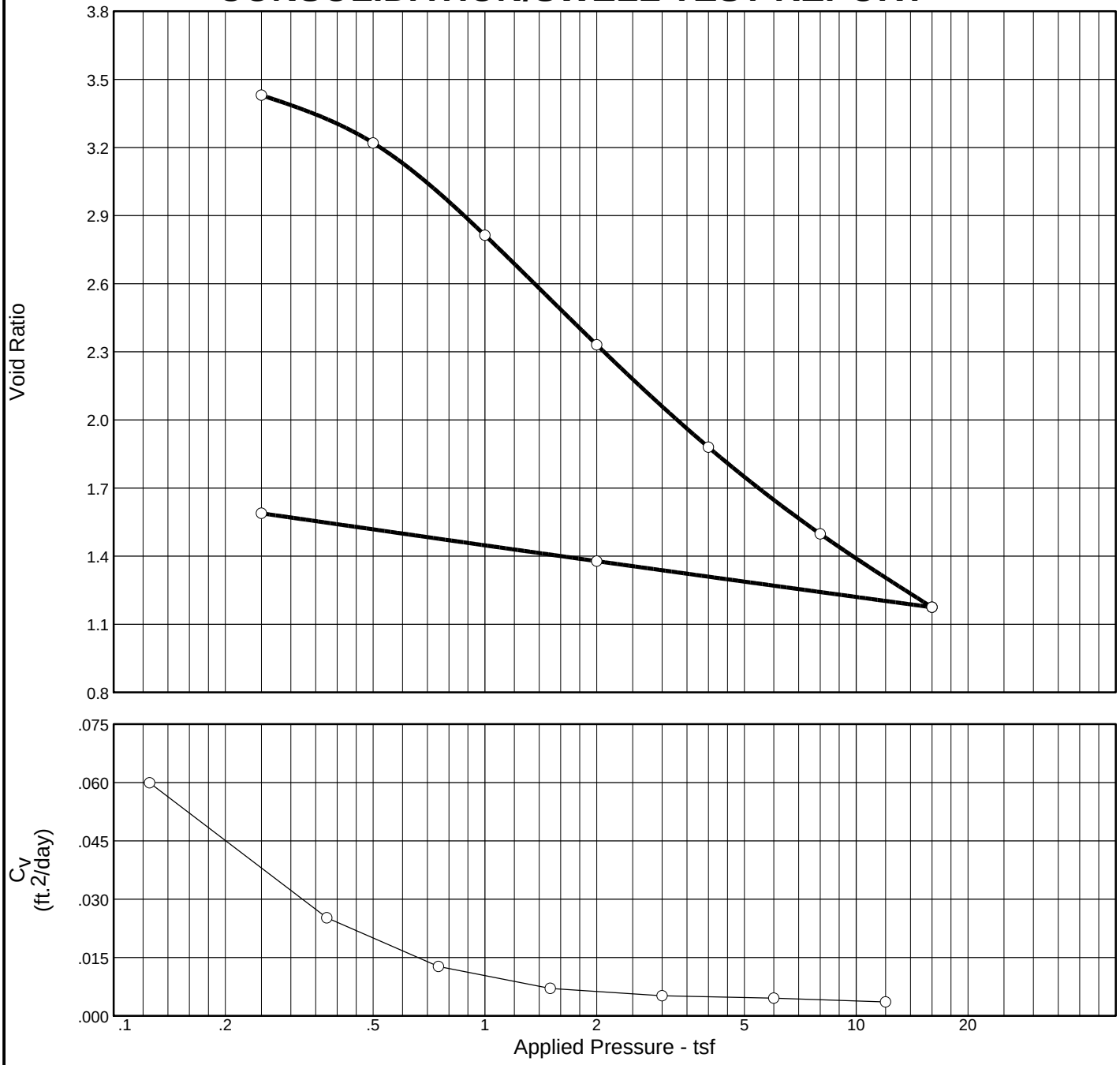
Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

1

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
97.1 %	146.0 %	32.5	259	184	2.40	0.08	1.06	3.607

MATERIAL DESCRIPTION	USCS	AASHTO
Soft Organic CLAY with some wood (OH)	(OH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-12 **Elev./Depth:** 8'-10'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

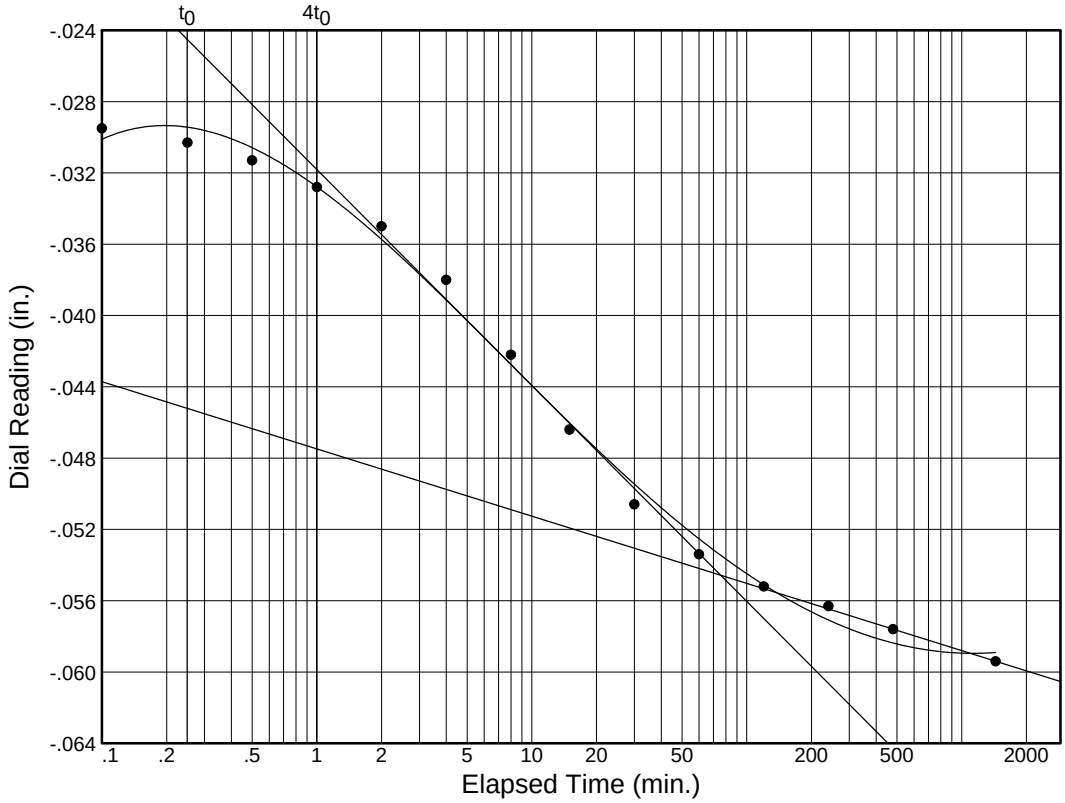
Southern Earth Sciences, Inc.

1

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-12 Elev./Depth: 8'-10'



Load No.= 1

Load= 0.25 tsf

D_0 = -0.02609

D_{50} = -0.04033

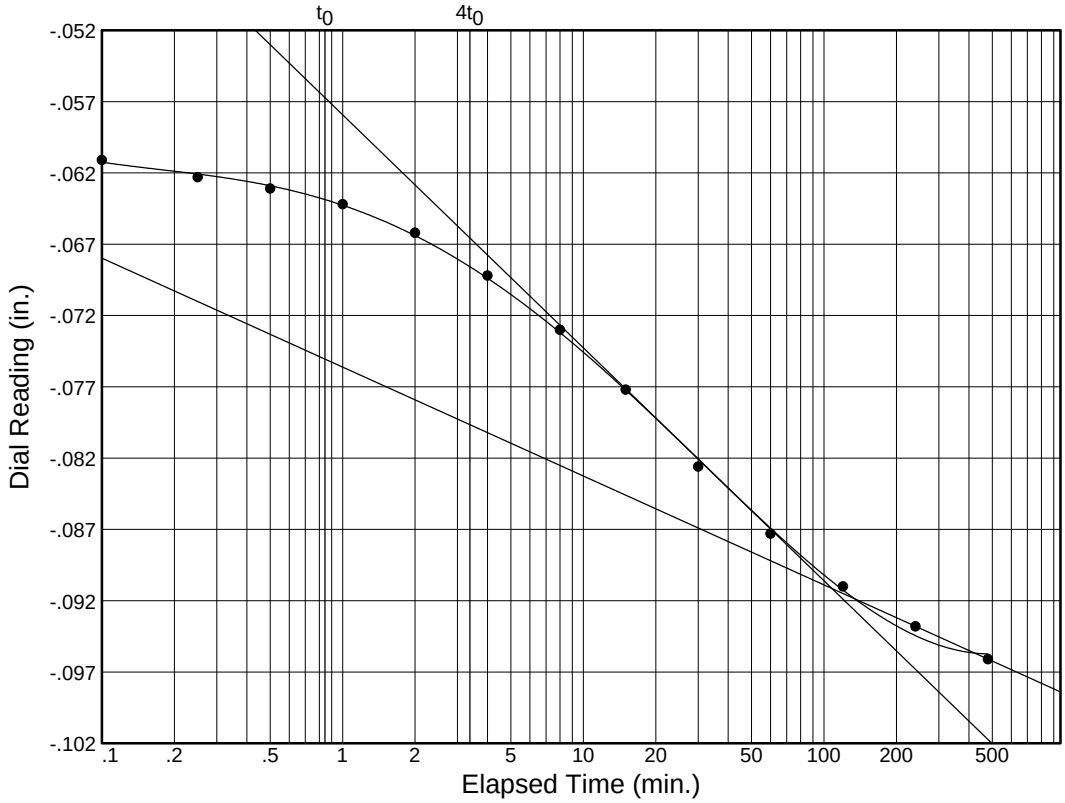
D_{100} = -0.05457

T_{50} = 5.05 min.

C_v @ T_{50}

0.06 ft.^{2}/day

C_α = 0.005



Load No.= 2

Load= 0.50 tsf

D_0 = -0.05916

D_{50} = -0.07516

D_{100} = -0.09115

T_{50} = 10.96 min.

C_v @ T_{50}

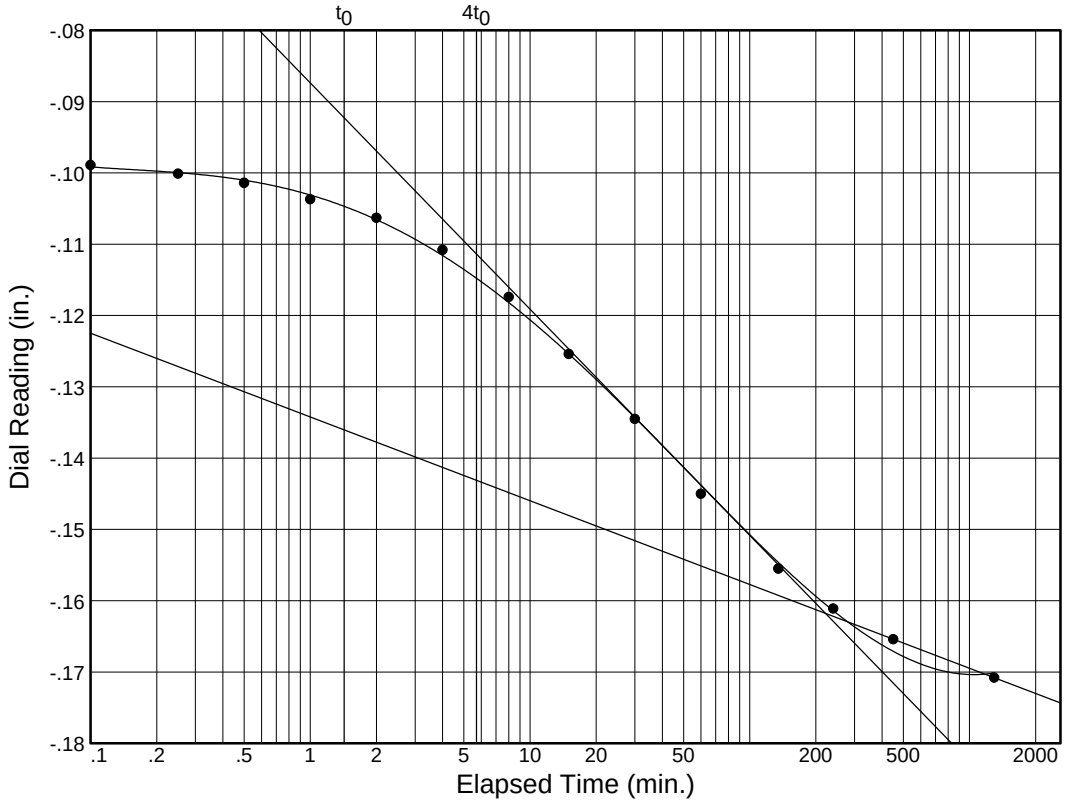
0.03 ft.^{2}/day

C_α = 0.010

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-12 Elev./Depth: 8'-10'



Load No.= 3

Load= 1.00 tsf

D_0 = -0.09459

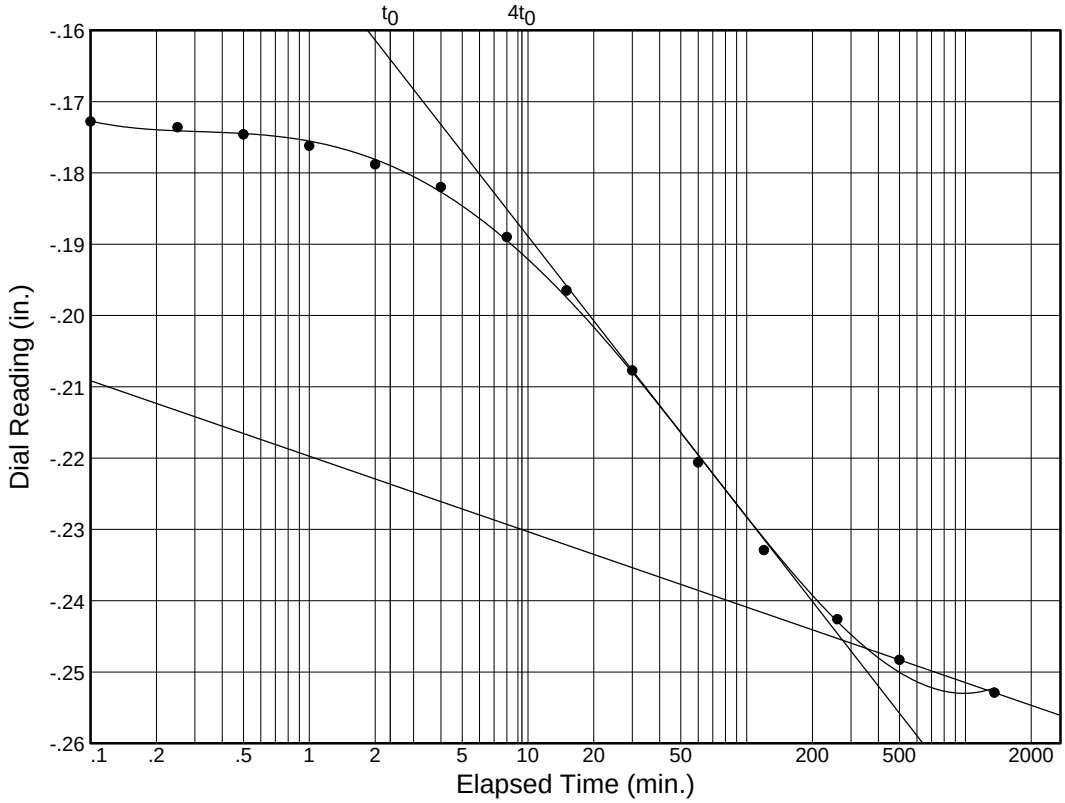
D_{50} = -0.12818

D_{100} = -0.16177

T_{50} = 18.79 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.016



Load No.= 4

Load= 2.00 tsf

D_0 = -0.16661

D_{50} = -0.20607

D_{100} = -0.24554

T_{50} = 26.68 min.

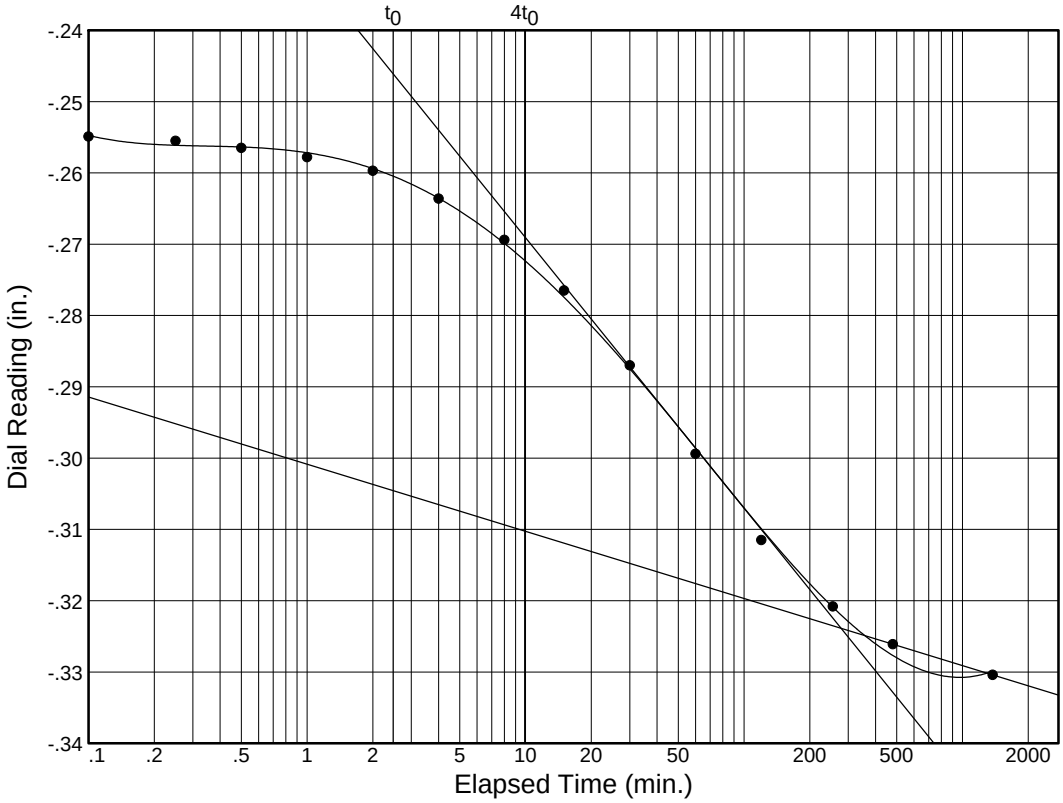
C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.016

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-12 Elev./Depth: 8'-10'



Load No.= 5

Load= 4.00 tsf

D_0 = -0.24863

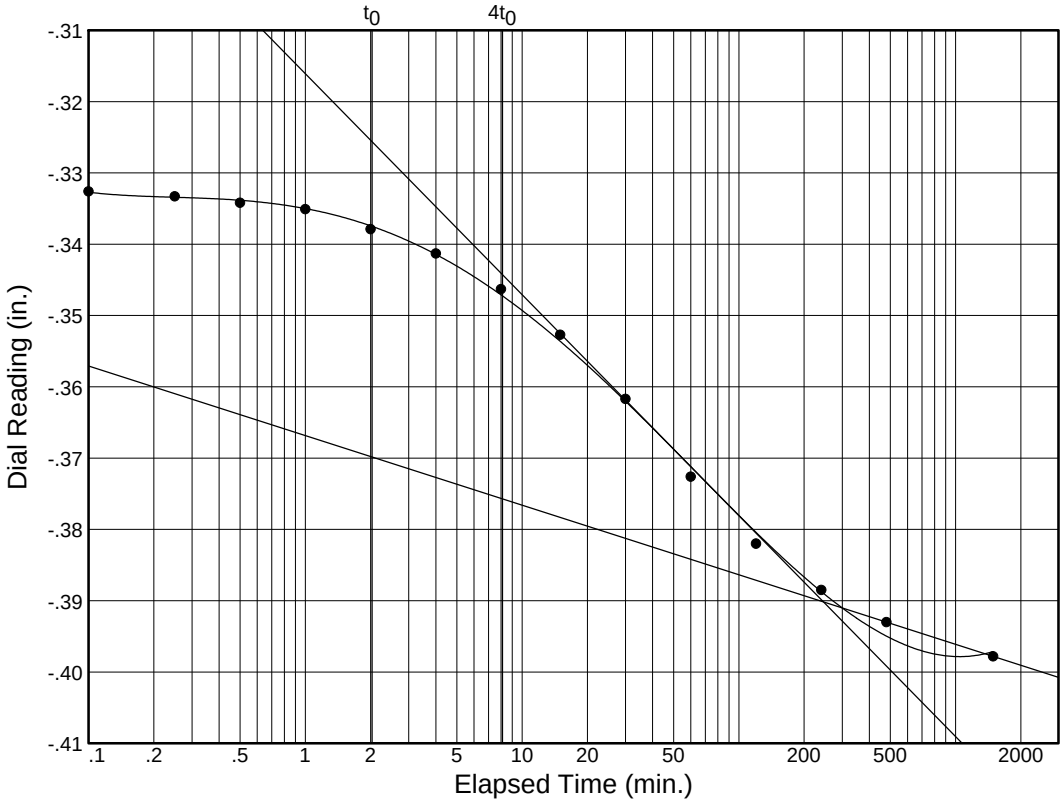
D_{50} = -0.28625

D_{100} = -0.32387

T_{50} = 27.73 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.016



Load No.= 6

Load= 8.00 tsf

D_0 = -0.32774

D_{50} = -0.35895

D_{100} = -0.39016

T_{50} = 23.49 min.

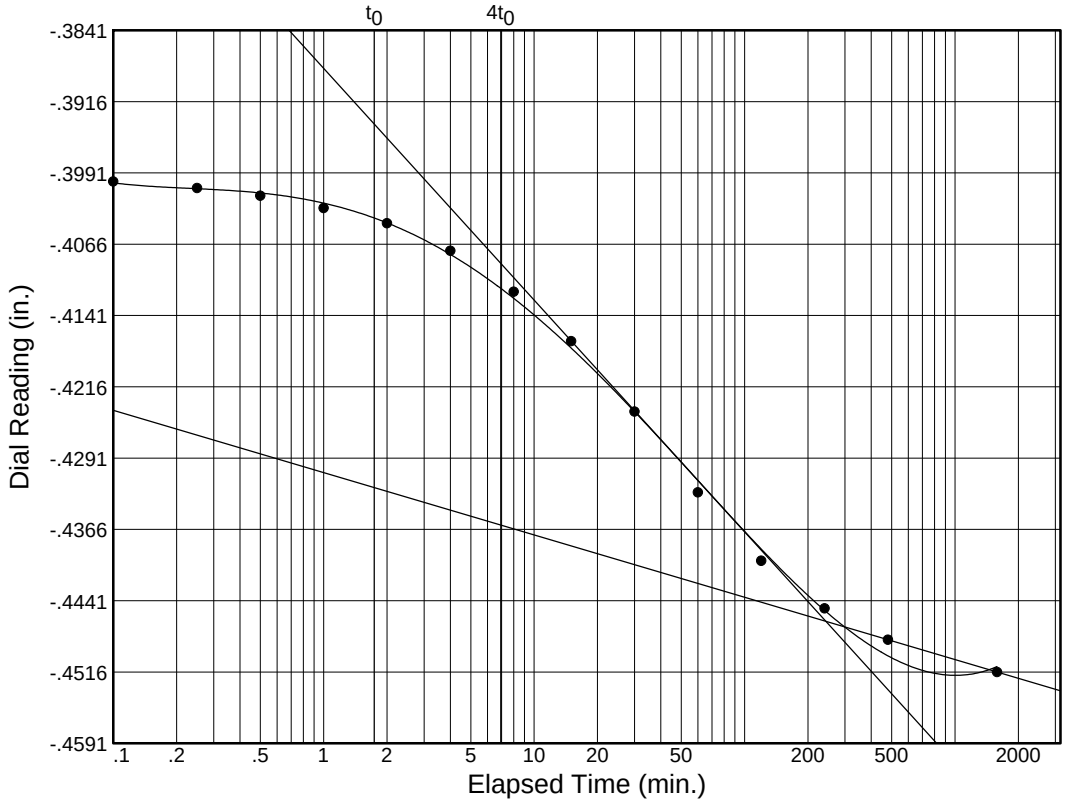
C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.020

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-12 Elev./Depth: 8'-10'



Load No.= 7

Load= 16.00 tsf

D_0 = -0.39643

D_{50} = -0.42135

D_{100} = -0.44627

T_{50} = 22.52 min.

C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.015

Southern Earth Sciences, Inc.

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-12
Sample No.:
Elev. or Depth: 8'-10' **Sample Length(in./cm.):**
Location:
Description: Soft Organic CLAY with some wood (OH)
Liquid Limit: 259 **Plasticity Index:** 184
USCS: (OH) **AASHTO:** **Figure No.:** 1
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE	BEFORE TEST	AFTER TEST
Wet w+t = 206.22 g.	**Consolidometer #** = 6	**Wet w+t** = 112.69 g.
Dry w+t = 120.32 g.		**Dry w+t** = 91.21 g.
Tare Wt. = 61.48 g.	**Spec. Gravity** = 2.40	**Tare Wt.** = 60.66 g.
Height = .80 in.	**Height** = .80 in.	
Diameter = 2.50 in.	**Diameter** = 2.50 in.	
Weight = 82.46 g.	**Defl. Table** = n/a	
Moisture = 146.0 %	**Ht. Solids** = 0.1736 in.	**Moisture** = 70.3 %
Wet Den. = 80.0 pcf	**Dry Wt.** = 33.52 g.*	**Dry Wt.** = 30.55 g.
Dry Den. = 32.5 pcf	**Void Ratio** = 3.607	**Void Ratio** = 1.589
	Saturation = 97.1 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

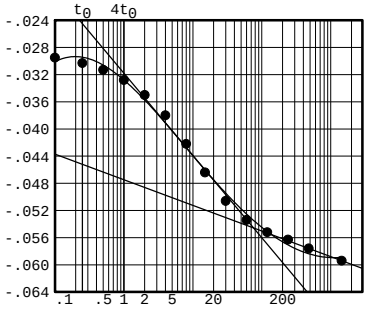
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	-0.02390				3.607	
0.25	-0.05940	0.00000	0.06	0.005	3.431*	3.8 Comprs.*
0.50	-0.09610	0.00000	0.03	0.010	3.220*	8.4 Comprs.*
1.00	-0.17080	0.00000	0.01	0.016	2.813*	17.2 Comprs.*
2.00	-0.25290	0.00000	0.01	0.016	2.331*	27.7 Comprs.*
4.00	-0.33040	0.00000	0.01	0.016	1.880*	37.5 Comprs.*
8.00	-0.39780	0.00000	0.00	0.020	1.498*	45.8 Comprs.*
16.00	-0.45160	0.00000	0.00	0.015	1.175*	52.8 Comprs.*
2.00	-0.41630	0.00000			1.378	48.4 Comprs.
0.25	-0.37970	0.00000			1.589	43.8 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 1.06 **P_c** = 0.08 tsf **C_r** = 0.23

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

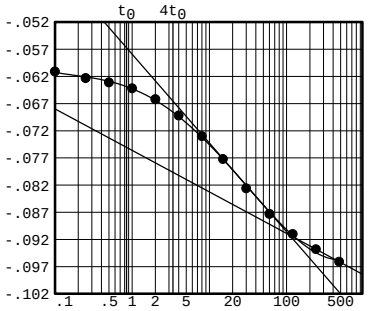
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.02390	11	60.00	-0.05340
2	0.10	-0.02950	12	120.00	-0.05520
3	0.25	-0.03030	13	240.00	-0.05630
4	0.50	-0.03130	14	480.00	-0.05760
5	1.00	-0.03280	15	1440.00	-0.05940
6	2.00	-0.03500			
7	4.00	-0.03800			
8	8.00	-0.04220			
9	15.00	-0.04640			
10	30.00	-0.05060			



Void Ratio = 3.431 **Compression =** 3.8 % >>> CALCULATED USING D_{100}
D_0 = -0.02609 D_{50} = -0.04033 D_{100} = -0.05457
C_v **at 5.0 min. =** 0.06 ft.^{2}/day C_α = 0.005

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

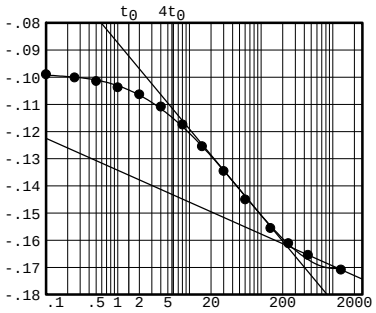
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.05940	11	60.00	-0.08730
2	0.10	-0.06110	12	120.00	-0.09100
3	0.25	-0.06230	13	240.00	-0.09380
4	0.50	-0.06310	14	480.00	-0.09610
5	1.00	-0.06420			
6	2.00	-0.06620			
7	4.00	-0.06920			
8	8.00	-0.07300			
9	15.00	-0.07720			
10	30.00	-0.08260			



Void Ratio = 3.220 **Compression =** 8.4 % >>> CALCULATED USING D_{100}
D_0 = -0.05916 D_{50} = -0.07516 D_{100} = -0.09115
C_v **at 11.0 min. =** 0.03 ft.^{2}/day C_α = 0.010

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

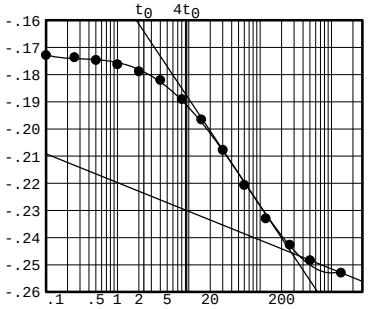
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.09610	11	60.00	-0.14500
2	0.10	-0.09890	12	135.00	-0.15550
3	0.25	-0.10010	13	240.00	-0.16110
4	0.50	-0.10140	14	450.00	-0.16540
5	1.00	-0.10370	15	1297.00	-0.17080
6	2.00	-0.10630			
7	4.00	-0.11080			
8	8.00	-0.11740			
9	15.00	-0.12540			
10	30.00	-0.13450			



Void Ratio = 2.813 **Compression =** 17.2 % >>> CALCULATED USING D_{100}
D_0 = -0.09459 D_{50} = -0.12818 D_{100} = -0.16177
C_v **at 18.8 min. =** 0.01 ft.^{2}/day C_α = 0.016

Pressure: 2.00 tsf **TEST READINGS** **Load No. 4**

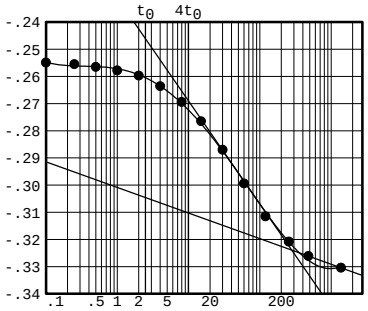
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.17080	11	60.00	-0.22060
2	0.10	-0.17280	12	120.00	-0.23290
3	0.25	-0.17360	13	260.00	-0.24260
4	0.50	-0.17460	14	500.00	-0.24830
5	1.00	-0.17620	15	1360.00	-0.25290
6	2.00	-0.17880			
7	4.00	-0.18200			
8	8.00	-0.18900			
9	15.00	-0.19650			
10	30.00	-0.20770			



Void Ratio = 2.331 **Compression =** 27.7 % >>> CALCULATED USING D_{100}
D_0 = -0.16661 D_{50} = -0.20607 D_{100} = -0.24554
C_v **at 26.7 min. =** 0.01 ft.^{2}/day C_α = 0.016

Pressure: 4.00 tsf **TEST READINGS** **Load No. 5**

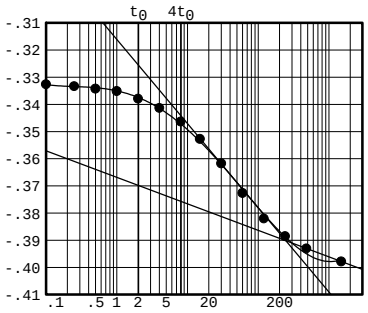
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.25290	11	60.00	-0.29940
2	0.10	-0.25490	12	120.00	-0.31150
3	0.25	-0.25550	13	255.00	-0.32080
4	0.50	-0.25650	14	480.00	-0.32610
5	1.00	-0.25780	15	1374.00	-0.33040
6	2.00	-0.25970			
7	4.00	-0.26360			
8	8.00	-0.26940			
9	15.00	-0.27650			
10	30.00	-0.28700			



Void Ratio = 1.880 **Compression =** 37.5 % >>> CALCULATED USING D_{100}
D_0 = -0.24863 D_{50} = -0.28625 D_{100} = -0.32387
C_v **at 27.7 min. =** 0.01 ft.^{2}/day C_α = 0.016

Pressure: 8.00 tsf **TEST READINGS** **Load No. 6**

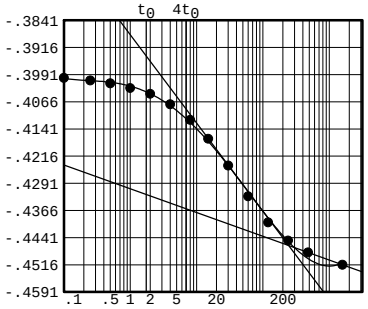
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.33040	11	60.00	-0.37260
2	0.10	-0.33260	12	120.00	-0.38200
3	0.25	-0.33330	13	240.00	-0.38850
4	0.50	-0.33420	14	480.00	-0.39300
5	1.00	-0.33510	15	1490.00	-0.39780
6	2.00	-0.33790			
7	4.00	-0.34130			
8	8.00	-0.34630			
9	15.00	-0.35270			
10	30.00	-0.36170			



Void Ratio = 1.498 **Compression =** 45.8 % >>> CALCULATED USING D_{100}
D_0 = -0.32774 D_{50} = -0.35895 D_{100} = -0.39016
C_v **at 23.5 min. =** 0.00 ft.^{2}/day C_α = 0.020

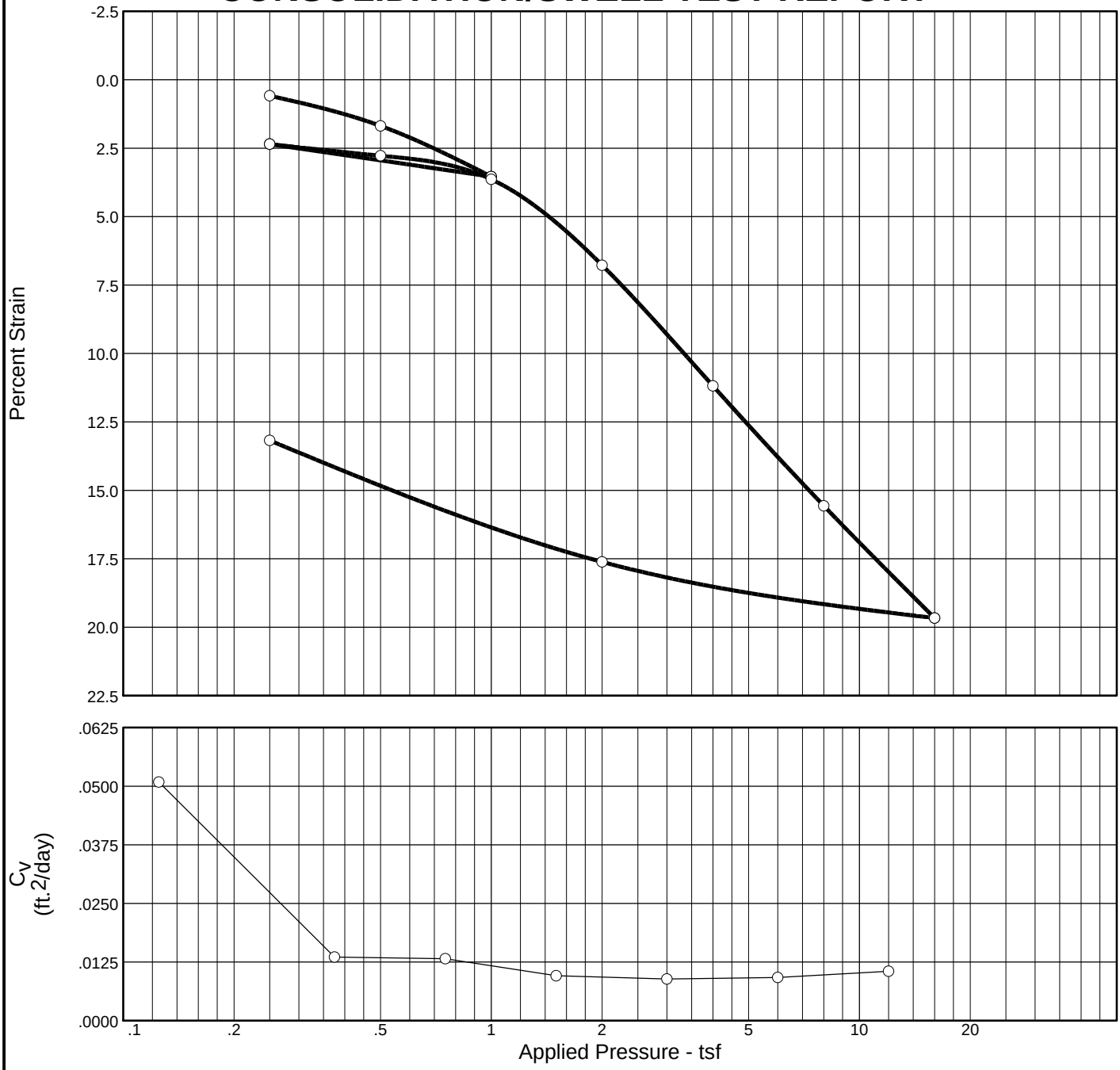
Pressure: 16.00 tsf **TEST READINGS** **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.39780	11	60.00	-0.43270
2	0.10	-0.40000	12	120.00	-0.43990
3	0.25	-0.40070	13	240.00	-0.44490
4	0.50	-0.40150	14	480.00	-0.44820
5	1.00	-0.40280	15	1585.00	-0.45160
6	2.00	-0.40440			
7	4.00	-0.40730			
8	8.00	-0.41160			
9	15.00	-0.41680			
10	30.00	-0.42420			



Void Ratio = 1.175 **Compression =** 52.8 % >>> CALCULATED USING D_{100}
D_0 **=** -0.39643 D_{50} **=** -0.42135 D_{100} **=** -0.44627
C_v **at 22.5 min. =** 0.00 ft.^{2}/day C_α **=** 0.015

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
93.9 %	28.4 %	93.8	44	23	2.75	1.05	0.25	0.831

MATERIAL DESCRIPTION	USCS	AASHTO
Soft to Stiff, Gray and Light Gray CLAY with wood (CH)	(CL)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-14 **Elev./Depth:** 14'-16'

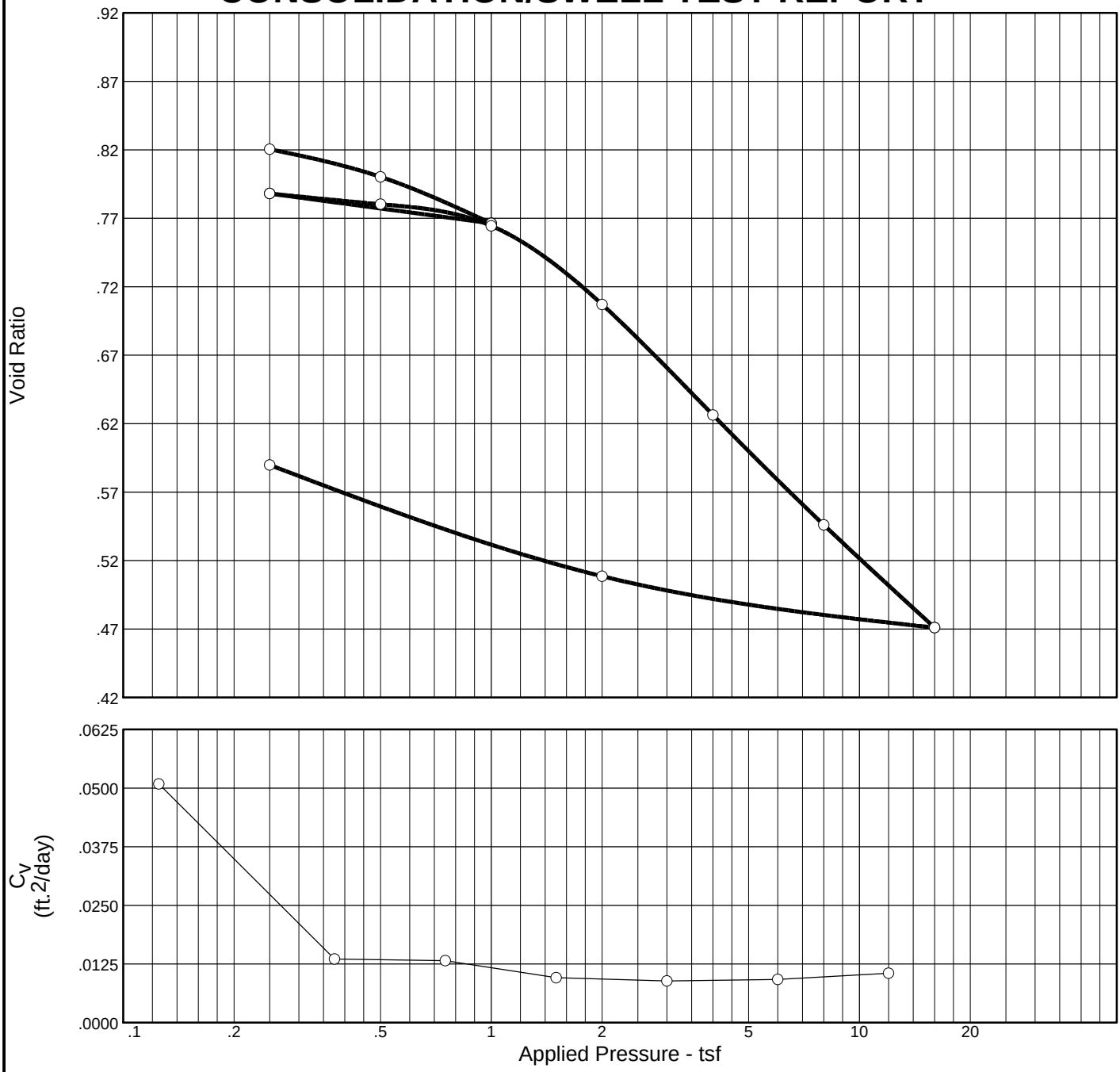
Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

1

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
93.9 %	28.4 %	93.8	44	23	2.75	1.05	0.25	0.831

MATERIAL DESCRIPTION	USCS	AASHTO
Soft to Stiff, Gray and Light Gray CLAY with wood (CH)	(CL)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-14 **Elev./Depth:** 14'-16'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

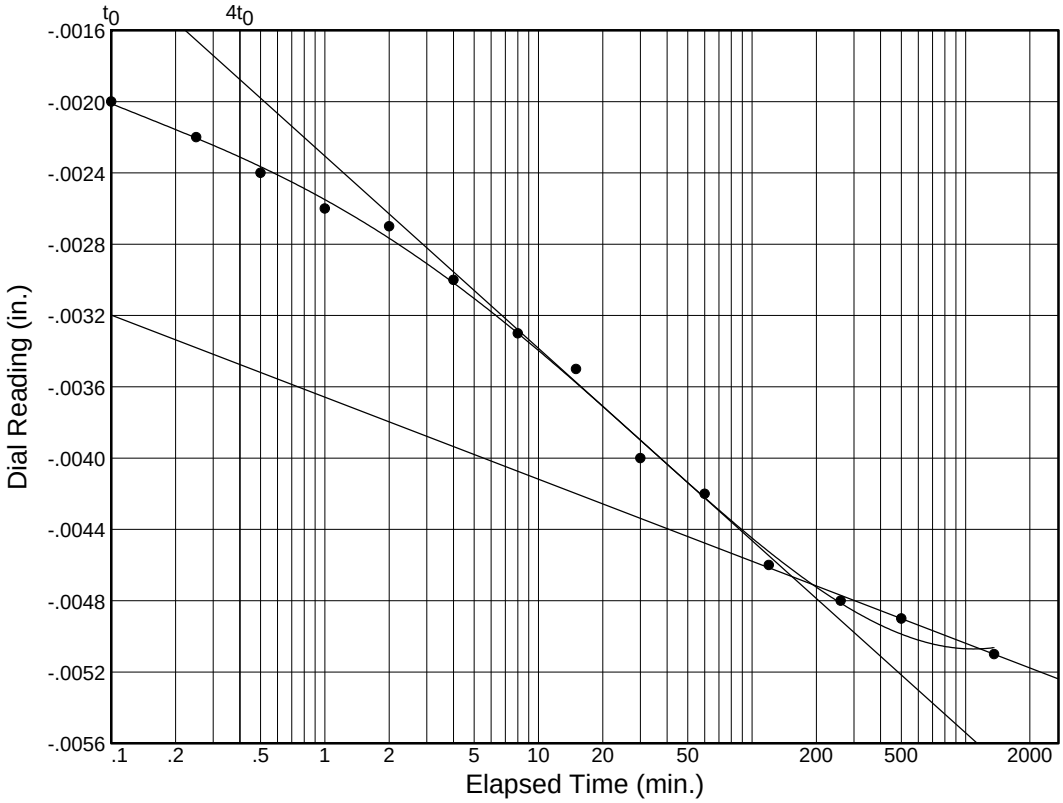
Southern Earth Sciences, Inc.

