US EPA ARCHIVE DOCUMENT

APPENDIX G

GEOTECHNICAL DATA

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SKS ENGINEERS, INC.
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2900 N. MARTIN LUTHER KING, JR. DRIVE • DECATUR, ILLINOIS 62526
217-877-2100 • FAX 217-877-4816
www.sksengineers.com

April 3, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification:	EX-21-688			Sample Obtained By:	SKS		
Sample Depth/Elevation:	688						
Description:	BROWN TISKILWA – Lean Clay w/Sand, Little Gravel						
USCS Classification:	CL						
Natural Moisture Content:	13.0%	Liquid Limit:	28.0	Soil Particle Sizes: Gravel		Silt	
		Plasticity Index:	15.0	Sand		Clay	

Test Specimen Data

Specimen Type:	FLEXIBLE WALL			Initial Moisture:	12.6%
Diameter:	7.28 cm.			Final Moisture:	14.4%
Length:	6.8 cm.	Wet Weight Before Test:	631.9 gm.	Dry Density:	1.98 gm./cc.
Area:	41.62 sq. cm.	Wet Weight After Test:	642.0 gm.	Void Ratio:	0.38
Volume:	283.05 cu. cm.	Dry Weight:	561.4 gm.	Initial Saturation:	87.47%

Testing Data and Results

Test Apparatus:	GEOTEST						
Cell Confining Pressure	30.0	psi =	2,110.20	cm of H_2O	Permeant Liquid:	0.005	N $CaSO_4$
Back Pressure	25.0	psi =	1,758.50	cm of H_2O			
Driving Pressure	2.0	psi =	140.68	cm of H_2O	Temperature:	24.0	°C
Hydraulic Gradient:	20.69				Temperature Correction Factor:	0.91	
Time Req'd. for Saturation:	4.15	hours	Amount of Flow	16.423 ml			
Time for Permeability Test:	166.6	hours	Amount of Flow	15.135 ml	Permeability: (k) =	2.73E-08	cm/sec

Remarks:

By: Robert Wright

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ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: **EX-13-680** Sample Obtained By: **SKS**

Sample Depth/Elevation: **680**

Description: **GRAY TISKILWA** - CL - Lean Clay,with Sand, Trace Gravel

USCS Classification: **CL**

Natural Moisture Content: **11.7%** Liquid Limit: **22.0** Soil Particle Sizes: Gravel ____ Silt ____

Plasticity Index: **10.0** Sand ____ Clay ____

Test Specimen Data

Specimen Type: **FLEXIBLE WALL**

Diameter:	7.28 cm.			Initial Moisture:	12.1%
Length:	7.5 cm.	Wet Weight Before Test:	711.4 gm.	Final Moisture:	11.8%
Area:	41.62 sq. cm.	Wet Weight After Test:	709.7 gm.	Dry Density:	2.03 gm./cc.
Volume:	312.19 cu. cm.	Dry Weight:	634.6 gm.	Void Ratio:	0.31
				Initial Saturation:	102.26%

Testing Data and Results

Test Apparatus: **GEOTEST**

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O	Permeant Liquid:	0.005 N $CaSO_4$	
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O	Temperature:	24.0 °C	
Hydraulic Gradient:	18.76		Temperature Correction Factor:	0.91	
Time Req'd. for Saturation:	24 hours	Amount of Flow 12.69 ml			
Time for Permeability Test:	166.6 hours	Amount of Flow 11.256 ml	Permeability: (k) =	2.24E-08 cm/sec	

Remarks:

By: Robert Wright

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April 4, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
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ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: EX-16-677.5 — Sample Obtained By: SKS

Sample Depth/Elevation: 677.5

Description: GRAY TISKILWA, Lean Clay, with Sand, Trace Gravel

USCS Classification: CL

Natural Moisture Content: 13.9% — Liquid Limit: — — Soil Particle Sizes: Gravel — Silt —

Plasticity Index: — — Sand — Clay —

Test Specimen Data

Specimen Type:	FLEXIBLE WALL			Initial Moisture:	14.2%
Diameter:	7.28 cm.			Final Moisture:	14.2%
Length:	6.05 cm.	Wet Weight Before Test:	580.2 gm.	Dry Density:	2.02 gm./cc.
Area:	41.62 sq. cm.	Wet Weight After Test:	580.2 gm.	Void Ratio:	0.38
Volume:	251.83 cu. cm.	Dry Weight:	508.0 gm.	Initial Saturation:	100.00%

Testing Data and Results

Test Apparatus: GEOTEST

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O	Permeant Liquid:	0.005 N $CaSO_4$	
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O	Temperature:	24.0 ^oC	
Hydraulic Gradient:	23.25		Temperature Correction Factor:	0.91	
Time Req'd. for Saturation:	6.75 hours	Amount of Flow 11.228 ml			
Time for Permeability Test:	166.6 hours	Amount of Flow 10.675 ml	Permeability: (k) =	1.71E-08 cm/sec	

Remarks:

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ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: **EX-17-685** Sample Obtained By: **SKS**

Sample Depth/Elevation: **685**

Description: **GRAY TISKILWA** - Lean Clay, with Sand, Little Gravel

USCS Classification: **CL**

Natural Moisture Content: **14.9%** Liquid Limit: **25.0** Soil Particle Sizes: Gravel ____ Silt ____

Plasticity Index: **13.0** Sand ____ Clay ____

Test Specimen Data

Specimen Type: **FLEXIBLE WALL**

Diameter:	7.28 cm.			Initial Moisture:	14.8%
Length:	6.75 cm.	Wet Weight Before Test:	632.2 gm.	Final Moisture:	14.6%
Area:	41.62 sq. cm.	Wet Weight After Test:	631.6 gm.	Dry Density:	1.96 gm./cc.
Volume:	280.97 cu. cm.	Dry Weight:	550.9 gm.	Void Ratio:	0.39
				Initial Saturation:	100.74%

Testing Data and Results

Test Apparatus: **GEOTEST**

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O	Permeant Liquid:	0.005 N $CaSO_4$	
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O	Temperature:	24.0 °C	
Hydraulic Gradient:	20.84		Temperature Correction Factor:	0.91	
Time Req'd. for Saturation:	2 hours	Amount of Flow 9.5125 ml			
Time for Permeability Test:	166.6 hours	Amount of Flow 9.253 ml	Permeability: (k) =	1.66E-08 cm/sec	

Remarks:

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April 6, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: **EX-23-676** Sample Obtained By: **SKS**

Sample Depth/Elevation: **676**

Description: **GRAY TISKILWA** – Sandy Lean Clay, Trace Gravel

USCS Classification: **CL**

Natural Moisture Content: **12.7%** Liquid Limit: **28.0** Soil Particle Sizes: Gravel ____ Silt ____

Plasticity Index: **15.0** Sand ____ Clay ____

Test Specimen Data

Specimen Type: **FLEXIBLE WALL**

Diameter:	7.28 cm.			Initial Moisture:	13.0%
Length:	5.2 cm.	Wet Weight Before Test:	536.8 gm.	Final Moisture:	13.5%
Area:	41.62 sq. cm.	Wet Weight After Test:	539.2 gm.	Dry Density:	2.20 gm./cc.
Volume:	216.45 cu. cm.	Dry Weight:	475.2 gm.	Void Ratio:	0.36
				Initial Saturation:	96.25%

Testing Data and Results

Test Apparatus: **GEOTEST**

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O	Permeant Liquid:	0.005	N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O	Temperature:	24.0	°C
Hydraulic Gradient:	27.05		Temperature Correction Factor:	0.91	
Time Req'd. for Saturation:	20.5 hours	Amount of Flow 9.5875 ml			
Time for Permeability Test:	166.6 hours	Amount of Flow 8.8325 ml	Permeability: (k) =	1.22E-08	cm/sec

Remarks:

By: Robert Wright

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April 3, 2003

Project No. 18330

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Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: **EX-24-695** Sample Obtained By: **SKS**

Sample Depth/Elevation: **695**

Description: **GRAY TISKILWA** – Sandy Lean Clay, Little Gravel – CL

USCS Classification: **CL**

Natural Moisture Content: **11.6%** Liquid Limit: **23.0** Soil Particle Sizes: Gravel ____ Silt ____

Plasticity Index: **12.0** Sand ____ Clay ____

Test Specimen Data

Specimen Type: **FLEXIBLE WALL**

Diameter:	7.28 cm.			Initial Moisture:	11.1%
Length:	6.5 cm.	Wet Weight Before Test:	645.4 gm.	Final Moisture:	11.7%
Area:	41.62 sq. cm.	Wet Weight After Test:	648.4 gm.	Dry Density:	2.15 gm./cc.
Volume:	270.56 cu. cm.	Dry Weight:	580.7 gm.	Void Ratio:	0.31
				Initial Saturation:	95.57%

Testing Data and Results

Test Apparatus: **GEOTEST**

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O		Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O		Temperature:	24.0 °C
Hydraulic Gradient:	21.64			Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	1 hours	Amount of Flow	8.3125 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow	8.136 ml	Permeability: (k) =	1.40E-08 cm/sec

Remarks:

By: Robert Wright

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ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification:	EX-13-670			Sample Obtained By:	SKS		
Sample Depth/Elevation:	670						
Description:	BROWN ROBEIN/ROXANA - Lean Clayey Silt, Trace Organics						
USCS Classification:	ML						
Natural Moisture Content:	40.7%	Liquid Limit:	41.0	Soil Particle Sizes:	Gravel		Silt	
		Plasticity Index:	12.0		Sand		Clay	

Test Specimen Data

Specimen Type:	FLEXIBLE WALL			Initial Moisture:	43.2%
Diameter:	7.28 cm.			Final Moisture:	44.0%
Length:	7 cm.	Wet Weight Before Test:	491.9 gm.	Dry Density:	1.18 gm./cc.
Area:	41.62 sq. cm.	Wet Weight After Test:	494.6 gm.	Void Ratio:	1.17
Volume:	291.37 cu. cm.	Dry Weight:	343.4 gm.	Initial Saturation:	98.21%

Testing Data and Results

Test Apparatus:	GEOTEST				
Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O		Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O		Temperature:	24.0 °C
Hydraulic Gradient:	20.10			Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	48 hours	Amount of Flow	14.368 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow	8.36 ml	Permeability: (k) =	1.55E-08 cm/sec

Remarks:

By: Robert Wright

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April 6, 2003

Project No. 18330

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ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: **EX-16-667.5** Sample Obtained By: **SKS**

Sample Depth/Elevation: **667.5**

Description: **BROWN-DARK GRAY ROBEIN/ROXANA, Organic Clay - OL**

USCS Classification:

Natural Moisture Content: **42.7%** Liquid Limit: **49.0** Soil Particle Sizes: Gravel ____ Silt ____

Plasticity Index: **15.0** Sand ____ Clay ____

Test Specimen Data

Specimen Type: **FLEXIBLE WALL**

Diameter:	7.28 cm.			Initial Moisture:	48.9%
Length:	6.7 cm.	Wet Weight Before Test:	457.8 gm.	Final Moisture:	51.0%
Area:	41.62 sq. cm.	Wet Weight After Test:	464.2 gm.	Dry Density:	1.10 gm./cc.
Volume:	278.89 cu. cm.	Dry Weight:	307.4 gm.	Void Ratio:	1.35
				Initial Saturation:	95.92%

Testing Data and Results

Test Apparatus: **GEOTEST**

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O	Permeant Liquid:	0.005 N $CaSO_4$	
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O	Temperature:	24.0 °C	
Hydraulic Gradient:	21.00		Temperature Correction Factor:	0.91	
Time Req'd. for Saturation:	6.25 hours	Amount of Flow 25.419 ml			
Time for Permeability Test:	166.6 hours	Amount of Flow 23.24 ml	Permeability: (k) =	4.13E-08 cm/sec	

Remarks:

By: Talent Wright

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ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: EX-21-670
Sample Obtained By: SKS
Sample Depth/Elevation: 670
Description: GRAY ROBEIN/ROXANA - Sandy Lean Clay, Little Gravel
USCS Classification: CL
Natural Moisture Content: 11.4%
Liquid Limit: 18.0
Plasticity Index: 9.0
Soil Particle Sizes: Gravel ____ Silt ____ Sand ____ Clay ____

Test Specimen Data

Specimen Type: FLEXIBLE WALL
Diameter: 7.28 cm.
Length: 5.75 cm.
Area: 41.62 sq. cm.
Volume: 239.34 cu. cm.
Wet Weight Before Test: 545.5 gm.
Wet Weight After Test: 553.3 gm.
Dry Weight: 488.4 gm.
Initial Moisture: 11.7%
Final Moisture: 13.3%
Dry Density: 2.04 gm./cc.
Void Ratio: 0.35
Initial Saturation: 87.98%

Testing Data and Results

Test Apparatus: GEOTEST
Cell Confining Pressure 30.0 psi = 2,110.20 cm of H_2O
Back Pressure 25.0 psi = 1,758.50 cm of H_2O
Driving Pressure 2.0 psi = 140.68 cm of H_2O
Hydraulic Gradient: 24.47
Time Req'd. for Saturation: 4.75 hours Amount of Flow 19.125 ml
Time for Permeability Test: 166.6 hours Amount of Flow 16.913 ml
Permeant Liquid: 0.005 N $CaSO_4$
Temperature: 24.0 °C
Temperature Correction Factor: 0.91

Permeability: (k) = 2.58E-08 cm/sec

Remarks:

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ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: **EX-24-670** Sample Obtained By: **SKS**

Sample Depth/Elevation: **670**

Description: **GRAY ROBEIN/ROXANA** - Sandy Lean Clay, Little Gravel

USCS Classification: **CL**

Natural Moisture Content: **12.6%** Liquid Limit: **24.0** Soil Particle Sizes: Gravel Silt

Plasticity Index: **13.0** Sand Clay

Test Specimen Data

Specimen Type: **FLEXIBLE WALL**

Diameter:	7.28 cm.			Initial Moisture:	13.8%
Length:	7.2 cm.	Wet Weight Before Test:	663.9 gm.	Final Moisture:	13.7%
Area:	41.62 sq. cm.	Wet Weight After Test:	663.2 gm.	Dry Density:	1.95 gm./cc.
Volume:	299.70 cu. cm.	Dry Weight:	583.3 gm.	Void Ratio:	0.36
				Initial Saturation:	100.88%

Testing Data And Results

Test Apparatus: **GEOTEST**

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O		Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O		Temperature:	24.0 °C
Hydraulic Gradient:	19.54			Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	2 hours	Amount of Flow	20.96 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow	18.64 ml	Permeability: (k) =	3.56E-08 cm/sec

Remarks:

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April 4, 2003

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ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: **EX-13-660**
Sample Obtained By: **SKS**
Sample Depth/Elevation: **660**
Description: **DARK GRAY-GRAY BERRY CLAY** - Lean Clay
USCS Classification: **CL**
Natural Moisture Content: **16.5%**
Liquid Limit: **37.0**
Plasticity Index: **25.0**
Soil Particle Sizes: Gravel ____ Silt ____ Sand ____ Clay ____

Test Specimen Data

Specimen Type: **FLEXIBLE WALL**
Diameter: **7.28** cm.
Length: **6.5** cm.
Area: **41.62** sq. cm.
Volume: **270.56** cu. cm.
Wet Weight Before Test: **597.5** gm.
Wet Weight After Test: **608.1** gm.
Dry Weight: **510.4** gm.
Initial Moisture: **17.1%**
Final Moisture: **19.1%**
Dry Density: **1.89** gm./cc.
Void Ratio: **0.51**
Initial Saturation: **89.15%**

Testing Data and Results

Test Apparatus: **GEOTEST**

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O	Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O		
Driving Pressure	2.0 psi =	140.68 cm of H_2O	Temperature:	24.0 °C
Hydraulic Gradient:	21.64		Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	2.25 hours	Amount of Flow 12.369 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow 10.35 ml	Permeability: (k) =	1.78E-08 cm/sec

Remarks:

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ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: **EX-16-659.8** Sample Obtained By: **SKS**

Sample Depth/Elevation: **659.8**

Description: **DARK GRAY BERRY CLAY** – Lean Clay

USCS Classification: **CL**

Natural Moisture Content: **16.5%** Liquid Limit: __ Soil Particle Sizes: Gravel __ Silt __

Plasticity Index: __ Sand __ Clay __

Test Specimen Data

Specimen Type: **FLEXIBLE WALL**

Diameter:	7.28 cm.			Initial Moisture:	14.0%
Length:	8.5 cm.	Wet Weight Before Test:	797.8 gm.	Final Moisture:	14.0%
Area:	41.62 sq. cm.	Wet Weight After Test:	797.4 gm.	Dry Density:	1.98 gm./cc.
Volume:	353.81 cu. cm.	Dry Weight:	699.6 gm.	Void Ratio:	0.37
				Initial Saturation:	100.41%

Test Data and Results

Test Apparatus: **GEOTEST**

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O		Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O		Temperature:	24.0 °C
Hydraulic Gradient:	16.55			Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	1.25 hours	Amount of Flow	17.038 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow	15.185 ml	Permeability: (k) =	3.42E-08 cm/sec

Remarks:

By: Robert Wright

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ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: EX-19-658
Sample Obtained By: SKS
Sample Depth/Elevation: 658
Description: GRAY BERRY CLAY - Lean Clay w/Sand
USCS Classification: CL
Natural Moisture Content: 18.8%
Liquid Limit: __
Plasticity Index: __
Soil Particle Sizes: Gravel ____ Silt ____ Sand ____ Clay ____

Test Specimen Data

Specimen Type: FLEXIBLE WALL

Diameter:	7.28 cm.			Initial Moisture:	18.8%
Length:	6.7 cm.	Wet Weight Before Test:	570.4 gm.	Final Moisture:	19.0%
Area:	41.62 sq. cm.	Wet Weight After Test:	571.2 gm.	Dry Density:	1.72 gm./cc.
Volume:	278.89 cu. cm.	Dry Weight:	480.2 gm.	Void Ratio:	0.50
				Initial Saturation:	99.12%

Testing Data and Results

Test Apparatus: GEOTEST

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O		Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O		Temperature:	24.0 °C
Hydraulic Gradient:	21.00			Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	6.5 hours	Amount of Flow	17.918 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow	15.275 ml	Permeability: (k) =	2.71E-08 cm/sec

Remarks:

By: Robert Wright

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April 3, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample Information

Sample Identification: EX-21-662
Sample Obtained By: SKS
Sample Depth/Elevation: 662
Description: GRAY BERRY CLAY - Sand Lean Clay, Trace Gravel - CL
USCS Classification: CL
Natural Moisture Content: 15.0%
Liquid Limit: 38.0
Plasticity Index: 25.0
Soil Particle Sizes: Gravel ____ Silt ____ Sand ____ Clay ____

Test Specimen Data

Specimen Type: FLEXIBLE WALL
Diameter: 7.28 cm.
Length: 6.4 cm.
Area: 41.62 sq. cm.
Volume: 266.40 cu. cm.
Wet Weight Before Test: 566.7 gm.
Wet Weight After Test: 574.2 gm.
Dry Weight: 494.8 gm.
Initial Moisture: 14.5%
Final Moisture: 16.0%
Dry Density: 1.86 gm./cc.
Void Ratio: 0.43
Initial Saturation: 90.55%

Testing Data and Results

Test Apparatus: GEOTEST
Cell Confining Pressure: 30.0 psi = 2,110.20 cm of H_2O
Back Pressure: 25.0 psi = 1,758.50 cm of H_2O
Driving Pressure: 2.0 psi = 140.68 cm of H_2O
Hydraulic Gradient: 21.98
Time Req'd. for Saturation: 24 hours Amount of Flow 20.33 ml
Time for Permeability Test: 166.6 hours Amount of Flow 11.03 ml
Permeant Liquid: 0.005 N $CaSO_4$
Temperature: 24.0 °C
Temperature Correction Factor: 0.91

Permeability: (k) = 1.87E-08 cm/sec

Remarks:

By: Robert Wright

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April 3, 2003

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Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: CLI #3

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: EX-24-665-
Sample Obtained By: SKS
Sample Depth/Elevation: 665
Description: DARK GRAY-BROWN BERRY CLAY - Lean Clay w/Sand - CL
USCS Classification: CL
Natural Moisture Content: 23.2%
Liquid Limit:
Plasticity Index:
Soil Particle Sizes: Gravel ____ Silt ____ Sand ____ Clay ____

Test Specimen Data

Specimen Type: FLEXIBLE WALL
Diameter: 7.28 cm.
Length: 6.7 cm.
Area: 41.62 sq. cm.
Volume: 278.89 cu. cm.
Wet Weight Before Test: 594.8 gm.
Wet Weight After Test: 594.8 gm.
Dry Weight: 500.1 gm.
Initial Moisture: 18.9%
Final Moisture: 18.9%
Dry Density: 1.79 gm./cc.
Void Ratio: 0.50
Initial Saturation: 100.00%

Testing Data and Results

Test Apparatus: GEOTEST
Cell Confining Pressure 30.0 psi = 2,110.20 cm of H_2O
Back Pressure 25.0 psi = 1,758.50 cm of H_2O
Driving Pressure 2.0 psi = 140.68 cm of H_2O
Hydraulic Gradient: 21.00
Time Req'd. for Saturation: 6.5 hours Amount of Flow 20.369 ml
Time for Permeability Test: 166.6 hours Amount of Flow 18.37 ml
Permeant Liquid: 0.005 N $CaSO_4$
Temperature: 24.0 °C
Temperature Correction Factor: 0.91

Permeability: (k) = 3.26E-08 cm/sec

Remarks:

By: Robert Wright

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April 3, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: EX-16-645 — Sample Obtained By: SKS

Sample Depth/Elevation: 645

Description: GRAY RANDOR TILL - Sandy Lean Clay, Little Gravel

USCS Classification: CL

Natural Moisture Content: 6.6% — Liquid Limit: 16.0 — Soil Particle Sizes: Gravel ____ —

Plasticity Index: 5.0 — Sand ____ Clay ____

Test Specimen Data

Specimen Type: FLEXIBLE WALL

Diameter:	7.26 cm.			Initial Moisture:	7.7%
Length:	7.4 cm.	Wet Weight Before Test:	689.7 gm.	Final Moisture:	9.2%
Area:	41.40 sq. cm.	Wet Weight After Test:	699.1 gm.	Dry Density:	2.09 gm./cc.
Volume:	306.33 cu. cm.	Dry Weight:	640.3 gm.	Void Ratio:	0.24
				Initial Saturation:	84.01%

Testing Data and Results

Test Apparatus: GEOTEST

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O		Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O		Temperature:	24.0 °C
Hydraulic Gradient:	19.01			Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	2.15 hours	Amount of Flow	4.025 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow	38.825 ml	Permeability: (k) =	7.66E-08 cm/sec

Remarks:

By: Robert Wright

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April 6, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS
ASTM D-5084

Sample and Classification Data

Sample Identification: **EX-19-649** Sample Obtained By: **SKS**

Sample Depth/Elevation: **649**

Description: **GRAY RADNOR TILL** - Lean Clay w/Sand, Trace Gravel

USCS Classification: **CL**

Natural Moisture Content: **9.7%** Liquid Limit: 20.0 Soil Particle Sizes: Gravel ____ Silt ____

Plasticity Index: 9.0 Sand ____ Clay ____

Test Specimen Data

Specimen Type: **FLEXIBLE WALL**

Diameter:	7.28 cm.			Initial Moisture:	9.8%
Length:	7 cm.	Wet Weight Before Test:	711.7 gm.	Final Moisture:	10.0%
Area:	41.62 sq. cm.	Wet Weight After Test:	713.2 gm.	Dry Density:	2.23 gm./cc.
Volume:	291.37 cu. cm.	Dry Weight:	648.4 gm.	Void Ratio:	0.26
				Initial Saturation:	97.69%

Testing Data and Results

Test Apparatus: **GEOTEST**

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O		Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O		Temperature:	24.0 °C
Hydraulic Gradient:	20.10			Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	6.5 hours	Amount of Flow	32.332 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow	31.977 ml	Permeability: (k) =	5.93E-08 cm/sec

Remarks:

By: Robert Wright

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April 6, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: EX-23-648.5 — Sample Obtained By: SKS

Sample Depth/Elevation: 648.5

Description: GRAY RANDOR TILL - Sandy Lean Clay, Trace Gravel - CL

USCS Classification: CL

Natural Moisture Content: 10.2% — Liquid Limit: 18.0 — Plasticity Index: 12.0

Soil Particle Sizes: Gravel ____ Silt ____ Sand ____ Clay ____

Test Specimen Data

Specimen Type:	FLEXIBLE WALL			Initial Moisture:	9.5%
Diameter:	7.28 cm.			Final Moisture:	10.7%
Length:	9 cm.	Wet Weight Before Test:	766.3 gm.	Dry Density:	1.87 gm./cc.
Area:	41.62 sq. cm.	Wet Weight After Test:	774.3 gm.	Void Ratio:	0.28
Volume:	374.62 cu. cm.	Dry Weight:	699.7 gm.	Initial Saturation:	89.28%

Testing Data and Results

Test Apparatus: GEOTEST

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O		Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O		Temperature:	24.0 °C
Hydraulic Gradient:	15.63			Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	17.25 hours	Amount of Flow	22.65 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow	20.63 ml	Permeability: (k) =	4.92E-08 cm/sec

Remarks:

By: Robert Wright

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April 3, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample & Classification Data

Sample Identification: EX-24-659 — Sample Obtained By: SKS

Sample Depth/Elevation: 659

Description: GRAY RANDOR TILL - Sandy Lean Clay, Trace Gravel - CL

USCS Classification:

Natural Moisture Content: 20.4% — Liquid Limit: — Plasticity Index: — Soil Particle Sizes: Gravel — Sand — Silt — Clay

Test Specimen Data

Specimen Type:	FLEXIBLE WALL			Initial Moisture:	20.7%
Diameter:	7.28 cm.			Final Moisture:	20.9%
Length:	6.7 cm.	Wet Weight Before Test:	570.2 gm.	Dry Density:	1.69 gm./cc.
Area:	41.62 sq. cm.	Wet Weight After Test:	571.0 gm.	Void Ratio:	0.55
Volume:	278.89 cu. cm.	Dry Weight:	472.4 gm.	Initial Saturation:	99.19%

Testing Data and Results

Test Apparatus: GEOTEST

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O		Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O		Temperature:	24.0 °C
Hydraulic Gradient:	21.00			Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	2 hours	Amount of Flow	76.56 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow	35.438 ml	Permeability: (k) =	6.29E-08 cm/sec

Remarks:

By: Robert Wright

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April 4, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: BT COMPOSITE (90%
Sample Obtained By: SKS
Sample Depth/Elevation: 0.0
Description: Brown, low plasticity, SANDY LEAN CLAY, trace gravel (brown tiskilwa)
USCS Classification: CL
Natural Moisture Content: 11.5%
Liquid Limit: 27.0
Plasticity Index: 13.0
Soil Particle Sizes: Gravel 0.90% Silt 40.40% Sand 22.10% Clay 36.60%

Test Specimen Data

Specimen Type: FLEXIBLE
Diameter: 7.28 cm.
Length: 6.35 cm.
Area: 41.62 sq. cm.
Volume: 264.32 cu. cm.
Wet Weight Before Test: 587.8 gm.
Wet Weight After Test: 596.7 gm.
Dry Weight: 526.5 gm.
Initial Moisture: 11.6%
Final Moisture: 13.3%
Dry Density: 1.99 gm./cc.
Void Ratio: 0.35
Initial Saturation: 87.32%

Testing Data and Results

Test Apparatus: GEOTEST

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O	Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O		
Driving Pressure	2.0 psi =	140.68 cm of H_2O	Temperature:	24.0 °C
Hydraulic Gradient:	22.15		Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	4.05 hours	Amount of Flow 18.67 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow 16.679 ml	Permeability: (k) =	2.81E-08 cm/sec

Remarks:

By: Robert Wright

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April 4, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: **BT COMPOSITE (95%** Sample Obtained By: **SKS**

Sample Depth/Elevation: **0.0**

Description: **Brown, low-medium plasticity, SANDY LEAN CLAY, trace gravel**

USCS Classification: **CL**

Natural Moisture Content: **12.7%** Liquid Limit: **27.0** Plasticity Index: **13.0**

Soil Particle Sizes: Gravel **0.90%** Sand **22.10%** Silt **40.40%** Clay **36.60%**

Test Specimen Data

Specimen Type: **FLEXIBLE WALL**

Diameter:	7.28 cm.			Initial Moisture:	14.3%
Length:	8.35 cm.	Wet Weight Before Test:	760.0 gm.	Final Moisture:	14.6%
Area:	41.62 sq. cm.	Wet Weight After Test:	761.6 gm.	Dry Density:	1.91 gm./cc.
Volume:	347.57 cu. cm.	Dry Weight:	664.8 gm.	Void Ratio:	0.39
				Initial Saturation:	98.35%

Testing Data and Results

Test Apparatus: **GEOTEST**

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O	Permeant Liquid:	0.005	N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O	Temperature:	24.0	°C
Hydraulic Gradient:	16.85		Temperature Correction Factor:	0.91	
Time Req'd. for Saturation:	18.75 hours	Amount of Flow 16.154 ml			
Time for Permeability Test:	166.6 hours	Amount of Flow 13.489 ml	Permeability: (k) =	2.99E-08	cm/sec

Remarks:

By: Robert Wright

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April 4, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: CLI #3

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: GT COMPOSITE (90%
Sample Obtained By: SKS
Sample Depth/Elevation: 0.0
Description: Gray, low plasticity, SANDY LEAN CLAY, ltrace gravel
USCS Classification: CL
Natural Moisture Content: 11.0%
Liquid Limit: 26.0
Plasticity Index: 14.0
Soil Particle Sizes: Gravel 2.60% Silt 22.90% Sand 29.80% Clay 44.70%

Test Specimen Data

Specimen Type: FLEXIBLE WALL
Diameter: 7.28 cm.
Length: 10.33 cm.
Area: 41.62 sq. cm.
Volume: 429.98 cu. cm.
Wet Weight Before Test: 859.7 gm.
Wet Weight After Test: 897.4 gm.
Dry Weight: 772.5 gm.
Initial Moisture: 11.3%
Final Moisture: 16.2%
Dry Density: 1.80 gm./cc.
Void Ratio: 0.43
Initial Saturation: 69.82%

Testing Data and Results

Test Apparatus: GEOTEST

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O	Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O		
Driving Pressure	2.0 psi =	140.68 cm of H_2O	Temperature:	24.0 °C
Hydraulic Gradient:	13.62		Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	19.75 hours	Amount of Flow 20.75 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow 15.66 ml	Permeability: (k) =	4.29E-08 cm/sec

Remarks:

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April 4, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: CLI #3

PERMEABILITY TEST RESULTS

ASTM D-5084

Sample and Classification Data

Sample Identification: GT COMPOSITE (95%
Sample Obtained By: SKS
Sample Depth/Elevation: 0.0
Description: Gray, low plasticioty, SANDY LEAN CLAY, trace gravel (GRAY TISKILWA)
USCS Classification: CL
Natural Moisture Content: 11.7%
Liquid Limit: 26.0
Plasticity Index: 14.0
Soil Particle Sizes: Gravel 2.60% Silt 22.90% Sand 29.80% Clay 44.70%

Test Specimen Data

Specimen Type: FLEXIBLE WALL
Diameter: 7.28 cm.
Length: 7.7 cm.
Area: 41.62 sq. cm.
Volume: 320.51 cu. cm.
Wet Weight Before Test: 690.8 gm.
Wet Weight After Test: 705.7 gm.
Dry Weight: 619.7 gm.
Initial Moisture: 11.5%
Final Moisture: 13.9%
Dry Density: 1.93 gm./cc.
Void Ratio: 0.37
Initial Saturation: 82.67%

Testing Data and Results

Test Apparatus: GEOTEST
Cell Confining Pressure 30.0 psi = 2,110.20 cm of H_2O
Back Pressure 25.0 psi = 1,758.50 cm of H_2O
Driving Pressure 2.0 psi = 140.68 cm of H_2O
Hydraulic Gradient: 18.27
Time Req'd. for Saturation: 21 hours Amount of Flow 15.363 ml
Time for Permeability Test: 166.6 hours Amount of Flow 13.33 ml
Permeant Liquid: 0.005 N $CaSO_4$
Temperature: 24.0 °C
Temperature Correction Factor: 0.91

Permeability: (k) = 2.72E-08 cm/sec

Remarks:

By: Robert Wright

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April 4, 2003

Project No. 18330

PDC Technical Services
P.O. Box 9071
Peoria, IL 61612-9071

ATTN: Mr. George Armstrong

RE: **CLI #3**

PERMEABILITY TEST RESULTS
ASTM D-5084

Sample Identification/Classification Data

Sample Identification: BC COMPOSITE (95% Sample Obtained By: SKS

Sample Depth/Elevation: 0.0

Description: Dark Gray-Gray, -Berry Clay -LEAN CLAY with SAND, trace gravel

USCS Classification: CL

Natural Moisture Content: 17.8% Liquid Limit: 36.0 Plasticity Index: 22.0

Soil Particle Sizes: Gravel 0.10% Sand 16.50% Silt 35.00% Clay 48.40%

Test Specimen Data

Specimen Type: FLEXIBLE WALL

Diameter:	7.28 cm.			Initial Moisture:	18.7%
Length:	6.7 cm.	Wet Weight Before Test:	566.1 gm.	Final Moisture:	20.5%
Area:	41.62 sq. cm.	Wet Weight After Test:	574.8 gm.	Dry Density:	1.71 gm./cc.
Volume:	278.89 cu. cm.	Dry Weight:	476.9 gm.	Void Ratio:	0.54
				Initial Saturation:	91.11%

Testing Data and Results

Test Apparatus: GEOTEST

Cell Confining Pressure	30.0 psi =	2,110.20 cm of H_2O		Permeant Liquid:	0.005 N $CaSO_4$
Back Pressure	25.0 psi =	1,758.50 cm of H_2O			
Driving Pressure	2.0 psi =	140.68 cm of H_2O		Temperature:	24.0 °C
Hydraulic Gradient:	21.00			Temperature Correction Factor:	0.91
Time Req'd. for Saturation:	23.75 hours	Amount of Flow	13.89 ml		
Time for Permeability Test:	166.6 hours	Amount of Flow	9.3 ml	Permeability: (k) =	1.65E-08 cm/sec

Remarks:

By: Robert Wright

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MATERIALS TESTING

PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLINTON LANDFILL
DATE: October 16, 1990
PROJECT NO.: I9-04375.2-256
CLIENT: PEORIA DISPOSAL COMPANY
REPORT NO: 04375.2-1

SAMPLE IDENTIFICATION: B-11 N 5360/E 7282 DEPTH/ELEV: 20.0-22.0
CLASSIFICATION; USCS: CL-1 USDA:
DESCRIPTION: Gray,Low Plasticity SILTY CLAY,With Sand,Trace Gravel.

SOIL PARTICLE SIZES
GRAVEL %: 1.0 SAND %: 35.0 SILT %: 41.0 CLAY %: 23.0

NATURAL MOISTURE %: 12.9 DENSITY;lb/ft3 NATURAL: 126.2
LIQUID LIMIT : 23.0 MAX. DRY;lb/ft3: REMOLDED: 0.0
PLASTICITY INDEX : 10.0 PROCTOR;DEG OF COMPACTION ( ):
PERMEABILITY (k), cm/sec: 9.21E-9 *

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS TYPE OF SAMPLE: Undisturbed

SPECIMEN DATA
DIAMETER;cm: 7.188 INITIAL WEIGHT;pcf: 142.5
LENGTH;cm: 7.033 DRY UNIT WEIGHT;pcf: 126.2
AREA;cm2: 40.58 INITIAL % H2O: 12.9
VOLUME;cm3: 285.4 FINAL % H2O: 12.9
VOID RATIO: 0.3359 FLOW ORIENTATION: V
TEST APPARATUS: GEOTEST

TEST PRESSURES
CELL/CONFINING; psi: 80 HEADWATER;cm:
SAMPLE BACK PRESSURE;psi: 75 TAILWATER;cm:
HYDRAULIC; GRADIENT: 20.0 DRIVING: 2.0 psi 140.6 cm H2O
PERMEANT LIQUID: .005N CASO4

TIME OF TEST; SATURATION: 15.8 Hrs PERMEABILITY: 48.0 Hrs
FLOW THRU SPECIMEN; TOTAL: 3.38 ml PERMEABILITY TEST: 1.36 ml
TEMPERATURE CORRECTION; TEMPERATURE: 22 C FACTOR: 0.953

REMARKS: 3"SHELBY TUBES

* SUBSCRIPTS AND SUPERSCRIPTS: E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; the 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLINTON LANDFILL — DATE: October 20, 1995

PROJECT NO.: I9-55965-67

CLIENT: PEORIA DISPOSAL COMPANY — REPORT NO: 55965-2

SAMPLE IDENTIFICATION: P 223D-1A — DEPTH/ELEV: 81.0

CLASSIFICATION; USCS: CL

DESCRIPTION: Gray, low plasticity SILTY CLAY, Some-With Sand, Trace Gravel

SOIL PARTICLE SIZES

GRAVEL %:	SAND %:	SILT %:	CLAY %:	*

NATURAL MOISTURE %: 10.8 — DENSITY;lb/ft3 — NATURAL: 132.6

LIQUID LIMIT : — MAX. DRY;lb/ft3: — REMOLDED: 0.0

PLASTICITY INDEX : — PROCTOR;DEG OF COMPACTION ( ):

PERMEABILITY (k), cm/sec: 1.87E-8 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS — TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA

DIAMETER;cm:	7.226	INITIAL DENSITY;pcf:	146.9
LENGTH;cm:	7.493	DRY UNIT DENSITY;pcf:	132.6
AREA;cm2:	41.01	INITIAL MOISTURE; %:	10.8
VOLUME;cm3:	307.3	FINAL MOISTURE; %:	
INITIAL SATURATION; %:	110.6	FLOW ORIENTATION:	V

TEST APPARATUS: GEOTEST

TEST PRESSURES

CELL/CONFINING; psi:	65.0
SAMPLE BACK PRESSURE;psi:	60.0
DRIVING PRESSURE; psi:	2.0

HYDRAULIC GRADIENT: 18.8

PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 29.0 Hrs — PERMEABILITY: 166.6 Hrs

FLOW THRU SPECIMEN; TOTAL: 12.36 ml — PERMEABILITY TEST: 9.14 ml

TEMPERATURE CORRECTION; TEMPERATURE: 22.4 C — FACTOR: 0.944

REMARKS:

* Percentage of silt and clay fractions is based on 0.002mm as the division between the fractions (Unified Soil Classification System)

** Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLINTON LANDFILL — DATE: October 20, 1995
PROJECT NO.: I9-55965-67
CLIENT: PEORIA DISPOSAL COMPANY — REPORT NO: 55965-2

SAMPLE IDENTIFICATION: P 223D-1B — DEPTH/ELEV: 103.0

CLASSIFICATION; USCS: CL

DESCRIPTION: Gray, low plasticity SILTY CLAY, Some-With Sand, Trace Gravel

SOIL PARTICLE SIZES
GRAVEL %: — SAND %: — SILT %: — CLAY %: — *

NATURAL MOISTURE %: 6.9 — DENSITY;lb/ft3 NATURAL: 141.6
LIQUID LIMIT : — MAX. DRY;lb/ft3: — REMOLDED: 0.0
PLASTICITY INDEX : — PROCTOR;DEG OF COMPACTION ( ):

PERMEABILITY (k), cm/sec: 3.69E-9 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS — TYPE OF SAMPLE: 4 1/4" HSA

SPECIMEN DATA
DIAMETER;cm: 7.556 — INITIAL DENSITY;pcf: 151.4
LENGTH;cm: 7.277 — DRY UNIT DENSITY;pcf: 141.6
AREA;cm2: 44.85 — INITIAL MOISTURE; %: 6.9
VOLUME;cm3: 326.4 — FINAL MOISTURE; %:
INITIAL SATURATION; %: 101.8 — FLOW ORIENTATION: V
TEST APPARATUS: GEOTEST

TEST PRESSURES
CELL/CONFINING; psi: 65.0
SAMPLE BACK PRESSURE;psi: 60.0
DRIVING PRESSURE; psi: 2.0 — HYDRAULIC GRADIENT: 19.3
PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 29.0 Hrs — PERMEABILITY: 166.6 Hrs
FLOW THRU SPECIMEN; TOTAL: 7.63 ml — PERMEABILITY TEST: 2.12 ml
TEMPERATURE CORRECTION; TEMPERATURE: 24.15 C — FACTOR: 0.907

REMARKS:

* Percentage of silt and clay fractions is based on 0.002mm as the division between the fractions (Unified Soil Classification System)

** Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLINTON LANDFILL DEEP BORING
DATE: October 3, 1995
PROJECT NO.: I9-55965-67
CLIENT: PEORIA DISPOSAL COMPANY
REPORT NO: 55965-1

SAMPLE IDENTIFICATION: CSM-1A HORIZONTAL DEPTH/ELEV: 9.5-11.5

CLASSIFICATION; USCS: SC

DESCRIPTION: Gray, Low Plasticity CLAYEY SAND, And Sand, Trace Gravel

SOIL PARTICLE SIZES

GRAVEL %:	SAND %:	SILT %:	CLAY %:
4.0	47.0	35.0	14.0 *

NATURAL MOISTURE %:	9.3	DENSITY;lb/ft3 NATURAL:	131.4
LIQUID LIMIT :	21.0	MAX. DRY;lb/ft3: REMOLDED:	0.0
PLASTICITY INDEX :	7.0	PROCTOR;DEG OF COMPACTION ( ):	

PERMEABILITY (k), cm/sec: 7.85E-9 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS
TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA

DIAMETER;cm:	3.810	INITIAL DENSITY;pcf:	143.7
LENGTH;cm:	3.924	DRY UNIT DENSITY;pcf:	131.4
AREA;cm2:	11.40	INITIAL MOISTURE; %:	9.3
VOLUME;cm3:	44.7	FINAL MOISTURE; %:	9.8
INITIAL SATURATION; %:	91.67	FLOW ORIENTATION:	H

TEST APPARATUS: GEOTEST

TEST PRESSURES

CELL/CONFINING; psi:	65.0	
SAMPLE BACK PRESSURE;psi:	60.0	
DRIVING PRESSURE; psi:	2.0	HYDRAULIC GRADIENT: 35.8

PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 40.3 Hrs PERMEABILITY: 168.5 Hrs
FLOW THRU SPECIMEN; TOTAL: 8.72 ml PERMEABILITY TEST: 2.16 ml
TEMPERATURE CORRECTION; TEMPERATURE: 24.37 C FACTOR: 0.902

REMARKS:

* Percentage of silt and clay fractions is based on 0.002mm as the division between the fractions (Unified Soil Classification System)

* Hydraulic conductivity test conducted in accordance with ASTM D 5084-9. unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLINTON LANDFILL DEEP BORING
DATE: October 3, 1995
PROJECT NO.: I9-55965-67
CLIENT: PEORIA DISPOSAL COMPANY
REPORT NO: 55965-1

SAMPLE IDENTIFICATION: CSM-1A VERTICAL DEPTH/ELEV: 9.5-11.5

CLASSIFICATION; USCS: SC

DESCRIPTION: Gray, Low Plasticity CLAYEY SAND, And Sand, Trace Gravel

SOIL PARTICLE SIZES
GRAVEL %: 4.0 SAND %: 47.0 SILT %: 35.0 CLAY %: 14.0 *

NATURAL MOISTURE %: 9.3 DENSITY;lb/ft3 NATURAL: 134.4
LIQUID LIMIT : 21.0 MAX. DRY;lb/ft3: REMOLDED: 0.0
PLASTICITY INDEX : 7.0 PROCTOR;DEG OF COMPACTION ( ):

PERMEABILITY (k), cm/sec: 7.81E-9 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA

DIAMETER;cm:	7.277	INITIAL DENSITY;pcf:	146.9
LENGTH;cm:	7.175	DRY UNIT DENSITY;pcf:	134.4
AREA;cm2:	41.59	INITIAL MOISTURE; %:	9.3
VOLUME;cm3:	298.4	FINAL MOISTURE; %:	9.4
INITIAL SATURATION; %:	102.	FLOW ORIENTATION:	V

TEST APPARATUS: GEOTEST

TEST PRESSURES
CELL/CONFINING; psi: 65.0
SAMPLE BACK PRESSURE;psi: 60.0
DRIVING PRESSURE; psi: 2.0 HYDRAULIC GRADIENT: 20.
PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 40.3 Hrs PERMEABILITY: 168.5 Hrs
FLOW THRU SPECIMEN; TOTAL: 11.63 ml PERMEABILITY TEST: 4.27 ml
TEMPERATURE CORRECTION; TEMPERATURE: 24.3 C FACTOR: 0.904

REMARKS:

* Percentage of silt and clay fractions is based on 0.002mm as the division between the fractions (Unified Soil Classification System)

* Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLINTON LANDFILL DEEP BORING
DATE: October 3, 1995
PROJECT NO.: I9-55965-67
CLIENT: PEORIA DISPOSAL COMPANY
REPORT NO: 55965-1

SAMPLE IDENTIFICATION: 7 B VERTICAL DEPTH/ELEV: 33.0

CLASSIFICATION; USCS: CL

DESCRIPTION: Gray, Low Plasticity SANDY SILTY CLAY, And Sand, Trace Gravel

SOIL PARTICLE SIZES
GRAVEL %: 2.0 SAND %: 54.0 SILT %: 36.0 CLAY %: 8.0 *

NATURAL MOISTURE %: 5.6 DENSITY;lb/ft3 NATURAL: 143.7
LIQUID LIMIT : 16.0 MAX. DRY;lb/ft3: REMOLDED: 0.0
PLASTICITY INDEX : 3.0 PROCTOR;DEG OF COMPACTION ( ):

PERMEABILITY (k), cm/sec: 2.11E-9 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS TYPE OF SAMPLE: 4 1/4" CSM

SPECIMEN DATA
DIAMETER;cm: 7.620 INITIAL DENSITY;pcf: 151.7
LENGTH;cm: 7.277 DRY UNIT DENSITY;pcf: 143.7
AREA;cm2: 45.60 INITIAL MOISTURE; %: 5.6
VOLUME;cm3: 331.9 FINAL MOISTURE; %: 6.7
INITIAL SATURATION; %: 91.07 FLOW ORIENTATION: V
TEST APPARATUS: GEOTEST

TEST PRESSURES
CELL/CONFINING; psi: 65.0
SAMPLE BACK PRESSURE;psi: 60.0
DRIVING PRESSURE; psi: 2.0 HYDRAULIC GRADIENT: 19.3
PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 24.8 Hrs PERMEABILITY: 166.6 Hrs
FLOW THRU SPECIMEN; TOTAL: 6.90 ml PERMEABILITY TEST: 1.23 ml
TEMPERATURE CORRECTION; TEMPERATURE: 24.2 C FACTOR: 0.906

REMARKS:

* Percentage of silt and clay fractions is based on 0.002mm as the division between the fractions (Unified Soil Classification System)

* Hydraulic conductivity test conducted in accordance with ASTM D 5084-9 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLINTON LANDFILL DEEP BORING — DATE: October 3, 1995
PROJECT NO.: I9-55965-67
CLIENT: PEORIA DISPOSAL COMPANY — REPORT NO: 55965-1

SAMPLE IDENTIFICATION: 7 C HORIZONTAL — DEPTH/ELEV: 34.0

CLASSIFICATION; USCS: SM-SC

DESCRIPTION: Gray, Low Plasticity SANDY SILTY CLAY, And Sand, Trace Gravel

SOIL PARTICLE SIZES
GRAVEL %: 2.0 SAND %: 54.0 SILT %: 36.0 CLAY %: 8.0 *

NATURAL MOISTURE %: 5.6 — DENSITY;lb/ft3 NATURAL: 141.2
LIQUID LIMIT : 16.0 — MAX. DRY;lb/ft3: — REMOLDED: 0.0
PLASTICITY INDEX : 3.0 — PROCTOR;DEG OF COMPACTION ( ):

PERMEABILITY (k), cm/sec: 3.19E-9 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS — TYPE OF SAMPLE: 4 1/4" CSM

SPECIMEN DATA

DIAMETER;cm:	3.658	INITIAL DENSITY;pcf:	149.1
LENGTH;cm:	3.747	DRY UNIT DENSITY;pcf:	141.2
AREA;cm2:	10.51	INITIAL MOISTURE; %:	5.6
VOLUME;cm3:	39.4	FINAL MOISTURE; %:	7.1
INITIAL SATURATION; %:	80.89	FLOW ORIENTATION:	H

TEST APPARATUS: GEOTEST

TEST PRESSURES
CELL/CONFINING; psi: 65.0
SAMPLE BACK PRESSURE;psi: 60.0
DRIVING PRESSURE; psi: 2.0 — HYDRAULIC GRADIENT: 37.5
PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 24.8 Hrs — PERMEABILITY: 166.6 Hrs
FLOW THRU SPECIMEN; TOTAL: 3.47 ml — PERMEABILITY TEST: 0.83 ml
TEMPERATURE CORRECTION; TEMPERATURE: 24.15 C — FACTOR: 0.907

REMARKS:

* Percentage of silt and clay fractions is based on 0.002mm as the division between the fractions (Unified Soil Classification System)

** Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLINTON LANDFILL DEEP BORING
DATE: October 3, 1995
PROJECT NO.: I9-04375.5-67
CLIENT: PEORIA DISPOSAL COMPANY
REPORT NO: 55965-1

SAMPLE IDENTIFICATION: S-29 VERTICAL DEPTH/ELEV: 109.0

CLASSIFICATION; USCS: CL

DESCRIPTION: Gray, Low Plasticity SANDY SILTY CLAY, And Sand, Trace Gravel

SOIL PARTICLE SIZES
GRAVEL %: 1.0 SAND %: 41.0 SILT %: 42.0 CLAY %: 16.0 *

NATURAL MOISTURE %: 10.1 DENSITY;lb/ft3 NATURAL: 133.2
LIQUID LIMIT : 23.0 MAX. DRY;lb/ft3: REMOLDED: 0.0
PLASTICITY INDEX : 8.0 PROCTOR;DEG OF COMPACTION ( ):

PERMEABILITY (k), cm/sec: 7.86E-9 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS TYPE OF SAMPLE: SPT

SPECIMEN DATA

DIAMETER;cm:	3.747	INITIAL DENSITY;pcf:	146.7
LENGTH;cm:	3.873	DRY UNIT DENSITY;pcf:	133.2
AREA;cm2:	11.02	INITIAL MOISTURE; %:	10.1
VOLUME;cm3:	42.7	FINAL MOISTURE; %:	10.1
INITIAL SATURATION; %:	105.8	FLOW ORIENTATION:	V

TEST APPARATUS: GEOTEST

TEST PRESSURES
CELL/CONFINING; psi: 65.0
SAMPLE BACK PRESSURE;psi: 60.0
DRIVING PRESSURE; psi: 2.0 HYDRAULIC GRADIENT: 36.3
PERMEANT LIQUID: .005 N CaSO4

TIME OF TEST; SATURATION: 42.3 Hrs PERMEABILITY: 194.7 Hrs
FLOW THRU SPECIMEN; TOTAL: 4.54 ml PERMEABILITY TEST: 2.39 ml
TEMPERATURE CORRECTION; TEMPERATURE: 23.47 C FACTOR: 0.921

REMARKS:

* Percentage of silt and clay fractions is based on 0.002mm as the division between the fractions (Unified Soil Classification System)

Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLI — DATE: May 15, 2000

PROJECT NO.: 07665

CLIENT: PDC — REPORT NO: 07665-1

SAMPLE IDENTIFICATION: EX-6 — DEPTH/ELEV: 32'-34'

CLASSIFICATION; USCS: CL

DESCRIPTION: Dark Gray, medium-high plasticity, SILTY CLAY, trace sand, trace gravel

SOIL PARTICLE SIZES

GRAVEL %:	SAND %:	SILT %:	CLAY %:	*

NATURAL MOISTURE %: 18.4	DENSITY;lb/ft3	NATURAL:	114.6
LIQUID LIMIT :	MAX. DRY;lb/ft3:	REMOLDED:	0.0
PLASTICITY INDEX :	PROCTOR;DEG OF COMPACTION (D698):		

PERMEABILITY (k), cm/sec: 1.35E-8 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS — TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA

DIAMETER;cm:	7.188	INITIAL DENSITY;pcf:	135.6
LENGTH;cm:	6.350	DRY UNIT DENSITY;pcf:	114.6
AREA;cm2:	40.58	INITIAL MOISTURE; %:	18.4
VOLUME;cm3:	257.7	FINAL MOISTURE; %:	19.6
INITIAL SATURATION; %:	33.7	FLOW ORIENTATION:	-V

TEST APPARATUS: GEOTEST

TEST PRESSURES

CELL/CONFINING; psi:	30.0		
SAMPLE BACK PRESSURE;psi:	25.0		
DRIVING PRESSURE; psi:	2.0	HYDRAULIC GRADIENT:	22.1

PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION:	22.0 Hrs	PERMEABILITY:	75.5 Hrs
FLOW THRU SPECIMEN; TOTAL:	4.19 ml	PERMEABILITY TEST:	3.51 ml
TEMPERATURE CORRECTION; TEMPERATURE:	22.5 C	FACTOR:	0.942

REMARKS:

* Percentage of silt and clay fractions is based on 0.005mm as the division between the fractions (Unified Soil Classification System)

** Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLI

DATE: May 15, 2000

PROJECT NO.: 07665

CLIENT: PDC

REPORT NO: 07665-1

SAMPLE IDENTIFICATION: EX-6 DEPTH/ELEV: 49'-51'

CLASSIFICATION; USCS: CL

DESCRIPTION: Gray, low plasticity, SILTY CLAY, little-some sand, trace gravel

SOIL PARTICLE SIZES

GRAVEL %: SAND %: SILT %: CLAY %: *

NATURAL MOISTURE %: 19.7 DENSITY;lb/ft3 NATURAL: 110.8

LIQUID LIMIT : MAX. DRY;lb/ft3: REMOLDED: 0.0

PLASTICITY INDEX : PROCTOR;DEG OF COMPACTION (D698):

PERMEABILITY (k), cm/sec: 2.91E-8 **

= = = = = = = = = = PERMEABILITY TEST DETAILS = = = = = = = = = =

SAMPLES OBTAINED BY: SKS TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA

DIAMETER;cm:	7.188	INITIAL DENSITY;pcf:	132.6
LENGTH;cm:	6.350	DRY UNIT DENSITY;pcf:	110.8
AREA;cm2:	40.58	INITIAL MOISTURE; %:	19.7
VOLUME;cm3:	257.7	FINAL MOISTURE; %:	18.8
INITIAL SATURATION; %:	34.89	FLOW ORIENTATION:	-V

TEST APPARATUS: GEOTEST

TEST PRESSURES

CELL/CONFINING; psi: 30.0

SAMPLE BACK PRESSURE;psi: 25.0

DRIVING PRESSURE; psi: 2.0 HYDRAULIC GRADIENT: 22.1

PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 21.9 Hrs PERMEABILITY: 74.8 Hrs

FLOW THRU SPECIMEN; TOTAL: 8.11 ml PERMEABILITY TEST: 7.46 ml

TEMPERATURE CORRECTION; TEMPERATURE: 22.5 C FACTOR: 0.942

REMARKS:

* Percentage of silt and clay fractions is based on 0.005mm as the division between the fractions (Unified Soil Classification System)

** Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H_2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLI — DATE: May 15, 2000

PROJECT NO.: 07665

CLIENT: PDC — REPORT NO: 07665-1

SAMPLE IDENTIFICATION: EX-7 — DEPTH/ELEV: 32'-34'

CLASSIFICATION; USCS: CL

DESCRIPTION: Greenish Dark Gray, medium-high plasticity, SILTY CLAY, trace sand, trace gravel

SOIL PARTICLE SIZES

GRAVEL %:	SAND %:	SILT %:	CLAY %:	*

NATURAL MOISTURE %: 17.6	DENSITY;lb/ft3	NATURAL:	118.4
LIQUID LIMIT :	MAX. DRY;lb/ft3:	REMOLDED:	0.0
PLASTICITY INDEX :	PROCTOR;DEG OF COMPACTION (D698):		

PERMEABILITY (k), cm/sec: 8.43E-8 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS — TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA

DIAMETER;cm:	7.188	INITIAL DENSITY;pcf:	139.3
LENGTH;cm:	6.401	DRY UNIT DENSITY;pcf:	118.4
AREA;cm2:	40.58	INITIAL MOISTURE; %:	17.6
VOLUME;cm3:	259.8	FINAL MOISTURE; %:	19.1
INITIAL SATURATION; %:	33.39	FLOW ORIENTATION:	-V

TEST APPARATUS: GEOTEST

TEST PRESSURES

CELL/CONFINING; psi:	30.0		
SAMPLE BACK PRESSURE;psi:	25.0		
DRIVING PRESSURE; psi:	2.0	HYDRAULIC GRADIENT:	22.

PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION:	17.0 Hrs	PERMEABILITY:	76.0 Hrs
FLOW THRU SPECIMEN; TOTAL:	22.89 ml	PERMEABILITY TEST:	21.84 ml
TEMPERATURE CORRECTION; TEMPERATURE:	22.5 C	FACTOR:	0.942

REMARKS:

* Percentage of silt and clay fractions is based on 0.005mm as the division between the fractions (Unified Soil Classification System)

** Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H_2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLI
DATE: May 15, 2000
PROJECT NO.: 07665
CLIENT: PDC
REPORT NO: 07665-1

SAMPLE IDENTIFICATION: EX-7 DEPTH/ELEV: 47'-49'

CLASSIFICATION; USCS: CL

DESCRIPTION: Gray, low plasticity, SILTY CLAY, little-some sand, trace gravel

SOIL PARTICLE SIZES

GRAVEL %:	SAND %:	SILT %:	CLAY %:	*

NATURAL MOISTURE %: 6.2 DENSITY;lb/ft3 NATURAL: 146.7
LIQUID LIMIT : MAX. DRY;lb/ft3: REMOLDED: 0.0
PLASTICITY INDEX : PROCTOR;DEG OF COMPACTION (D698):

PERMEABILITY (k), cm/sec: 9.36E-8 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA

DIAMETER;cm:	7.188	INITIAL DENSITY;pcf:	155.8
LENGTH;cm:	6.375	DRY UNIT DENSITY;pcf:	146.7
AREA;cm2:	40.58	INITIAL MOISTURE; %:	6.2
VOLUME;cm3:	258.7	FINAL MOISTURE; %:	9.0
INITIAL SATURATION; %:	14.55	FLOW ORIENTATION:	-V

TEST APPARATUS: GEOTEST

TEST PRESSURES

CELL/CONFINING; psi:	30.0
SAMPLE BACK PRESSURE;psi:	25.0
DRIVING PRESSURE; psi:	2.0

HYDRAULIC GRADIENT: 22.1
PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 20.8 Hrs PERMEABILITY: 75.5 Hrs
FLOW THRU SPECIMEN; TOTAL: 29.62 ml PERMEABILITY TEST: 24.18 ml
TEMPERATURE CORRECTION; TEMPERATURE: 22.46 C FACTOR: 0.942

REMARKS:

* Percentage of silt and clay fractions is based on 0.005mm as the division between the fractions (Unified Soil Classification System)

** Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLI — DATE: May 15, 2000

PROJECT NO.: 07665

CLIENT: PDC — REPORT NO: 07665-1

SAMPLE IDENTIFICATION: EX-5 — DEPTH/ELEV: 69'-71'

CLASSIFICATION; USCS: CL

DESCRIPTION: Gray, low plasticity, SILTY CLAY, little-some sand, trace gravel

SOIL PARTICLE SIZES

GRAVEL %:	SAND %:	SILT %:	CLAY %:	*

NATURAL MOISTURE %: 12.1	DENSITY;lb/ft3	NATURAL:	135.8
LIQUID LIMIT :	MAX. DRY;lb/ft3:	REMOLDED:	0.0
PLASTICITY INDEX :	PROCTOR;DEG OF COMPACTION (D698):		

PERMEABILITY (k), cm/sec: 2.05E-8 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS — TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA

DIAMETER;cm:	7.188	INITIAL DENSITY;pcf:	152.1
LENGTH;cm:	6.350	DRY UNIT DENSITY;pcf:	135.8
AREA;cm2:	40.58	INITIAL MOISTURE; %:	12.1
VOLUME;cm3:	257.7	FINAL MOISTURE; %:	12.9
INITIAL SATURATION; %:	26.25	FLOW ORIENTATION:	-V

TEST APPARATUS: GEOTEST

TEST PRESSURES

CELL/CONFINING; psi:	30.0	
SAMPLE BACK PRESSURE;psi:	25.0	
DRIVING PRESSURE; psi:	2.0	HYDRAULIC GRADIENT: 22.1

PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION:	20.0 Hrs	PERMEABILITY:	96.0 Hrs
FLOW THRU SPECIMEN; TOTAL:	8.83 ml	PERMEABILITY TEST:	6.85 ml
TEMPERATURE CORRECTION; TEMPERATURE:	23.1 C	FACTOR:	0.931

REMARKS:

* Percentage of silt and clay fractions is based on 0.005mm as the division between the fractions (Unified Soil Classification System)

** Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLI
DATE: May 15, 2000
PROJECT NO.: 07665
CLIENT: PDC
REPORT NO: 07665-1

SAMPLE IDENTIFICATION: EX-5 DEPTH/ELEV: 79'-81'-82

CLASSIFICATION; USCS: CL

DESCRIPTION: Gray, low plasticity, SILTY CLAY, little-some sand, trace gravel

SOIL PARTICLE SIZES
GRAVEL %: SAND %: SILT %: CLAY %: *

NATURAL MOISTURE %: 7.8 DENSITY;lb/ft3 NATURAL: 144.7
LIQUID LIMIT : MAX. DRY;lb/ft3: REMOLDED: 0.0
PLASTICITY INDEX : PROCTOR;DEG OF COMPACTION (D698):

PERMEABILITY (k), cm/sec: 1.64E-8 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA
DIAMETER;cm: 7.442
LENGTH;cm: 6.350
AREA;cm2: 43.50
VOLUME;cm3: 276.2
INITIAL SATURATION; %: 18.08
TEST APPARATUS: GEOTEST

INITIAL DENSITY;pcf: 155.9
DRY UNIT DENSITY;pcf: 144.7
INITIAL MOISTURE; %: 7.8
FINAL MOISTURE; %: 8.9
FLOW ORIENTATION: -V

TEST PRESSURES
CELL/CONFINING; psi: 30.0
SAMPLE BACK PRESSURE;psi: 25.0
DRIVING PRESSURE; psi: 2.0
PERMEANT LIQUID: 0.005 N CaSO4

HYDRAULIC GRADIENT: 22.1

TIME OF TEST; SATURATION: 19.5 Hrs PERMEABILITY: 372.0 Hrs
FLOW THRU SPECIMEN; TOTAL: 24.75 ml PERMEABILITY TEST: 22.76 ml
TEMPERATURE CORRECTION; TEMPERATURE: 23.1 C FACTOR: 0.931

REMARKS:

* Percentage of silt and clay fractions is based on 0.005mm as the division between the fractions (Unified Soil Classification System)

** Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLI
DATE: May 15, 2000
PROJECT NO.: 07665
CLIENT: PDC
REPORT NO: 07665-1

SAMPLE IDENTIFICATION: EX-5 DEPTH/ELEV: 90.5'-92.5

CLASSIFICATION; USCS: CL

DESCRIPTION: Gray, low plasticity, SILTY CLAY, little-some sand, trace gravel

SOIL PARTICLE SIZES
GRAVEL %: SAND %: SILT %: CLAY %: *

NATURAL MOISTURE %: 7.9 DENSITY;lb/ft3 NATURAL: 142.9
LIQUID LIMIT : MAX. DRY;lb/ft3: REMOLDED: 0.0
PLASTICITY INDEX : PROCTOR;DEG OF COMPACTION (D698):

PERMEABILITY (k), cm/sec: 1.44E-7 **

= = = = = = = = = = = PERMEABILITY TEST DETAILS = = = = = = = = = = =

SAMPLES OBTAINED BY: SKS TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA
DIAMETER;cm: 7.620
LENGTH;cm: 6.858
AREA;cm2: 45.60
VOLUME;cm3: 312.8
INITIAL SATURATION; %: 17.99
TEST APPARATUS: GEOTEST

INITIAL DENSITY;pcf: 154.1
DRY UNIT DENSITY;pcf: 142.9
INITIAL MOISTURE; %: 7.9
FINAL MOISTURE; %: 8.1
FLOW ORIENTATION: -V

TEST PRESSURES
CELL/CONFINING; psi: 30.0
SAMPLE BACK PRESSURE;psi: 25.0
DRIVING PRESSURE; psi: 2.0 HYDRAULIC GRADIENT: 20.5
PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 20.8 Hrs PERMEABILITY: 48.0 Hrs
FLOW THRU SPECIMEN; TOTAL: 51.83 ml PERMEABILITY TEST: 24.92 ml
TEMPERATURE CORRECTION; TEMPERATURE: 23. C FACTOR: 0.931

REMARKS:

* Percentage of silt and clay fractions is based on 0.005mm as the division between the fractions (Unified Soil Classification System)

** Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLI
DATE: May 15, 2000
PROJECT NO.: 07665
CLIENT: PDC
REPORT NO: 07665-1

SAMPLE IDENTIFICATION: EX-4 DEPTH/ELEV: 64'-66'

CLASSIFICATION; USCS: CL

DESCRIPTION: Gray, low plasticity, SILTY CLAY, little-some sand, trace gravel

SOIL PARTICLE SIZES
GRAVEL %: SAND %: SILT %: CLAY %: *

NATURAL MOISTURE %: 12.6 DENSITY;lb/ft3 NATURAL: 135.1
LIQUID LIMIT : MAX. DRY;lb/ft3: REMOLDED: 0.0
PLASTICITY INDEX : PROCTOR;DEG OF COMPACTION (D698):

PERMEABILITY (k), cm/sec: 5.79E-8 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA
DIAMETER;cm: 7.188 INITIAL DENSITY;pcf: 152.0
LENGTH;cm: 6.274 DRY UNIT DENSITY;pcf: 135.1
AREA;cm2: 40.58 INITIAL MOISTURE; %: 12.6
VOLUME;cm3: 254.6 FINAL MOISTURE; %: 12.7
INITIAL SATURATION; %: 27.18 FLOW ORIENTATION: -V
TEST APPARATUS: GEOTEST

TEST PRESSURES
CELL/CONFINING; psi: 30.0
SAMPLE BACK PRESSURE;psi: 25.0
DRIVING PRESSURE; psi: 2.0 HYDRAULIC GRADIENT: 22.4
PERMEANT LIQUID: 0.005 N CaSO4

TIME OF TEST; SATURATION: 21.3 Hrs PERMEABILITY: 80.0 Hrs
FLOW THRU SPECIMEN; TOTAL: 17.50 ml PERMEABILITY TEST: 16.28 ml
TEMPERATURE CORRECTION; TEMPERATURE: 23.1 C FACTOR: 0.931

REMARKS:

* Percentage of silt and clay fractions is based on 0.005 mm as the division between the fractions (Unified Soil Classification System)

** Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.

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PERMEABILITY & CLASSIFICATION TEST RESULTS

PROJECT: CLI
DATE: May 15, 2000
PROJECT NO.: 07665
CLIENT: PDC
REPORT NO: 07665-1

SAMPLE IDENTIFICATION: EX-4 DEPTH/ELEV: 79'-81'

CLASSIFICATION; USCS: CL

DESCRIPTION: Gray, low plasticity, SILTY CLAY, little-some sand, trace gravel

SOIL PARTICLE SIZES
GRAVEL %: SAND %: SILT %: CLAY %: *

NATURAL MOISTURE %: 8.4 DENSITY;lb/ft3 NATURAL: 139.0
LIQUID LIMIT : MAX. DRY;lb/ft3: REMOLDED: 0.0
PLASTICITY INDEX : PROCTOR;DEG OF COMPACTION (D698):

PERMEABILITY (k), cm/sec: 4.2E-8 **

PERMEABILITY TEST DETAILS

SAMPLES OBTAINED BY: SKS TYPE OF SAMPLE: 3" THIN-WALL TUBE

SPECIMEN DATA
DIAMETER;cm: 7.620
LENGTH;cm: 6.274
AREA;cm2: 45.60
VOLUME;cm3: 286.1
INITIAL SATURATION; %: 18.71
TEST APPARATUS: GEOTEST

INITIAL DENSITY;pcf: 150.7
DRY UNIT DENSITY;pcf: 139.0
INITIAL MOISTURE; %: 8.4
FINAL MOISTURE; %: 9.2
FLOW ORIENTATION: -V

TEST PRESSURES
CELL/CONFINING; psi: 30.0
SAMPLE BACK PRESSURE;psi: 25.0
DRIVING PRESSURE; psi: 2.0
PERMEANT LIQUID: 0.005 N CaSO4

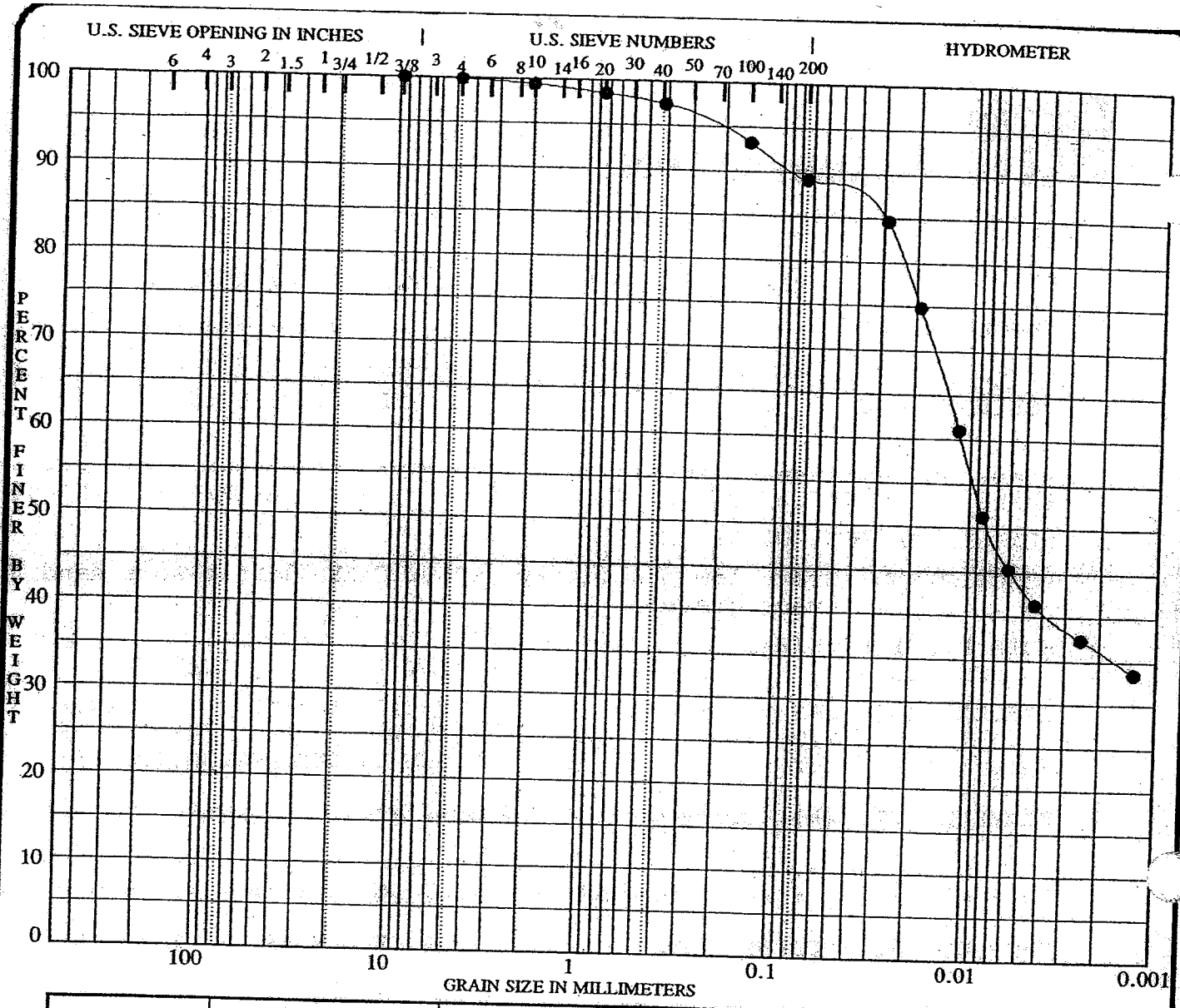
HYDRAULIC GRADIENT: 22.4

TIME OF TEST; SATURATION: 4.5 Hrs PERMEABILITY: 166.6 Hrs
FLOW THRU SPECIMEN; TOTAL: 34.69 ml PERMEABILITY TEST: 27.67 ml
TEMPERATURE CORRECTION; TEMPERATURE: 23. C FACTOR: 0.931

REMARKS:

* Percentage of silt and clay fractions is based on 0.005.mm as the division between the fractions (Unified Soil Classification System)

** Hydraulic conductivity test conducted in accordance with ASTM D 5084-90 unless noted otherwise. E-8 equals 10 to the minus 8 (exponent); cm3 equals cubic centimeters; The 2 in H2O is a subscript.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
●	EX13-715 715.0	Sandy LEAN CLAY CL, trace gravel, Brown Tiskilwa	19	27	16	11		

	Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EX13-715 715.0	9.52	0.01			0.1	10.8	46.2	42.9

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI #3 - CLI

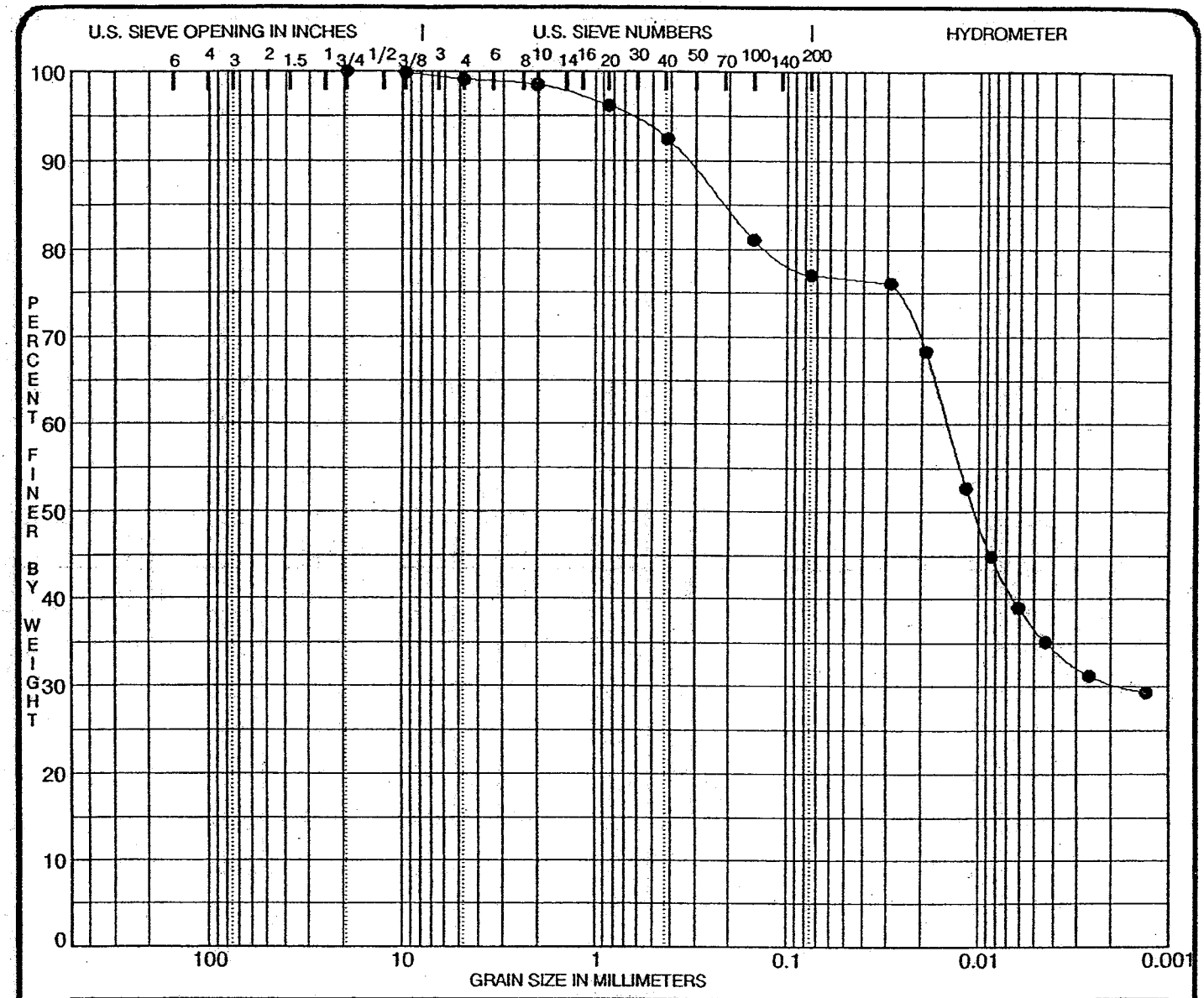
JOB NO. 18330.1

DATE

GRADATION CURVES

SKS ENGINEERS, INC.

Decatur, IL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
●	EX16/710 710.0	**LEAN CLAY with SAND**, Trace	29	27	14	13		
		Gravel - CL						
		Brown Tiskilwa						

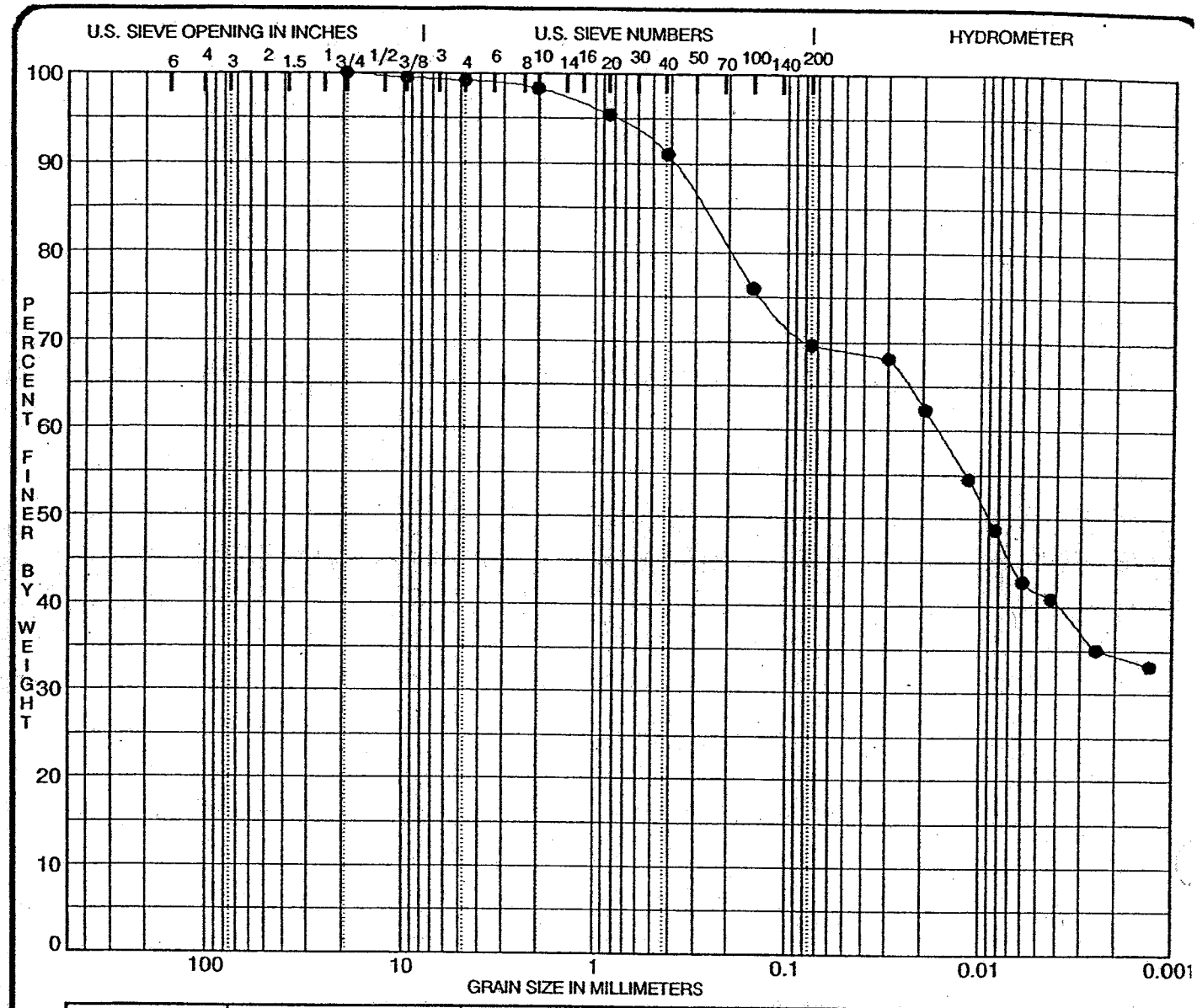
	Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EX16/710 710.0	19.10	0.01	0.002		0.9	22.1	40.4	36.6

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI #3 - CLI JOB NO. 18330.1
DATE

GRADATION CURVES

SKS ENGINEERS, INC.
Decatur, IL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
●	EX24/720 720.0	SANDY LEAN CLAY ~ Trace Gravel - CL - Brown Tiskilwa	6	26	10	16		

	Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EX24/720 720.0	19.10	0.02			0.8	29.6	27.8	41.8

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI #3 - CLI

JOB NO. 18330.1

DATE

GRADATION CURVES

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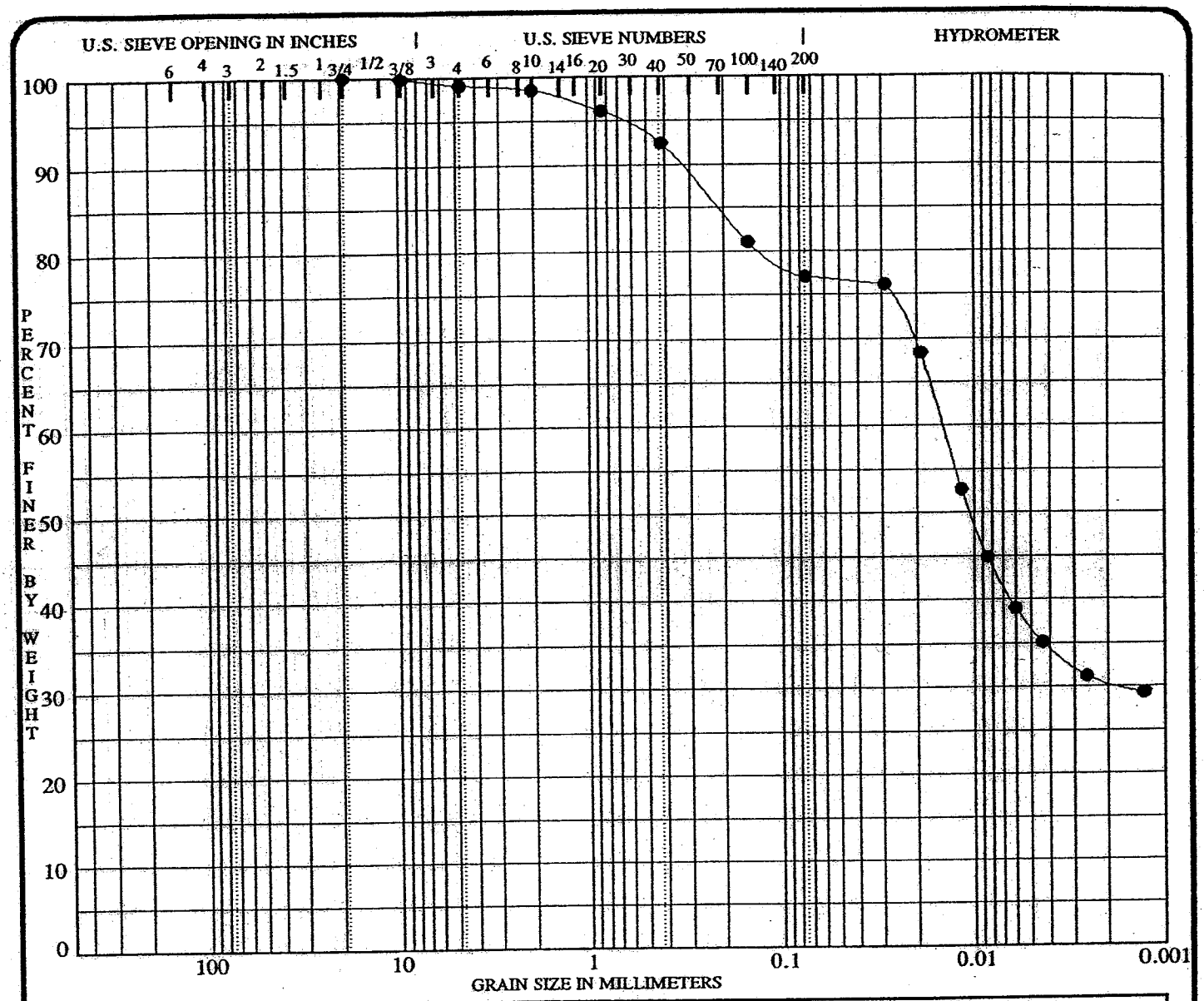

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
● BT COMP. 0.0	LEAN CLAY with SAND CL	29	27	14	13		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● BT COMP. 0.0	19.10	0.01	0.002		0.9	22.1	40.4	36.6

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI #3 - CLI

JOB NO. 18330.1

DATE

GRADATION CURVES

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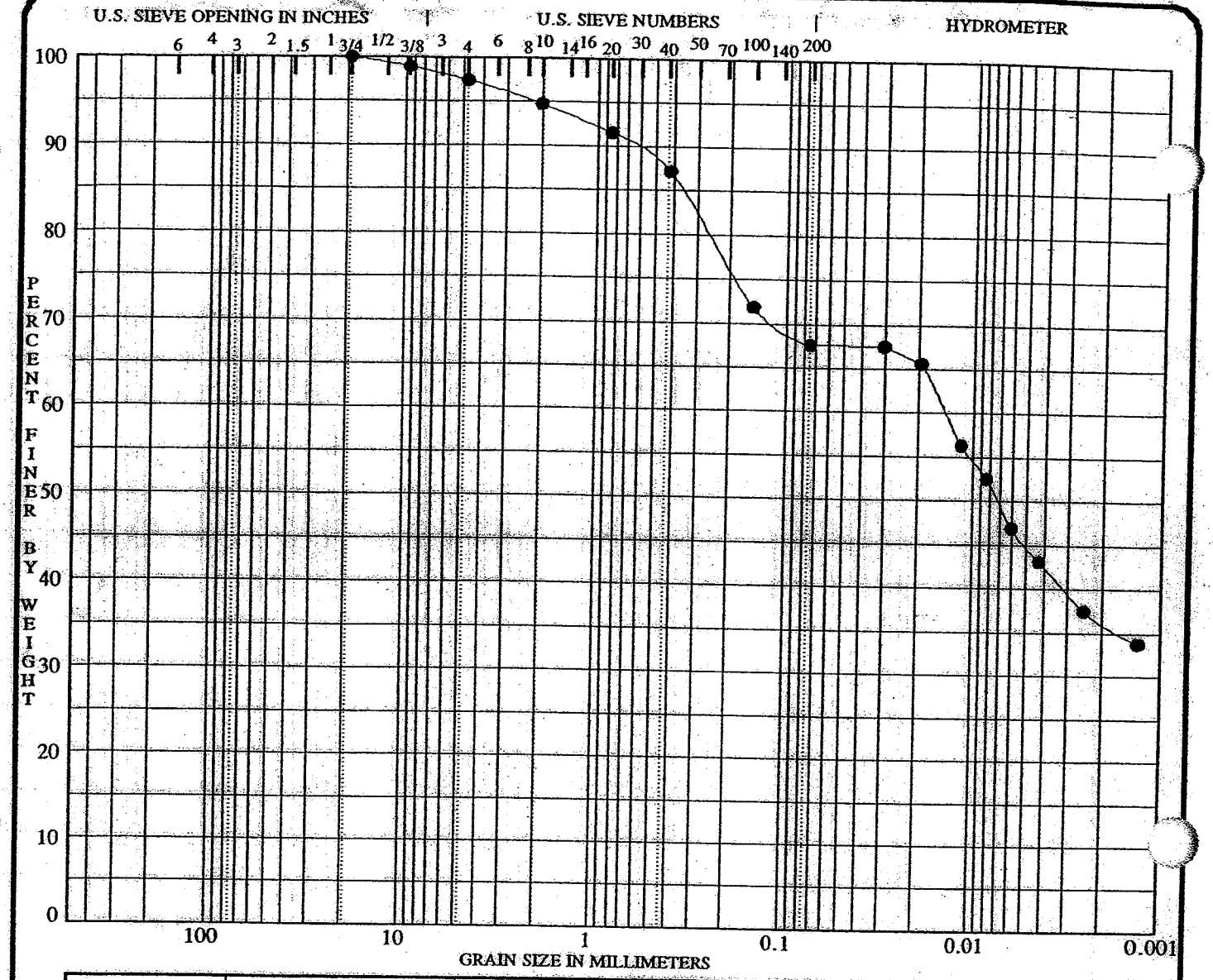

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
● EX13-690 690.0	SANDY LEAN CLAY, Trace Gravel, CL, Gray Tiskilwa	12	26	13	14		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● EX13-690 690.0	19.10	0.01			2.6	29.8	22.9	44.7

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI #3 - CLI

JOB NO. 18330.1

DATE

GRADATION CURVES

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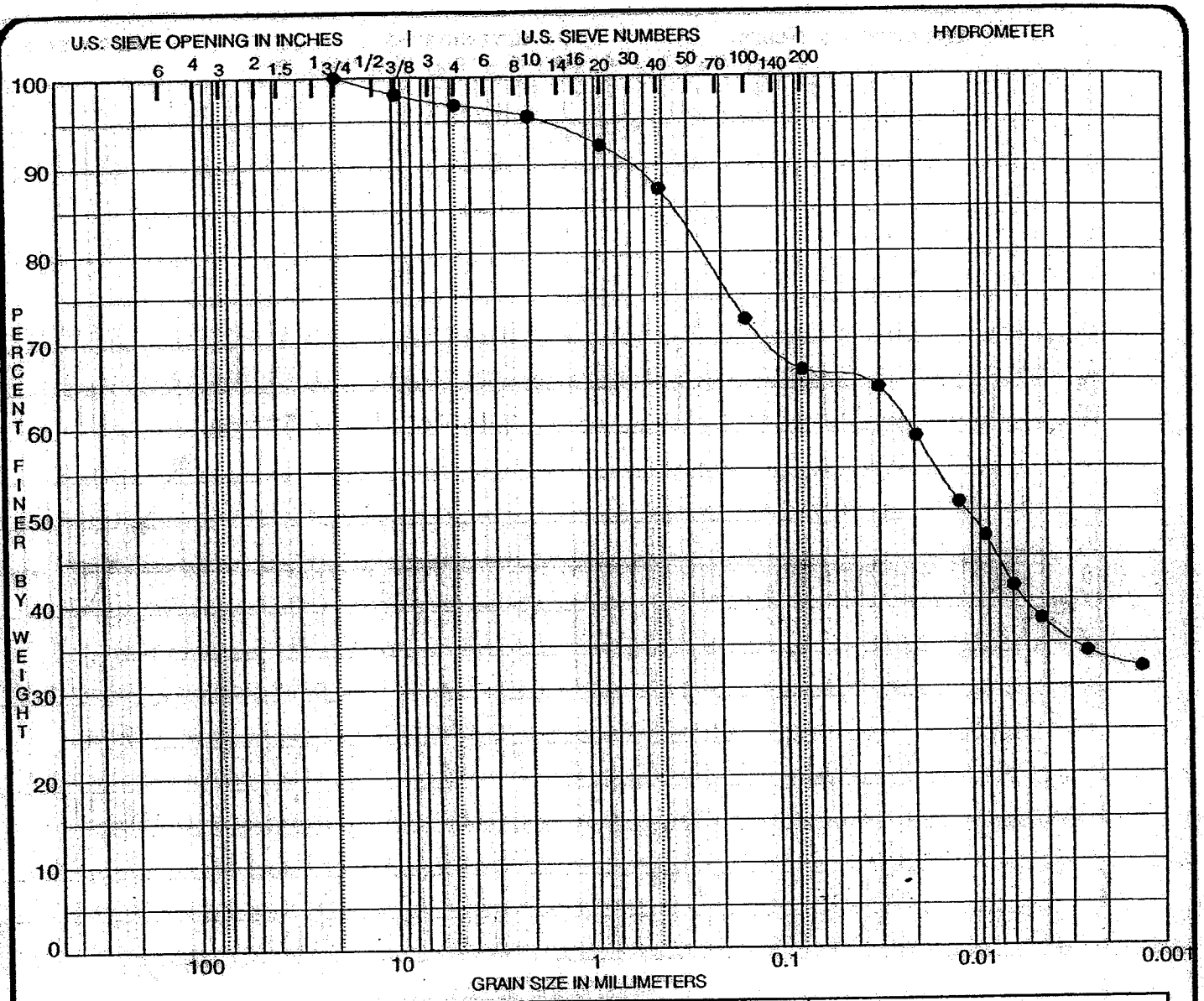

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
● EX16/685 685.0	SANDY LEAN CLAY, Trace Gravel - CL Gray Tiskilwa		28	12	16		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● EX16/685 685.0	19.10	0.02			3.2	30.5	26.8	39.5

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI #3 - CLI

JOB NO. 18330.1

DATE

GRADATION CURVES

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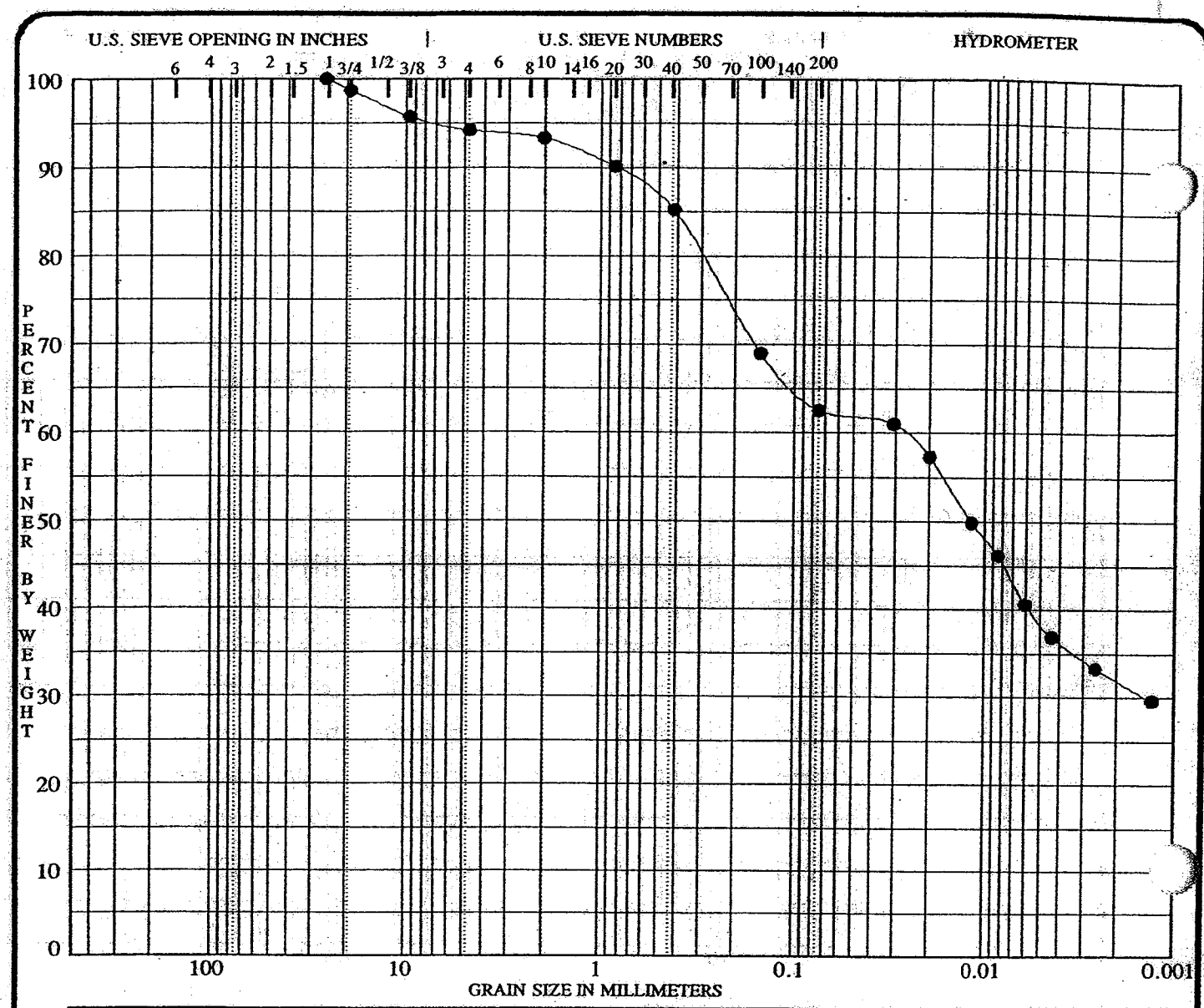
Decatur, IL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
● EX24/700 700.0	SANDY LEAN CLAY; Little Gravel - CL - Gray Tiskilwa	11	24	11	13		

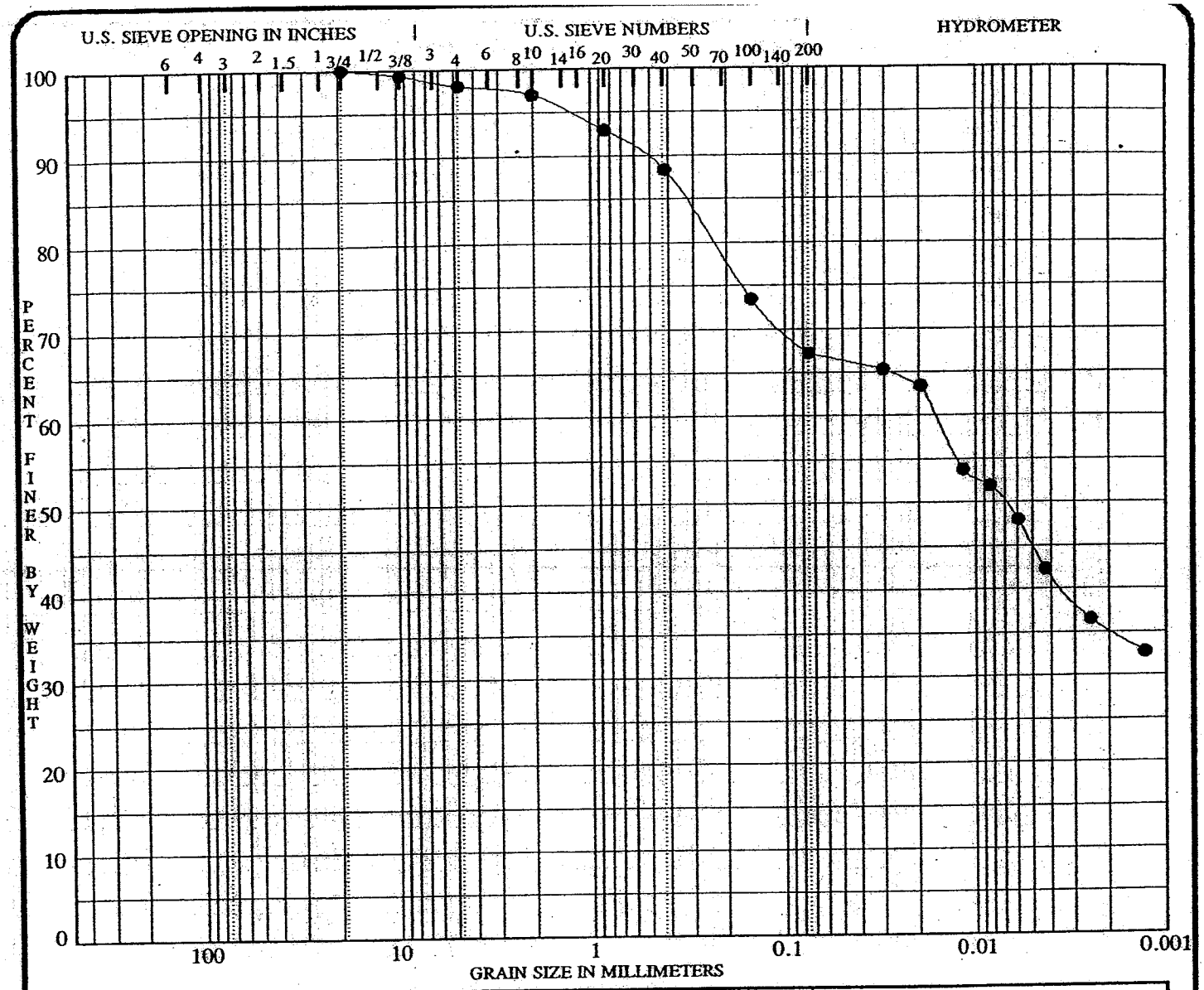
Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● EX24/700 700.0	25.40	0.03	0.001		5.8	31.7	24.2	38.3

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI #3 - CLI JOB NO. 18330.1
DATE

GRADATION CURVES

SKS ENGINEERS, INC.
Decatur, IL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
● EX23/686 686.0	SANDY LEAN CLAY – Trace	10	25	12	14		
	Gravel - CL Gray Tiskilwa						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● EX23/686 686.0	19.10	0.02			1.9	30.9	22.3	44.9

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI #3 - CLI

JOB NO. 18330.1

DATE

GRADATION CURVES

SKS ENGINEERS, INC.

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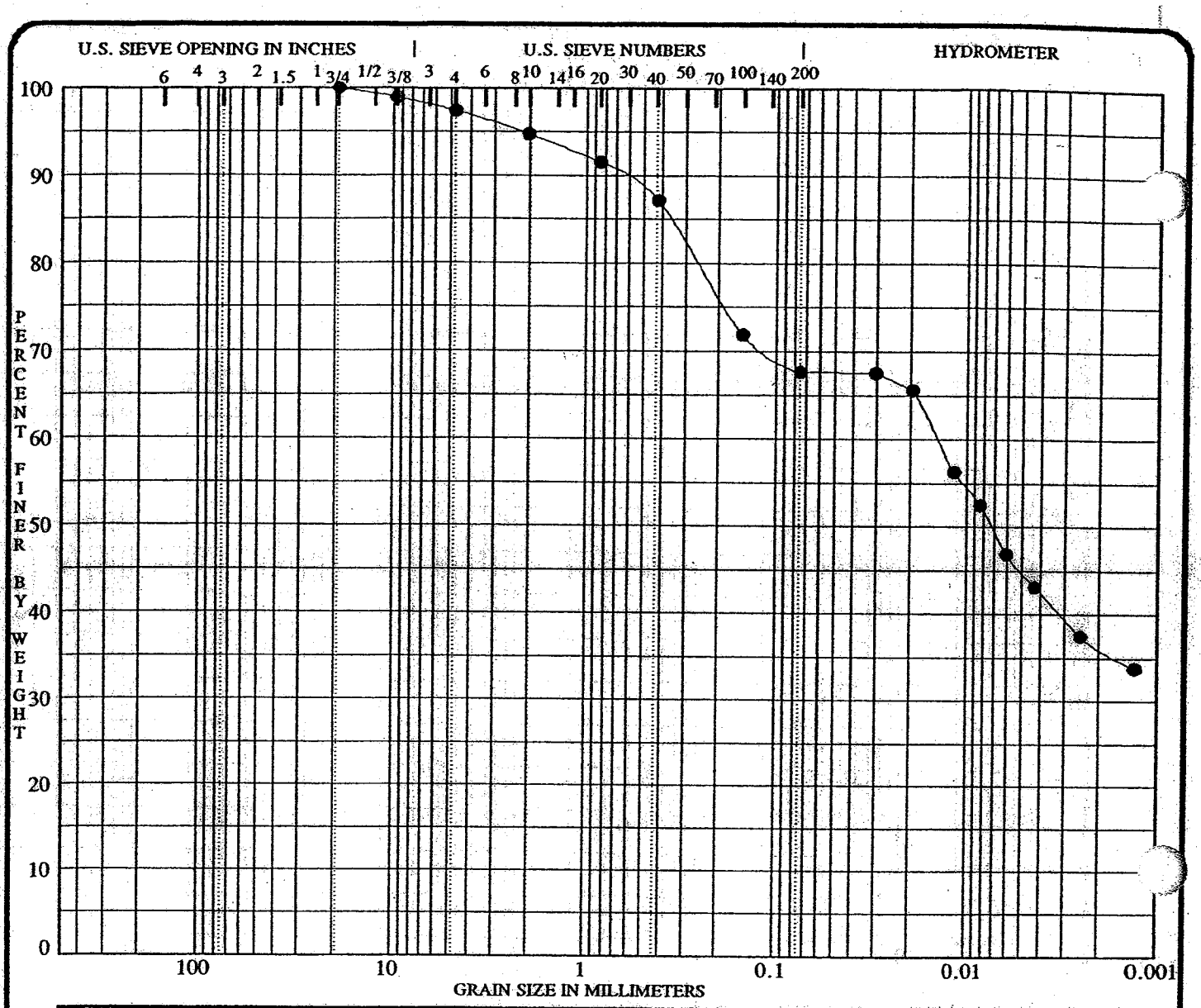

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
● GT COMP. 0.0	SANDY LEAN CLAY CL		26	13	14		
	Gray Tiskilwa - Composite						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● GT COMP. 0.0	19.10	0.01			2.6	29.8	22.9	44.7

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI #3 - CLI JOB NO. 18330.1
DATE

GRADATION CURVES

SKS ENGINEERS, INC.
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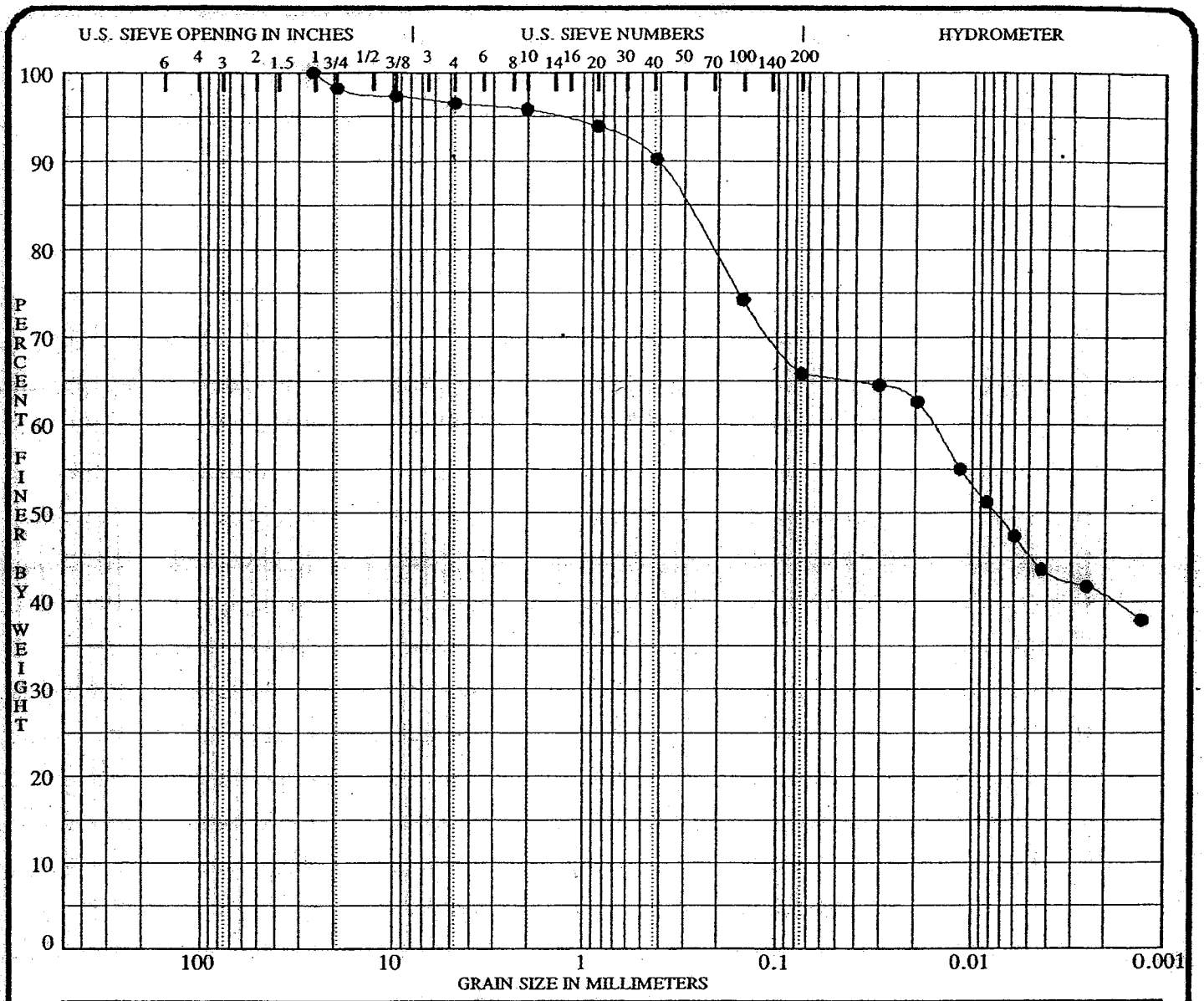


COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
●	EX17/660 660.0	SANDY LEAN CLAY-CL	18	32	22	11		
		Gray Berry Clay						

	Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EX17/660 660.0	25.40	0.02			3.5	30.7	20.5	45.3

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI #3 - CLI

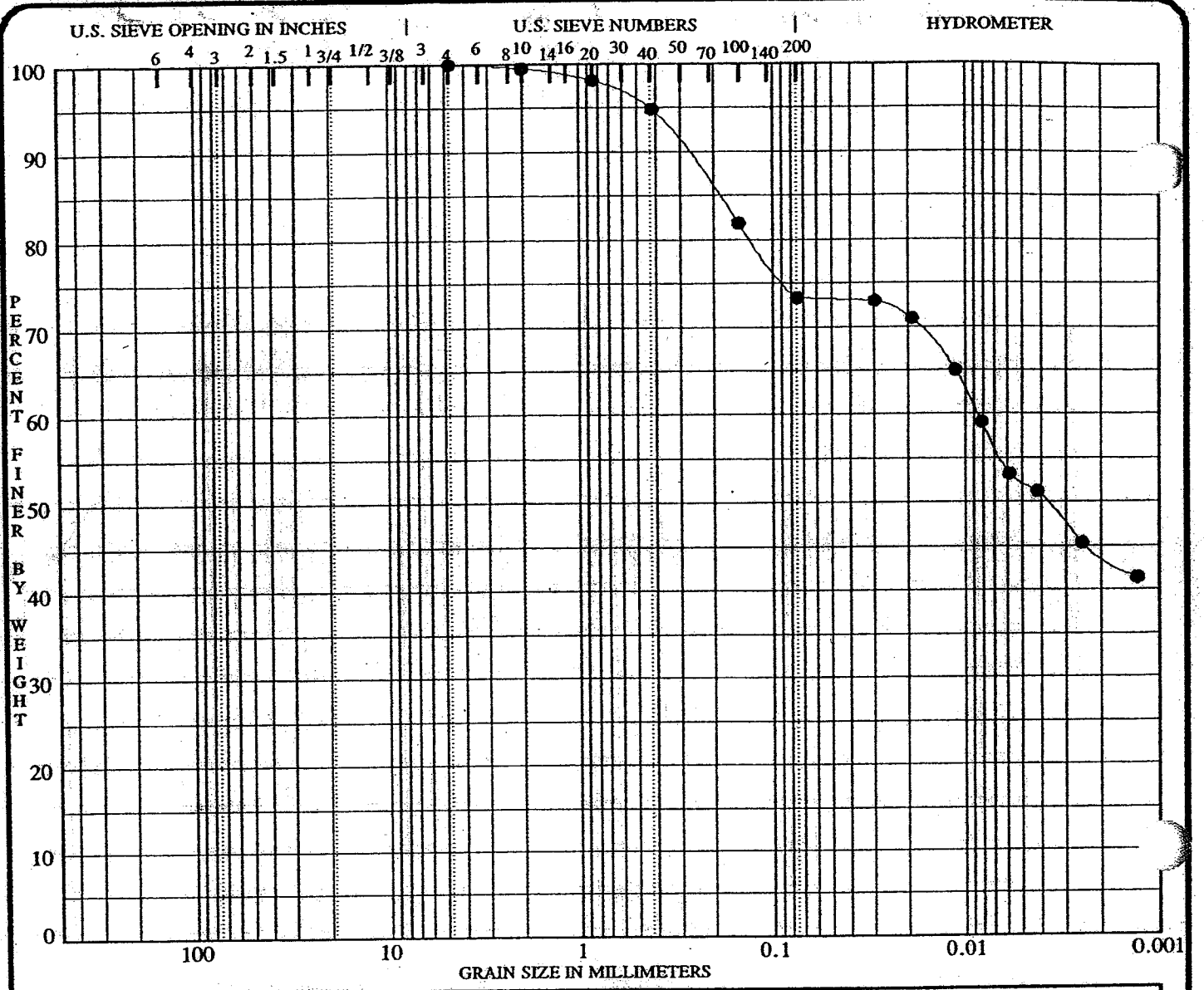
JOB NO. 18330.1

DATE

GRADATION CURVES

SKS ENGINEERS, INC.

Decatur, IL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
● EX23/660 660.0	LEAN CLAY with SAND CL	16	36	10	26		
	Gray Berry Clay						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● EX23/660 660.0	4.75	0.01			0.0	26.7	21.1	52.2

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI #3 - CLI

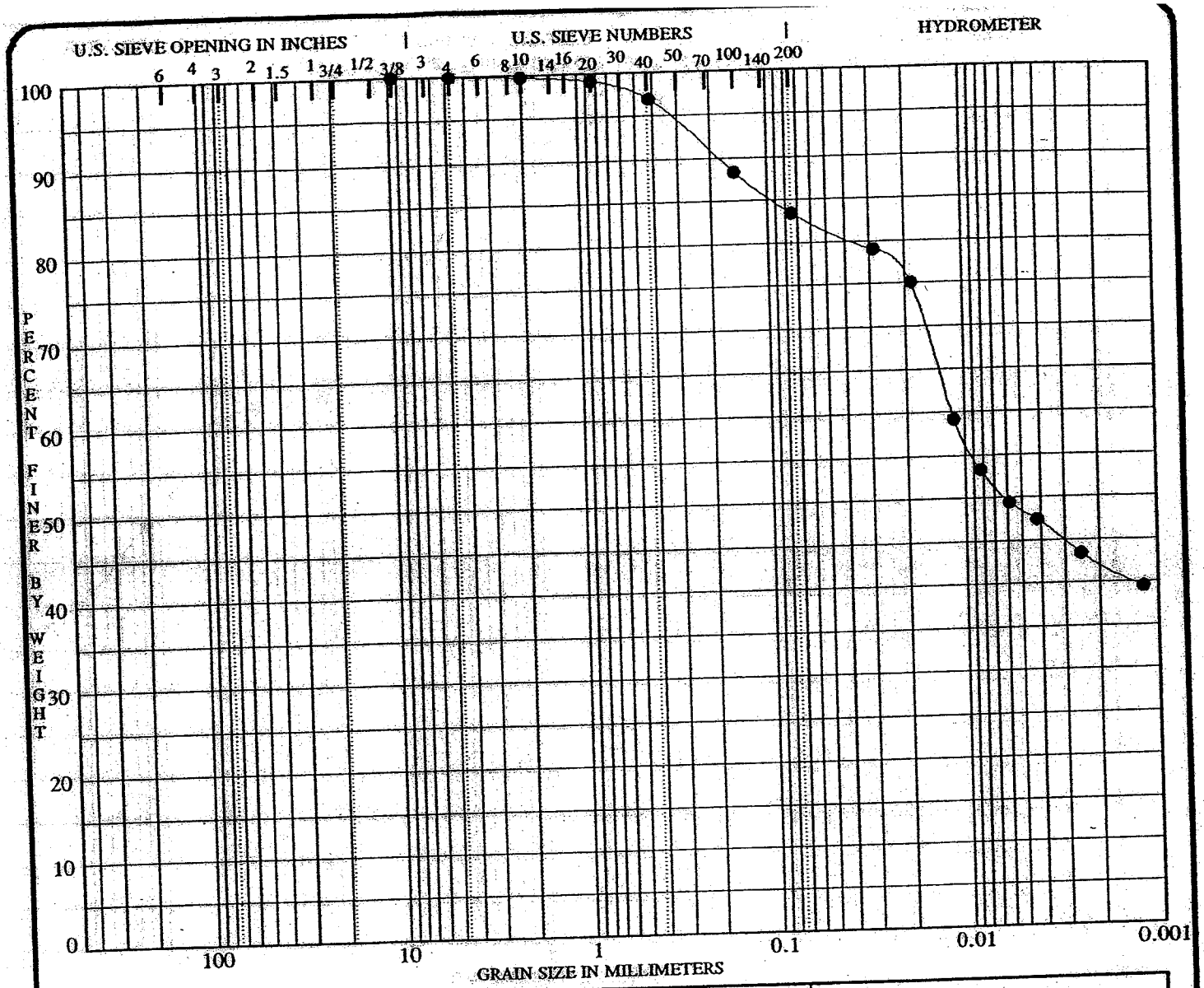
JOB NO. 18330.1

DATE

GRADATION CURVES

SKS ENGINEERS, INC.

Decatur, IL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification	MC%	LL	PL	PI	Cc	Cu
● BC COMP. 0.0	LEAN CLAY with SAND CL Dark Gray-Gray Berry Clay		36	14	22		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● BC COMP. 0.0	9.52	0.01			0.1	16.5	35.0	48.4

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI #3 - CLI

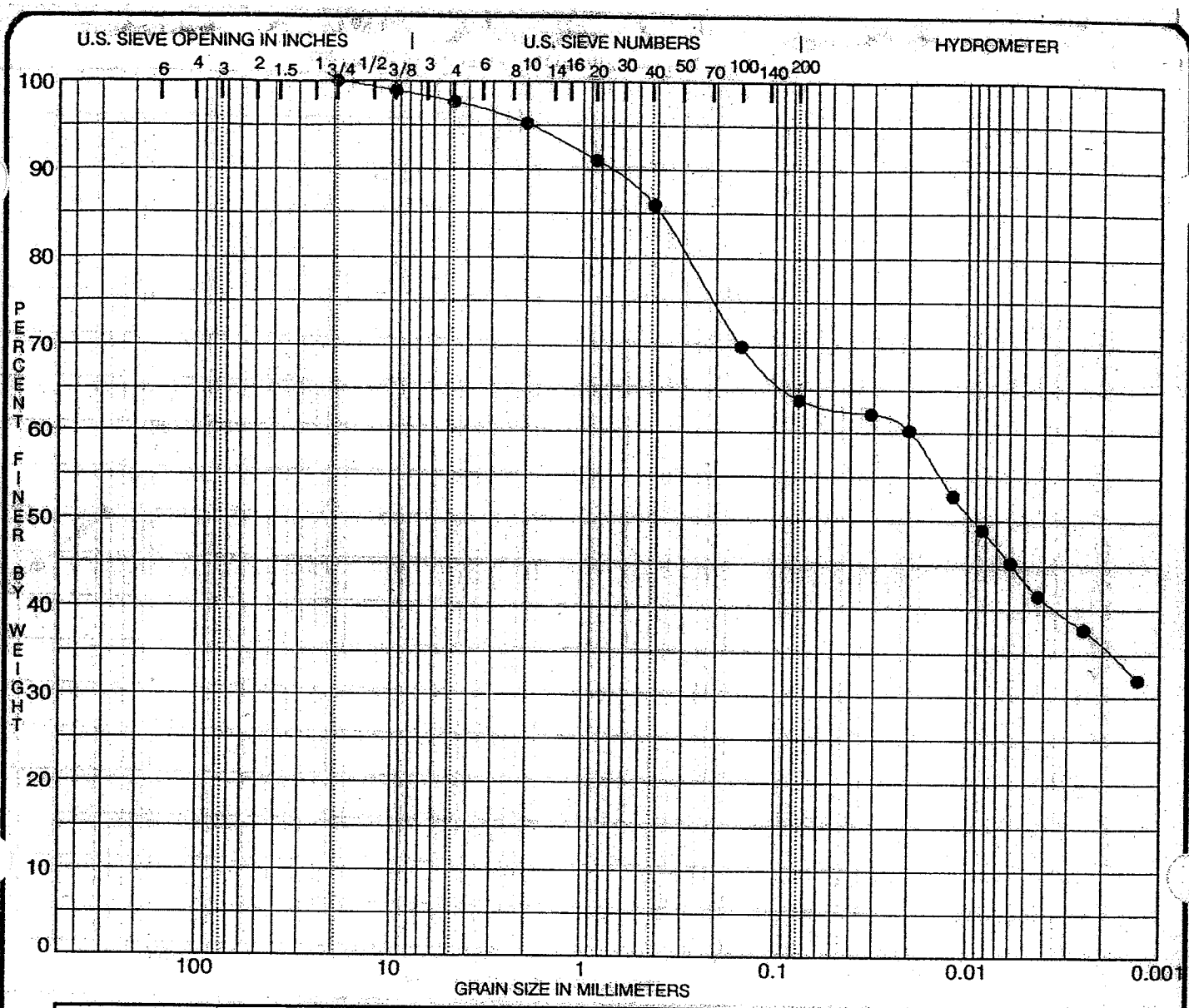
JOB NO. 18330.1

DATE

GRADATION CURVES

SKS ENGINEERS, INC.

Decatur, IL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	MC%	LL	PL	PI	Cc	Cu
●	EX-11	14.5	SANDY LEAN CLAY CL	12	24	12	12		
			QU TSF 3.7						
			Penetrometer TSF 4.5+						

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	EX-11	14.5	19.10	0.02			2.3	33.9	20.6	43.2

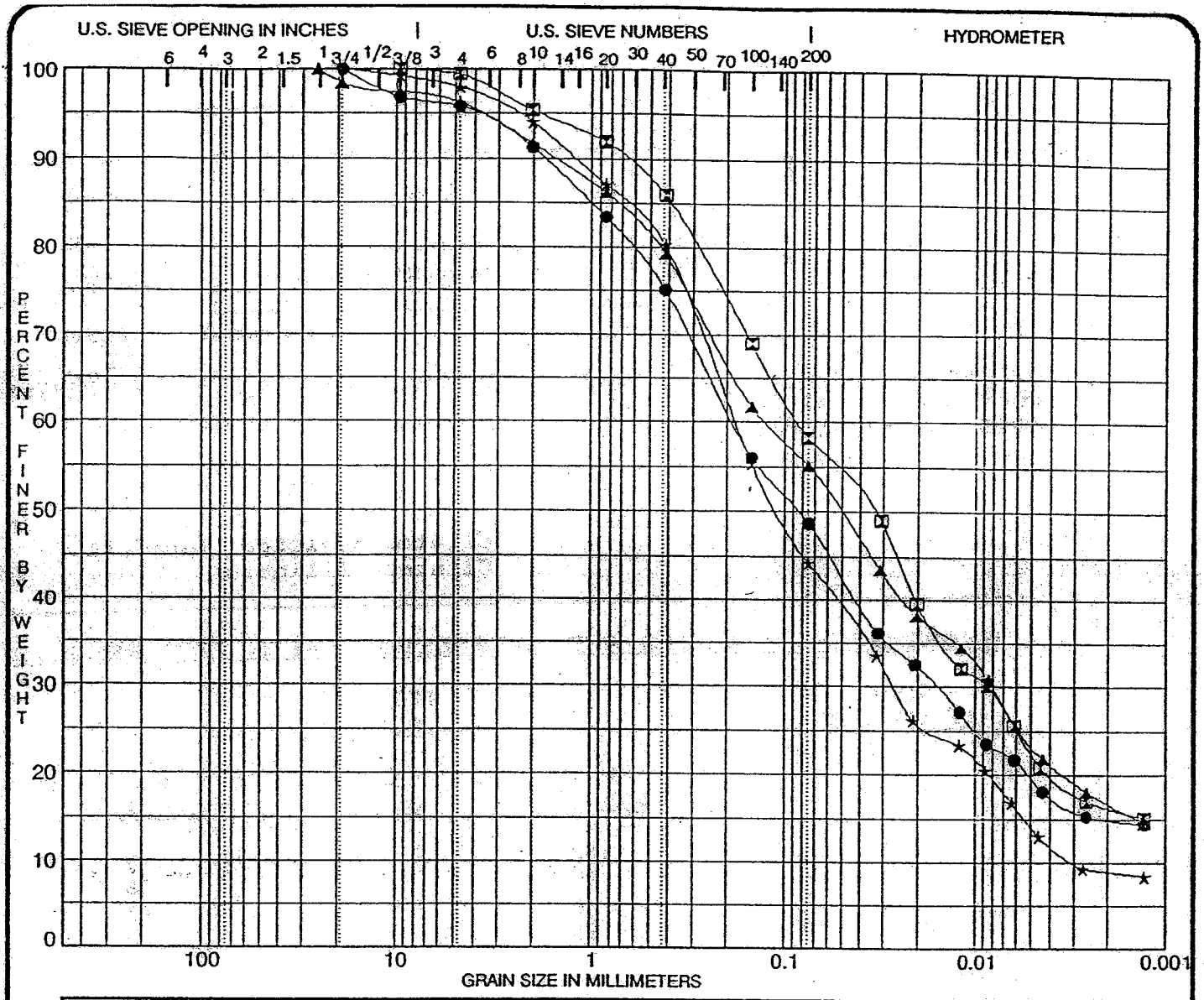
NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLI PROPOSED EXPANSION "2002" - CLI JOB NO. 18330
DATE

GRADATION CURVES

SKS ENGINEERS, INC.

Decatur, IL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification			Classification	MC%	LL	PL	PI	Cc	Cu
●	CSM-1A	9.5			21	14	7		
⊠	CSM-29	109.0			23	15	8		
▲	CSM-5B	24.0			22	14	8		
★	CSM-7B	33.0			16	13	3		

Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	CSM-1A	9.5	19.10	0.19	0.016		4.2	47.1	29.3	19.4
⊠	CSM-29	109.0	9.52	0.08	0.009		0.6	41.2	35.9	22.3
▲	CSM-5B	24.0	25.40	0.13	0.008		3.8	41.1	31.9	23.2
★	CSM-7B	33.0	19.10	0.18	0.027	0.0030	2.1	53.7	30.2	14.0

NOTE: % Silt and % Clay based on ASTM Classification (0.005mm)

PROJECT CLINTON LANDFILL DEEP BORING - JOB NO. 19-55965

DATE

GRADATION CURVES

SKS ENGINEERS, INC.

Decatur, Illinois

TELEPHONE
309-673-2131

TESTS
DESIGN
REPORTS
ANALYSIS
INSPECTION
CONSULTATION
INVESTIGATIONS

WHITNEY & ASSOCIATES
INCORPORATED
2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZ-O-PAC

SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING - CORING - TESTING

CLIENT:

W. & A. FILE NO. 2703001

DATE 2-13-[illegible]

REVISED

Mr. Ron Edvards
Peoria Disposal Company
4349 Southport Road
Peoria, Illinois 61615

PROJECT:

Clinton Municipal Landfill
Clinton, Illinois

HYDROMETER ANALYSIS AND ATTERBERG LIMITS TEST RESULTS

SIEVE DESIGNATION	PERCENTAGE FINER, %		
	B-11 2.0'-4.0'	B-12 0.0'-4.0'	B-12 6.0'-8.0'
#10	100	100	100
#40	97	88	96
#100	96	65	85
#200	95	58	80
MAXIMUM GRAIN SIZE DIAMETER, M.M.			
.0500	90	51	69
.0400	84	45	65
.0260	76	39	61
.0150	60	33	52
.0100	48	29	42
.0074	40	26	36
.0050	33	21	32
.0036	29	19	29
.0020	25	16	24
SAND-%	10	49	31
SILT-%	65	35	45
CLAY-%	25	16	24
USDA SOIL CLASSIFICATION	SILT LOAM	LOAM	LOAM
LIQUID LIMIT-%	27.5	22.7	25.4
PLASTIC LIMIT-%	23.9	16.5	20.5
PLASTICITY INDEX-%	3.6	6.2	4.9

SIEVE DESIGNATION	PERCENTAGE FINER, %			
	B-21 54.0'-56.0'	B-22 24.0'-26.0'	B-23 66.0'-68.0'	B-24 34.0'-36.0'
#10	100	100	100	100
#40	80	18	84	71
#100	67	10	73	67
#200	62	8	70	57
MAXIMUM GRAIN SIZE DIAMETER, M.M.				
.0500	61	7	66	57
.0400	61	7	63	57
.0260	55	7	59	49
.0150	47	6	51	45
.0100	41	6	45	39
.0074	37	6	41	35
.0050	33	6	37	31
.0036	31	6	35	29
.0020	29	5	32	27
SAND-%	39	93	34	43
SILT-%	32	2	34	30
CLAY-%	29	5	32	27
USDA SOIL CLASSIFICATION	CLAY LOAM	SAND	CLAY LOAM	CLAY LOAM
LIQUID LIMIT-%	26	11	31	23
PLASTIC LIMIT-%	18	NONE	19	17
PLASTICITY INDEX-%	8	NON-PLASTIC	12	6

TELEPHONE
309 673-2131

TESTS
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INVESTIGATIONS

WHITNEY & ASSOCIATES
INCORPORATED
2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZZ-O-PAC

SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING - CORING - TESTING

PROJECT: Clinton Municipal Landfill
Clinton, Illinois

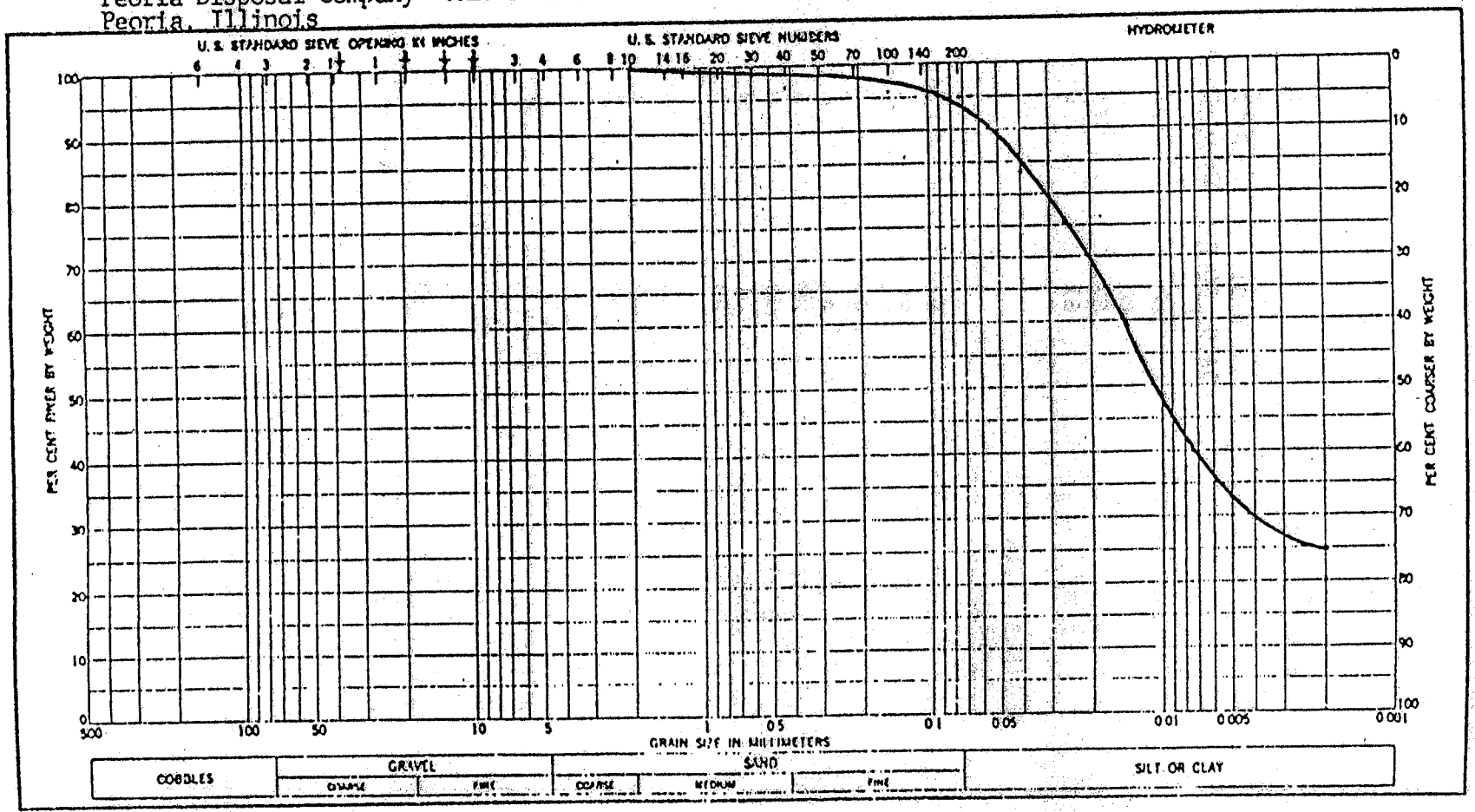
CLIENT: Mr. Ron Edwards
Peoria Disposal Company
Peoria, Illinois

W. & A. FILE NO. 2703

DATE 6-06-89

REPORT OF SOIL/AGGREGATE ANALYSIS

BORING NO. B-11 SAMPLE DEPTH 2.0' - 4.0'



SOIL/AGGREGATE CLASSIFICATION _____ UNIFORMITY COEFFICIENT, $\frac{D_{60}}{D_{10}}$ = _____ EFFECTIVE GRAIN SIZE, D_{10} = _____

WHITNEY & ASSOCIATES
PEORIA, ILLINOIS

TELEPHONE
309 673-2131

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WHITNEY & ASSOCIATES
INCORPORATED
2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZ-O-PAC

SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING - CORING - TESTING

W. & A. FILE NO. 2703

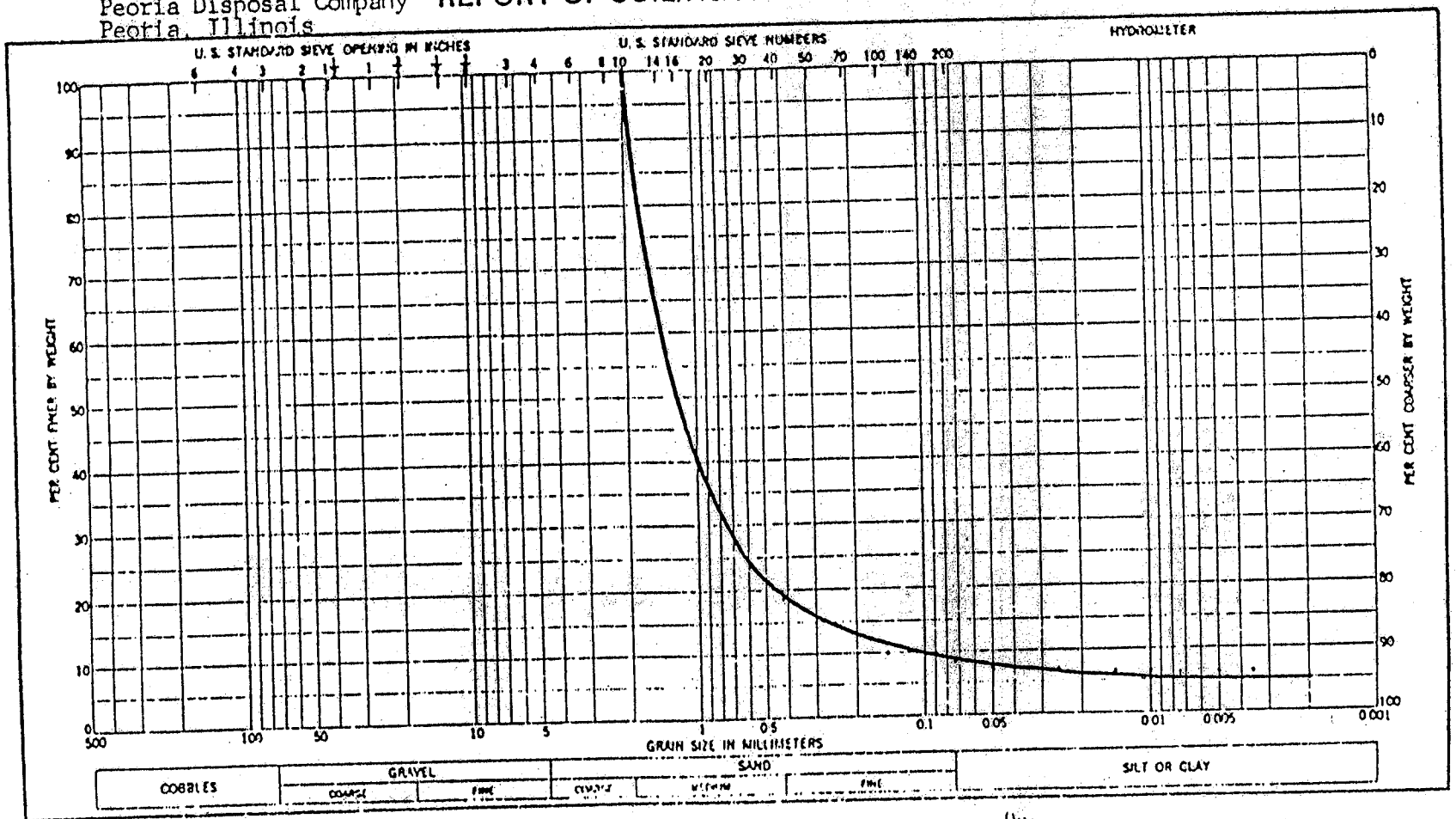
DATE 6-06-89

PROJECT: Clinton Municipal Landfill
Clinton, Illinois

CLIENT: Mr. Ron Edwards
Peoria Disposal Company
Peoria, Illinois

REPORT OF SOIL/AGGREGATE ANALYSIS

BORING NO. B-22 SAMPLE DEPTH 24.0' - 26.0'



SOIL/AGGREGATE CLASSIFICATION _____

UNIFORMITY COEFFICIENT $\frac{D_{60}}{D_{10}}$ = _____ EFFECTIVE GRAIN SIZE, D_{10} = _____

WHITNEY & ASSOCIATES
PEORIA, ILLINOIS

TELEPHONE
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TESTS
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WHITNEY & ASSOCIATES
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2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZ-O-PAC

SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING - CORING - TESTING

CLIENT:

W. & A. FILE NO. 2703002

DATE 4-24-89
REVISED

Mr. Ron Edwards
Peoria Disposal Company
4349 Southport Road
Peoria, Illinois 61615

PROJECT:

Clinton Municipal Landfill
Clinton, Illinois

HYDROMETER ANALYSIS AND ATTERBERG LIMITS TEST RESULTS

SIEVE DESIGNATION	PERCENTAGE FINER, %		
	B-11 80.0'-82.0'	B-21 42.0'-44.0'	B-24 40.0'-42.0'
3/4"	-	-	100
1/2"	-	-	83
3/8"	100	-	72
#4	98	-	49
#10	92	100	25
#40	81	97	10
#100	22	93	6
#200	11	91	6
MAXIMUM GRAIN SIZE DIAMETER, M.M.			
.0500	8	80	6
.0400	6	73	6
.0260	5	61	6
.0150	4	49	5
.0100	4	43	5
.0074	3	37	4
.0050	2	31	4
.0036	2	28	4
.0020	2	25	3
SAND-%	92	20	94
SILT-%	6	55	3
CLAY-%	2	25	3
SOIL CLASSIFICATION UDSA	SAND	SILT LOAM	SAND
LIQUID LIMIT-%	10	28	11
PLASTIC LIMIT-%	NONE	19	NONE
PLASTICITY INDEX-%	NON-PLASTIC	9	NON-PLASTIC

TELEPHONE
309 673-2131

TESTS
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CONSULTATION
INVESTIGATIONS

WHITNEY & ASSOCIATES
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2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZ-O-PAC

SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING - CORING - TESTING

CLIENT:

W. & A. FILE NO. 2703003

DATE 5-12-89
REVISED

Mr. Ron Edwards
Peoria Disposal Company
4349 Southport Road
Peoria, Illinois 61615

PROJECT:

Clinton Municipal Landfill
Clinton, Illinois

HYDROMETER ANALYSIS AND ATTERBERG LIMITS TEST RESULTS

SIEVE DESIGNATION	PERCENTAGE FINER, %			
	B-15 14.0'-16.0'	B-17 26.0'-28.0'	B-18 25.0'-28.0'	B-19 28.0'-30.0'
#10	100	100	100	100
#40	98	14	83	83
#100	97	11	70	70
#200	97	10	64	66
MAXIMUM GRAIN SIZE DIAMETER, M.M.				
.0500	89	9	61	64
.0400	80	9	59	63
.0260	68	8	53	59
.0150	42	7	45	51
.0100	35	7	41	47
.0074	27	6	35	41
.0050	22	6	31	37
.0036	19	5	29	35
.0020	16	4	26	33
SAND-%	11	91	39	36
SILT-%	73	5	35	31
CLAY-%	16	4	26	33
UDSA SOIL CLASSIFICATION	SILT LOAM	SAND	LOAM	CLAY LOAM
LIQUID LIMIT-%	29	12	21	27
PLASTIC LIMIT-%	23	NONE	15	18
PLASTICITY INDEX-%	6	NON-PLASTIC	6	9

SIEVE DESIGNATION	PERCENTAGE FINER, %			
	B-21 54.0'-56.0'	B-22 24.0'-26.0'	B-23 66.0'-68.0'	B-24 34.0'-36.0'
#10	100	100	100	100
#40	80	18	84	71
#100	67	10	73	67
#200	62	8	70	57
MAXIMUM GRAIN SIZE DIAMETER, M.M.				
.0500	61	7	66	57
.0400	61	7	63	57
.0260	55	7	59	49
.0150	47	6	51	45
.0100	41	6	45	39
.0074	37	6	41	35
.0050	33	6	37	31
.0036	31	6	35	29
.0020	29	5	32	27
SAND-%	39	93	34	43
SILT-%	32	2	34	30
CLAY-%	29	5	32	27
USDA SOIL CLASSIFICATION	CLAY LOAM	SAND	CLAY LOAM	CLAY LOAM
LIQUID LIMIT-%	26	11	31	23
PLASTIC LIMIT-%	18	NONE	19	17
PLASTICITY INDEX-%	8	NON-PLASTIC	12	6

SIEVE DESIGNATION	PERCENTAGE FINER, %		
	B-25 24.0'-26.0'	B-26 14.0'-16.0'	B-27 10.0'-12.0'
#10	100	100	100
#40	81	87	91
#100	69	76	84
#200	66	73	82
MAXIMUM GRAIN SIZE DIAMETER, M.M.			
.0500	61	67	77
.0400	58	64	74
.0260	54	55	66
.0150	48	45	54
.0100	40	37	48
.0074	36	32	45
.0050	32	28	40
.0036	29	25	37
.0020	27	24	35
SAND-%	39	33	23
SILT-%	34	43	42
CLAY-%	27	24	35
USDA SOIL CLASSIFICATION	CLAY LOAM	LOAM	CLAY LOAM
LIQUID LIMIT-%	23	33	29
PLASTIC LIMIT-%	15	24	18
PLASTICITY INDEX-%	8	9	11

Should you have any questions or comments whatsoever in regard to these test results, or if any additional information is desired, do not hesitate to contact me personally at your convenience.

