APPENDIX G

Geotechnical and Analytical Laboratory Testing Results

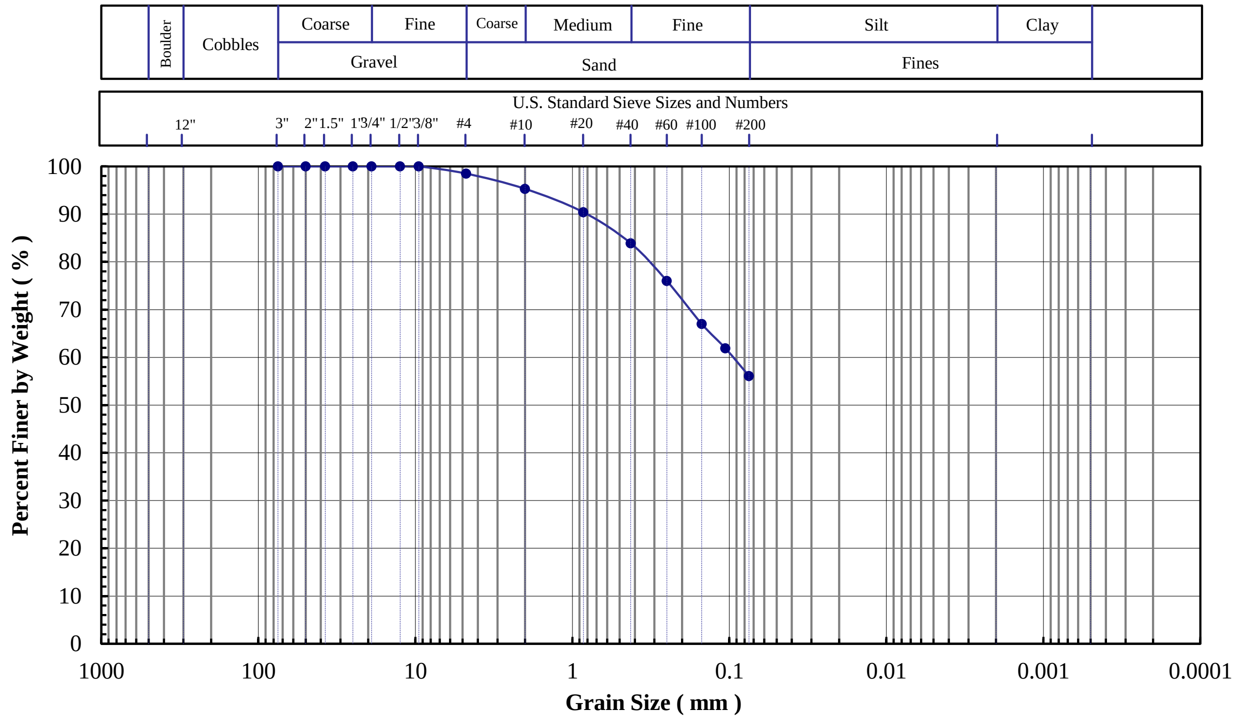
"Excellence in Testing"

Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-101 (4-6')
Lab Sample No: 22A085

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

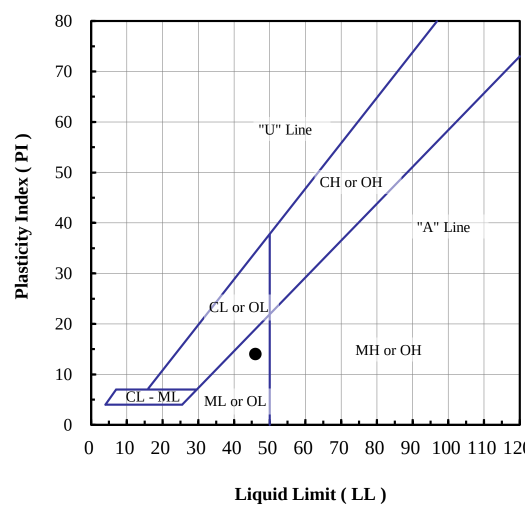


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	98.5
#10	2.00	95.3
#20	0.850	90.4
#40	0.425	83.9
#60	0.250	76.0
#100	0.150	67.0
#140	0.106	61.9
#200	0.075	56.1

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	1.5
Sand (%):	42.4
Fines (%):	56.1
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-): | **Org. Content (%):** | **Carbon. Content (%):**

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-101 (4-6')	22A085		56.1	46	32	14	ML - Sandy silt

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

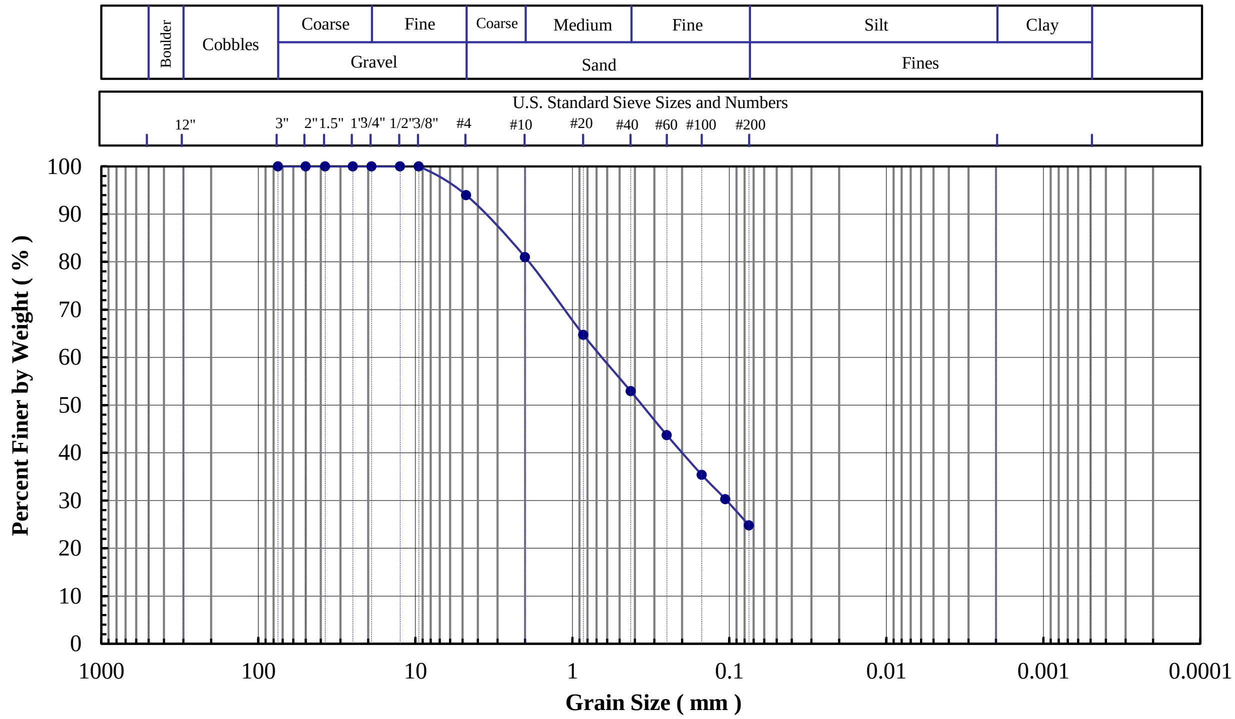
"Excellence in Testing"

Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-101 (16-18')
Lab Sample No: 22A086

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

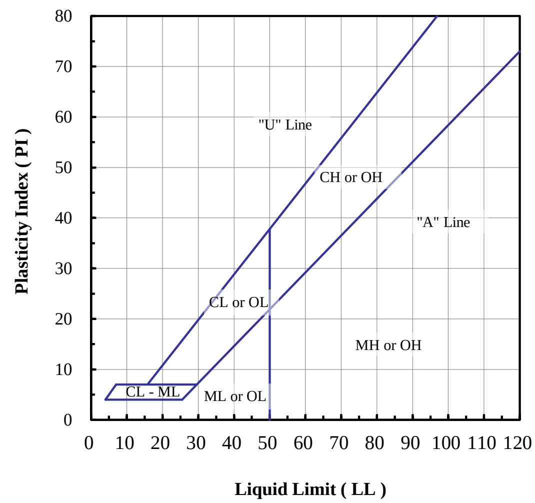


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	94.0
#10	2.00	81.0
#20	0.850	64.7
#40	0.425	52.9
#60	0.250	43.7
#100	0.150	35.4
#140	0.106	30.3
#200	0.075	24.8

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	6.0
Sand (%):	69.2
Fines (%):	24.8
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-101 (16-18')	22A086		24.8	NP	NP	NP	SM - Silty sand

Note(s): Engineering classification is based on the assumption that the fines are either ML or MH.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

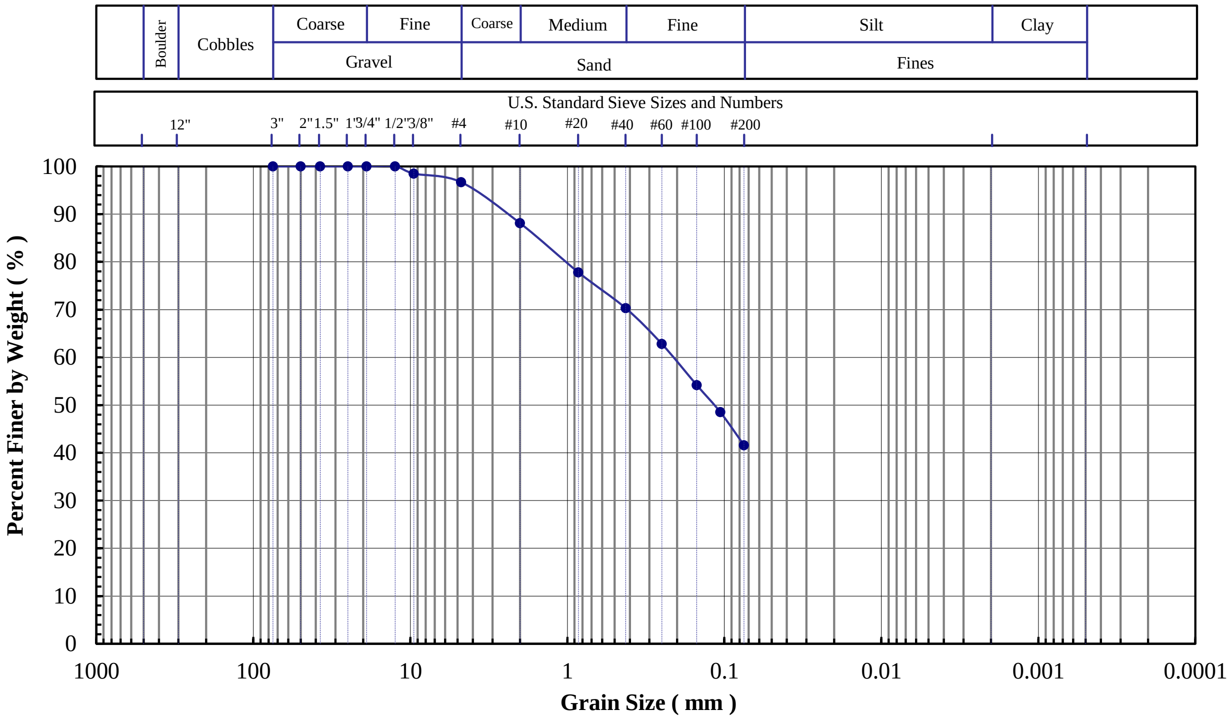
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-103 (12-14')
Lab Sample No:	22B013

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

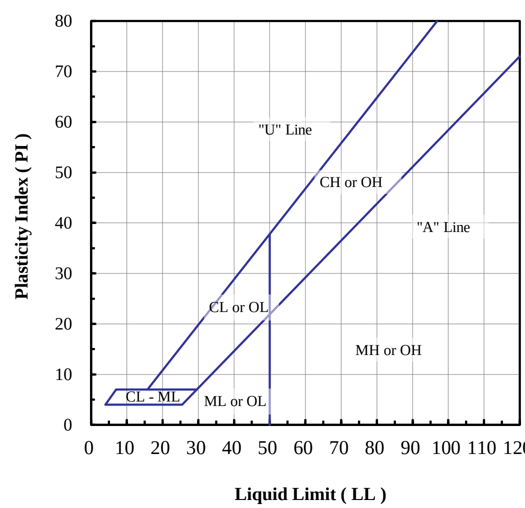


Sieve No.	Size (mm)	% Finer
3"	75	100
2"	50	100
1.5"	37.5	100
1"	25	100
3/4"	19	100
3/8"	9.5	99
#4	4.75	97
#10	2.00	88
#20	0.850	78
#40	0.425	70
#60	0.250	63
#100	0.150	54
#140	0.106	49
#200	0.075	42

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	3
Sand (%):	55
Fines (%):	42
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):	2.773	**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-103 (12-14')	22B013		42	NP	NP	NP	SM - Silty sand

Note(s): Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.
Engineering classification is based on the assumption that the fines are either ML or MH.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-21-2022
Approved By: NSR

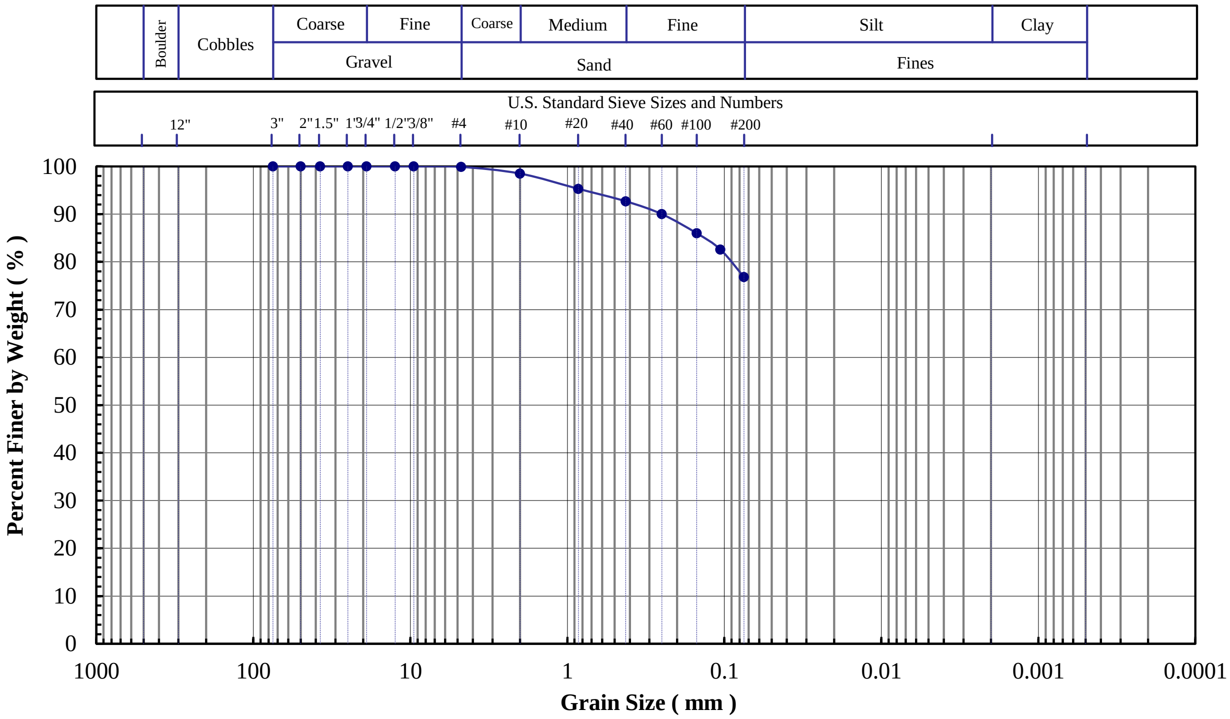
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-103 (33-35')
Lab Sample No:	22B014

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

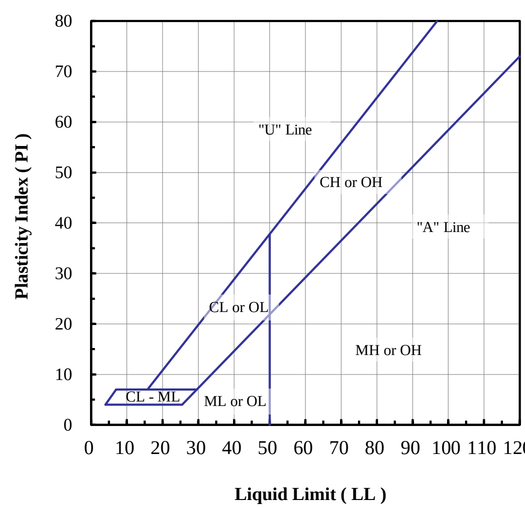


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.9
#10	2.00	98.5
#20	0.850	95.3
#40	0.425	92.7
#60	0.250	90.0
#100	0.150	86.0
#140	0.106	82.6
#200	0.075	76.8

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.1
Sand (%):	23.1
Fines (%):	76.8
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits			Engineering Classification
				LL (-)	PL (-)	PI (-)	
GS-103 (33-35')	22B014		76.8	NP	NP	NP	ML - Silt with sand

Note(s): Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

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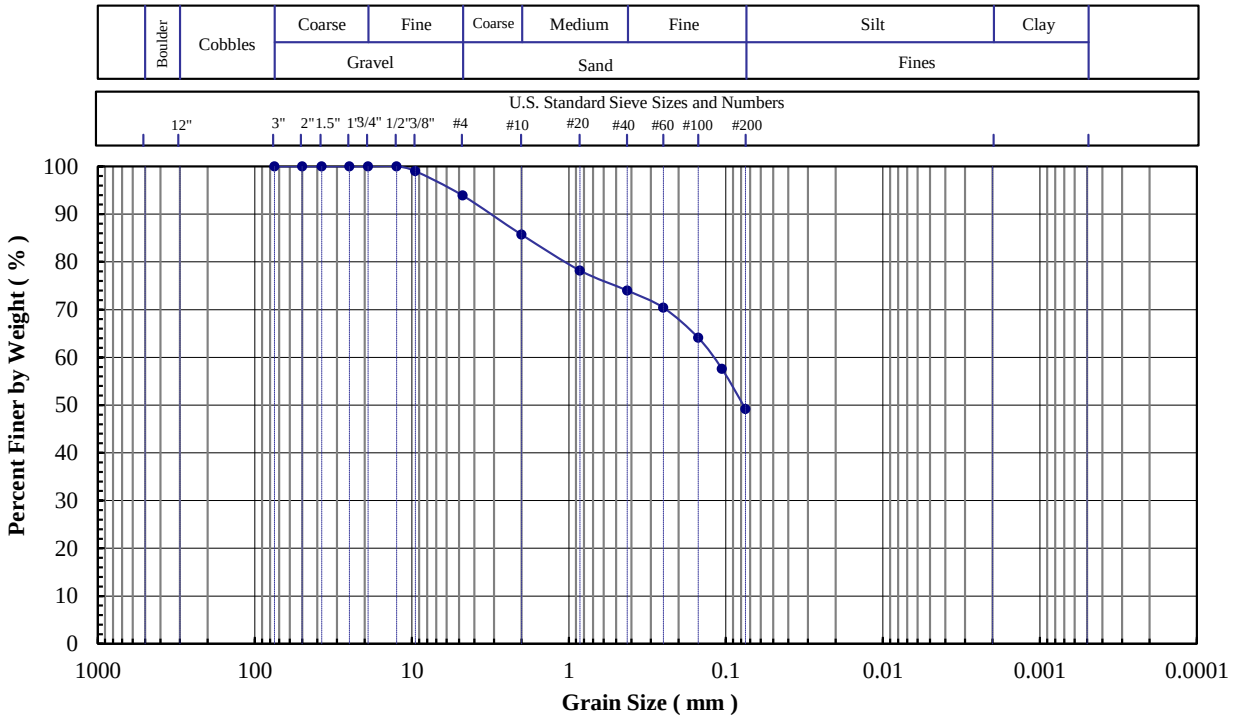
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-104 (6-8') ST
Lab Sample No:	22B010

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

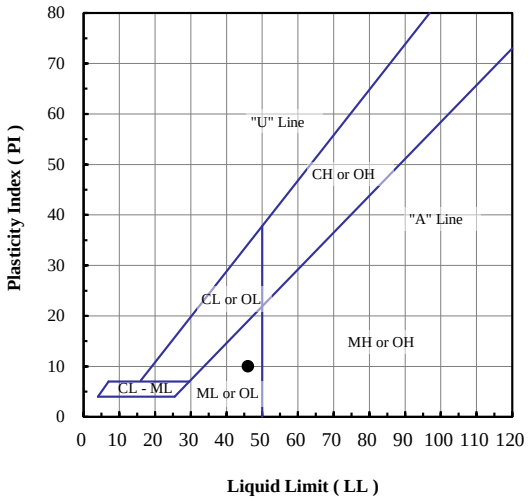


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	99.0
#4	4.75	93.9
#10	2.00	85.7
#20	0.850	78.2
#40	0.425	74.0
#60	0.250	70.4
#100	0.150	64.1
#140	0.106	57.6
#200	0.075	49.2

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	6.1
Sand (%):	44.7
Fines (%):	49.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
GS-104 (6-8') ST	22B010		49.2	46	36	10	SM - Silty sand

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.
Engineering classification is based on the assumption that the fines are either ML or MH.

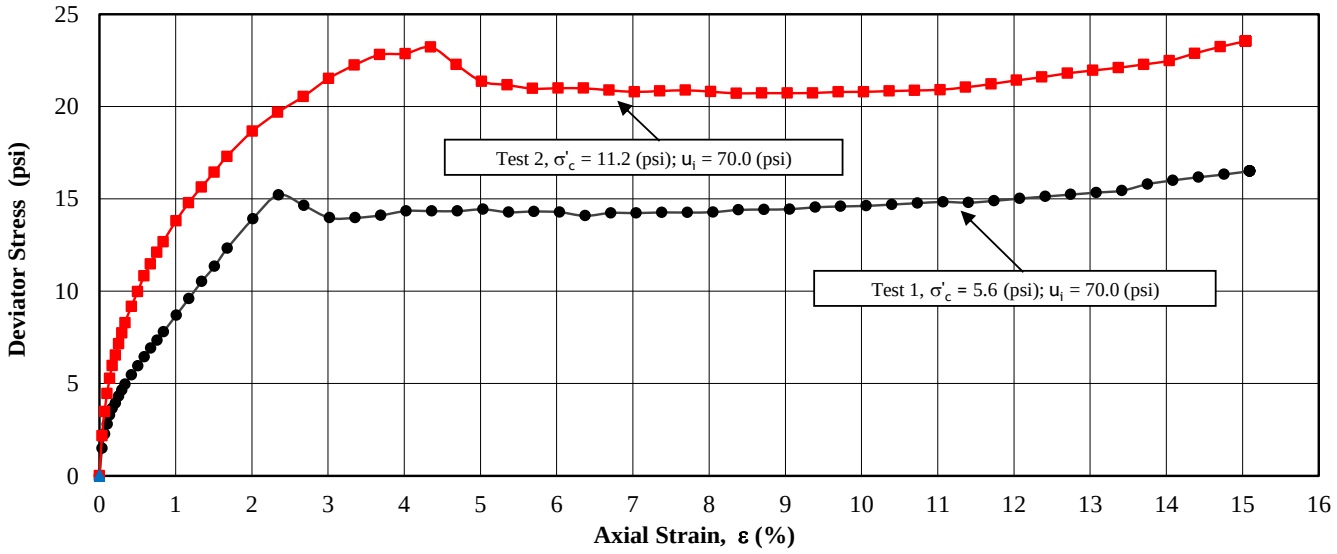
03-22-2022
Approved By: NSR

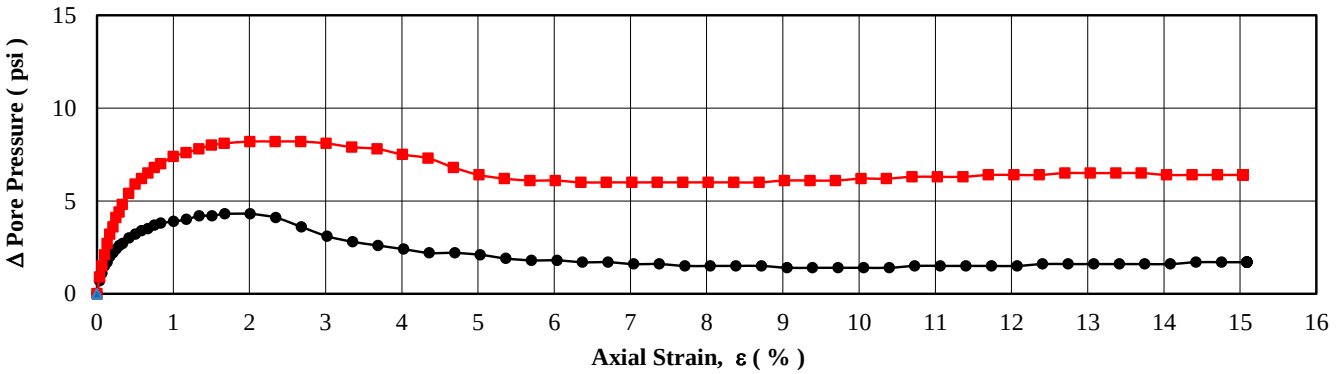
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	22B010
Lab Sample No:	GS-104 (6-8') ST

ASTM D4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 1





Test Specimen No.	Peak Strength				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	15.2	16.7	1.5	74.1	2.3
2	23.2	27.1	3.9	77.3	4.3

Test Specimen No.	Strength at App. 15% Axial Strain				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	16.5	20.4	3.9	71.7	15.1
2	23.5	28.3	4.8	76.4	15.0

Notes:

σ'_c = Consolidation pressure, (psi) u_i = Initial pore pressure,(psi)

03-14-2022
Approved By: NSR

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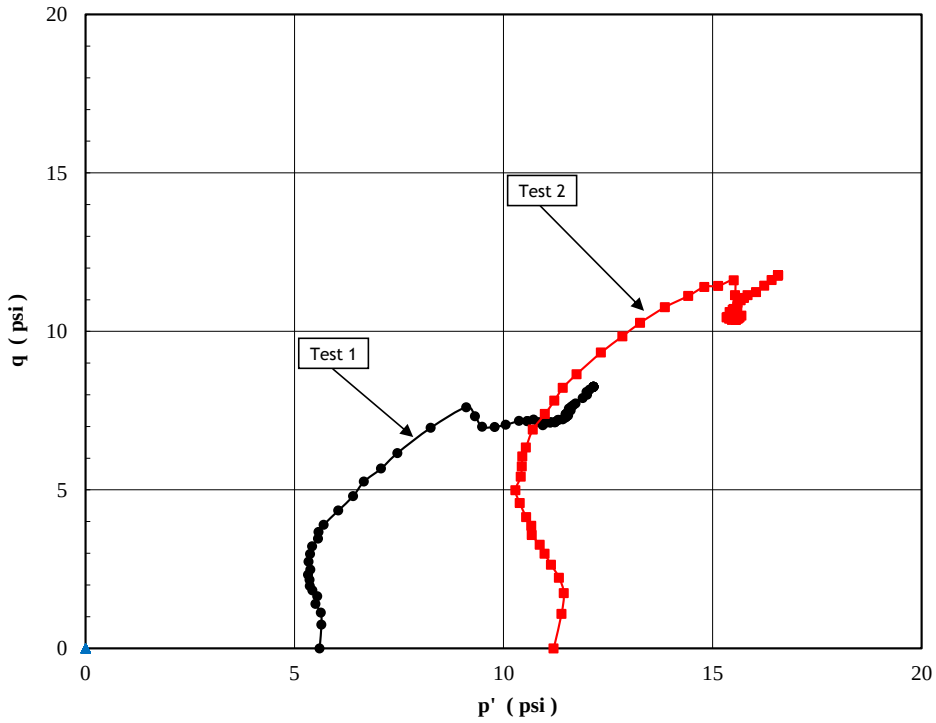
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	22B010
Lab Sample No:	GS-104 (6-8') ST

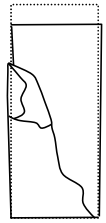
ASTM D4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

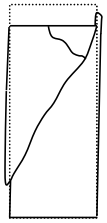
Figure 2



Test Specimen Number (-)	Specimen Quality Bad to Good (1 to 10)	Initial Conditions							Consolidation Stage		Loading
		Height (in .)	Diameter (in.)	Moisture Content (%)	Dry Unit Weight (pcf)	B Parameter (-)	Initial Pore Pressure (u_i) (psi)	Consolidation Pressure (σ'_c) (psi)	Axial Strain (%)	Volumetric Strain (%)	Axial Rate (% / min)
1	7	6.01	2.85	27.8	94.1	1.00	70.0	5.6	0.85	1.42	0.050
2	7	6.06	2.84	27.6	95.2	0.98	70.0	11.2	1.24	2.60	0.050



Specimen No.1
Light orange brown, dark khaki brown gravelly silty sand (weathered rock)



Specimen No. 2
Light orange brown, dark khaki brown gravelly silty sand (weathered rock)

Specimen No. 3

Notes:

03-14-2022
Approved By: NSR

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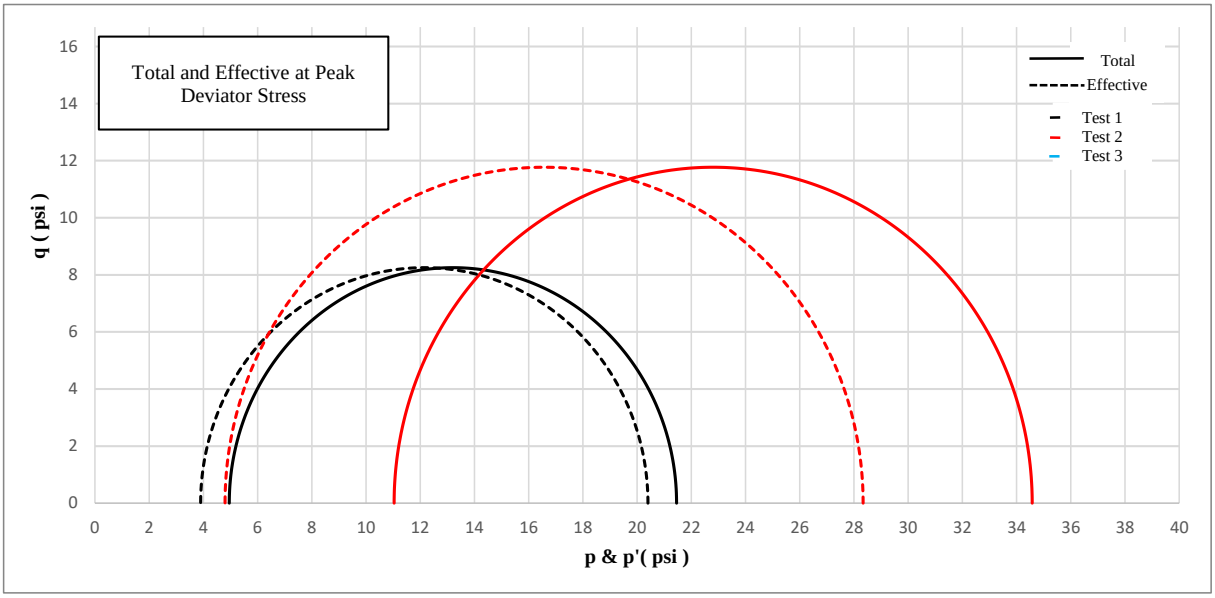
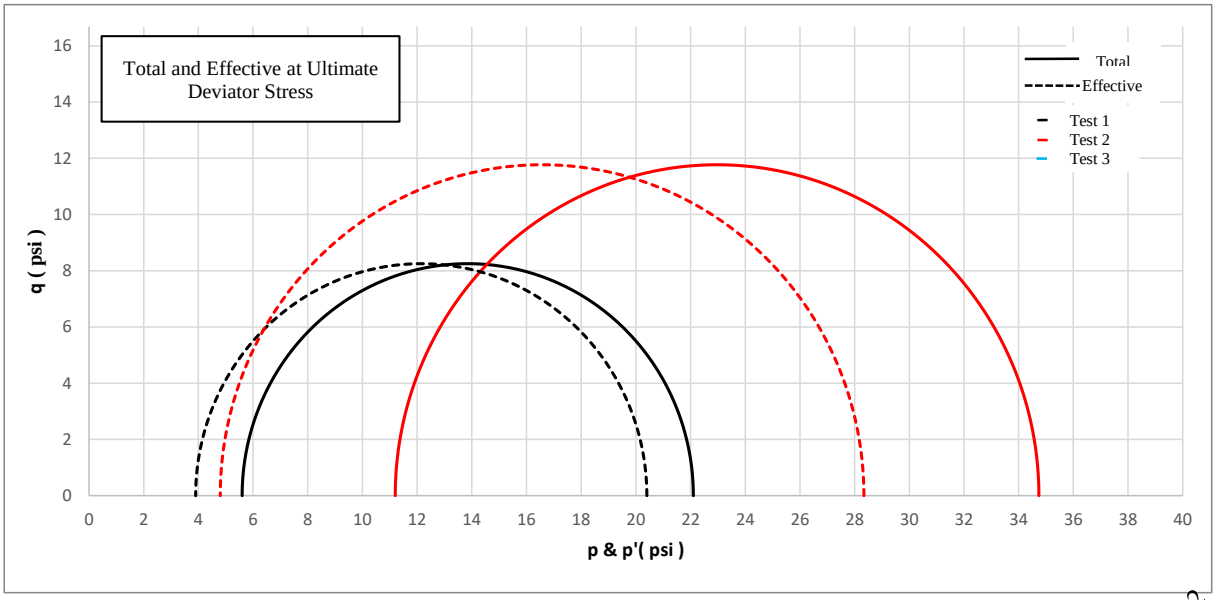
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	22B010
Lab Sample No:	GS-104 (6-8') ST