1

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-14 Elev./Depth: 14'-16'



Load No.= 1

Load= 0.25 tsf

D_0 = -0.00171

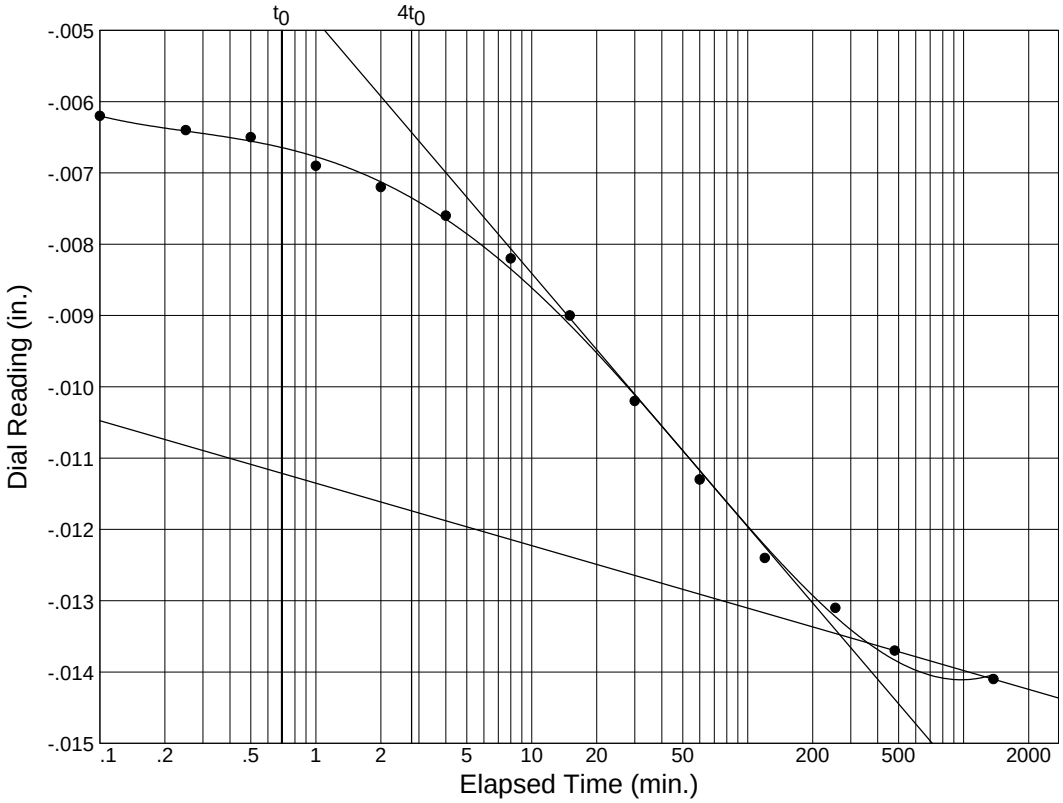
D_{50} = -0.00319

D_{100} = -0.00466

T_{50} = 6.14 min.

C_v @ T_{50}
0.05 ft.^{2}/day

C_α = 0.001



Load No.= 2

Load= 0.50 tsf

D_0 = -0.00594

D_{50} = -0.00971

D_{100} = -0.01348

T_{50} = 22.71 min.

C_v @ T_{50}
0.01 ft.^{2}/day

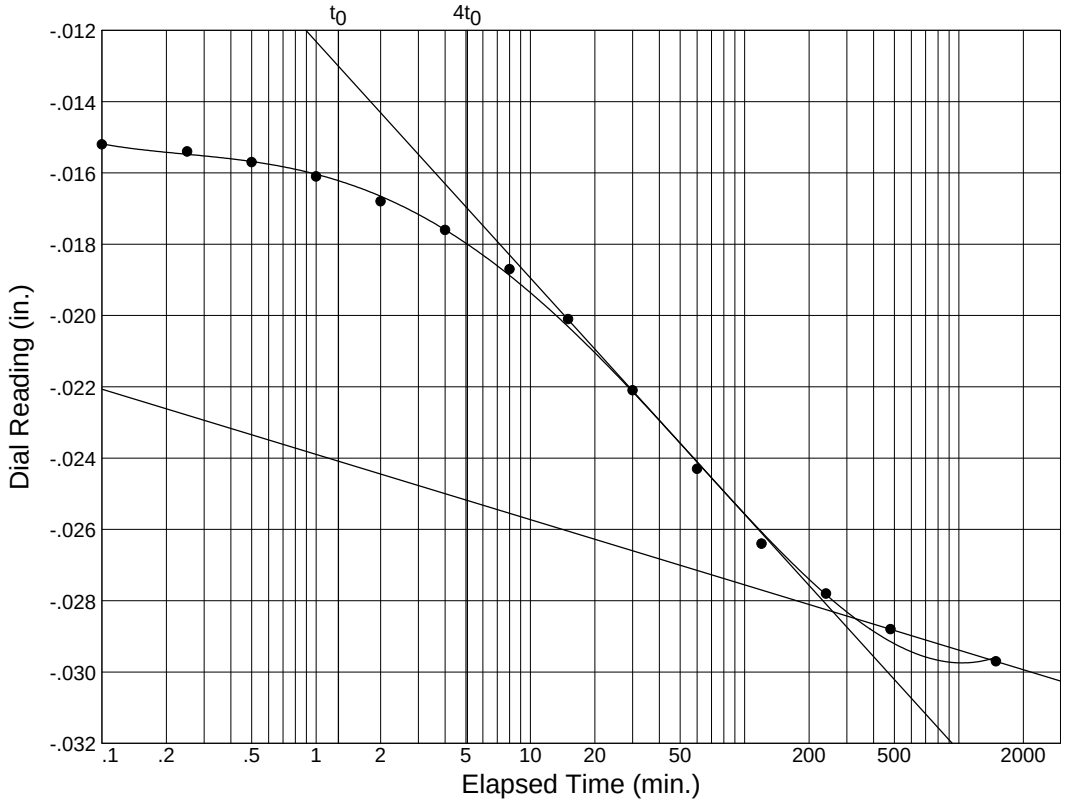
C_α = 0.001

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-14 Elev./Depth: 14'-16'



Load No.= 3

Load= 1.00 tsf

D_0 = -0.01444

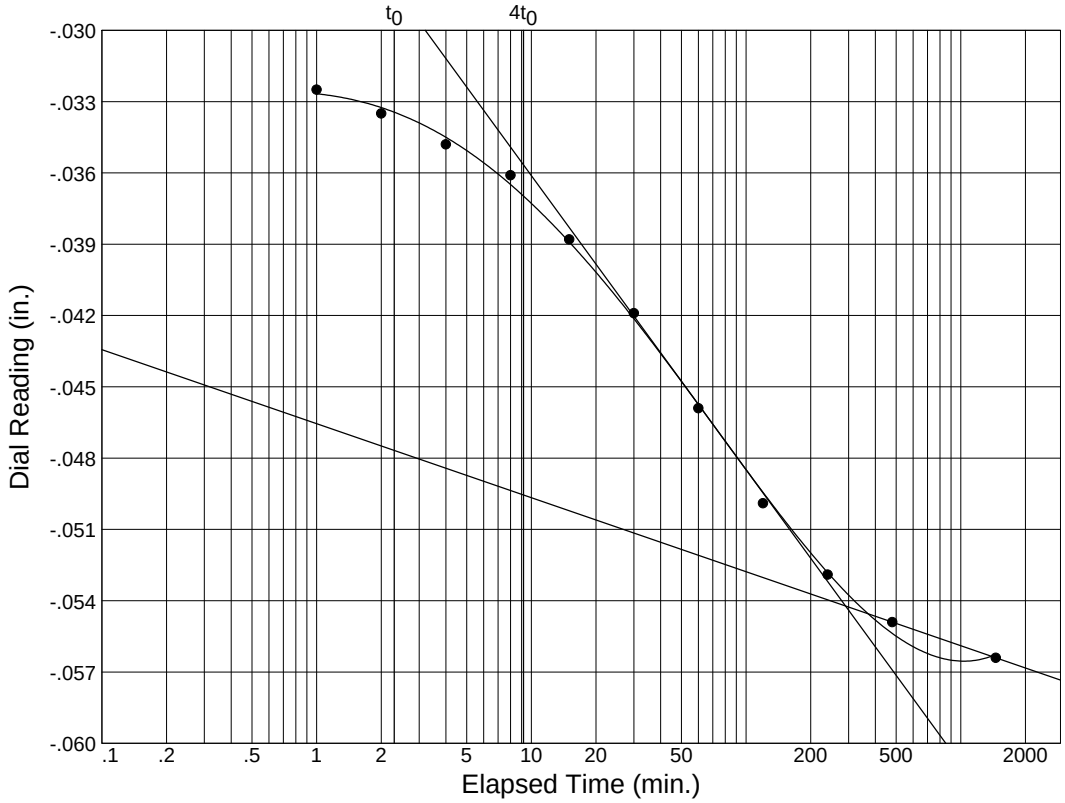
D_{50} = -0.02137

D_{100} = -0.02831

T_{50} = 22.64 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.002



Load No.= 7

Load= 2.00 tsf

D_0 = -0.02992

D_{50} = -0.04207

D_{100} = -0.05422

T_{50} = 29.61 min.

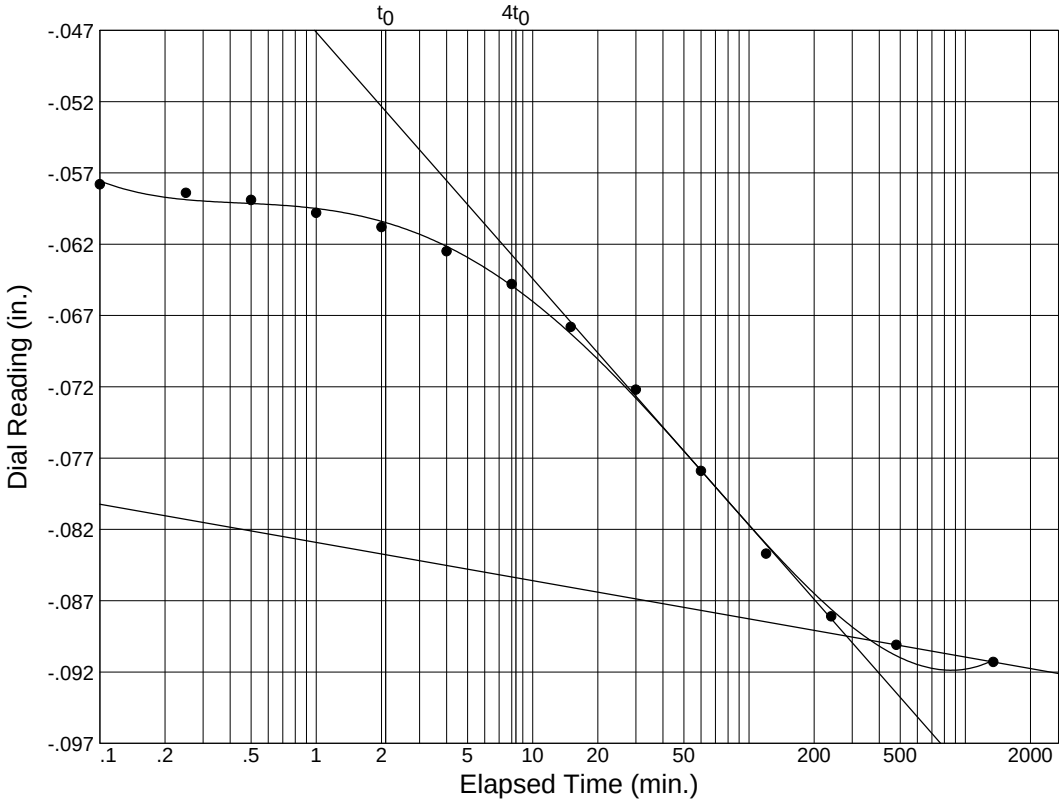
C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.004

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-14 Elev./Depth: 14'-16'



Load No.= 8

Load= 4.00 tsf

D_0 = -0.05584

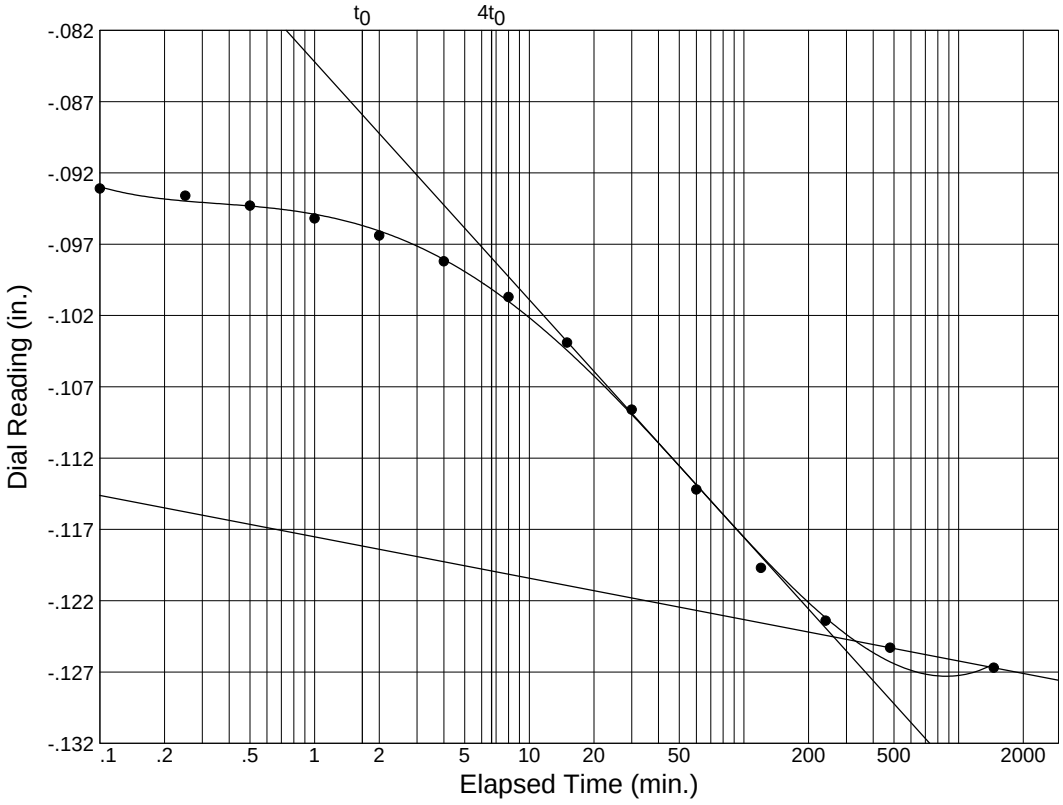
D_{50} = -0.07266

D_{100} = -0.08948

T_{50} = 29.40 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.004



Load No.= 9

Load= 8.00 tsf

D_0 = -0.09123

D_{50} = -0.10788

D_{100} = -0.12453

T_{50} = 25.69 min.

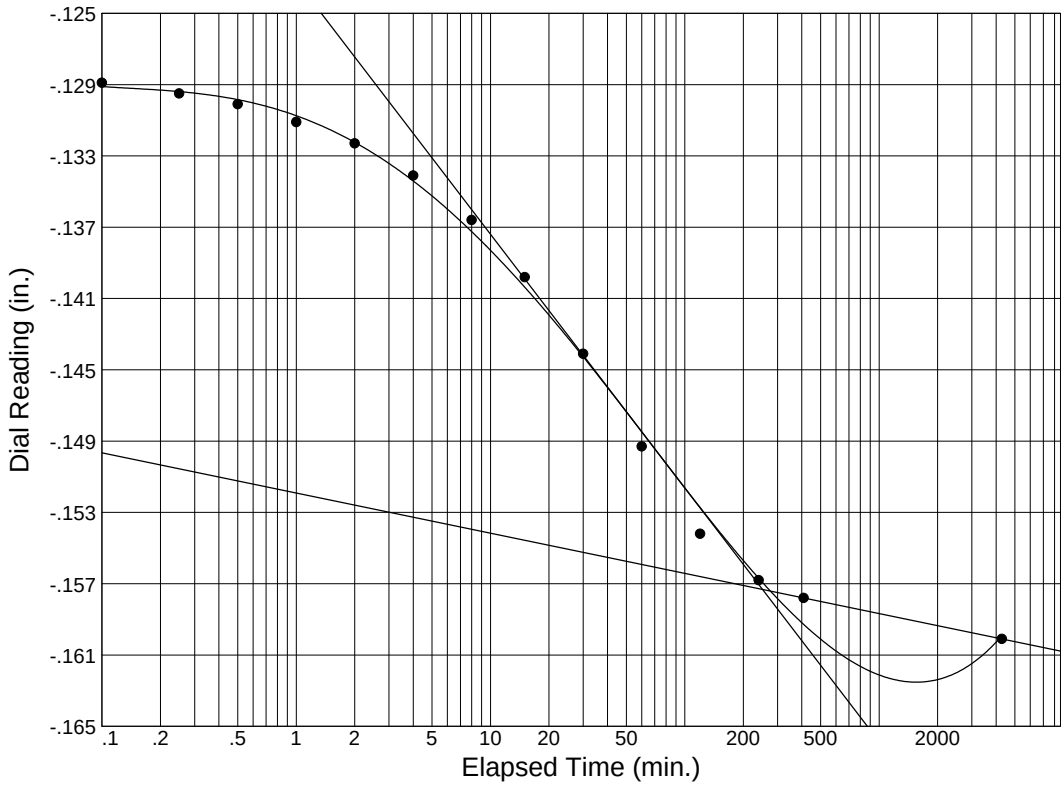
C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.004

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-14 Elev./Depth: 14'-16'



Load No.= 10

Load= 16.00 tsf

D_0 = -0.12670

D_{50} = -0.14201

D_{100} = -0.15732

T_{50} = 20.28 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.003

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-14
Sample No.:
Elev. or Depth: 14'-16' **Sample Length(in./cm.):**
Location:
Description: Soft to Stiff, Gray and Light Gray CLAY with wood (CH)
Liquid Limit: 44 **Plasticity Index:** 23
USCS: (CL) **AASHTO:** **Figure No.:** 1
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE	BEFORE TEST	AFTER TEST
Wet w+t = 255.45 g.	**Consolidometer #** = 6	**Wet w+t** = 175.61 g.
Dry w+t = 212.44 g.		**Dry w+t** = 154.31 g.
Tare Wt. = 60.93 g.	**Spec. Gravity** = 2.75	**Tare Wt.** = 60.97 g.
Height = .80 in.	**Height** = .80 in.	
Diameter = 2.50 in.	**Diameter** = 2.50 in.	
Weight = 124.08 g.	**Defl. Table** = n/a	
Moisture = 28.4 %	**Ht. Solids** = 0.4369 in.	**Moisture** = 22.8 %
Wet Den. = 120.4 pcf	**Dry Wt.** = 96.64 g.*	**Dry Wt.** = 93.34 g.
Dry Den. = 93.8 pcf	**Void Ratio** = 0.831	**Void Ratio** = 0.590
	Saturation = 93.9 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

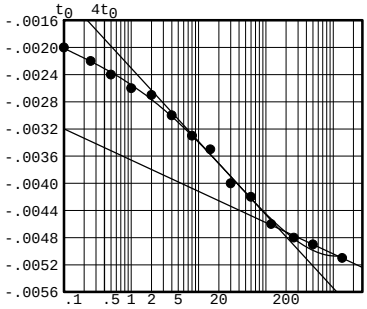
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	0.00000				0.831	
0.25	-0.00510	0.00000	0.05	0.001	0.820*	0.6 Comprs.*
0.50	-0.01410	0.00000	0.01	0.001	0.800*	1.7 Comprs.*
1.00	-0.02970	0.00000	0.01	0.002	0.766*	3.5 Comprs.*
0.25	-0.02020	0.00000			0.788	2.4 Comprs.
0.50	-0.02360	0.00000			0.780	2.8 Comprs.
1.00	-0.03050	0.00000			0.764	3.6 Comprs.
2.00	-0.05640	0.00000	0.01	0.004	0.707*	6.8 Comprs.*
4.00	-0.09130	0.00000	0.01	0.004	0.626*	11.2 Comprs.*
8.00	-0.12670	0.00000	0.01	0.004	0.546*	15.6 Comprs.*
16.00	-0.16010	0.00000	0.01	0.003	0.471*	19.7 Comprs.*
2.00	-0.14370	0.00000			0.509	17.6 Comprs.
0.25	-0.10820	0.00000			0.590	13.2 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 0.25 P_c = 1.05 tsf C_r = 0.05

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

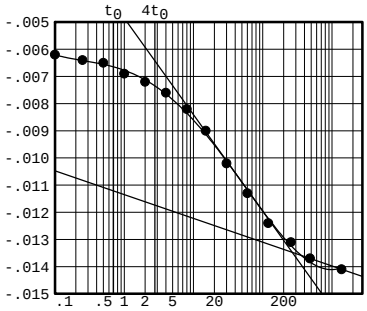
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.00000	11	60.00	-0.00420
2	0.10	-0.00200	12	120.00	-0.00460
3	0.25	-0.00220	13	260.00	-0.00480
4	0.50	-0.00240	14	500.00	-0.00490
5	1.00	-0.00260	15	1360.00	-0.00510
6	2.00	-0.00270			
7	4.00	-0.00300			
8	8.00	-0.00330			
9	15.00	-0.00350			
10	30.00	-0.00400			



Void Ratio = 0.820 **Compression =** 0.6 % >>> CALCULATED USING D_{100}
D_0 = -0.00171 D_{50} = -0.00319 D_{100} = -0.00466
C_v **at 6.1 min. =** 0.05 ft.^{2}/day C_α = 0.001

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

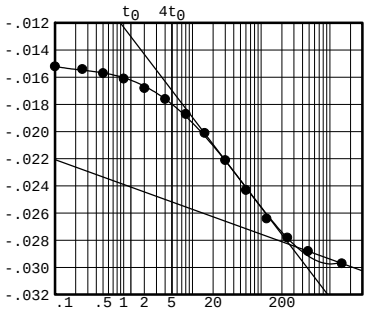
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.00510	11	60.00	-0.01130
2	0.10	-0.00620	12	120.00	-0.01240
3	0.25	-0.00640	13	255.00	-0.01310
4	0.50	-0.00650	14	480.00	-0.01370
5	1.00	-0.00690	15	1374.00	-0.01410
6	2.00	-0.00720			
7	4.00	-0.00760			
8	8.00	-0.00820			
9	15.00	-0.00900			
10	30.00	-0.01020			



Void Ratio = 0.800 **Compression =** 1.7 % >>> CALCULATED USING D_{100}
D_0 = -0.00594 D_{50} = -0.00971 D_{100} = -0.01348
C_v **at 22.7 min. =** 0.01 ft.^{2}/day C_α = 0.001

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.01410	11	60.00	-0.02430
2	0.10	-0.01520	12	120.00	-0.02640
3	0.25	-0.01540	13	240.00	-0.02780
4	0.50	-0.01570	14	480.00	-0.02880
5	1.00	-0.01610	15	1490.00	-0.02970
6	2.00	-0.01680			
7	4.00	-0.01760			
8	8.00	-0.01870			
9	15.00	-0.02010			
10	30.00	-0.02210			



Void Ratio = 0.766 **Compression =** 3.5 % >>> CALCULATED USING D_{100}
D_0 = -0.01444 D_{50} = -0.02137 D_{100} = -0.02831
C_v **at 22.6 min. =** 0.01 ft.^{2}/day C_α = 0.002

Pressure: 0.25 tsf **TEST READINGS** **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.02970	11	60.00	-0.02320
2	0.10	-0.02900	12	120.00	-0.02190
3	0.25	-0.02890	13	240.00	-0.02110
4	0.50	-0.02880	14	480.00	-0.02070
5	1.00	-0.02870	15	1585.00	-0.02020
6	2.00	-0.02810			
7	4.00	-0.02760			
8	8.00	-0.02680			
9	15.00	-0.02580			
10	30.00	-0.02450			

Void Ratio = 0.788 **Compression =** 2.4 %

Pressure: 0.50 tsf **TEST READINGS** **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.02020	11	60.00	-0.02290
2	0.10	-0.02050	12	120.00	-0.02320
3	0.25	-0.02060	13	240.00	-0.02330
4	0.50	-0.02070	14	335.00	-0.02340
5	1.00	-0.02080	15	1260.00	-0.02360
6	2.00	-0.02090			
7	4.00	-0.02120			
8	8.00	-0.02150			
9	15.00	-0.02200			
10	30.00	-0.02240			

Void Ratio = 0.780 **Compression =** 2.8 %

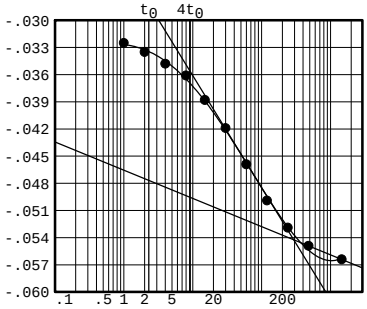
Pressure: 1.00 tsf **TEST READINGS** **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.02360	11	60.00	-0.02880
2	0.10	-0.02400	12	120.00	-0.02930
3	0.25	-0.02410	13	240.00	-0.02970
4	0.50	-0.02420	14	420.00	-0.03000
5	1.00	-0.02450	15	1440.00	-0.03050
6	2.00	-0.02490			
7	4.00	-0.02530			
8	8.00	-0.02600			
9	15.00	-0.02710			
10	30.00	-0.02780			

Void Ratio = 0.764 **Compression =** 3.6 %

Pressure: 2.00 tsf **TEST READINGS** **Load No. 7**

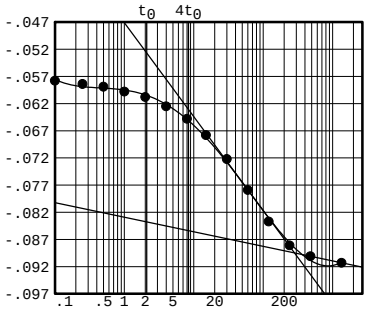
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.03050	11	480.00	-0.05490
2	1.00	-0.03250	12	1455.00	-0.05640
3	2.00	-0.03350			
4	4.00	-0.03480			
5	8.00	-0.03610			
6	15.00	-0.03880			
7	30.00	-0.04190			
8	60.00	-0.04590			
9	120.00	-0.04990			
10	240.00	-0.05290			



Void Ratio = 0.707 **Compression =** 6.8 % >>> CALCULATED USING D_{100}
D_0 = -0.02992 **D_{50} =** -0.04207 **D_{100} =** -0.05422
C_v at 29.6 min. = 0.01 ft.^{2}/day **C_α =** 0.004

Pressure: 4.00 tsf **TEST READINGS** **Load No. 8**

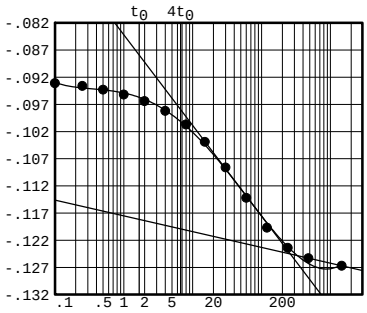
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.05640	11	60.00	-0.07790
2	0.10	-0.05780	12	120.00	-0.08370
3	0.25	-0.05840	13	240.00	-0.08810
4	0.50	-0.05890	14	480.00	-0.09010
5	1.00	-0.05980	15	1346.00	-0.09130
6	2.00	-0.06080			
7	4.00	-0.06250			
8	8.00	-0.06480			
9	15.00	-0.06780			
10	30.00	-0.07220			



Void Ratio = 0.626 **Compression =** 11.2 % >>> CALCULATED USING D_{100}
D_0 = -0.05584 **D_{50} =** -0.07266 **D_{100} =** -0.08948
C_v at 29.4 min. = 0.01 ft.^{2}/day **C_α =** 0.004

Pressure: 8.00 tsf **TEST READINGS** **Load No. 9**

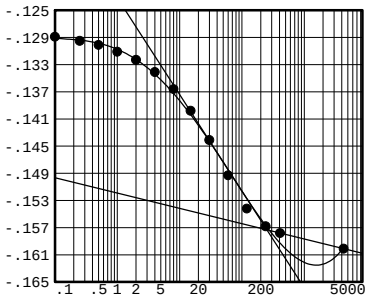
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.09130	11	60.00	-0.11420
2	0.10	-0.09310	12	120.00	-0.11970
3	0.25	-0.09360	13	240.00	-0.12340
4	0.50	-0.09430	14	480.00	-0.12530
5	1.00	-0.09520	15	1458.00	-0.12670
6	2.00	-0.09640			
7	4.00	-0.09820			
8	8.00	-0.10070			
9	15.00	-0.10390			
10	30.00	-0.10860			



Void Ratio = 0.546 **Compression =** 15.6 % >>> CALCULATED USING D_{100}
D_0 = -0.09123 **D_{50} =** -0.10788 **D_{100} =** -0.12453
C_v at 25.7 min. = 0.01 ft.^{2}/day **C_α =** 0.004

Pressure: 16.00 tsf **TEST READINGS** **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.12670	11	60.00	-0.14930
2	0.10	-0.12890	12	120.00	-0.15420
3	0.25	-0.12950	13	240.00	-0.15680
4	0.50	-0.13010	14	409.00	-0.15780
5	1.00	-0.13110	15	4287.00	-0.16010
6	2.00	-0.13230			
7	4.00	-0.13410			
8	8.00	-0.13660			
9	15.00	-0.13980			
10	30.00	-0.14410			

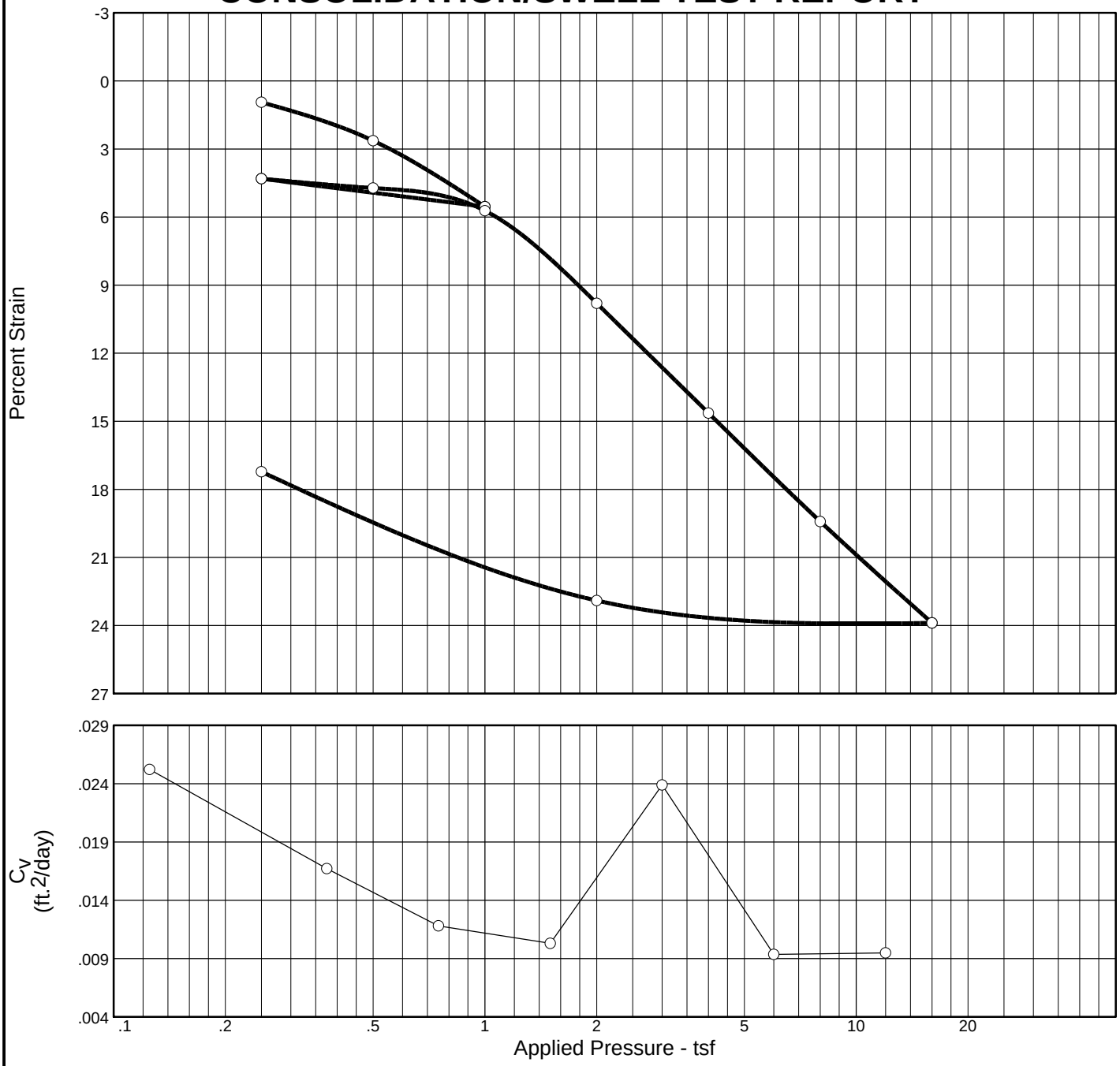


Void Ratio = 0.471 **Compression =** 19.7 % >>> CALCULATED USING D_{100}

D_0 = -0.12670 **D_{50} =** -0.14201 **D_{100} =** -0.15732

C_v at 20.3 min. = 0.01 ft.^{2}/day **C_α =** 0.003

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
104.1 %	40.7 %	82.8	55	38	2.75	0.61	0.31	1.074

MATERIAL DESCRIPTION	USCS	AASHTO
Stiff to Medium, Tan and Light Gray CLAY with wood (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-15 **Elev./Depth:** 12'-14'

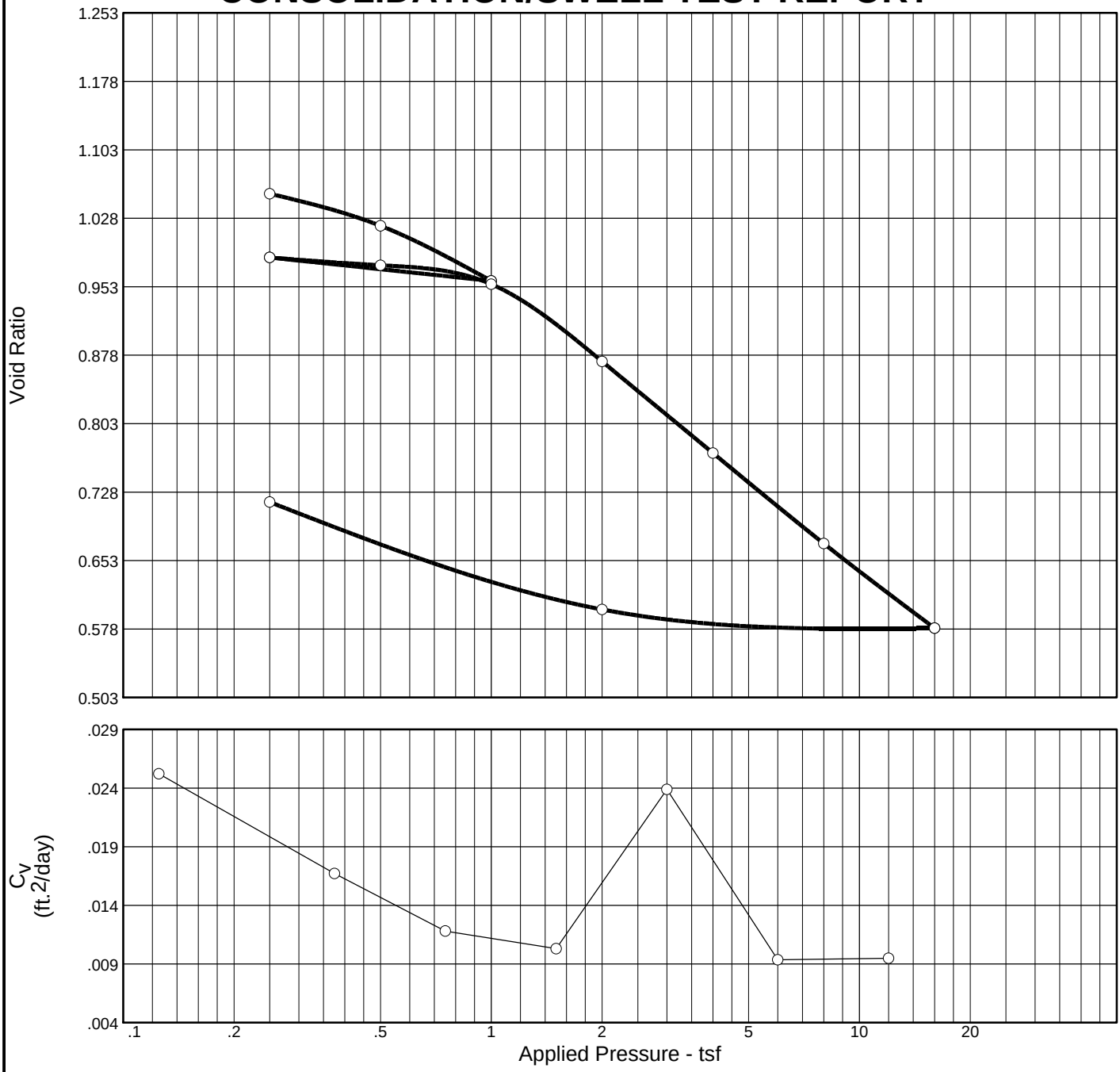
Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

1

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
104.1 %	40.7 %	82.8	55	38	2.75	0.61	0.31	1.074

MATERIAL DESCRIPTION	USCS	AASHTO
Stiff to Medium, Tan and Light Gray CLAY with wood (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-15 **Elev./Depth:** 12'-14'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

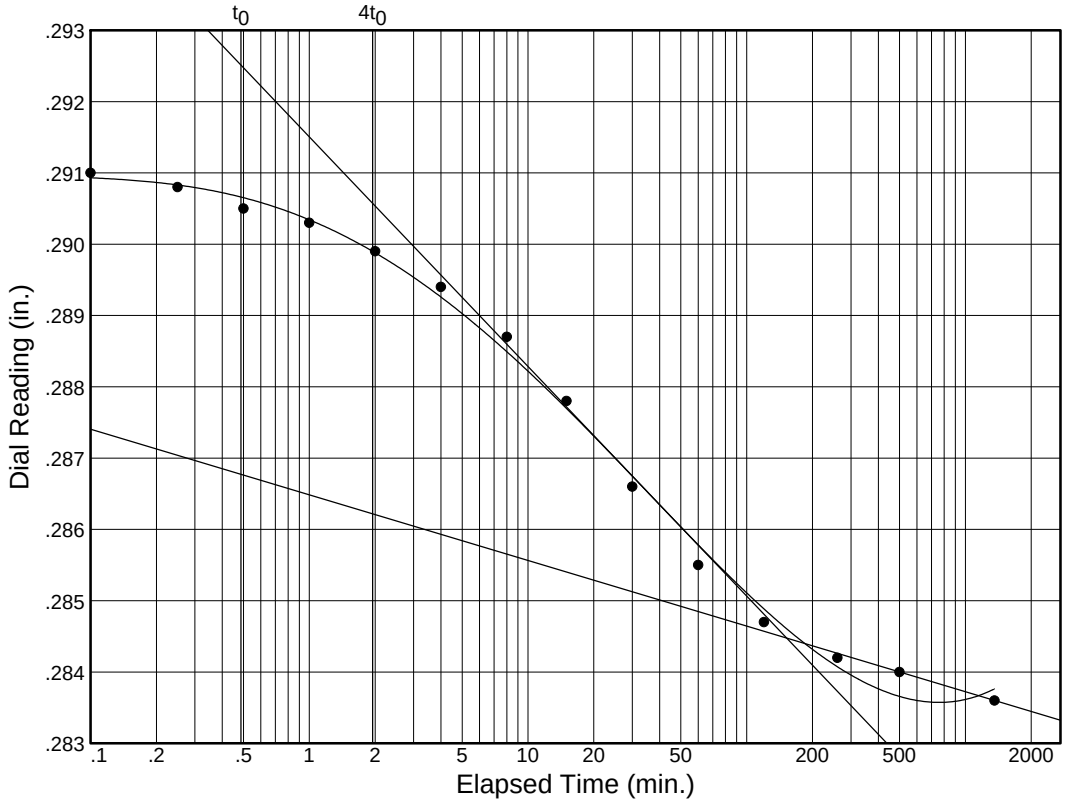
Southern Earth Sciences, Inc.

1

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-15 Elev./Depth: 12'-14'



Load No.= 1

Load= 0.25 tsf

D_0 = 0.29142

D_{50} = 0.28795

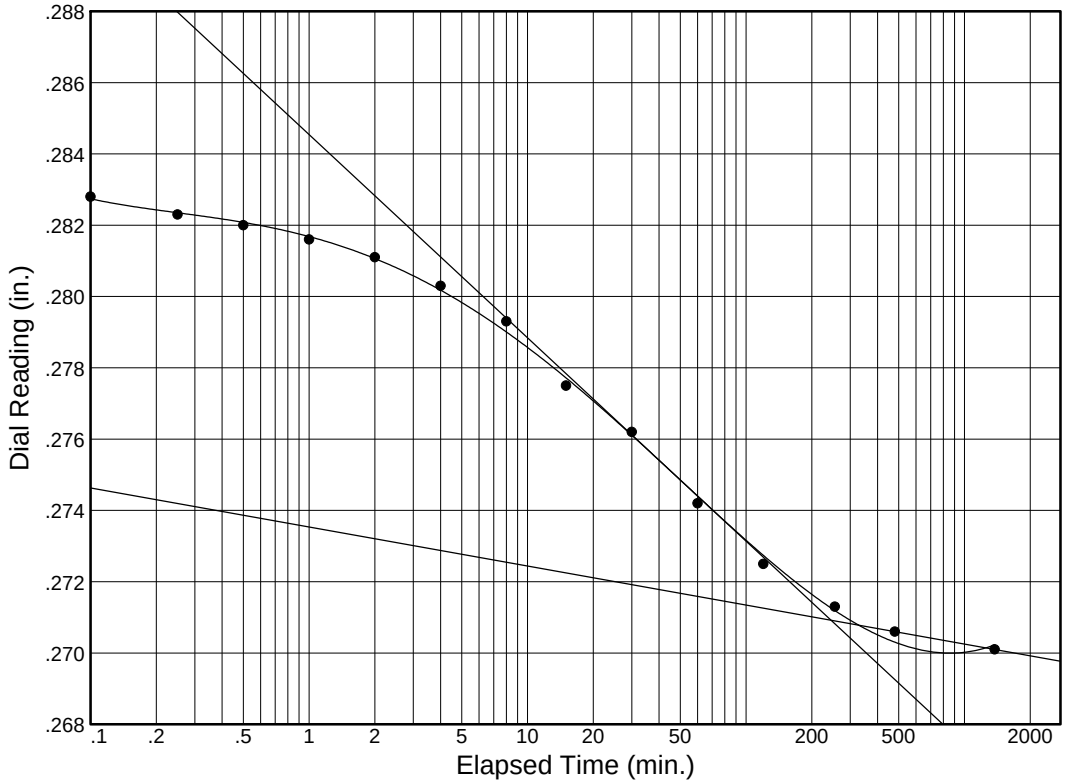
D_{100} = 0.28448

T_{50} = 12.37 min.