Respectfully submitted,

WHITNEY & ASSOCIATES

(By) Richard R. Whitney

Richard R. Whitney, P. E.

RRW:rma

WHITNEY & SONS
PEORIA, ILLINOIS

TELEPHONE
309 673-2131

TESTS
DESIGN
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ANALYSIS
INSPECTION
CONSULTATION
INVESTIGATIONS

WHITNEY & ASSOCIATES
INCORPORATED
2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZ-O-PAC

SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING - CORING - TESTING

CLIENT:

W. & A. FILE NO. 2703004
DATE 5-31-83

Mr. Ron Edwards
Peoria Disposal Company
4349 Southport Road
Peoria, Illinois 61615

PROJECT:

Clinton Municipal Landfill
Clinton, Illinois

HYDROMETER ANALYSIS AND ATTERBERG LIMITS TEST RESULTS

SIEVE DESIGNATION	PERCENTAGE FINER, %		
	B-11 88.0'-90.0'	B-13 42.0'-44.0'	B-14 20.0'-22.0'
#10	100	100	100
#40	98	96	98
#100	94	92	94
#200	90	86	90
MAXIMUM GRAIN SIZE DIAMETER, M.M.			
.0500	81	82	86
.0400	76	78	82
.0260	72	70	74
.0150	64	62	66
.0100	44	46	58
.0074	38	40	44
.0050	32	34	36
.0036	24	29	30
.0020	21	26	28
SAND-%	19	18	14
SILT-%	60	56	58
CLAY-%	21	26	28
UDSA SOIL CLASSIFICATION	SILT LOAM	SILT LOAM	SILTY CLAY LOAM
LIQUID LIMIT-%	27	30	33
PLASTIC LIMIT-%	18	19	20
PLASTICITY INDEX-%	9	11	13

TELEPHONE
309 673-2131

TESTS
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CONSULTATION
INVESTIGATIONS

WHITNEY & ASSOCIATES
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2408 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZ-O-PAC

SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING - CORING - TESTING

PROJECT: Clinton Municipal Landfill
Clinton, Illinois

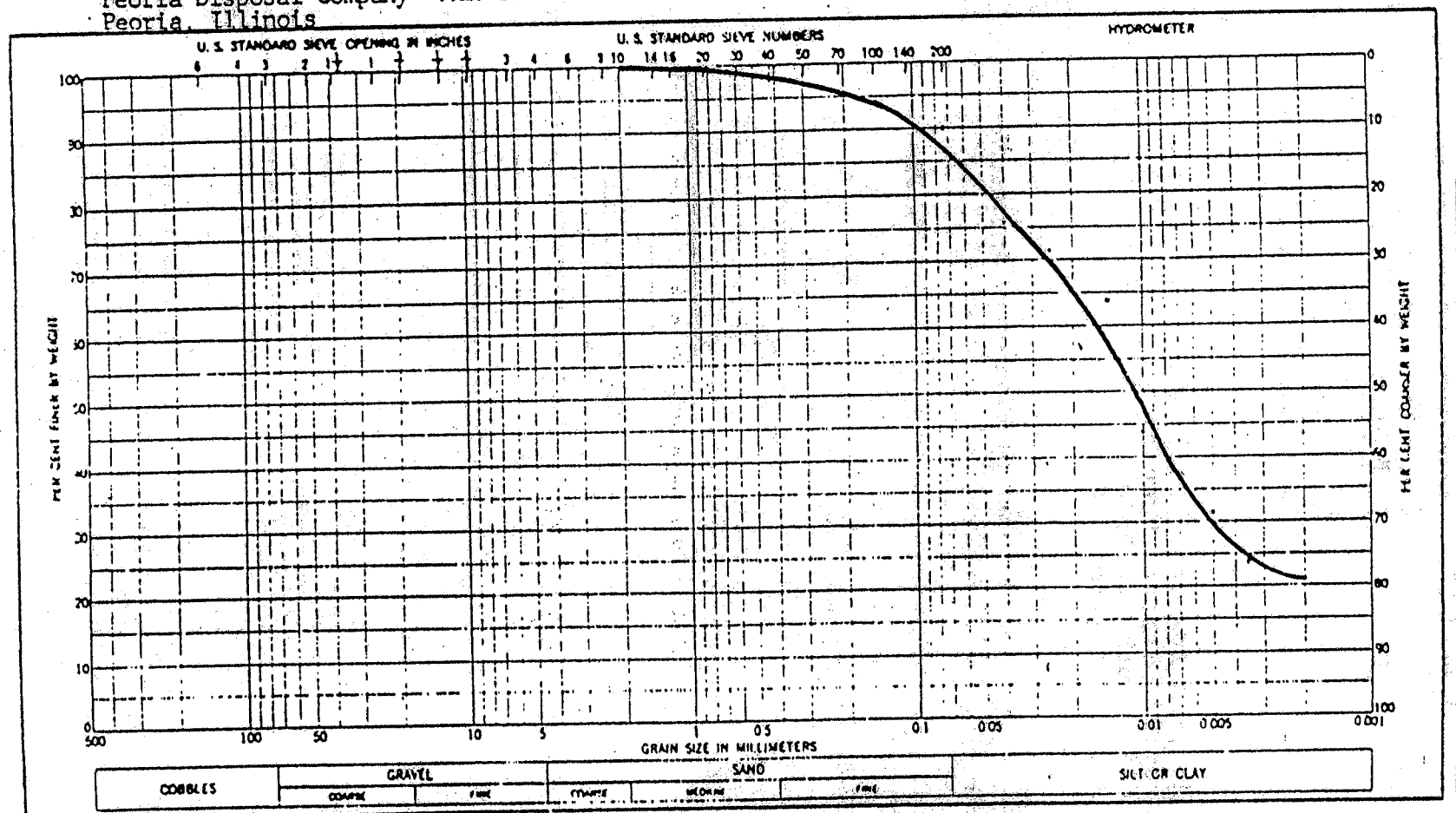
CLIENT: Mr. Ron Edwards
Peoria Disposal Company
Peoria, Illinois

W. & A. FILE NO. 2703

DATE 6-06-89

REPORT OF SOIL/AGGREGATE ANALYSIS

BORING NO. B-11 SAMPLE DEPTH 88.0' - 90.0'



SOIL/AGGREGATE CLASSIFICATION _____

UNIFORMITY COEFFICIENT, $\frac{D_{60}}{D_{10}}$ = _____ EFFECTIVE GRAIN SIZE, D_{10} = _____

WHITNEY & ASSOCIATES
PEORIA, ILLINOIS

TELEPHONE
309 673-2121

TESTS
DESIGN
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CONSULTATION
INVESTIGATION

WHITNEY & ASSOCIATES
INCORPORATED
2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZZ-O-PAC

SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING - CORING - TEST HOLES

CLIENT

Mr. Ron Edwards
Peoria Disposal Company
4349 Southport Road
Peoria, Illinois 61615

W & A FILE NO 2703

DATE 6-06-89

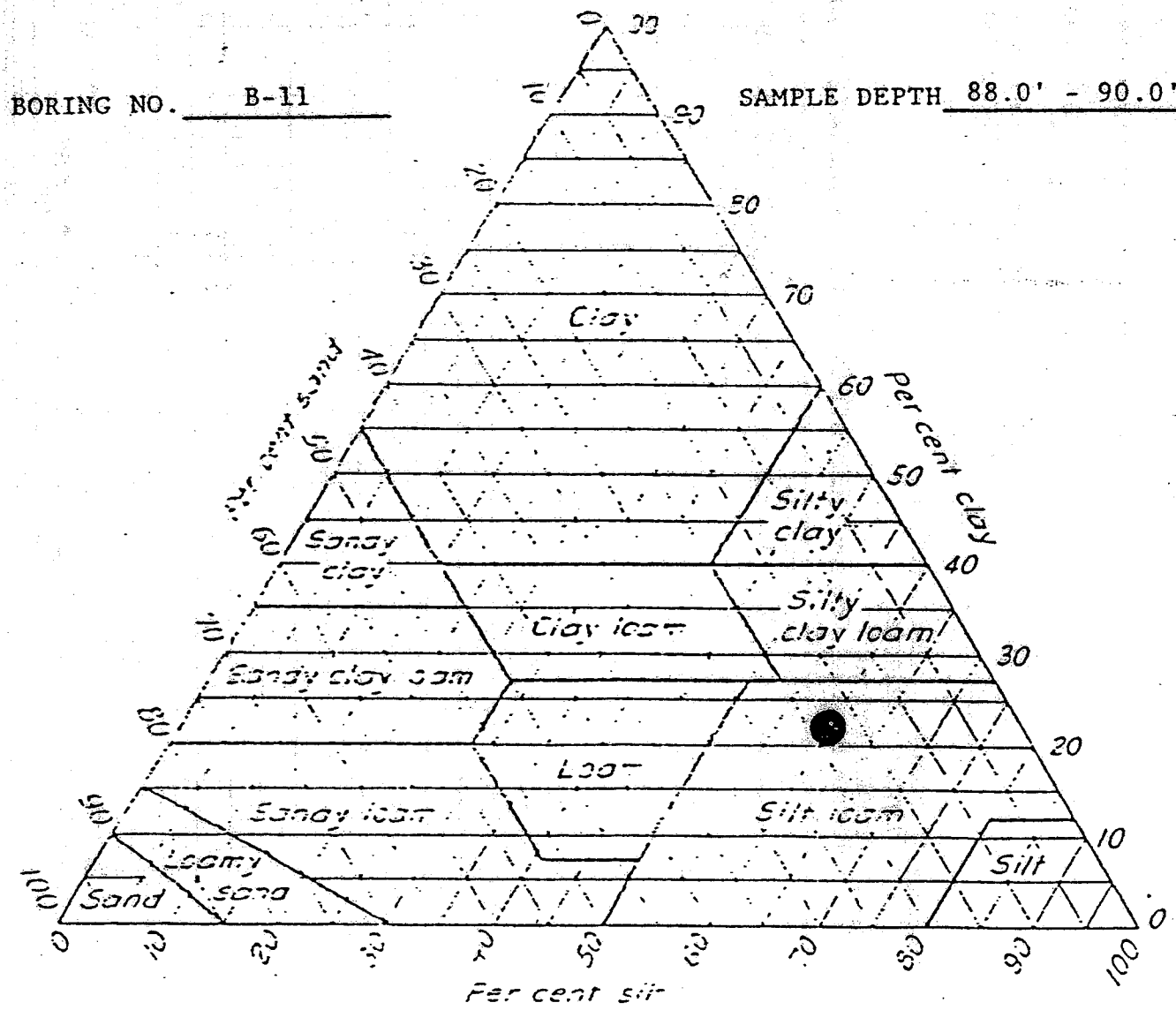
PROJECT

Clinton Municipal Landfill
Clinton, Illinois

Identification and Classification of Soils and Rocks

BORING NO. B-11

SAMPLE DEPTH 88.0' - 90.0'



TELEPHONE
309 673-2131

TESTS
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WHITNEY & ASSOCIATES
INCORPORATED
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PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZZ-O-PAC

SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING - CORING - TESTING

W. & A. FILE NO. 2703

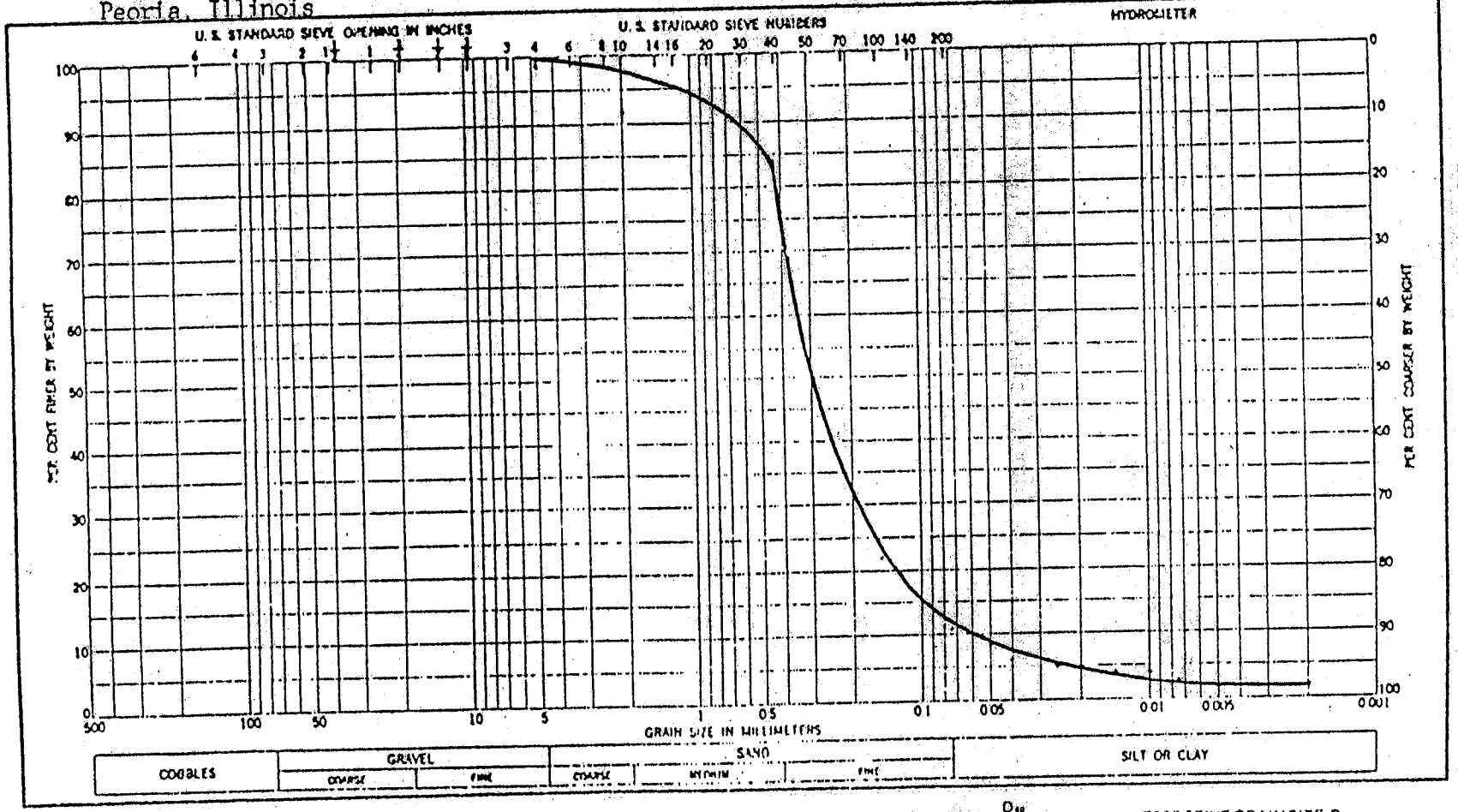
DATE 6-06-89

PROJECT: Clinton Municipal Landfill
Clinton, Illinois

CLIENT: Mr. Ron Edwards
Peoria Disposal Company
Peoria, Illinois

REPORT OF SOIL/AGGREGATE ANALYSIS

BORING NO. B-11 SAMPLE DEPTH 80.0' - 82.0'



SOIL/AGGREGATE CLASSIFICATION _____ UNIFORMITY COEFFICIENT, $\frac{D_{60}}{D_{10}}$ = _____ EFFECTIVE GRAIN SIZE, D_{10} = _____

WHITNEY & ASSOCIATES
PEORIA, ILLINOIS

TELEPHONE
309 673-2131

TESTS
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FIELD INVESTIGATION

WHITNEY & ASSOCIATES
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SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZZOLAN
SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING - COMING - TESTING

CLIENT

W & A FILE NO. 2703

DATE 6-06-89

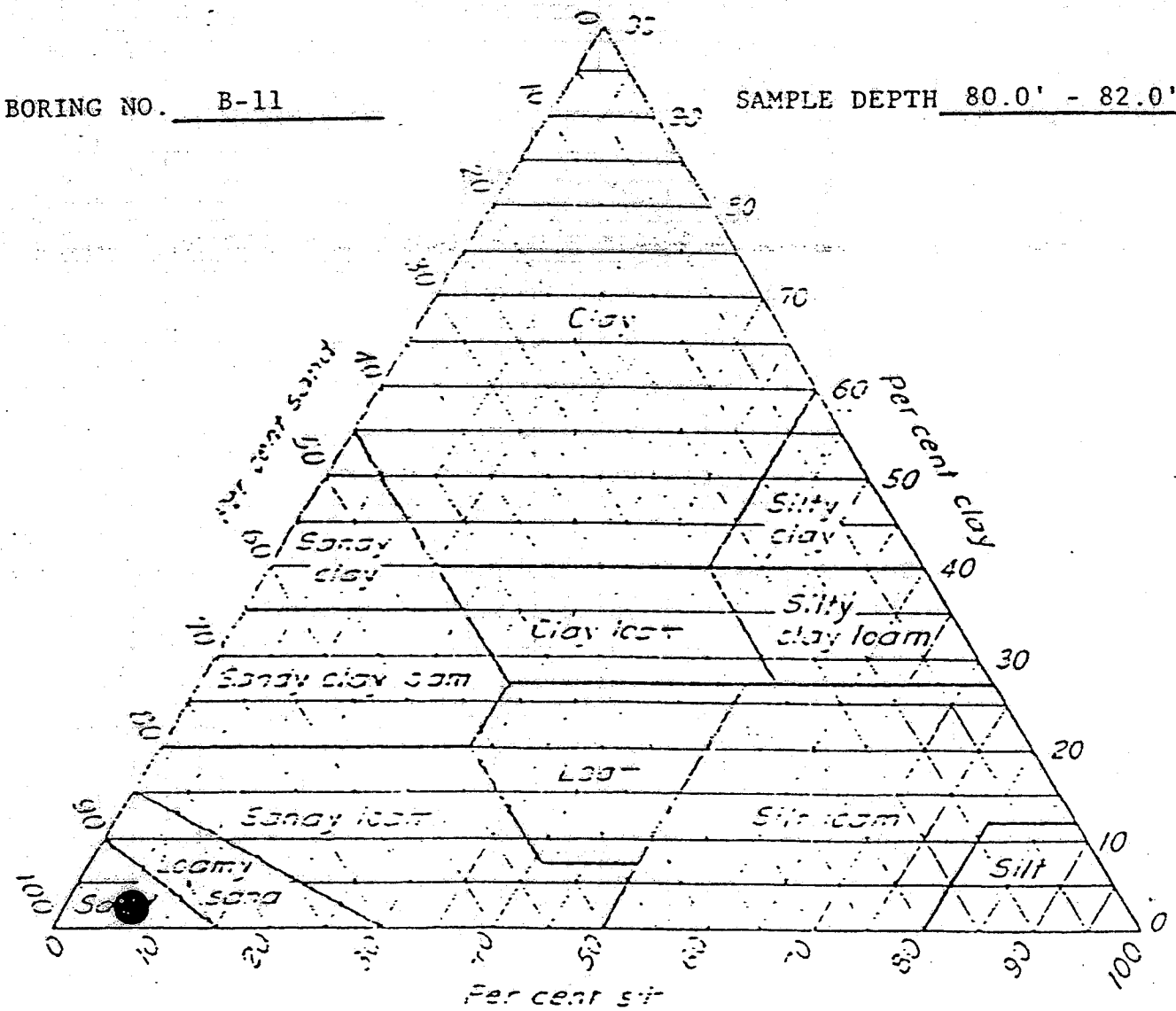
Mr. Ron Edwards
Peoria Disposal Company
4349 Southport Road
Peoria, Illinois 61615

PROJECT

Clinton Municipal Landfill
Clinton, Illinois

Identification and Classification of Soils and Rocks

BORING NO. B-11 SAMPLE DEPTH 80.0' - 82.0'



TELEPHONE
309 673-2131

WHITNEY & ASSOCIATES
INCORPORATED
2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN...
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES ASPHALT - POZZOLANS
SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING CORING TESTING

W & A FILE NO. 2703

DATE 6-06-89

CLIENT

Mr. Ron Edwards
Peoria Disposal Company
4349 Southport Road
Peoria, Illinois 61615

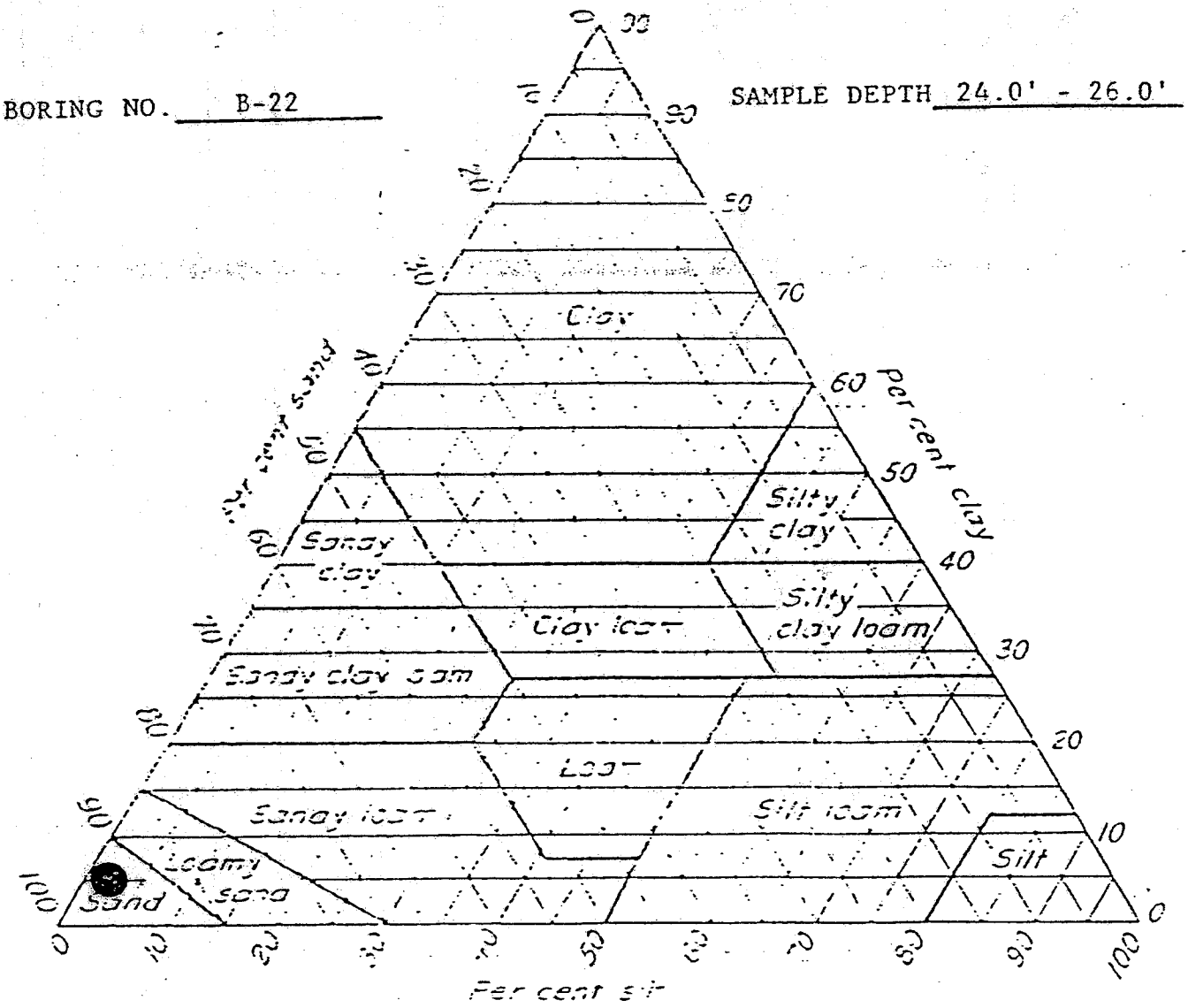
PROJECT

Clinton Municipal Landfill
Clinton, Illinois

Identification and Classification of Soils and Rocks

BORING NO. B-22

SAMPLE DEPTH 24.0' - 26.0'



TELEPHONE
309 673-2131

TESTS
DESIGN
REPORTS
ANALYSIS
INSPECTION
CONSULTATION
INVESTIGATIONS

WHITNEY & ASSOCIATES
INCORPORATED
2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS PORTLAND CEMENT CONCRETE
STEEL BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES ASPHALT POZ-O-PAC

SOILS AND GRAVEL SURVEYS
MATERIAL QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING BORING TESTING

W. S. A. FILE NO. 2703

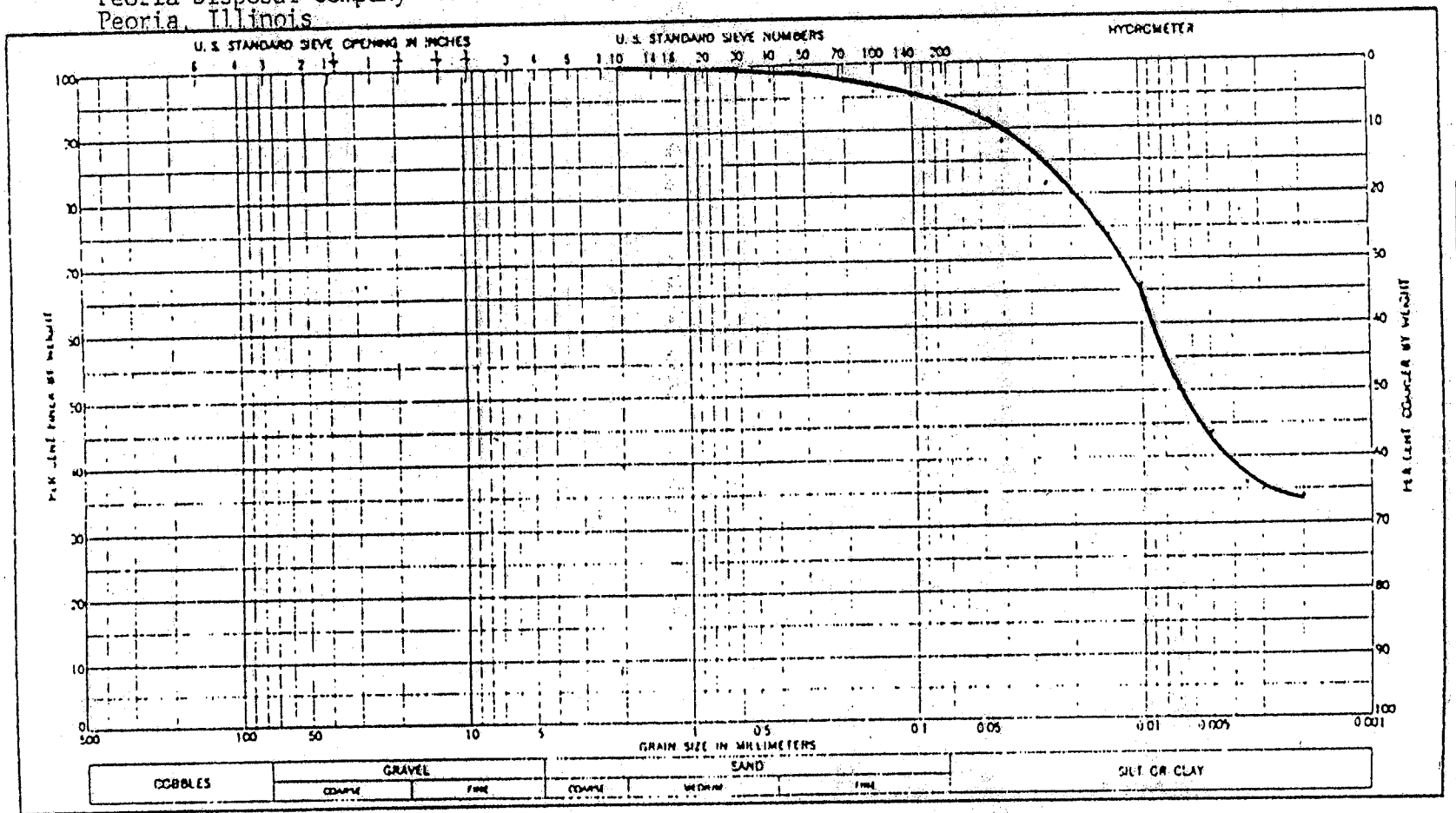
DATE 6-06-89

PROJECT Clinton Municipal Landfill
Clinton, Illinois

CLIENT Mr. Ron Edwards
Peoria Disposal Company
Peoria, Illinois

REPORT OF SOIL/AGGREGATE ANALYSIS

BORING NO. B-20 SAMPLE DEPTH 8.0' - 10.0'



SOIL AGGREGATE CLASSIFICATION _____

UNIFORMITY COEFFICIENT $\frac{D_{60}}{D_{10}}$ _____ EFFECTIVE GRAIN SIZE, D_{10} _____

WHITNEY & ASSOCIATES
PEORIA, ILLINOIS

TELEPHONE
309 673-2137

TESTS
DESIGN
REPORTS
ANALYSIS
INSPECTION
CONSULTATION
MIX DESIGNS

WHITNEY & ASSOCIATES
INCORPORATED
2405 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZZOLANS

SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING CORING TESTING

CLIENT

W & A FILE NO. 2703

DATE 6-06-89

Mr. Ron Edwards
Peoria Disposal Company
4349 Southport Road
Peoria, Illinois 61615

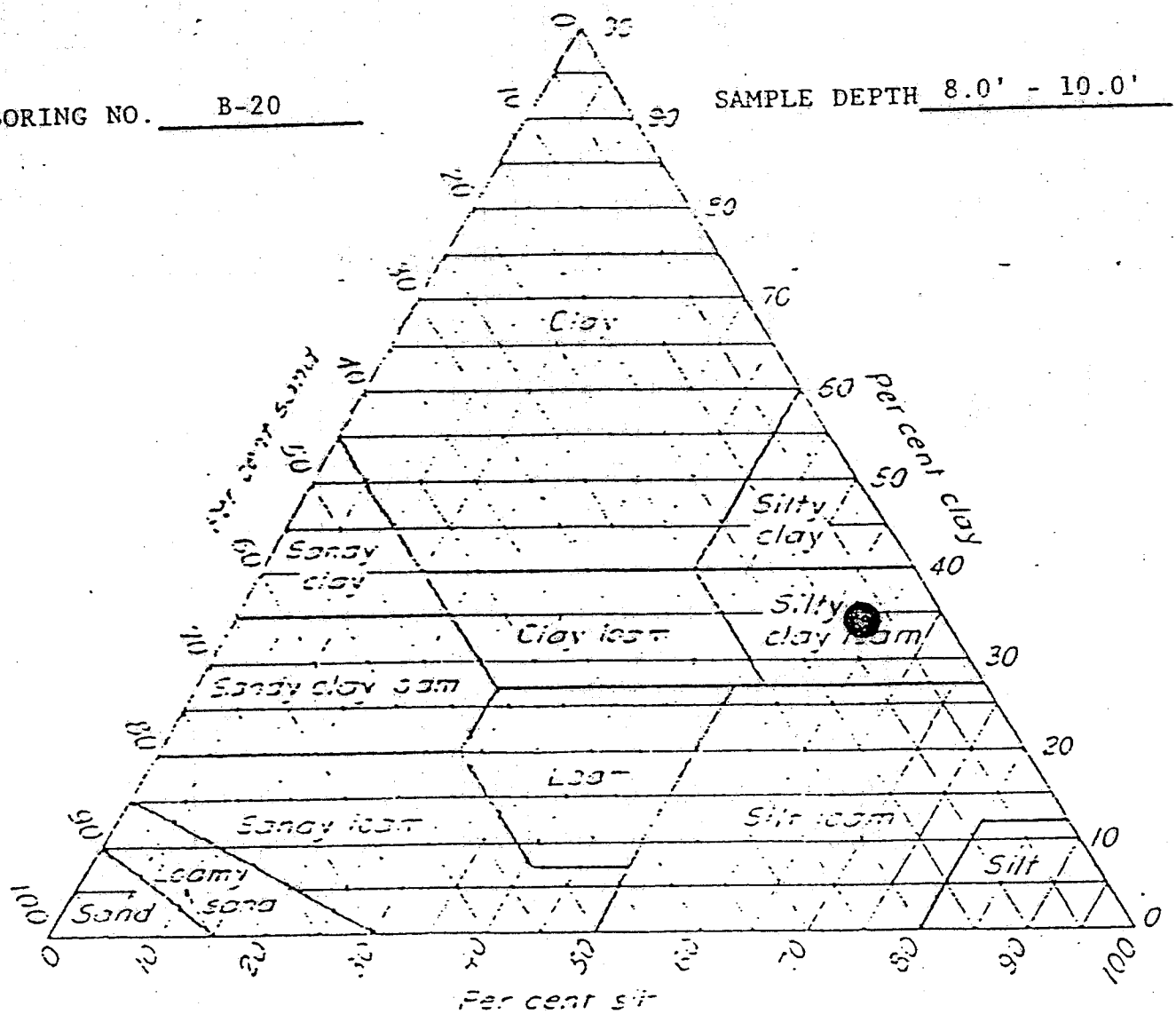
PROJECT

Clinton Municipal Landfill
Clinton, Illinois

Identification and Classification of Soils and Rocks

BORING NO. B-20

SAMPLE DEPTH 8.0' - 10.0'



TELEPHONE
309 673-2131

TESTS
DESIGN
REPORTS
ANALYSIS
INSPECTION
CONSULTATION
INVESTIGATIONS

WHITNEY & ASSOCIATES
INCORPORATED
2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZ-O-PAC

SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING - CORING - TESTING

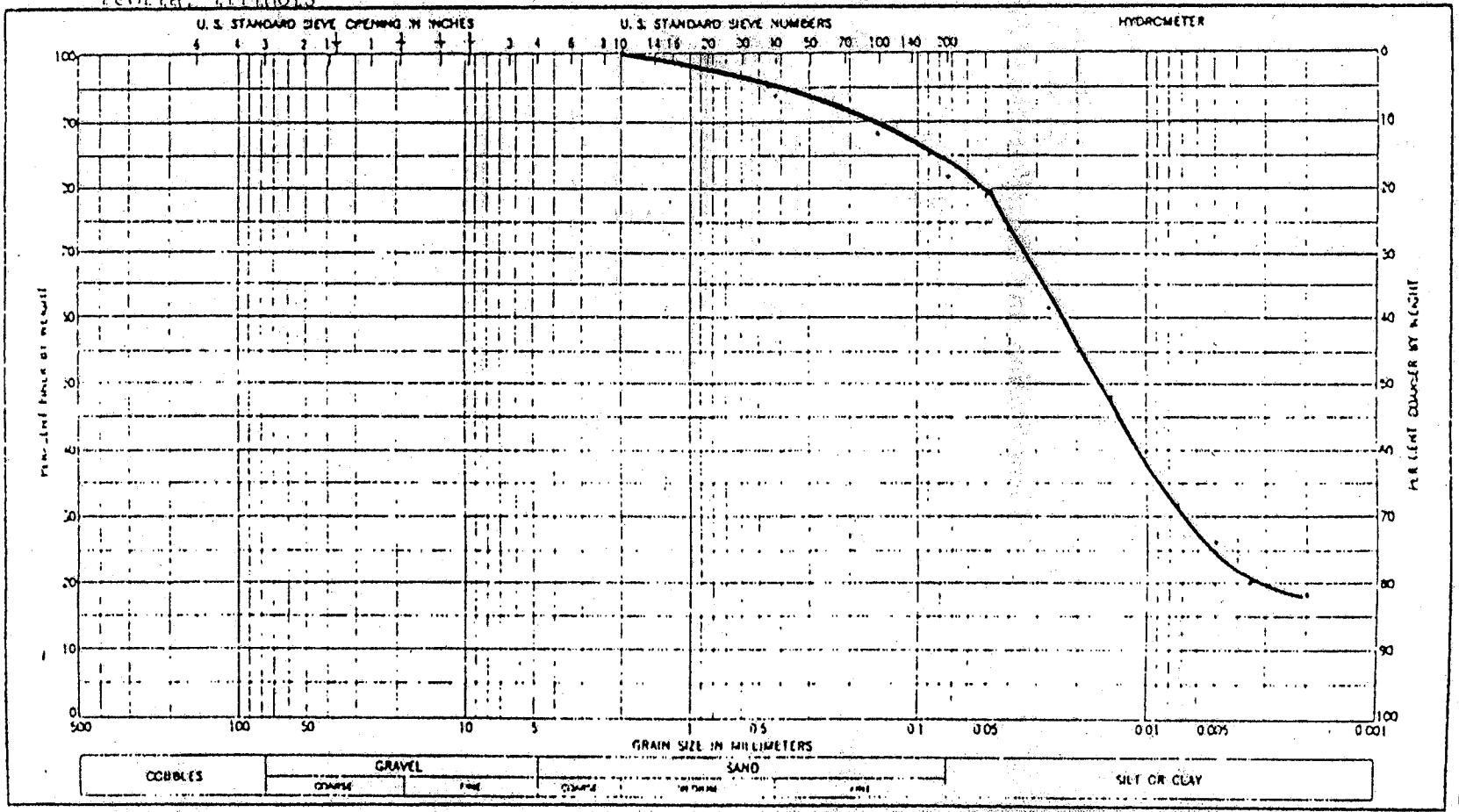
PROJECT: Clinton Municipal Landfill
Clinton, Illinois

W. & A. FILE NO 2703

DATE 6-06-89

CLIENT Mr. Ron Edwards
Peoria Disposal Company
Peoria, Illinois

REPORT OF SOIL/AGGREGATE ANALYSIS



BORING NO. B-20 SAMPLE DEPTH 82.0' - 84.0'

SOIL AGGREGATE CLASSIFICATION

UNIFORMITY COEFFICIENT $\frac{D_{60}}{D_{10}}$

EFFECTIVE GRAIN SIZE D_{10}

WHITNEY & ASSOCIATES
PEORIA, ILLINOIS

TELEPHONE
309 673-2131

TESTS
DESIGN
REPORTS
ANALYSIS
INSPECTION
CONSULTATION
FIELD TRIALS

WHITNEY & ASSOCIATES
INCORPORATED
2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

SPECIALISTS IN
SOILS - PORTLAND CEMENT CONCRETE
STEEL - BITUMINOUS CONCRETE
CONSTRUCTION MATERIALS
AGGREGATES - ASPHALT - POZZOLANS
SOILS AND GRAVEL SURVEYS
MATERIALS QUALITY CONTROL
SOIL MECHANICS AND
FOUNDATION ENGINEERING
DRILLING - CORING - TESTING

CLIENT

Mr. Ron Edwards
Peoria Disposal Company
4349 Southport Road
Peoria, Illinois 61615

W & A FILE NO. 2703

DATE 6-06-89

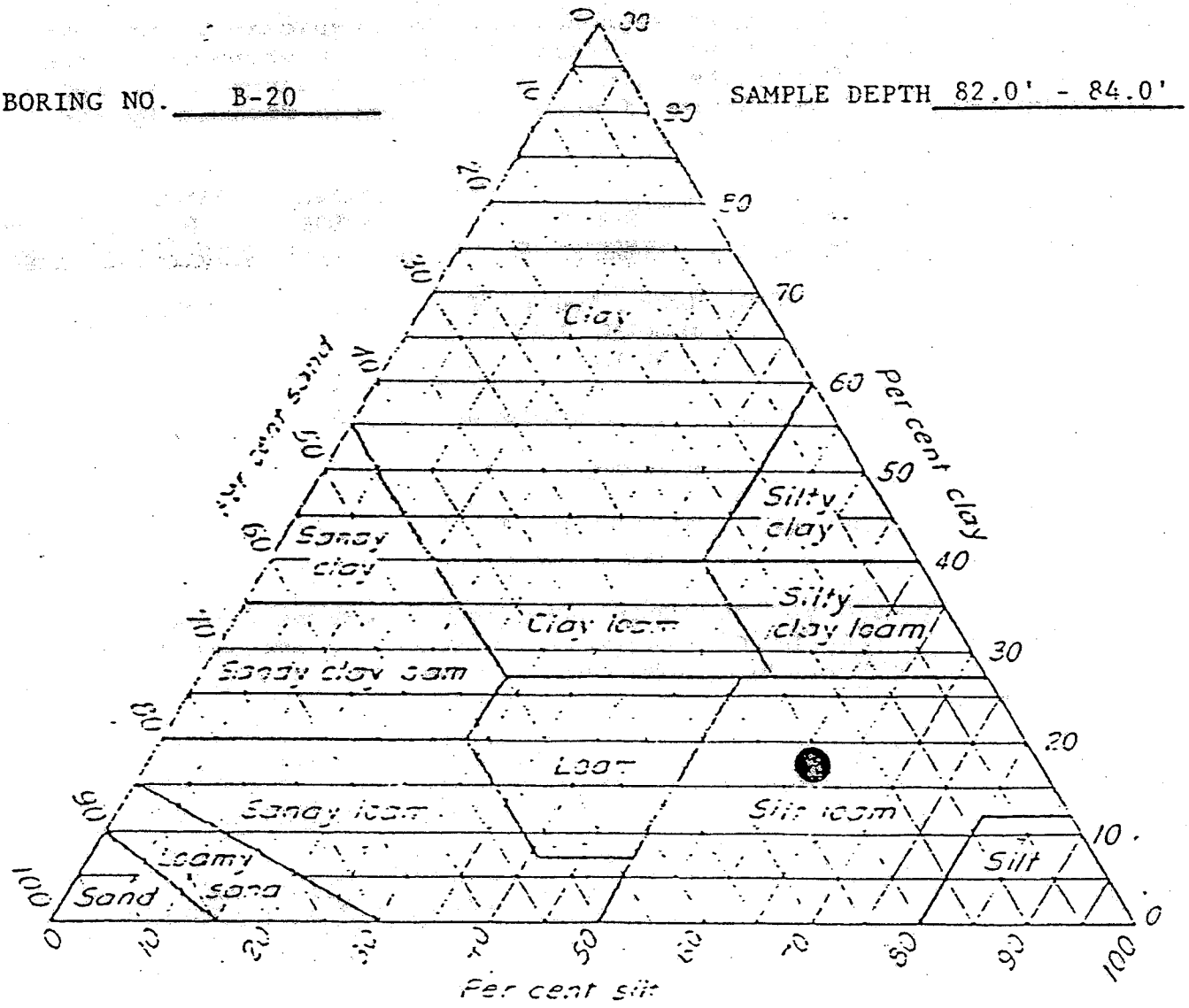
PROJECT

Clinton Municipal Landfill
Clinton, Illinois

Identification and Classification of Soils and Rocks

BORING NO. B-20

SAMPLE DEPTH 82.0' - 84.0'



TELEPHONE
309-673-2131
TESTS * INVESTIGATIONS
ANALYSIS * DESIGN * EVALUATIONS
CONSULTATION * REPORTS * INSPECTIONS
ARBITRATION * EXPERT WITNESS TESTIMONY
* * * * * * * * * *
SOILS * PORTLAND CEMENT CONCRETE
BITUMINOUS CONCRETE * STEEL
ASPHALT * AGGREGATES * EMULSIONS
POZOLANIC MATERIALS * LIME

WHITNEY & ASSOCIATES
INCORPORATED
2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604-3193

TELEFAX
309-673-3050
GEOTECHNICAL ENGINEERING
CONSTRUCTION QUALITY CONTROL
SUBSURFACE EXPLORATIONS
ENVIRONMENTAL INVESTIGATIONS
* * * * * * * * * *
MONITORING WELL INSTALLATIONS
BUILT-UP ROOF INVESTIGATIONS
WELDER CERTIFICATIONS
INSURANCE INVESTIGATIONS

November 16, 1993

Mr. John Berry
PDC Technical Services, Inc.
P. O. Box 9071
Peoria, Illinois 61612-9071

Re: Geotechnical Information
Clinton Landfill
Clinton, Illinois

Dear Mr. Berry:

In response to your request, we respectfully transmit the following geotechnical information for the above referenced project site. Our geotechnical definition of porosity as indicated below is the volume of voids in a sample divided by the total sample volume.

SAMPLE DESIGNATION	SAMPLE DEPTH-FEET	SAMPLE DESCRIPTION	NATURAL MOISTURE CONTENT-%	NATURAL DRY DENSITY-PCF	SAMPLE POROSITY-%
CLG 1 & 2	12.0 - 16.0	Brown, Weathered GLACIAL SILTY CLAY TILL	11.5	127.5	24.1
CLG 3 & 4	38.0 - 46.0	Gray, Unweathered GLACIAL SILTY CLAY TILL	11.0	128.0	23.5
CLG 5	40.0 - 42.0	Black SILTY CLAY Organic Topsoil	27.5	95.0	42.5

Should you have any questions or comments whatsoever in regard to this brief transmittal, or if any additional information is desired, do not hesitate to contact us at your convenience.

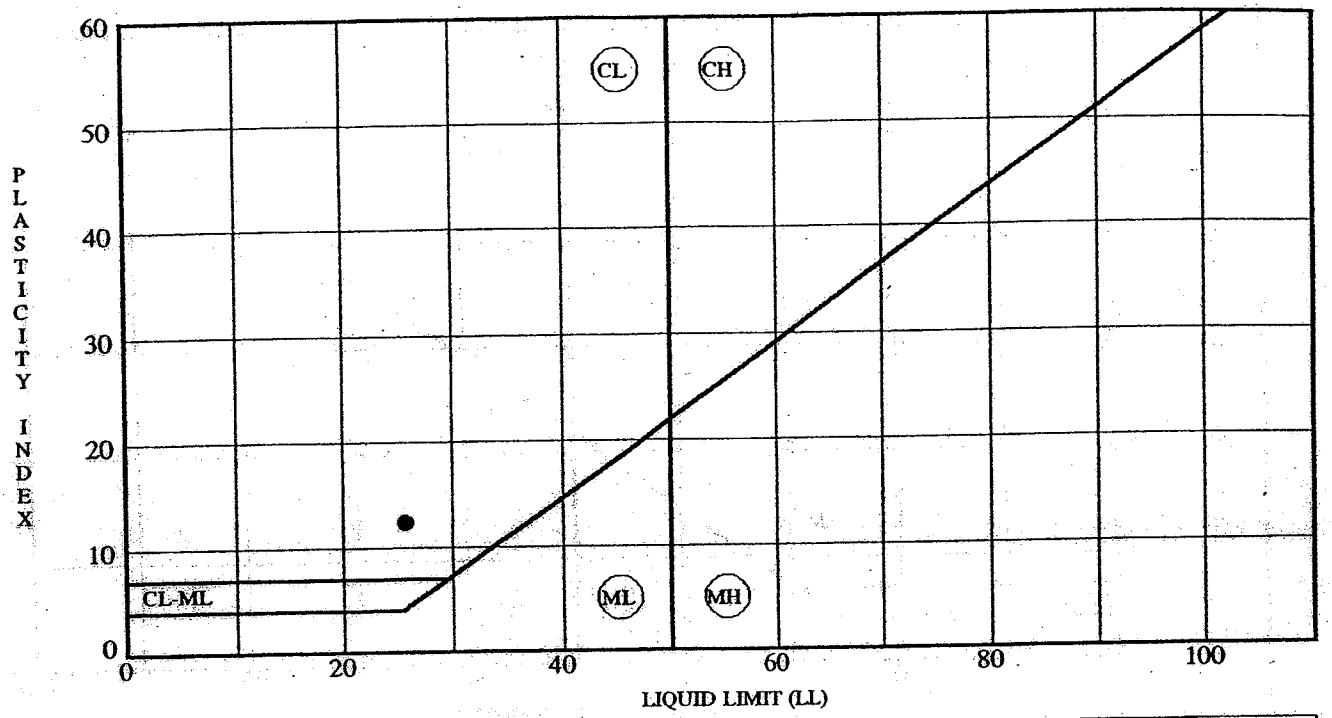
Respectfully submitted,

WHITNEY & ASSOCIATES

(By) James R. Krusemark
James R. Krusemark, E.I.T.

(By) Richard R. Whitney
Richard R. Whitney, P. E.

JRK/RRW:rma



	Specimen Identification		LL	PL	PI	Fines	Classification
●	EX-13	710.0	26	13	12		Sandy lean Clay, Trace Gravel (CL)
							Brown Tiskilwa

PROJECT CLI #3 - CLI

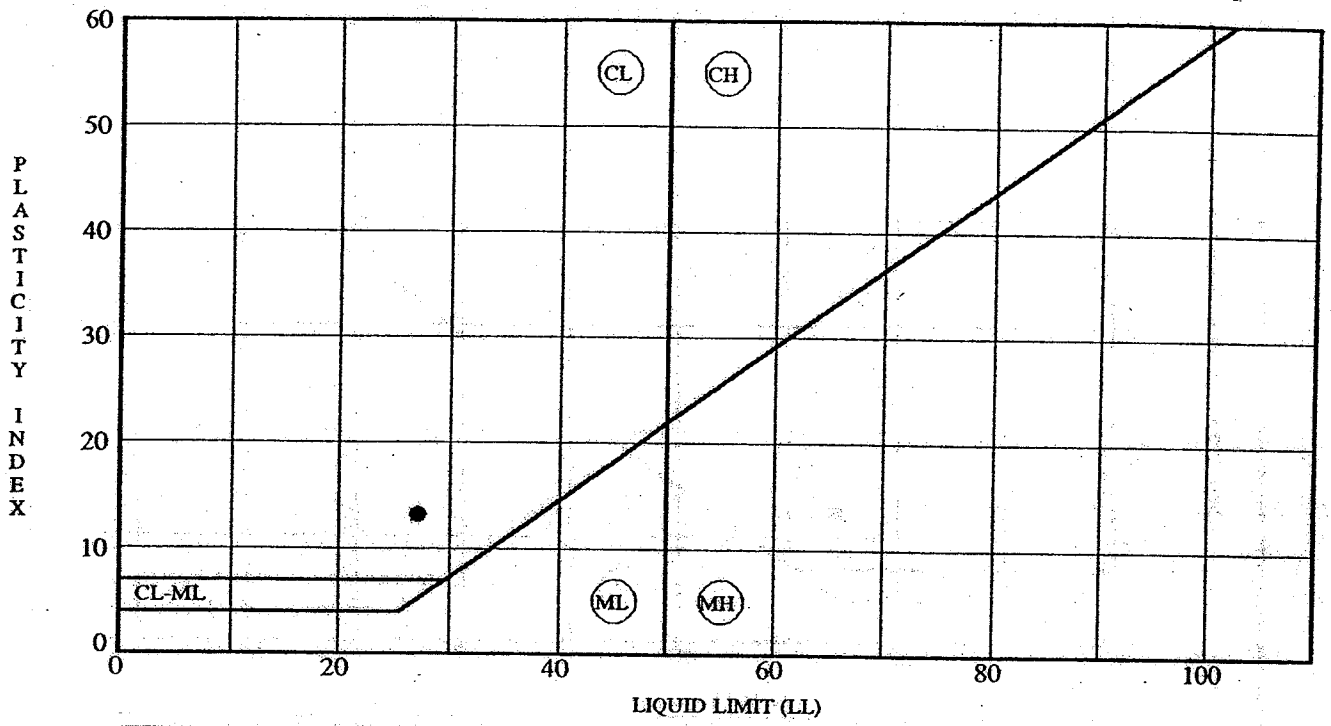
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX16/710 710.0	27	14	13		Lean Clay, with Sand, Trace Gravel CL Brown Tiskilwa

PROJECT CLI #3 - CLI

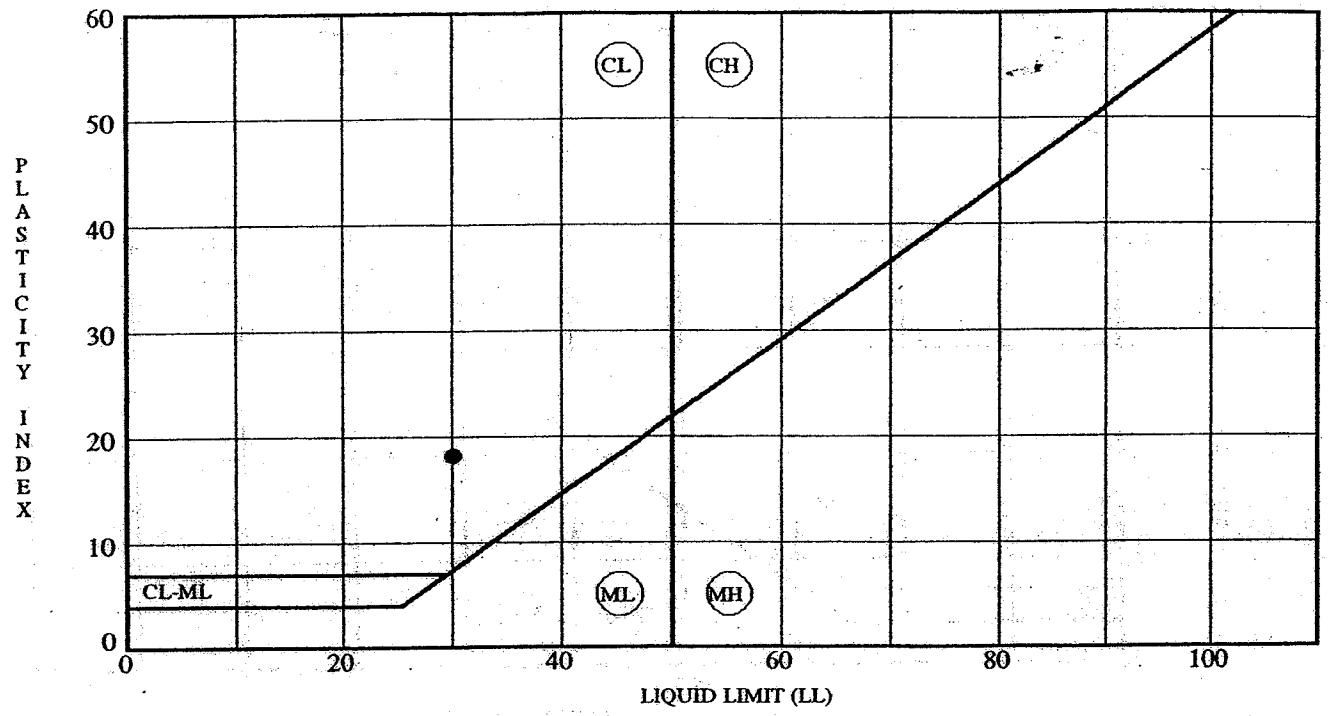
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



Specimen Identification		LL	PL	PI	Fines	Classification
● EX-17	695.0	30	12	18		Brown Tiskilwa Lean Clay, with Sand, Trace Gravel - CL

PROJECT CLI #3 - CLI

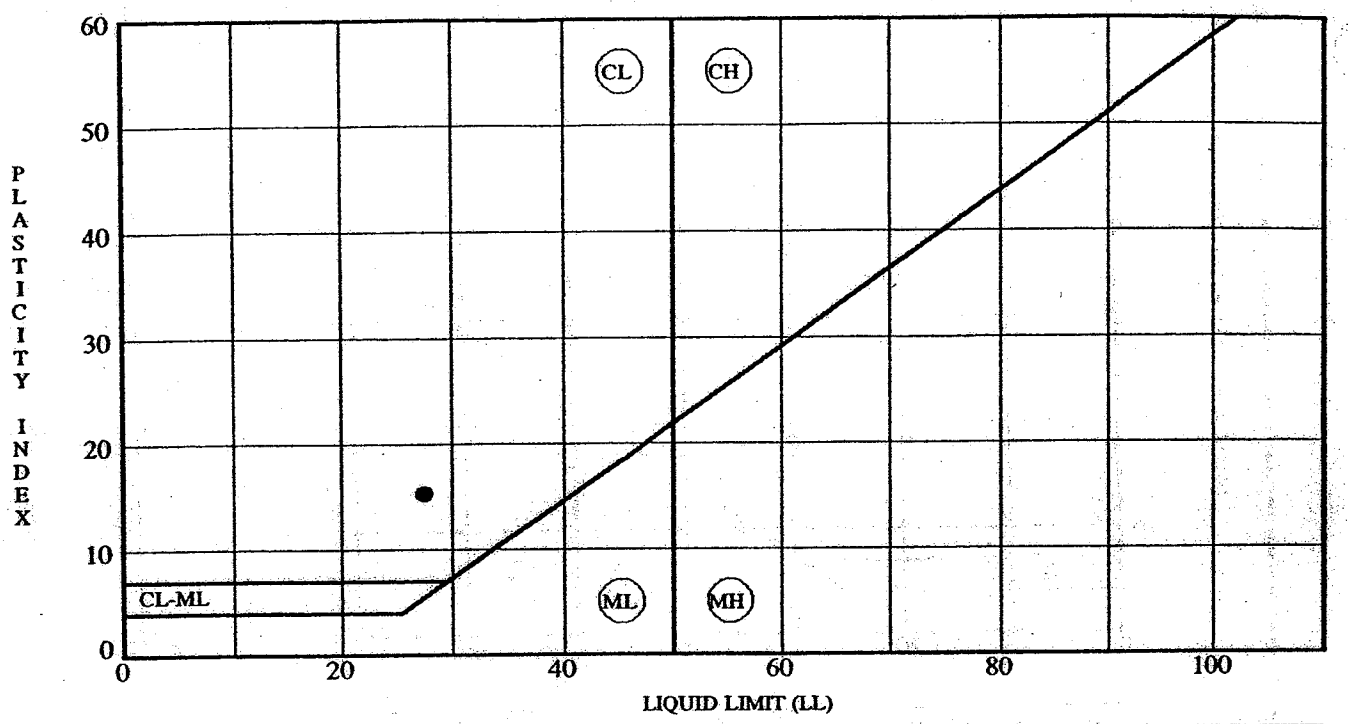
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



Specimen Identification	LL	PL	PI	Fines	Classification
● EX21/690 690.0	28	12	15		Brown Tiskilwa - Lean Clay, w/ Sand, Little Gravel

PROJECT CLI #3 - CLI

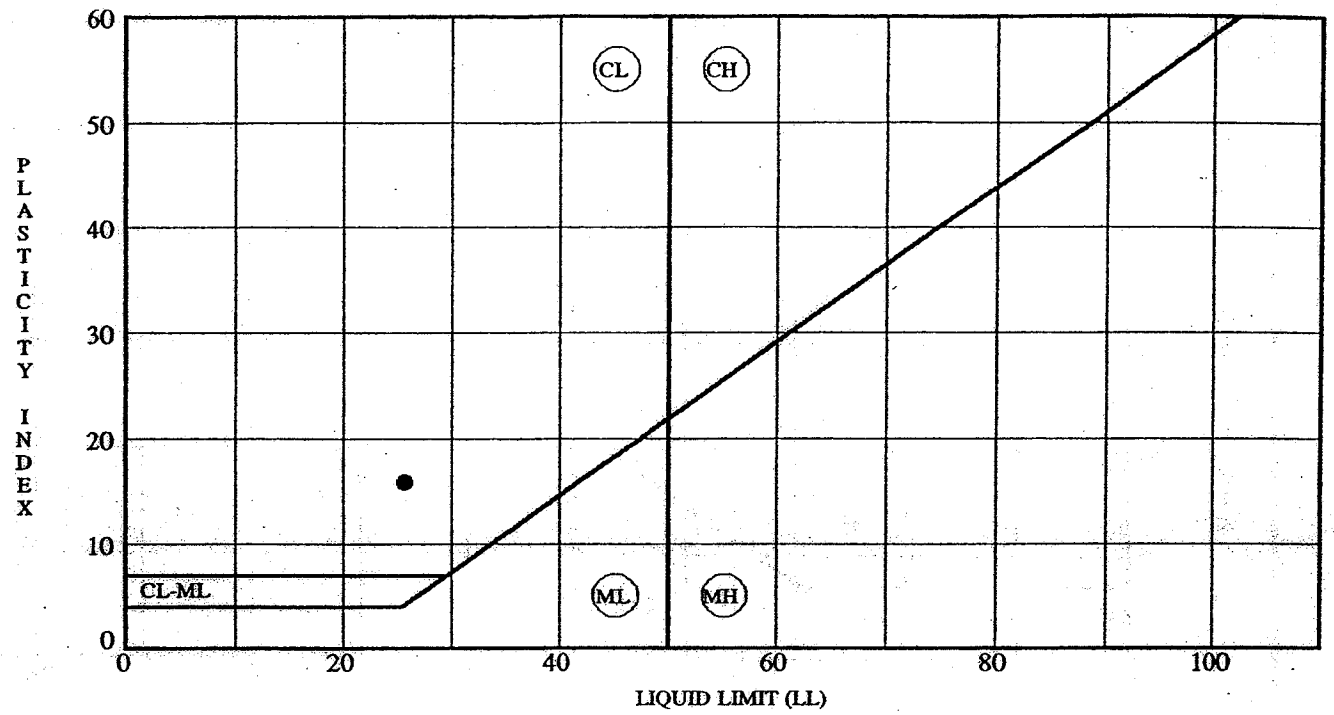
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX24/720 720.0	26	10	16		Brown Tiskilwa - Sandy Lean Clay, Trace Gravel - CL

PROJECT CLI #3 - CLI

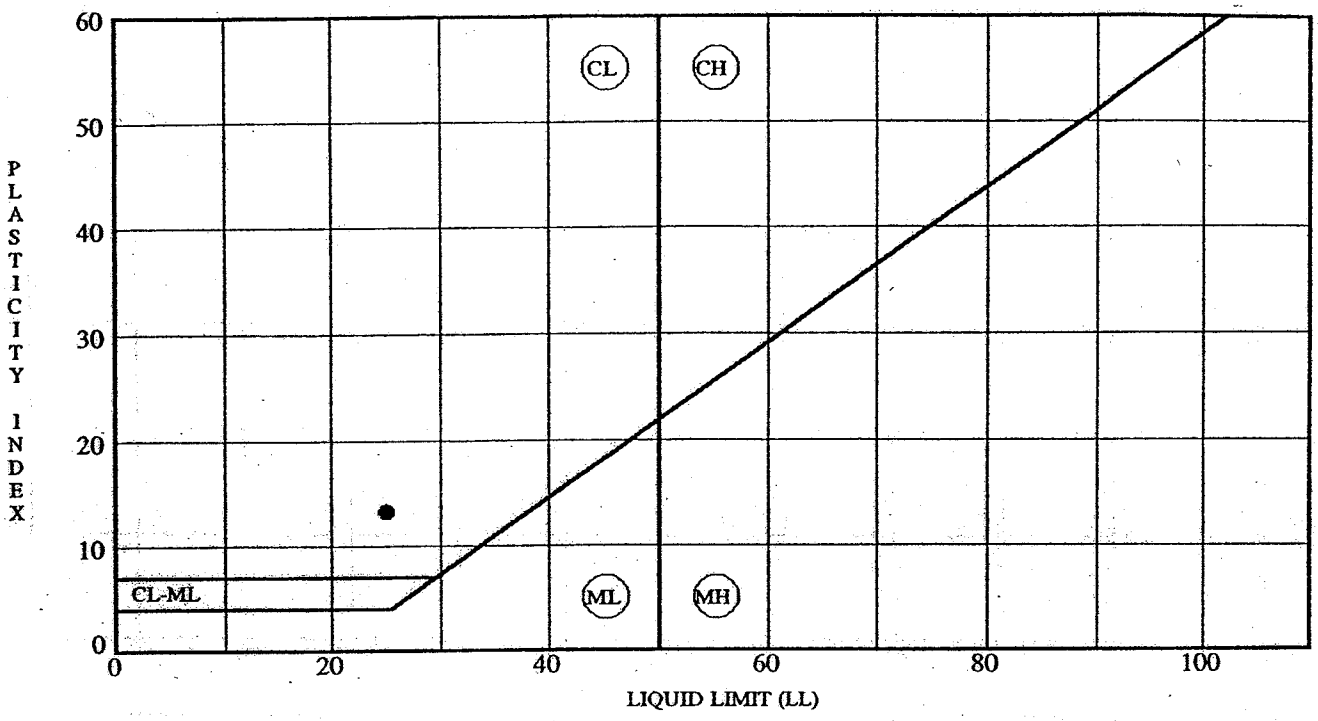
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX24/714 714.0	25	12	13		Sandy Lean Clay, Trace Gravel -
						CL - Brown Tiskilwa

PROJECT CLI #3 - CLI

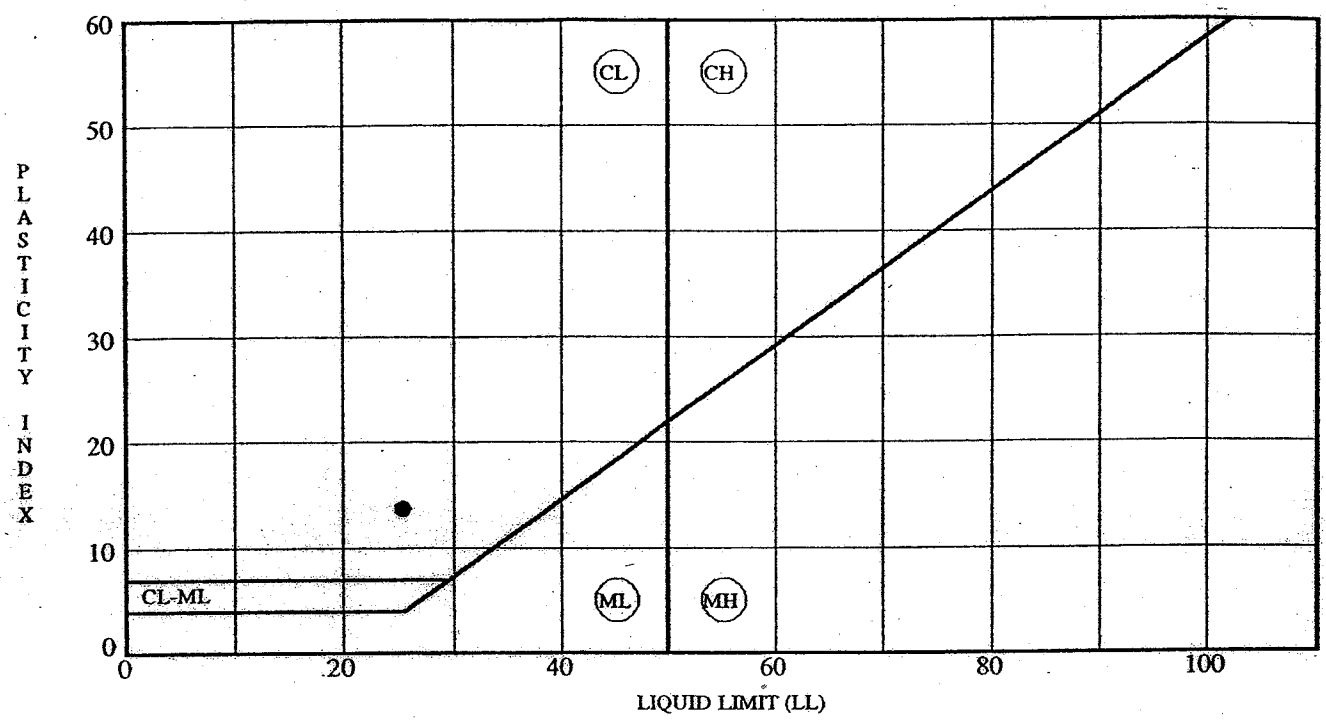
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX13/686 686.0	25	12	14		Sandy Lean Clay, Trace Gravel CL
						Gray Tiskilwa

PROJECT CLI #3 - CLI

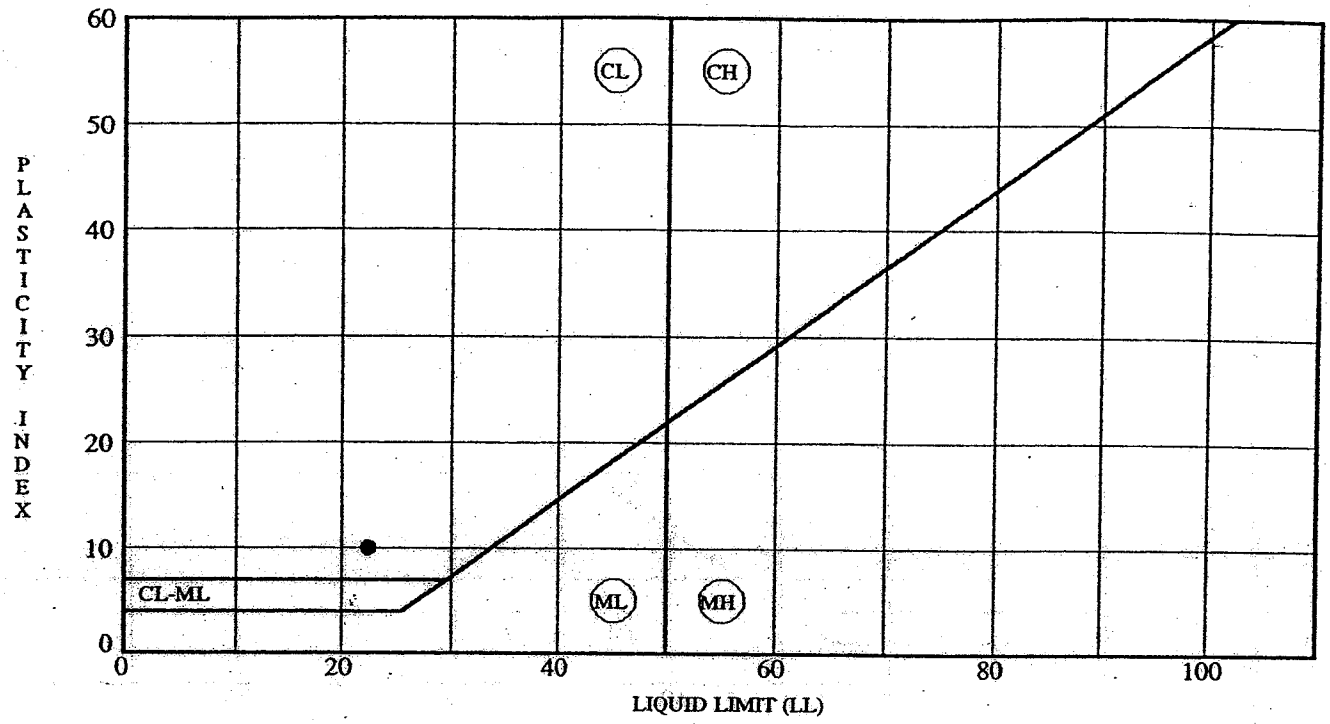
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX13-680 680.0	22	12	10		Lean Clay, with Sand, Trace Gravel - CL - Gray Tiskilwa

PROJECT CLI #3 - CLI

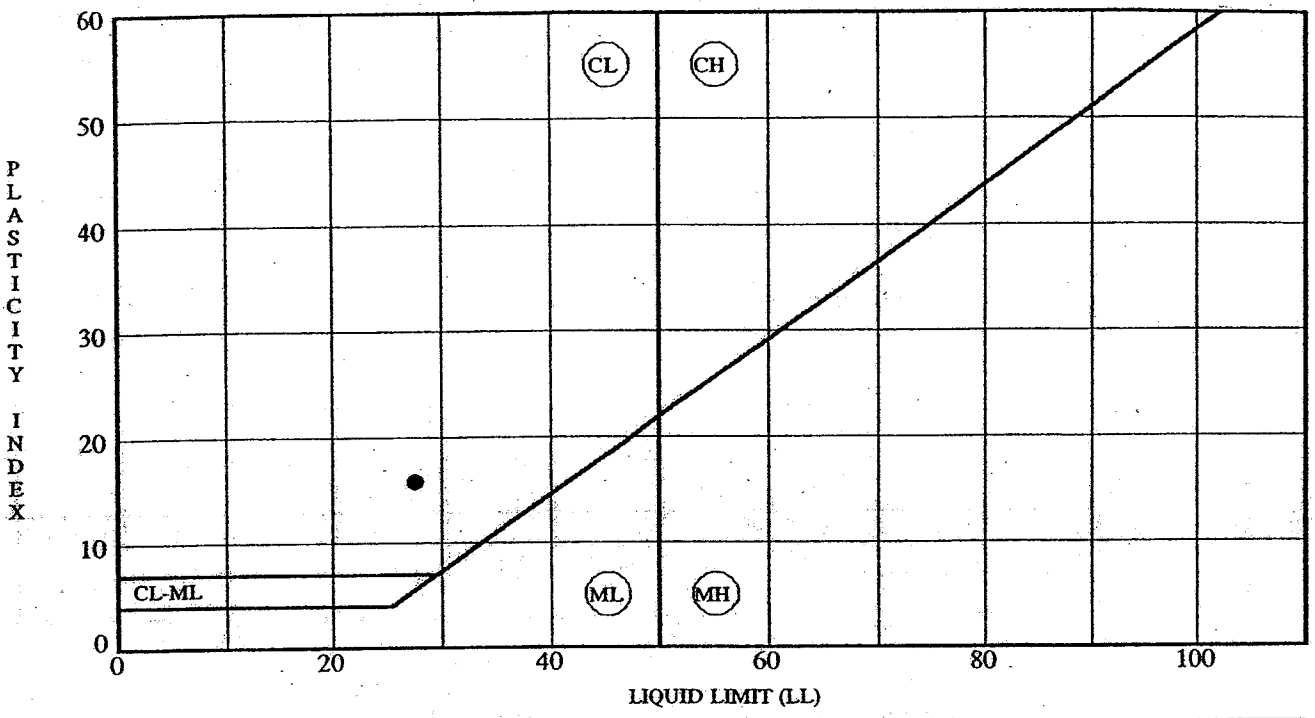
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX16/685 685.0	28	12	16		Sandy Lean Clay, Trace Gravel -CL
						Gray Tiskilwa

PROJECT CLI #3 - CLI

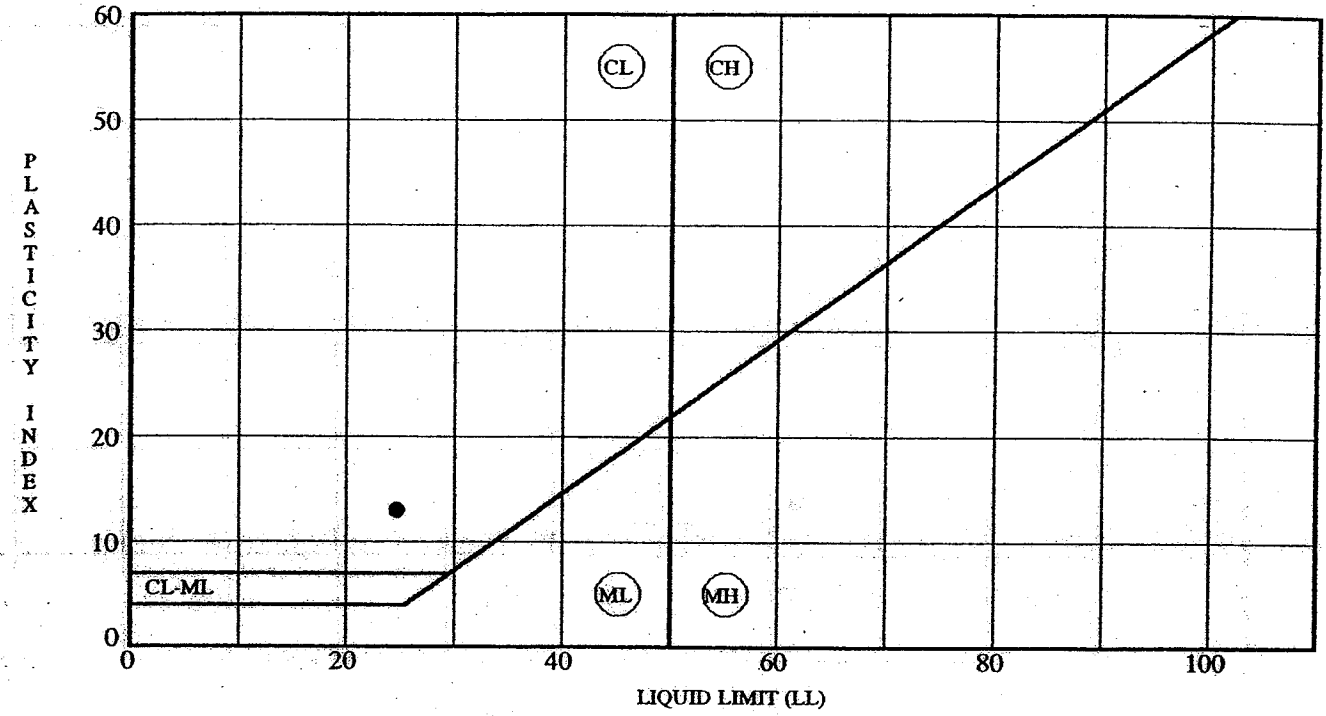
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification		LL	PL	PI	Fines	Classification
●	EX-17	685.0	25	12	13		Gray Tiskilwa Lean Clay, with Sand, Little Gravel - CL

PROJECT CLI #3 - CLI

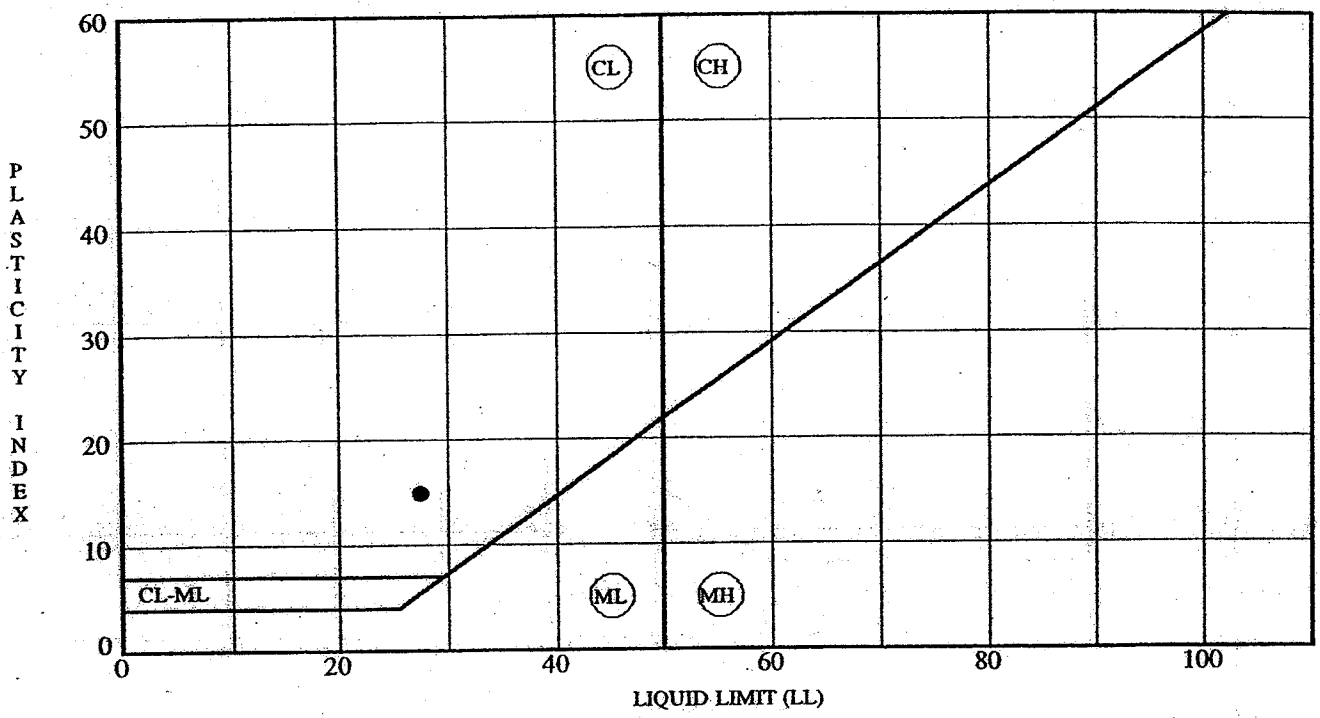
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX23/676 676.0	28	13	15		Gray Tiskilwa - Sandy Lean Clay, Trace Gravel - CL

PROJECT CLI #3 - CLI

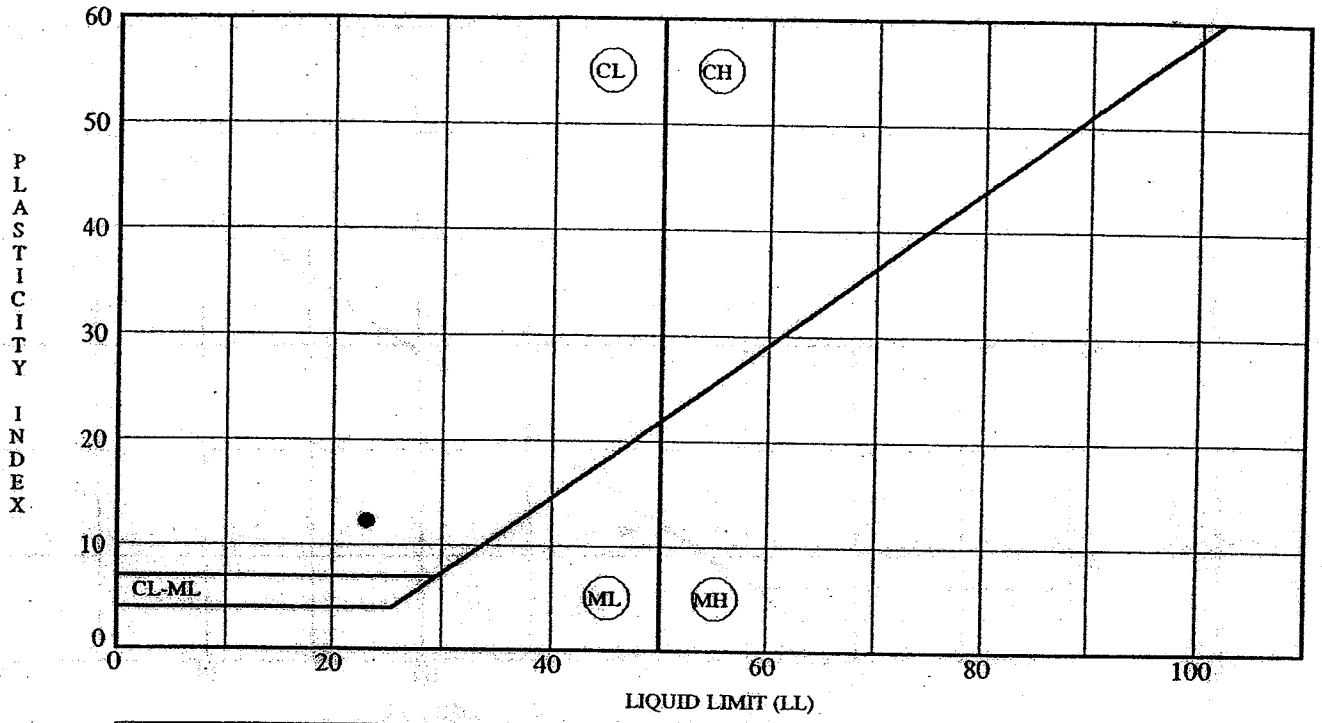
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX24/695 695.0	23	11	12		Gray Tiskilwa, Sandy Lean Clay, Little Gravel - CL

PROJECT CLI #3 - CLI

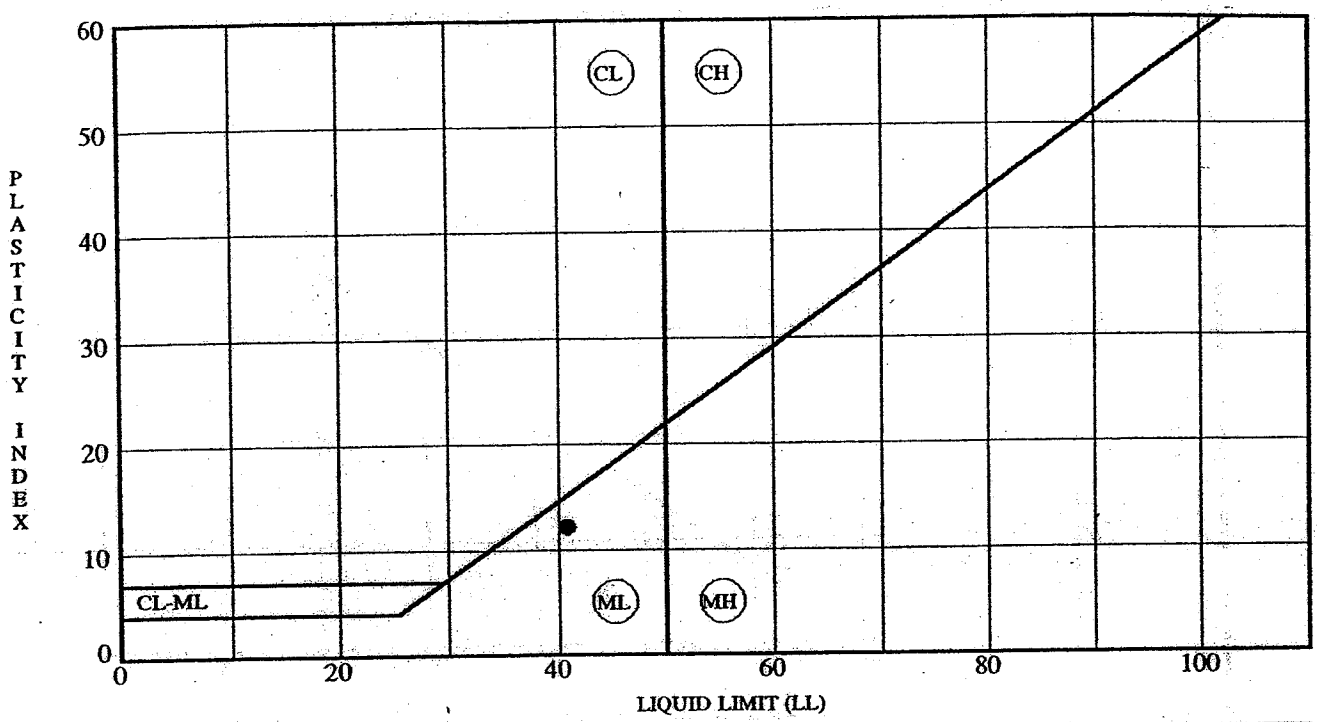
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification		LL	PL	PI	Fines	Classification
●	EX-13	670.0	41	29	12		Lean Clayey Silt, Trace Organics - ML
							Dark Brown Robein/Roxana
							6.1% Organics

PROJECT CLI #3 - CLI

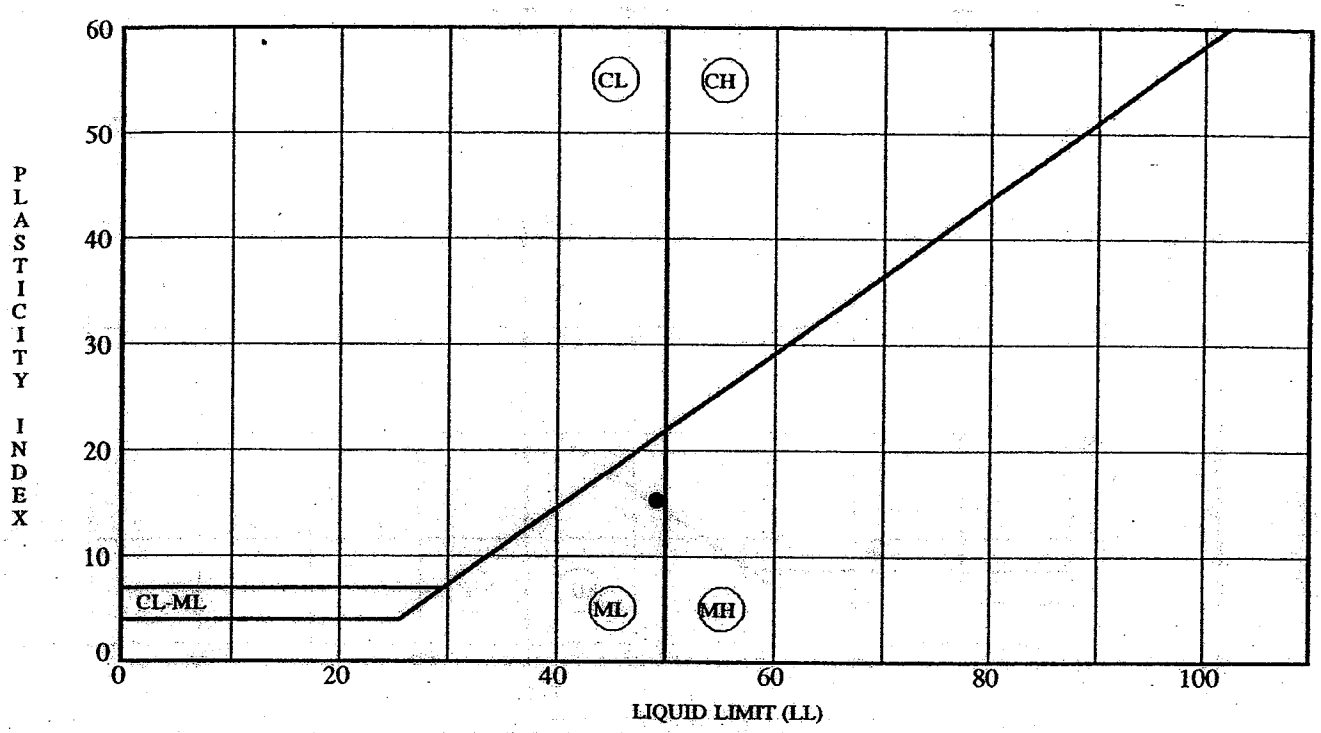
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX16/667 667.0	49	34	15		Brown-Dark Gray
						Robein/Roxana - Organic Clay - OL
						14.0% Organics

PROJECT CLI #3 - CLI

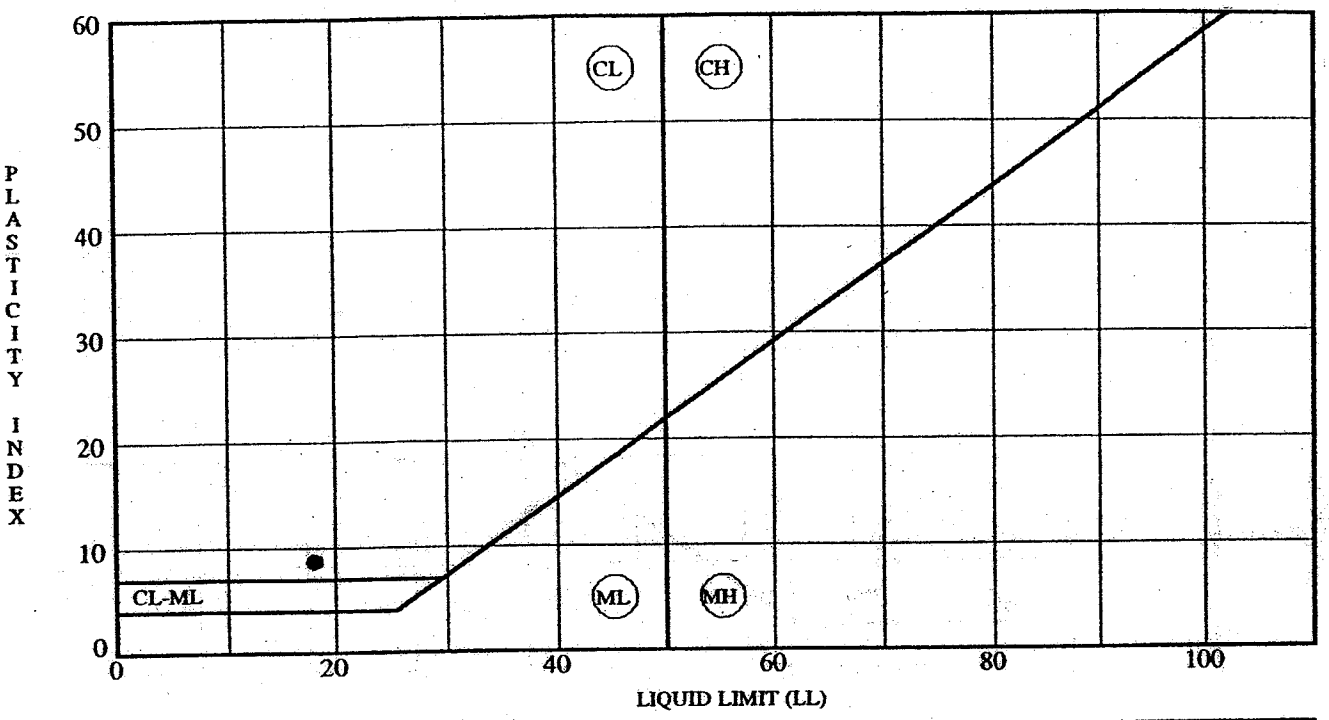
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX21/670 670.0	18	9	9		Gray Robein/Roxana Sandy Lean Clay, Little Gravel - CL
						1.3% Organics

PROJECT CLI #3 - CLI

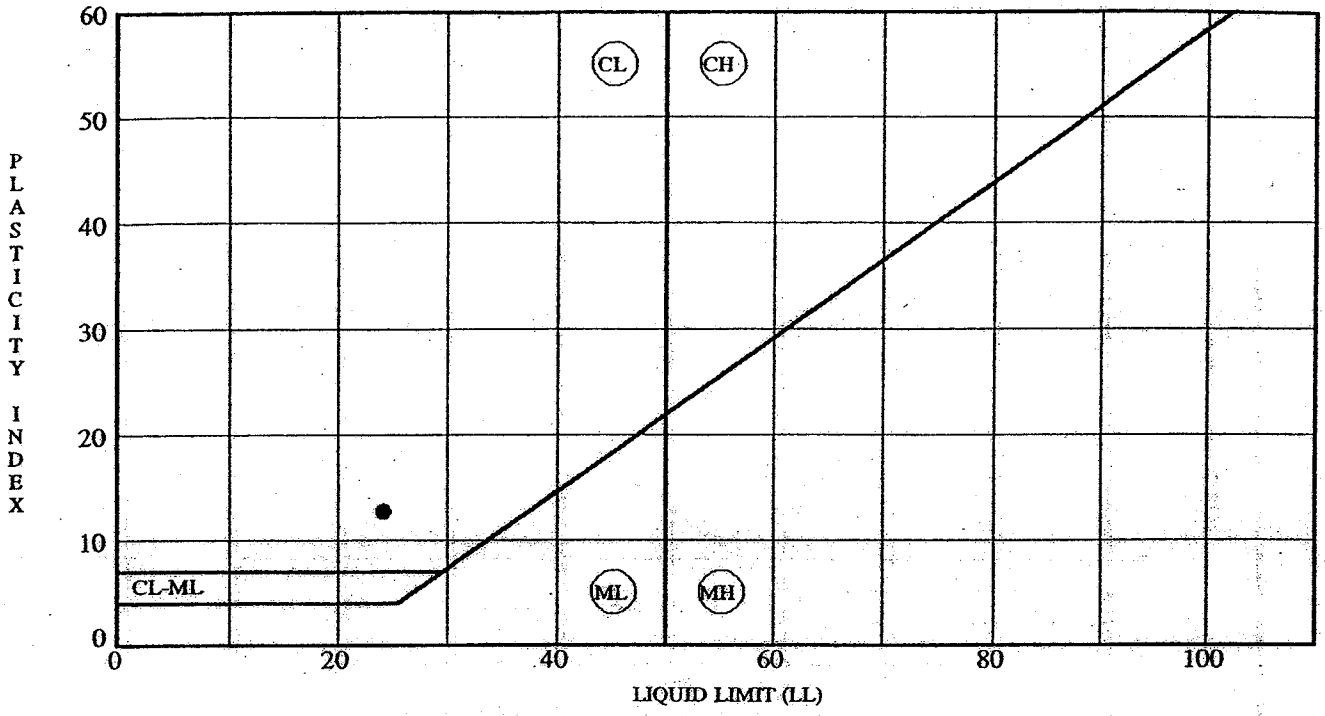
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX24/671 671.0	24	11	13		Gray Robein/Roxana, Sandy Lean Clay, Little Gravel - CL 2% Organics

PROJECT CLI #3 - CLI

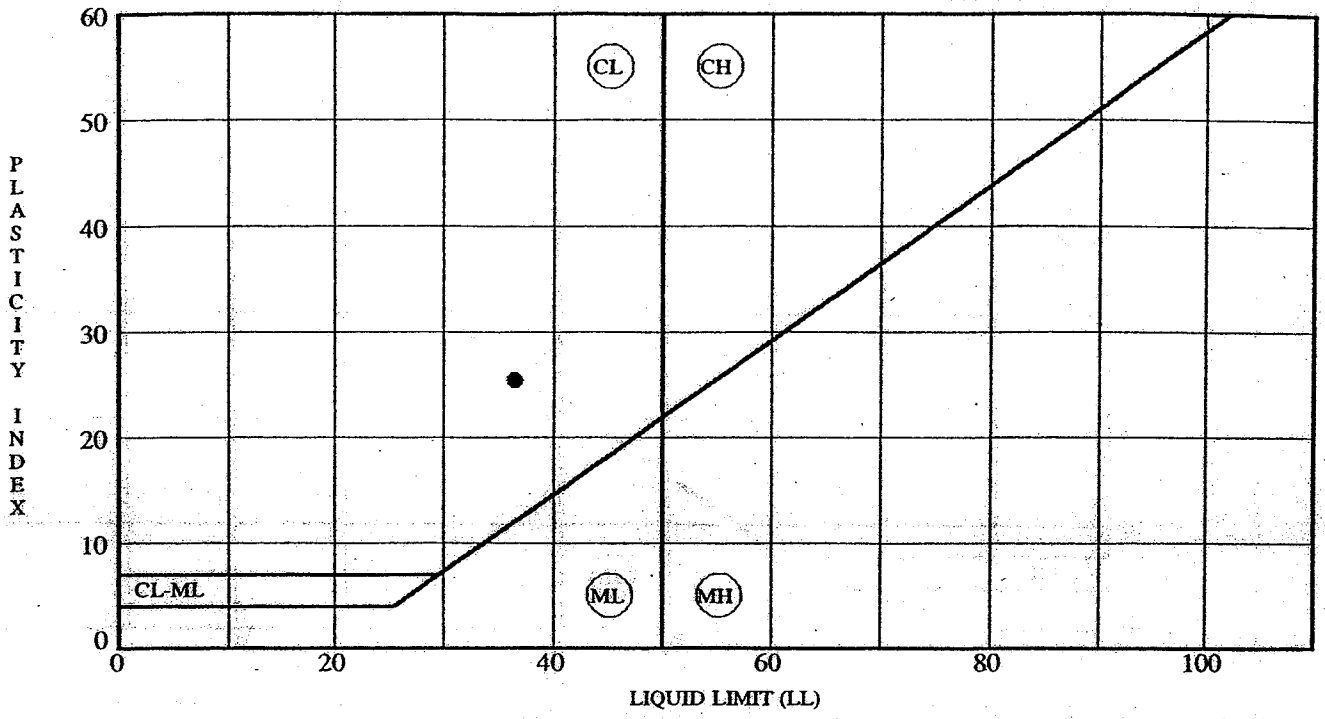
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX13-660 660.0	37	11	25		Lean Clay - CL
						Berry Clay

PROJECT CLI #3 - CLI

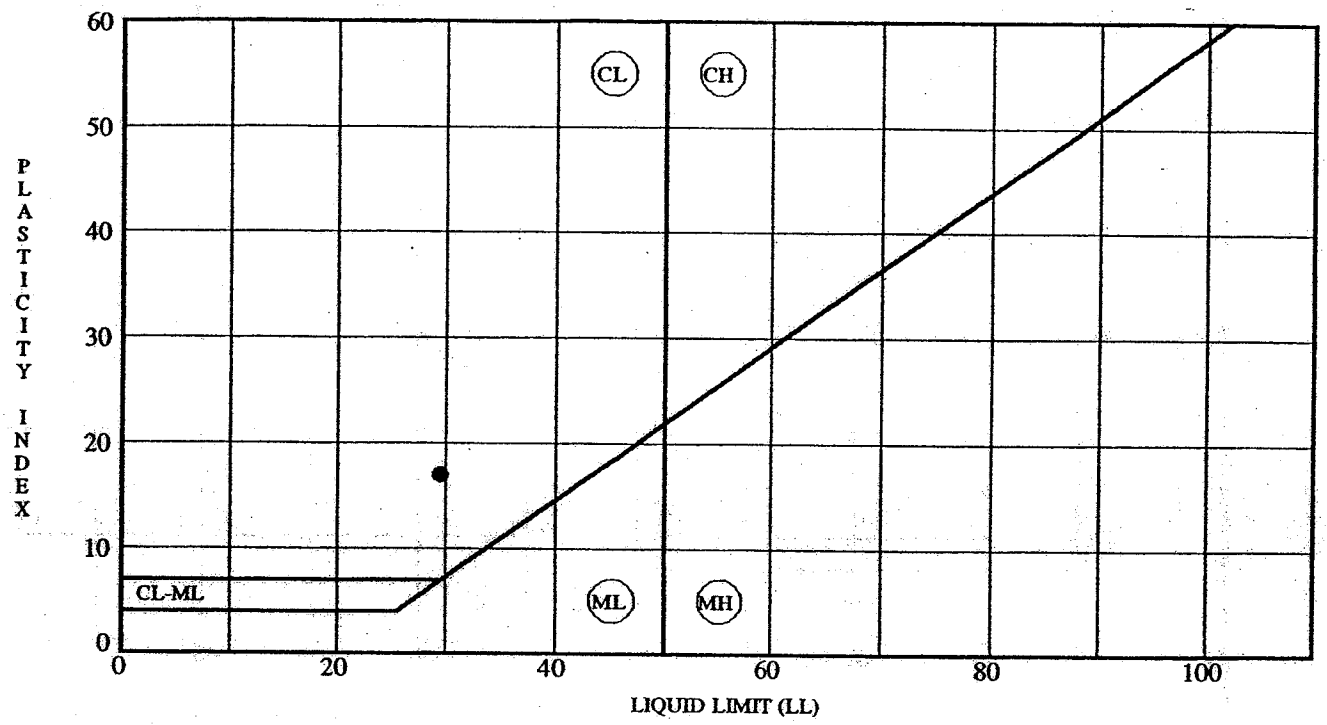
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX19/658 658.0	30	13	17		Gray-Dark Gray Berry Clay
						Lean Clay w/Sand

PROJECT CLI #3 - CLI

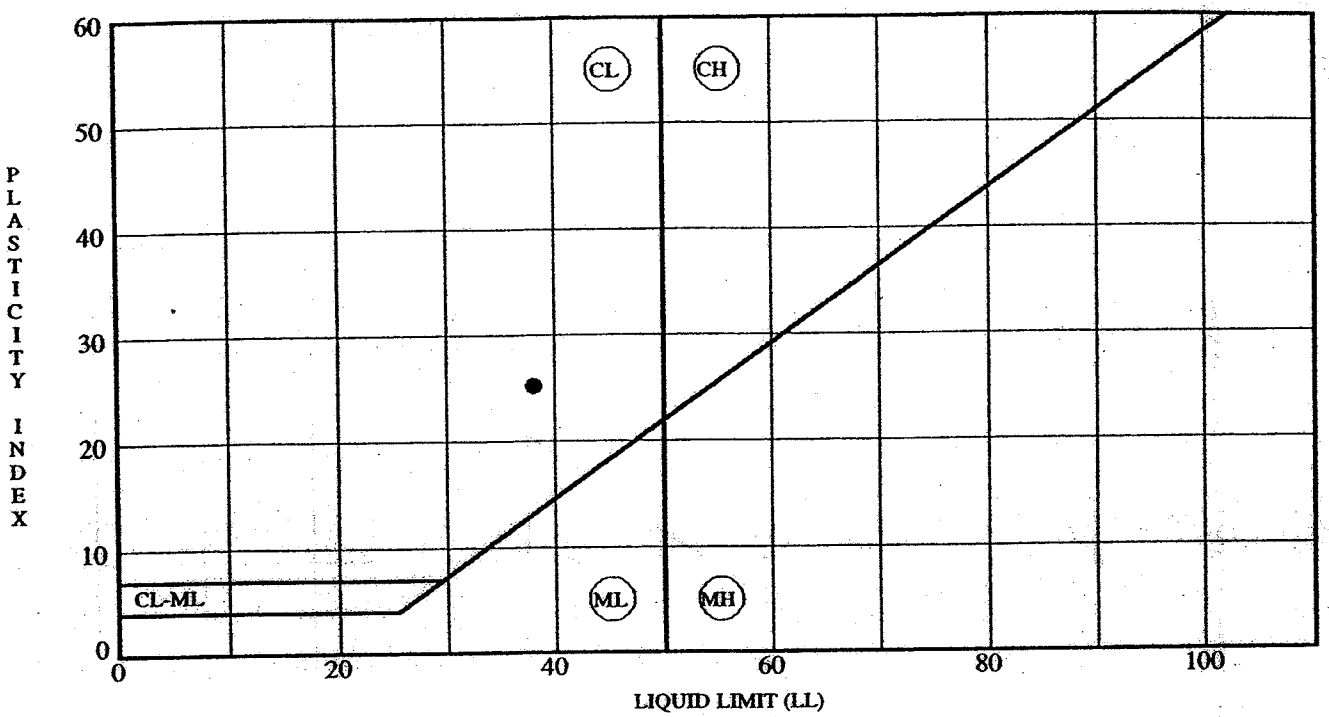
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



Specimen Identification	LL	PL	PI	Fines	Classification
● EX21/662 662.0	38	13	25		Gray Berry Clay, Sandy Lean Clay, Trace Gravel - CL

PROJECT CLI #3 - CLI

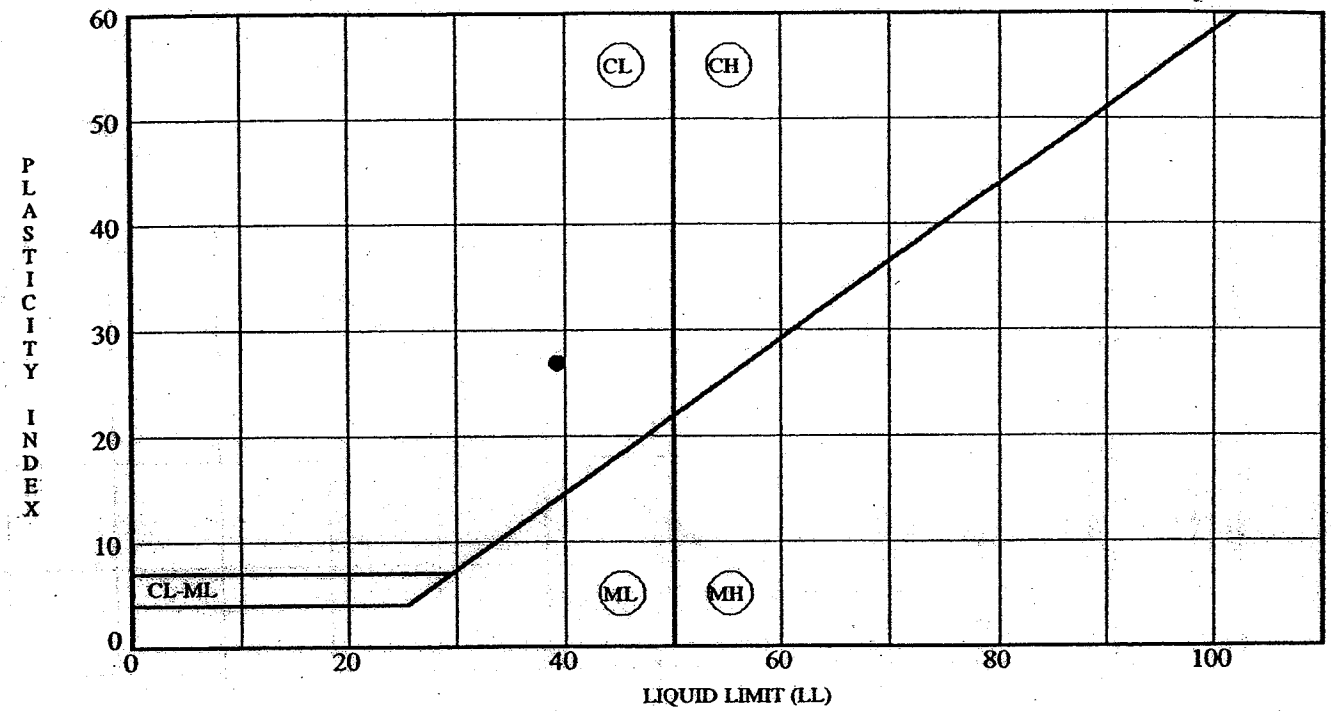
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX24/660 660.0	39	12	27		Dark Gray Berry Clay, Lean Clay w/Sand - CL

PROJECT CLI #3 - CLI

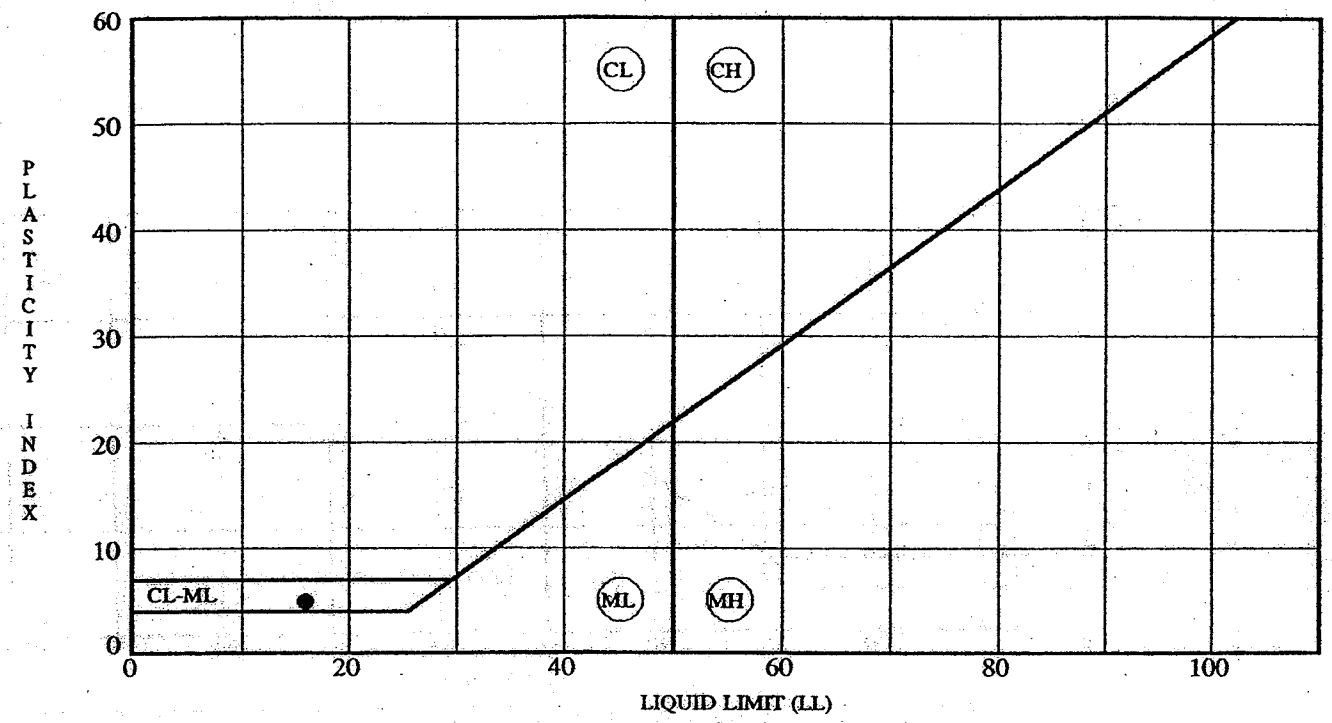
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX16/645 645.0	16	11	5		Gray Randor Till
						Sandy Lean Clay
						Little Gravel - CL-ML

PROJECT CLI #3 - CLI

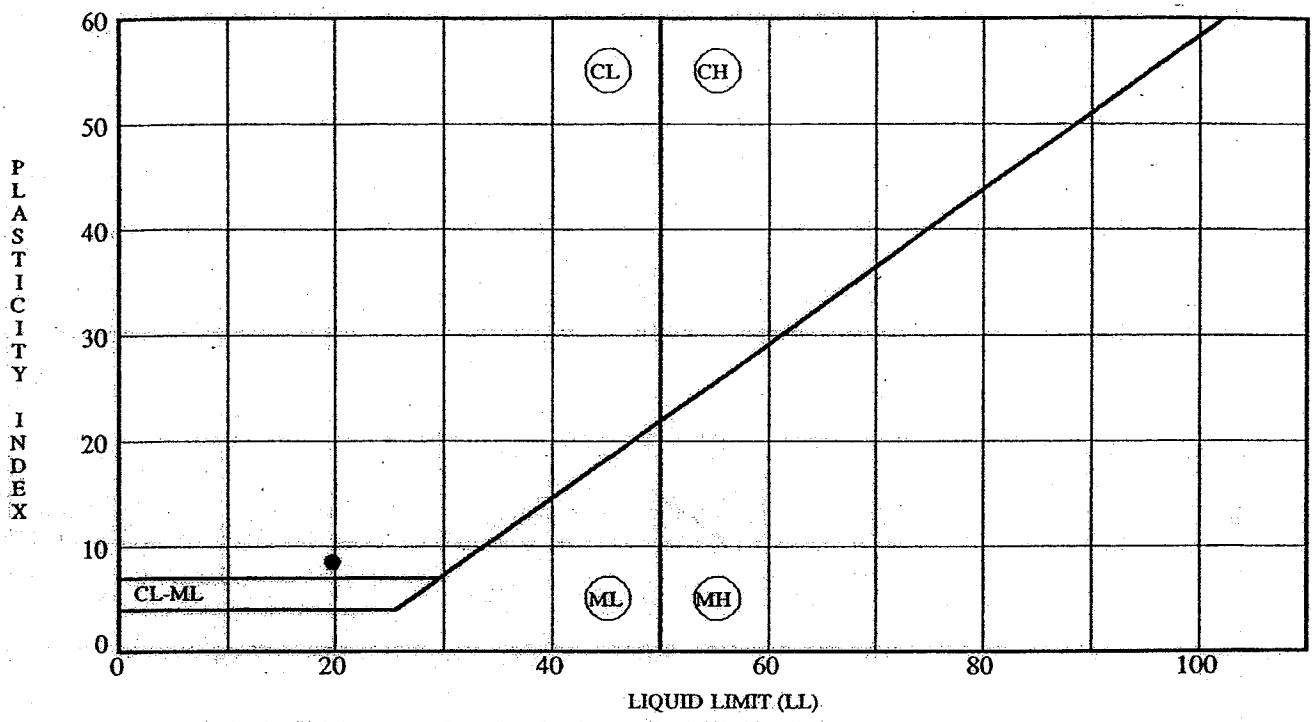
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX19/649 649.0	20	11	9		Gray Randor Till - Lean Clay w/Sand, Trace Gravel - CL

PROJECT CLI #3 - CLI

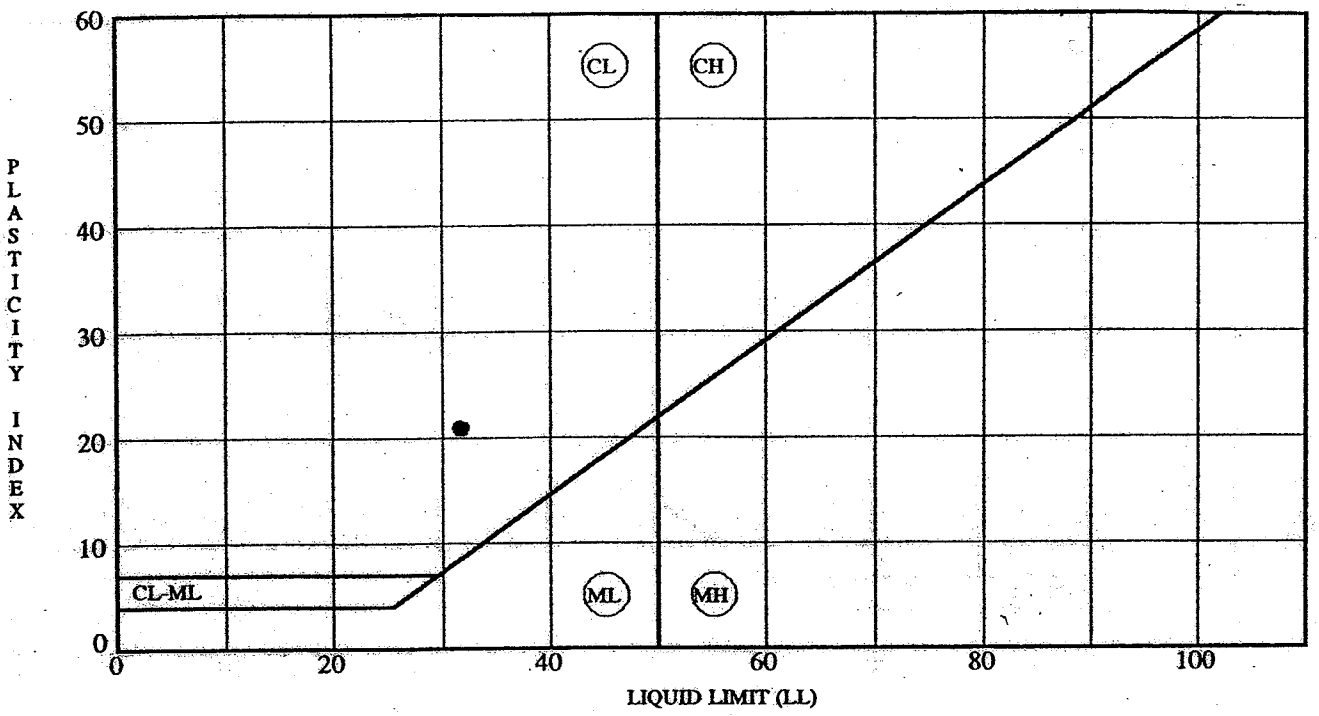
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



Specimen Identification	LL	PL	PI	Fines	Classification
● EX22/664 664.0	32	11	21		Radum Till

PROJECT CLI #3 - CLI

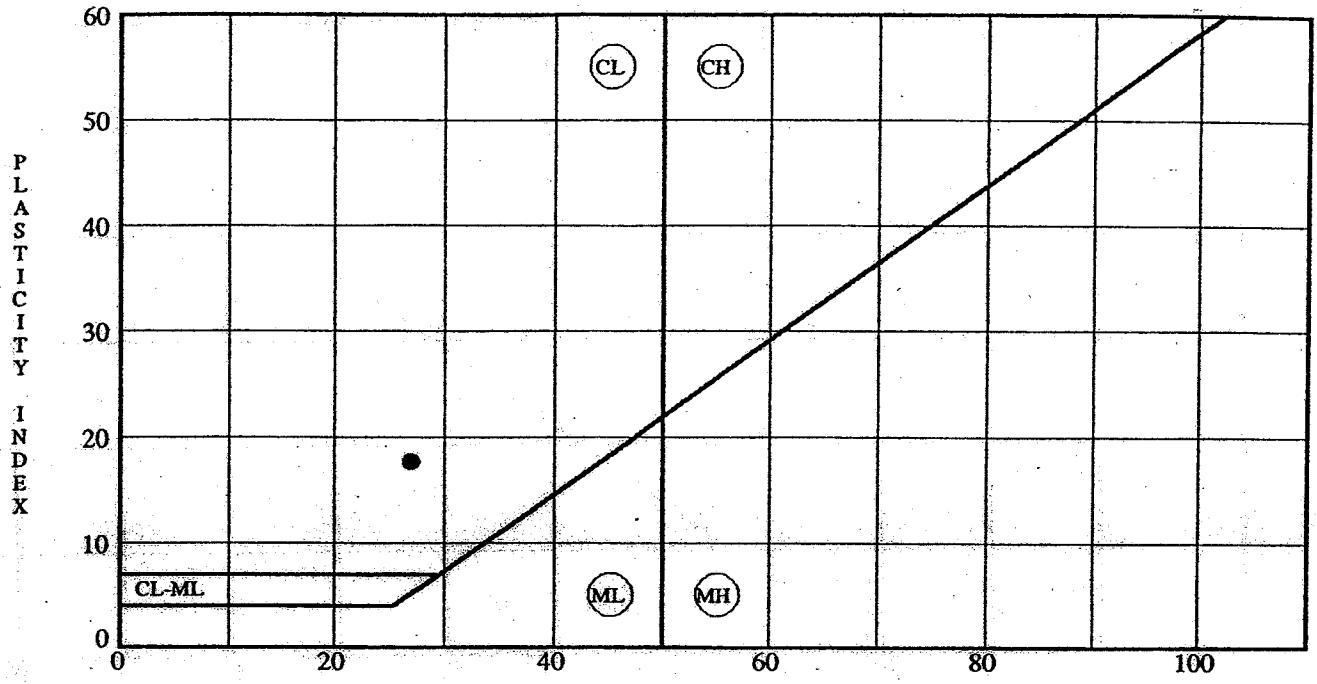
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX22/659 659.0	27	9	18		Radnor Till

PROJECT CLI #3 - CLI

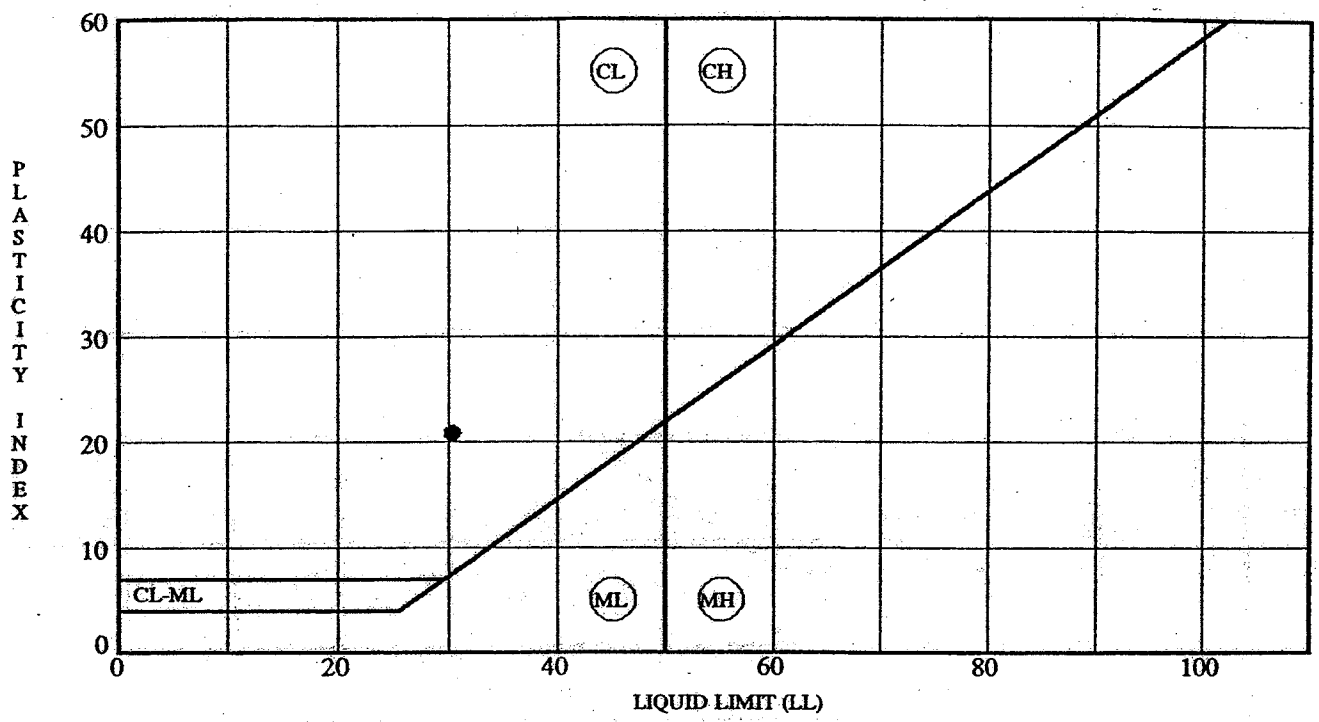
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX22/654 654.0	30	10	21		Radnor Till

PROJECT CLI #3 - CLI

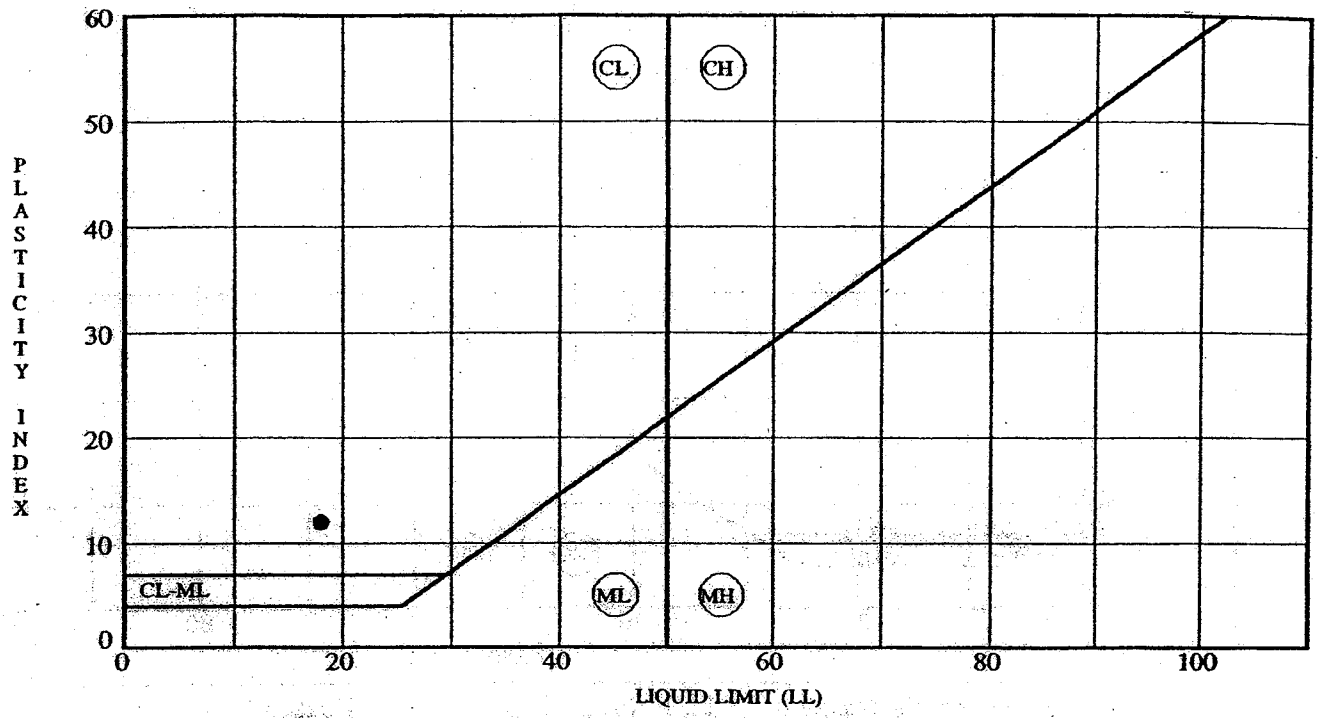
JOB NO. 18330.1

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL



	Specimen Identification	LL	PL	PI	Fines	Classification
●	EX23/648 648.0	18	6	12		Gray Randor Till - Sandy Lean Clay Trace Gravel - CL

PROJECT CLI #3 - CLI

JOB NO. 18330.1

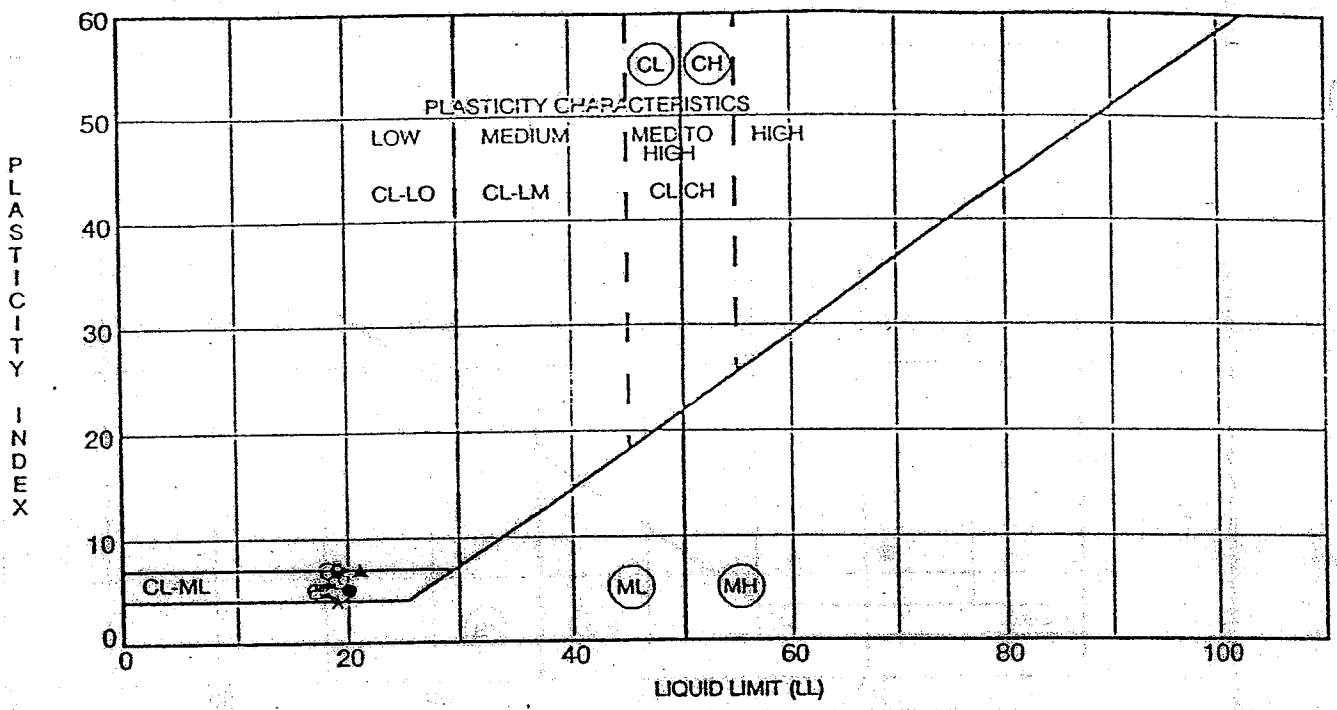
DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, IL

PLASTICITY CHART



Specimen Identification			LL	PL	PI	Fines	Classification
●	B-1	9.0	20	15	5	52.3	SANDY SILTY CLAY CL-ML
⊠	B-10	13.0	18	13	5	47.6	SILTY, CLAYEY SAND SC-SM
▲	B-11	11.0	21	14	7	53.1	SANDY LEAN CLAY CL
✶	B-2	8.5	19	15	4	49.9	SILTY, CLAYEY SAND SC-SM
✕	B-3	9.0	18	12	6	50.8	SANDY SILTY CLAY CL-ML
✡	B-4	9.0	19	12	7	53.5	SANDY LEAN CLAY CL
○	B-6	11.0	18	11	7	51.8	SANDY LEAN CLAY CL
△	B-7	16.5	17	12	5	50.6	SANDY SILTY CLAY CL-ML
⊗	B-8	14.0	19	13	6	50.7	SANDY SILTY CLAY CL-ML
⊕	B-9	14.5	17	12	5	46.8	SILTY, CLAYEY SAND SC-SM

PROJECT CLINTON LANDFILL - CLINTON ILL.