ASTM D4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 3





03-14-2022
Approved By: NSR

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Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

Sample ID: 22B010

Lab Sample No: GS-104 (6-8') ST

ASTM D4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

(a)

Specimen No. 1
Light orange brown, dark khaki brown gravelly silty sand (weathered rock)

(b)

(a)

Specimen No. 2
Light orange brown, dark khaki brown gravelly silty sand (weathered rock)

(b)

(a)

BLANK

Specimen No. 3

BLANK

(b)

Notes: (a) Failure after shear

(b) Specimen split open

03-14-2022
Approved By: NSR

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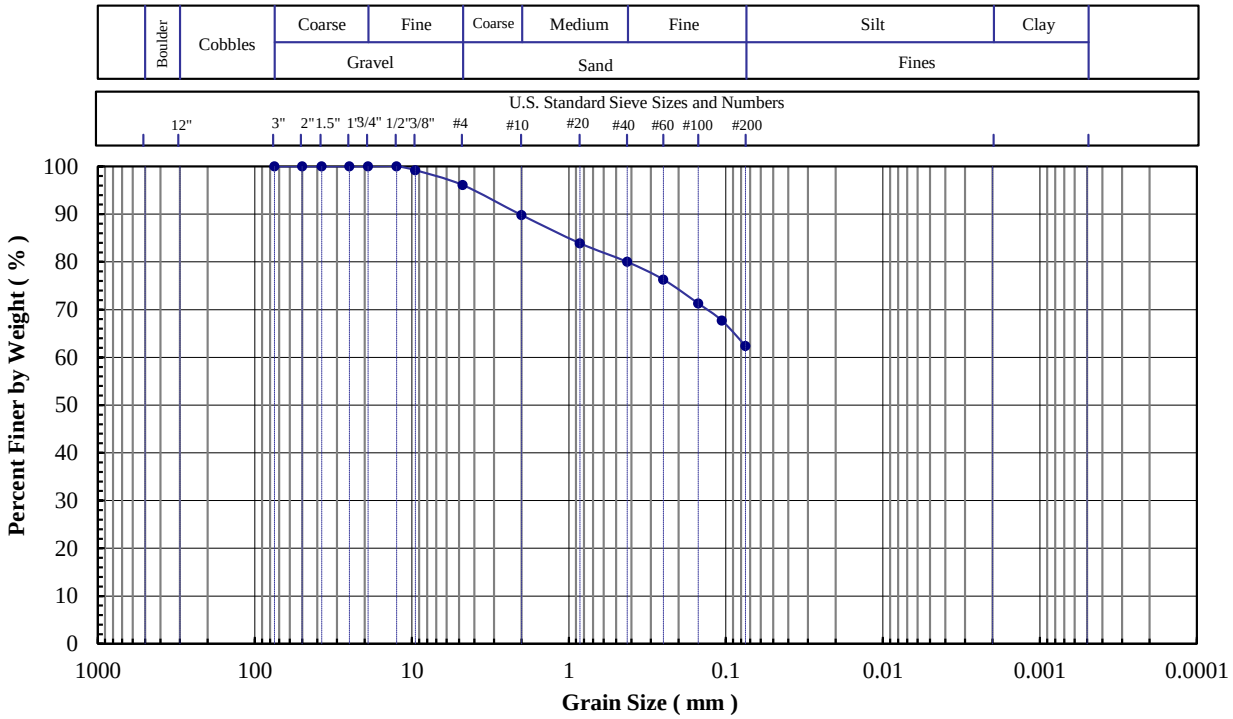
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-104 (24-26')
Lab Sample No:	22B015

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

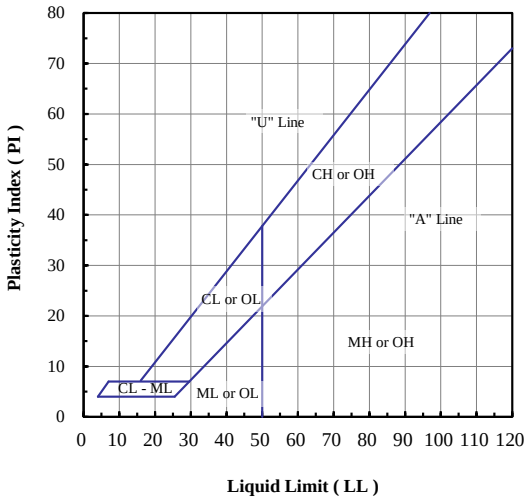


Sieve No.	Size (mm)	% Finer
3"	75	100
2"	50	100
1.5"	37.5	100
1"	25	100
3/4"	19	100
3/8"	9.5	99
#4	4.75	96
#10	2.00	90
#20	0.850	84
#40	0.425	80
#60	0.250	76
#100	0.150	71
#140	0.106	68
#200	0.075	62

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	4
Sand (%):	34
Fines (%):	62
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
GS-104 (24-26')	22B015	36.7	62	NP	NP	NP	ML - Sandy silt

Note(s): Sieve test specimen was undersized.
Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

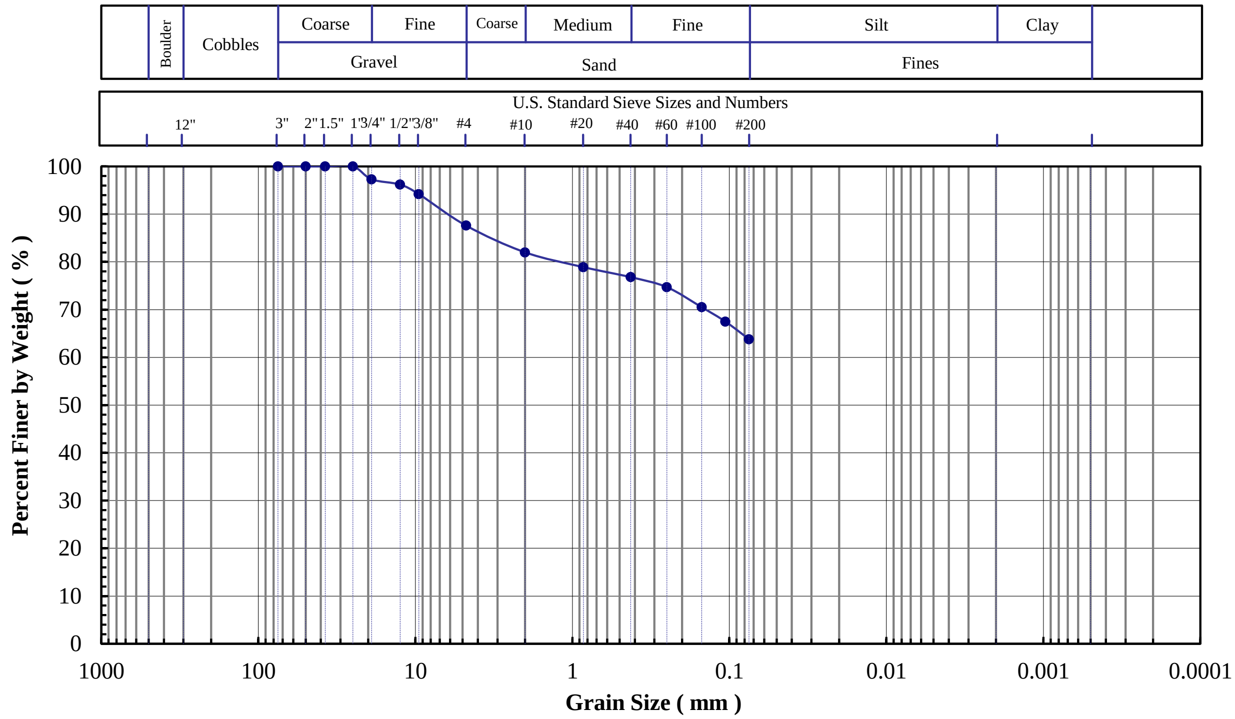
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-105 (4-6')
Lab Sample No:	22B016

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

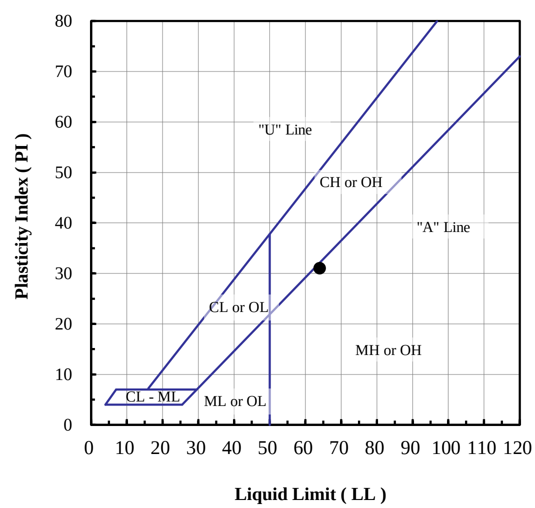


Sieve No.	Size (mm)	% Finer
3"	75	100
2"	50	100
1.5"	37.5	100
1"	25	100
3/4"	19	97
3/8"	9.5	94
#4	4.75	88
#10	2.00	82
#20	0.850	79
#40	0.425	77
#60	0.250	75
#100	0.150	71
#140	0.106	68
#200	0.075	64

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	12
Sand (%):	24
Fines (%):	64
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-105 (4-6')	22B016		64	64	33	31	MH - Sandy elastic silt

Note(s): Sieve test specimen was undersized.
Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

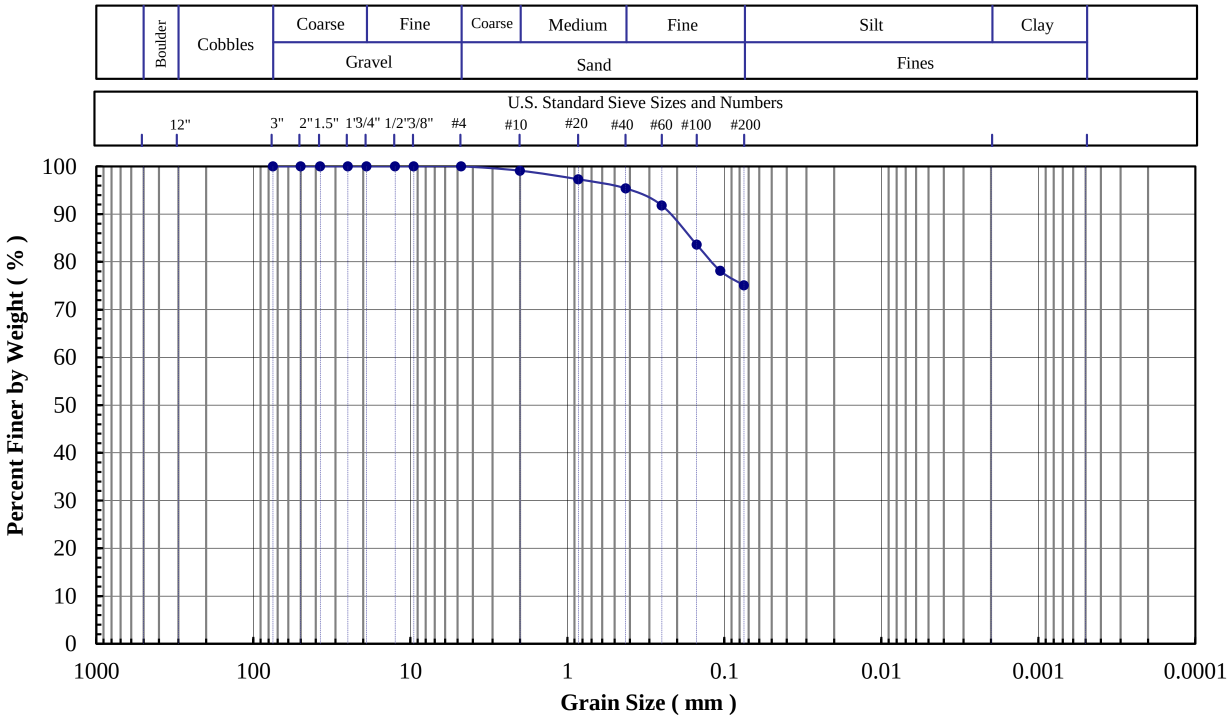
"Excellence in Testing"

Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-106a (38-40')
Lab Sample No: 22B048

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

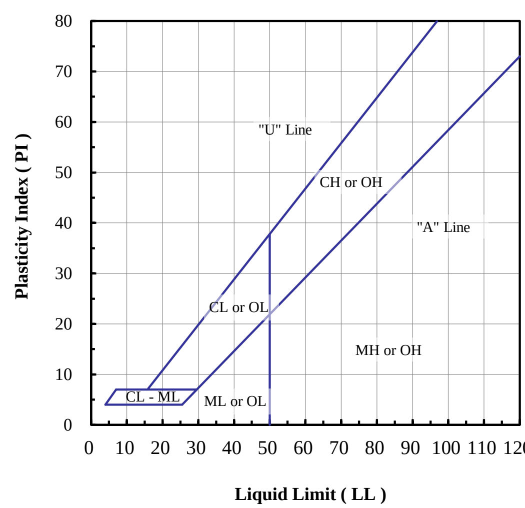


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.1
#20	0.850	97.3
#40	0.425	95.4
#60	0.250	91.8
#100	0.150	83.6
#140	0.106	78.1
#200	0.075	75.1

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	24.9
Fines (%):	75.1
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		Org. Content (%):		Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-106a (38-40')	22B048		75.1	NP	NP	NP	ML - Silt with sand

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

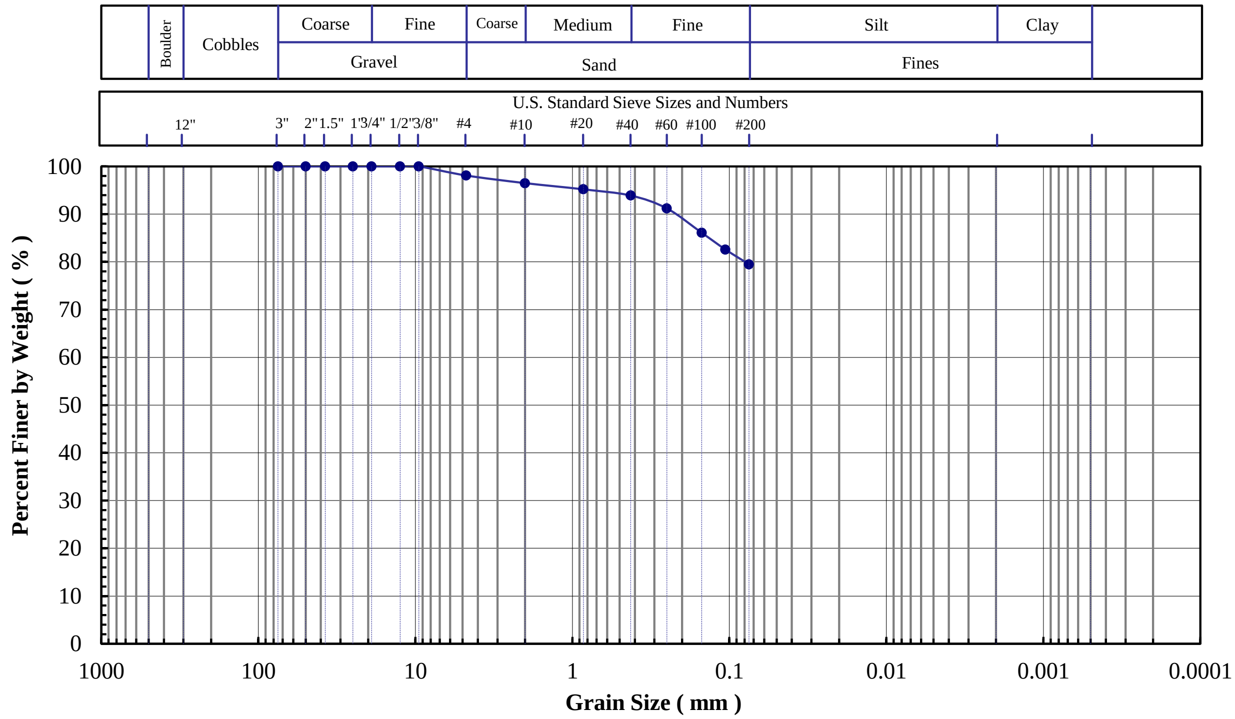
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-106a (43-45')
Lab Sample No:	22B049

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

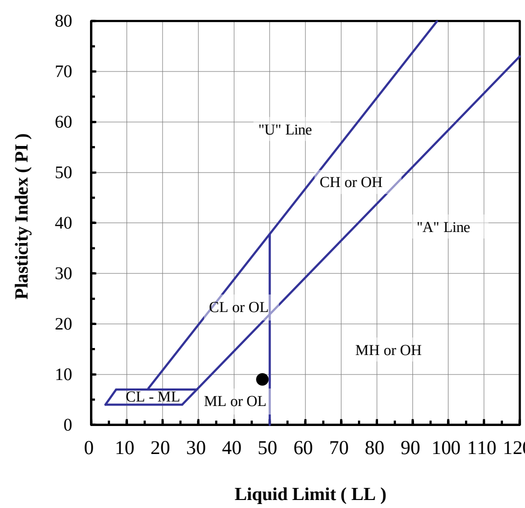


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	98.1
#10	2.00	96.5
#20	0.850	95.2
#40	0.425	93.9
#60	0.250	91.2
#100	0.150	86.1
#140	0.106	82.6
#200	0.075	79.5

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	1.9
Sand (%):	18.6
Fines (%):	79.5
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-106a (43-45')	22B049		79.5	48	39	9	ML - Silt with sand

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

"Excellence in Testing"

Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

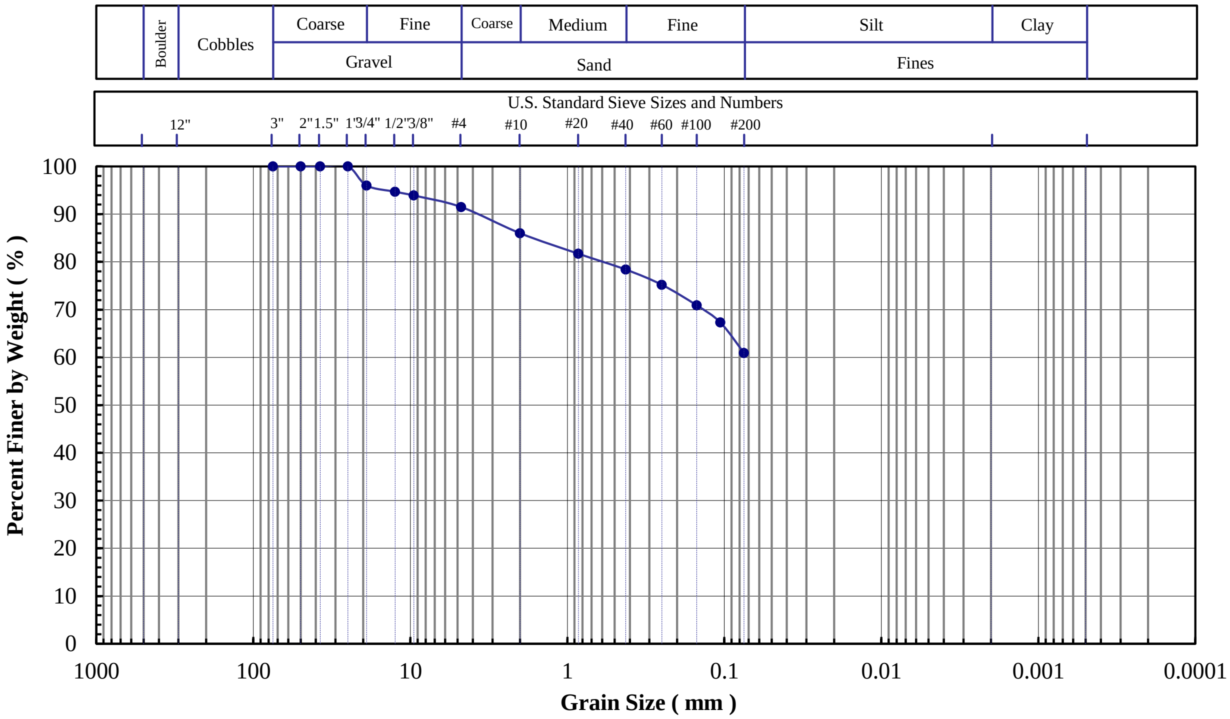
Client Sample ID: GS-106 (20-22')

Lab Sample No: 22A065

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

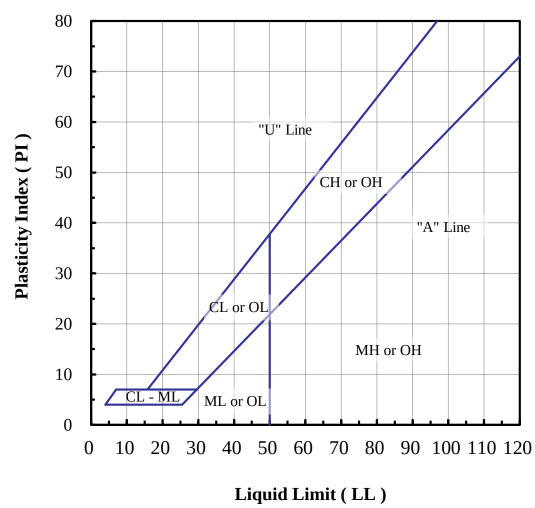


Sieve No.	Size (mm)	% Finer
3"	75	100
2"	50	100
1.5"	37.5	100
1"	25	100
3/4"	19	96
3/8"	9.5	94
#4	4.75	92
#10	2.00	86
#20	0.850	82
#40	0.425	78
#60	0.250	75
#100	0.150	71
#140	0.106	67
#200	0.075	61

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	8
Sand (%):	31
Fines (%):	61
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-106 (20-22')	22A065	#VALUE!	61				

Note(s): Sieve test specimen was undersized.

Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.

03-04-2022
Approved By: NSR

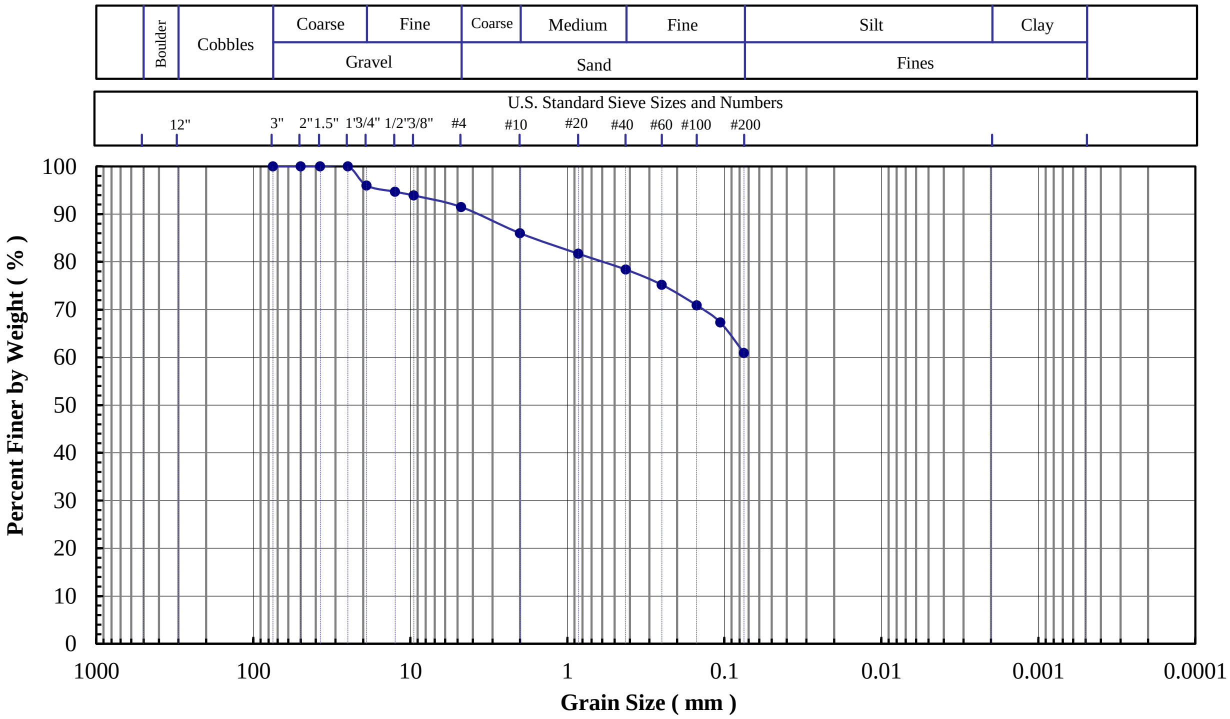
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-106 (20-22')
Lab Sample No:	22A065

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

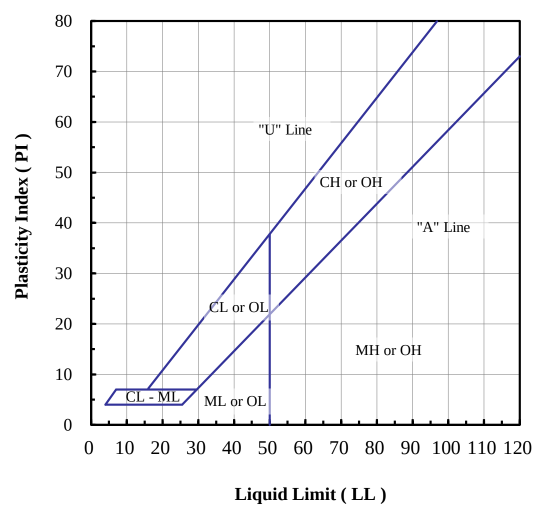


Sieve No.	Size (mm)	% Finer
3"	75	100
2"	50	100
1.5"	37.5	100
1"	25	100
3/4"	19	96
3/8"	9.5	94
#4	4.75	92
#10	2.00	86
#20	0.850	82
#40	0.425	78
#60	0.250	75
#100	0.150	71
#140	0.106	67
#200	0.075	61

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	8
Sand (%):	31
Fines (%):	61
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-106 (20-22')	22A065	#VALUE!	61				

Note(s): Sieve test specimen was undersized.
Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

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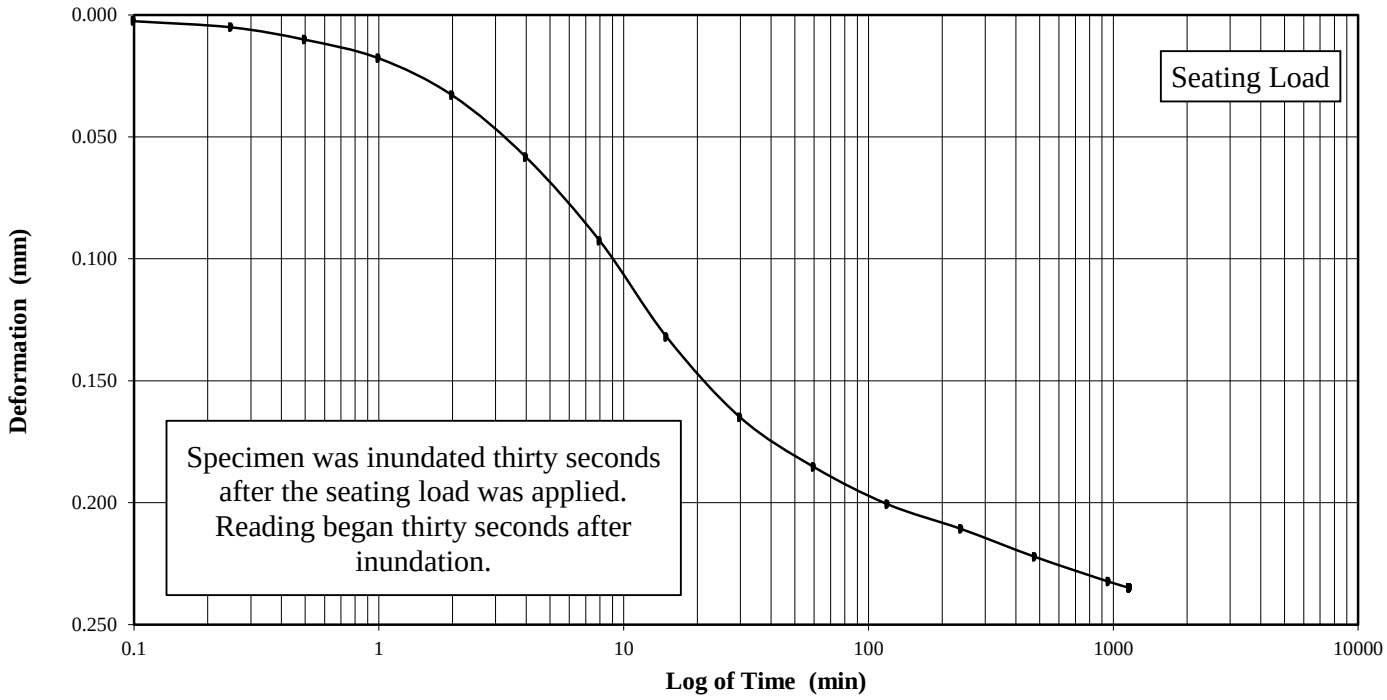
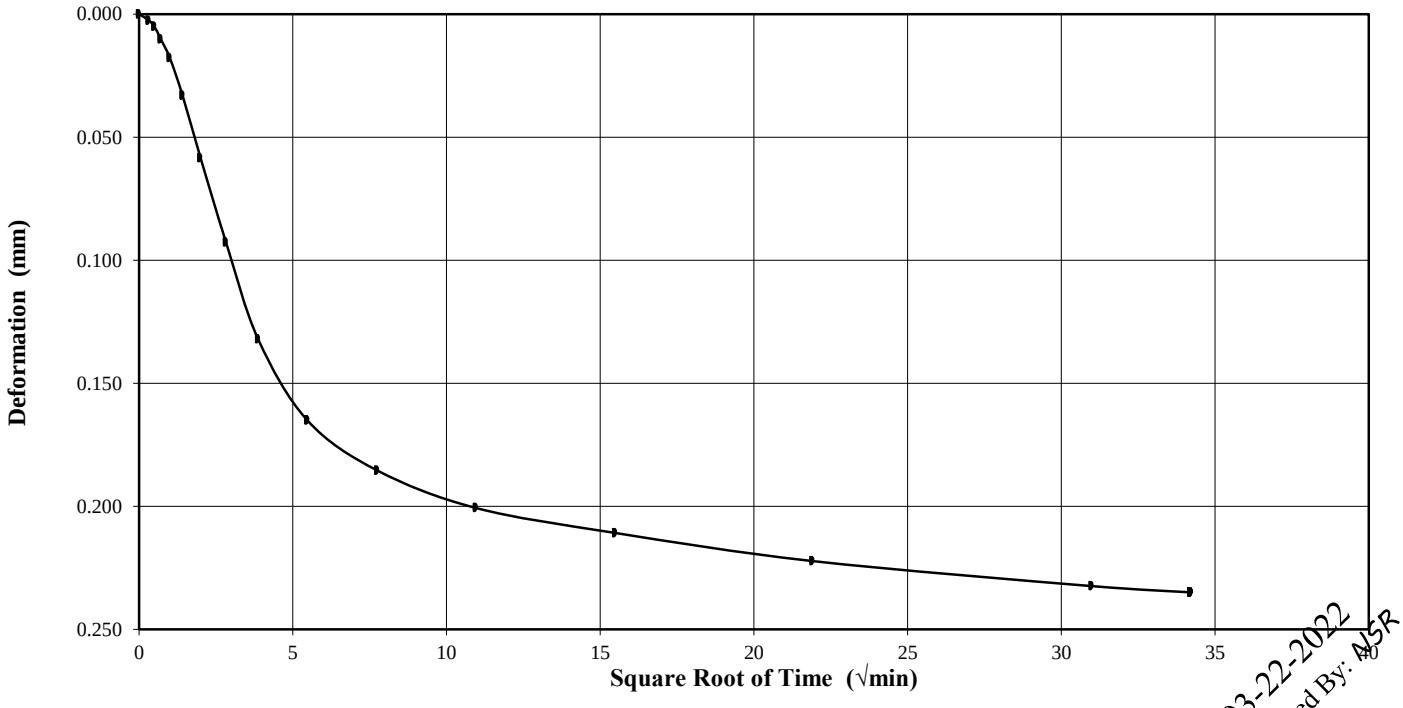
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-108 (6-8') ST
Lab Sample No: 22B050