C_v @ T_{50}

0.03 ft.^{2}/day

C_α = 0.001



Load No.= 2

Load= 0.50 tsf

D_0 = 0.28366

D_{50} = 0.27729

D_{100} = 0.27092

T_{50} = 18.17 min.

C_v @ T_{50}

0.02 ft.^{2}/day

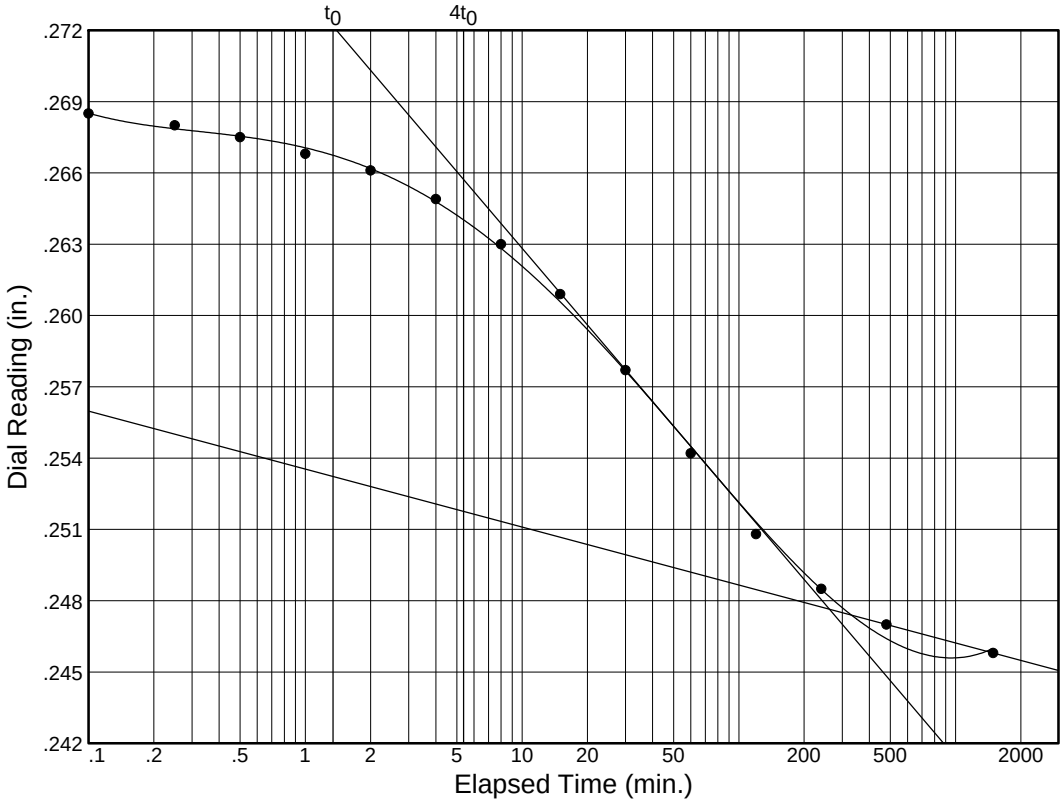
C_α = 0.001

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-15 Elev./Depth: 12'-14'



Load No.= 3

Load= 1.00 tsf

D_0 = 0.26946

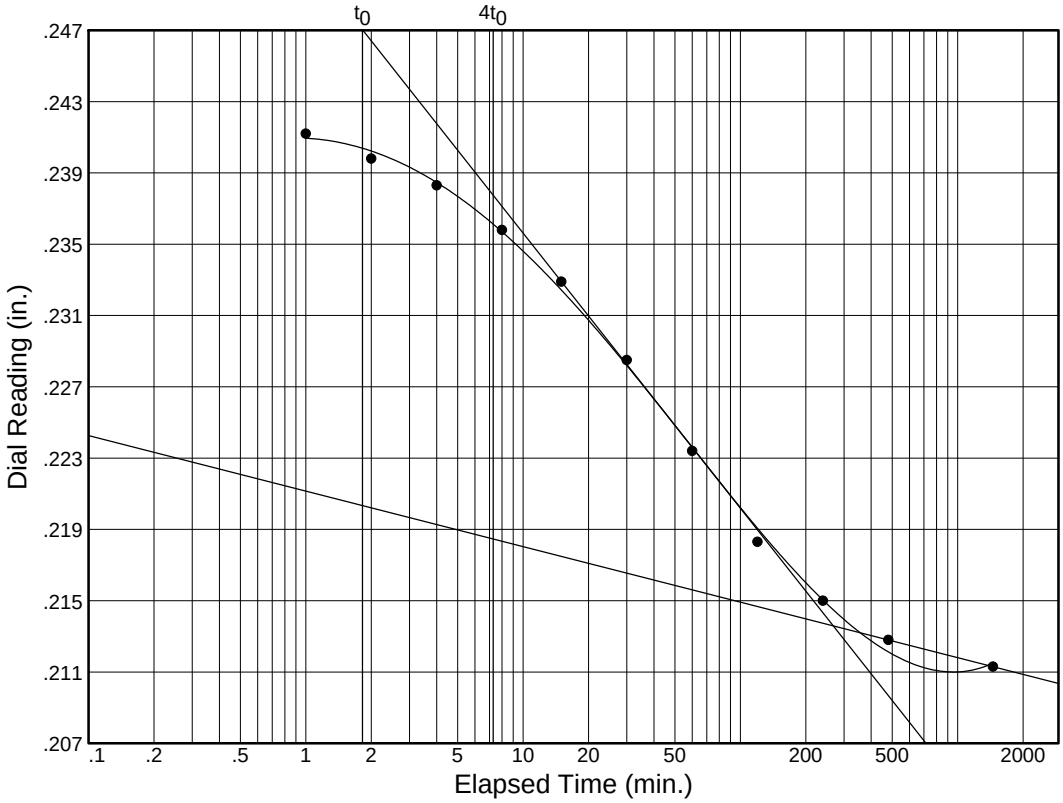
D_{50} = 0.25855

D_{100} = 0.24764

T_{50} = 24.52 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.003



Load No.= 7

Load= 2.00 tsf

D_0 = 0.24465

D_{50} = 0.22912

D_{100} = 0.21359

T_{50} = 25.98 min.

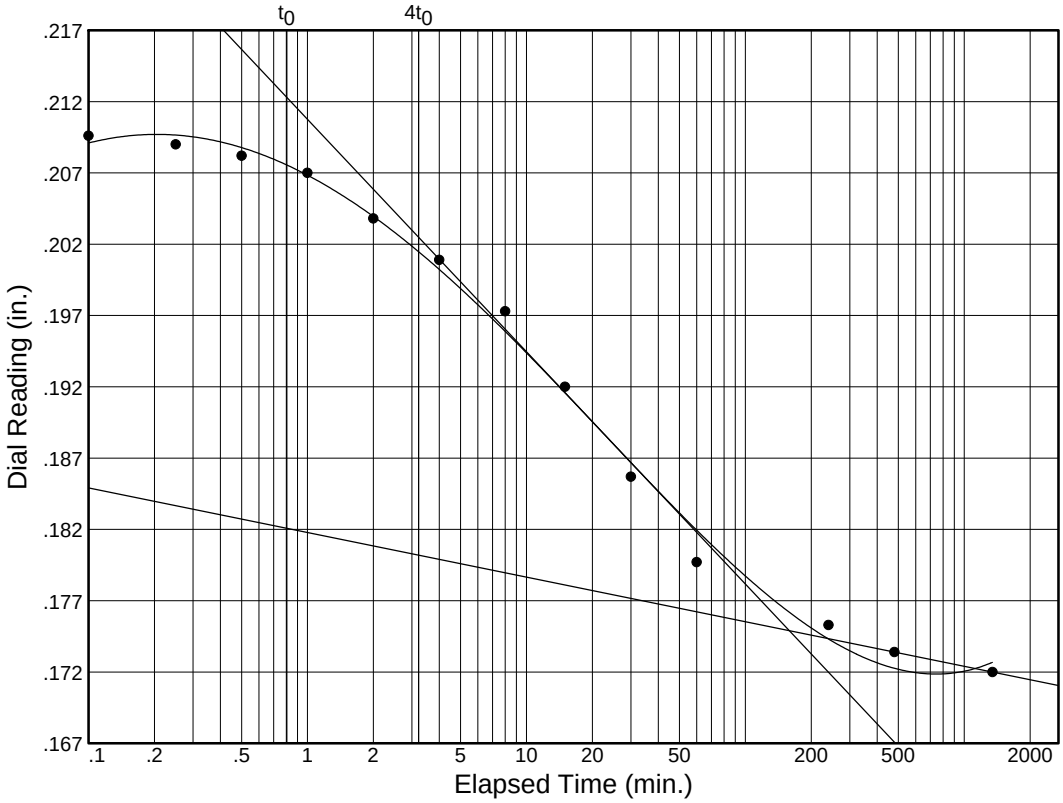
C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.004

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-15 Elev./Depth: 12'-14'



Load No.= 8

Load= 4.00 tsf

D_0 = 0.21364

D_{50} = 0.19427

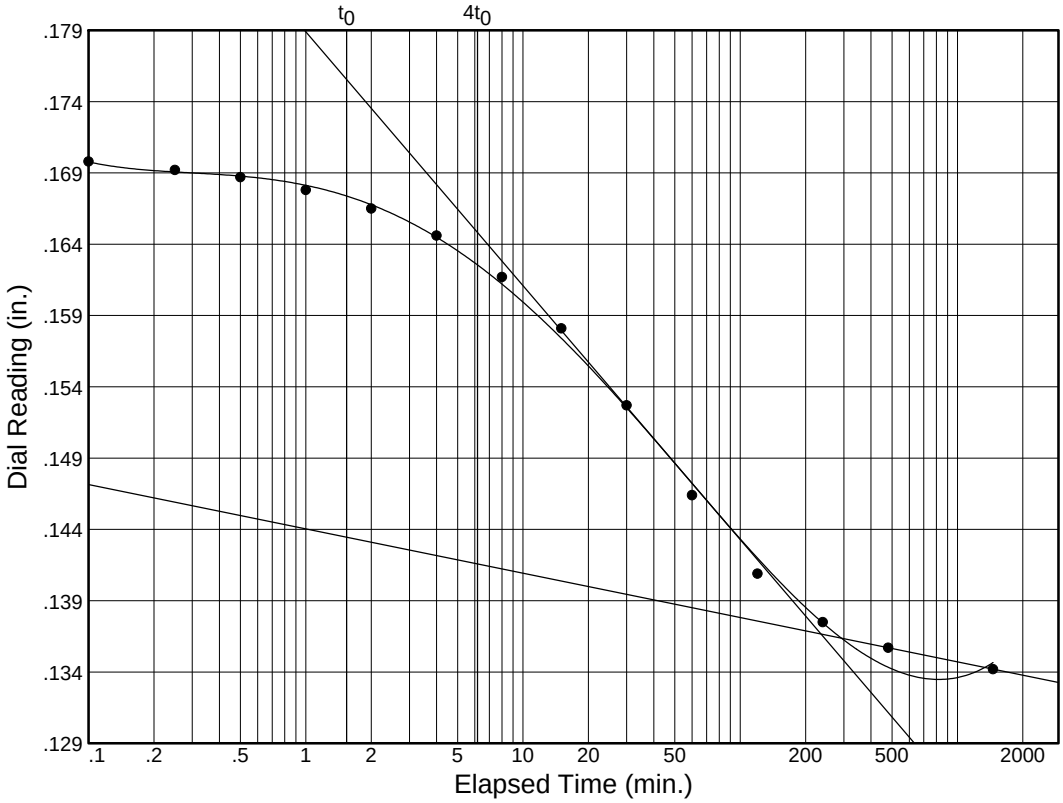
D_{100} = 0.17490

T_{50} = 10.17 min.

C_v @ T_{50}

0.02 ft.^{2}/day

C_α = 0.004



Load No.= 9

Load= 8.00 tsf

D_0 = 0.17221

D_{50} = 0.15444

D_{100} = 0.13666

T_{50} = 23.11 min.

C_v @ T_{50}

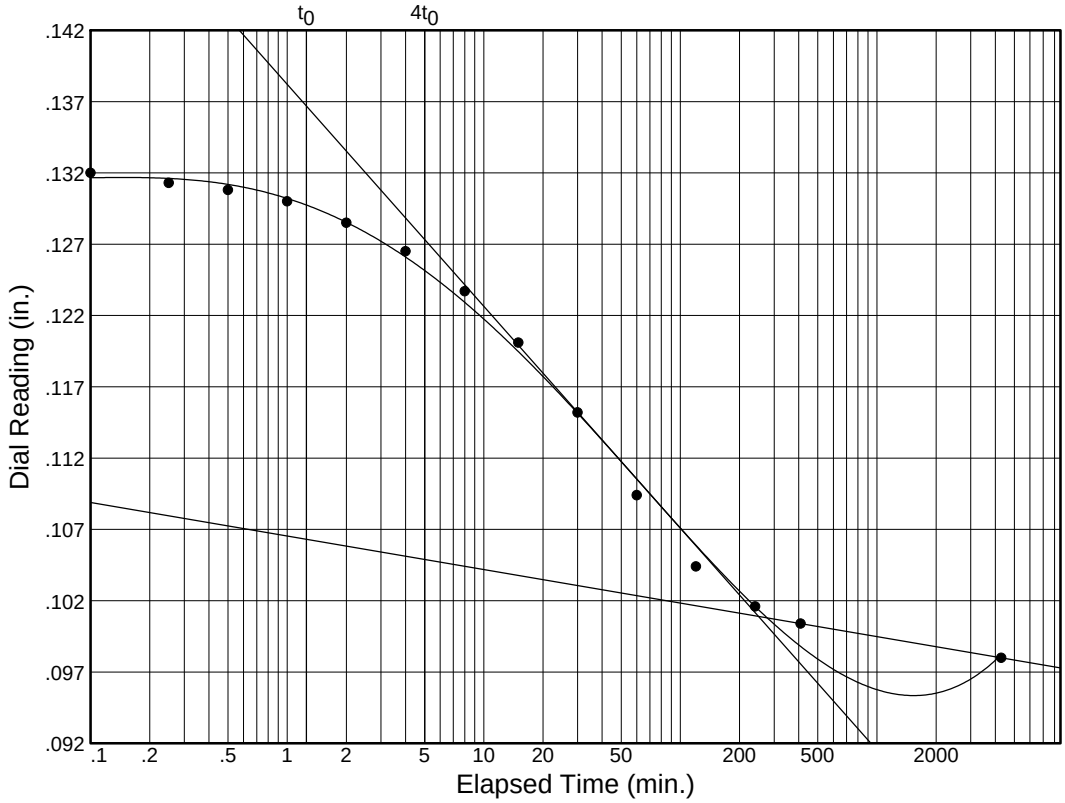
0.01 ft.^{2}/day

C_α = 0.005

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-15 Elev./Depth: 12'-14'



Load No.= 10

Load= 16.00 tsf

D_0 = 0.13435

D_{50} = 0.11763

D_{100} = 0.10091

T_{50} = 20.33 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.004

Southern Earth Sciences, Inc.

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-15
Sample No.:
Elev. or Depth: 12'-14' **Sample Length(in./cm.):**
Location:
Description: Stiff to Medium, Tan and Light Gray CLAY with wood (CH)
Liquid Limit: 55 **Plasticity Index:** 38
USCS: (CH) **AASHTO:** **Figure No.:** 1
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE	BEFORE TEST	AFTER TEST
Wet w+t = 237.56 g.	**Consolidometer #** = 6	**Wet w+t** = 169.96 g.
Dry w+t = 182.50 g.		**Dry w+t** = 148.66 g.
Tare Wt. = 47.14 g.	**Spec. Gravity** = 2.75	**Tare Wt.** = 61.47 g.
Height = .80 in.	**Height** = .80 in.	
Diameter = 2.50 in.	**Diameter** = 2.50 in.	
Weight = 120.01 g.	**Defl. Table** = n/a	
Moisture = 40.7 %	**Ht. Solids** = 0.3856 in.	**Moisture** = 24.4 %
Wet Den. = 116.4 pcf	**Dry Wt.** = 85.31 g.*	**Dry Wt.** = 87.19 g.
Dry Den. = 82.8 pcf	**Void Ratio** = 1.074	**Void Ratio** = 0.717
	Saturation = 104.1 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

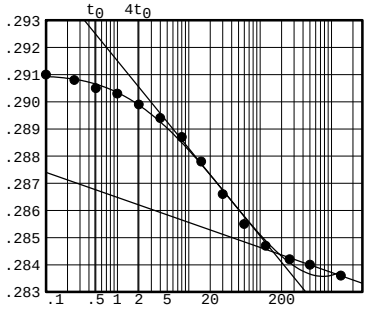
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	0.29200				1.074	
0.25	0.28360	0.00000	0.03	0.001	1.055*	0.9 Comprs.*
0.50	0.27010	0.00000	0.02	0.001	1.020*	2.6 Comprs.*
1.00	0.24580	0.00000	0.01	0.003	0.959*	5.5 Comprs.*
0.25	0.25570	0.00000			0.985	4.3 Comprs.
0.50	0.25240	0.00000			0.977	4.7 Comprs.
1.00	0.24440	0.00000			0.956	5.7 Comprs.
2.00	0.21130	0.00000	0.01	0.004	0.871*	9.8 Comprs.*
4.00	0.17200	0.00000	0.02	0.004	0.771*	14.6 Comprs.*
8.00	0.13420	0.00000	0.01	0.005	0.672*	19.4 Comprs.*
16.00	0.09800	0.00000	0.01	0.004	0.579*	23.9 Comprs.*
2.00	0.10590	0.00000			0.599	22.9 Comprs.
0.25	0.15130	0.00000			0.717	17.2 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 0.31 P_c = 0.61 tsf C_r = 0.06

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

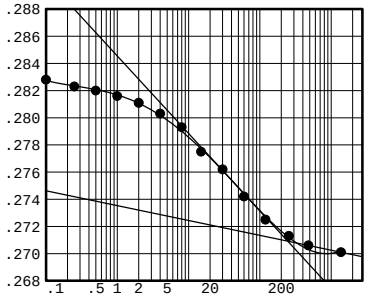
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.29200	11	60.00	0.28550
2	0.10	0.29100	12	120.00	0.28470
3	0.25	0.29080	13	260.00	0.28420
4	0.50	0.29050	14	500.00	0.28400
5	1.00	0.29030	15	1360.00	0.28360
6	2.00	0.28990			
7	4.00	0.28940			
8	8.00	0.28870			
9	15.00	0.28780			
10	30.00	0.28660			



Void Ratio = 1.055 **Compression =** 0.9 % >>> CALCULATED USING D_{100}
D_0 = 0.29142 **D_{50} =** 0.28795 **D_{100} =** 0.28448
C_v at 12.4 min. = 0.03 ft.^{2}/day **C_α =** 0.001

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

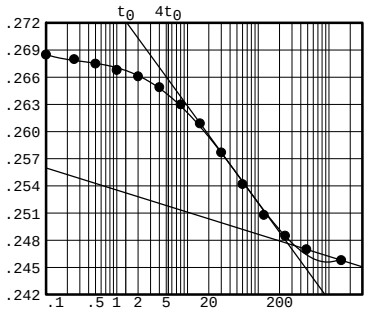
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.28366	11	60.00	0.27420
2	0.10	0.28280	12	120.00	0.27250
3	0.25	0.28230	13	255.00	0.27130
4	0.50	0.28200	14	480.00	0.27060
5	1.00	0.28160	15	1374.00	0.27010
6	2.00	0.28110			
7	4.00	0.28030			
8	8.00	0.27930			
9	15.00	0.27750			
10	30.00	0.27620			



Void Ratio = 1.020 **Compression =** 2.6 % >>> CALCULATED USING D_{100}
D_0 = 0.28366 **D_{50} =** 0.27729 **D_{100} =** 0.27092
C_v at 18.2 min. = 0.02 ft.^{2}/day **C_α =** 0.001

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.27010	11	60.00	0.25420
2	0.10	0.26850	12	120.00	0.25080
3	0.25	0.26800	13	240.00	0.24850
4	0.50	0.26750	14	480.00	0.24700
5	1.00	0.26680	15	1490.00	0.24580
6	2.00	0.26610			
7	4.00	0.26490			
8	8.00	0.26300			
9	15.00	0.26090			
10	30.00	0.25770			



Void Ratio = 0.959 **Compression =** 5.5 % >>> CALCULATED USING D_{100}
D_0 = 0.26946 **D_{50} =** 0.25855 **D_{100} =** 0.24764
C_v at 24.5 min. = 0.01 ft.^{2}/day **C_α =** 0.003

Pressure: 0.25 tsf **TEST READINGS** **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.24580	11	60.00	0.25350
2	0.10	0.24650	12	120.00	0.25440
3	0.25	0.24680	13	240.00	0.25500
4	0.50	0.24700	14	480.00	0.25540
5	1.00	0.24740	15	1585.00	0.25570
6	2.00	0.24790			
7	4.00	0.24850			
8	8.00	0.24960			
9	15.00	0.25070			
10	30.00	0.25210			

Void Ratio = 0.985 **Compression =** 4.3 %

Pressure: 0.50 tsf **TEST READINGS** **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.25570	11	60.00	0.25310
2	0.10	0.25540	12	120.00	0.25290
3	0.25	0.25530	13	240.00	0.25270
4	0.50	0.25520	14	335.00	0.25260
5	1.00	0.25500	15	1260.00	0.25240
6	2.00	0.25490			
7	4.00	0.25450			
8	8.00	0.25420			
9	15.00	0.25380			
10	30.00	0.25330			

Void Ratio = 0.977 **Compression =** 4.7 %

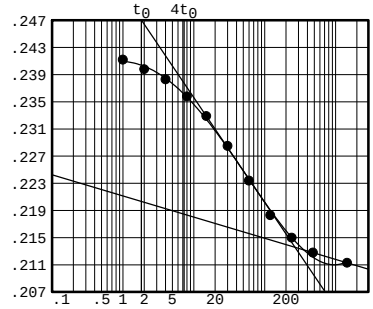
Pressure: 1.00 tsf **TEST READINGS** **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.25240	11	60.00	0.24620
2	0.10	0.25180	12	120.00	0.24550
3	0.25	0.25160	13	240.00	0.24510
4	0.50	0.25130	14	420.00	0.24480
5	1.00	0.25100	15	1440.00	0.24440
6	2.00	0.25050			
7	4.00	0.25000			
8	8.00	0.24910			
9	15.00	0.24790			
10	30.00	0.24700			

Void Ratio = 0.956 **Compression =** 5.7 %

Pressure: 2.00 tsf **TEST READINGS** **Load No. 7**

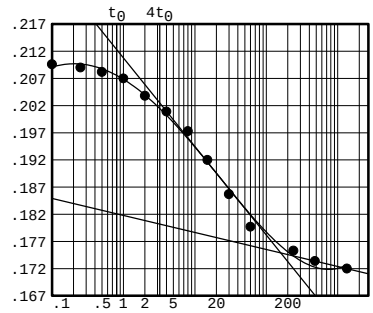
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.24440	11	480.00	0.21280
2	1.00	0.24120	12	1455.00	0.21130
3	2.00	0.23980			
4	4.00	0.23830			
5	8.00	0.23580			
6	15.00	0.23290			
7	30.00	0.22850			
8	60.00	0.22340			
9	120.00	0.21830			
10	240.00	0.21500			



Void Ratio = 0.871 **Compression =** 9.8 % >>> CALCULATED USING D_{100}
D_0 = 0.24465 D_{50} = 0.22912 D_{100} = 0.21359
C_v **at 26.0 min. =** 0.01 ft.^{2}/day C_α = 0.004

Pressure: 4.00 tsf **TEST READINGS** **Load No. 8**

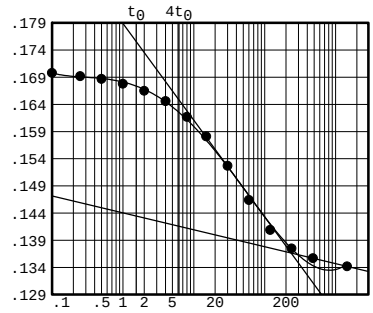
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.21130	11	60.00	0.17970
2	0.10	0.20960	12	240.00	0.17530
3	0.25	0.20900	13	480.00	0.17340
4	0.50	0.20820	14	1346.00	0.17200
5	1.00	0.20700			
6	2.00	0.20380			
7	4.00	0.20090			
8	8.00	0.19730			
9	15.00	0.19200			
10	30.00	0.18570			



Void Ratio = 0.771 **Compression =** 14.6 % >>> CALCULATED USING D_{100}
D_0 = 0.21364 D_{50} = 0.19427 D_{100} = 0.17490
C_v **at 10.2 min. =** 0.02 ft.^{2}/day C_α = 0.004

Pressure: 8.00 tsf **TEST READINGS** **Load No. 9**

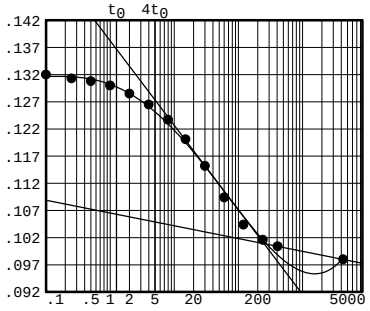
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.17200	11	60.00	0.14640
2	0.10	0.16980	12	120.00	0.14090
3	0.25	0.16920	13	240.00	0.13750
4	0.50	0.16870	14	480.00	0.13570
5	1.00	0.16780	15	1458.00	0.13420
6	2.00	0.16650			
7	4.00	0.16460			
8	8.00	0.16170			
9	15.00	0.15810			
10	30.00	0.15270			



Void Ratio = 0.672 **Compression =** 19.4 % >>> CALCULATED USING D_{100}
D_0 = 0.17221 D_{50} = 0.15444 D_{100} = 0.13666
C_v **at 23.1 min. =** 0.01 ft.^{2}/day C_α = 0.005

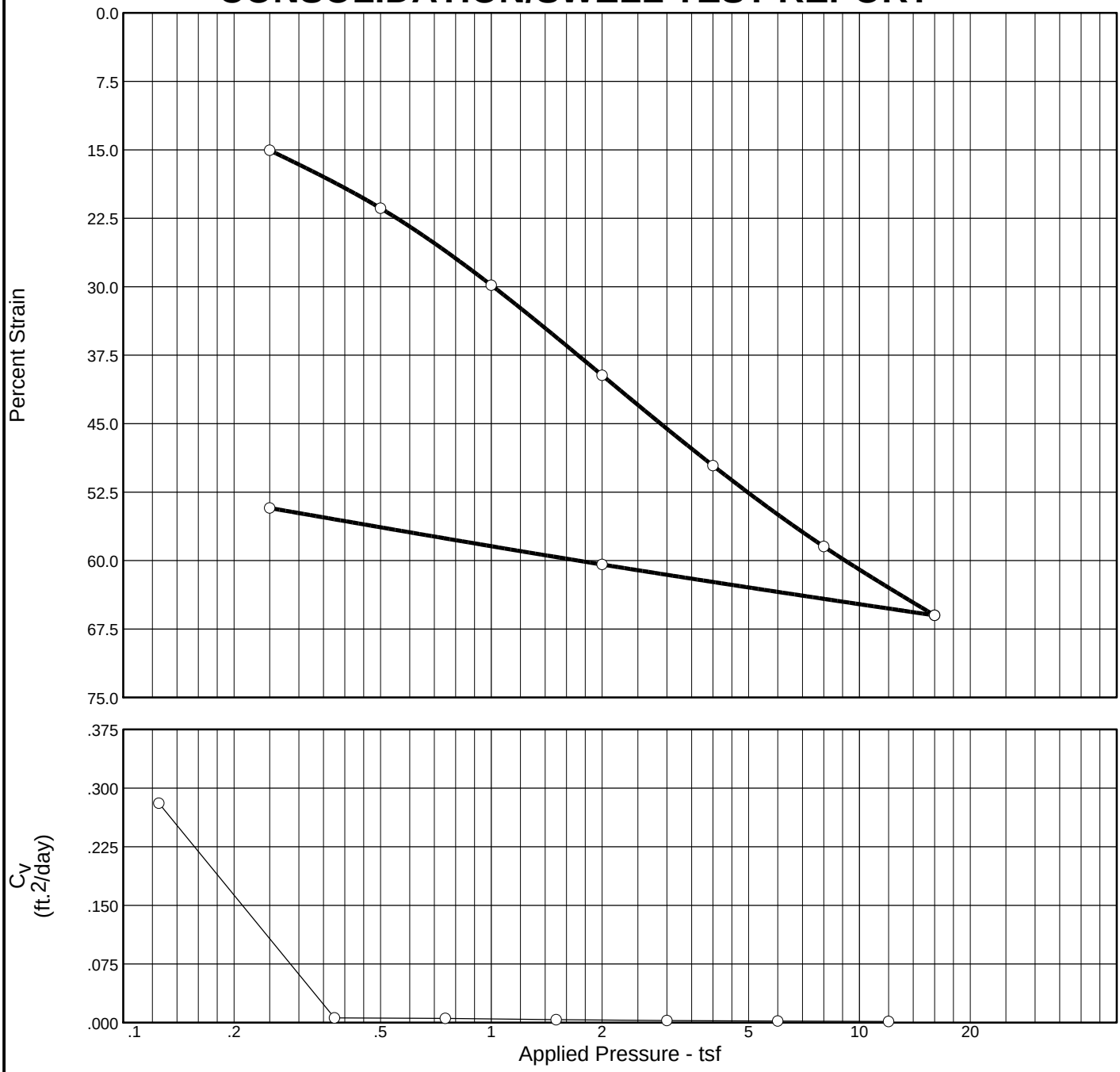
Pressure: 16.00 tsf **TEST READINGS** **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.13420	11	60.00	0.10940
2	0.10	0.13200	12	120.00	0.10440
3	0.25	0.13130	13	240.00	0.10160
4	0.50	0.13080	14	409.00	0.10040
5	1.00	0.13000	15	4287.00	0.09800
6	2.00	0.12850			
7	4.00	0.12650			
8	8.00	0.12370			
9	15.00	0.12010			
10	30.00	0.11520			



Void Ratio = 0.579 **Compression =** 23.9 % >>> CALCULATED USING D_{100}
D_0 **=** 0.13435 D_{50} **=** 0.11763 D_{100} **=** 0.10091
C_v **at 20.3 min. =** 0.01 ft.^{2}/day C_α **=** 0.004

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
94.8 %	203.5 %	24.4	285	188	2.40	0.13	1.53	5.151

MATERIAL DESCRIPTION	USCS	AASHTO
Organic CLAY with clay and organics (OH)	(OH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-17 **Elev./Depth:** 10'-12'

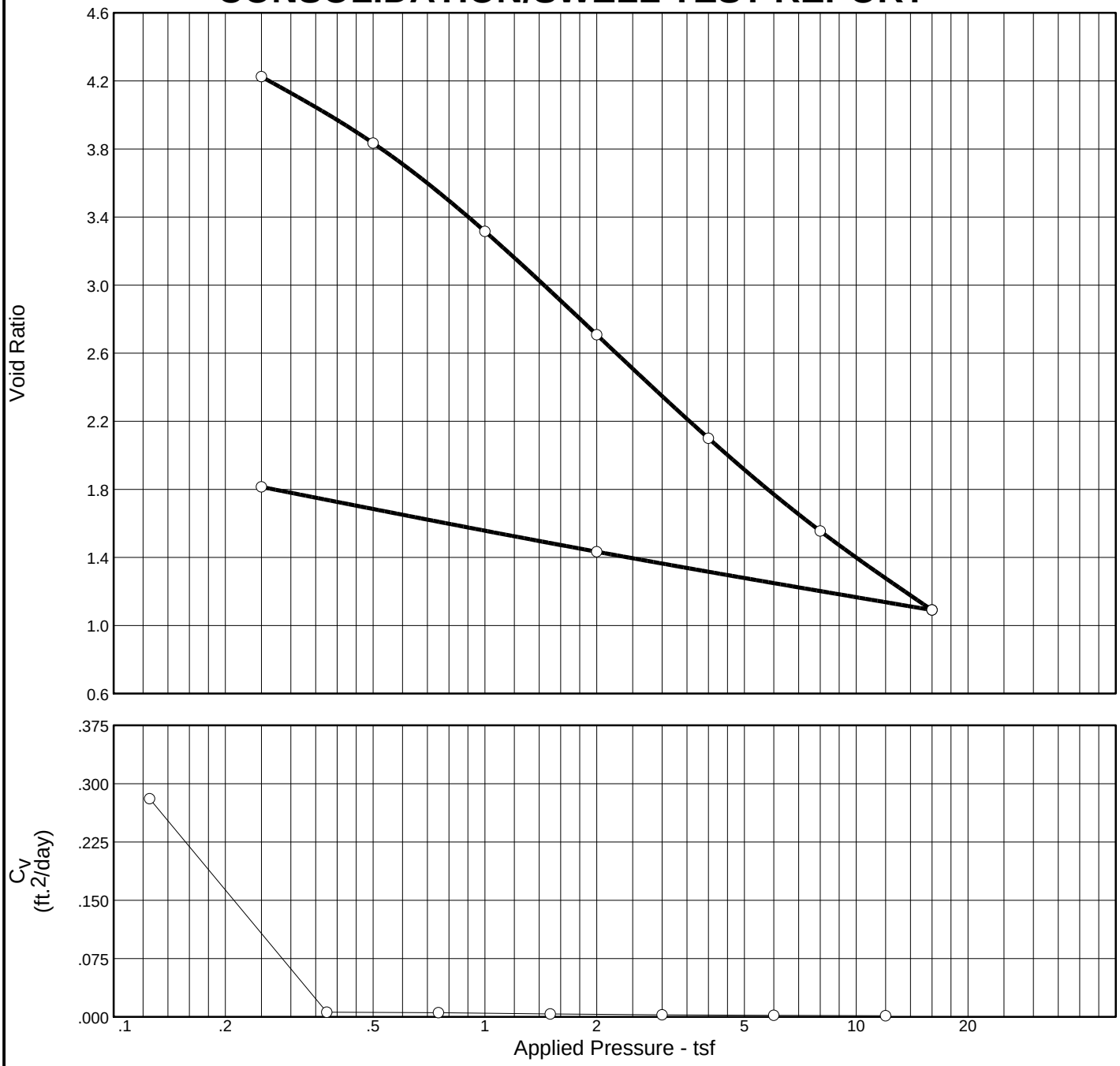
Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

1

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
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Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-17 **Elev./Depth:** 10'-12'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

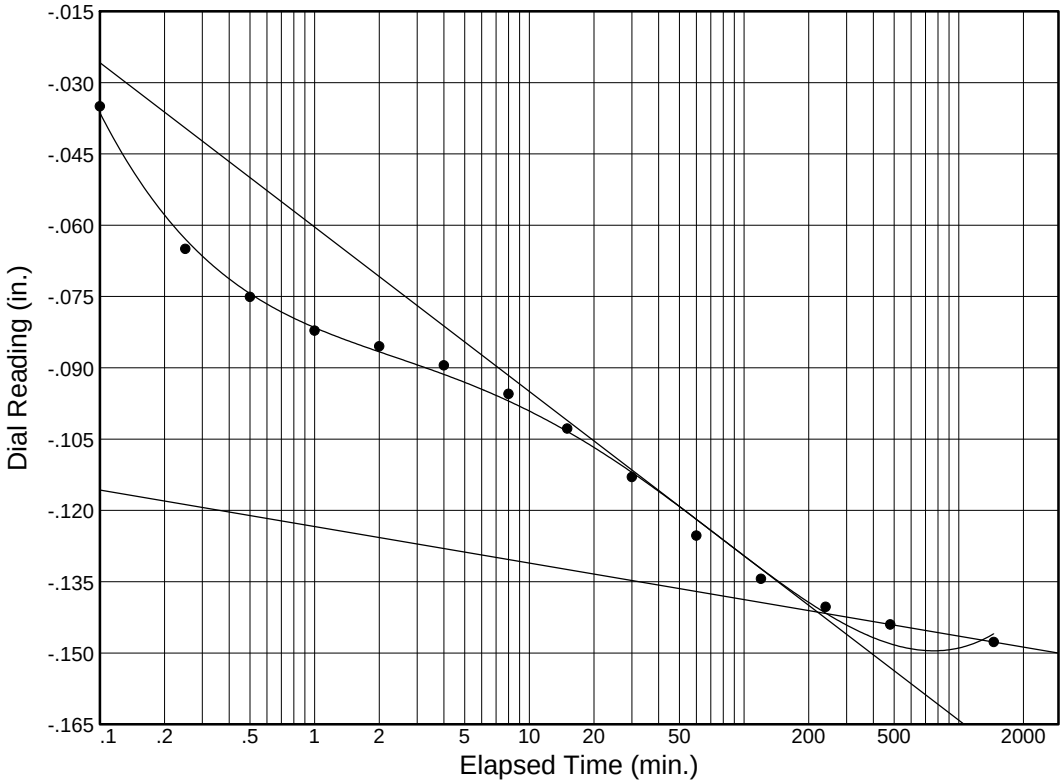
Southern Earth Sciences, Inc.

1

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-17 Elev./Depth: 10'-12'



Load No.= 1

Load= 0.25 tsf

D_0 = -0.02100

D_{50} = -0.08120

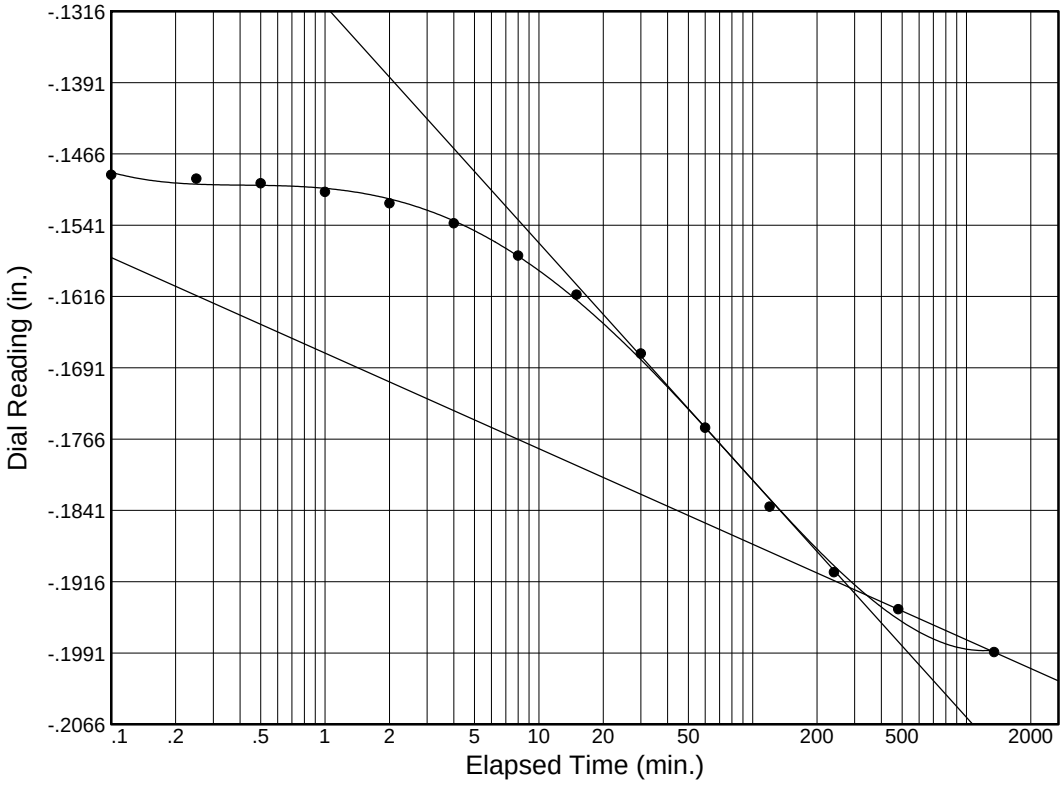
D_{100} = -0.14139

T_{50} = 0.96 min.

C_v @ T_{50}

0.28 ft.^{2}/day

C_α = 0.010



Load No.= 2

Load= 0.50 tsf

D_0 = -0.14770

D_{50} = -0.16995

D_{100} = -0.19220

T_{50} = 35.63 min.

C_v @ T_{50}

0.01 ft.^{2}/day

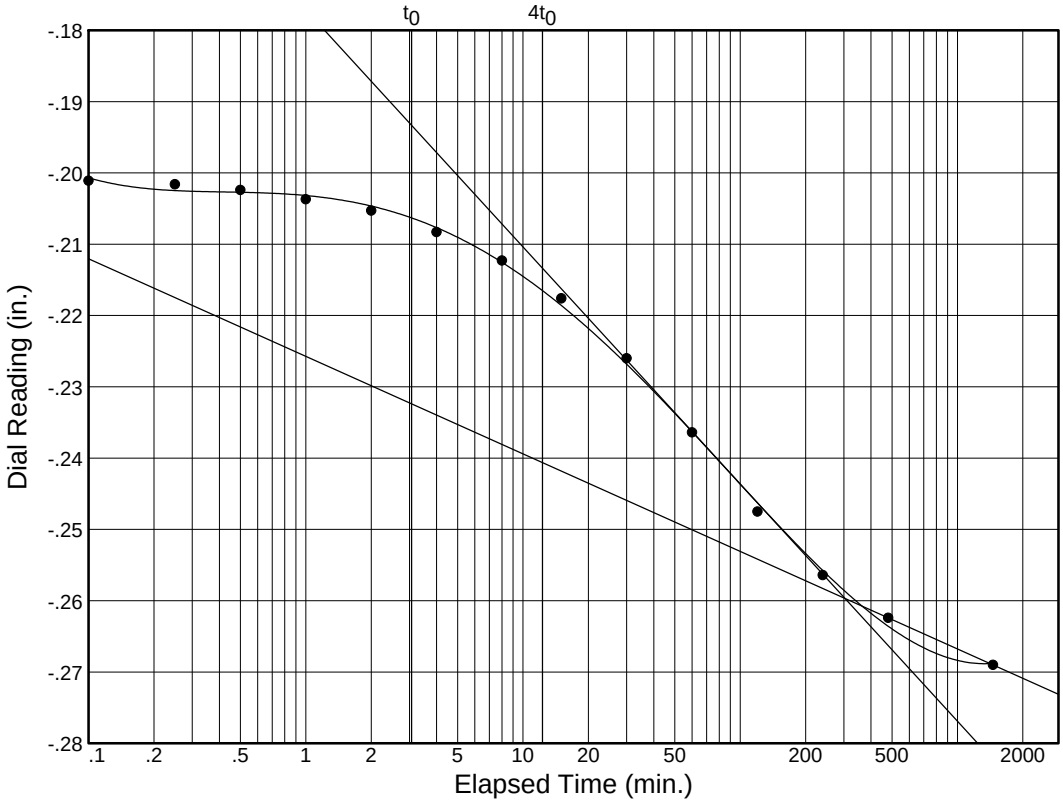
C_α = 0.015

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-17 Elev./Depth: 10'-12'



Load No.= 3

Load= 1.00 tsf

D_0 = -0.19612

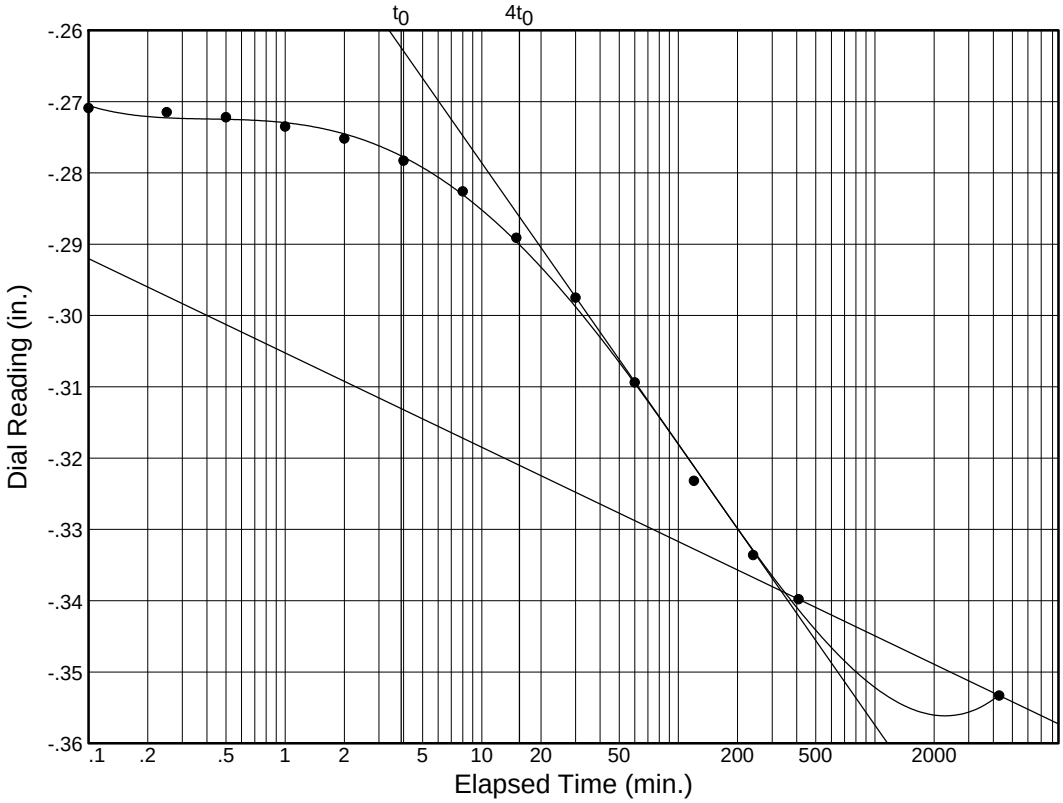
D_{50} = -0.22790

D_{100} = -0.25968

T_{50} = 32.58 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.022



Load No.= 4

Load= 2.00 tsf

D_0 = -0.26515

D_{50} = -0.30187

D_{100} = -0.33860

T_{50} = 36.98 min.