JOB NO. 19-04375.5-267

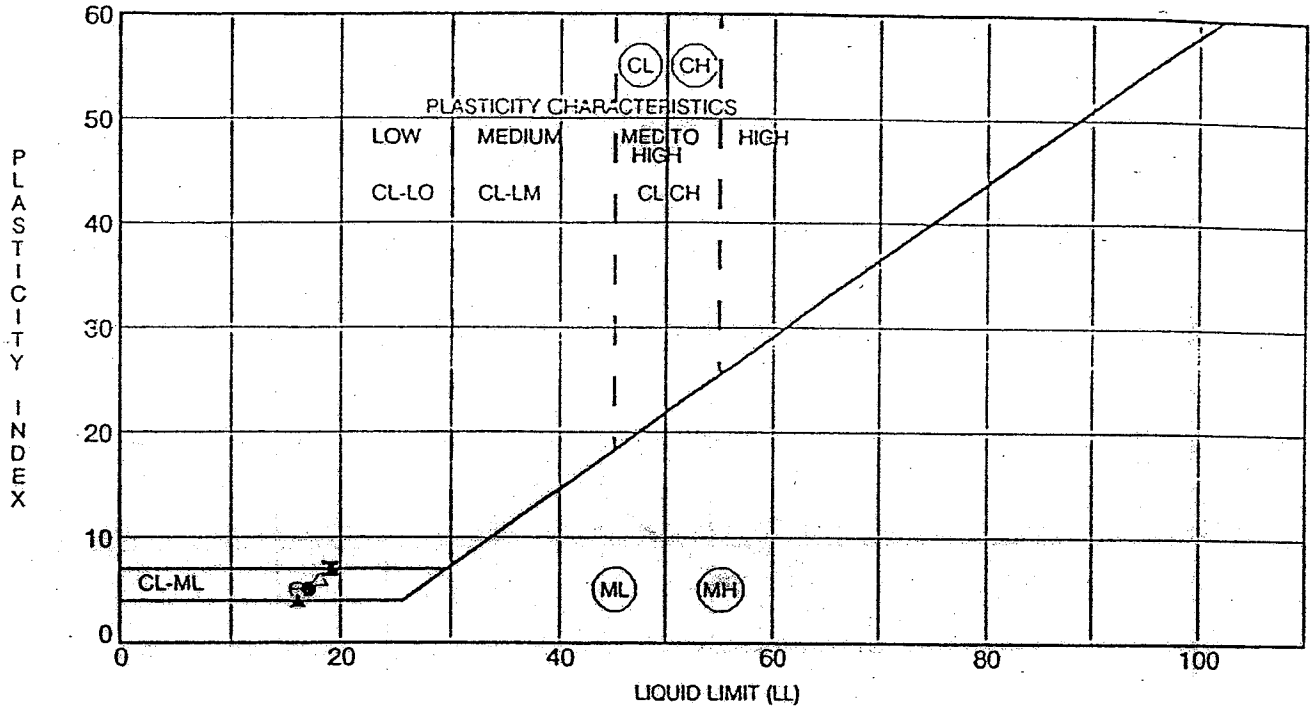
DATE 6/26/95

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, Illinois

PLASTICITY CHART



Specimen Identification			LL	PL	PI	Fines	Classification
●	B-10	16.0	17	12	5	54.1	SANDY SILTY CLAY CL-ML
⊠	B-11	25.5	19	12	7	53.2	SANDY LEAN CLAY CL
▲	B-12	30.0	16	12	4	55.5	SANDY SILTY CLAY CL-ML
✶	B-13	36.0	17	12	5	48.4	SILTY, CLAYEY SAND SC-SM
✕	B-2	21.0	19	12	7	55.2	SANDY LEAN CLAY CL
✿	B-3	16.0	17	12	5	55.8	SANDY SILTY CLAY CL-ML
○	B-4	19.5	17	12	5	50.6	SANDY SILTY CLAY CL-ML
△	B-5	21.0	18	12	6	51.9	SANDY SILTY CLAY CL-ML
⊗	B-6	20.5	17	12	5	54.3	SANDY SILTY CLAY CL-ML
⊖	B-7	34.5	16	11	5	49.2	SILTY, CLAYEY SAND SC-SM

PROJECT CLINTON LANDFILL - CLINTON ILL.

JOB NO. 19-04375.4-2567

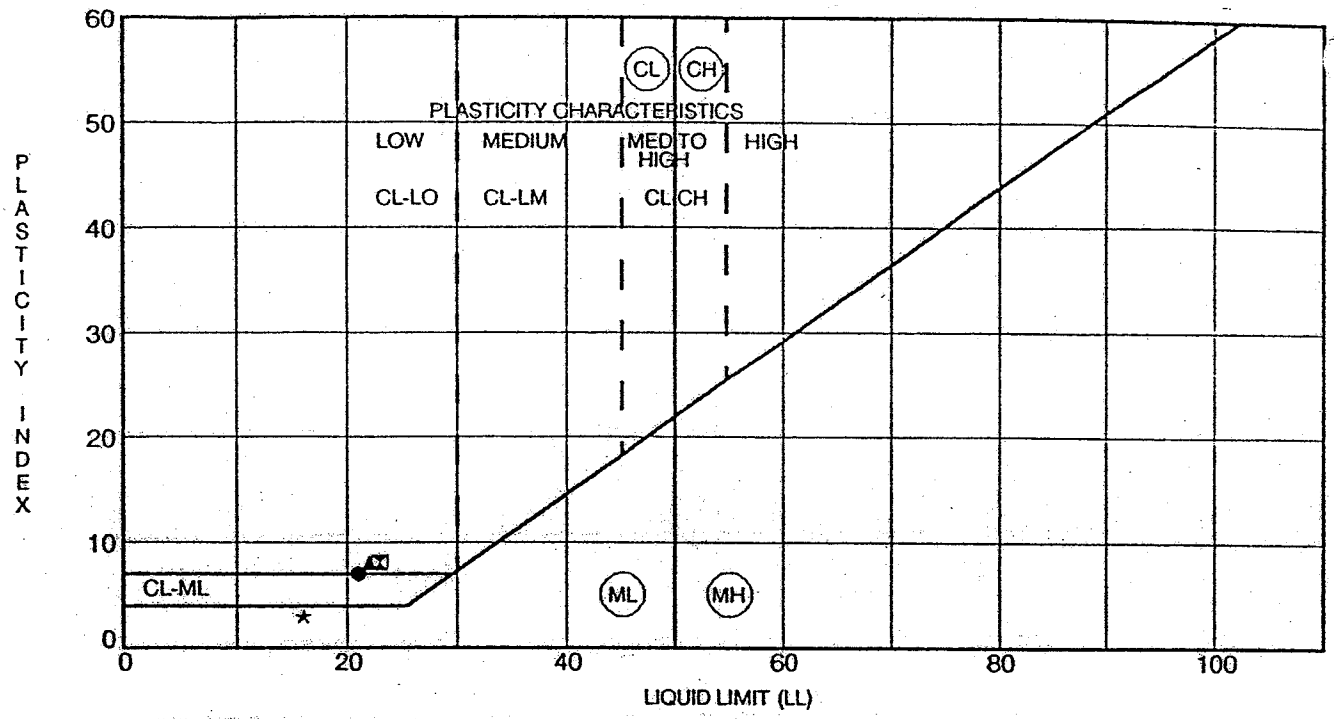
DATE 9/1/93

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, Illinois

PLASTICITY CHART



Specimen Identification		LL	PL	PI	Fines	Classification
● CSM-1A	9.5	21	14	7	48.7	
⊠ CSM-29	109.0	23	15	8	58.2	
▲ CSM-5B	24.0	22	14	8	55.1	
★ CSM-7B	33.0	16	13	3	44.2	

PROJECT CLINTON LANDFILL DEEP BORING - JOB NO. 19-55965

DATE

ATTERBERG LIMITS' RESULTS

SKS ENGINEERS, INC.

Decatur, Illinois

SKS ENGINEERS, INC.
CONSULTING ENGINEERS
2900 N. MARTIN LUTHER KING, JR. DRIVE • DECATUR, ILLINOIS 62526
217-877-2100 • FAX 217-877-4816
www.sksengineers.com

SPECIFIC GRAVITY TEST RESULTS

24°
K = 0.9991

	Soil Type	Composite Berry Clay	Composite Gray Tiskilwa	Composite Brown Tiskilwa
A	Dry Soil Weight (gm)	177.6	188.4	176.4
B	Bottle + Water (gm)	437.3	435.9	434.8
C	Bottle + Soil + Water (gm)	547.0	554.0	546.0
D	A + B	614.9	624.3	611.2
E	A ÷ (D - C)	2.62	2.68	2.70
F	(E)(K) Specific Gravity	2.62	2.68	2.70

P:\2001\18330\18330.1 Tests\Specific Gravity.wpd

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Report Cover Page

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Dec-02
Date Reported: 19-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 02123018

This report includes information regarding the following described samples as received by the laboratory and is only valid for the parameters tested. This report contains 3 results page(s) not including the cover page(s).

Sample No.	Client ID	Site	Locator
02123018-1	PROJECT #91-0118	EX-13; ELEV 671	GRAB
02123018-2	PROJECT #91-0118	EX-13; ELEV 655.5	GRAB
02123018-3	PROJECT #91-0118	EX-13; ELEV 661.5	GRAB

Certified by: Dorothy W. Rothert
Dorothy W. Rothert, Project Manager

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State of Illinois Certification for Bacteriological Analysis in Drinking Water -Lab Registry No. 17533
Drinking Water Certifications: Indiana (C-IL-04); Kansas (E-10338); Kentucky (90058); Missouri (00870); Wisconsin (998294430)
ewater Certifications: Arkansas; Iowa (240); Kansas (E-10338); Wisconsin (998294430)
rdous/Solid Waste Certifications: Arkansas; Kansas (E-10338); Wisconsin (998294430)
Certification: Iowa (240)

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Dec-02
Date Reported: 19-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 02123018

Sample No: 02123018-1
Client ID: PROJECT #91-0118
Site: EX-13; ELEV 671
Locator: GRAB
Collect Date: 19-DEC-02 15:10

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	1.8	%	26-Dec-02 15:12	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Dec-02
Date Reported: 19-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 02123018

Sample No: 02123018-2
Client ID: PROJECT #91-0118
Site: EX-13; ELEV 655.5
Locator: GRAB
Collect Date: 20-DEC-02 09:45

Parameter	Result	Units		Date	By
ASTM STANDARD D2974					
Total Organic Content	1.8	%	—	26-Dec-02 15:12	KD

Report revised to correct sample description.

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Dec-02
Date Reported: 19-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 02123018

Sample No: 02123018-3
Client ID: PROJECT #91-0118
Site: EX-13; ELEV 661.5
Locator: GRAB
Collect Date: 20-DEC-02 09:00

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	10.	%	26-Dec-02 15:12	KD

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2231 WEST ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1 CLIENT: CH2M Hill
ADDRESS:
CITY:
STATE: ZIP:
CONTACT PERSON: John Berry

PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
91-0118		HD
PHONE NUMBER	**FAX NUMBER**	**DATE SHIPPED**
		12/23/02

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER:

4 (FOR LAB USE ONLY)
LOGIN # 0212 3018-3
LOGGED BY: RJP
LAB PROJ. #
TEMPLATE:
PROJ. MGR.:

2 SAMPLE DESCRIPTION

	DATE	TIME	GRAB	COMP	MATRIX	# OF CONT.	3 Total Organic Content	REMARKS
EX-13; ELEV. 671	12/19/02	3:10p	X		SOIL	1	X	
EX-13; ELEV. 665.5	12/20/02	9:45a	X		SOIL	1	X	
EX-13; ELEV. 661.5	12/20/02	9:00a	X		SOIL	1	X	

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE:
PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7 RELINQUISHED BY: (SIGNATURE) Roger L. Kelley
RELINQUISHED BY: (SIGNATURE) Roger L. Kelley
DATE 12/23/02
TIME 10:45

RECEIVED BY: (SIGNATURE)
DATE
TIME
RECEIVED AT LAB BY: (SIGNATURE) Gina Peterson
DATE 12/24/02
TIME 10:45a

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 6 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
BOTTLES RECEIVED IN GOOD CONDITION Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME Y OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) Y OR N

PAGE _____ OF _____

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Report Cover Page

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 17-Dec-02
Date Reported: 26-Dec-02
PO #: Clinton
PDC Cust. # : 280105

Login No. 02122537

This report includes information regarding the following described samples as received by the laboratory and is only valid for the parameters tested. This report contains 2 results page(s) not including the cover page(s).

Sample No.	Client ID	Site	Locator
02122537-1	SOIL	EX-14 ELEV 659	GRAB
02122537-2	SOIL	EX-14 ELEV 642	GRAB

Certified by: Dorothy W. Rothert
Dorothy W. Rothert, Project Manager

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NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230

State of Illinois Certification for Bacteriological Analysis in Drinking Water -Lab Registry No. 17533
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Wastewater Certifications: Arkansas; Iowa (240); Kansas (E-10338); Wisconsin (998294430)
Hazardous/Solid Waste Certifications: Arkansas; Kansas (E-10338); Wisconsin (998294430)
UST Certification: Iowa (240)
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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 17-Dec-02
Date Reported: 26-Dec-02
PO #: Clinton
PDC Cust. # : 280105

Login No. 02122537

Sample No:	02122537-1
Client ID:	SOIL
Site:	EX-14 ELEV 659
Locator:	GRAB
Collect Date:	16-DEC-02 09:30

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	8.8	%	23-Dec-02 15:30	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 17-Dec-02
Date Reported: 26-Dec-02
PO #: Clinton
PDC Cust. # : 280105

Login No. 02122537

Sample No: 02122537-2
Client ID: SOIL
Site: EX-14 ELEV 642
Locator: GRAB
Collect Date: 16-DEC-02 11:15

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	1.4	%	23-Dec-02 15:30	KD

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... WEST ALTORFER DRIVE
...IA, IL 61615
PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUST... RECORD

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1

PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
PHONE NUMBER	FAX NUMBER	DATE SHIPPED

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER: _____

3

4 (FOR LAB USE ONLY)
LOGIN # 9a1225312
LOGGED BY: RP
LAB PROJ. # _____
TEMPLATE: _____
PROJ. MGR.: _____

2

							TOC (Total Organic Content)	REMARKS
EX-14 Elevation 659	12/16	9:30	X		SOIL	1	X	
EX-14 ELEVATION 642	12/16	11:15	X		SOIL	1	X	

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE: PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7

RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)	DATE
	TIME		TIME
	DATE	RECEIVED AT LAB BY: (SIGNATURE) S. Ruiz	DATE 12/17/16
	TIME		TIME 13:50

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT	2.0 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT	Y OR N
SAMPLE(S) RECEIVED ON ICE	Y OR N
BOTTLES RECEIVED IN GOOD CONDITION	Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME	Y OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S)	Y OR N

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Report Cover Page

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 30-Dec-02
Date Reported: 09-Jan-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 02123221

This report includes information regarding the following described samples as received by the laboratory and is only valid for the parameters tested. This report contains 1 results page(s) not including the cover page(s).

Sample No.	Client ID	Site	Locator
02123221-1	PROJECT #91-0118	EX-13;ELEV 633	GRAB

Certified by: Dorothy W. Rothert
Dorothy W. Rothert, Project Manager

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State of Illinois Certification for Bacteriological Analysis in Drinking Water -Lab Registry No. 17533
Drinking Water Certifications: Indiana (C-IL-04); Kansas (E-10338); Kentucky (90058); Missouri (00870); Wisconsin (998294430)
Wastewater Certifications: Arkansas; Iowa (240); Kansas (E-10338); Wisconsin (998294430)
Hazardous/Solid Waste Certifications: Arkansas; Kansas (E-10338); Wisconsin (998294430)
UST Certification: Iowa (240)
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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 30-Dec-02
Date Reported: 09-Jan-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 02123221

Sample No: 02123221-1
Client ID: PROJECT #91-0118
Site: EX-13;ELEV 633
Locator: GRAB
Collect Date: 23-DEC-02 11:05

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	3.0	%	07-Jan-03 15:35	KD

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PEORIA, IL 61615
PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1

PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
91-0118		
PHONE NUMBER	FAX NUMBER	DATE SHIPPED

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER: _____

2

SAMPLE DESCRIPTION	DATE	TIME	COMP	GRAB	MATRIX	# OF CONT.
EX-13; Elevation 633	12/23/02	11:05	X		SOIL	1

3

Total Organic Content

4 (FOR LAB USE ONLY)

LOGIN # 0123221-1
LOGGED BY: bp
LAB PROJ. # _____
TEMPLATE: _____
PROJ. MGR.: _____

REMARKS

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE: PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
Joseph L. Kelly	12/30/02	8:15	Joseph L. Kelly	12-24-02	8:26
			RECEIVED AT LAB BY: (SIGNATURE)	DATE	TIME
				12/24/02	8:50

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 14 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT (Y) OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
BOTTLES RECEIVED IN GOOD CONDITION (Y) OR N
BOTTLES FILLED WITH ADEQUATE VOLUME (Y) OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) (Y) OR N

PAGE _____ OF _____

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Report Cover Page

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 06-Jan-03
Date Reported: 09-Jan-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03011254

This report includes information regarding the following described samples as received by the laboratory and is only valid for the parameters tested. This report contains 2 results page(s) not including the cover page(s).

Sample No.	Client ID	Site	Locator
03011254-1	PROJECT #91-011	EX-12:ELEV 660	GRAB
03011254-2	PROJECT #91-011	EX-17:ELEV 657	GRAB

Certified by: Dorothy W. Rothert
Dorothy W. Rothert, Project Manager

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Endorsement by the Federal or State Government or their agencies is not implied.
NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230

State of Illinois Certification for Bacteriological Analysis in Drinking Water -Lab Registry No. 17533
Drinking Water Certifications: Indiana (C-IL-04); Kansas (E-10338); Kentucky (90058); Missouri (00870); Wisconsin (998294430)
Wastewater Certifications: Arkansas; Iowa (240); Kansas (E-10338); Wisconsin (998294430)
Hazardous/Solid Waste Certifications: Arkansas; Kansas (E-10338); Wisconsin (998294430)
DOT Certification: Iowa (240)

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 06-Jan-03
Date Reported: 09-Jan-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03011254

Sample No:	03011254-1
Client ID:	PROJECT #91-011
Site:	EX-12:ELEV 660
Locator:	GRAB
Collect Date:	27-DEC-02 10:00

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	2.0	%	08-Jan-03 18:03	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 06-Jan-03
Date Reported: 09-Jan-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03011254

Sample No: 03011254-2
Client ID: PROJECT #91-011
Site: EX-17 ELEV 657
Locator: GRAB (17)
Collect Date: 03-JAN-03 09:15

Parameter	Result	Units		Date	By
ASTM STANDARD D2974					
Total Organic Content	2.0	%	—	08-Jan-03 18:03	KD

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PDC L[illegible]RATORIES, INC.
2231 W[illegible] ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1 CLIENT: [illegible]

PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
		HD.
PHONE NUMBER	FAX NUMBER	DATE SHIPPED
		1/6/03

SAMPLED BY (PRINT): [illegible]

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER:

4 (FOR LAB USE ONLY)
LOGIN # B011254-2
LOGGED BY: RP
LAB PROJ. #
TEMPLATE:
PROJ. MGR.:

2 SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED	GRAB	COMP	MATRIX CODE	# OF CONT.	3 Total Organic Content (TOC)	REMARKS
EX-12: ELEVATION 660	12/27/02	10:00	X		SOIL	1	X	
EX-17: ELEVATION 657	1/3/02	9:15	X		SOIL	1	X	

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE: PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.*

7 RELINQUISHED BY: (SIGNATURE) [illegible] DATE [illegible] TIME [illegible]
RECEIVED BY: (SIGNATURE) Jennifer Eyre DATE 1/6 TIME
RELINQUISHED BY: (SIGNATURE) Jennifer Eyre DATE 1/6 TIME 4:05
RECEIVED AT LAB BY: (SIGNATURE) Gina Peterson DATE 1/6/03 TIME 16:55

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 3.1 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
BOTTLES RECEIVED IN GOOD CONDITION Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME Y OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) Y OR N

PDC [illegible] LABORATORIES, INC.
2231 [illegible] T ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUSTODY [illegible]

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1	PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
	PHONE NUMBER	FAX NUMBER	DATE SHIPPED

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER: _____

2 SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED	# OF CONTAINERS	MATRIX	3 [illegible]
EX-15 [illegible]	[illegible]	[illegible]	1		X
EX 15 [illegible]	[illegible]	[illegible]	1		X
[illegible] 657	1/15/10	1:35	1		X
[illegible] 658	1/15/10	1:35	1		X
[illegible] 659	1/15/10	11:45	1		X
EX [illegible]	1/15/10	[illegible]	1		X
[illegible] 660	1/15/10	10	1		X
EX [illegible] 1615	1/15/10	[illegible]	1		X
EX [illegible] 662	1/15/10	[illegible]	1		X
EX [illegible] 654	1/15/10	[illegible]	1		X
EX 8 [illegible] 649	1/15/10	11:30	1		X
EX-1 [illegible] 641	1/15/10	12:00	1		X

4 (FOR LAB USE ONLY)	
LOGIN #	
LOGGED BY:	
LAB PROJ. #	
TEMPLATE:	
PROJ. MGR.:	

REMARKS

5	
TURNAROUND TIME REQUESTED (PLEASE CIRCLE) (RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)	NORMAL RUSH
RUSH RESULTS VIA (PLEASE CIRCLE)	FAX PHONE
FAX # IF DIFFERENT FROM ABOVE:	PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7				
RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)	DATE	8 COMMENTS: (FOR LAB USE ONLY)
	TIME		TIME 900	
RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED AT LAB BY: (SIGNATURE)	DATE	
	TIME		TIME	

SAMPLE TEMPERATURE UPON RECEIPT _____ °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
BOTTLES RECEIVED IN GOOD CONDITION Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME Y OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) Y OR N

PDC LABORATORIES, INC.
2231 ' ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1	PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
	PHONE NUMBER	FAX NUMBER	DATE SHIPPED

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER: _____

2								3								4
								TOTAL # OF CONTAINERS								REMARKS
[illegible] 63'	1/21	3:45	X			1		X								
EX. [illegible] 632	11/21	"	X			"		X								
EX. 14 ELEVATION 661	1/22	11:00	X			"		X								
EX-14' ELEVATION 646.0	1/22	11:10	X			"		X								

(FOR LAB USE ONLY)
LOGIN # _____
LOGGED BY: _____
LAB PROJ. # _____
TEMPLATE: _____
PROJ. MGR.: _____

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE: PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7				
[illegible]	DATE	RECEIVED BY: (SIGNATURE)	DATE	8 COMMENTS: (FOR LAB USE ONLY)
	TIME		TIME 9:10	
RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED AT LAB BY: (SIGNATURE)	DATE	
	TIME 9:09		TIME 9:10	

SAMPLE TEMPERATURE UPON RECEIPT _____ °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
BOTTLES RECEIVED IN GOOD CONDITION Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME Y OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) Y OR N

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Report Cover Page

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

This report includes information regarding the following described samples as received by the laboratory and is only valid for the parameters tested. This report contains 16 results page(s) not including the cover page(s).

Sample No.	Client ID	Site	Locator
3012929-1	CLINTON	EX-15	ELEVATION 673
3012929-2	CLINTON	EX-15	ELEVATION 662
3012929-3	CLINTON	EX-15	ELEVATION 657
3012929-4	CLINTON	EX-15	ELEVATION 646
3012929-5	CLINTON	EX-24	ELEVATION 643
3012929-6	CLINTON	EX-24	ELEVATION 636
3012929-7	CLINTON	EX-16	ELEVATION 672.5
3012929-8	CLINTON	EX-16	ELEVATION 669.5
3012929-9	CLINTON	EX-16	ELEVATION 668
3012929-10	CLINTON	EX-16	ELEVATION 634
3012929-11	CLINTON	EX-18	ELEVATION 649
3012929-12	CLINTON	EX-18	ELEVATION 641
3012929-13	CLINTON	EX-18	ELEVATION 638
3012929-14	CLINTON	EX-18	ELEVATION 632

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Report Cover Page

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

This report includes information regarding the following described samples as received by the laboratory and is only valid for the parameters tested. This report contains 16 results page(s) not including the cover page(s).

Sample No.	Client ID	Site	Locator
03012929-15	CLINTON	EX-19	ELEVATION 663
03012929-16	CLINTON	EX-19	ELEVATION 646

Certified by: Dorothy W. Rothert
Dorothy W. Rothert, Project Manager

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stewater Certifications: Arkansas; Iowa (240); Kansas (E-10338); Wisconsin (998294430)
Hazardous/Solid Waste Certifications: Arkansas; Kansas (E-10338); Wisconsin (998294430)
UST Certification: Iowa (240)
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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-1
Client ID: CLINTON
Site: EX-15
Locator: ELEVATION 673
Collect Date: 07-JAN-03 10:25

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	0.94	%	31-Jan-03 08:35	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-2
Client ID: CLINTON
Site: EX-15
Locator: ELEVATION 662
Collect Date: 07-JAN-03 11:25

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	1.8	%	31-Jan-03 08:35	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-3
Client ID: CLINTON
Site: EX-15
Locator: ELEVATION 657
Collect Date: 07-JAN-03 11:35

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	0.93	%	31-Jan-03 08:35	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-4
Client ID: CLINTON
Site: EX-15
Locator: ELEVATION 646
Collect Date: 07-JAN-03 13:35

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	0.53	%	31-Jan-03 08:35	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-5
Client ID: CLINTON
Site: EX-24
Locator: ELEVATION 643
Collect Date: 09-JAN-03 11:45

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	0.54	%	31-Jan-03 08:35	KD

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Laboratory Results

Clinton Landfill

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Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-6
Client ID: CLINTON
Site: EX-24
Locator: ELEVATION 636
Collect Date: 09-JAN-03 11:45

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	3.7	%	31-Jan-03 08:35	KD

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Clinton Landfill

PO Box 9071
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Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-7
Client ID: CLINTON
Site: EX-16
Locator: ELEVATION 672.5
Collect Date: 15-JAN-03 10:05

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	1.0	%	31-Jan-03 08:35	KD

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Laboratory Results

Clinton Landfill

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Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-8
Client ID: CLINTON
Site: EX-16
Locator: ELEVATION 669.5
Collect Date: 15-JAN-03 10:05

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	1.1	%	31-Jan-03 08:35	KD

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Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-9
Client ID: CLINTON
Site: EX-16
Locator: ELEVATION 668
Collect Date: 15-JAN-03 10:05

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	7.9	%	31-Jan-03 08:35	KD

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Laboratory Results

Clinton Landfill

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Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-10
Client ID: CLINTON
Site: EX-16
Locator: ELEVATION 634
Collect Date: 15-JAN-03 10:05

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	7.3	%	31-Jan-03 08:35	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-11
Client ID: CLINTON
Site: EX-18
Locator: ELEVATION 649
Collect Date: 20-JAN-03 11:25

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.2	%	06-Feb-03 14:50	KD

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Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-12
Client ID: CLINTON
Site: EX-18
Locator: ELEVATION 641
Collect Date: 20-JAN-03 11:25

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	0.56	%	31-Jan-03 08:35	KD

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Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-13
Client ID: CLINTON
Site: EX-18
Locator: ELEVATION 638
Collect Date: 20-JAN-03 11:25

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	0.49	%	31-Jan-03 08:35	KD

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Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-14
Client ID: CLINTON
Site: EX-18
Locator: ELEVATION 632
Collect Date: 20-JAN-03 11:25

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.9	%	31-Jan-03 08:35	KD

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Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-15
Client ID: CLINTON
Site: EX-19
Locator: ELEVATION 663
Collect Date: 22-JAN-03 10:30

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	2.5	%	31-Jan-03 08:35	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 23-Jan-03
Date Reported: 07-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03012929

Sample No: 03012929-16
Client ID: CLINTON
Site: EX-19
Locator: ELEVATION 646
Collect Date: 22-JAN-03 10:30

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	0.57	%	31-Jan-03 08:35	KD

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PDC LABORATORIES, INC.
2231 ALTORFER DRIVE
PEORIA, IL 61615
PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUSTODY

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1 CLIENT: [redacted]

PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
PHONE NUMBER	FAX NUMBER	DATE SHIPPED

ADDRESS:
CITY:
STATE:
ZIP:
CONTACT PERSON:
SAMPLED BY:

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER:

3

4 (FOR LAB USE ONLY)
LOGIN # 03012929 JH
LOGGED BY:
LAB PROJ. #
TEMPLATE:
PROJ. MGR.:

2 SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED	# OF CONTAINERS	MATRIX	PRESERVATIVE	Total Organic Content (TOC)	REMARKS
EX-15; ELEVATION 673	1/7/03	10:25		SOIL	1	X	
EX-15; ELEVATION 662	1/7/03	11:25		SOIL	1	X	
EX-15; ELEVATION 657	1/7/03	11:35		SOIL	1	X	
EX-15; ELEVATION 646	1/7/03	1:35		"	1	X	
EX-24; ELEVATION 643	1/9/03	11:45		"	1	X	
EX-24; ELEVATION 636	1/9/03	2:30p		"	1	X	
EX-16; ELEVATION 672.5	1/15/03	10:05		"	1	X	
EX-16; ELEVATION 669.5	1/15/03	10:45		"	1	X	
EX-16; ELEVATION 668	1/15/03	10:45		"	1	X	
EX-16; ELEVATION 634	1/15/03	2:45		"	1	X	
EX-18; ELEVATION 649	1/20/03	11:35		"	1	X	
EX-18; ELEVATION 641	1/20/03	12:00		"	1	X	

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE: PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7 RELINQUISHED BY: (SIGNATURE) DATE 1-23-03 TIME 900
RECEIVED BY: (SIGNATURE) DATE 1-23-03 TIME 900
RELINQUISHED BY: (SIGNATURE) DATE 1-23-03 TIME 1400
RECEIVED AT LAB BY: (SIGNATURE) DATE 1/23/03 TIME 14:00

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT -2 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT (Y) OR N
SAMPLE(S) RECEIVED ON ICE (Y) OR N
BOTTLES RECEIVED IN GOOD CONDITION (Y) OR N
BOTTLES FILLED WITH ADEQUATE VOLUME (Y) OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) (Y) OR N

PAGE _____ OF _____

PDC LABORATORIES, INC.
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PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1 CLIENT: CET
ADDRESS:
CITY / STATE / ZIP:
CONTACT PERSON: Tom Berry

PROJECT NUMBER | P.O. NUMBER | MEANS SHIPPED
PHONE NUMBER | FAX NUMBER | DATE SHIPPED
SAMPLER (SIGNATURE): Mark Bunge

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER:

3 ANALYSIS REQUESTED: Total Calcium Content (Ca)

4 (FOR LAB USE ONLY)
LOGIN # 0301252 9
LOGGED BY: JM
LAB PROJ. #
TEMPLATE:
PROJ. MGR.:

2 SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED	GRAB	COMP	MATRIX	# OF CONTAINERS	Total Calcium Content (Ca)	REMARKS
EX-19 ; ELEVATION: 638	1/20/03	2:25	X		SOIL	1	X	
EX-19 ; ELEVATION 632	1/20/03	2:35	X		"	"	X	
EX-19 : ELEVATION 663.0	1/22/03	10 30	X		"	"	X	
EX-19 : ELEVATION 646.0	1/22/03	1130	X		"	"	X	

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE:
PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7 RELINQUISHED BY: (SIGNATURE) Mark Bunge — DATE 1-23-03 — TIME 900
RECEIVED BY: (SIGNATURE) — DATE 1-23-03 — TIME 900
RELINQUISHED BY: (SIGNATURE) — DATE 1-23-03 — TIME 1400
RECEIVED AT LAB BY: (SIGNATURE) — DATE 1/23/03 — TIME 14:00

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT	-2	°C
CHILL PROCESS STARTED PRIOR TO RECEIPT	(Y) OR N	
SAMPLE(S) RECEIVED ON ICE	(Y) OR N	
BOTTLES RECEIVED IN GOOD CONDITION	(Y) OR N	
BOTTLES FILLED WITH ADEQUATE VOLUME	(Y) OR N	
SAMPLES RECEIVED WITHIN HOLD TIME(S)	(Y) OR N	

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FAX # 309-692-9689

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1	PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
	91-114		
ADDRESS	PHONE NUMBER	FAX NUMBER	DATE SHIPPED
CITY, STATE, ZIP			
CONTACT			

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER: _____

2							3	4 (FOR LAB USE ONLY)
SAMPLE I.D.	LOCATION	DATE	TIME	MATRIX	# CONTAINERS	PRESERVATIVE		LOGIN # _____
EX-12	660	1-29	1115	X	6x1	1	X	LOGGED BY: _____
EX-12	655	1-29	1120	X	"	1	X	LAB PROJ. # _____
EX-12	648	1-29	1116	X	"	1	X	TEMPLATE: _____
EX-12	644	1-29	11	X	"	1	X	PROJ. MGR.: _____
~~EX-11~~	~~[illegible]~~	1-29		X		1	X	
EX-21	690	1-29	1140	X		1	X	REMARKS
EX-21	675	1-29	925	X		1	X	
EX-21	670	1-30	940	X		1	X	
EX-21	653	1-29	1020	X		1	X	
EX-21	643	1-29	1040	X		1	X	
EX-20	[illegible]			X			X	
EX-20	615			X		1	X	

5			
TURNAROUND TIME REQUESTED (PLEASE CIRCLE) (RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)	NORMAL	RUSH	
RUSH RESULTS VIA (PLEASE CIRCLE)	FAX	PHONE	
FAX # IF DIFFERENT FROM ABOVE:	PHONE # IF DIFFERENT FROM ABOVE:		

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7				
RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)	DATE	
	TIME		TIME	
RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED AT LAB BY: (SIGNATURE)	DATE	2/7/03
	TIME		TIME	2:30

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT	2	°C
CHILL PROCESS STARTED PRIOR TO RECEIPT	Y OR N	
SAMPLE(S) RECEIVED ON ICE	Y OR N	
BOTTLES RECEIVED IN GOOD CONDITION	Y OR N	
BOTTLES FILLED WITH ADEQUATE VOLUME	Y OR N	
SAMPLES RECEIVED WITHIN HOLD TIME(S)	Y OR N	

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Report Cover Page

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

This report includes information regarding the following described samples as received by the laboratory and is only valid for the parameters tested. This report contains 11 results page(s) not including the cover page(s).

Sample No.	Client ID	Site	Locator
03021695-1	PROJECT# 91-118	EX-22	660
03021695-2	PROJECT# 91-118	EX-22	655
03021695-3	PROJECT# 91-118	EX-22	648
03021695-4	PROJECT# 91-118	EX-22	644
03021695-5	PROJECT# 91-118	EX-21	690
03021695-6	PROJECT# 91-118	EX-21	675
03021695-7	PROJECT# 91-118	EX-21	670
03021695-8	PROJECT# 91-118	EX-21	652
03021695-9	PROJECT# 91-118	EX-21	643
03021695-10	PROJECT# 91-118	EX-20	665
03021695-11	PROJECT# 91-118	EX-20	645

Certified by: Dorothy W. Rothert
Dorothy W. Rothert, Project Manager

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Endorsement by the Federal or State Government or their agencies is not implied.
NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230

State of Illinois Certification for Bacteriological Analysis in Drinking Water -Lab Registry No. 17533
Drinking Water Certifications: Indiana (C-IL-04); Kansas (E-10338); Kentucky (90058); Missouri (00870); Wisconsin (998294430)
Wastewater Certifications: Arkansas; Iowa (240); Kansas (E-10338); Wisconsin (998294430)
Hazardous/Solid Waste Certifications: Arkansas; Kansas (E-10338); Wisconsin (998294430)
UST Certification: Iowa (240)
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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-1
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 660
Collect Date: 28-JAN-03 10:10

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.4	%	11-Feb-03 15:03	KD

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Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No:	03021695-2
Client ID:	PROJECT# 91-118
Site:	EX-22
Locator:	655
Collect Date:	28-JAN-03 10:30

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	2.5	%	10-Feb-03 14:25	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-3
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 648
Collect Date: 28-JAN-03 11:05

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.3	%	10-Feb-03 14:25	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-4
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 644
Collect Date: 28-JAN-03 11:30

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	1.4	%	10-Feb-03 14:25	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
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Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-3
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 648
Collect Date: 28-JAN-03 11:05

Parameter	Result	Units	Date	By
TM STANDARD D2974				
Total Organic Content	1.3	%	10-Feb-03 14:25	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-4
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 644
Collect Date: 28-JAN-03 11:30

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.4	%	10-Feb-03 14:25	KD

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-3
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 648
Collect Date: 28-JAN-03 11:05

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.3	%	10-Feb-03 14:25	KD

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Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-4
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 644
Collect Date: 28-JAN-03 11:30

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.4	%	10-Feb-03 14:25	KD

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Date Received: 07-Feb-03
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PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-3
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 648
Collect Date: 28-JAN-03 11:05

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.3	%	10-Feb-03 14:25	KD

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Date Received: 07-Feb-03
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PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-4
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 644
Collect Date: 28-JAN-03 11:30

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	1.4	%	10-Feb-03 14:25	KD

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Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-3
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 648
Collect Date: 28-JAN-03 11:05

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.3	%	10-Feb-03 14:25	KD

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Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-4
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 644
Collect Date: 28-JAN-03 11:30

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.4	%	10-Feb-03 14:25	KD

recycled paper

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Laboratory Results

Clinton Landfill

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Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-3
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 648
Collect Date: 28-JAN-03 11:05

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.3	%	10-Feb-03 14:25	KD

recycled paper

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Date Received: 07-Feb-03
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PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-4
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 644
Collect Date: 28-JAN-03 11:30

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.4	%	10-Feb-03 14:25	KD

recycled paper

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-5
Client ID: PROJECT# 91-118
Site: EX-21
Locator: 690
Collect Date: 29-JAN-03 16:00

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.4	%	10-Feb-03 14:25	KD

recycled paper

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P.O. Box 9071 • Peoria, IL 61612-9071
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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-6
Client ID: PROJECT# 91-118
Site: EX-21
Locator: 675
Collect Date: 29-JAN-03 16:25

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	1.6	%	10-Feb-03 14:25	KD

recycled paper

PDC Laboratories, Inc.
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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-3
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 648
Collect Date: 28-JAN-03 11:05

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.3	%	10-Feb-03 14:25	KD

recycled paper

PDC Laboratories, Inc.
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Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-4
Client ID: PROJECT# 91-118
Site: EX-22
Locator: 644
Collect Date: 28-JAN-03 11:30

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	1.4	%	10-Feb-03 14:25	KD

recycled paper

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ACCREDITED IN ACCORDANCE WITH nelac

Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-5
Client ID: PROJECT# 91-118
Site: EX-21
Locator: 690
Collect Date: 29-JAN-03 16:00

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.4	%	10-Feb-03 14:25	KD

recycled paper

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-6
Client ID: PROJECT# 91-118
Site: EX-21
Locator: 675
Collect Date: 29-JAN-03 16:25

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	1.6	%	10-Feb-03 14:25	KD

recycled paper

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-7
Client ID: PROJECT# 91-118
Site: EX-21
Locator: 670
Collect Date: 30-JAN-03 09:40

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	5.7	%	10-Feb-03 14:25	KD

recycled paper

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-8
Client ID: PROJECT# 91-118
Site: EX-21
Locator: 652
Collect Date: 30-JAN-03 10:20

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	1.0	%	10-Feb-03 14:25	KD

recycled paper

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Laboratory Results

Clinton Landfill

PO Box 9071
Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-9
Client ID: PROJECT# 91-118
Site: EX-21
Locator: 643
Collect Date: 30-JAN-03 10:40

Parameter	Result	Units	Date	By
ASTM STANDARD D2974				
Total Organic Content	0.93	%	10-Feb-03 14:25	KD

recycled paper

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Clinton Landfill

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Peoria, IL 61612

Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-10
Client ID: PROJECT# 91-118
Site: EX-20
Locator: 665
Collect Date: 30-JAN-03

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	2.2	%	10-Feb-03 14:25	KD

recycled paper

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Laboratory Results

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Attn: Mr. John Berry

Date Received: 07-Feb-03
Date Reported: 13-Feb-03
PO #: Clinton
PDC Cust. # : 280105

Login No. 03021695

Sample No: 03021695-11
Client ID: PROJECT# 91-118
Site: EX-20
Locator: 645
Collect Date: 30-JAN-03

Parameter	Result	Units	Date	By
STM STANDARD D2974				
Total Organic Content	1.1	%	11-Feb-03 15:03	KD

recycled paper

PDC LABORATORIES, INC.
2231 W. ALTORFER DRIVE
PEORIA, IL 61615
PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1 CLIENT: CLD

PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
91-118		
PHONE NUMBER	FAX NUMBER	DATE SHIPPED

ADDRESS
CITY, STATE, ZIP
CONTACT PERSON: Luke Bowling
SAMPLED BY: [illegible]

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER:

3

4 (FOR LAB USE ONLY)
LOGIN # 030216 95
LOGGED BY: TM
LAB PROJ. #
TEMPLATE:
PROJ. MGR.:

2 SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED	# OF CONTAINERS	MATRIX	TOTAL # OF BOTTLES	TOC (Total Organic Carbon)	REMARKS
EX-22 660	1-28-03	1010	X	Soil	1	X	
EX-22 655	1-28-03	1030	X	"	1	X	
EX-22 648	1-28-03	1105	X	"	1	X	
EX-22 644	1-28-03	1130	X	"	1	X	
~~EX-21~~ MW 1-30-03	1-24		X	"	1	X	
EX-21 690	1-24-03	400	X	"	1	X	
EX-21 675	1-24-03	425	X	"	1	X	
EX-21 670	1-30-03	940	X	"	1	X	
EX-21 652	1-30-03	1020	X	"	1	X	
EX-21 643	1-30-03	1040	X	"	1	X	
EX-20 665			X	"	1	X	
EX-20 645			X	"	1	X	

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) (RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE) NORMAL RUSH
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE: PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7 RELINQUISHED BY: (SIGNATURE) DATE 2/7/03 TIME 2:20
RECEIVED BY: (SIGNATURE) DATE TIME
RELINQUISHED BY: (SIGNATURE) DATE TIME
RECEIVED AT LAB BY: (SIGNATURE) J Stanley DATE 2/7/03 TIME 2:20

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT	2	°C
CHILL PROCESS STARTED PRIOR TO RECEIPT	(Y) OR N	
SAMPLE(S) RECEIVED ON ICE	(Y) OR N	
BOTTLES RECEIVED IN GOOD CONDITION	(Y) OR N	
BOTTLES FILLED WITH ADEQUATE VOLUME	(Y) OR N	
SAMPLES RECEIVED WITHIN HOLD TIME(S)	(Y) OR N	

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Report Cover Page

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 10-Apr-00
Date Reported: 23-May-00
PO #: Clinton
PDC Cust. # : 280105

Login No. 00041639

This report includes information regarding the following described samples as received by the laboratory and is only valid for the parameters tested. This report contains 2 results page(s) not including the cover page(s).

Sample No.	Client ID	Site	Locator	Tests/Services
00041639-1	CLINTON EXPANSION EX-4 67'		GRAB	Cation Exchange Capacity Total Organic Carbon
00041639-2	CLINTON EXPANSION EX-4 82'		GRAB	Cation Exchange Capacity Total Organic Carbon

Certified by: Dorothy W. Rothert
Dorothy W. Rothert, Project Manager

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State of Arkansas Certified Wastewater and Hazardous Waste Lab
State of Indiana Certified Drinking Water Lab No. C-IL-04
State of Iowa Certified Wastewater Lab No. 240
American Industrial Hygiene Association Bulk/Air Asbestos Proficiency Program Lab ID No. 101206
State of North Dakota Wastewater and Hazardous Waste CertifiedLab No. R-094
State of Wisconsin Certified Wastewater and Hazardous Waste Lab ID No. 998294430
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Laboratory Results

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 10-Apr-00
Date Reported: 23-May-00
PO #: Clinton
PDC Cust. # : 280105

Login No. 00041639

Sample No: 00041639-1
Client ID: CLINTON EXPANSION
Site: EX-4 67'
Locator: GRAB
Collect Date: 06-APR-00 15:50

Parameter	Result	Units	Date	By
SW-846 METHOD 9081				
Cationic Exchange Capacity	0.800	meq / 100g	13-Apr-00 19:00	EKL
SUBCONTRACTED - Report Attached				
Carbon, Total Organic				

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Laboratory Results

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 10-Apr-00
Date Reported: 23-May-00
PO #: Clinton
PDC Cust. # : 280105

Login No. 00041639

Sample No: 00041639-2
Client ID: CLINTON EXPANSION
Site: EX-4 82'
Locator: GRAB
Collect Date: 06-APR-00 16:50

Parameter	Result	Units	Date	By
SW-846 METHOD 9081				
Cationic Exchange Capacity	1.65	meq / 100g	13-Apr-00 19:00	EKL
SUBCONTRACTED - Report Attached				
Carbon, Total Organic				

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SUBURBAN LABORATORIES, Inc.

4140 Litt Drive • Hillside, Illinois 60162-1183
Tel. (708) 544-3260 • Toll Free (800) 783-LABS • Fax (708) 544-8587

April 20, 2000

Dorothy Rothert
PDC Laboratories
P.O. Box 9071
Peoria, IL 61612-9071
TEL: 309-692-9688
FAX 309-692-9689

RE: 00041639-1 & 2 Order No.: 0004287

Dear Dorothy Rothert,

Suburban Laboratories, Inc. received 2 samples on 4/12/00 9:30:00 AM for the analyses presented in the following report.

There were no problems with the analyses and all the data for the associated QC met EPA or laboratory specifications except where noted in the case narrative.

This report consists of this final report of laboratory analysis, and any accompanying documentation including, but not limited to, chain of custody records, raw data, and letters of explanation or reliance. This report may not be reproduced, except in full, without the prior written approval of Suburban Laboratories, Inc.

If you have any questions regarding these test results, please call your customer service representative at (708) 544-3260.

Sincerely,

Mike Chung
Laboratory Director

CC:

Suburban Laboratories, Inc. **Date:** *19-Apr-00*

CLIENT: PDC Laboratories
Project: 00041639-1 & 2
Lab Order: 0004287

CASE NARRATIVE

General Comments:
- All results reported in wet weight unless otherwise indicated. (dry = Dry Weight)
- Sample results relate only to the analytes of interest tested and to sample as received by the laboratory.
- Environmental compliance sample results meet the requirements of Part 186 unless otherwise indicated.
- Accreditation by the State of Illinois is not an endorsement or a guarantee of the validity of data generated. For more information about the laboratories' scope of accreditation, please contact Suburban or the Agency.
- Limit: The lowest concentration that can be reliably achieved within specified requirements of precision and accuracy during routine laboratory operating conditions. Limit may also represent a project or client specific reporting level.

Data Qualifiers:
U: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ: The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limits approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
H: The holding time for the sample has been exceeded.
R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and/or meet quality control criteria. The presence or absence of the analyte cannot be verified.
I: Invalid; CS: Compound Screened; TNTC: Too Numerous to Count

Method References:
E: USEPA Methods for the Determination of Inorganic Substances in Environmental Samples; Methods for Chemical Analysis of Water and Wastes; Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, 40CFR136 App A; Methods for the Determination of Metals in Environmental Samples; Methods for the Determination of Organic Compounds in Drinking Water
SW: USEPA, Test Methods for Evaluating Solid Waste, SW-846, 3rd Ed, includes Updates I-III
M: APHA, Standard Methods for the Examination of Water and Wastewater, 18th & 19th Ed.
D: ASTM, Annual Book of Standards F: NAS, Food Chemicals Codex (FCC), 3rd Edition
B: US FDA Bacteriological Analytical Manual (BAM) 8th Edition, 1995
USP: US Pharmacopoeia, 22nd Revision, 1990

Project Specific Comments:
None

burban Laboratories, Inc.

Date: *19-Apr-00*

CLIENT:	PDC Laboratories	**Client Sample ID:**	00041639-1 grab
Lab Order:	0004287	**Tag Number:**	
Project:	00041639-1 & 2	**Collection Date:**	4/6/00 3:50:00 PM
Lab ID:	0004287-01A	**Matrix:**	SOIL

Analyses	Result	Qual	MDL	Limit	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON		**SW9060**					Analyst: **SH**
Total Organic Carbon	93.5		10	30.0	mg/Kg	1	4/18/00 11:00:00 AM

alifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

›urban Laboratories, Inc.

Date: *19-Apr-00*

CLIENT:	PDC Laboratories	**Client Sample ID:**	00041639-2 grab
Lab Order:	0004287	**Tag Number:**	
Project:	00041639-1 & 2	**Collection Date:**	4/6/00 4:50:00 PM
Lab ID:	0004287-02A	**Matrix:**	SOIL

Analyses	Result	Qual	MDL	Limit	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON		**SW9060**				Analyst: **SH**	
Total Organic Carbon	72.3		10	30.0	mg/Kg	1	4/18/00 11:00:00 AM

ifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Lab Order: 0004287
Client: PDC Laboratories
Project: 00041639-1 & 2

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0004287-01A	00041639-1 grab	4/6/00 3:50:00 PM	Soil	TOTAL ORGANIC CARBON			4/18/00
0004287-02A	00041639-2 grab	4/6/00 4:50:00 PM		TOTAL ORGANIC CARBON			4/18/00

PDC LABORATORIES, INC.
2231 WEST ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

(1)

PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
PHONE NUMBER	FAX NUMBER	DATE SHIPPED

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER: _____

(3)

(4) (FOR LAB USE ONLY)
LOGIN # 80041639
LOGGED BY: JAB
LAB PROJ. # _____
TEMPLATE: _____
PROJ. MGR.: _____

(2)

									REMARKS
EX-4 67'	4-6-2000 3:50	X				X	X		
EX-4 82'	4-6-2000 4:50	X				X	X		

(5) TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE: PHONE # IF DIFFERENT FROM ABOVE:

(6) *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

(7)

RELINQUISHED BY: (SIGNATURE) _____ DATE _____ TIME _____

RECEIVED BY: (SIGNATURE) _____ DATE _____ TIME _____

RECEIVED AT LAB BY: (SIGNATURE) _____ DATE 4/10/00 TIME 1:10

(8) COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 11 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
BOTTLES RECEIVED IN GOOD CONDITION Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME Y N
SAMPLES RECEIVED WITHIN HOLD TIME(S)

PDC LABORATORIES, INC.
2231 WEST ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1

PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
	9972	UPS
PHONE NUMBER	FAX NUMBER	DATE SHIPPED
		4-1-00

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER: _____

3

4 (FOR LAB USE ONLY)

LOGIN # _____
LOGGED BY: _____
LAB PROJ. # _____
TEMPLATE: _____
PROJ. MGR.: _____

2

							TOC							REMARKS
0004/6.39-1	4-6-00	3:50	✓		NAS	1	✓							
-2	4-6-00	4:50	✓		NAS	1	✓							

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE)
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
NORMAL RUSH

RUSH RESULTS VIA (PLEASE CIRCLE)
FAX PHONE

FAX # IF DIFFERENT FROM ABOVE:
PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7

RELINQUISHED BY: (SIGNATURE) | DATE | TIME

RECEIVED BY: (SIGNATURE) | DATE | TIME

RECEIVED AT LAB BY: (SIGNATURE) | DATE | TIME

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT _____ °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
BOTTLES RECEIVED IN GOOD CONDITION Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME Y OR
SAMPLES RECEIVED WITHIN HOLD TIME(S)

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Report Cover Page

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 06-Apr-00
Date Reported: 19-Apr-00
PO #: Clinton

Login No. 00041417

This report includes information regarding the following described samples as received by the laboratory and is only valid for the parameters tested. This report contains 3 results page(s) not including the cover page(s).

Sample No.	Client ID	Site	Locator	Tests/Services
00041417-1	91-118.02	EX-5 72'-73'	GRAB	Cation Exchange Capacity Total Organic Carbon
00041417-2	91-118.02	EX-5 82'-83'	GRAB	Cation Exchange Capacity Total Organic Carbon
00041417-3	91-118.02	EX-5 91.5'-	GRAB	Cation Exchange Capacity Total Organic Carbon

Certified by: Dorothy W. Rothert
Dorothy W. Rothert, Project Manager

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State of Arkansas Certified Wastewater and Hazardous Waste Lab
State of Indiana Certified Drinking Water Lab No. C-IL-04
State of Iowa Certified Wastewater Lab No. 240
American Industrial Hygiene Association Bulk/Air Asbestos Proficiency Program Lab ID No. 101206
State of North Dakota Wastewater and Hazardous Waste CertifiedLab No. R-094
State of Wisconsin Certified Wastewater and Hazardous Waste Lab ID No. 998294430

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Laboratory Results

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 06-Apr-00
Date Reported: 19-Apr-00
PO #: Clinton
PDC Cust. # : 280105

Login No. 00041417

Sample No: 00041417-1
Client ID: 91-118.02
Site: EX-5 72'-73'
Locator: GRAB
Collect Date: 04-APR-00 15:50

Parameter	Result	Units	Date	By
SW-846 METHOD 9081				
Cationic Exchange Capacity	0.950	meq / 100g	13-Apr-00 19:00	EKL
SUBCONTRACTED - Report Attached				
Carbon, Total Organic				

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Laboratory Results

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 06-Apr-00
Date Reported: 19-Apr-00
PO #: Clinton
PDC Cust. # : 280105

Login No. 00041417

Sample No: 00041417-2
Client ID: 91-118.02
Site: EX-5 82'-83'
Locator: GRAB
Collect Date: 05-APR-00 10:50

Parameter	Result	Units	Date	By
SW-846 METHOD 9081				
Cationic Exchange Capacity	1.38	meq / 100g	13-Apr-00 19:00	EKL
SUBCONTRACTED - Report Attached				
Carbon, Total Organic				

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Laboratory Results

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 06-Apr-00
Date Reported: 19-Apr-00
PO #: Clinton
PDC Cust. # : 280105

Login No. 00041417

Sample No: 00041417-3
Client ID: 91-118.02
Site: EX-5 91.5'
Locator: GRAB
Collect Date: 05-APR-00 11:15

Parameter	Result	Units	Date	By
SW-846 METHOD 9081				
Cationic Exchange Capacity	1.65	meq / 100g	13 Apr-00 19:00	EKL
SUBCONTRACTED - Report Attached				
Carbon, Total Organic				

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SUBURBAN LABORATORIES, Inc.

4140 Litt Drive • Hillside, Illinois 60162-1183
Tel. (708) 544-3260 • Toll Free (800) 783-LABS • Fax (708) 544-8587

April 12, 2000

Dorothy W. Rothett
PDC Laboratories
P.O. Box 9071
Peoria, IL 61612-9071
TEL: 309-692-9688
FAX 309-692-9689

RE: 00041416-1-2/00041417-1-2-3 Order No.: 0004192

Dear Dorothy W. Rothett,

Suburban Laboratories, Inc. received 5 samples on 4/10/00 9:00:00 AM for the analyses presented in the following report.

There were no problems with the analyses and all the data for the associated QC met EPA or laboratory specifications except where noted in the case narrative.

This report consists of this final report of laboratory analysis, and any accompanying documentation including, but not limited to, chain of custody records, raw data, and letters of explanation or reliance. This report may not be reproduced, except in full, without the prior written approval of Suburban Laboratories, Inc.

If you have any questions regarding these test results, please call your customer service representative at (708) 544-3260.

Sincerely,

Mike Chung
Laboratory Director

CC:

Suburban Laboratories, Inc. **Date:** *12-Apr-00*

CLIENT: PDC Laboratories
Project: 00041416-1-2/00041417-1-2-3
Lab Order: 0004192

CASE NARRATIVE

General Comments:
- All results reported in wet weight unless otherwise indicated. (dry = Dry Weight)
- Sample results relate only to the analytes of interest tested and to sample as received by the laboratory.
- Environmental compliance sample results meet the requirements of Part 186 unless otherwise indicated.
- Accreditation by the State of Illinois is not an endorsement or a guarantee of the validity of data generated. For more information about the laboratories' scope of accreditation, please contact Suburban or the Agency.
- Limit: The lowest concentration that can be reliably achieved within specified requirements of precision and accuracy during routine laboratory operating conditions. Limit may also represent a project or client specific reporting level.

Data Qualifiers:
U: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ: The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limits approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
H: The holding time for the sample has been exceeded.
R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and/or meet quality control criteria. The presence or absence of the analyte cannot be verified.
I: Invalid; CS: Compound Screened; TNTC: Too Numerous to Count

Method References:
E: USEPA Methods for the Determination of Inorganic Substances in Environmental Samples; Methods for Chemical Analysis of Water and Wastes; Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, 40CFR136 App A; Methods for the Determination of Metals in Environmental Samples; Methods for the Determination of Organic Compounds in Drinking Water
SW: USEPA, Test Methods for Evaluating Solid Waste, SW-846, 3rd Ed, includes Updates I-III
M: APHA, Standard Methods for the Examination of Water and Wastewater, 18th & 19th Ed.
D: ASTM, Annual Book of Standards F: NAS, Food Chemicals Codex (FCC), 3rd Edition
B: US FDA Bacteriological Analytical Manual (BAM) 8th Edition, 1995
USP: US Pharmacopoeia, 22nd Revision, 1990

Project Specific Comments:
None

urban Laboratories, Inc.

Date: *12-Apr-00*

CLIENT:	PDC Laboratories	**Client Sample ID:**	00041416-1 grab
Lab Order:	0004192	**Tag Number:**	
Project:	00041416-1-2/00041417-1-2-3	**Collection Date:**	4/3/00 10:25:00 AM
Lab ID:	0004192-01A	**Matrix:**	SOIL

Analyses	Result	Qual	MDL	Limit	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON		**SW9060**					Analyst: **SH**
Total Organic Carbon	216		10	30.0	mg/Kg	1	4/11/00 11:30:00 AM

ıfiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

CLIENT:	PDC Laboratories	**Client Sample ID:**	00041416-2 grab
Lab Order:	0004192	**Tag Number:**	
Project:	00041416-1-2/00041417-1-2-3	**Collection Date:**	4/3/00 11:45:00 AM
Lab ID:	0004192-02A	**Matrix:**	SOIL

Analyses	Result	Qual	MDL	Limit	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON		**SW9060**					Analyst: **SH**
Total Organic Carbon	3,090		10	30.0	mg/Kg	1	4/11/00 11:30:00 AM

)lifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

burban Laboratories, Inc. Date: *12-Apr-00*

CLIENT:	PDC Laboratories	**Client Sample ID:**	00041417-1 grab
Lab Order:	0004192	**Tag Number:**	
Project:	00041416-1-2/00041417-1-2-3	**Collection Date:**	4/4/00 3:50:00 PM
Lab ID:	0004192-03A	**Matrix:**	SOIL

Analyses	Result	Qual	MDL	Limit	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON		**SW9060**					Analyst: SH
Total Organic Carbon	3,320		10	30.0	mg/Kg	1	4/11/00 11:30:00 AM

alifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CLIENT:	PDC Laboratories	**Client Sample ID:**	00041417-2 grab
Lab Order:	0004192	**Tag Number:**	
Project:	00041416-1-2/00041417-1-2-3	**Collection Date:**	4/5/00 10:50:00 AM
Lab ID:	0004192-04A	**Matrix:**	SOIL

Analyses	Result	Qual	MDL	Limit	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON		**SW9060**					Analyst: **SH**
Total Organic Carbon	3,290		10	30.0	mg/Kg	1	4/11/00 11:30:00 AM

alifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

burban Laboratories, Inc.

Date: *12-Apr-00*

CLIENT:	PDC Laboratories	**Client Sample ID:**	00041417-3 grab
Lab Order:	0004192	**Tag Number:**	
Project:	00041416-1-2/00041417-1-2-3	**Collection Date:**	4/5/00 11:15:00 AM
Lab ID:	0004192-05A	**Matrix:**	SOIL

Analyses	Result	Qual	MDL	Limit	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON		**SW9060**				Analyst: **SH**	
Total Organic Carbon	3,870		10	30.0	mg/Kg	1	4/11/00 11:30:00 AM

ifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Lab Order: 0004192
Client: PDC Laboratories
Project: 00041416-1-2/00041417-1-2-3

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0004192-01A	00041416-1 grab	4/3/00 10:25:00 AM	Soil	TOTAL ORGANIC CARBON			4/11/00
0004192-02A	00041416-2 grab	4/3/00 11:45:00 AM		TOTAL ORGANIC CARBON			4/11/00
0004192-03A	00041417-1 grab	4/4/00 3:50:00 PM		TOTAL ORGANIC CARBON			4/11/00
0004192-04A	00041417-2 grab	4/5/00 10:50:00 AM		TOTAL ORGANIC CARBON			4/11/00
0004192-05A	00041417-3 grab	4/5/00 11:15:00 AM		TOTAL ORGANIC CARBON			4/11/00

PDC LABORATORIES, INC.
2231 T ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1 [redacted]

PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
PHONE NUMBER	FAX NUMBER	DATE SHIPPED

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER: _____

3 [redacted]

4 (FOR LAB USE ONLY)
LOGIN # 0004 1447-3 TCMP
LOGGED BY: _____
LAB PROJ. # _____
TEMPLATE: _____
PROJ. MGR.: _____

2

								TOTAL ORGANIC CARBON	CATION EXCHANGE CAPACITY	REMARKS
EX-5	72-73'	4-4-00	3:50p	X		SOIL	1	X	X	
EX-5	82-83'	4-5-00	10:50a	X		SOIL	1	X	X	
EX-5	91.5	4-5	16:15	X		SOIL	1	X	X	

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE: PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7 [redacted]

RELINQUISHED BY: (SIGNATURE) [signature]
DATE _____
TIME _____

RECEIVED BY: (SIGNATURE) [signature] J. Jeff Weaver
DATE 4-5-00
TIME 2:05

RECEIVED AT LAB BY: (SIGNATURE) [signature] Kathy Boddie
DATE 4-6-00
TIME 8:45 am

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 8 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
BOTTLES RECEIVED IN GOOD CONDITION Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME Y OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) Y OR N

PAGE _____ OF _____

PDC Laboratories, Inc.
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(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

Report Cover Page

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 06-Apr-00
Date Reported: 19-Apr-00
PO #: Clinton

Login No. 00041416

This report includes information regarding the following described samples as received by the laboratory and is only valid for the parameters tested. This report contains 2 results page(s) not including the cover page(s).

Sample No.	Client ID	Site	Locator	Tests/Services
00041416-1	91-118.02	EX-6 31'	GRAB	
				Cation Exchange Capacity
				Total Organic Carbon
00041416-2	91-118.02	EX-6 52'-53'	GRAB	
				Cation Exchange Capacity
				Total Organic Carbon

Certified by: Dorothy W. Rothert
Dorothy W. Rothert, Project Manager

PDC Laboratories participates in the following laboratory accreditation/certification and proficiency programs. Endorsement by the Federal or State Government or their agencies is not implied.

State of Illinois Chemical Analysis in Drinking Water Accredited Lab. No. 100230
State of Illinois Bacteriological Analysis in Drinking Water Certified Lab Registry No. 17533
State of Arkansas Certified Wastewater and Hazardous Waste Lab
State of Indiana Certified Drinking Water Lab No. C-IL-04
State of Iowa Certified Wastewater Lab No. 240
American Industrial Hygiene Association Bulk/Air Asbestos Proficiency Program Lab ID No. 101206
State of North Dakota Wastewater and Hazardous Waste CertifiedLab No. R-094
State of Wisconsin Certified Wastewater and Hazardous Waste Lab ID No. 998294430
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Laboratory Results

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 06-Apr-00
Date Reported: 19-Apr-00
PO #: Clinton
PDC Cust. # : 280105

Login No. 00041416

Sample No: 00041416-1
Client ID: 91-118.02
Site: EX-6 31'
Locator: GRAB
Collect Date: 03-APR-00 10:25

Parameter	Result	Units	Date	By
4-846 METHOD 9081				
Cationic Exchange Capacity	2.60	meq / 100g	13-Apr-00 19:00	EKL
SUBCONTRACTED - Report Attached				
Carbon, Total Organic				

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Laboratory Results

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 06-Apr-00
Date Reported: 19-Apr-00
PO #: Clinton
PDC Cust. # : 280105

Login No. 00041416

Sample No: 00041416-2
Client ID: 91-118.02
Site: EX-6 52'-53'
Locator: GRAB
Collect Date: 03-APR-00 11:45

Parameter	Result	Units	Date	By
SW-846 METHOD 9081				
Cationic Exchange Capacity	1.38	meq / 100g	13-Apr-00 19:00	EKL
SUBCONTRACTED - Report Attached				
Carbon, Total Organic				

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2231 R ALTORFER DRIVE
PEORIA, IL 61615
PHONE # 309-692-9688
FAX # 309-692-9689

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

1

PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
PHONE NUMBER	FAX NUMBER	DATE SHIPPED

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER: _____

3

4 (FOR LAB USE ONLY)
LOGIN # 0004141462
LOGGED BY: Kmp
LAB PROJ. # _____
TEMPLATE: _____
PROJ. MGR.: _____

2

							TOTAL ORGANIC CARB	CATION/EXCHANGE C	REMARKS
BORING EX-16 31'	4-3-2000	10:25	X		SOIL	1			
BORING EX-16 52'-53'	4-3-2000	11:45	X		SOIL	1			

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE: PHONE # IF DIFFERENT FROM ABOVE:

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7

RELINQUISHED BY: (SIGNATURE) DATE TIME

RECEIVED BY: (SIGNATURE) DATE 4-5-00 TIME 2.03
RECEIVED AT LAB BY: (SIGNATURE) Kathy Boddie DATE 4-6-00 TIME 8:45 AM

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 8 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
BOTTLES RECEIVED IN GOOD CONDITION Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME Y OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) Y OR N

PAGE _____ OF _____

PDC Laboratories, Inc.
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(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

Report Cover Page

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 31-Mar-00
Date Reported: 19-Apr-00
PO #: Clinton

Login No. 00033203

This report includes information regarding the following described samples as received by the laboratory and is only valid for the parameters tested. This report contains 2 results page(s) not including the cover page(s).

Sample No.	Client ID	Site	Location	Tests/Services
00033203-1	91-118.02	EX-7B @ 31'	GRAB	
				Cation Exchange Capacity
				Total Organic Carbon
00033203-2	91-118.02	EX-7B @ 46'	GRAB	
				Cation Exchange Capacity
				Total Organic Carbon

Certified by: Dorothy W. Rothert
Dorothy W. Rothert, Project Manager

PDC Laboratories participates in the following laboratory accreditation/certification and proficiency programs. Endorsement by the Federal or State Government or their agencies is not implied.

State of Illinois Chemical Analysis in Drinking Water Accredited Lab. No. 100230
State of Illinois Bacteriological Analysis in Drinking Water Certified Lab Registry No. 17533
State of Arkansas Certified Wastewater and Hazardous Waste Lab
State of Indiana Certified Drinking Water Lab No. C-IL-04
State of Iowa Certified Wastewater Lab No. 240
American Industrial Hygiene Association Bulk/Air Asbestos Proficiency Program Lab ID No. 101206
State of North Dakota Wastewater and Hazardous Waste CertifiedLab No. R-094
State of Wisconsin Certified Wastewater and Hazardous Waste Lab ID No. 998294430
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(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

Laboratory Results

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 31-Mar-00
Date Reported: 19-Apr-00
PO #: Clinton
PDC Cust. # : 280105

Login No. 00033203

Sample No: 00033203-1
Client ID: 91-118.02
Site: EX-7B @ 31'
Locator: GRAB
Collect Date: 30-MAR-00 11:30

Parameter	Result	Units	Date	By
W-846 METHOD 9081				
Cationic Exchange Capacity	2.25	meq / 100g	13-Apr-00 19:00	EKL
SUBCONTRACTED - Report Attached				
Carbon, Total Organic				

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P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

Laboratory Results

Clinton Landfill
c/o Clinton Landfill
PO Box 9071
Peoria, IL 61612

Attn: Mr. Dennis Porter

Date Received: 31-Mar-00
Date Reported: 19-Apr-00
PO #: Clinton
PDC Cust. # : 280105

Login No. 00033203

Sample No: 00033203-2
Client ID: 91-118.02
Site: EX-7B @ 46'
Locator: GRAB
Collect Date: 30-MAR-00 13:35

Parameter	Result	Units	Date	By
SW-846 METHOD 9081				
Cationic Exchange Capacity	0.950	meq / 100g	13-Apr-00 19:00	EKL
SUBCONTRACTED - Report Attached				
Carbon, Total Organic				

recycled paper

SUBURBAN LABORATORIES, Inc.

4140 Litt Drive • Hillside, Illinois 60162-1183
Tel. (708) 544-3260 • Toll Free (800) 783-LABS • Fax (708) 544-8587

April 12, 2000

Dorothy W. Rothert
PDC Laboratories
P.O. Box 9071
Peoria, IL 61612-9071
TEL: 309-692-9688
FAX 309-692-9689

RE: Clin-Waste Order No.: 0004047

Dear Dorothy W. Rothert,

Suburban Laboratories, Inc. received 1 sample on 4/4/00 9:30:00 AM for the analyses presented in the following report.

There were no problems with the analyses and all the data for the associated QC met EPA or laboratory specifications except where noted in the case narrative.

This report consists of this final report of laboratory analysis, and any accompanying documentation including, but not limited to, chain of custody records, raw data, and letters of explanation or reliance. This report may not be reproduced, except in full, without the prior written approval of Suburban Laboratories, Inc.

If you have any questions regarding these test results, please call your customer service representative at (708) 544-3260.

Sincerely,

Mike Chung
Laboratory Director

CC:

Suburban Laboratories, Inc. **Date:** *12-Apr-00*

CLIENT: PDC Laboratories
Project: Clin-Waste
Lab Order: 0004047

CASE NARRATIVE

General Comments:
- All results reported in wet weight unless otherwise indicated. (dry = Dry Weight)
- Sample results relate only to the analytes of interest tested and to sample as received by the laboratory.
- Environmental compliance sample results meet the requirements of Part 186 unless otherwise indicated.
- Accreditation by the State of Illinois is not an endorsement or a guarantee of the validity of data generated. For more information about the laboratories' scope of accreditation, please contact Suburban or the Agency.
- Limit: The lowest concentration that can be reliably achieved within specified requirements of precision and accuracy during routine laboratory operating conditions. Limit may also represent a project or client specific reporting level.

Data Qualifiers:
U: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ: The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limits approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
H: The holding time for the sample has been exceeded.
R: The sample results are rejected due to serious deficiencies in the ability to analyze the sample and/or meet quality control criteria. The presence or absence of the analyte cannot be verified.
I: Invalid; CS: Compound Screened; TNTC: Too Numerous to Count

Method References:
E: USEPA Methods for the Determination of Inorganic Substances in Environmental Samples; Methods for Chemical Analysis of Water and Wastes; Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, 40CFR136 App A; Methods for the Determination of Metals in Environmental Samples; Methods for the Determination of Organic Compounds in Drinking Water
SW: USEPA, Test Methods for Evaluating Solid Waste, SW-846, 3rd Ed, includes Updates I-III
M: APHA, Standard Methods for the Examination of Water and Wastewater, 18th & 19th Ed.
D: ASTM, Annual Book of Standards F: NAS, Food Chemicals Codex (FCC), 3rd Edition
B: US FDA Bacteriological Analytical Manual (BAM) 8th Edition, 1995
USP: US Pharmacopoeia, 22nd Revision, 1990

Project Specific Comments:
None

burban Laboratories, Inc.

Date: *12-Apr-00*

CLIENT:	PDC Laboratories	**Client Sample ID:**	00033203-1 grab
Lab Order:	0004047	**Tag Number:**	
Project:	Clin-Waste	**Collection Date:**	3/30/00 11:30:00 AM
Lab ID:	0004047-001A	**Matrix:**	SOIL

Analyses	Result	Qual	MDL	Limit	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON		**SW9060**					Analyst: **SH**
Total Organic Carbon	150		10	30.0	mg/Kg	1	4/11/00 11:30:00 AM

iers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

ɔurban Laboratories, Inc.

Date: *12-Apr-00*

CLIENT:	PDC Laboratories	**Client Sample ID:**	00033203-2 grab
Lab Order:	0004047	**Tag Number:**	
Project:	Clin-Waste	**Collection Date:**	3/30/00 1:35:00 PM
Lab ID:	0004047-002A	**Matrix:**	SOIL

Analyses	Result	Qual	MDL	Limit	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON		**SW9060**					Analyst: **SH**
Total Organic Carbon	3,200		10	30.0	mg/Kg	1	4/11/00 11:30:00 AM

lifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Lab Order: 0004047
Client: PDC Laboratories
Project: Clin-Waste

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0004047-001A	00033203-1 grab	3/30/00 11:30:00 AM	Soil	TOTAL ORGANIC CARBON			4/11/00
0004047-002A	00033203-2 grab	3/30/00 1:35:00 PM		TOTAL ORGANIC CARBON			4/11/00

PDC LABORATORIES, INC.
2231 T ALTORFER DRIVE
PEORIA, IL 61615
PHONE # 309-692-9688
FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

ALL SHADED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT)

(1)

PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
91-118.02		
PHONE NUMBER	**FAX NUMBER**	**DATE SHIPPED**

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
OTHER: _____

(2) (3)

							Total Organic Carbon		Cation Exchange Capacity (CEC)					REMARKS
EX-7B @ 31'	3-30	11:30	X		Soil	1	X		X					
EX-7B @ 46'	3-30	13:35	X		Soil	1	X		X					

(4) (FOR LAB USE ONLY)
LOGIN # 02033203
LOGGED BY: AM
LAB PROJ. # _____
TEMPLATE: _____
PROJ. MGR.: _____

(5) TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE
FAX # IF DIFFERENT FROM ABOVE: PHONE # IF DIFFERENT FROM ABOVE:

(6) *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

(7)

RELINQUISHED BY: (SIGNATURE)	DATE	RECEIVED BY: (SIGNATURE)	DATE
Kathy Porter	3-31-00		
	TIME 0910		TIME
		RECEIVED AT LAB BY: (SIGNATURE)	DATE 3/31/00
		J. Stanton	TIME 9:10

(8) COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT	18	°C
CHILL PROCESS STARTED PRIOR TO RECEIPT	Y OR N	
SAMPLE(S) RECEIVED ON ICE	Y OR N	
BOTTLES RECEIVED IN GOOD CONDITION	Y OR N	
BOTTLES FILLED WITH ADEQUATE VOLUME	Y OR N	
SAMPLES RECEIVED WITHIN HOLD TIME(S)	Y OR N	

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CLINTON LANDFILL
SKS No. 07665

Summary of Test Results

Tiskilwa Formation

Sample	EX-10	EX-10	EX-10
Depth	12.5' - 13.5'	31.0' - 33.0'	39' - 41'
LL	24%	–	–
PI	13%	–	–
W	10.8%	13.2%	14.0%
Qu	4.0 TSF	4.2 TSF	2.2 TSF
PP	4.5 TSF	4.0 TSF	3.0 TSF
Organic	–	–	1.7%
Density (Dry)	124.2 $^{lbs}/_{cu.ft.}$	117.0 $^{lbs}/_{cu.ft.}$	111.5 $^{lbs}/_{cu.ft.}$

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SKS NO. 18330
FEBRUARY 26, 2002

CLINTON LANDFILL EXPANSION
LABORATORY TEST RESULTS
SAMPLE EX-11 691.2 -689.2

	TEST	TEST RESULTS
1.	UNCONFINED COMPRESSION TEST	Qu = 3.7 TSF Qp = 4.5+ TSF
2.	ATTERBURG LIMITS	Liquid Limit = 24 Plasticity Index = 12
3.	MOISTURE CONTENT	MC% = 12
4.	DRY DENSITY	gd = 125.0 lbs./cu.ft.

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PDC - Clinton Landfill

05/07/01
SKS NO. 07665

SAMPLE	Ex-6A	Ex-6A	Ex-6A	Ex-6B	Ex-6B	Ex-6B
DEPTH	24.5'-26.5'	26.5'-28.5'	28.5'-30.5'	24.5'-26.5'	26.5'-28.5'	28.5'-30.5'
LL	35.1%	50.1%	27.3%	36.9%	49.1%	27.7%
PI	8.5%	10.8%	11.3%	9.7%	9.5%	12.4%
w	29.5%	46.9%	22.8%	32.0%	42.7%	18.9%
Q_u	1.8tsf	1.6tsf	1.0tsf	1.4tsf	1.3tsf	1.05tsf
ORGANIC	4.0%	13.8%	1.9%	4.8%	15.4%	2.4%

LL = Liquid Limit
PI = Plasticity Index
w = Moisture Content
Q_u = Unconfined Compressive Strength

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MOISTURE CONTENT AND
UNCONFINED COMPRESSIVE
STRENGTH

PROJECT CLI
JOB NUMBER 07665
DATE 5-10-00

SAMPLE NUMBER	EX4/64-66	EX4/79-81	EX5/69-71	EX5/79-81	EX5/90.5-92.5	EX6/32-34
TARE NUMBER	T-1	P-1	P-2	P-3	P-4	
WET SOIL + TARE WT.	76.46	20.59	23.22	24.17	24.50	27.99
DRY SOIL + TARE WT.	69.64	19.12	20.87	22.54	22.81	23.88
WATER WEGHT	6.82	1.47	2.35	1.63	1.69	4.11
TARE WEIGHT	15.56	1.54	1.49	1.56	1.50	1.55
SOIL DRY WEIGHT	54.08	17.58	19.38	20.98	21.31	22.33
PERCENT MIOSTURE	12.6%	8.4%	12.1%	7.8%	7.9%	18.4%
SAMPLE DIAMETER (INCH)	2.83	2.83	2.83	3.28	3.28	2.83
STRAIN AT FAILURE	5%	5%	6%	2%	4%	3%
LOAD IN LBS	850	800	850	1150	1250	650
Qu (PSF)	18332	17254	18139	19046	20280	14314
Qu (TSF)	9.17	8.63	9.07	9.52	10.14	7.16

SAMPLE NUMBER	EX6/49-51	EX7/32-34	EX747-49
TARE NUMBER	T-1	P-1	P-2
WET SOIL + TARE WT.	76.46	20.59	23.22
DRY SOIL + TARE WT.	66.44	17.74	21.95
WATER WEGHT	10.02	2.85	1.27
TARE WEIGHT	15.56	1.54	1.49
SOIL DRY WEIGHT	50.88	16.2	20.46
PERCENT MIOSTURE	19.7%	17.6%	6.2%
SAMPLE DIAMETER (INCH)	2.83	2.83	2.83
STRAIN AT FAILURE	2%	8%	2%
LOAD IN LBS	1250	600	1250
Qu (PSF)	27810	12532	27810
Qu (TSF)	13.90	6.27	13.90

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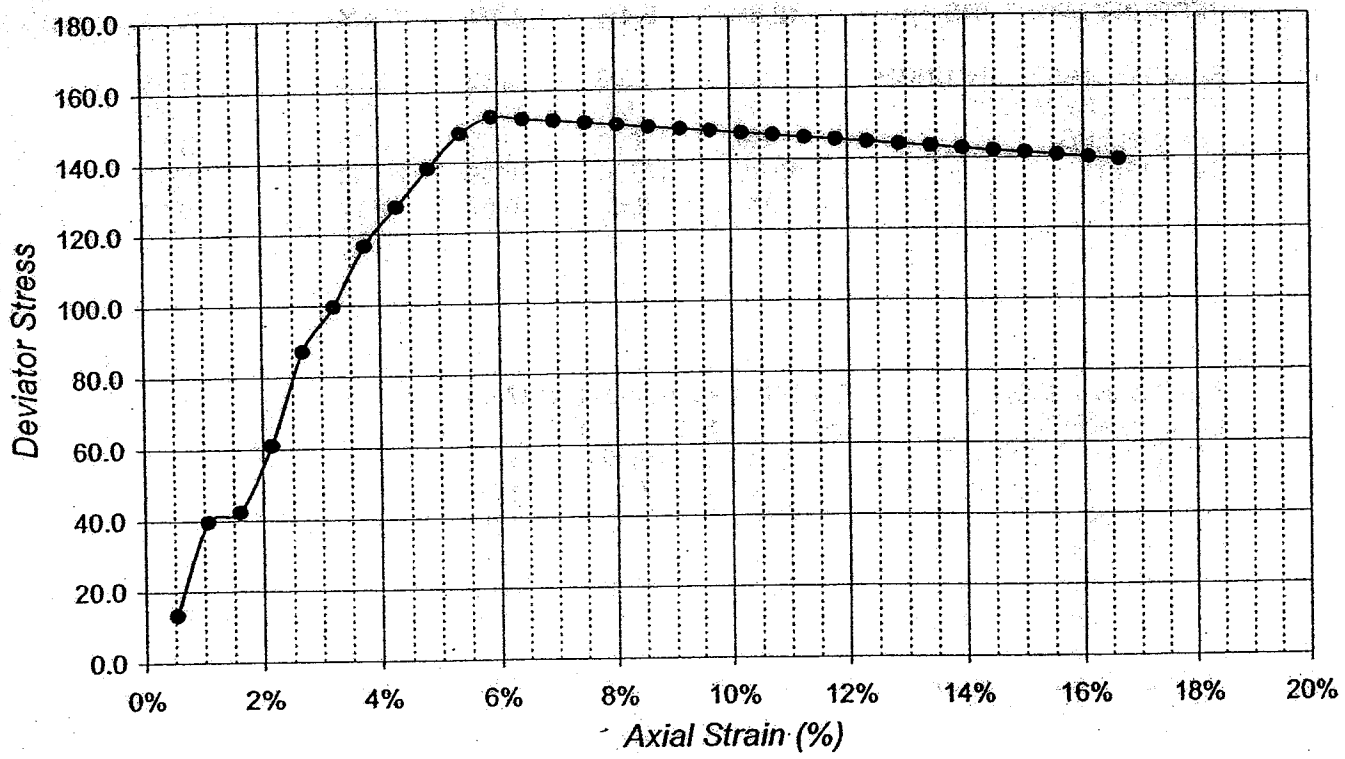
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 28-Apr-2003

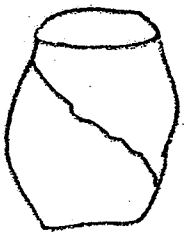
Boring:	EX-13	Sample Type	3" S.T.	Height to Diameter Ratio:	0.51
Depth:	12'	Sample Weight (gm):		Strain Rate (in/min):	0.060
Elevation:	710.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	152.7
		Height (in)	5.590	Strain at Failure (%):	5.9%

Soil Type: Brown Tiskilwa - Sandy, Lean Clay, Trace Gravel (CL)



Liquid Limit	26	Water Content:	12.1%
Plastic Limit:	13	Dry Density, yd (pcf):	121.9
Plasticity Index:	13		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 6.9 psi - (1000 psf) applied to sample.

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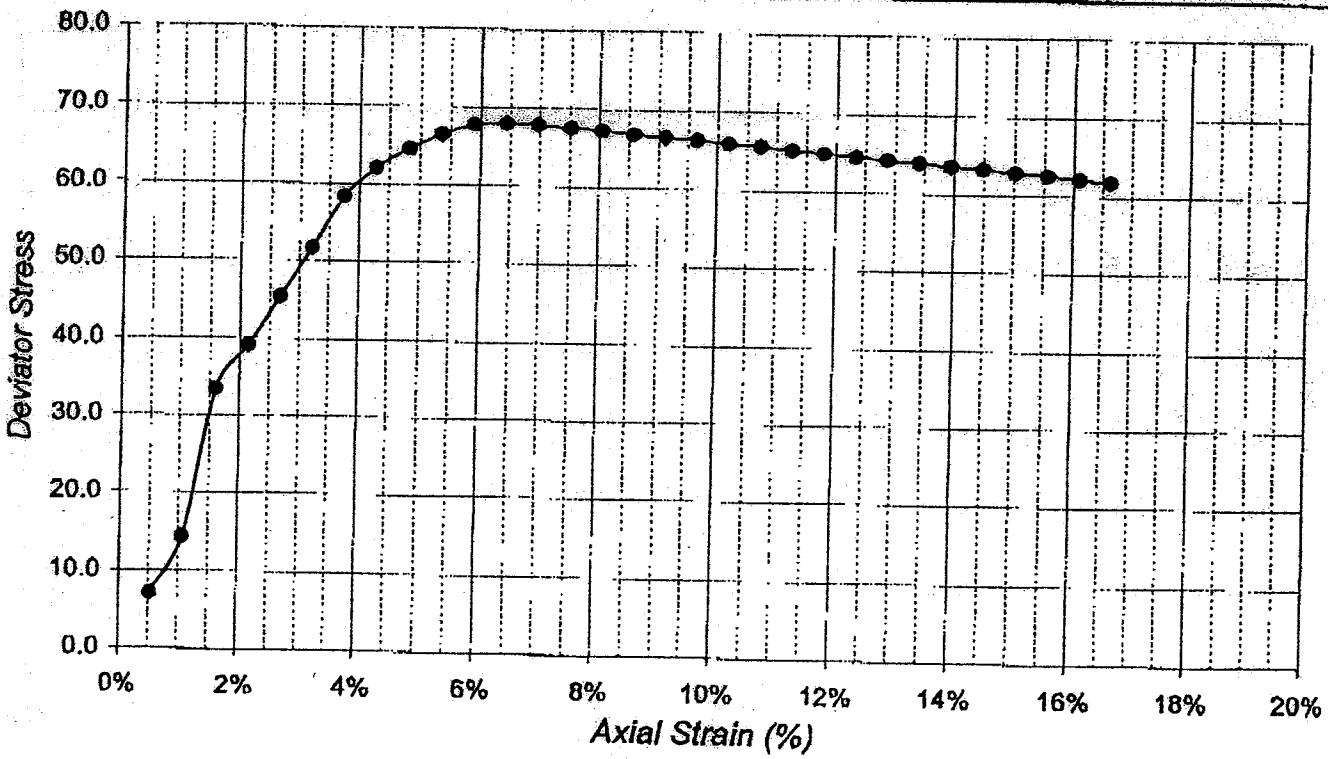
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 5-May-2003

Boring:	EX-13	Sample Type	3" S.T.	Height to Diameter Ratio:	0.51
Depth:	12'	Sample Weight (gm):		Strain Rate (in/min):	0.060
Elevation:	710.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	68.0
		Height (in)	5.590	Strain at Failure (%):	6.4%

Soil Type: Brown Tiskilwa - Sandy, Lean Clay, Trace Gravel (CL)



Liquid Limit	26	Water Content:	12.1%
Plastic Limit:	13	Dry Density, yd (pcf):	121.9
Plasticity Index:	13		

Sketch of Specimen After Failure

Remarks:

Confining pressure of 6.9 psi - (1000 psf) applied to sample.

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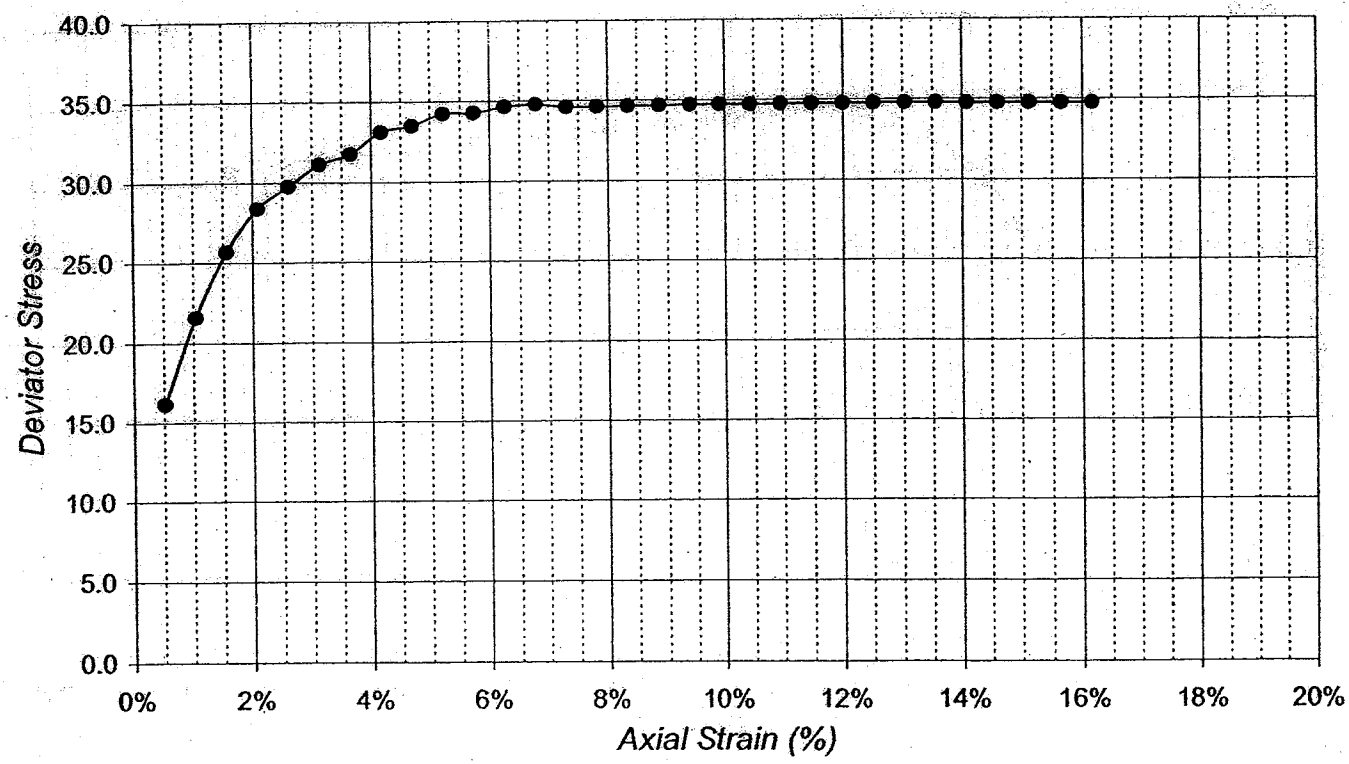
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3 | Project No.: 18330.1
Client: PDC Technical Services, Inc. | Date: 28-Apr-2003

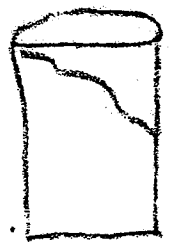
Boring:	EX-17	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	19.5'	Sample Weight (gm):		Strain Rate (in/min):	0.060
Elevation:	695.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	34.8
		Height (in)	5.750	Strain at Failure (%):	6.8%

Soil Type: Brown Tiskilwa - Lean Clay, with Sand, Trace Gravel - CL



Liquid Limit	30	Water Content:	16.0%
Plastic Limit:	12	Dry Density, γd (pcf):	117.4
Plasticity Index:	18		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 13.9 psi - (20,000 psf) applied to sample.

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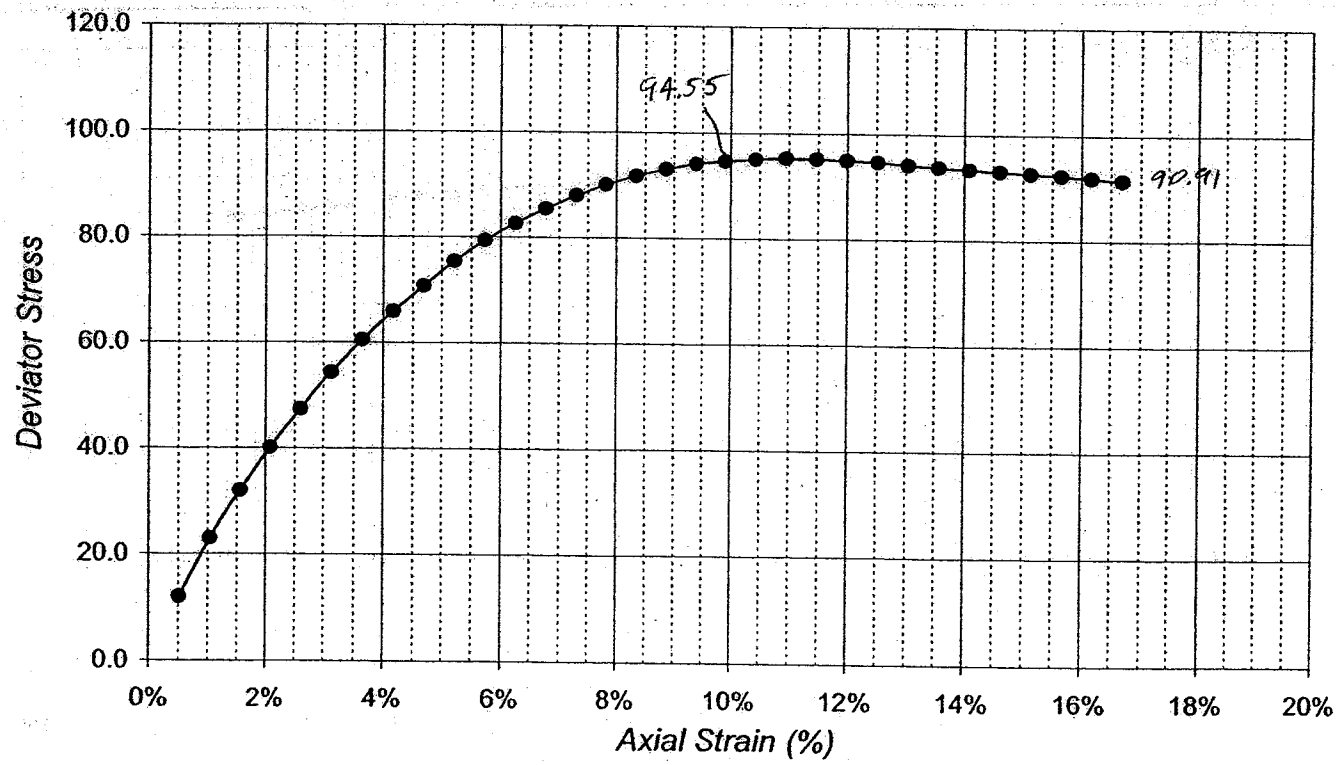
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	29-Apr-2003

Boring:	EX-21	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	13'	Sample Weight (gm):	1389.00	Strain Rate (in/min):	0.060
Elevation:	688.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	95.2
		Height (in)	5.750	Strain at Failure (%):	11.0%

Soil Type: Brown Tiskilwa - Lean Clay w/Sand, Little Gravel

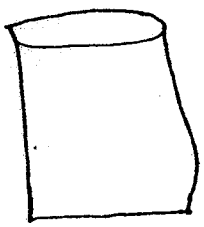


Liquid Limit	27	Water Content:	12.1%
Plastic Limit:	10	Dry Density, γd (pcf):	
Plasticity Index:	17		

Remarks:

Confining pressure of 27.77 psi - (4000 psf) applied to sample.

Sketch of Specimen After Failure



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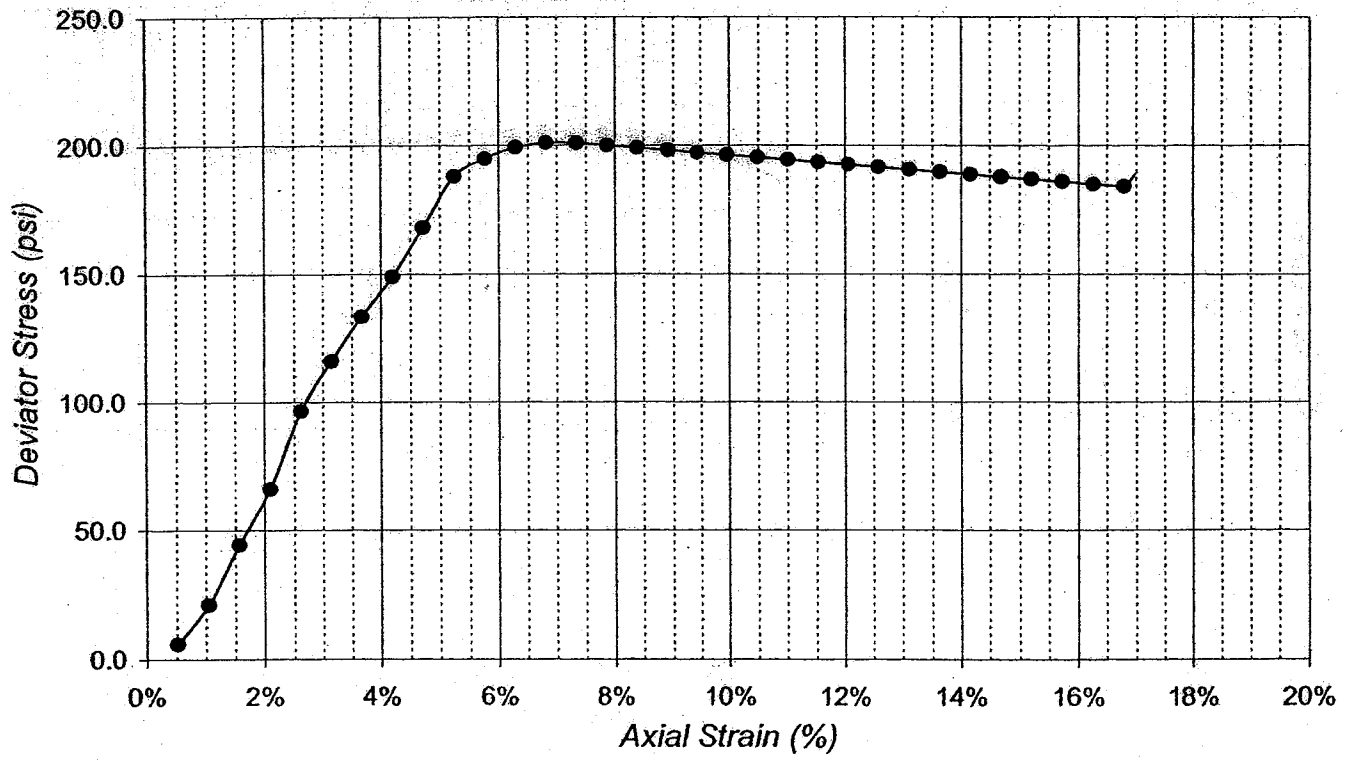
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	29-Apr-2003

Boring:	EX-24	Sample Type	3" S.T.	Height to Diameter Ratio:	0.50
Depth:	11'	Sample Weight (gm):		Strain Rate (in/min):	0.060
Elevation:	714.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	200.9
		Height (in)	5.718	Strain at Failure (%):	6.8%

Soil Type: Sandy Lean Clay w/Trace Gravel - CL - Brown Tiskilwa

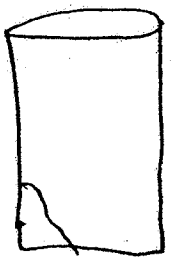


Liquid Limit:	25	Water Content:	14.8%
Plastic Limit:	12	Dry Density, yd (pcf):	117.9
Plasticity Index:	12		

Remarks:

Confining pressure of 55.6 psi (8000 psf) applied to sample.

Sketch of Specimen After Failure



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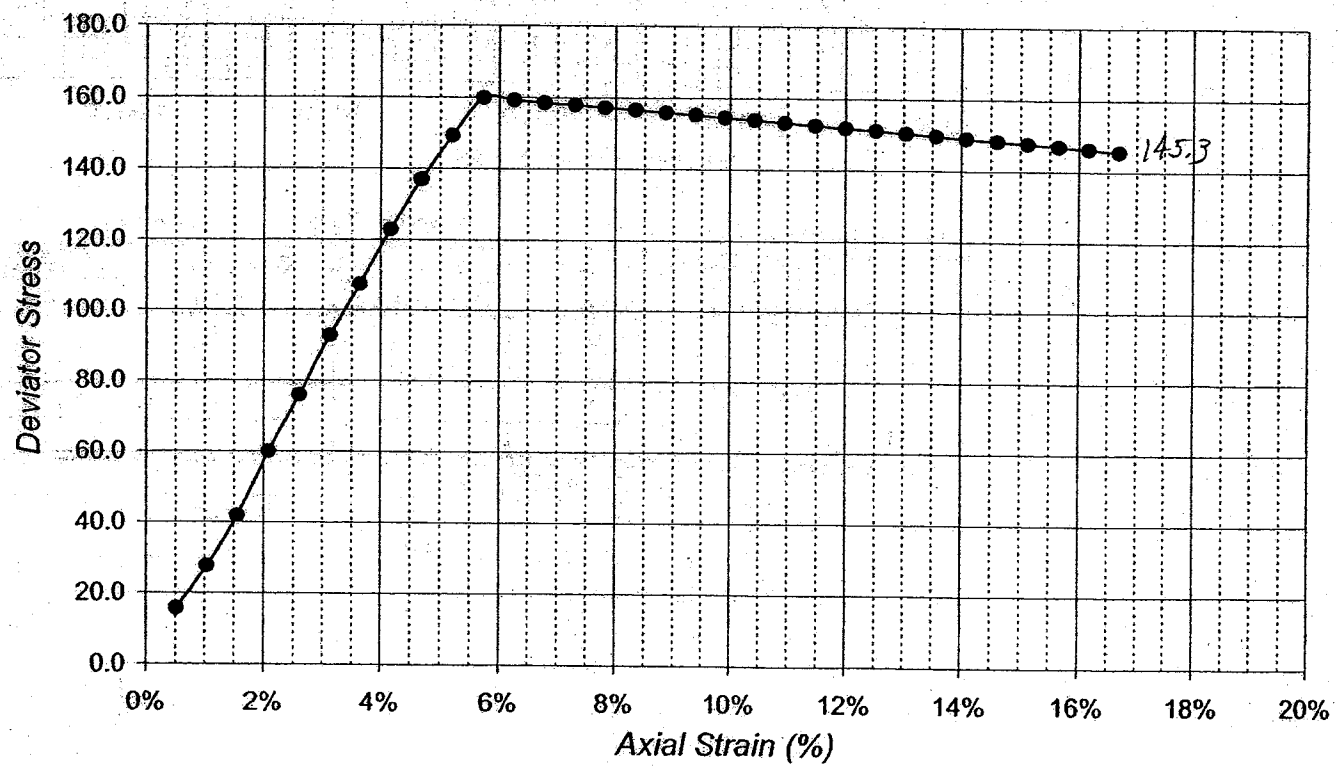
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	29-Apr-2003

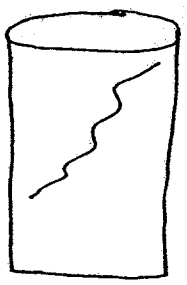
Boring:	EX-24	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	31.0'	Sample Weight (gm):	1339.40	Strain Rate (in/min):	0.060
Elevation:	695.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	159.9
		Height (in)	5.750	Strain at Failure (%):	5.7%

Soil Type: Gray Tiskilwa - Sandy Lean Clay, Little Gravel - CL



Liquid Limit	23	Water Content:	11.9%
Plastic Limit:	11	Dry Density, γd (pcf):	126.4
Plasticity Index:	12		

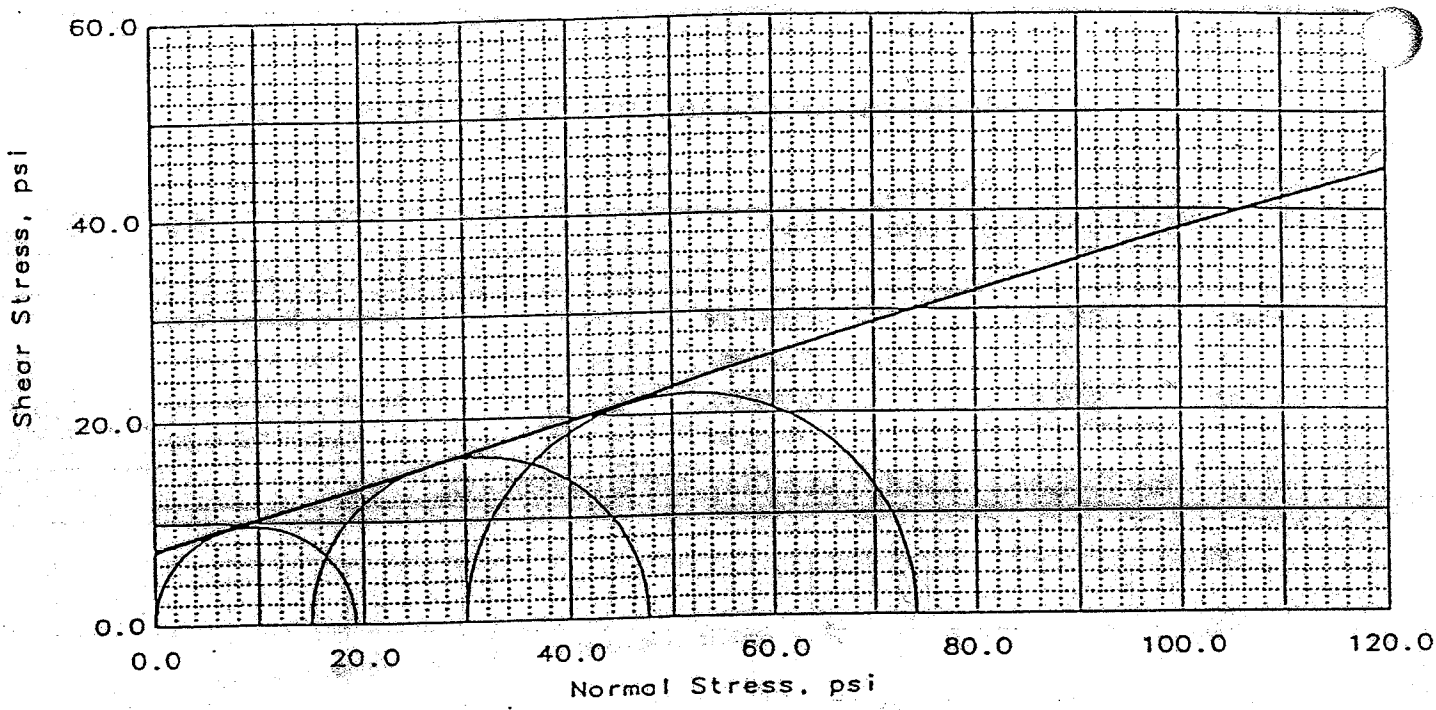
Sketch of Specimen After Failure



Remarks:

Confining pressure of 111.11 psi (16,000 psf) applied to sample.

TRIAXIAL SHEAR TEST REPORT



Type of Test: Unconsolidated undrained Sample Type: 3" Shelby Tube

No.	FLUID PRESS. psi		MAX. STRENGTH psi		ULT. STRENGTH psi		PRINCIPAL STRESSES AT FAILURE psi	
	Cell	Back	Deviator	Pore	Deviator	Pore	σ_1	σ_3
1	0	0	19.2	0.0	19.2	0.0	19.2	
2	15	0	32.5	0.0	26.0	0.0	47.5	15.0
3	30	0	44.0	0.0	44.0	0.0	74.0	30.0

No.	SAMPLE PARAMETERS						
	% Water Content	Dry Dens. pcf	Saturation	Void Ratio	Diameter in	Height in	Time to fail minutes
1	12.0	125.1	95.5 %	0.3371	2.83	5.60	14
2	11.1	127.9	96.5 %	0.3077	2.83	5.60	9
3	11.0	126.7	92.2 %	0.3203	2.84	5.60	19

MOHR-COULOMB STRENGTH PARAMETERS

Total

Strength intercept, c= 7.2 psi

Friction angle, ϕ = 17.1 deg

Tangent ϕ = 0.31

MATERIAL DESCRIPTION

Brown Weathered

Glacial SILTY CLAY Till

LL= PI=

CLIENT: Peoria Disposal Company
Peoria, Illinois

PROJECT: CLINTON LANDFILL
Peoria, Illinois

LOCATION: CLG 1 and 2; 12'-16'
Brown Silty Clay

DATE: 9-20-93

File: CLIN1

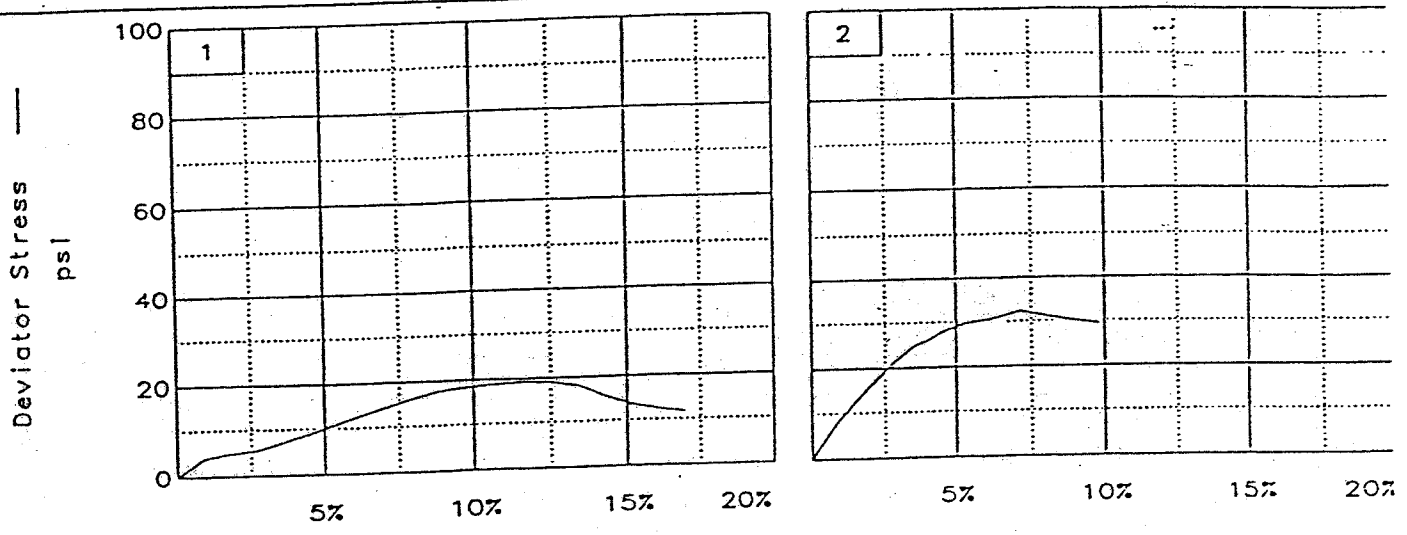
REMARKS:

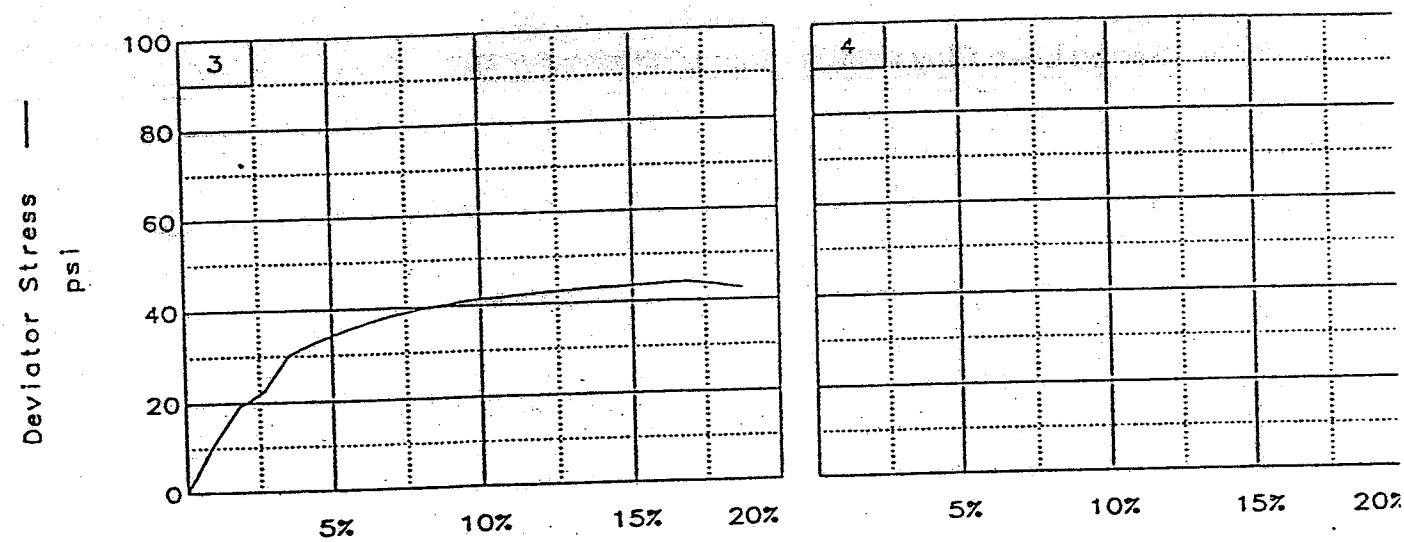
TRIAXIAL SHEAR TEST REPORT

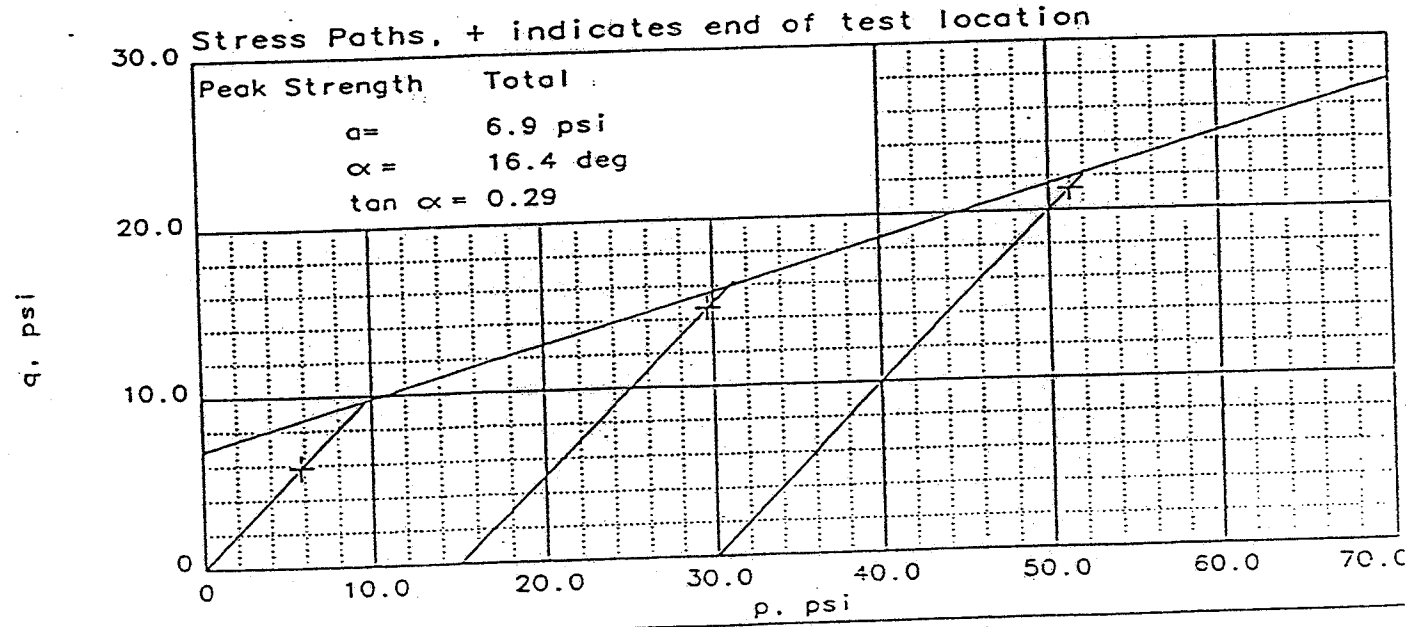
WHITNEY & ASSOCIATES

Proj. No.:

  Fig. No. ——







Client: Peoria Disposal Company Peoria, Illinois
Project: CLINTON LANDFILL Peoria, Illinois
Location: CLG 1 and 2; 12'-16'
File: CLIN1 Project No.:

 Fig. No. ——

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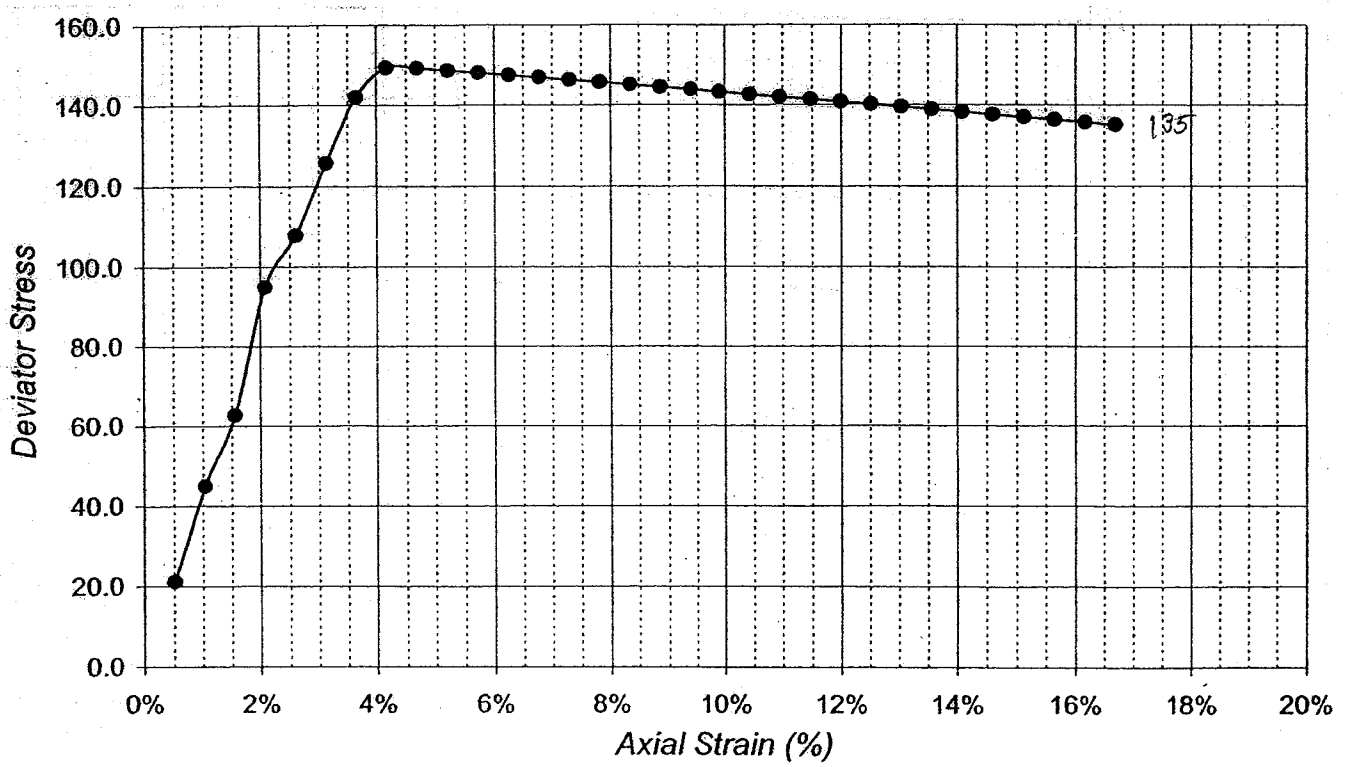
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	29-Apr-2003

Boring:	EX-24	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	55'	Sample Weight (gm):		Strain Rate (in/min):	0.060
Elevation:	671.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	149.3
		Height (in)	5.750	Strain at Failure (%):	4.2%

Soil Type: Sandy Lean Clay w/little gravel, ~~Robein/Texana~~ Gray Tuscola

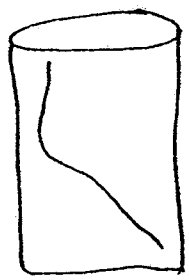


Liquid Limit	20	Water Content:	13.0%
Plastic Limit:	11	Dry Density, yd (pcf):	124.2
Plasticity Index:	9		

Remarks:

Confining pressure of 13.9 psi - (2000 psf) applied to sample.

Sketch of Specimen After Failure



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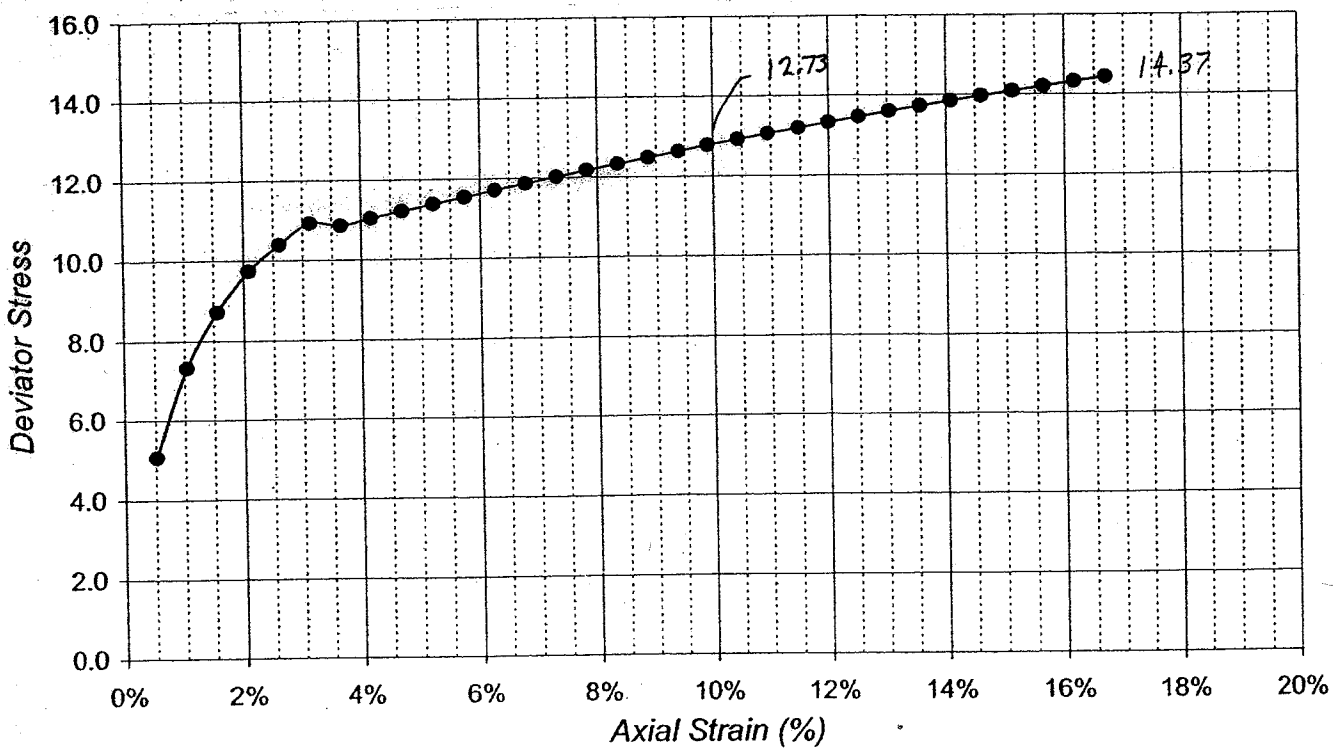
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	29-Apr-2003

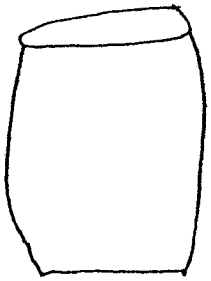
Boring:	EX-21	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	31.0'	Sample Weight (gm):	1074.90	Strain Rate (in/min):	0.060
Elevation:	670.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	14.4
		Height (in)	5.750	Strain at Failure (%):	15.0%

Soil Type: Gray ~~Robein/Roxana~~ Tiskilwa - Sandy Lean Clay, Little Gravel - CL



Liquid Limit	18	Water Content:	
Plastic Limit:	9	Dry Density, γd (pcf):	
Plasticity Index:	9		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 27.77 psi - (4000 psf) applied to sample.

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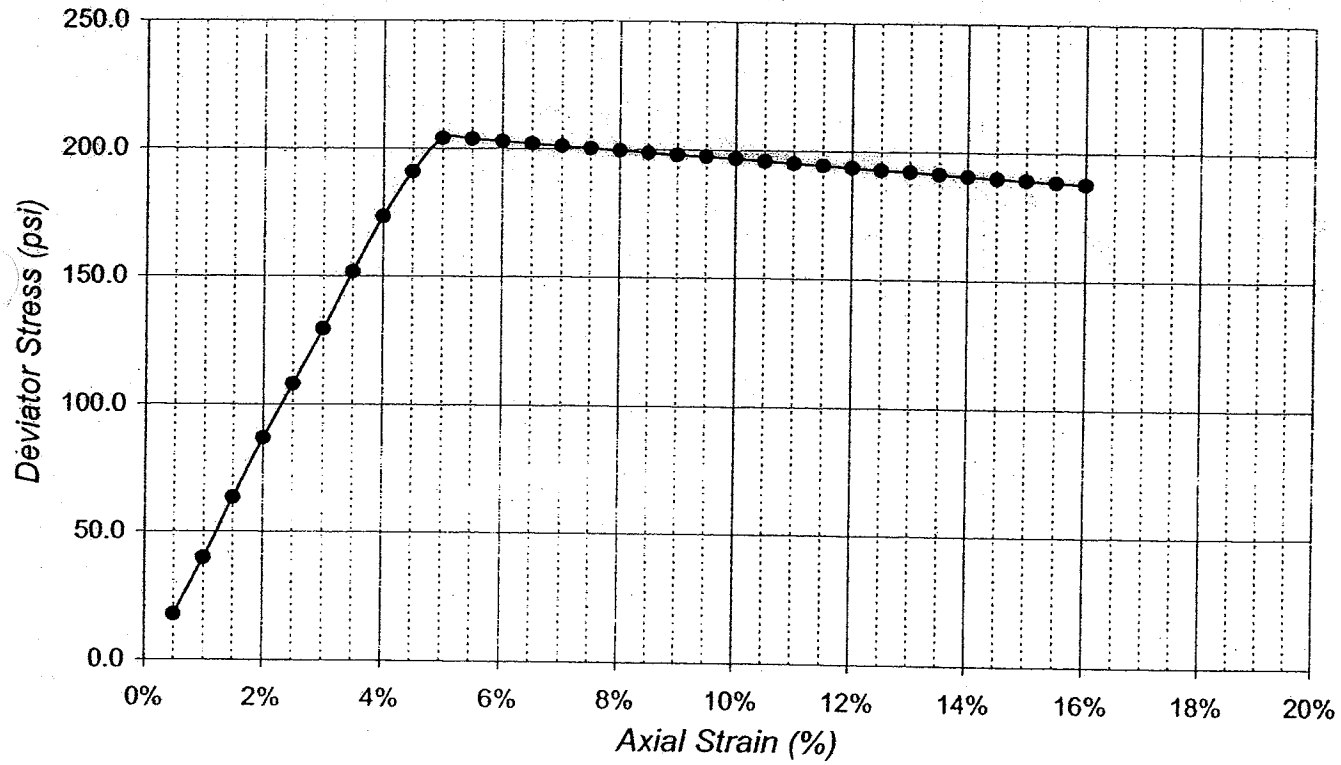
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	28-Apr-2003

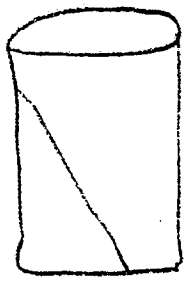
Boring:	EX-13	Sample Type	3" S.T.	Height to Diameter Ratio:	0.47
Depth:	42.0'	Sample Weight (gm):	2.777 lbs.	Strain Rate (in/min):	0.060
Elevation:	680.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	204.0
		Height (in)	6.000	Strain at Failure (%):	5.0%

Soil Type: Gray Tiskilwa - Lean Clay with sand & trace of gravel - CL



Liquid Limit:	22	Water Content:	11.8%
Plastic Limit:	10	Dry Density, γd (pcf):	126.0
Plasticity Index:	12		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 13.9 psi - (2000 psf) applied to sample.

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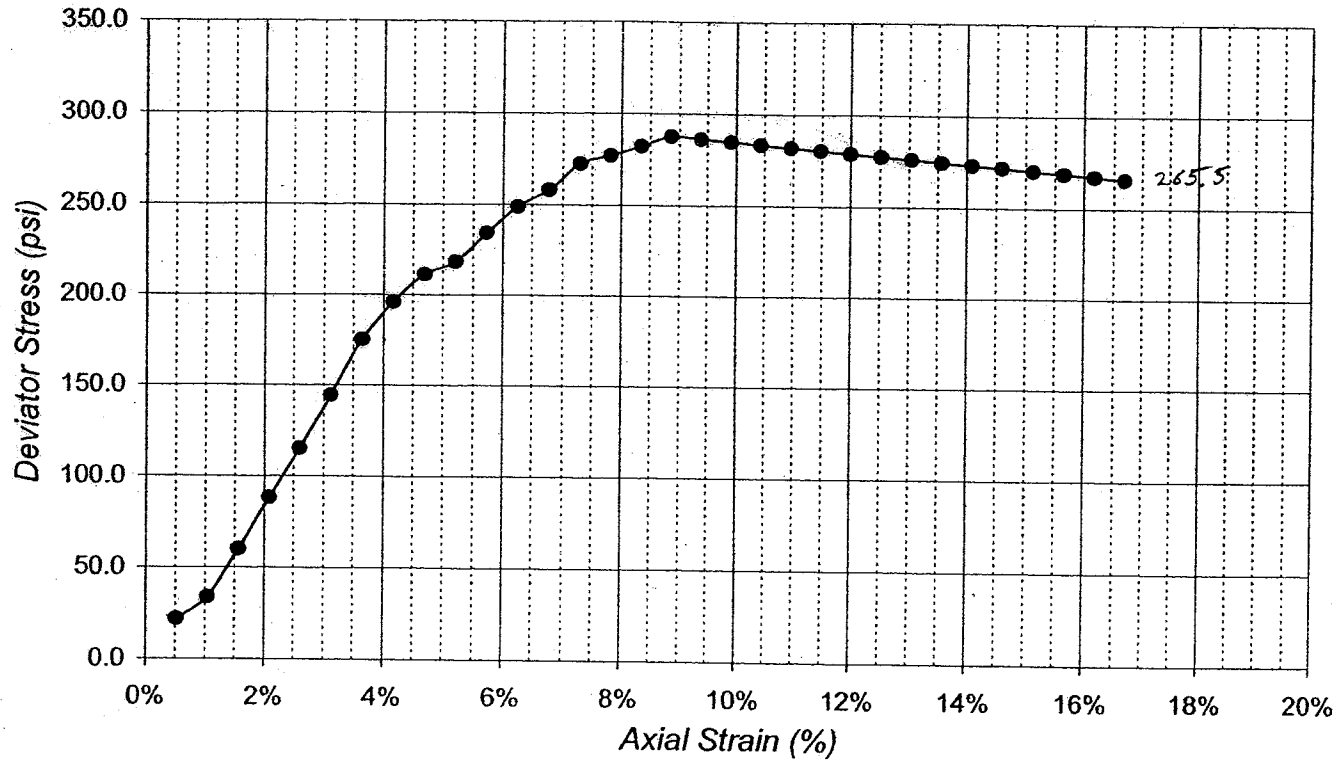
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3 — Project No.: 18330.1
Client: PDC Technical Services, Inc. — Date: 28-Apr-2003

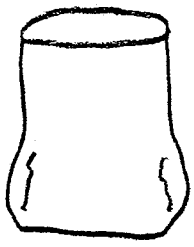
Boring:	EX-17	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	29.5'	Sample Weight (gm):		Strain Rate (in/min):	0.060
Elevation:	685.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	287.4
		Height (in)	5.750	Strain at Failure (%):	8.9%

Soil Type: Gray Tiskilwa - Lean Clay w/Sand & a Little Gravel - CL



Liquid Limit	25	Water Content:	13.9%
Plastic Limit:	12	Dry Density, γd (pcf):	122.6
Plasticity Index:	13		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 27.8 psi - (40,000 psf) applied to sample.

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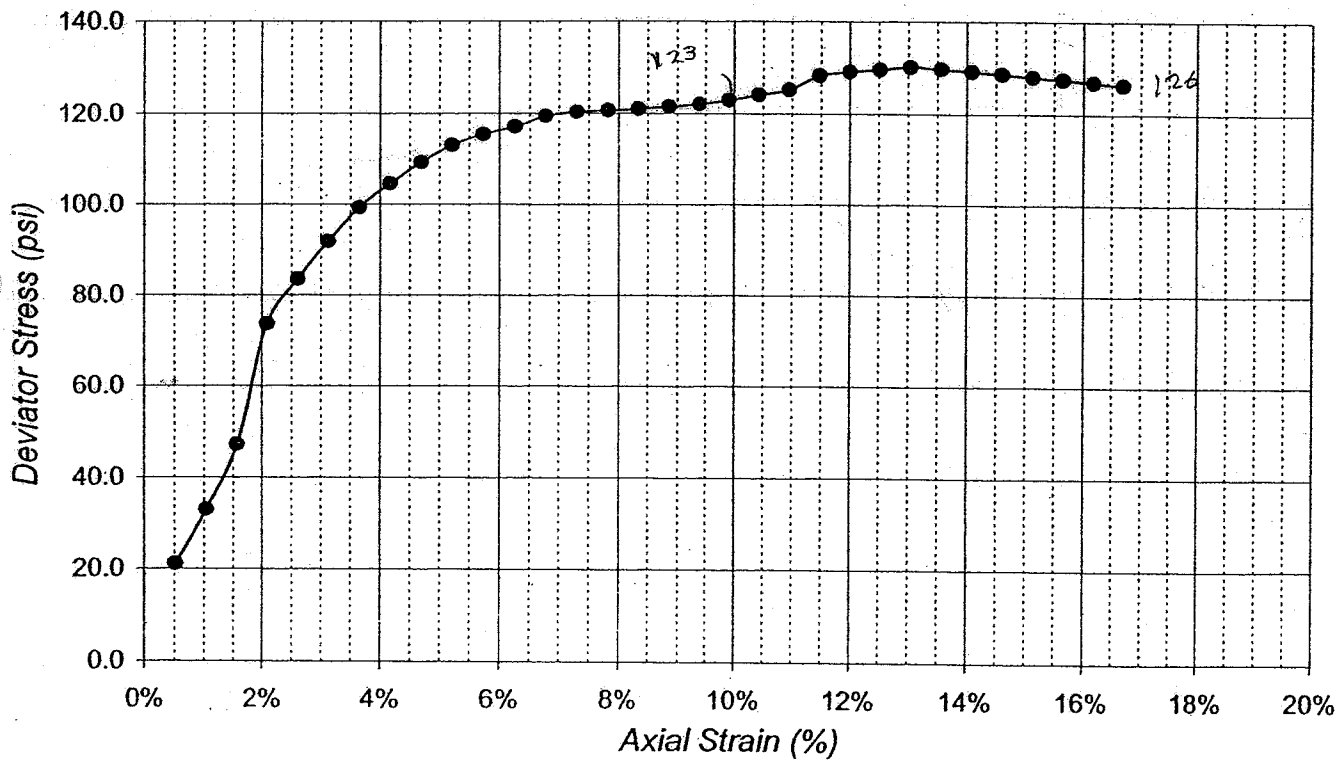
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	28-Apr-2003

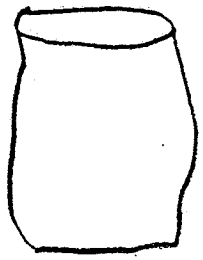
Boring:	EX-19	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	45'	Sample Weight (gm):		Strain Rate (in/min):	0.060
Elevation:	674.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	130.1
		Height (in)	5.750	Strain at Failure (%):	13.0%

Soil Type: Gray Tiskilwa - Lean Clay, with Sand, Little Gravel (CL)



Liquid Limit	25	Water Content:	
Plastic Limit:	12	Dry Density, γd (pcf):	
Plasticity Index:	13		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 55.5 psi - (8000 psf) applied to sample.

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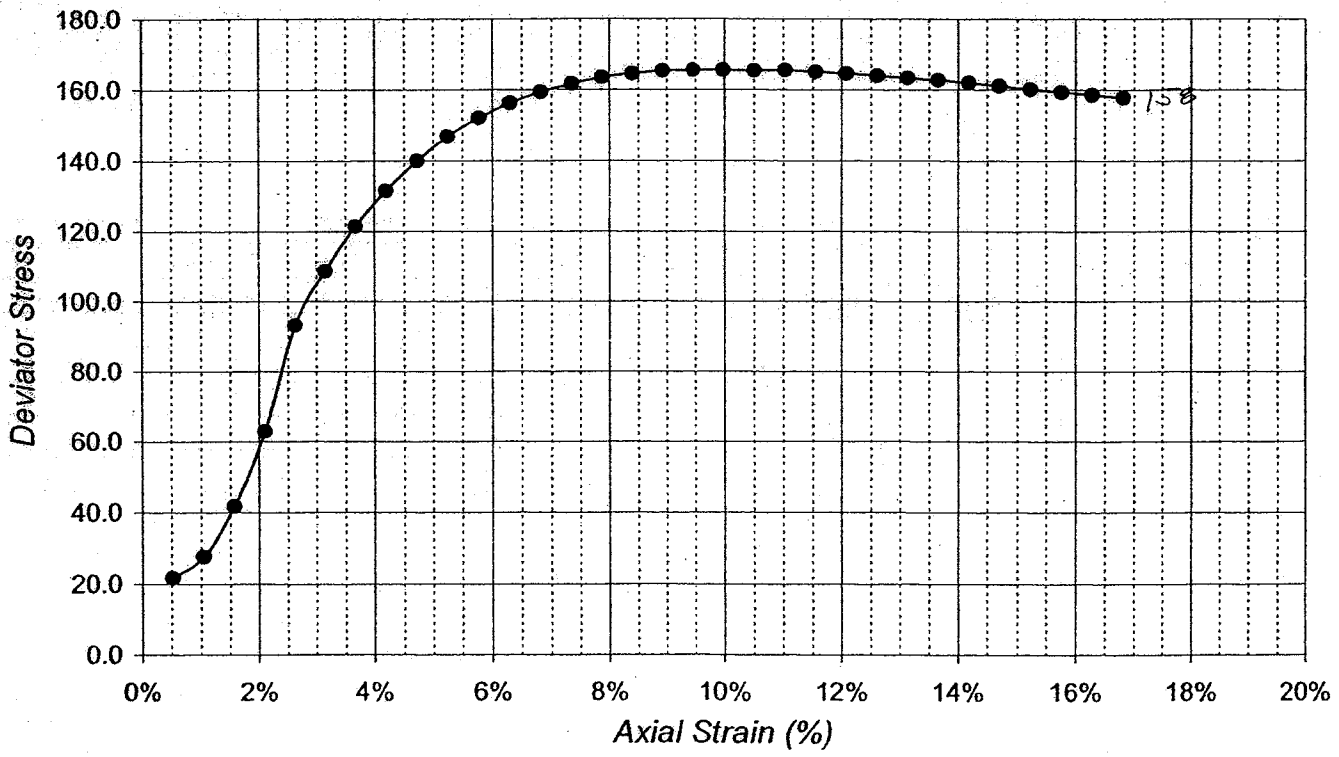
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	29-Apr-2003

Boring:	EX-23	Sample Type	3" S.T.	Height to Diameter Ratio:	0.50
Depth:	34.5	Sample Weight (gm):		Strain Rate (in/min):	0.060
Elevation:	676.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	165.5
		Height (in)	5.710	Strain at Failure (%):	10.0%

Soil Type: Gray Tiskilwa - Sandy Lean Clay, Trace Gravel - CL

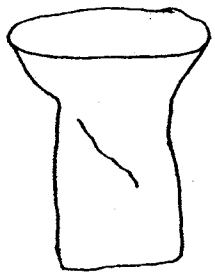


Liquid Limit	28	Water Content:	
Plastic Limit:	13	Dry Density, γd (pcf):	
Plasticity Index:	15		

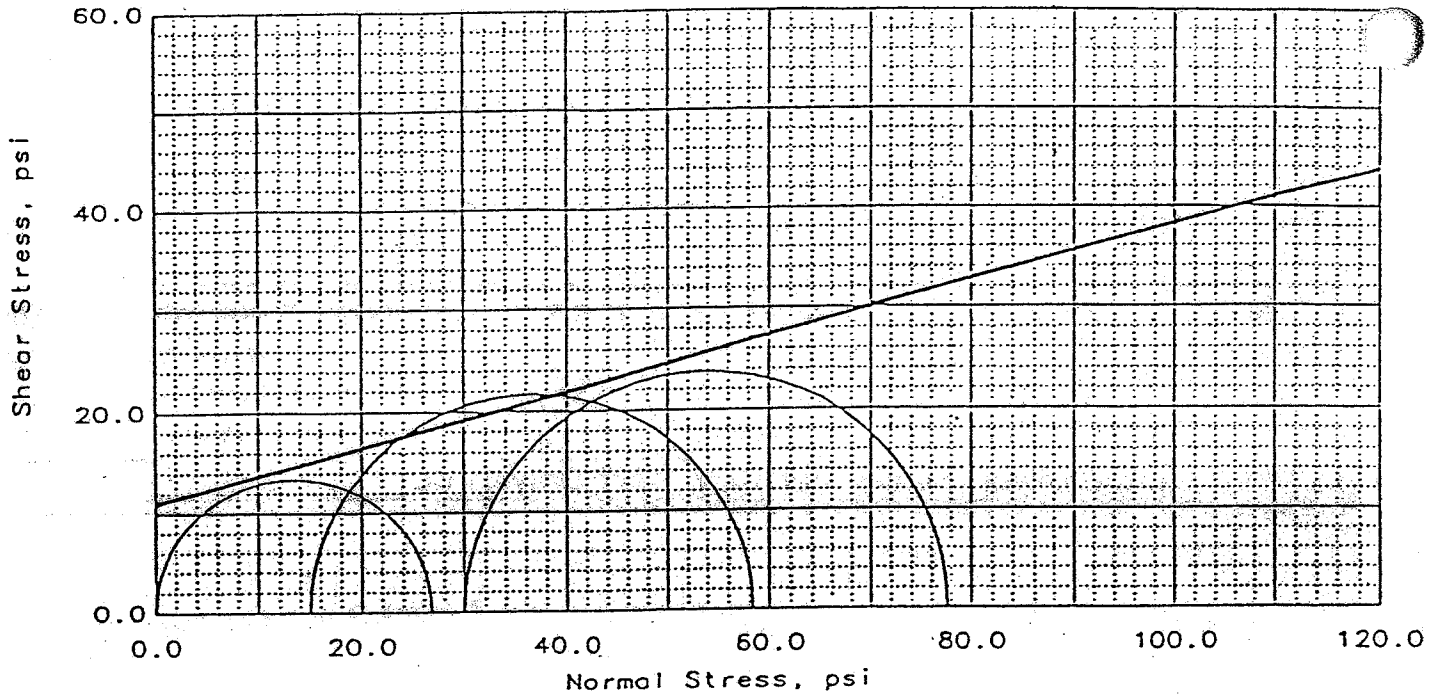
Remarks:

Confining pressure of 83.33 psi - (12,000 psf) applied to sample.