ASTM D2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 1 - 100 psf



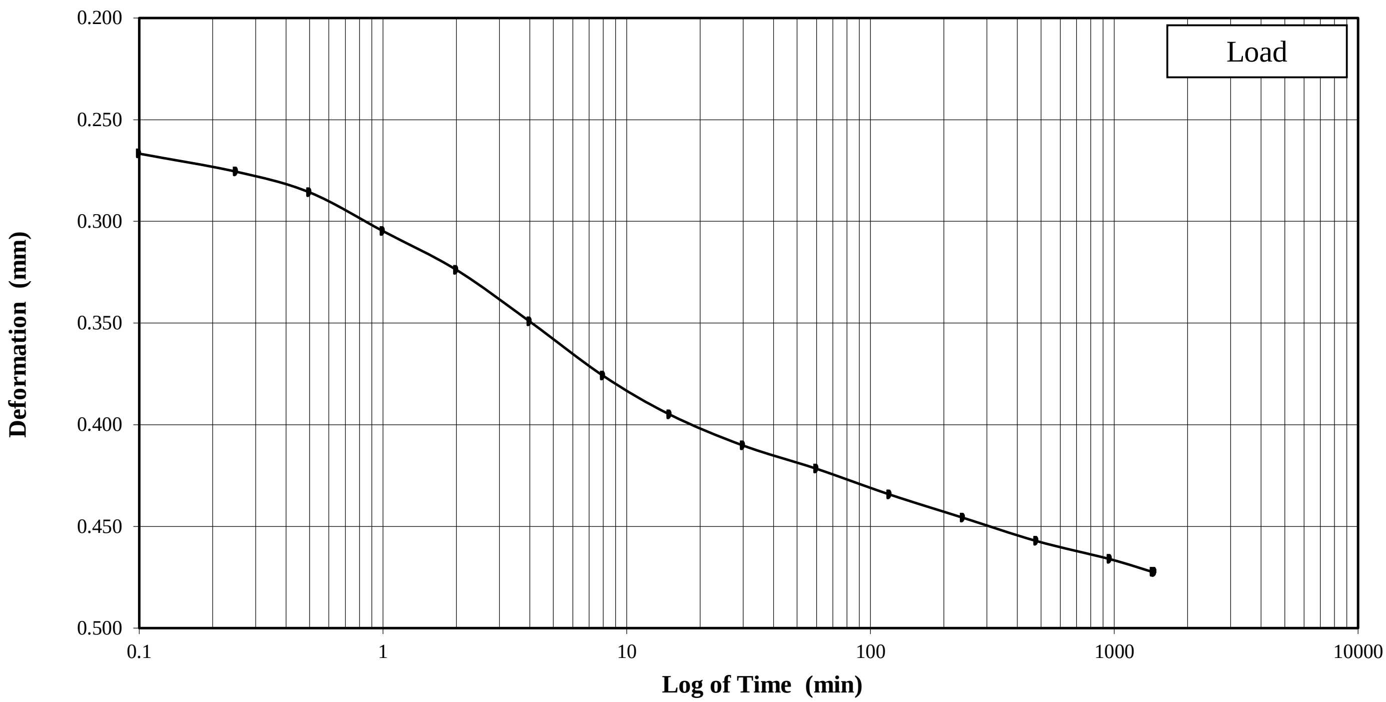


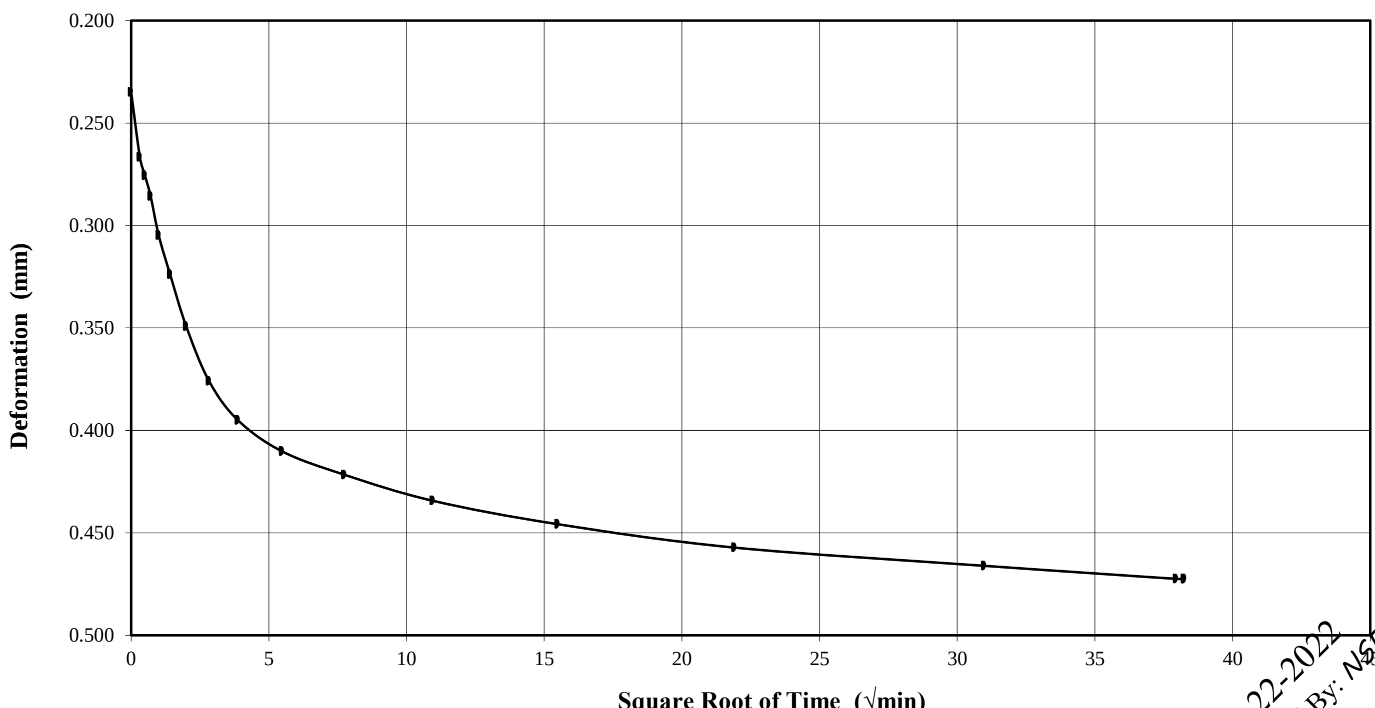
03-22-2022
Approved By: MSR

"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-108 (6-8') ST
Lab Sample No:	22B050

ASTM D 2435 | **ONE-DIMENSIONAL CONSOLIDATION TEST** | **Figure 2 - 250 psf**





03-22-2022
Approved By: NSR

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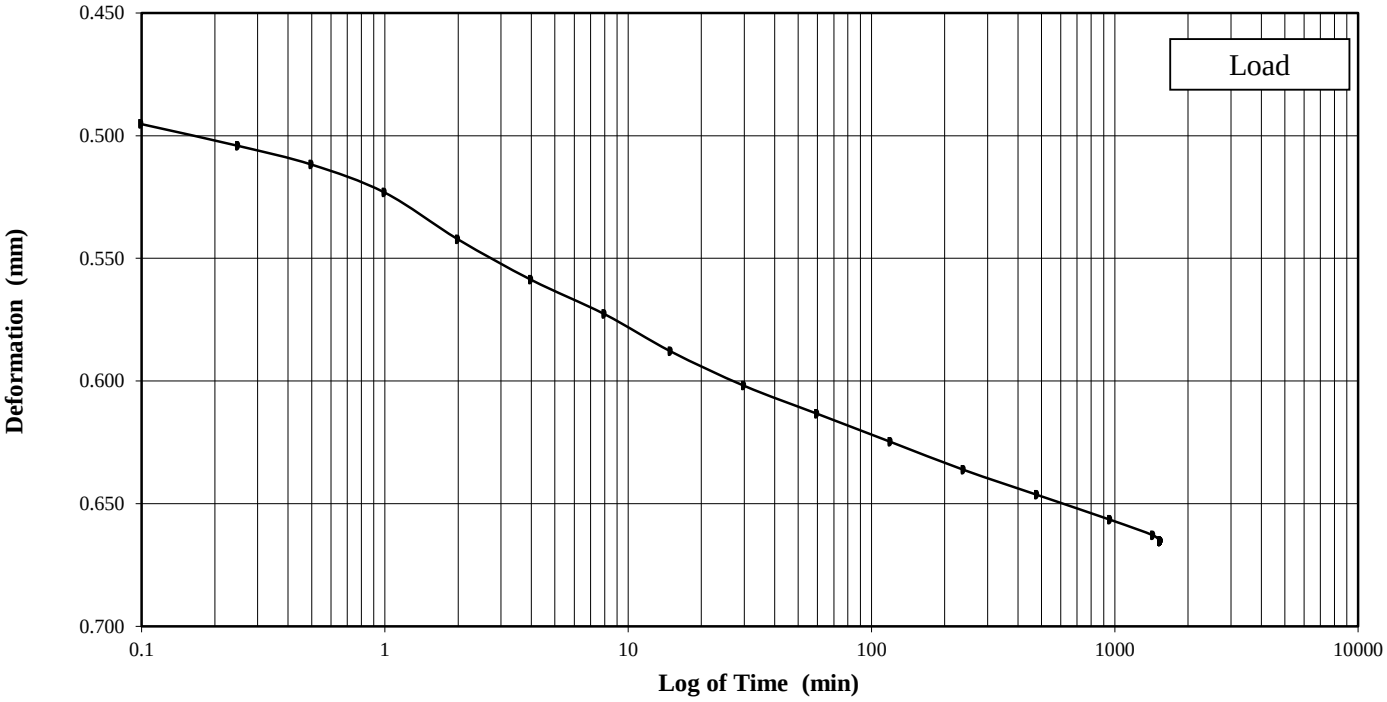
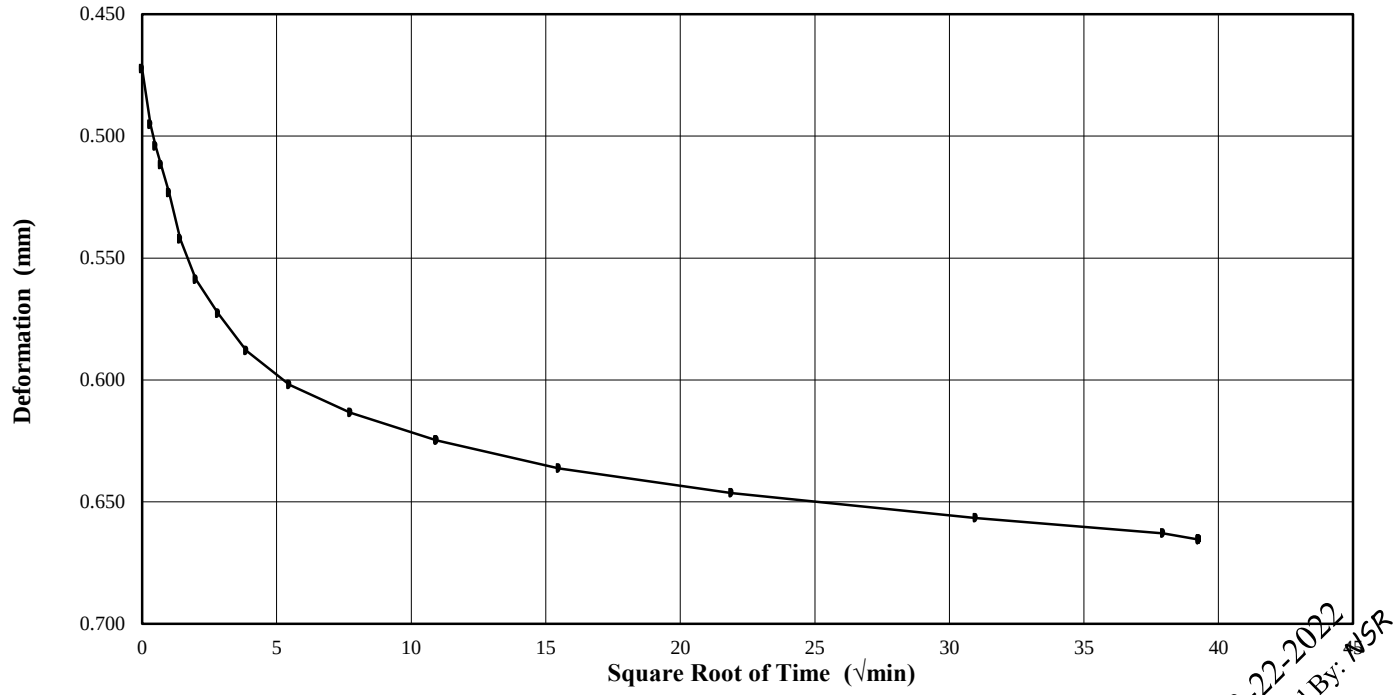
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-108 (6-8') ST
Lab Sample No:	22B050

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 3 - 500 psf





03-22-2022
Approved By: WSR

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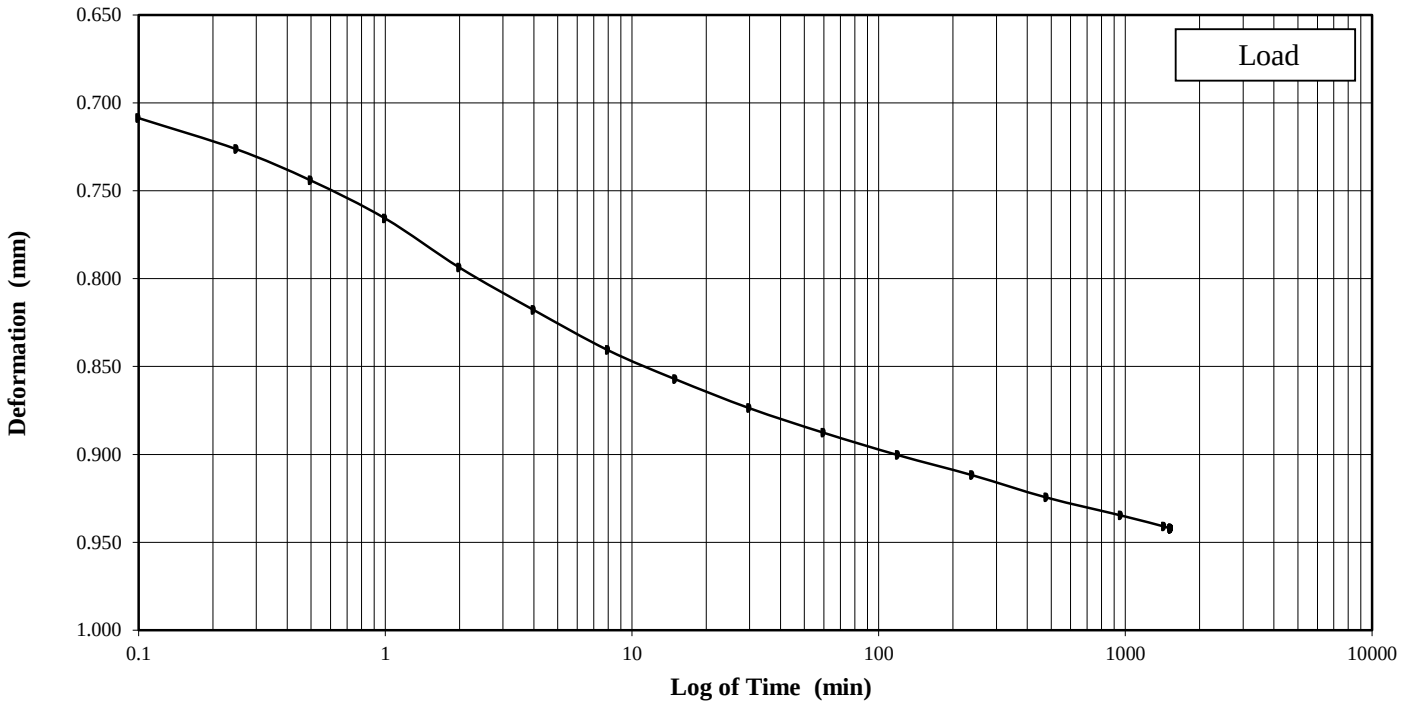
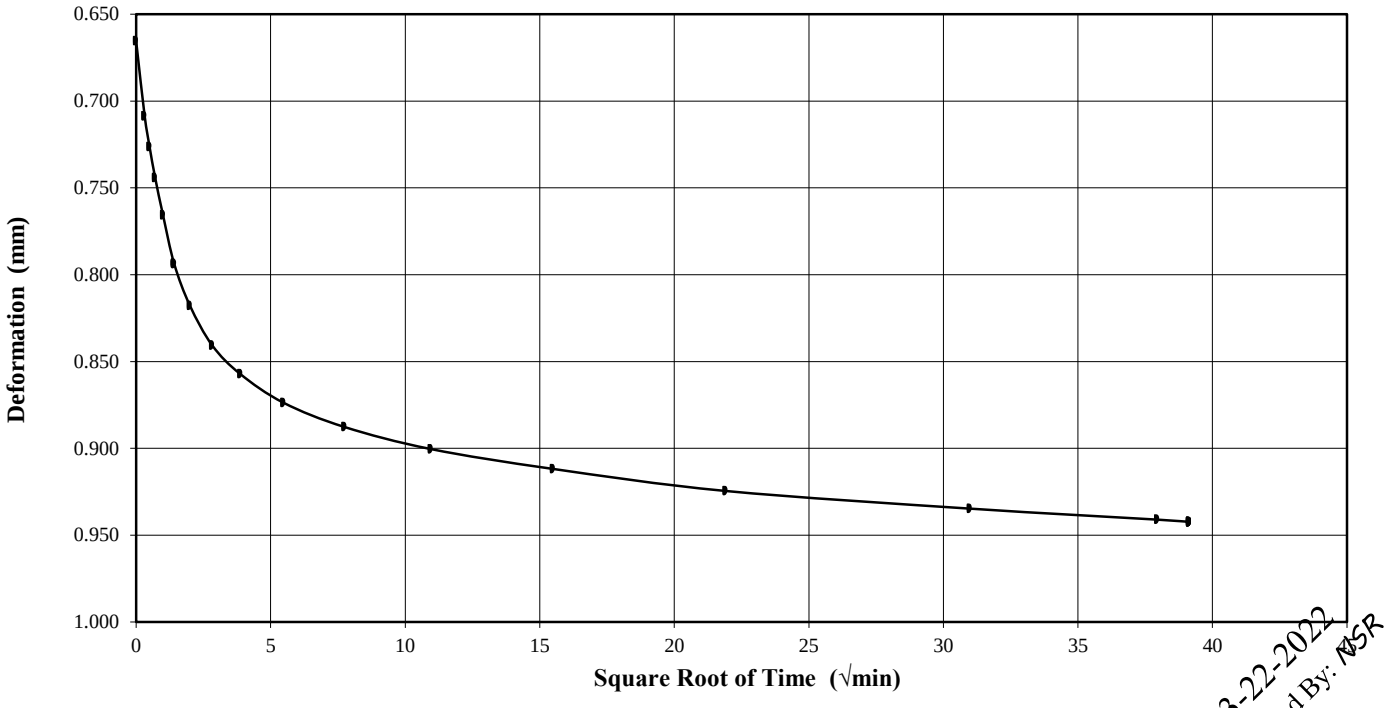
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-108 (6-8') ST
Lab Sample No:	22B050

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 4 - 1000 psf





03-22-2022
Approved By: MSR

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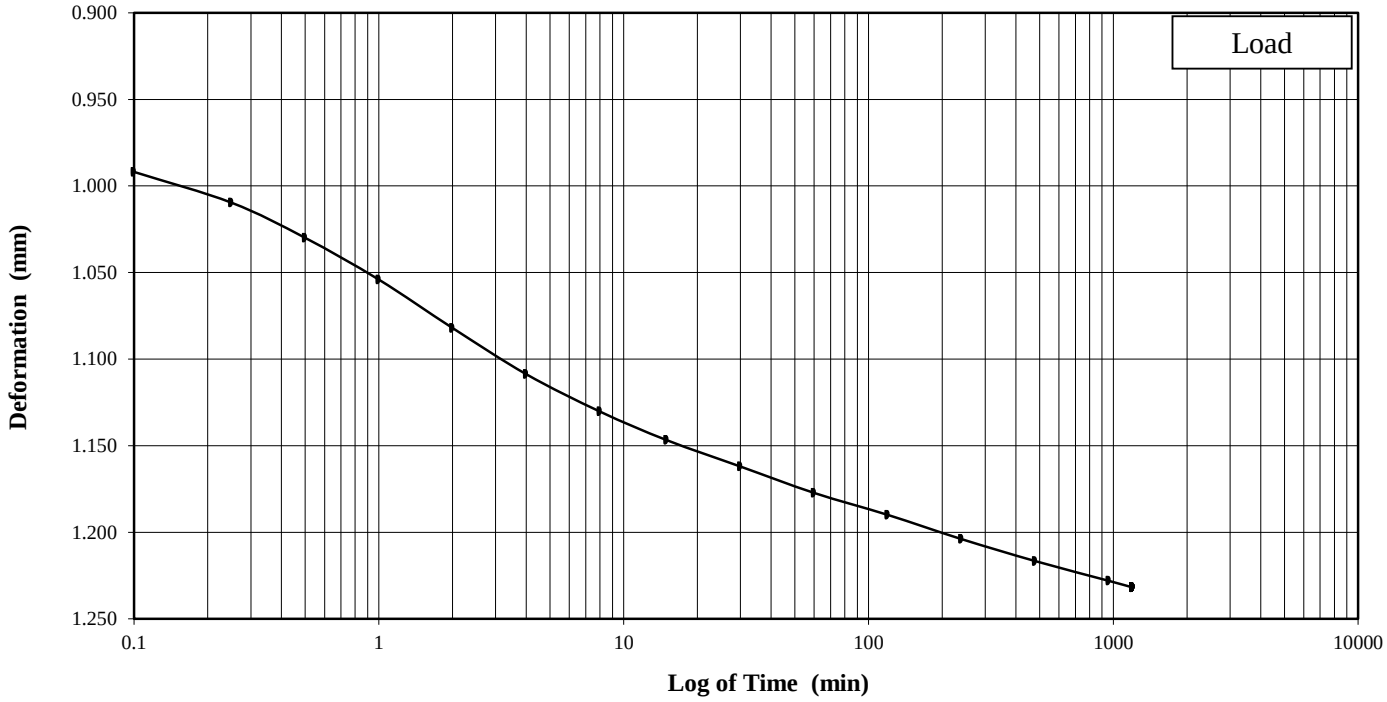
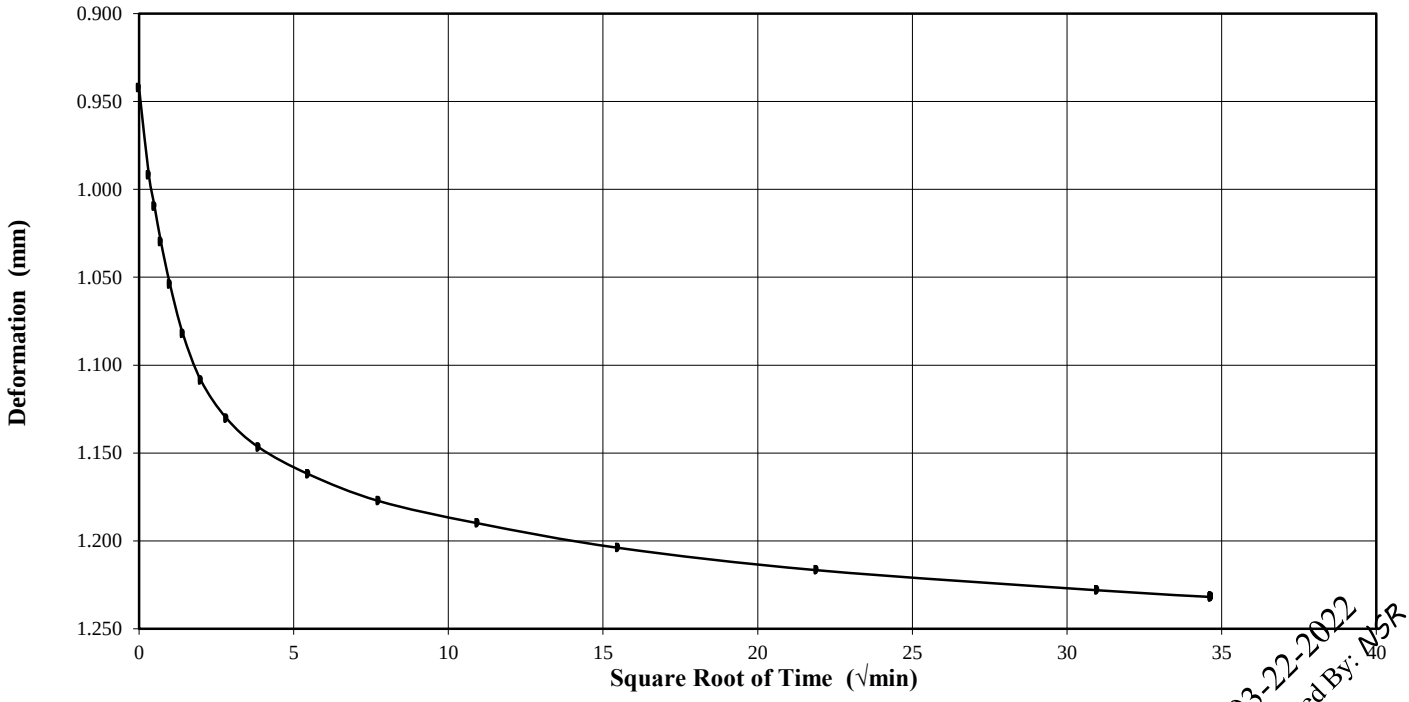
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-108 (6-8') ST
Lab Sample No:	22B050

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 5 - 2000 psf





03-22-2022
Approved By: AJSR

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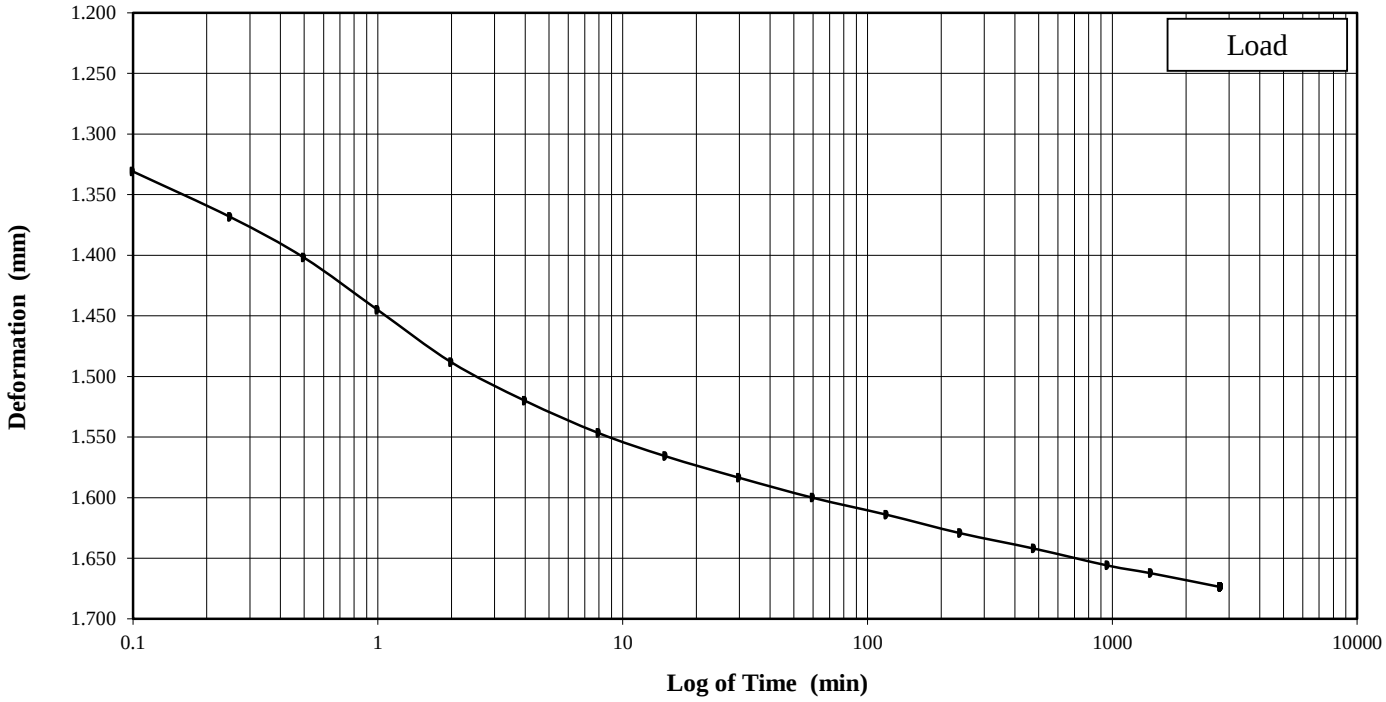
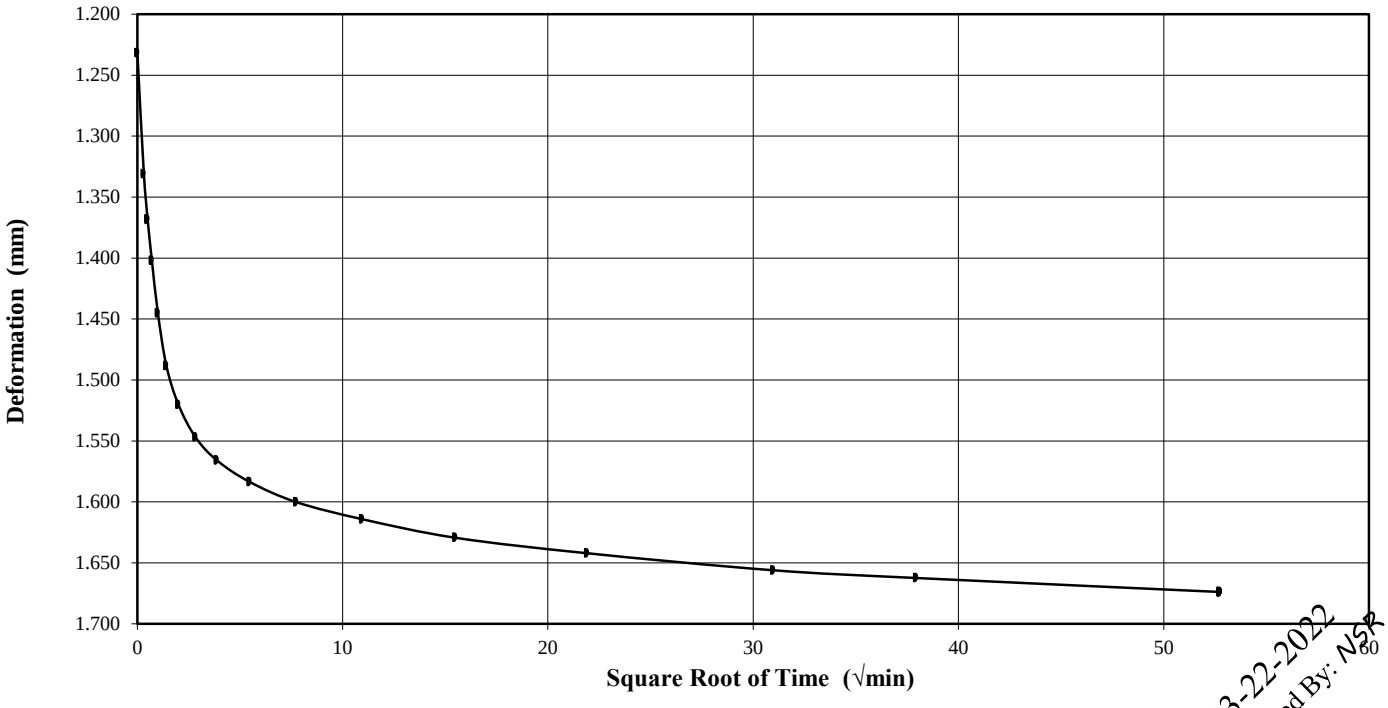
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-108 (6-8') ST
Lab Sample No:	22B050