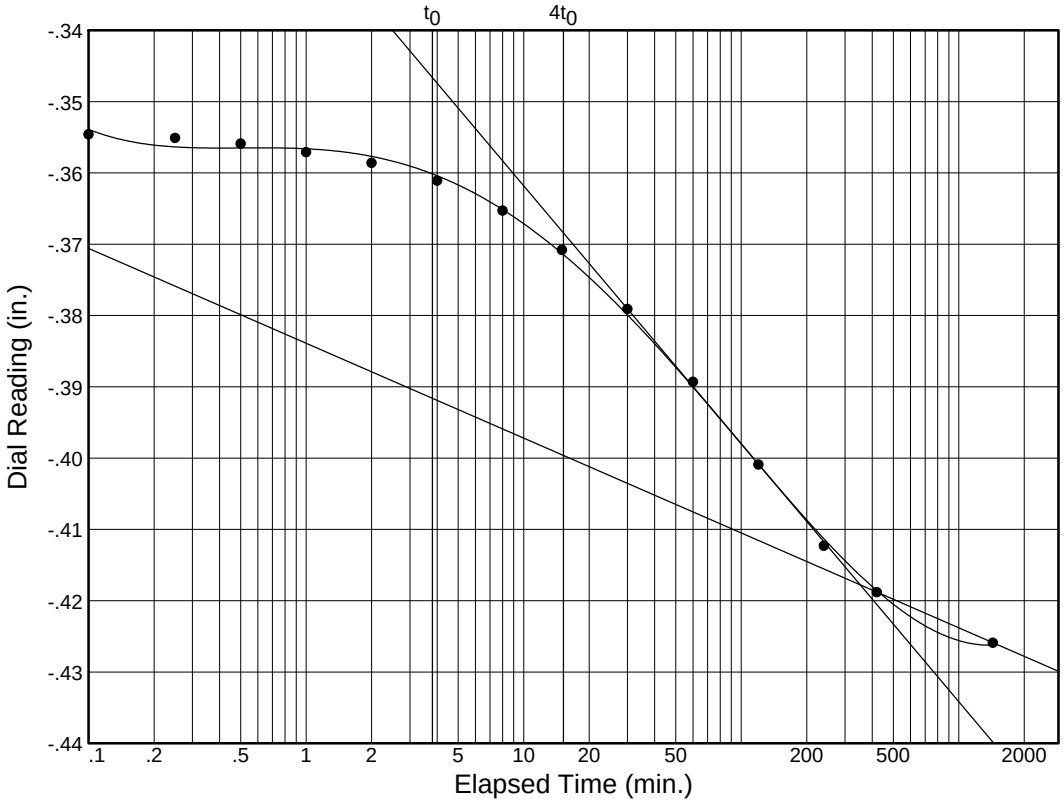
C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.024

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-17 Elev./Depth: 10'-12'



Load No.= 5

Load= 4.00 tsf

D_0 = -0.34882

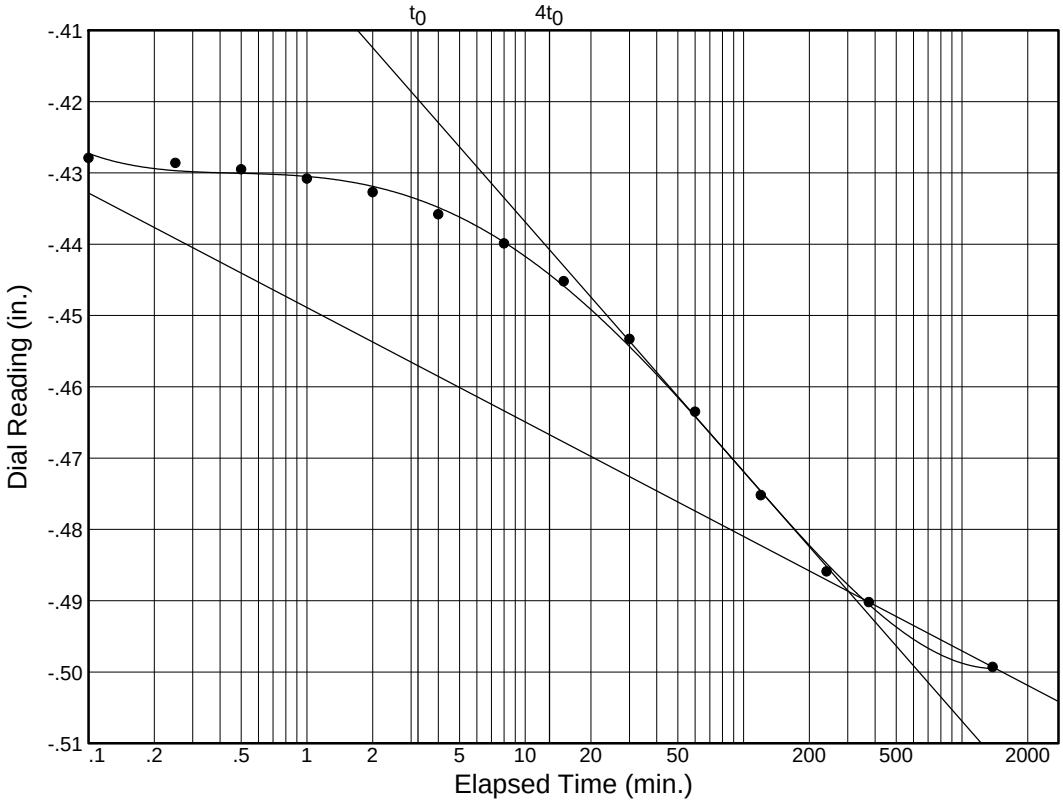
D_{50} = -0.38330

D_{100} = -0.41778

T_{50} = 38.19 min.

C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.028



Load No.= 6

Load= 8.00 tsf

D_0 = -0.42323

D_{50} = -0.45596

D_{100} = -0.48869

T_{50} = 33.81 min.

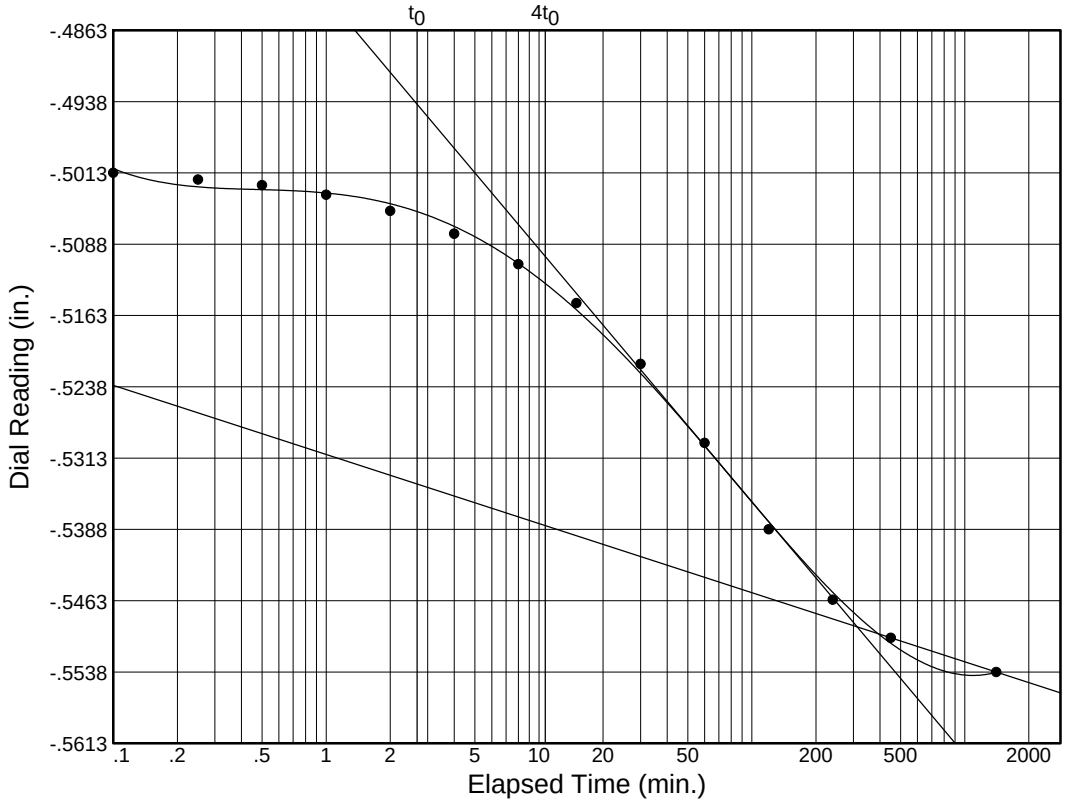
C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.041

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-17 Elev./Depth: 10'-12'



Load No.= 7

Load= 16.00 tsf

D_0 = -0.49781

D_{50} = -0.52342

D_{100} = -0.54904

T_{50} = 33.13 min.

C_v @ T_{50}

0.00 ft.^{2}/day

C_α = 0.023

Southern Earth Sciences, Inc.

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-17
Sample No.:
Elev. or Depth: 10'-12' **Sample Length(in./cm.):**
Location:
Description: Organic CLAY with clay and organics (OH)
Liquid Limit: 285 **Plasticity Index:** 188
USCS: (OH) **AASHTO:** **Figure No.:** 1
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE	BEFORE TEST	AFTER TEST
Wet w+t = 200.12 g.	**Consolidometer #** = 6	**Wet w+t** = 106.12 g.
Dry w+t = 107.12 g.		**Dry w+t** = 84.44 g.
Tare Wt. = 61.41 g.	**Spec. Gravity** = 2.40	**Tare Wt.** = 60.75 g.
Height = .80 in.	**Height** = .80 in.	
Diameter = 2.50 in.	**Diameter** = 2.50 in.	
Weight = 76.20 g.	**Defl. Table** = n/a	
Moisture = 203.5 %	**Ht. Solids** = 0.1301 in.	**Moisture** = 91.5 %
Wet Den. = 73.9 pcf	**Dry Wt.** = 25.11 g.*	**Dry Wt.** = 23.69 g.
Dry Den. = 24.4 pcf	**Void Ratio** = 5.151	**Void Ratio** = 1.814
	Saturation = 94.8 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

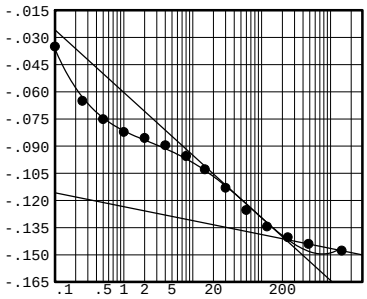
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	-0.02100				5.151	
0.25	-0.14770	0.00000	0.28	0.010	4.225*	15.0 Comprs.*
0.50	-0.19900	0.00000	0.01	0.015	3.834*	21.4 Comprs.*
1.00	-0.26900	0.00000	0.01	0.022	3.316*	29.8 Comprs.*
2.00	-0.35330	0.00000	0.00	0.024	2.709*	39.7 Comprs.*
4.00	-0.42590	0.00000	0.00	0.028	2.100*	49.6 Comprs.*
8.00	-0.49930	0.00000	0.00	0.041	1.555*	58.5 Comprs.*
16.00	-0.55380	0.00000	0.00	0.023	1.091*	66.0 Comprs.*
2.00	-0.50920	0.00000			1.434	60.4 Comprs.
0.25	-0.45970	0.00000			1.814	54.2 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 1.53 **P_c** = 0.13 tsf **C_r** = 0.40

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

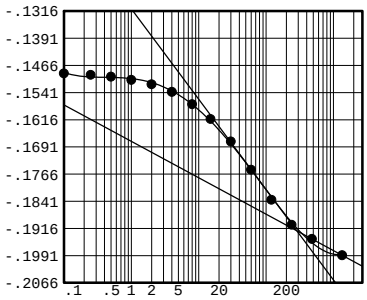
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.02100	11	60.00	-0.12530
2	0.10	-0.03500	12	120.00	-0.13440
3	0.25	-0.06500	13	240.00	-0.14030
4	0.50	-0.07510	14	480.00	-0.14400
5	1.00	-0.08220	15	1455.00	-0.14770
6	2.00	-0.08550			
7	4.00	-0.08950			
8	8.00	-0.09550			
9	15.00	-0.10280			
10	30.00	-0.11300			



Void Ratio = 4.225 **Compression =** 15.0 % >>> CALCULATED USING D_{100}
D_0 = -0.02100 D_{50} = -0.08120 D_{100} = -0.14139
C_v **at 1.0 min. =** 0.28 ft.^{2}/day C_α = 0.010

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

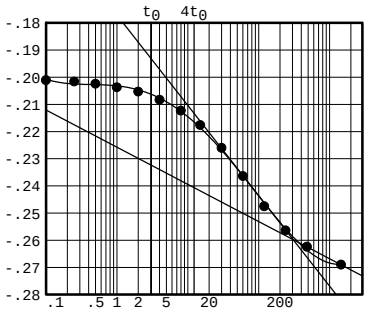
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.14770	11	60.00	-0.17540
2	0.10	-0.14880	12	120.00	-0.18370
3	0.25	-0.14920	13	240.00	-0.19060
4	0.50	-0.14970	14	480.00	-0.19450
5	1.00	-0.15060	15	1346.00	-0.19900
6	2.00	-0.15180			
7	4.00	-0.15390			
8	8.00	-0.15730			
9	15.00	-0.16140			
10	30.00	-0.16760			



Void Ratio = 3.834 **Compression =** 21.4 % >>> CALCULATED USING D_{100}
D_0 = -0.14770 D_{50} = -0.16995 D_{100} = -0.19220
C_v **at 35.6 min. =** 0.01 ft.^{2}/day C_α = 0.015

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

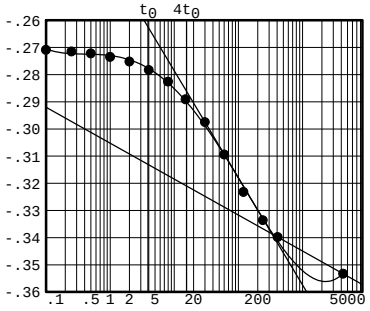
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.19900	11	60.00	-0.23640
2	0.10	-0.20110	12	120.00	-0.24750
3	0.25	-0.20160	13	240.00	-0.25640
4	0.50	-0.20240	14	480.00	-0.26240
5	1.00	-0.20370	15	1458.00	-0.26900
6	2.00	-0.20530			
7	4.00	-0.20830			
8	8.00	-0.21230			
9	15.00	-0.21760			
10	30.00	-0.22600			



Void Ratio = 3.316 **Compression =** 29.8 % >>> CALCULATED USING D_{100}
D_0 = -0.19612 D_{50} = -0.22790 D_{100} = -0.25968
C_v **at 32.6 min. =** 0.01 ft.^{2}/day C_α = 0.022

Pressure: 2.00 tsf **TEST READINGS** **Load No. 4**

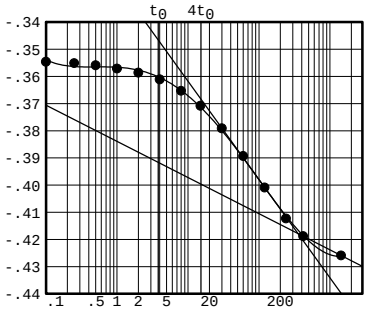
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.26900	11	60.00	-0.30940
2	0.10	-0.27090	12	120.00	-0.32320
3	0.25	-0.27150	13	240.00	-0.33360
4	0.50	-0.27220	14	409.00	-0.33980
5	1.00	-0.27350	15	4287.00	-0.35330
6	2.00	-0.27520			
7	4.00	-0.27830			
8	8.00	-0.28260			
9	15.00	-0.28910			
10	30.00	-0.29750			



Void Ratio = 2.709 **Compression =** 39.7 % >>> CALCULATED USING D_{100}
D_0 = -0.26515 D_{50} = -0.30187 D_{100} = -0.33860
C_v **at 37.0 min. =** 0.00 ft.^{2}/day C_α = 0.024

Pressure: 4.00 tsf **TEST READINGS** **Load No. 5**

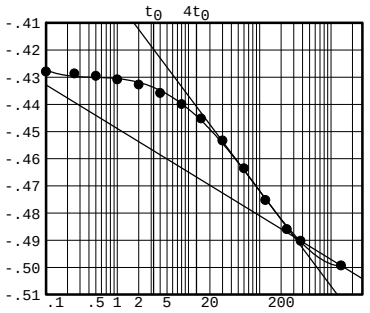
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.35330	11	60.00	-0.38930
2	0.10	-0.35460	12	120.00	-0.40090
3	0.25	-0.35510	13	240.00	-0.41230
4	0.50	-0.35590	14	420.00	-0.41880
5	1.00	-0.35710	15	1435.00	-0.42590
6	2.00	-0.35860			
7	4.00	-0.36110			
8	8.00	-0.36530			
9	15.00	-0.37080			
10	30.00	-0.37910			



Void Ratio = 2.100 **Compression =** 49.6 % >>> CALCULATED USING D_{100}
D_0 = -0.34882 D_{50} = -0.38330 D_{100} = -0.41778
C_v **at 38.2 min. =** 0.00 ft.^{2}/day C_α = 0.028

Pressure: 8.00 tsf **TEST READINGS** **Load No. 6**

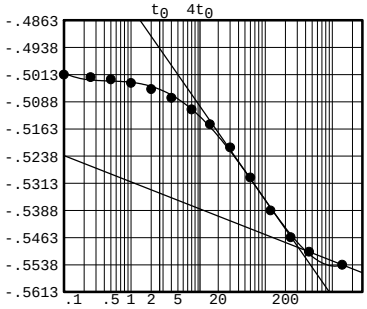
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.42590	11	60.00	-0.46350
2	0.10	-0.42790	12	120.00	-0.47520
3	0.25	-0.42860	13	240.00	-0.48590
4	0.50	-0.42950	14	375.00	-0.49020
5	1.00	-0.43080	15	1383.00	-0.49930
6	2.00	-0.43270			
7	4.00	-0.43580			
8	8.00	-0.43990			
9	15.00	-0.44520			
10	30.00	-0.45330			



Void Ratio = 1.555 **Compression =** 58.5 % >>> CALCULATED USING D_{100}
D_0 = -0.42323 D_{50} = -0.45596 D_{100} = -0.48869
C_v **at 33.8 min. =** 0.00 ft.^{2}/day C_α = 0.041

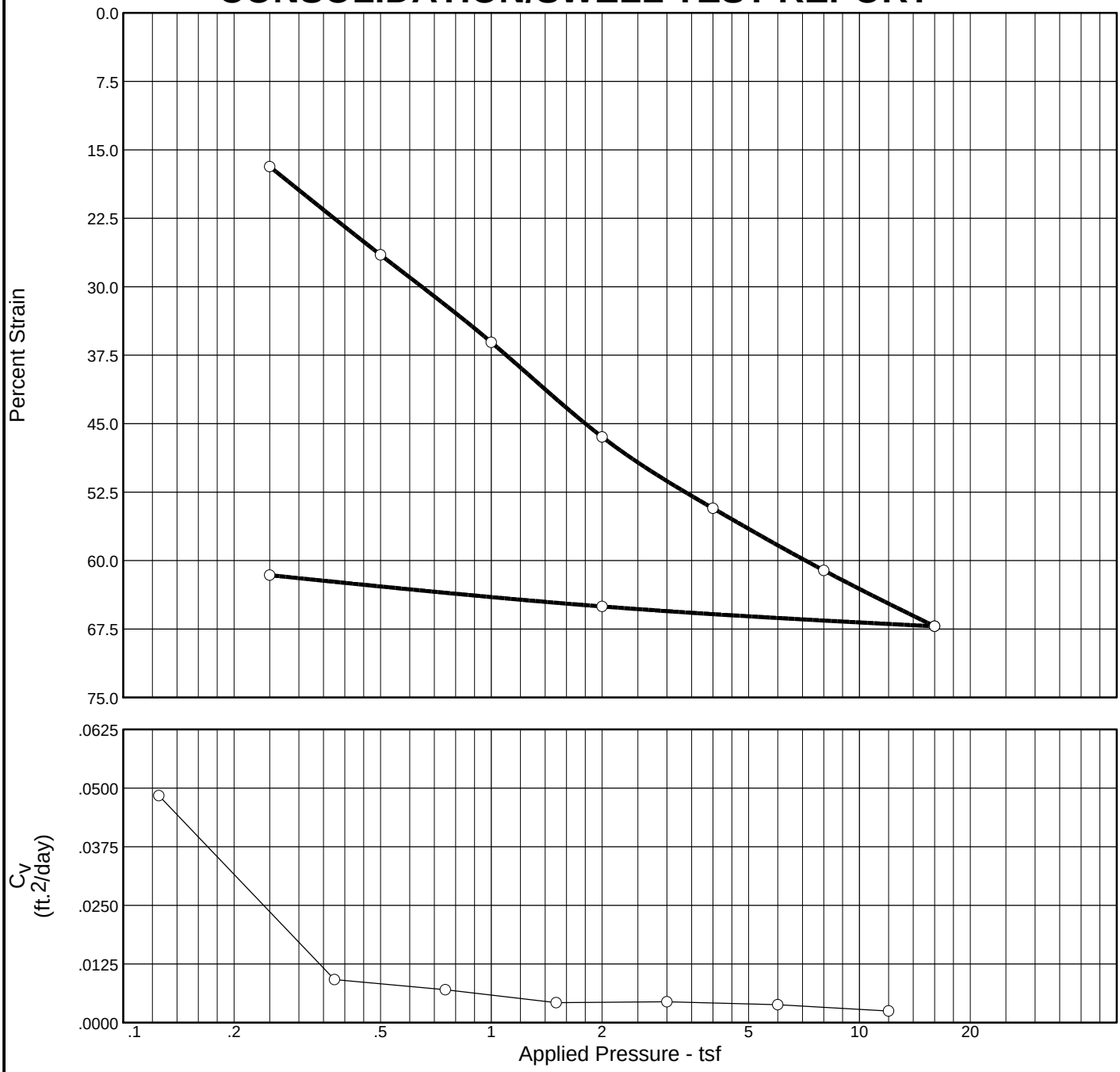
Pressure: 16.00 tsf **TEST READINGS** **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.49930	11	60.00	-0.52970
2	0.10	-0.50130	12	120.00	-0.53880
3	0.25	-0.50200	13	240.00	-0.54620
4	0.50	-0.50260	14	450.00	-0.55020
5	1.00	-0.50360	15	1408.00	-0.55380
6	2.00	-0.50530			
7	4.00	-0.50770			
8	8.00	-0.51090			
9	15.00	-0.51500			
10	30.00	-0.52140			



Void Ratio = 1.091 **Compression =** 66.0 % >>> CALCULATED USING D_{100}
D_0 **=** -0.49781 D_{50} **=** -0.52342 D_{100} **=** -0.54904
C_v **at 33.1 min. =** 0.00 ft.^{2}/day C_α **=** 0.023

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
95.5 %	567.6 %	9.8	575	300	2.20	0.58	2.84	13.073

MATERIAL DESCRIPTION	USCS	AASHTO
Organic CLAY with wood (OH)	(OH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-18 **Elev./Depth:** 8'-10'

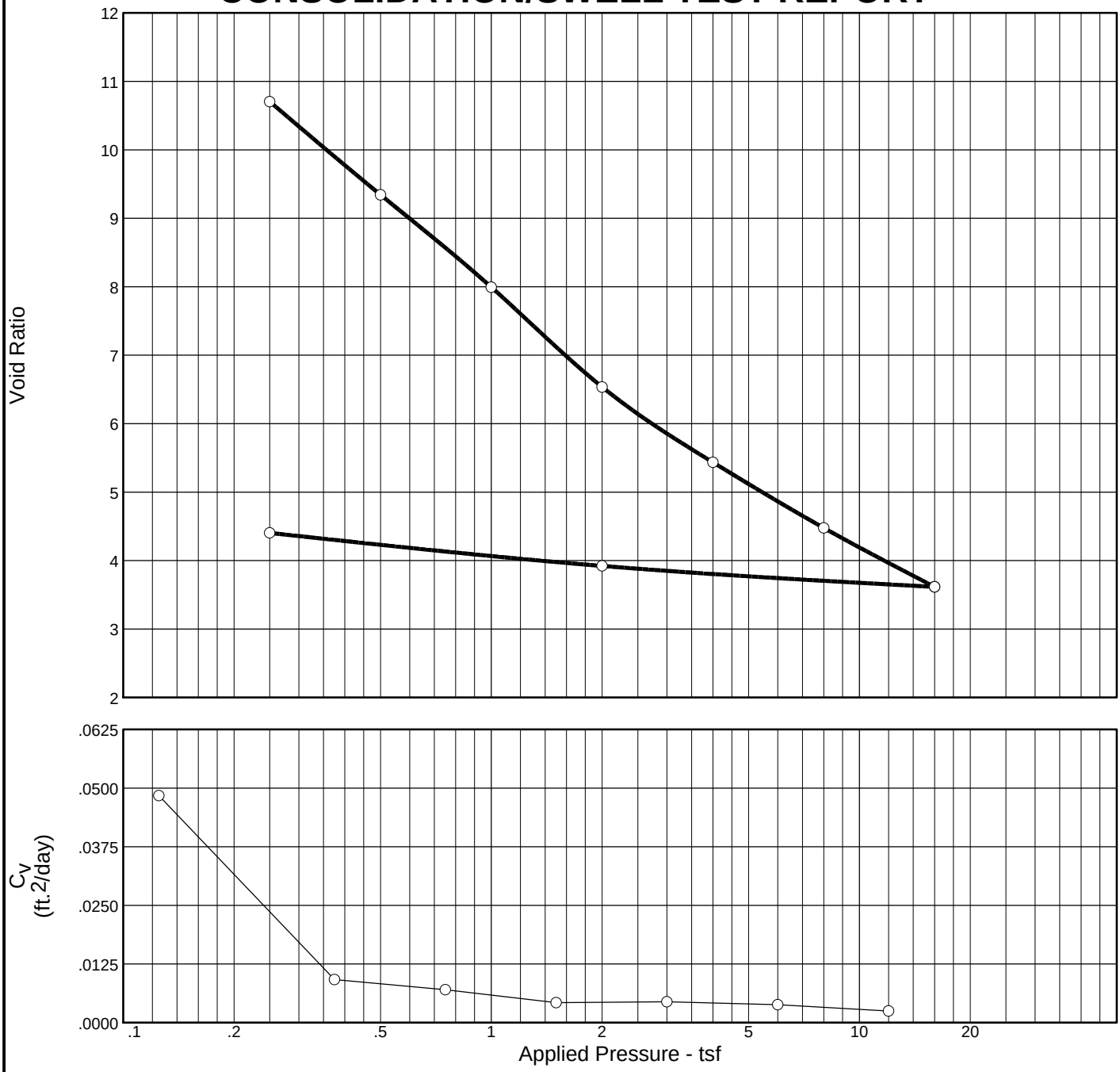
Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

1

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
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MATERIAL DESCRIPTION	USCS	AASHTO
Organic CLAY with wood (OH)	(OH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-18 **Elev./Depth:** 8'-10'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

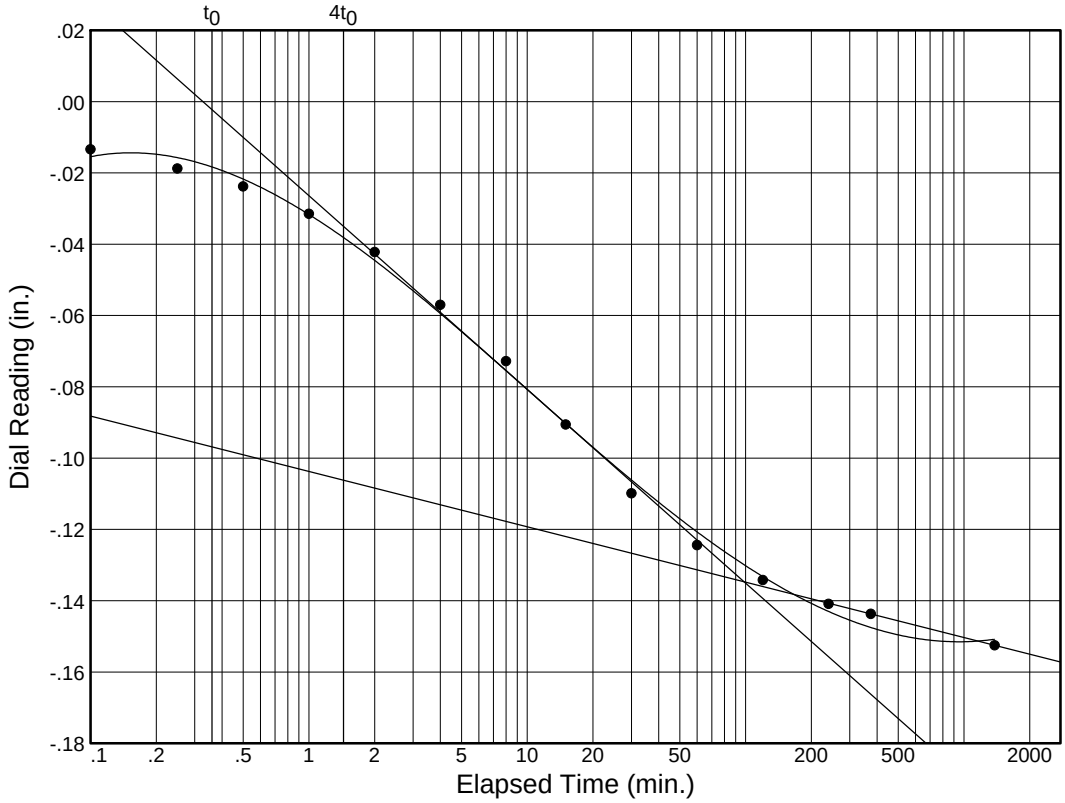
Southern Earth Sciences, Inc.

1

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-18 Elev./Depth: 8'-10'



Load No.= 1

Load= 0.25 tsf

D_0 = 0.00145

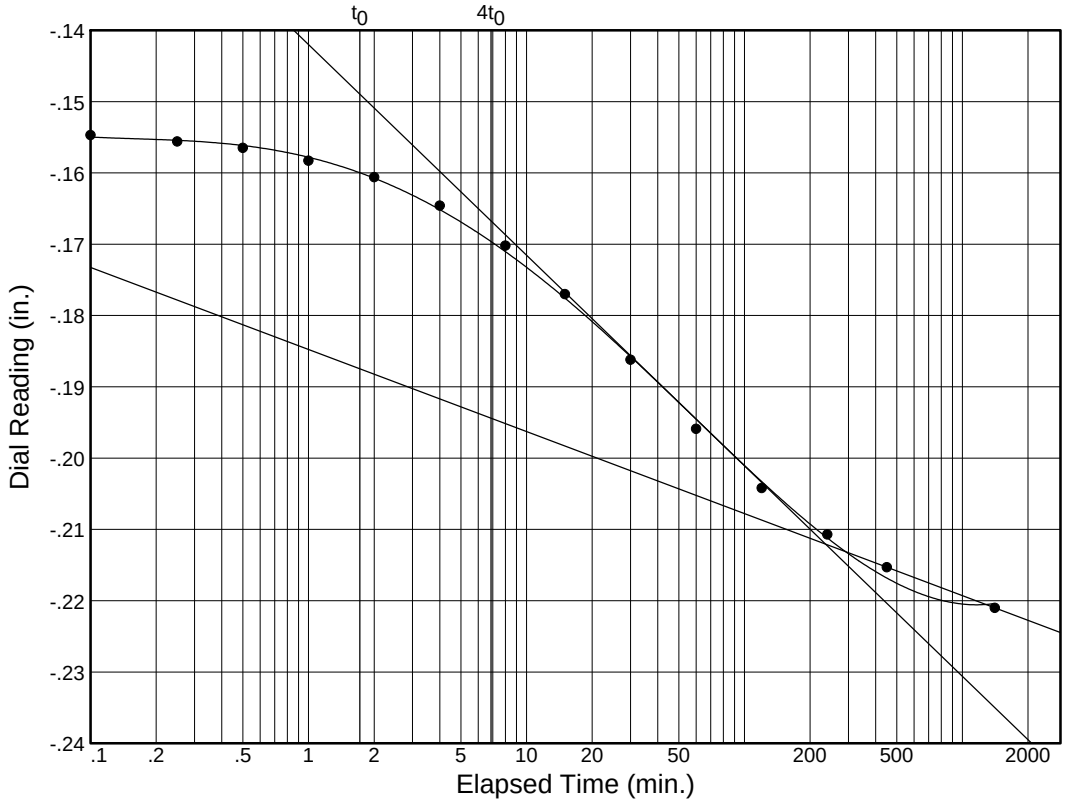
D_{50} = -0.06661

D_{100} = -0.13467

T_{50} = 5.47 min.

C_v @ T_{50}
0.05 ft.^{2}/day

C_α = 0.019



Load No.= 2

Load= 0.50 tsf

D_0 = -0.15033

D_{50} = -0.18119

D_{100} = -0.21206

T_{50} = 20.60 min.

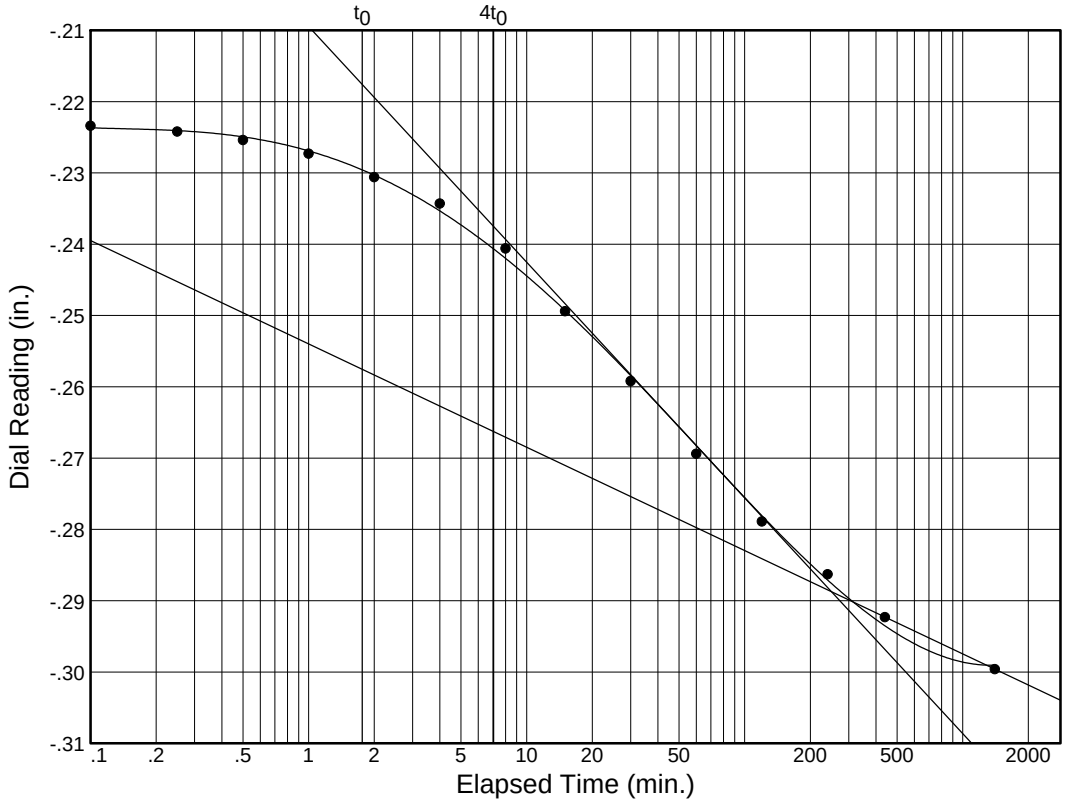
C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.018

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-18 Elev./Depth: 8'-10'



Load No.= 3

Load= 1.00 tsf

D_0 = -0.21850

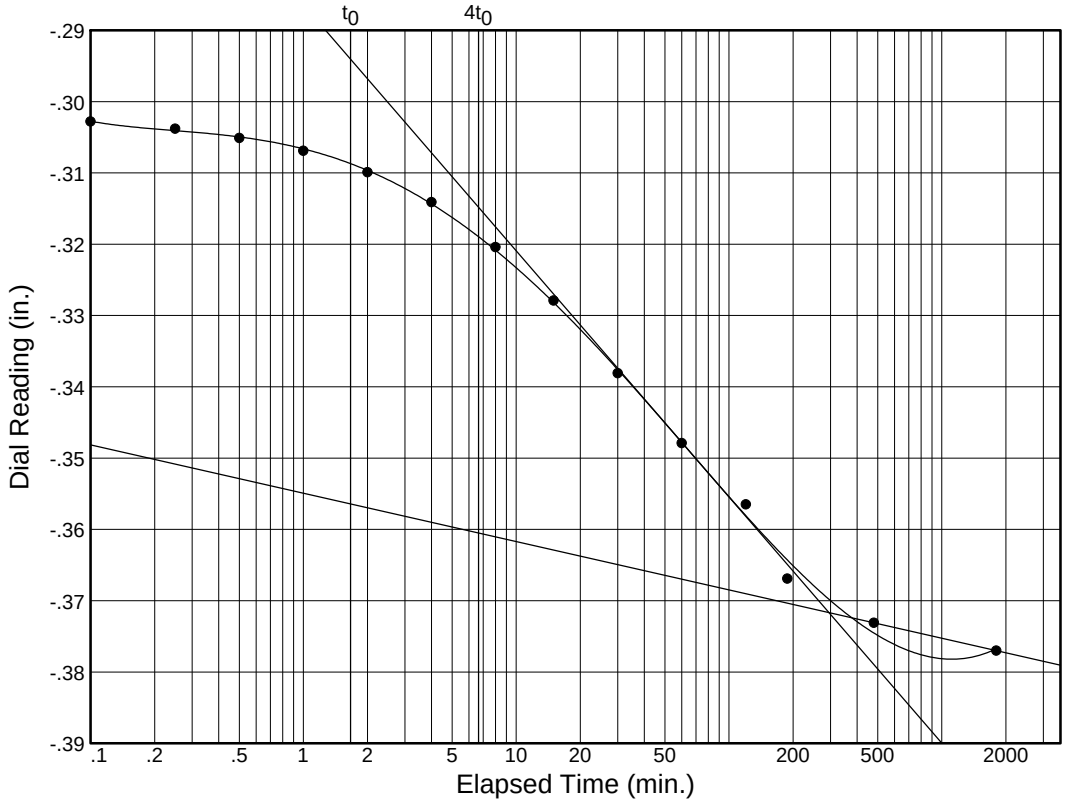
D_{50} = -0.25362

D_{100} = -0.28875

T_{50} = 21.04 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.025



Load No.= 4

Load= 2.00 tsf

D_0 = -0.29843

D_{50} = -0.33505

D_{100} = -0.37167

T_{50} = 25.09 min.

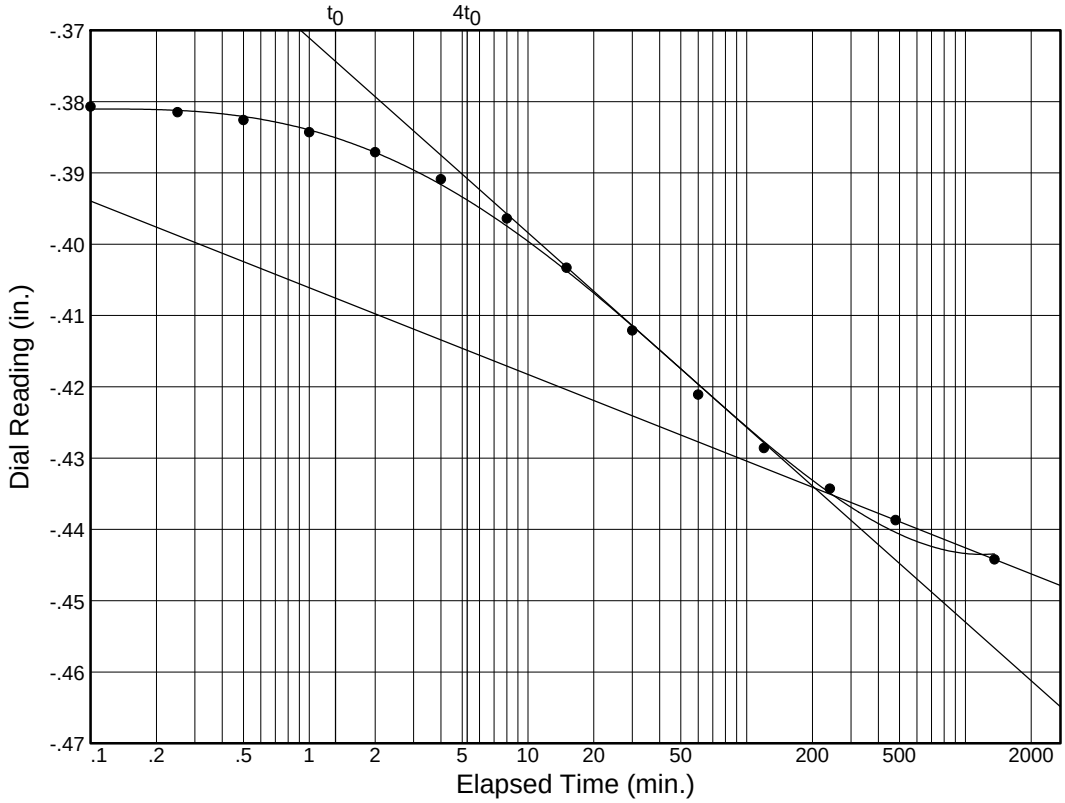
C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.014

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-18 Elev./Depth: 8'-10'



Load No.= 5

Load= 4.00 tsf

D_0 = -0.37634

D_{50} = -0.40527

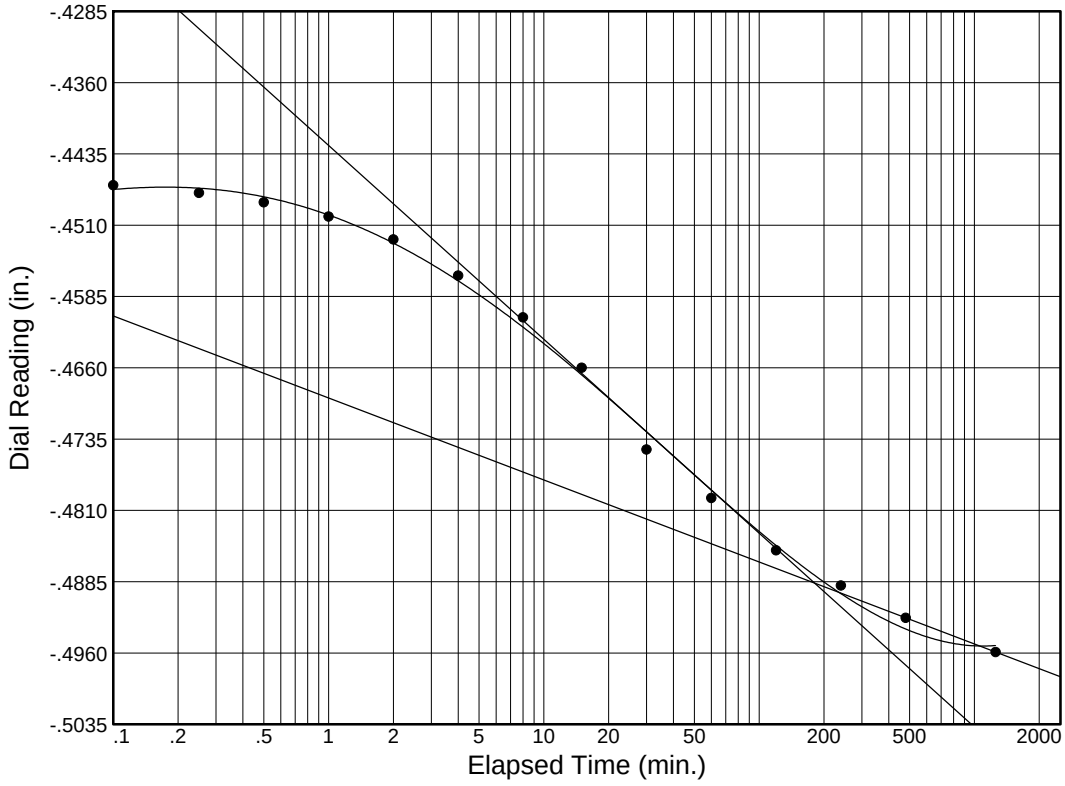
D_{100} = -0.43420

T_{50} = 17.31 min.