Sketch of Specimen After Failure



TRIAXIAL SHEAR TEST REPORT



Type of Test: Unconsolidated undrained Sample Type: 3" Shelby Tube

No.	FLUID PRESS. psi		MAX. STRENGTH psi		ULT. STRENGTH psi		PRINCIPAL STRESSES AT FAILURE psi	
	Cell	Back	Deviator	Pore	Deviator	Pore	σ_1	
1	0	0	26.8	0.0	26.8	0.0	26.8	
2	15	0	43.4	0.0	43.2	0.0	58.4	15.0
3	30	0	47.6	0.0	47.6	0.0	77.6	30.0

No.	SAMPLE PARAMETERS						
	% Water Content	Dry Dens. pcf	Saturation	Void Ratio	Diameter in	Height in	Time to fail minutes
1	11.5	126.9	96.7 %	0.3188	2.83	5.60	13
2	11.0	128.9	98.7 %	0.2984	2.82	5.60	18
3	10.7	128.5	94.8 %	0.3022	2.83	5.60	20

MOHR-COULOMB STRENGTH PARAMETERS

	Total
Strength intercept, c=	10.9 psi
Friction angle, ϕ =	15.3 deg
Tangent ϕ =	0.27

MATERIAL DESCRIPTION

Gray Unweathered
Glacial SILTY CLAY TILL
LL= PI=

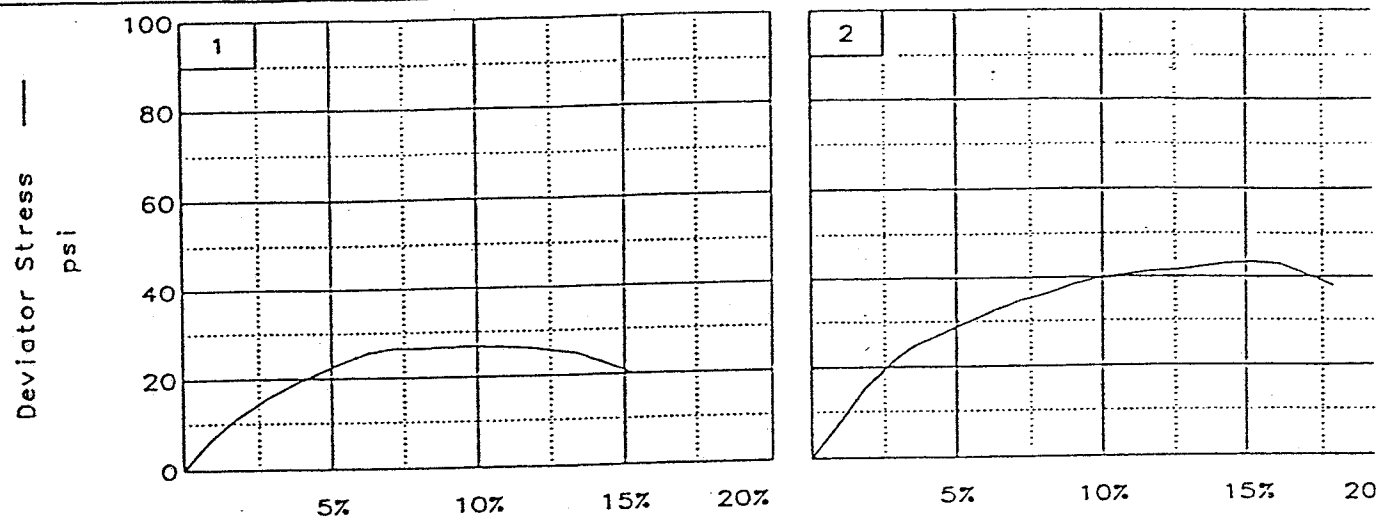
CLIENT: Peoria Disposal Company
Peoria, Illinois
PROJECT: CLINTON LANDFILL
Peoria, Illinois
LOCATION: CLG 3 and 4; 38'-46'
Gray Silty Clay

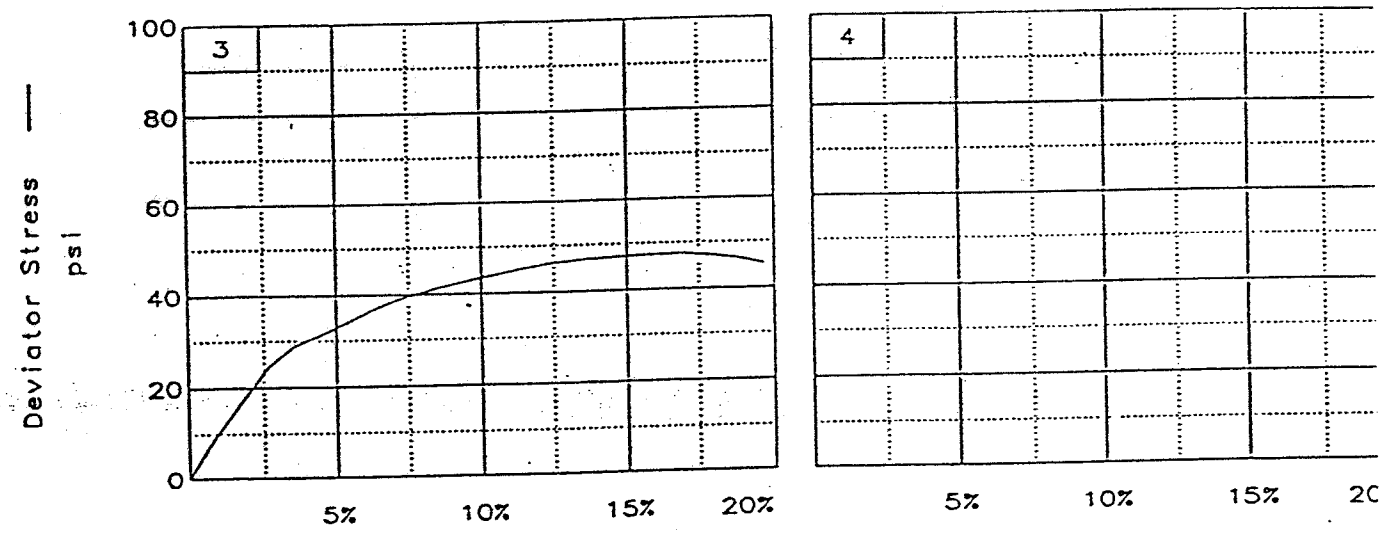
DATE: 9-20-93
File: CLIN2
REMARKS:

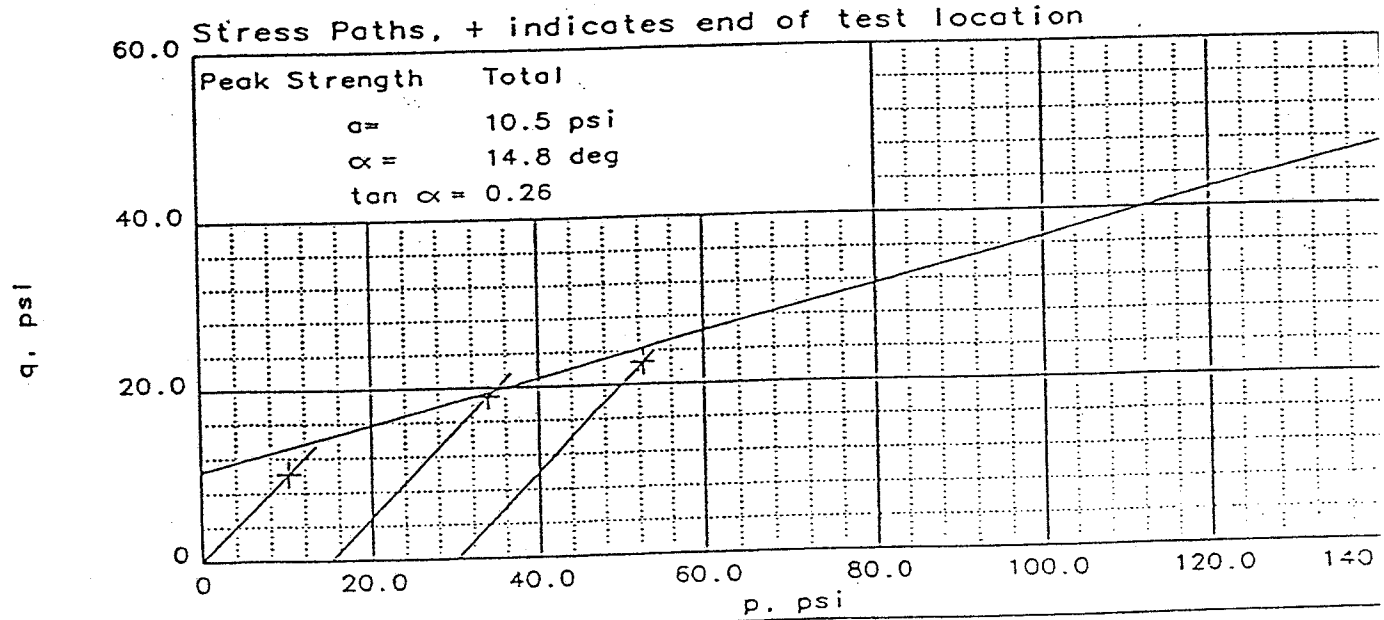
TRIAXIAL SHEAR TEST REPORT

WHITNEY & ASSOCIATES

Proj. No.:
Page 1/2 Fig. No. ____







Client: Peoria Disposal Company Peoria, Illinois
Project: CLINTON LANDFILL Peoria, Illinois
Location: CLG 3 and 4; 38'-46'
File: CLIN2 Project No.:

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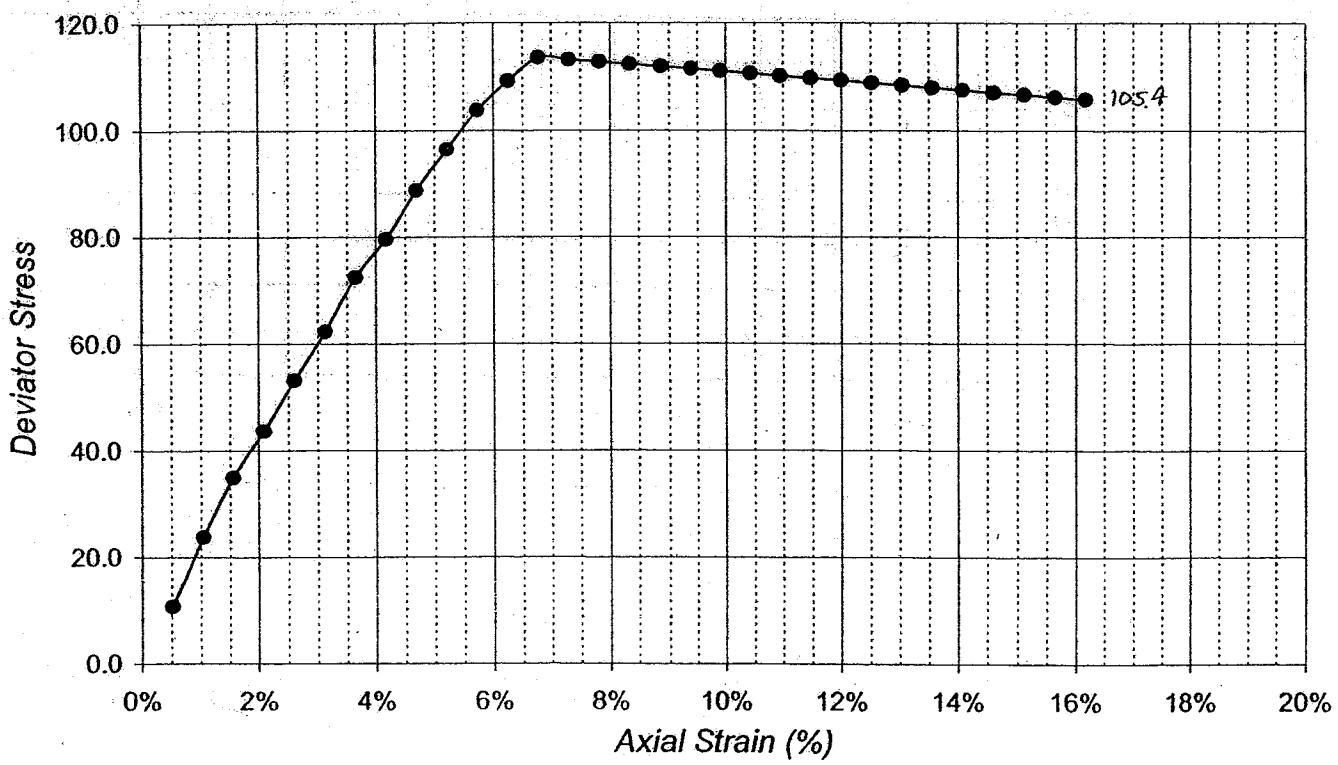
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	28-Apr-2003

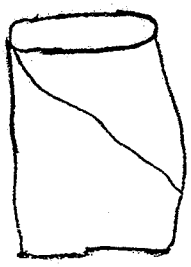
Boring:	EX-13	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	52.0'	Sample Weight (gm):	893.30	Strain Rate (in/min):	0.060
Elevation:	670.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	113.5
		Height (in)	5.750	Strain at Failure (%):	6.8%

Soil Type: Robein/Roxana Dark Brown



Liquid Limit	41	Water Content:	
Plastic Limit:	29	Dry Density, γd (pcf):	
Plasticity Index:	12		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 125 psi - (18,000 psf) applied to sample.

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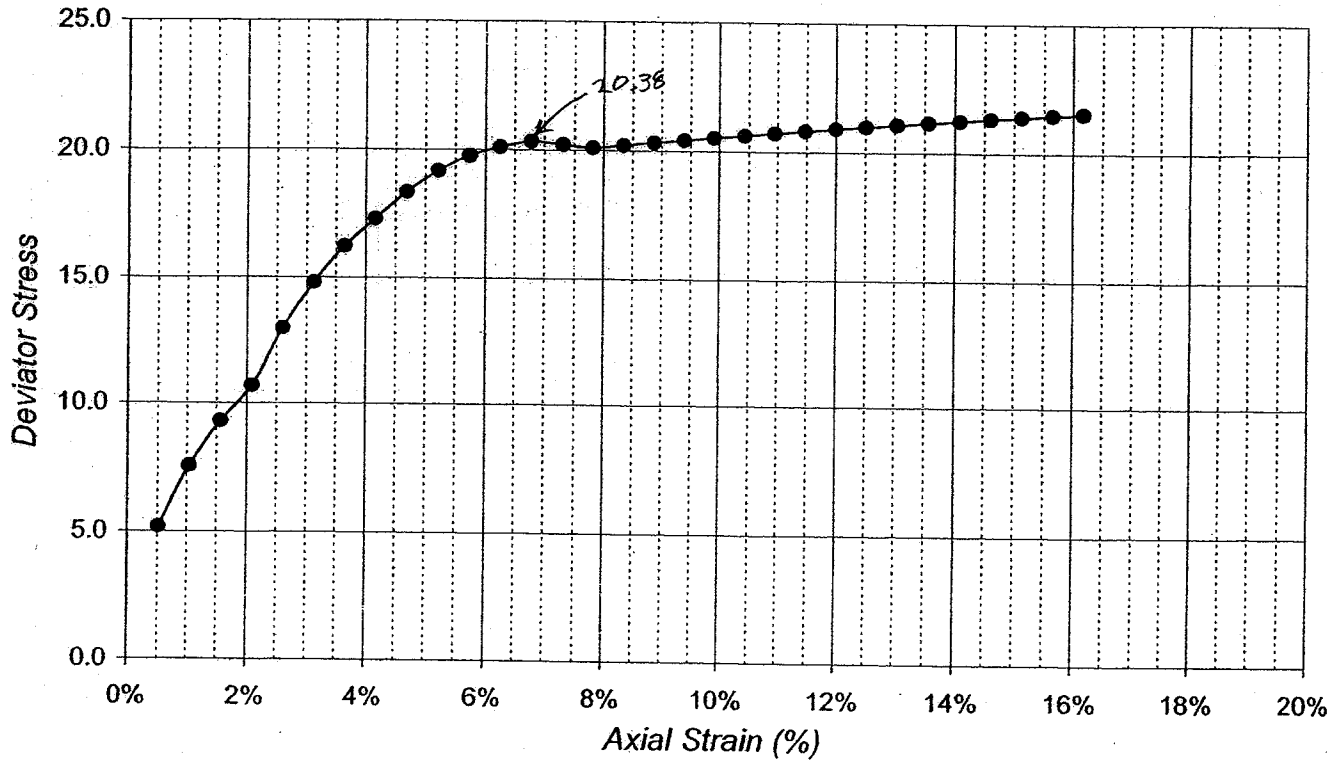
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	28-Apr-2003

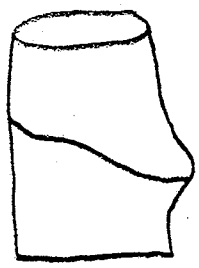
Boring:	EX-16	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	49.5'	Sample Weight (gm):	1096.40	Strain Rate (in/min):	0.060
Elevation:	667.5'	Diameter (in):	2.843	Max. Deviator Stress (psi):	21.5
		Height (in)	5.750	Strain at Failure (%):	15.0%

Soil Type: Dark Brown, Dark Gray, Organic Clay, Robein/Roxana



Liquid Limit	49	Water Content:	46.4%
Plastic Limit:	34	Dry Density, γd (pcf):	70.2
Plasticity Index:	15		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 83.33 psi - (12,000 psf) applied to sample.

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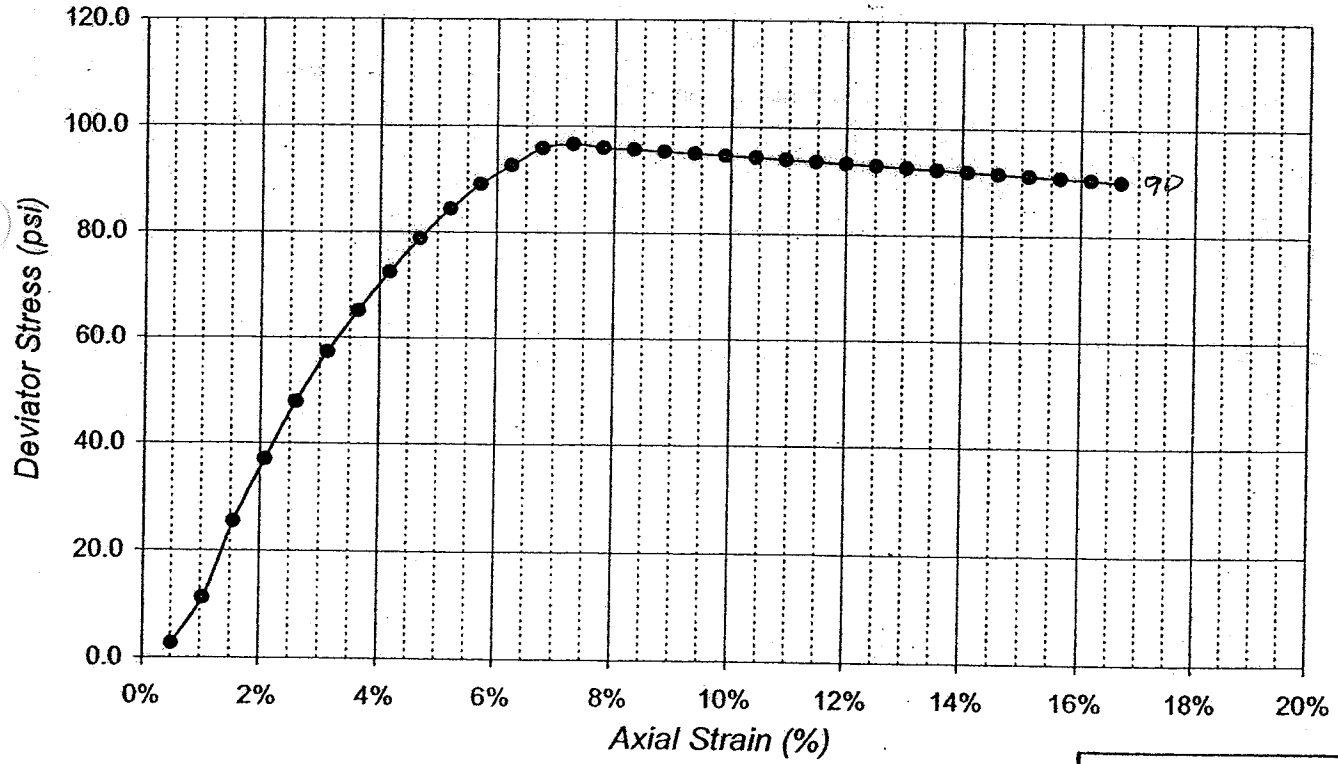
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	28-Apr-2003

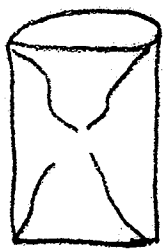
Boring:	EX-19	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	55'	Sample Weight (gm):		Strain Rate (in/min):	0.060
Elevation:	664.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	96.6
		Height (in)	5.750	Strain at Failure (%):	7.3%

Soil Type: Dark Gray-Brown, Robein/Roxana - Organic Clay - OH



Liquid Limit:	54	Water Content:	
Plastic Limit:	43	Dry Density, yd (pcf):	
Plasticity Index:	11		

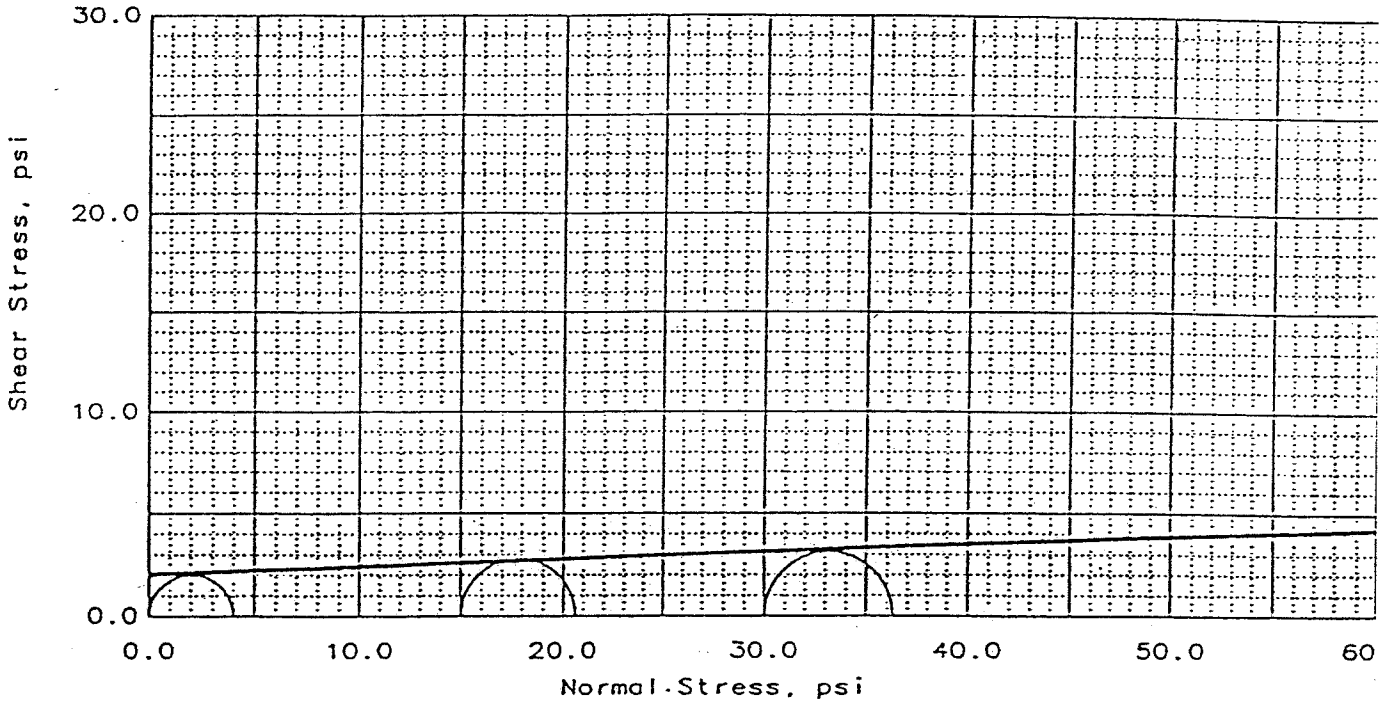
After Failure



Remarks:

Confining pressure of 55.6 psi (8000 psf) applied to sample.

TRIAXIAL SHEAR TEST REPORT



Type of Test: Unconsolidated undrained Sample Type: 2" (Remolded)

No.	FLUID PRESS. psi		MAX. STRENGTH psi		ULT. STRENGTH psi		PRINCIPAL STRES AT FAILURE ps	
	Cell	Back	Deviator	Pore	Deviator	Pore	σ_1	
1	0	0	4.0	0.0	4.0	0.0	4.0	0
2	15	0	5.6	0.0	5.6	0.0	20.6	15
3	30	0	6.3	0.0	6.3	0.0	36.3	30

No.	SAMPLE PARAMETERS						
	% Water Content	Dry Dens. pcf	Satur-ation	Void Ratio	Diameter in	Height in	Time to fa minutes
1	28.5	95.0	101.8 %	0.7418	2.08	4.22	12
2	25.8	96.0	94.4 %	0.7235	2.11	4.22	16
3	27.8	94.9	99.2 %	0.7423	2.10	4.30	14

MOHR-COULOMB STRENGTH PARAMETERS

	Total
Strength intercept, c=	2.0 psi
Friction angle, ϕ =	2.1 deg
Tangent ϕ =	0.04

MATERIAL DESCRIPTION

Black SILTY CLAY
ORGANIC TOPSOIL
LL= PI=

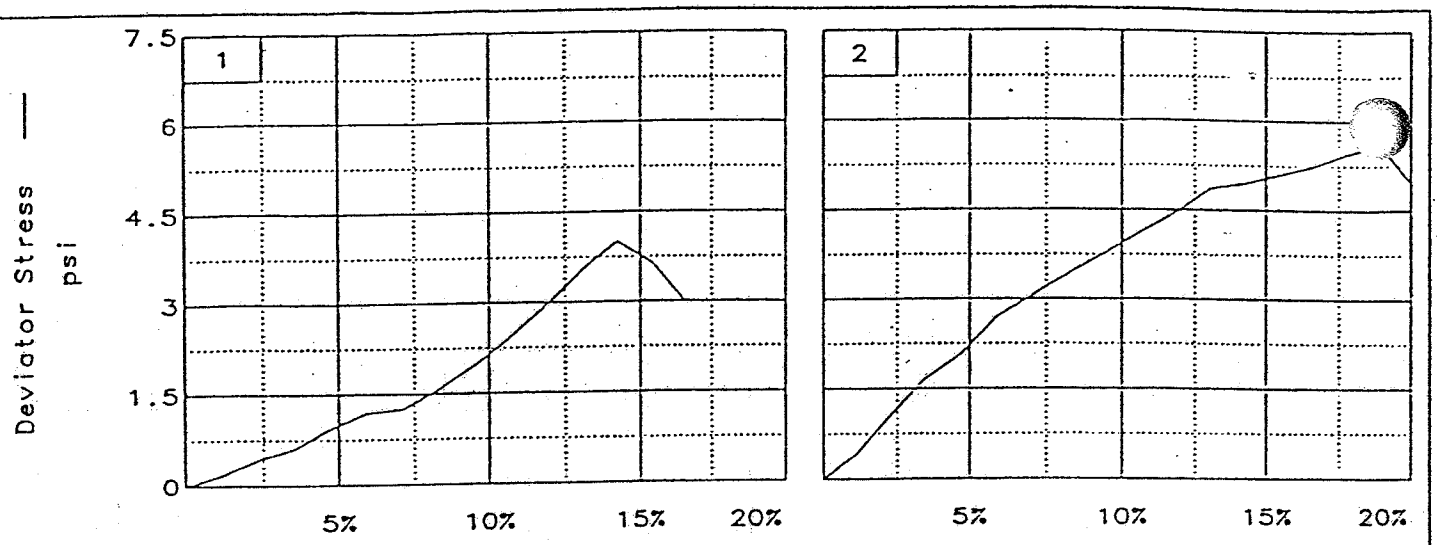
CLIENT: Peoria Disposal Company
Peoria, Illinois
PROJECT: CLINTON LANDFILL
Clinton, Illinois
LOCATION: CLG 5; 40'-42'
Organic Top Soil

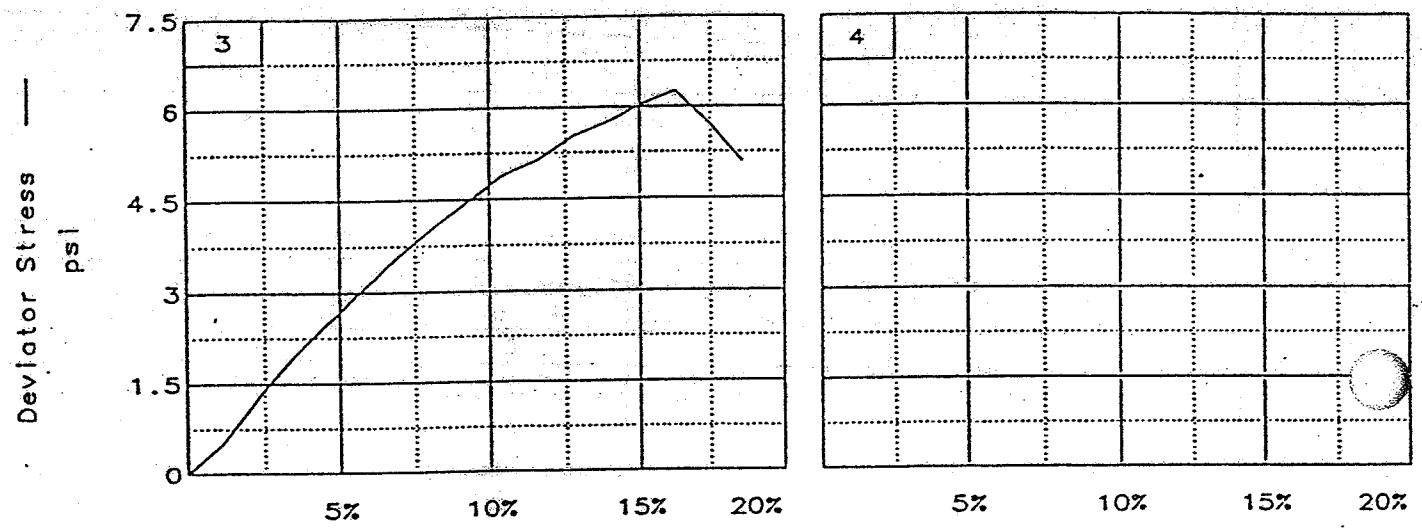
DATE: 9-20-93
File: CLIN3
REMARKS:

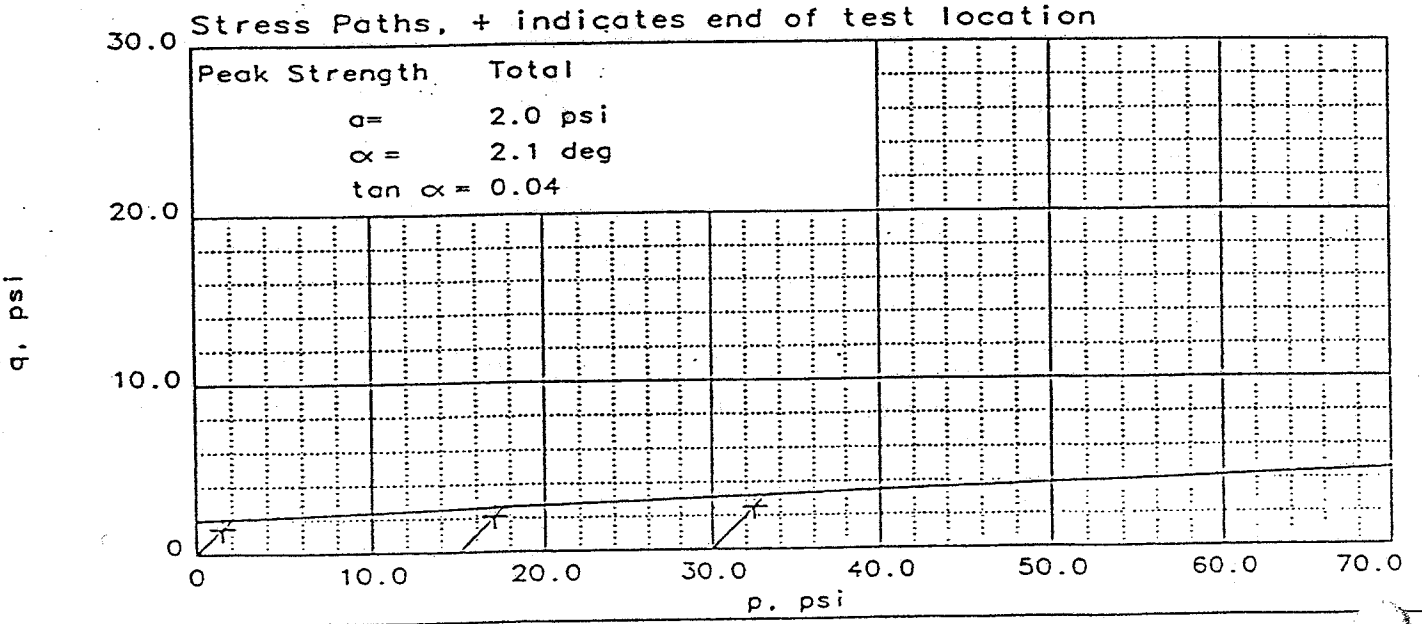
TRIAXIAL SHEAR TEST REPORT

WHITNEY & ASSOCIATES

Proj. No.:
Page 1/2 Fig. No. —







Client: Peoria Disposal Company Peoric, Illinois
Project: CLINTON LANDFILL Clinton, Illinois
Location: CLG 5; 40'-42'
File: CLIN3 Project No.: Page 2/2 Fig. No. ——

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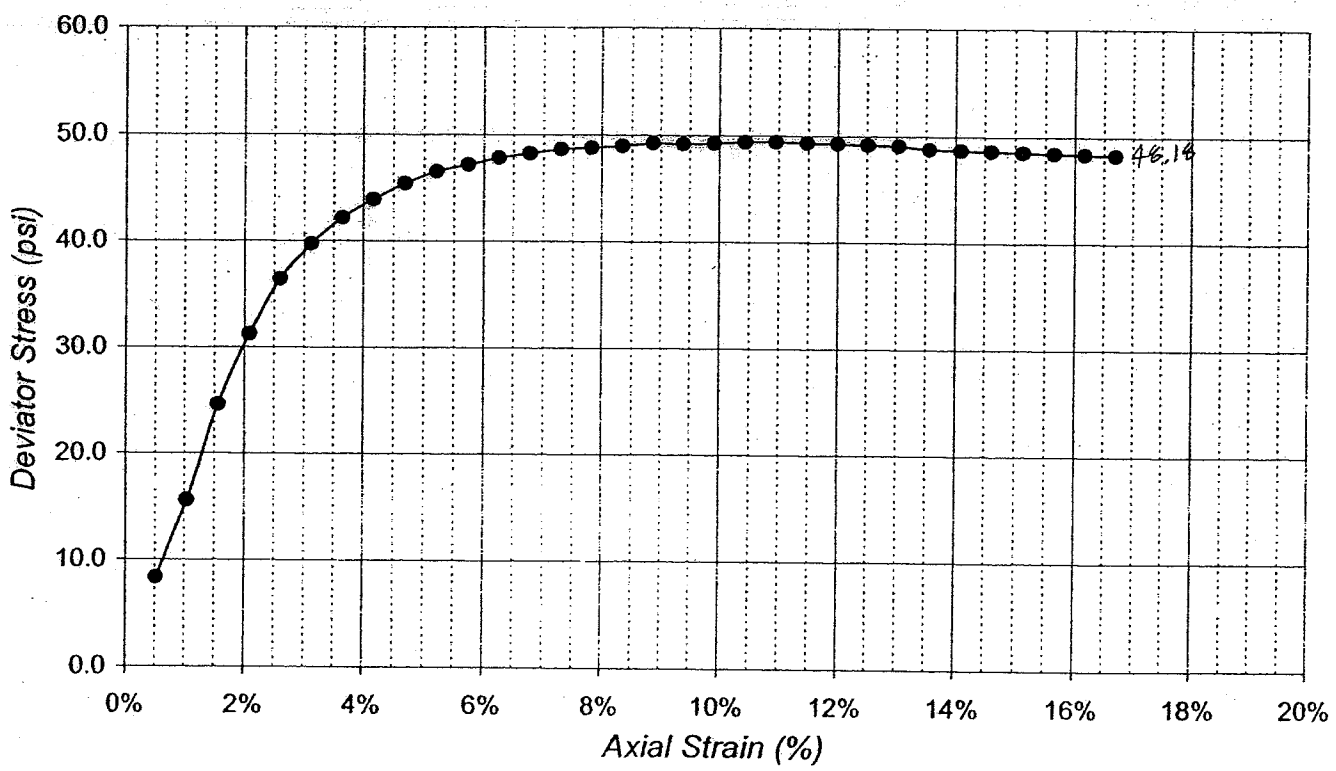
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	28-Apr-2003

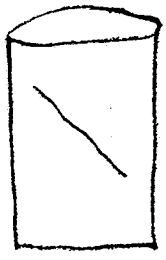
Boring:	EX-13	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	64.0'	Sample Weight (gm):		Strain Rate (in/min):	0.060
Elevation:	658.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	49.4
		Height (in)	5.750	Strain at Failure (%):	11.0%

Soil Type: Gray/Dark Gray, Berry Clay -Lean Clay - CL



Liquid Limit	37	Water Content:	18.7%
Plastic Limit:	11	Dry Density, γd (pcf):	109.1
Plasticity Index:	26		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 139 psi - (20,000 psf) applied to sample.

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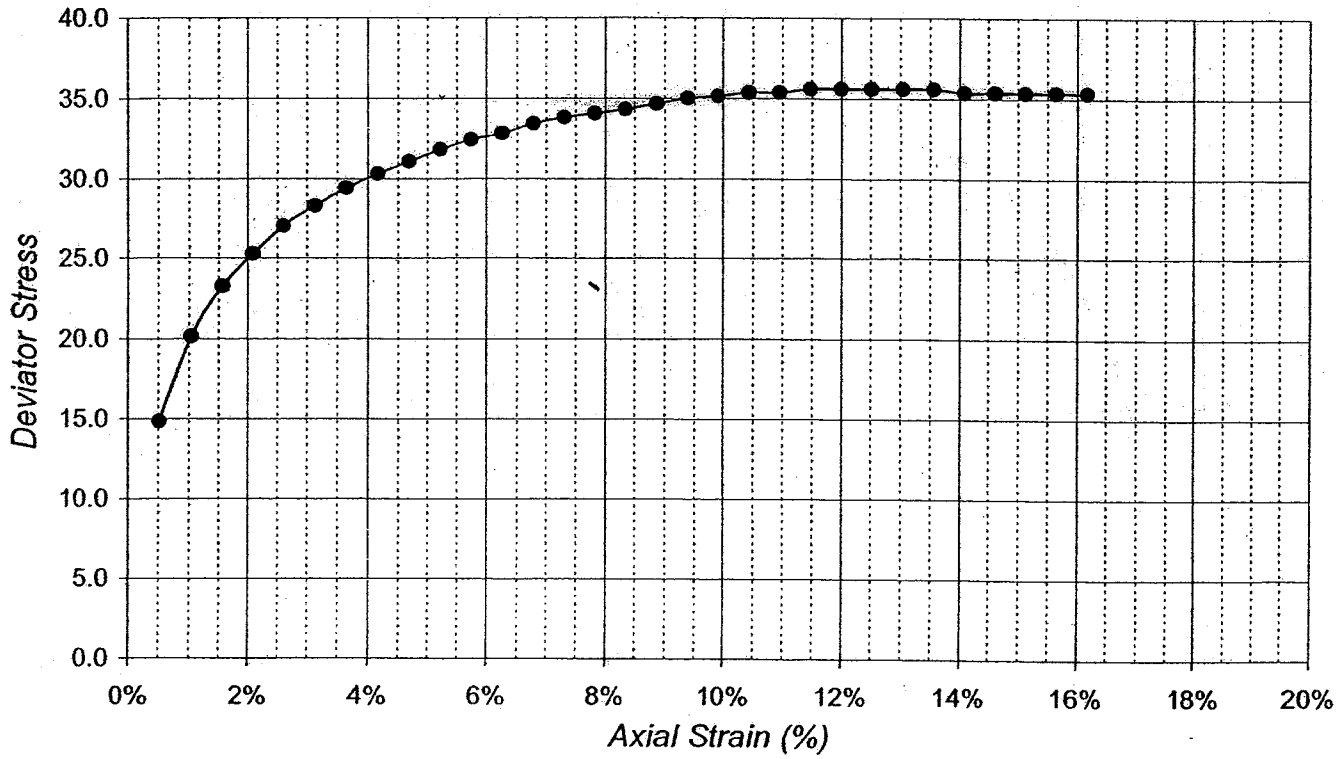
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	28-Apr-2003

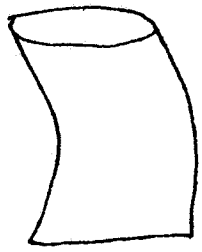
Boring:	EX-19	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	59.0'	Sample Weight (gm):	1305.20	Strain Rate (in/min):	0.060
Elevation:	658.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	35.6
		Height (in)	5.750	Strain at Failure (%):	12.5%

Soil Type: Gray/Dark Gray Berry Clay - Lean Clay, with Sand - CL



Liquid Limit	30	Water Content:	
Plastic Limit:	13	Dry Density, yd (pcf):	
Plasticity Index:	17		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 55.55 psi -(8000 psf) applied to sample.

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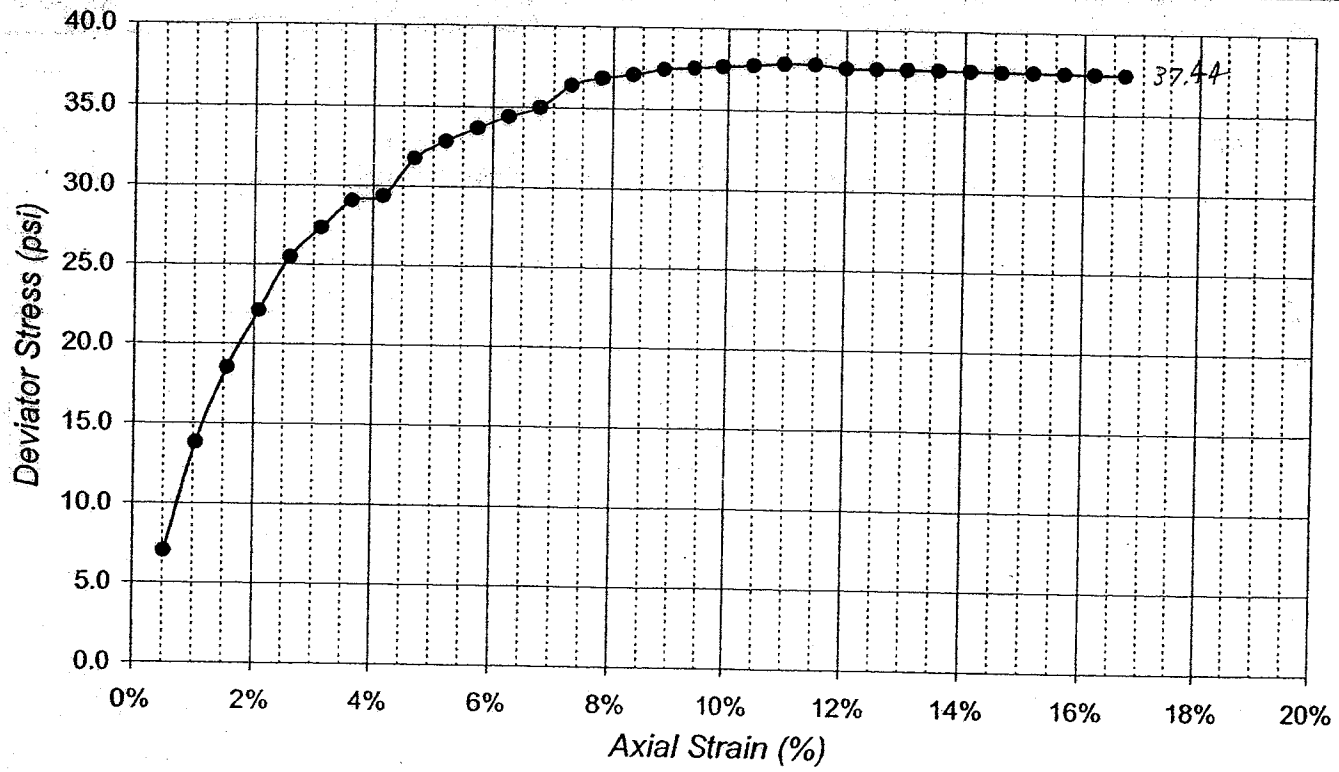
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3 — Project No.: 18330.1

Client: PDC Technical Services, Inc. — Date: 29-Apr-2003

Boring:	EX-21	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	39.0'	Sample Weight (gm):	1289.50	Strain Rate (in/min):	0.060
Elevation:	662.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	37.9
		Height (in)	5.750	Strain at Failure (%):	11.0%

Soil Type: Gray Berry Clay - Sandy Lean Clay, Teace Gravel - CL

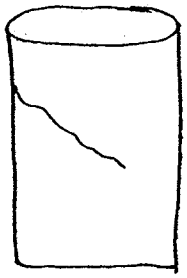


Liquid Limit	38
Plastic Limit:	13
Plasticity Index:	25

Water Content: _____

Dry Density, γd (pcf): _____

Sketch of Specimen After Failure



Remarks:

Confining pressure of 41.66 psi - (6000 psf) applied to sample.

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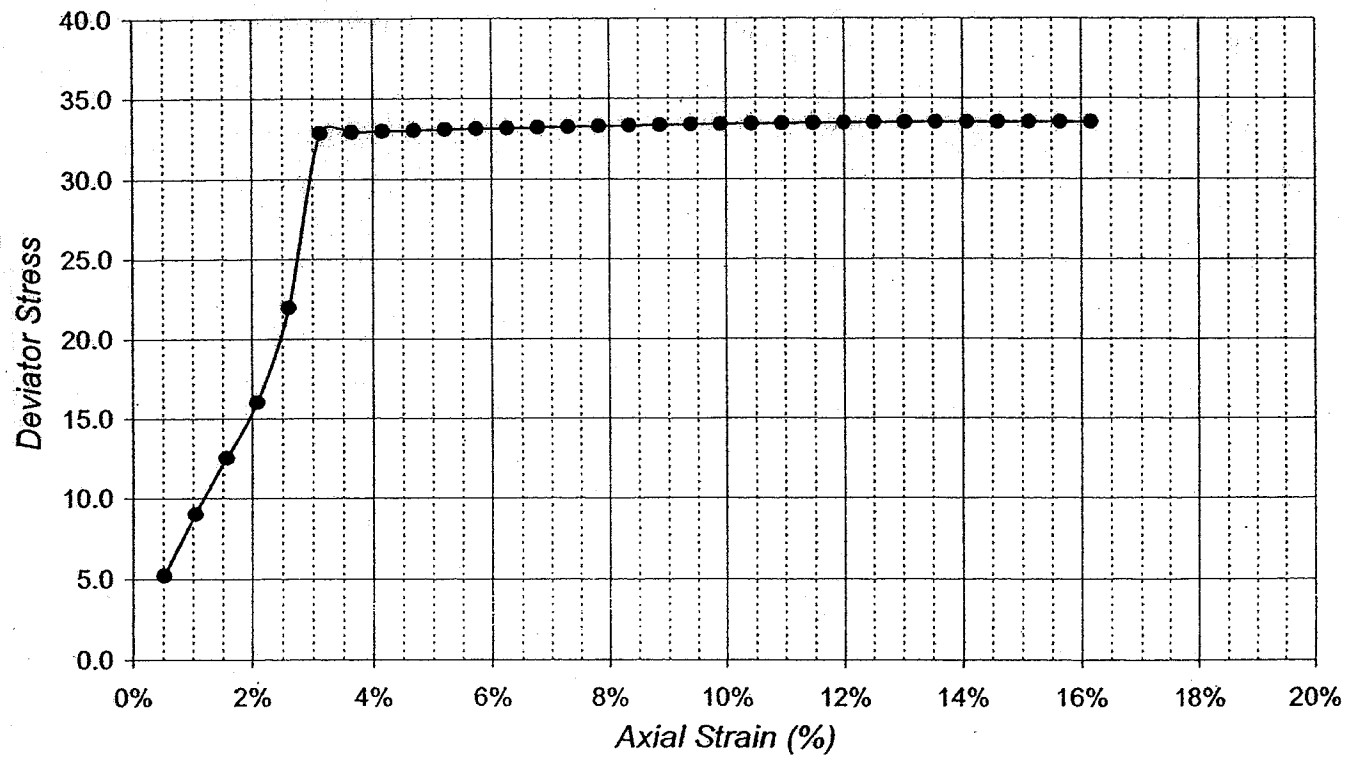
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	28-Apr-2003

Boring:	EX-16	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	72.0'	Sample Weight (gm):		Strain Rate (in/min):	0.060
Elevation:	645.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	33.5
		Height (in)	5.750	Strain at Failure (%):	15.0%
Soil Type	Gray Randor Till - Sandy Lean Clay, Little Gravel - CL-ML				@ 33.5



Liquid Limit	16	Water Content:	6:6%
Plastic Limit:	11	Dry Density, γd (pcf):	147.6
Plasticity Index:	5		

Remarks:

Confining pressure of 41.66 psi - (6000 psf) applied to sample.

Sketch of Specimen After Failure

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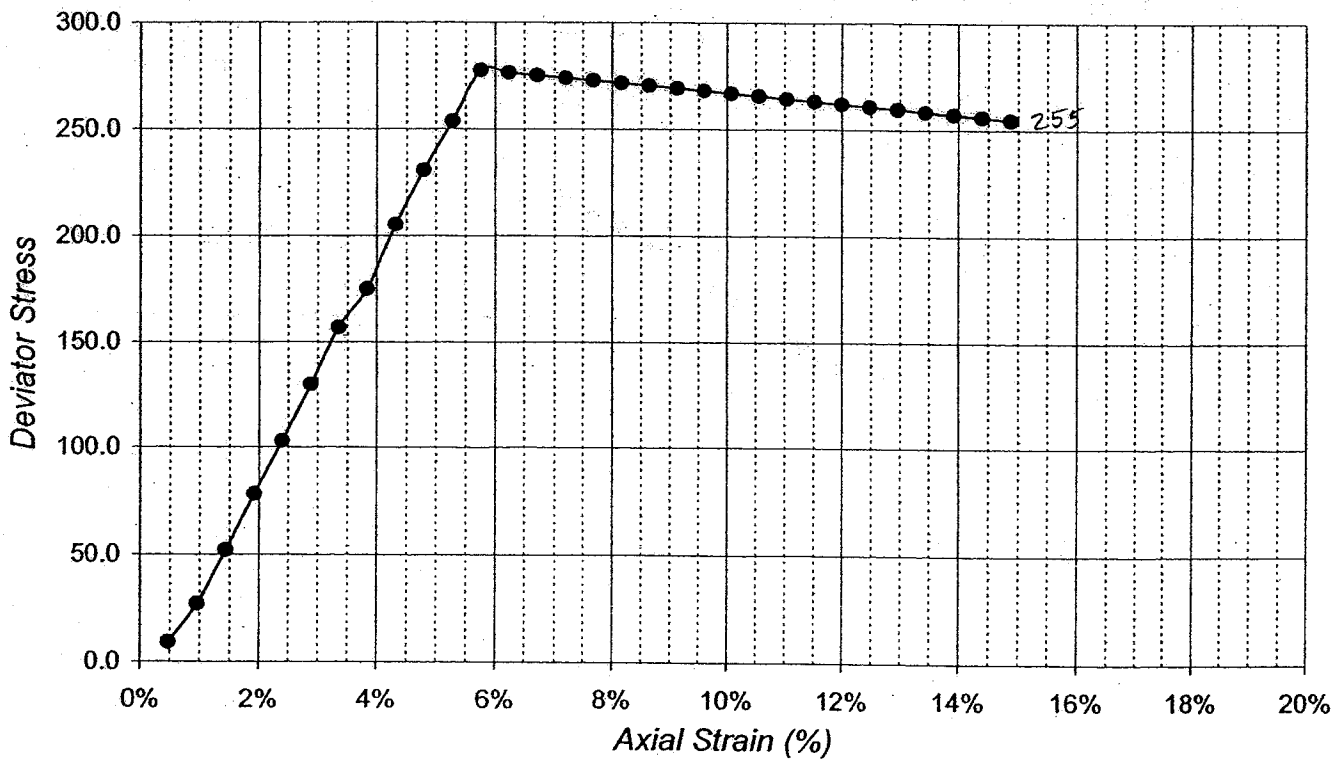
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	28-Apr-2003

Boring:	EX-19	Sample Type	3" S.T.	Height to Diameter Ratio:	0.45
Depth:		Sample Weight (gm):		Strain Rate (in/min):	0.060
Elevation:	647.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	277.4
		Height (in)	6.250	Strain at Failure (%):	5.8%

Soil Type: Gray Randor Till - Lean Clay w/Sand, Trace Gravel - CL

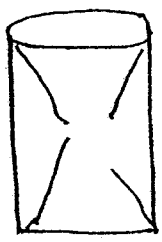


Liquid Limit	20	Water Content:	11.8%
Plastic Limit:	11	Dry Density, yd (pcf):	127.5
Plasticity Index:	9		

Remarks:

Confining pressure of 83.3 psi - (12,000 psf) applied to sample.

Sketch of Specimen After Failure



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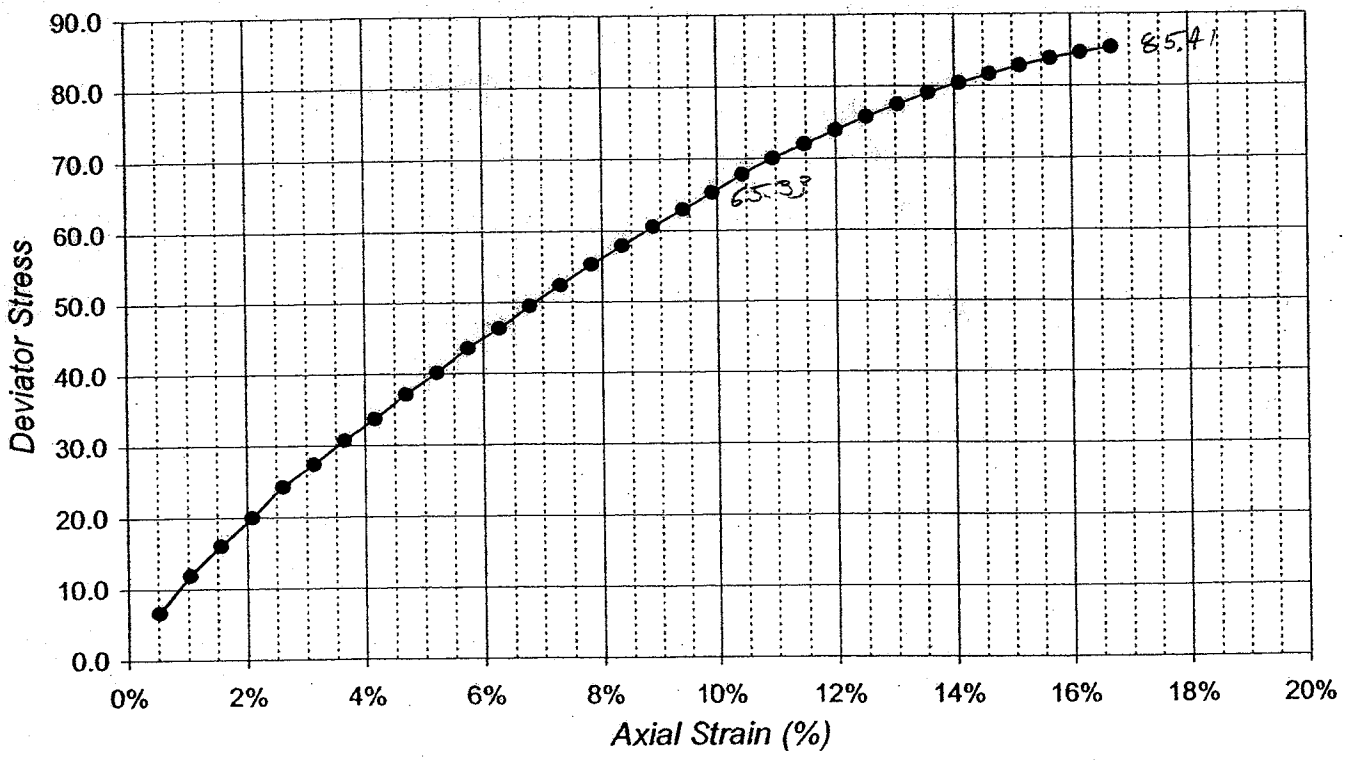
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	29-Apr-2003

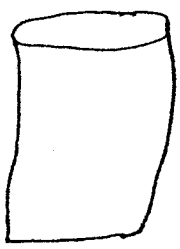
Boring:	EX-23	Sample Type	3" S.T.	Height to Diameter Ratio:	0.49
Depth:	60.0'	Sample Weight (gm):	1424.70	Strain Rate (in/min):	0.060
Elevation:	651.0'	Diameter (in):	2.843	Max. Deviator Stress (psi):	85.3
		Height (in)	5.750	Strain at Failure (%):	15.0%

Soil Type: Gray Randor Till - Sandy Lean Clay, Trace Gravel - CL



Liquid Limit	18	Water Content:	
Plastic Limit:	6	Dry Density, γd (pcf):	
Plasticity Index:	12		

Sketch of Specimen After Failure

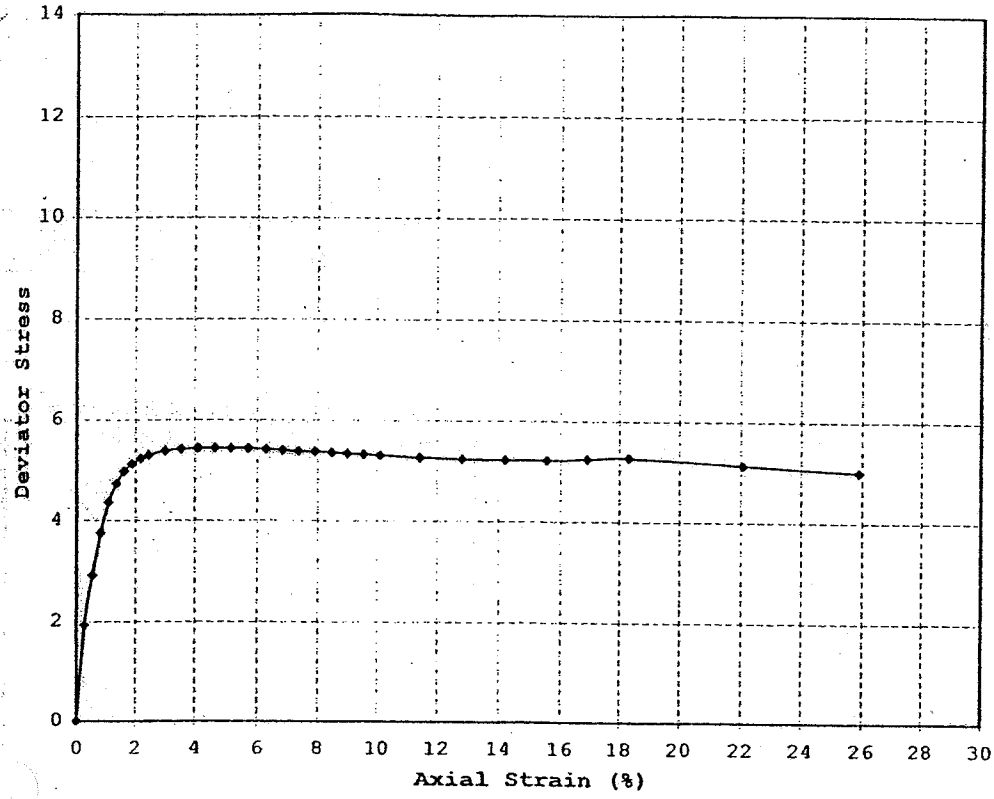


Remarks:

Confining pressure of 138.88 psi - (20,000 psf) applied to sample.

Triaxial C-D Stress/Strain Curves

Project: Clinton Landfill No. 3 - # 18330.1
Client: SKS Engineers, Inc.
Job: 4644-A
Date: 3/31/03
Remarks: Specimens Trimmed to Given Sizes, Radial (Spiral) Drainage Strips Applied, Allowed to Consolidate Under Double End Drainage For About 2 Days.



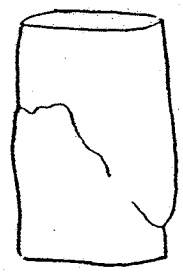
Boring: EX-21 Depth: 11' (Top)
Elev. (ft.): 690
Soil Type: Lean Clay w/Sand & a Little Gravel (CL) Brown Tiskilwa

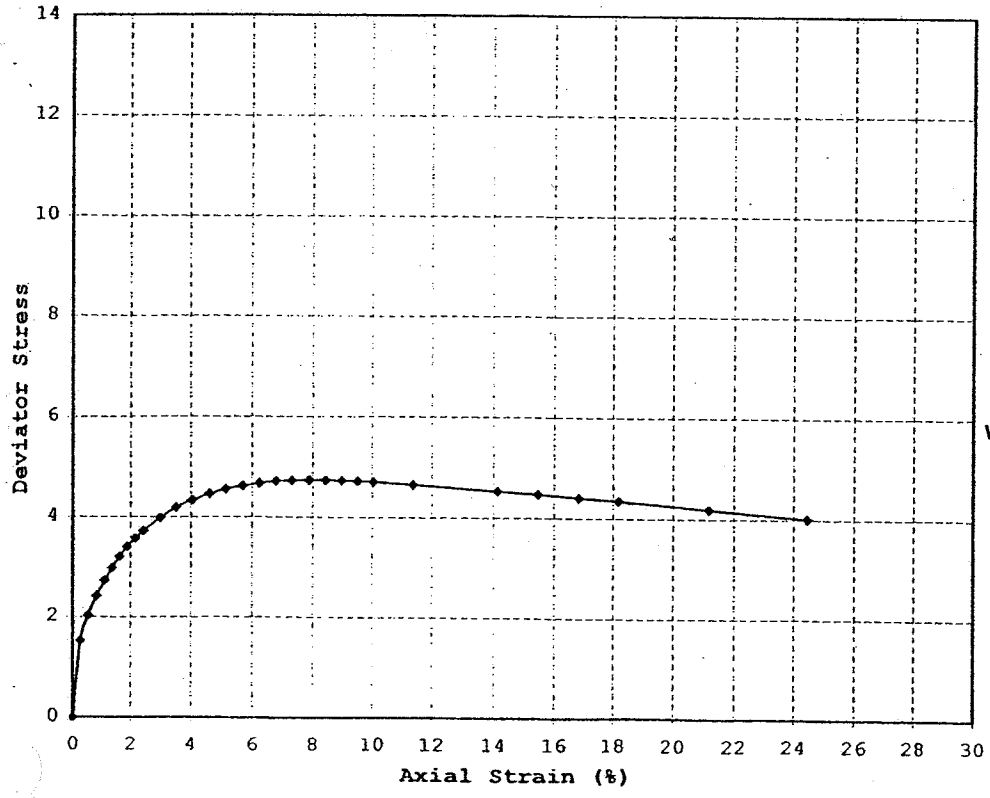
Strain Rate (in/min): 0.000369
Sample Type: 3T
Dia. (in) 1.99 Ht. (in) 4.05
Height to Diameter Ratio: 2.04

Max Deviator Stress: 5.4 tsf
Strain at Failure (%): 4.6
Confining Pressure: 2.00 tsf

W.C. (% 12.9
Yd (pcf) 124.5

Sketch of Specimen After Failure





Boring: EX-21 Depth: 31' (Top)
Elev. (ft.): 670
Soil Type: Sandy Lean Clay w/a Little Gravel (CL) Gray Tiskilwa

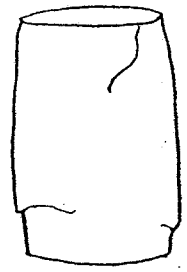
Strain Rate (in/min): 0.000369
Sample Type: 3T

Dia. (in): 1.99 Ht. (in): 4.07
Height to Diameter Ratio: 2.05

Max Deviator Stress: 4.7 tsf
Strain at Failure (%): 8.4
Confining Pressure: 2.00 tsf

W.C. (%): 13.3
Yd (pcf): 122.8

Sketch of Specimen After Failure



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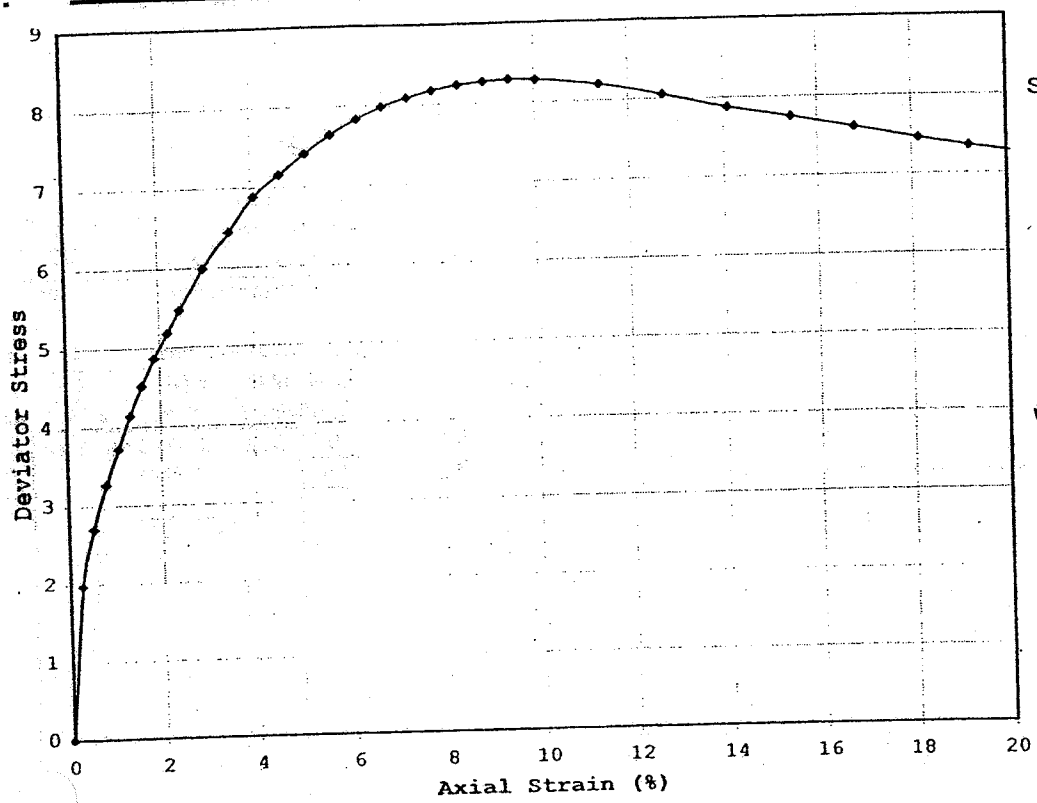
Consolidated Drained Stress/Strain Curves

Project: Clinton Landfill No. 3 - # 18330.1 — Job: 4644
Client: SKS Engineers, Inc. — Date: 2/12/02
Remarks: Confining Pressure of 55.6 psi applied to the sample.



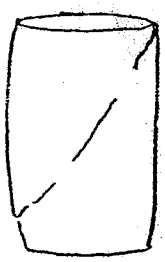
Boring: EX-24 — Depth: @ 11' (Tu...
Elev. (ft): 714
Soil Type: Sandy Lean Clay w/a trace of gravel (CL) Brown Tiskilwa

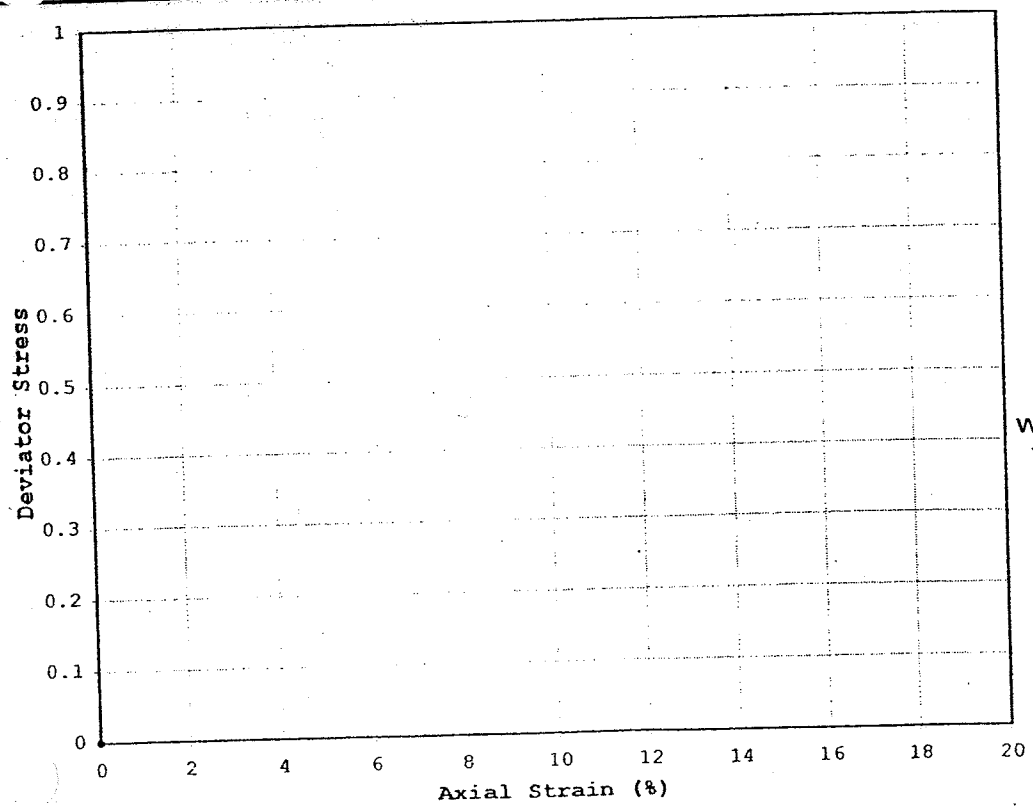
Strain Rate (in/min): 0.000369
Sample Type: 3T
Dia. (in) 1.994 — Ht. (in) 4.087
Height to Diameter Ratio: 0.49

Max Deviator Stress: 8.29 tsf
Strain at Failure (%): 9.5

W.C. (% 14.8
Yd (pcf) 117.9

Sketch of Specimen After Failiure





Boring: — Depth:
Elev. (ft):
Soil Type:

Strain Rate (in/min):
Sample Type:

Dia. (in): — Ht. (in):
Height to Diameter Ratio:

Max Deviator Stress: tsf
Strain at Failure (%):

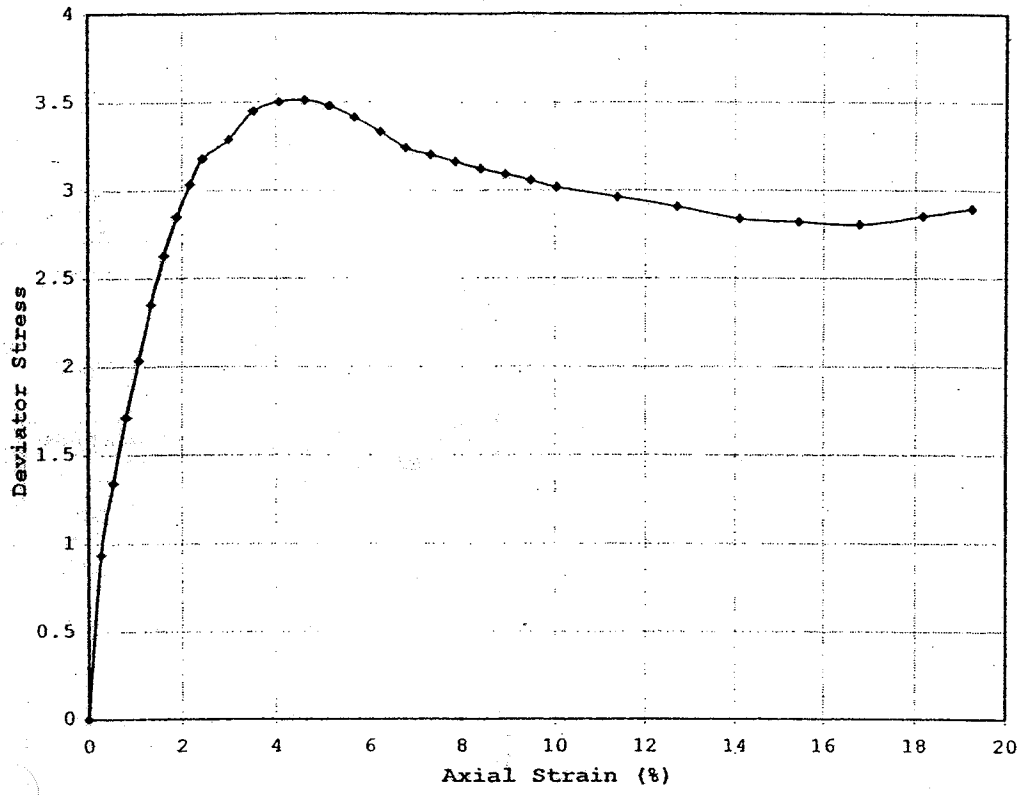
W.C. (%):
Yd (pcf):

Sketch of Specimen After Failiure

9301 Bryant Ave. South Suite 107 — SOIL ENGINEERING TESTING, INC. — Bloomington, Minnesota 55420-3436

Consolidated Drained Stress/Strain Curves

Project: Clinton Landfill No. 3 - # 18330.1 Job: 4644
Client: SKS Engineers, Inc. Date: 2/11/02
Remarks: Sample at elevation 680: Confining Pressure of 13.9 psi applied to sample.
Sample at elevation 710: Confining Pressure of 6.9 psi applied to sample.



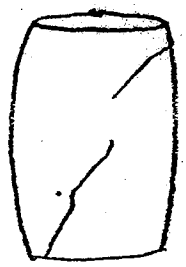
Boring: EX-13 Depth: @ 42' (Top)
Elev. (ft): 680
Soil Type: Lean Clay w/sand & a trace of gravel (CL) Gray Tiskilwa

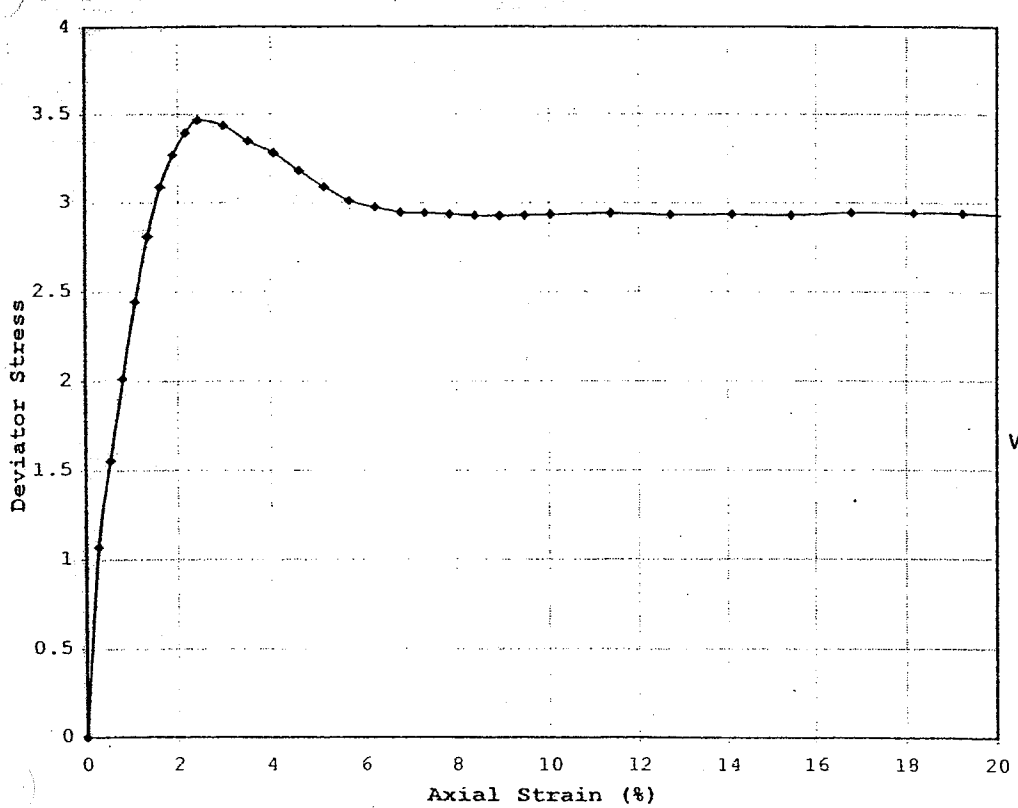
Strain Rate (in/min): 0.000357
Sample Type: 3T
Dia. (in) 2.000 Ht. (in) 4.085
Height to Diameter Ratio: 0.49

Max Deviator Stress: 3.51 tsf
Strain at Failure (%): 4.6

W.C. (% 11.8
Yd (pcf) 126.0

Sketch of Specimen After Failiure





Boring: EX-13 Depth: @ 12' (Top)
Elev. (ft): 710
Soil Type: Sandy Lean Clay w/a trace of gravel (CL) Brown Tiskilwa

Strain Rate (in/min): 0.000359
Sample Type: 3T

Dia. (in): 2.001 Ht. (in): 4.085
Height to Diameter Ratio: 2.04

Max Deviator Stress: 3.46 tsf
Strain at Failure (%): 2.4

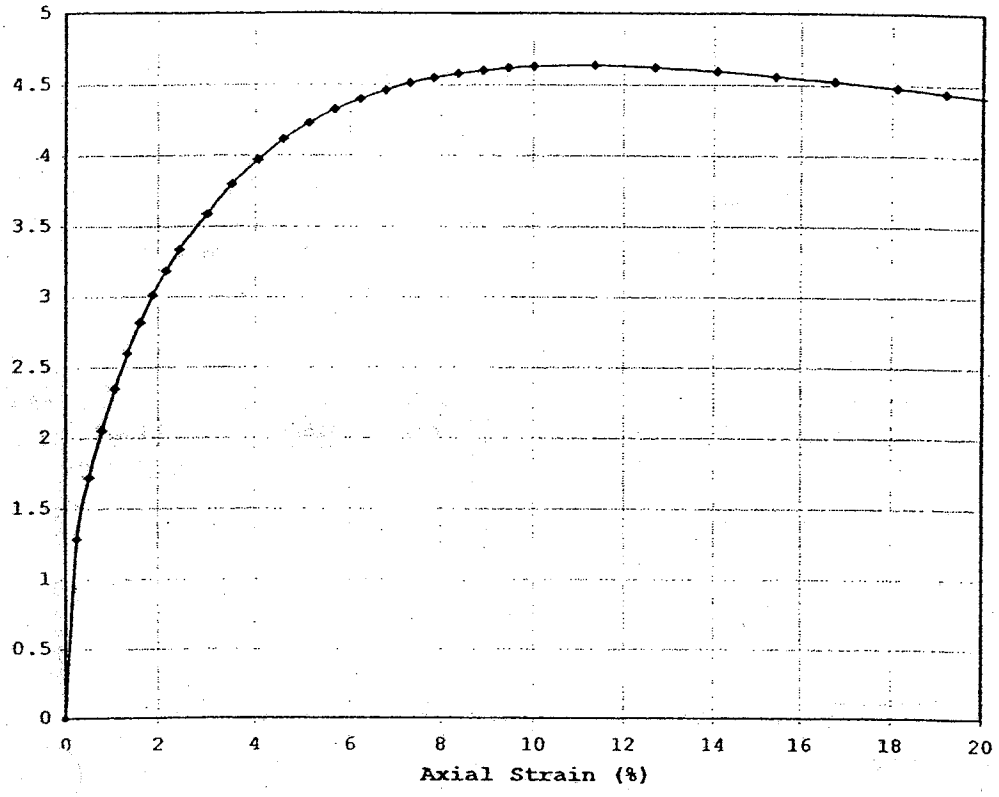
W.C. (%): 12.1
Yd (pcf): 121.9

Sketch of Specimen After Failiure

9301 Bryant Ave. South Suite 107 SOIL ENGINEERING TESTING, INC. Bloomington, Minnesota 55420-3436

Consolidated Drained Stress/Strain Curves

Project: Clinton Landfill No. 3 - # 18330.1 Job: 4644
Client: SKS Engineers, Inc. Date: 2/11/02
Remarks: Sample at elevation 685: Confining Pressure of 27.8 psi applied to sample.
Sample at elevation 695: Confining Pressure of 13.9 psi applied to sample.



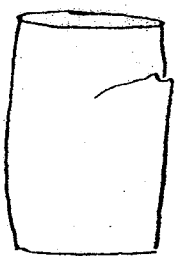
Boring: EX-17 Depth: @ 14' (Top)
Elev. (ft): 685
Soil Type: Lean Clay w/Sand & a Little Gravel
CL - Gray Tiskilwa

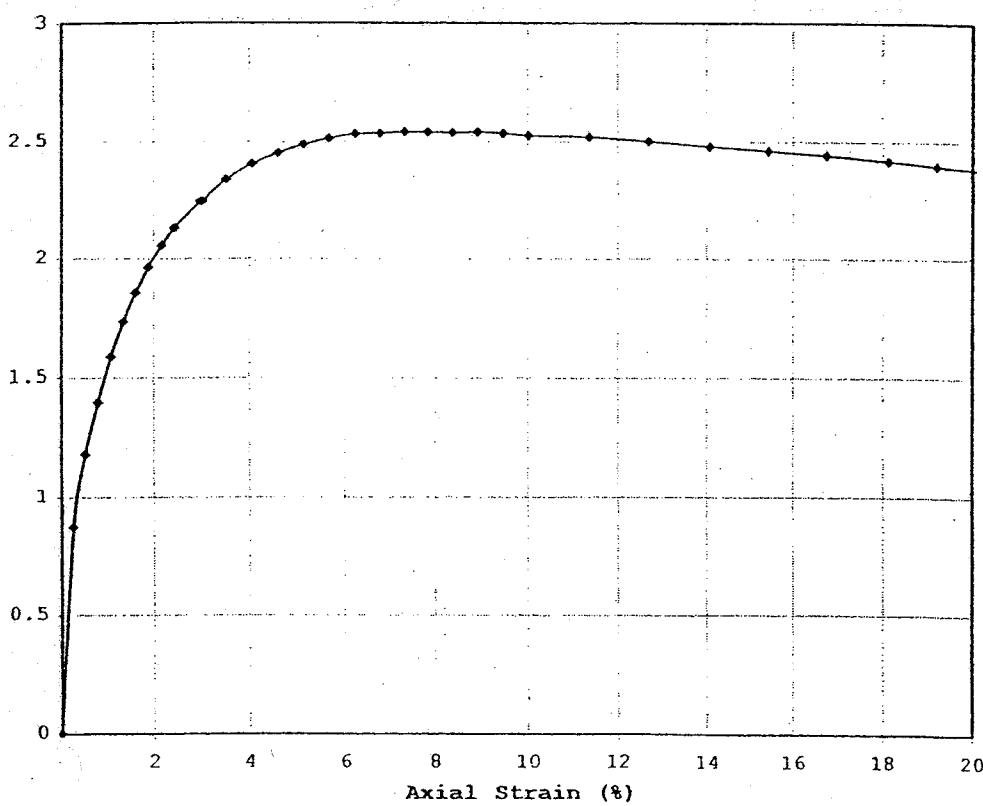
Strain Rate (in/min): 0.000369
Sample Type: 3T
Dia. (in) 1.984 Ht. (in) 4.094
Height to Diameter Ratio: 0.48

Max Deviator Stress: 4.63 tsf
Strain at Failure (%): 11.4

W.C. (% 13.9
Yd (pcf) 122.6

Sketch of Specimen After Failiure





Boring: EX-17 Depth: @ 4' (Top)
Elev. (ft): 695
Soil Type: Lean Clay w/Sand & a Trace of Gravel
CL - Brown Tiskilwa

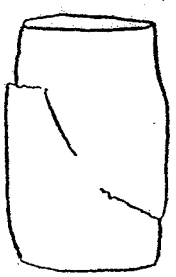
Strain Rate (in/min): 0.000369
Sample Type:

Dia. (in): 1.987 Ht. (in): 4.091
Height to Diameter Ratio: 2.06

Max Deviator Stress: 2.54 tsf
Strain at Failure (%): 7.3

W.C. (%): 16.0
Yd (pcf): 117.4

Sketch of Specimen After Failiure



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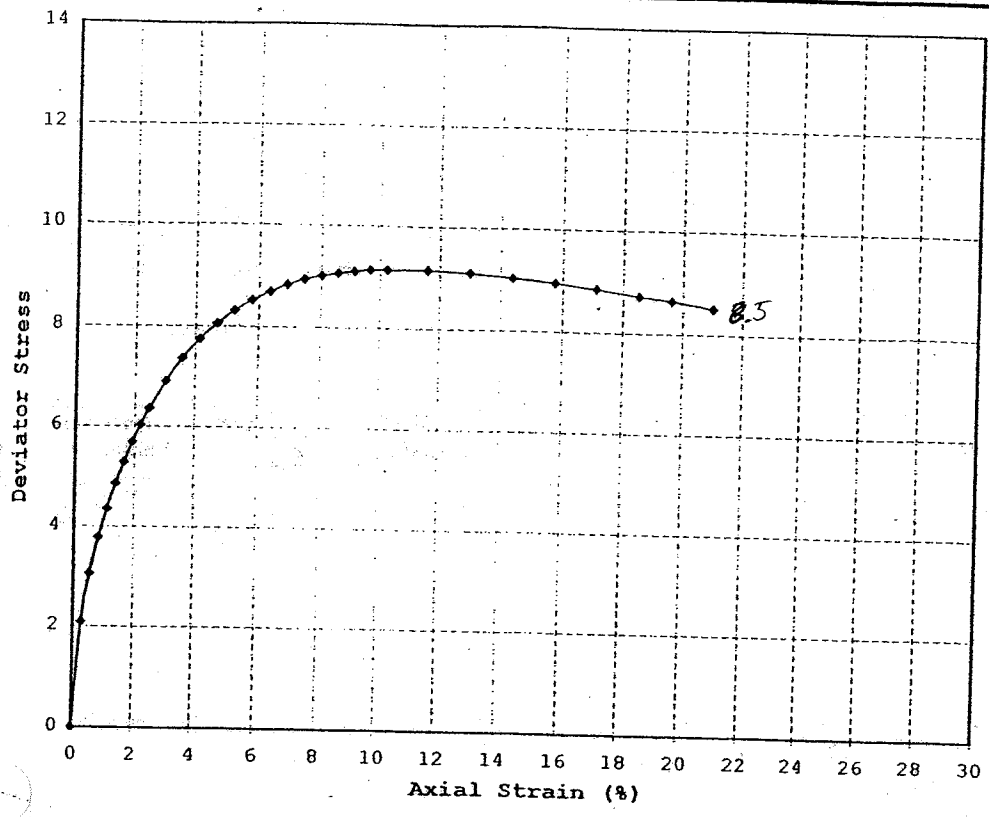
Triaxial C-D Stress/Strain Curves

Project: Clinton Landfill No. 3 - # 18330.1
Client: SKS Engineers, Inc.
Job: 4644-A
Date: 3/31/03
Remarks: Specimens Trimmed to Given Sizes, Radial (Spiral) Drainage Strips Applied, Allowed to Consolidate Under Double End Drainage For About 2 Days.



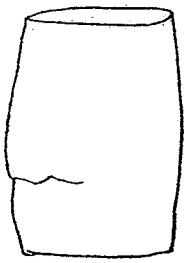
Boring: EX-19 Depth: 44' (Top)
Elev. (ft.): 674
Soil Type: Lean Clay w/Sand & w/a Little Gravel (CL) Gray Tiskilwa

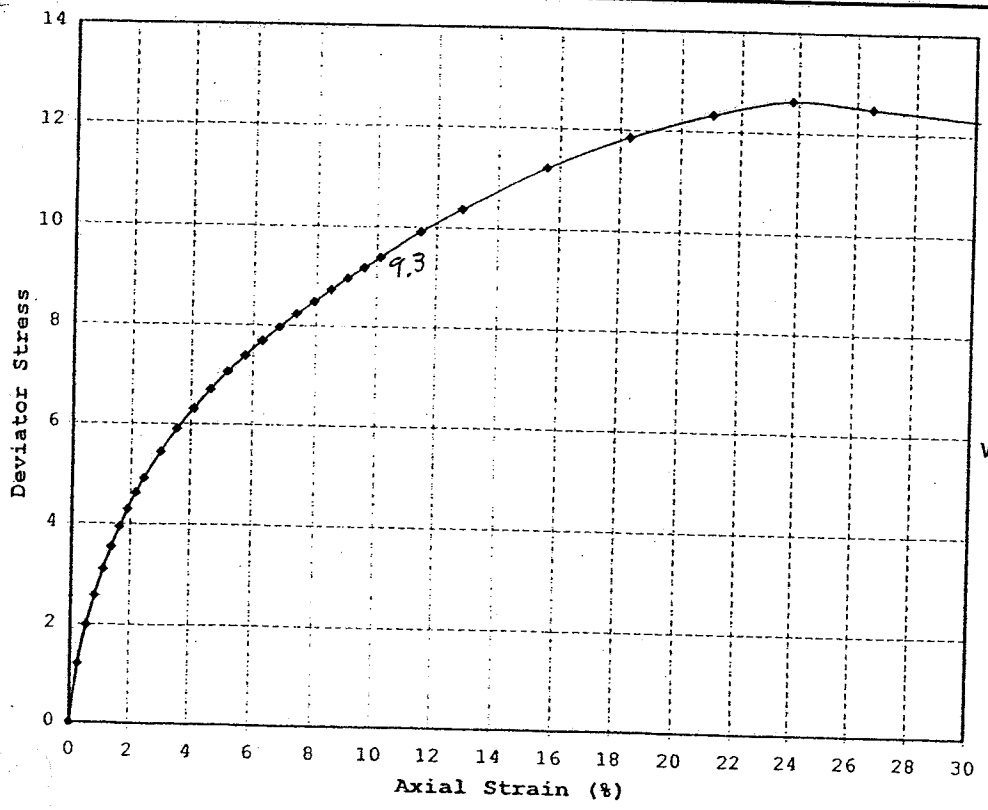
Strain Rate (in/min): 0.000369
Sample Type: 3T
Dia. (in) 1.95 Ht. (in) 4.00
Height to Diameter Ratio: 2.05

Max Deviator Stress: 9.1 tsf
Strain at Failure (%): 11.6
Confining Pressure: 4.00 tsf

W.C. (% 9.6
Yd (pcf) 126.6

Sketch of Specimen After Failure





Boring: EX-19 Depth: 54' (Top)
Elev. (ft.): 664
Soil Type: Dark Gray-Brown – Robein/ Roxana – Organic Clay – OH

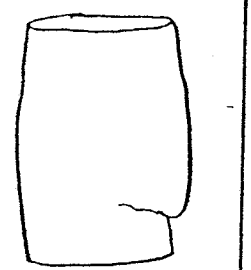
Strain Rate (in/min): 0.000369
Sample Type: 3T

Dia. (in): 1.95 Ht. (in): 4.04
Height to Diameter Ratio: 2.07

Max Deviator Stress: 12.6 tsf
Strain at Failure (%): 23.8
Confining Pressure: 4.00 tsf

W.C. (%): 47.5
Yd (pcf): 66.7

Sketch of Specimen After Failure



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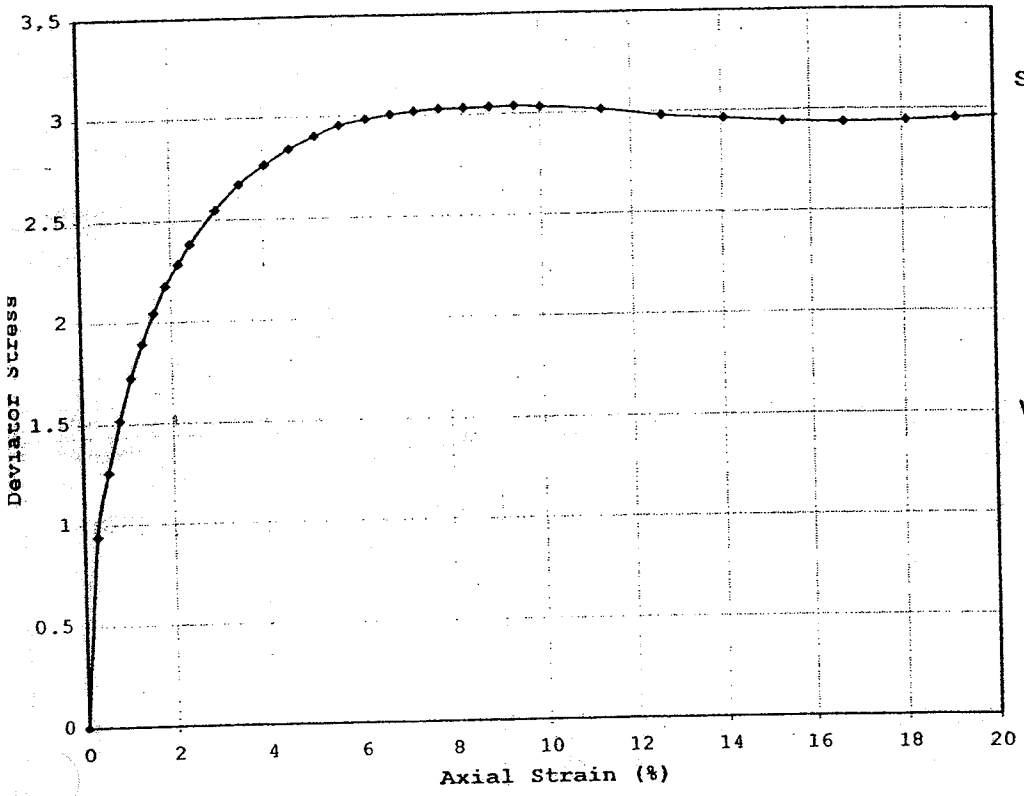
Consolidated Drained Stress/Strain Curves

Project: Clinton Landfill No. 3 - # 18330.1 — Job: 4644
Client: SKS Engineers, Inc. — Date: 2/11/02
Remarks: Sample at elevation 671: Confining Pressure of 13.9 psi applied to sample.
Sample at elevation 695: Confining Pressure of 111.1 psi applied to sample.



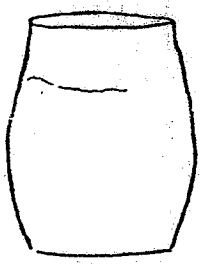
Boring: EX-24 — Depth: @ 55' (Top)
Elev. (ft): 671
Soil Type: Sandy Lean Clay w/a little gravel (CL)
Gray ~~Pebcin/Peoria~~ Tiskilwa

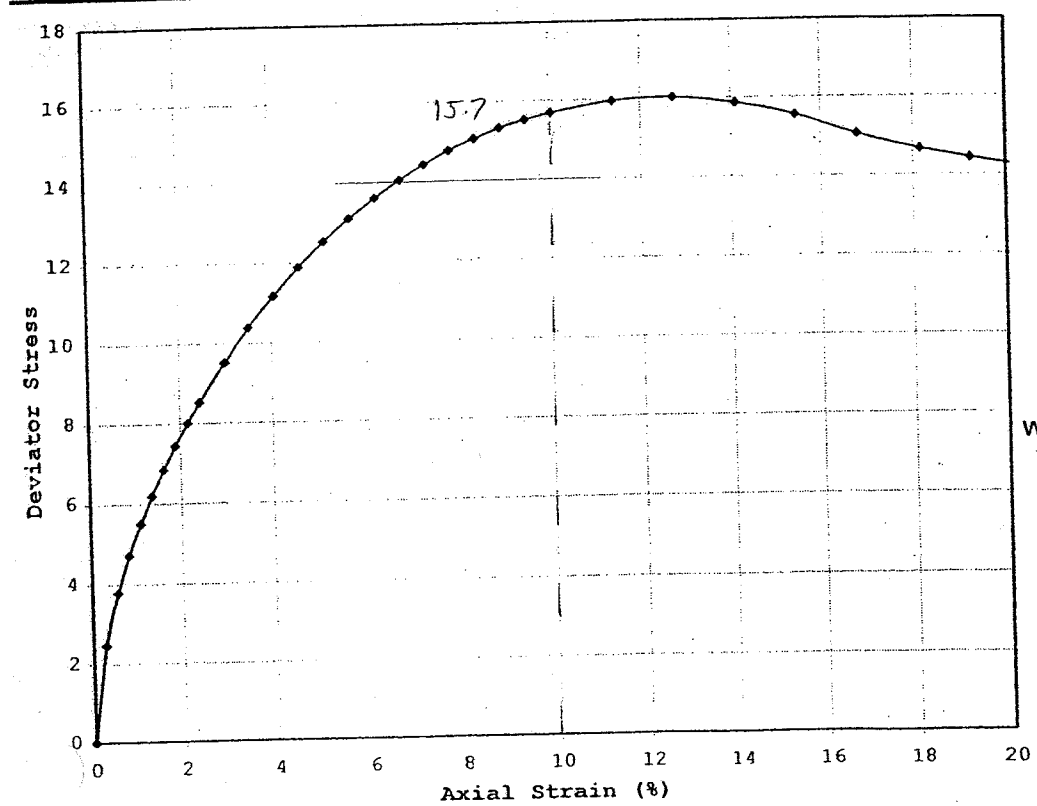
Strain Rate (in/min): 0.000357
Sample Type: 3T
Dia. (in) 1.992 — Ht. (in) 4.097
Height to Diameter Ratio: 0.49

Max. Deviator Stress: 3.04 tsf
Strain at Failure (%): 9.4

W.C. (% 13.0
Yd (pcf) 124.2

Sketch of Specimen After Failiure





Boring: EX-24 — Depth: @ 31' (Top)
Elev. (ft): 695
Soil Type: Sandy Lean Clay w/a little gravel (CL)
Gray Tiskilwa

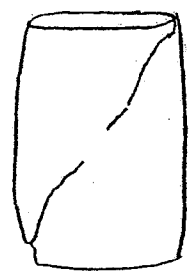
Strain Rate (in/min): 0.000359
Sample Type: 3T

Dia. (in): 1.995 — Ht. (in): 4.086
Height to Diameter Ratio: 2.05

Max Deviator Stress: 16.01 tsf
Strain at Failure (%): 12.7

W.C. (%): 11.9
Yd (pcf): 126.4

Sketch of Specimen After Failiure



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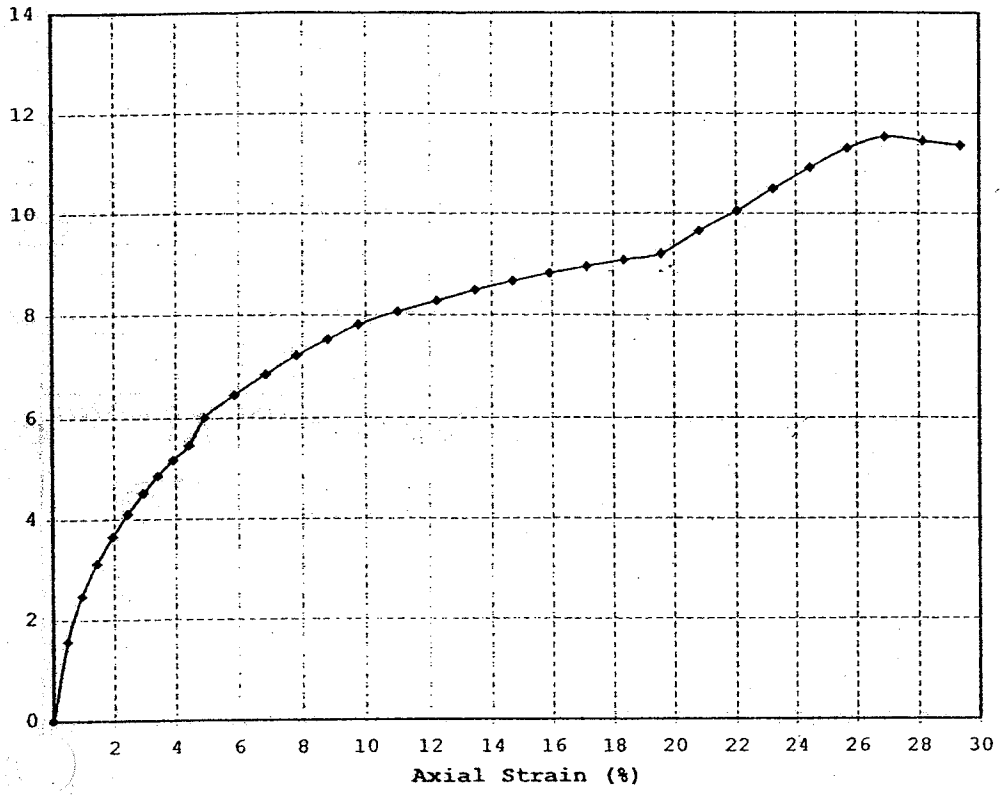
Consolidated Drained Stress/Strain Curves

Project: Clinton Landfill No. 3 - #18330.1 Job: 4644
Client: SKS Engineers, Inc. Date: 2/28/03
Remarks:

Confining Pressure of 83.3 psi applied to sample.



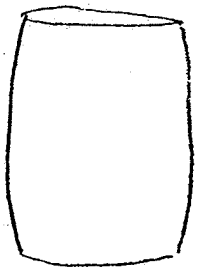
Boring: EX-16 Depth: 49
Elev. (ft): 667.5
Soil Type: Brown-Dark Gray – Robein/ Roxana Organic Clay (OL)

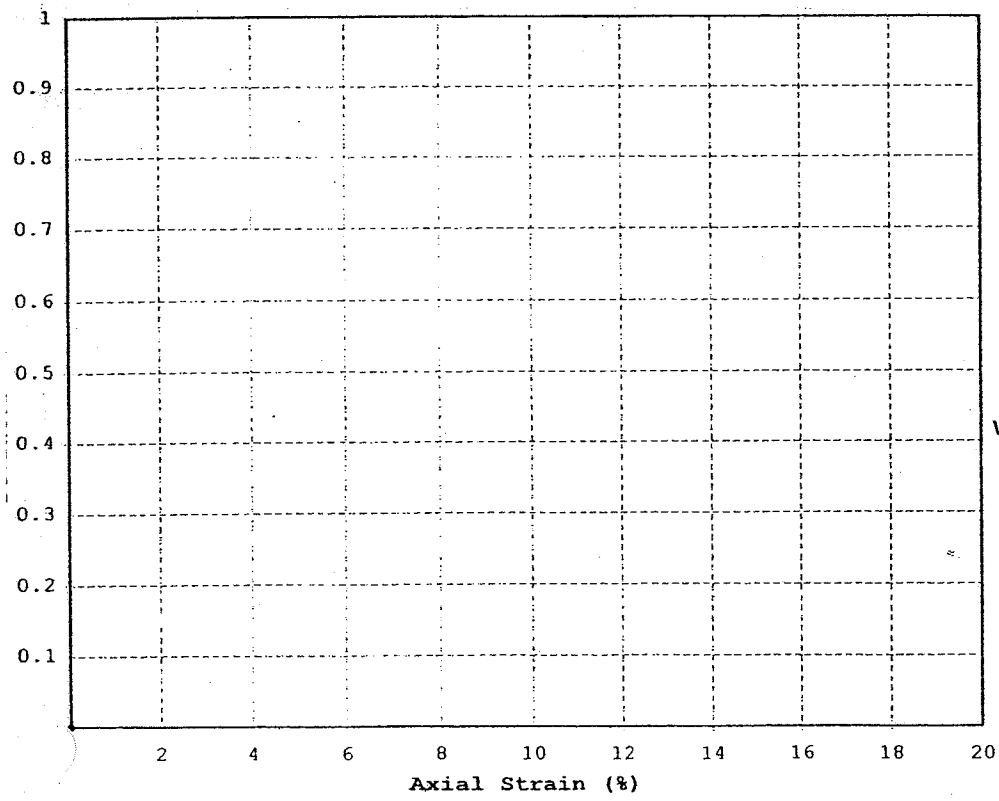
Strain Rate (in/min): 0.000
Sample Type: 3T
Dia. (in) 1.994 Ht. (in) 4.084
Height to Diameter Ratio: 2.05

Max Deviator Stress: 11.5 tsf
Strain at Failure (%): 26.9

W.C. (% 46.4
Yd (pcf) 70.2

Sketch of Specimen After Failure





Boring: Depth:
Sample #:
Soil Type:

Strain Rate (in/min):
Sample Type:

Dia. (in): Ht. (in):
Height to Diameter Ratio:

Max Deviator Stress: psi
Strain at Failure (%):

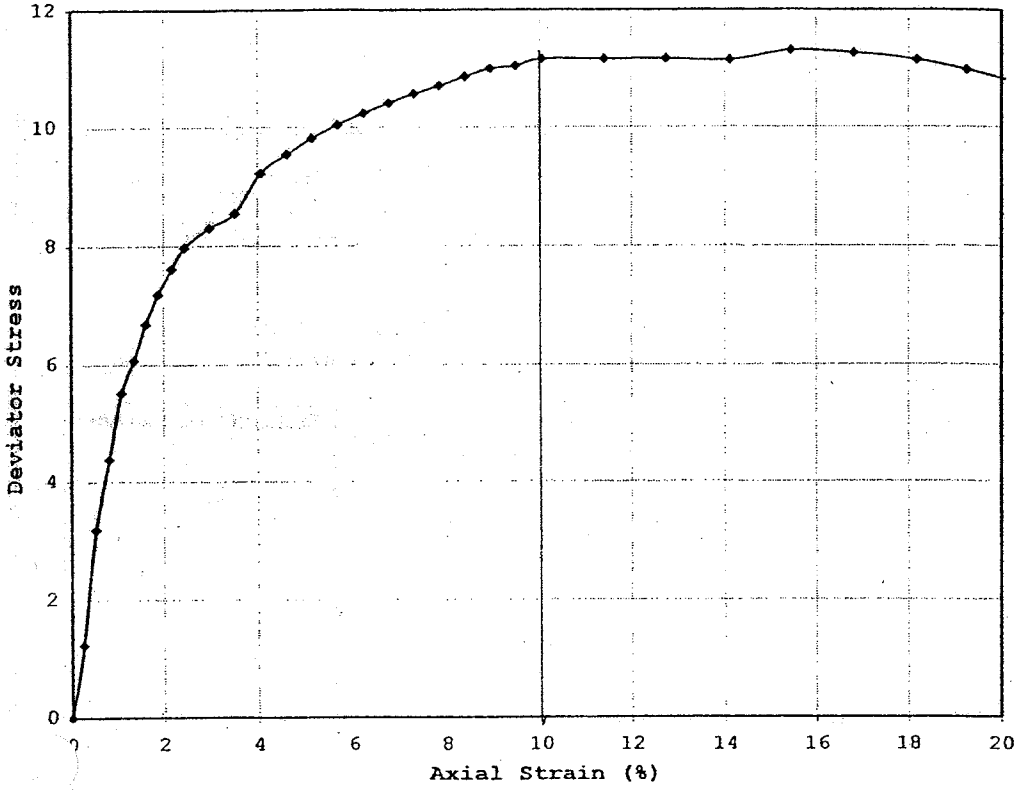
W.C. (%):
Yd (pcf):

Sketch of Specimen After Failure

9301 Bryant Ave. South Suite 107 SOIL ENGINEERING TESTING, INC. Bloomington, Minnesota 55420-3436

Consolidated Drained Stress/Strain Curves

Project: Clinton Landfill No. 3 - # 18330.1 Job: 4644
Client: SKS Engineers, Inc. Date: 2/11/02
Remarks: Sample at elevation 660: Confining Pressure of 138.9 psi applied to sample.
Sample at elevation 670: Confining Pressure of 125.0 psi applied to sample.



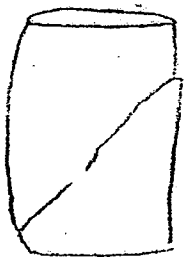
Boring: EX-13 Depth: @ 62' (Top)
Elev. (ft): 660
Soil Type: Lean Clay (CL/CH)
(CL) Gray Berry Clay

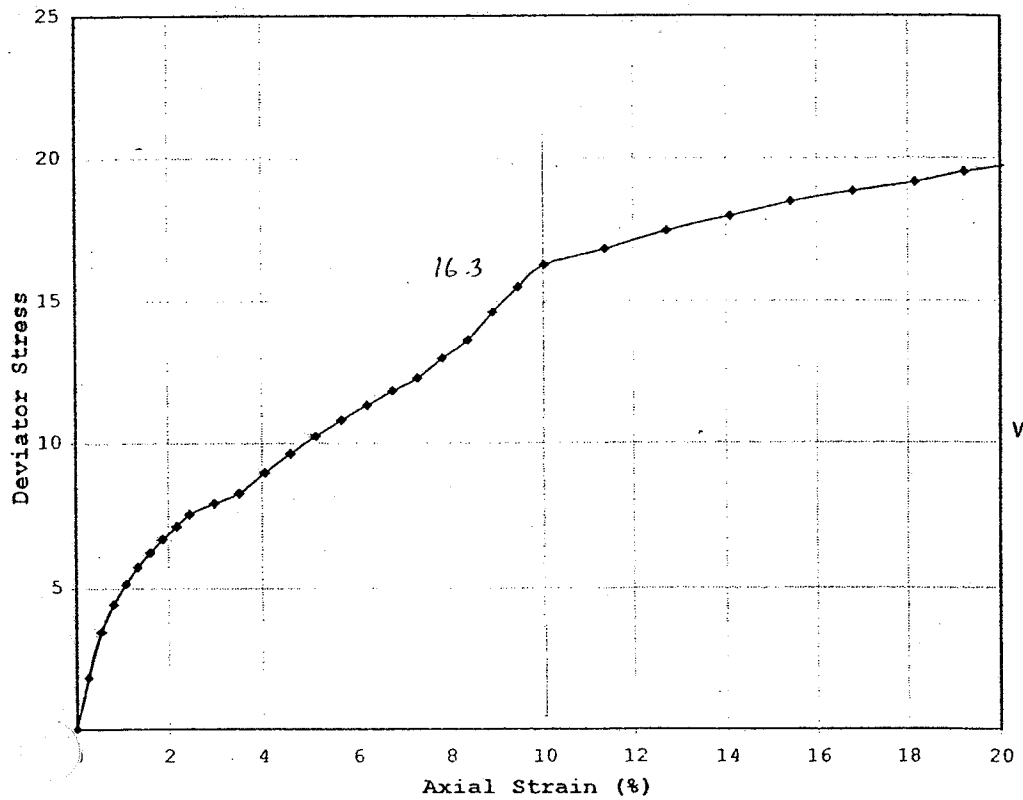
Strain Rate (in/min): 0.000359
Sample Type: 3T
Dia. (in) 2.000 Ht. (in) 4.081
Height to Diameter Ratio: 0.49

Max Deviator Stress: 11.30 tsf
Strain at Failure (%): 15.5

W.C. (% 18.7
Yd (pcf) 109.1

Sketch of Specimen After Failiure





Boring: EX-13 Depth: @ 52' (Top)
Elev. (ft): 670
Soil Type: Lean Clay (CL/CL-ML)
(CL) Brown Robein/Roxana

Strain Rate (in/min): 0.000359
Sample Type: 3T

Dia. (in): 2.000 Ht. (in): 4.086
Height to Diameter Ratio: 2.04

Max Deviator Stress: 19.80 tsf
Strain at Failure (%): 20.3

W.C. (%): 33.5
Yd (pcf): 86.8

Sketch of Specimen After Failiure

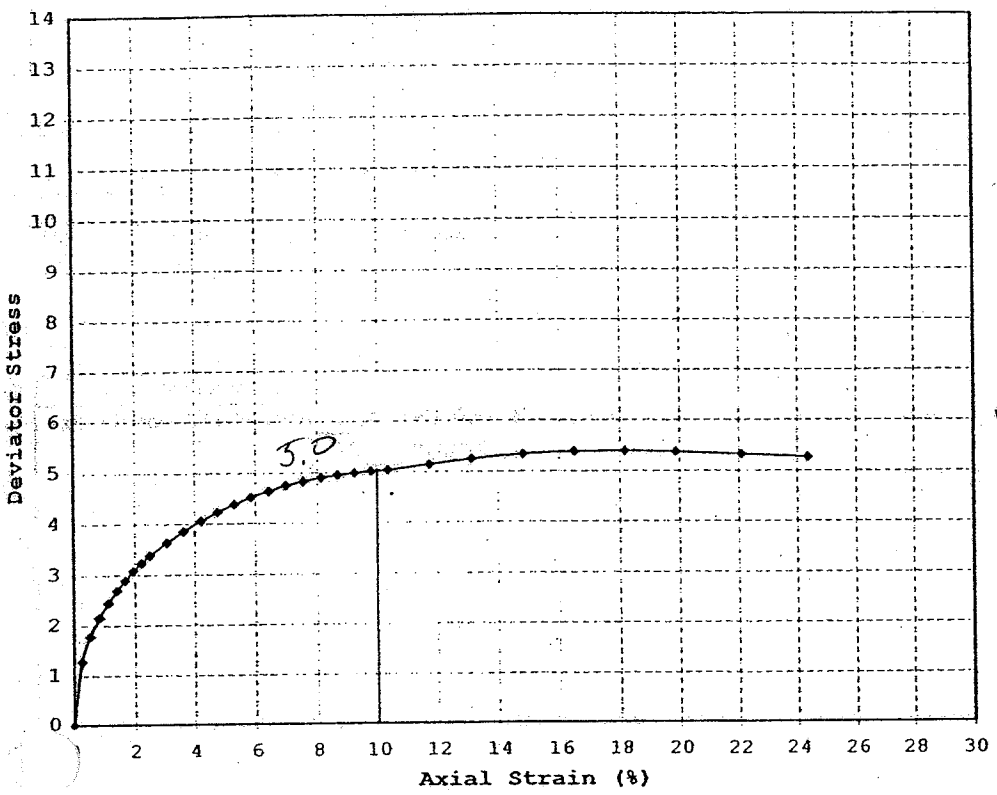
9301 Bryant Ave. South Suite 107 SOIL ENGINEERING TESTING, INC. Bloomington, Minnesota 55420-3436

Triaxial C-D Stress/Strain Curves

Project: Clinton Landfill No. 3 - # 18330.1 Job: 4644-A

Client: SKS Engineers, Inc. Date: 3/31/03

Remarks: Specimen Trimmed to Given Size, Radial (Spiral) Drainage Strips Applied, Allowed to Consolidate Under Double End Drainage For About 2 Days.



Boring: EX-19 Depth: 59' (Top)

Elev. (ft.): 659

Soil Type: Gray-Dark Gray Berry Clay
Lean Clay w/Sand & a few Laminations of Silty Sand (CL)

Strain Rate (in/min): 0.000369

Sample Type: 3T

Dia. (in) 1.96 Ht. (in) 3.95

Height to Diameter Ratio: 2.02

Max Deviator Stress: 5.4 tsf

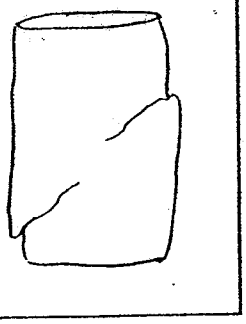
Strain at Failure (%): 18.2

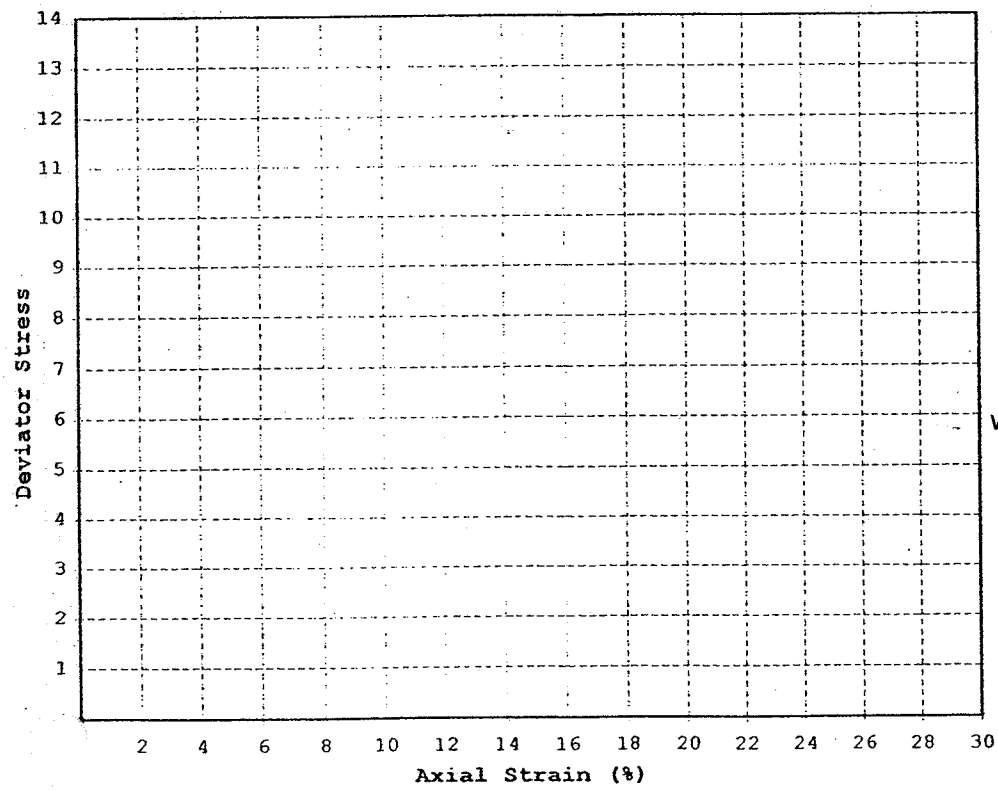
Confining Pressure: 4.00 tsf

W.C. (% 16.2

Yd (pcf) 113.6

Sketch of Specimen After Failure





Boring: Depth:

Elev. (ft.):

Soil Type:

Strain Rate (in/min):

Sample Type:

Dia. (in): Ht. (in):

Height to Diameter Ratio:

Max Deviator Stress: tsf

Strain at Failure (%):

Confining Pressure: tsf

W.C. (%):

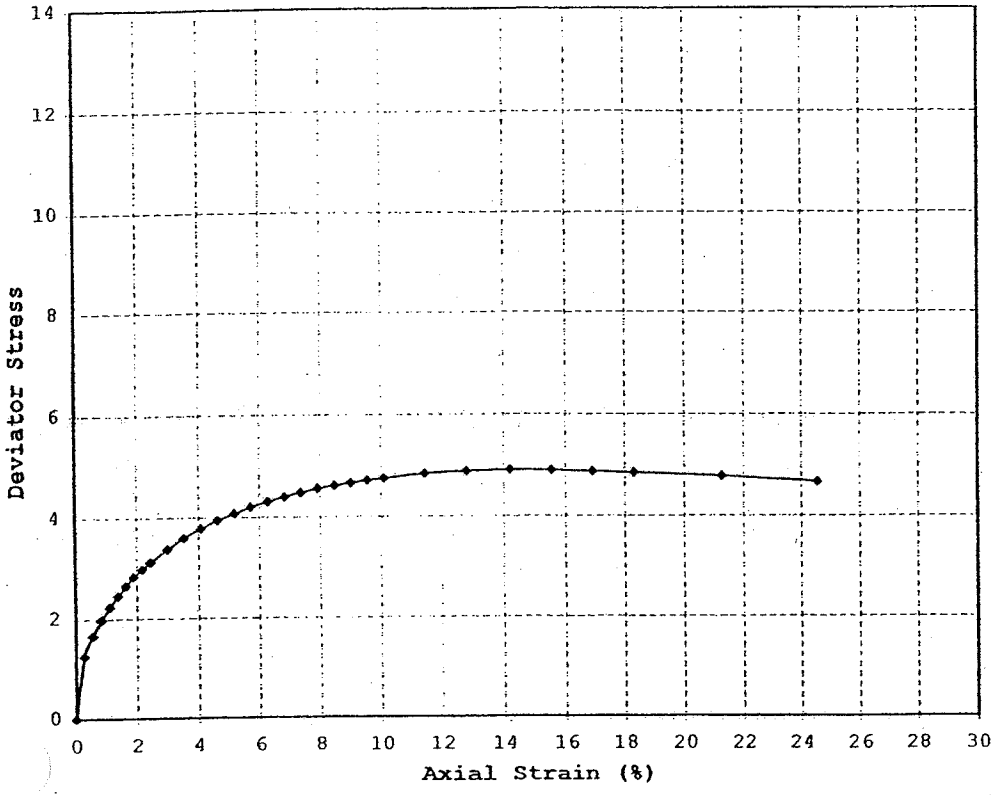
Yd (pcf):

Sketch of Specimen After Failure

9301 Bryant Ave. South Suite 107 SOIL ENGINEERING TESTING, INC. Bloomington, Minnesota 55420-3436

Triaxial C-D Stress/Strain Curves

Project: Clinton Landfill No. 3 - # 18330.1 Job: 4644-A
Client: SKS Engineers, Inc. Date: 3/31/03
Remarks: Speciman Trimmed to Given Size, Radial (Spiral) Drainage Strips Applied, Allowed to Consolidate Under Double End Drainage For About 2 Days.



Boring: EX-21 Depth: 39' (Top)
Elev. (ft.): 662

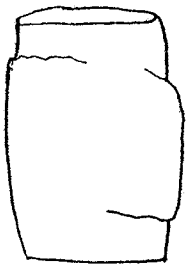
Soil Type: Sandy Lean Clay, w/a Trace of Gravel (CL)
Gray Berry Clay

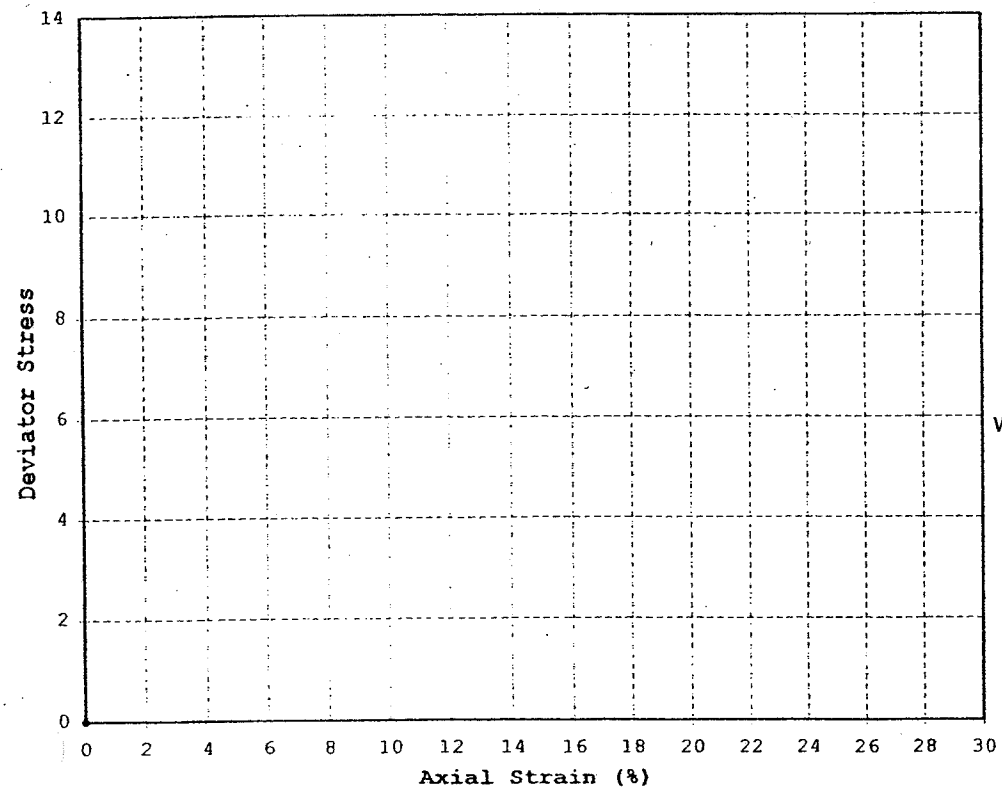
Strain Rate (in/min): 0.000369
Sample Type: 3T
Dia. (in) 2.00 Ht. (in) 4.05
Height to Diameter Ratio: 2.03

Max Deviator Stress: 4.9 tsf
Strain at Failure (%): 14.2
Confining Pressure: 3.00 tsf

W.C. (% 16.8
Yd (pcf) 112.9

Sketch of Specimen After Failure





Boring: Depth:
Elev. (ft.):

Soil Type:

Strain Rate (in/min):
Sample Type:

Dia. (in): Ht. (in):
Height to Diameter Ratio:

Max Deviator Stress: tsf
Strain at Failure (%):
Confining Pressure: tsf

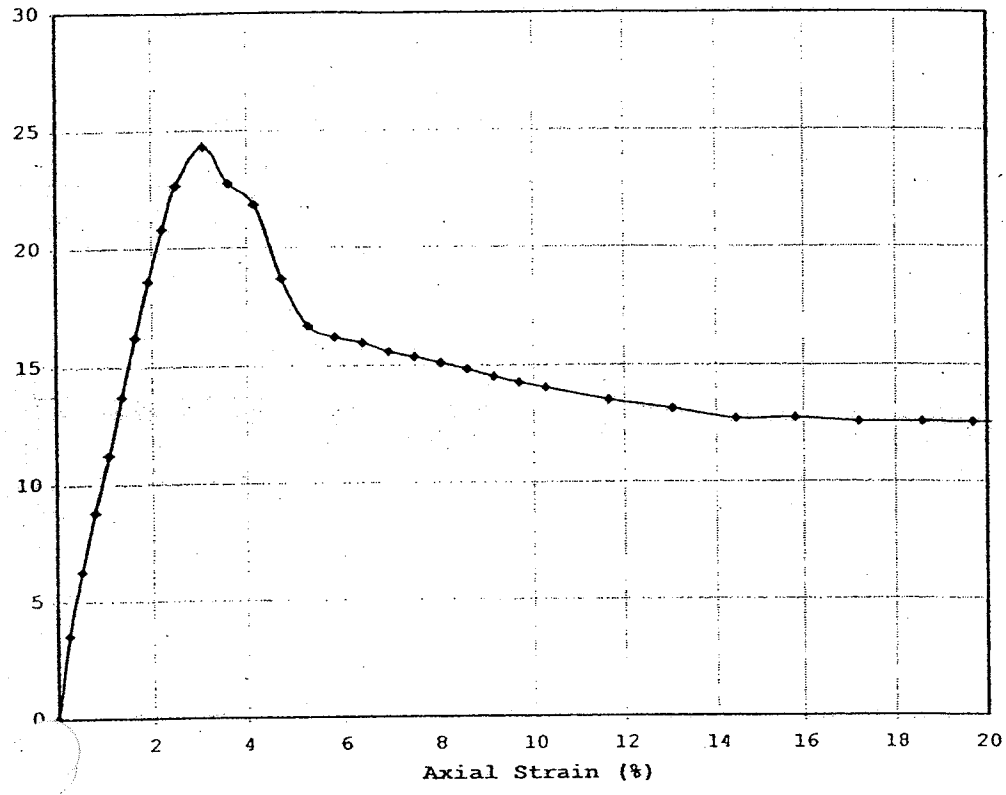
W.C. (%):
Yd (pcf):

Sketch of Specimen After Failure

9301 Bryant Ave. South Suite 107 SOIL ENGINEERING TESTING, INC. Bloomington, Minnesota 55420-3436

Consolidated Drained Stress/Strain Curves

Project: Clinton Landfill No. 3 - # 18330.1 Job: 4644
Client: SKS Engineers, Inc. Date: 2/12/02
s: Confining Pressure of 41.7 psi applied to sample.



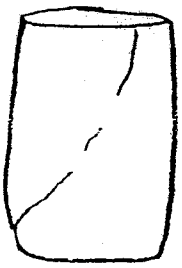
Boring: EX-16 Depth: @ 72' (Top)
Elev. (ft): 645
Soil Type: Sand Lean Clay w/a little gravel (SC)
Gray Randor Till

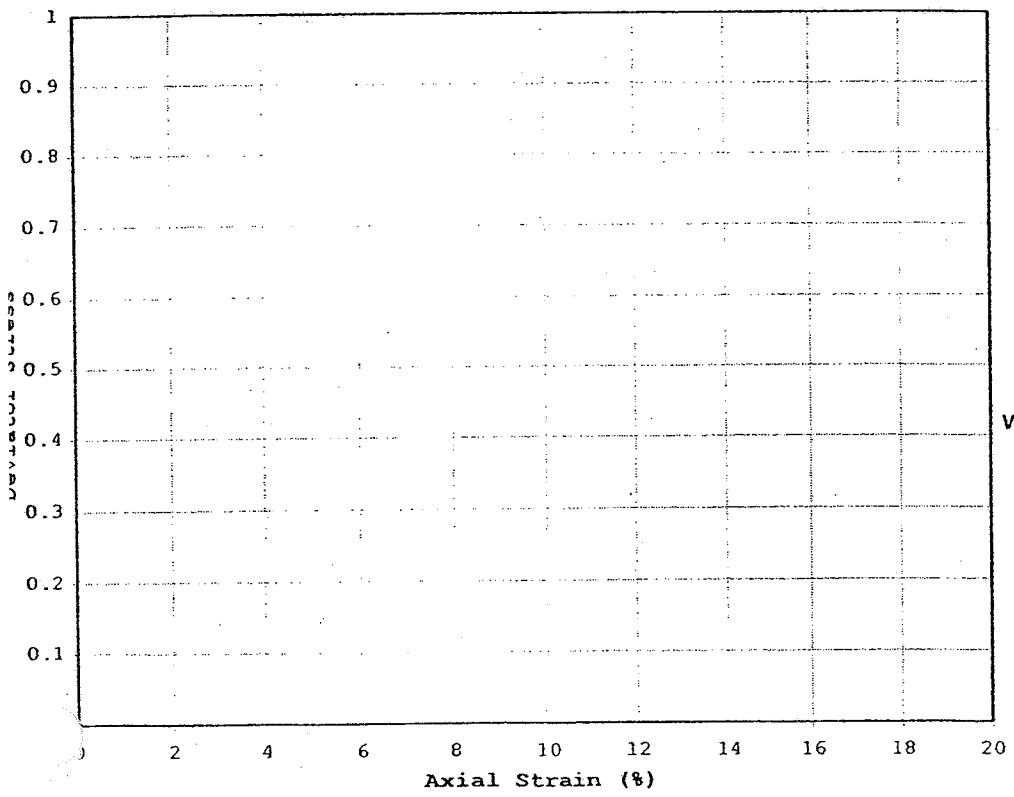
Strain Rate (in/min): 0.000369
Sample Type: 3T
Dia. (in) 1.933 Ht. (in) 3.990
Height to Diameter Ratio: 0.48

Max Deviator Stress: 24.31 tsf
Strain at Failure (%): 3.1

W.C. (% 6.6
Yd (pcf) 147.6

Sketch of Specimen After Failiure





Boring: Depth:
Elev. (ft):
Soil Type:

Strain Rate (in/min):
Sample Type:

Dia. (in): Ht. (in):
Height to Diameter Ratio:

Max Deviator Stress: tsf
Strain at Failure (%):

W.C. (%):
Yd (pcf):

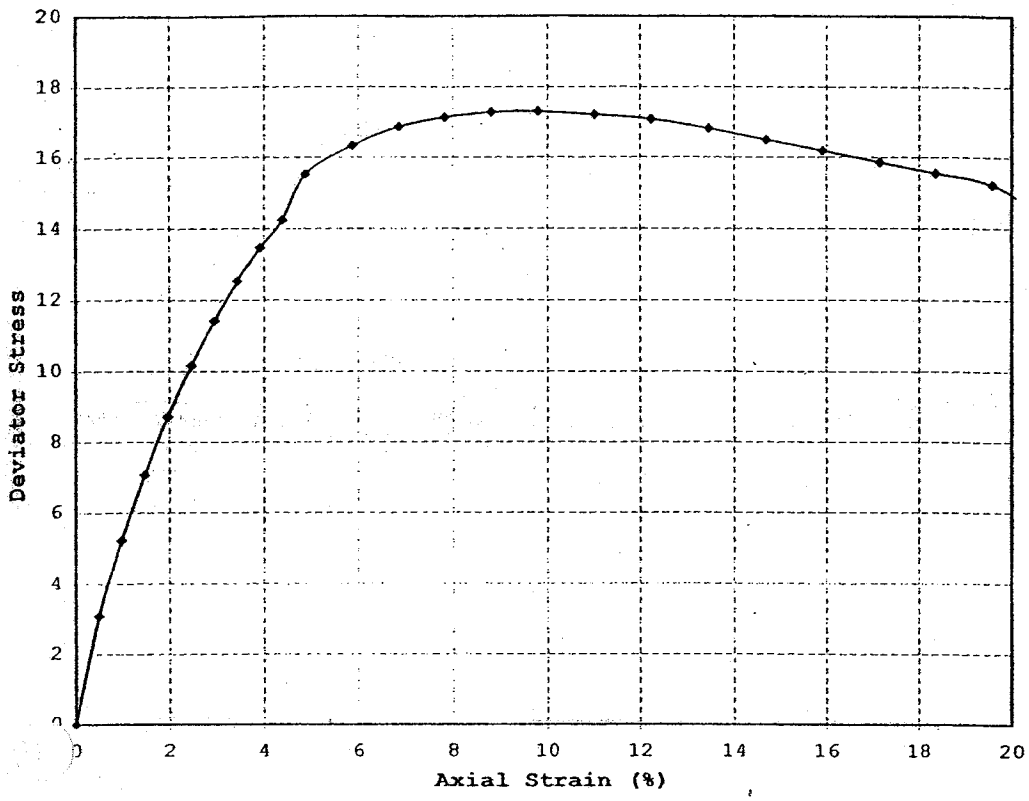
Sketch of Specimen After Failiure

9381 Bryant Ave. South Suite 107 SOIL ENGINEERING TESTING, INC. Bloomington, Minnesota 55420-3436

Consolidated Drained Stress/Strain Curves

Project: Clinton Landfill No. 3 - #18330.1 Job: 4644
Client: SKS Engineers, Inc. Date: 2/28/03
Remarks:

Confining Pressure of 83.3 psi applied to sample.