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 6 - 4000 psf





03-22-2022
Approved By: NSR

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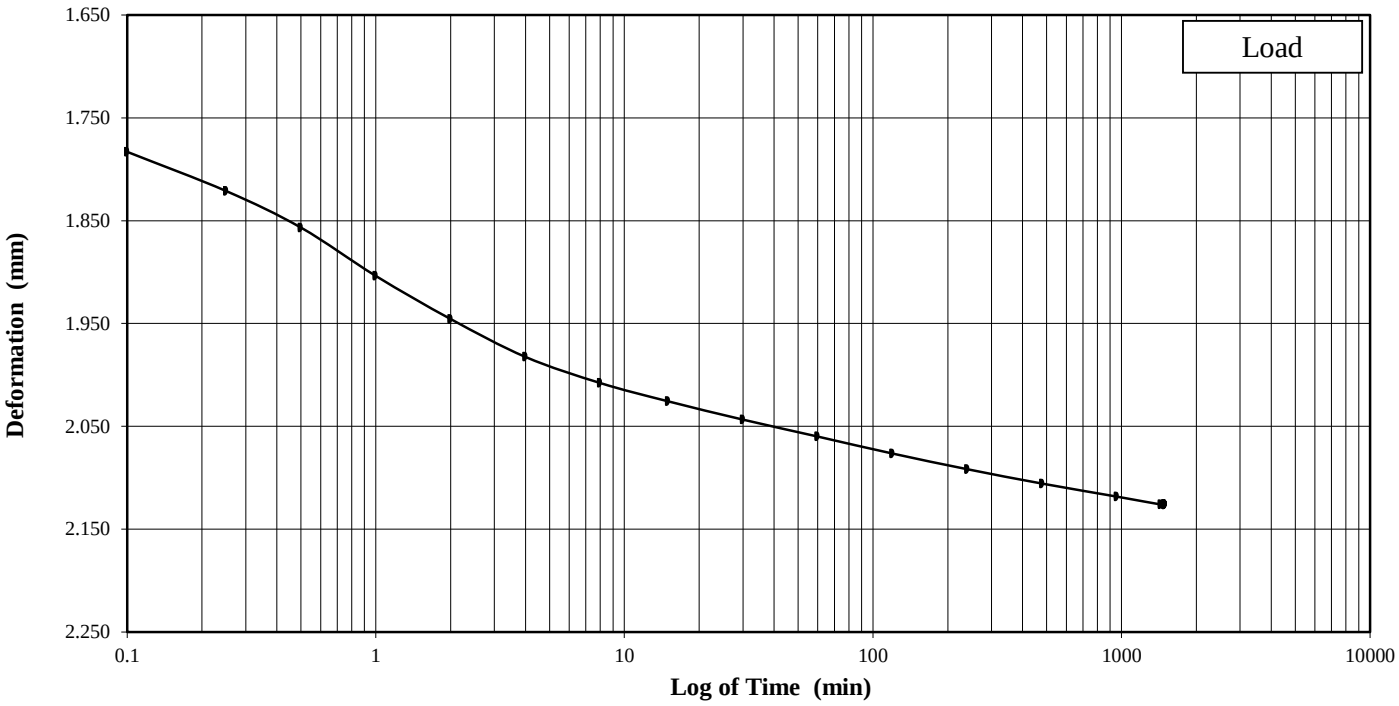
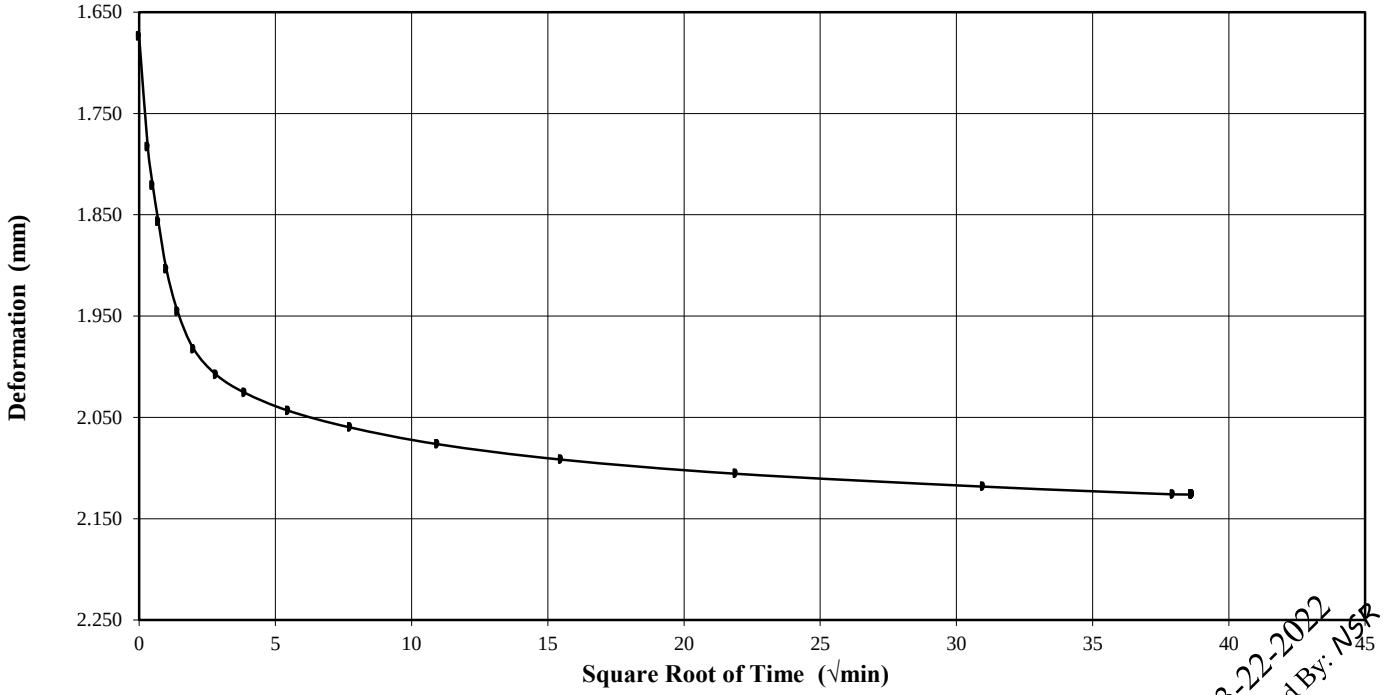
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-108 (6-8') ST
Lab Sample No:	22B050

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 7 - 8000 psf





03-22-2022
Approved By: NSR

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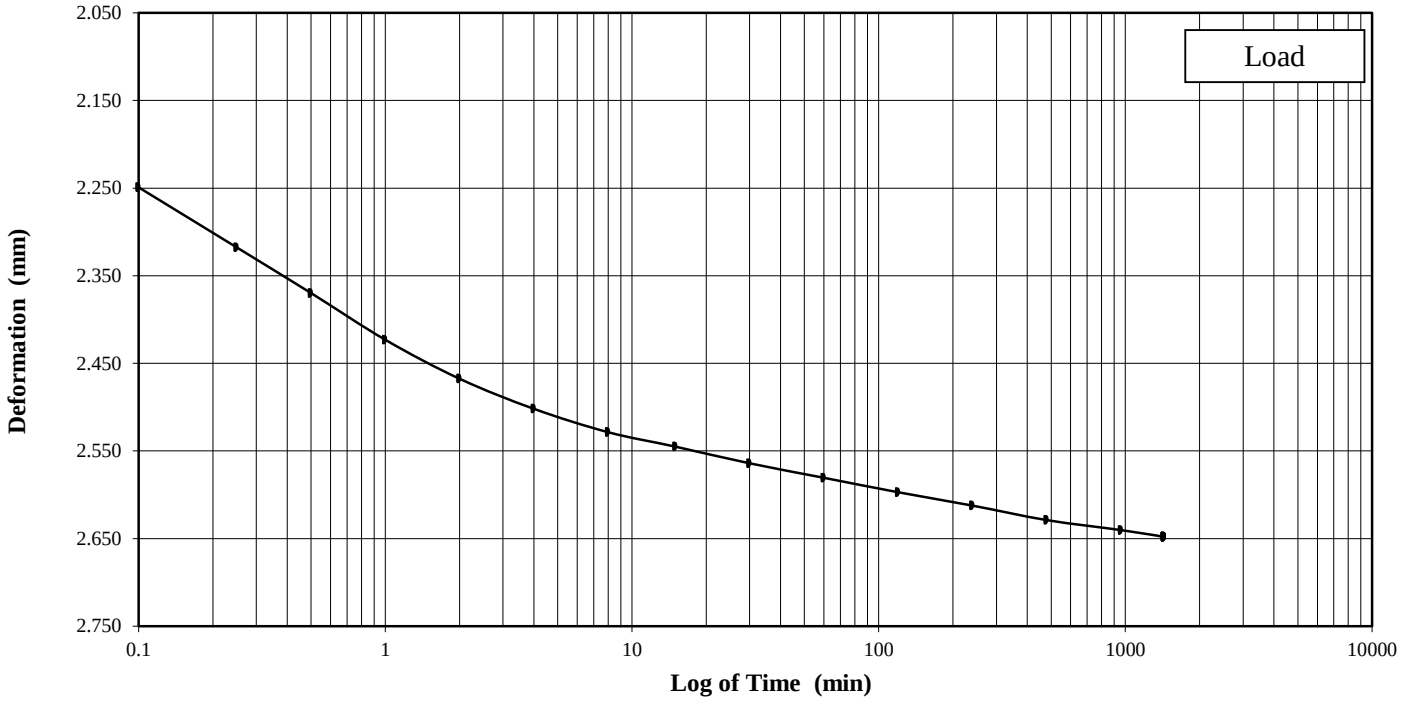
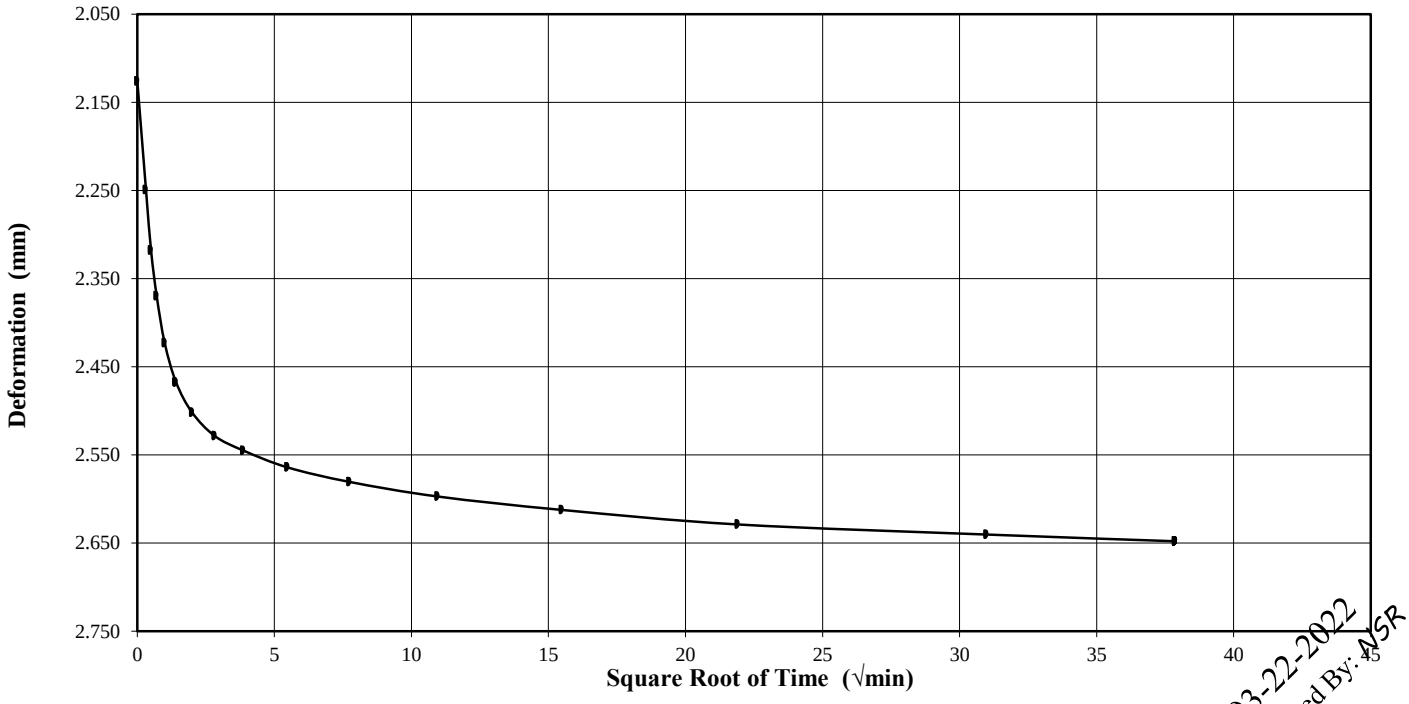
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-108 (6-8') ST
Lab Sample No:	22B050

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 8 - 16000 psf





03-22-2022
Approved By: NSR

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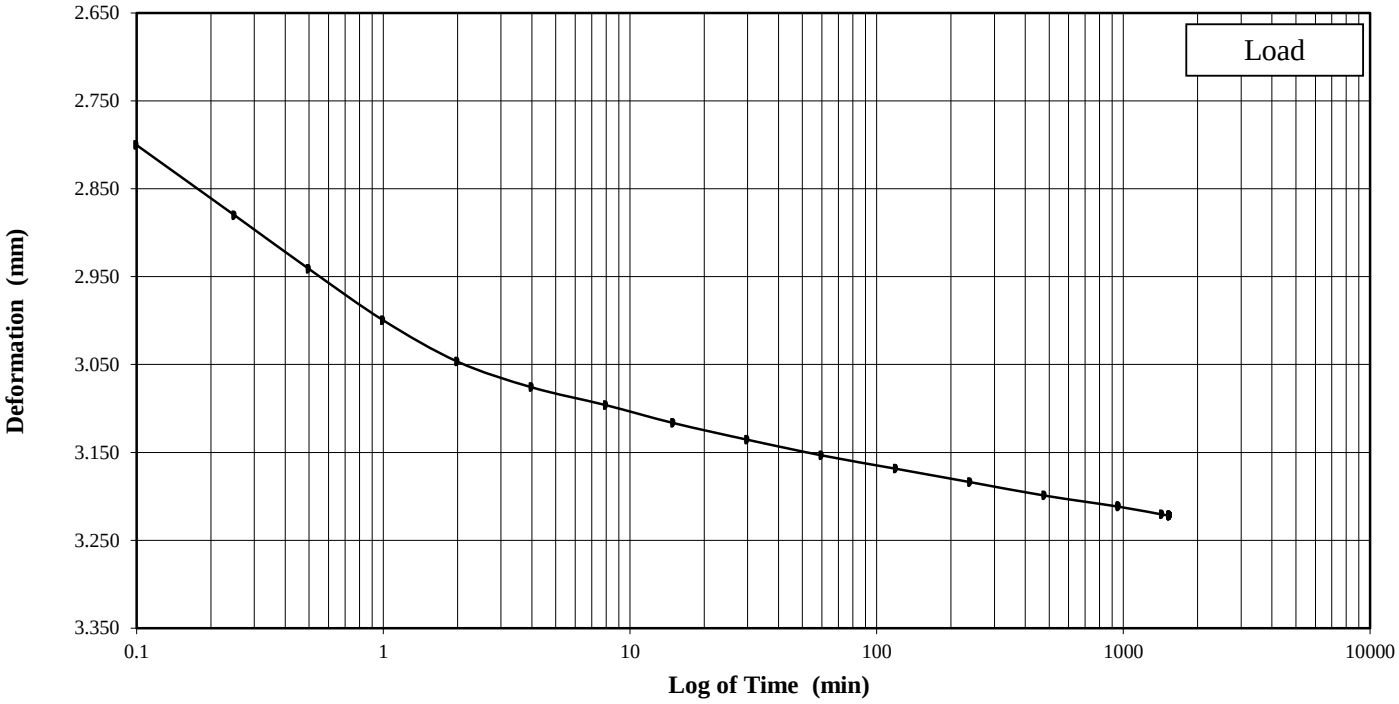
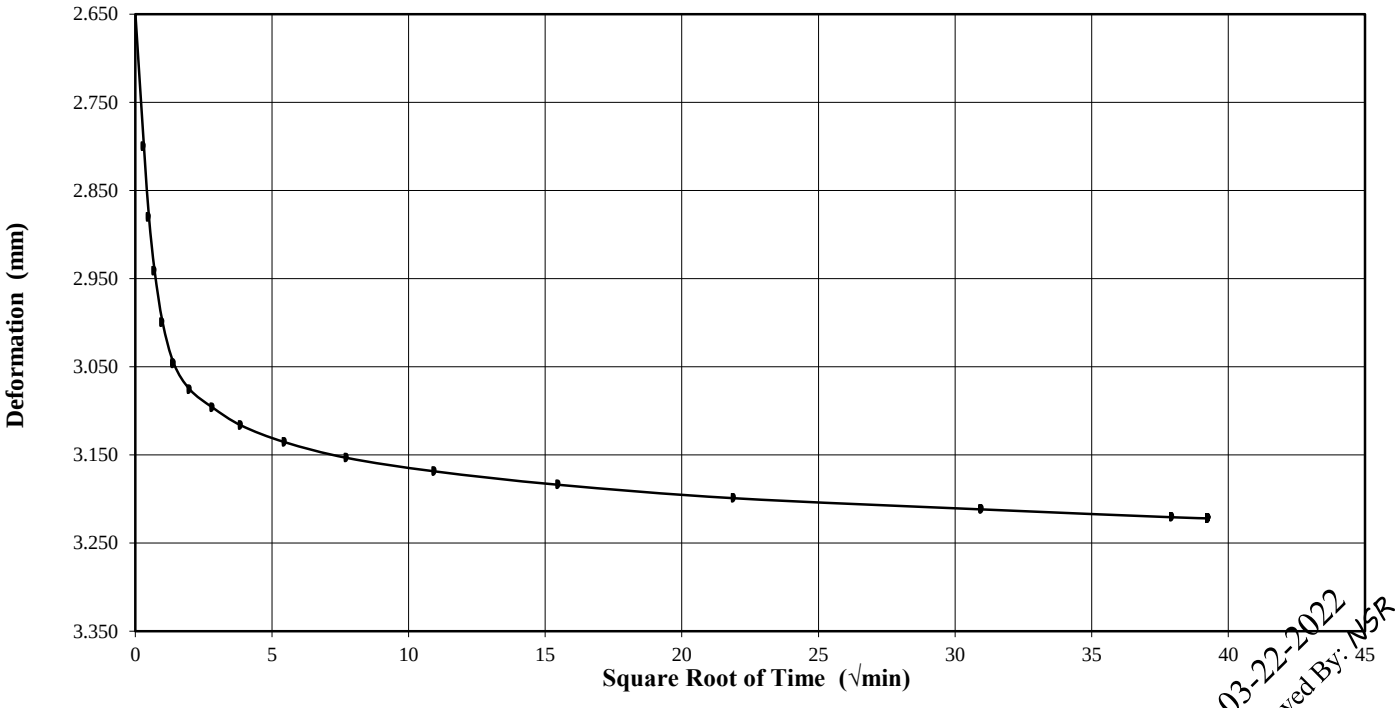
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-108 (6-8') ST
Lab Sample No: 22B050

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 9 - 32000 psf





03-22-2022
Approved By: NSR

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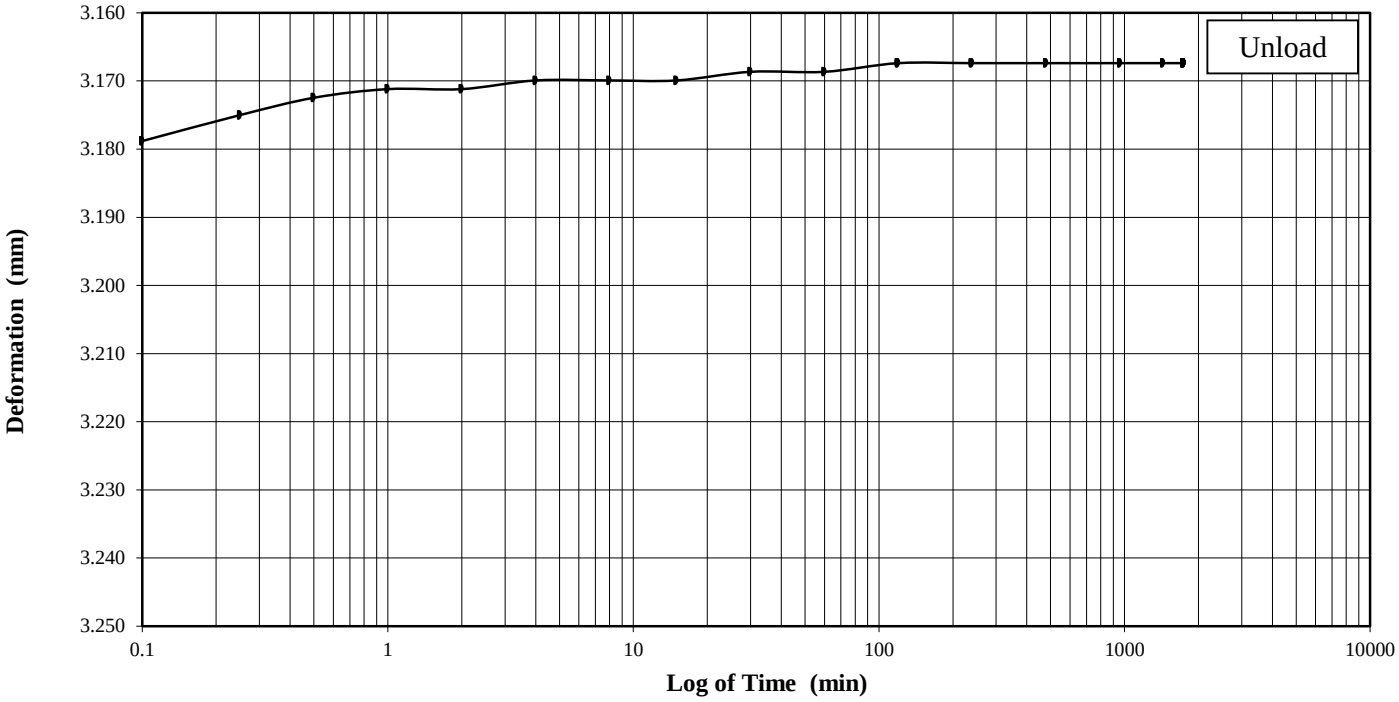
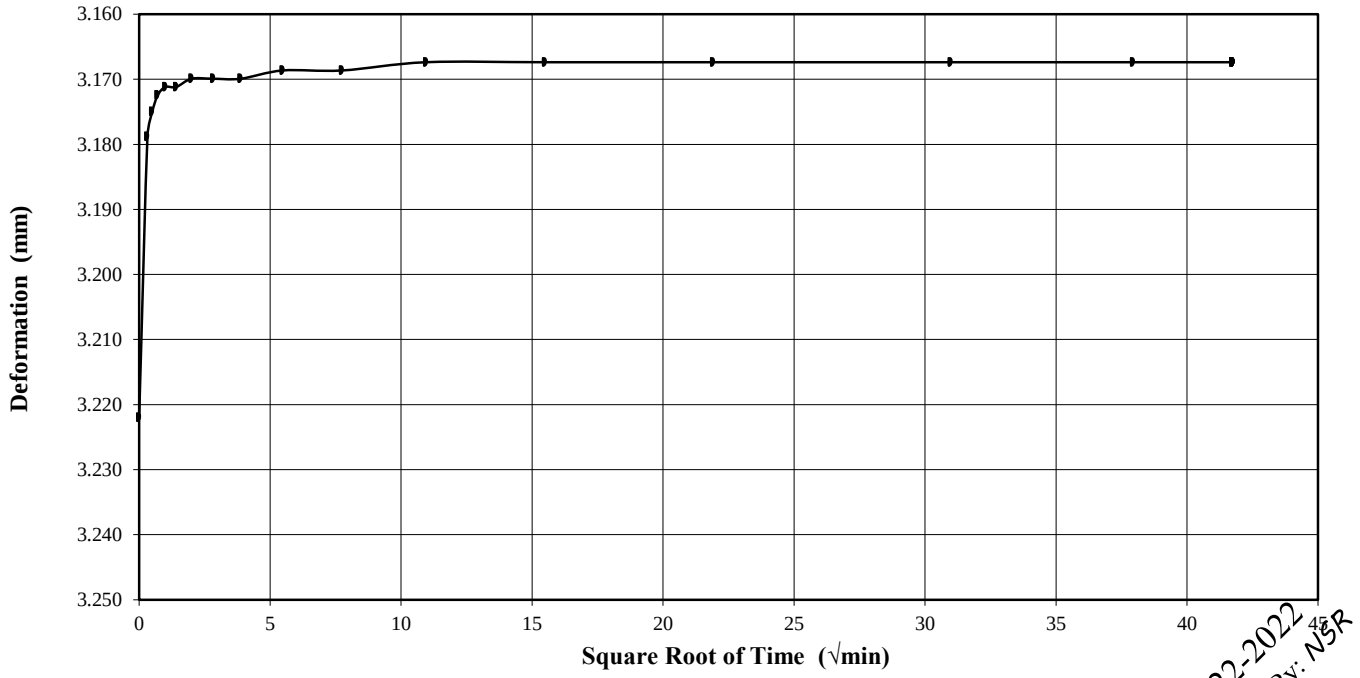
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-108 (6-8') ST
Lab Sample No:	22B050

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 10 - 16000 psf





03-22-2022
Approved By: NSR

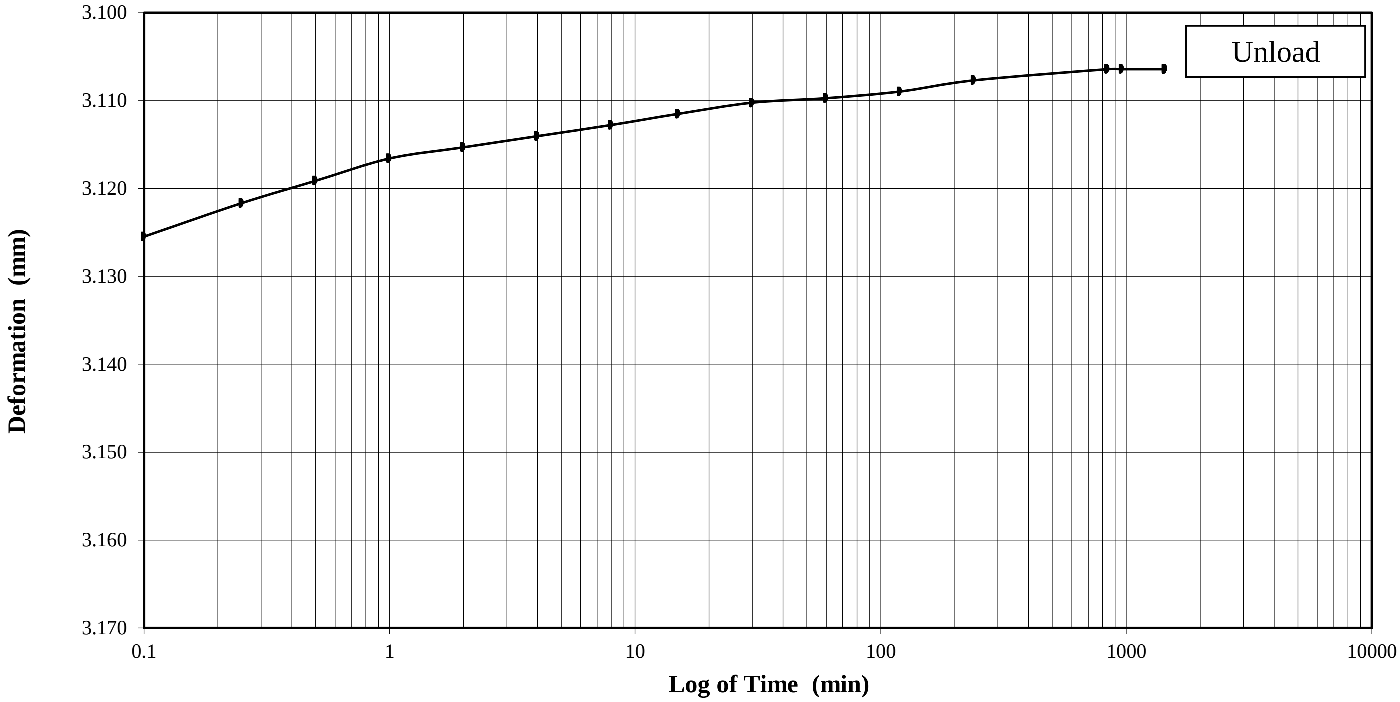
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-108 (6-8') ST
Lab Sample No:	22B050

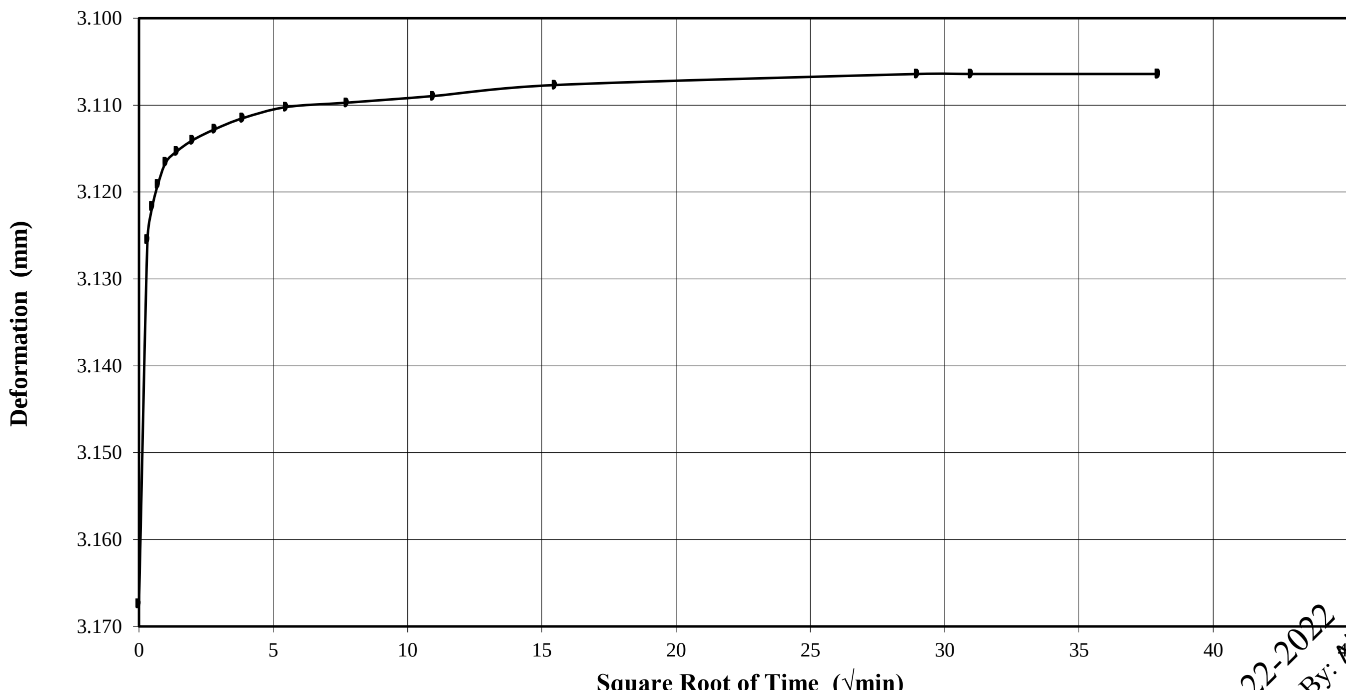
"Excellence in Testing"

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 11 - 8000 psf





03-22-2022
Approved By: NSR

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Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-108 (6-8') ST
Lab Sample No: 22B050

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Client Sample ID	Lab Sample No.	Specimen Quality 1-10 (Bad to Good)	Test Specimen Initial Conditions				Consolidation Pressure (psf)	Pressure Increment Duration (min)	Accumu.(1) Vertical Strain (%)	Figure No.	Remarks
			Height (cm)	Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (%)					
GS-108 (6-8') ST	22B050	7	2.43	6.335	100.8	25.0	100	1170	1.0	1	Starting Load
							250	1463	1.9	2	Load
							500	1543	2.7	3	Load
							1000	1532	3.9	4	Load
							2000	1201	5.1	5	Load
							4000	2780	6.9	6	Load
							8000	1493	8.7	7	Load
							16000	1434	10.9	8	Load
							32000	1542	13.3	9	Load
							16000	1743	13.0	10	Unload
							8000	1440	12.8	11	Unload

Notes:

For each pressure increment, the vertical strain values were calculated based on the final deformation measurements.