C_v @ T_{50}

0.00 ft.^{2}/day

C_α = 0.029



Load No.= 6

Load= 8.00 tsf

D_0 = -0.44420

D_{50} = -0.46642

D_{100} = -0.48864

T_{50} = 14.42 min.

C_v @ T_{50}

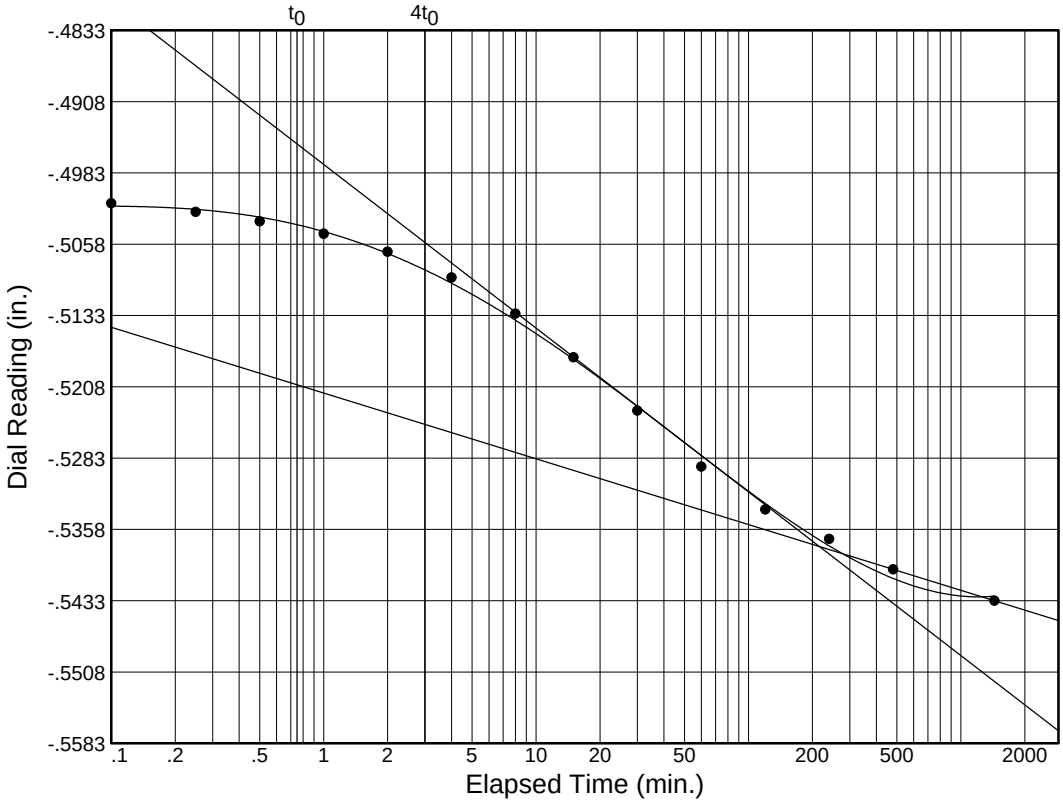
0.00 ft.^{2}/day

C_α = 0.024

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-18 Elev./Depth: 8'-10'



Load No.= 7

Load= 16.00 tsf

D_0 = -0.49899

D_{50} = -0.51829

D_{100} = -0.53759

T_{50} = 15.87 min.

C_v @ T_{50}

0.00 ft.^{2}/day

C_α = 0.023

Southern Earth Sciences, Inc.

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-18
Sample No.:
Elev. or Depth: 8'-10' **Sample Length(in./cm.):**
Location:
Description: Organic CLAY with wood (OH)
Liquid Limit: 575 **Plasticity Index:** 300
USCS: (OH) **AASHTO:** **Figure No.:** 1
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE	BEFORE TEST	AFTER TEST
Wet w+t = 252.17 g.	**Consolidometer #** = 6	**Wet w+t** = 87.01 g.
Dry w+t = 89.56 g.		**Dry w+t** = 72.84 g.
Tare Wt. = 60.91 g.	**Spec. Gravity** = 2.20	**Tare Wt.** = 61.35 g.
Height = .80 in.	**Height** = .80 in.	
Diameter = 2.50 in.	**Diameter** = 2.50 in.	
Weight = 67.16 g.	**Defl. Table** = n/a	
Moisture = 567.6 %	**Ht. Solids** = 0.0568 in.	**Moisture** = 123.3 %
Wet Den. = 65.2 pcf	**Dry Wt.** = 10.06 g.*	**Dry Wt.** = 11.49 g.
Dry Den. = 9.8 pcf	**Void Ratio** = 13.073	**Void Ratio** = 4.404
	Saturation = 95.5 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

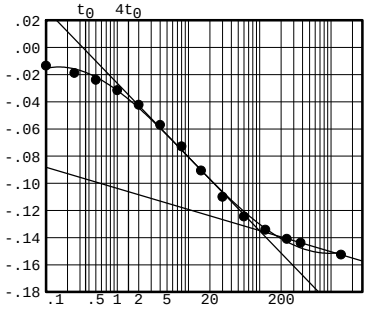
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	0.00000				13.073	
0.25	-0.15250	0.00000	0.05	0.019	10.704*	16.8 Comprs.*
0.50	-0.22100	0.00000	0.01	0.018	9.342*	26.5 Comprs.*
1.00	-0.29960	0.00000	0.01	0.025	7.993*	36.1 Comprs.*
2.00	-0.37700	0.00000	0.00	0.014	6.535*	46.5 Comprs.*
4.00	-0.44420	0.00000	0.00	0.029	5.435*	54.3 Comprs.*
8.00	-0.49590	0.00000	0.00	0.024	4.477*	61.1 Comprs.*
16.00	-0.54330	0.00000	0.00	0.023	3.616*	67.2 Comprs.*
2.00	-0.52590	0.00000			3.922	65.0 Comprs.
0.25	-0.49850	0.00000			4.404	61.6 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 2.84 **P_c** = 0.58 tsf **C_r** = 0.44

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

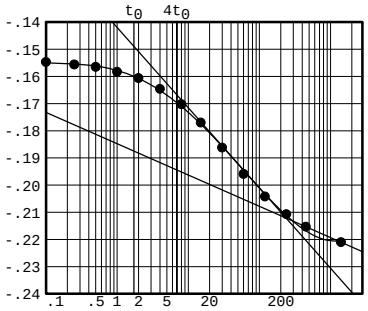
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.00000	11	60.00	-0.12440
2	0.10	-0.01340	12	120.00	-0.13420
3	0.25	-0.01880	13	240.00	-0.14090
4	0.50	-0.02380	14	375.00	-0.14370
5	1.00	-0.03150	15	1383.00	-0.15250
6	2.00	-0.04220			
7	4.00	-0.05700			
8	8.00	-0.07280			
9	15.00	-0.09060			
10	30.00	-0.10990			



Void Ratio = 10.704 **Compression =** 16.8 % >>> CALCULATED USING D_{100}
D_0 = 0.00145 D_{50} = -0.06661 D_{100} = -0.13467
C_v **at 5.5 min. =** 0.05 ft.^{2}/day C_α = 0.019

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

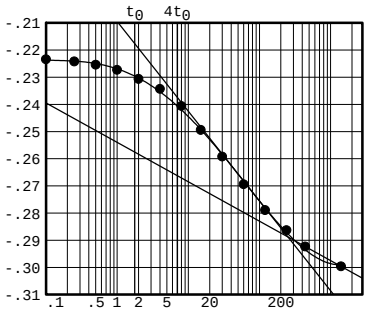
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.15250	11	60.00	-0.19590
2	0.10	-0.15470	12	120.00	-0.20420
3	0.25	-0.15560	13	240.00	-0.21070
4	0.50	-0.15650	14	450.00	-0.21530
5	1.00	-0.15830	15	1408.00	-0.22100
6	2.00	-0.16060			
7	4.00	-0.16460			
8	8.00	-0.17020			
9	15.00	-0.17700			
10	30.00	-0.18620			



Void Ratio = 9.342 **Compression =** 26.5 % >>> CALCULATED USING D_{100}
D_0 = -0.15033 D_{50} = -0.18119 D_{100} = -0.21206
C_v **at 20.6 min. =** 0.01 ft.^{2}/day C_α = 0.018

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

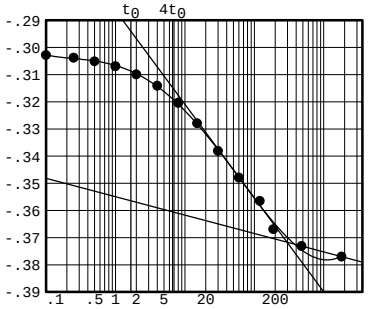
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.22100	11	60.00	-0.26940
2	0.10	-0.22340	12	120.00	-0.27890
3	0.25	-0.22420	13	240.00	-0.28630
4	0.50	-0.22540	14	440.00	-0.29230
5	1.00	-0.22730	15	1403.00	-0.29960
6	2.00	-0.23060			
7	4.00	-0.23430			
8	8.00	-0.24060			
9	15.00	-0.24940			
10	30.00	-0.25920			



Void Ratio = 7.993 **Compression =** 36.1 % >>> CALCULATED USING D_{100}
D_0 = -0.21850 D_{50} = -0.25362 D_{100} = -0.28875
C_v **at 21.0 min. =** 0.01 ft.^{2}/day C_α = 0.025

Pressure: 2.00 tsf **TEST READINGS** **Load No. 4**

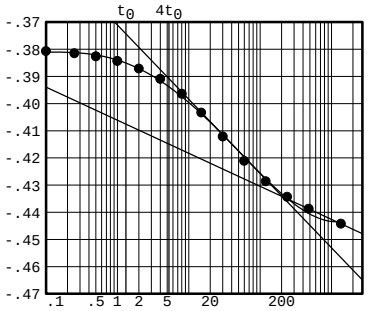
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.29960	11	60.00	-0.34790
2	0.10	-0.30280	12	120.00	-0.35650
3	0.25	-0.30380	13	188.00	-0.36690
4	0.50	-0.30510	14	480.00	-0.37310
5	1.00	-0.30690	15	1805.00	-0.37700
6	2.00	-0.30990			
7	4.00	-0.31410			
8	8.00	-0.32040			
9	15.00	-0.32790			
10	30.00	-0.33810			



Void Ratio = 6.535 **Compression =** 46.5 % >>> CALCULATED USING D_{100}
D_0 = -0.29843 D_{50} = -0.33505 D_{100} = -0.37167
C_v **at 25.1 min. =** 0.00 ft.^{2}/day C_α = 0.014

Pressure: 4.00 tsf **TEST READINGS** **Load No. 5**

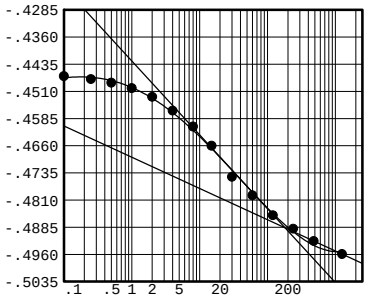
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.37700	11	60.00	-0.42110
2	0.10	-0.38070	12	120.00	-0.42860
3	0.25	-0.38150	13	240.00	-0.43430
4	0.50	-0.38260	14	480.00	-0.43870
5	1.00	-0.38430	15	1360.00	-0.44420
6	2.00	-0.38710			
7	4.00	-0.39090			
8	8.00	-0.39640			
9	15.00	-0.40330			
10	30.00	-0.41210			



Void Ratio = 5.435 **Compression =** 54.3 % >>> CALCULATED USING D_{100}
D_0 = -0.37634 D_{50} = -0.40527 D_{100} = -0.43420
C_v **at 17.3 min. =** 0.00 ft.^{2}/day C_α = 0.029

Pressure: 8.00 tsf **TEST READINGS** **Load No. 6**

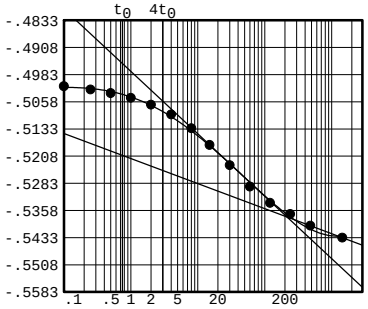
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.44420	11	60.00	-0.47970
2	0.10	-0.44680	12	120.00	-0.48520
3	0.25	-0.44760	13	240.00	-0.48890
4	0.50	-0.44860	14	480.00	-0.49230
5	1.00	-0.45010	15	1255.00	-0.49590
6	2.00	-0.45250			
7	4.00	-0.45630			
8	8.00	-0.46070			
9	15.00	-0.46600			
10	30.00	-0.47460			



Void Ratio = 4.477 **Compression =** 61.1 % >>> CALCULATED USING D_{100}
D_0 = -0.44420 D_{50} = -0.46642 D_{100} = -0.48864
C_v **at 14.4 min. =** 0.00 ft.^{2}/day C_α = 0.024

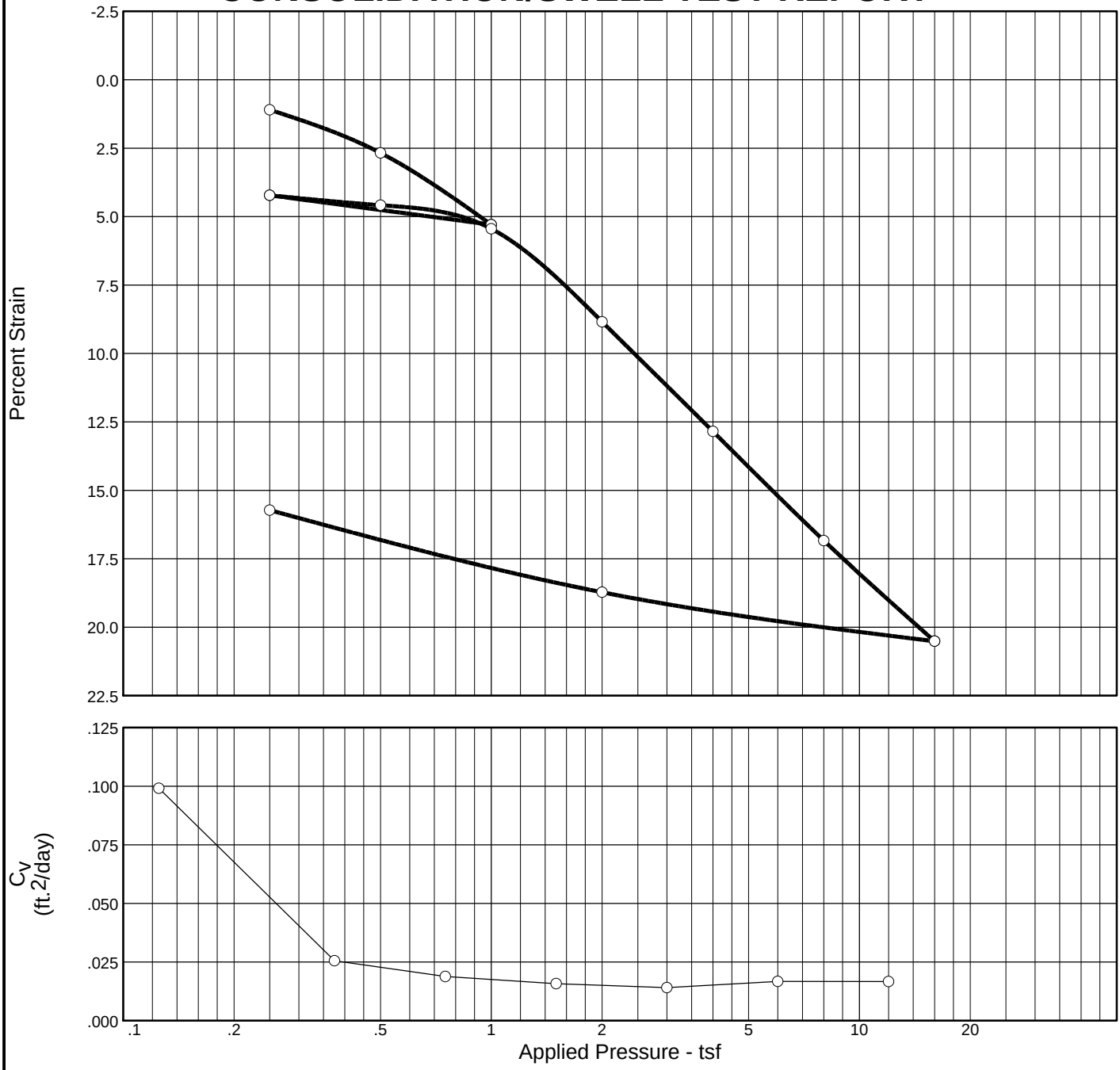
Pressure: 16.00 tsf **TEST READINGS** **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.49690	11	60.00	-0.52920
2	0.10	-0.50150	12	120.00	-0.53370
3	0.25	-0.50240	13	240.00	-0.53680
4	0.50	-0.50340	14	480.00	-0.54000
5	1.00	-0.50470	15	1440.00	-0.54330
6	2.00	-0.50660			
7	4.00	-0.50930			
8	8.00	-0.51310			
9	15.00	-0.51770			
10	30.00	-0.52330			



Void Ratio = 3.616 **Compression =** 67.2 % >>> CALCULATED USING D_{100}
D_0 **=** -0.49899 D_{50} **=** -0.51829 D_{100} **=** -0.53759
C_v **at 15.9 min. =** 0.00 ft.^{2}/day C_α **=** 0.023

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
97.6 %	31.2 %	91.4	58	16	2.75	0.56	0.23	0.879

MATERIAL DESCRIPTION	USCS	AASHTO
Stiff, Gray and Dark Gray CLAY with roots and wood (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-19 **Elev./Depth:** 12'-14'

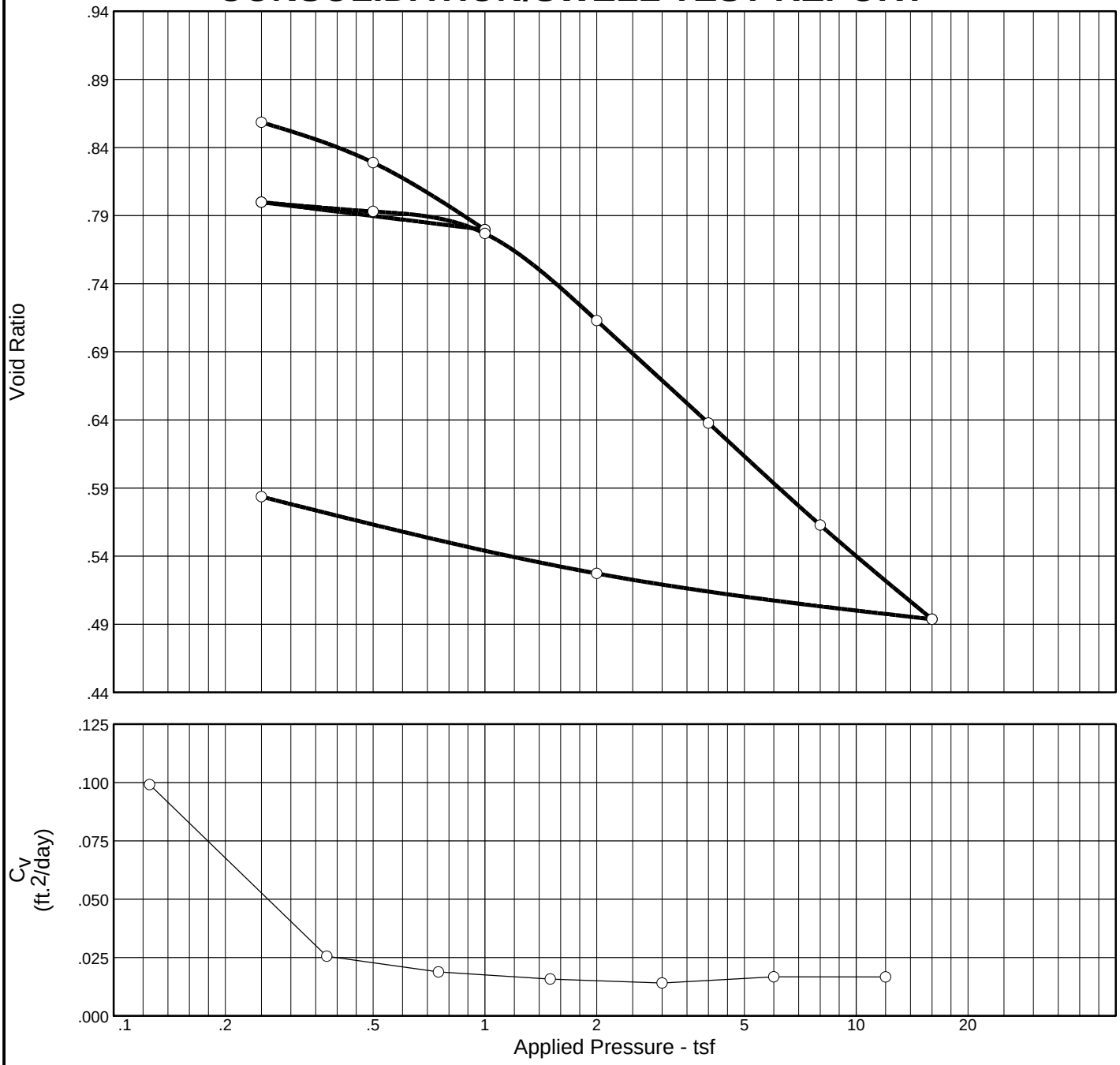
Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

1

CONSOLIDATION/SWELL TEST REPORT



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Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-19 **Elev./Depth:** 12'-14'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

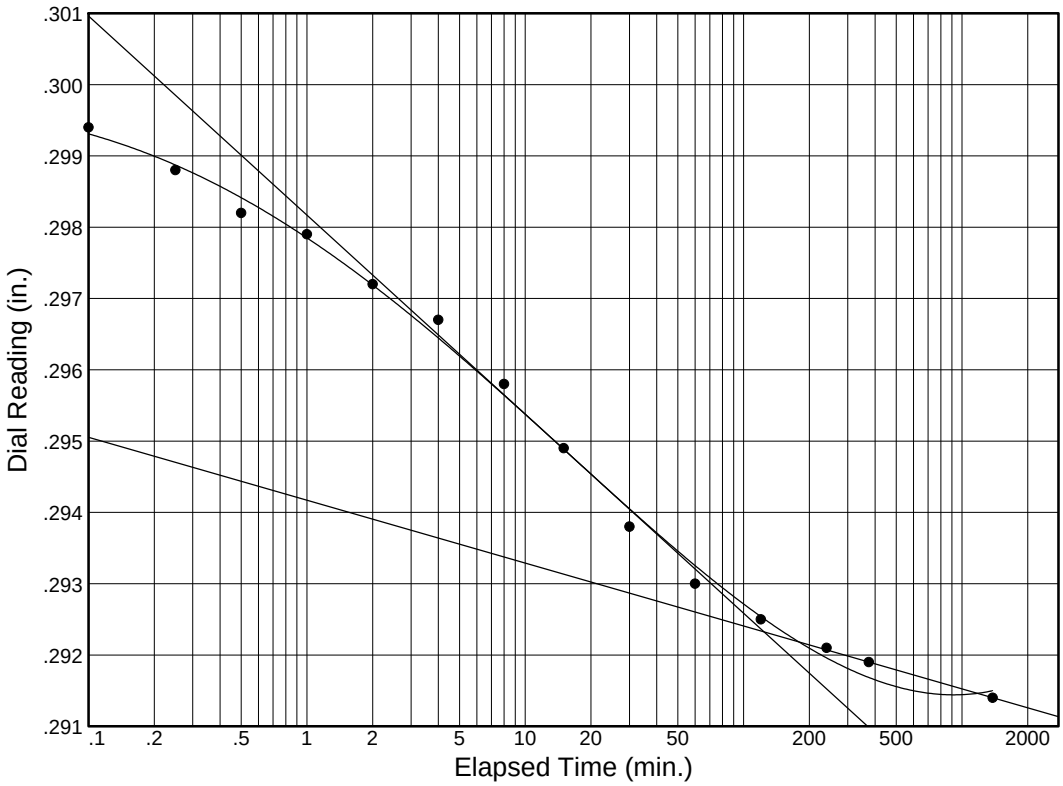
Southern Earth Sciences, Inc.

1

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-19 Elev./Depth: 12'-14'



Load No.= 1

Load= 0.25 tsf

D_0 = 0.30110

D_{50} = 0.29671

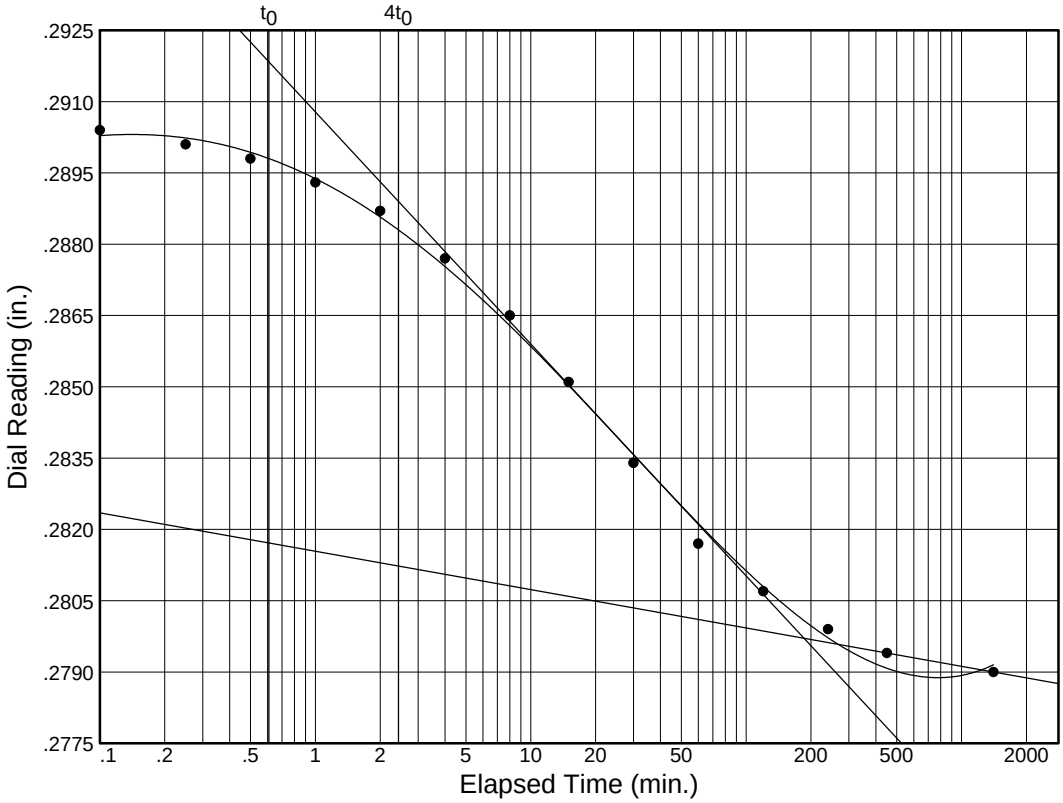
D_{100} = 0.29232

T_{50} = 3.15 min.

C_v @ T_{50}

0.10 ft.^{2}/day

C_α = 0.001



Load No.= 2

Load= 0.50 tsf

D_0 = 0.29131

D_{50} = 0.28551

D_{100} = 0.27971

T_{50} = 11.87 min.

C_v @ T_{50}

0.03 ft.^{2}/day

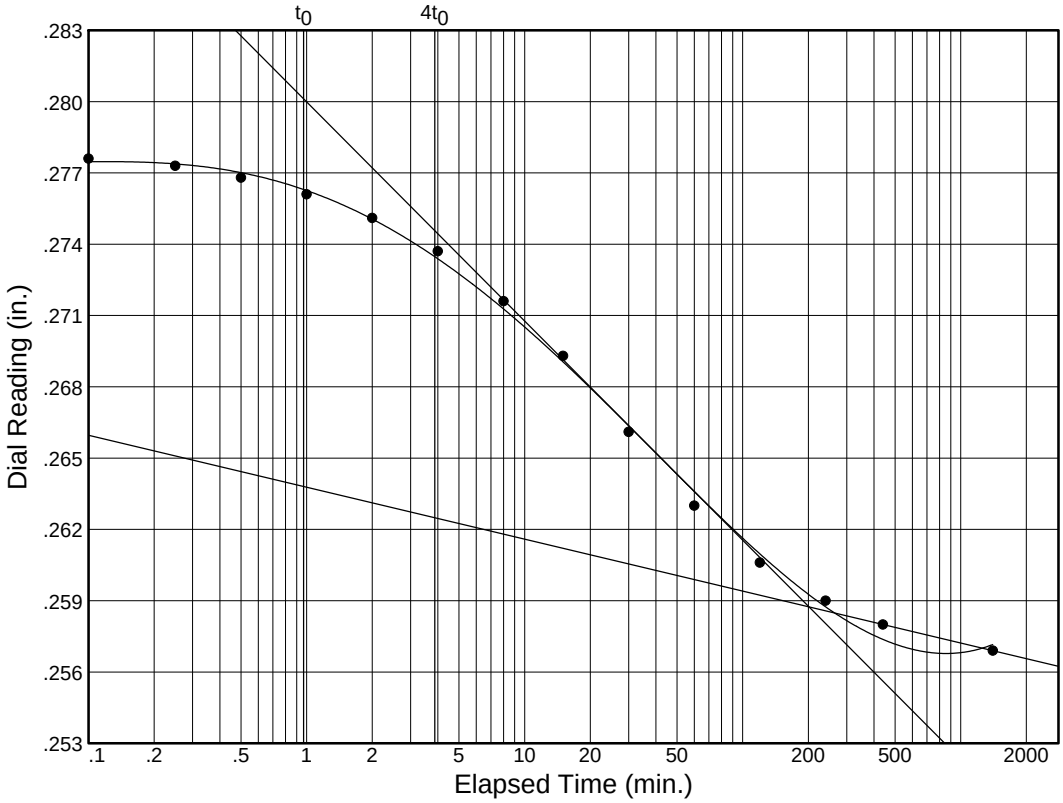
C_α = 0.001

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-19 Elev./Depth: 12'-14'



Load No.= 3

Load= 1.00 tsf

D_0 = 0.27913

D_{50} = 0.26894

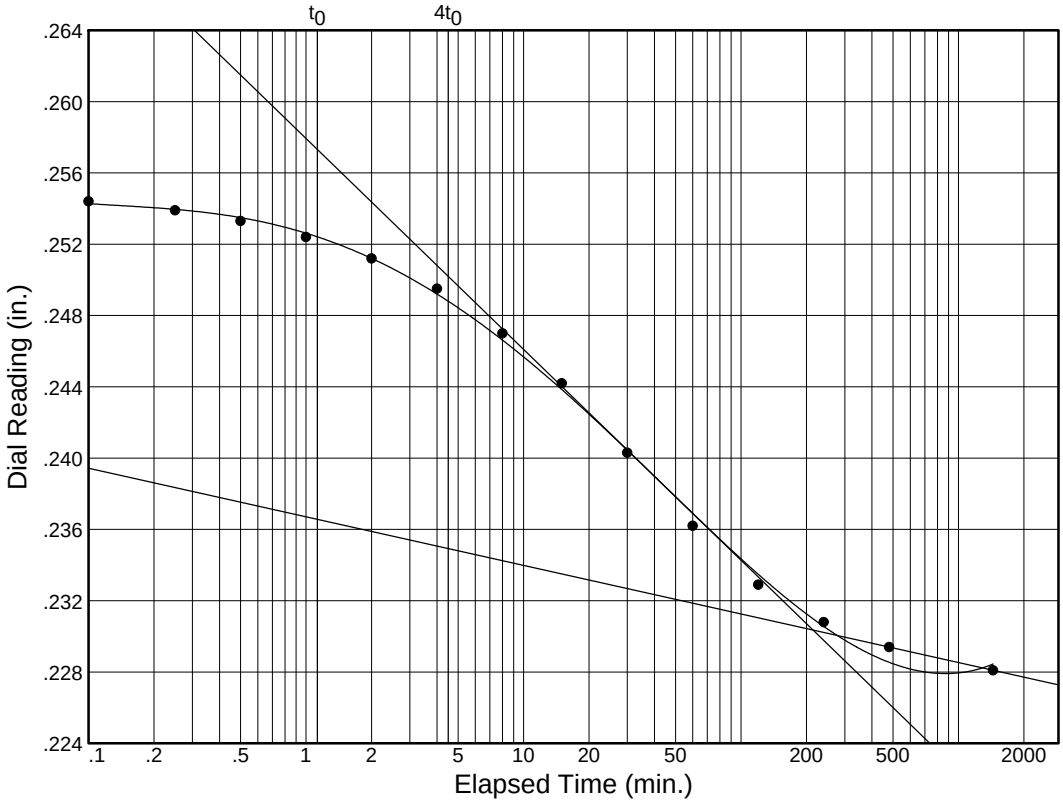
D_{100} = 0.25874

T_{50} = 15.46 min.

C_v @ T_{50}

0.02 ft.^{2}/day

C_α = 0.003



Load No.= 7

Load= 2.00 tsf

D_0 = 0.25603

D_{50} = 0.24319

D_{100} = 0.23035

T_{50} = 17.22 min.

C_v @ T_{50}

0.02 ft.^{2}/day

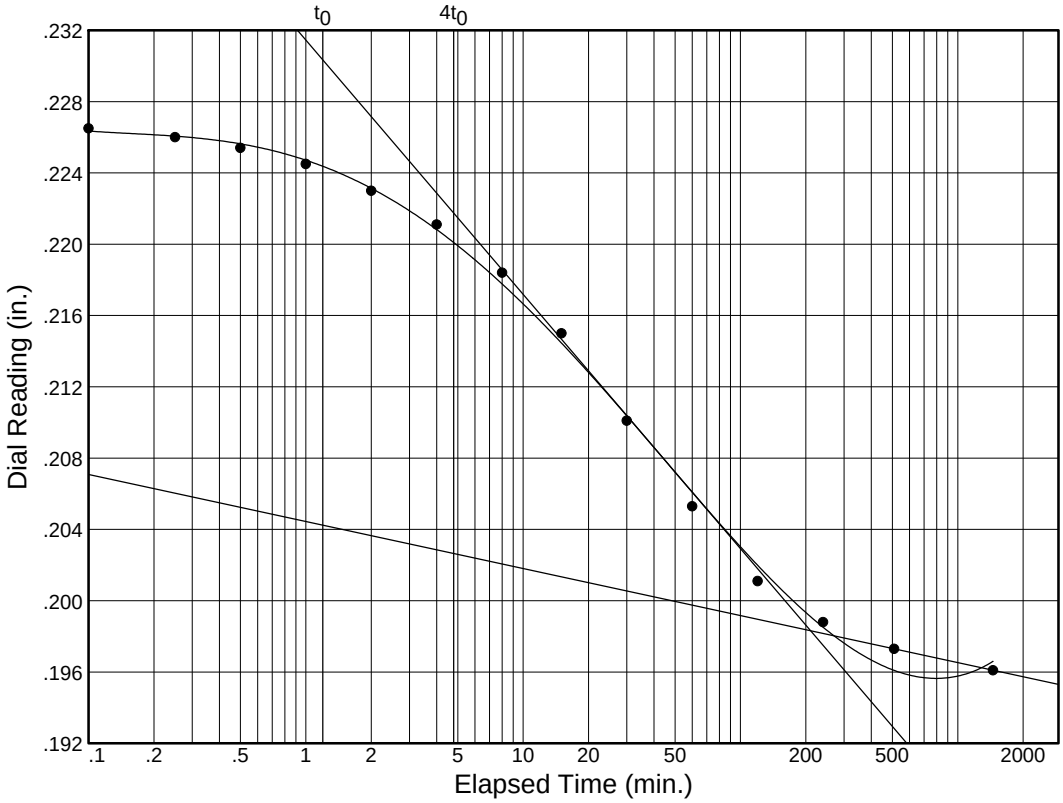
C_α = 0.004

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-19 Elev./Depth: 12'-14'



Load No.= 8

Load= 4.00 tsf

D_0 = 0.22865

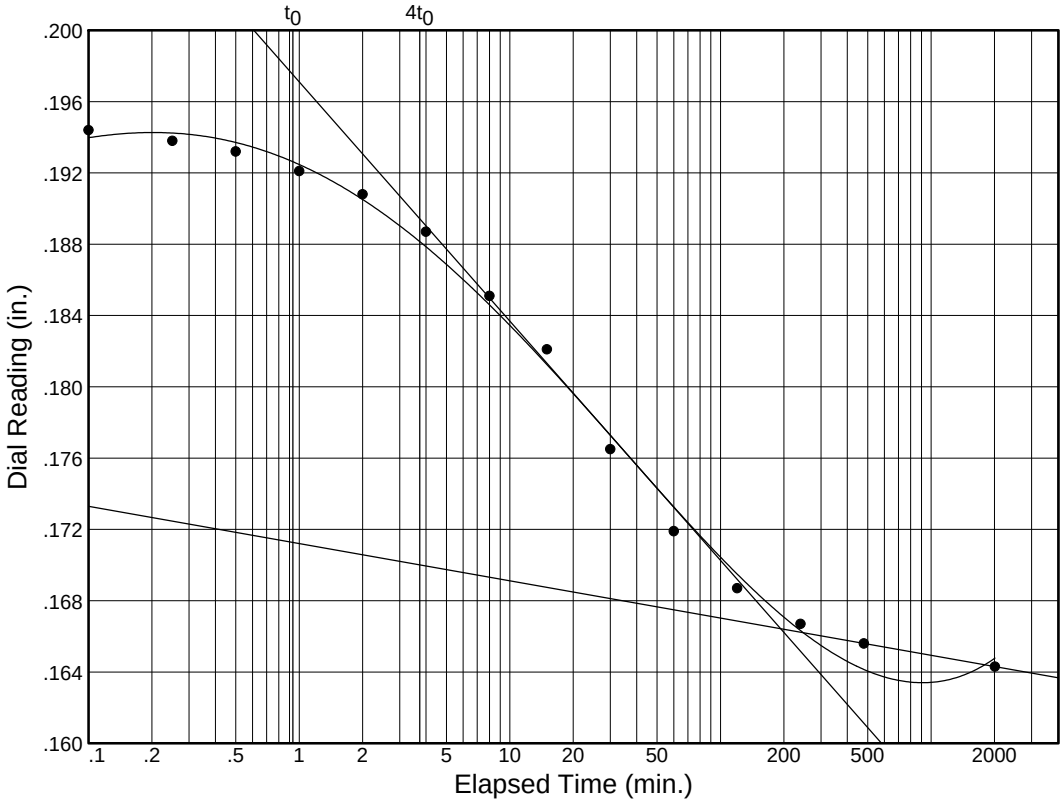
D_{50} = 0.21348

D_{100} = 0.19831

T_{50} = 17.81 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.004



Load No.= 9

Load= 8.00 tsf

D_0 = 0.19710

D_{50} = 0.18177

D_{100} = 0.16643

T_{50} = 13.66 min.

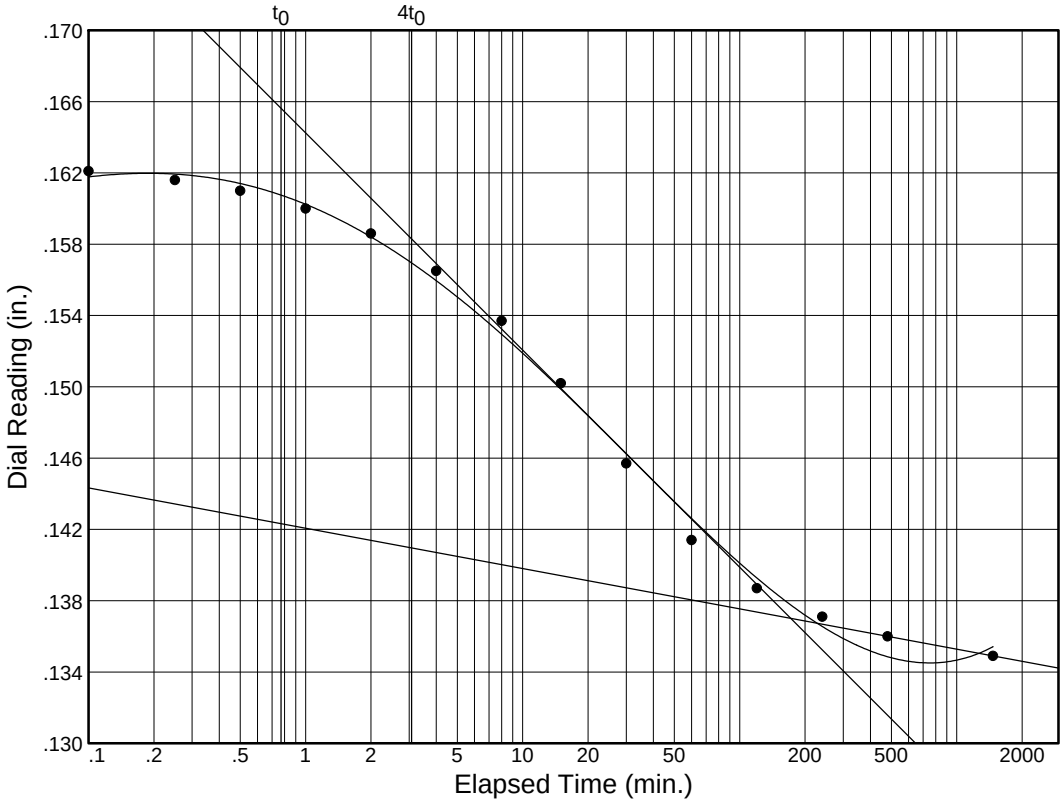
C_v @ T_{50}
0.02 ft.^{2}/day

C_α = 0.003

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-19 Elev./Depth: 12'-14'



Load No.= 10

Load= 16.00 tsf

D_0 = 0.16456

D_{50} = 0.15079

D_{100} = 0.13701

T_{50} = 12.50 min.

C_v @ T_{50}
0.02 ft.^{2}/day

C_α = 0.003

Southern Earth Sciences, Inc.