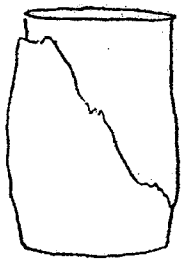
Boring: EX-19 Depth: 69
Elev. (ft): 647
Soil Type: Gray Random Till - Lean Clay w/Sand, Trace Gravel - CL

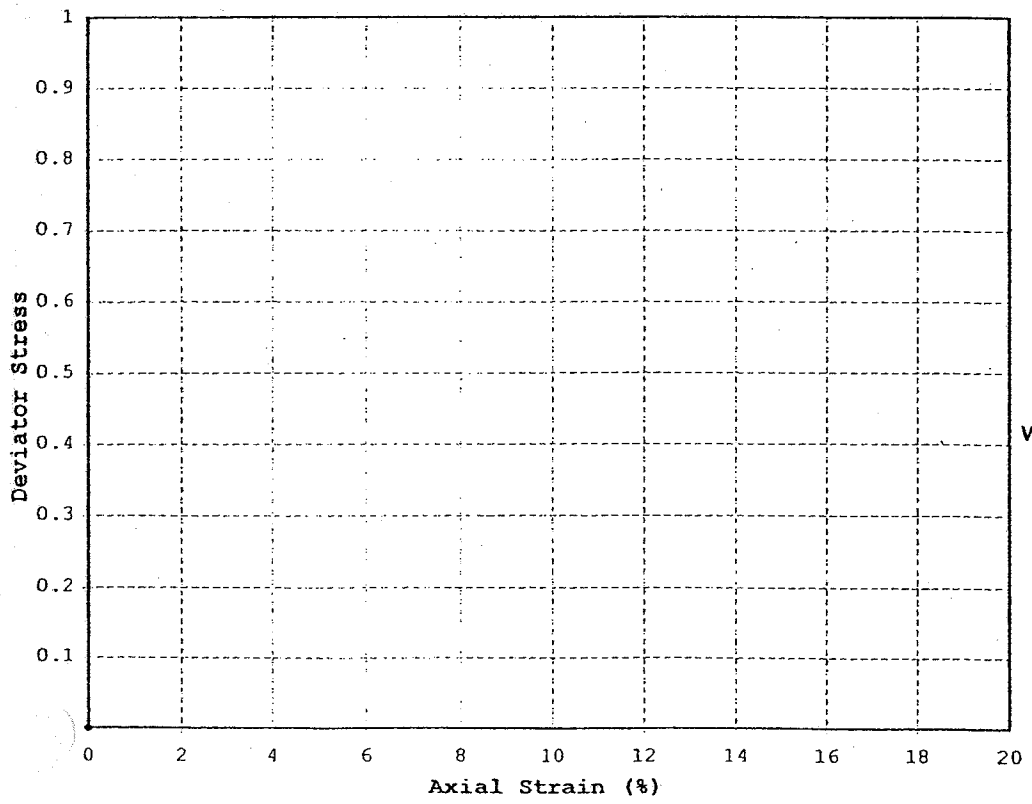
Strain Rate (in/min): 0.000
Sample Type: 3T
Dia. (in) 1.994 Ht. (in) 4.084
Height to Diameter Ratio: 2.05

Max Deviator Stress: 17.3 tsf
Strain at Failure (%): 9.8

W.C. (% 11.8
Yd (pcf) 127.5

Sketch of Specimen After Failure





Boring: Depth:
Sample #:
Soil Type:

Strain Rate (in/min):
Sample Type:

Dia. (in): Ht. (in):
Height to Diameter Ratio:

Max Deviator Stress: psi
Strain at Failure (%):

W.C. (%):
Yd (pcf):

Sketch of Specimen After Failure

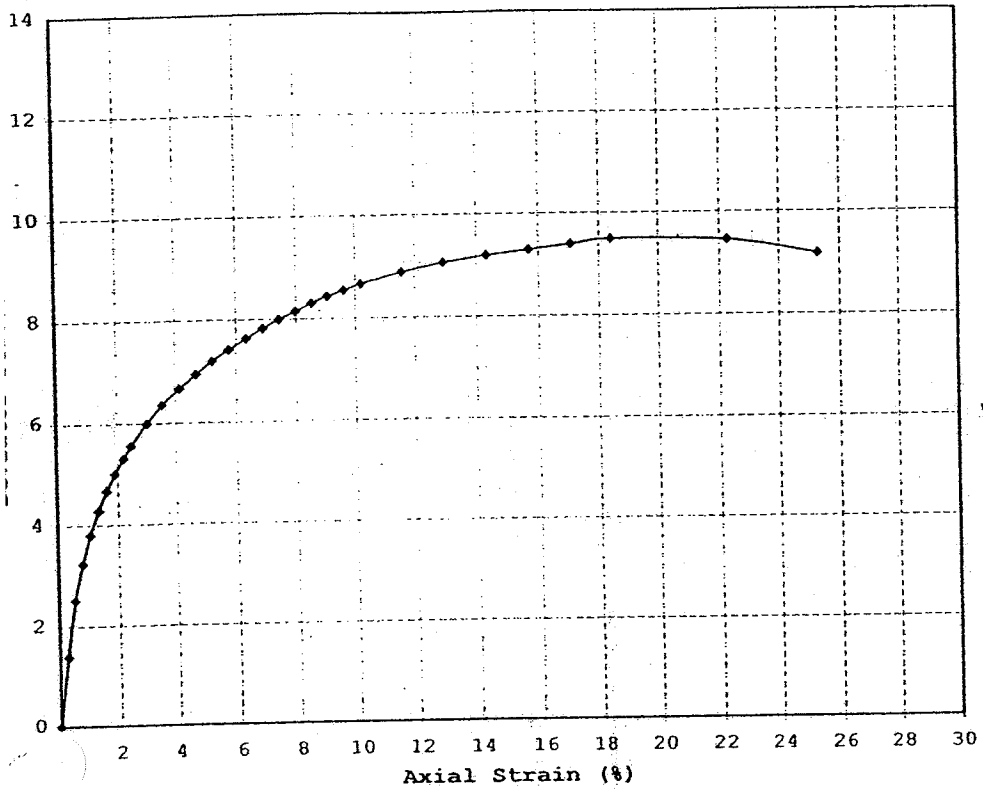
9301 Bryant Ave. South Suite 107 SOIL ENGINEERING TESTING, INC. Bloomington, Minnesota 55420-3436

Triaxial C-D Stress/Strain Curves

Project: Clinton Landfill No. 3 - # 18330.1 Job: 4644-A

Client: SKS Engineers, Inc. Date: 3/31/03

Specimen Trimmed To Given Size, Radial (Spiral) Drainage Strips Applied, Allowed To Consolidate Under Double End Drainage For About 2 Days.



Boring: EX-24 Depth: 76' (Top)

Elev. (ft.): 660

Soil Type: Gray Random Till - Sandy Lean Clay, w/a Trace of Gravel (CL)

Strain Rate (in/min): 0.000369

Sample Type: 3T

Dia. (in) 2.00 Ht. (in) 4.02

Height to Diameter Ratio: 2.01

Max Deviator Stress: 9.5 tsf

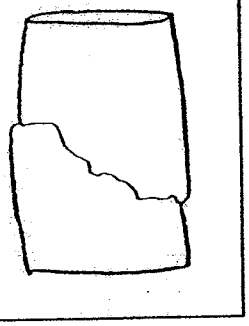
Strain at Failure (%): 18.4

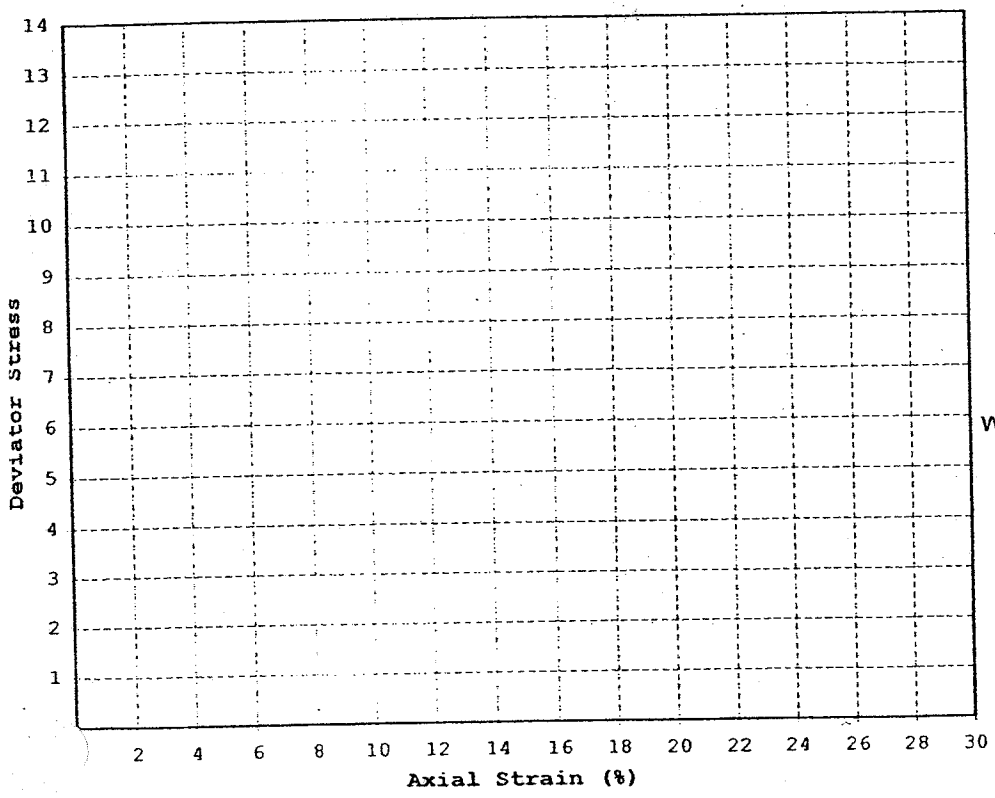
Confining Pressure: 10.00 tsf

W.C. (% 17.9

Yd (pcf) 112.6

Sketch of Specimen After Failure





Boring: Depth:

Elev. (ft.):

Soil Type:

Strain Rate (in/min):

Sample Type:

Dia. (in): Ht. (in):

Height to Diameter Ratio:

Max Deviator Stress: tsf

Strain at Failure (%):

Confining Pressure: tsf

W.C. (%):

Yd (pcf):

Sketch of Specimen After Failure

9301 Bryant Ave. South Suite 107 SOIL ENGINEERING TESTING, INC. Bloomington, Minnesota 55420-3436

SKS JOB NO. 07665

Consolidation Test
PDC

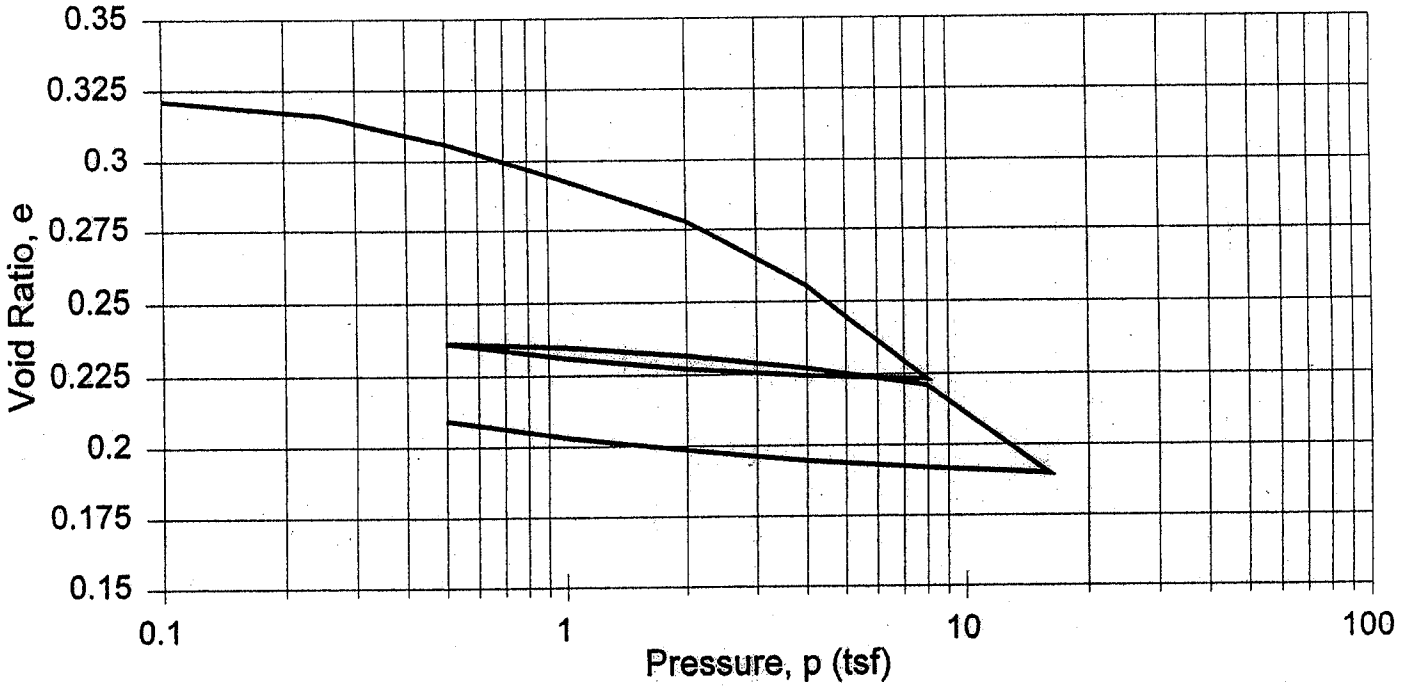
27-Dec-01

Client: PDC

e vs. Log p

Cc = 0.113, e0 = 0.331

Sample ID: EX-10
Depth: 12.5'-13.5'
Lab No.:



SKS JOB NO. 07665

Consolidation Test
PDC

27-Dec-01

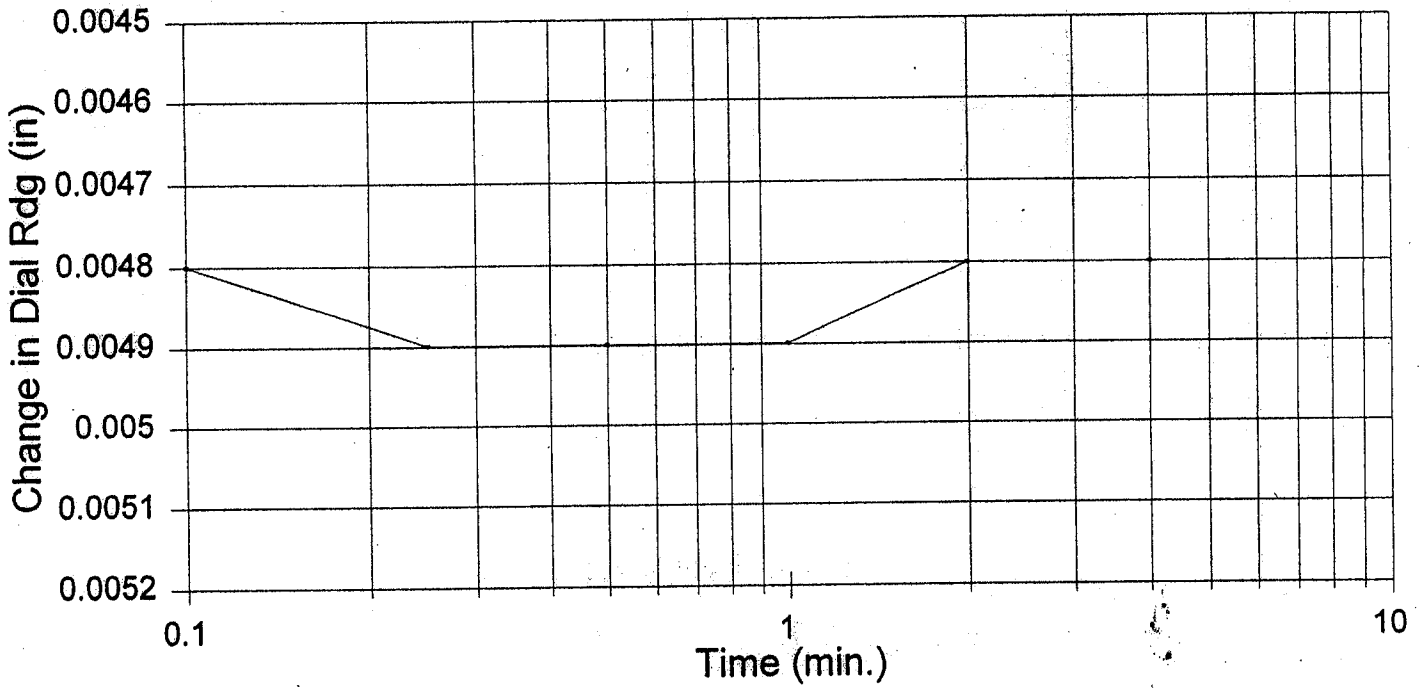
Client: PDC

1/16 tsf

Dial Reading vs. Log Time

Added load quickly due to swell

Sample ID: EX-10
Depth: 12.5'-13.5'
Lab No.:



SKS JOB NO. 07665

Consolidation Test
PDC

27-Dec-01

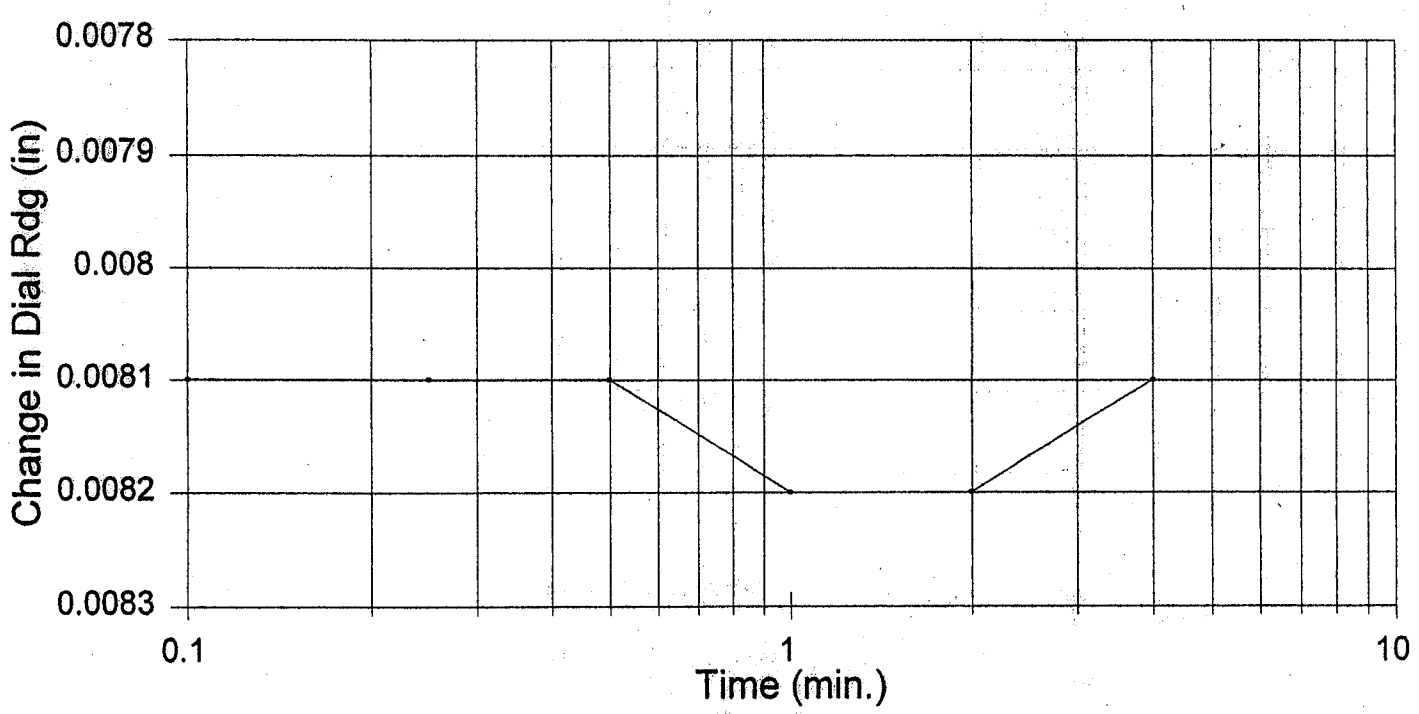
Client: PDC

1/8 tsf

Dial Reading vs. Log Time

Added load quickly due to swell

Sample ID: EX-10
Depth: 12.5'-13.5'
Lab No.:



SKS JOB NO. 07665

Consolidation Test
PDC

27-Dec-01

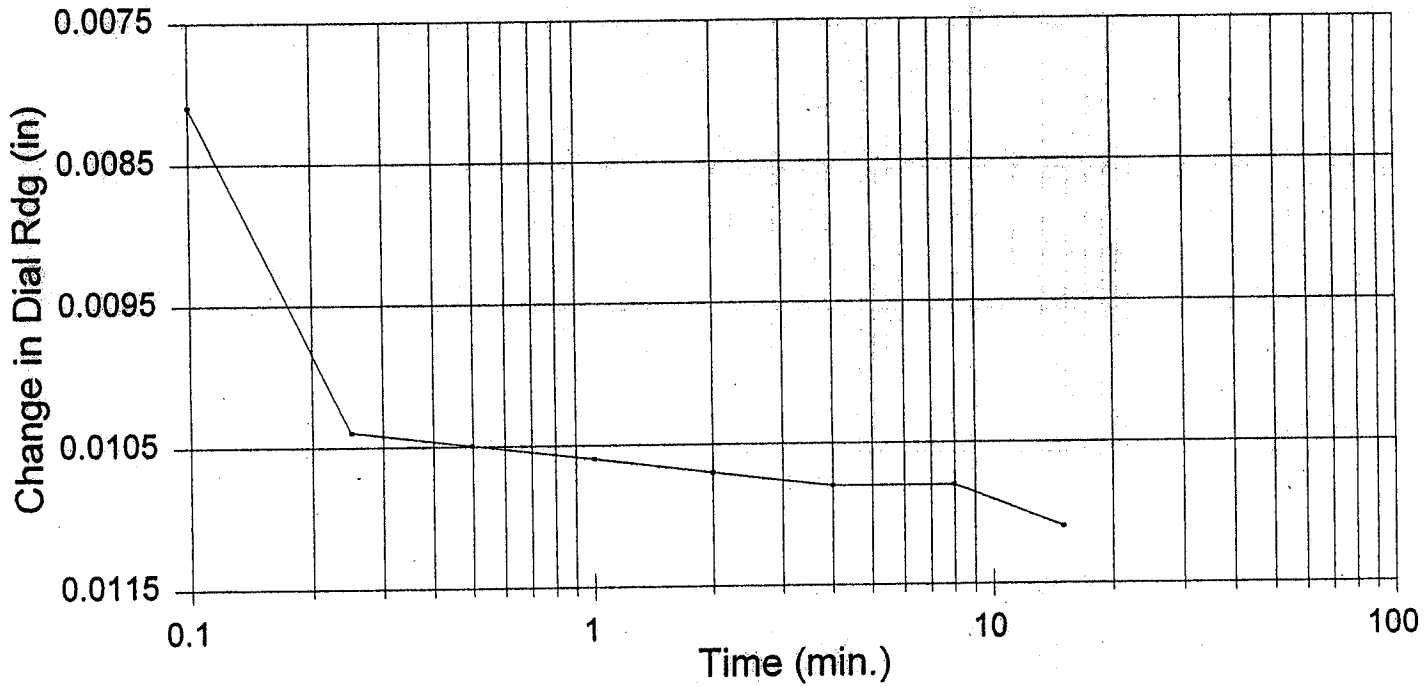
Client: PDC

1/4 tsf

Dial Reading vs. Log Time

Added load quickly due to swell

Sample ID: EX-10
Depth: 12.5'-13.5'
Lab No.:



SKS JOB NO. 07665

Consolidation Test
PDC

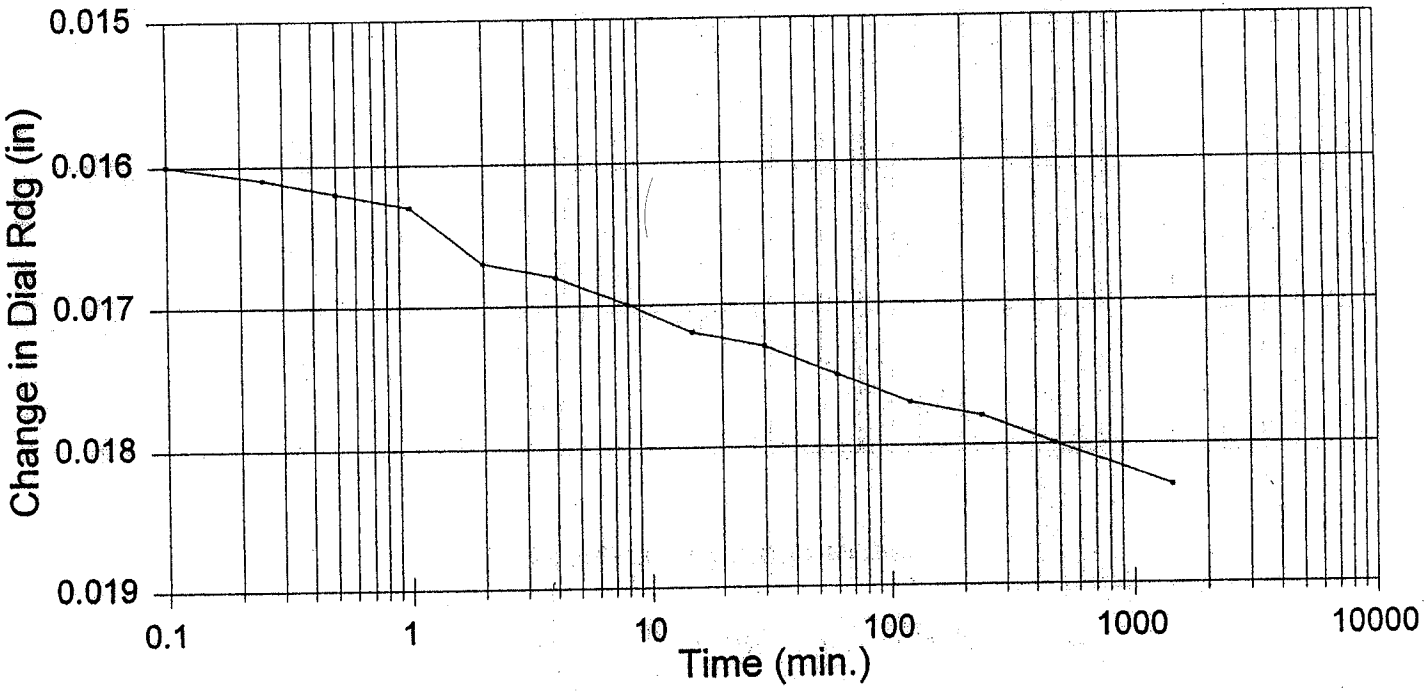
27-Dec-01

Client: PDC

1/2 tsf

Dial Reading vs. Log Time

Sample ID :EX-10
Depth: 12.5'-13.5'
Lab No.:



SKS JOB NO. 07665

Consolidation Test
PDC

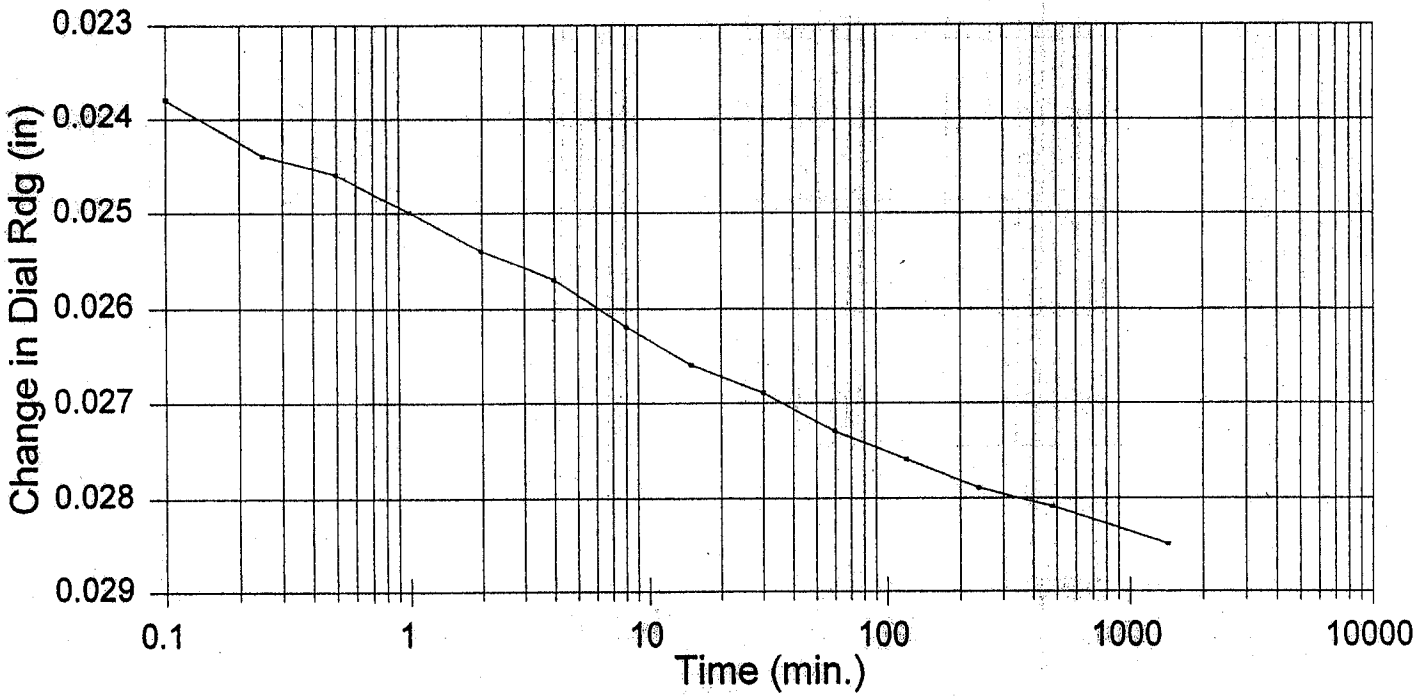
27-Dec-01

Client: PDC

1 tsf

Dial Reading vs. Log Time

Sample ID: EX-10
Depth: 12.5'-13.5'
Lab No.:



SKS JOB NO. 07665

Consolidation Test
PDC

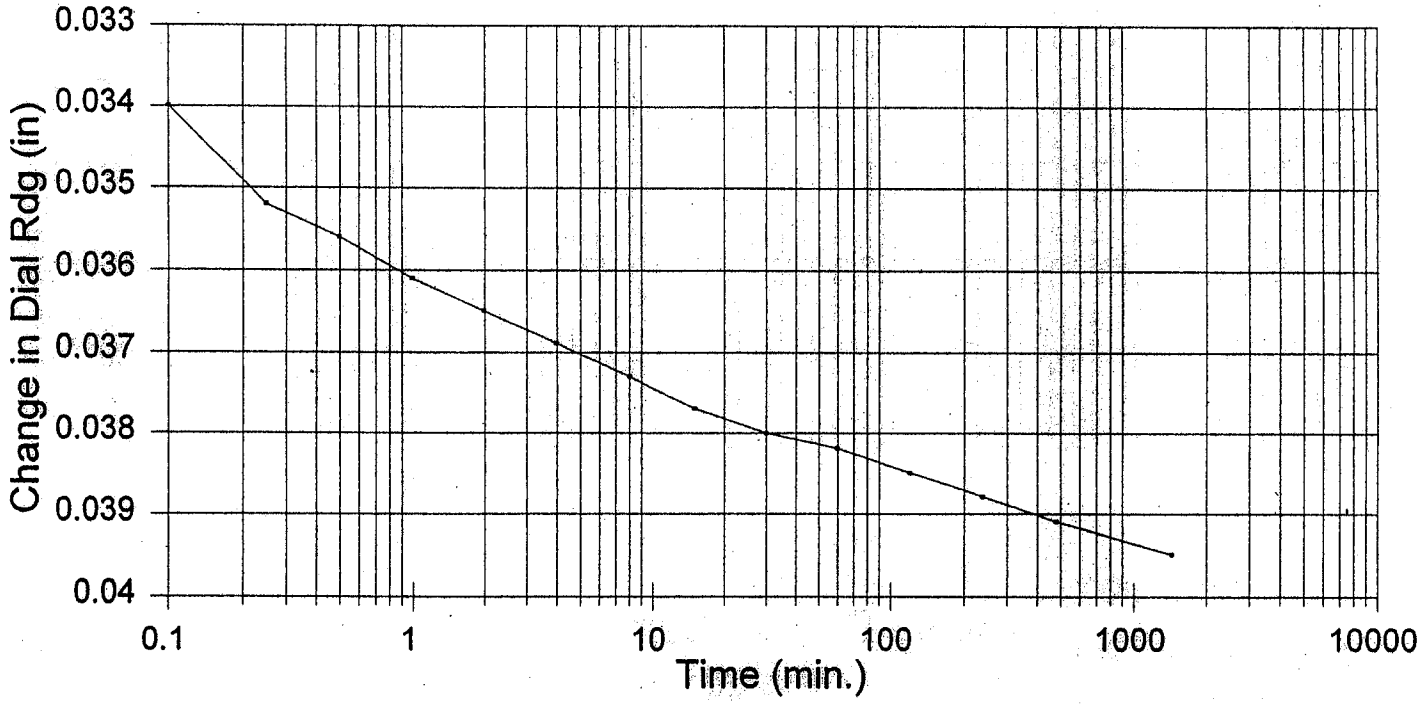
27-Dec-01

Client: PDC

2 tsf

Dial Reading vs. Log Time

Sample ID: EX-10
Depth: 12.5'-13.5'
Lab No.:



SKS JOB NO. 07665

Consolidation Test
PDC

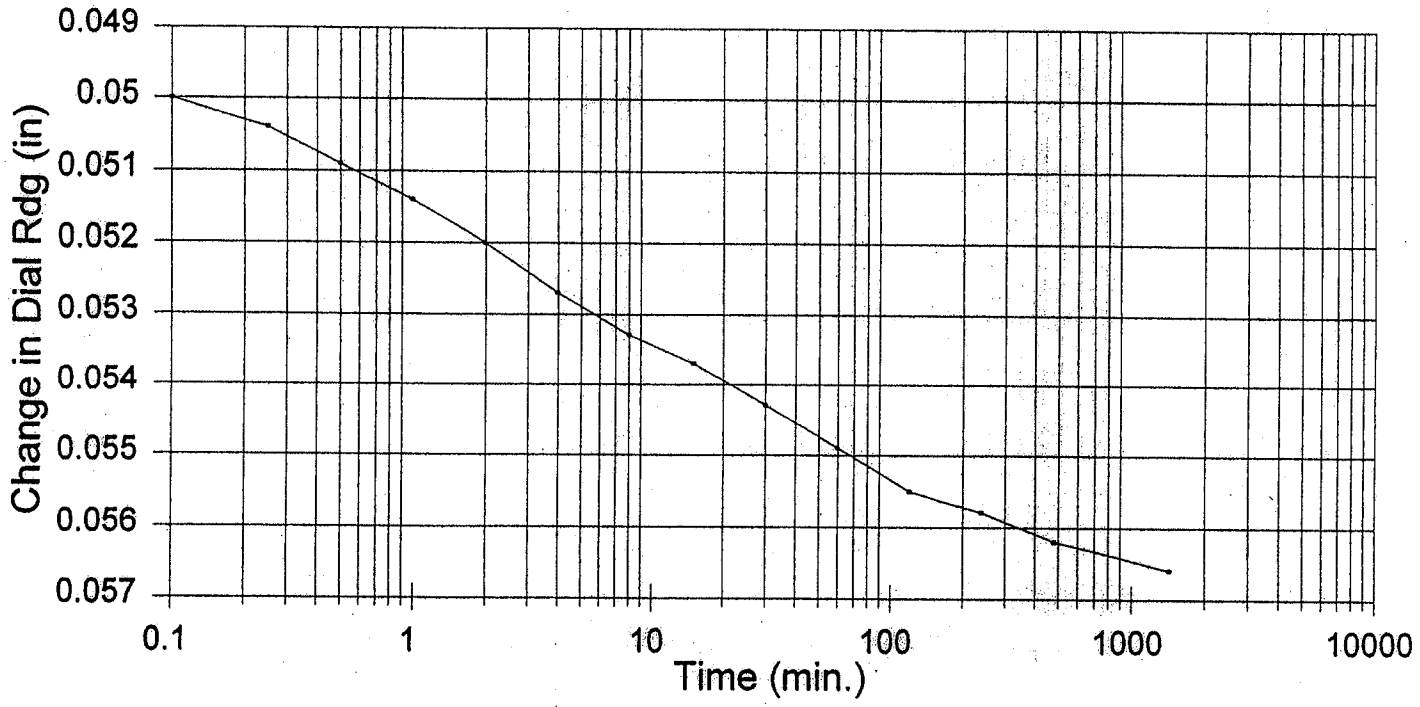
27-Dec-01

Client: PDC

4 tsf

Dial Reading vs. Log Time

Sample ID: EX-10
Depth: 12.5'-13.5'
Lab No.:



SKS JOB NO. 07665

Consolidation Test
PDC

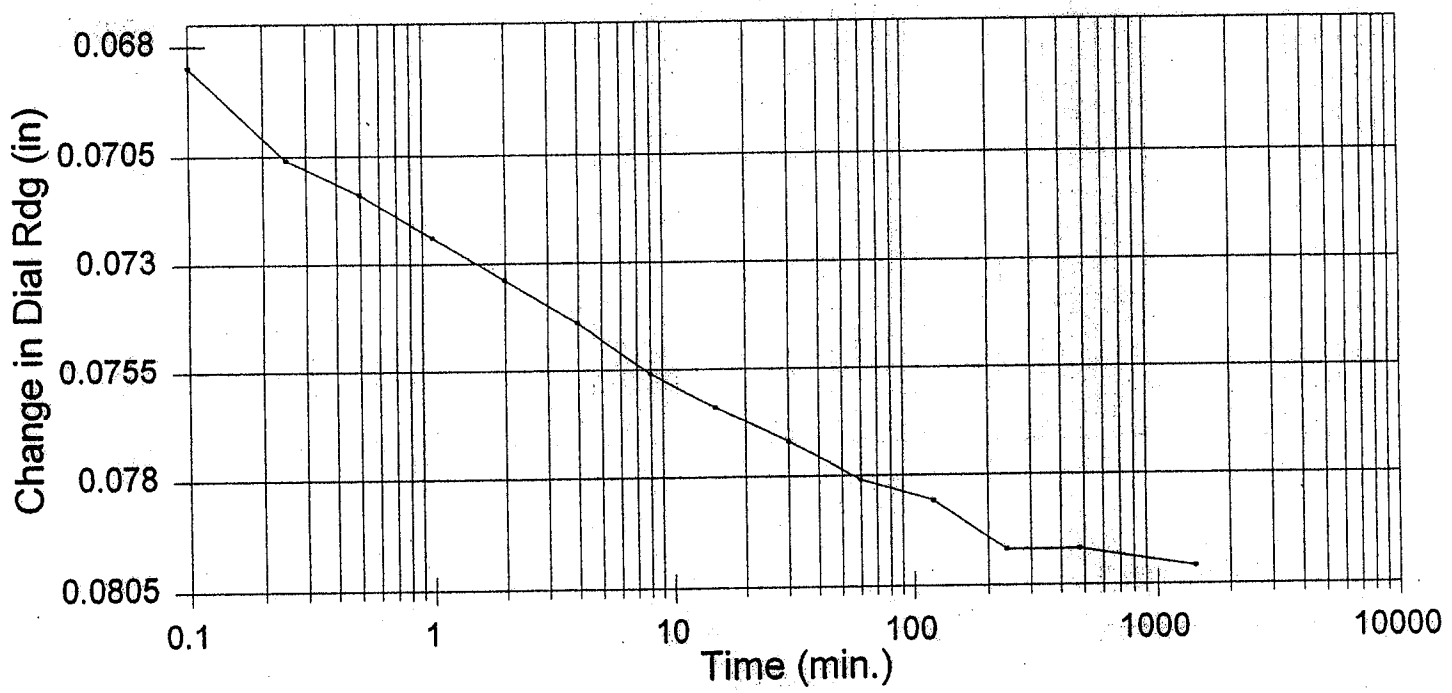
27-Dec-01

Client: PDC

8 tsf

Dial Reading vs. Log Time

Sample ID: EX-10
Depth: 12.5'-13.5'
Lab No.:



SKS JOB NO. 07665

Consolidation Test
PDC

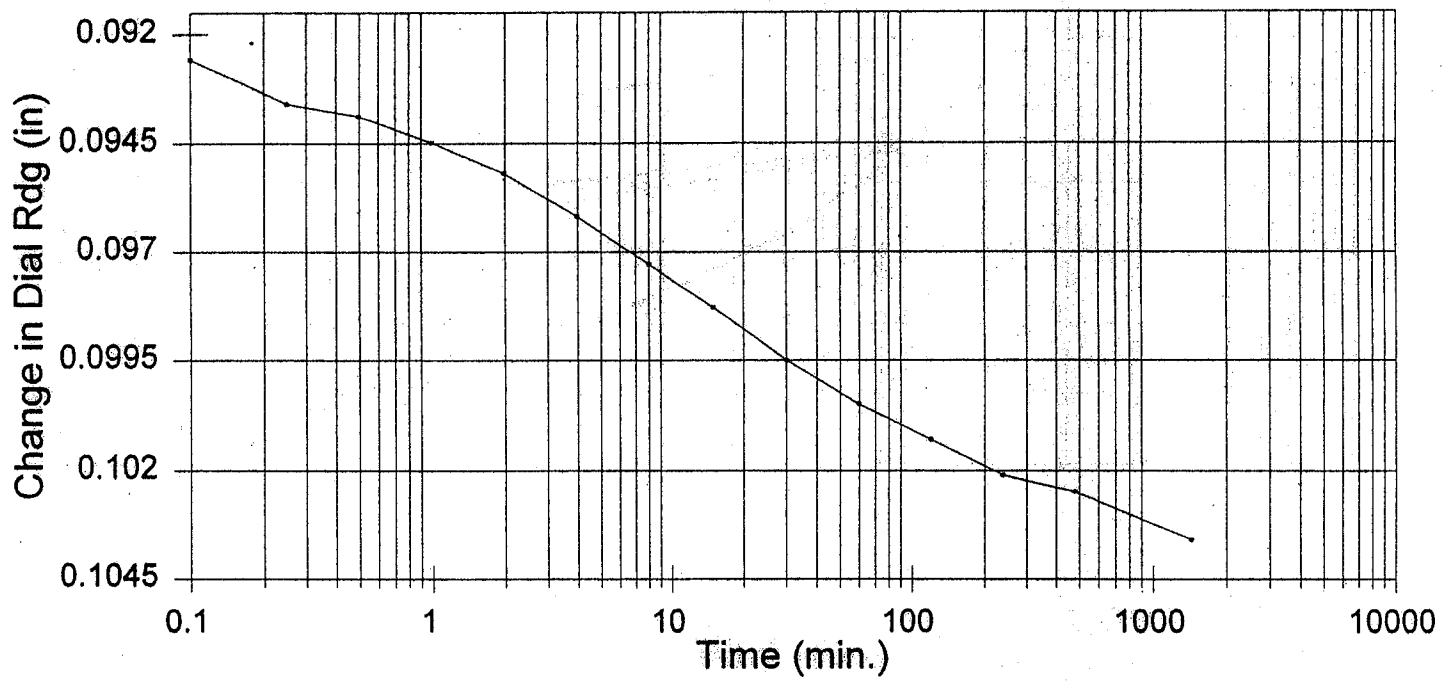
27-Dec-01

Client: PDC

16 tsf

Dial Reading vs. Log Time

Sample ID: EX-10
Depth: 12.5'-13.5'
Lab No.:



SKS JOB NO. 18330

Consolidation Test
PDC

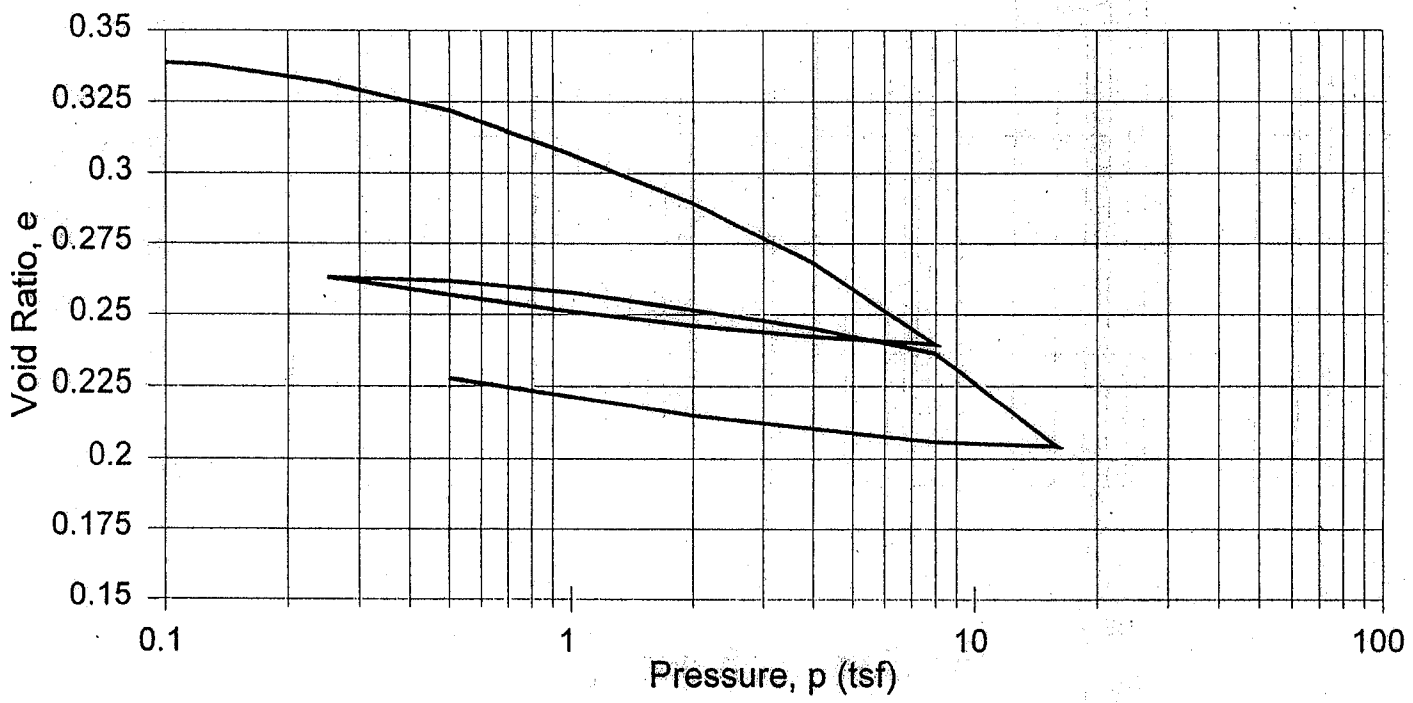
27-Feb-02

Client: PDC

e vs. Log p

Cc = 0.125, e0 = 0.348

Sample ID: EX-11
Depth: 691.2'-689.2'
Lab No.:



SKS JOB NO. 18330

Consolidation Test
PDC

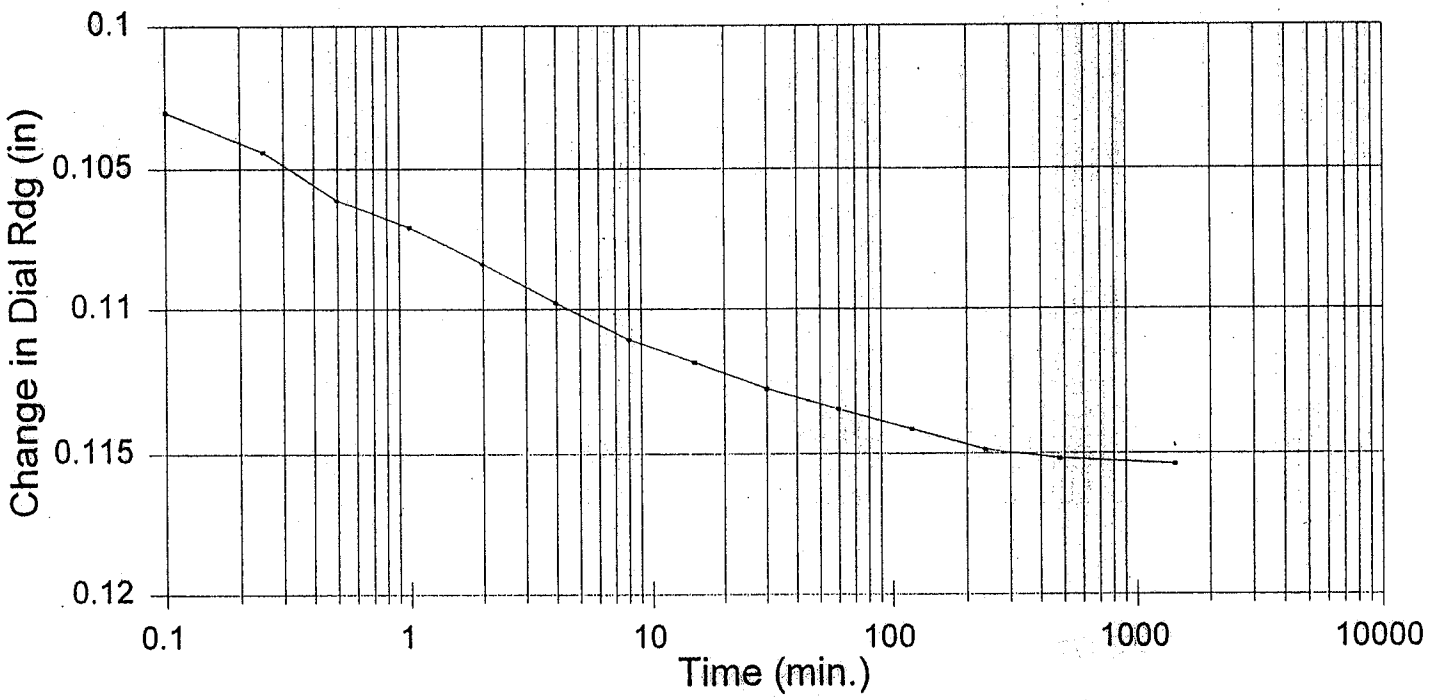
27-Feb-02

Client: PDC

16 tsf

Dial Reading vs. Log Time

Sample ID: EX-11
Depth: 691.2'-689.2'
Lab No.:



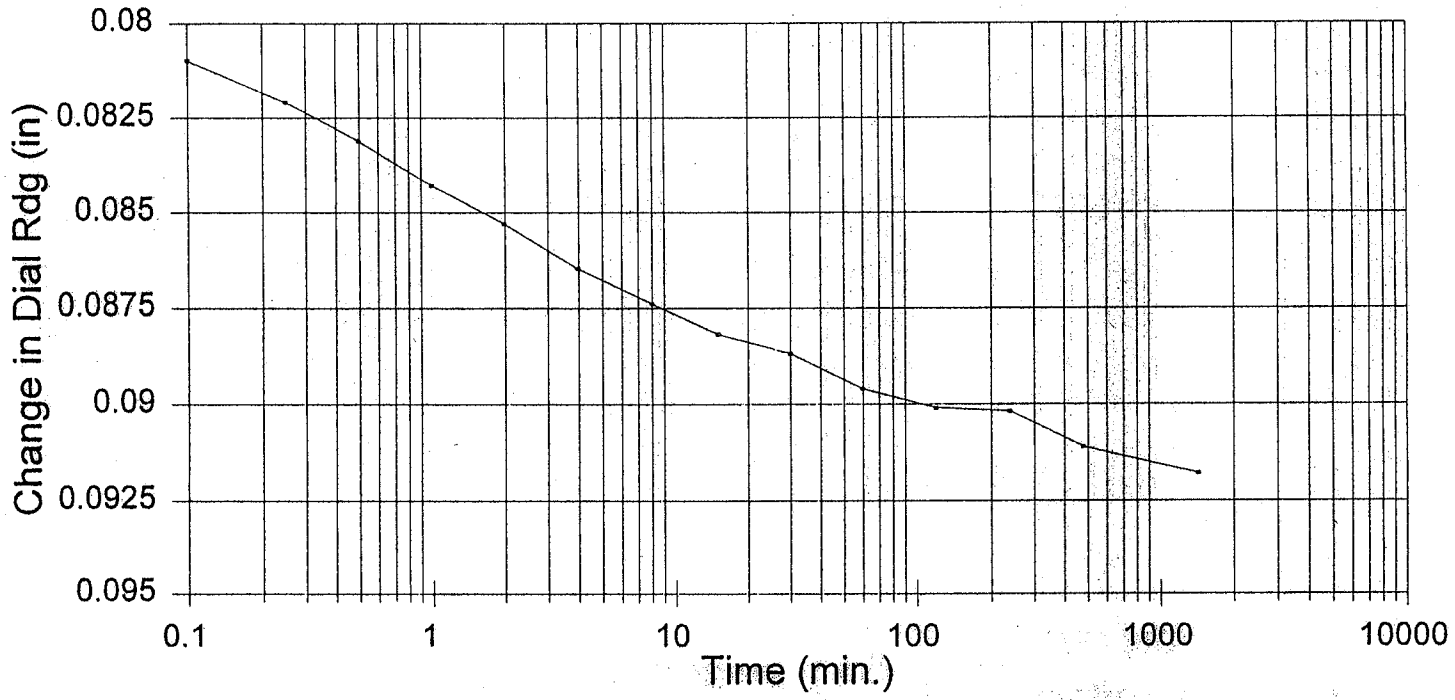
SKS JOB NO. 18330 | Consolidation Test PDC | 27-Feb-02

Client: PDC

8 tsf

Dial Reading vs. Log Time

Sample ID: EX-11
Depth: 691.2'-689.2'
Lab No.:



SKS JOB NO. 18330

Consolidation Test
PDC

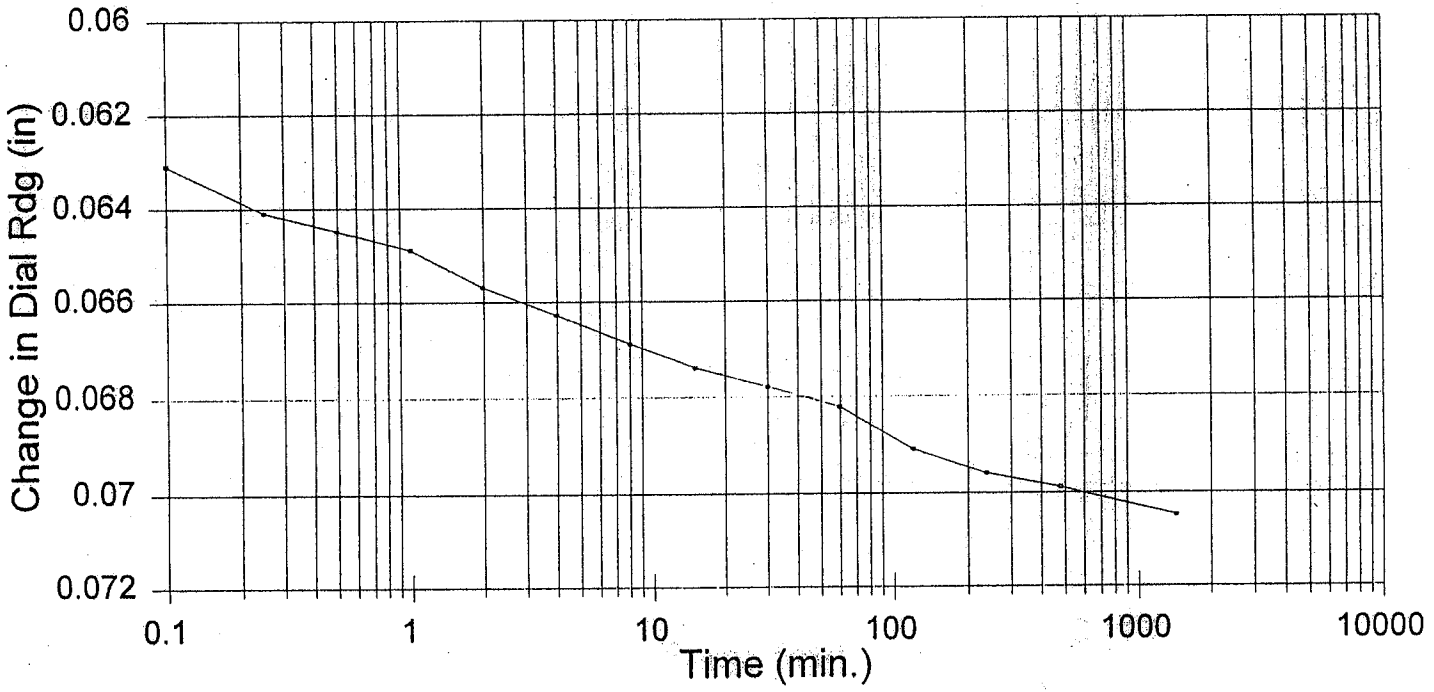
27-Feb-02

Client: PDC

4 tsf

Dial Reading vs. Log Time

Sample ID: EX-11
Depth: 691.2'-689.2'
Lab No.:



SKS JOB NO. 18330

Consolidation Test
PDC

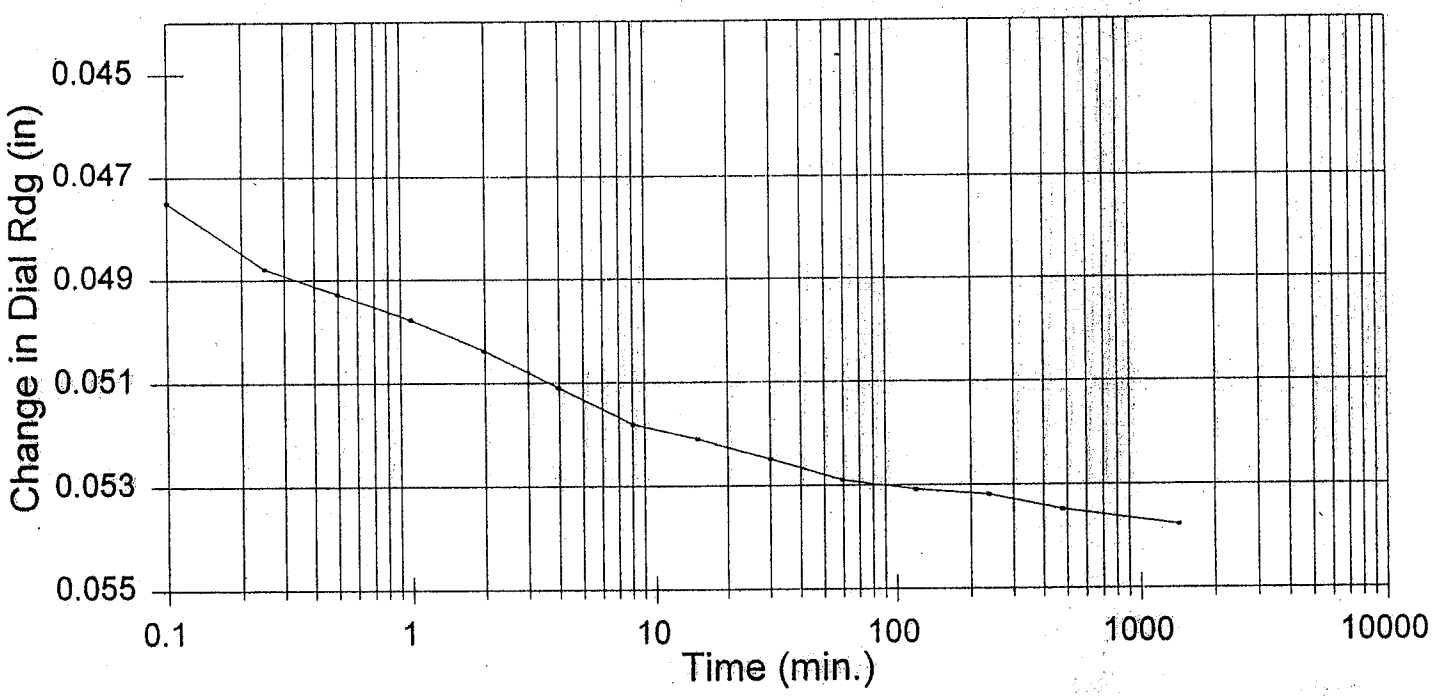
27-Feb-02

Client: PDC

2 tsf

Dial Reading vs. Log Time

Sample ID: EX-11
Depth: 691.2'-689.2'
Lab No.:



SKS JOB NO. 18330

Consolidation Test
PDC

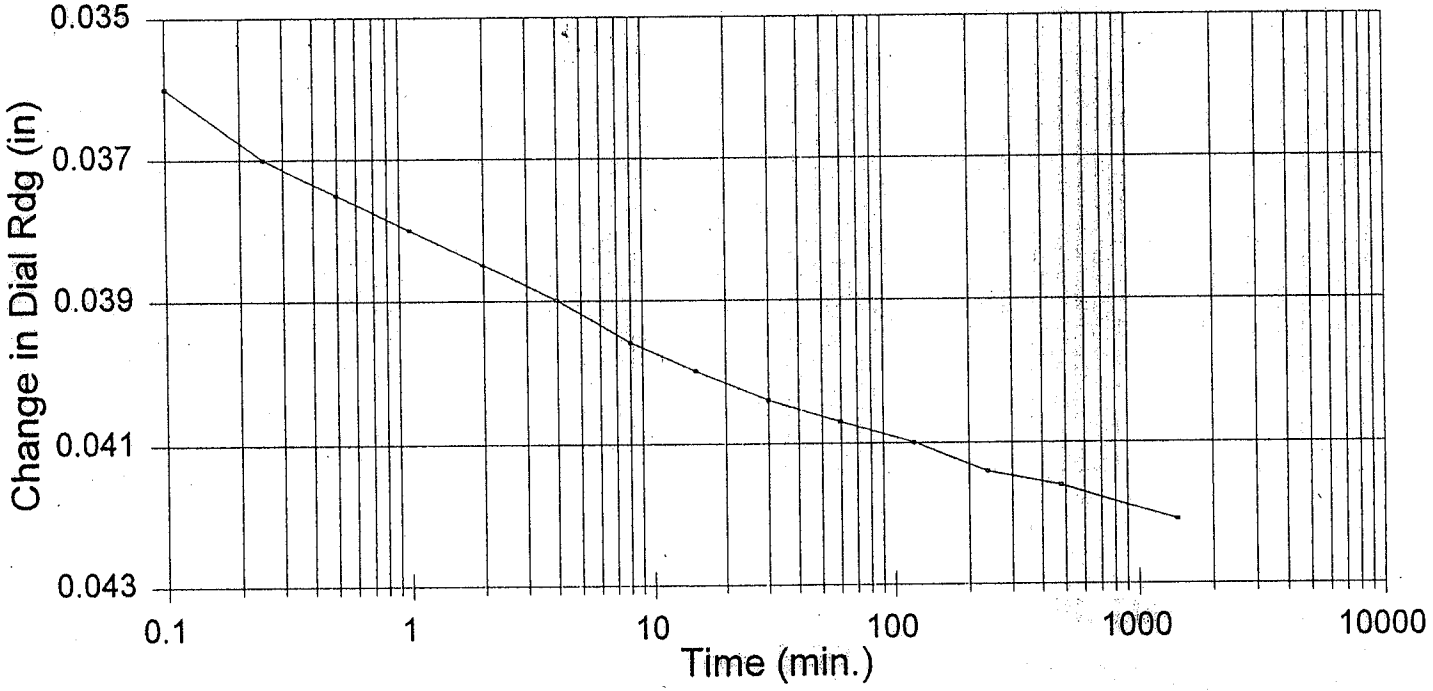
27-Feb-02

Client: PDC

1 tsf

Dial Reading vs. Log Time

Sample ID: EX-11
Depth: 691.2'-689.2'
Lab No.:



SKS JOB NO. 18330

Consolidation Test
PDC

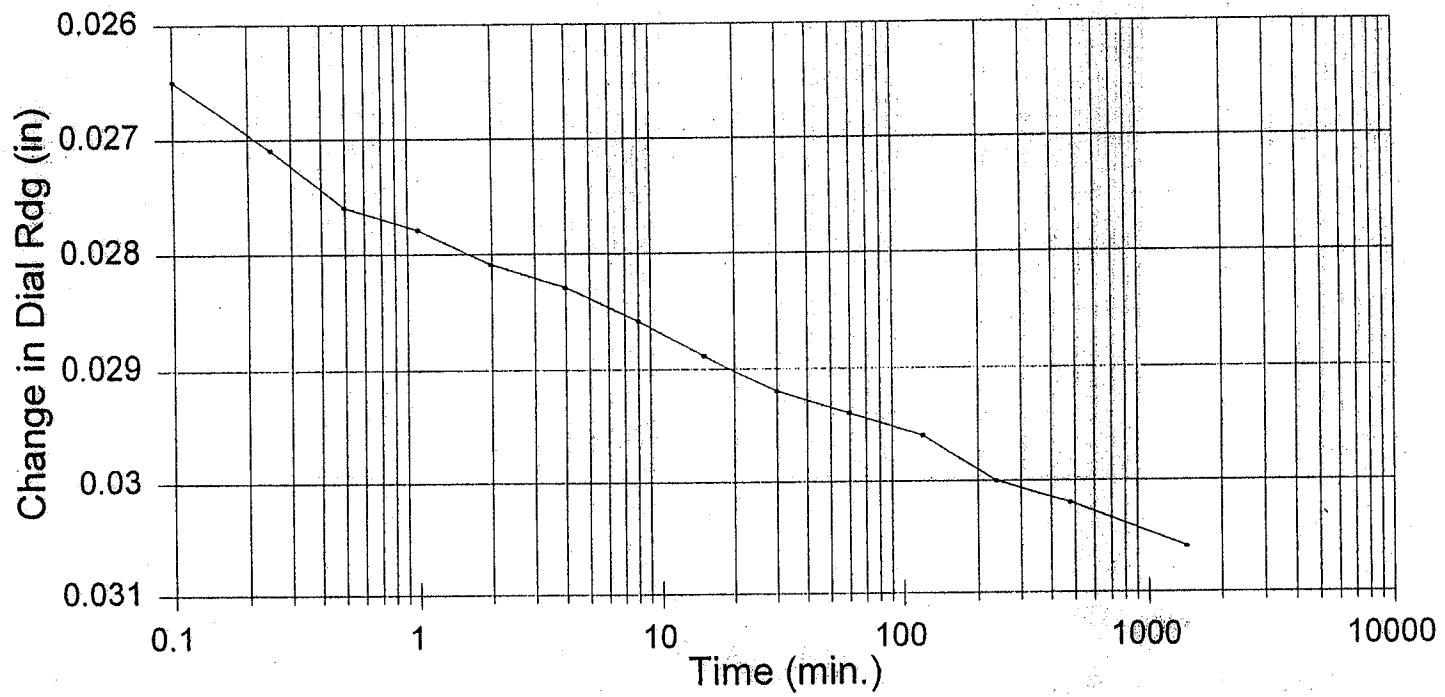
27-Feb-02

Client: PDC

1/2 tsf

Dial Reading vs. Log Time

Sample ID :EX-11
Depth: 691.2'-689.2'
Lab No.:



SKS JOB NO. 18330

Consolidation Test
PDC

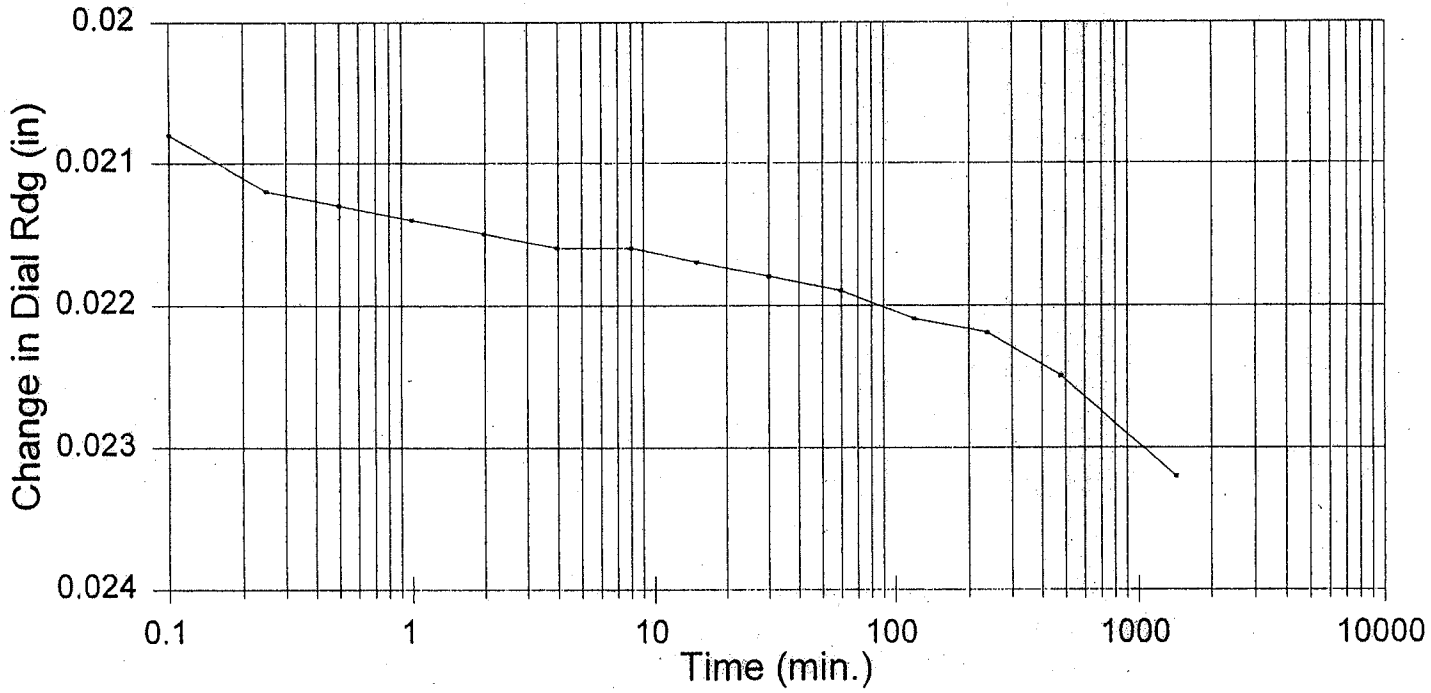
27-Feb-02

Client: PDC

1/4 tsf

Dial Reading vs. Log Time

Sample ID: EX-11
Depth: 691.2'-689.2'
Lab No.:



SKS JOB NO. 18330 | Consolidation Test PDC | 27-Feb-02

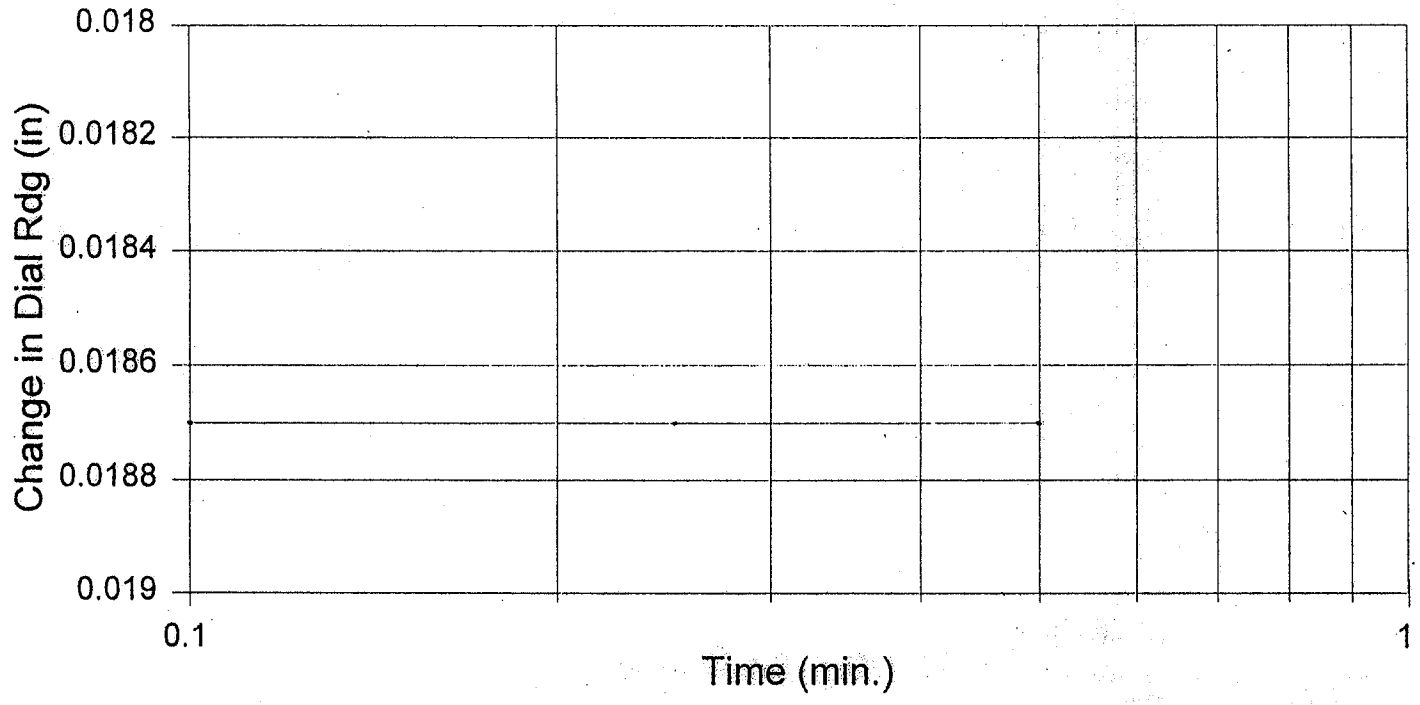
Client: PDC

1/8 tsf

Dial Reading vs. Log Time

Added load quickly due to swell

Sample ID: EX-11
Depth: 691.2'-689.2'
Lab No.:



SKS JOB NO. 18330

Consolidation Test
PDC

27-Feb-02

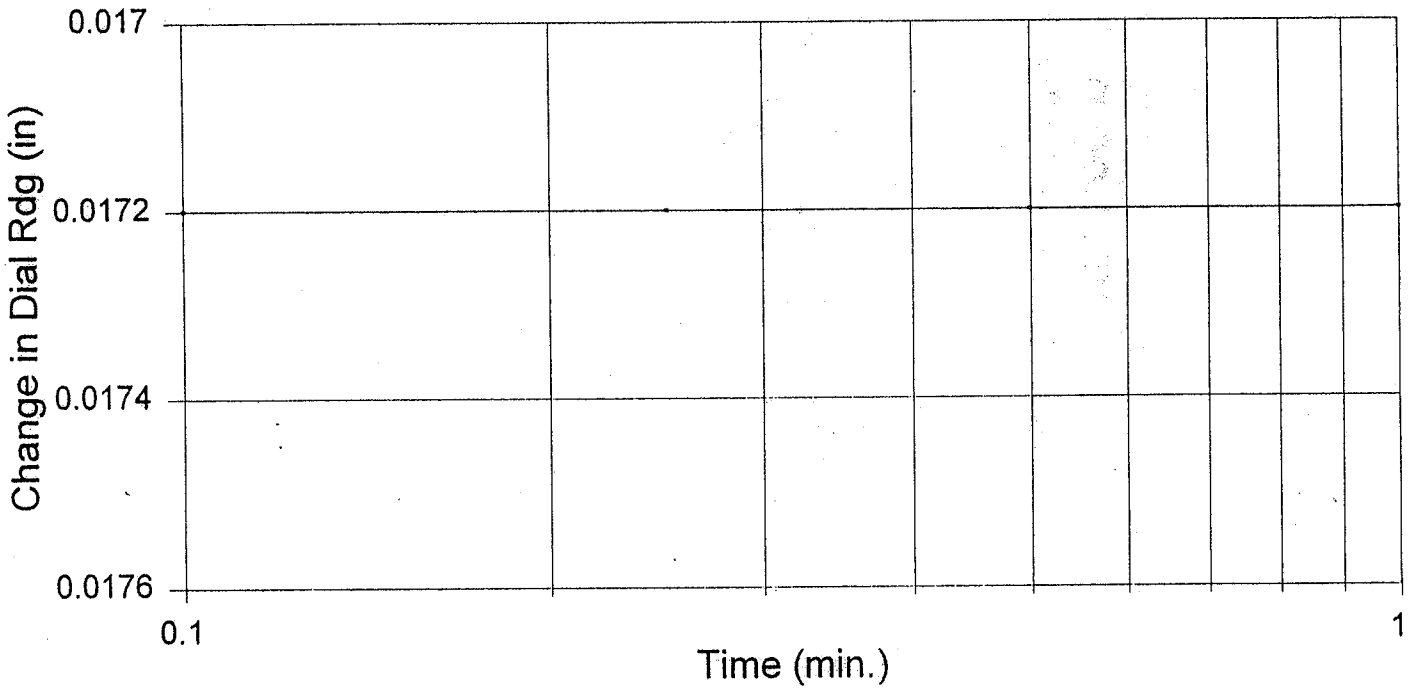
Client: PDC

1/16 tsf

Dial Reading vs. Log Time

Added load quickly due to swell

Sample ID: EX-11
Depth: 691.2'-689.2'
Lab No.:



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Client: PDC

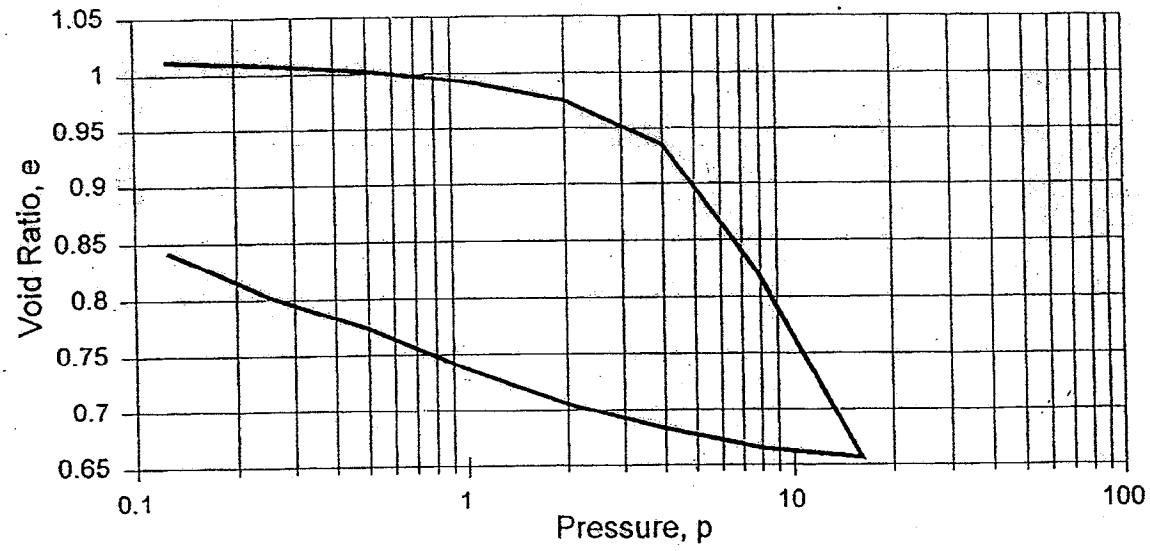
e vs. Log p

Cc = 0.186, e0 = 1.013

γd=67.0 pcf, G=2.16

w0=46.9%

Sample ID: Ex-6A
Depth: 26.5-28.5'
Lab No.:



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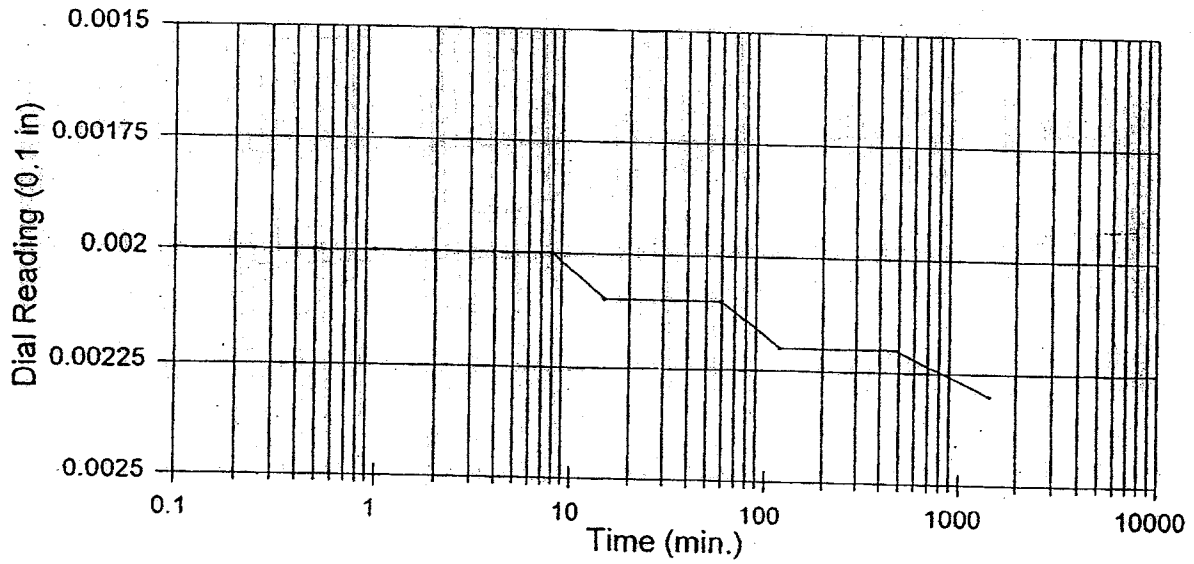
Client: PDC

1/8 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6A
Depth: 26.5-28.5'
Lab No.:



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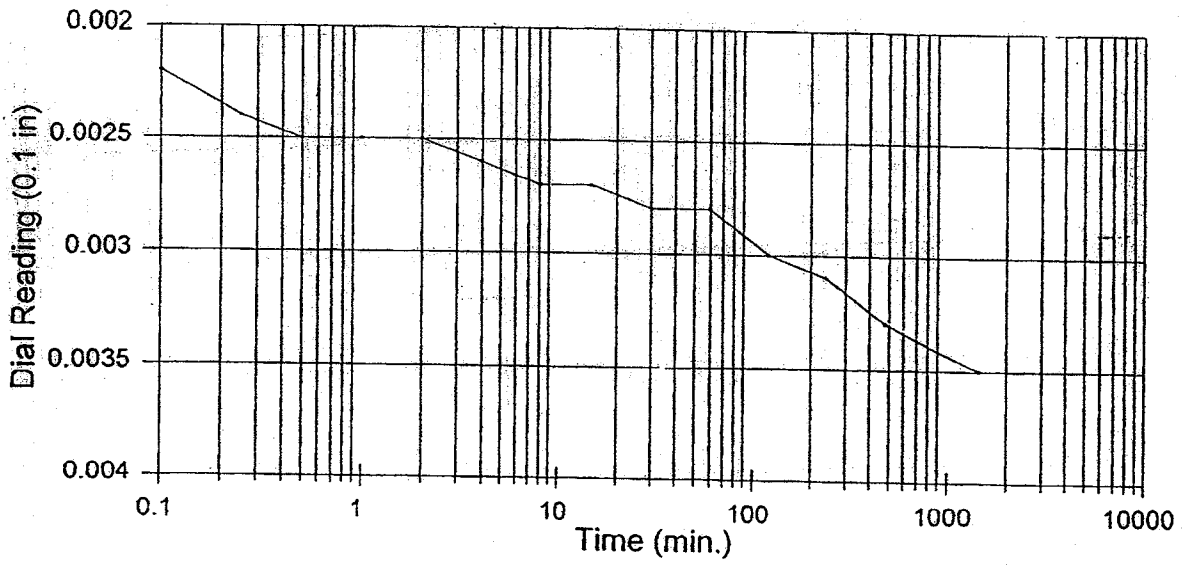
Client: PDC

1/4 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6A
Depth: 26.5-28.5'
Lab No.:



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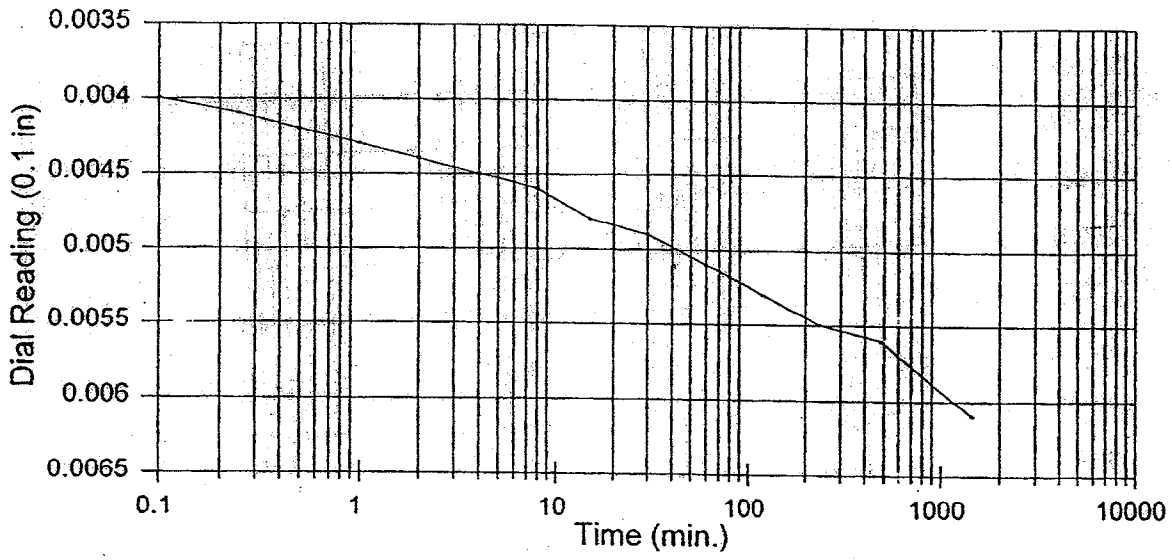
Client: PDC

1/2 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6A
Depth: 26.5-28.5'
Lab No.:



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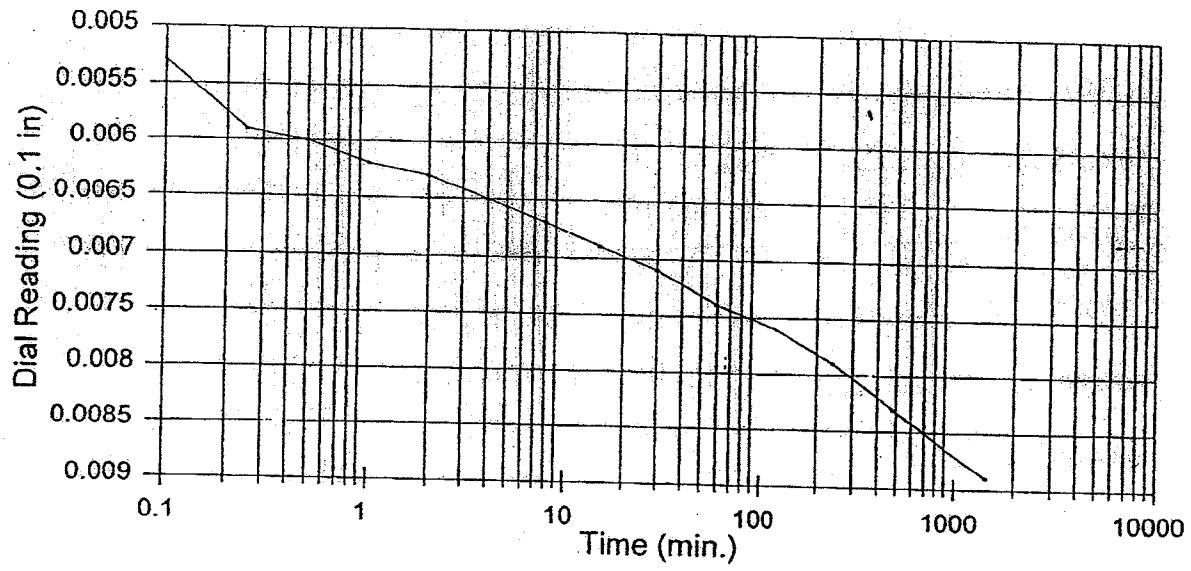
Client: PDC

1 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6A
Depth: 26.5-28.5'
Lab No.:



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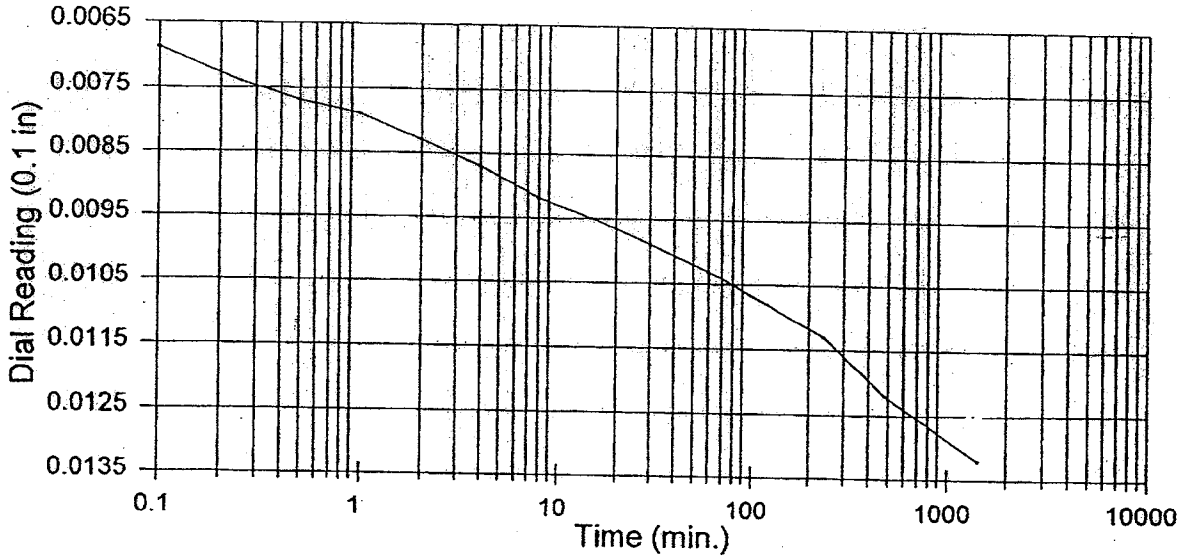
Client: PDC

2 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6A
Depth: 26.5-28.5'
Lab No.:



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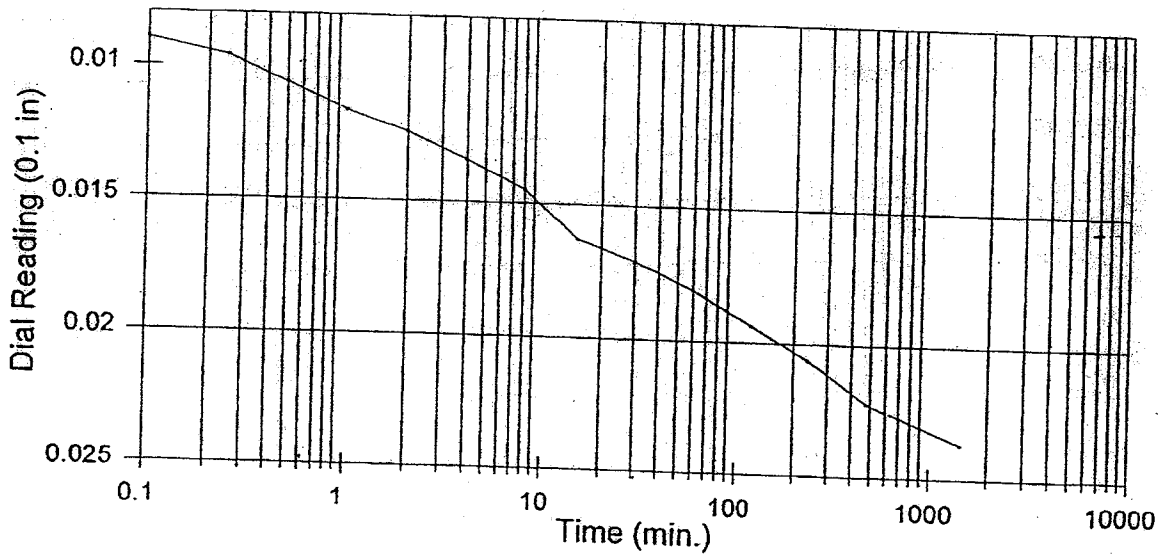
Client: PDC

4 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6A
Depth: 26.5-28.5'
Lab No.:



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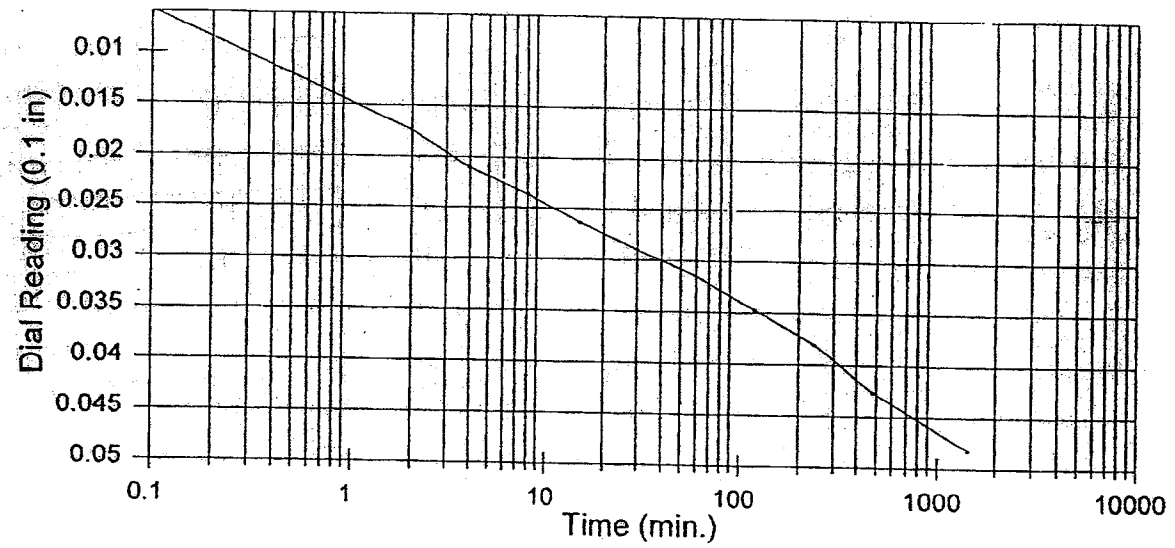
Client: PDC

8 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6A
Depth: 26.5-28.5'
Lab No.:



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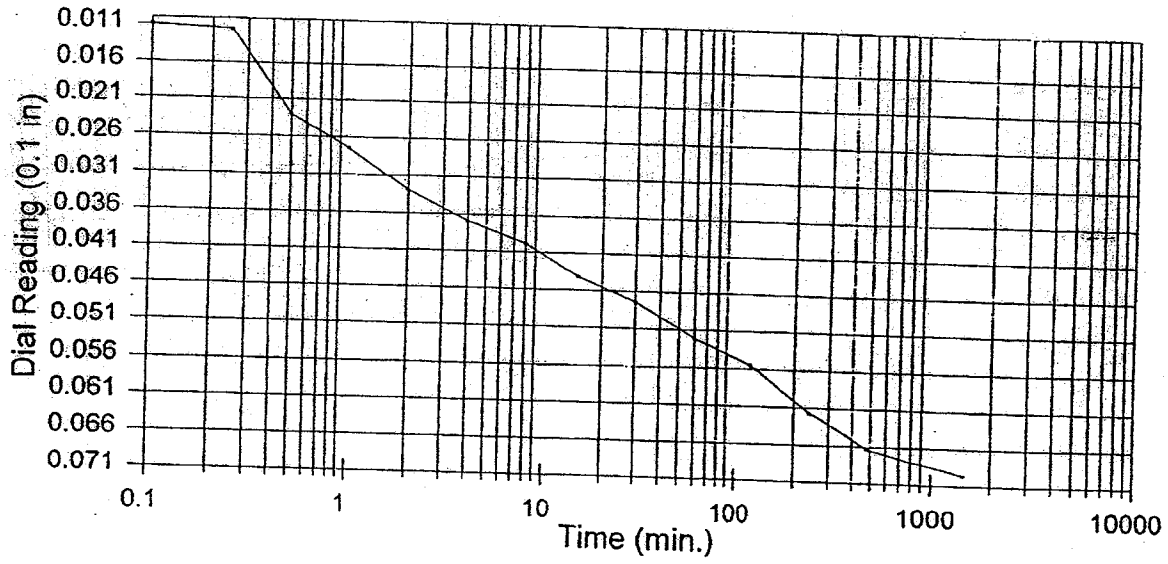
Client: PDC

16 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6A
Depth: 26.5-28.5'
Lab No.:



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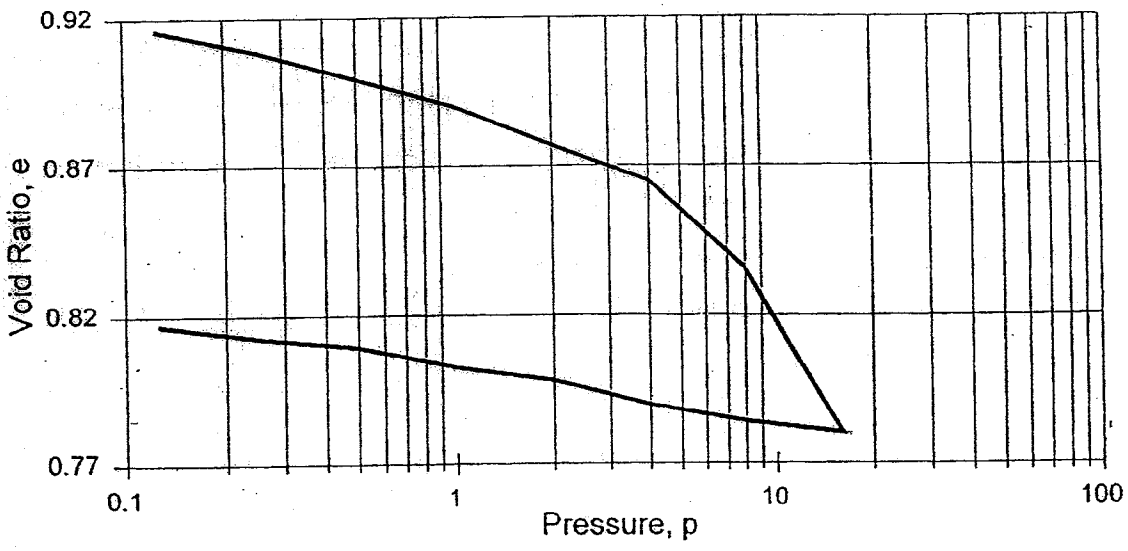
Client: PDC

e vs. Log p

Cc = 0.178, e0 = 0.922
γd=70.1 pcf, G=2.16
w0=42.7%

Sample ID: Ex-6B
Depth: 26.5-28.5'
Lab No.:



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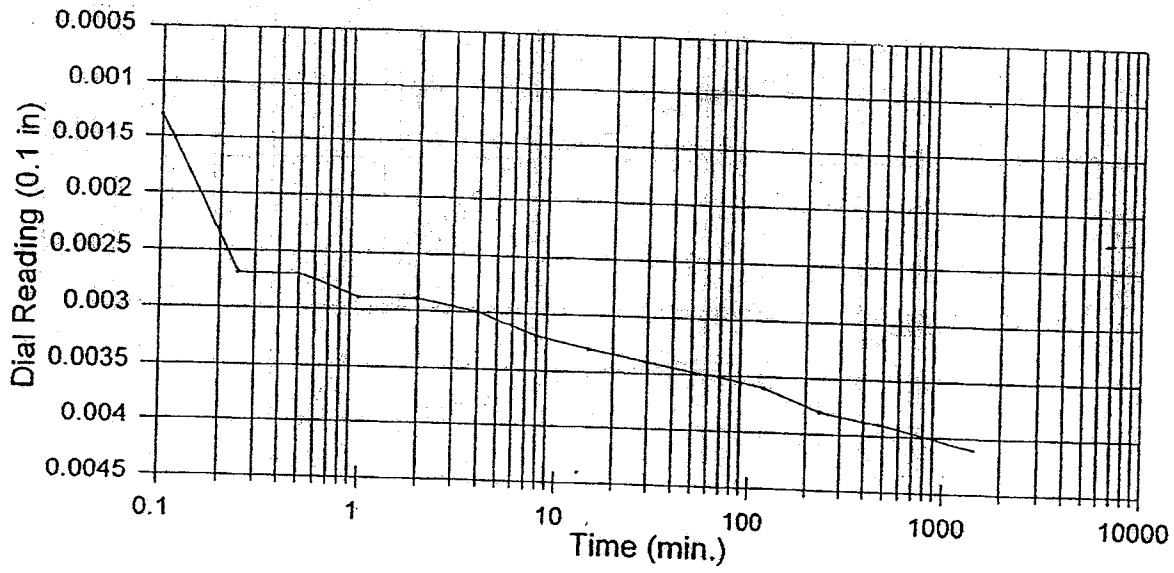
Client: PDC

1/8 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6B
Depth: 26.5-28.5'
Lab No.:



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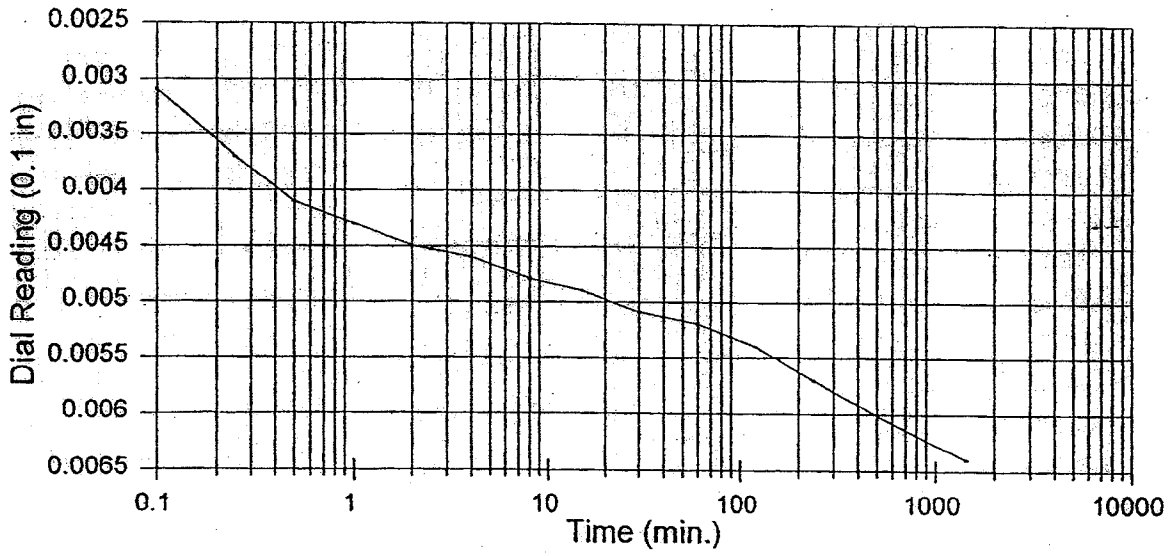
Client: PDC

1/4 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6B
Depth: 26.5-28.5'
Lab No.:



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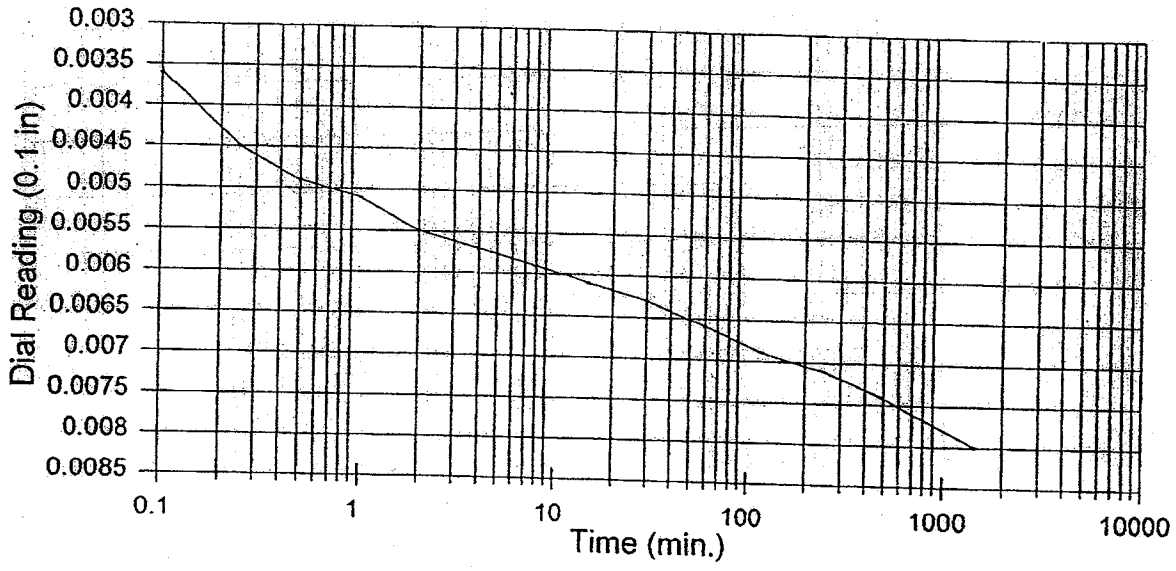
Client: PDC

1/2 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6B
Depth: 26.5-28.5'
Lab No.:



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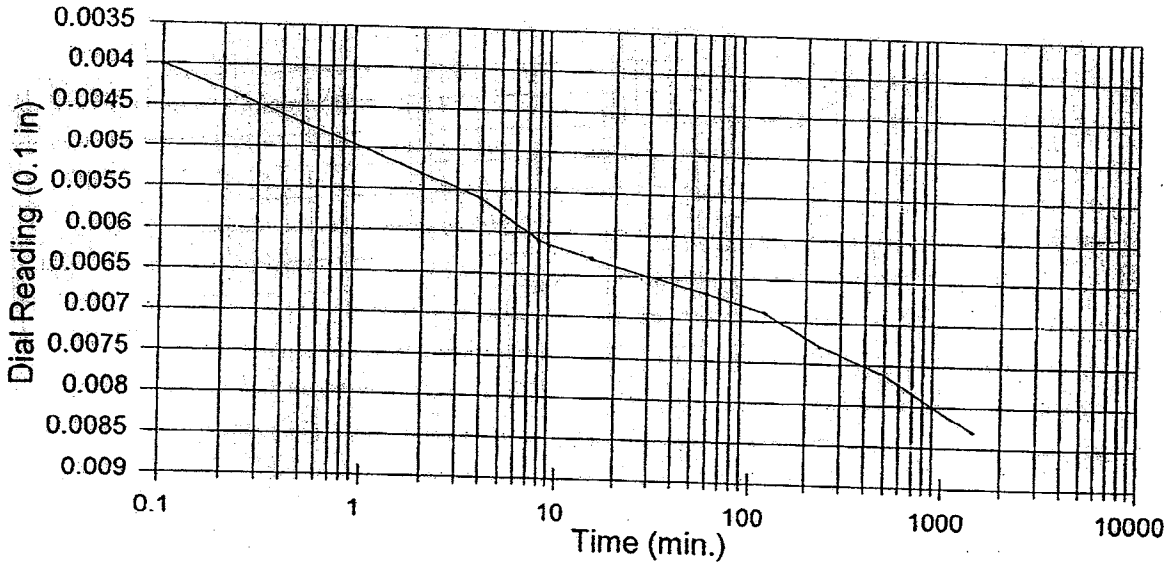
Client: PDC

1 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6B
Depth: 26.5-28.5'
Lab No.:



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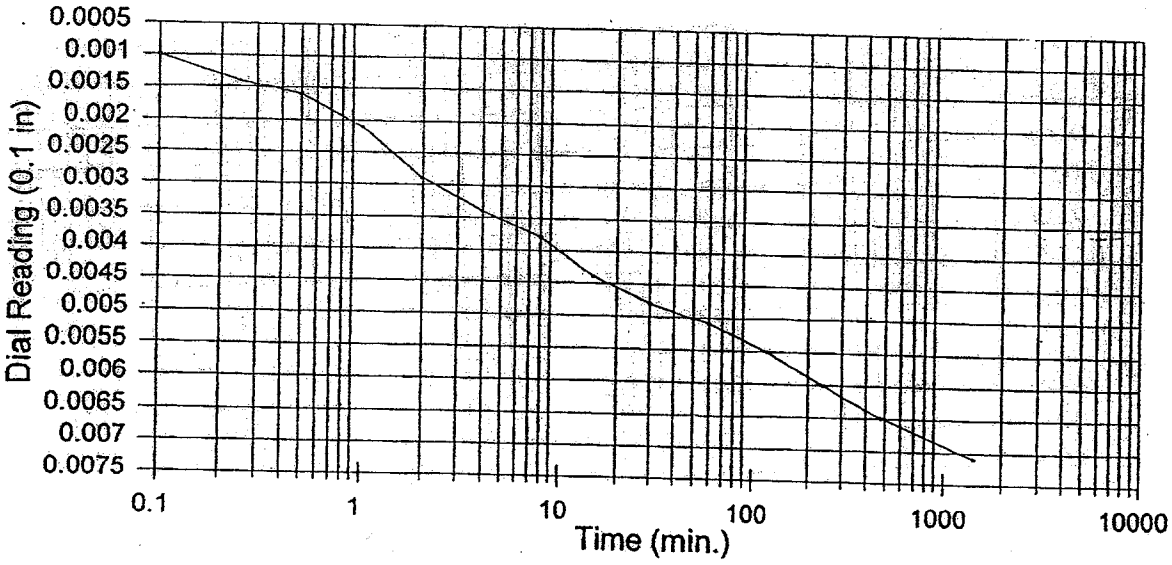
Client: PDC

2 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6B
Depth: 26.5-28.5'
Lab No.:



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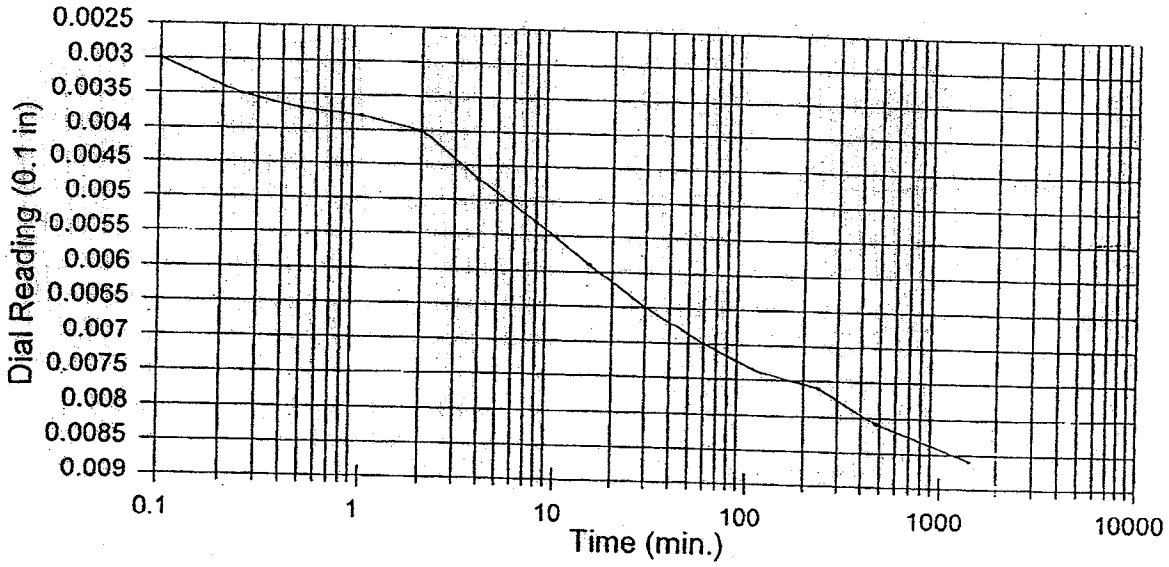
Client: PDC

4 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6B
Depth: 26.5-28.5'
Lab No.:



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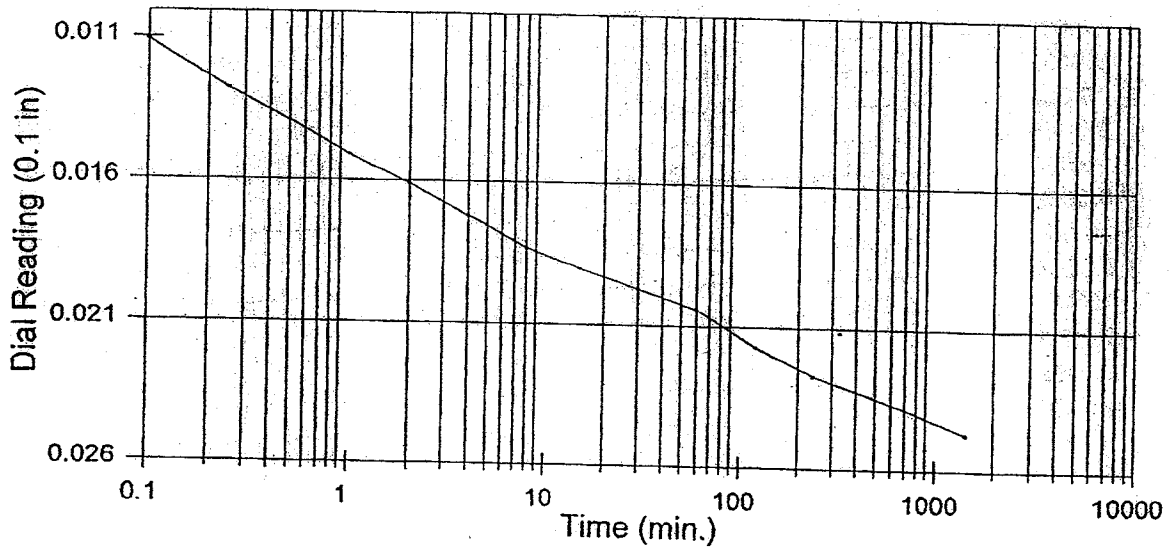
Client: PDC

8 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6B
Depth: 26.5-28.5'
Lab No.:



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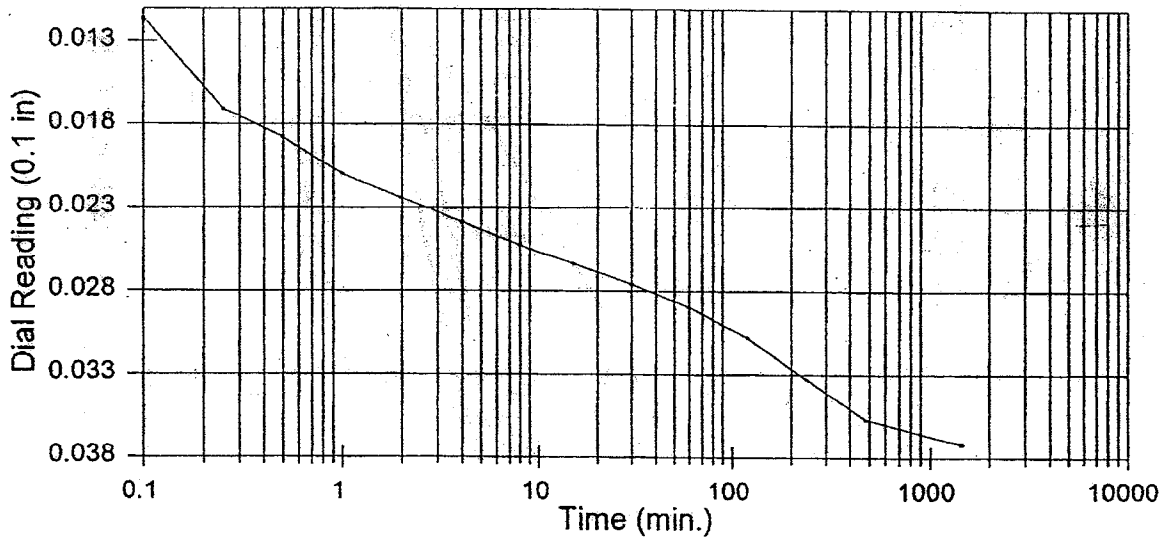
Client: PDC

16 tsf

Dial Reading vs. Log Time

Sample ID: Ex-6B
Depth: 26.5-28.5'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

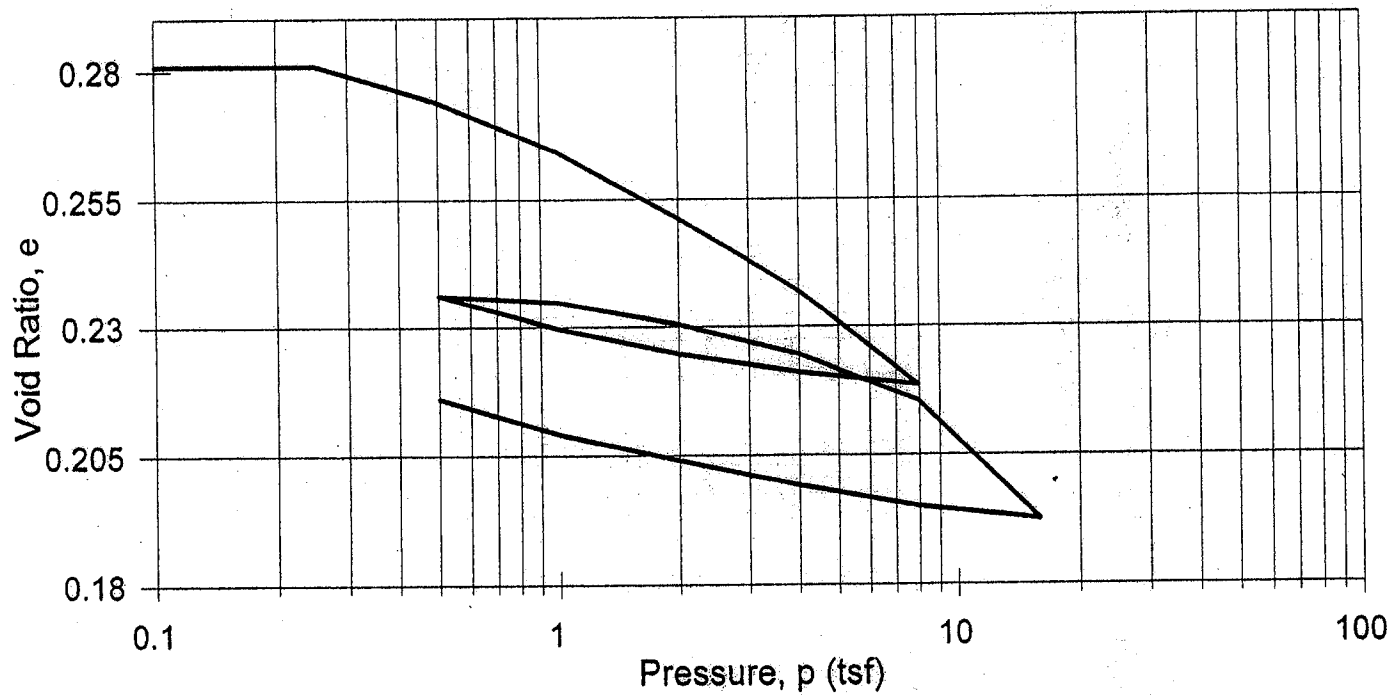
28-Apr-03

Client: PDC

e vs. Log p

Cc = 0.080, e0 = 0.281

Sample ID: EX-19
Elev.: 674'
Gray Tiskilwa Lean Clay with Sand Little Gravel - CL



SKS JOB NO. 18330.1 Consolidation Test 22-Apr-03

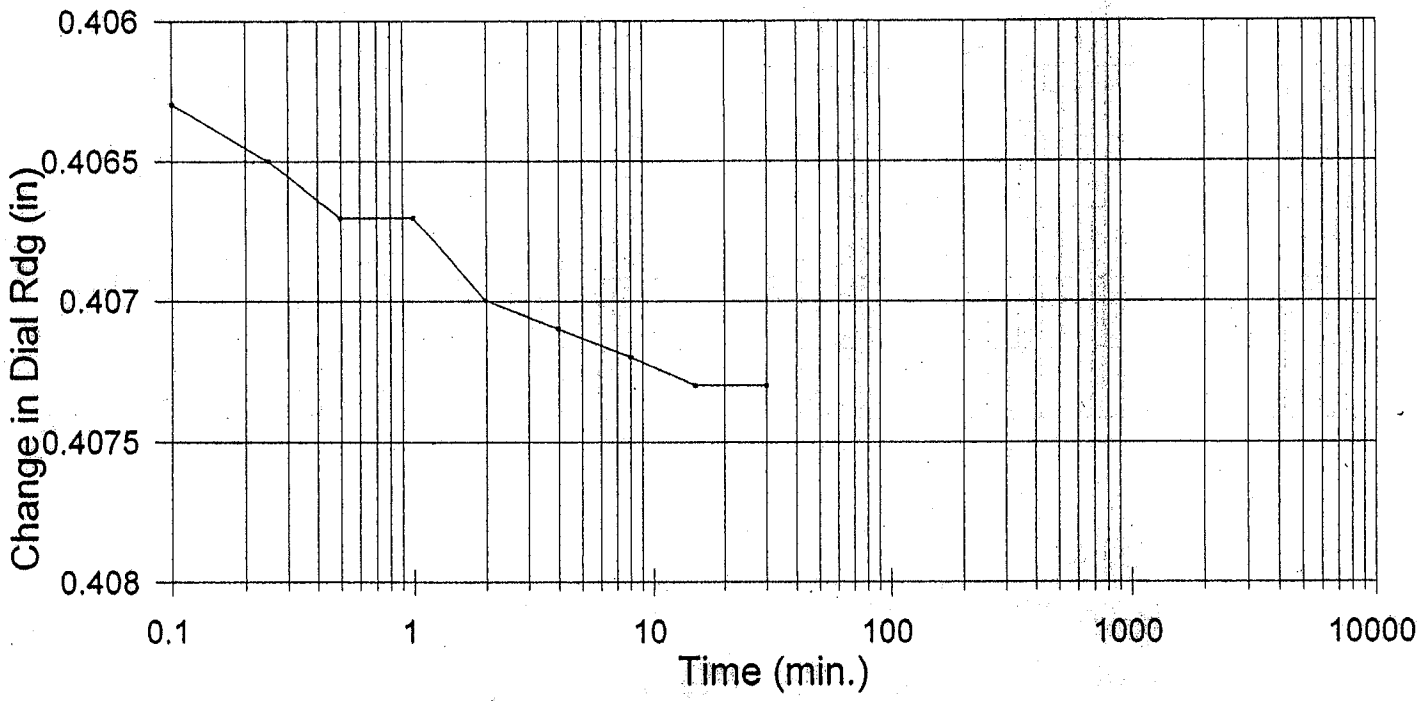
PDC

Client: PDC

1/2 tsf

Dial Reading vs. Log Time

Sample ID :EX-19
Elev.: 674'
Lab No.:



SKS JOB NO. 18330.1 Consolidation Test 22-Apr-03

PDC

Client: PDC

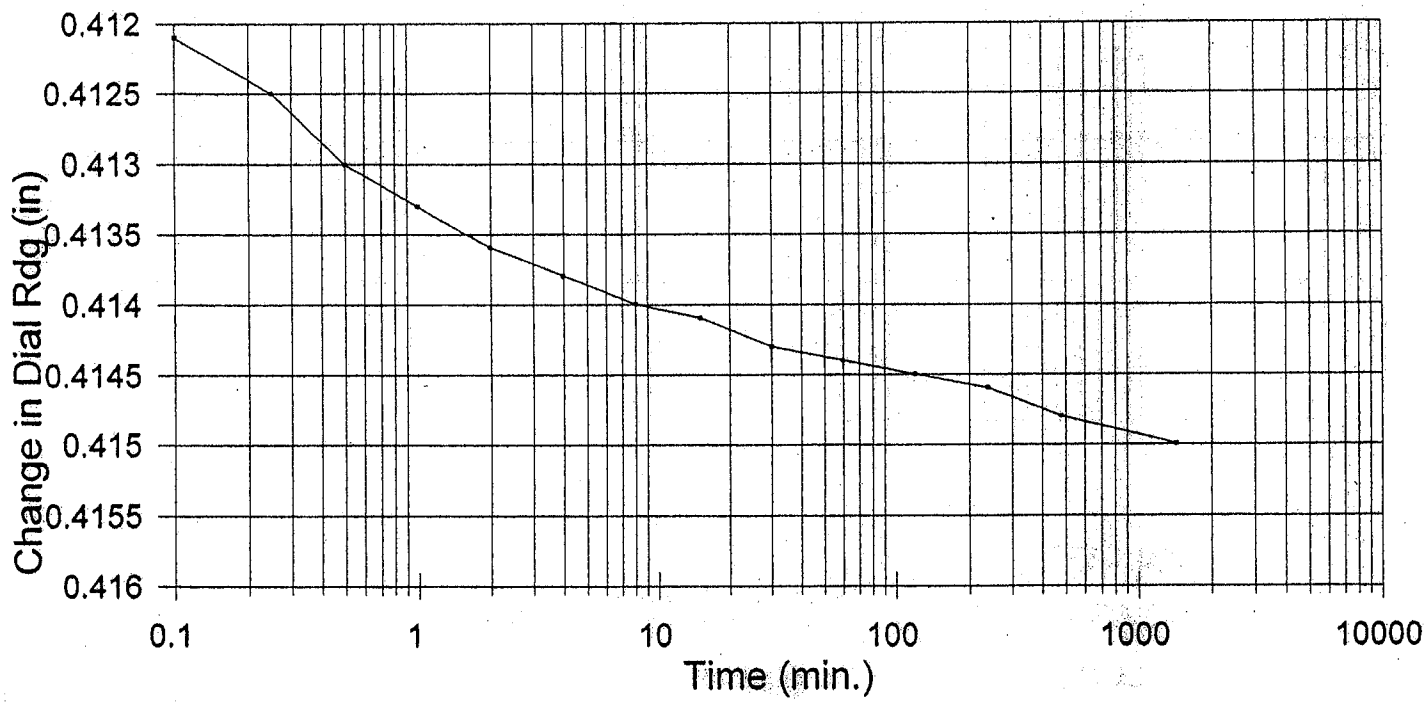
1 tsf

Dial Reading vs. Log Time

Sample ID: EX-19

Elev.: 674'

Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

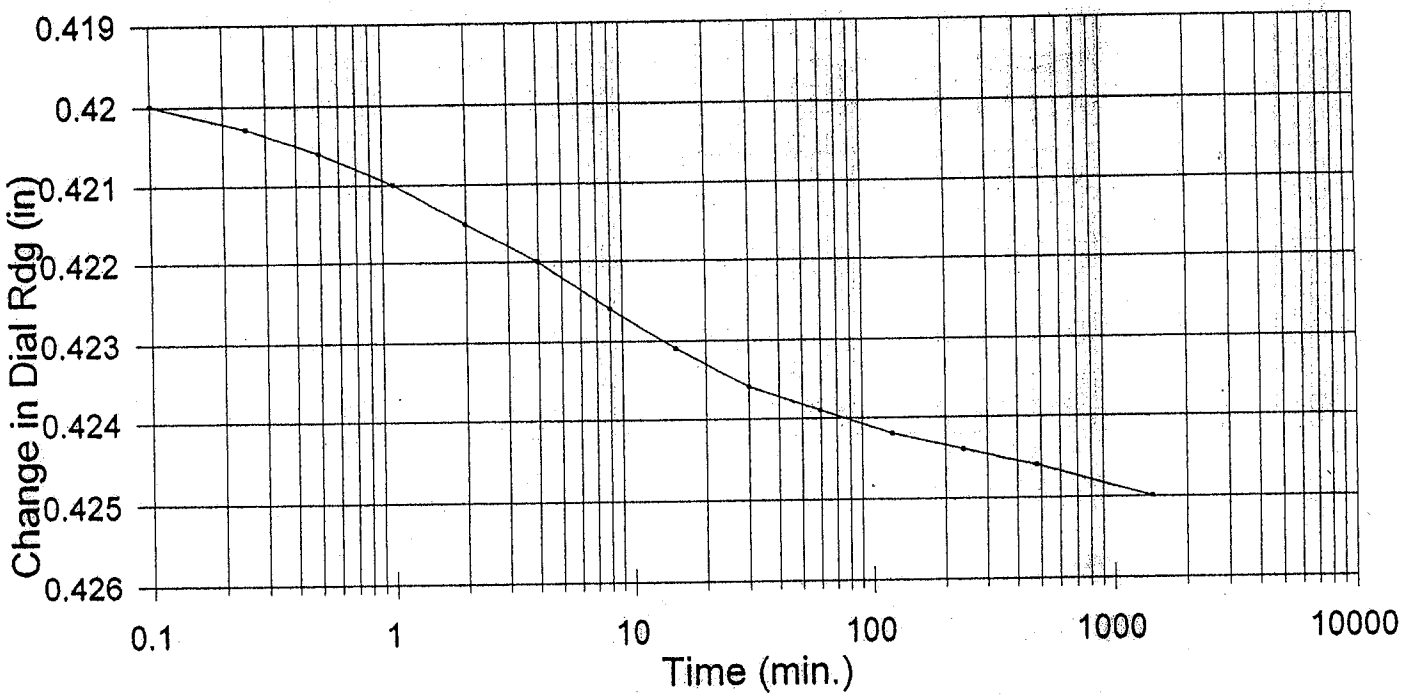
22-Apr-03

Client: PDC

2 tsf

Dial Reading vs. Log Time

Sample ID: EX-19
Elev.: 674'
Lab No.:



SKS JOB NO. 18330.1 Consolidation Test 22-Apr-03

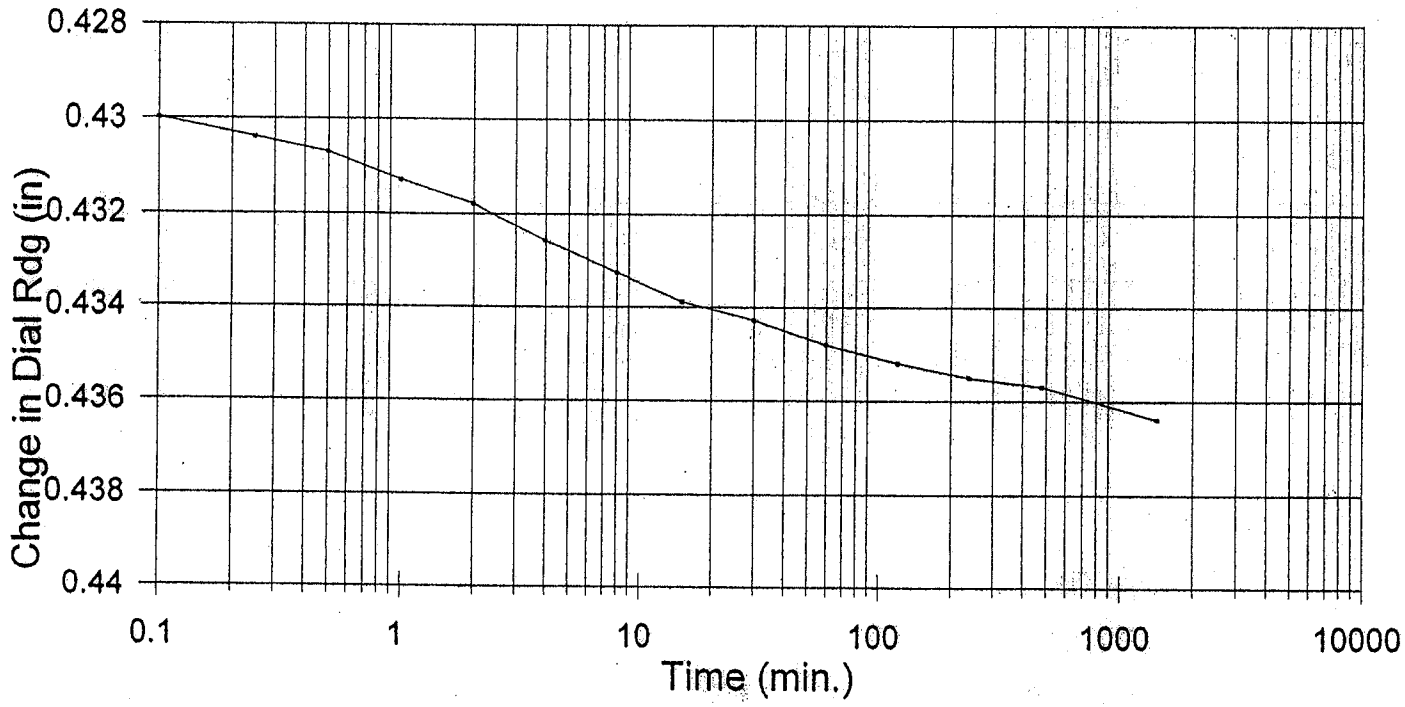
PDC

Client: PDC

4 tsf

Dial Reading vs. Log Time

Sample ID: EX-19
Elev.: 674'
Lab No.:



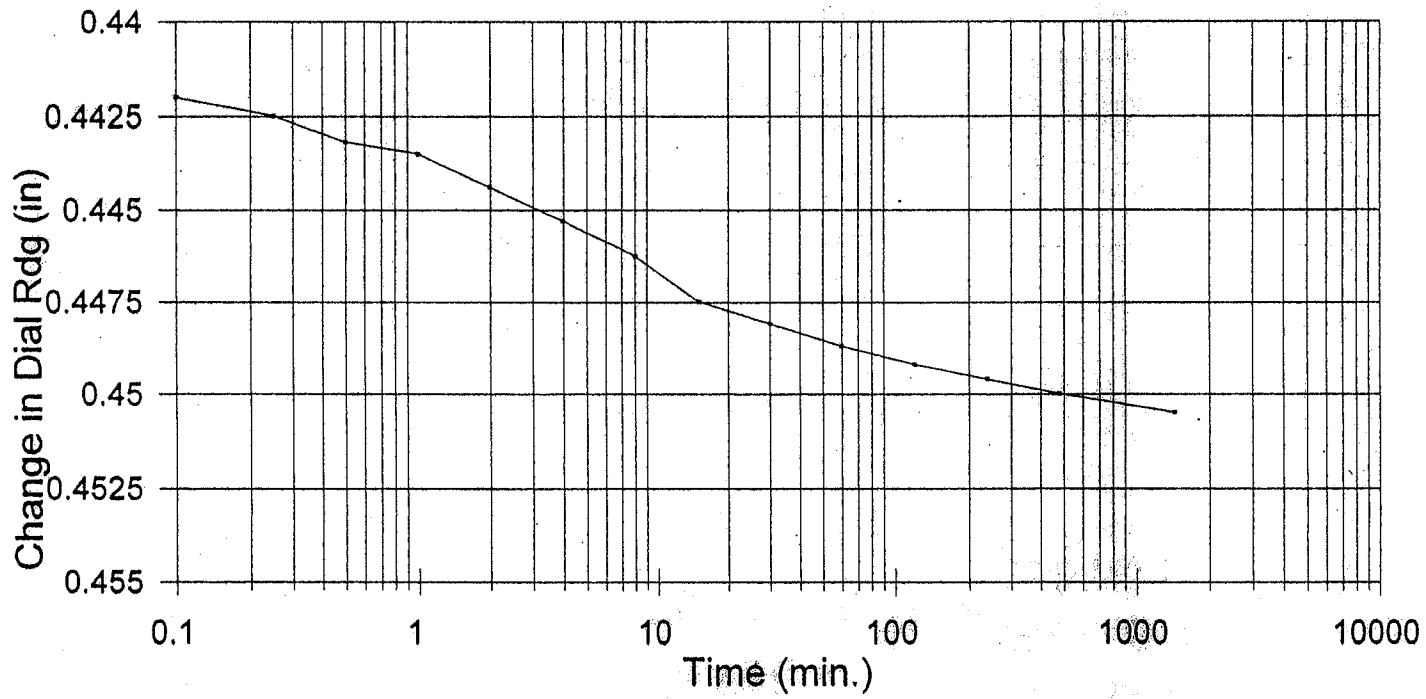
SKS JOB NO. 18330.1 Consolidation Test PDC 22-Apr-03

Client: PDC

8 tsf

Dial Reading vs. Log Time

Sample ID: EX-19
Elev.: 674'
Lab No.:



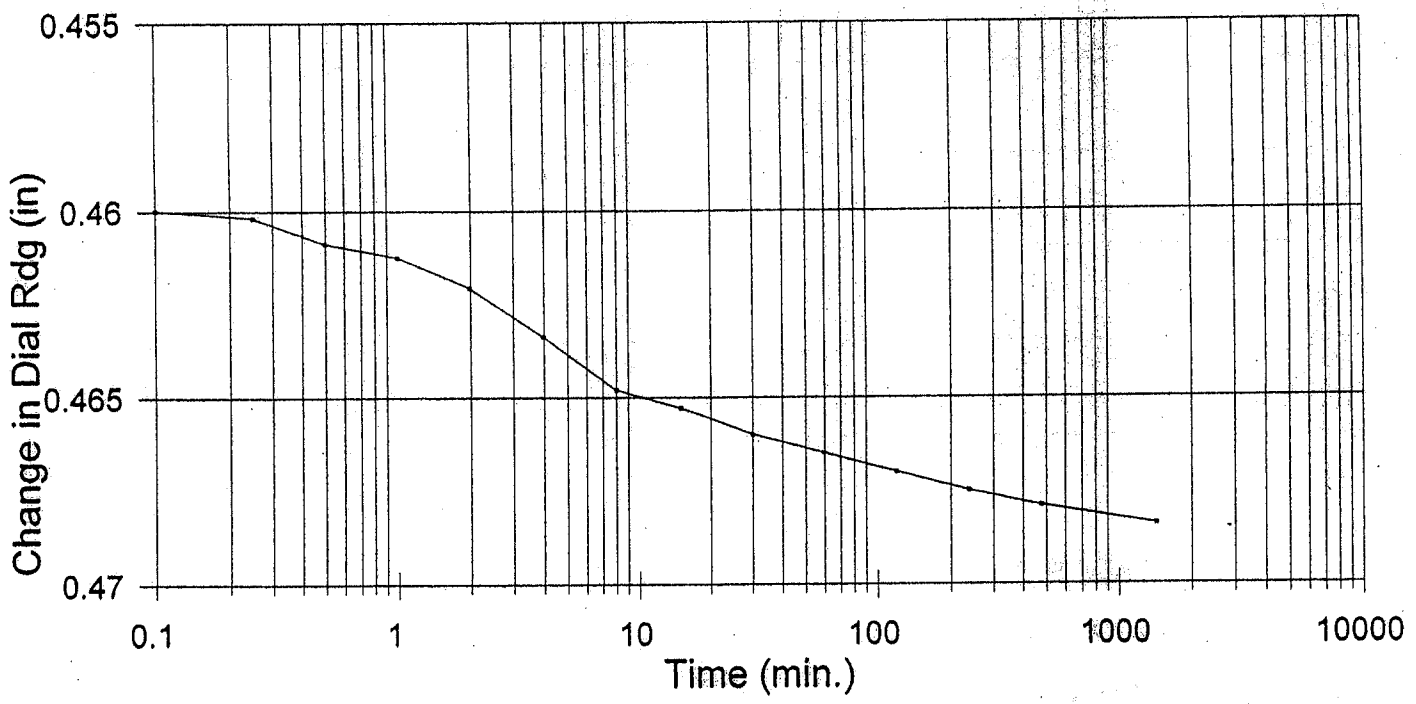
SKS JOB NO. 18330.1 Consolidation Test PDC 22-Apr-03