03-22-2022
Approved By: NSR

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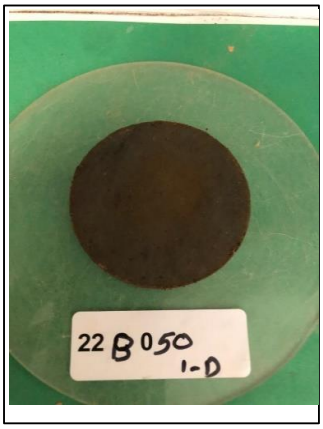
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Sample ID:	GS-108 (6-8') ST
Lab Sample No:	22B050

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

(a)

After Consolidation



(b)

After Consolidation

(c)

Notes: (a) Top view

(b) Bottom view

(c) Specimen split open

03-22-2022
Approved By: MSR

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FLEXIBLE WALL PERMEABILITY TEST [1]

ASTM D5084

Project Name:	Plant Wansley Existing Landfill Investigation
Project Number:	PN1056
Client Name:	Geosyntec Consultants
Site Sample ID:	GS-108 (6-8') ST
Lab Sample Number:	22B050
Material Type:	Soil
Specified Value (cm/sec):	NA
Date Test Started:	3/10/2022

Specimen Type (See Note2)	Specimen Initial Conditions / Specimen Final Conditions				Test Conditions					Hydraulic Conductivity
	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (%)	Cell Press. (psi)	Back Press. (psi)	Consolid. Press. (psi)	Permeant Liquid [3] (-)	Average Gradient (-)	(cm/s)
ST	5.72	7.19	96.1	28.4	73.0	70.0	3.0	DTW	13	4.5E-7
	5.54	7.26	97.4	25.1						

Notes:

1. Method C, "Falling-Head, Increasing-Tailwater" test procedures were followed during the testing.
2. Specimen Type: ST = Shelby Tube, DT = Drive Tube BS = Block Sample, Ot = Others
3. Type of permeant liquid: DTW = Deaired Tap Water, DDW = Deaired Deionized (Distilled) Water

03-22-2022
Approved By: N5R

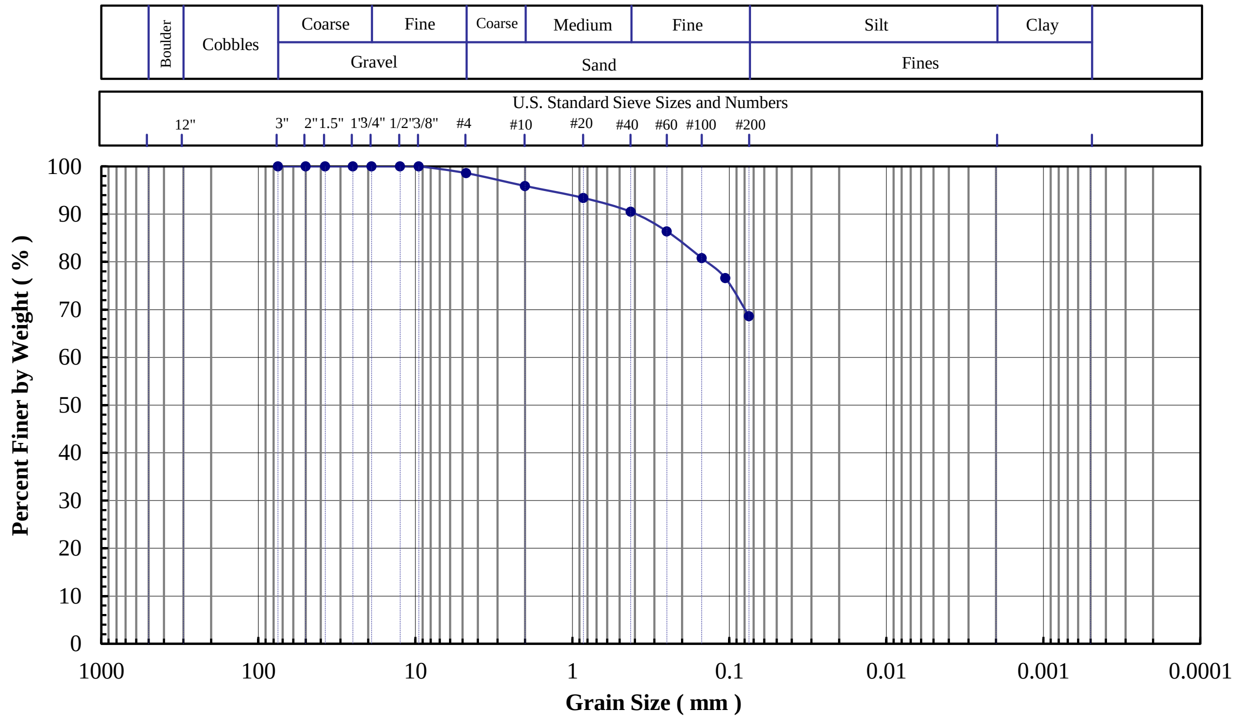
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-108 (6-8') ST
Lab Sample No:	22B050

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

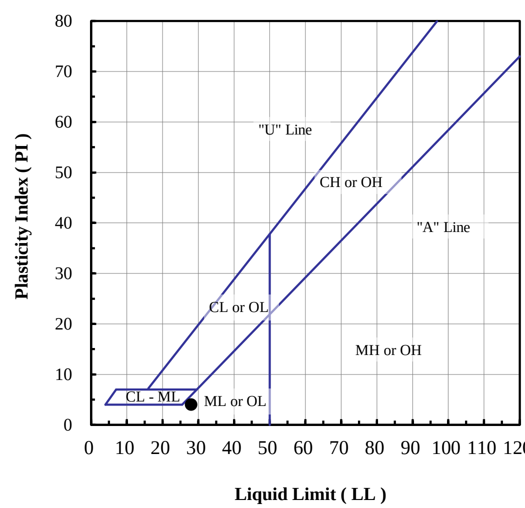


Sieve No.	Size (mm)	% Finer
3"	75	100
2"	50	100
1.5"	37.5	100
1"	25	100
3/4"	19	100
3/8"	9.5	100
#4	4.75	99
#10	2.00	96
#20	0.850	93
#40	0.425	91
#60	0.250	86
#100	0.150	81
#140	0.106	77
#200	0.075	69

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	1
Sand (%):	30
Fines (%):	69
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):	2.689	**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-108 (6-8') ST	22B050	24.9	69	28	24	4	ML - Sandy silt

Note(s): Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-22-2022
Approved By: NSR

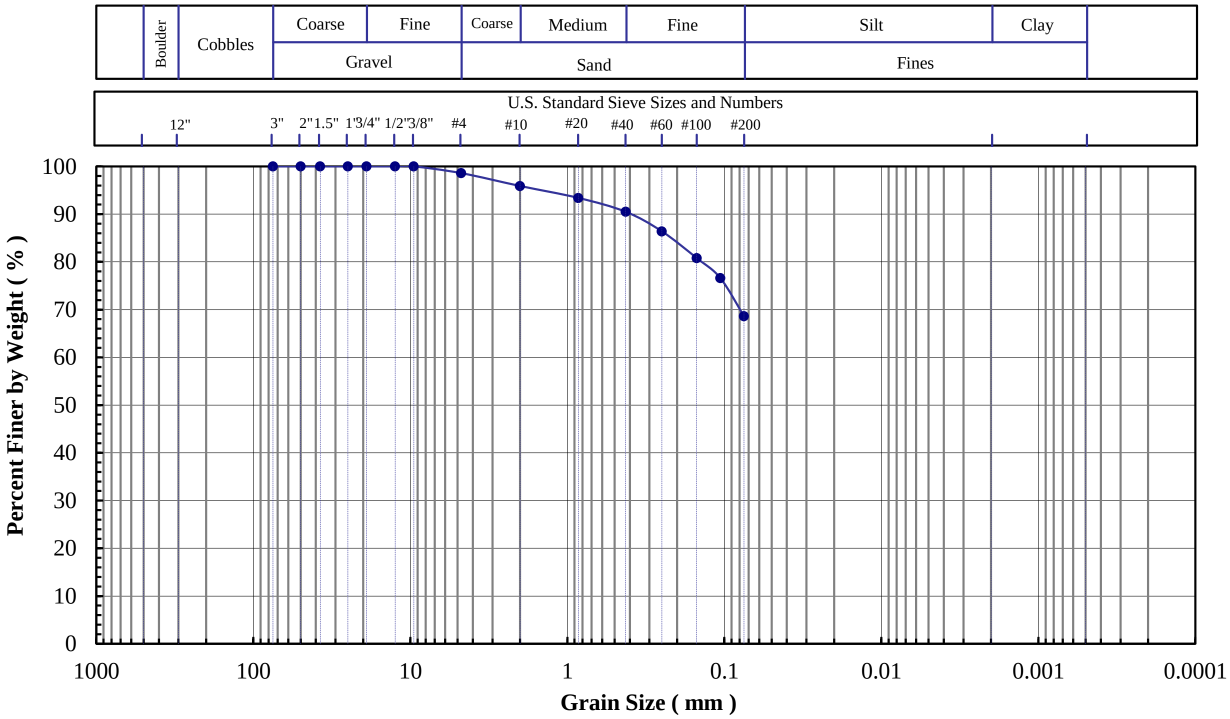
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-108 (6-8') ST
Lab Sample No:	22B050

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

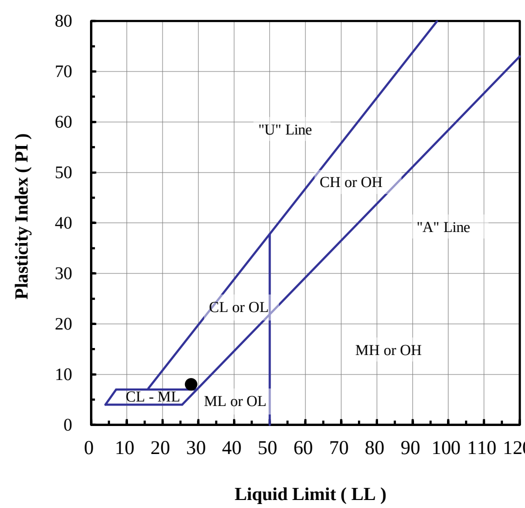


Sieve No.	Size (mm)	% Finer
3"	75	100
2"	50	100
1.5"	37.5	100
1"	25	100
3/4"	19	100
3/8"	9.5	100
#4	4.75	99
#10	2.00	96
#20	0.850	93
#40	0.425	91
#60	0.250	86
#100	0.150	81
#140	0.106	77
#200	0.075	69

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	1
Sand (%):	30
Fines (%):	69
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):	2.689	**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-108 (6-8') ST	22B050	24.9	69	28	20	8	CL - Sandy lean clay

Note(s): Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

Approved By: NSR
03-23-2022

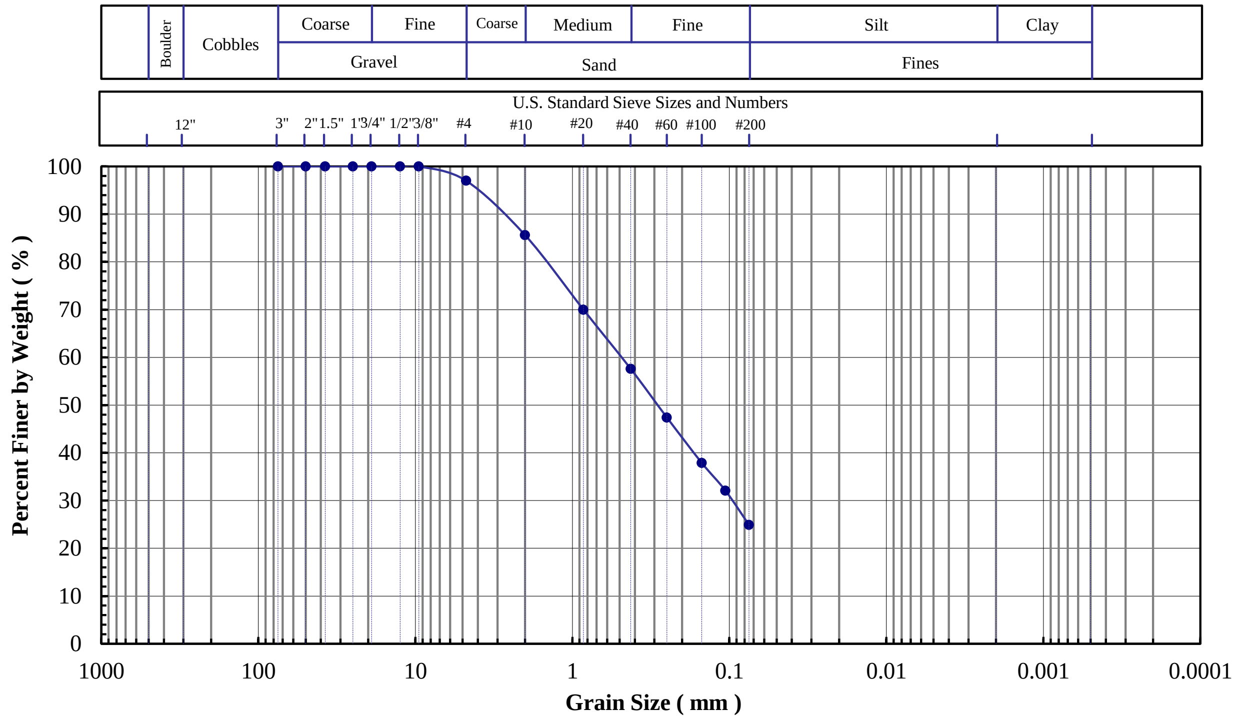
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-111 (6-8')
Lab Sample No:	22A087

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

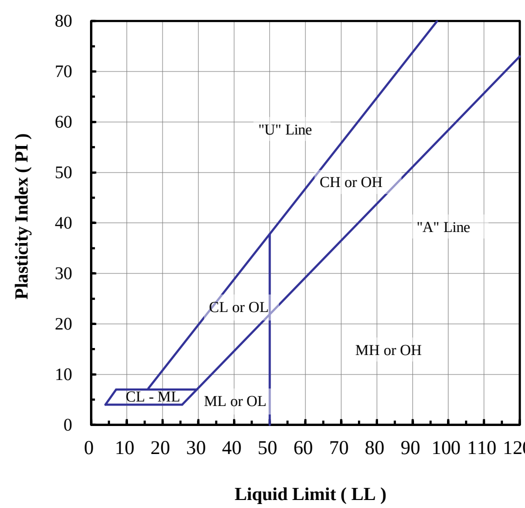


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	97.0
#10	2.00	85.6
#20	0.850	70.0
#40	0.425	57.6
#60	0.250	47.4
#100	0.150	37.9
#140	0.106	32.1
#200	0.075	24.9

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	3.0
Sand (%):	72.1
Fines (%):	24.9
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-111 (6-8')	22A087		24.9	NP	NP	NP	SM - Silty sand

Note(s): Engineering classification is based on the assumption that the fines are either ML or MH.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

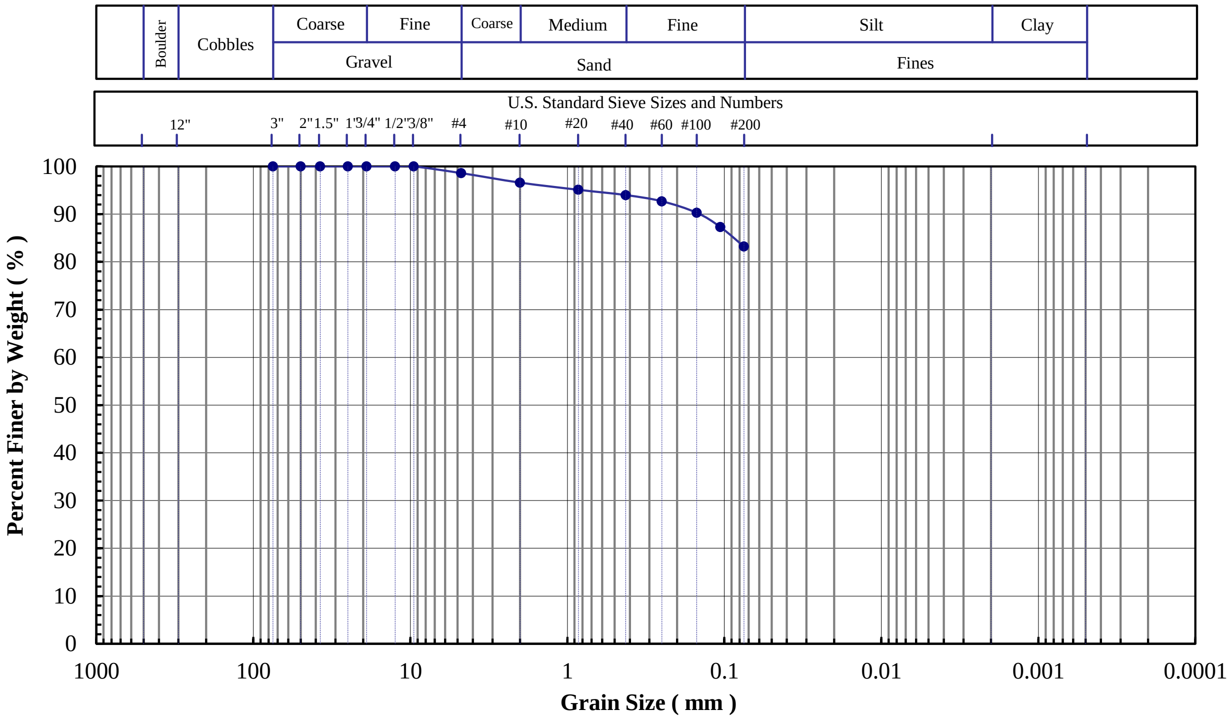
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-112 (23-25')
Lab Sample No:	22B051

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

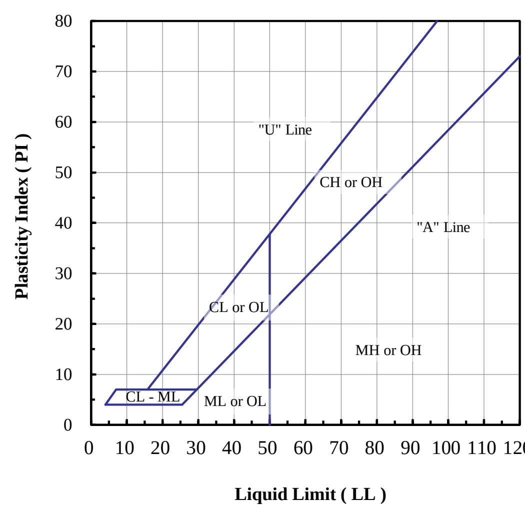


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	98.6
#10	2.00	96.6
#20	0.850	95.1
#40	0.425	94.0
#60	0.250	92.7
#100	0.150	90.3
#140	0.106	87.3
#200	0.075	83.2

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	1.4
Sand (%):	15.4
Fines (%):	83.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):	2.767	**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-112 (23-25')	22B051		83.2	NP	NP	NP	ML - Silt with sand

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-21-2022
Approved By: NSR

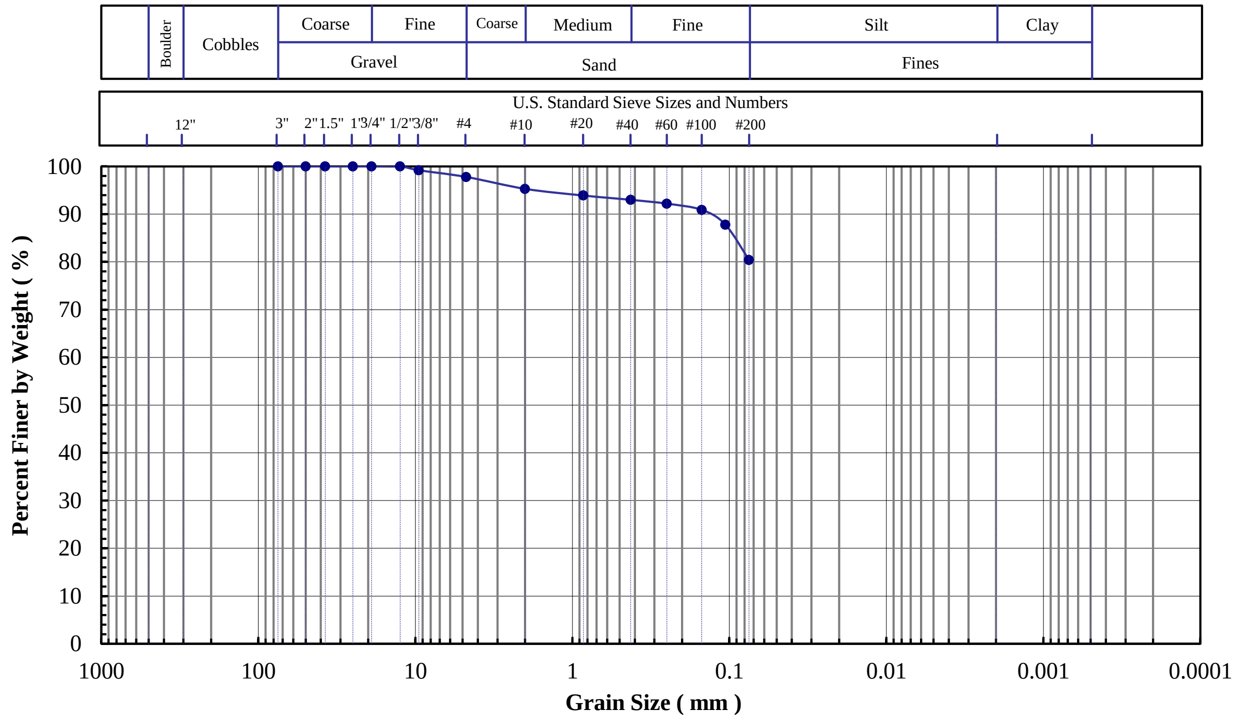
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-114 (16-18')
Lab Sample No:	22A066

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

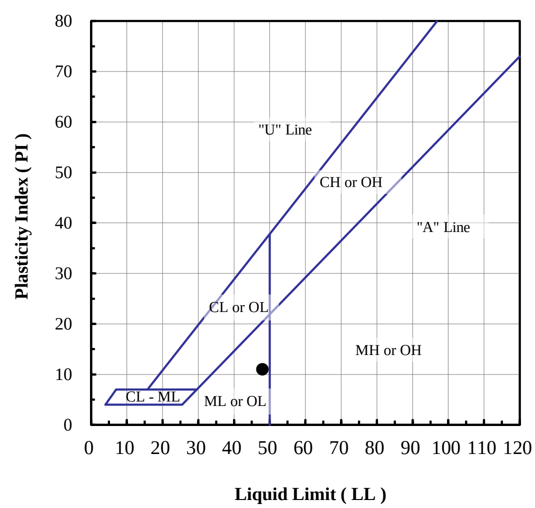


Sieve No.	Size (mm)	% Finer
3"	75	100
2"	50	100
1.5"	37.5	100
1"	25	100
3/4"	19	100
3/8"	9.5	99
#4	4.75	98
#10	2.00	95
#20	0.850	94
#40	0.425	93
#60	0.250	92
#100	0.150	91
#140	0.106	88
#200	0.075	80

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	2
Sand (%):	18
Fines (%):	80
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-114 (16-18')	22A066		80	48	37	11	ML - Silt with sand

Note(s): Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

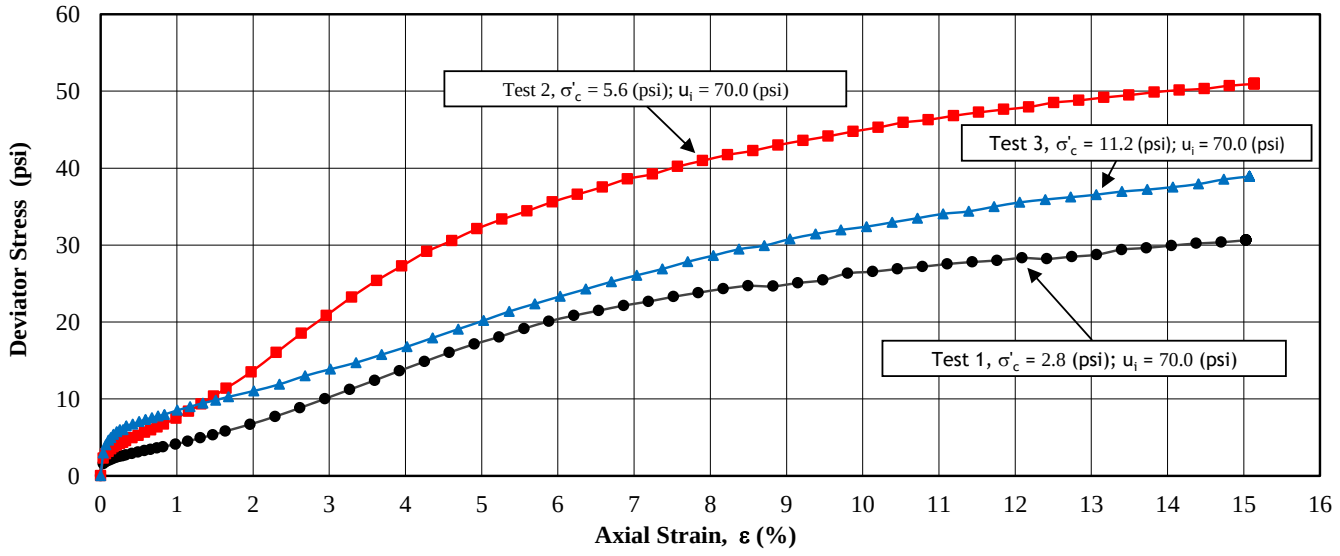
03-19-2022
Approved By: NSR

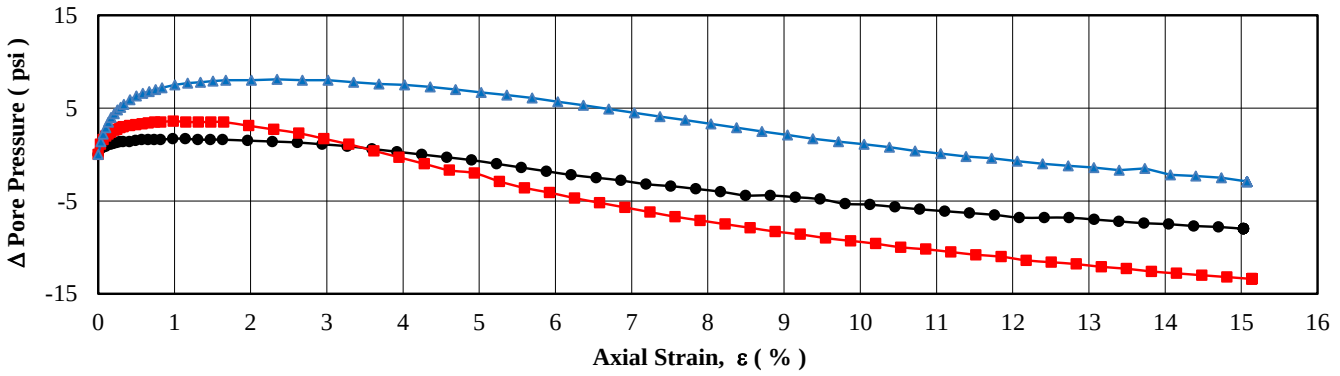
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-114 (16-18)
Lab Sample No:	22A069

ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 1





Test Specimen No.	Maximum Strength				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	30.6	41.4	10.8	62.0	15.0
2	50.9	69.9	19.0	56.6	15.1
3	38.9	53.0	14.1	67.1	15.1

Test Specimen No.	Strength at App. 15% Axial Strain				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	30.6	41.4	10.8	62.0	15.0
2	50.9	69.9	19.0	56.6	15.1
3	38.9	53.0	14.1	67.1	15.1

Notes:

σ'_c = Consolidation pressure, (psi) u_i = Initial pore pressure,(psi)

02-03-2022
Approved By: NSR

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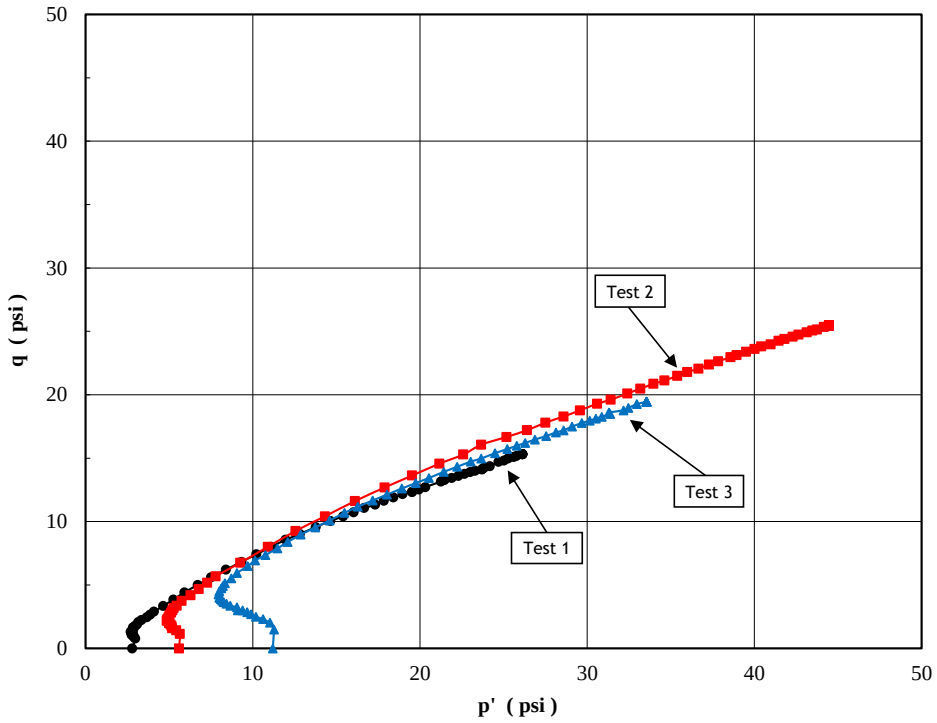
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-114 (16-18)
Lab Sample No:	22A069

ASTM D 4767

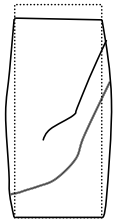
CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 2