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-19
Sample No.:
Elev. or Depth: 12'-14' **Sample Length(in./cm.):**
Location:
Description: Stiff, Gray and Dark Gray CLAY with roots and wood (CH)
Liquid Limit: 58 **Plasticity Index:** 16
USCS: (CH) **AASHTO:** **Figure No.:** 1
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE	BEFORE TEST	AFTER TEST
Wet w+t = 235.91 g.	**Consolidometer #** = 6	**Wet w+t** = 175.14 g.
Dry w+t = 194.46 g.		**Dry w+t** = 155.15 g.
Tare Wt. = 61.62 g.	**Spec. Gravity** = 2.75	**Tare Wt.** = 62.25 g.
Height = .80 in.	**Height** = .80 in.	
Diameter = 2.50 in.	**Diameter** = 2.50 in.	
Weight = 123.56 g.	**Defl. Table** = n/a	
Moisture = 31.2 %	**Ht. Solids** = 0.4257 in.	**Moisture** = 21.5 %
Wet Den. = 119.9 pcf	**Dry Wt.** = 94.17 g.*	**Dry Wt.** = 92.90 g.
Dry Den. = 91.4 pcf	**Void Ratio** = 0.879	**Void Ratio** = 0.584
	Saturation = 97.6 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

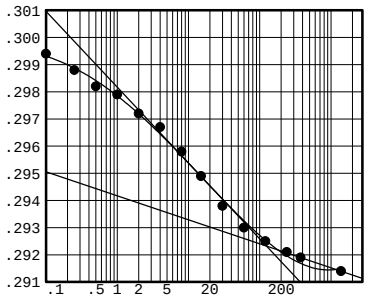
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	0.30110				0.879	
0.25	0.29140	0.00000	0.10	0.001	0.859*	1.1 Comprs.*
0.50	0.27900	0.00000	0.03	0.001	0.829*	2.7 Comprs.*
1.00	0.25690	0.00000	0.02	0.003	0.780*	5.3 Comprs.*
0.25	0.26550	0.00000			0.800	4.2 Comprs.
0.50	0.26260	0.00000			0.793	4.6 Comprs.
1.00	0.25570	0.00000			0.777	5.4 Comprs.
2.00	0.22810	0.00000	0.02	0.004	0.713*	8.8 Comprs.*
4.00	0.19610	0.00000	0.01	0.004	0.638*	12.8 Comprs.*
8.00	0.16430	0.00000	0.02	0.003	0.563*	16.8 Comprs.*
16.00	0.13490	0.00000	0.02	0.003	0.494*	20.5 Comprs.*
2.00	0.14920	0.00000			0.527	18.7 Comprs.
0.25	0.17320	0.00000			0.584	15.7 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 0.23 **P_c** = 0.56 tsf **C_r** = 0.04

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

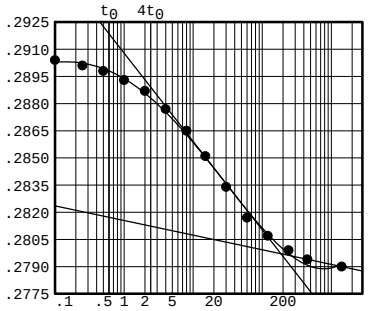
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.30110	11	60.00	0.29300
2	0.10	0.29940	12	120.00	0.29250
3	0.25	0.29880	13	240.00	0.29210
4	0.50	0.29820	14	375.00	0.29190
5	1.00	0.29790	15	1383.00	0.29140
6	2.00	0.29720			
7	4.00	0.29670			
8	8.00	0.29580			
9	15.00	0.29490			
10	30.00	0.29380			



Void Ratio = 0.859 **Compression =** 1.1 % >>> CALCULATED USING D_{100}
D_0 = 0.30110 D_{50} = 0.29671 D_{100} = 0.29232
C_v **at 3.1 min. =** 0.10 ft.^{2}/day C_α = 0.001

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

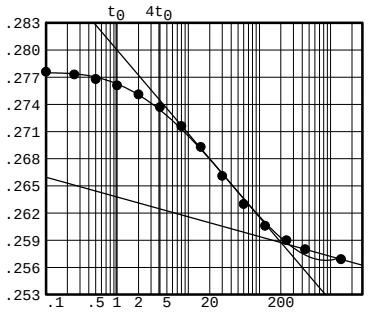
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.29140	11	60.00	0.28170
2	0.10	0.29040	12	120.00	0.28070
3	0.25	0.29010	13	240.00	0.27990
4	0.50	0.28980	14	450.00	0.27940
5	1.00	0.28930	15	1408.00	0.27900
6	2.00	0.28870			
7	4.00	0.28770			
8	8.00	0.28650			
9	15.00	0.28510			
10	30.00	0.28340			



Void Ratio = 0.829 **Compression =** 2.7 % >>> CALCULATED USING D_{100}
D_0 = 0.29131 D_{50} = 0.28551 D_{100} = 0.27971
C_v **at 11.9 min. =** 0.03 ft.^{2}/day C_α = 0.001

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.27900	11	60.00	0.26300
2	0.10	0.27760	12	120.00	0.26060
3	0.25	0.27730	13	240.00	0.25900
4	0.50	0.27680	14	440.00	0.25800
5	1.00	0.27610	15	1403.00	0.25690
6	2.00	0.27510			
7	4.00	0.27370			
8	8.00	0.27160			
9	15.00	0.26930			
10	30.00	0.26610			



Void Ratio = 0.780 **Compression =** 5.3 % >>> CALCULATED USING D_{100}
D_0 = 0.27913 D_{50} = 0.26894 D_{100} = 0.25874
C_v **at 15.5 min. =** 0.02 ft.^{2}/day C_α = 0.003

Pressure: 0.25 tsf **TEST READINGS** **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.25690	11	60.00	0.26400
2	0.10	0.25750	12	120.00	0.26460
3	0.25	0.25780	13	188.00	0.26510
4	0.50	0.25800	14	480.00	0.26550
5	1.00	0.25840			
6	2.00	0.25900			
7	4.00	0.25980			
8	8.00	0.26080			
9	15.00	0.26170			
10	30.00	0.26300			

Void Ratio = 0.800 **Compression =** 4.2 %

Pressure: 0.50 tsf **TEST READINGS** **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.26550	11	60.00	0.26310
2	0.10	0.26520	12	120.00	0.26300
3	0.25	0.26510	13	240.00	0.26290
4	0.50	0.26500	14	480.00	0.26270
5	1.00	0.26490	15	1361.00	0.26260
6	2.00	0.26480			
7	4.00	0.26440			
8	8.00	0.26400			
9	15.00	0.26370			
10	30.00	0.26330			

Void Ratio = 0.793 **Compression =** 4.6 %

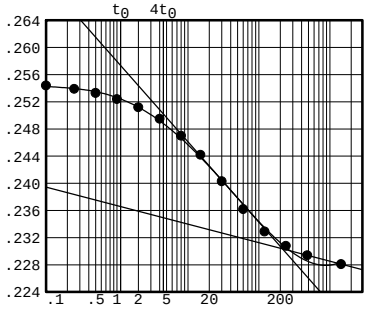
Pressure: 1.00 tsf **TEST READINGS** **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.26260	11	60.00	0.25690
2	0.10	0.26210	12	120.00	0.25660
3	0.25	0.26190	13	240.00	0.25630
4	0.50	0.26170	14	480.00	0.25600
5	1.00	0.26130	15	1209.00	0.25570
6	2.00	0.26090			
7	4.00	0.26020			
8	8.00	0.25930			
9	15.00	0.25830			
10	30.00	0.25750			

Void Ratio = 0.777 **Compression =** 5.4 %

Pressure: 2.00 tsf **TEST READINGS** **Load No. 7**

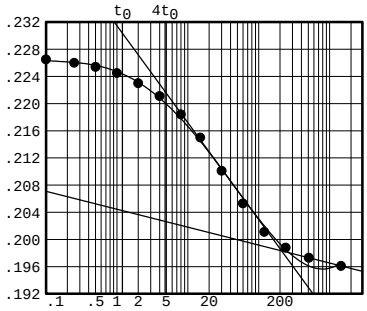
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.25570	11	60.00	0.23620
2	0.10	0.25440	12	120.00	0.23290
3	0.25	0.25390	13	240.00	0.23080
4	0.50	0.25330	14	480.00	0.22940
5	1.00	0.25240	15	1440.00	0.22810
6	2.00	0.25120			
7	4.00	0.24950			
8	8.00	0.24700			
9	15.00	0.24420			
10	30.00	0.24030			



Void Ratio = 0.713 **Compression =** 8.8 % >>> CALCULATED USING D_{100}
D_0 = 0.25603 **D_{50} =** 0.24319 **D_{100} =** 0.23035
C_v at 17.2 min. = 0.02 ft.^{2}/day **C_α =** 0.004

Pressure: 4.00 tsf **TEST READINGS** **Load No. 8**

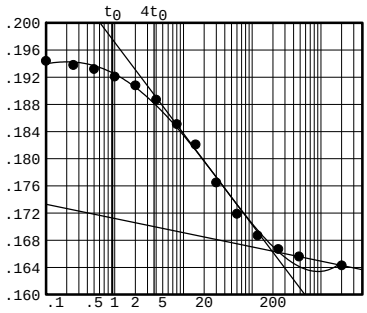
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.22810	11	60.00	0.20530
2	0.10	0.22650	12	120.00	0.20110
3	0.25	0.22600	13	240.00	0.19880
4	0.50	0.22540	14	510.00	0.19730
5	1.00	0.22450	15	1453.00	0.19610
6	2.00	0.22300			
7	4.00	0.22110			
8	8.00	0.21840			
9	15.00	0.21500			
10	30.00	0.21010			



Void Ratio = 0.638 **Compression =** 12.8 % >>> CALCULATED USING D_{100}
D_0 = 0.22865 **D_{50} =** 0.21348 **D_{100} =** 0.19831
C_v at 17.8 min. = 0.01 ft.^{2}/day **C_α =** 0.004

Pressure: 8.00 tsf **TEST READINGS** **Load No. 9**

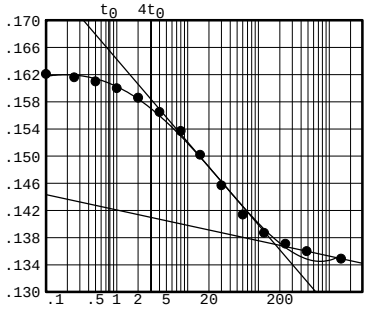
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.19610	11	60.00	0.17190
2	0.10	0.19440	12	120.00	0.16870
3	0.25	0.19380	13	240.00	0.16670
4	0.50	0.19320	14	480.00	0.16560
5	1.00	0.19210	15	2011.00	0.16430
6	2.00	0.19080			
7	4.00	0.18870			
8	8.00	0.18510			
9	15.00	0.18210			
10	30.00	0.17650			



Void Ratio = 0.563 **Compression =** 16.8 % >>> CALCULATED USING D_{100}
D_0 = 0.19710 **D_{50} =** 0.18177 **D_{100} =** 0.16643
C_v at 13.7 min. = 0.02 ft.^{2}/day **C_α =** 0.003

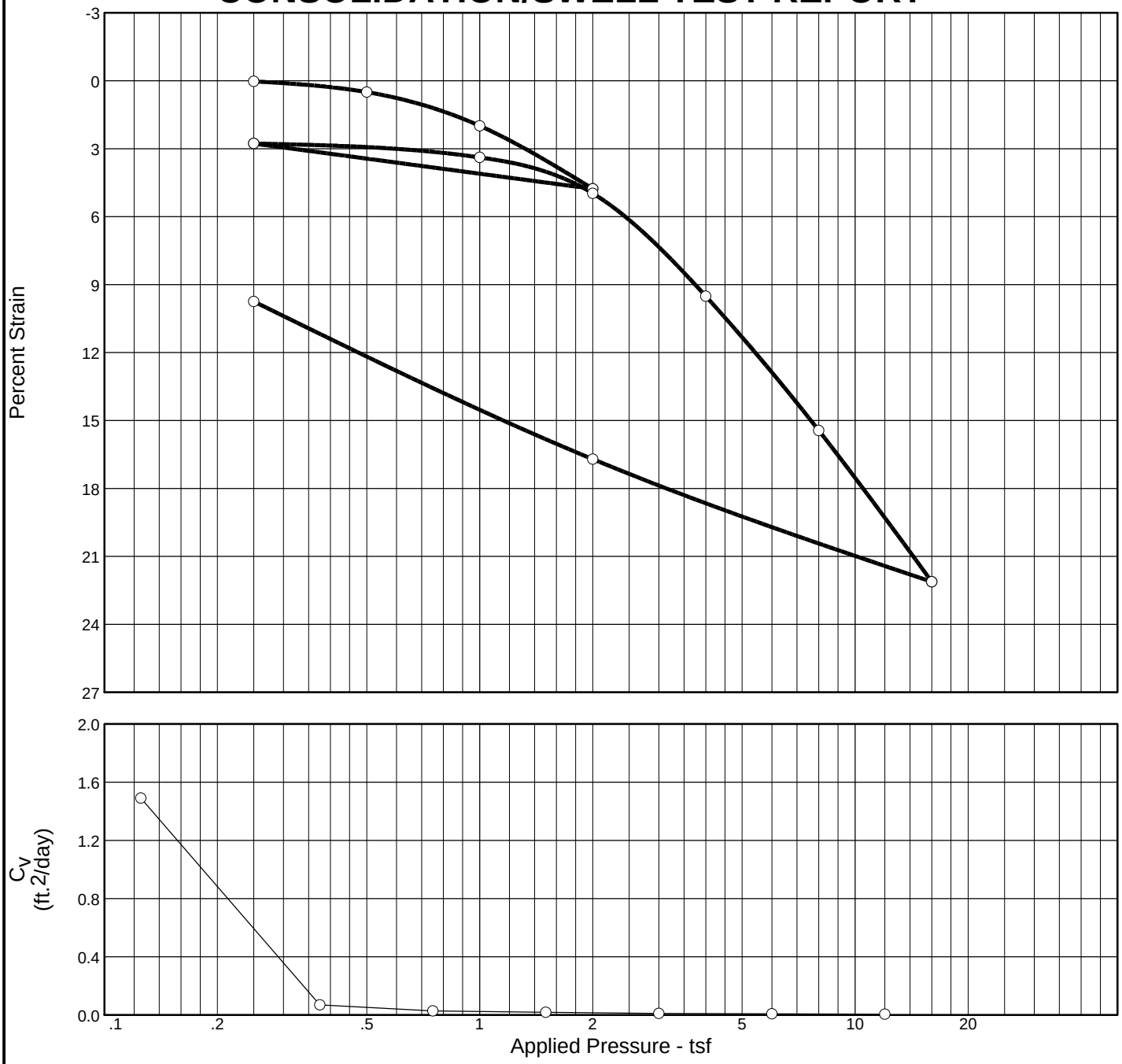
Pressure: 16.00 tsf **TEST READINGS** **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.16430	11	60.00	0.14140
2	0.10	0.16210	12	120.00	0.13870
3	0.25	0.16160	13	240.00	0.13710
4	0.50	0.16100	14	480.00	0.13600
5	1.00	0.16000	15	1470.00	0.13490
6	2.00	0.15860			
7	4.00	0.15650			
8	8.00	0.15370			
9	15.00	0.15020			
10	30.00	0.14570			



Void Ratio = 0.494 **Compression =** 20.5 % >>> CALCULATED USING D_{100}
D_0 **=** 0.16456 D_{50} **=** 0.15079 D_{100} **=** 0.13701
C_v **at 12.5 min. =** 0.02 ft.^{2}/day C_α **=** 0.003

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
99.7 %	51.6 %	70.8	106	68	2.75	3.00	0.54	1.423

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Gray CLAY (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

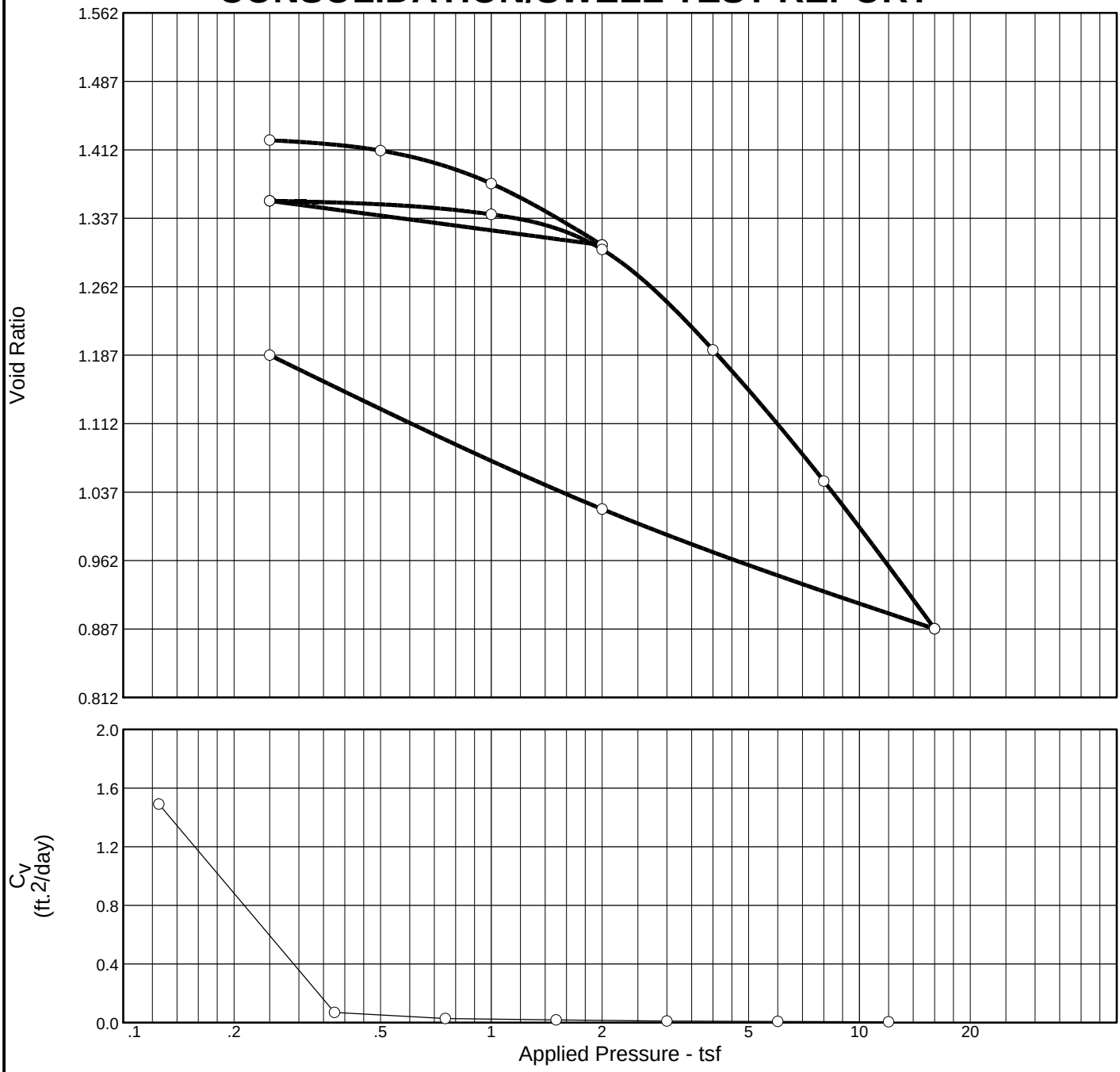
Source: B-05-A **Elev./Depth:** 12'-14'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
99.7 %	51.6 %	70.8	106	68	2.75	3.00	0.54	1.423

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Gray CLAY (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-05-A **Elev./Depth:** 12'-14'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

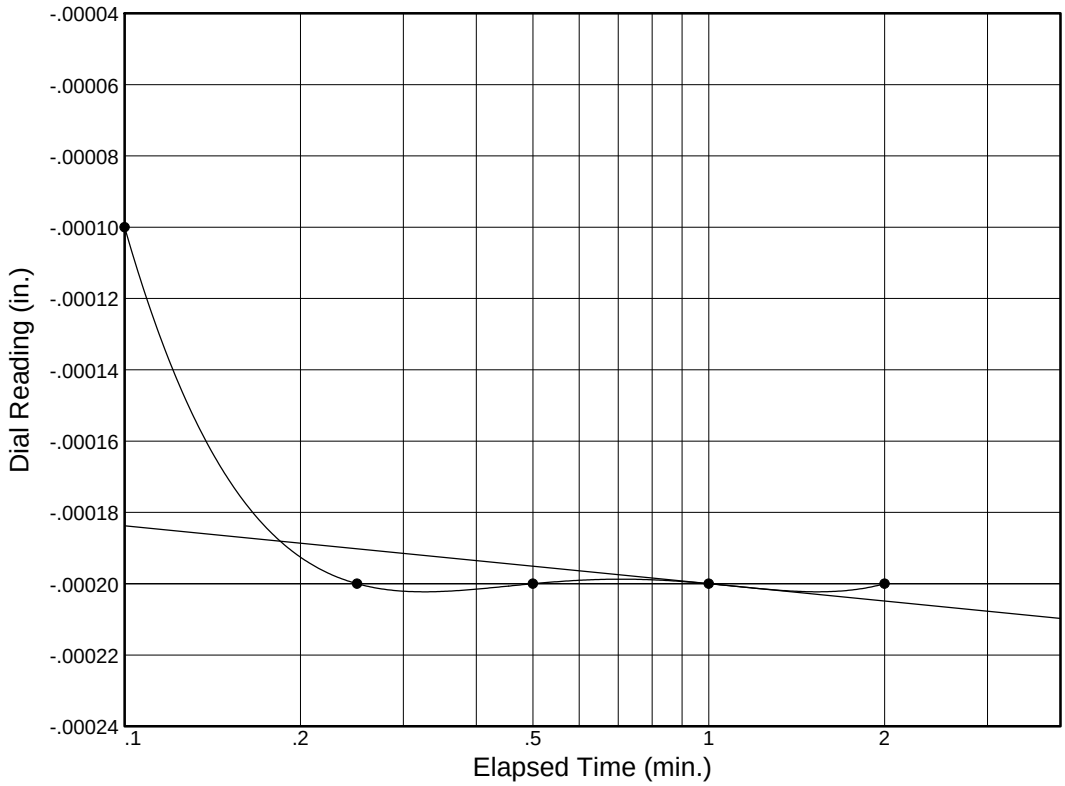
Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-05-A

Elev./Depth: 12'-14'



Load No.= 1

Load= 0.25 tsf

D_0 = 0.00000

D_{50} = -0.00010

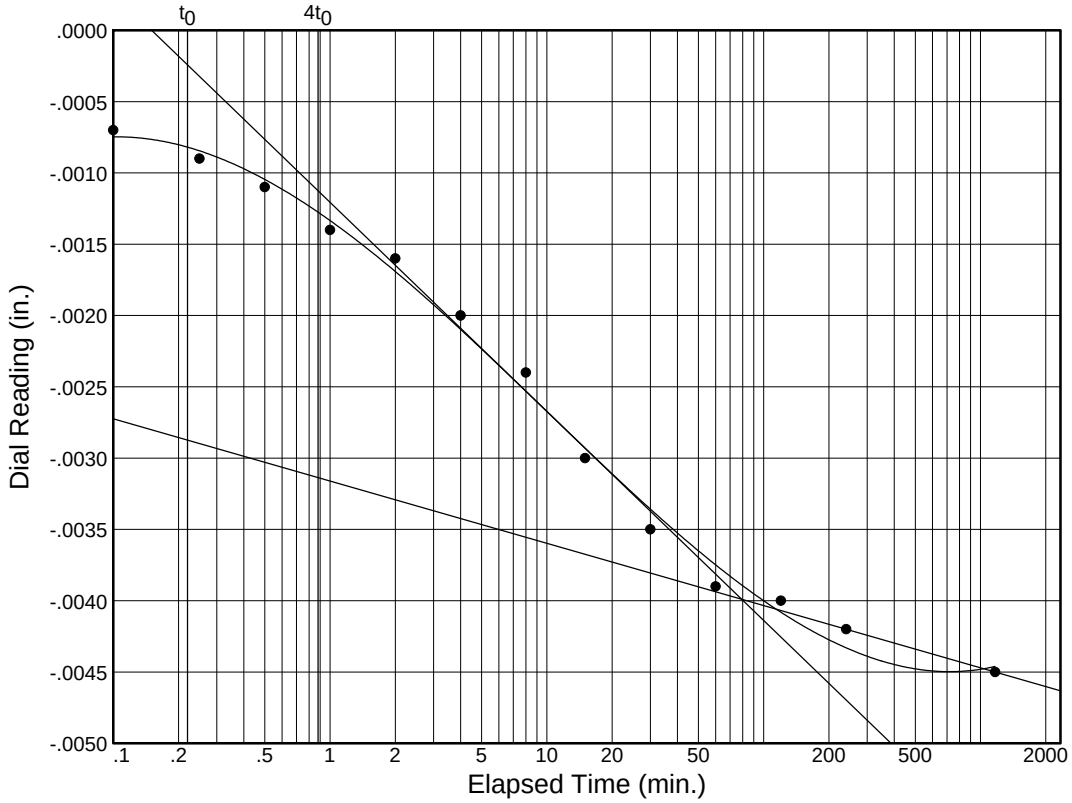
D_{100} = -0.00020

T_{50} = 0.21 min.

C_v @ T_{50}

1.49 ft.^{2}/day

C_α = 0.000



Load No.= 2

Load= 0.50 tsf

D_0 = -0.00036

D_{50} = -0.00218

D_{100} = -0.00399

T_{50} = 4.55 min.

C_v @ T_{50}

0.07 ft.^{2}/day

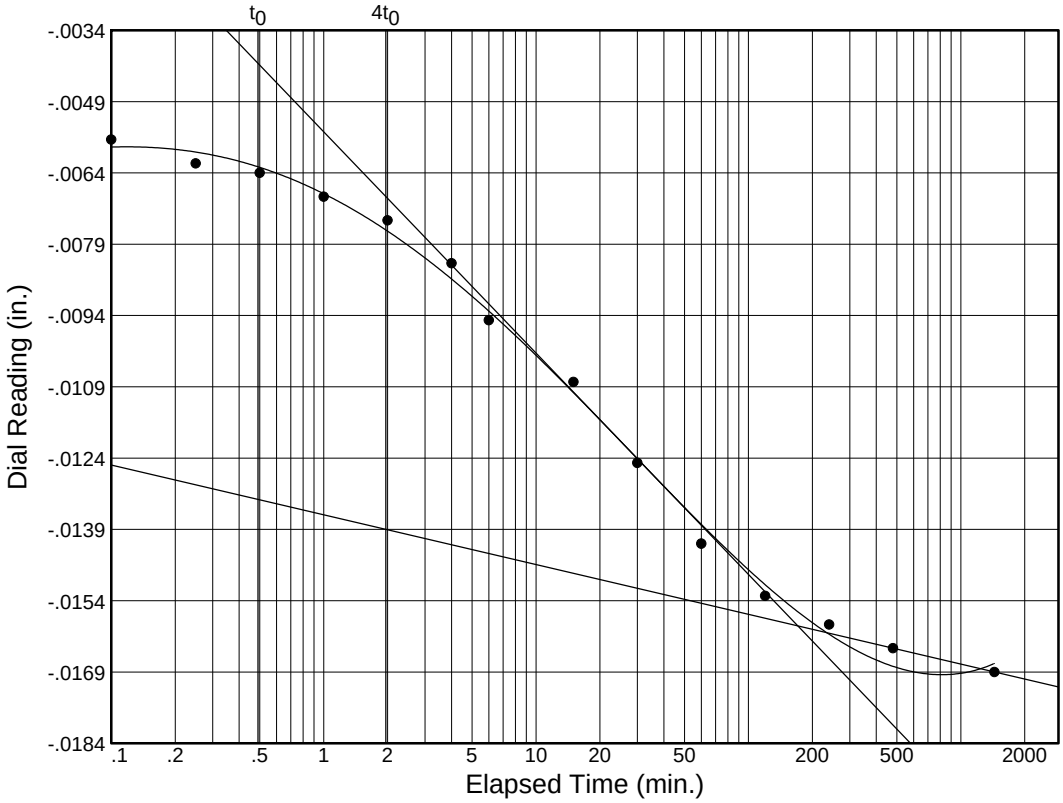
C_α = 0.001

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-05-A Elev./Depth: 12'-14'



Load No.= 3

Load= 1.00 tsf

D_0 = -0.00494

D_{50} = -0.01044

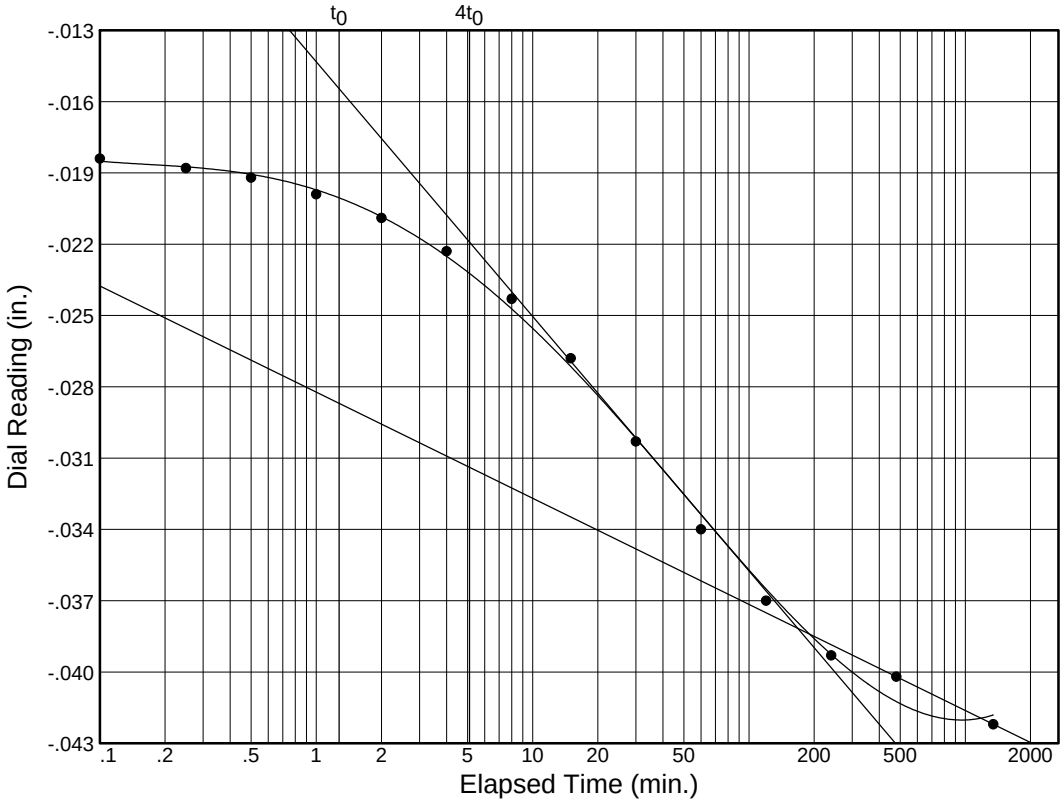
D_{100} = -0.01593

T_{50} = 11.10 min.

C_v @ T_{50}

0.03 ft.^{2}/day

C_α = 0.001



Load No.= 4

Load= 2.00 tsf

D_0 = -0.01688

D_{50} = -0.02752

D_{100} = -0.03816

T_{50} = 16.41 min.

C_v @ T_{50}

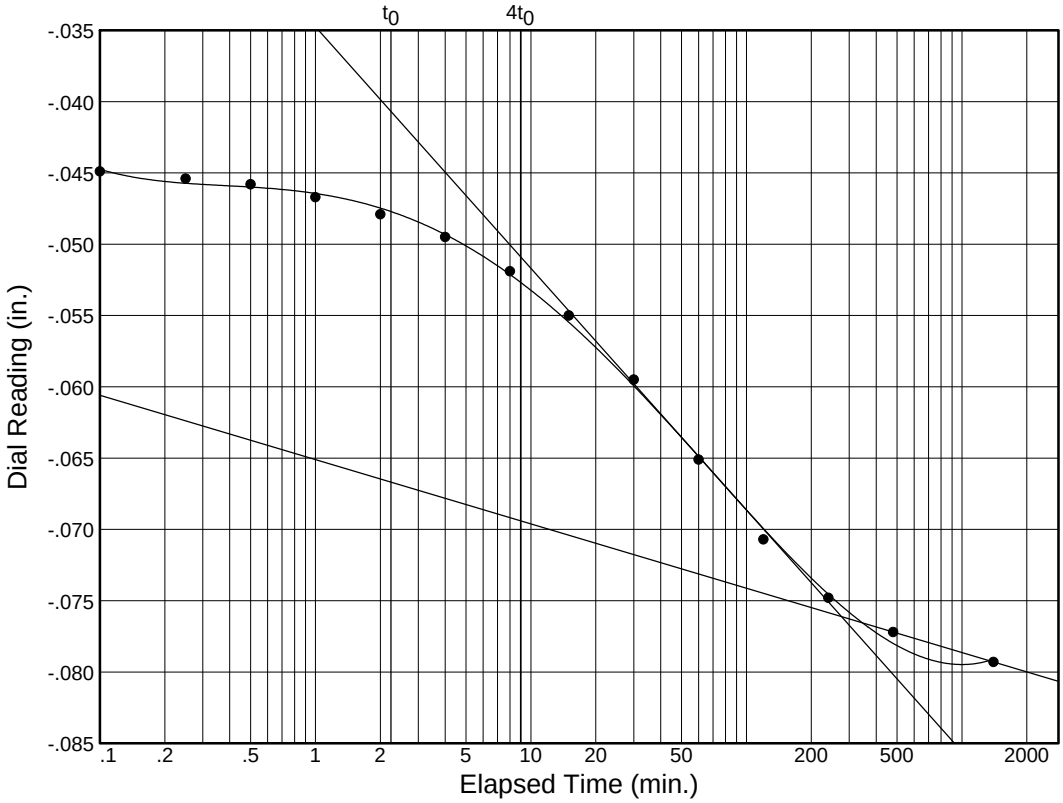
0.02 ft.^{2}/day

C_α = 0.006

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-05-A Elev./Depth: 12'-14'



Load No.= 8

Load= 4.00 tsf

D_0 = -0.04274

D_{50} = -0.05943

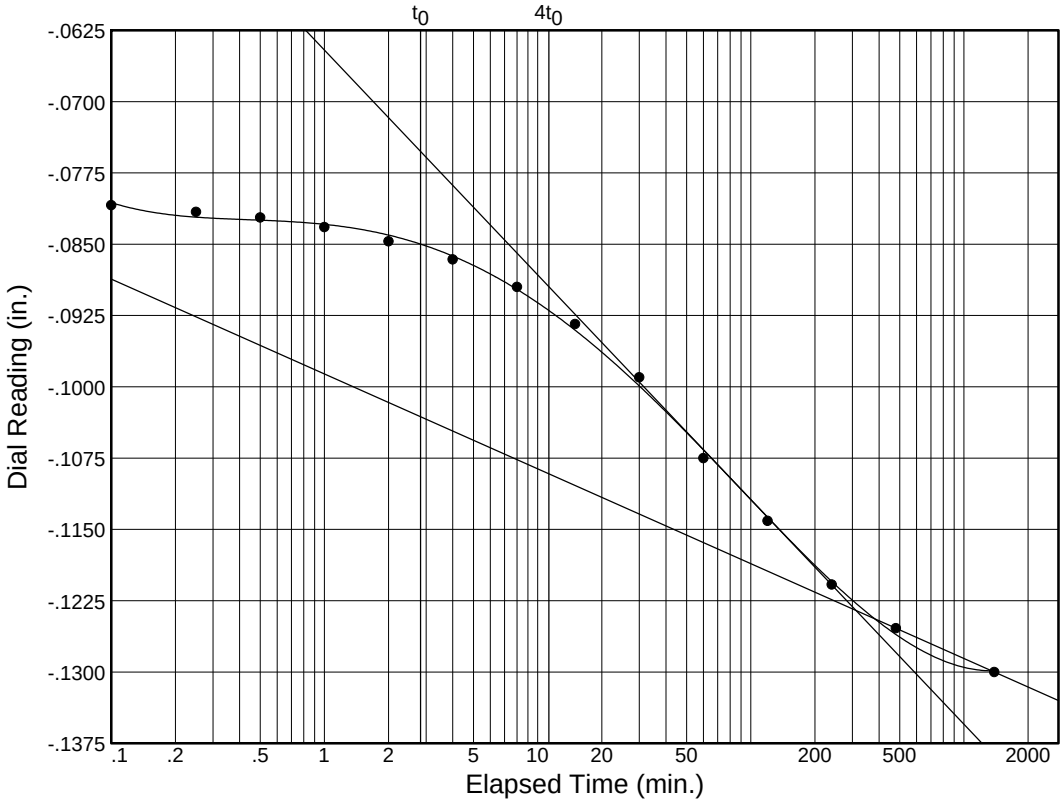
D_{100} = -0.07612

T_{50} = 27.89 min.

C_v @ T_{50}

0.01 ft.^{2}/day

C_α = 0.006



Load No.= 9

Load= 8.00 tsf

D_0 = -0.07800

D_{50} = -0.10077

D_{100} = -0.12353

T_{50} = 32.91 min.

C_v @ T_{50}

0.01 ft.^{2}/day

C_α = 0.014

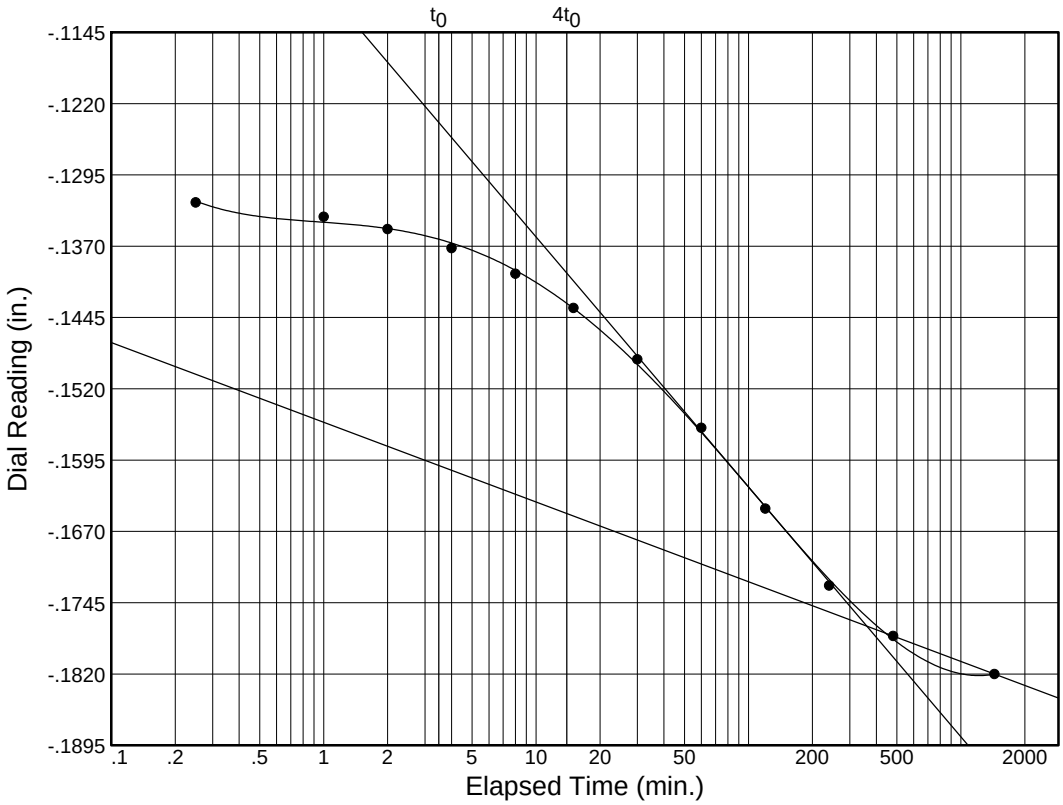
Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-05-A

Elev./Depth: 12'-14'



Load No.= 10

Load= 16.00 tsf

D_0 = -0.12953

D_{50} = -0.15324

D_{100} = -0.17696

T_{50} = 43.98 min.