Client: PDC

16 tsf

Dial Reading vs. Log Time

Sample ID: EX-19
Elev.: 674'
Lab No.:



KS JOB NO. 18330.1

Consolidation Test
PDC

22-Apr-03

Before Test Started

Ring & Wet Sample =	710.3	g
Ring & Dry Sample =	691.8	g
Water Weight =	18.5	g
Ring Weight =	528.7	g
Dry Sample Weight =	163.1	g
% Moisture =	11.3%	

After Test Was Finished

Ring & Wet Sample (in pan)=	712.5	g
Ring & Dry Sample (in pan) =	691.8	g
Pan Weight =	0.0	g
Water Weight =	20.7	g
Ring Weight =	528.7	g
Dry Sample Weight =	163.1	g
% Moisture =	12.7%	

SD = 0.0665 in

e_{final} = 0.196

SG = 2.65

A = 4.811 in^2

V_s = 61.5 cc

H_s = 1.98 cm

H_s = 0.78 in

e_0 = 0.281

Load (tsf)	e	Revised e
0.0625	0.281	
0.125	0.281	
0.25	0.281	
0.5	0.274	
1	0.264	
2	0.251	
4	0.237	
8	0.219	
4	0.221	
2	0.225	
1	0.230	
0.5	0.313	
1	0.312	
2	0.307	
4	0.301	
8	0.292	
16	0.269	
8	0.272	
4	0.276	
2	0.281	
1	0.286	
0.5	0.293	

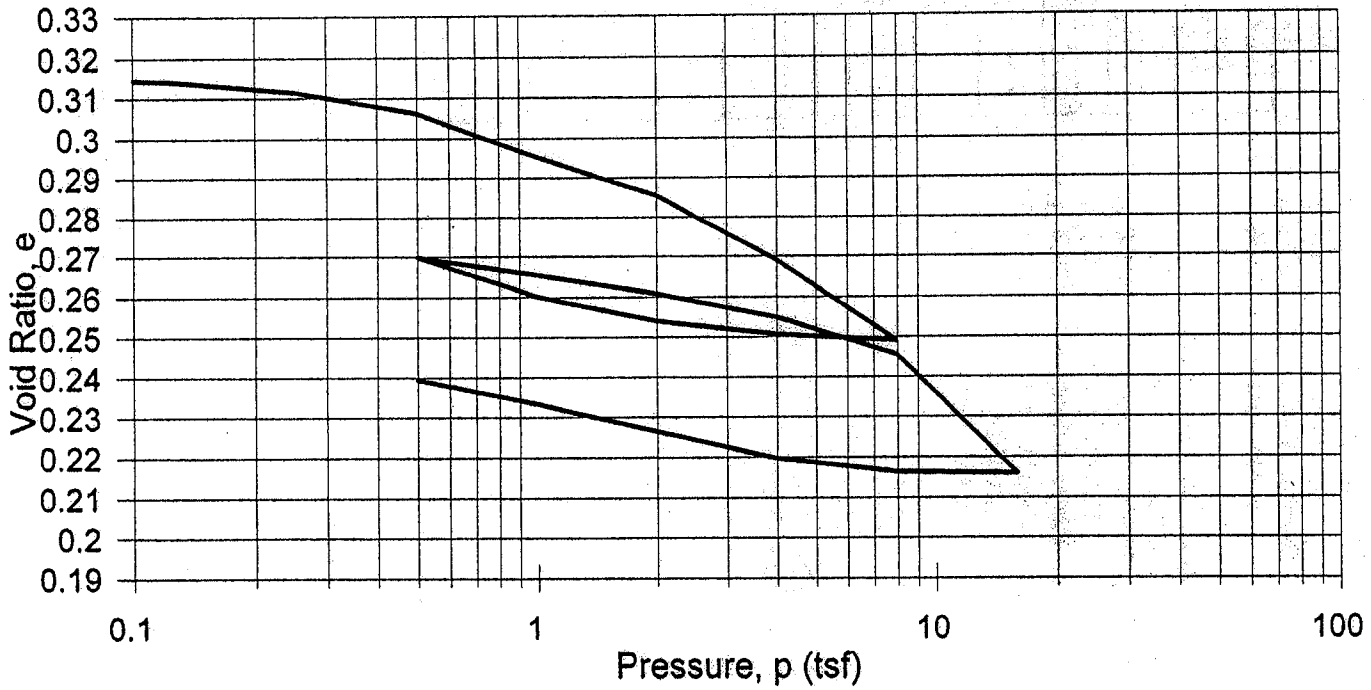
SKS JOB NO. 18330.1 Consolidation Test PDC 28-Apr-03

Client: PDC

e vs. Log p

Cc = 0.105, e0 = 0.320

Sample ID: EX-23
Elev.: 676'
Gray Tiskilwa Sandy
Lean Clay Trace
Gravel - CL



JOB NO. 18330.1

Consolidation Test
PDC

21-Apr-03

Before Test Started	
Ring & Wet Sample =	706.1 g
Ring & Dry Sample =	686.8 g
Water Weight =	19.3 g
Ring Weight =	528.5 g
Dry Sample Weight =	158.3 g
% Moisture =	12.2%

After Test Was Finished	
Ring & Wet Sample (in pan)=	710.5 g
Ring & Dry Sample (in pan) =	686.8 g
Pan Weight =	0.0 g
Water Weight =	23.7 g
Ring Weight =	528.5 g
Dry Sample Weight =	158.3 g
% Moisture =	15.0%

SD = 0.156 in

e_{final} = 0.114

SG = 2.65

A = 4.811 in^2

V_s = 59.7 cc

H_s = 1.92 cm

H_s = 0.76 in

e_0 = 0.320

Load (tsf)	e	Revised e
0.0625	0.316	
0.125	0.314	
0.25	0.312	
0.5	0.306	
1	0.295	
2	0.285	
4	0.269	
8	0.249	
4	0.251	
2	0.254	
1	0.260	
0.5	0.270	
1	0.266	
2	0.261	
4	0.255	
8	0.245	
16	0.110	
8	0.111	
4	0.114	
2	0.121	
1	0.128	
0.5	0.134	

SKS JOB NO. 18330.1 | Consolidation Test PDC | 21-Apr-03

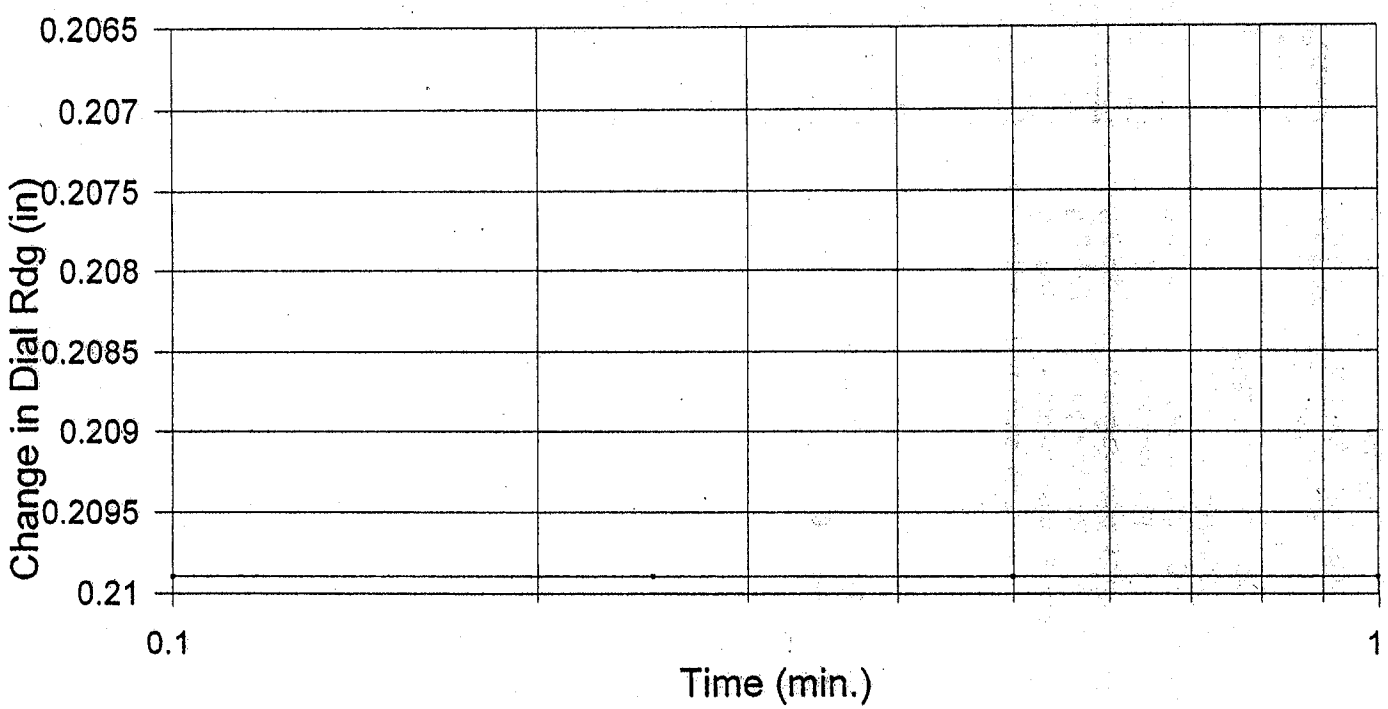
Client: PDC

1/16 tsf

Dial Reading vs. Log Time

Added load quickly due to swell

Sample ID: EX-23
Elev.: 676'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

21-Apr-03

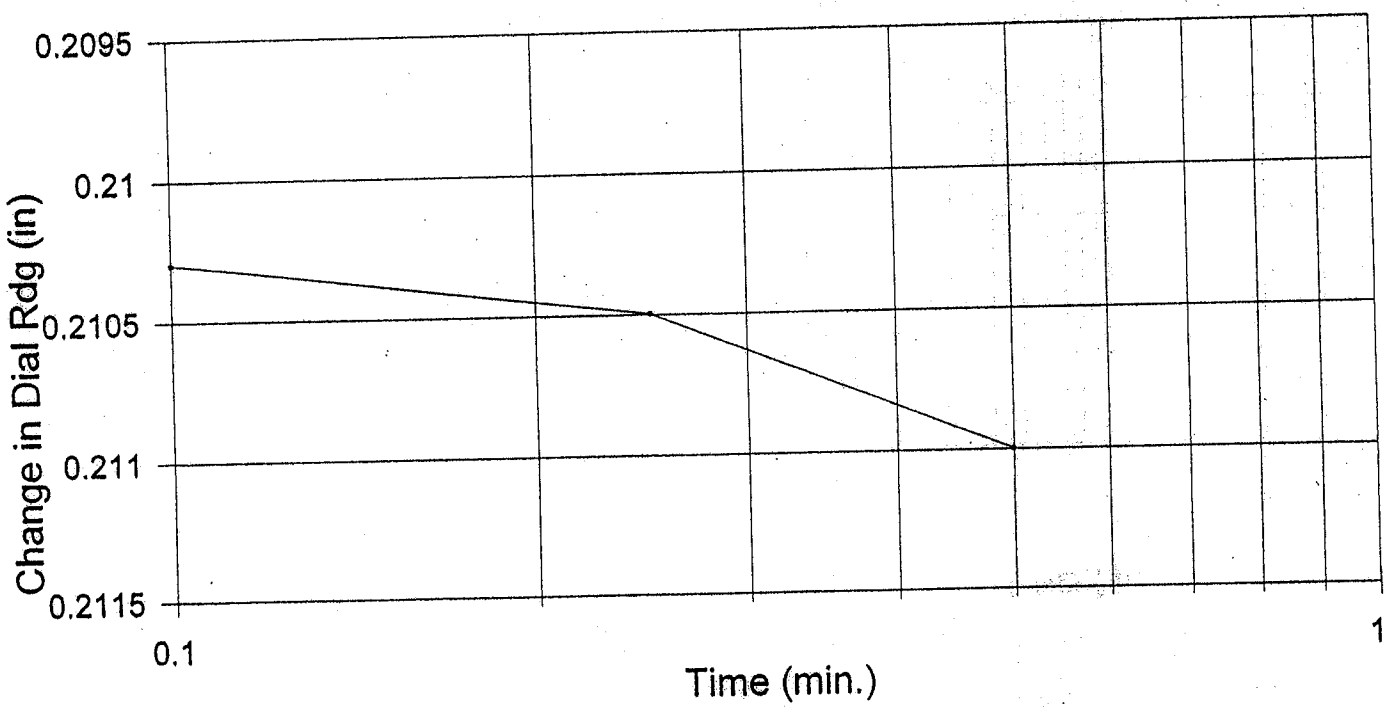
Client: PDC

1/8 tsf

Dial Reading vs. Log Time

Added load quickly due to swell

Sample ID: EX-23
Elev.: 676'
Lab No.:



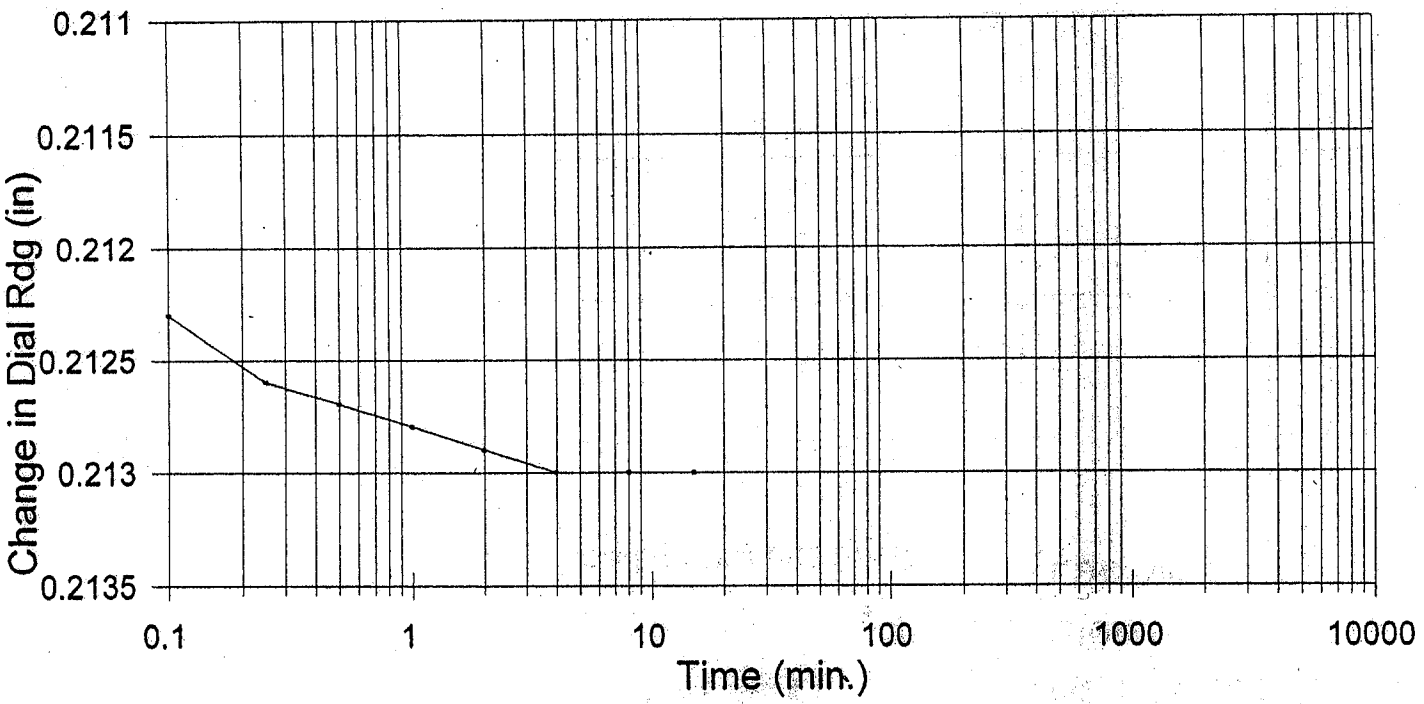
SKS JOB NO. 18330.1 | Consolidation Test PDC | 21-Apr-03

Client: PDC

1/4 tsf

Dial Reading vs. Log Time

Sample ID: EX-23
Elev.: 676'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

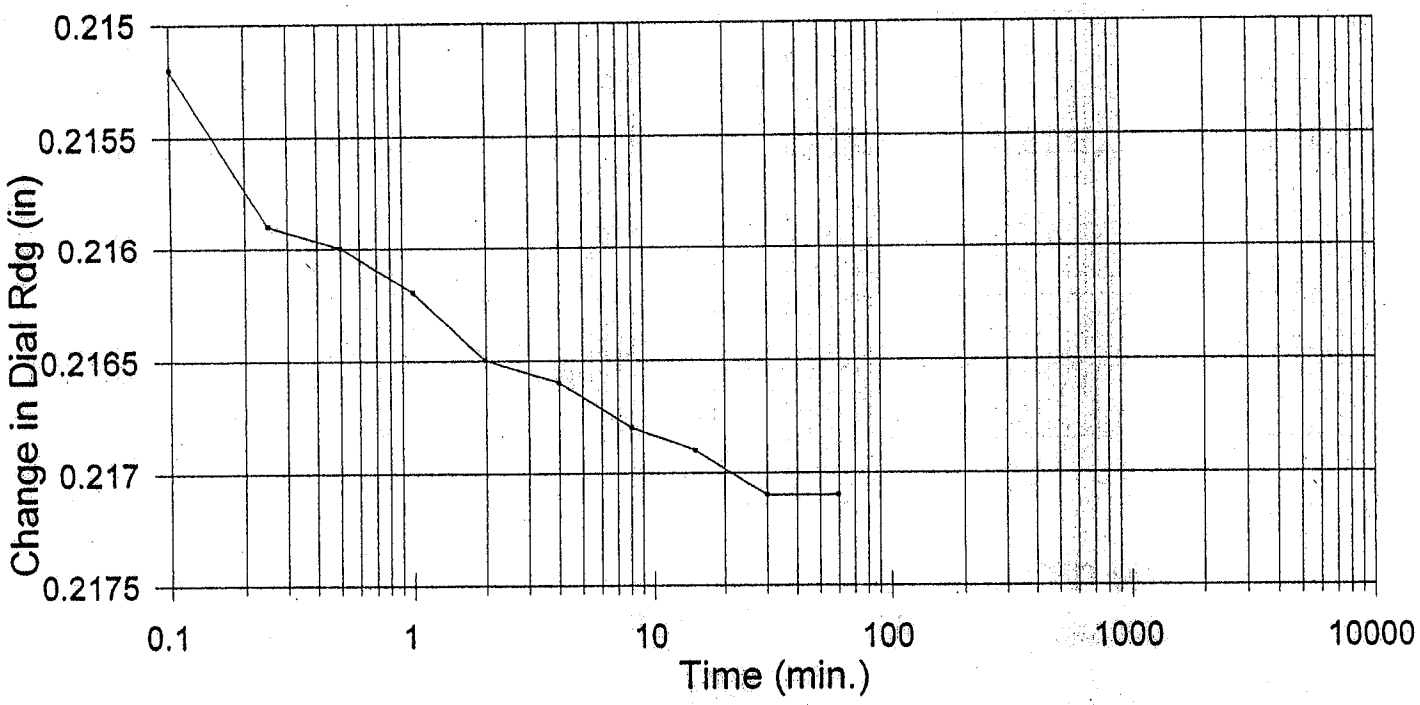
21-Apr-03

Client: PDC

1/2 tsf

Dial Reading vs. Log Time

Sample ID :EX-23
Elev.: 676'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

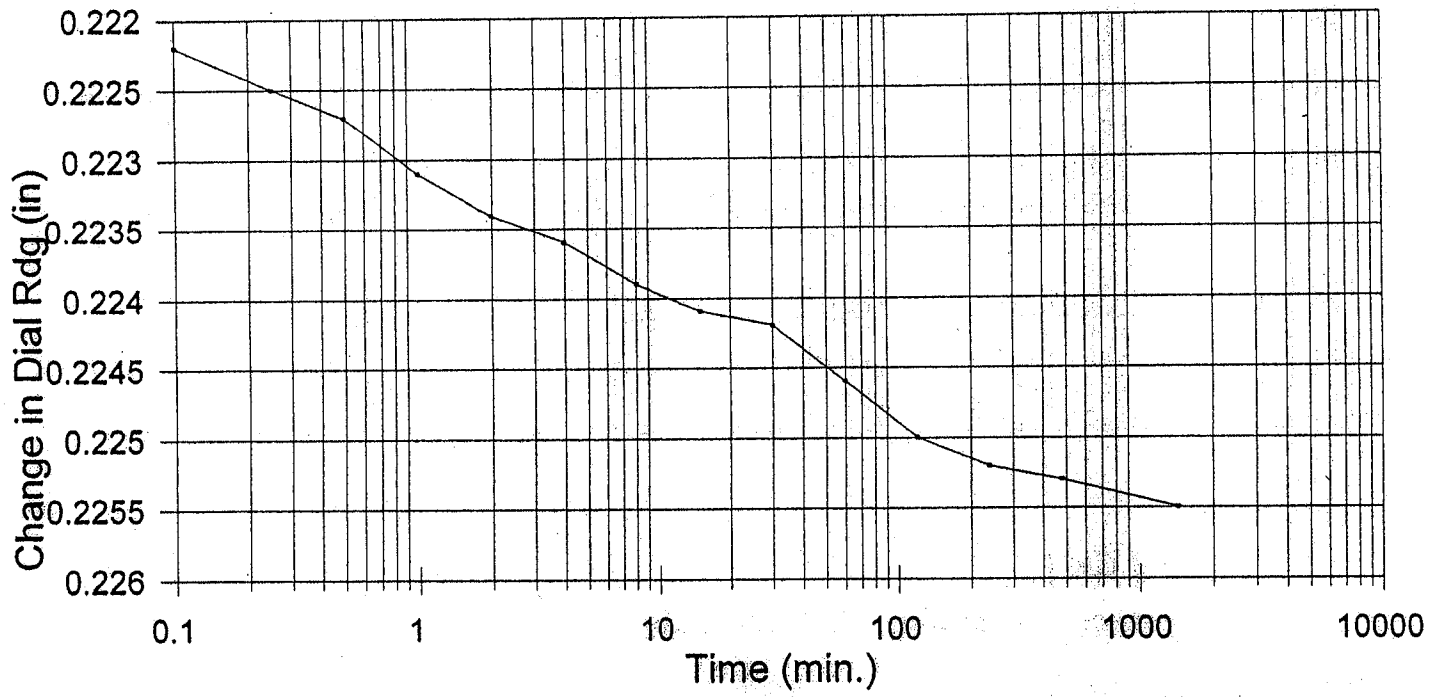
21-Apr-03

Client: PDC

1 tsf

Dial Reading vs. Log Time

Sample ID: EX-23
Elev.: 676'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

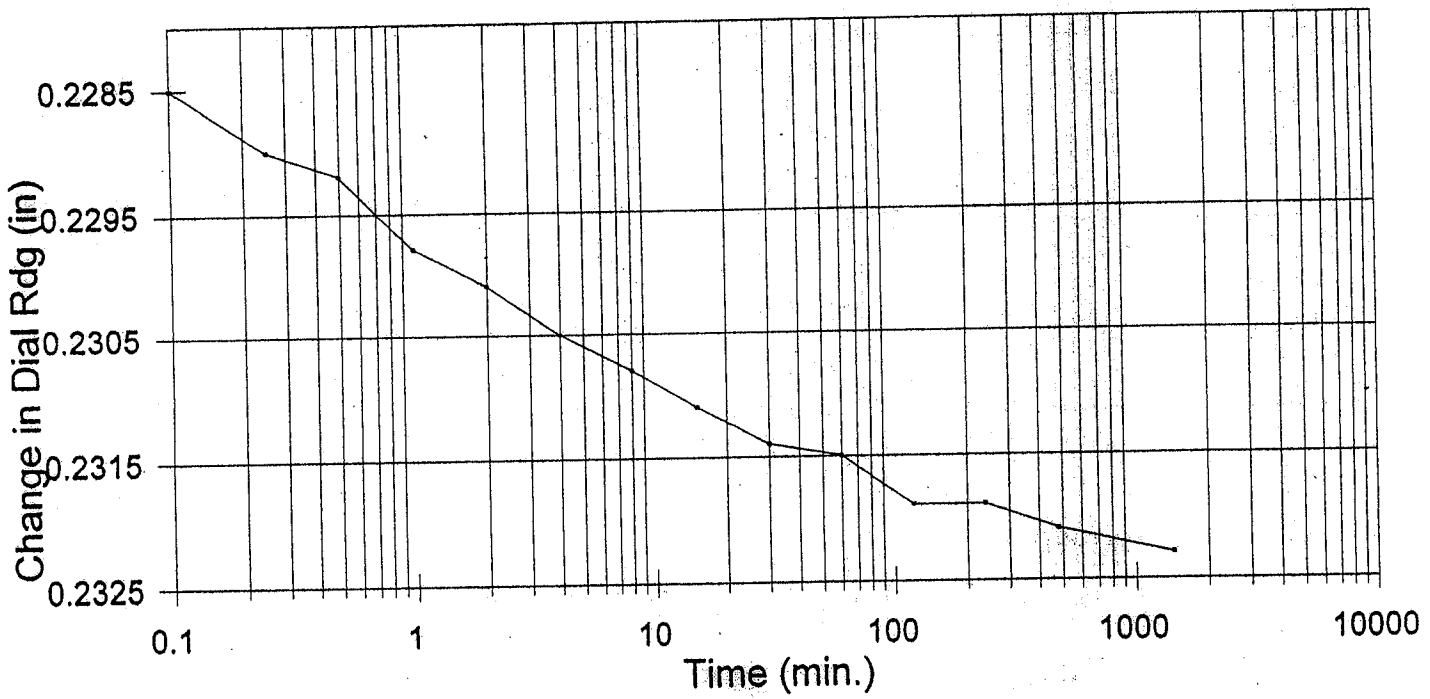
21-Apr-03

Client: PDC

2 tsf

Dial Reading vs. Log Time

Sample ID: EX-23
Elev.: 676'
Lab No.:



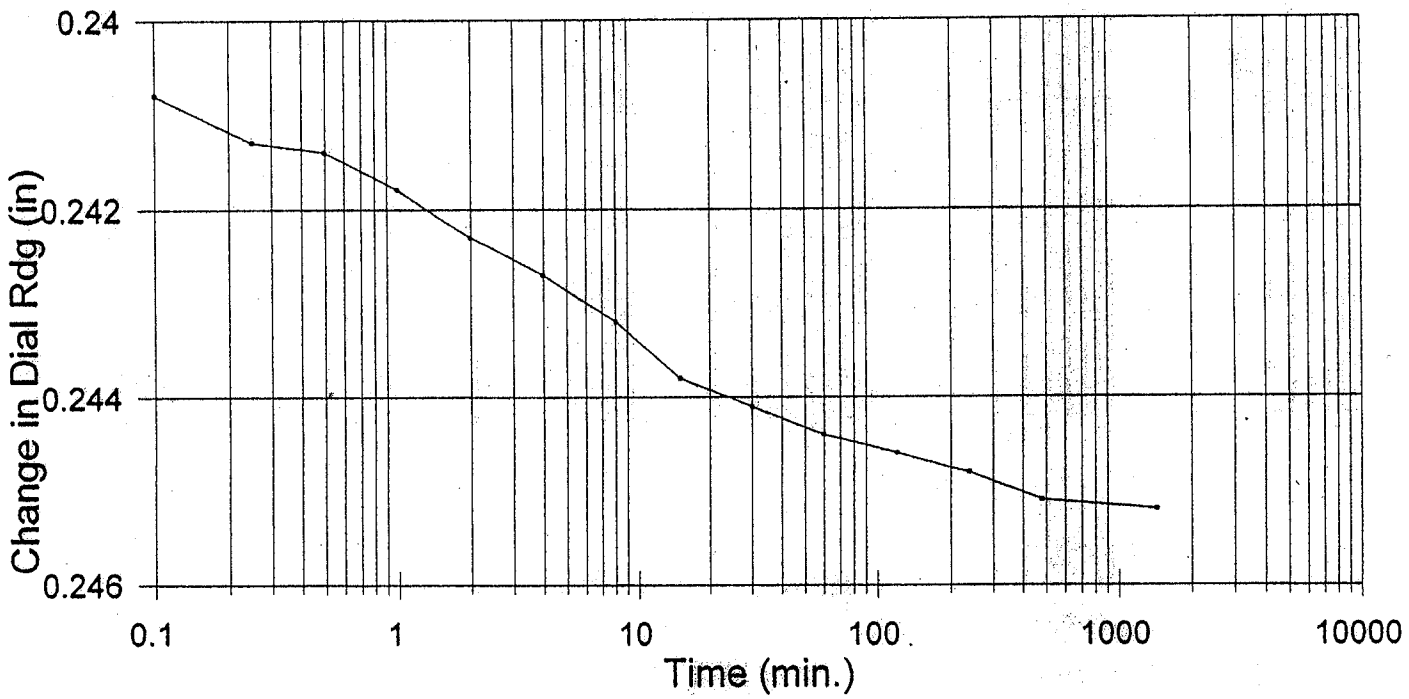
SKS JOB NO. 18330.1 | Consolidation Test PDC | 21-Apr-03

Client: PDC

4 tsf

Dial Reading vs. Log Time

Sample ID: EX-23
Elev.: 676'
Lab No.:



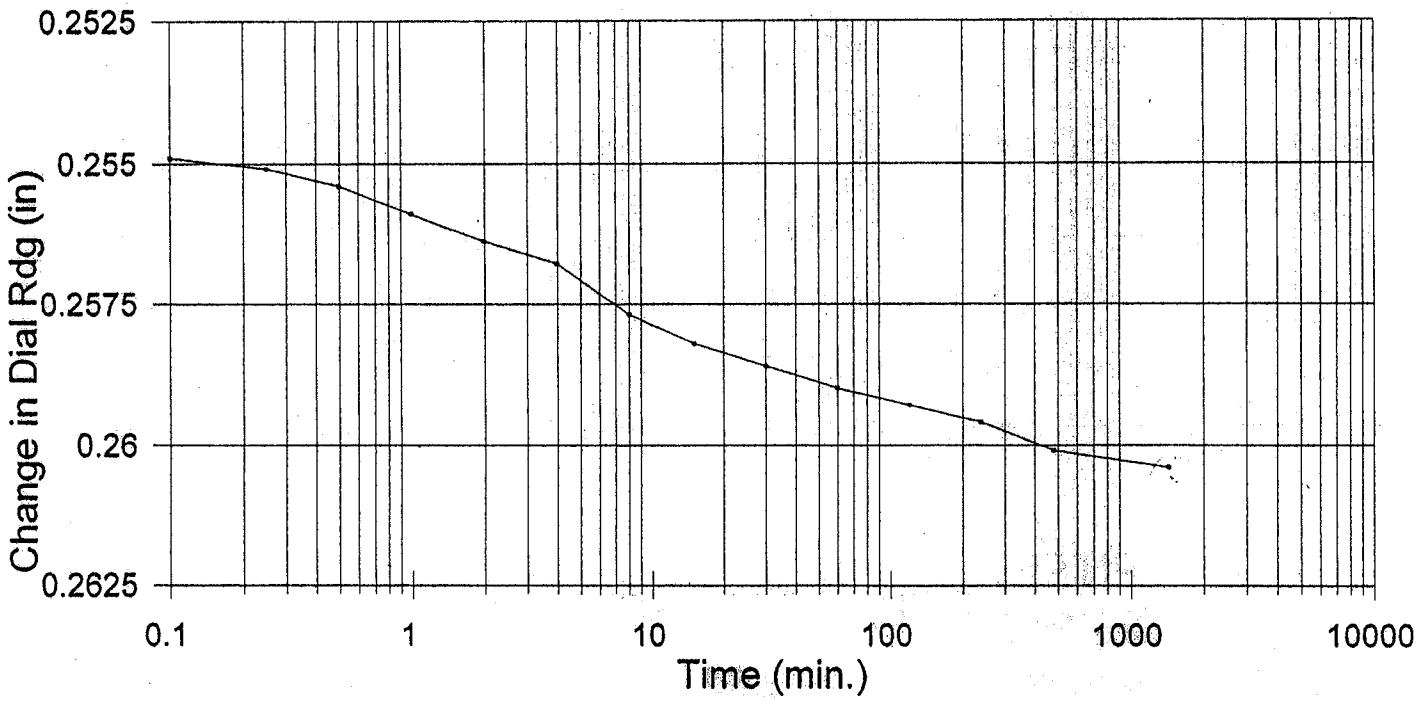
SKS JOB NO. 18330.1 | Consolidation Test PDC | 21-Apr-03

Client: PDC

8 tsf

Dial Reading vs. Log Time

Sample ID: EX-23
Elev.: 676'
Lab No.:



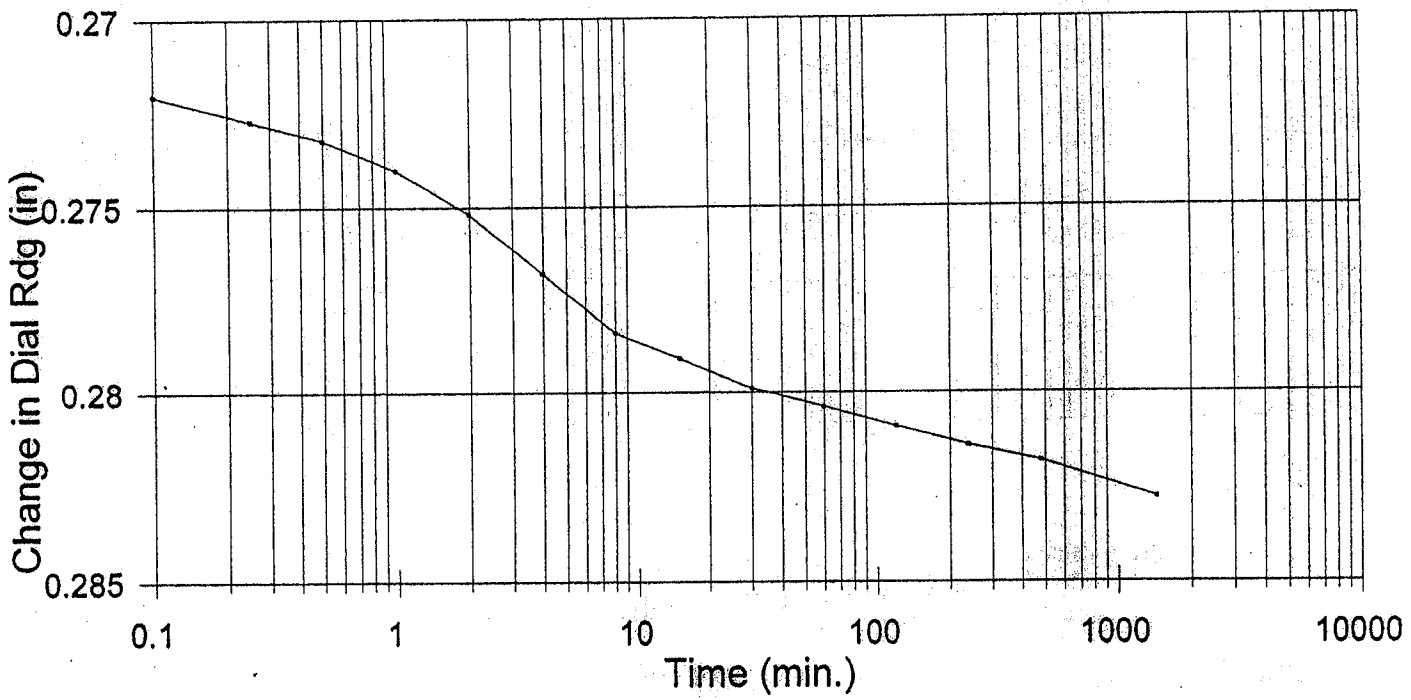
SKS JOB NO. 18330.1 | Consolidation Test PDC | 25-Apr-03

Client: PDC

16 tsf

Dial Reading vs. Log Time

Sample ID: EX-23
Elev.: 676'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

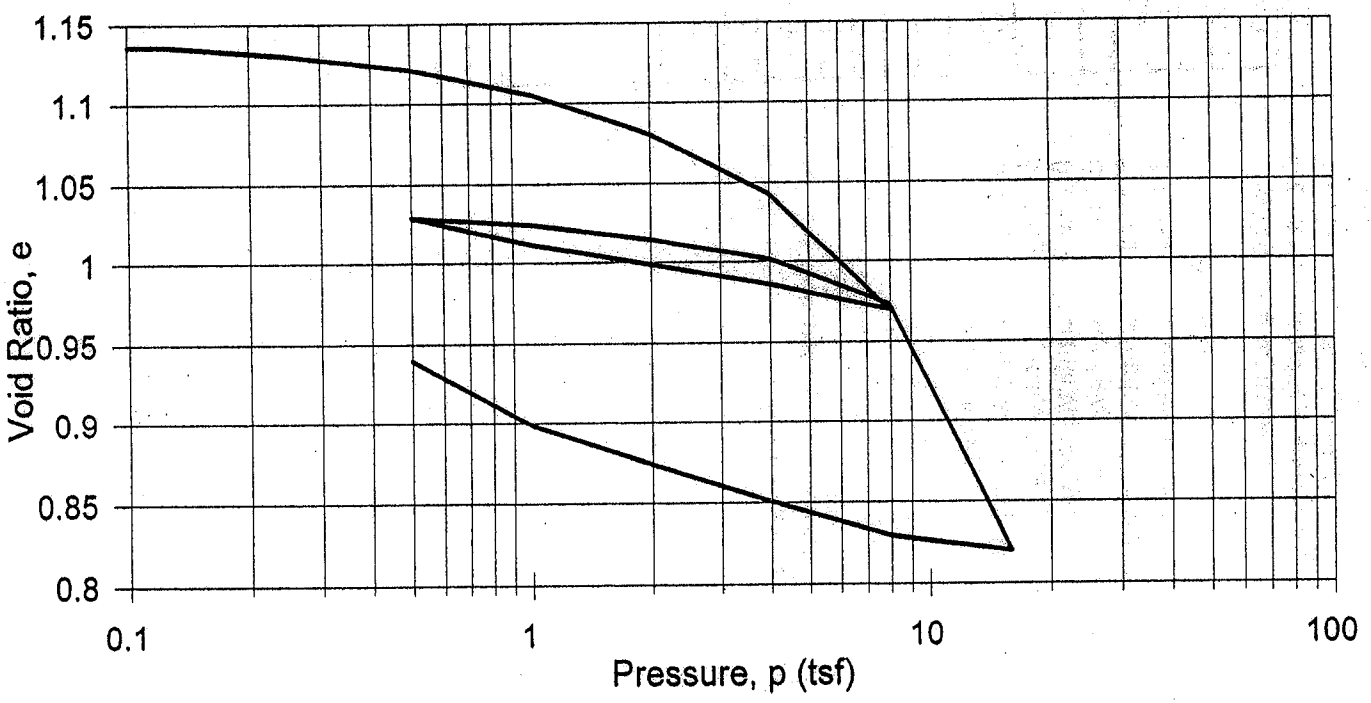
28-Apr-03

Client: PDC

e vs. Log p

Cc = 0.443, e0 = 1.136

Sample ID: EX-16
Elev.: 667.5'
Dark Gray
Robein/Roxana
Organic Clay - OL



Before Test Started		
Ring & Wet Sample =	640.2	g
Ring & Dry Sample =	598.3	g
Water Weight =	41.9	g
Ring Weight =	517.1	g
Dry Sample Weight =	81.2	g
% Moisture =	51.6%	

After Test Was Finished		
Ring & Wet Sample (in pan)=	640.2	g
Ring & Dry Sample (in pan) =	598.3	g
Pan Weight =	0.0	g
Water Weight =	41.9	g
Ring Weight =	517.1	g
Dry Sample Weight =	81.2	g
% Moisture =	51.6%	

SD = 0.1454 in

e_{final} = 0.825

SG =	2.2	
A =	4.811	in^2
V_s =	36.9	cc
H_s =	1.19	cm
H_s =	0.47	in
e_o =	1.136	

Load (tsf)	e	Revised e
0.0625	1.136	1.136
0.125	1.136	1.136
0.25	1.133	1.130
0.5	1.121	1.121
1	1.099	1.105
2	1.074	1.080
4	1.012	1.043
8	0.979	0.970
4	0.986	0.986
2	0.999	0.999
1	1.012	1.012
0.5	1.030	1.030
1	1.025	1.025
2	1.015	1.015
4	1.002	1.002
8	0.973	0.973
16	0.820	0.820
8	0.829	0.829
4	0.851	0.851
2	0.874	0.874
1	0.898	0.898
0.5	0.940	0.940

SKS JOB NO. 18330.1

Consolidation Test
PDC

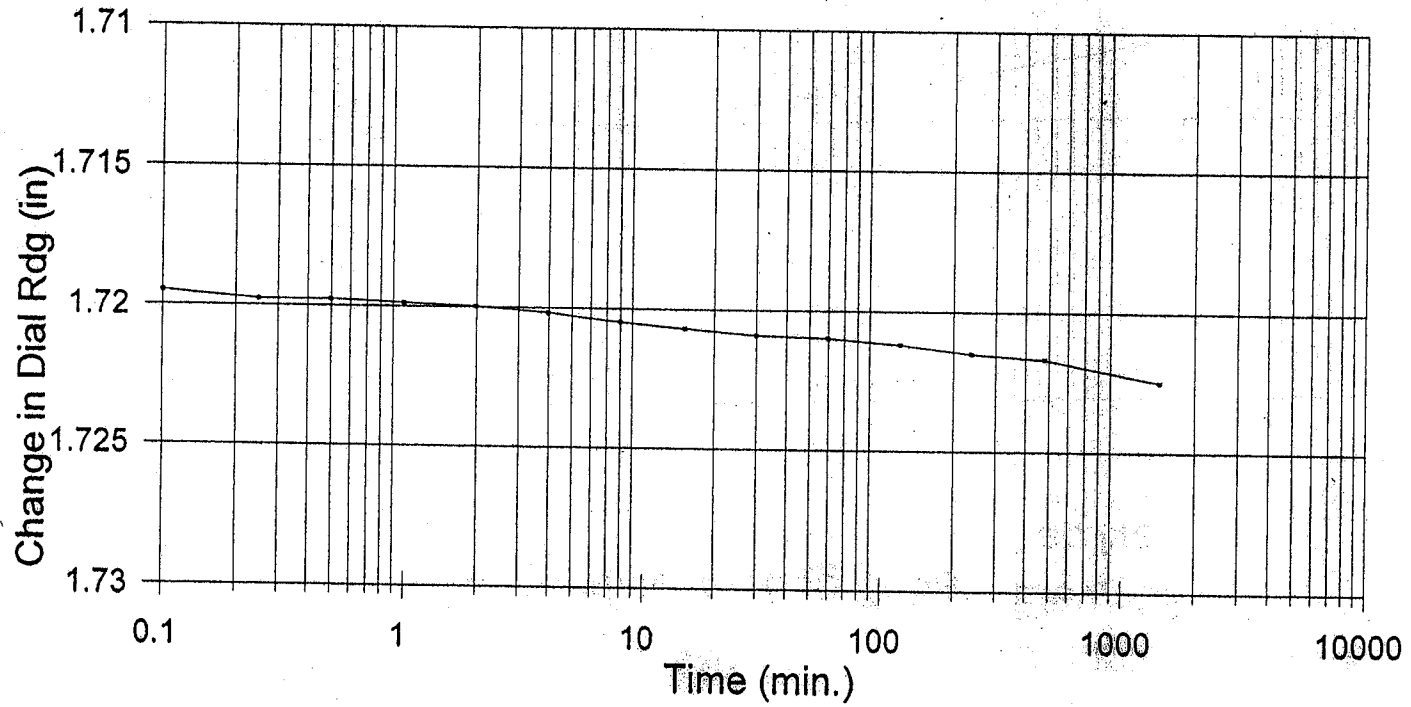
22-Apr-03

Client: PDC

1/2 tsf

Dial Reading vs. Log Time

Sample ID :EX-16
Elev.: 667.5'
Lab No.:



SKS JOB NO. 18330.1 Consolidation Test 22-Apr-03

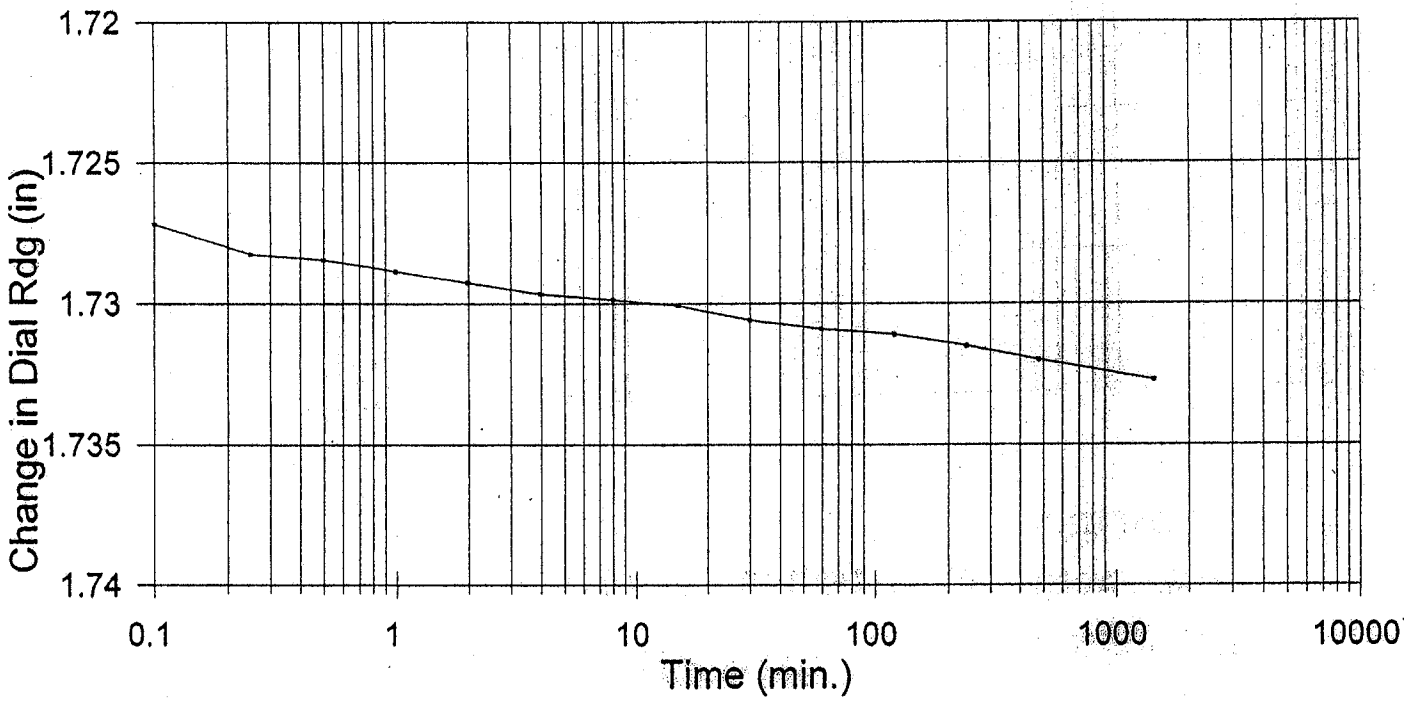
PDC

Client: PDC

1 tsf

Dial Reading vs. Log Time

Sample ID: EX-16
Elev.: 667.5'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

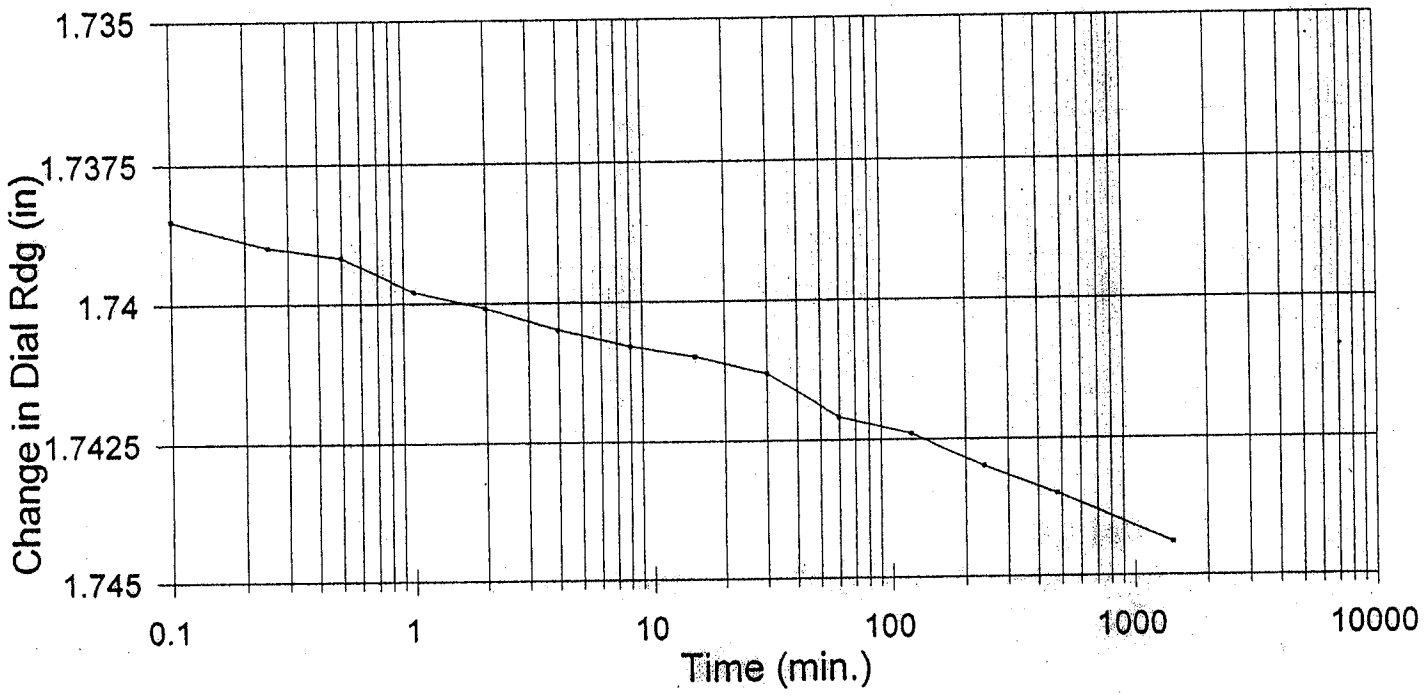
22-Apr-03

Client: PDC

2 tsf

Dial Reading vs. Log Time

Sample ID: EX-16
Elev.: 667.5'
Lab No.:



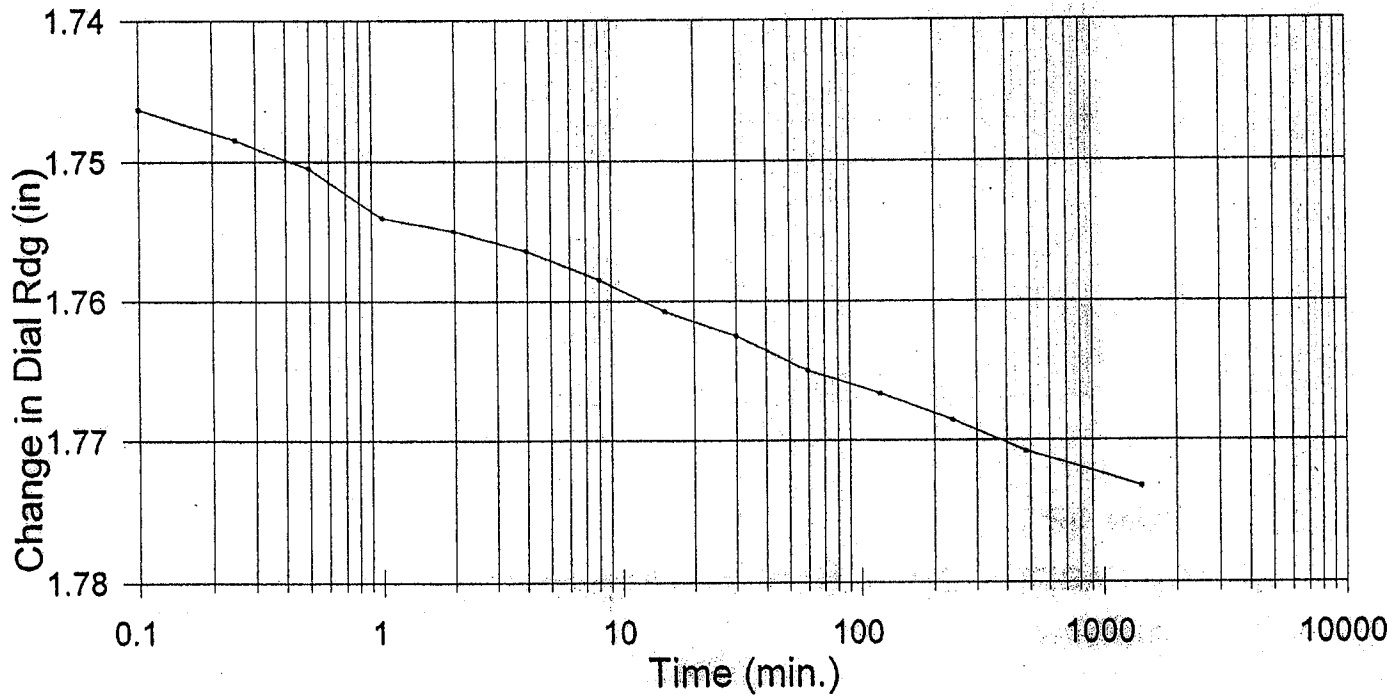
SKS JOB NO. 18330.1 | Consolidation Test PDC | 22-Apr-03

Client: PDC

4 tsf

Dial Reading vs. Log Time

Sample ID: EX-16
Elev.: 667.5'
Lab No.:



SKS JOB NO. 18330.1 Consolidation Test 22-Apr-03

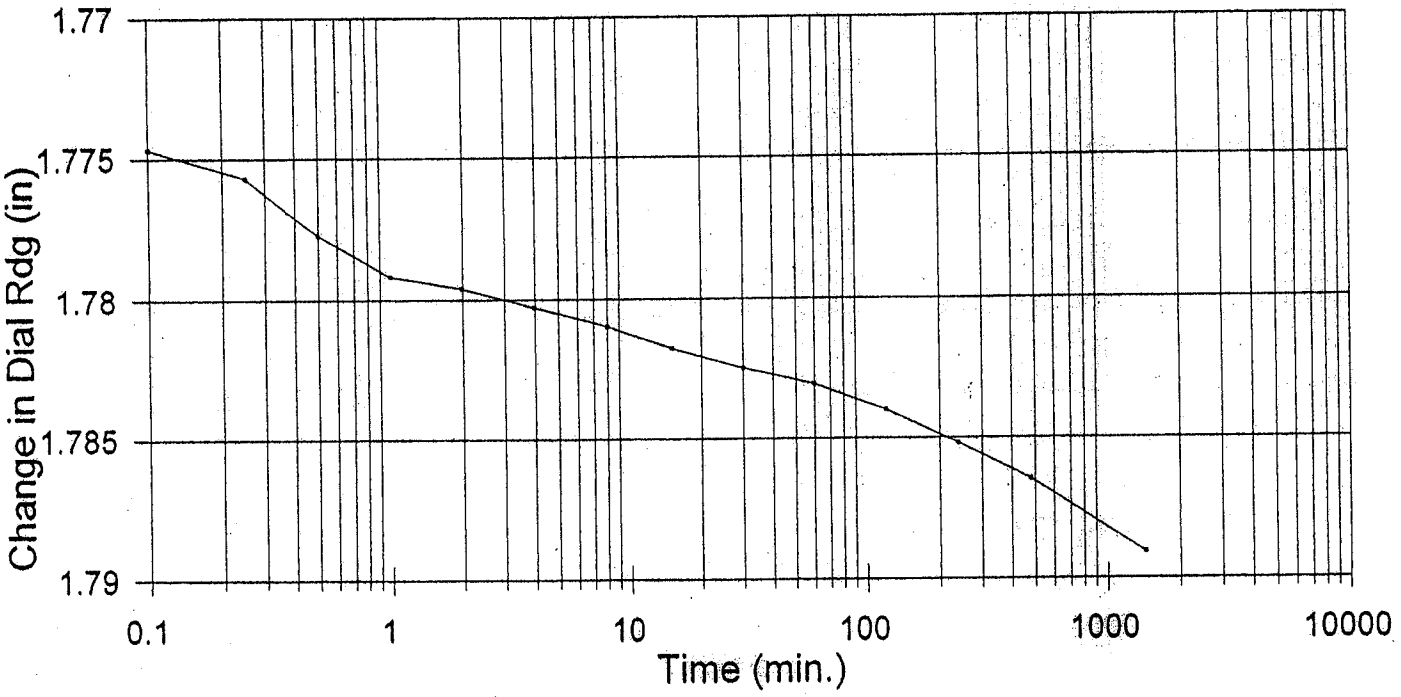
PDC

Client: PDC

8 tsf

Dial Reading vs. Log Time

Sample ID: EX-16
Elev.: 667.5'
Lab No.:



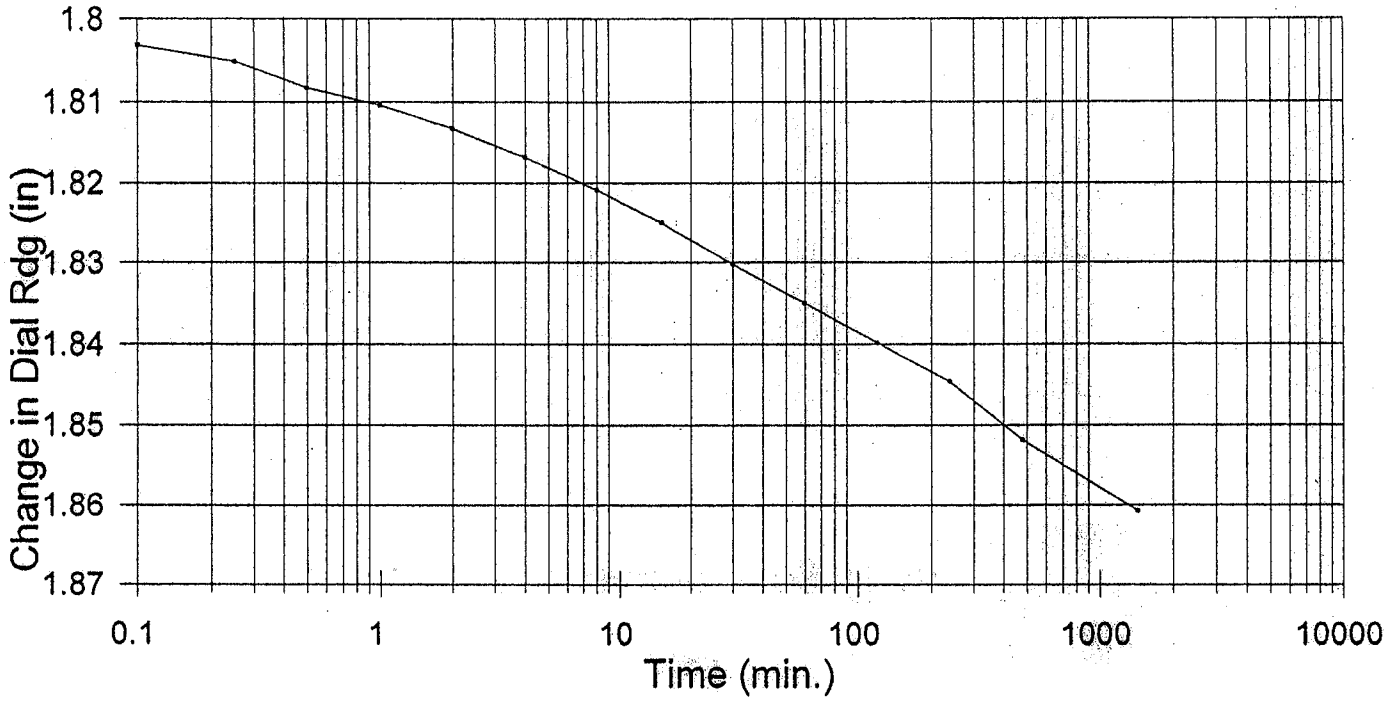
SKS JOB NO. 18330.1 | Consolidation Test PDC | 22-Apr-03

Client: PDC

16 tsf

Dial Reading vs. Log Time

Sample ID: EX-16
Elev.: 667.5'
Lab No.:



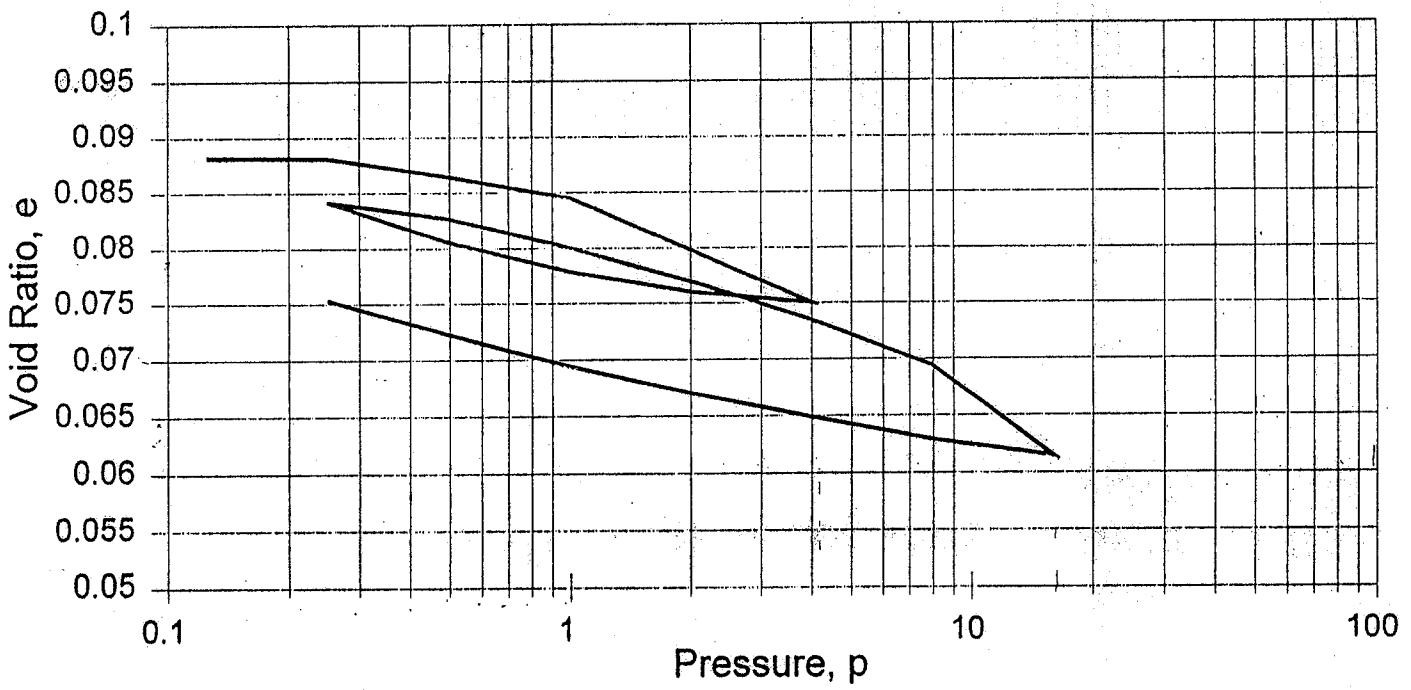
SKS JOB NO. 07665 Consolidation Test - Clinton Landfill 10-May-00

Client: PDC

e vs. Log p

Cc = 0.030, e0 = 0.09

Sample ID: Ex-5
Depth: 79-81'
Lab No.: 2135



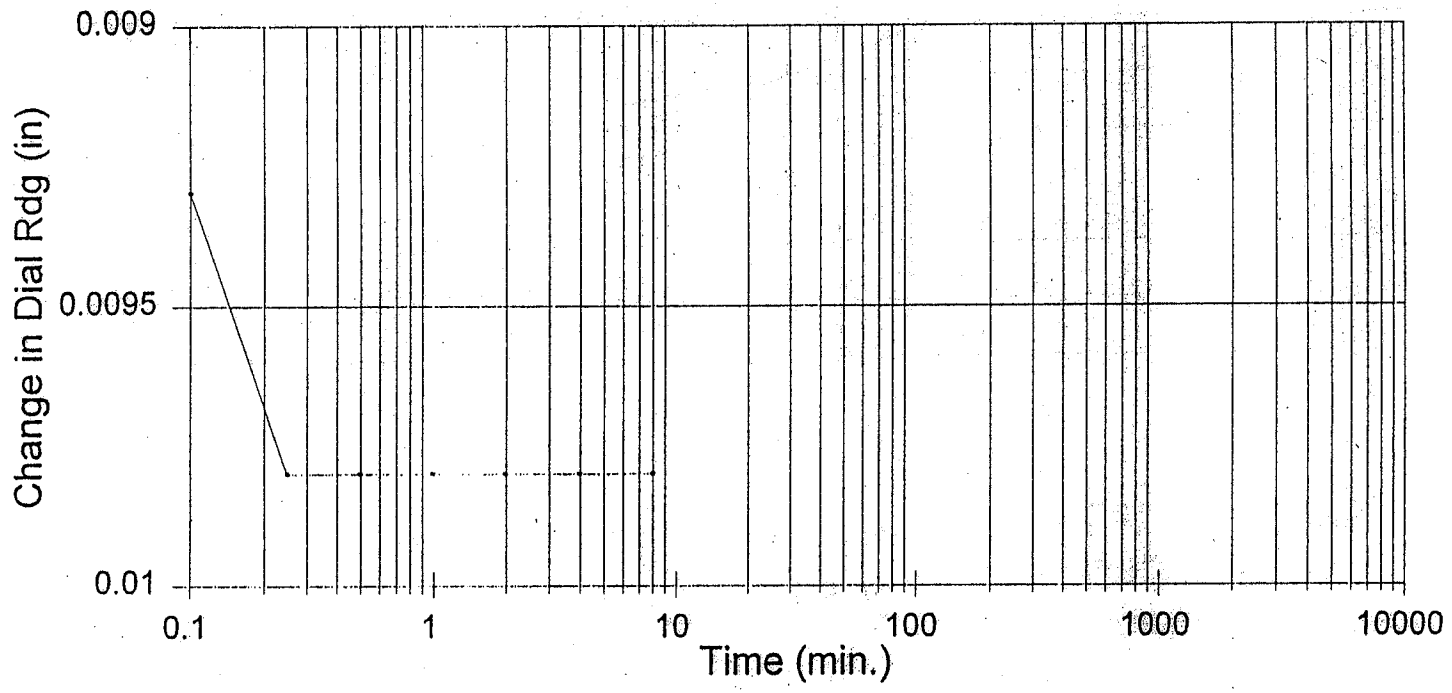
SKS JOB NO. 07665 Consolidation Test - Clinton Landfill 10-May-00

Client: PDC

1/16 tsf

Dial Reading vs. Log Time

Sample ID: Ex-5
Depth: 79-81'
Lab No.: 2135



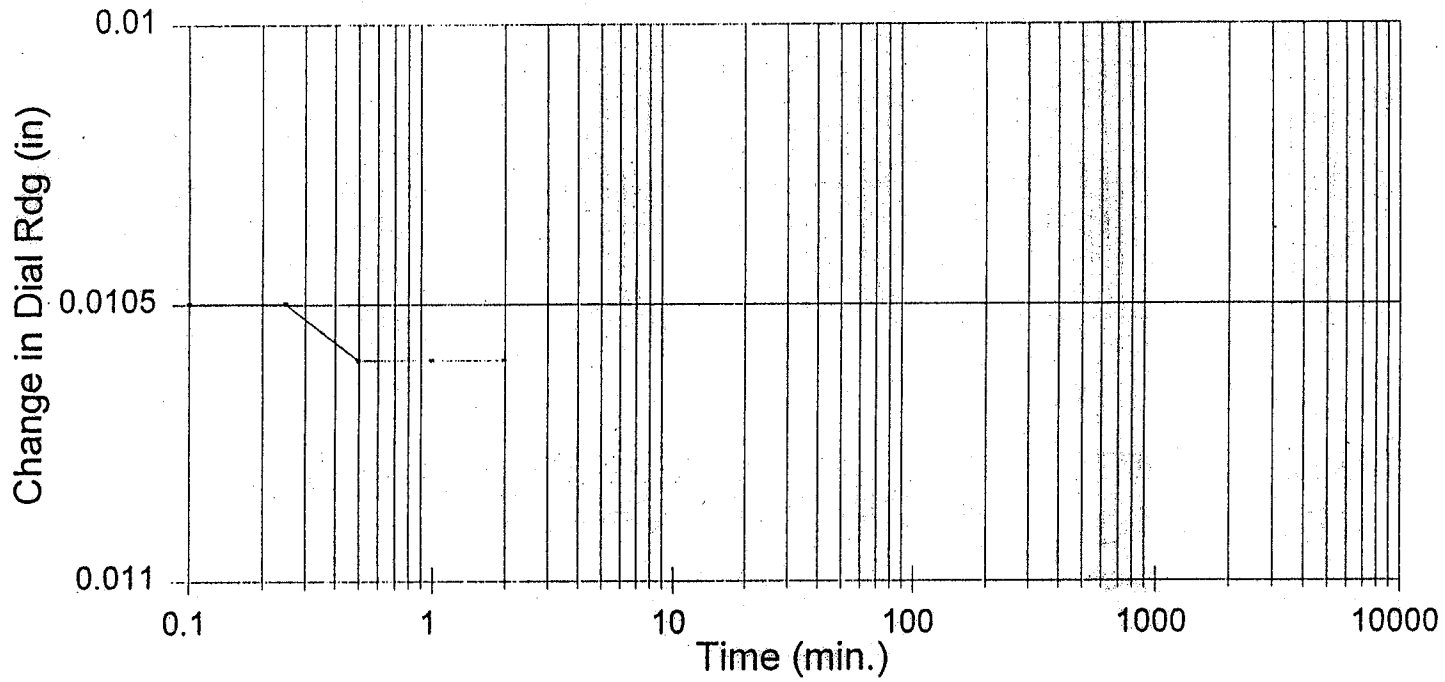
SKS JOB NO. 07665 Consolidation Test - Clinton Landfill 10-May-00

Client: PDC

1/8 tsf

Dial Reading vs. Log Time

Sample ID: Ex-5
Depth: 79-81'
Lab No.: 2135



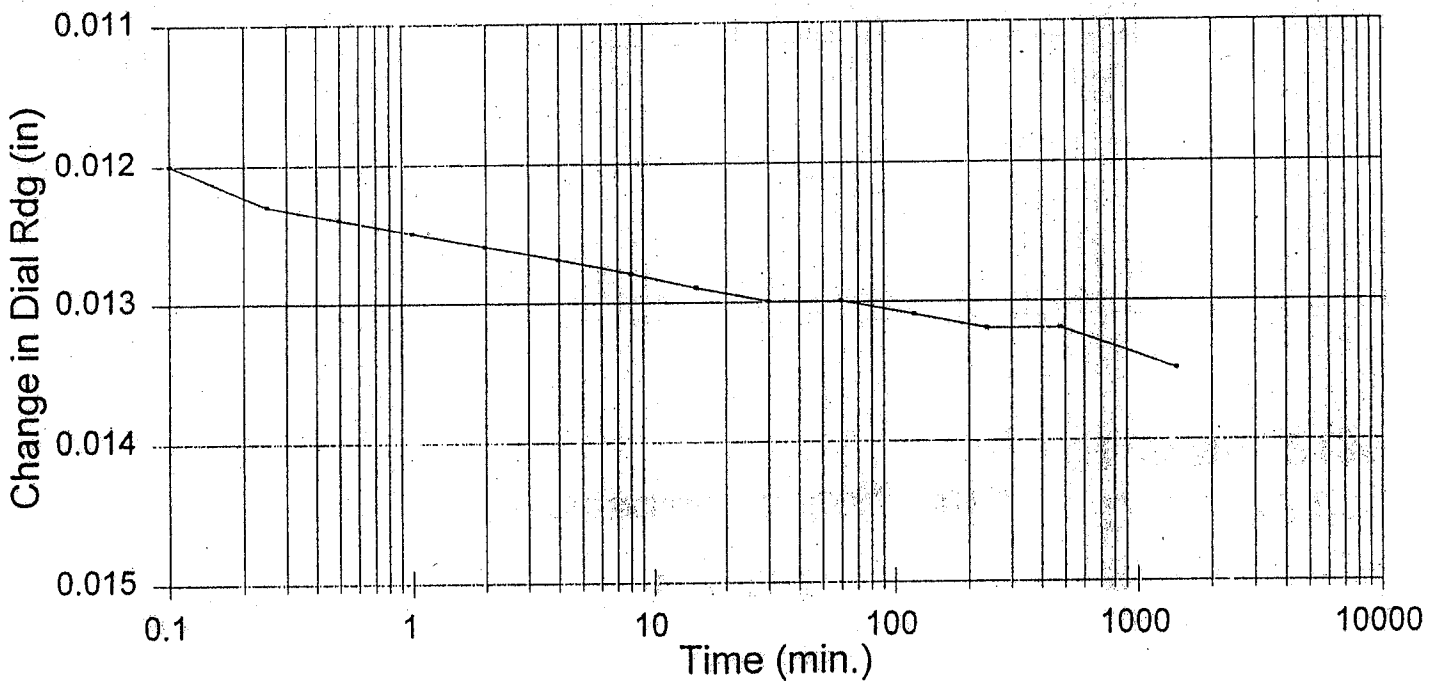
SKS JOB NO. 07665 Consolidation Test - Clinton Landfill 10-May-00

Client: PDC

1/4 tsf

Dial Reading vs. Log Time

Sample ID: Ex-5
Depth: 79-81'
Lab No.: 2135



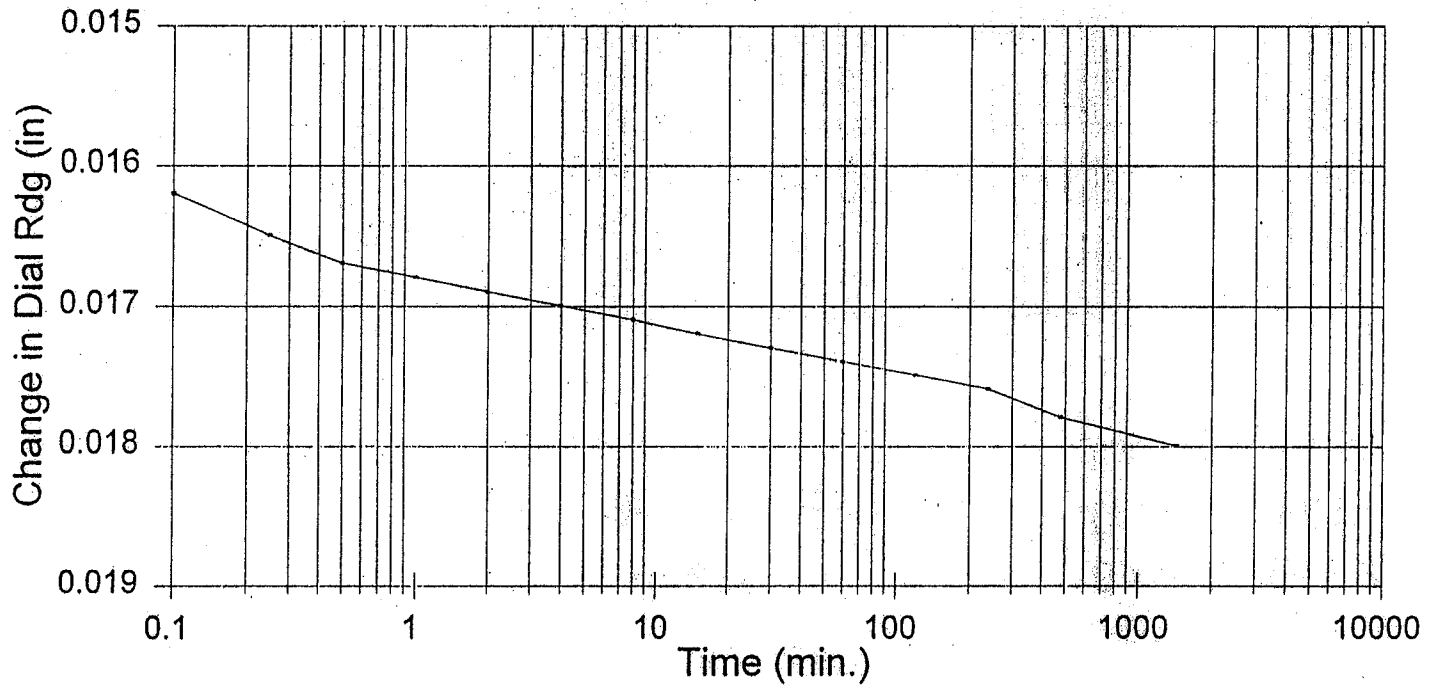
SKS JOB NO. 07665 Consolidation Test - Clinton Landfill 10-May-00

Client: PDC

1/2 tsf

Dial Reading vs. Log Time

Sample ID:Ex-5
Depth: 79-81'
Lab No.: 2135



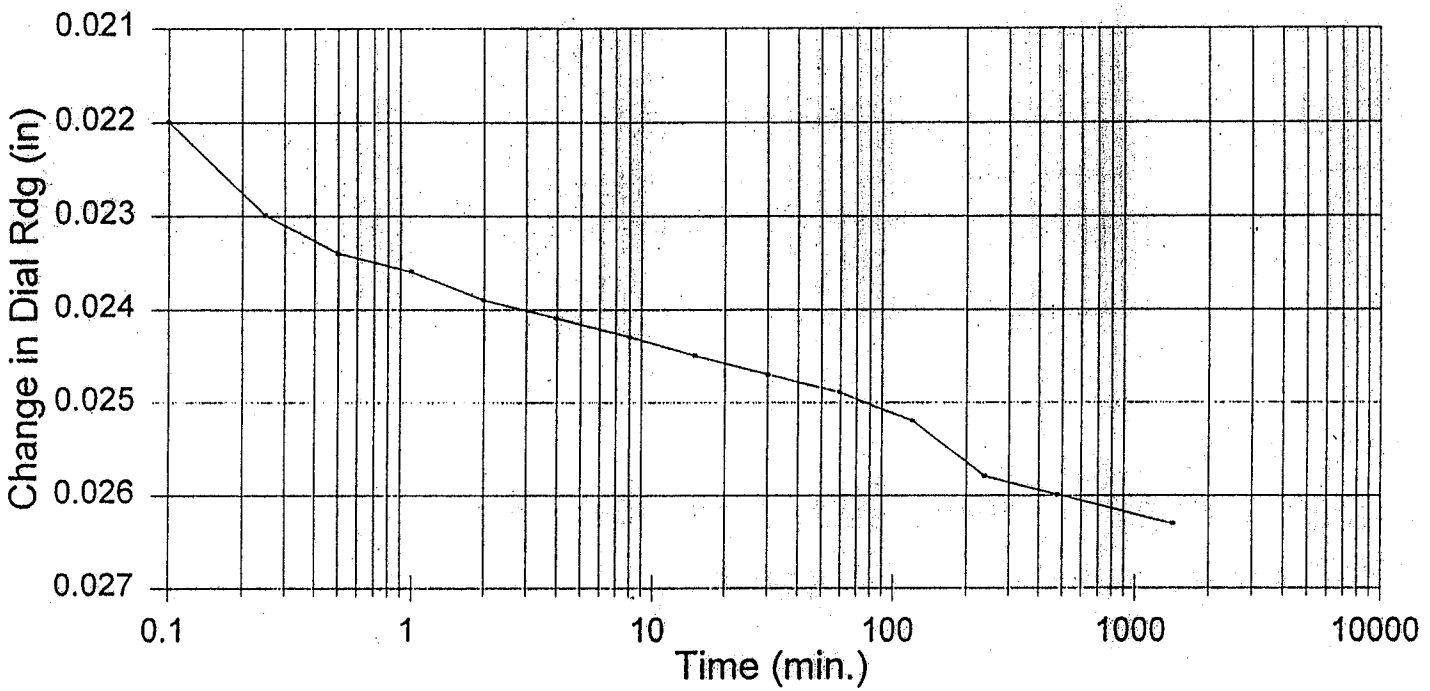
SKS JOB NO. 07665 Consolidation Test - Clinton Landfill 10-May-00

Client: PDC

1 tsf

Dial Reading vs. Log Time

Sample ID: Ex-5
Depth: 79-81'
Lab No.: 2135



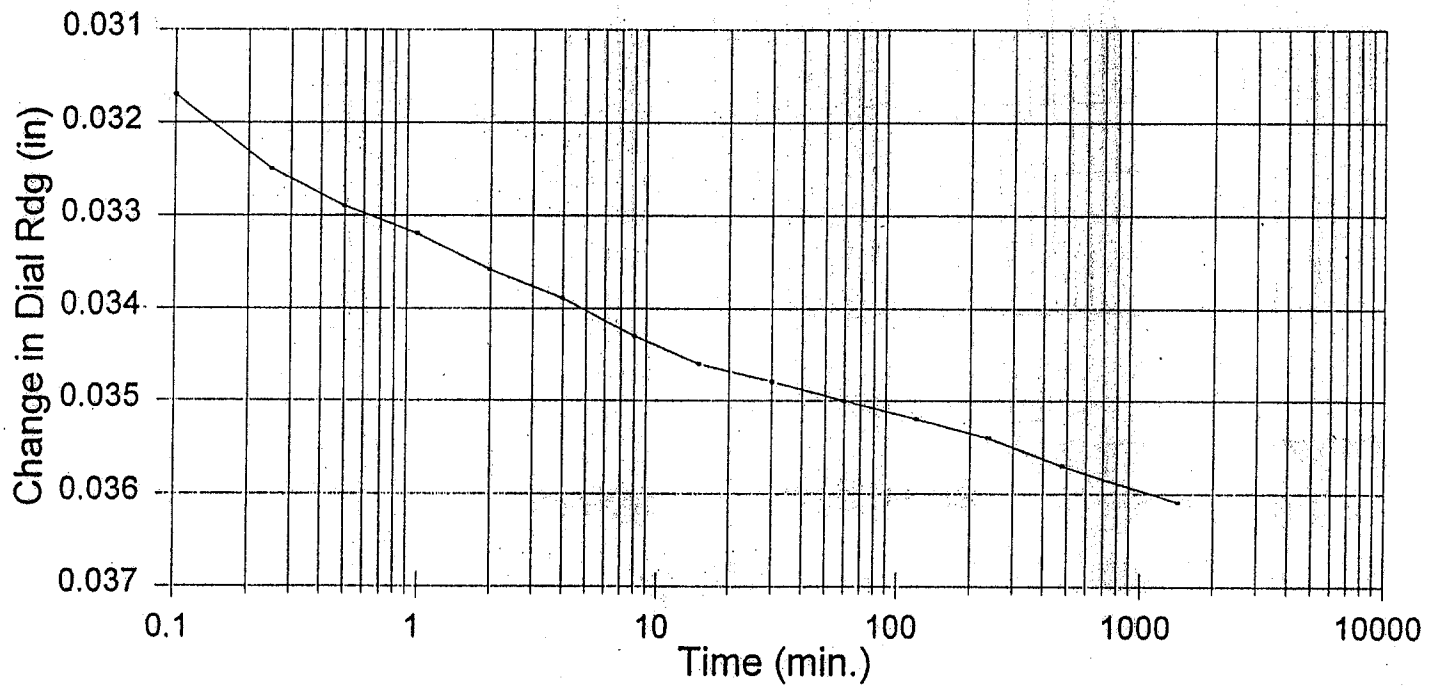
SKS JOB NO. 07665 Consolidation Test - Clinton Landfill 10-May-00

Client: PDC

2 tsf

Dial Reading vs. Log Time

Sample ID: Ex-5
Depth: 79-81'
Lab No.: 2135



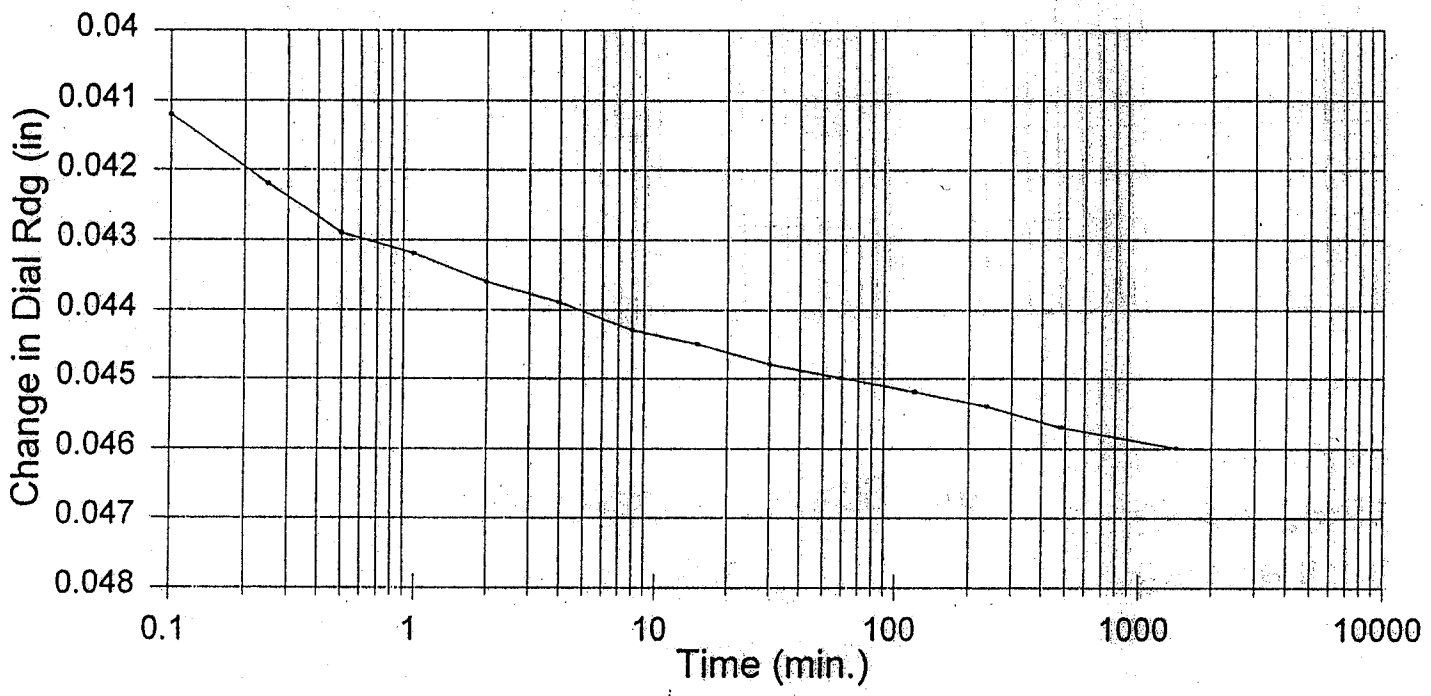
SKS JOB NO. 07665 Consolidation Test - Clinton Landfill 10-May-00

Client: PDC

4 tsf

Dial Reading vs. Log Time

Sample ID: Ex-5
Depth: 79-81'
Lab No.: 2135



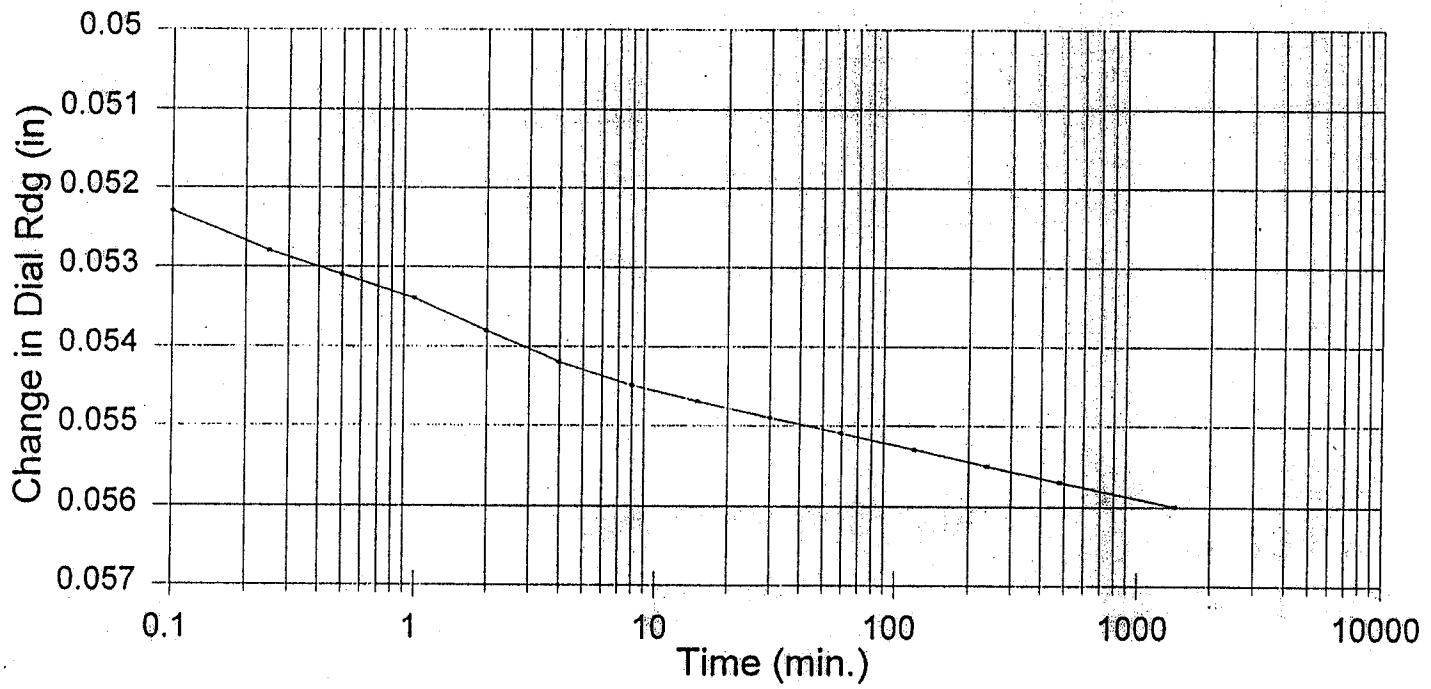
SKS JOB NO. 07665 Consolidation Test - Clinton Landfill 10-May-00

Client: PDC

8 tsf

Dial Reading vs. Log Time

Sample ID: Ex-5
Depth: 79-81'
Lab No.: 2135



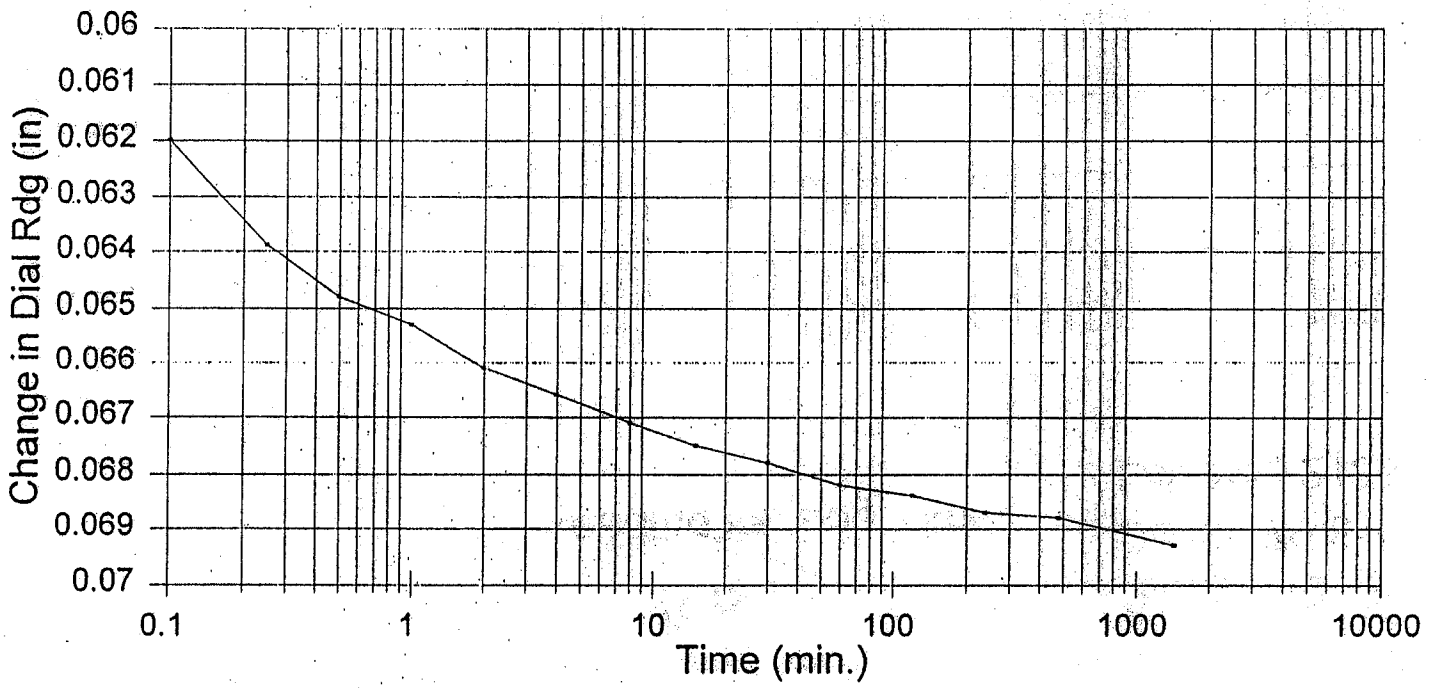
SKS JOB NO. 07665 Consolidation Test - Clinton Landfill 10-May-00

Client: PDC

16 tsf

Dial Reading vs. Log Time

Sample ID: Ex-5
Depth: 79-81'
Lab No.: 2135



SKS JOB NO. 18330.1

Consolidation Test
PDC

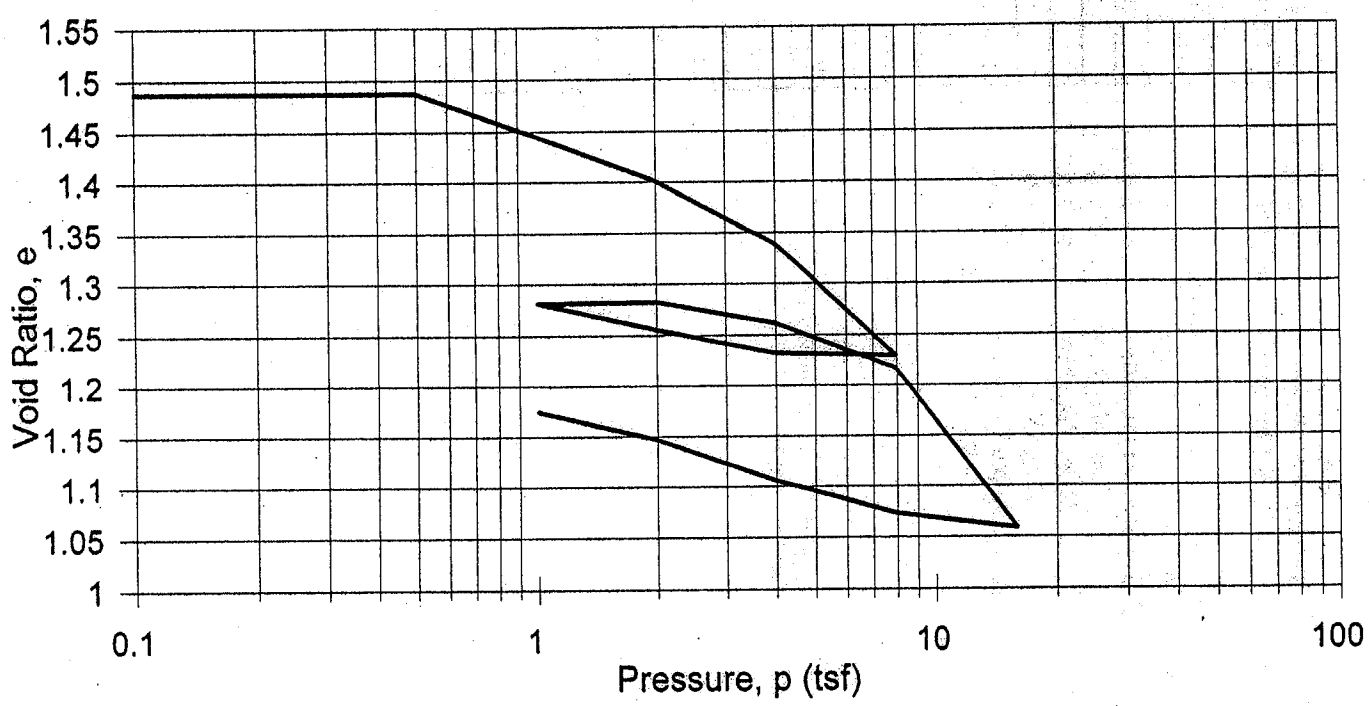
28-Apr-03

Client: PDC

e vs. Log p

Cc = 0.490, e0 = 1.487

Sample ID: EX-19
Elev.: 664'
Dark Gray
Robein/Roxana
Organic Clay - OH



SKS JOB NO. 18330.1

Consolidation Test
PDC

25-Apr-03

Before Test Started		
Ring & Wet Sample =	629.2	g
Ring & Dry Sample =	584.3	g
Water Weight =	44.9	g
Ring Weight =	517.1	g
Dry Sample Weight =	67.2	g
% Moisture =	66.8%	

After Test Was Finished		
Ring & Wet Sample (in pan)=	630.1	g
Ring & Dry Sample (in pan) =	584.3	g
Pan Weight =	0.0	g
Water Weight =	45.8	g
Ring Weight =	517.1	g
Dry Sample Weight =	67.2	g
% Moisture =	68.2%	

SD = 0.1673 in

e_{final} = 1.071

SG =	2.12	
A =	4.811	in^2
V_s =	31.7	cc
H_s =	1.02	cm
H_s =	0.40	in
e_0 =	1.487	

Load (tsf)	e	Revised e
0.0625	1.487	
0.125	1.487	
0.25	1.487	
0.5	1.487	
1	1.445	
2	1.401	
4	1.339	
8	1.229	
4	1.232	
2	1.255	
1	1.281	
2	1.282	
4	1.261	
8	1.217	
16	1.059	
8	1.074	
4	1.106	
2	1.146	
1	1.175	

SKS JOB NO. 18330.1

Consolidation Test
PDC

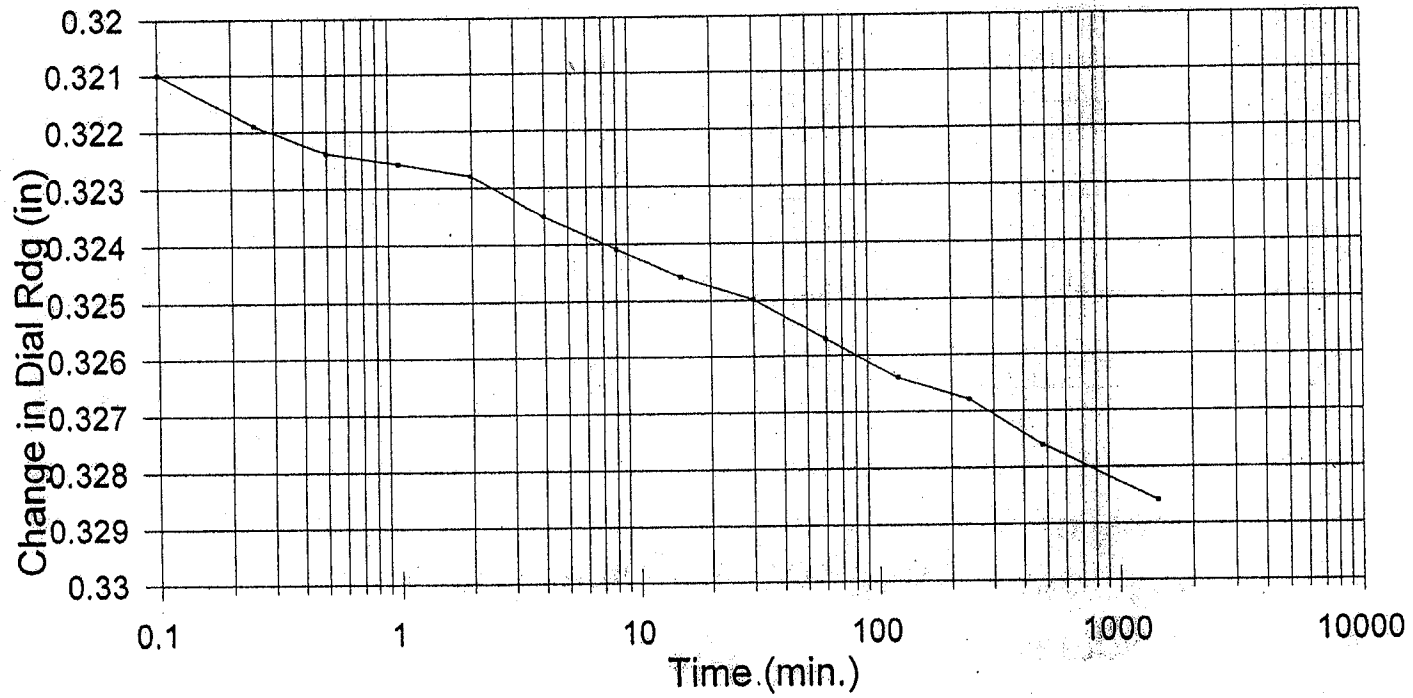
22-Apr-03

Client: PDC

1 tsf

Dial Reading vs. Log Time

Sample ID: EX-19
Elev.: 664'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

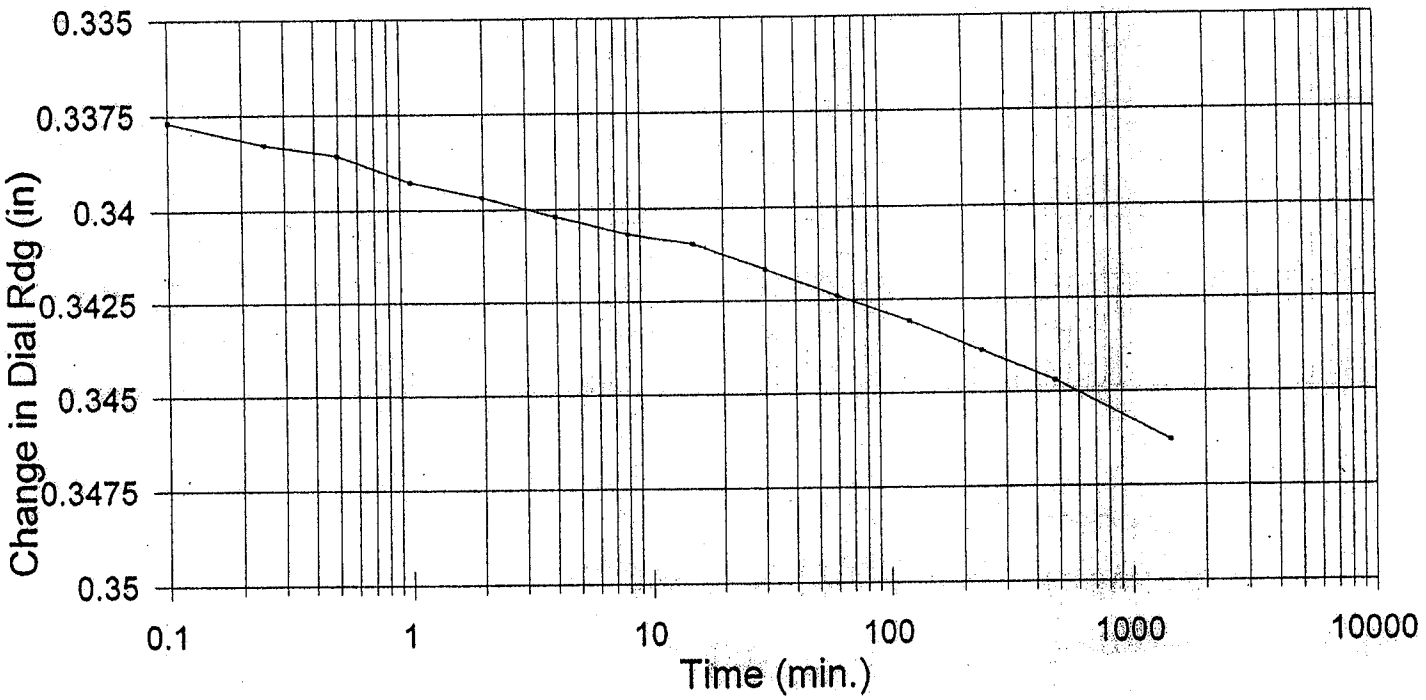
22-Apr-03

Client: PDC

2 tsf

Dial Reading vs. Log Time

Sample ID: EX-19
Elev.: 664'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

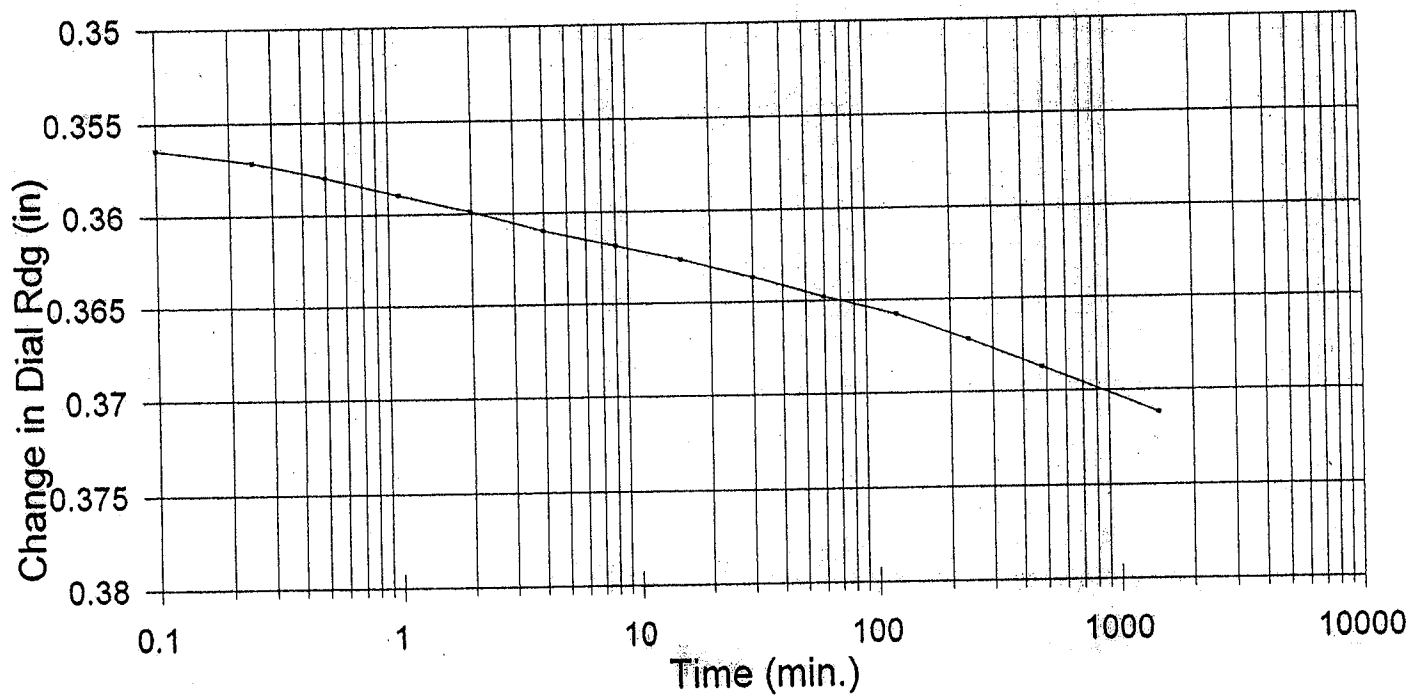
22-Apr-03

Client: PDC

4 tsf

Dial Reading vs. Log Time

Sample ID: EX-19
Elev.: 664'
Lab No.:



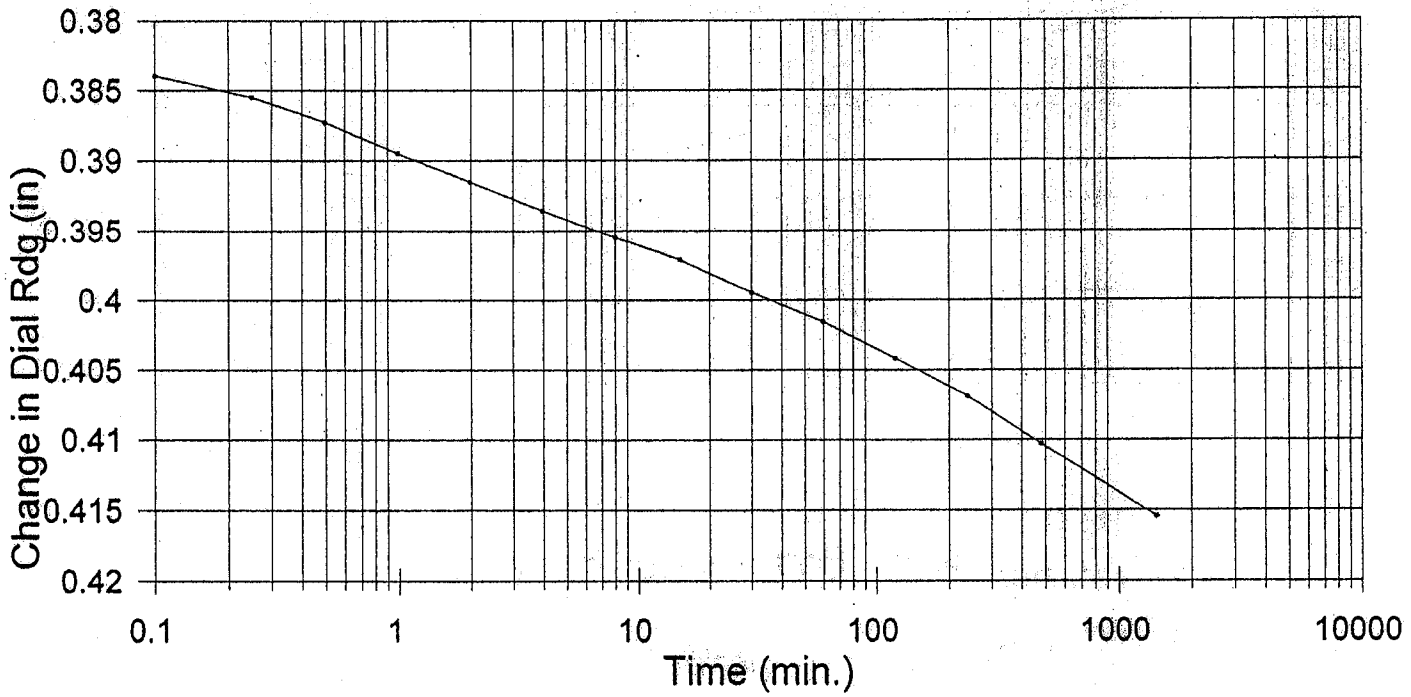
SKS JOB NO. 18330.1 | Consolidation Test PDC | 22-Apr-03

Client: PDC

8 tsf

Dial Reading vs. Log Time

Sample ID: EX-19
Elev.: 664'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

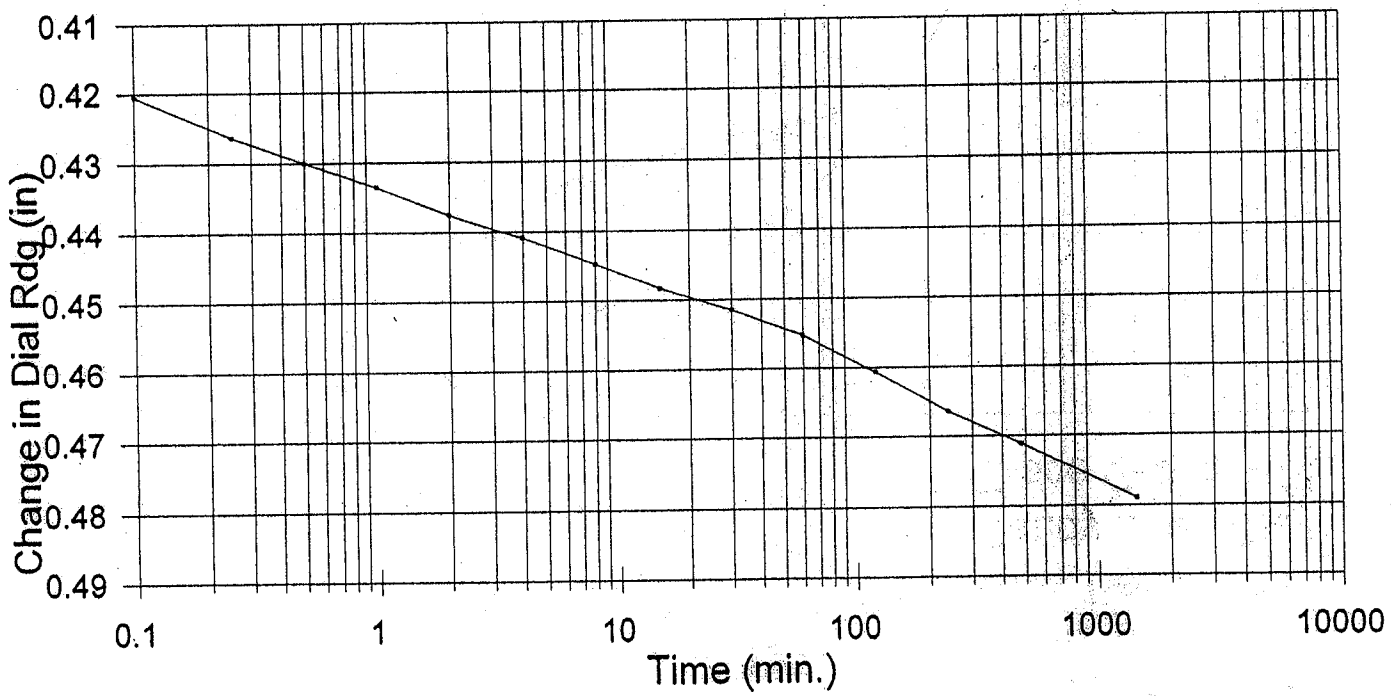
22-Apr-03

Client: PDC

16 tsf

Dial Reading vs. Log Time

Sample ID: EX-19
Elev.: 664'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

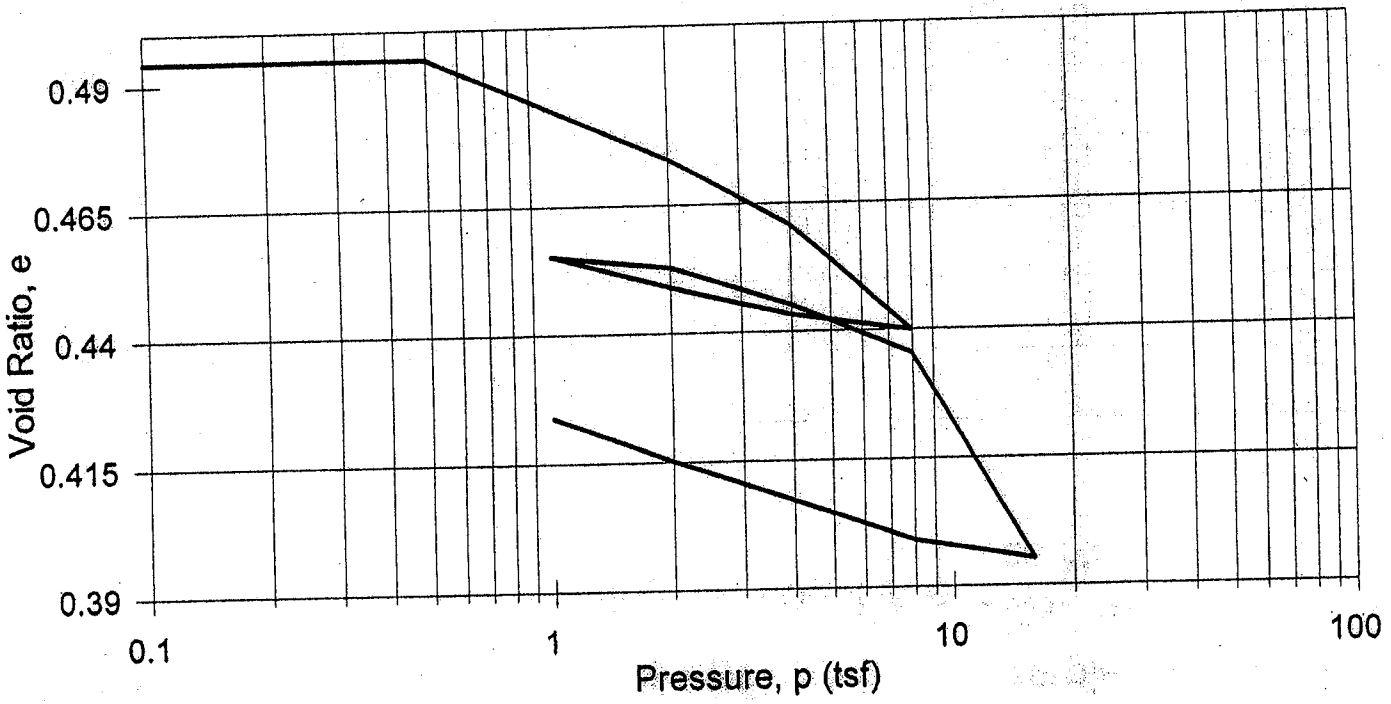
28-Apr-03

Client: PDC

e vs. Log p

Cc = 0.130, e0 = 0.494

Sample ID: EX-21
Elev.: 662'
Gray Berry Clay
Sandy Lean Clay
Trace Gravel - CL



SKS JOB NO. 18330.1

Consolidation Test
PDC

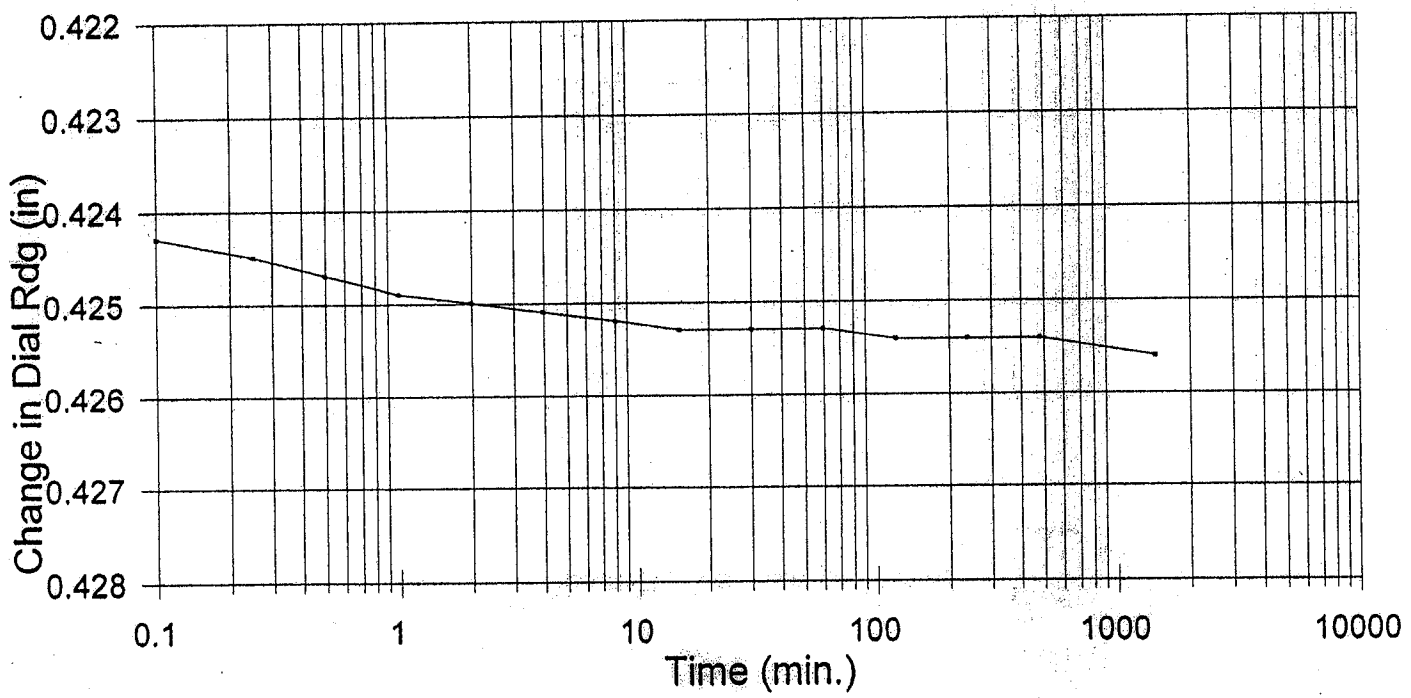
22-Apr-03

Client: PDC

1 tsf

Dial Reading vs. Log Time

Sample ID: EX-21
Elev.: 662'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

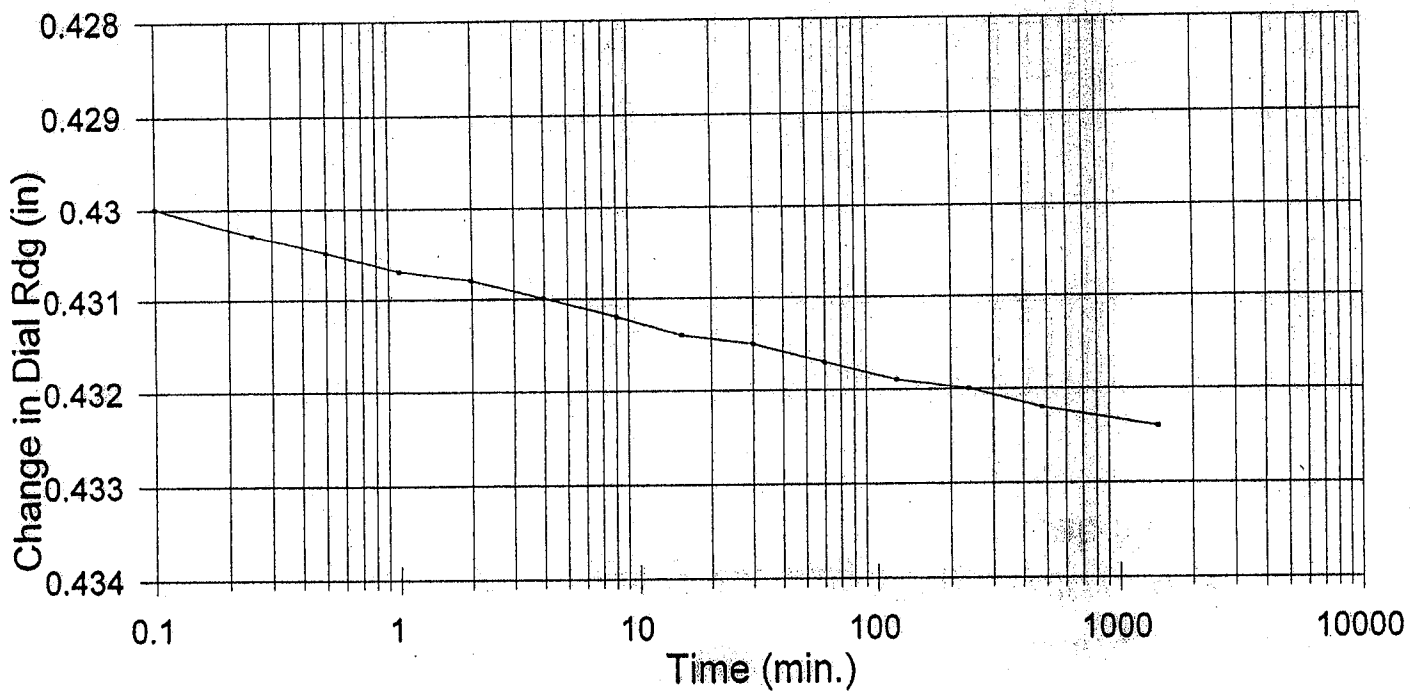
22-Apr-03

Client: PDC

2 tsf

Dial Reading vs. Log Time

Sample ID: EX-21
Elev.: 662'
Lab No.:



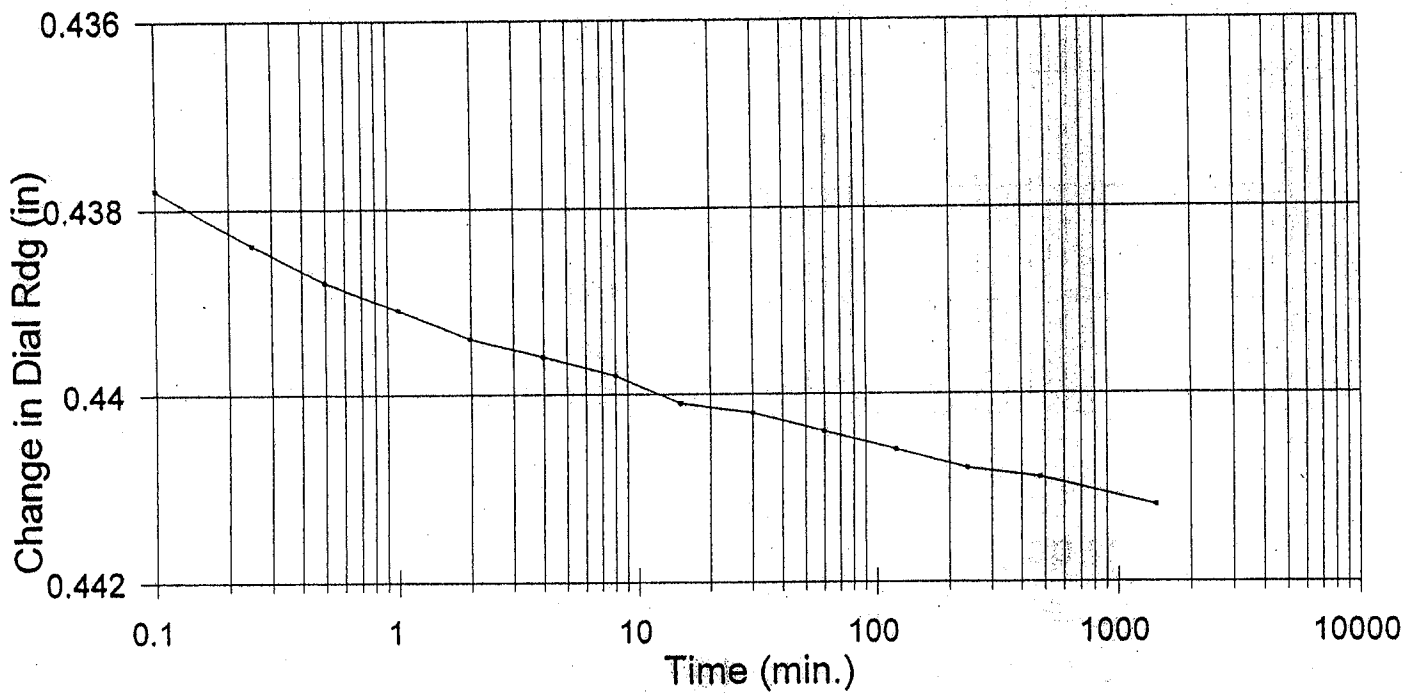
SKS JOB NO. 18330.1 | Consolidation Test PDC | 22-Apr-03

Client: PDC

4 tsf

Dial Reading vs. Log Time

Sample ID: EX-21
Elev.: 662'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

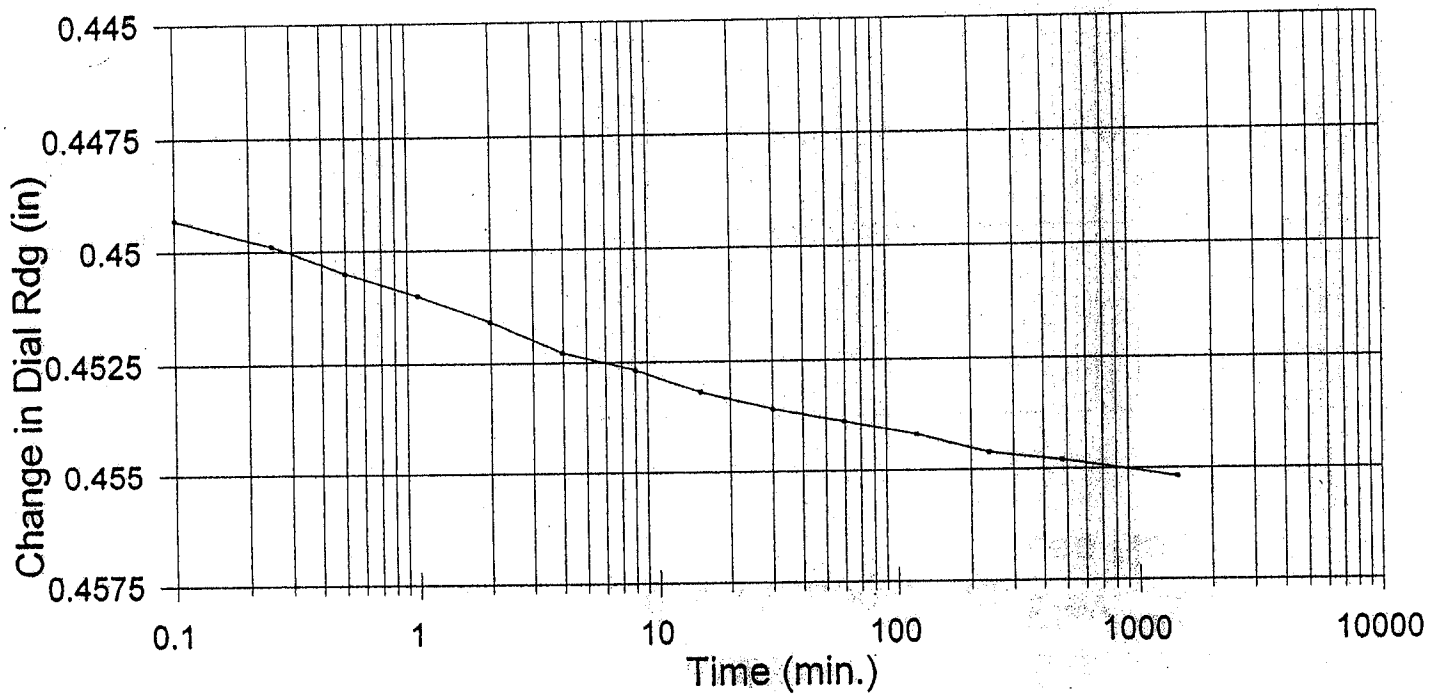
22-Apr-03

Client: PDC

8 tsf

Dial Reading vs. Log Time

Sample ID: EX-21
Elev.: 662'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

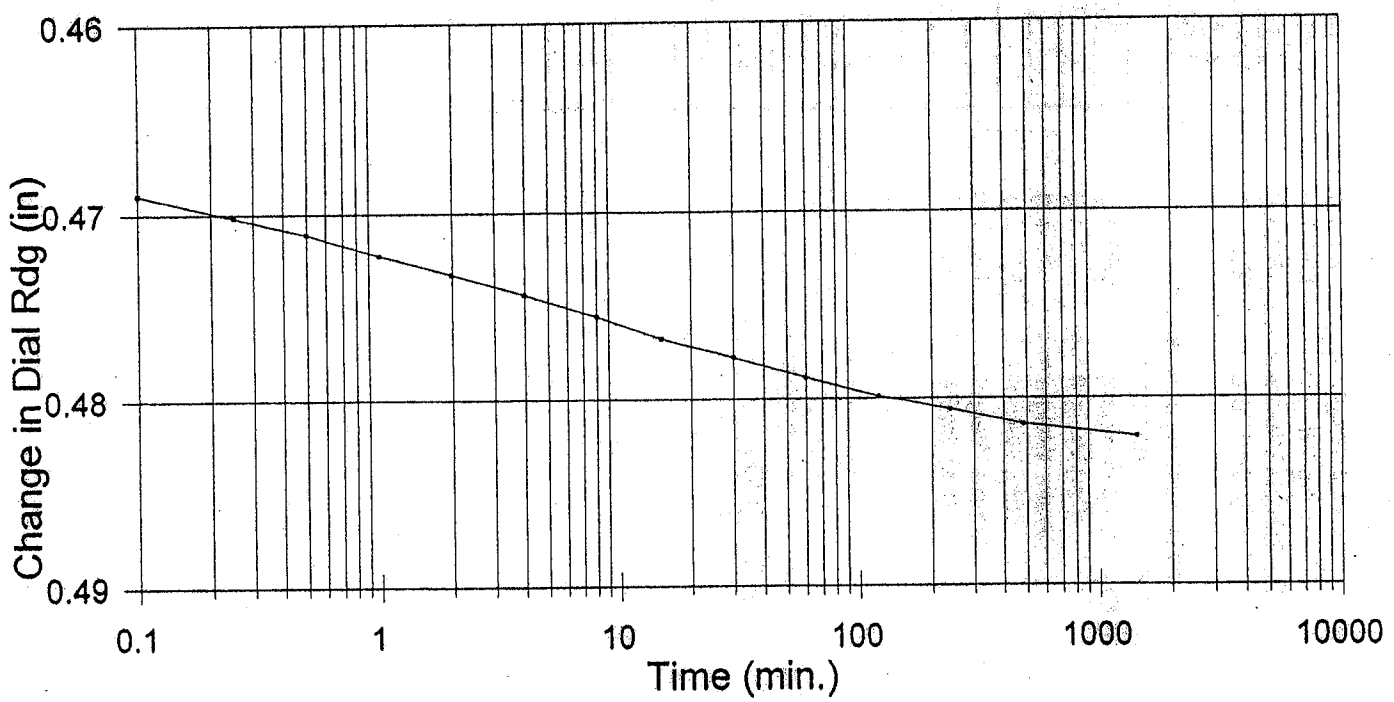
22-Apr-03

Client: PDC

16 tsf

Dial Reading vs. Log Time

Sample ID:EX-21
Elev.: 662'
Lab No.:



SKS JOB NO. 18330.1

Consolidation Test
PDC

22-Apr-03

Before Test Started

Ring & Wet Sample =	686.7 g
Ring & Dry Sample =	660.9 g
Water Weight =	25.8 g
Ring Weight =	521.1 g
Dry Sample Weight =	139.8 g
% Moisture =	18.5%

After Test Was Finished

Ring & Wet Sample (in pan)=	692.3 g
Ring & Dry Sample (in pan) =	660.9 g
Pan Weight =	0.0 g
Water Weight =	31.4 g
Ring Weight =	521.1 g
Dry Sample Weight =	139.8 g
% Moisture =	22.5%

SD = 0.0634 in

e_{final} = 0.400

SG =	2.65	
A =	4.811	in^2
V_s =	52.8	cc
H_s =	1.70	cm
H_s =	0.67	in
e_o =	0.494	

Load (tsf)	e	Revised e
0.0625	0.494	
0.125	0.494	
0.25	0.494	
0.5	0.494	
1	0.484	
2	0.474	
4	0.461	
8	0.440	
4	0.443	
2	0.449	
1	0.455	
2	0.453	
4	0.445	
8	0.435	
16	0.395	
8	0.399	
4	0.407	
2	0.415	
1	0.424	

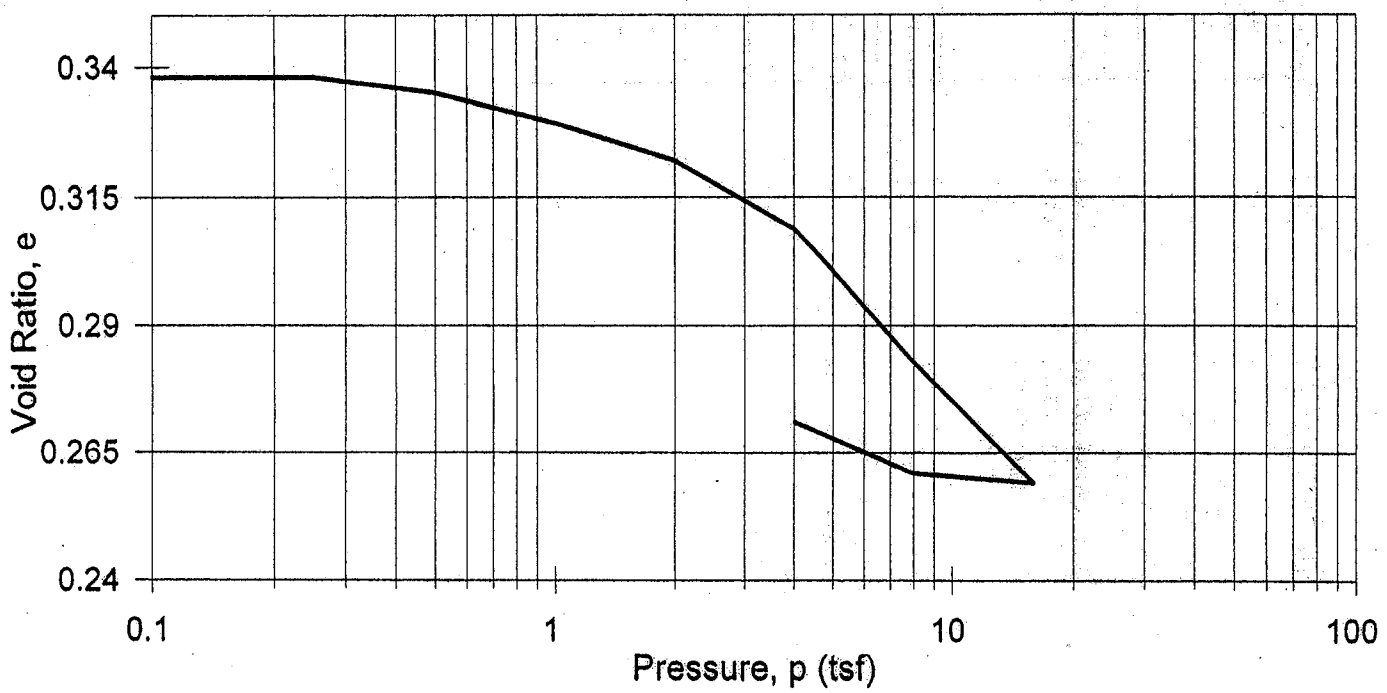
SKS JOB NO. 18330.1 | Consolidation Test PDC | 28-Apr-03

Client: PDC

e vs. Log p

Cc = 0.080, e0 = 0.338

Sample ID: EX-13
Elev.: 660'
Dark Gray Berry Clay
Lean Clay - CL



SKS JOB NO. 18330.1

Consolidation Test
PDC

28-Apr-03

Before Test Started

Ring & Wet Sample =	702.3 g
Ring & Dry Sample =	684.8 g
Water Weight =	17.5 g
Ring Weight =	528.6 g
Dry Sample Weight =	156.2 g
% Moisture =	11.2%

After Test Was Finished

Ring & Wet Sample (in pan)=	707.8 g
Ring & Dry Sample (in pan) =	684.8 g
Pan Weight =	0.0 g
Water Weight =	23.0 g
Ring Weight =	528.6 g
Dry Sample Weight =	156.2 g
% Moisture =	14.7%

SD = 0.0589 in

e_{final} = 0.259

SG = 2.65

A = 4.811 in^2

V_s = 58.9 cc

H_s = 1.90 cm

H_s = 0.75 in

e_0 = 0.338

Load (tsf)	e	Revised e
0.0625	0.338	0.338
0.125	0.338	0.338
0.25	0.323	0.338
0.5	0.320	0.335
1	0.315	0.329
2	0.306	0.322
4	0.295	0.309
8	0.283	0.283
16	0.259	0.259
8	0.261	0.261
4	0.271	0.271

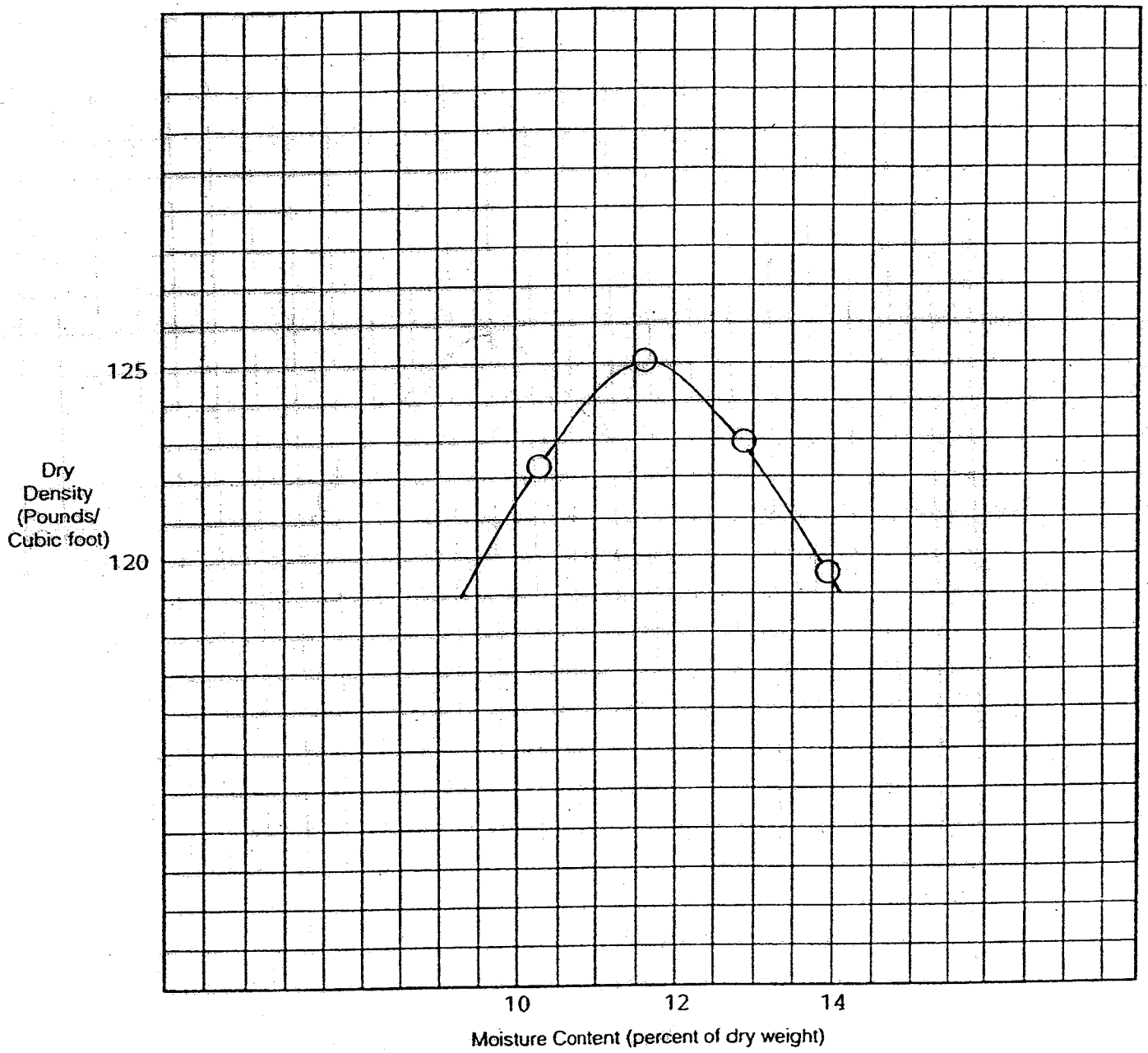
MOISTURE DENSITY RELATIONSHIP

Project Number 18330.1

Date January 30, 2003

Test Method ASTM D-698

Source BT Composite



Maximum Dry Density (Lbs./Cu.Ft.) 125.0

Optimum Moisture Content (%) 11.6

Type of Material: Brown, low-medium plasticity, LEAN Clay with SAND (Brown Tiskilwa) (LL=27 PI=13)

Liner Soils
Clinton #3

PDC Technical Services, Inc.