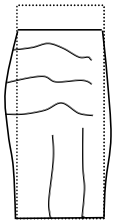


Test Specimen Number (-)	Specimen Quality Bad to Good (1 to 10)	Initial Conditions							Consolidation Stage		Loading
		Height (in .)	Diameter (in.)	Moisture Content (%)	Dry Unit Weight (pcf)	B Parameter (-)	Initial Pore Pressure (u_i) (psi)	Consolidation Pressure (σ'_c) (psi)	Axial Strain (%)	Volumetric Strain (%)	Axial Rate (% / min)
1	8	6.14	2.85	29.5	94.3	0.98	70.0	2.8	0.33	1.04	0.033
2	8	6.10	2.86	28.6	95.1	0.96	70.0	5.6	0.46	0.83	0.033
3	6	6.07	2.88	29.8	92.7	0.99	70.0	11.2	1.70	2.65	0.033

Specimen No.1
Light orange brown sandy silty clay



Specimen No. 2
Light orange brown sandy silty clay



Specimen No. 3
Light orange brown sandy silty clay

Notes:

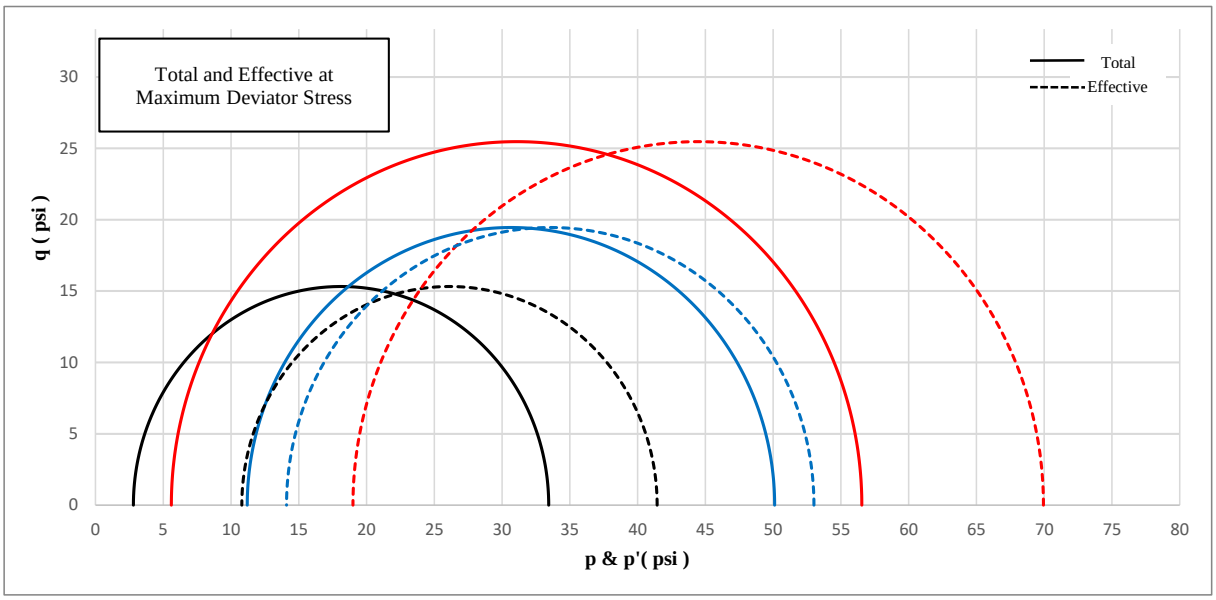
02-03-2022
Approved By: NSR

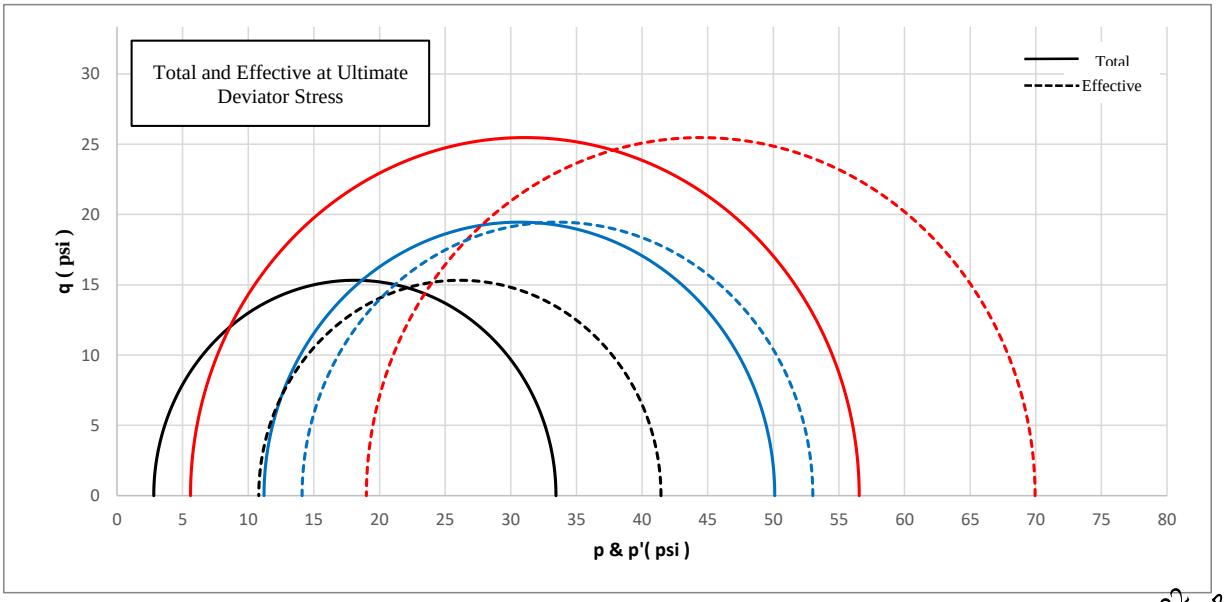
	"Excellence in Testing"	**Project Name:** Plant Wansley Existing Landfill Investigation
		Project No: PN1056
		Site Sample ID: GS-114 (16-18)
		Lab Sample No: 22A069

ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 3





02-03-2022
Approved By: NSR

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Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

Sample ID: GS-114 (16-18)

Lab Sample No: 22A069

ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

(a)

Specimen No. 1
Light orange brown sandy silty clay

(b)

(a)

Specimen No. 2
Light orange brown sandy silty clay

(b)

(a)

Specimen No. 3
Light orange brown sandy silty clay

(b)

Notes: (a) Failure after shear

(b) Specimen split open

02-03-2022
Approved By: NSR

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Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

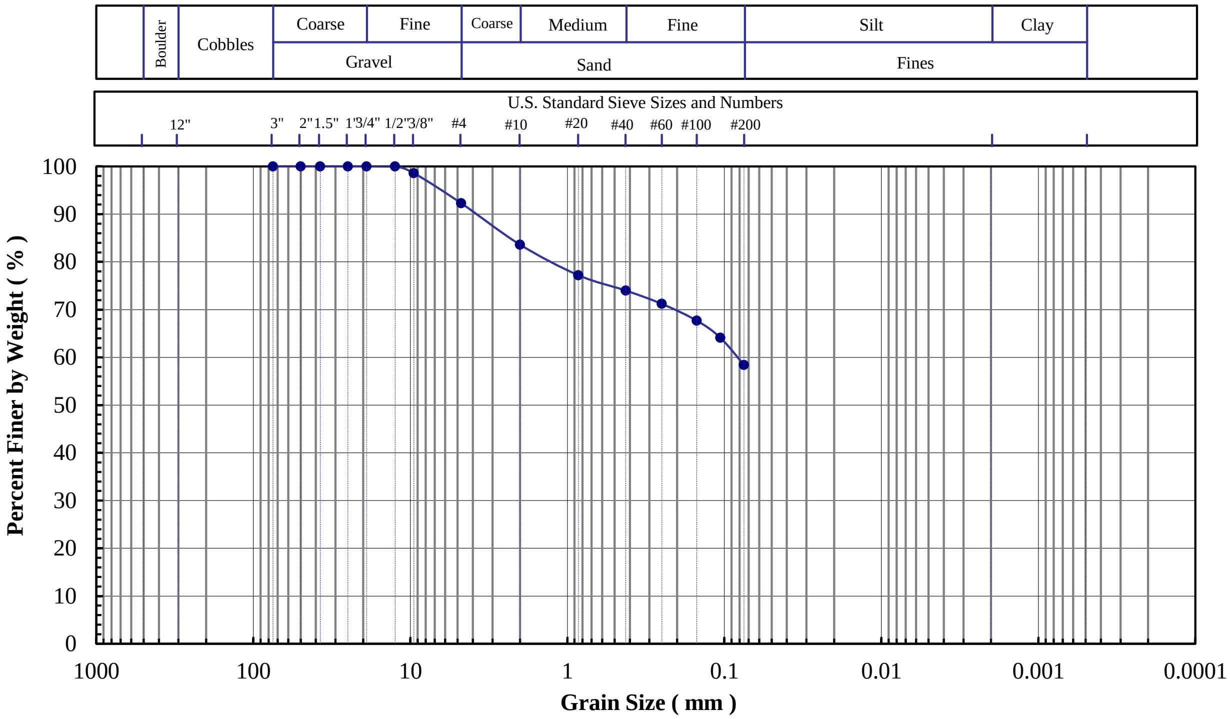
Client Sample ID: GS-115 (4-6')

Lab Sample No: 22A067

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

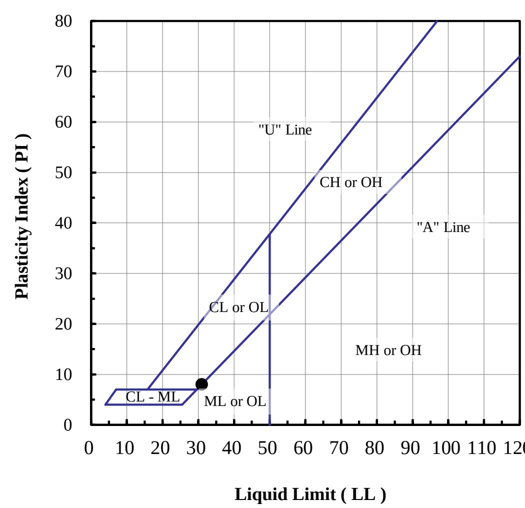


Sieve No.	Size (mm)	% Finer
3"	75	100
2"	50	100
1.5"	37.5	100
1"	25	100
3/4"	19	100
3/8"	9.5	99
#4	4.75	92
#10	2.00	84
#20	0.850	77
#40	0.425	74
#60	0.250	71
#100	0.150	68
#140	0.106	64
#200	0.075	58

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	8
Sand (%):	34
Fines (%):	58
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-115 (4-6')	22A067		58	31	23	8	ML - Sandy silt

Note(s): Sieve test specimen was undersized.
Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

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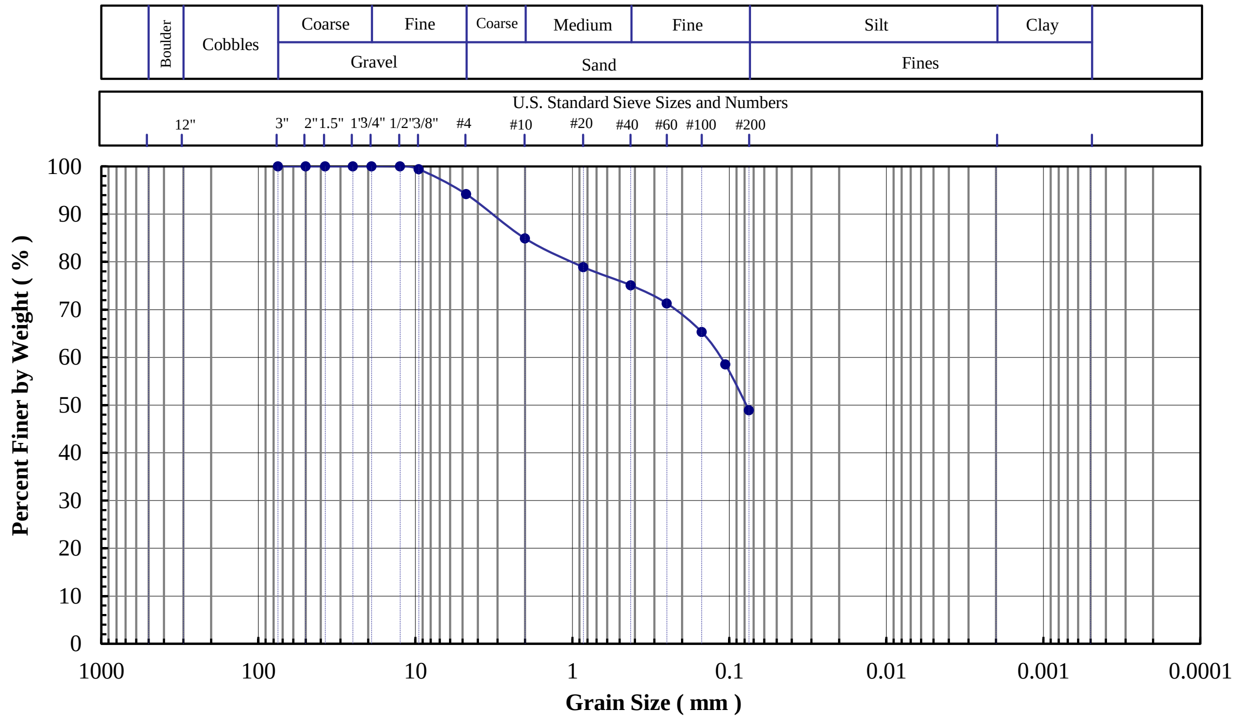
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-115 (28-30')
Lab Sample No:	22A068

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

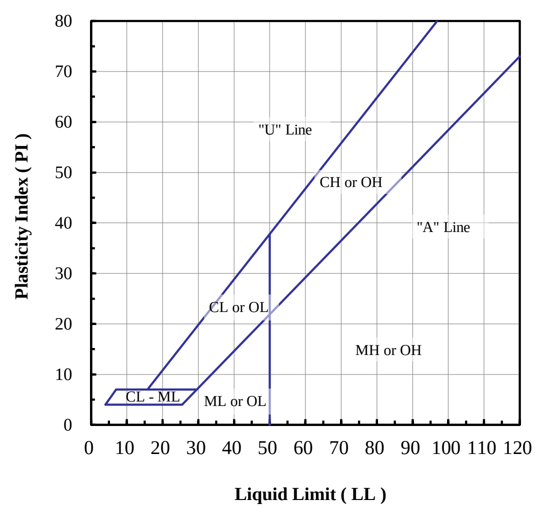


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	99.4
#4	4.75	94.2
#10	2.00	84.9
#20	0.850	78.9
#40	0.425	75.1
#60	0.250	71.3
#100	0.150	65.3
#140	0.106	58.5
#200	0.075	48.9

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	5.8
Sand (%):	45.3
Fines (%):	48.9
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-115 (28-30')	22A068		48.9				

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

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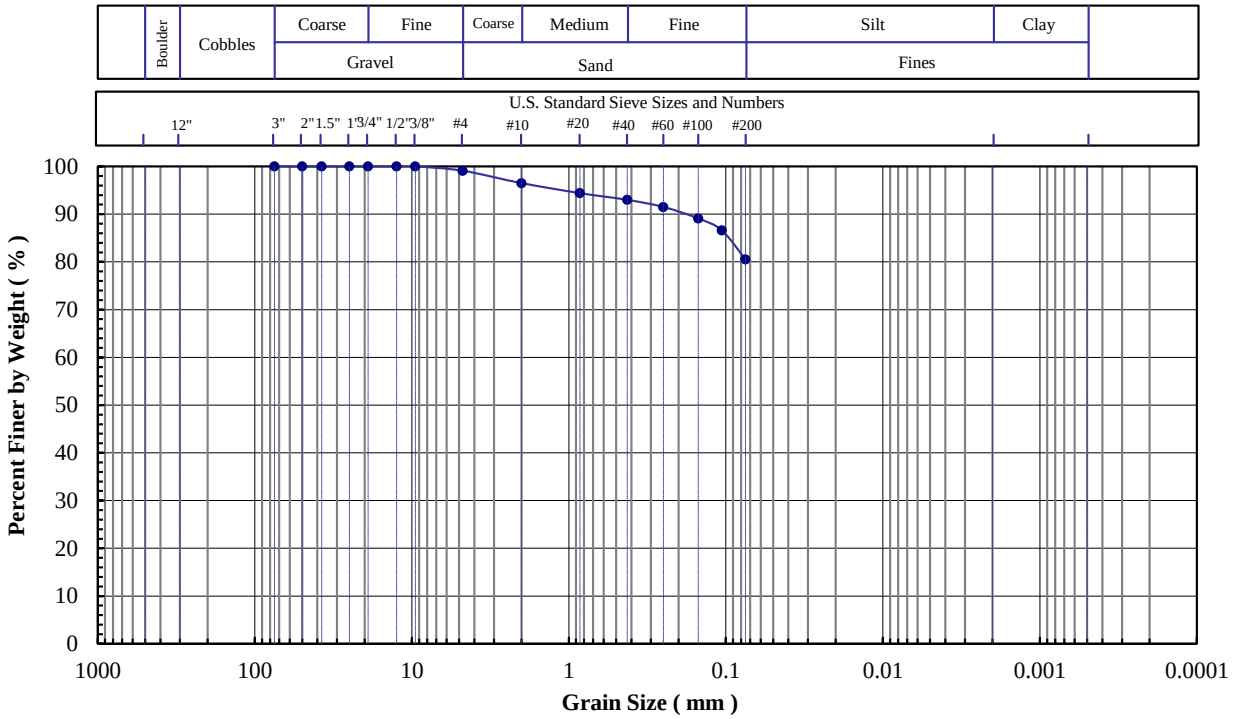
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-116 (6-8') ST
Lab Sample No:	22A069

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

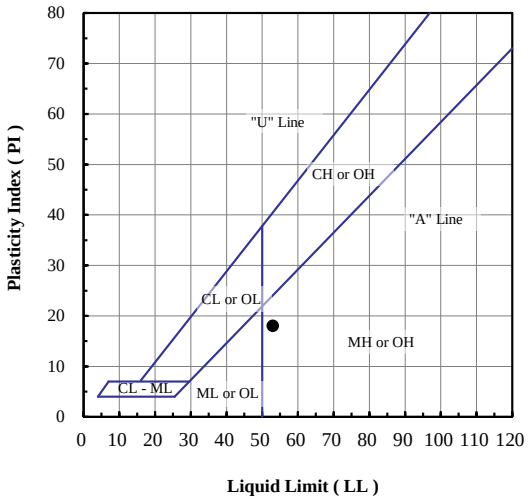


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.1
#10	2.00	96.5
#20	0.850	94.4
#40	0.425	93.0
#60	0.250	91.5
#100	0.150	89.1
#140	0.106	86.6
#200	0.075	80.5

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.9
Sand (%):	18.6
Fines (%):	80.5
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
GS-116 (6-8') ST	22A069		80.5	53	35	18	MH - Elastic silt with sand

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

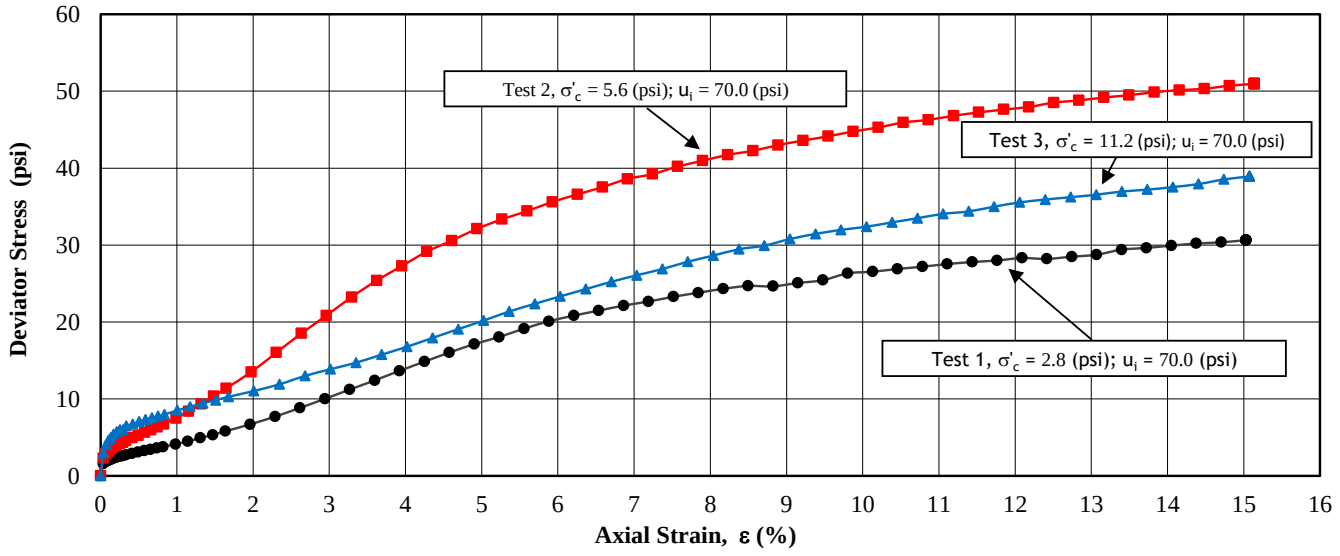
03-21-2022
Approved By: NSR

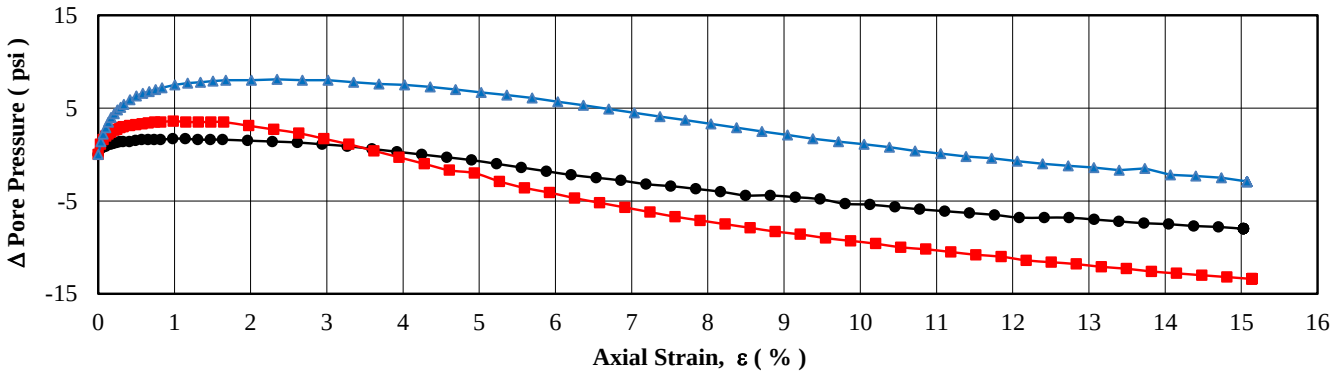
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-116 (6-8') ST
Lab Sample No:	22A069

ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 1





Test Specimen No.	Maximum Strength				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	30.6	41.4	10.8	62.0	15.0
2	50.9	69.9	19.0	56.6	15.1
3	38.9	53.0	14.1	67.1	15.1

Test Specimen No.	Strength at App. 15% Axial Strain				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	30.6	41.4	10.8	62.0	15.0
2	50.9	69.9	19.0	56.6	15.1
3	38.9	53.0	14.1	67.1	15.1

Notes:

σ'_c = Consolidation pressure, (psi) u_i = Initial pore pressure,(psi)

02-22-2022
Approved By: NSR

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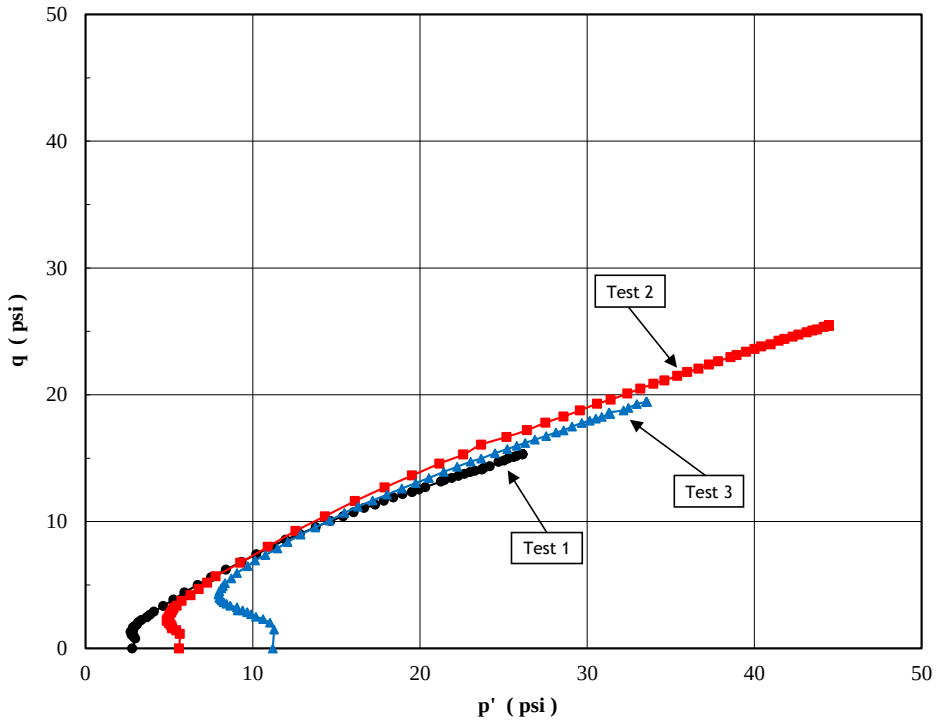
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-116 (6-8') ST
Lab Sample No:	22A069

ASTM D 4767

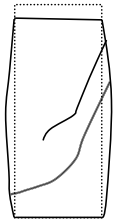
CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 2

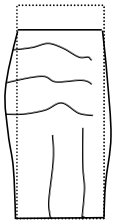


Test Specimen Number (-)	Specimen Quality Bad to Good (1 to 10)	Initial Conditions							Consolidation Stage		Loading
		Height (in .)	Diameter (in.)	Moisture Content (%)	Dry Unit Weight (pcf)	B Parameter (-)	Initial Pore Pressure (u_i) (psi)	Consolidation Pressure (σ'_c) (psi)	Axial Strain (%)	Volumetric Strain (%)	Axial Rate (% / min)
1	8	6.14	2.85	29.5	94.3	0.98	70.0	2.8	0.33	1.04	0.033
2	8	6.10	2.86	28.6	95.1	0.96	70.0	5.6	0.46	0.83	0.033
3	6	6.07	2.88	29.8	92.7	0.99	70.0	11.2	1.70	2.65	0.033

Specimen No.1
Light orange brown sandy silty clay



Specimen No. 2
Light orange brown sandy silty clay



Specimen No. 3
Light orange brown sandy silty clay

Notes:

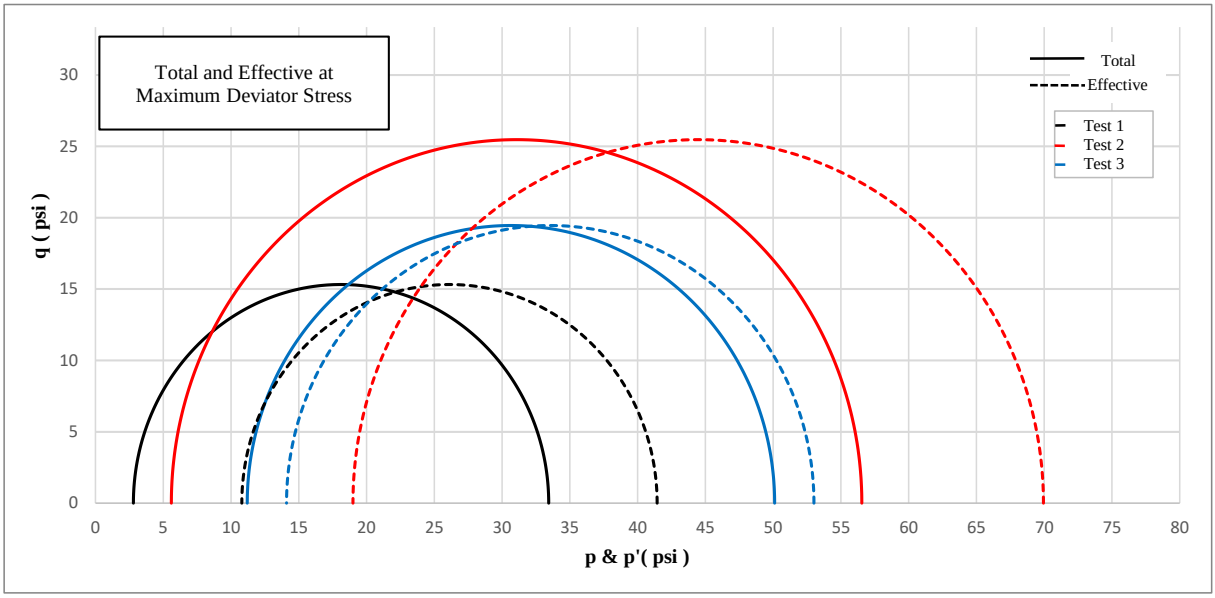
02-22-2022
Approved By: NSR

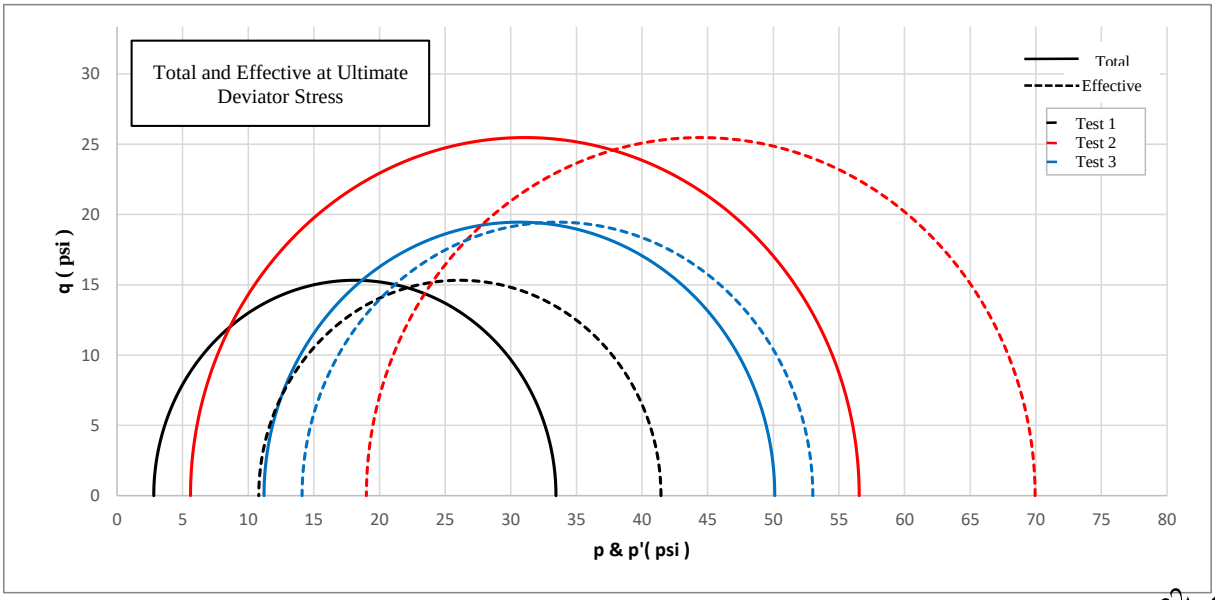
	"Excellence in Testing"	**Project Name:** Plant Wansley Existing Landfill Investigation
		Project No: PN1056
		Site Sample ID: GS-116 (6-8') ST
		Lab Sample No: 22A069

ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 3





02-22-2022
Approved By: NSR

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Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

Sample ID: GS-116 (6-8') ST

Lab Sample No: 22A069

ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

(a)

Specimen No. 1
Light orange brown sandy silty clay

(b)

(a)

Specimen No. 2
Light orange brown sandy silty clay

(b)

(a)

Specimen No. 3
Light orange brown sandy silty clay

(b)