C_v @ T_{50}

0.00 ft.^{2}/day

C_α = 0.013

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-05-A
Sample No.:
Elev. or Depth: 12'-14' **Sample Length(in./cm.):**
Location:
Description: Soft, Gray CLAY (CH)
Liquid Limit: 106 **Plasticity Index:** 68
USCS: (CH) **AASHTO:** **Figure No.:**
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE		BEFORE TEST	AFTER TEST
Wet w+t	= 141.70 g.	**Consolidometer #** = 6	**Wet w+t** = 163.84 g.
Dry w+t	= 108.82 g.		**Dry w+t** = .00 g.
Tare Wt.	= 45.13 g.	**Spec. Gravity** = 2.75	**Tare Wt.** = 60.70 g.
Height	= .80 in.	**Height** = .80 in.	
Diameter	= 2.50 in.	**Diameter** = 2.50 in.	
Weight	= 110.73 g.	**Defl. Table** = n/a	
Moisture	= 51.6 %	**Ht. Solids** = 0.3301 in.	**Moisture** = %
Wet Den.	= 107.4 pcf	**Dry Wt.** = 73.03 g.*	**Dry Wt.** = n/a
Dry Den.	= 70.8 pcf	**Void Ratio** = 1.423	**Void Ratio** = 1.187
		Saturation = 99.7 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

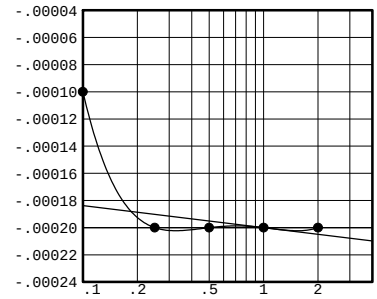
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	0.00000				1.423	
0.25	-0.00020	0.00000	1.49	0.000	1.423*	0.0 Comprs.*
0.50	-0.00450	0.00000	0.07	0.001	1.411*	0.5 Comprs.*
1.00	-0.01690	0.00000	0.03	0.001	1.375*	2.0 Comprs.*
2.00	-0.04220	0.00000	0.02	0.006	1.308*	4.8 Comprs.*
0.25	-0.02620	0.00000			1.356	2.8 Comprs.
1.00	-0.03110	0.00000			1.341	3.4 Comprs.
2.00	-0.04380	0.00000			1.303	5.0 Comprs.
4.00	-0.07930	0.00000	0.01	0.006	1.193*	9.5 Comprs.*
8.00	-0.13000	0.00000	0.01	0.014	1.049*	15.4 Comprs.*
16.00	-0.18200	0.00000	0.00	0.013	0.887*	22.1 Comprs.*
2.00	-0.13870	0.00000			1.018	16.7 Comprs.
0.25	-0.08300	0.00000			1.187	9.7 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 0.54 **P_c** = 3.00 tsf **C_r** = 0.11

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

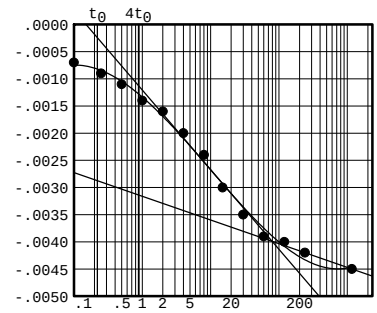
No.	Elapsed Time	Dial Reading
1	0.00	0.00000
2	0.10	-0.00010
3	0.25	-0.00020
4	0.50	-0.00020
5	1.00	-0.00020
6	2.00	-0.00020



Void Ratio = 1.423 **Compression =** 0.0 % >>> CALCULATED USING D_{100}
D_0 = 0.00000 **D_{50} =** -0.00010 **D_{100} =** -0.00020
C_v at 0.2 min. = 1.49 ft.^{2}/day **C_α =** 0.000

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

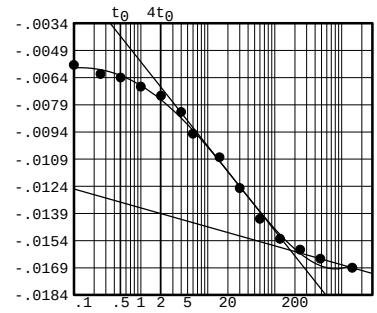
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.00020	11	60.00	-0.00390
2	0.10	-0.00070	12	120.00	-0.00400
3	0.25	-0.00090	13	240.00	-0.00420
4	0.50	-0.00110	14	1168.00	-0.00450
5	1.00	-0.00140			
6	2.00	-0.00160			
7	4.00	-0.00200			
8	8.00	-0.00240			
9	15.00	-0.00300			
10	30.00	-0.00350			



Void Ratio = 1.411 **Compression =** 0.5 % >>> CALCULATED USING D_{100}
D_0 = -0.00036 **D_{50} =** -0.00218 **D_{100} =** -0.00399
C_v at 4.5 min. = 0.07 ft.^{2}/day **C_α =** 0.001

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

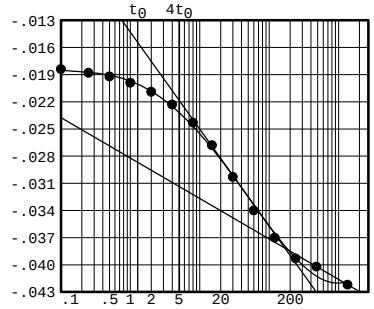
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.00450	11	60.00	-0.01420
2	0.10	-0.00570	12	120.00	-0.01530
3	0.25	-0.00620	13	240.00	-0.01590
4	0.50	-0.00640	14	480.00	-0.01640
5	1.00	-0.00690	15	1441.00	-0.01690
6	2.00	-0.00740			
7	4.00	-0.00830			
8	6.00	-0.00950			
9	15.00	-0.01080			
10	30.00	-0.01250			



Void Ratio = 1.375 **Compression =** 2.0 % >>> CALCULATED USING D_{100}
D_0 = -0.00494 **D_{50} =** -0.01044 **D_{100} =** -0.01593
C_v at 11.1 min. = 0.03 ft.^{2}/day **C_α =** 0.001

Pressure: 2.00 tsf **TEST READINGS** **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.01690	11	60.00	-0.03400
2	0.10	-0.01840	12	120.00	-0.03700
3	0.25	-0.01880	13	240.00	-0.03930
4	0.50	-0.01920	14	480.00	-0.04020
5	1.00	-0.01990	15	1346.00	-0.04220
6	2.00	-0.02090			
7	4.00	-0.02230			
8	8.00	-0.02430			
9	15.00	-0.02680			
10	30.00	-0.03030			



Void Ratio = 1.308 **Compression =** 4.8 % >>> CALCULATED USING D_{100}
D_0 = -0.01688 D_{50} = -0.02752 D_{100} = -0.03816
C_v **at 16.4 min. =** 0.02 ft.^{2}/day C_α = 0.006

Pressure: 0.25 tsf **TEST READINGS** **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.04220	11	60.00	-0.03020
2	0.10	-0.04170	12	120.00	-0.02830
3	0.25	-0.04150	13	240.00	-0.02730
4	0.50	-0.04120	14	480.00	-0.02680
5	1.00	-0.04060	15	1446.00	-0.02620
6	2.00	-0.03980			
7	4.00	-0.03870			
8	8.00	-0.03720			
9	15.00	-0.03510			
10	30.00	-0.03270			

Void Ratio = 1.356 **Compression =** 2.8 %

Pressure: 1.00 tsf **TEST READINGS** **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.02620	11	60.00	-0.03020
2	0.10	-0.02640	12	120.00	-0.03050
3	0.25	-0.02650	13	240.00	-0.03080
4	0.50	-0.02670	14	480.00	-0.03100
5	1.00	-0.02690	15	1420.00	-0.03110
6	2.00	-0.02710			
7	4.00	-0.02760			
8	6.00	-0.02810			
9	15.00	-0.02880			
10	30.00	-0.02950			

Void Ratio = 1.341 **Compression =** 3.4 %

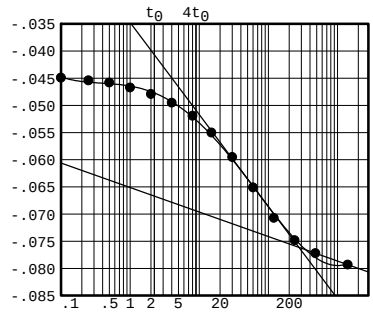
Pressure: 2.00 tsf **TEST READINGS** **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.03110	11	60.00	-0.04090
2	0.10	-0.03170	12	120.00	-0.04220
3	0.25	-0.03190	13	240.00	-0.04290
4	0.50	-0.03220	14	480.00	-0.04340
5	1.00	-0.03260	15	1440.00	-0.04380
6	2.00	-0.03330			
7	4.00	-0.03430			
8	8.00	-0.03560			
9	15.00	-0.03700			
10	30.00	-0.03910			

Void Ratio = 1.303 **Compression =** 5.0 %

Pressure: 4.00 tsf **TEST READINGS** **Load No. 8**

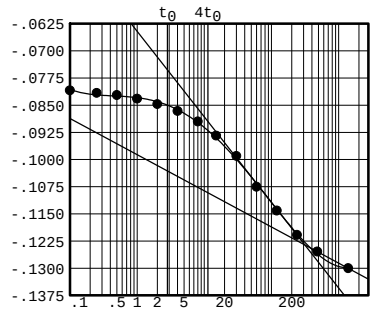
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.04380	11	60.00	-0.06510
2	0.10	-0.04490	12	120.00	-0.07070
3	0.25	-0.04540	13	240.00	-0.07480
4	0.50	-0.04580	14	480.00	-0.07720
5	1.00	-0.04670	15	1402.00	-0.07930
6	2.00	-0.04790			
7	4.00	-0.04950			
8	8.00	-0.05190			
9	15.00	-0.05500			
10	30.00	-0.05950			



Void Ratio = 1.193 **Compression =** 9.5 % >>> CALCULATED USING D_{100}
D_0 = -0.04274 D_{50} = -0.05943 D_{100} = -0.07612
C_v **at 27.9 min. =** 0.01 ft.^{2}/day C_α = 0.006

Pressure: 8.00 tsf **TEST READINGS** **Load No. 9**

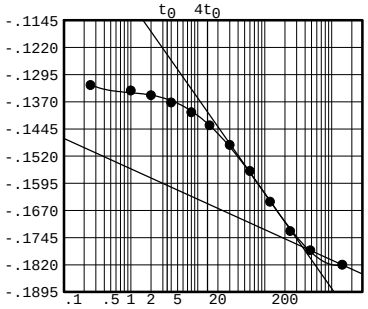
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.07930	11	60.00	-0.10750
2	0.10	-0.08090	12	120.00	-0.11410
3	0.25	-0.08160	13	240.00	-0.12080
4	0.50	-0.08220	14	480.00	-0.12540
5	1.00	-0.08320	15	1388.00	-0.13000
6	2.00	-0.08470			
7	4.00	-0.08660			
8	8.00	-0.08950			
9	15.00	-0.09340			
10	30.00	-0.09900			



Void Ratio = 1.049 **Compression =** 15.4 % >>> CALCULATED USING D_{100}
D_0 = -0.07800 D_{50} = -0.10077 D_{100} = -0.12353
C_v **at 32.9 min. =** 0.01 ft.^{2}/day C_α = 0.014

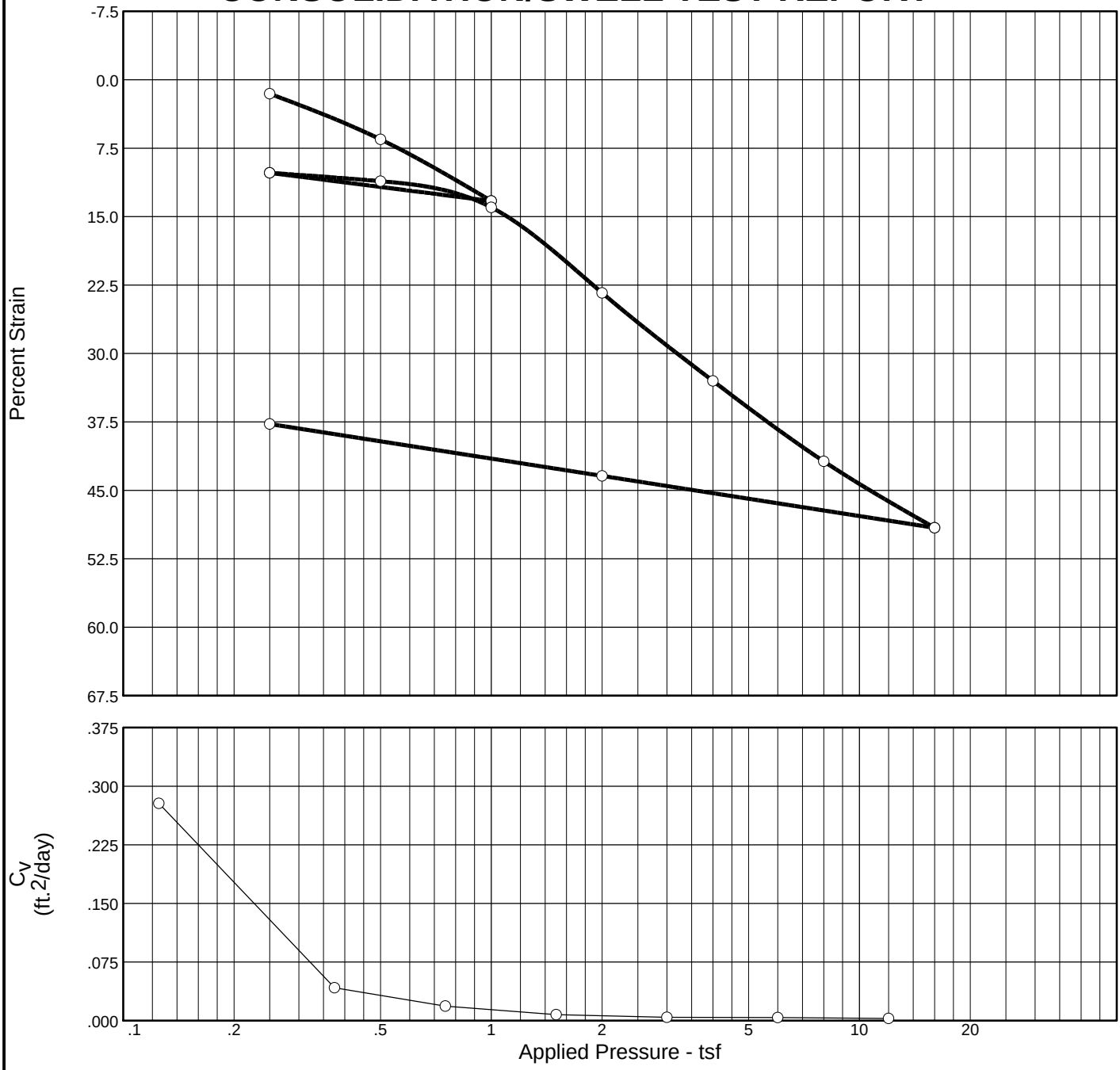
Pressure: 16.00 tsf **TEST READINGS** **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.13000	11	240.00	-0.17270
2	0.25	-0.13240	12	480.00	-0.17800
3	1.00	-0.13390	13	1440.00	-0.18200
4	2.00	-0.13520			
5	4.00	-0.13720			
6	8.00	-0.13990			
7	15.00	-0.14350			
8	30.00	-0.14890			
9	60.00	-0.15610			
10	120.00	-0.16460			



Void Ratio = 0.887 **Compression =** 22.1 % >>> CALCULATED USING D_{100}
D_0 **=** -0.12953 D_{50} **=** -0.15324 D_{100} **=** -0.17696
C_v **at 44.0 min. =** 0.00 ft.^{2}/day C_α **=** 0.013

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
95.3 %	126.6 %	36.9	179	127	2.75	0.17	1.11	3.652

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Gray CLAY (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

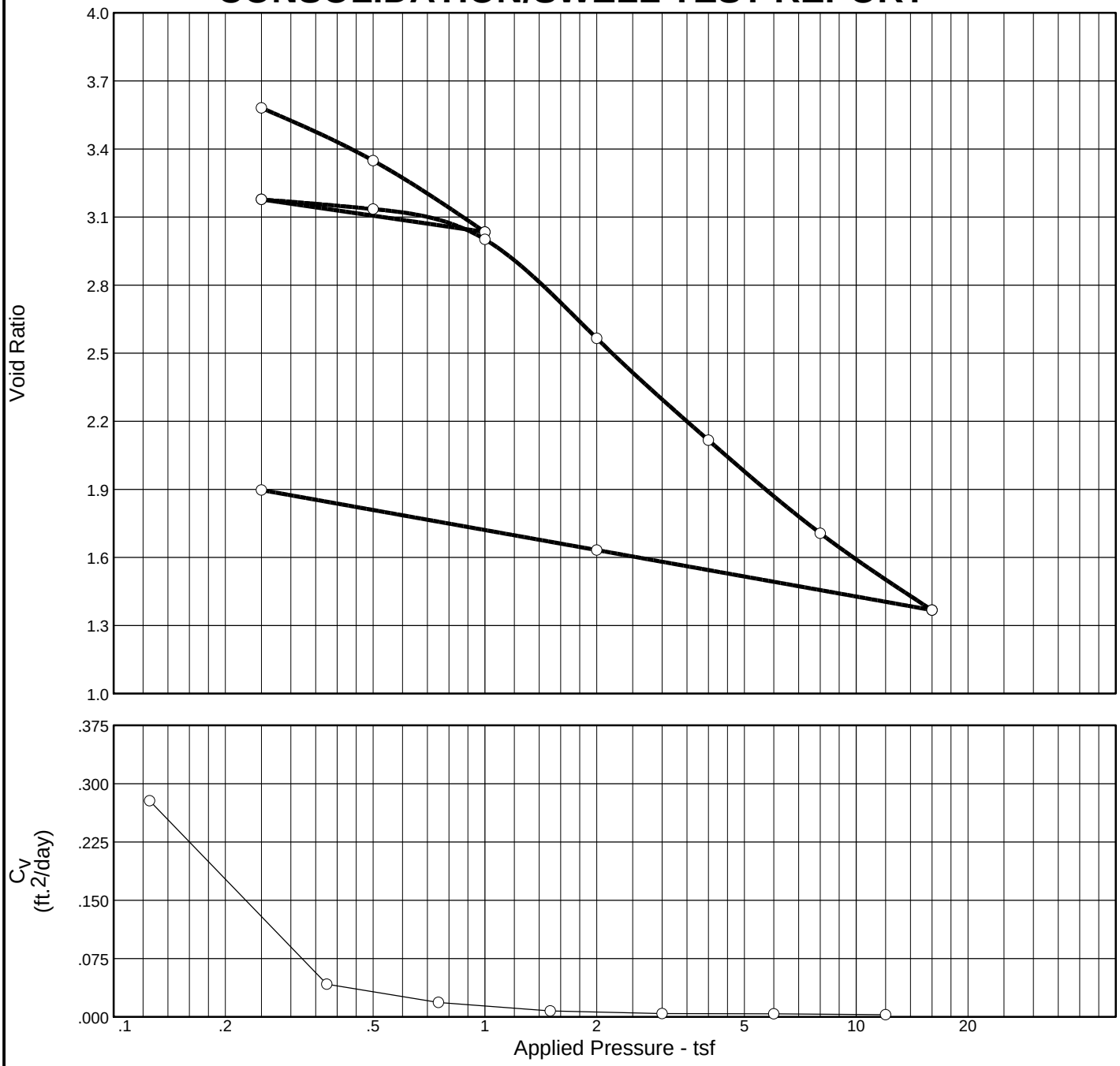
Source: B-6 **Elev./Depth:** 11'-13'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
95.3 %	126.6 %	36.9	179	127	2.75	0.17	1.11	3.652

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Gray CLAY (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-6 **Elev./Depth:** 11'-13'

Remarks:

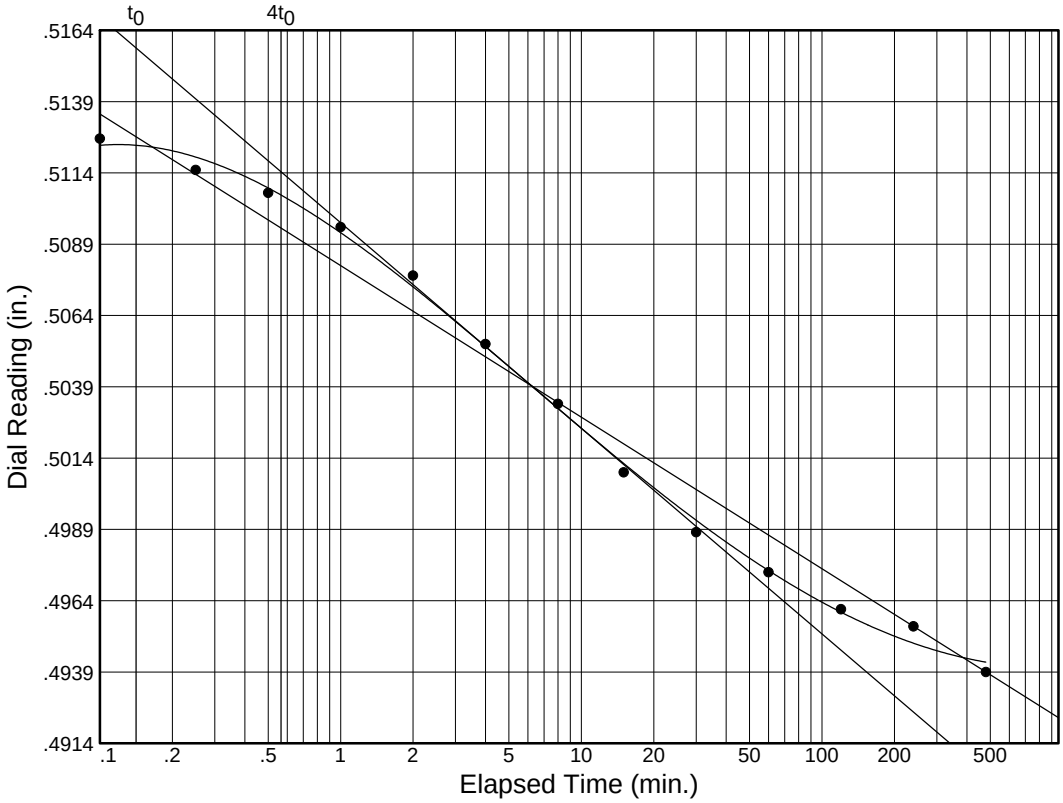
CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

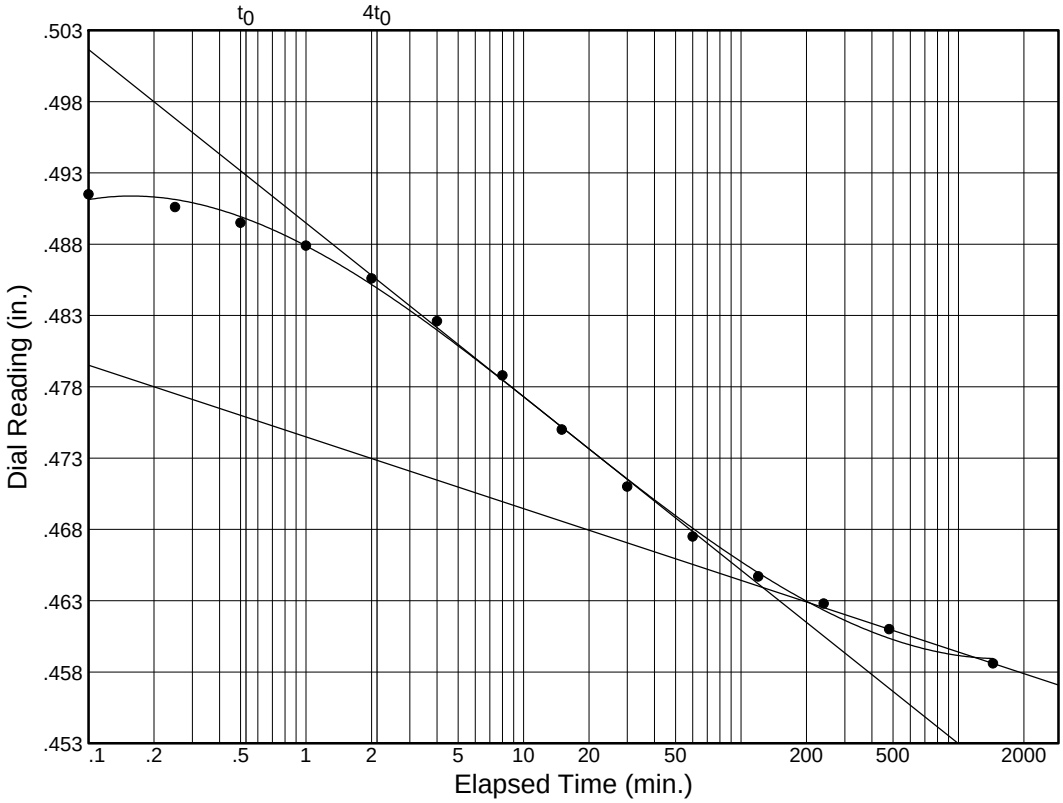
Source: B-6 Elev./Depth: 11'-13'



Load No.= 1
Load= 0.25 tsf
D_0 = 0.51411
D_{50} = 0.50903
D_{100} = 0.50394
T_{50} = 1.11 min.

C_v @ T_{50}
0.28 ft.^{2}/day

C_α = 0.007



Load No.= 2
Load= 0.50 tsf
D_0 = 0.49465
D_{50} = 0.47929
D_{100} = 0.46393
T_{50} = 6.84 min.

C_v @ T_{50}
0.04 ft.^{2}/day

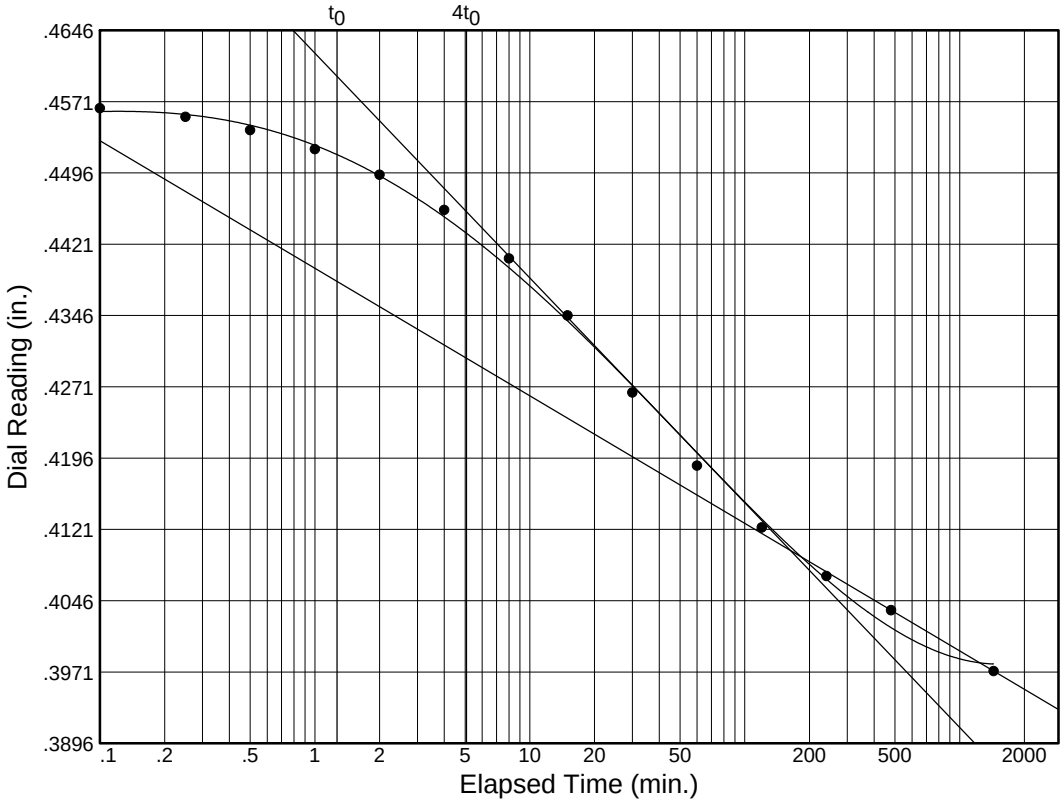
C_α = 0.006

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-6 Elev./Depth: 11'-13'



Load No.= 3

Load= 1.00 tsf

D_0 = 0.45980

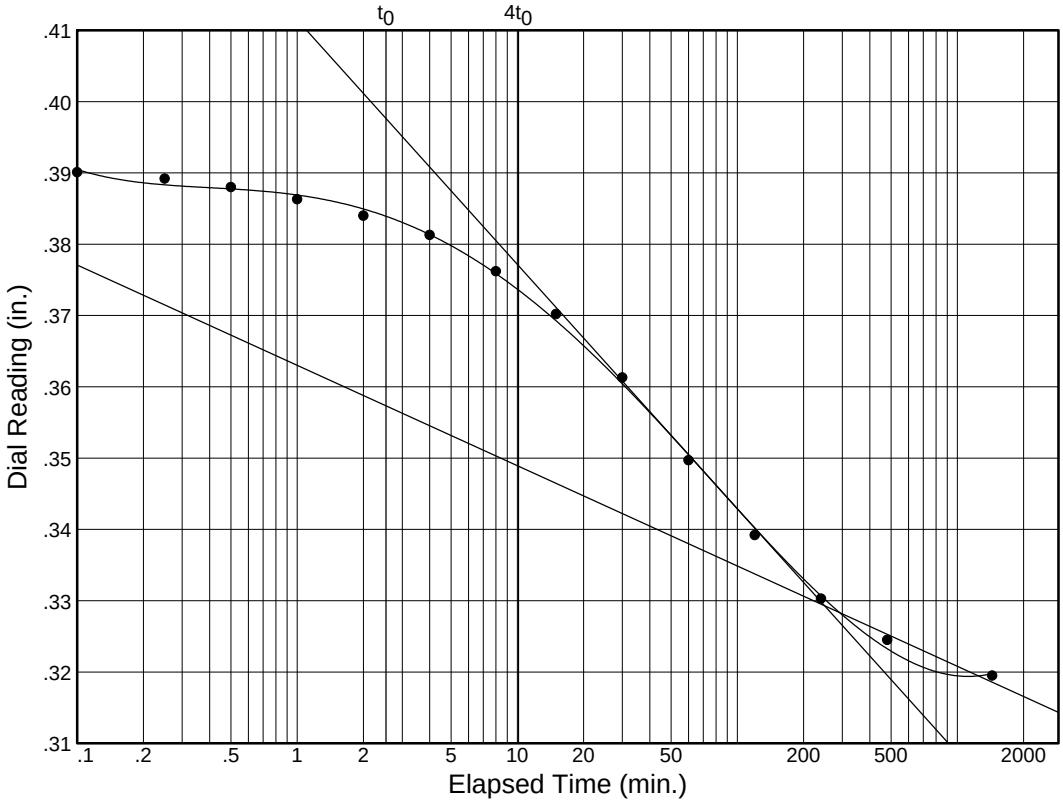
D_{50} = 0.43484

D_{100} = 0.40989

T_{50} = 13.74 min.

C_v @ T_{50}
0.02 ft.^{2}/day

C_α = 0.018



Load No.= 7

Load= 2.00 tsf

D_0 = 0.39427

D_{50} = 0.36179

D_{100} = 0.32930

T_{50} = 27.16 min.

C_v @ T_{50}
0.01 ft.^{2}/day

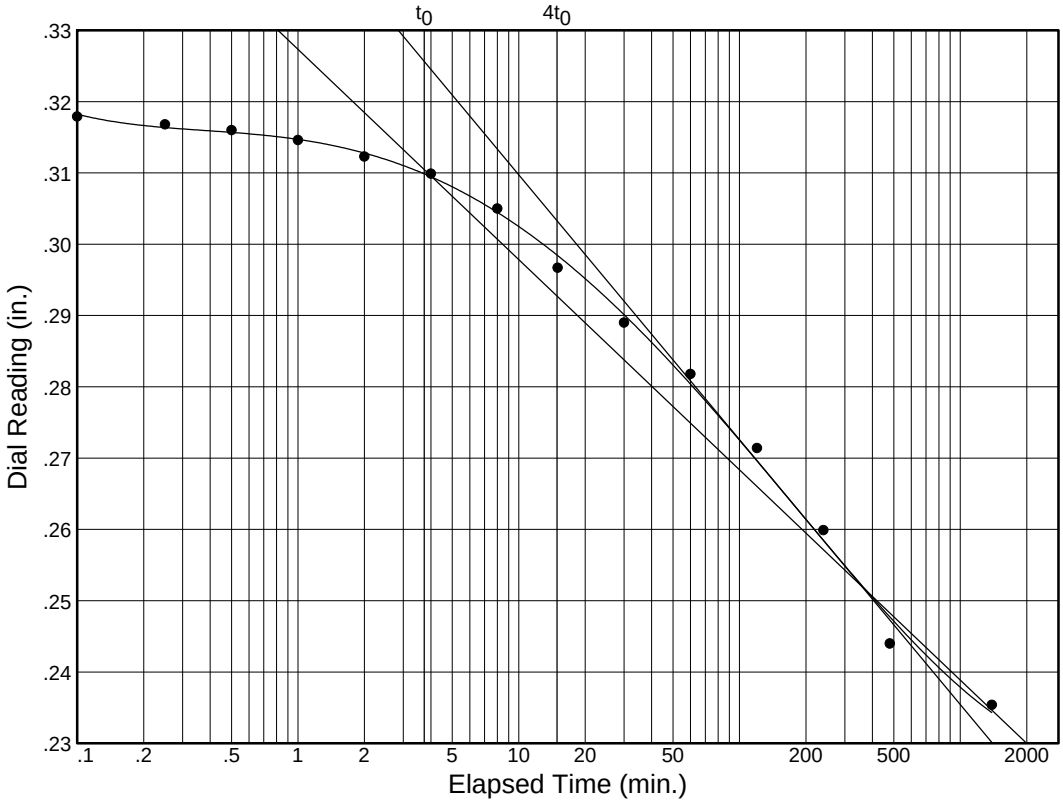
C_α = 0.021

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-6 Elev./Depth: 11'-13'



Load No.= 8

Load= 4.00 tsf

D_0 = 0.32127

D_{50} = 0.28667

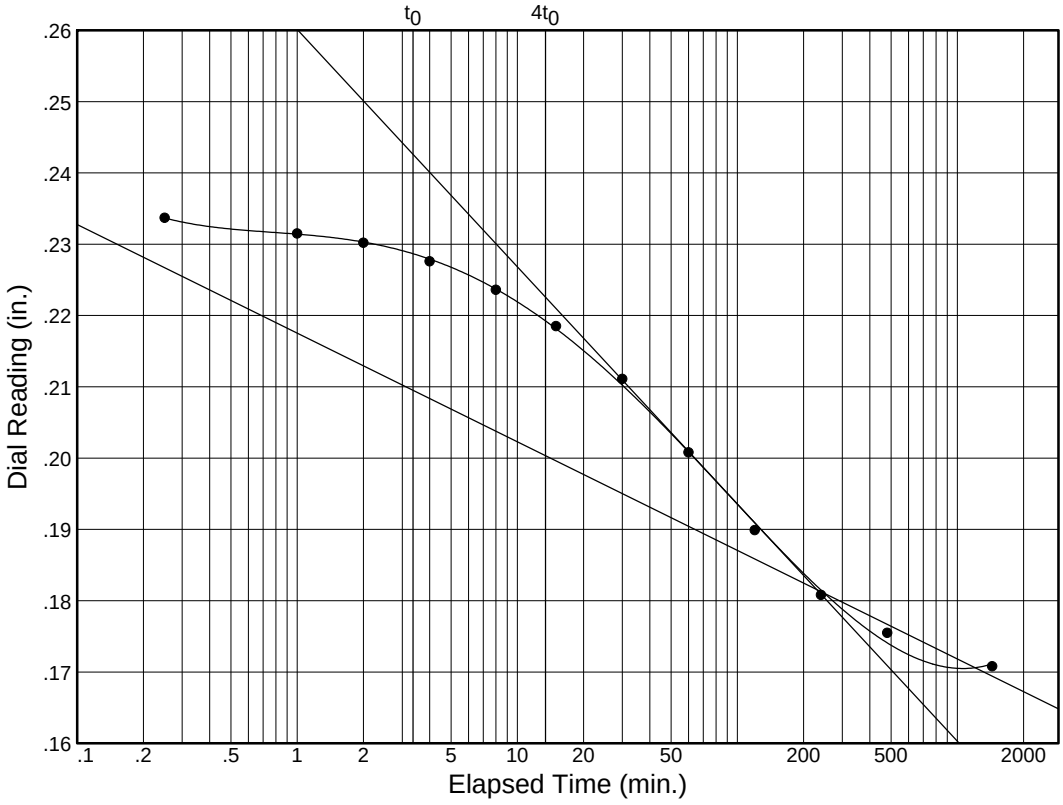
D_{100} = 0.25208

T_{50} = 38.74 min.

C_v @ T_{50}

0.00 ft.^{2}/day

C_α = 0.049



Load No.= 9

Load= 8.00 tsf

D_0 = 0.23809

D_{50} = 0.20984

D_{100} = 0.18158

T_{50} = 30.98 min.

C_v @ T_{50}

0.00 ft.^{2}/day

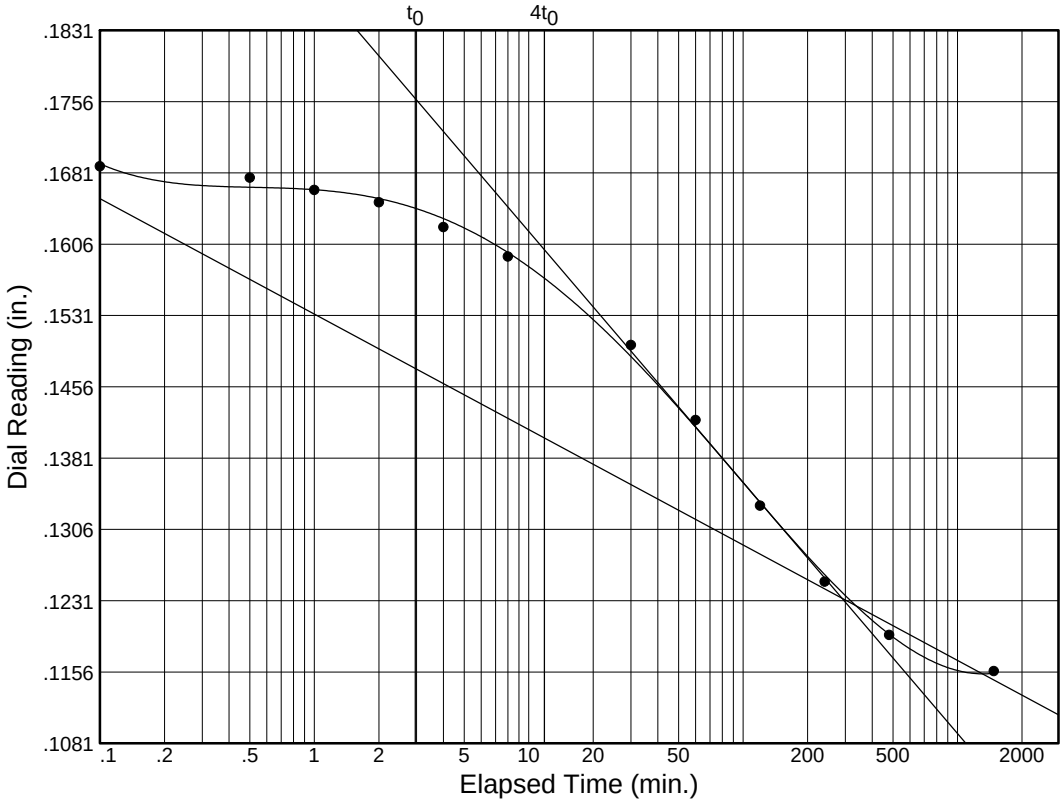
C_α = 0.029

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-6 Elev./Depth: 11'-13'



Load No.= 10

Load= 16.00 tsf

D_0 = 0.17174

D_{50} = 0.14756

D_{100} = 0.12337

T_{50} = 33.83 min.

C_v @ T_{50}

0.00 ft.^{2}/day

C_α = 0.027

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-6
Sample No.:
Elev. or Depth: 11'-13' **Sample Length(in./cm.):**
Location:
Description: Soft, Gray CLAY (CH)
Liquid Limit: 179 **Plasticity Index:** 127
USCS: (CH) **AASHTO:** **Figure No.:**
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE		BEFORE TEST	AFTER TEST
Wet w+t	= 105.06 g.	**Consolidometer #** = 6	**Wet w+t** = 121.47 g.
Dry w+t	= 80.23 g.		**Dry w+t** = 98.61 g.
Tare Wt.	= 60.62 g.	**Spec. Gravity** = 2.75	**Tare Wt.** = 60.85 g.
Height	= .80 in.	**Height** = .80 in.	
Diameter	= 2.50 in.	**Diameter** = 2.50 in.	
Weight	= 86.20 g.	**Defl. Table** = n/a	
Moisture	= 126.6 %	**Ht. Solids** = 0.1720 in.	**Moisture** = 60.5 %
Wet Den.	= 83.6 pcf	**Dry Wt.** = 38.04 g.*	**Dry Wt.** = 37.76 g.
Dry Den.	= 36.9 pcf	**Void Ratio** = 3.652	**Void Ratio** = 1.897
		Saturation = 95.3 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

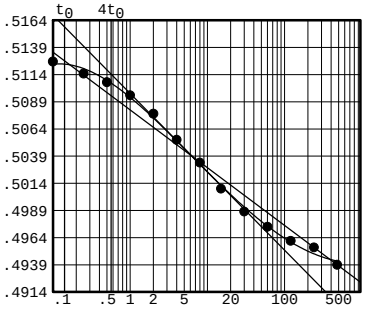
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	0.51620				3.652	
0.25	0.49390	0.00000	0.28	0.007	3.581*	1.5 Comprs.*
0.50	0.45860	0.00000	0.04	0.006	3.348*	6.5 Comprs.*
1.00	0.39720	0.00000	0.02	0.018	3.034*	13.3 Comprs.*
0.25	0.42190	0.00000			3.178	10.2 Comprs.
0.50	0.41460	0.00000			3.135	11.1 Comprs.
1.00	0.39160	0.00000			3.002	14.0 Comprs.
2.00	0.31950	0.00000	0.01	0.021	2.566*	23.4 Comprs.*
4.00	0.23540	0.00000	0.00	0.049	2.116*	33.0 Comprs.*
8.00	0.17080	0.00000	0.00	0.029	1.706*	41.8 Comprs.*
16.00	0.11570	0.00000	0.00	0.027	1.368*	49.1 Comprs.*
2.00	0.16120	0.00000			1.633	43.4 Comprs.
0.25	0.20670	0.00000			1.897	37.7 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 1.11 P_c = 0.17 tsf C_r = 0.28

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

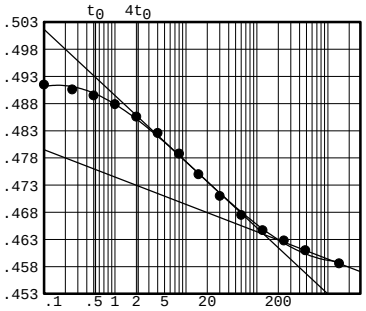
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.51620	11	60.00	0.49740
2	0.10	0.51260	12	120.00	0.49610
3	0.25	0.51150	13	240.00	0.49550
4	0.50	0.51070	14	480.00	0.49390
5	1.00	0.50950			
6	2.00	0.50780			
7	4.00	0.50540			
8	8.00	0.50330			
9	15.00	0.50090			
10	30.00	0.49880			



Void Ratio = 3.581 **Compression =** 1.5 % >>> CALCULATED USING D_{100}
D_0 = 0.51411 D_{50} = 0.50903 D_{100} = 0.50394
C_v **at 1.1 min. =** 0.28 ft.^{2}/day C_α = 0.007

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

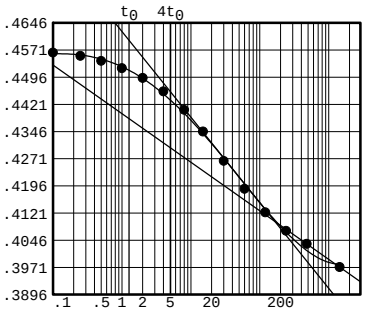
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.49370	11	60.00	0.46750
2	0.10	0.49150	12	120.00	0.46470
3	0.25	0.49060	13	240.00	0.46280
4	0.50	0.48950	14	480.00	0.46100
5	1.00	0.48790	15	1440.00	0.45860
6	2.00	0.48560			
7	4.00	0.48260			
8	8.00	0.47880			
9	15.00	0.47500			
10	30.00	0.47100			



Void Ratio = 3.348 **Compression =** 6.5 % >>> CALCULATED USING D_{100}
D_0 = 0.49465 D_{50} = 0.47929 D_{100} = 0.46393
C_v **at 6.8 min. =** 0.04 ft.^{2}/day C_α = 0.006

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.45860	11	60.00	0.41880
2	0.10	0.45640	12	120.00	0.41230
3	0.25	0.45550	13	240.00	0.40720
4	0.50	0.45410	14	480.00	0.40360
5	1.00	0.45210	15	1440.00	0.39720
6	2.00	0.44940			
7	4.00	0.44570			
8	8.00	0.44060			
9	15.00	0.43460			
10	30.00	0.42650			



Void Ratio = 3.034 **Compression =** 13.3 % >>> CALCULATED USING D_{100}
D_0 = 0.45980 D_{50} = 0.43484 D_{100} = 0.40989
C_v **at 13.7 min. =** 0.02 ft.^{2}/day C_α = 0.018

Pressure: 0.25 tsf **TEST READINGS** **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.39720	11	60.00	0.41550
2	0.10	0.39670	12	120.00	0.41790
3	0.25	0.39750	13	240.00	0.41960
4	0.50	0.39810	14	480.00	0.42080
5	1.00	0.39880	15	1440.00	0.42190
6	2.00	0.40020			
7	4.00	0.40210			
8	8.00	0.40490			
9	15.00	0.40810			
10	30.00	0.41190			

Void Ratio = 3.178 **Compression =** 10.2 %

Pressure: 0.50 tsf **TEST READINGS** **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.42190	11	60.00	0.41600
2	0.10	0.42160	12	120.00	0.41560
3	0.25	0.42150	13	240.00	0.41520
4	0.50	0.42130	14	480.00	0.41470
5	1.00	0.42110	15	1440.00	0.41460
6	2.00	0.42040			
7	4.00	0.41970			
8	8.00	0.41870			
9	15.00	0.41770			
10	30.00	0.41660			

Void Ratio = 3.135 **Compression =** 11.1 %

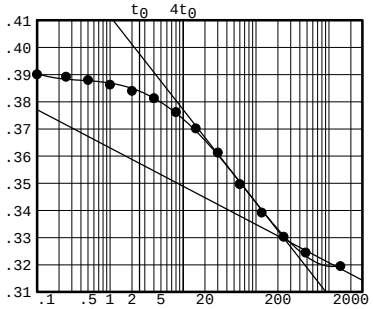
Pressure: 1.00 tsf **TEST READINGS** **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.41460	11	60.00	0.39750
2	0.10	0.41380	12	120.00	0.39570
3	0.25	0.41340	13	240.00	0.39440
4	0.50	0.41260	14	480.00	0.39290
5	1.00	0.41180	15	1440.00	0.39160
6	2.00	0.41070			
7	4.00	0.40860			
8	8.00	0.40610			
9	15.00	0.40330			
10	30.00	0.40010			

Void Ratio = 3.002 **Compression =** 14.0 %

Pressure: 2.00 tsf **TEST READINGS** **Load No. 7**

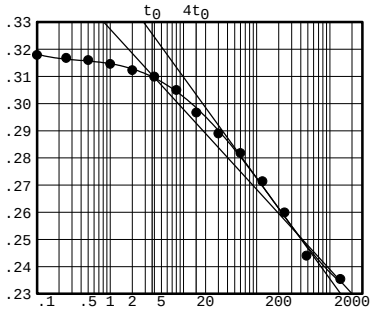
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.39160	11	60.00	0.34970
2	0.10	0.39010	12	120.00	0.33920
3	0.25	0.38920	13	240.00	0.33030
4	0.50	0.38800	14	480.00	0.32450
5	1.00	0.38630	15	1440.00	0.31950
6	2.00	0.38400			
7	4.00	0.38130			
8	8.00	0.37620			
9	15.00	0.37020			
10	30.00	0.36130			



Void Ratio = 2.566 **Compression =** 23.4 % >>> CALCULATED USING D_{100}
D_0 = 0.39427 D_{50} = 0.36179 D_{100} = 0.32930
C_v **at 27.2 min. =** 0.01 ft.^{2}/day C_α = 0.021