SKS ENGINEERS, INC.
CONSULTING ENGINEERS
2900 N. MARTIN LUTHER KING, JR. DRIVE
DECATUR, ILLINOIS 62526

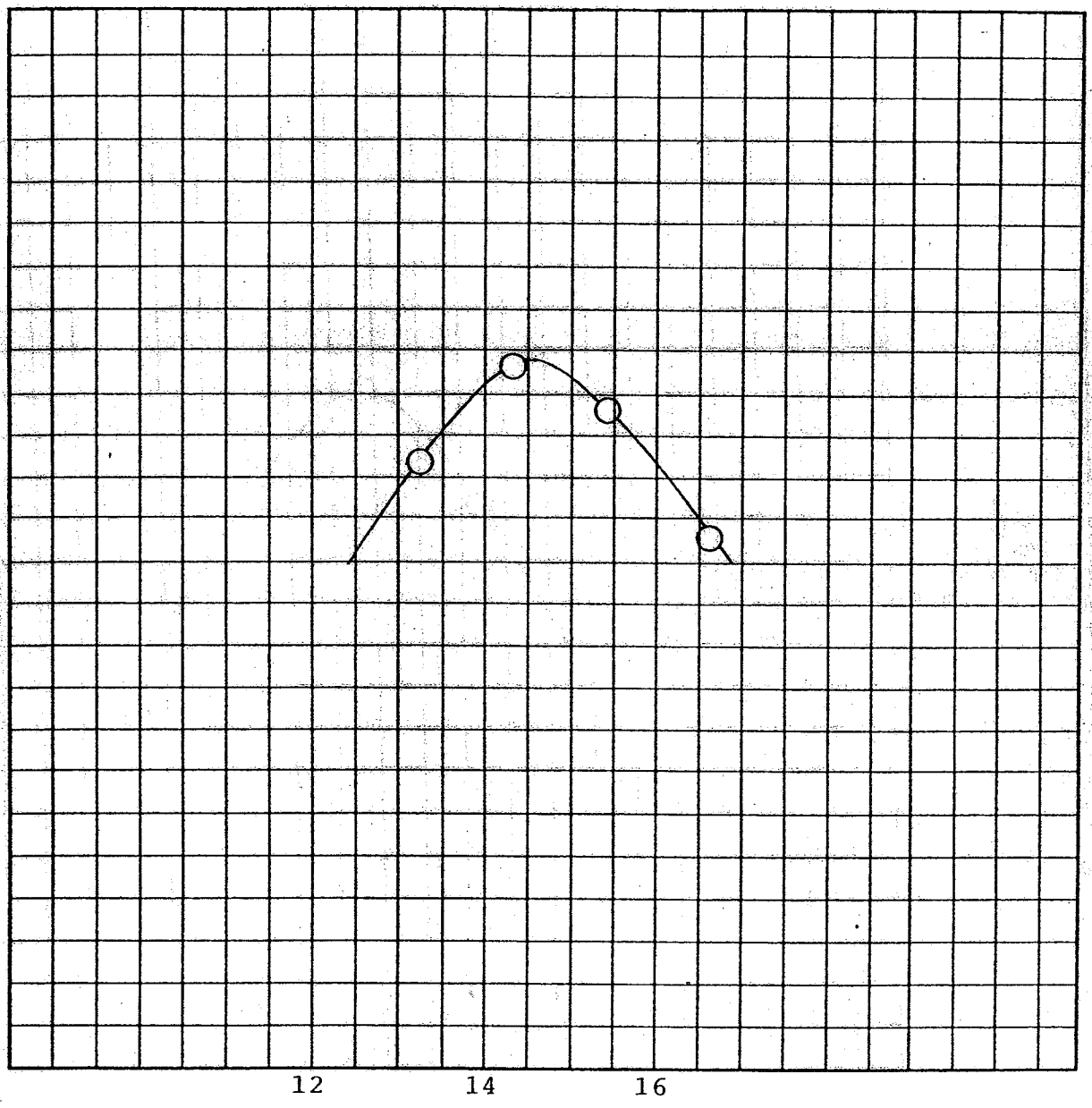
Project Number 18330.1

Date 12/31/02

Test Method ASTM D-698

Source EX-13 715'

MOISTURE DENSITY RELATIONSHIP



Maximum Dry Density (Lbs./Cu.Ft.) 109.8

Optimum Moisture Content (%) 14.6

Type of Material: Brown, low plasticity, LEAN CLAY, trace-little sand, trace gravel, brown tiskilwa

Liner Soils
CLI#3

PDC Technical Services

SKS ENGINEERS, INC.
CONSULTING ENGINEERS
2900 N. MARTIN LUTHER KING, JR. DRIVE
DECATUR, ILLINOIS 62526

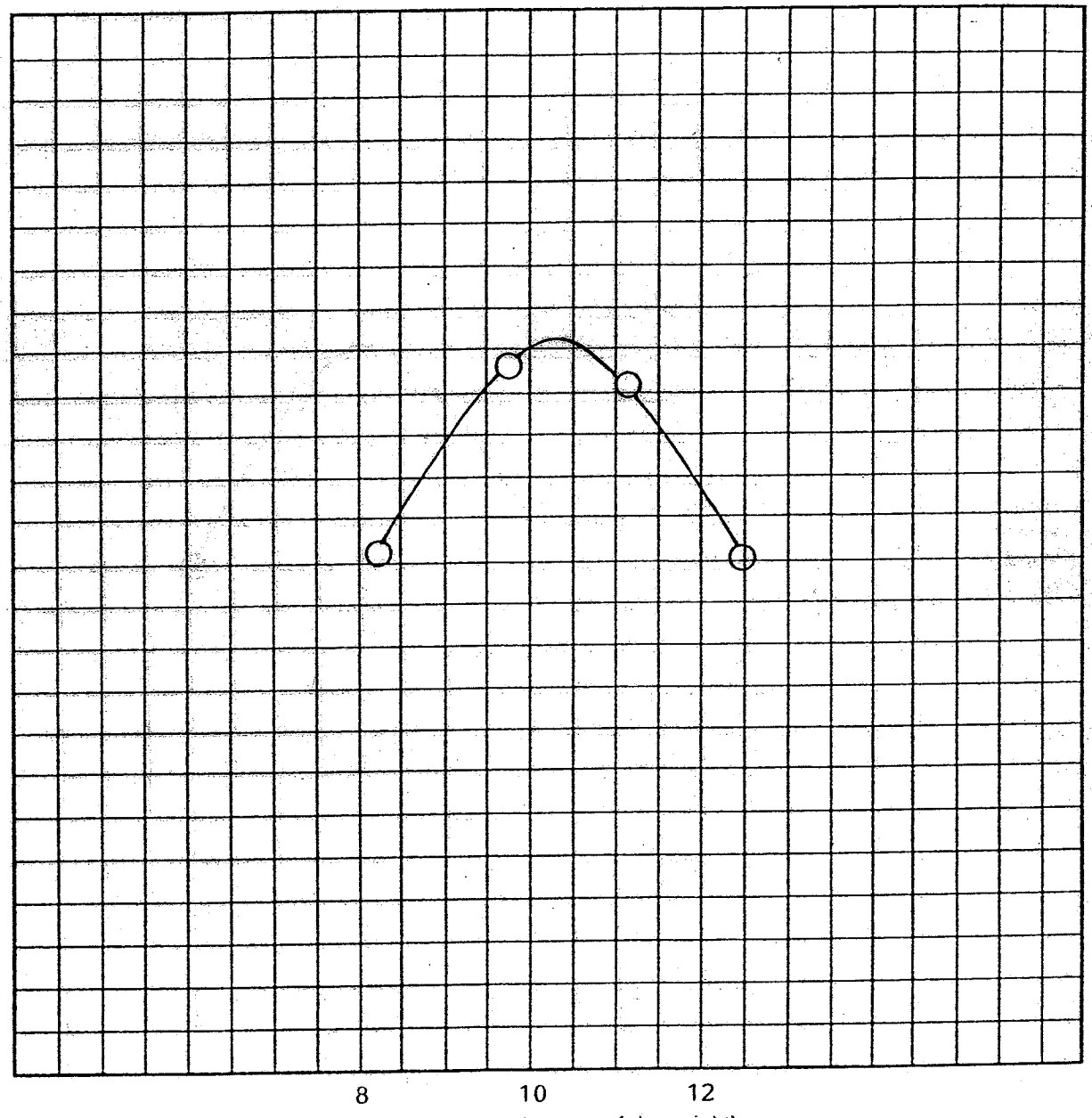
Project Number 18330.1

Date December 23, 2002

Test Method ASTM D-698

Source GT Composite

MOISTURE DENSITY RELATIONSHIP



Maximum Dry Density (Lbs./Cu.Ft.) 127.3

Optimum Moisture Content (%) 10.3

Type of Material: Gray, low plasticity, SANDY LEAN CLAY, trace gravel (Gray Tiskilwa) (LL=26 PI=14) Composite

Liner Soils
Clinton #3

PDC Technical Services, Inc.

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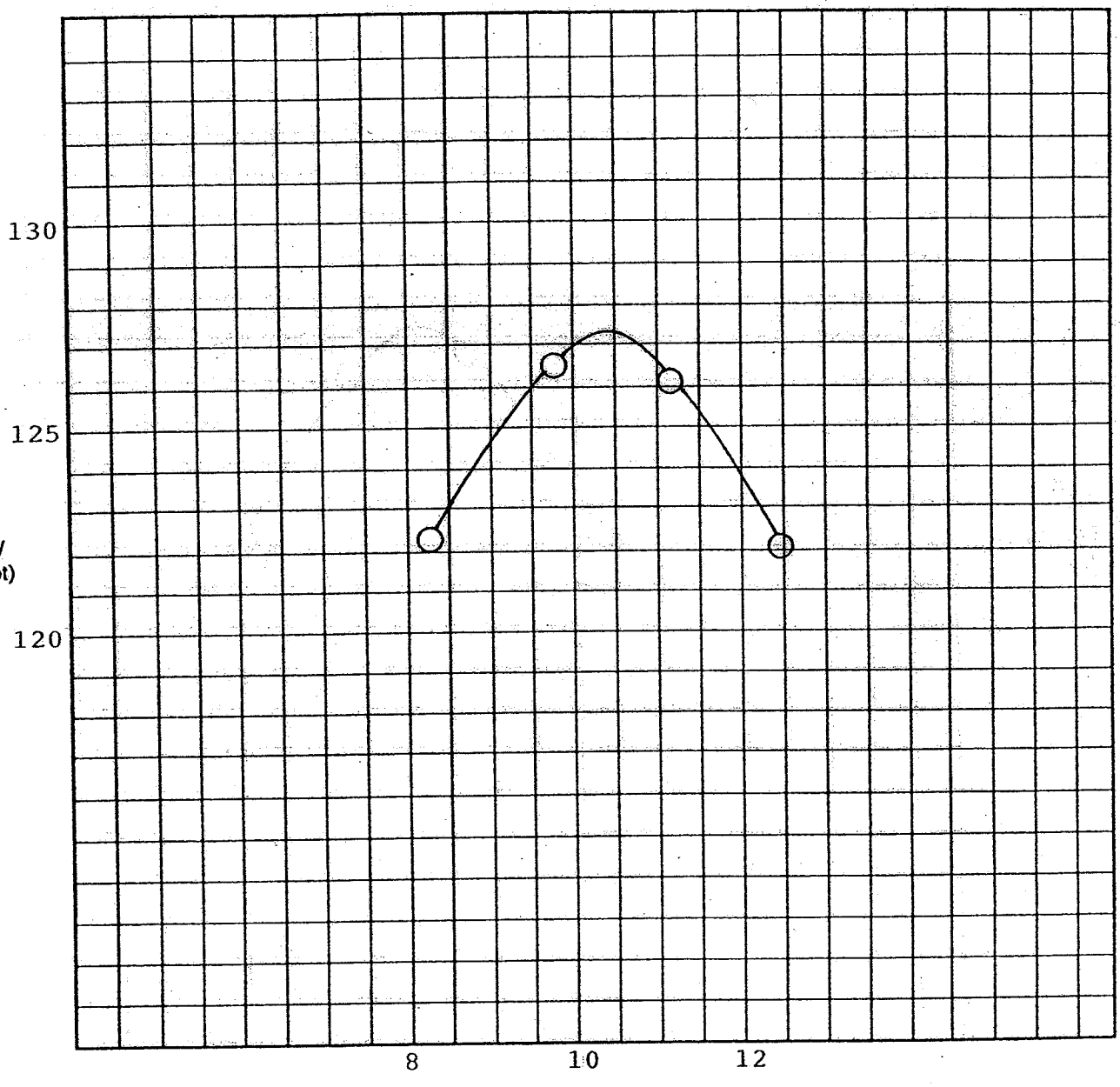
MOISTURE DENSITY RELATIONSHIP

Project Number 18330.1

Date 12/23/02

Test Method ASTM D-698

Source EX-13 690'



Maximum Dry Density (Lbs./Cu.Ft.) 127.3

Optimum Moisture Content (%) 10.3

Type of Material: Gray, low plasticity, SANDY LEAN CLAY, trace gravel, gray tiskilwa

Liner Soils
CLI#3

PDC Technical Services

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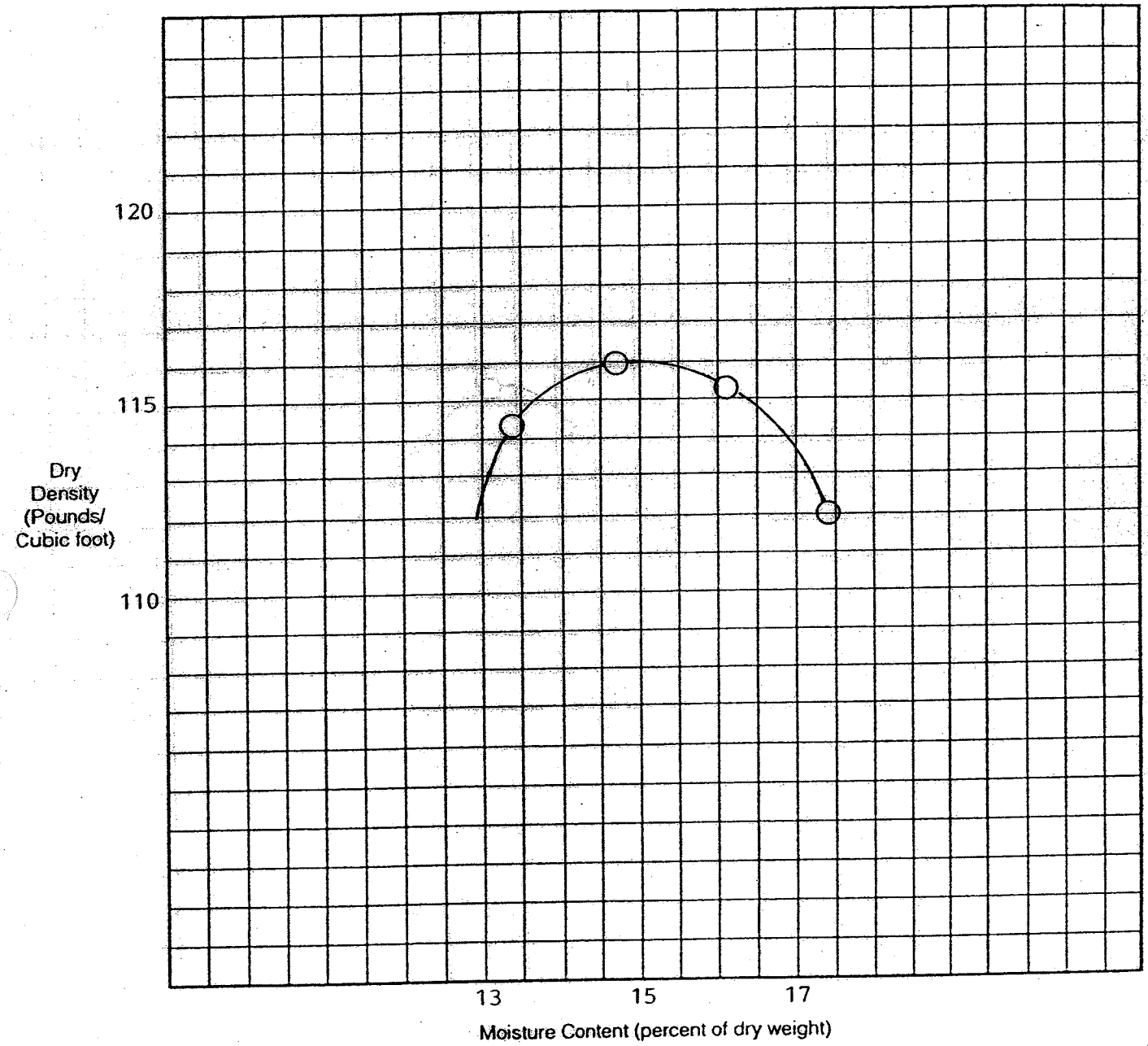
MOISTURE DENSITY RELATIONSHIP

Project Number 18330.1

Date January 5, 2003

Test Method ASTM D-698

Source BC Composite



Maximum Dry Density (Lbs./Cu.Ft.) 116.0

Optimum Moisture Content (%) 15.0

Type of Material: Dark Gray-Gray, Berry Clay Lean Clay w/Sand (LL=36 PI=22)

Liner Soils
Clinton #3

PDC Technical Services, Inc.

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DECATUR, ILLINOIS 62526

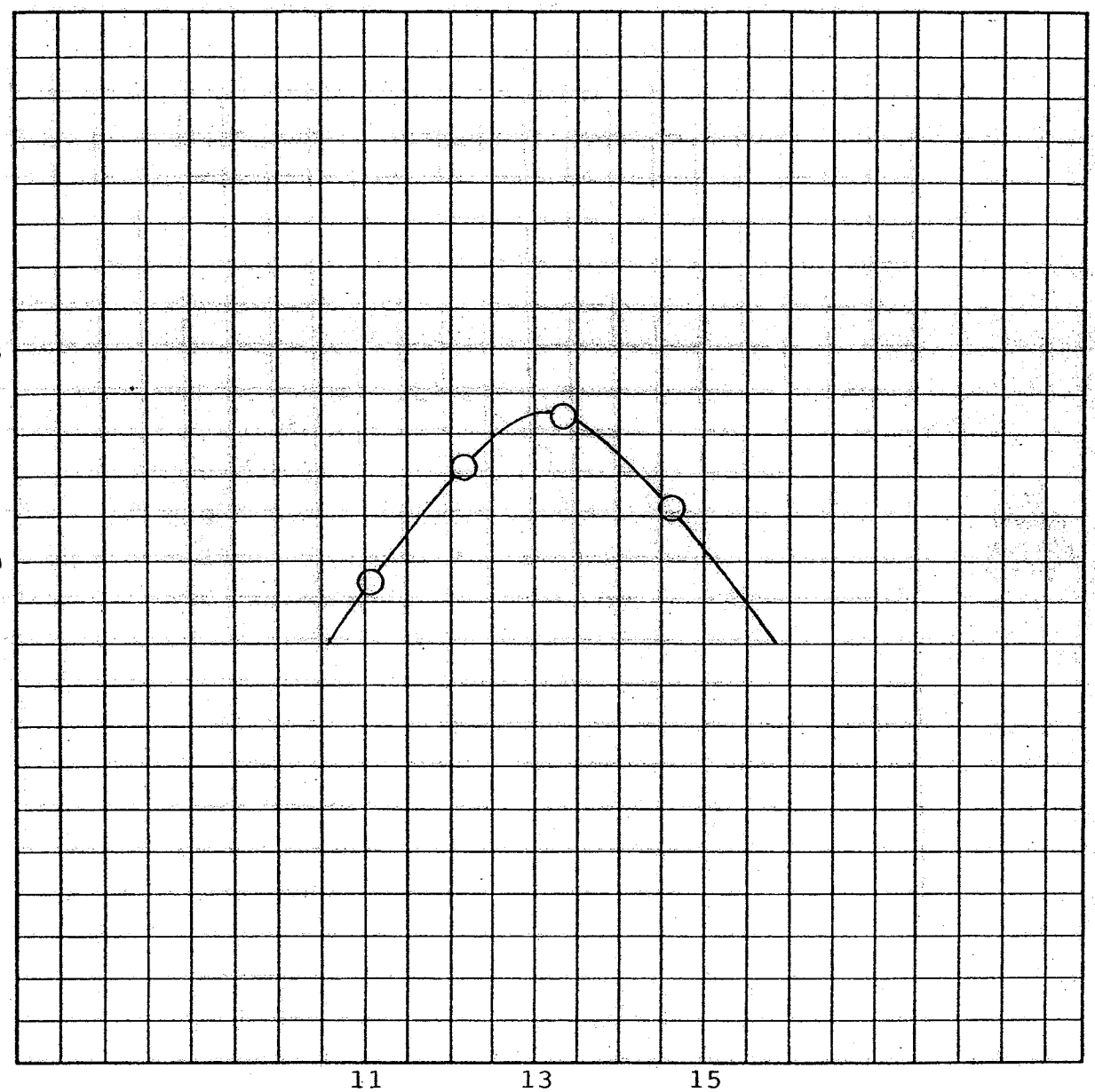
Project Number 18330.1

Date 1/9/03

est Method ASTM D-698

Source EX - 17 660'

MOISTURE DENSITY RELATIONSHIP



Maximum Dry Density (Lbs./Cu.Ft.) 113.6

Optimum Moisture Content (%) 13.2

Type of Material: Dark gray - gray

Berry Clay

Sandy Lean Clay - CL

Liner Soils
CLI#3

PDC Technical Services

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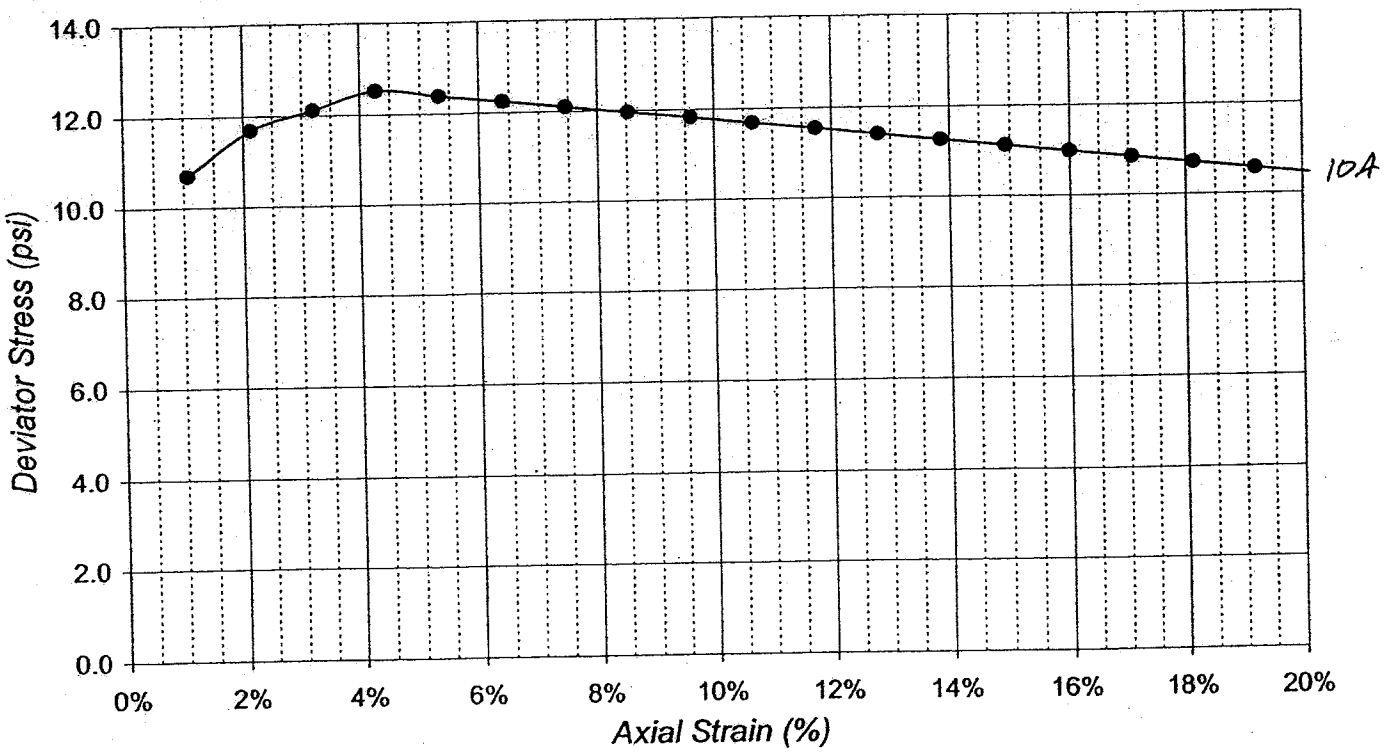
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 29-Apr-2003

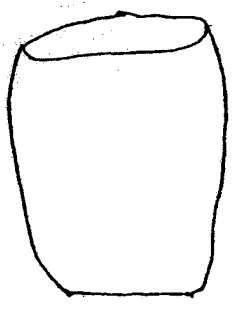
Boring:	BTC-3	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	122.40	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	12.5
		Height (in)	2.813	Strain at Failure (%):	4.3%

Soil Type: Brown Tiskilwa - Sandy Lean Clay, Trace Gravel - (CL) Composite



Liquid Limit	27	Water Content:	11.6%
Plastic Limit:	14	Dry Density, γd (pcf):	109.7
Plasticity Index:	13		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 0.69 psi (100 psf) applied to sample.

88% Compaction

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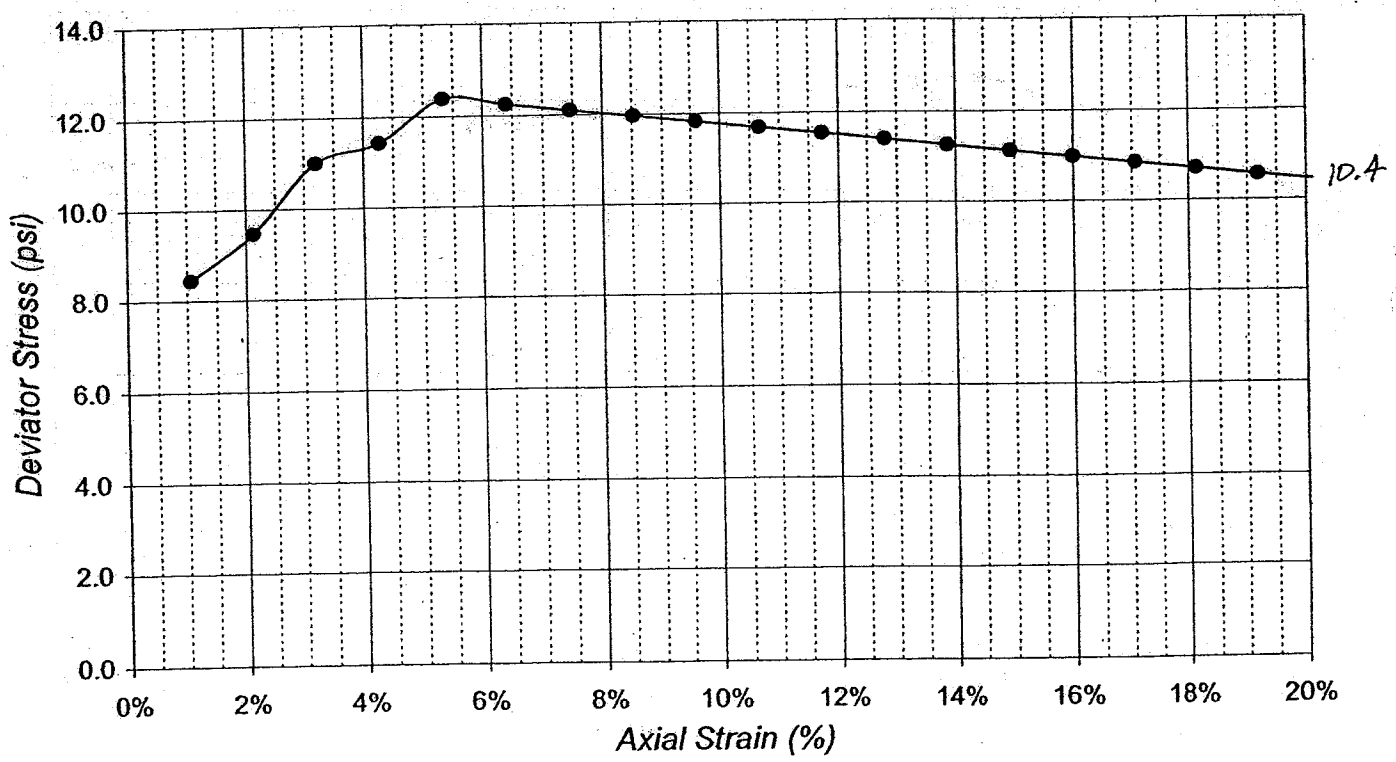
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 29-Apr-2003

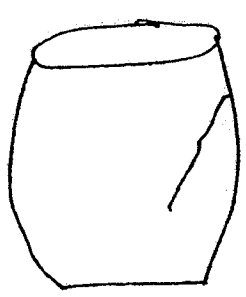
Boring:	BTC-2	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	121.90	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	12.4
		Height (in)	2.813	Strain at Failure (%):	5.3%

Soil Type: Brown Tiskilwa - Sandy Lean Clay, Trace Gravel - (CL) Composite



Liquid Limit	27	Water Content:	11.6%
Plastic Limit:	14	Dry Density, γd (pcf):	109.2
Plasticity Index:	13		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 1.39 psi applied to sample.

87% Compaction

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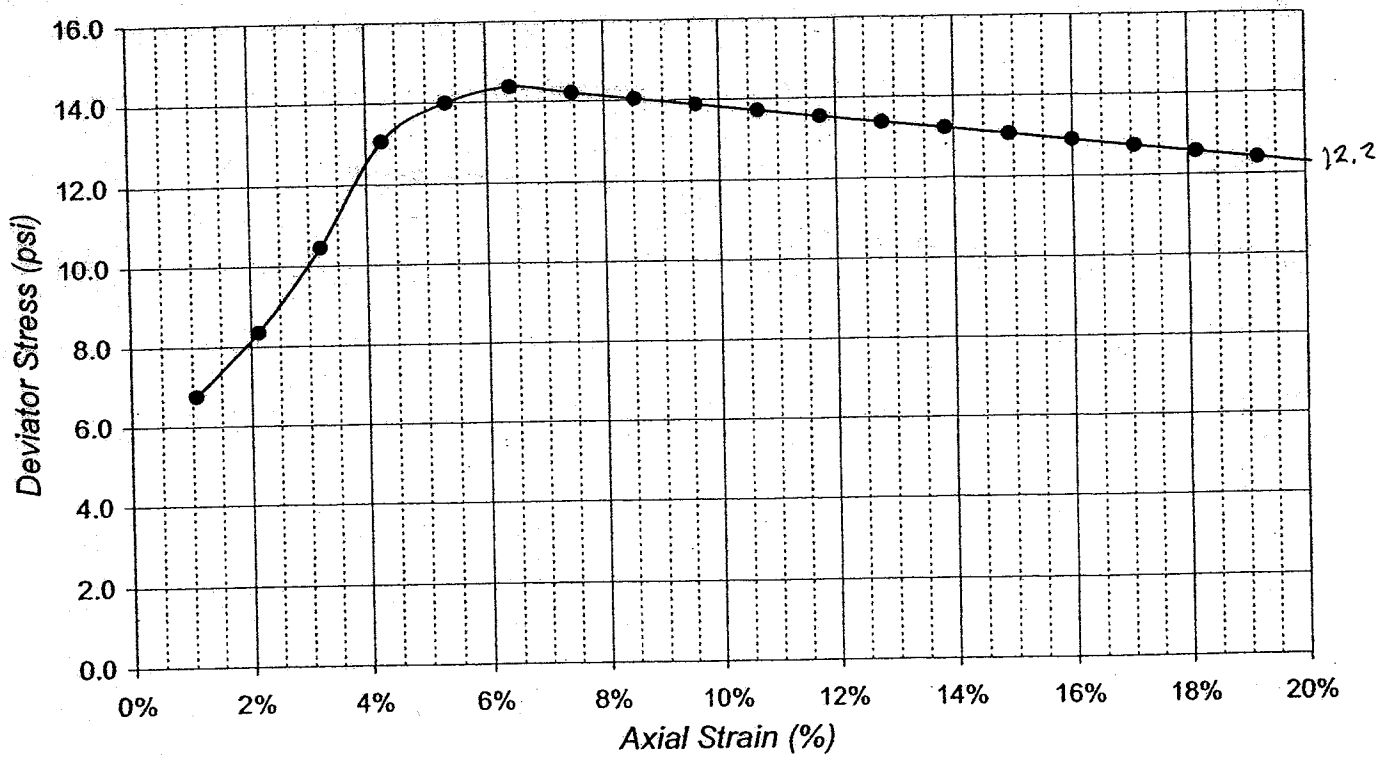
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 29-Apr-2003

Boring:	BTC-1	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	119.80	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	14.4
		Height (in)	2.813	Strain at Failure (%):	6.4%

Soil Type: Brown Tiskilwa - Sandy Lean Clay, Trace Gravel - (CL) Composite



Liquid Limit:	27	Water Content:	11.6%
Plastic Limit:	14	Dry Density, γd (pcf):	107.3
Plasticity Index:	13		

Sketch of Specimen After Failure

Remarks:

Confining pressure of 2.78 psi (400 psf) applied to sample.

86% Compaction

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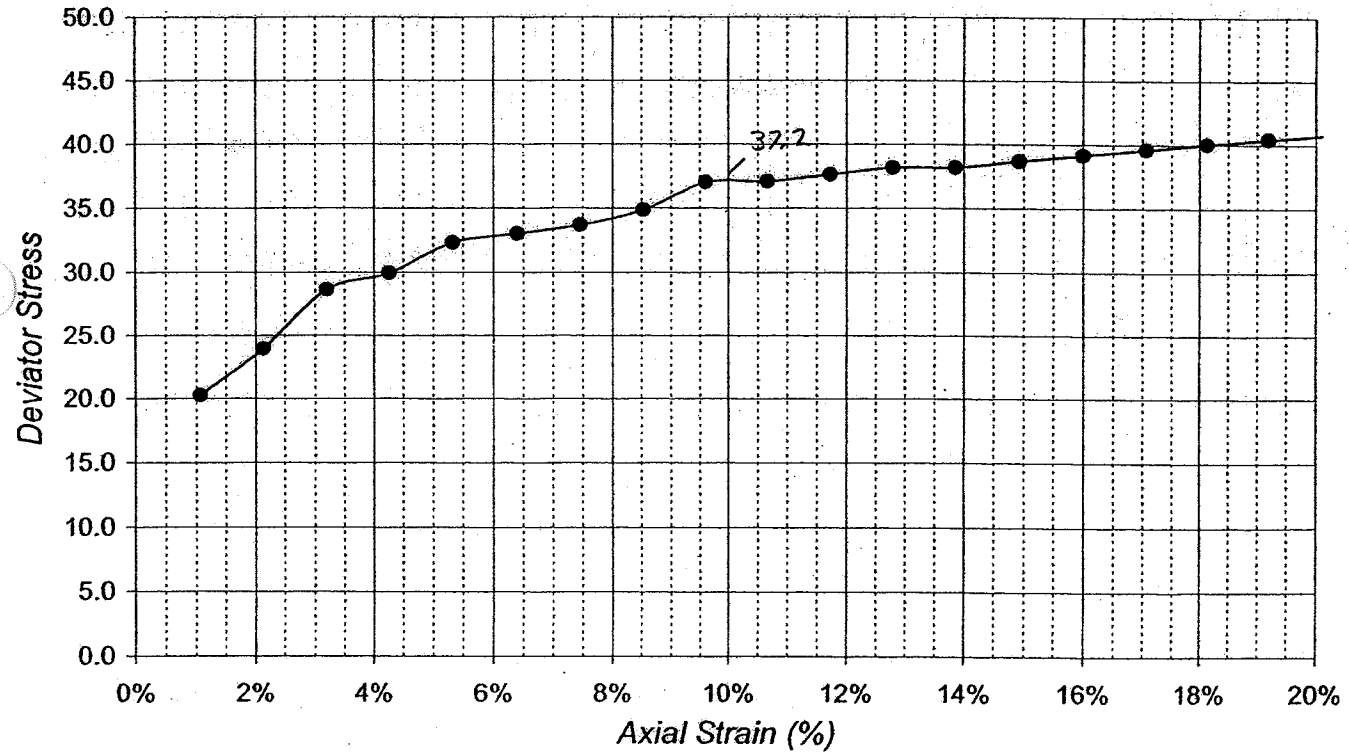
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	29-Apr-2003

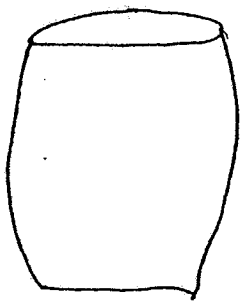
Boring:	BTC-6	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	128.90	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	43.4
		Height (in)	2.813	Strain at Failure (%):	15.0%

Soil Type: Brown Tiskilwa - Sandy Lean Clay, Trace Gravel (CL) Composite



Liquid Limit	27	Water Content:	11.6%
Plastic Limit:	14	Dry Density, yd (pcf):	115.5
Plasticity Index:	13		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 41.67 psi - (6000 psf) applied to sample.

93% Compaction

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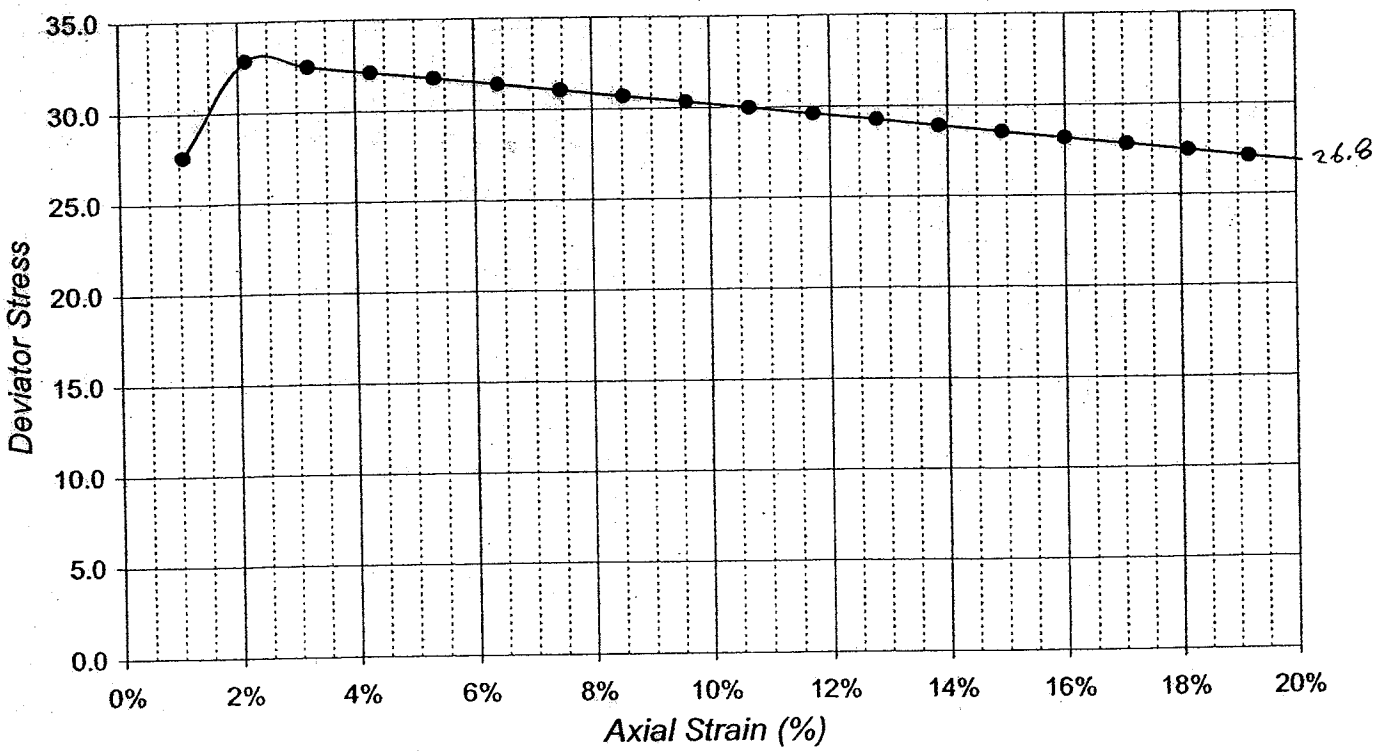
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 29-Apr-2003

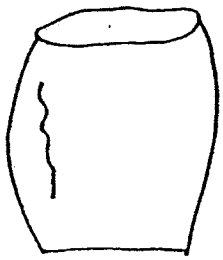
Boring:	BTC-5	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	130.10	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	32.8
		Height (in)	2.813	Strain at Failure (%):	2.1%

Soil Type: Brown Tiskilwa - Sandy Lean Clay, Trace Gravel (CL) Composite



Liquid Limit	27	Water Content:	11.6%
Plastic Limit:	14	Dry Density, γd (pcf):	116.6
Plasticity Index:	13		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 69.44 psi - (10,000 psf) applied to sample.

94% Compaction

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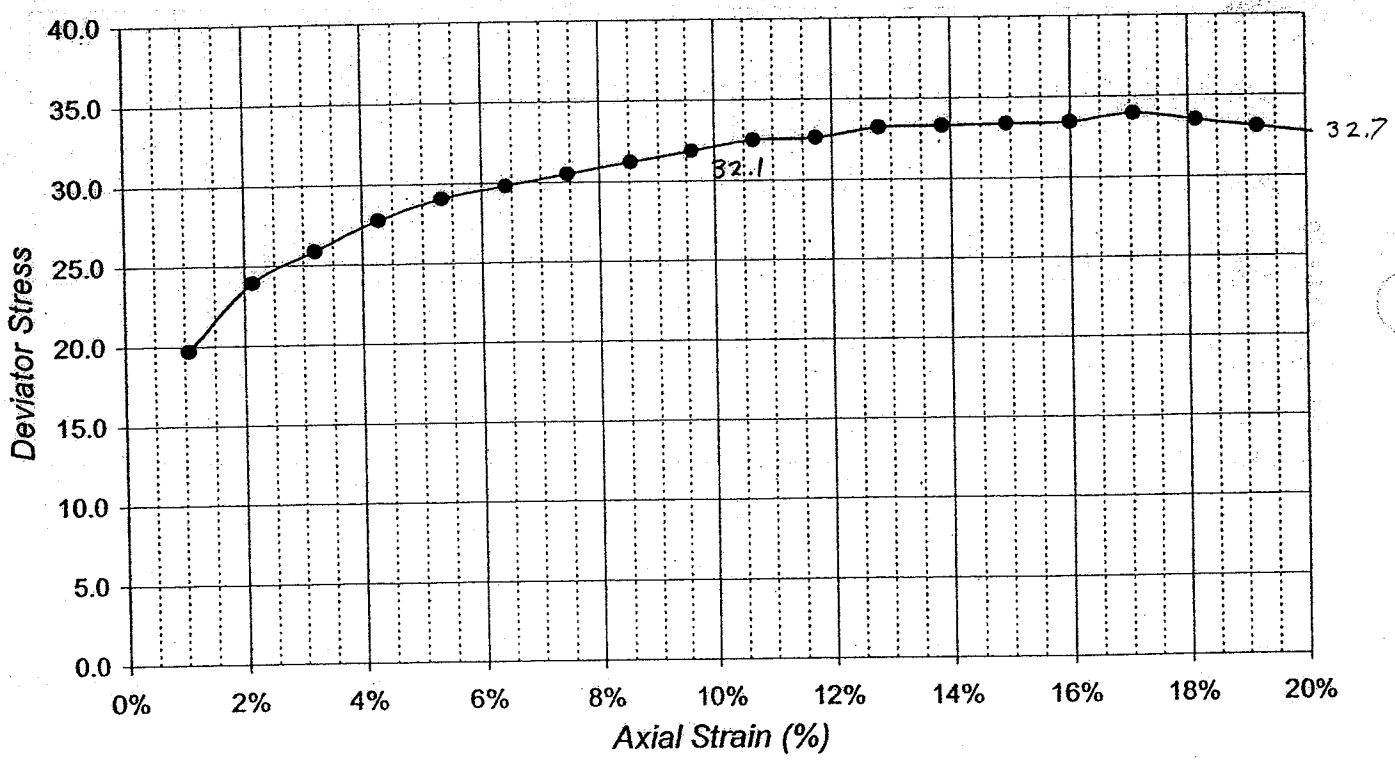
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 29-Apr-2003

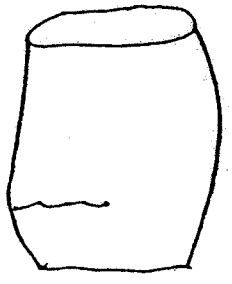
Boring:	BTC-4	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	131.30	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	33.9
		Height (in)	2.813	Strain at Failure (%):	15.0%

Soil Type: Brown Tiskilwa - Sandy Lean Clay, Trace Gravel (CL) Composite



Liquid Limit	27	Water Content:	11.6%
Plastic Limit:	14	Dry Density, γd (pcf):	117.7
Plasticity Index:	13		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 111.11 psi - (16,000 psf) applied to sample.

95% Compaction

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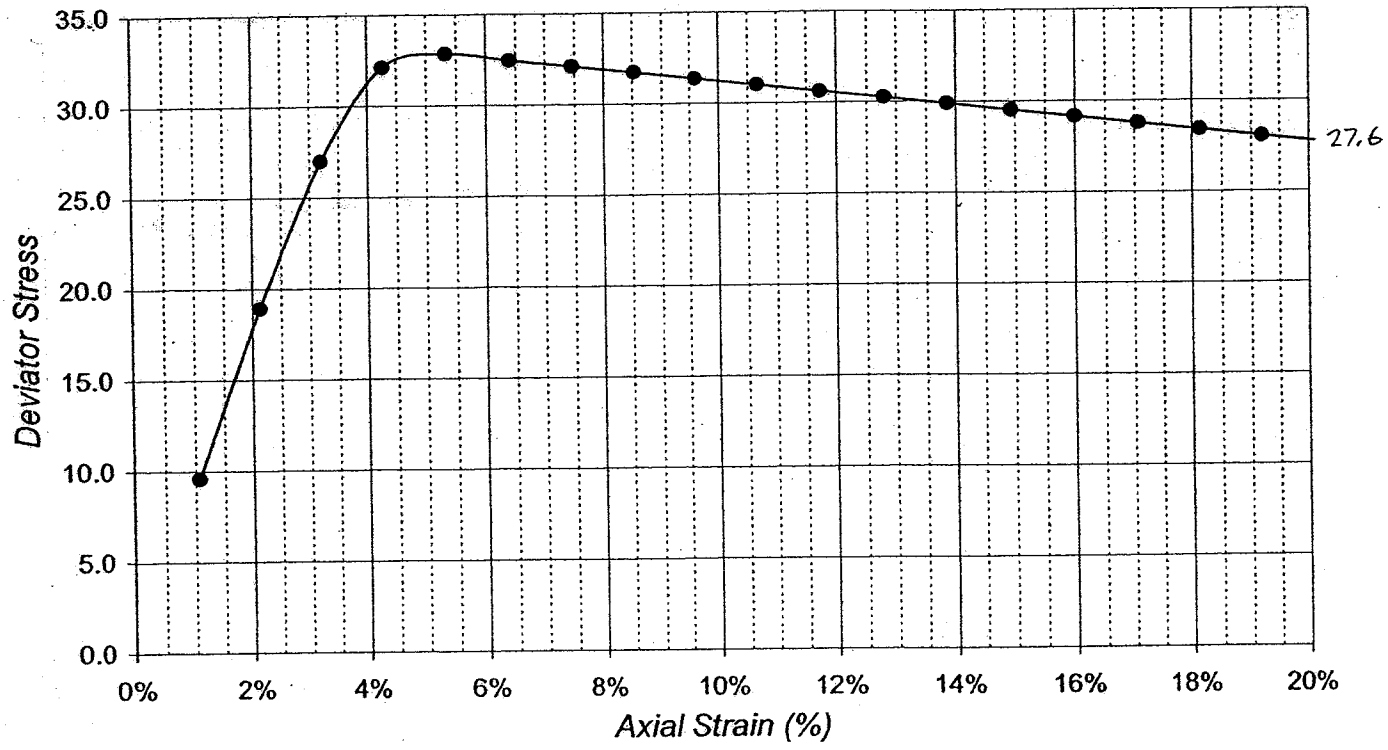
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 29-Apr-2003

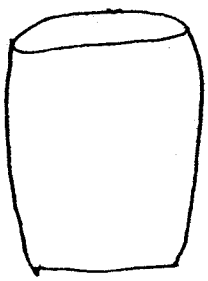
Boring:	GTC-3	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	122.80	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	32.8
		Height (in)	2.813	Strain at Failure (%):	5.3%

Soil Type: Gray Tiskilwa - Sandy Lean Clay, Trace Gravel (CL) Composite



Liquid Limit	26	Water Content:	10.3%
Plastic Limit:	12	Dry Density, γd (pcf):	111.3
Plasticity Index:	14		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 0.69 psi - (100 psf) applied to sample.

87% Compaction

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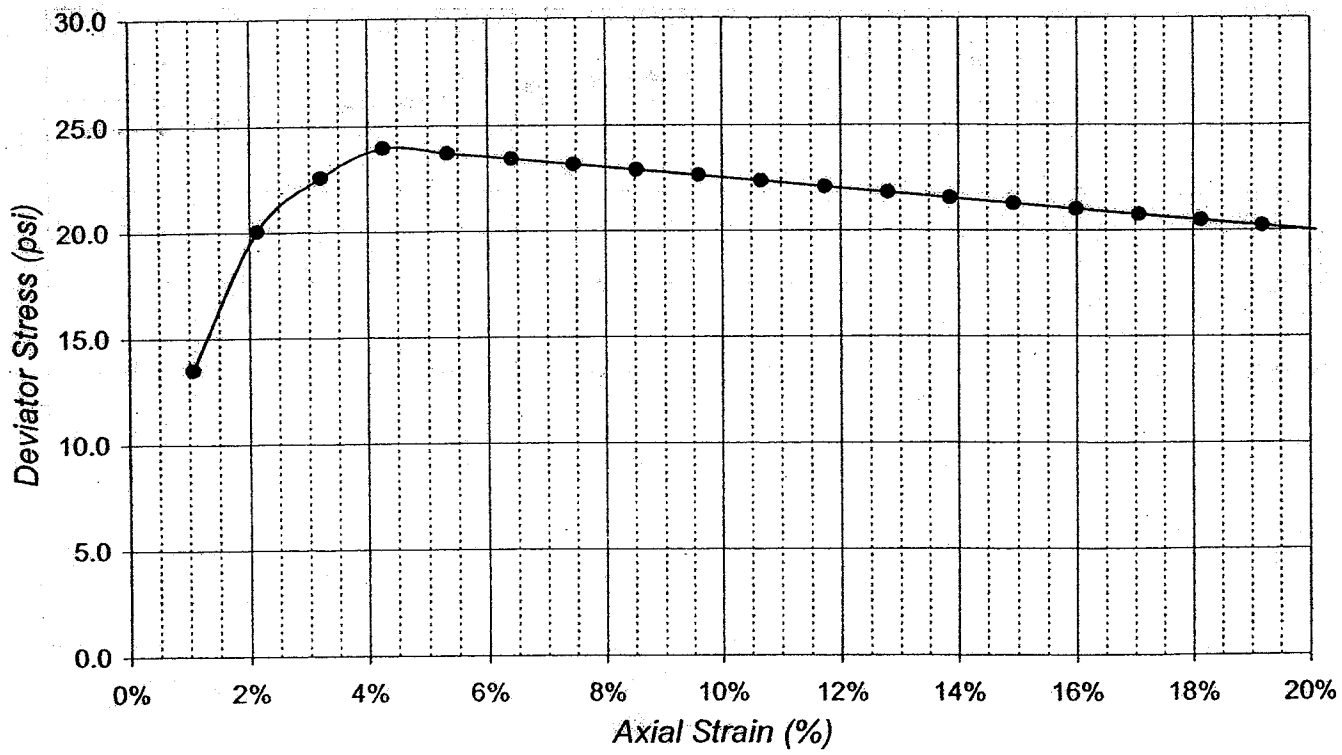
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	29-Apr-2003

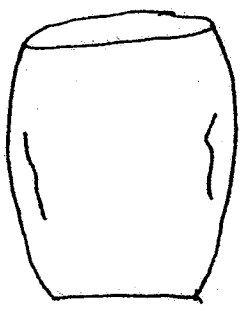
Boring:	GTC-2	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	124.30	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	23.9
		Height (in)	2.813	Strain at Failure (%):	4.3%

Soil Type: Gray Tiskilwa - Sandy Lean Clay, Trace Gravel (CL) Composite



Liquid Limit	26	Water Content:	10.3%
Plastic Limit:	12	Dry Density, γd (pcf):	112.7
Plasticity Index:	14		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 1.39 psi - (200 psf) applied to sample.

88% Compaction

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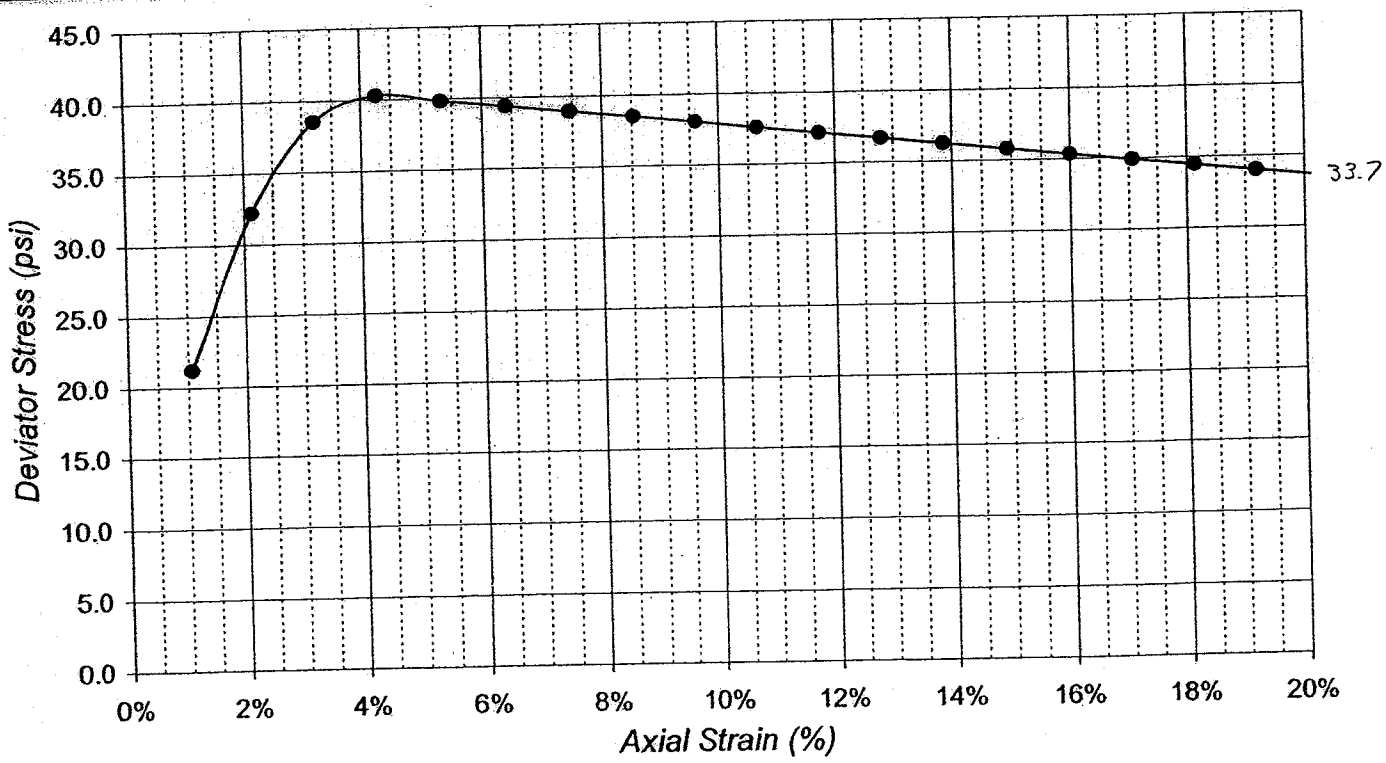
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 29-Apr-2003

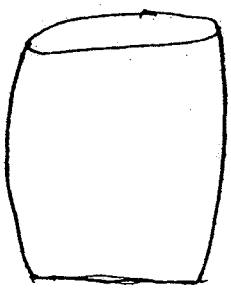
Boring:	GTC-1	Sample Type	Remold	Height to Diameter Ratio:	0.40
Depth:		Sample Weight (gm):	123.80	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.131	Max. Deviator Stress (psi):	40.3
		Height (in)	2.813	Strain at Failure (%):	4.3%

Soil Type: Gray Tiskilwa - Sandy Lean Clay, Trace Gravel (CL) Composite



Liquid Limit	26	Water Content:	10.3%
Plastic Limit:	12	Dry Density, γd (pcf):	112.2
Plasticity Index:	14		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 2.78 psi - (400 psf) applied to sample.

88% Compaction

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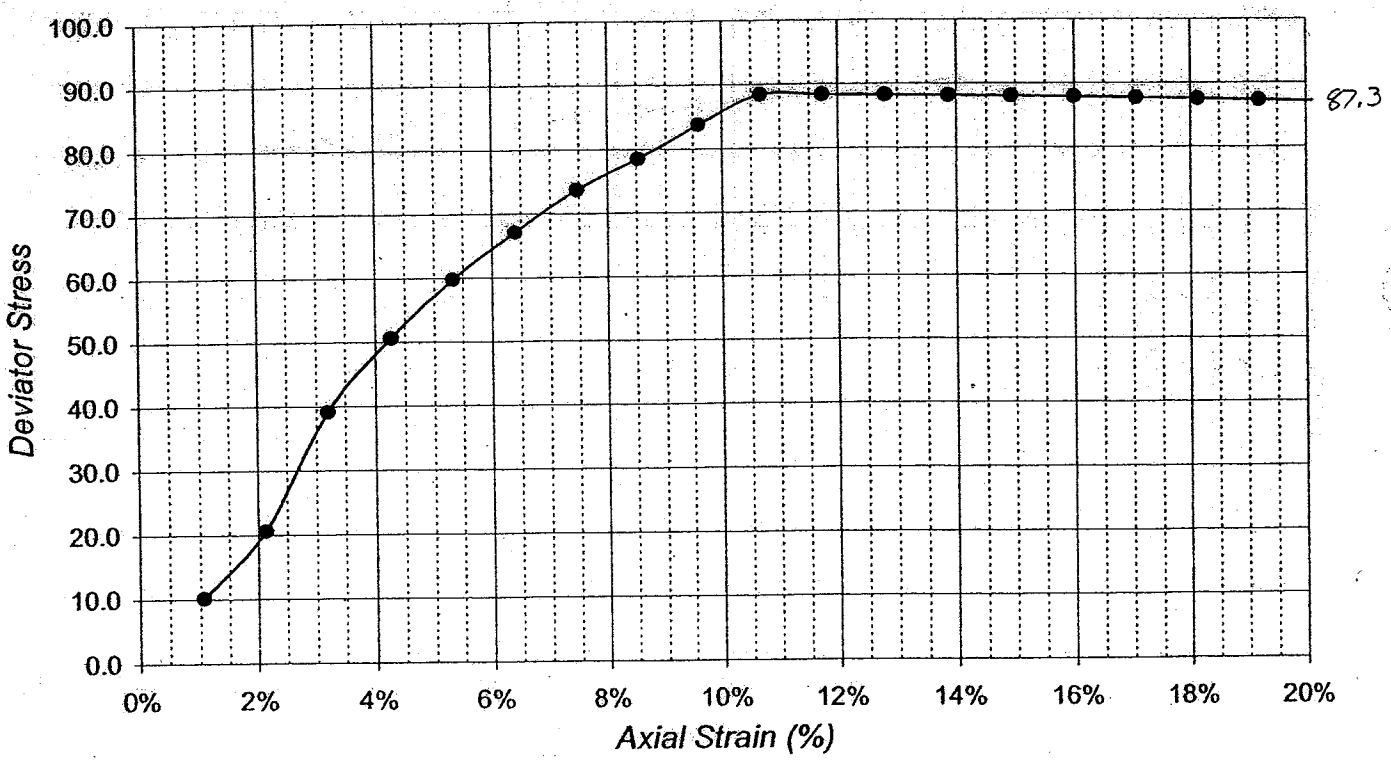
Unconsolidated Undrained Stress/Strain Curves

Project:	Clinton Landfill No. 3	Project No.:	18330.1
Client:	PDC Technical Services, Inc.	Date:	29-Apr-2003

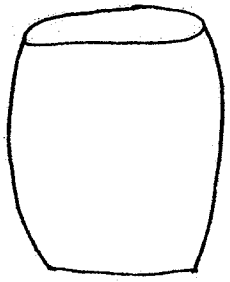
Boring:	GTC-6	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	129.60	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	88.3
		Height (in)	2.813	Strain at Failure (%):	10.7%

Soil Type: Gray Tiskilwa - Sandy Lean Clay, Trace Gravel (CL) Composite



Liquid Limit	26	Water Content:	10.3%
Plastic Limit:	12	Dry Density, γd (pcf):	117.5
Plasticity Index:	14		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 41.67 psi - (6000 psf) applied to sample.

92% Compaction

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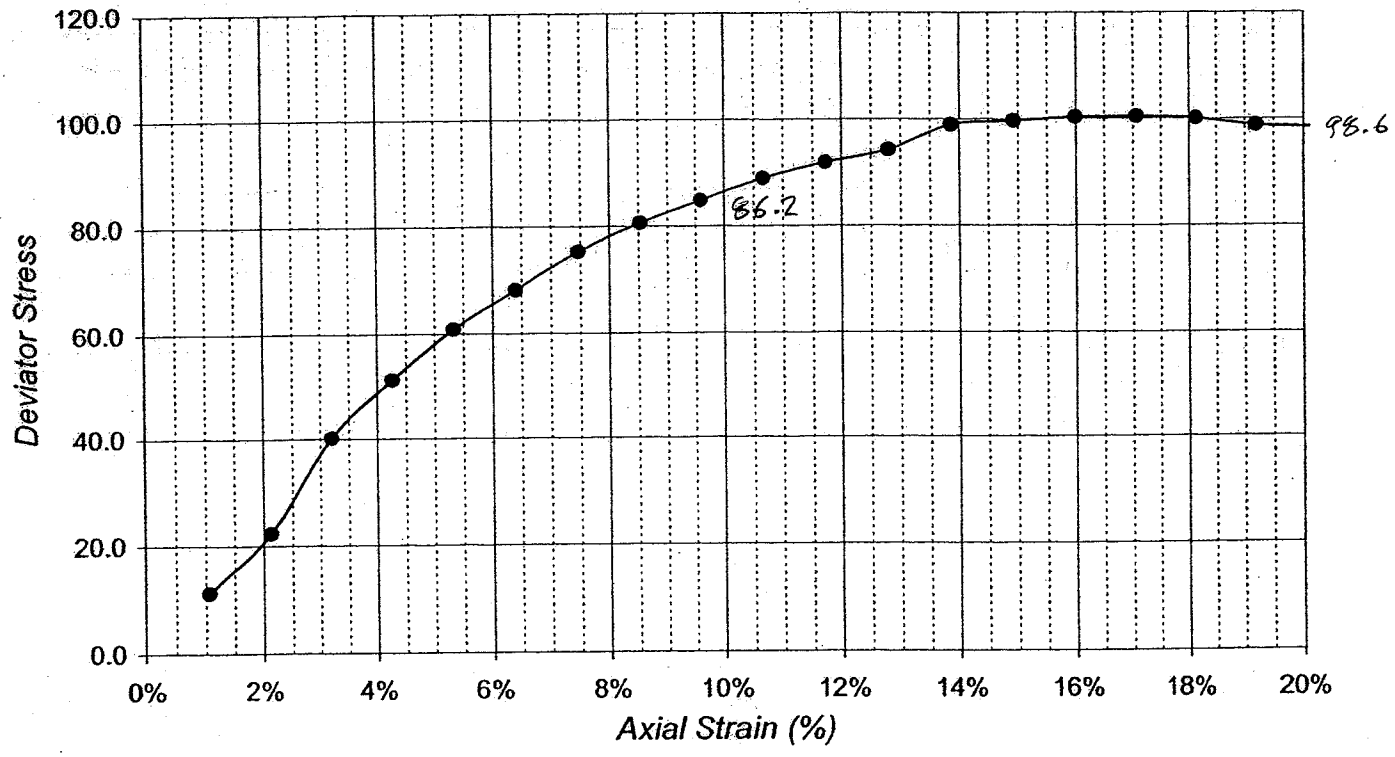
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 29-Apr-2003

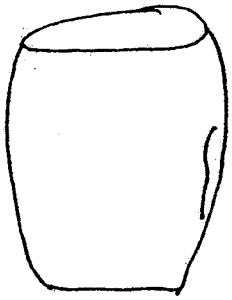
Boring:	GTC-5	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	128.90	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	100.4
		Height (in)	2.813	Strain at Failure (%):	15.0%

Soil Type: Gray Tiskilwa - Sandy Lean Clay, Trace Gravel (CL) Composite



Liquid Limit	26	Water Content:	10.3%
Plastic Limit:	12	Dry Density, γd (pcf):	116.9
Plasticity Index:	14		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 69.4 psi - (10,000 psf) applied to sample.

92% Compaction

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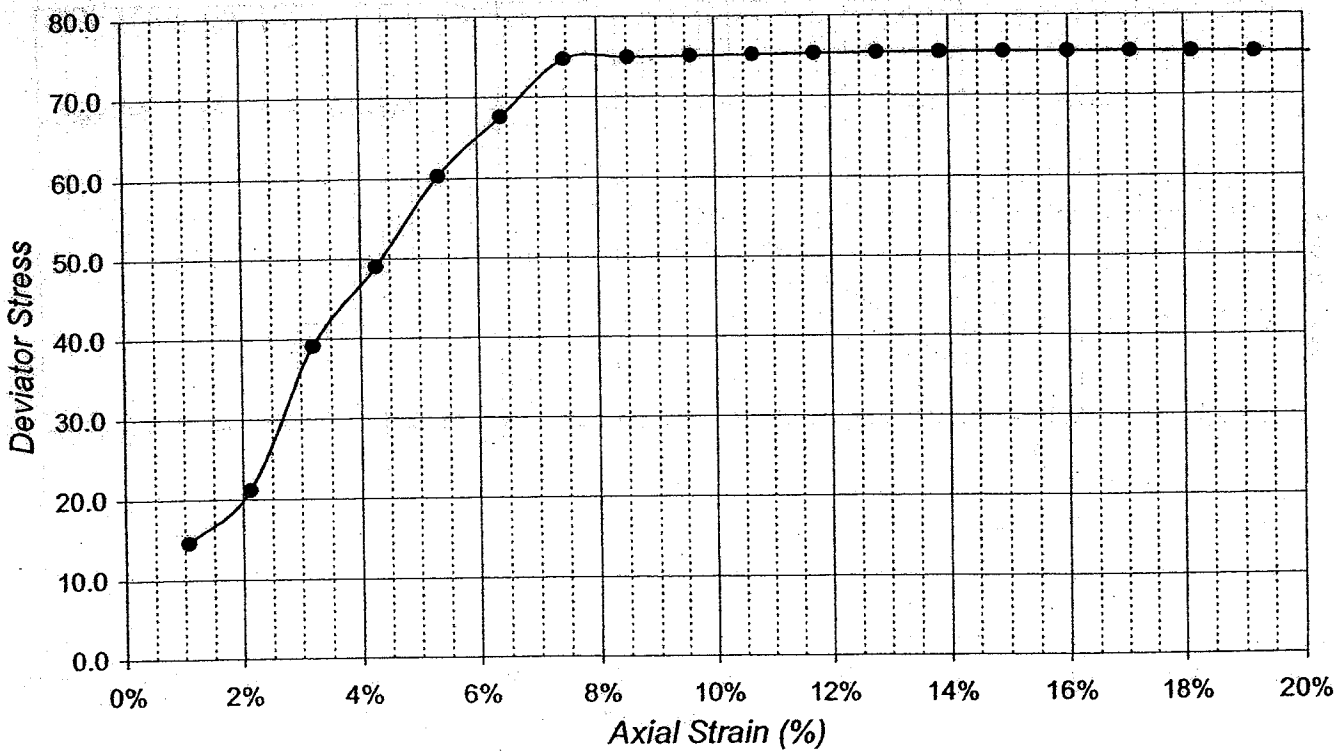
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 29-Apr-2003

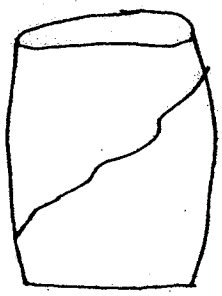
Boring:	GTC-4	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	129.00	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	75.4
		Height (in)	2.813	Strain at Failure (%):	15.0%

Soil Type: Gray Tiskilwa - Sandy Lean Clay, Trace Gravel (CL) Composite



Liquid Limit	26	Water Content:	10.3%
Plastic Limit:	12	Dry Density, γd (pcf):	117.0
Plasticity Index:	14		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 111.11 psi - (16,000 psf) applied to sample.

92% Compaction

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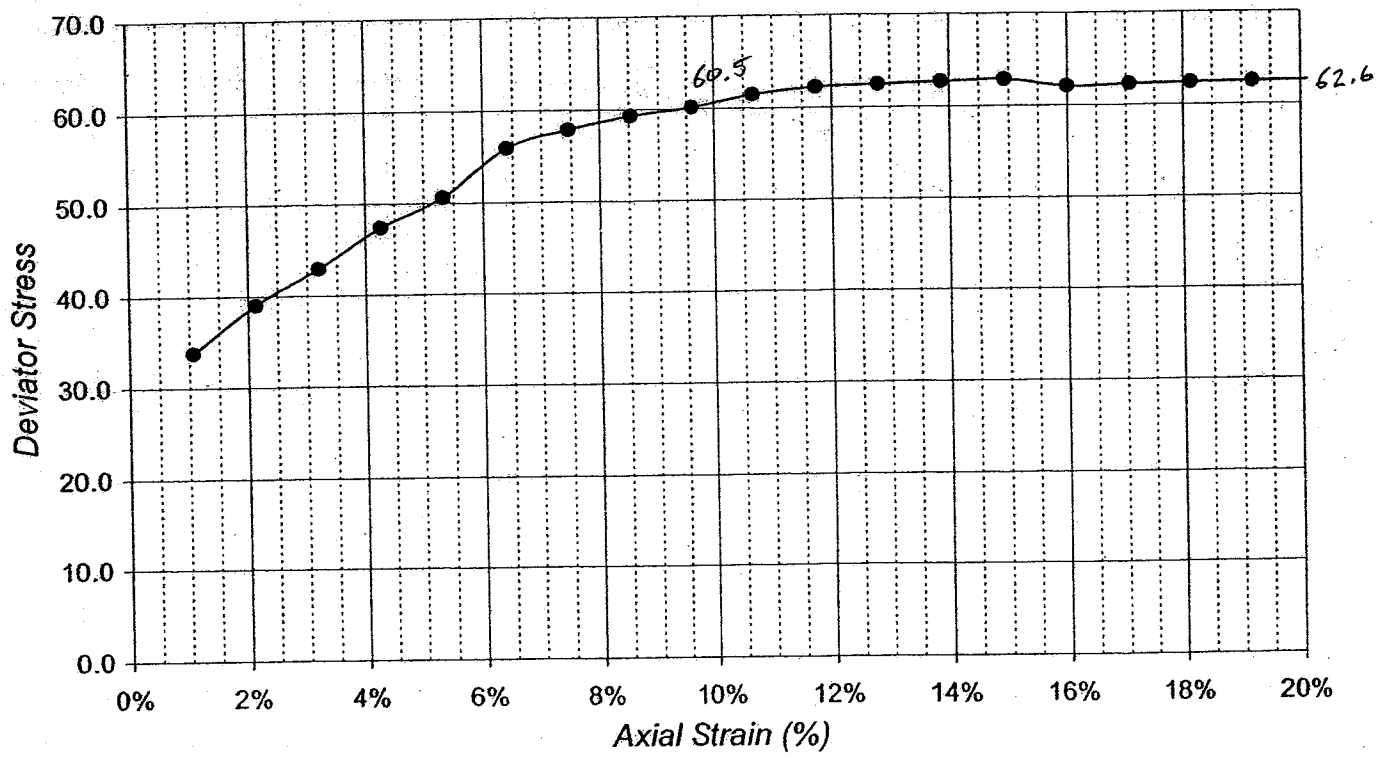
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 29-Apr-2003

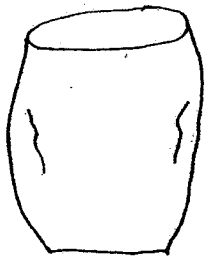
Boring:	BCC-1	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	129.00	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	62.9
		Height (in)	2.813	Strain at Failure (%):	14.9%

Soil Type: Dark Gray-Gray Berry Clay - Lean Clay w/Sand, Trace Gravel - CL



Liquid Limit	36	Water Content:	15.0%
Plastic Limit:	22	Dry Density, γd (pcf):	112.2
Plasticity Index:	14		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 41.67 psi (6000 psf) applied to sample.

97% Compaction

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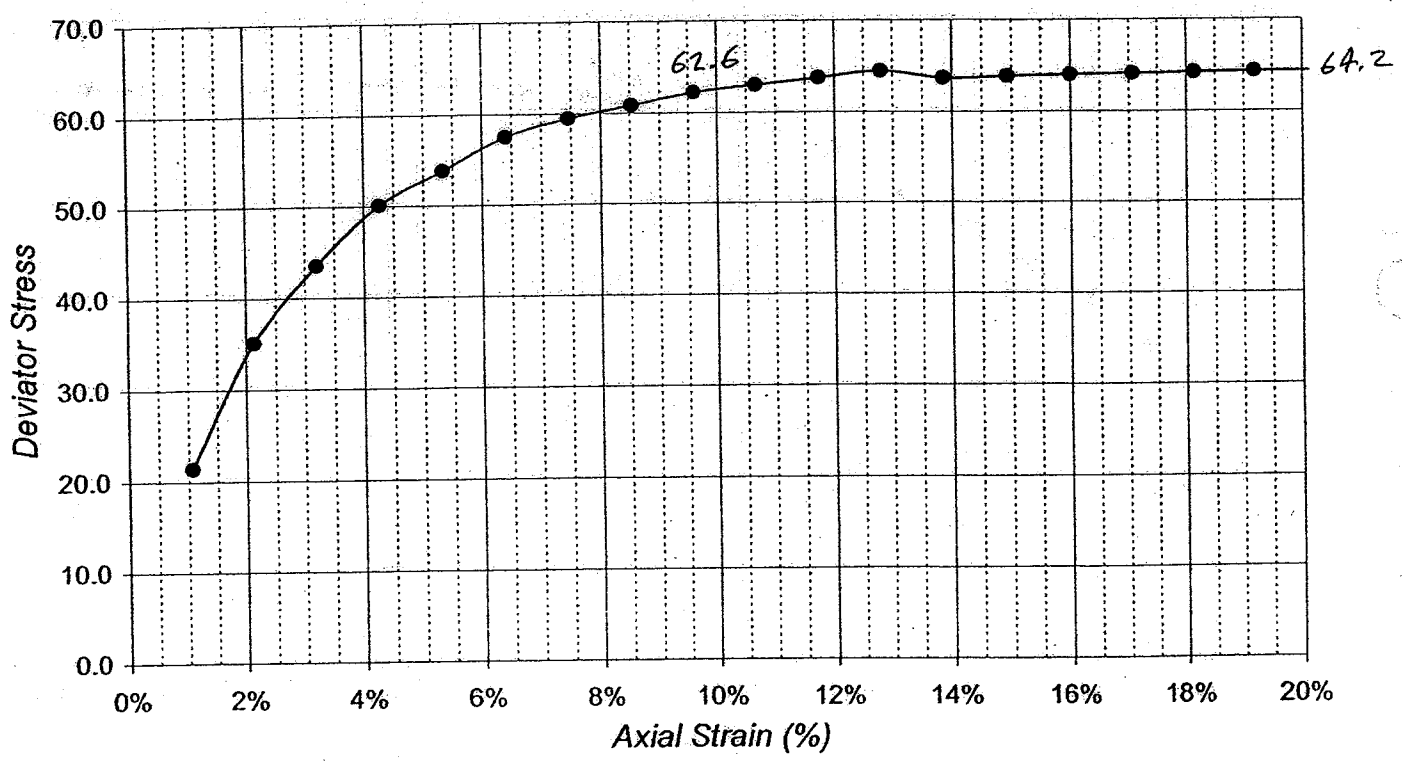
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 29-Apr-2003

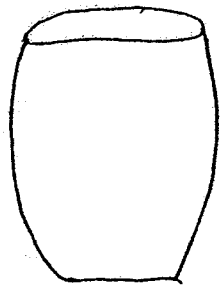
Boring:	BCC-2	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	126.30	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	64.4
		Height (in)	2.813	Strain at Failure (%):	12.8%

Soil Type: Dark Gray-Gray Berry Clay - Lean Clay w/Sand, Trace Gravel - CL



Liquid Limit	36	Water Content:	15.0%
Plastic Limit:	22	Dry Density, yd (pcf):	109.8
Plasticity Index:	14		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 69.44 psi - (10,000 psf) applied to sample.

95% Compaction

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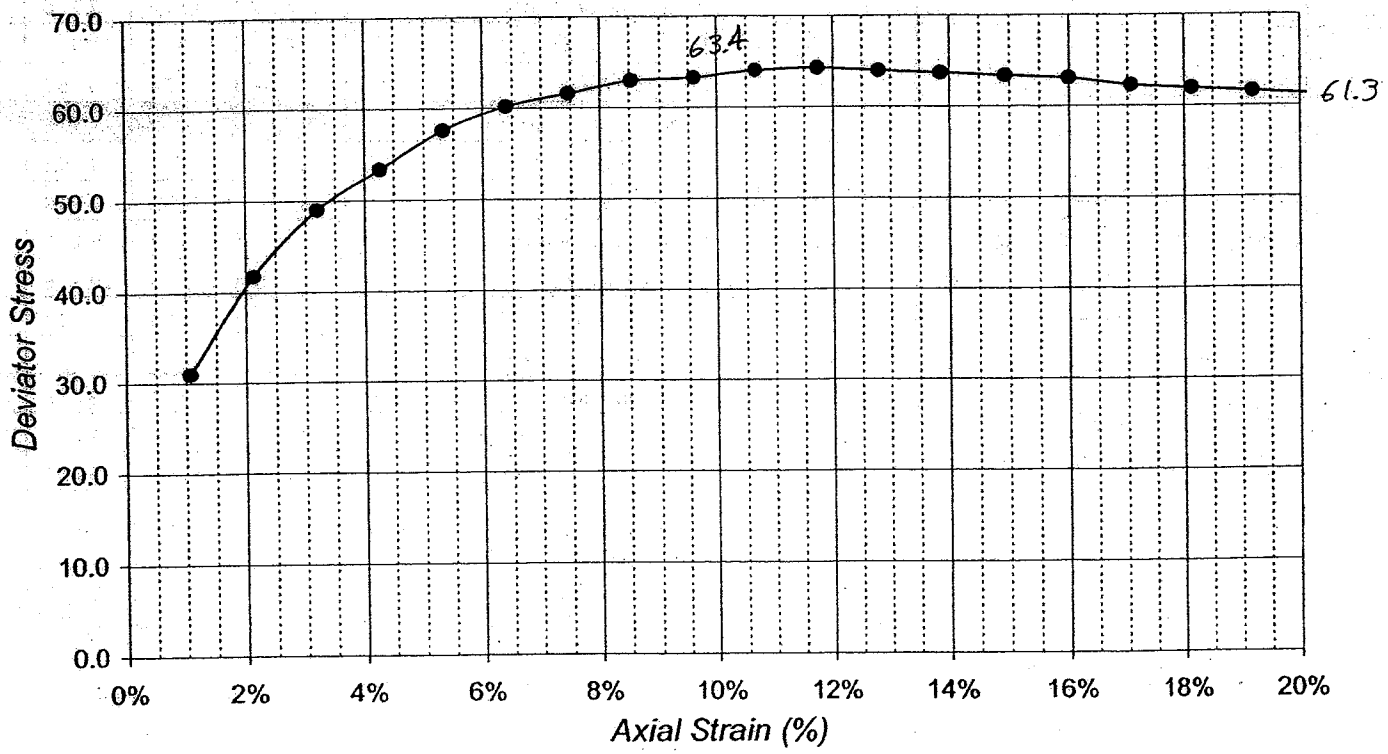
Unconsolidated Undrained Stress/Strain Curves

Project: Clinton Landfill No. 3
Client: PDC Technical Services, Inc.
Project No.: 18330.1
Date: 29-Apr-2003

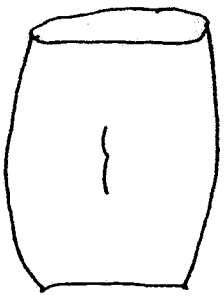
Boring:	BCC-3	Sample Type	Remold	Height to Diameter Ratio:	0.47
Depth:		Sample Weight (gm):	127.50	Strain Rate (in/min):	0.060
Elevation:		Diameter (in):	1.313	Max. Deviator Stress (psi):	64.2
		Height (in)	2.813	Strain at Failure (%):	11.7%

Soil Type: Dark Gray-Gray Berry Clay - Lean Clay w/Sand, Trace Gravel - CL



Liquid Limit	36	Water Content:	15.0%
Plastic Limit:	22	Dry Density, yd (pcf):	110.9
Plasticity Index:	14		

Sketch of Specimen After Failure



Remarks:

Confining pressure of 111.11 psi - (16,000 psf) applied to sample.

96% Compaction

TRIAXIAL TEST

Job No: 4644-A

File: CD5

Project: Clinton Landfill No. 3 - # 18330.1

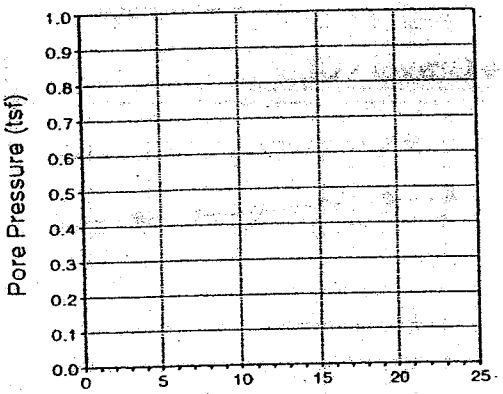
Boring No.:	Sample No.:	Elev. (ft.)	Date: 03/29/03
Type: Sandy Lean Clay w/a Trace of Gravel (CL) – Brown Tiskilwa			Test Type: C-D (unSat.)
			Sample Type: Bag
			Strain Rate [%/Min]: 0.015
			Liquid Limit: 27
			Plastic Limit: 14
			Plasticity Index: 13
			(*) Specific Gravity: 2.68

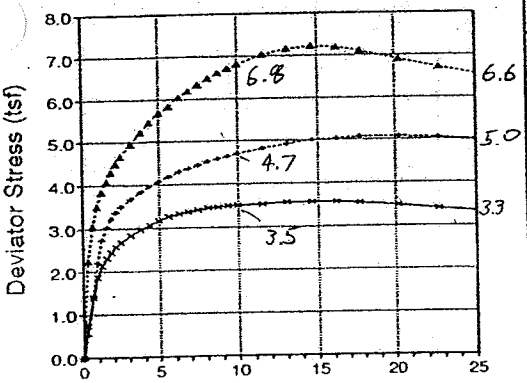
REMARKS: Specimens compacted to 87% of 125.0 psf Maximum Dry Density and at Opt. W.C.; -#4 material only; Radial (spiral) drainage strips applied; Consolidated for about 3 days; Drainage valves open; Stressed to given strains at constant rate of 0.00059"/min.. (*) = Assumed Specific Gravity

Failure Criterion:
- [ ] Maximum Stress Ratio
- [ ] Maximum Pore Pressure
- [X] Maximum Deviator Stress
- [ ] % Axial Strain

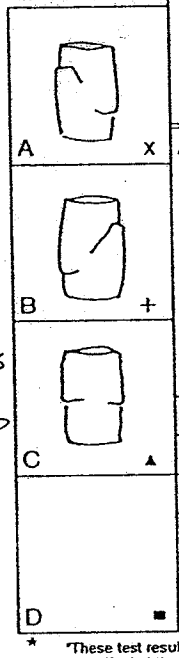
Strength paramaters estimated by numerical analysis of data.

Angle of Internal Friction, ϕ = 27.7°
Apparent Cohesion, c = 0.75 [tsf]



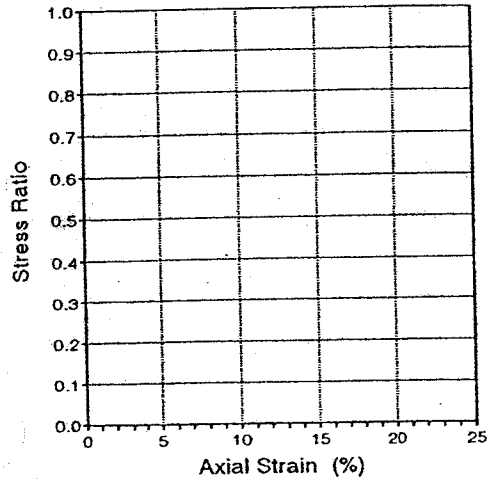


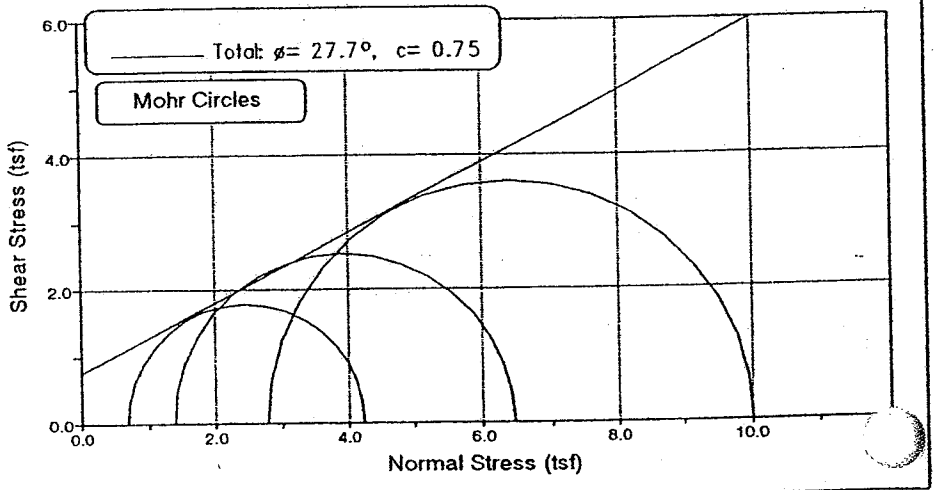
Sketches After Failure



	SPECIMEN NUMBER			
Before Consolidation	A	B	C	D
Diameter [In.]	2.01	2.01	2.01	
Height [In.]	4.00	4.00	4.00	
Water Content %	11.6	11.6	11.6	
Dry Density [pcf]	108.7	108.7	108.7	
Void Ratio	0.54	0.54	0.54	
After Consolidation				
Diameter [In.]	2.01	2.01	2.01	
Height [In.]	3.97	3.96	3.95	
Water Content %	11.5	11.3	11.2	
Dry Density [pcf]	109.0	109.3	109.6	
Void Ratio	0.53	0.53	0.53	
Back Pressure [tsf]				
Minor Principal Stress - tsf	0.69	1.39	2.78	
Max. Deviator Stress - tsf	3.55	5.07	7.22	
Ultimate Deviator Stress - tsf	3.32	4.98	6.54	
Max. Pore Pressure Buildup - tsf				
Pore Pressure Parameter "B"				
Percent Axial Strain at Failure:	13.0	17.7	14.7	

* "These test results are for informational purposes only and must be reviewed by a qualified professional engineer to verify that the test parameters shown are appropriate for any particular design."





ARS TR3 Rev: 22 Feb 95 ars

9301 Bryant Avenue South Suite 107

SOIL ENGINEERING TESTING, INC.

Bloomington, Minnesota 55420-3436

TRIAXIAL TEST

Job No: 4644-A

Project: Clinton Landfill No. 3 - # 18330.1 | File: CD6

Boring No.: | Sample No.: | Elev. (ft.)

Date: 03/29/03

Type: Sandy Lean Clay w/a trace of Gravel (CL) - Brown Tiskilwa

Test Type: C-D (unSat.)

Sample Type: Bag

Strain Rate [%/Min]: 0.015

Liquid Limit: 27

Plastic Limit: 14

Plasticity Index: 13

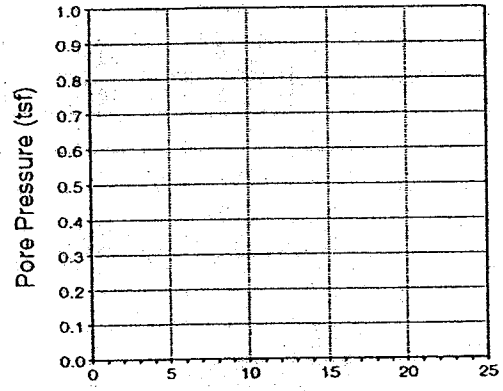
(*) Specific Gravity: 2.68

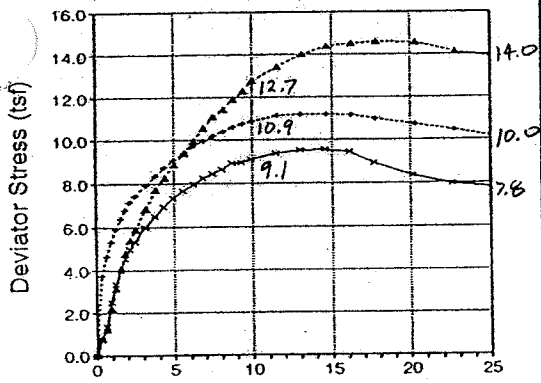
REMARKS: Specimens compacted to 95% of 125.0 psf Maximum Dry Density and at Opt. W.C.; -#4 material only; Radial (spiral) drainage strips applied; Consolidated for about 2 - 4 days; Drainage valves open; Stressed to given strains at constant rate of 0.00059"/min.. (*) = Assumed Specific Gravity

Failure Criterion:
[ ] Maximum Stress Ratio
[ ] Maximum Pore Pressure
[X] Maximum Deviator Stress
[ ] % Axial Strain

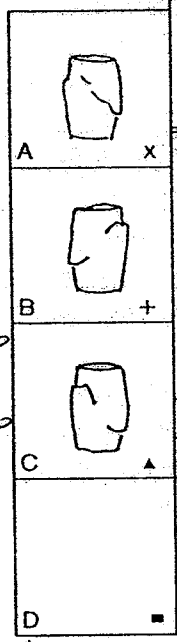
Strength paramaters estimated by numerical analysis of data.

Angle of Internal Friction, ϕ = 19.8°
Apparent Cohesion, c = 2.22 [tsf]



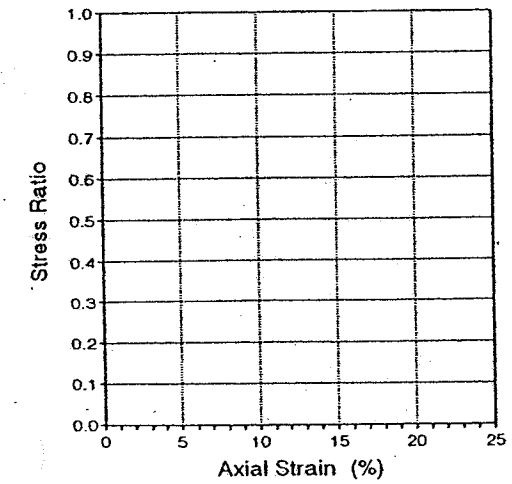


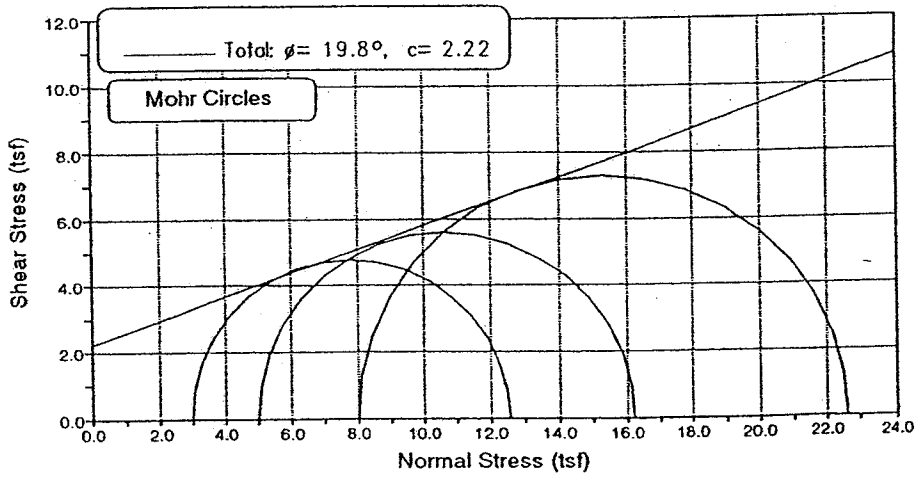
Sketches After Failure



	SPECIMEN NUMBER			
Before Consolidation	A	B	C	D
Diameter [In.]	2.01	2.01	2.01	
Height [In.]	4.00	4.00	4.00	
Water Content %	10.7	10.7	10.7	
Dry Density [pcf]	120.7	120.7	120.7	
Void Ratio	0.39	0.39	0.39	
After Consolidation				
Diameter [In.]	2.00	2.00	2.00	
Height [In.]	3.98	3.95	3.94	
Water Content %	10.2	9.9	9.4	
Dry Density [pcf]	121.7	122.4	123.8	
Void Ratio	0.37	0.37	0.35	
Back Pressure [tsf]				
Minor Principal Stress - tsf	3.00	5.00	8.00	
Max. Deviator Stress - tsf	9.55	11.19	14.60	
Ultimate Deviator Stress - tsf	7.81	10.15	13.86	
Max. Pore Pressure Buildup - tsf				
Pore Pressure Parameter "B"				
Percent Axial Strain at Failure:	14.6	13.1	17.8	

* "These test results are for informational purposes only and must be reviewed by a qualified professional engineer to verify that the test parameters shown are appropriate for any particular design."





ARS TR3 Rev: 22 Feb 95 ars

9301 Bryant Avenue South Suite 107

SOIL ENGINEERING TESTING, INC.

Bloomington, Minnesota 55420-3436

TRIAXIAL TEST

Job No: 4644-A

File: CD8

Project: Clinton Landfill No. 3 - # 18330.1

Boring No.: | Sample No.: | Elev. (ft.)

Date: 03/29/03

Test Type: C-D (unSat.)

Sample Type: Bag

Strain Rate [%/Min]: 0.015

Liquid Limit: 26

Plastic Limit: 12

Plasticity Index: 14

(*) Specific Gravity: 2.68

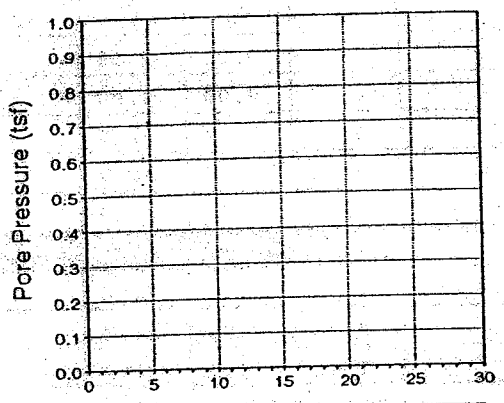
Type: Sandy Lean Clay w/a trace of Gravel (CL) – Gray Tiskilwa - Composite

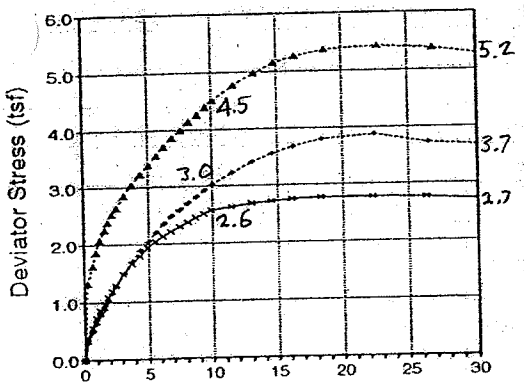
REMARKS: Specimens compacted to 87% of 127.3 psf Maximum Dry Density and at Opt. W.C.; -#4 material only; Radial (spiral) drainage strips applied; Consolidated for about 2 - 4 days; Drainage valves open; Stressed to given strains at constant rate of 0.00059"/min.. (*) = Assumed Specific Gravity

Failure Criterion:
[ ] Maximum Stress Ratio
[ ] Maximum Pore Pressure
[X] Maximum Deviator Stress
[ ] % Axial Strain

Strength paramaters estimated by numerical analysis of data.

Angle of Internal Friction, ϕ = 22.6°
Apparent Cohesion, c = 0.66 [tsf]



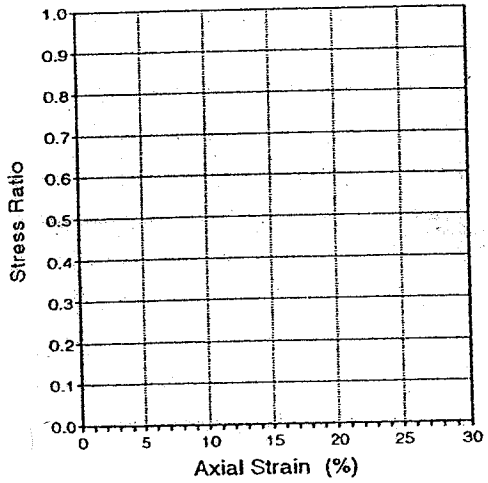


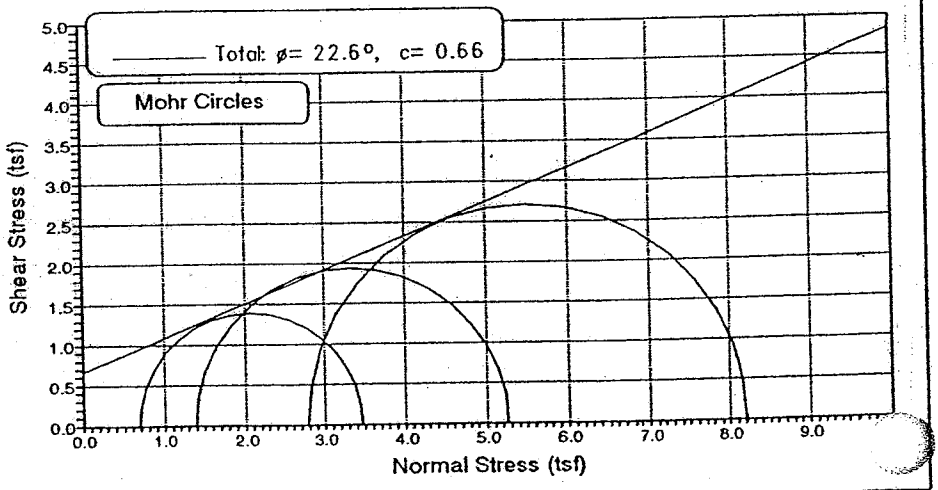
Sketches After Failure

A x
B +
C ▲
D ■

Before Consolidation	SPECIMEN NUMBER A	B	C	D
Diameter [In.]	2.01	2.01	2.01	
Height [In.]	4.00	4.00	4.00	
Water Content %	10.9	10.9	10.9	
Dry Density [pcf]	110.4	110.4	110.4	
Void Ratio	0.51	0.52	0.52	
After Consolidation				
Diameter [In.]	2.01	2.01	2.01	
Height [In.]	3.98	3.95	3.90	
Water Content %	10.6	10.3	9.8	
Dry Density [pcf]	111.1	111.6	112.7	
Void Ratio	0.51	0.50	0.48	
Back Pressure [tsf]				
Minor Principal Stress - tsf	0.69	1.39	2.78	
Max. Deviator Stress - tsf	2.77	3.87	5.42	
Ultimate Deviator Stress - tsf	2.71	3.67	5.25	
Max. Pore Pressure Buildup - tsf				
Pore Pressure Parameter "B"				
Percent Axial Strain at Failure:	18.2	22.4	22.7	

These test results are for informational purposes only and must be reviewed by a qualified professional engineer to verify that the test parameters shown are appropriate for any particular design.





A R S TR3 Rev: 22 Feb 95 an

9301 Bryant Avenue South Suite 107

SOIL ENGINEERING TESTING, INC.

Bloomington, Minnesota 55420-3436

TRIAXIAL TEST

Job No: 4644-A

File: CD3

Project: Clinton Landfill No. 3 - # 18330.1

Boring No.: | Sample No.: | Elev. (ft.)

Date: 03/29/03

Type: Sandy Lean Clay w/a Trace of Gravel (CL) – Gray Tiskilwa – Composite

Test Type: C-D (unSat.)

REMARKS: Specimens compacted to 95% of 127.3 psf Maximum Dry Density and at Opt. W.C.; -#4 material only; Radial (spiral) drainage strips applied; Consolidated for about 3 - 5 days; Drainage valves open; Stressed to given strains at constant rate of 0.00059"/min.. (*) = Assumed Specific Gravity

Sample Type: Bag

Strain Rate [%/Min]: 0.015

Liquid Limit: 26

Plastic Limit: 12

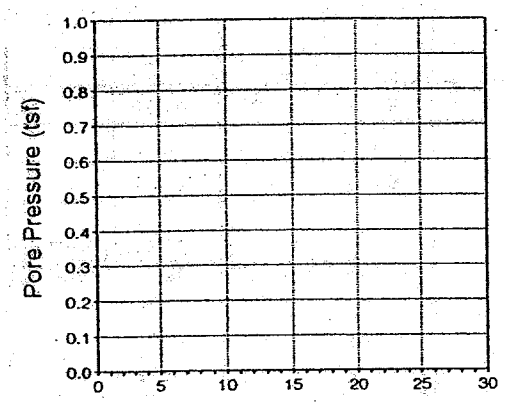
Plasticity Index: 14

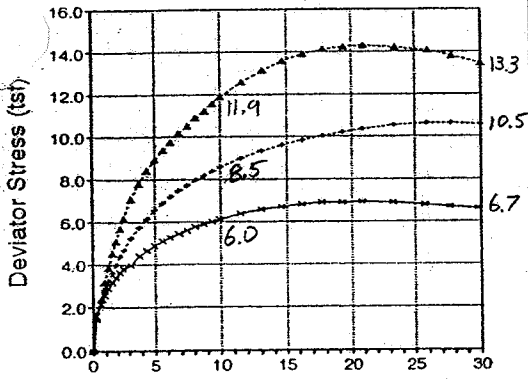
(*) Specific Gravity : 2.68

Failure Criterion:
[ ] Maximum Stress Ratio
[ ] Maximum Pore Pressure
[X] Maximum Deviator Stress
[ ] % Axial Strain

Strength paramaters estimated by numerical analysis of data.

Angle of Internal Friction, ϕ = 25.0°
Apparent Cohesion, c = 0.90 [tsf]



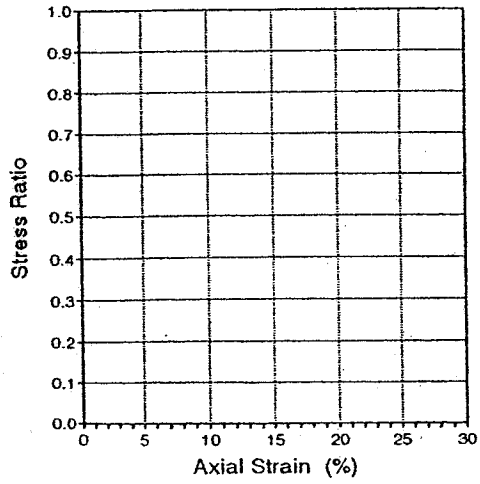


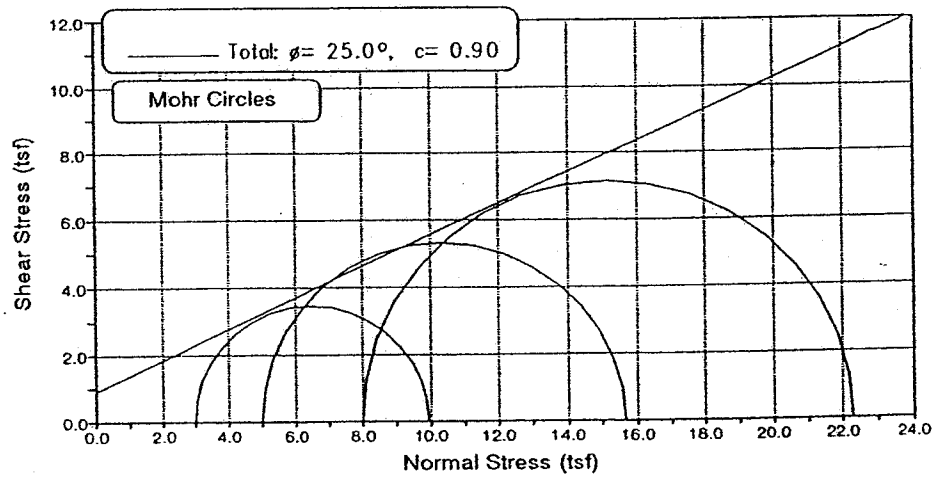
Sketches After Failure

A x
B +
C ▲
D ■

Before Consolidation	SPECIMEN NUMBER A	B	C	D
Diameter [In.]	2.01	2.01	2.01	
Height [In.]	4.00	4.00	4.00	
Water Content %	10.6	10.6	10.6	
Dry Density [pcf]	119.4	119.4	119.4	
Void Ratio	0.40	0.40	0.40	
After Consolidation				
Diameter [In.]	2.01	2.01	2.00	
Height [In.]	3.97	3.95	3.94	
Water Content %	10.2	10.0	9.3	
Dry Density [pcf]	120.3	120.9	122.5	
Void Ratio	0.39	0.38	0.37	
Back Pressure [tsf]				
Minor Principal Stress - tsf	3.00	5.00	8.00	
Max. Deviator Stress - tsf	6.93	10.63	14.29	
Ultimate Deviator Stress - tsf	6.59	10.57	13.47	
Max. Pore Pressure Buildup - tsf				
Pore Pressure Parameter "B"				
Percent Axial Strain at Failure:	20.8	25.9	20.9	

These test results are for informational purposes only and must be reviewed by a qualified professional engineer to verify that the test parameters shown are appropriate for any particular design.





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SOIL ENGINEERING TESTING, INC.

Bloomington, Minnesota 55420-3436

TRIAXIAL TEST

Job No: 4644

Project: Clinton Landfill No. 3 - # 18330.1 | File: cd1

Boring No.: EX-17 | Sample No.: | Elev. (ft.) 660 | Date: 02/28/03

Type: Sandy Lean Clay w/a Trace of Gravel (CL) – Gray Berry Clay | Test Type: C-D (unSat.)

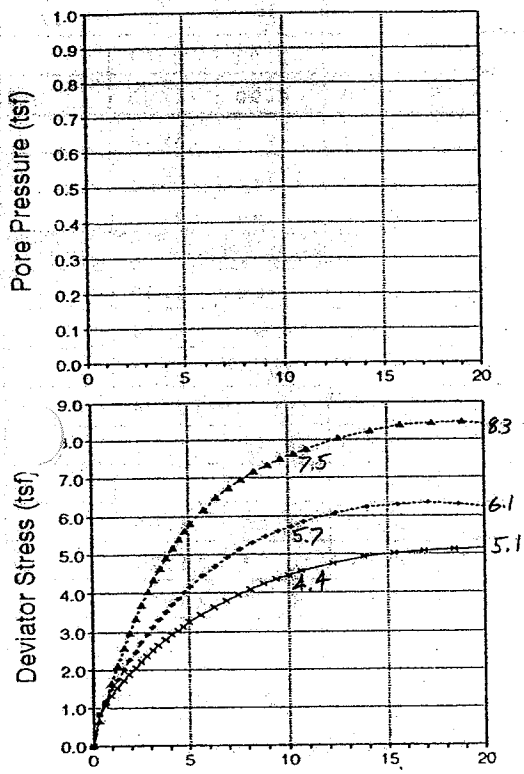
REMARKS: Specimens compacted to 95% of 113.6 psf Maximum Dry Density and at Opt. W.C.; -#4 material only; Radial (spiral) drainage strips applied; Consolidated for about 1 - 2 days; Drainage values open; Stressed to given strains at constant rate of 0.00059"/min.. (*) = Assumed Specific Gravity

Sample Type:	Bag
Strain Rate [%/Min]:	0.015
Liquid Limit:	32
Plastic Limit:	22
Plasticity Index:	11
(*) Specific Gravity :	2.68

Failure Criterion:
- [ ] Maximum Stress Ratio
- [ ] Maximum Pore Pressure
- [X] Maximum Deviator Stress
- [ ] % Axial Strain

Strength paramaters estimated by numerical analysis of data.

Angle of Internal Friction, ϕ = 14.6°
Apparent Cohesion, c = 1.18 [tsf]

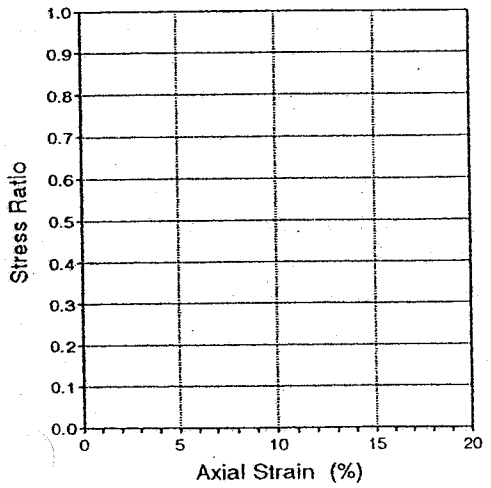


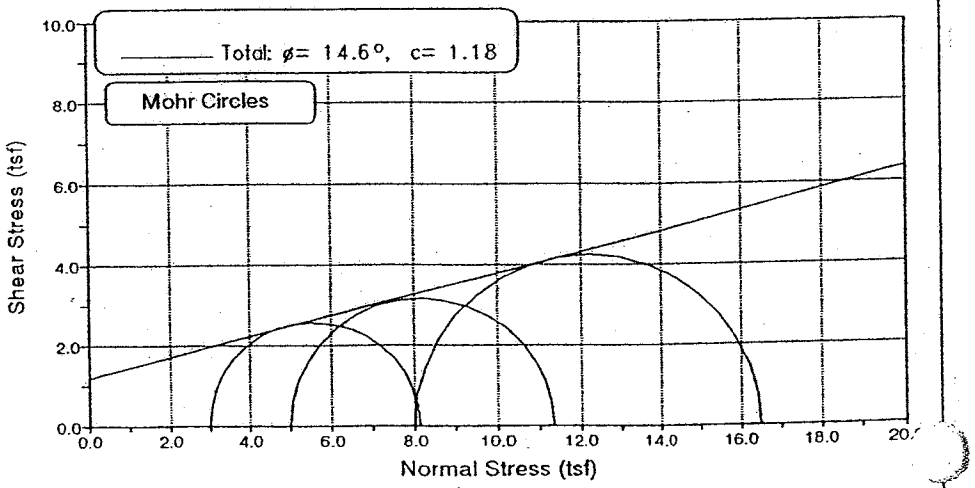
Sketches After Failure

A x
B +
C ▲
D ■

	SPECIMEN NUMBER			
Before Consolidation	A	B	C	D
Diameter [In.]	2.00	2.00	2.00	
Height [In.]	4.00	4.00	4.00	
Water Content %	13.2	13.2	13.2	
Dry Density [pcf]	107.9	107.9	107.9	
Void Ratio	0.55	0.55	0.55	
After Consolidation				
Diameter [In.]	1.99	1.98	1.97	
Height [In.]	3.96	3.92	3.87	
Water Content %	12.0	10.9	9.6	
Dry Density [pcf]	110.3	112.4	115.1	
Void Ratio	0.52	0.49	0.45	
Back Pressure [tsf]				
Minor Principal Stress - tsf	3.00	5.00	8.00	
Max. Deviator Stress - tsf	5.13	6.33	8.47	
Ultimate Deviator Stress - tsf	5.13	6.23	8.40	
Max. Pore Pressure Buildup - tsf				
Pore Pressure Parameter "B"				
Percent Axial Strain at Failure:	20.0	17.1	18.9	

* "These test results are for informational purposes only and must be reviewed by a qualified professional engineer to verify that the test parameters shown are appropriate for any particular design."





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SOIL ENGINEERING TESTING, INC.

Bloomington, Minnesota 55420-3436

TRIAXIAL TEST

Job No: 4644

File: CD2

Project: Clinton Landfill No. 3 - # 18330.1

Boring No.:	Sample No.:	Elev. (ft.)

Type: Sandy Lean Clay w/a Little Gravel (CL) – Composite Berry Clay

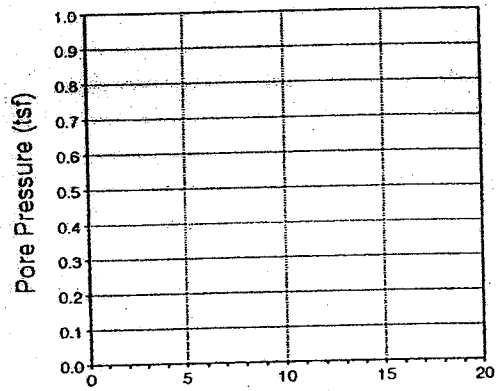
REMARKS: Specimens compacted to 95% of 116.0 psf Maximum Dry Density and at Opt. W.C.; -#4 material only; Radial (spiral) drainage strips applied; Consolidated for about 2 days; Drainage values open; Stressed to given strains at constant rate of 0.00059"/min.. (*) = Assumed Specific Gravity

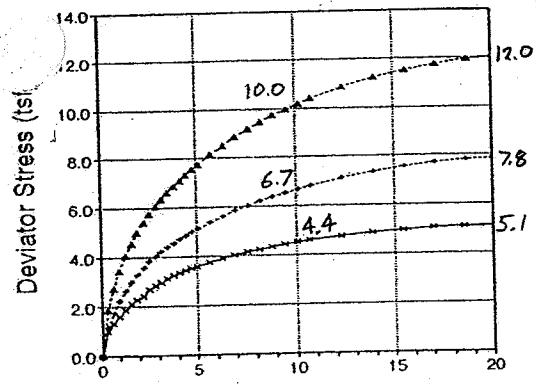
Date:	02/28/03
Test Type:	C-D (unSat.)
Sample Type:	Bag
Strain Rate [%/Min]:	0.015
Liquid Limit:	36
Plastic Limit:	22
Plasticity Index:	14
(*) Specific Gravity:	2.68

Failure Criterion:
- [ ] Maximum Stress Ratio
- [ ] Maximum Pore Pressure
- [X] Maximum Deviator Stress
- [ ] % Axial Strain

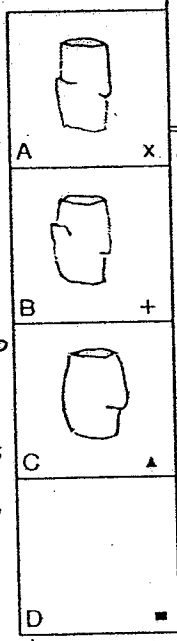
Strength paramaters estimated by numerical analysis of data.

Angle of Internal Friction, ϕ = 24.1°
Apparent Cohesion, c = 0.31 [tsf]



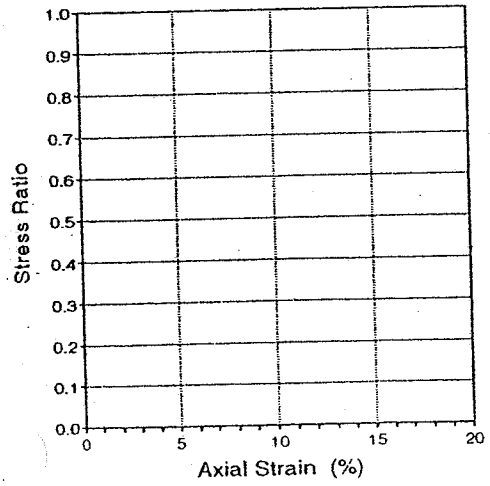


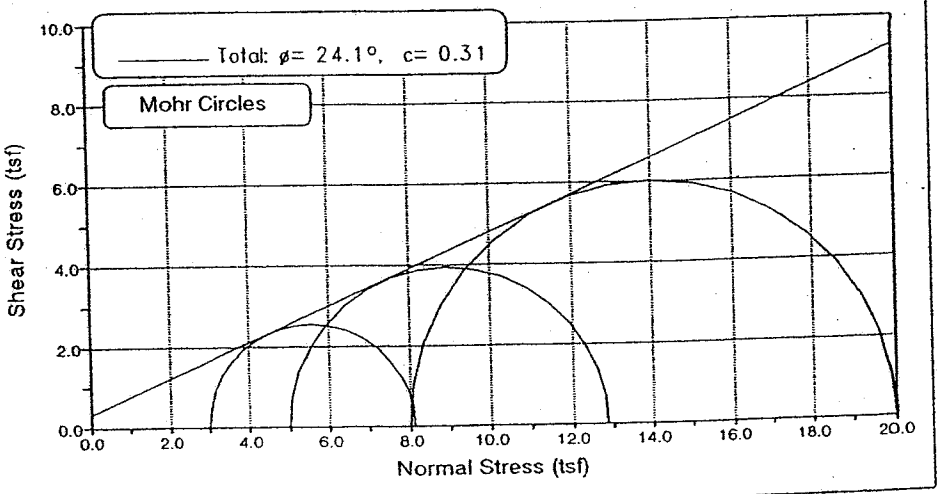
Sketches After Failure



	SPECIMEN NUMBER			
Before Consolidation	A	B	C	D
Diameter [In.]	2.01	2.01	2.01	
Height [In.]	3.99	3.99	3.99	
Water Content %	13.3	13.3	13.3	
Dry Density [pcf]	112.9	112.9	112.9	
Void Ratio	0.48	0.48	0.48	
After Consolidation				
Diameter [In.]	1.99	1.98	1.98	
Height [In.]	3.95	3.92	3.90	
Water Content %	11.7	10.9	10.5	
Dry Density [pcf]	116.3	118.2	119.0	
Void Ratio	0.44	0.42	0.41	
Back Pressure [tsf]				
Minor Principal Stress - tsf	3.00	5.00	8.00	
Max. Deviator Stress - tsf	5.11	7.87	12.02	
Ultimate Deviator Stress - tsf	5.11	7.87	12.02	
Max. Pore Pressure Buildup - tsf				
Pore Pressure Parameter "B"				
Percent Axial Strain at Failure:	20.1	20.3	20.4	

These test results are for informational purposes only and must be reviewed by a qualified professional engineer to verify that the test parameters shown are appropriate for any particular design.





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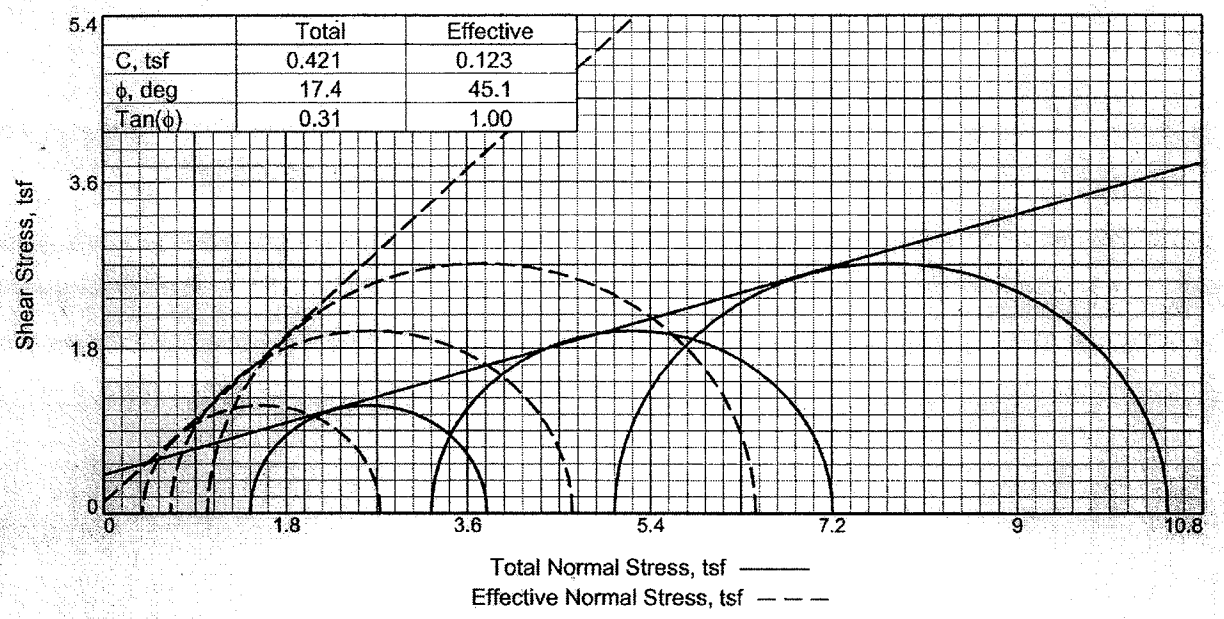
SOIL ENGINEERING TESTING, INC.

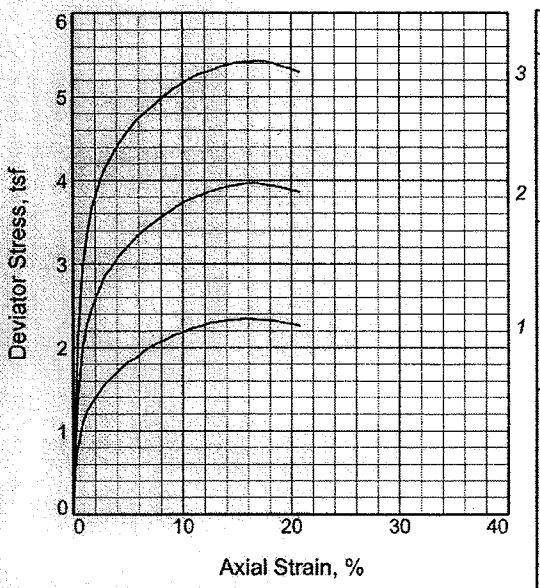
Bloomington, Minnesota 55420-3436

Geotechnical Laboratory Test Data - for Chemical Waste

Shaw®



	Total	Effective
C, tsf	0.421	0.123
ϕ, deg	17.4	45.1
Tan(ϕ)	0.31	1.00



Sample No.		1	2	3
Initial	Water Content, %	71.4	71.2	70.7
	Dry Density, pcf	54.1	54.2	54.4
	Saturation, %	222.6	223.7	224.5
	Void Ratio	0.3849	0.3817	0.3781
	Diameter, in.	2.87	2.87	2.87
	Height, in.	6.01	6.01	6.01
At Test	Water Content, %	32.1	31.8	31.5
	Dry Density, pcf	54.1	54.2	54.4
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.3849	0.3817	0.3781
	Diameter, in.	2.87	2.87	2.87
	Height, in.	6.01	6.01	6.01
Strain rate, in./min.		0.50	0.05	0.05
Back Pressure, psi		5.00	5.00	5.00
Cell Pressure, psi		25.00	50.00	75.00
Fail. Stress, tsf		2.35	3.97	5.43
Total Pore Pr., tsf		1.42	2.94	4.38
Ult. Stress, tsf				
Total Pore Pr., tsf				
$\bar{\sigma}_1$ Failure, tsf		2.73	4.63	6.44
$\bar{\sigma}_3$ Failure, tsf		0.38	0.66	1.02

Type of Test:
CU with Pore Pressures
Sample Type: Remolded
Description: Black Sediment

LL= 88 **PL=** 64 **PI=** 24
Specific Gravity= 1.2
Remarks: Material tested as received

Client: Shaw Environmental, Inc.

Project: Phase 1 Lower Fox River

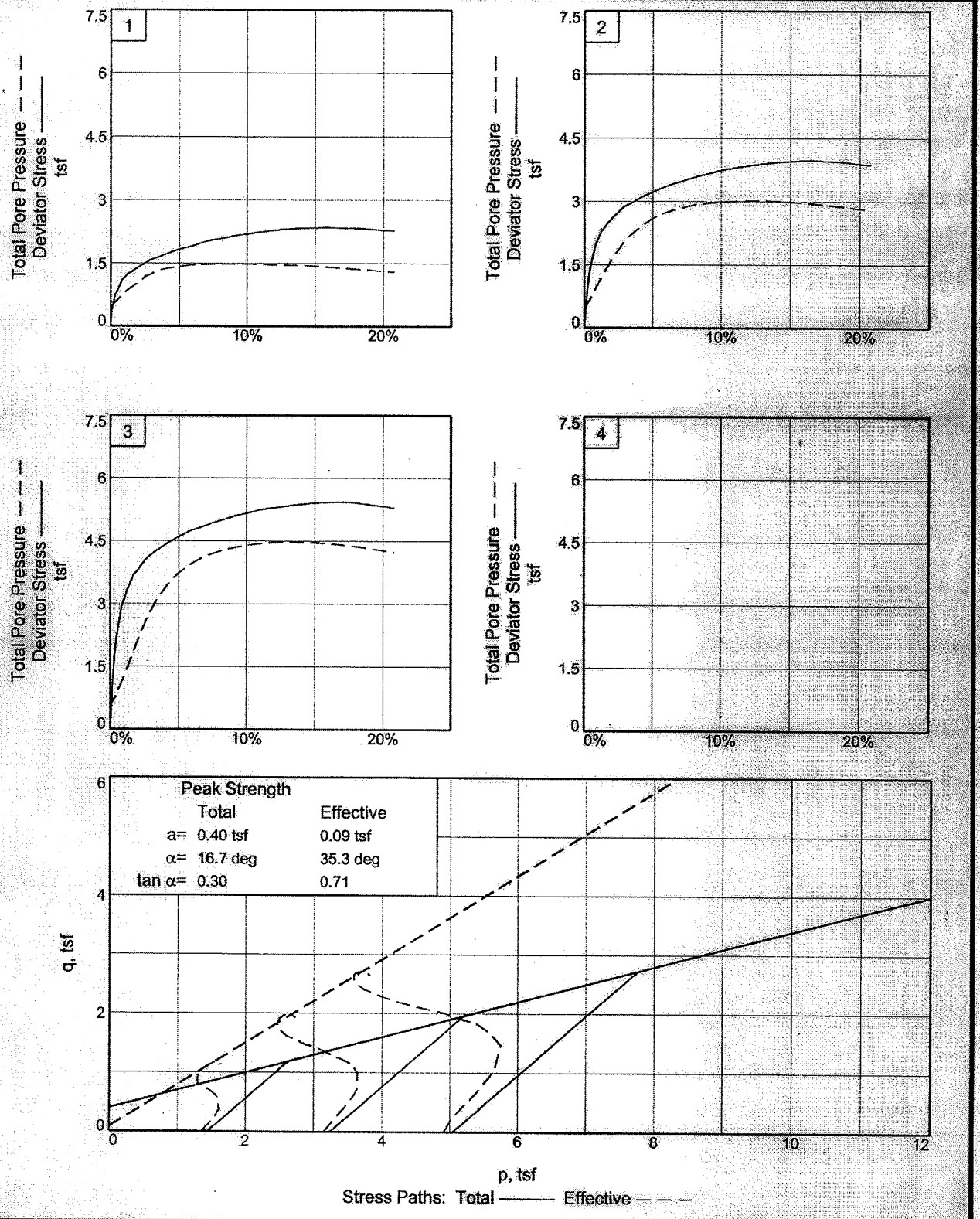
Location: Stockpile
Sample Number: 1A
Proj. No.: 77292 **Date Sampled:** 8/15/07

TRIAXIAL SHEAR TEST REPORT

Midland Standard Engineering & Testing

Figure 2

Tested By: JDS **Checked By:** WDP

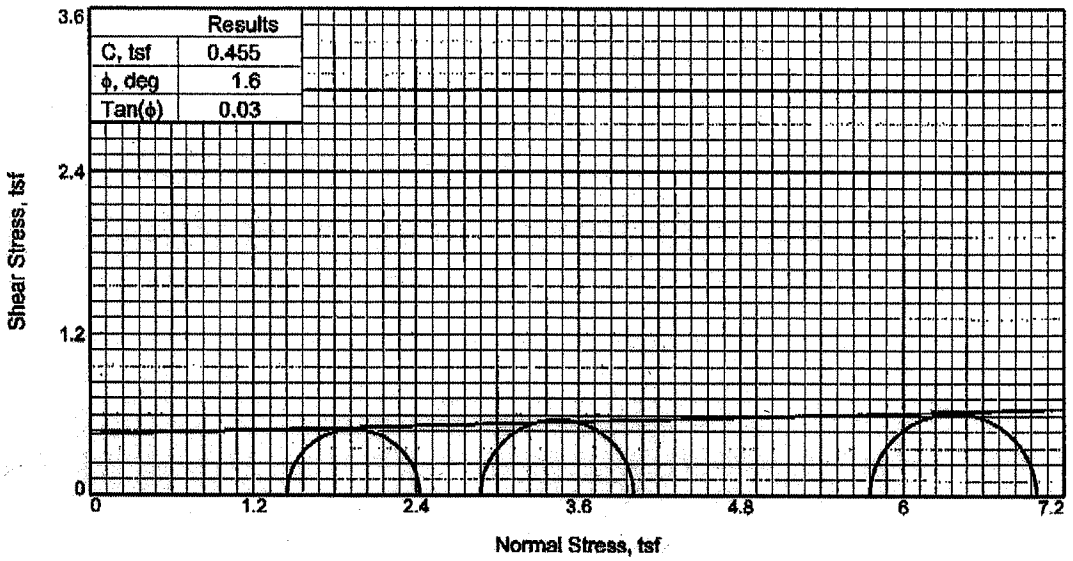


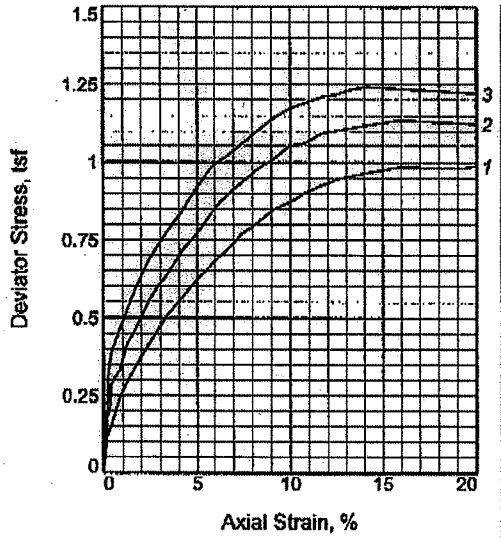
Client: Shaw Environmental, Inc.
Project: Phase 1 Lower Fox River
Location: Stockpile **Sample Number:** 1A
Project No.: 77292

Figure 2

Midland Standard Engineering & Testing

Tested By: JDS **Checked By:** WDP





Sample No.		1	2	3
Initial	Water Content, %	70.9	71.6	71.4
	Dry Density, pcf	54.2	53.9	54.0
	Saturation, %	222.5	220.5	221.7
	Void Ratio	0.3821	0.3899	0.3867
	Diameter, in.	2.87	2.87	2.87
	Height, in.	6.01	6.01	6.01
At Test	Water Content, %	31.8	32.5	32.2
	Dry Density, pcf	54.2	53.9	54.0
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.3821	0.3899	0.3867
	Diameter, in.	2.87	2.87	2.87
	Height, in.	6.01	6.01	6.01
Strain rate, in./min.		0.05	0.05	0.05
Back Pressure, psi		0.00	0.00	0.00
Cell Pressure, psi		20.00	40.00	80.00
Fail. Stress, tsf		0.99	1.13	1.24
Ult. Stress, tsf				
σ_1 Failure, tsf		2.43	4.01	7.00
σ_3 Failure, tsf		1.44	2.88	5.76

Type of Test:
Unconsolidated Undrained
Sample Type: Remolded
Description: Black Sediment

LL= 88 **PL=** 64 **PI=** 24
Specific Gravity= 1.2
Remarks: Material tested as received

Client: Shaw Environmental, Inc.