Notes: (a) Failure after shear

(b) Specimen split open

02-22-2022
Approved By: NSR

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FLEXIBLE WALL PERMEABILITY TEST [1]

ASTM D5084

Project Name:	Plant Wansley Existing Landfill Investigation
Project Number:	PN1056
Client Name:	Geosyntec Consultants
Site Sample ID:	GS-116 (22-24') ST
Lab Sample Number:	22A070
Material Type:	Soil
Specified Value (cm/sec):	NA
Date Test Started:	2/17/2022

Specimen Type (See Note2)	Specimen Initial Conditions / Specimen Final Conditions				Test Conditions					Hydraulic Conductivity
	Spec. Hieght (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (%)	Cell Press. (psi)	Back Press. (psi)	Consolid. Press. (psi)	Permeant Liquid [3] (-)	Average Gradient (-)	(cm/s)
ST	5.54	7.28	71.6	46.3	79.0	70.0	9.0	DTW	15	3.8E-5
	5.30	7.05	78.5	43.2						

Notes:

1. Method C, "Falling-Head, Increasing-Tailwater" test procedures were followed during the testing.
2. Specimen Type: ST = Shelby Tube, DT = Drive Tube BS = Block Sample, Ot = Others
3. Type of permeant liquid: DTW = Deaired Tap Water, DDW = Deaired Deionized (Distilled) Water

03-19-2022
Approved By: NSR

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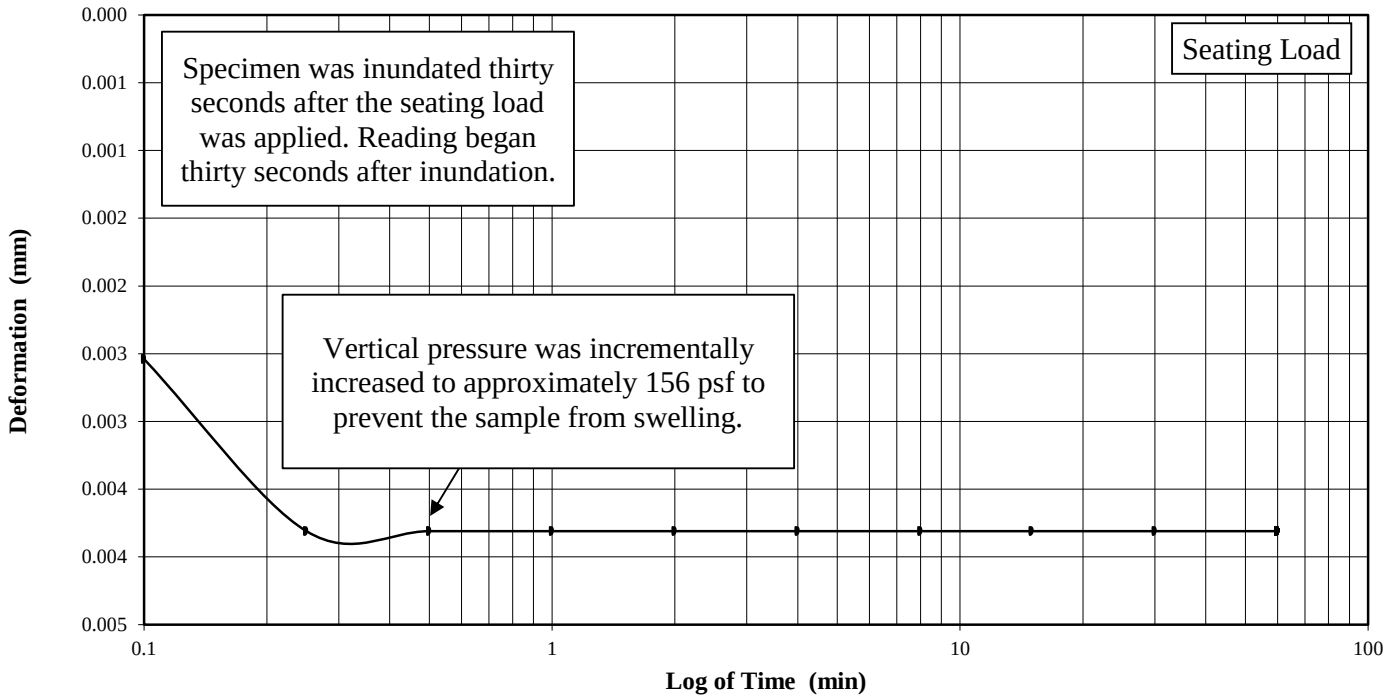
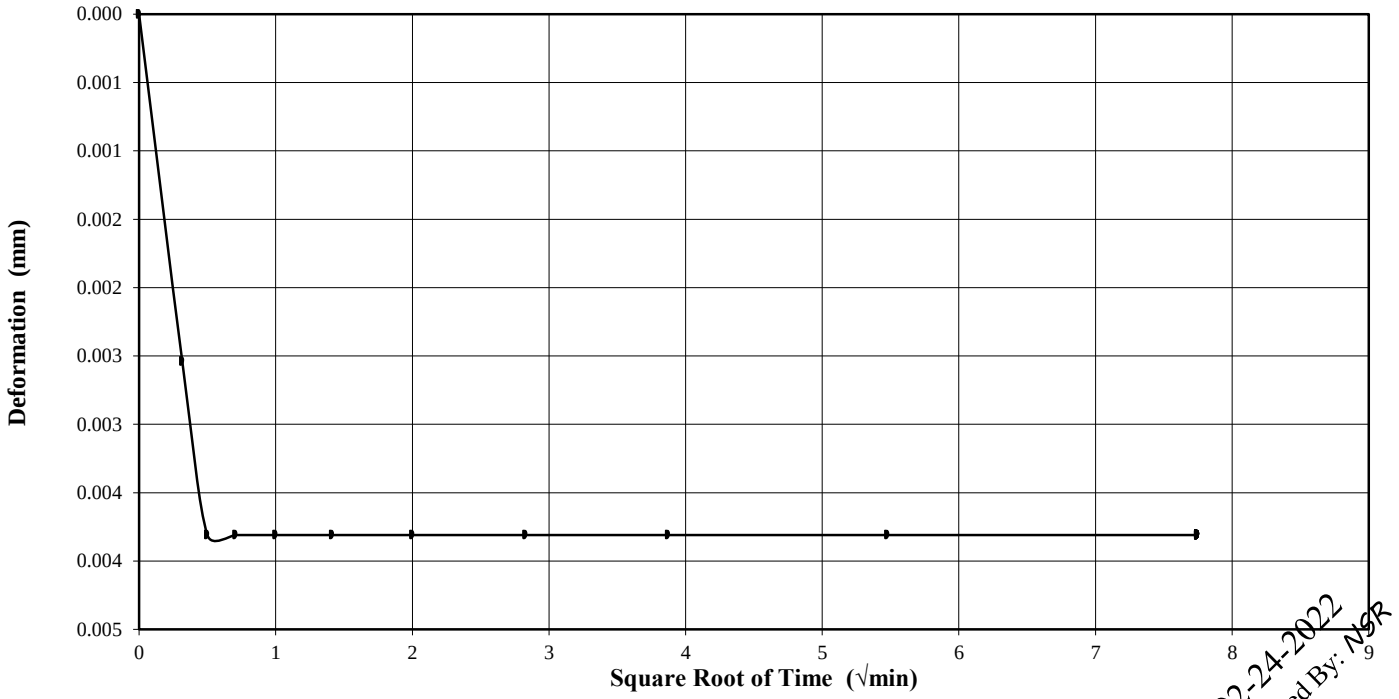
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-116 (22-24') ST
Lab Sample No:	22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 1 - 100 psf





02-24-2022
Approved By: NSR

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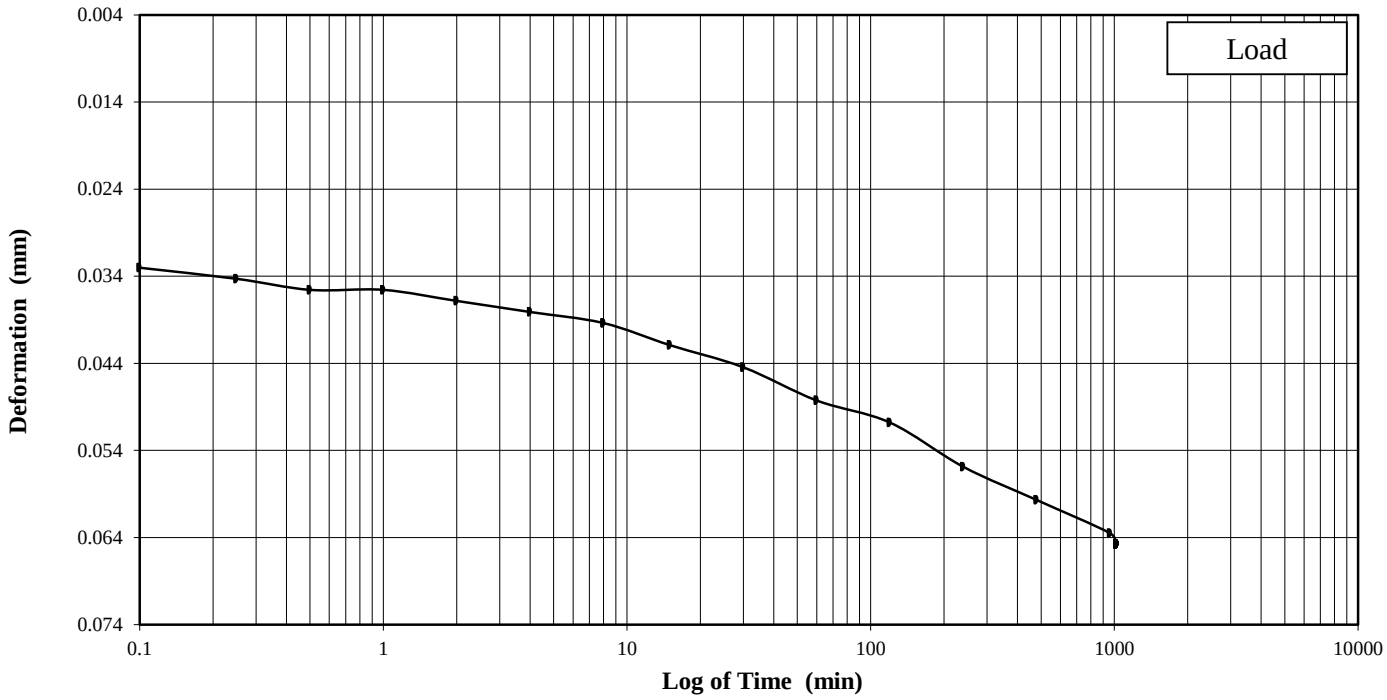
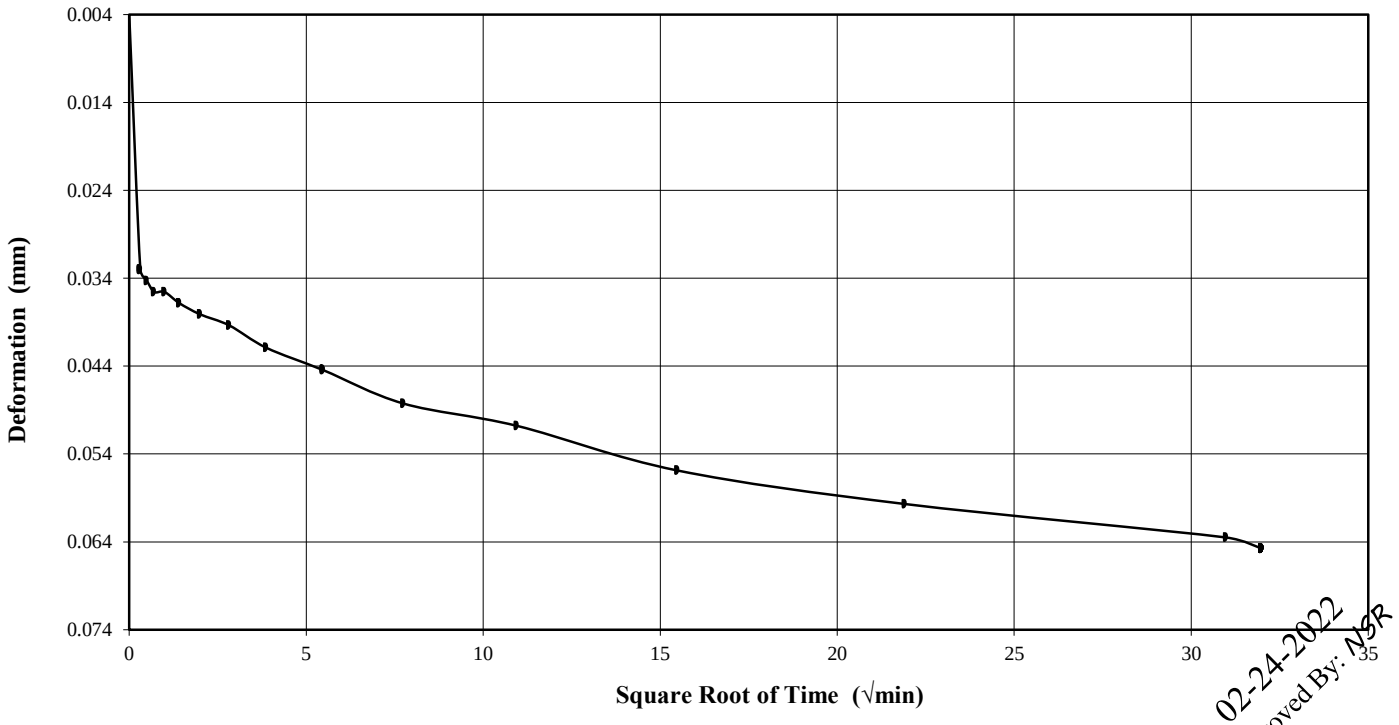
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-116 (22-24') ST
Lab Sample No: 22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 2 - 250 psf





02-24-2022
Approved By: NSR

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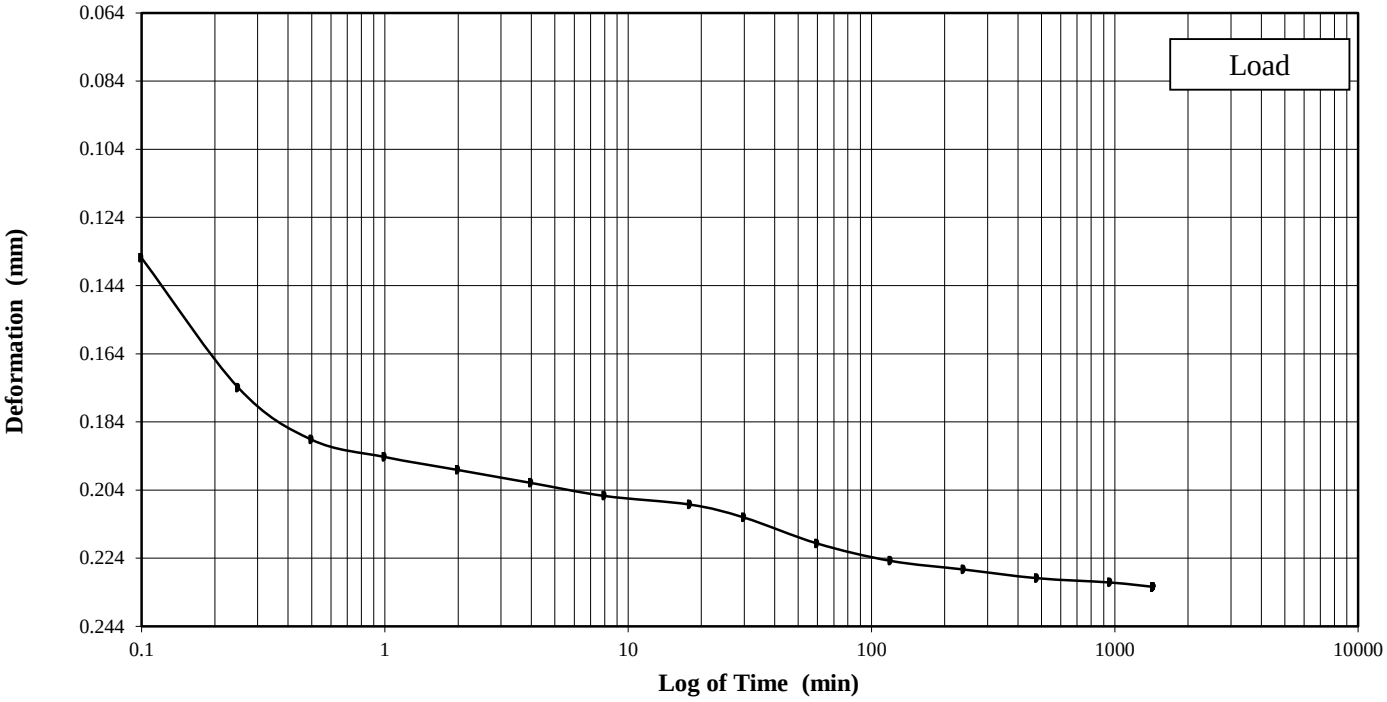
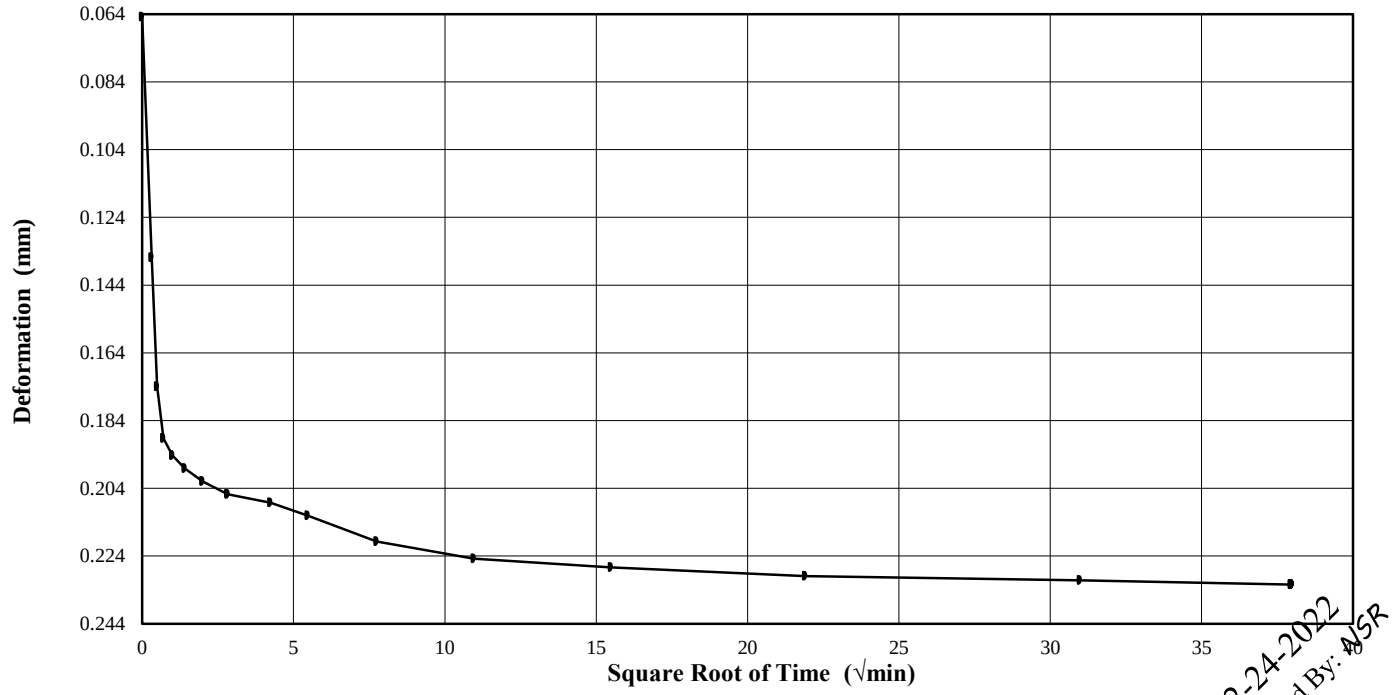
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-116 (22-24') ST
Lab Sample No:	22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 3 - 500 psf





02-24-2022
Approved By: ASR

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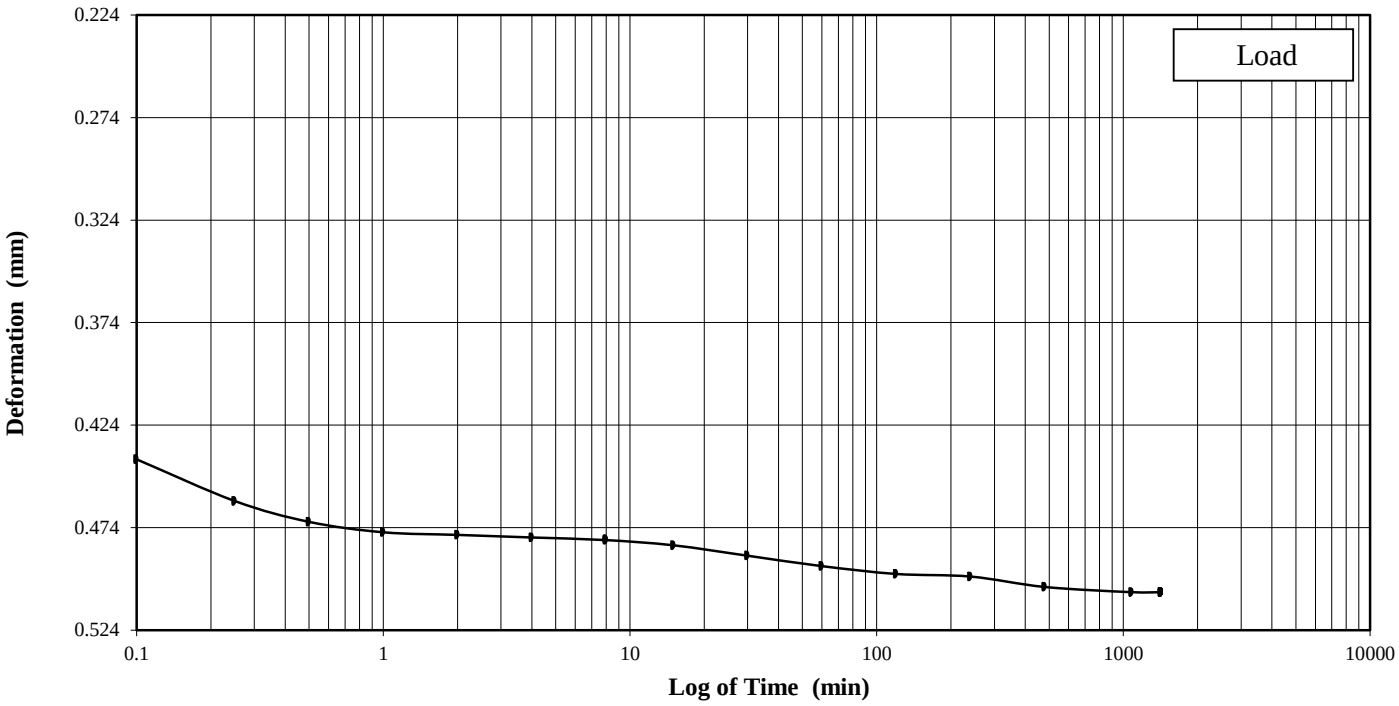
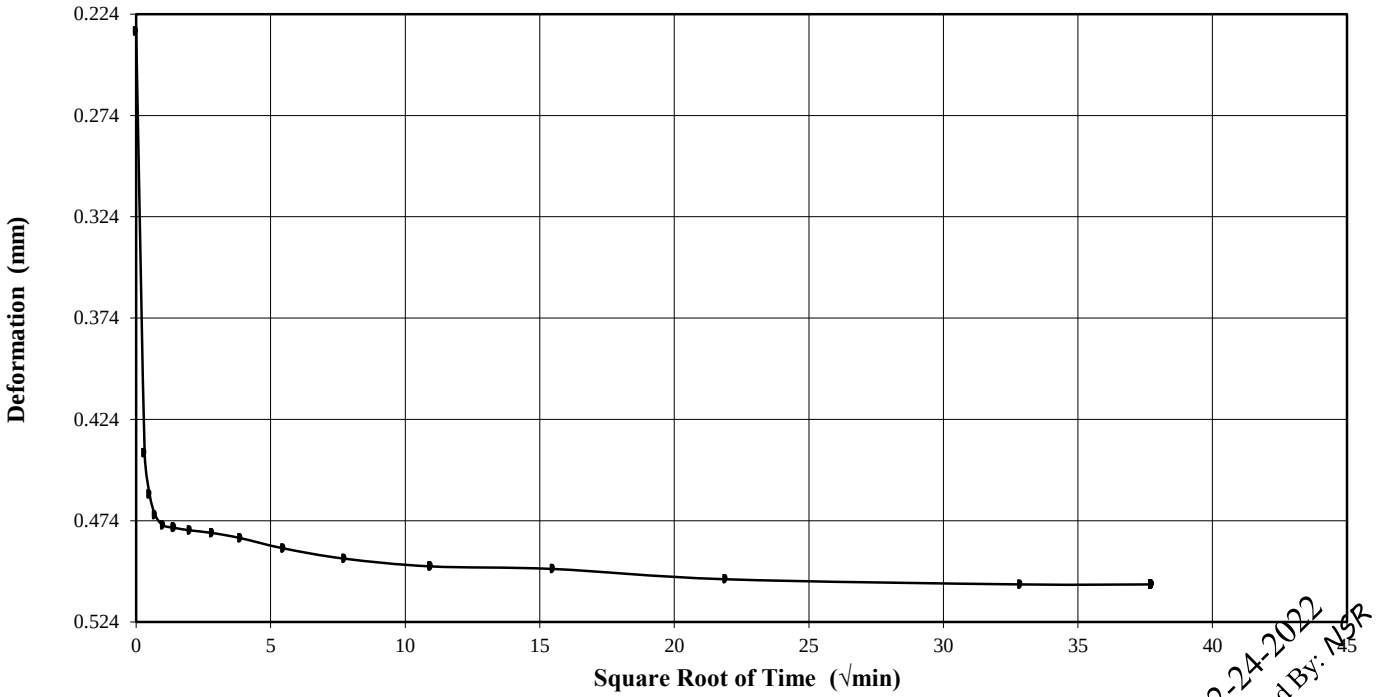
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-116 (22-24') ST
Lab Sample No: 22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 4 - 1000 psf





02-24-2022
Approved By: N5R

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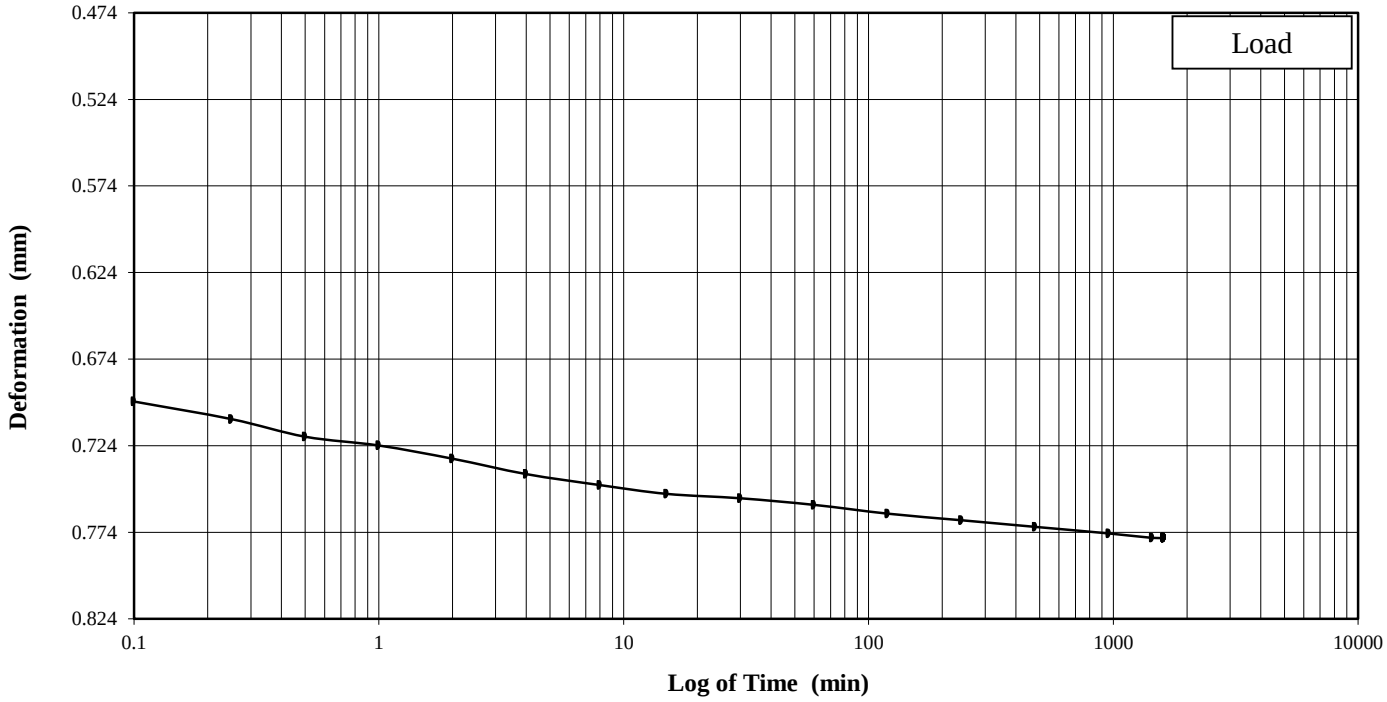
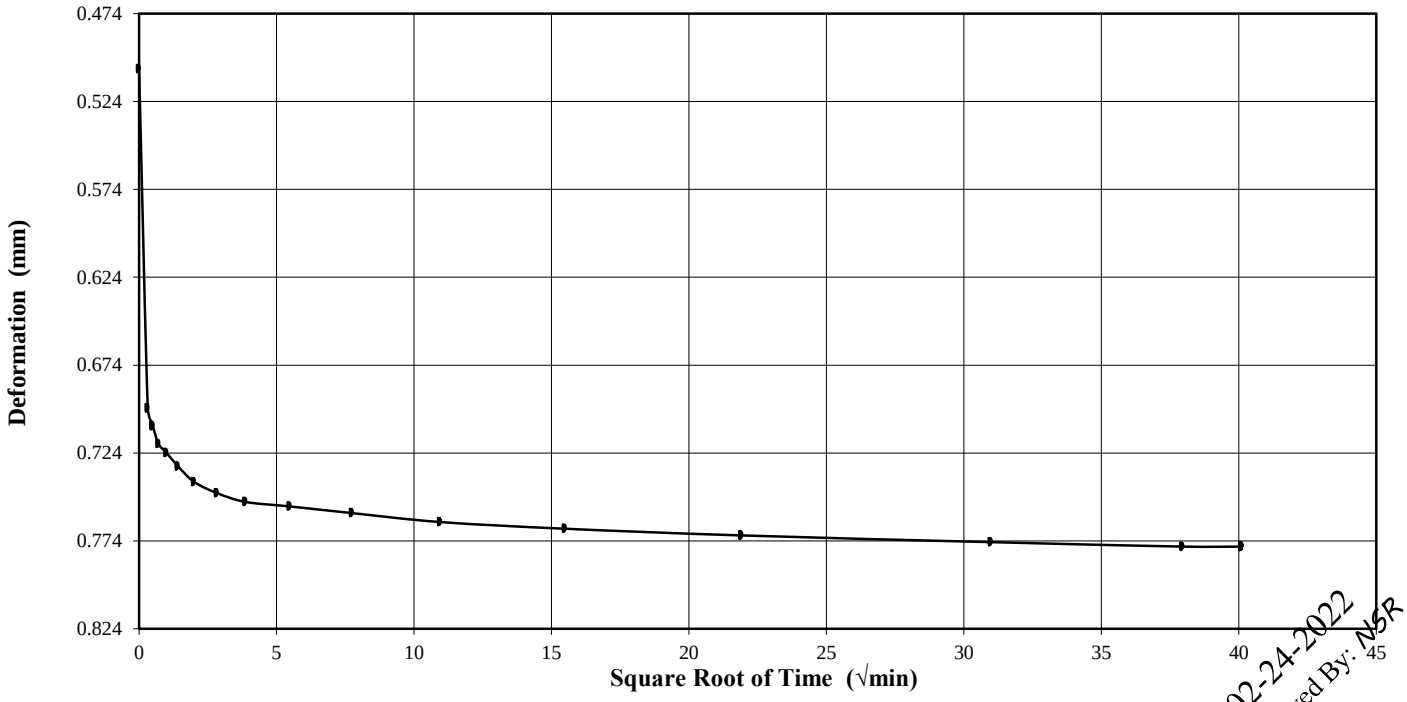
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-116 (22-24') ST
Lab Sample No:	22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 5 - 2000 psf