Pressure: 4.00 tsf **TEST READINGS** **Load No. 8**

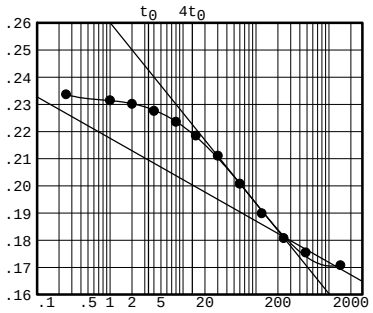
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.31950	11	60.00	0.28180
2	0.10	0.31790	12	120.00	0.27140
3	0.25	0.31680	13	240.00	0.25990
4	0.50	0.31600	14	480.00	0.24400
5	1.00	0.31460	15	1392.00	0.23540
6	2.00	0.31230			
7	4.00	0.30990			
8	8.00	0.30500			
9	15.00	0.29670			
10	30.00	0.28900			



Void Ratio = 2.116 **Compression =** 33.0 % >>> CALCULATED USING D_{100}
D_0 = 0.32127 D_{50} = 0.28667 D_{100} = 0.25208
C_v **at 38.7 min. =** 0.00 ft.^{2}/day C_α = 0.049

Pressure: 8.00 tsf **TEST READINGS** **Load No. 9**

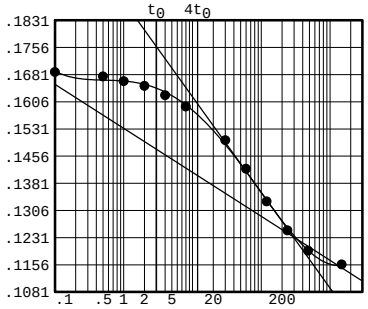
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.23540	11	240.00	0.18080
2	0.25	0.23370	12	480.00	0.17550
3	1.00	0.23150	13	1440.00	0.17080
4	2.00	0.23020			
5	4.00	0.22760			
6	8.00	0.22360			
7	15.00	0.21850			
8	30.00	0.21110			
9	60.00	0.20080			
10	120.00	0.18990			



Void Ratio = 1.706 **Compression =** 41.8 % >>> CALCULATED USING D_{100}
D_0 = 0.23809 D_{50} = 0.20984 D_{100} = 0.18158
C_v **at 31.0 min. =** 0.00 ft.^{2}/day C_α = 0.029

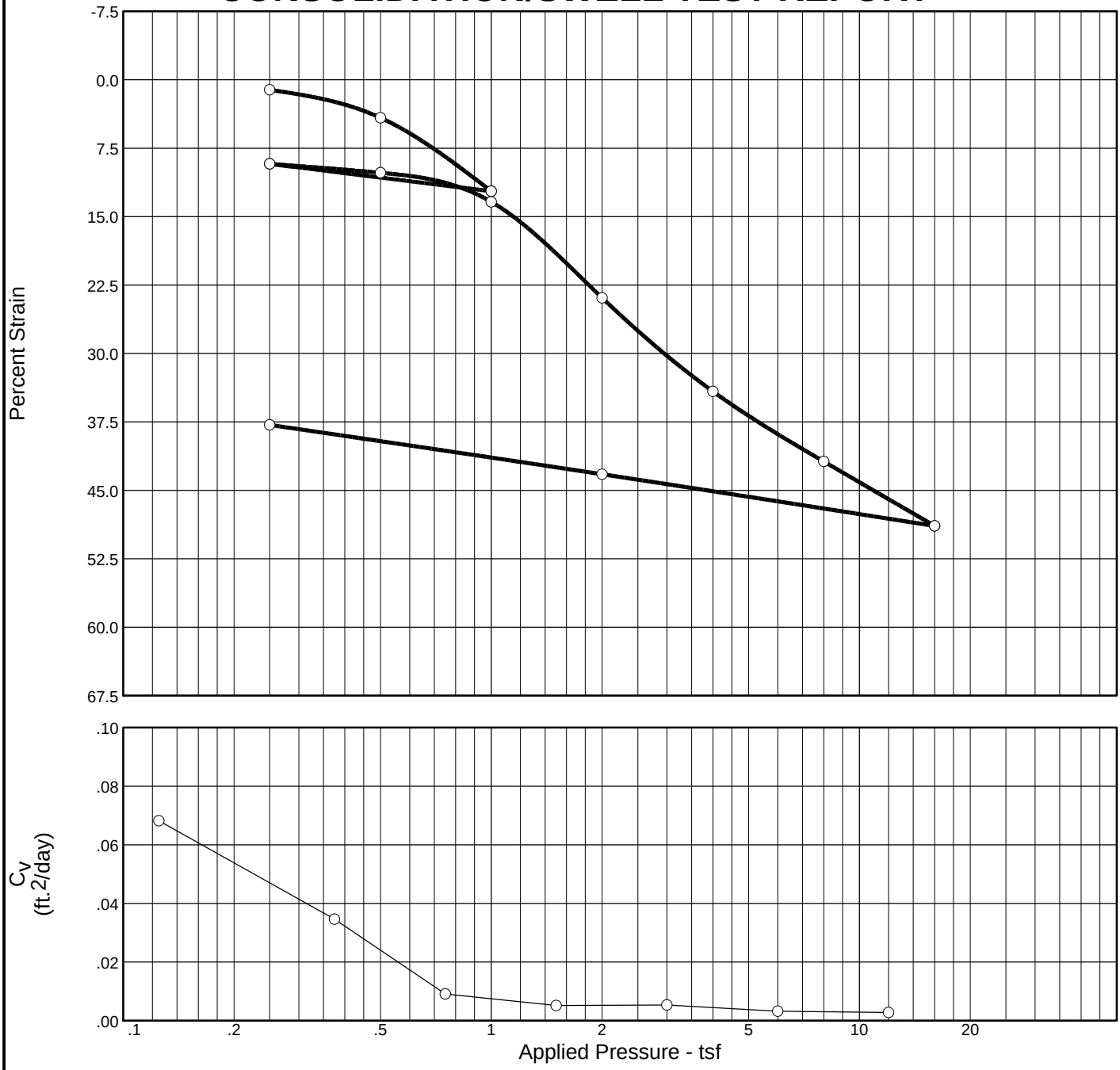
Pressure: 16.00 tsf **TEST READINGS** **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.17080	11	240.00	0.12510
2	0.10	0.16880	12	480.00	0.11950
3	0.50	0.16760	13	1478.00	0.11570
4	1.00	0.16630			
5	2.00	0.16500			
6	4.00	0.16240			
7	8.00	0.15930			
8	30.00	0.15000			
9	60.00	0.14210			
10	120.00	0.13310			



Void Ratio = 1.368 **Compression =** 49.1 % >>> CALCULATED USING D_{100}
D_0 = 0.17174 D_{50} = 0.14756 D_{100} = 0.12337
C_v **at 33.8 min. =** 0.00 ft.^{2}/day C_α = 0.027

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
94.2 %	121.9 %	37.6	175	134	2.75	0.11	1.07	3.560

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Gray CLAY with wood and organics (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

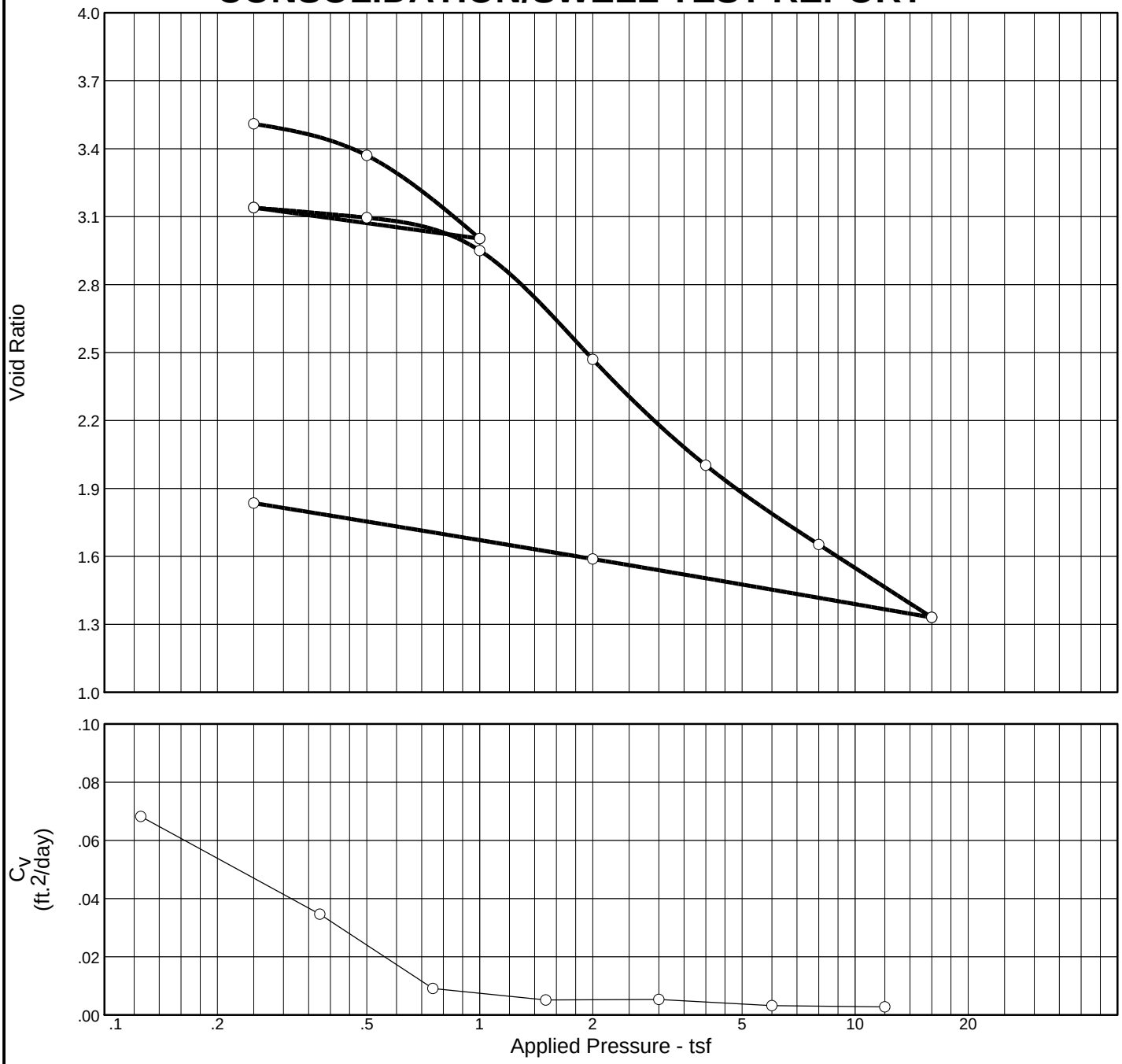
Source: B-07-A **Elev./Depth:** 11'-13'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

Southern Earth Sciences, Inc.

CONSOLIDATION/SWELL TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	P_c (tsf)	C_c	Initial Void Ratio
Saturation	Moisture							
94.2 %	121.9 %	37.6	175	134	2.75	0.11	1.07	3.560

MATERIAL DESCRIPTION	USCS	AASHTO
Soft, Gray CLAY with wood and organics (CH)	(CH)	

Project No. B07-163 **Client:** URS CORPORATION

Project: LDNR LAKE MAUREPAS

Source: B-07-A **Elev./Depth:** 11'-13'

Remarks:

CONSOLIDATION/SWELL TEST REPORT

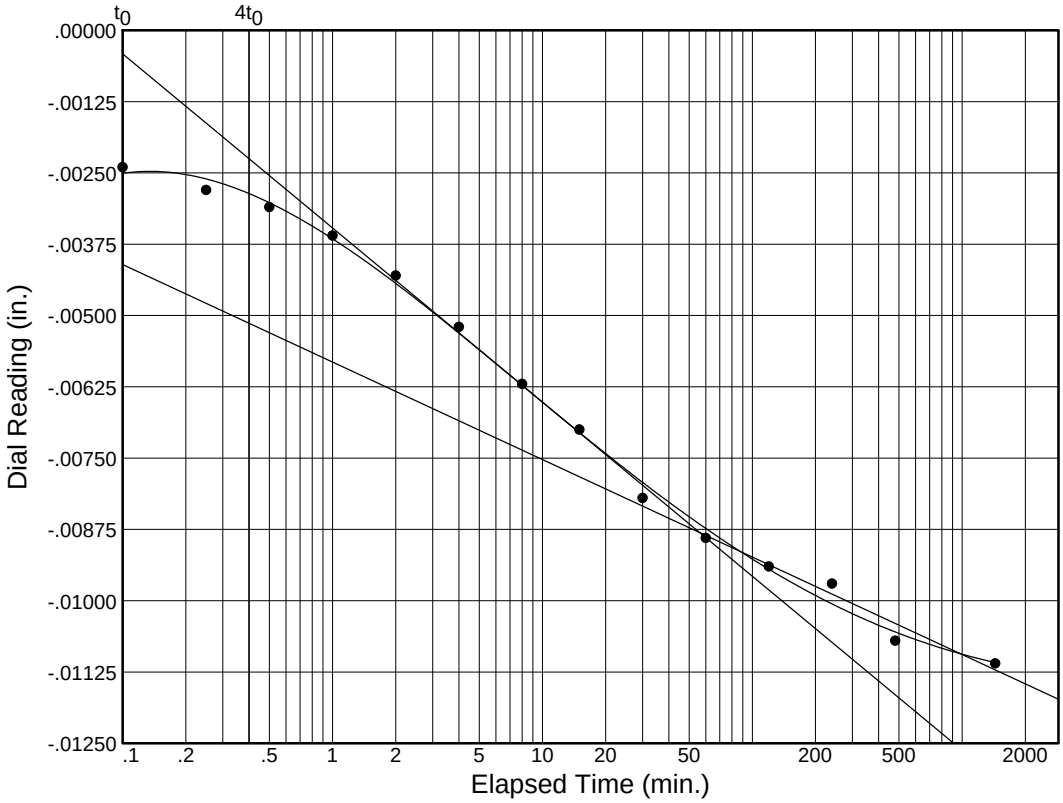
Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-07-A

Elev./Depth: 11'-13'



Load No.= 1

Load= 0.25 tsf

D_0 = -0.00215

D_{50} = -0.00548

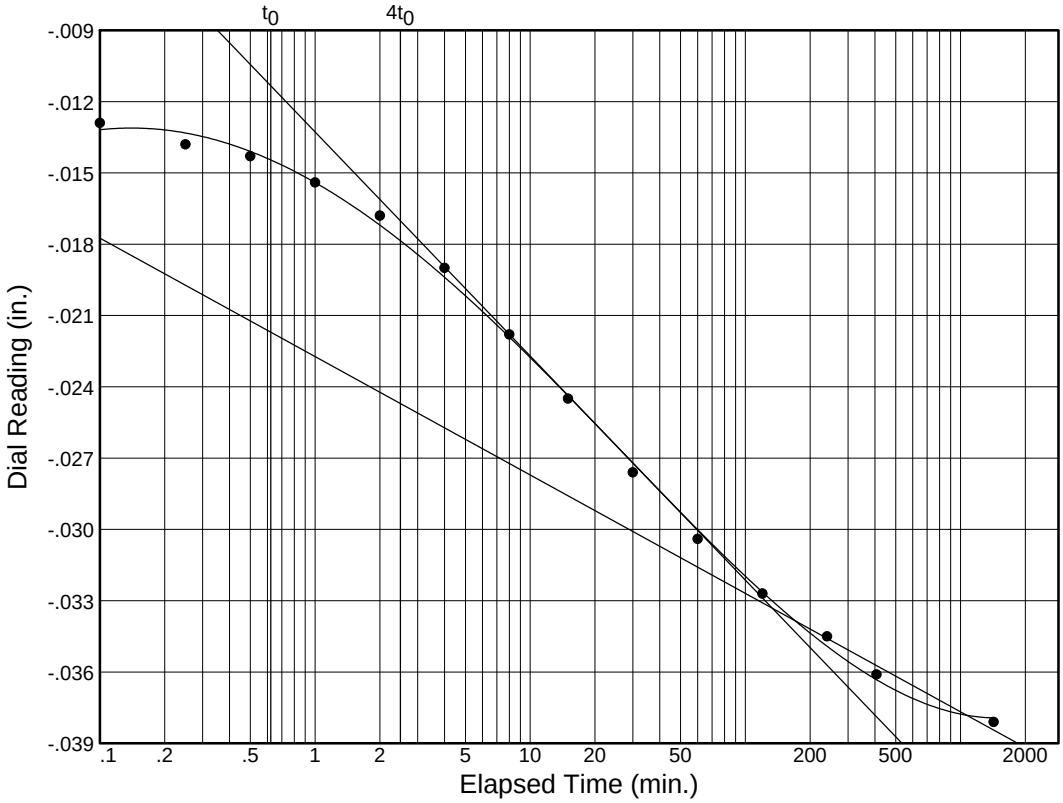
D_{100} = -0.00881

T_{50} = 4.56 min.

C_v @ T_{50}

0.07 ft.^{2}/day

C_α = 0.002



Load No.= 2

Load= 0.50 tsf

D_0 = -0.01106

D_{50} = -0.02219

D_{100} = -0.03332

T_{50} = 8.61 min.

C_v @ T_{50}

0.03 ft.^{2}/day

C_α = 0.006

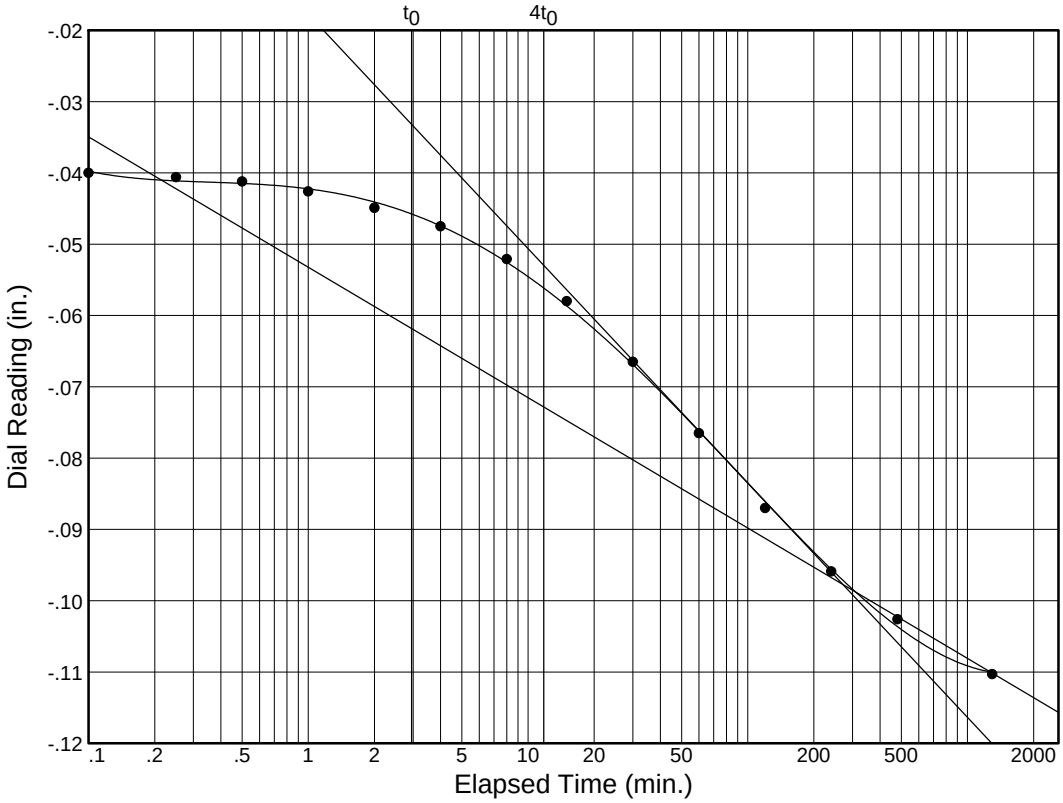
Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-07-A

Elev./Depth: 11'-13'



Load No.= 3

Load= 1.00 tsf

D_0 = -0.03536

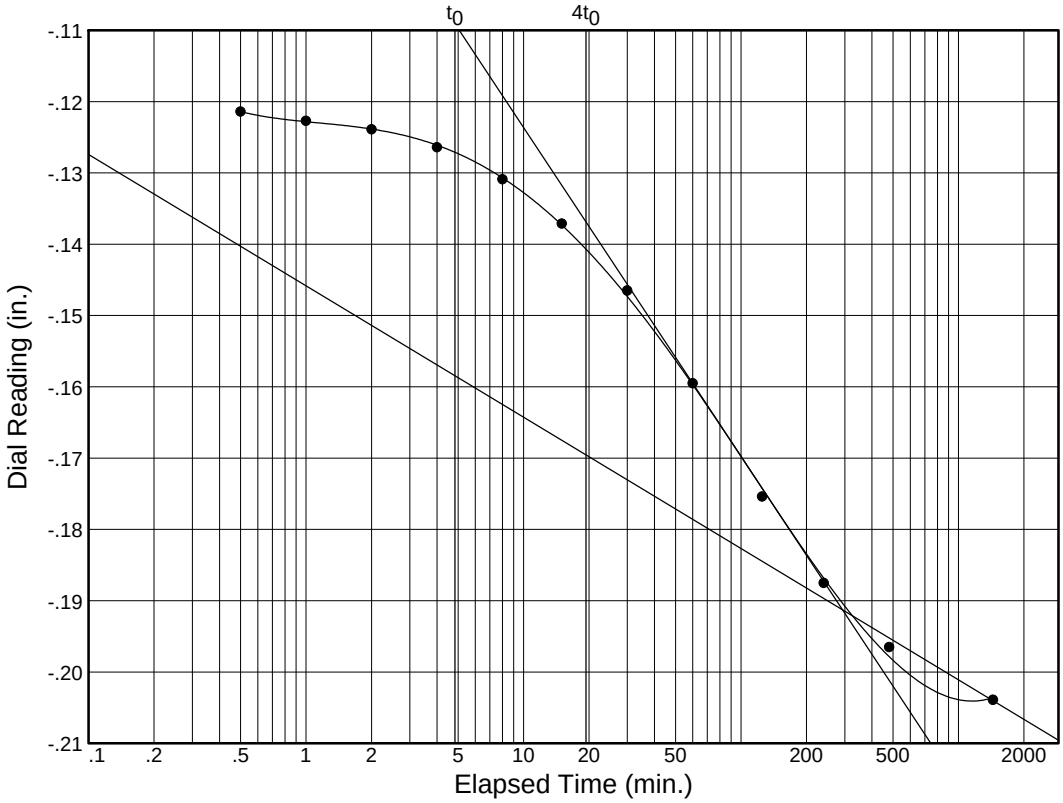
D_{50} = -0.06654

D_{100} = -0.09773

T_{50} = 29.24 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.024



Load No.= 7

Load= 2.00 tsf

D_0 = -0.11354

D_{50} = -0.15241

D_{100} = -0.19128

T_{50} = 40.41 min.

C_v @ T_{50}
0.01 ft.^{2}/day

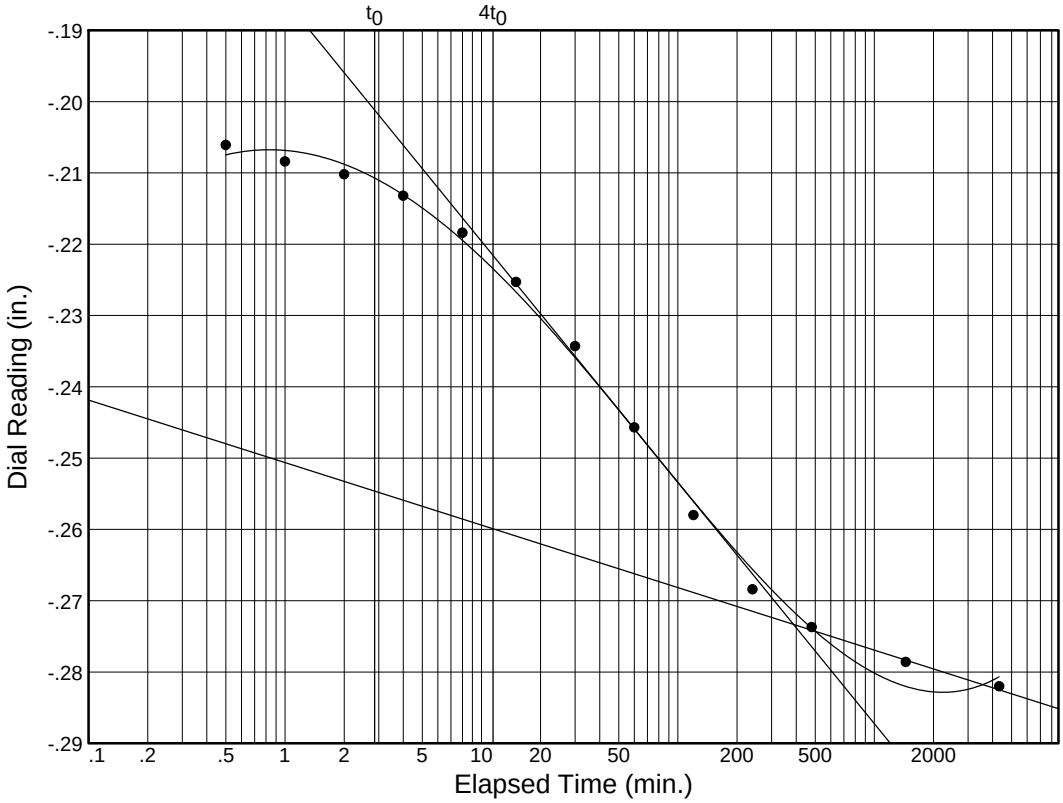
C_α = 0.027

Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-07-A Elev./Depth: 11'-13'



Load No.= 8

Load= 4.00 tsf

D_0 = -0.19802

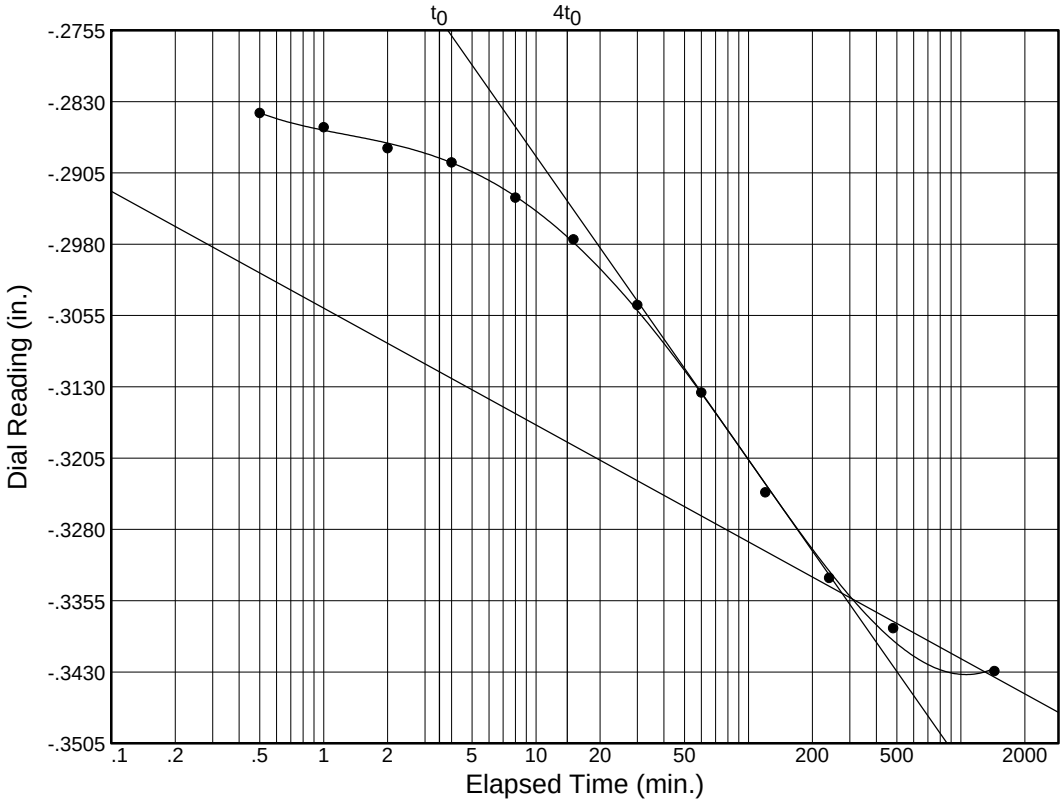
D_{50} = -0.23568

D_{100} = -0.27333

T_{50} = 29.48 min.

C_v @ T_{50}
0.01 ft.^{2}/day

C_α = 0.015



Load No.= 9

Load= 8.00 tsf

D_0 = -0.28065

D_{50} = -0.30768

D_{100} = -0.33471

T_{50} = 37.63 min.

C_v @ T_{50}
0.00 ft.^{2}/day

C_α = 0.024

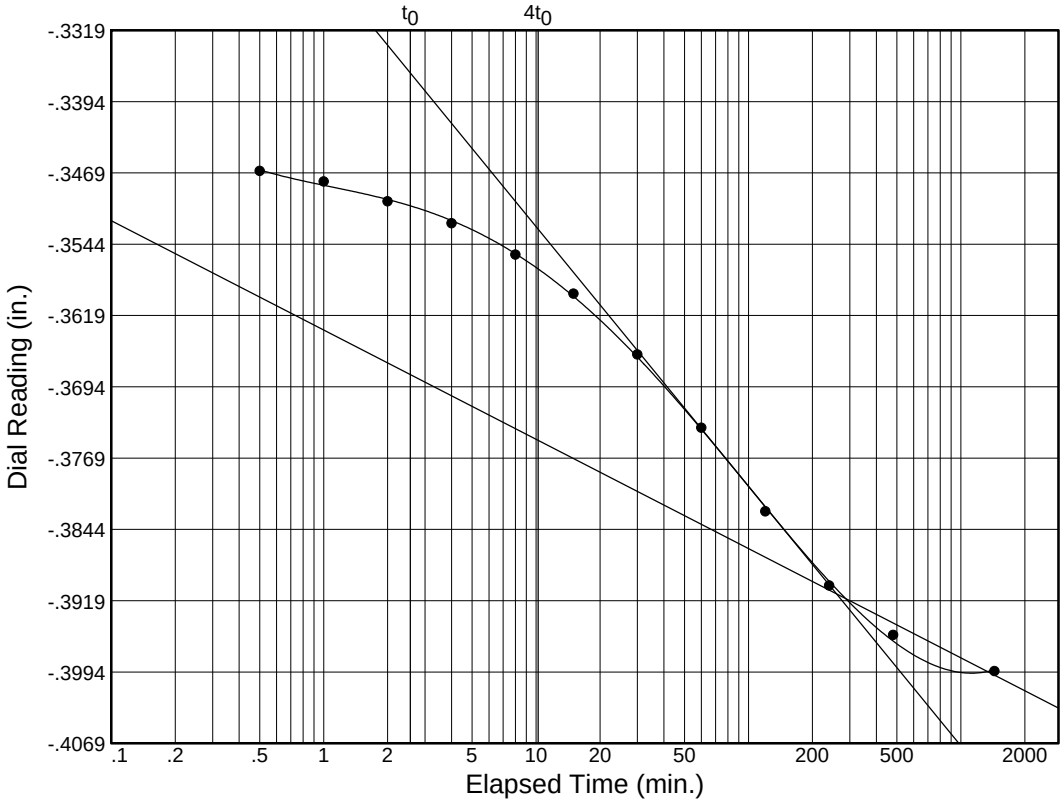
Southern Earth Sciences, Inc.

Dial Reading vs. Time

Project No.: B07-163
Project: LDNR LAKE MAUREPAS

Source: B-07-A

Elev./Depth: 11'-13'



Load No.= 10

Load= 16.00 tsf

D_0 = -0.34372

D_{50} = -0.36746

D_{100} = -0.39119

T_{50} = 33.62 min.

C_v @ T_{50}

0.00 ft.^{2}/day

C_α = 0.025

CONSOLIDATION TEST DATA

Client: URS CORPORATION
Project: LDNR LAKE MAUREPAS
Project Number: B07-163

Sample Data

Source: B-07-A
Sample No.:
Elev. or Depth: 11'-13' **Sample Length(in./cm.):**
Location:
Description: Soft, Gray CLAY with wood and organics (CH)
Liquid Limit: 175 **Plasticity Index:** 134
USCS: (CH) **AASHTO:** **Figure No.:**
Testing Remarks:

Test Specimen Data

TOTAL SAMPLE	BEFORE TEST	AFTER TEST
Wet w+t = 133.05 g.	**Consolidometer #** = 6	**Wet w+t** = 123.62 g.
Dry w+t = 93.39 g.		**Dry w+t** = 97.99 g.
Tare Wt. = 60.86 g.	**Spec. Gravity** = 2.75	**Tare Wt.** = 60.66 g.
Height = .80 in.	**Height** = .80 in.	
Diameter = 2.50 in.	**Diameter** = 2.50 in.	
Weight = 86.12 g.	**Defl. Table** = n/a	
Moisture = 121.9 %	**Ht. Solids** = 0.1754 in.	**Moisture** = 68.7 %
Wet Den. = 83.5 pcf	**Dry Wt.** = 38.81 g.*	**Dry Wt.** = 37.33 g.
Dry Den. = 37.6 pcf	**Void Ratio** = 3.560	**Void Ratio** = 1.835
	Saturation = 94.2 %	

*** Initial dry weight used in calculations**

End-of-Load Summary

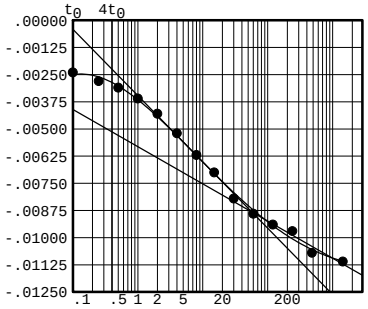
Pressure (tsf)	Final Dial (in.)	Machine Defl. (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Compression /Swell
start	0.00000				3.560	
0.25	-0.01110	0.00000	0.07	0.002	3.510*	1.1 Comprs.*
0.50	-0.03810	0.00000	0.03	0.006	3.370*	4.2 Comprs.*
1.00	-0.11030	0.00000	0.01	0.024	3.003*	12.2 Comprs.*
0.25	-0.08630	0.00000			3.140	9.2 Comprs.
0.50	-0.09410	0.00000			3.095	10.2 Comprs.
1.00	-0.11960	0.00000			2.950	13.4 Comprs.
2.00	-0.20390	0.00000	0.01	0.027	2.470*	23.9 Comprs.*
4.00	-0.28200	0.00000	0.01	0.015	2.002*	34.2 Comprs.*
8.00	-0.34290	0.00000	0.00	0.024	1.652*	41.8 Comprs.*
16.00	-0.39930	0.00000	0.00	0.025	1.330*	48.9 Comprs.*
2.00	-0.35400	0.00000			1.589	43.2 Comprs.
0.25	-0.31070	0.00000			1.835	37.8 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

C_c = 1.07 P_c = 0.11 tsf C_r = 0.28

Pressure: 0.25 tsf **TEST READINGS** **Load No. 1**

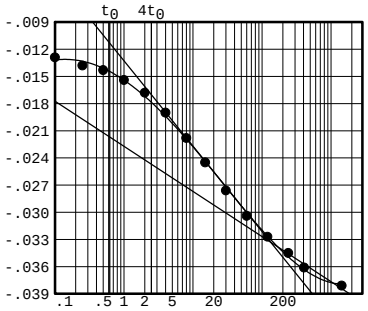
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	0.00000	11	60.00	-0.00890
2	0.10	-0.00240	12	120.00	-0.00940
3	0.25	-0.00280	13	240.00	-0.00970
4	0.50	-0.00310	14	480.00	-0.01070
5	1.00	-0.00360	15	1437.00	-0.01110
6	2.00	-0.00430			
7	4.00	-0.00520			
8	8.00	-0.00620			
9	15.00	-0.00700			
10	30.00	-0.00820			



Void Ratio = 3.510 **Compression =** 1.1 % >>> CALCULATED USING D_{100}
D_0 = -0.00215 D_{50} = -0.00548 D_{100} = -0.00881
C_v **at 4.6 min. =** 0.07 ft.^{2}/day C_α = 0.002

Pressure: 0.50 tsf **TEST READINGS** **Load No. 2**

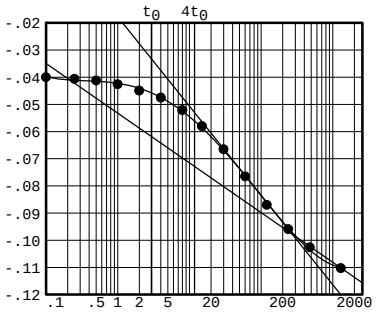
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.01110	11	60.00	-0.03040
2	0.10	-0.01290	12	120.00	-0.03270
3	0.25	-0.01380	13	240.00	-0.03450
4	0.50	-0.01430	14	407.00	-0.03610
5	1.00	-0.01540	15	1426.00	-0.03810
6	2.00	-0.01680			
7	4.00	-0.01900			
8	8.00	-0.02180			
9	15.00	-0.02450			
10	30.00	-0.02760			



Void Ratio = 3.370 **Compression =** 4.2 % >>> CALCULATED USING D_{100}
D_0 = -0.01106 D_{50} = -0.02219 D_{100} = -0.03332
C_v **at 8.6 min. =** 0.03 ft.^{2}/day C_α = 0.006

Pressure: 1.00 tsf **TEST READINGS** **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.03810	11	60.00	-0.07650
2	0.10	-0.04000	12	120.00	-0.08700
3	0.25	-0.04060	13	240.00	-0.09590
4	0.50	-0.04120	14	480.00	-0.10260
5	1.00	-0.04260	15	1297.00	-0.11030
6	2.00	-0.04490			
7	4.00	-0.04750			
8	8.00	-0.05210			
9	15.00	-0.05800			
10	30.00	-0.06650			



Void Ratio = 3.003 **Compression =** 12.2 % >>> CALCULATED USING D_{100}
D_0 = -0.03536 D_{50} = -0.06654 D_{100} = -0.09773
C_v **at 29.2 min. =** 0.01 ft.^{2}/day C_α = 0.024

Pressure: 0.25 tsf **TEST READINGS** **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.11430	11	60.00	-0.09580
2	0.10	-0.11390	12	120.00	-0.09180
3	0.25	-0.11340	13	240.00	-0.08920
4	0.50	-0.11320	14	465.00	-0.08790
5	1.00	-0.11240	15	1350.00	-0.08630
6	2.00	-0.11160			
7	4.00	-0.11010			
8	8.00	-0.10780			
9	15.00	-0.10480			
10	30.00	-0.10060			

Void Ratio = 3.140 **Compression =** 9.2 %

Pressure: 0.50 tsf **TEST READINGS** **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.08630	11	60.00	-0.09230
2	0.10	-0.08640	12	120.00	-0.09310
3	0.25	-0.08650	13	240.00	-0.09350
4	0.50	-0.08670	14	432.00	-0.09370
5	1.00	-0.08690	15	1290.00	-0.09410
6	2.00	-0.08730			
7	4.00	-0.08800			
8	8.00	-0.08880			
9	15.00	-0.08990			
10	30.00	-0.09130			

Void Ratio = 3.095 **Compression =** 10.2 %

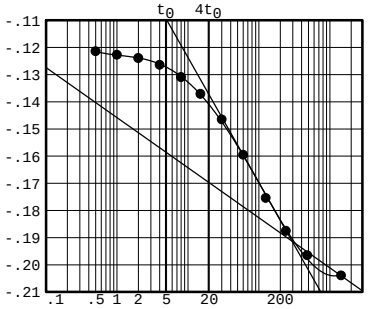
Pressure: 1.00 tsf **TEST READINGS** **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.09410	11	120.00	-0.11360
2	0.10	-0.09370	12	240.00	-0.11570
3	0.50	-0.09510	13	480.00	-0.11750
4	1.00	-0.09560	14	1440.00	-0.11960
5	2.00	-0.09650			
6	4.00	-0.09790			
7	8.00	-0.10070			
8	15.00	-0.10340			
9	30.00	-0.10700			
10	60.00	-0.11090			

Void Ratio = 2.950 **Compression =** 13.4 %

Pressure: 2.00 tsf **TEST READINGS** **Load No. 7**

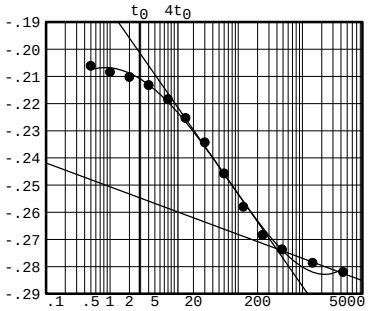
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.11960	11	240.00	-0.18750
2	0.50	-0.12140	12	480.00	-0.19650
3	1.00	-0.12270	13	1440.00	-0.20390
4	2.00	-0.12390			
5	4.00	-0.12640			
6	8.00	-0.13090			
7	15.00	-0.13710			
8	30.00	-0.14650			
9	60.00	-0.15950			
10	125.00	-0.17540			



Void Ratio = 2.470 **Compression =** 23.9 % >>> CALCULATED USING D_{100}
D_0 = -0.11354 D_{50} = -0.15241 D_{100} = -0.19128
C_v **at 40.4 min. =** 0.01 ft.^{2}/day C_α = 0.027

Pressure: 4.00 tsf **TEST READINGS** **Load No. 8**

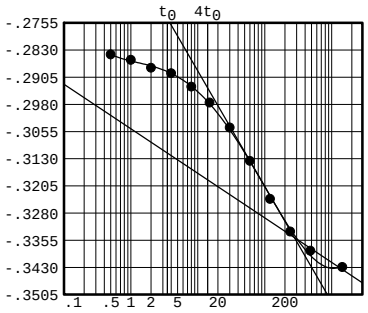
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.20390	11	240.00	-0.26840
2	0.50	-0.20610	12	480.00	-0.27370
3	1.00	-0.20840	13	1447.00	-0.27860
4	2.00	-0.21020	14	4327.00	-0.28200
5	4.00	-0.21320			
6	8.00	-0.21840			
7	15.00	-0.22530			
8	30.00	-0.23430			
9	60.00	-0.24570			
10	120.00	-0.25800			



Void Ratio = 2.002 **Compression =** 34.2 % >>> CALCULATED USING D_{100}
D_0 = -0.19802 D_{50} = -0.23568 D_{100} = -0.27333
C_v **at 29.5 min. =** 0.01 ft.^{2}/day C_α = 0.015

Pressure: 8.00 tsf **TEST READINGS** **Load No. 9**

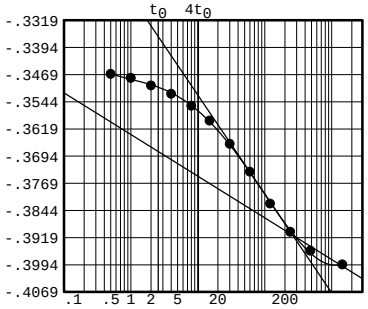
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.28200	11	240.00	-0.33310
2	0.50	-0.28420	12	480.00	-0.33840
3	1.00	-0.28570	13	1440.00	-0.34290
4	2.00	-0.28790			
5	4.00	-0.28940			
6	8.00	-0.29310			
7	15.00	-0.29750			
8	30.00	-0.30440			
9	60.00	-0.31360			
10	120.00	-0.32410			



Void Ratio = 1.652 **Compression =** 41.8 % >>> CALCULATED USING D_{100}
D_0 = -0.28065 D_{50} = -0.30768 D_{100} = -0.33471
C_v **at 37.6 min. =** 0.00 ft.^{2}/day C_α = 0.024

Pressure: 16.00 tsf **TEST READINGS** **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.00	-0.34290	11	240.00	-0.39030
2	0.50	-0.34670	12	480.00	-0.39550
3	1.00	-0.34780	13	1440.00	-0.39930
4	2.00	-0.34990			
5	4.00	-0.35220			
6	8.00	-0.35550			
7	15.00	-0.35960			
8	30.00	-0.36600			
9	60.00	-0.37370			
10	120.00	-0.38250			



Void Ratio = 1.330 **Compression =** 48.9 % >>> CALCULATED USING D_{100}
D_0 **=** -0.34372 D_{50} **=** -0.36746 D_{100} **=** -0.39119
C_v **at 33.6 min. =** 0.00 ft.^{2}/day C_α **=** 0.025