Project: Phase 1 Lower Fox River

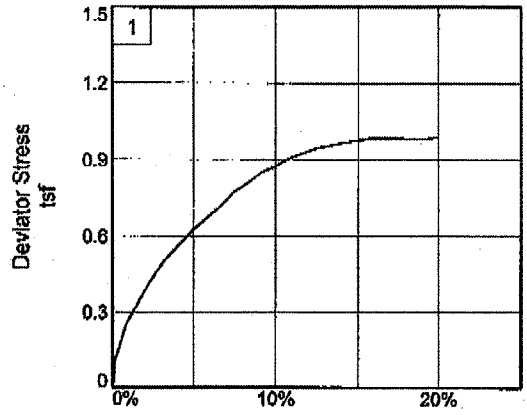
Location: Stockpile
Sample Number: 1
Proj. No.: 77292 **Date Sampled:** 8/15/07

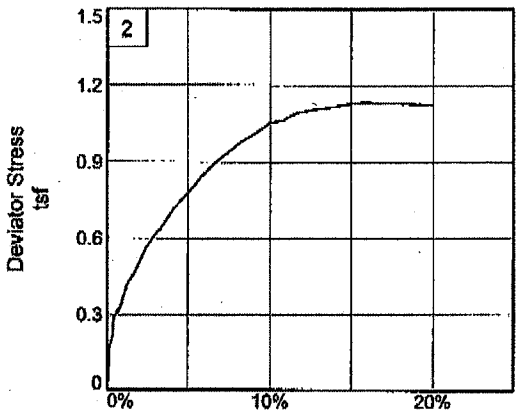
TRIAXIAL SHEAR TEST REPORT

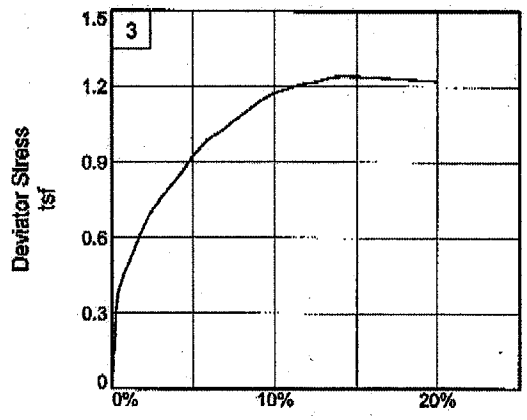
Midland Standard Engineering & Testing

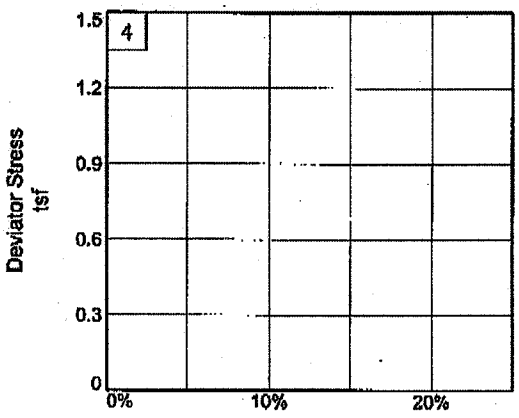
Figure 1

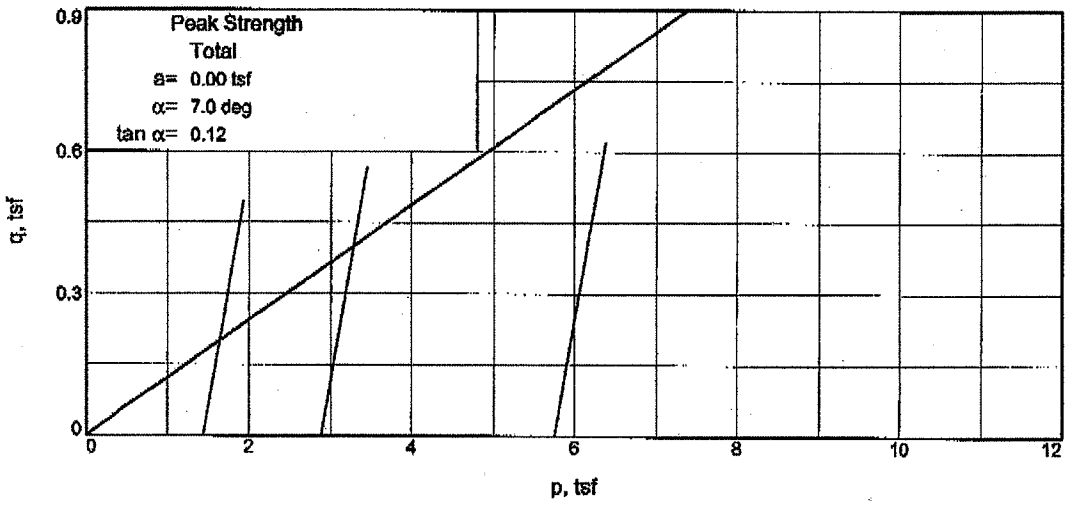
Tested By: JDS **Checked By:** WDP











Client: Shaw Environmental, Inc.
Project: Phase 1 Lower Fox River
Location: Stockpile **Sample Number:** 1
Project No.: 77292 **Figure** _____

Midland Standard Engineering & Testing

Tested By: JDS **Checked By:** WDP

Dewatered Sediment Characterization, Phase 1 - Lower Fox River OU- (Results report date 8-08-07)

	Lab	Average
Moisture Content	CQM	86.70%
Density (dry)	CQM	42.5 pcf

Particle Size — CQM

Sieve size	% passing by weight
#10	100
#40	69.9
#100	56.2
#200	44.1

Atterburg Limits — CQM

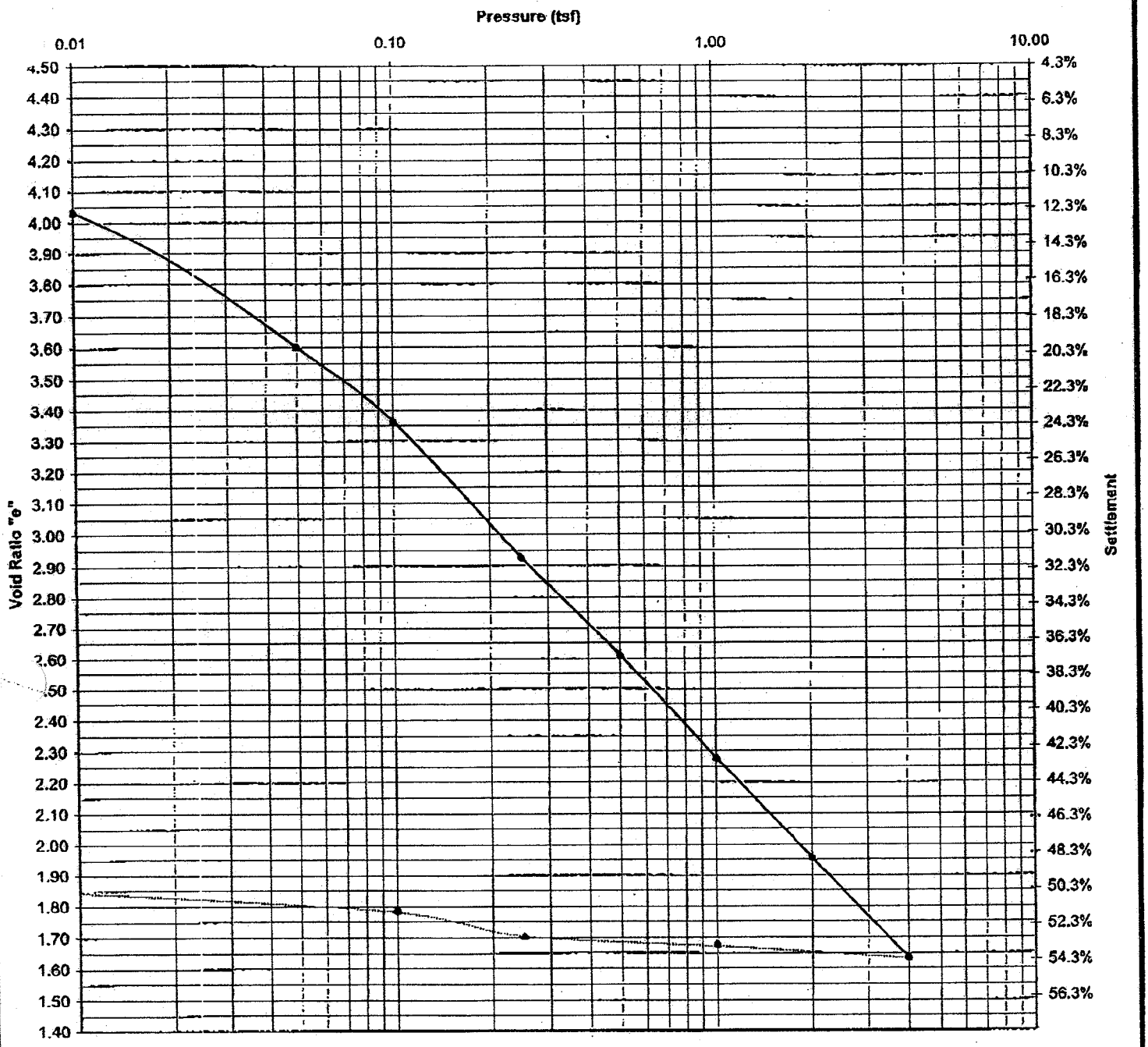
LL	PL	PI
87.80%	63.90%	23.90%

Soil Classification	CQM	(CH)	
Specific Gravity	SES	1.2	
Unconfined Compressive Strength	SES	1.6 tsf	(hand held equipment)
Standard Proctor Results	SES	Attached Seperately	

Consolidation Parameters — CQM

Cc	Cr
1.13	0.1

Void Ratio and % Settlement vs. Log of Pressure



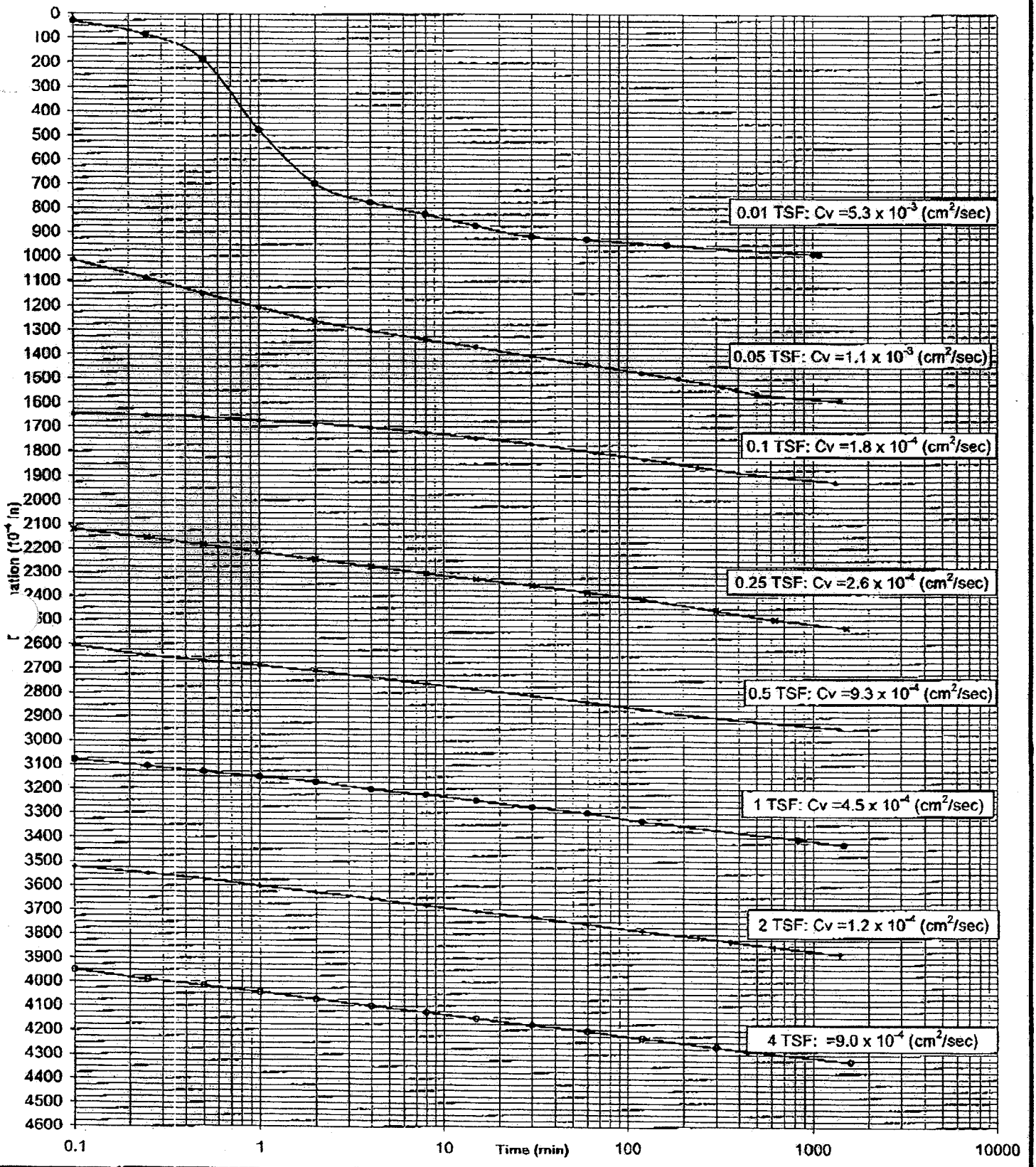
Project: Lower Fox River -Depere, WI				Date: 7/13/07
Sample #:	Boring #: LFR_Drop 1	Depth ft:		Job #: 6121
Soil Type: Organic Clay (CH)				
Initial W/C (%): 88.1	Dry Density (pcf): 25.7	LL: 87.8	PL: 63.9	PI: 23.9	Gs: 2.37
Organic Content (%):	Initial Height (in.): 0.799	Diameter (in.): 2.503	e_o= 4.747	
Preconsolidation Pressure (P_c): 0.057 tsf	Compression Index (Cc): 1.13	Recompression Index (Cr): ≈ 0.10		
Remarks:				

9301 Bryant Ave. South, Suite 107

SOIL ENGINEERING TESTING, INC.

Bloomington, Minnesota 55420-3436

Consolidation Log of Time Curves



ct: Lower Fox River -Depere, WI			Date: 7/13/07
Sample #:	Boring #: LFR_Drop 1	Depth ft:	Job #: 6121

9301 Bryant Ave. South, Suite 107

ET SOIL ENGINEERING TESTING, INC.

Bloomington, Minnesota 55420-3436

CQM, INC.
2679 Continental Drive
Green Bay, WI 54311
(920) 465-3911

Client: Sevenson Environmental
Project: Lower Fox River - Non Tosca
Prepared by: John L. Novak **Date:** 6/26/07
Checked by: _____ **Date:** _____

REPORT OF:

FALLING HEAD PERMEABILITY TEST

ASTM: D5084

GENERAL DATA:		**PROJECT SPECIFICATIONS**
Sample Location:	Stockpile	
Sample Number:	LFR-DROP1	
Date Sampled:	6/15/07	
Date Received:	6/15/07	
LABORATORY DATA:		
Method of Test:	Rigid Wall - Remolded	
Length of Sample (inches):	3.000	
Diameter of Sample (inches):	4.000	
Dates Tested:	June 21-22, 2007	
Moisture Content (%)	78.5	
Dry Density (pcf):	42.5	
% Compaction:		
Soil Classification:	River Sediment: "CLAYEY SAND W/ ORGANIC FINES, medium to fine grained, black (SC)"	
Max. Head Differential (ft.)	6.0	
Confining Pressure (Effective psi):	Rigid Wall	
Hydraulic Gradient:		
Trial No.:	3-6	
Water Temperature:	22°C	
Coefficient of Permeability (cm/sec):	2.4×10^{-4}	

REMARKS:

Drop 4

CQM, INC.

HYDROMETER ANALYSIS OF SOIL (ASTM: D422)

(WORKSHEET ONLY)

Client:	Sevenson Environmental
Project:	Lower Fox River - Non Tsca
Location Sampled:	Stockpile - Drop 1
Sample No:	LFR-DROP-1
Depth of Sample:	
Date Received:	6/15/07

Specific Gravity of Soil:	2.70
Factor a:	0.99
Dispersing Agent:	Sodium Hexametaphosphate

Date Started:	6/18/07	Zero Correction:	6	% Passing #10:	100.0
Date Completed:	6/19/07	Meniscus Correction:	1	Initial Wt. of Soil:	55
Hydrometer Tube No.:	1	Tested By:	JLN	Corr. Wt. of Soil:	52.4

TIME OF READING	ELAPSED TIME (MIN)	TEMP. (CELSIUS)	HYDR. READING	CORR. READING	% SUSPENDED	HYD. CORR. WITH MENISCUS	TABLE 6-5 L	L/T	TABLE 6-4 K	D MM	% OF TOTAL SAMPLE
										0.075	44.1
9:25											
9:27	2	24	28	22	41.5	29	11.7	2.418983674	0.01282	0.0310	41.5
9:30	5	24	25	19	35.9	26	12.2	1.561727507	0.01282	0.0200	35.9
9:40	15	24	22	16	30.2	23	12.7	0.919672551	0.01282	0.0118	30.2
9:55	30	24	17	11	20.8	18	13.5	0.670993394	0.01282	0.0086	20.8
10:25	60	24	14	8	15.1	15	14.0	0.483028019	0.01282	0.0062	15.1
13:35	250	23	11	5	9.4	12	14.5	0.24975684	0.01297	0.0031	9.4
9:25	1440	25	6	2	3.8	9	15.0	0.102004099	0.01267	0.0013	3.8

HYGROSCOPIC MOISTURE CONTENT	
WET WEIGHT:	10.89
DRY WEIGHT:	10.45
LOSS:	0.44
MOISTURE (%):	4.88

EQUIPMENT USED	
SCALE NO.:	DS#6
TARE NO.:	P151
TARE WT.(gm):	1.43

REVIEWED BY:	
DATE REVIEWED:	

Remarks:

CQM, INC.

SIEVE ANALYSIS OF COARSE TO FINE AGGREGATES (ASTM D422)

(WORKSHEET ONLY)

GENERAL DATA:

Client:	Sevenson Environmental
Project:	Lower Fox River - Non Tsca
Location Sampled:	Stockpile - Drop 1
Sample No:	LFR-DROP-1
Depth of Sample:	
Date Received:	6/15/07
Sample Designated For:	Soil Classification
Source of Sample:	Lower Fox Stockpile
Munsell Color Code:	2.5Y 2.5/1
Date Sampled:	6/15/07

LABORATORY DATA:

Date Tested:	June 15-19, 2007
Test Performed By:	JRP

24 Hrs. Turn Around:	NO
Washed Gradation:	YES

Lab Equipment:

Scale ID: DS #5

Sieve Nest: A Diameter: 8"

	Sieve Size	Weight Retained	% Retained	% Passing	Project Specification % Passing by Weight	Source of Specification
	3"	0.0	0.0	100.0		
	1 1/2"	0.0	0.0	100.0		
	1"	0.0	0.0	100.0		
	3/4"	0.0	0.0	100.0		
	1/2"	0.0	0.0	100.0		
214.4	3/8"	0.0	0.0	100.0		
	#4	0.0	0.0	100.0		
	#10	0.0	0.0	100.0		
	#40	105.8	30.1	69.9		
	#100	48.4	13.8	56.2		
	#200	42.4	12.1	44.1		
	Pan=18.0					
	Wash=137.3	155.3	44.2	55.8		

LABORATORY USE ONLY

Moisture Content:

Wet Soil (gms):	836.4
Dry Soil (gms):	530.3
Loss:	306.1
Weight of Tare (gms):	178.6
Dry Weight of Soil (gms):	351.7
Moisture Content (%):	87.0
Tare #:	P1
Color:	black

REVIEWED BY:	
DATE REVIEWED:	

Remarks:

CQM, INC.

ATTERBERG LIMIT TEST (ASTM D4318)

(WORKSHEET ONLY)

GENERAL DATA:

Client:	Sevenson Environmental
Project:	Lower Fox River - Non Tsca
Location Sampled:	Stockpile - Drop 1
Sample No:	LFR-DROP-1
Depth of Sample:	
Date Received:	6/15/07
Sample Designated For:	Soil Classification
Source of Sample:	Lower Fox Stockpile

LABORATORY DATA:

Date Tested:	
Test Performed By:	

Munsell Color Code: 2.5Y 2.5/1

	LIQUID LIMIT			PLASTIC LIMIT
	Run 1	Run 2	Run 3	
Tare Number				
Number of Blows				
Wet Soil and Tare (gms)				
Dry Soil and Tare (gms)				
Weight of Water (gms)				
Weight of Tare (gms)				
Dry Weight of Soil (gms)				
Water Content (%)				
Corrected Content (%)				

Test Results	
Liquid Limit (LL)=	
Plastic Limit (PL)=	
Plasticity Index (PI)=	

Remarks:

REVIEWED BY:	
DATE REVIEWED:	

CQM, INC.

SIEVE ANALYSIS OF COARSE TO FINE AGGREGATES (ASTM D422)

GENERAL DATA:

Client:	Sevenson Environmental
Project:	Lower Fox River - Non Tsca
Location Sampled:	Stockpile - Drop 1
Sample No:	LFR-DROP-1
Depth of Sample:	
Date Received:	6/15/07
Sample Designated For:	Soil Classification
Source of Sample:	Lower Fox Stockpile
Munsell Color Code:	2.5Y 2.5/1
Date Sampled:	6/15/07

LABORATORY DATA:

Date Tested:	June 15-19, 2007
Test Performed By:	JRP

24 Hrs. Turn Around:	NO
Washed Gradation:	YES

Dry Weight of Soil (gms): 351.7

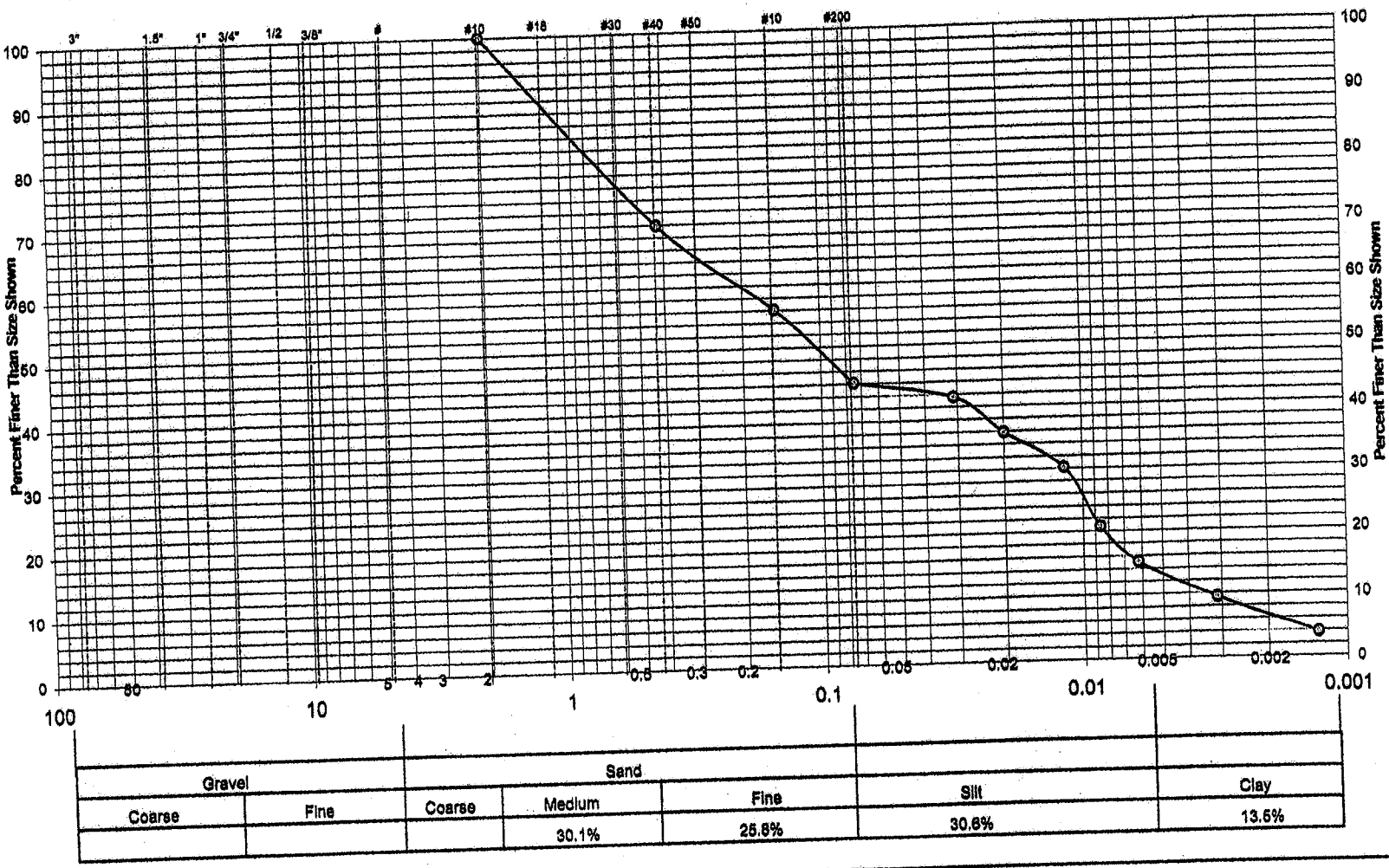
Sieve Size	Weight Retained	% Retained	% Passing	Project Specification % Passing by Weight	Source of Specification
3"					
1 1/2"					
1"					
3/4"					
1/2"					
3/8"					
#4					
#10	0.0	0.0	100.0		
#40	105.8	30.1	69.9		
#100	48.4	13.8	56.2		
#200	42.4	12.1	44.1		

REVIEWED BY:	
DATE REVIEWED:	

Remarks:

GRAIN SIZE DISTRIBUTION CURVE

U.S. Standard Sieve Sizes



Gravel		Sand			Silt	Clay
Coarse	Fine	Coarse	Medium	Fine		
			30.1%	25.6%	30.6%	13.5%

Soil Classification: River Sediment: "CLAYEY SAND W/ORGANIC FINES, medium to fine grained, black (SC)"

Location Sampled: Stockpile - Drop 1 | Elevation or Depth: | Date Sampled: 6/15/07

Sample Number: LFR-DROP-1 | Sampled Moisture Content (%): 87.0 | Report No.: Drop-1

Sample Source: Lower Fox Stockpile

CQM, INC.

Atterberg Limits: LL= | PL= | PI=

Client: Sevenson Environmental

Munsell Color Code: 2.5Y 2.5/1 | Project: Lower Fox River - Non Tsca | Page: 2

Date Received: 6/15/07 | Prepared by: John L. Novak | Date: 6/21/07

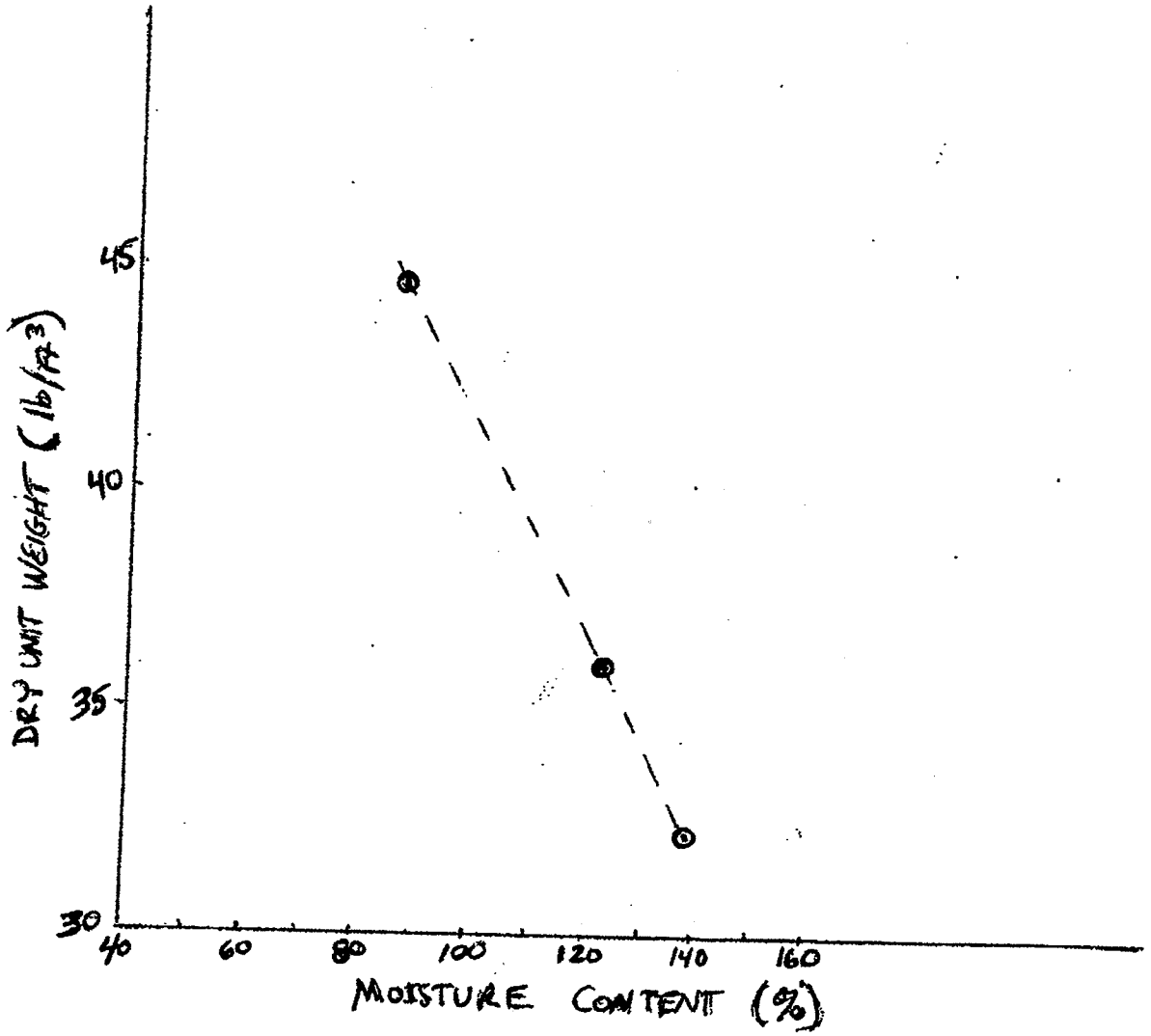
Coefficients: Cc= | Cu= | Checked by: | Date:

Foth

Client: NCR / US Mills — Project I.D.: 06NEC01
Project: Phase 1 — Page: 1
Prepared By: JB 41 — Date: 08/03/07
Checked By: — Date:

Plot Dry Unit Wt Vs Moisture Content

Dewatered Sediment Sample collected May 31, 2007



Sevenson Environmental
716 Fort Howard Ave.
DePere, WI 54115
(920) 336-4223

Location of Testing: 716 Fort Howard Ave. DePere, WI 54115
Material Source: 716 Fort Howard Ave. DePere, WI 54115

			POCKET PENETROMETER				TORVANE				
Date	Sample ID	Test Number	Reading without Foot	Multiplication Factor	Unconfined Compressive Strength (TSF)	Average Strength	TorVane Reading	Multiplication Factor	Shear Strength	Unconfined Compressive Strength (TSF)	Average Strength
6/1/2007	Pad Moisture	1	0.75		0.75		0.16	2.5	0.4	0.8	
6/1/2007	Pad Moisture	2	0.75		0.75	0.75	0.2	2.5	0.5	1.0	0.9
6/1/2007	Pad Moisture	3	0.75		0.75						
6/1/2007	Wet Moisture	1					0.15	1.0	0.15	0.3	
6/1/2007	Wet Moisture	2					0.16	1.0	0.16	0.32	0.31
6/1/2007	Wet Moisture	3									
6/4/2007	Dry Moisture	1	1.2		1.2		0.31	2.5	0.78	1.55	
6/4/2007	Dry Moisture	2	1.5		1.5	1.37	0.27	2.5	0.68	1.35	1.47
6/4/2007	Dry Moisture	3	1.4		1.4		0.3	2.5	0.75	1.5	

*Note: Tests were done on the mixed load out pile.
Samples were processed in the Sevenson Environmental Lab.
Wet sample was comprised of pad material with water added. 1.5lbs of water were added to the 20lbs of sediment.
Dry sample was comprised of pad material with oven dried material added. A third of the sediment was removed and oven dried for 12 hours and placed back into the sample.

Sevenson Representative _____ Date: _____

Foth Representative _____ Date: _____

Sevenson Environmental
716 Fort Howard Ave.
DePere, WI 54115
(920) 336-4223

05.31.07/06.01.07	Pad Moisture	A-BOTTOM	2.50	20.71	12.55	55.19	81.19		LMB	
05.31.07/06.01.07	Pad Moisture	A-MIDDLE	2.54	32.33	13.52	36.86	171.31	123.30	LMB	
05.31.07/06.01.07	Pad Moisture	A-TOP	2.55	23.42	12.15	46.00	117.40		LMB	
05.31.07/06.01.07	Wet Moisture	B-BOTTOM	2.54	27.03	11.06	34.79	187.44		LMB	
05.31.07/06.01.07	Wet Moisture	B-MIDDLE	2.53	28.91	16.72	53.79	85.91	138.65	LMB	
05.31.07/06.01.07	Wet Moisture	B-TOP	2.54	25.66	12.07	41.22	142.60		LMB	
06.04.07/06.05.07	Dry Moisture	A-BOTTOM	2.54	28.31	15.67	50.95	96.27		LMB	
06.04.07/06.05.07	Dry Moisture	A-MIDDLE	2.53	33.79	20.07	56.11	78.22	87.13	LMB	
06.04.07/06.05.07	Dry Moisture	A-TOP	2.54	34.61	19.70	53.51	86.89		LMB	

Sevenson Representative _____ Date: _____ Foth Representative Date: _____

*Note: Tests were done on the mixed load out pile.
Samples were processed in the Sevenson Environmental Lab.
Wet sample was comprised of pad material with water added. 1.5lbs of water were added to the 20lbs of sediment.
Dry sample was comprised of pad material with oven dried material added. A third of the sediment was removed and oven dried for 12 hours and placed back into the sample.

50

Sevenson Environmental
716 Fort Howard Ave.
DePere, WI 54115
(920) 336-4223

Location of Testing: 716 Fort Howard Ave. DePere, WI 54115
Material Source: 716 Fort Howard Ave. DePere, WI 54115

Date	Sample ID	Weight of Empty Proctor Mold (lbs)	Weight of mold w/ sediment (lbs)	Weight of Sediment (lbs)	Moisture Content (%)	Sediment Unit Weight Wet (lbs/cu.ft.)	Sediment Unit Weight Dry (lbs/cu.ft.)
6/1/2007	Pad Moisture	9.32	12.01	2.69	123.30	80.70	36.14
6/1/2007	Wet Moisture	9.32	11.89	2.57	138.65	77.10	32.31
6/4/2007	Dry Moisture	9.32	12.1	2.78	87.13	83.4	44.57

*Note: Tests were done on the mixed load out pile.
Samples were processed in the Sevenson Environmental Lab.
Wet sample was comprised of pad material with water added. 1.5lbs of water were added to the 20lbs of sediment.
Dry sample was comprised of pad material with oven dried material added. A third of the sediment was removed and oven dried for 12 hours and placed back into the sample.
Proctor used was a standard proctor mold

Sevenson Representative: _____ Date: _____

Foth Representative: _____ Date: _____

INTERFACE FRICTION TEST SUMMARY

Clinton Landfill No. 3

Testing conducted by Precision Analytical Laboratories, March, April, May, and September 2001

Description	Normal Stress (psf)	Shear Stress (psf) Peak	Shear Stress (psf) Residual	Design - Peak Strength Phi	Design - Peak Strength C (psf)	Design - Resdual Strength Phi	Design - Resdual Strength C (psf)
Final Cover Components							
Final cover soil vs. Geotextile	250	198	168	30	0	24	0
	350	210	175				
	450	328	310				
Geotexile vs. Geonet	250	181	149	28	30	25	0
	350	216	171				
	450	286	226				
Geonet vs. Textured HDPE	250	124	119	26	0	19	25
	350	215	208				
	450	240	194				
Final cover soil vs. Smooth HDPE	250	218	206	31	65	28	65
	350	278	262				
	450	339	316				
Liner Floor Components							
LCS Sand vs. Smooth HDPE	5000	2427	1940	20	450	10	900
	7500	3164	2134				
	10000	4300	2860				
Sidewall Liner - Prior to Waste Placement							
Protective cover soil vs. Geotextile	250	198	168	30	0	24	0
	350	210	175				
	450	328	310				
Geotextile vs. Geonet	250	181	149	28	30	25	0
	350	216	171				
	450	286	226				
Geomembrane vs. Geonet	100	96	81	10	75	8	65
	275	136	125				
	450	160	135				
Sidewall Liner - Following Waste Placement							
Geotextile vs. Geonet	2500	719	610	15	0	14	0
	5000	1351	1183				
	8000	2600	1975				
Geonet vs. Smooth HDPE	2500	622	622	11	126	11	126
	5000	1102	1070				
	8000	1702	1683				
Clay liner soil vs. Smooth HDPE	2500	1072	748	16	345	12	185
	5000	1765	1288				
	8000	2651	1950				
Clay liner soil vs. Geotextile	2500	1598	1528	24	400	24	380
	5000	2612	2582				
	8000	4112	3990				

TABLE 4.

CLIENT: PDC TECHNICAL SERVICES

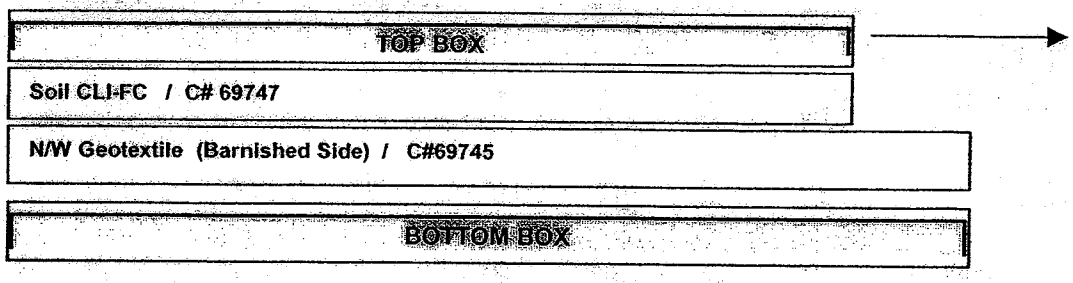
PROJECT: Clinton Landfill Exp

INTERFACE SHEAR TEST RESULT (ASTM D5321)

(PGL Job No. 010208)

QC'd by: _____
April 3, 2001

TEST CONFIGURATION #4



TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimens were cut to 20" x 20"
2. Soil CLI-FC was compacted to 109 pcf dry density and 15.14 % moisture content.

CONSOLIDATION:

1. Each set of specimen was consolidated under flooded condition for 24hours at normal load before shearing.

SHEAR TEST:

1. Initially, shear test was conducted at 0.001 in/ min, and the rate was increased to 0.01"/min at 1.063 ", 1.063 ", 1.175 " displacement for 250 psf, 350 psf, and 450 psf normal load respectively.
2. Sheared at minimum 2.0 inch horizontal displacement.
3. The test specimens were sheared in flooded condition.
4. The final moisture content of the soil was 19.88 %, 18.5 %, 18.1 % at normal loads of 250 psf, 350 psf, and 450 psf respectively.
5. Tests were performed in general accordance with ASTM D5321 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS (psi)	NORMAL STRESS (psf)	PEAK STRENGTH: SHEAR STRESS (psf)	PEAK STRENGTH: PEAK SECANT ANGLE	2.0" DISPLACEMENT STRENGTH: SHEAR STRESS (psf)	2.0" DISPLACEMENT STRENGTH: 2.0" DISPLACEMENT SECANT ANGLE
1.74	250	198	38	168	34
2.43	350	210	31	175	27
3.13	450	328	36	310	35

	PEAK STRENGTH	2.0" DISPLACEMENT STRENGTH
COHESION (psf):	18	0
FRICTION ANGLE (degrees):	33	35.4
COEFFICIENT OF FRICTION:	0.65	0.71

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

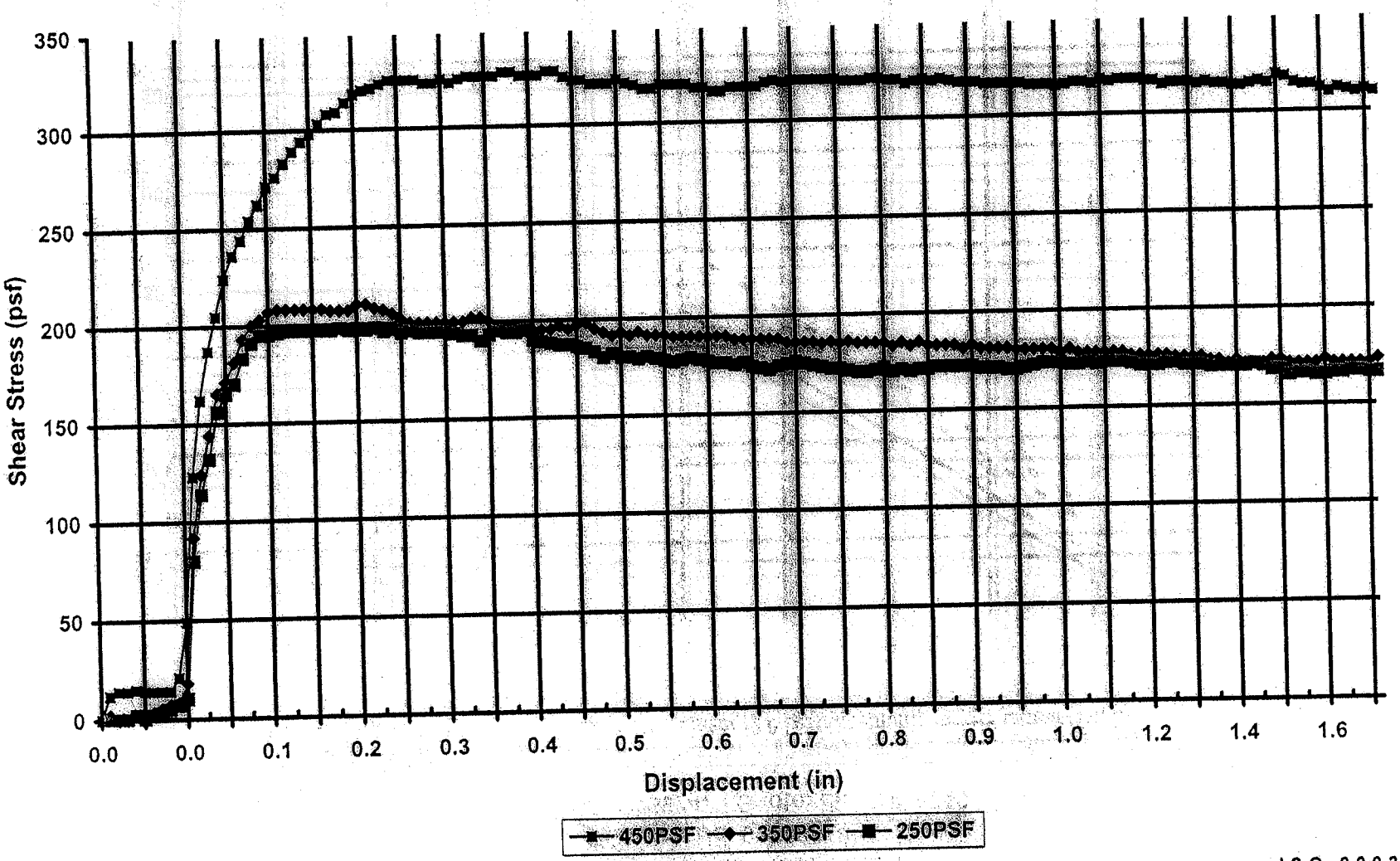
OBSERVATIONS:

No stretching, abrasion, or [illegible] was observed on the N/W Geotextile specimens at all normal loads.

ISO 9002

Precision Geosynthetic Laboratories

Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010208_4
Soil CLI-FC, C#69747/ Geotextile, C#69745



Precision Geosynthetic Laboratories

ISO 9002

Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010208_4
Soil CLI-FC, C#69747 / Geotextile, C#69745

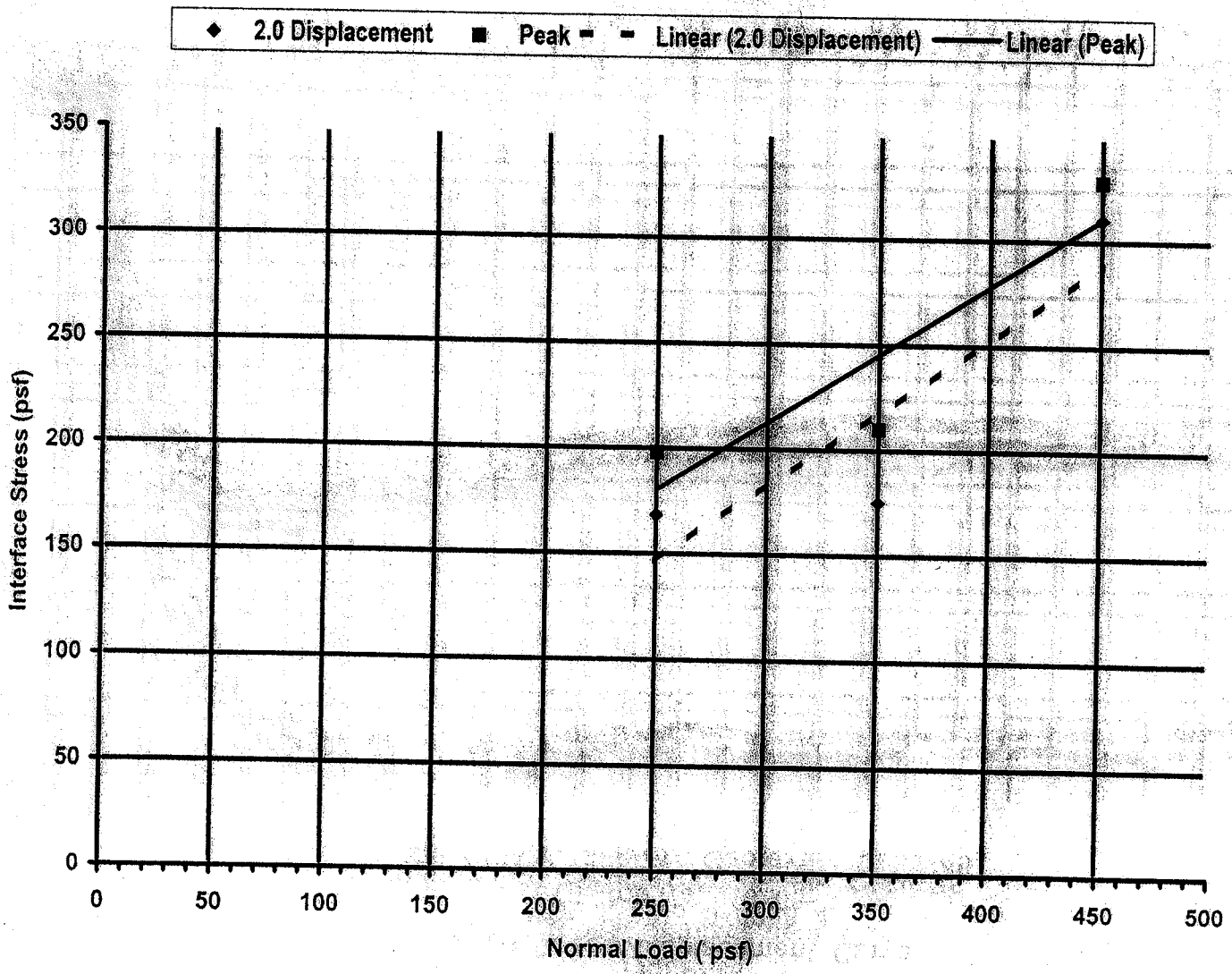


TABLE 2.

CLIENT: PDC TECHNICAL SERVICES

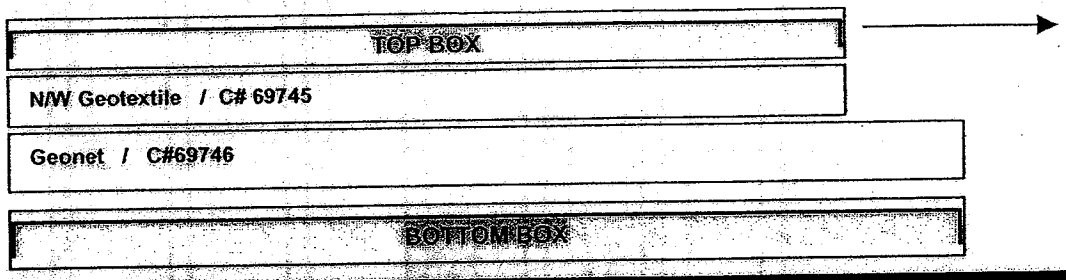
PROJECT: Clinton Landfill Exp

INTERFACE SHEAR TEST RESULT (ASTM D5321)

(PGL Job No. 010208)

QC'd by: _____
March 30, 2001

TEST CONFIGURATION #2



TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimens were cut to 20" x 20"

CONSOLIDATION:

1. Each set of specimen was consolidated under flooded condition for 24hours at normal load before shearing.

SHEAR TEST:

Shear test was conducted at 0.2 in/ min.

2. Sheared at minimum 2.0 inch horizontal displacement.
3. The test specimens were sheared in flooded condition.
4. Tests were performed in general accordance with ASTM D5321 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS		PEAK STRENGTH		2.0" DISPLACEMENT STRENGTH	
(psi)	(psf)	SHEAR STRESS (psf)	PEAK SECANT ANGLE	SHEAR STRESS (psf)	2.0" DISPLACEMENT SECANT ANGLE
1.74	250	181	36	149	31
2.43	350	216	32	171	26
3.13	450	286	32	226	27

COHESION (psf):	34	41
FRICTION ANGLE (degrees):	27.7	21.1
COEFFICIENT OF FRICTION:	0.53	0.39

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

OBSERVATIONS:

Failure occurred along the interface **See Figure #1 and #2**

No stretching, abrasion, or [illegible] observed on either the geonet or the N/W Geotextile specimens at all normal loads.

ISO 9002

ANSI-RAB ACCREDITED QMS

FRED JOHNSON REGISTRARS, INC.

Precision Geosynthetic Laboratories

Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010208_2
GEOTEXTILE , C#69745 / GEONET, C#69746

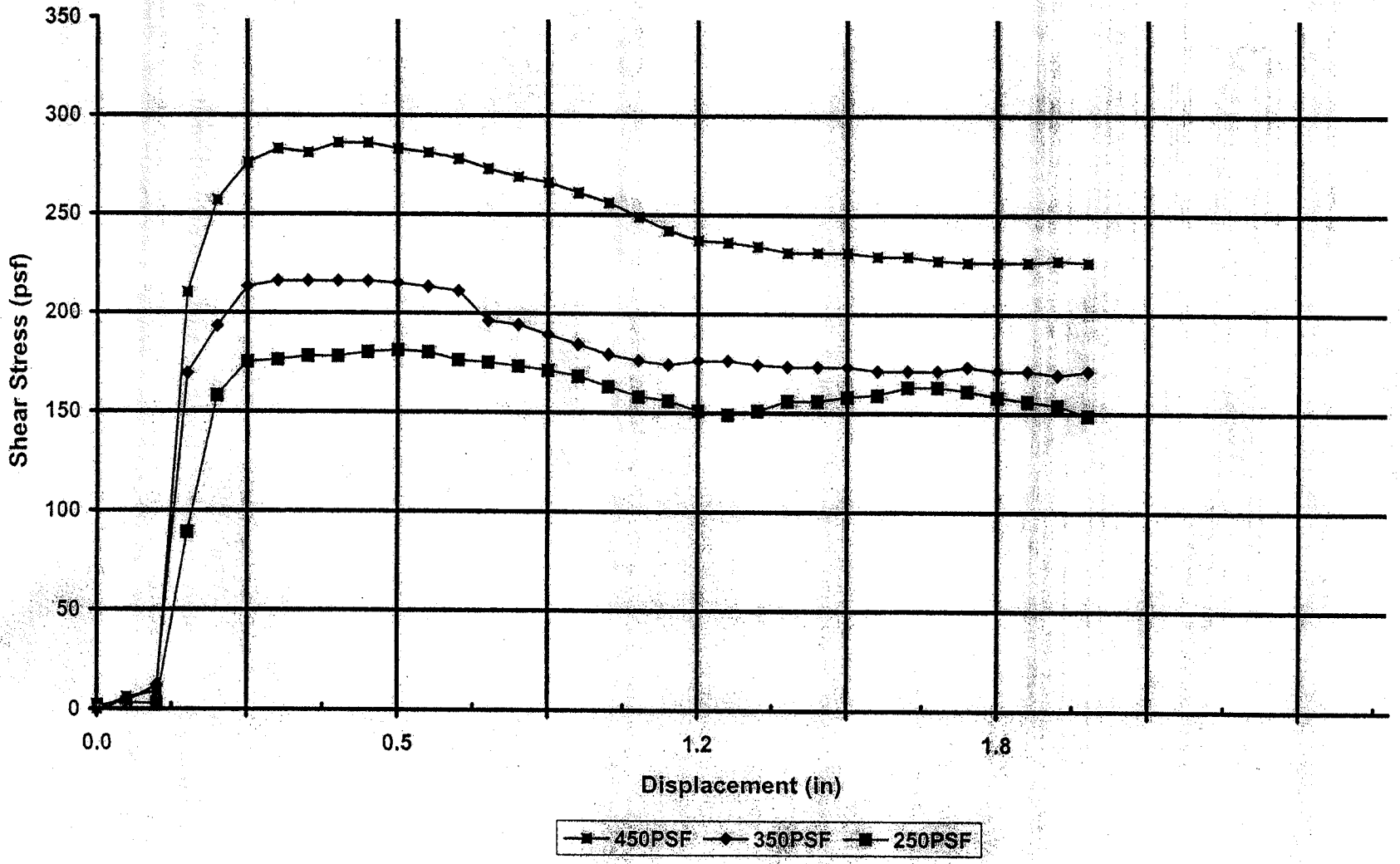


Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010208_2
GEOTEXTILE, C#69745 / GEONET, C#69746

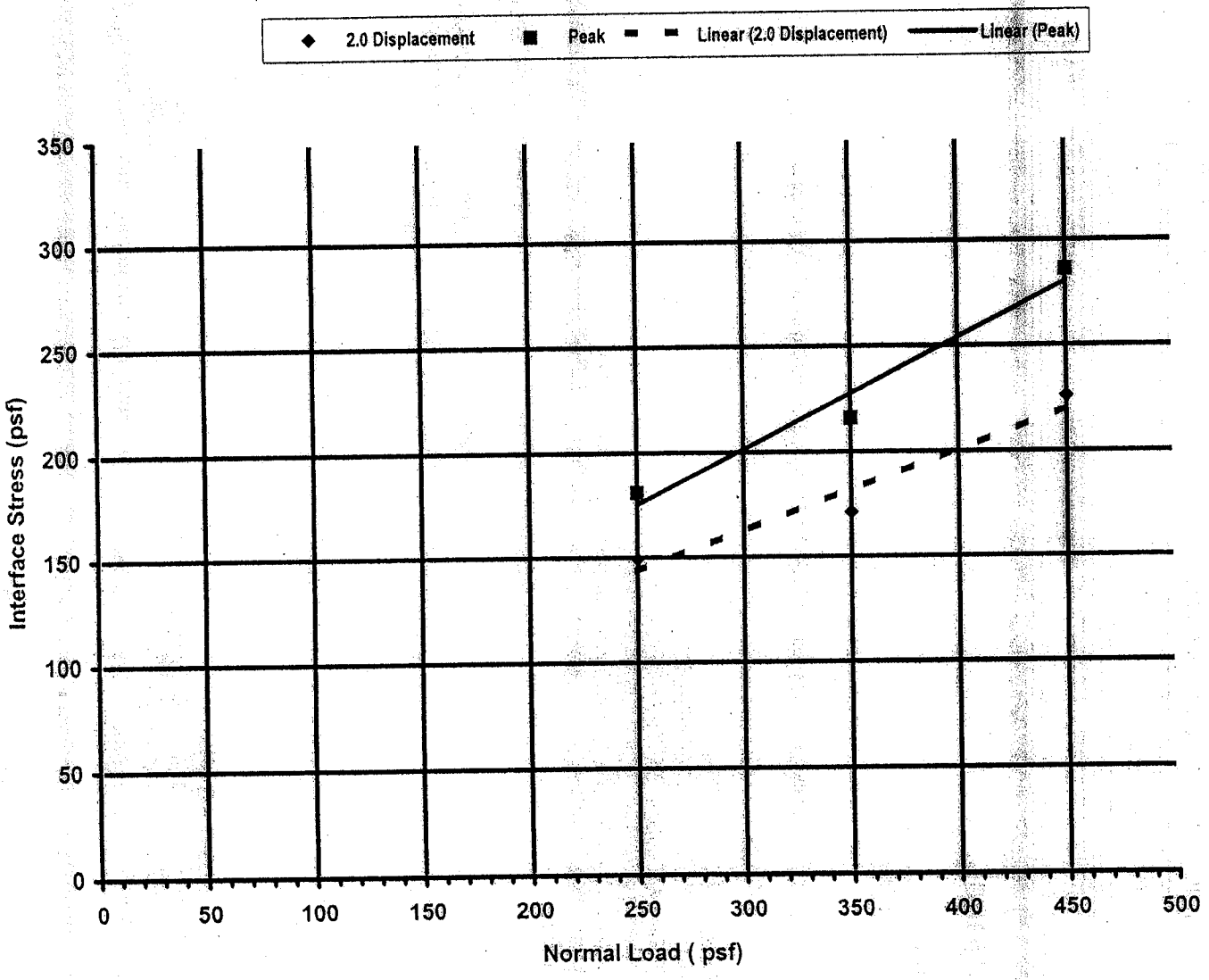


TABLE 1.

CLIENT: PDC TECHNICAL SERVICES

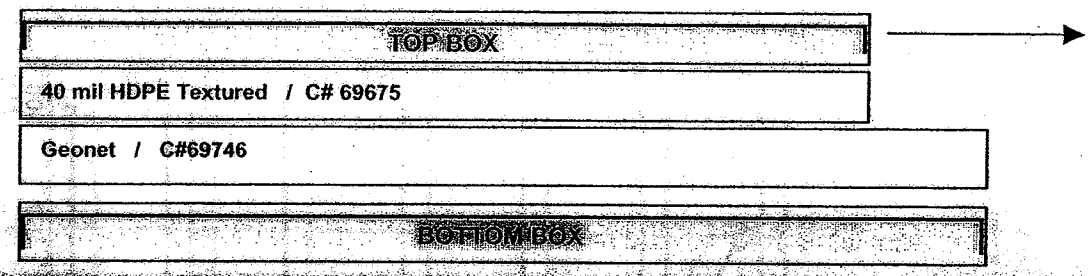
PROJECT: Clinton Landfill Exp

INTERFACE SHEAR TEST RESULT (ASTM D5321)

(PGL Job No. 010208)

QC'd by: _____
March 28, 2001

TEST CONFIGURATION #1



TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimens were cut to 20" x 20"

CONSOLIDATION:

1. Each set of specimen was consolidated under flooded condition for 24hours at normal load before shearing.

SHEAR TEST:

1. Shear test was conducted at 0.2 in/ min.
2. Sheared at minimum 2.0inch horizontal displacement.
3. The test specimens were sheared in flooded condition.
4. Tests were performed in general accordance with ASTM D5321 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS		PEAK STRENGTH		2.0" DISPLACEMENT STRENGTH	
(psi)	(psf)	SHEAR STRESS (psf)	PEAK SECANT ANGLE	SHEAR STRESS (psf)	2.0" DISPLACEMENT SECANT ANGLE
1.74	250	124	26	119	25
2.43	350	215	32	208	31
3.13	450	240	28	194	23

COHESION (psf):	**0**	**42**
FRICTION ANGLE (degrees):	**30**	**20.6**
COEFFICIENT OF FRICTION:	**0.58**	**0.38**

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

OBSERVATIONS:

Failure occurred along the interface. **See Figure #1 and #2**

No stretching, abrasion, or [illegible]s observed on either the geonet or the HDPE specimens at all normal loads.

Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010208_1

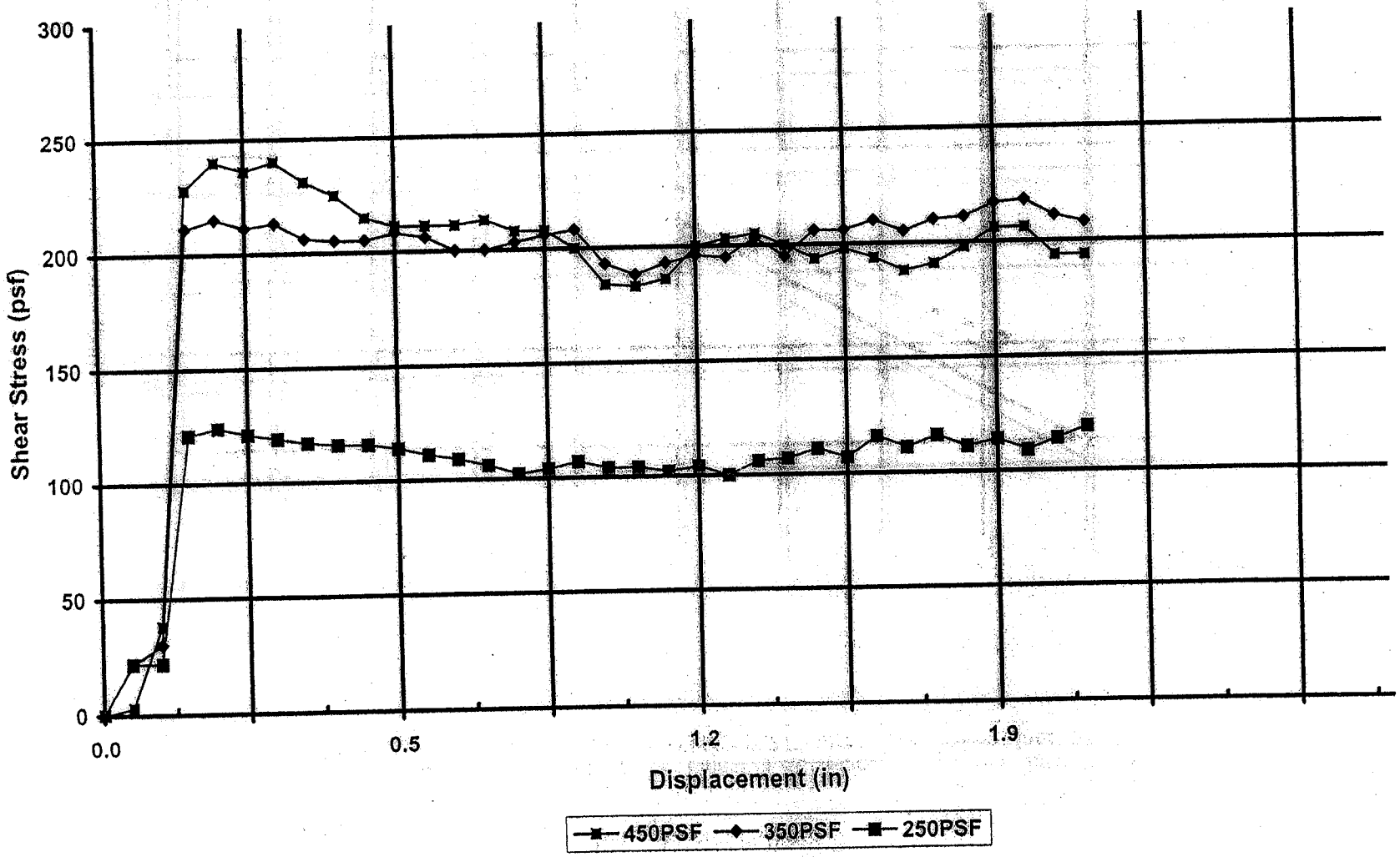


Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010208_1

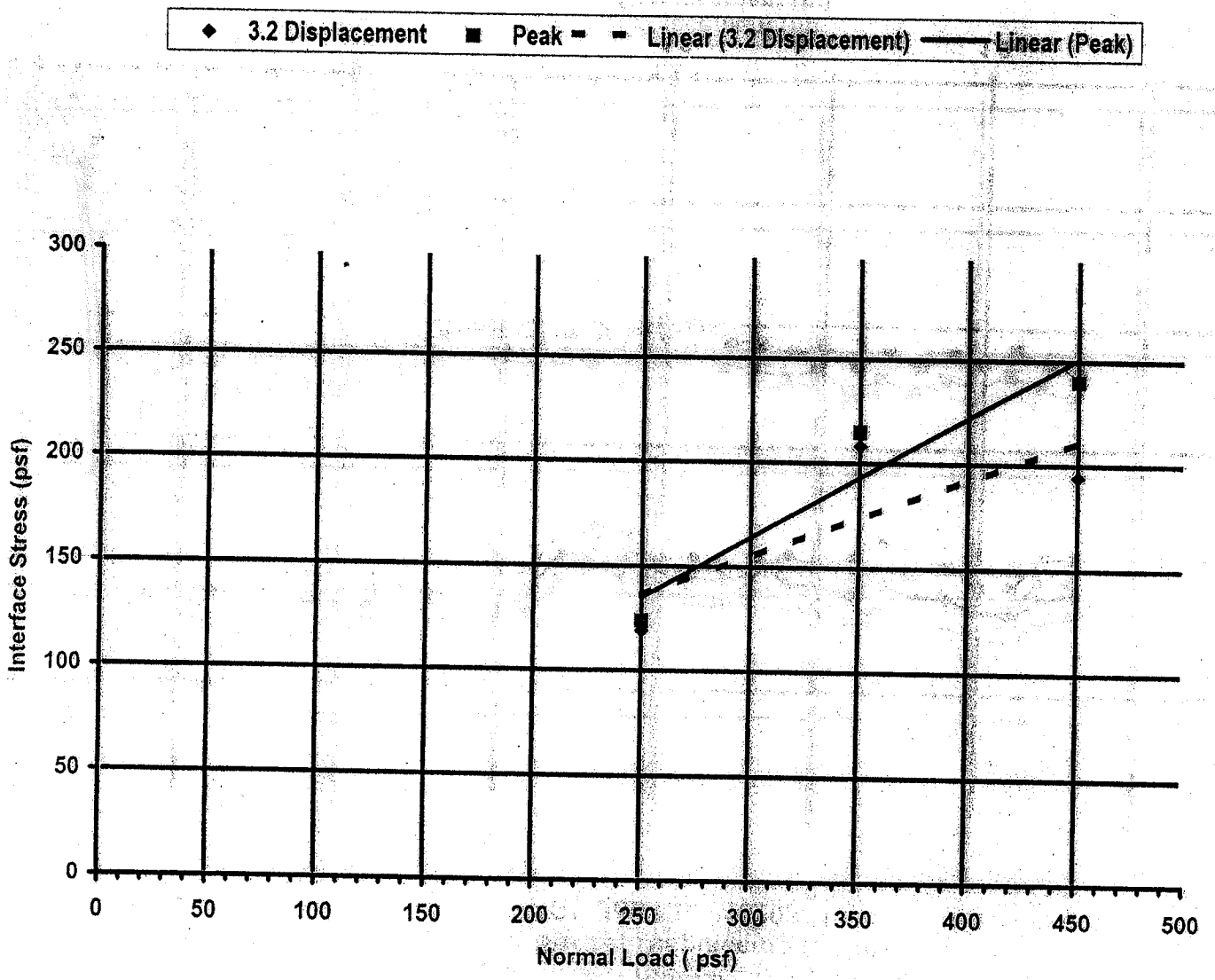


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TABLE 5.

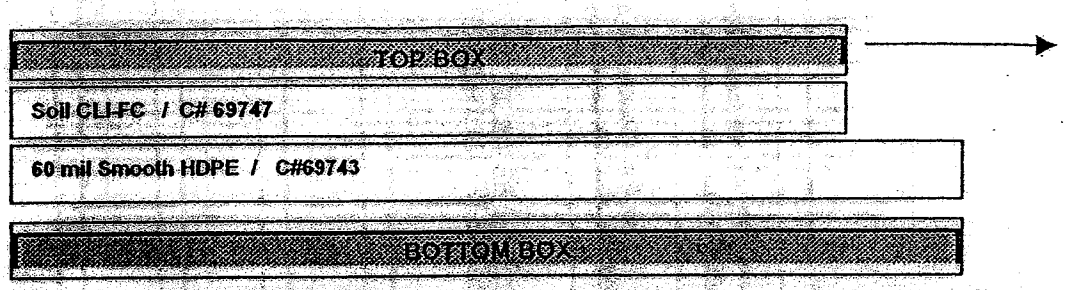
CLIENT: PDC TECHNICAL SERVICES
PROJECT: Clinton Landfill Exp

INTERFACE SHEAR TEST RESULT (ASTM D5321)
(PGL Job No. 010208)

QC'd by: _____
April 20, 2001

Final Cover – Final Cover Soil vs. Smooth HDPE

TEST CONFIGURATION #5



TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimens were cut to 20" x 20"
2. Soil CLI-FC was compacted to 115 pcf dry density and 15 .12% moisture content.

CONSOLIDATION:

1. Each set of specimen was consolidated under flooded condition for 24hours at normal load before shearing.

EAR TEST:

Initially, shear test was conducted at 0.001 in/ min, and the rate was increased to 0.01in/min at 1.30 in, 1.342 in, and 1.041 in displacement, at normal load of 250 psf, 350 psf, and 450 psf respectively.

2. Sheared at minimum 2.0 inch horizontal displacement.
3. The test specimens were sheared in flooded condition.
4. The final moisture content of the soil CLI-FC was 17.05 %, 15.9 %, 15.5 % at normal loads of 250 psf, 350 psf, and 450 psf respectively.
5. Tests were performed in general accordance with ASTM D5321
   using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS (psi)	NORMAL STRESS (psf)	PEAK STRENGTH: SHEAR STRESS (psf)	PEAK STRENGTH: PEAK SECANT ANGLE	2.0" DISPLACEMENT STRENGTH: SHEAR STRESS (psf)	2.0" DISPLACEMENT STRENGTH: 2.0" DISPLACEMENT SECANT ANGLE
1.74	250	218	41	206	39
2.43	350	278	38	262	37
3.13	450	339	37	316	35
	COHESION (psf):	67		69	
	FRICTION ANGLE (degrees):	31		28.8	
	COEFFICIENT OF FRICTION:	0.61		0.55	

NOTE:The friction angles and cohesion results given here are based on mathematically determined best fit line.

OBSERVATIONS:

No stretching/[illegible]g was observed on the smooth HDPE at all normal loads.

Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010208_5
Soil CLI-FC, C#69747 / 60 mil Smooth HDPE, C#69743

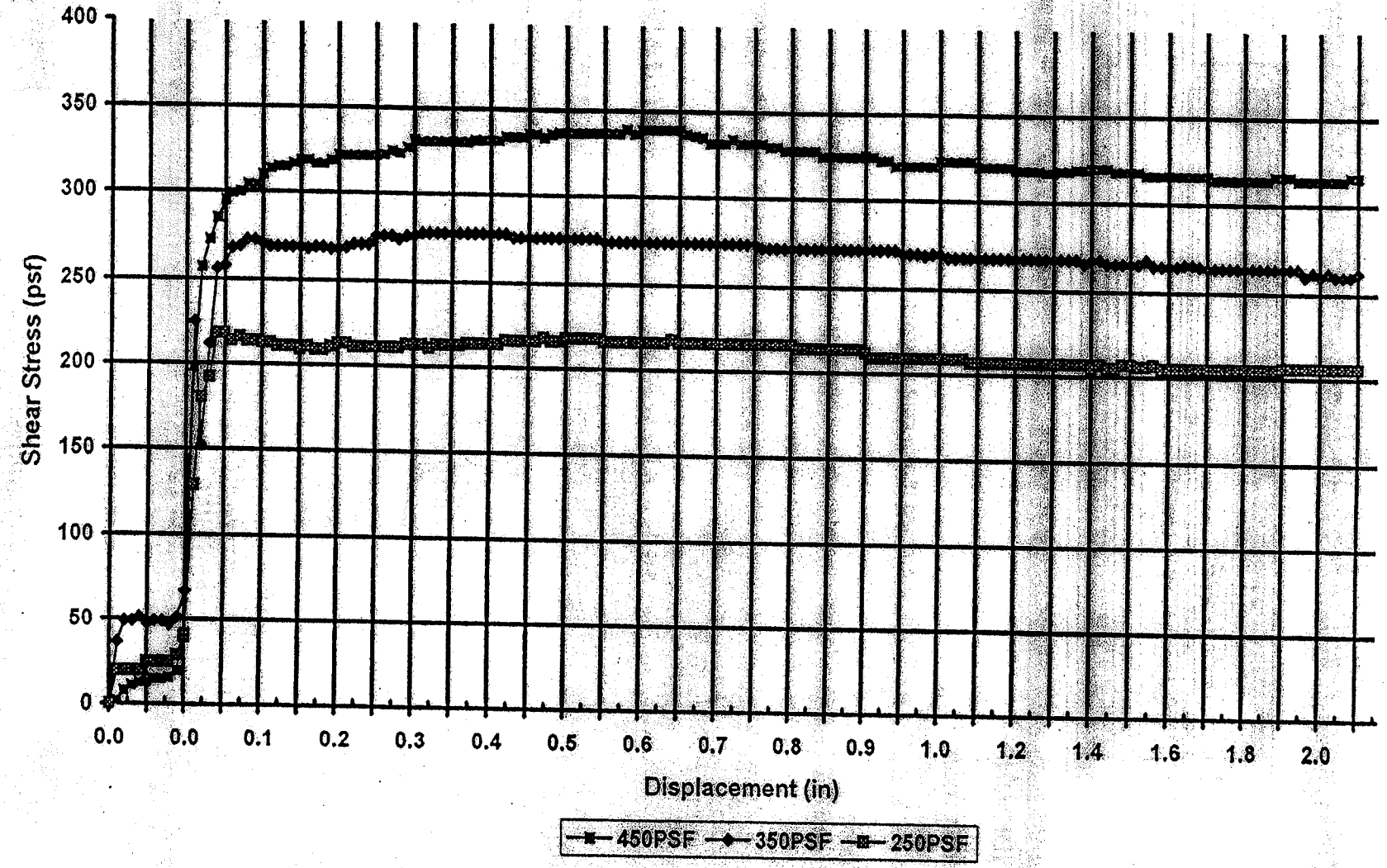
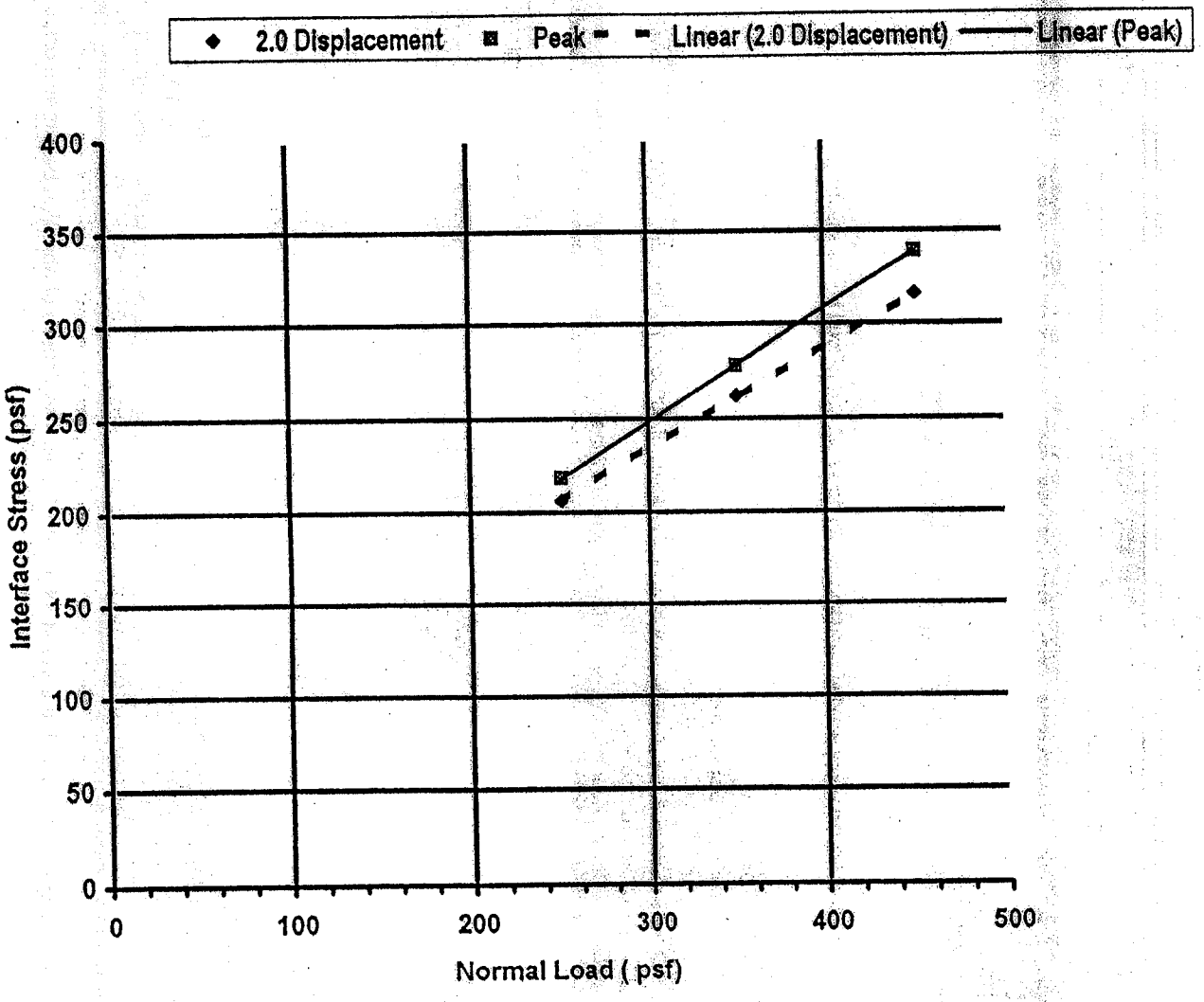


Figure 2
Normal Stress/ Interface Stress
PGL Job No. 010208_5
Soil CLI-FC, C# 69747 / 60 mil smooth HDPE , C#69743



ISO 9002

TABLE 2.

CLIENT: PEORIA DISPOSAL COMPANY

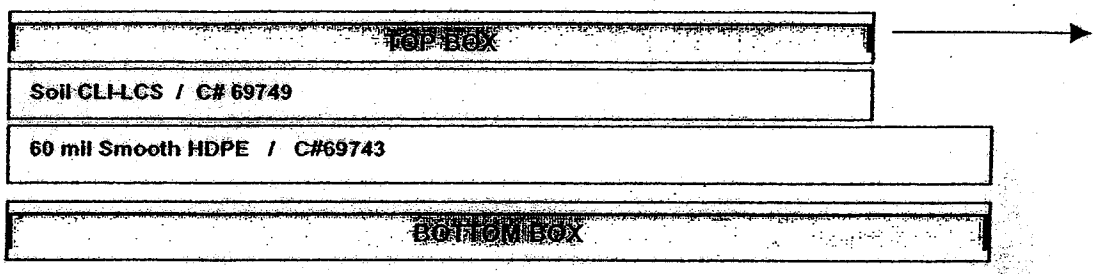
PROJECT: Clinton Landfill #2

INTERFACE SHEAR TEST RESULT (ASTM D5321)

(PGL Job No. 010222)

QC'd by: _____
April 3, 2000

TEST CONFIGURATION #2



TEST CONDITIONS:

SAMPLE PREPARATION:

- Specimens were cut to 20" x 20"
- Soil CLI-LCS was tamped into the top box at 110pcf dry density at 5.3% moisture content.

CONSOLIDATION:

- Each set of specimen was consolidated under flooded condition for 24 hours at normal load before shearing.

SHEAR TEST:

- Shear test was conducted at 0.04 in/ min.
- Sheared at minimum 2.0 inch horizontal displacement.
- The test specimens were sheared in flooded condition.
- Final moisture content of the soil were 7.8 %, 7.63 %, 6.9 % at normal loads of 5000psf, 7500psf, and 10000psf respectively.
- Tests were performed in general accordance with ASTM D5321 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS		PEAK STRENGTH		2.0" DISPLACEMENT STRENGTH	
		SHEAR STRESS	PEAK SECANT ANGLE	SHEAR STRESS	2.0" DISPLACEMENT SECANT ANGLE
(psi)	(psf)	(psf)		(psf)	
34.7	5000	2427	26	1940	21
52.1	7500	3164	23	2134	16
69.5	10000	4300	23	2860	16

COHESION (psf):	487	931
FRICTION ANGLE (degrees):	20.5	10.4
COEFFICIENT OF FRICTION:	0.37	0.18

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

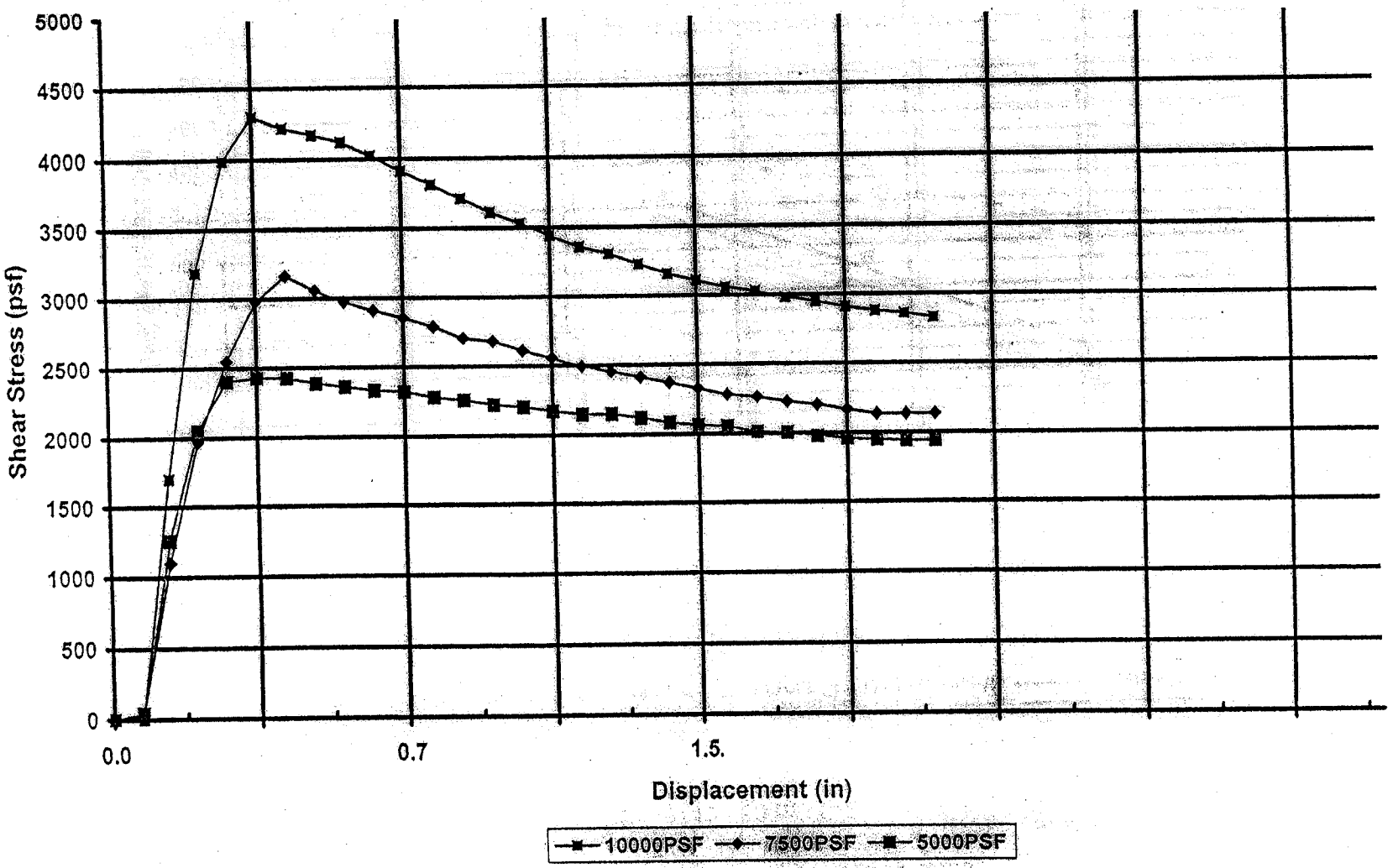
OBSERVATIONS:

The smooth HDPE specimens were abraded by the sand at all normal loads. The degree of abrasion becomes more severe as the ad increases.

Precision Geosynthetic Laboratories

ISO 9002

Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010222_2
Soil CLI-LCS, C#69749 / 60 mil Smooth HDPE, C#69743



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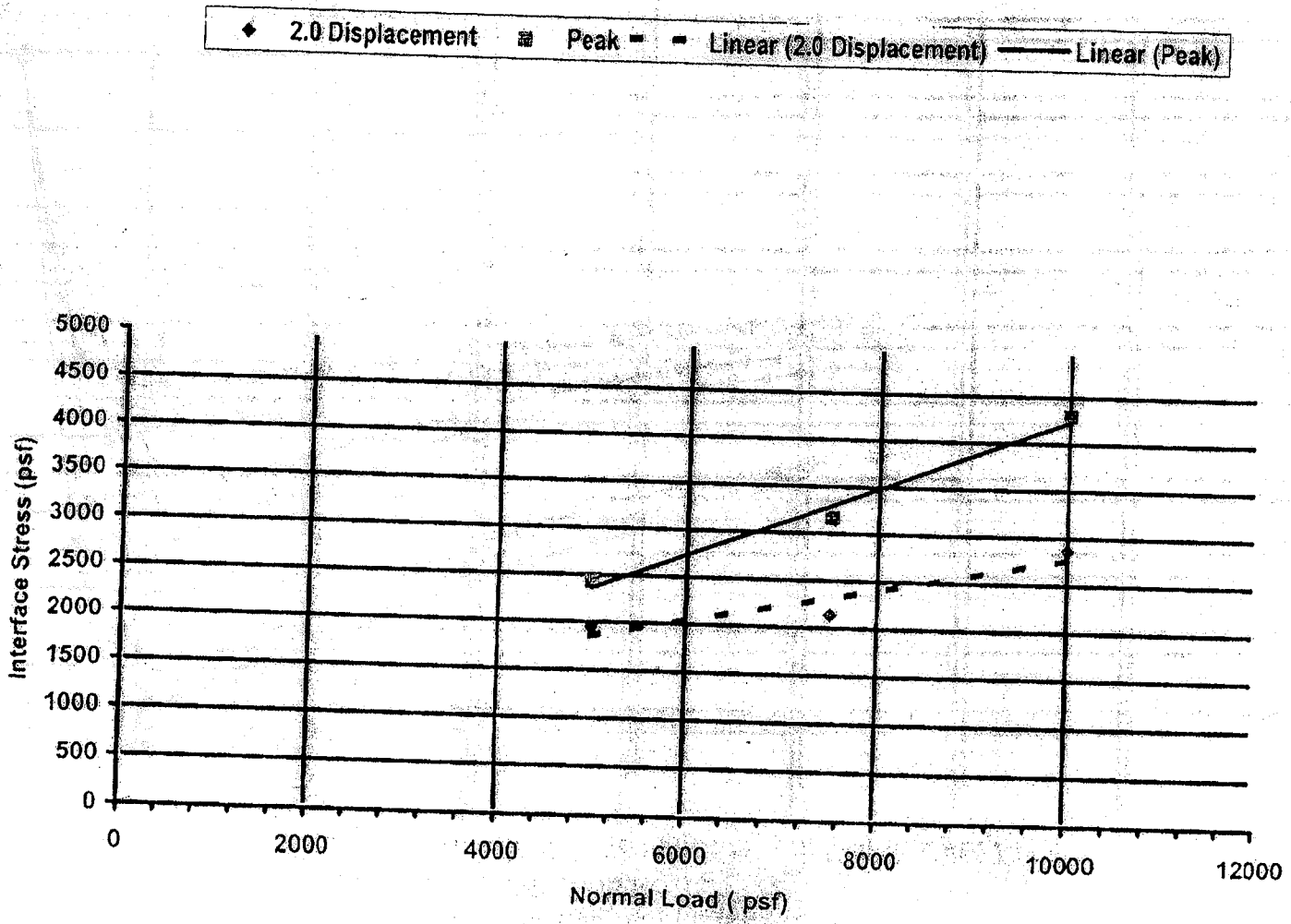
ISO 9002

Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010222_2
Soil CLI-~~EC~~, C#69749 / 60 mil Smooth HDPE, C#69743
LCS



Precision Geosynth Laboratories

ISO 9002

TABLE 1

CLIENT: Peoria Disposal Company

PROJECT: Pike County Landfill

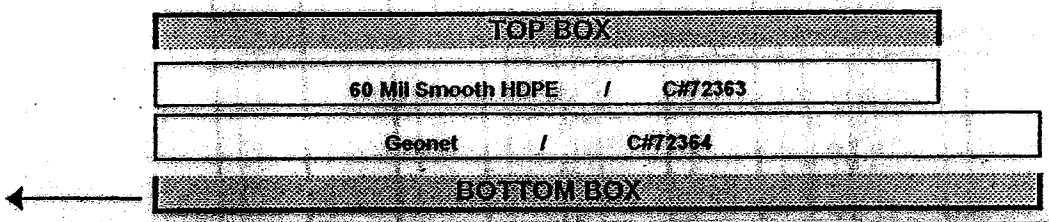
INTERFACE SHEAR TEST RESULT (ASTM D 5321)

PGL Job No. G010879

QC'd by: _____ Sept. 13, 2001

Sidewall Liner Prior to Waste Placement : Geomembrane vs Geonet

TEST CONFIGURATION # 1



TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimen were cut along machine direction to 14" x 18".

CONSOLIDATION:

1. Each set of specimen was consolidated under flooded condition for 24hrs @ normal load before shearing.

SHEAR TEST:

1. Shear test was conducted @ 0.2 in/ min.
2. Sheared @ minimum 3.0 inch horizontal displacement.
3. The test specimens were sheared in flooded condition.
4. Test were performed in general accordance with ASTM D5321-92 using Brainard-Kilman LG-112 Direct Shear machine with effective area of 12 in X 12 in.

TEST RESULTS:

Normal Stress (psi)	Normal Stress (psf)	PEAK STRENGTH SHEAR STRESS (psf)	PEAK STRENGTH PEAK SECANT ANGLE (degrees)	3.0 " DISPLACEMENT STRENGTH SHEAR STRESS (psf)	3.0 " DISPLACEMENT SECANT ANGLE (degrees)
0.69	100	96	44	81	39
1.91	275	136	26	125	24
3.13	450	160	20	135	17

COHESION (psf):	80.38	71.238
COEFFICIENT OF FRICTION:	0.18	0.15
FRICTION ANGLE(degrees):	10.4	8.8

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

OBSERVATIONS:

See Figure #1 and #2

No stretching or tearing was observed with the geonet and the smooth HDPE specimens.

Precision Geosynthetic Laboratories

ISO 9002

Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010879_1
60 mil Smooth HDPE, C#72363 / Geonet, C#72364

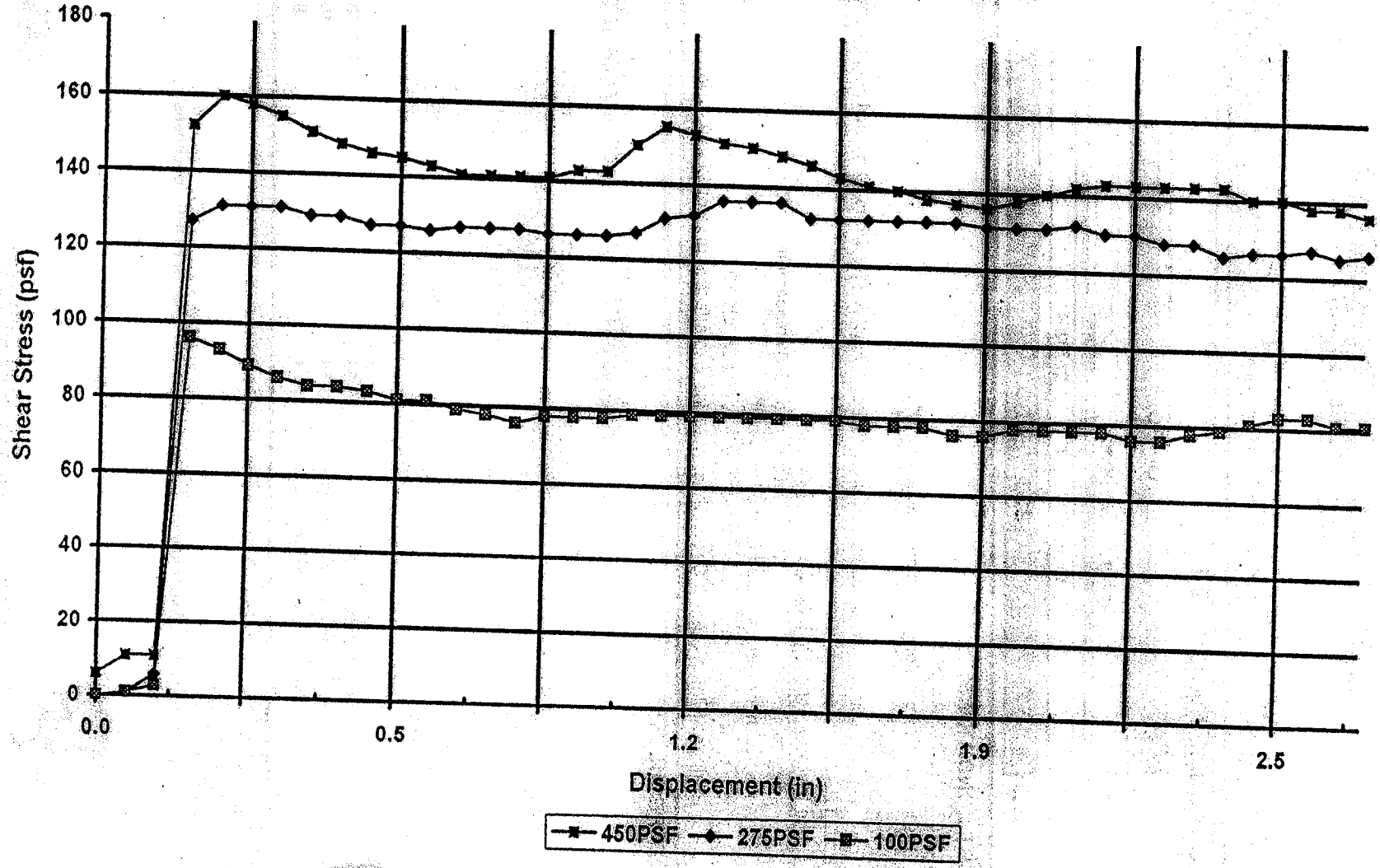


Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010879_1
60 mil Smooth HDPE, C#72363 / Geonet, C#72364

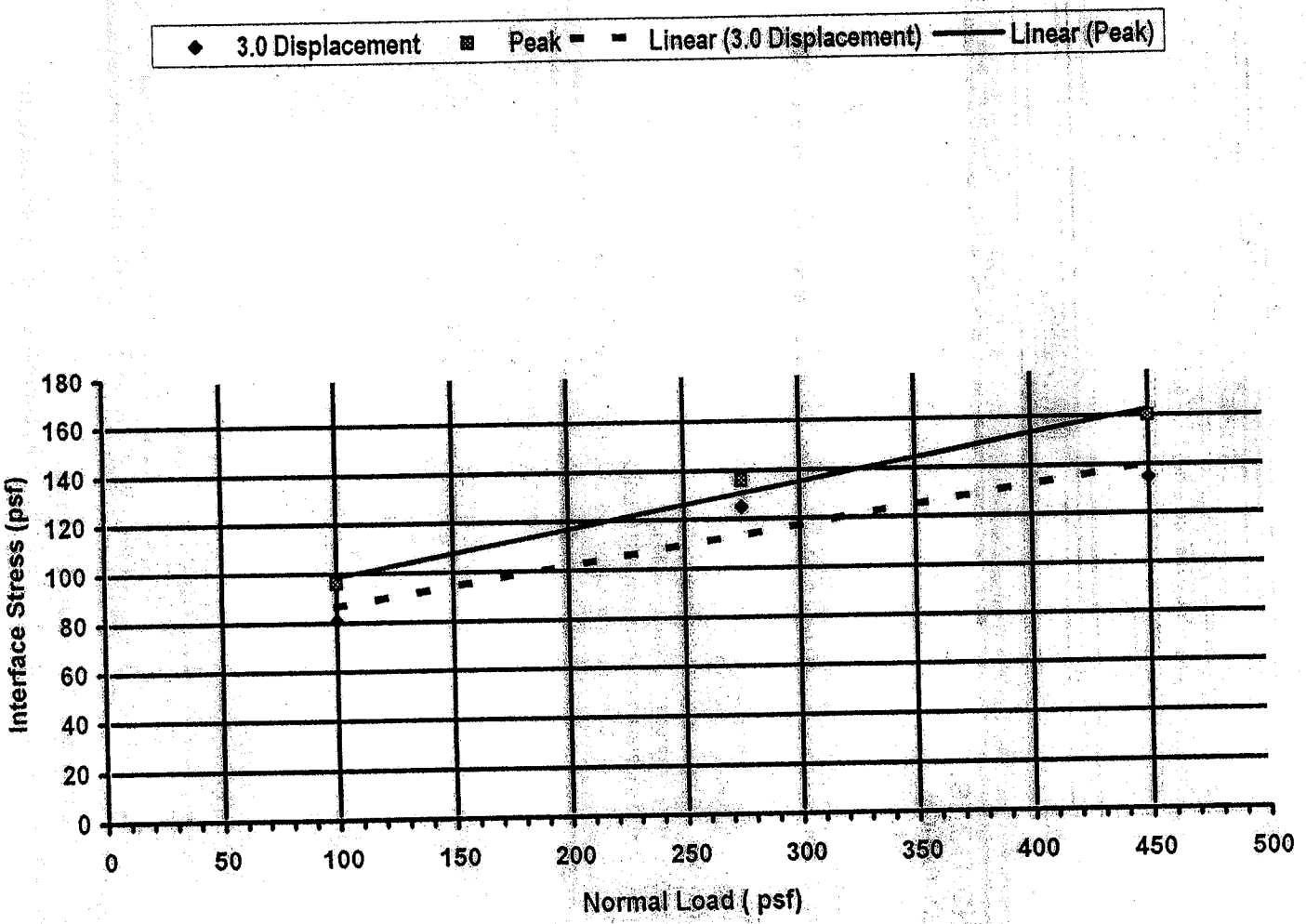


TABLE 5.

CLIENT: PEORIA DISPOSAL COMPANY

PROJECT: Clinton Landfill #2

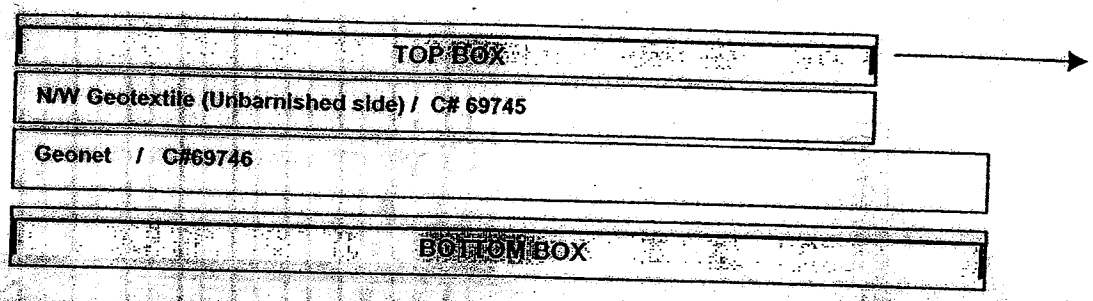
INTERFACE SHEAR TEST RESULT (ASTM D5321)

(PGL Job No. 010222)

Sidewall Liner Following Waste Placements NW Geotextile vs. Geonet

QC'd by: [signature]
April 6, 2000

TEST CONFIGURATION #5



TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimens were cut to 20" x 20"

CONSOLIDATION:

1. Each set of specimen was consolidated under flooded condition for 24 hours at normal load before shearing.

SHEAR TEST:

1. Shear test was conducted at 0.2 in/ min.
2. Sheared at minimum 2.0 inch horizontal displacement.
3. The test specimens were sheared in flooded condition.
4. Tests were performed in general accordance with ASTM D5321 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS (psi)	NORMAL STRESS (psf)	PEAK STRENGTH: SHEAR STRESS (psf)	PEAK STRENGTH: PEAK SECANT ANGLE	2.0" DISPLACEMENT STRENGTH: SHEAR STRESS (psf)	2.0" DISPLACEMENT STRENGTH: 2.0" DISPLACEMENT SECANT ANGLE
17.4	2500	719	16	610	14
34.7	5000	1351	15	1183	13
55.6	8000	2600	18	1975	14
	COHESION (psf):	0		0	
	FRICTION ANGLE (degrees):	19		14	
	COEFFICIENT OF FRICTION:	0.34		0.25	

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

OBSERVATIONS:

Failure occurred along the interface. See Figure #1 and #2

No stretching, abrasion, or tearing was observed on either the geotextile or the geonet specimens.

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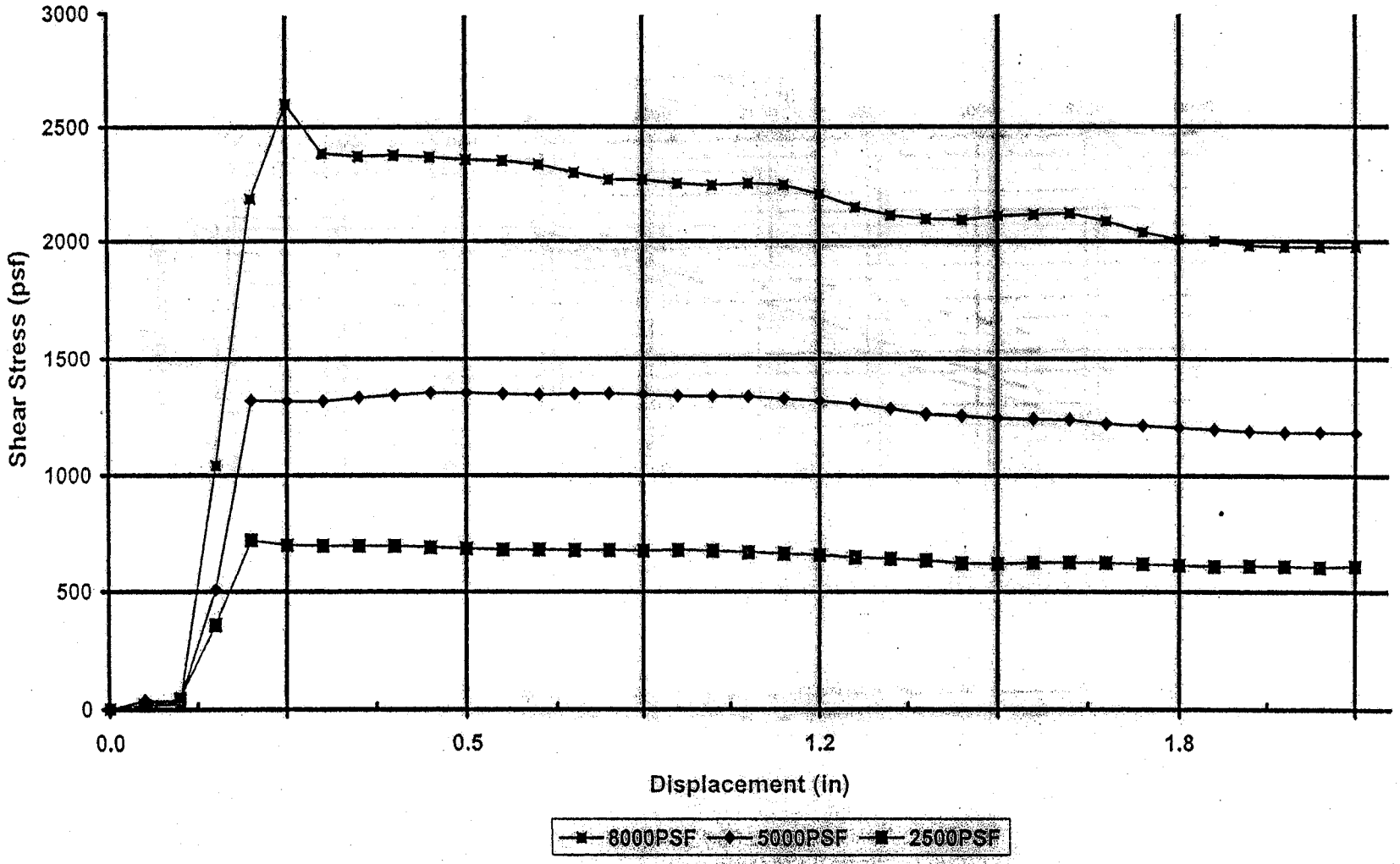
ISO 9002

Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010222_5
Geotextile, C#69745 / Geonet, C#69746



Precision Geosynthetic Laboratories

ISO 9002

Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010222_5
Geotextile, C#69745/ Geonet, C#69746

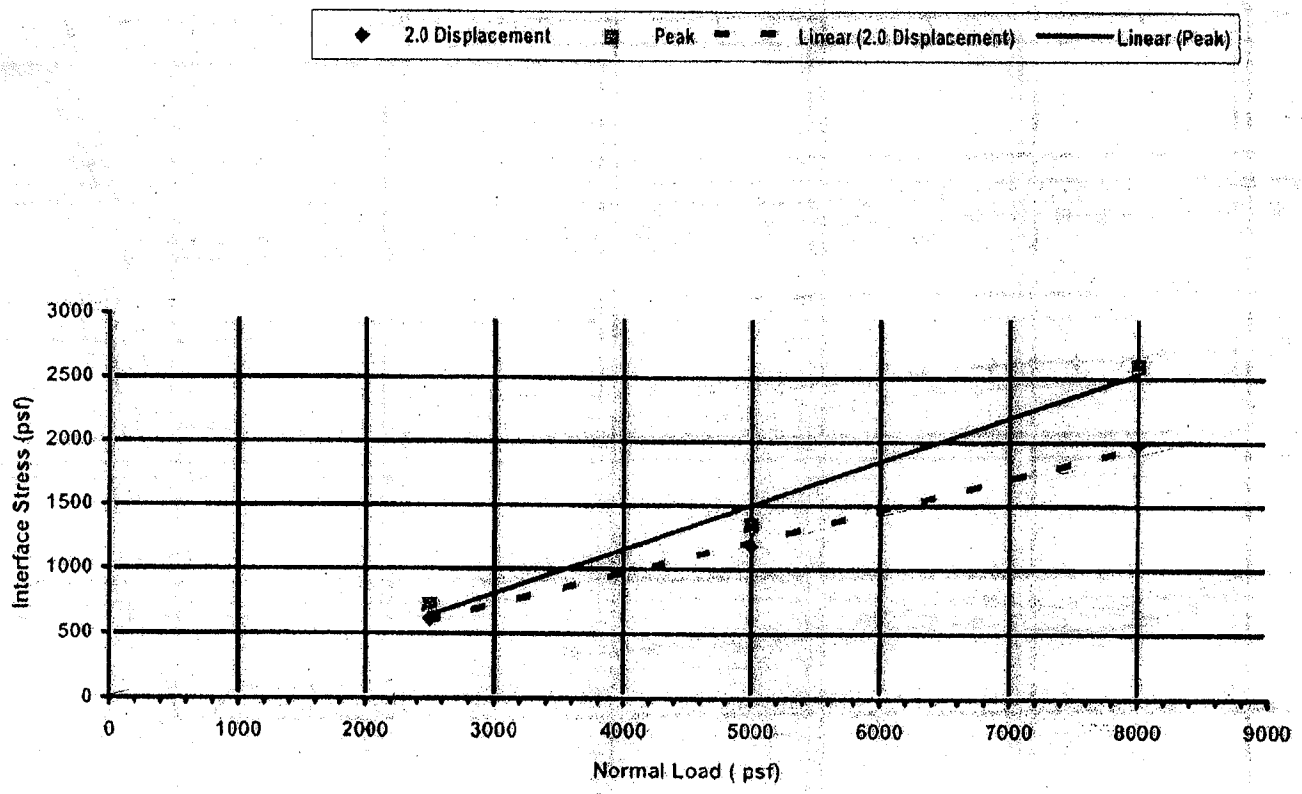


TABLE 2

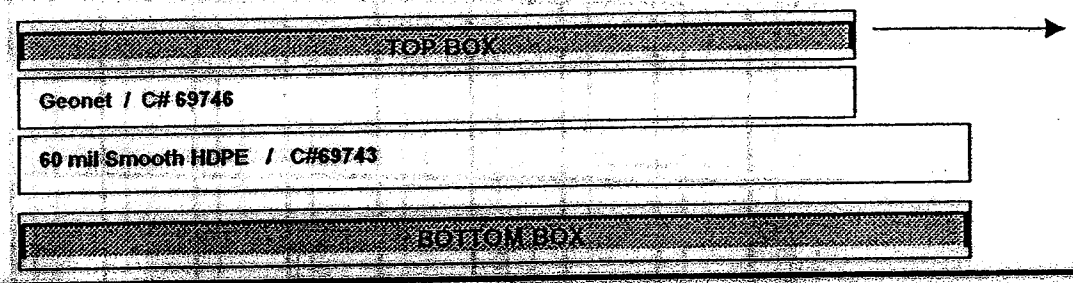
CLIENT: PEORIA DISPOSAL COMPANY
PROJECT: CLINTON LF - EXPANSION

INTERFACE SHEAR TEST RESULT (ASTM D5321)
(PGL Job No. 010349)

dewall Liner Following Waste Placement: Geonet vs. Smooth HDPE

QC'd by: [signature]
May 15, 2000

TEST CONFIGURATION #2



TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimens were cut along machine direction to 20" x 20"

CONSOLIDATION:

1. Each set of specimen was consolidated under flooded condition for 24 hours at normal load before shearing.

SHEAR TEST:

Shear test was conducted at 0.2 in/ min.
2. Sheared at minimum 2.0 inch horizontal displacement.
3. The test specimens were sheared in flooded condition.
4. Tests were performed in general accordance with ASTM D5321 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS		PEAK STRENGTH		2.0" DISPLACEMENT STRENGTH	
(psi)	(psf)	SHEAR STRESS (psf)	PEAK SECANT ANGLE	SHEAR STRESS (psf)	2.0" DISPLACEMENT SECANT ANGLE
17.4	2500	622	14	622	14
34.7	5000	1102	12	1070	12
55.6	8000	1702	12	1683	12

COHESION (psf):	127	126
FRICTION ANGLE (degrees):	11.1	10.9
COEFFICIENT OF FRICTION:	0.20	0.19

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

OBSERVATIONS:

Failure occurred along the interface. See Figure #1 and #2
No stretching, [illegible] was observed on either the HDPE or the geonet specimens.

Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010349_2
60 mil Smooth HDPE, C#69743 / Geonet, C#69746

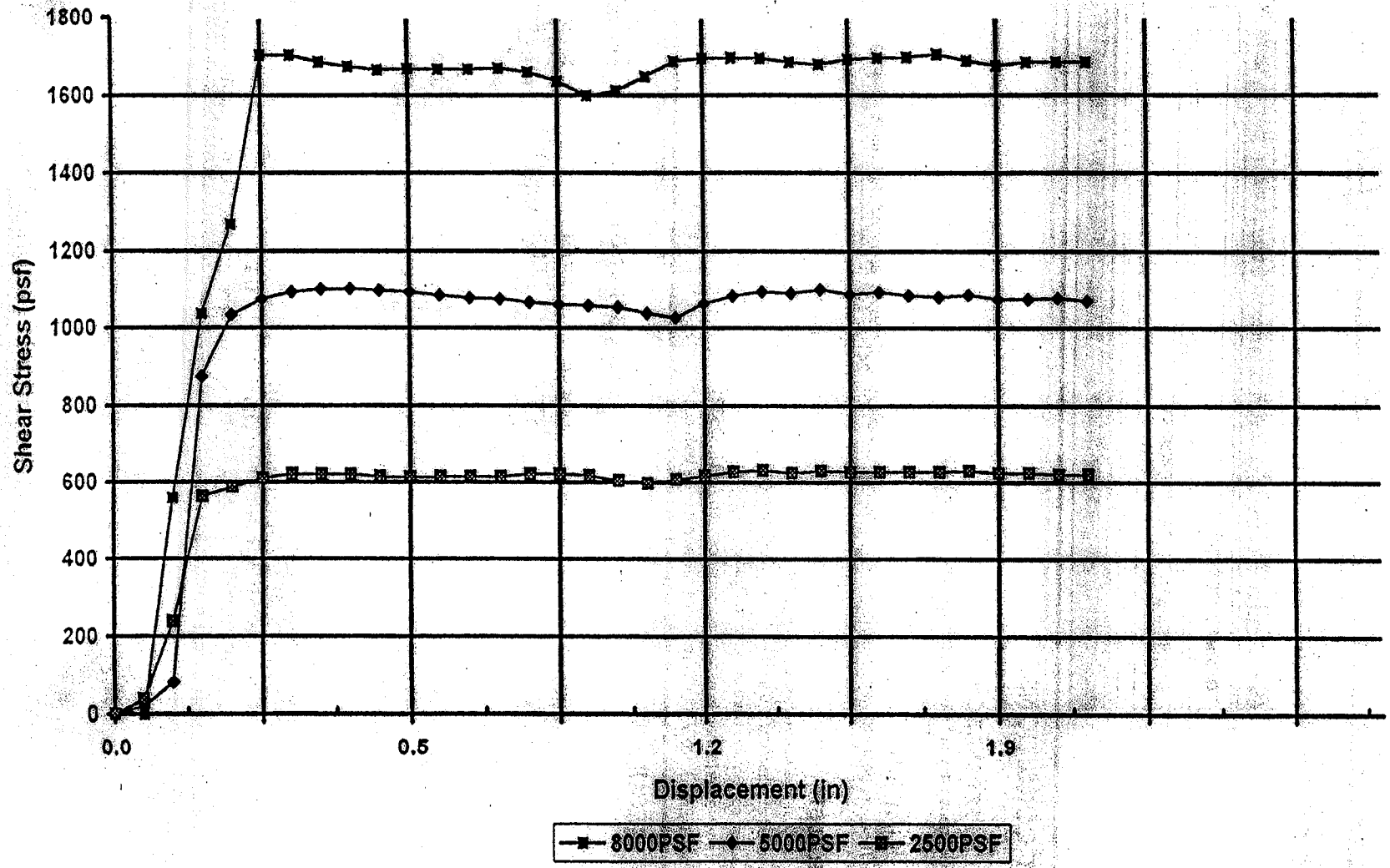


Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010349_2
60 mil Smooth HDPE, C#69743 / Geonet, C#69746

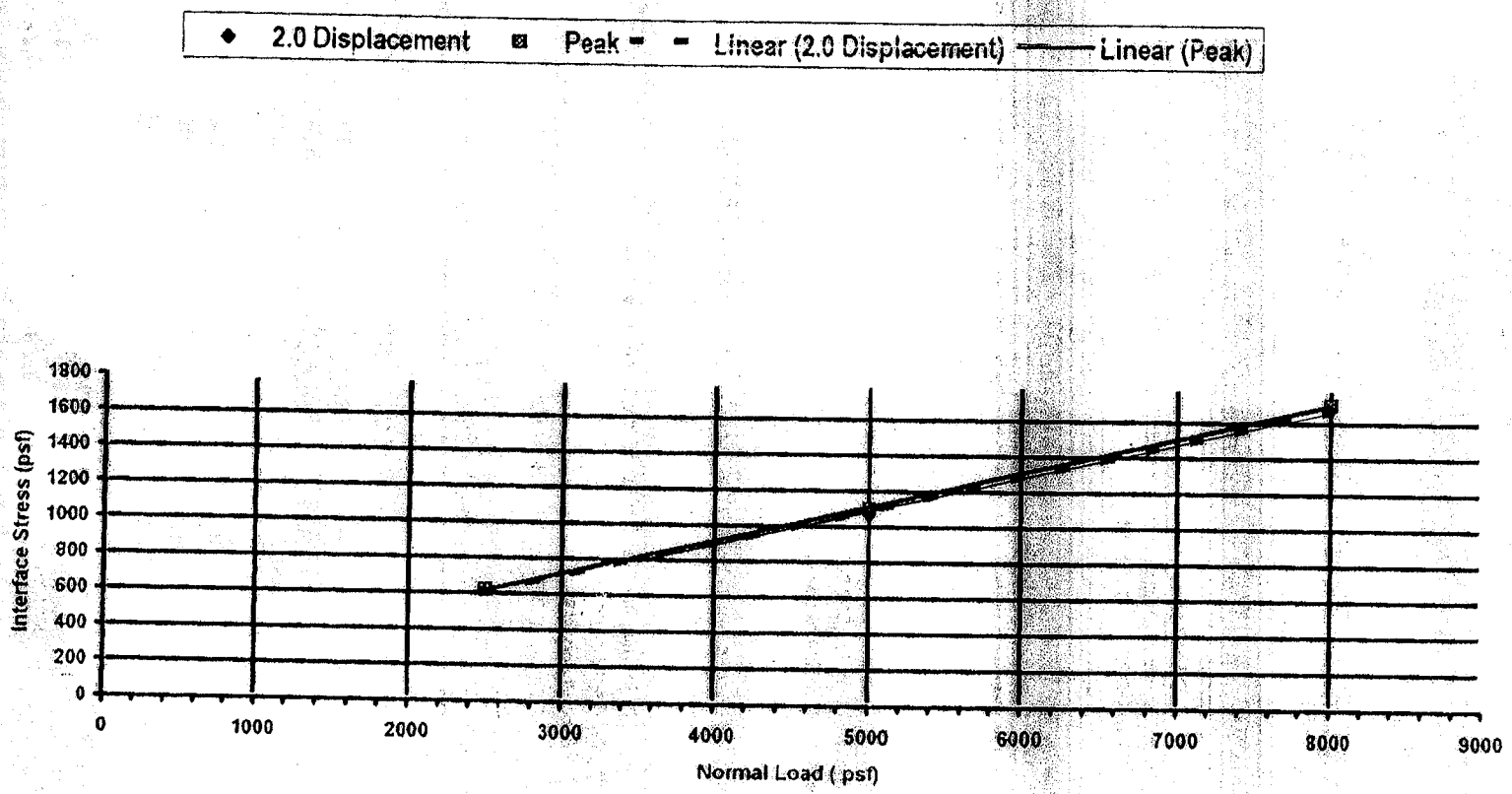


TABLE 1.

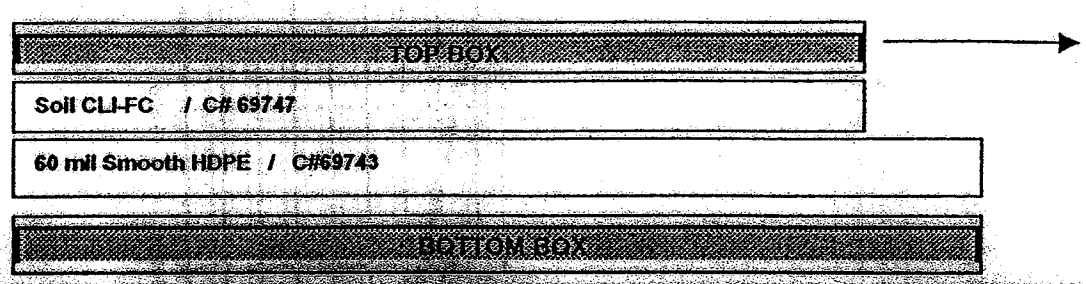
CLIENT: PEORIA DISPOSAL COMPANY
PROJECT: Clinton LF- Expansion

INTERFACE SHEAR TEST RESULT (ASTM D5321)
(PGL Job No. 010349)

ickewall Liner Following Waste Placement: Clay Liner Soil vs. Smooth HDPE

QC'd by: [signature]
May 22, 2000

TEST CONFIGURATION #1



TEST CONDITIONS:

SAMPLE PREPARATION:
1. Specimens were cut along machine direction to 20" x 20".
2. Soil was compacted to 109 pcf at 15.1 % moisture content.

CONSOLIDATION:
1. Each set of specimen was consolidated under flooded condition for 24 hours at normal load before shearing.

SHEAR TEST:
1. Initially, shear test was conducted at 0.001 in/ min, and was increased to 0.01in/min at 0.98in, 0.99 in, 0.87in displacement.
2. Sheared at minimum 2.0 inch horizontal displacement.
3. The test specimens were sheared in flooded condition.
4. Final moisture content of the soil were 17.54 %, 16.3 %, and 16.1%, at normal loads of 2500psf, 5000psf, and 8000psf respectively.
5. Tests were performed in general accordance with ASTM D5321 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

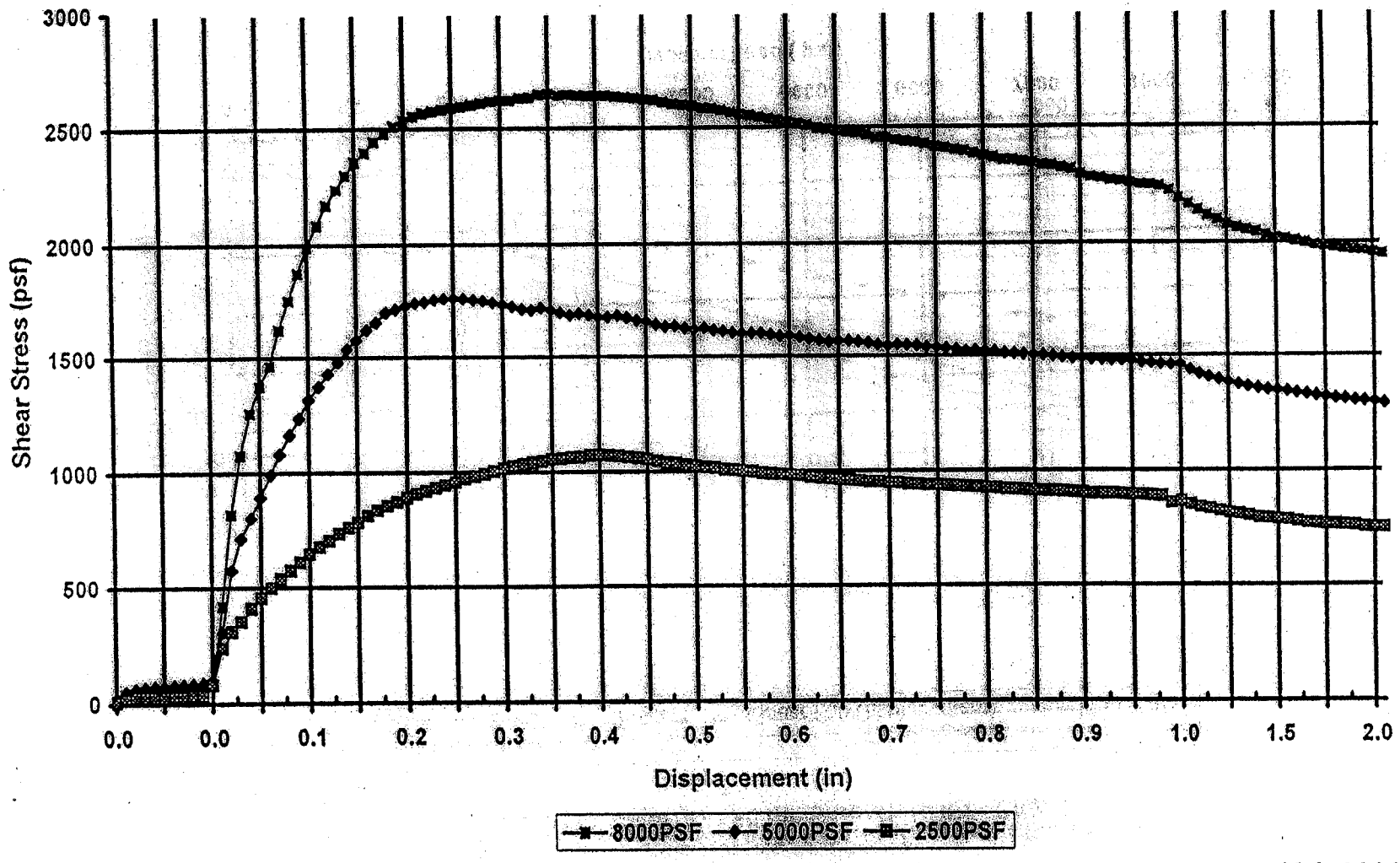
NORMAL STRESS (psi)	NORMAL STRESS (psf)	PEAK STRENGTH: SHEAR STRESS (psf)	PEAK STRENGTH: PEAK SECANT ANGLE	2.0" DISPLACEMENT STRENGTH: SHEAR STRESS (psf)	2.0" DISPLACEMENT STRENGTH: 2.0" DISPLACEMENT SECANT ANGLE
17.4	2500	1072	23	748	17
34.7	5000	1765	19	1288	14
55.6	8000	2651	18	1950	14
COHESION (psf):		345		199	
FRICTION ANGLE (degrees):		**16.0**		**12.3**	
COEFFICIENT OF FRICTION:		**0.29**		**0.22**	

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

OBSERVATIONS:

Failure occurred at the interface. See Figure #1 and #2
No stretching, o[illegible] was observed on the smooth HDPE specimens.

Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010349_1
Soil CLI-FC, C#69747 / 60 mil Smooth, C#69743



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ISO 9002

Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010349_1
Soil CLI-FC, C#69747 / 60 mil Smooth HDPE, C#69743

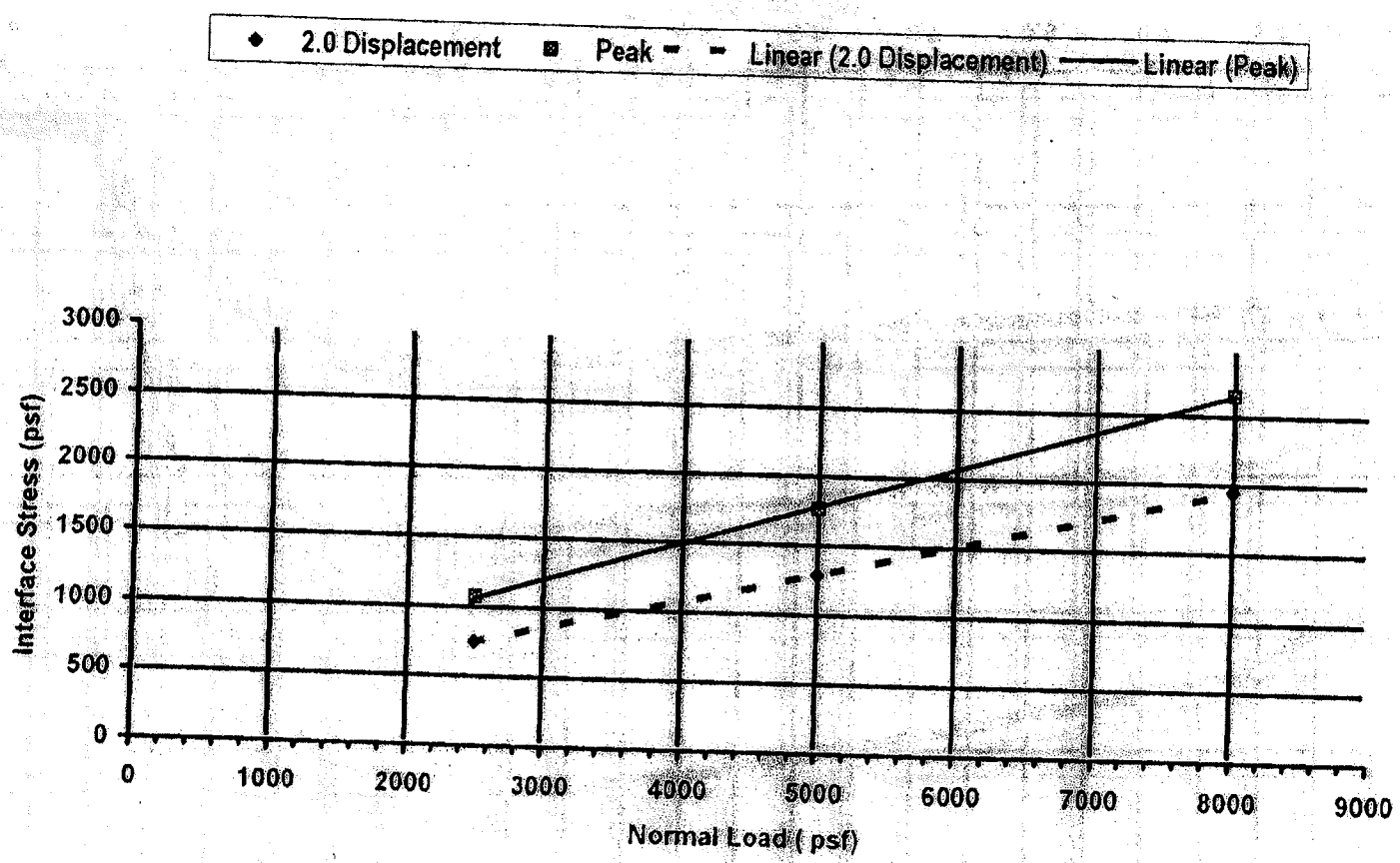


TABLE 3.

CLIENT: PEORIA DISPOSAL COMPANY

PROJECT: Clinton Landfill #2

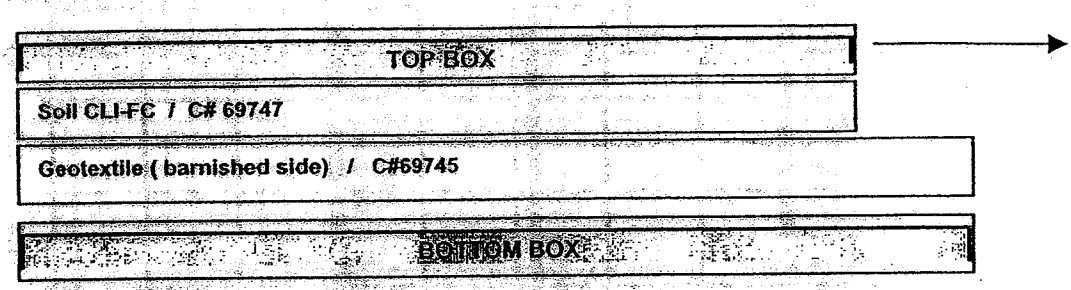
INTERFACE SHEAR TEST RESULT (ASTM D5321)

(PGL Job No. 010222)

Sidewall Liner Following Waste Placement: Clay Liner Soil vs. Geotextile

QC'd by: [signature]
April 10, 2000

TEST CONFIGURATION #3



TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimens were cut to 20" x 20"
2. Soil CLI-FC was compacted to 109pcf dry density at 15. 23 % moisture content.

CONSOLIDATION:

1. Each set of specimen was consolidated under flooded condition for 24 hours at normal load before shearing.

SHEAR TEST:

1. Initially shear test was conducted at 0.001 in/ min, and increased to 0.01"/ min at 1.059 ", 0.989", 1.082" displacement for 2500psf, 5000 psf, and 8000 psf normal loads respectively.
2. Sheared at minimum 2.0 inch horizontal displacement.
3. The test specimens were sheared in flooded condition.
4. Final moisture content of the soil were 18.35 %, 16.82 %, 15.99 % at normal loads of 2500psf, 5000psf, and 8000psf respectively.
5. Tests were performed in general accordance with ASTM D5321 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS (psi)	NORMAL STRESS (psf)	PEAK STRENGTH: SHEAR STRESS (psf)	PEAK STRENGTH: PEAK SECANT ANGLE	2.0" DISPLACEMENT STRENGTH: SHEAR STRESS (psf)	2.0" DISPLACEMENT STRENGTH: 2.0" DISPLACEMENT SECANT ANGLE
17.4	2500	1598	33	1528	31
34.7	5000	2612	28	2582	27
55.6	8000	4112	27	3990	27
	COHESION (psf):	405		384	
	FRICTION ANGLE (degrees):	24.6		24.1	
	COEFFICIENT OF FRICTION:	0.46		0.45	

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

OBSERVATIONS:

No stretching, abrasion, or tearing was observed on the geotextile specimens.

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Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010222_3
Soil CLI-FC, C#69747 / Geotextile, C#69745

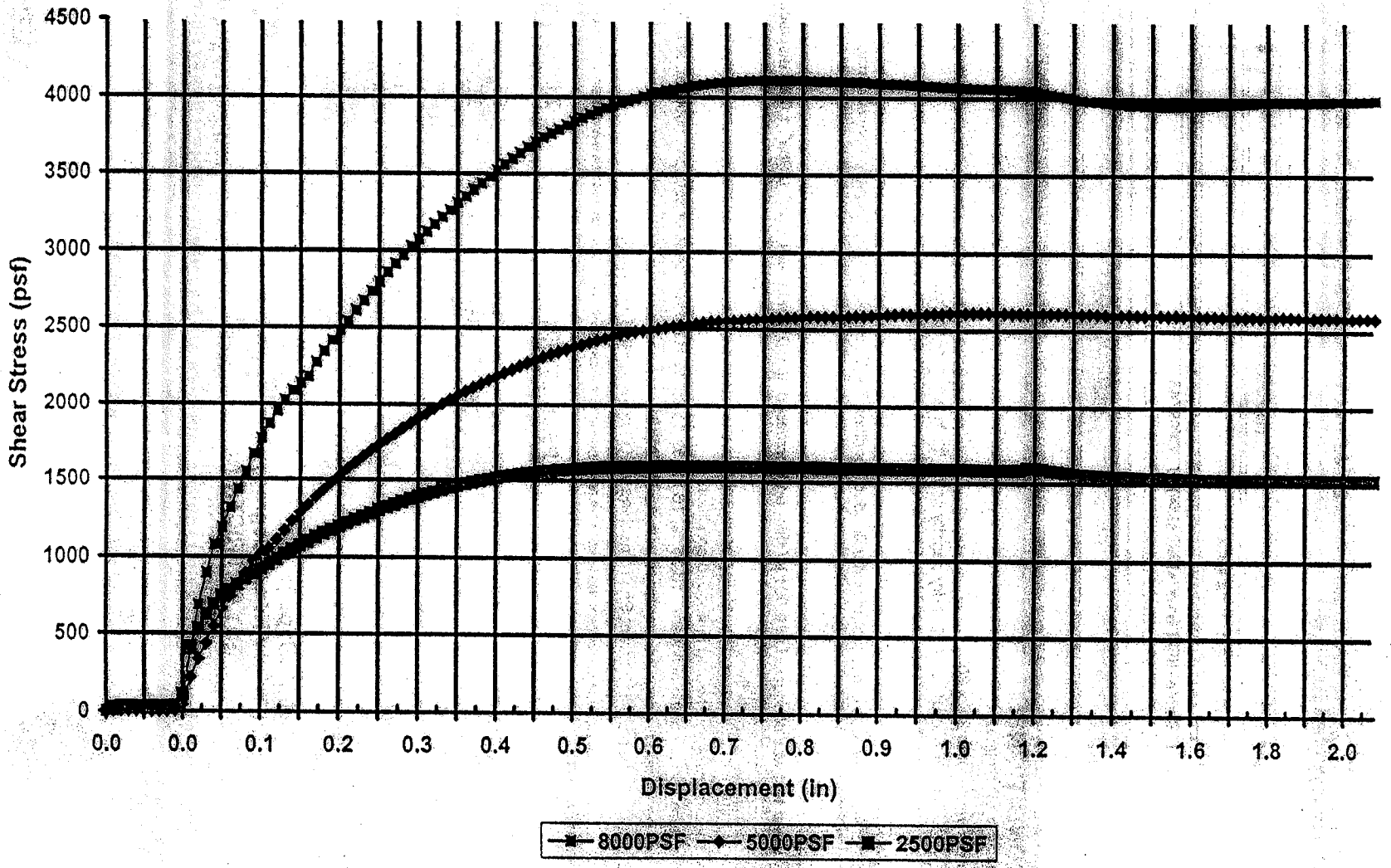

Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010222_3
Soil CLI-FC, C#69747 / Geotextile, C#69745