02-24-2022
Approved By: N5R

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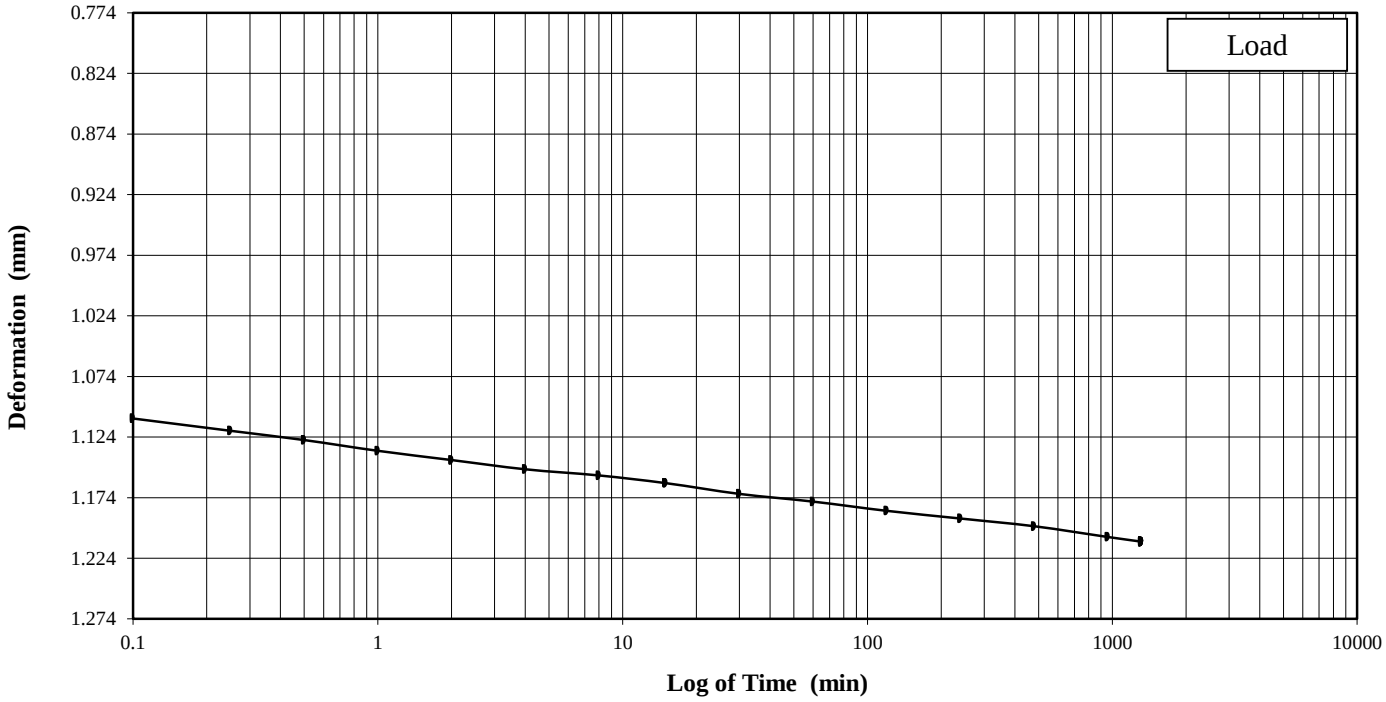
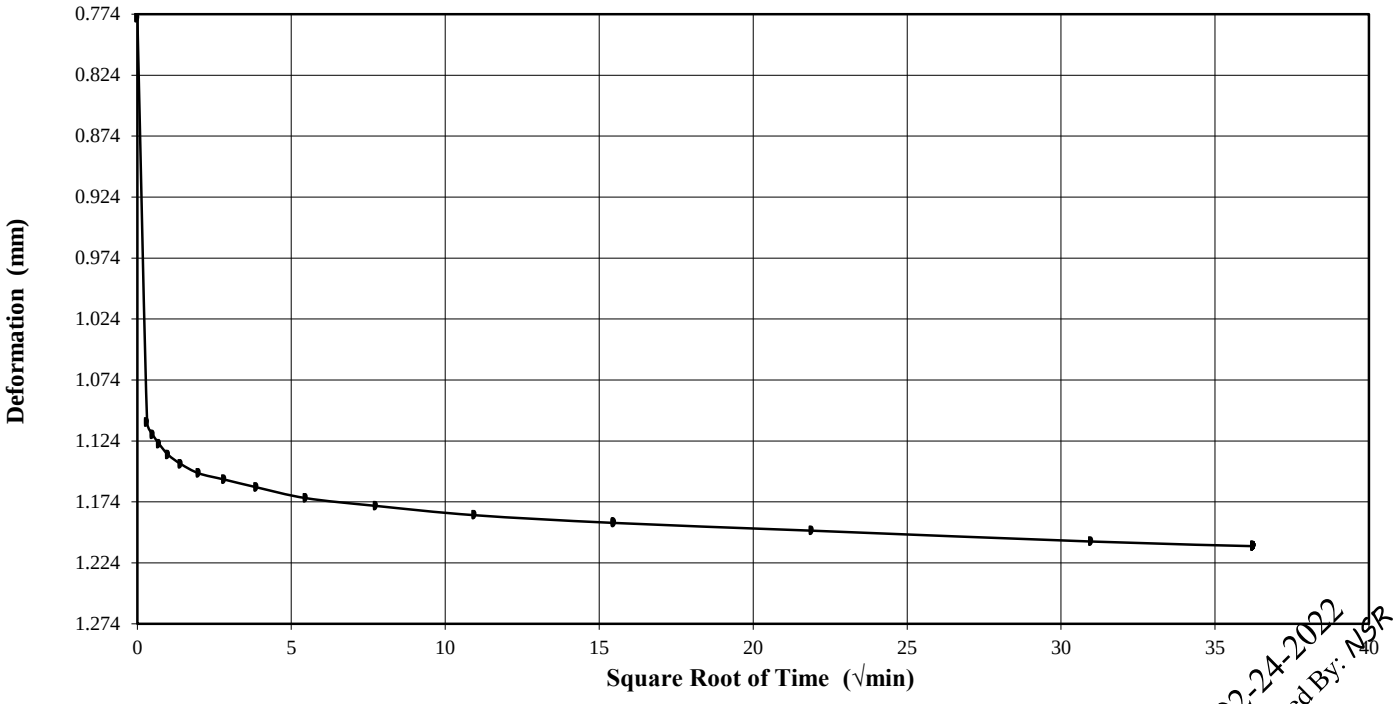
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-116 (22-24') ST
Lab Sample No:	22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 6 - 4000 psf





02-24-2022
Approved By: NSR

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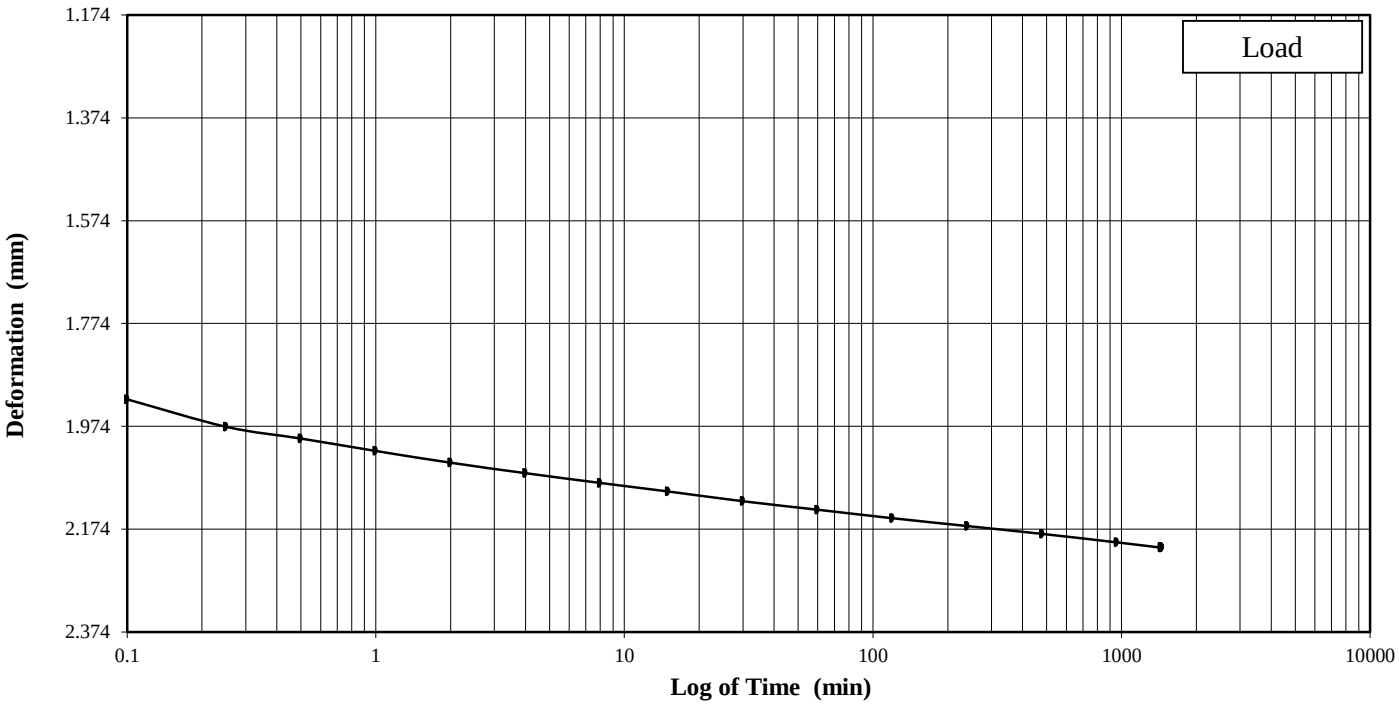
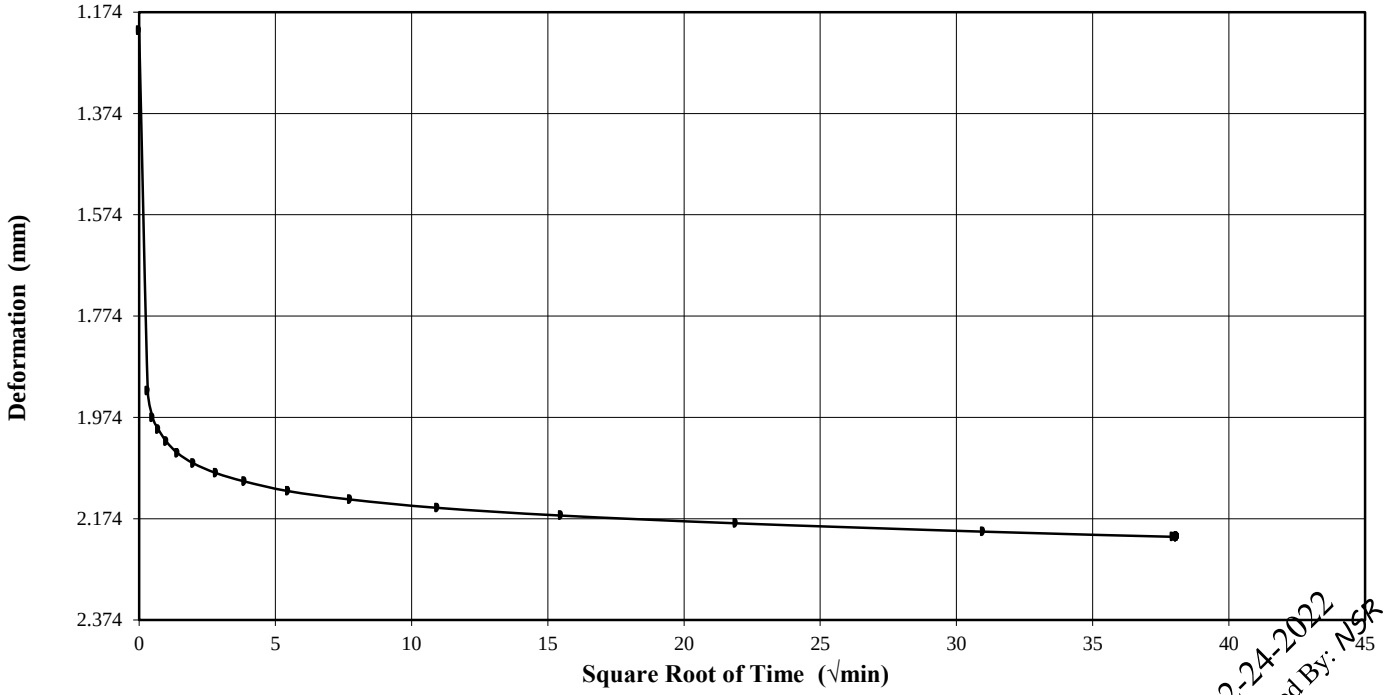
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-116 (22-24') ST
Lab Sample No:	22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 7 - 8000 psf





02-24-2022
Approved By: NSR

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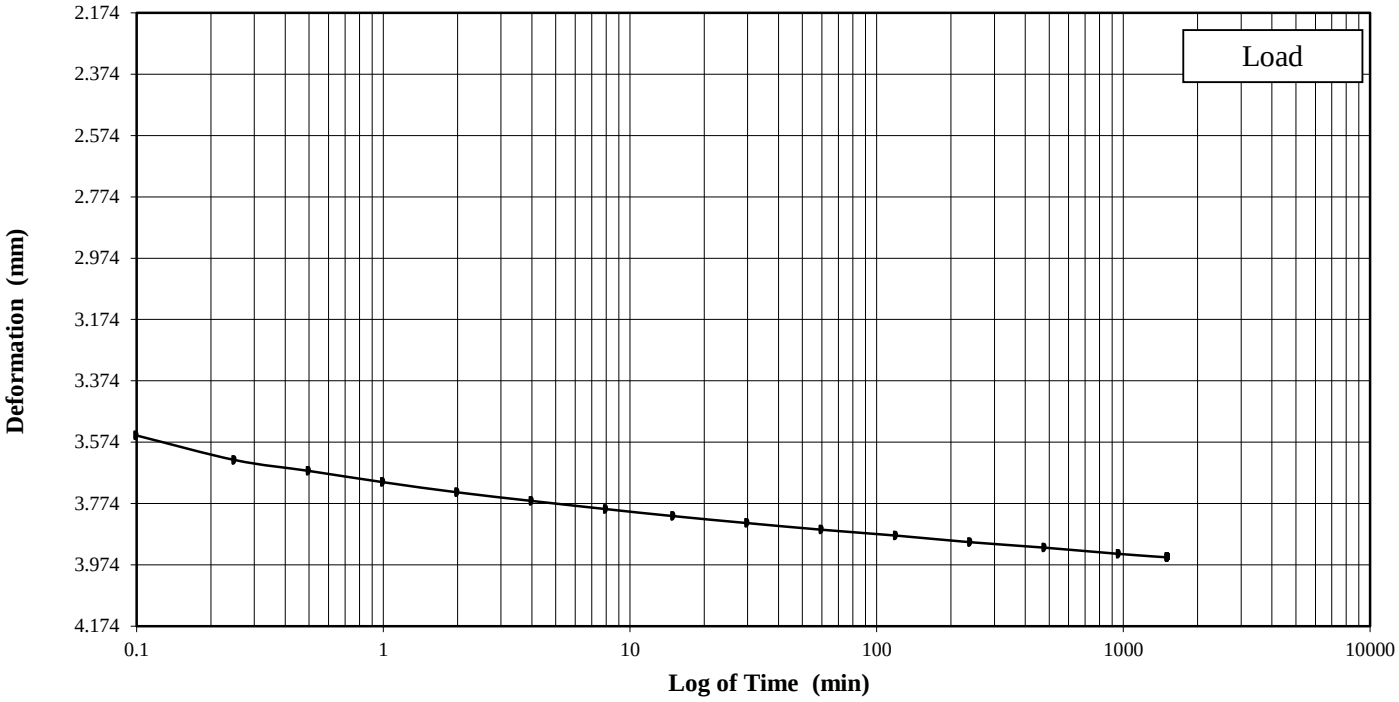
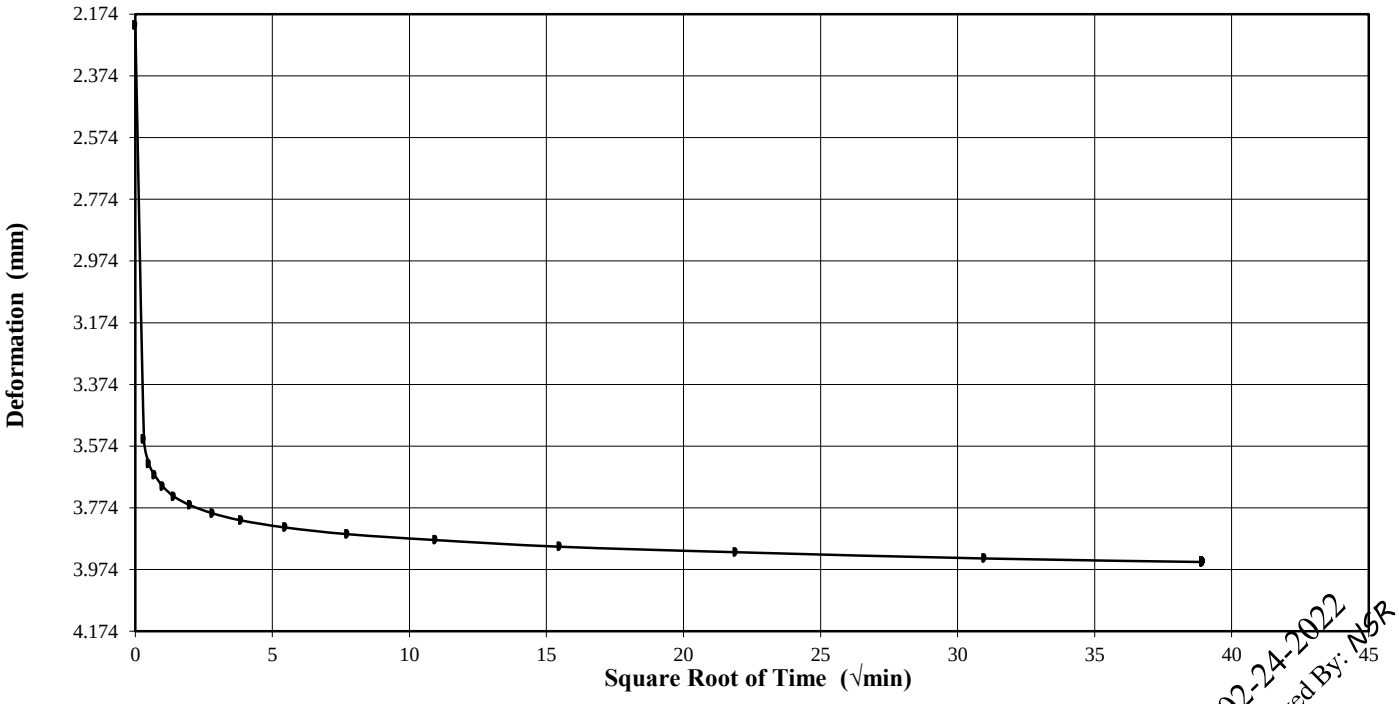
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-116 (22-24') ST
Lab Sample No:	22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 8 - 16000 psf





02-24-2022
Approved By: NSR

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Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

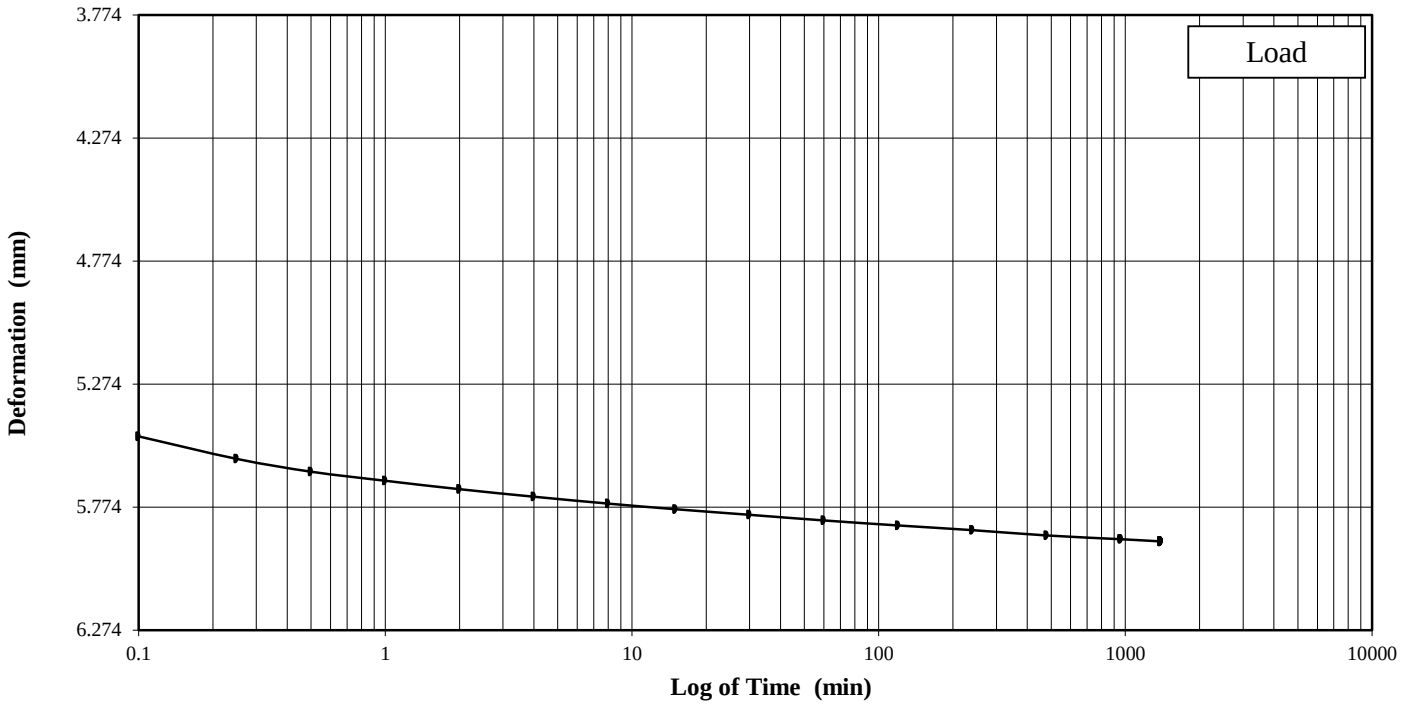
Client Sample ID: GS-116 (22-24') ST

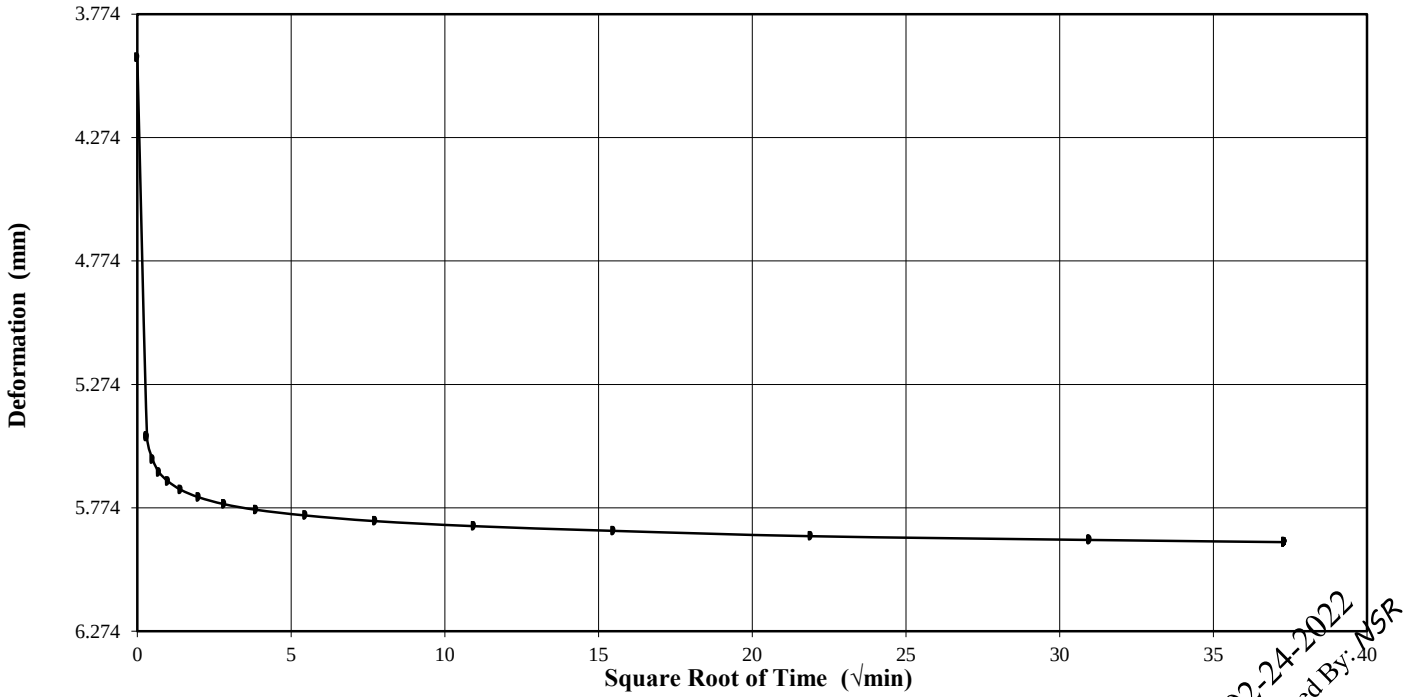
Lab Sample No: 22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 9 - 32000 psf





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Approved By: NSR

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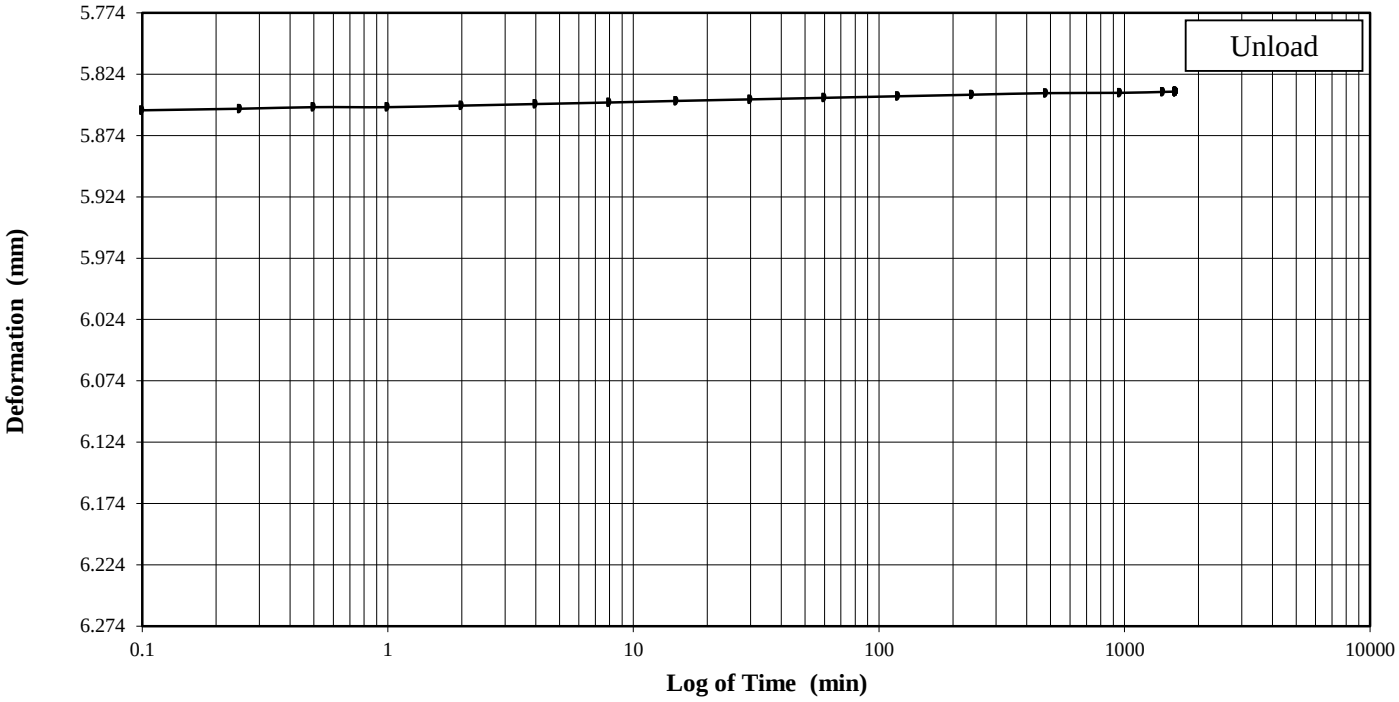
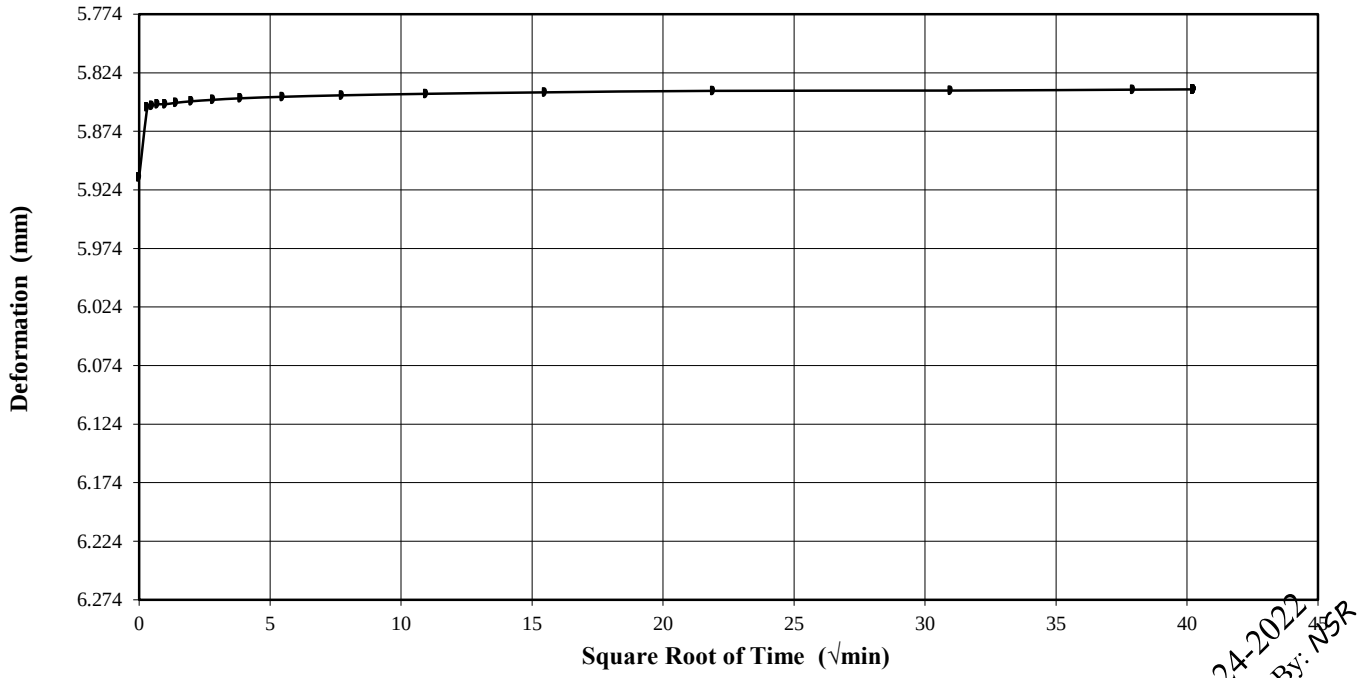
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-116 (22-24') ST
Lab Sample No: 22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 10 - 16000 psf





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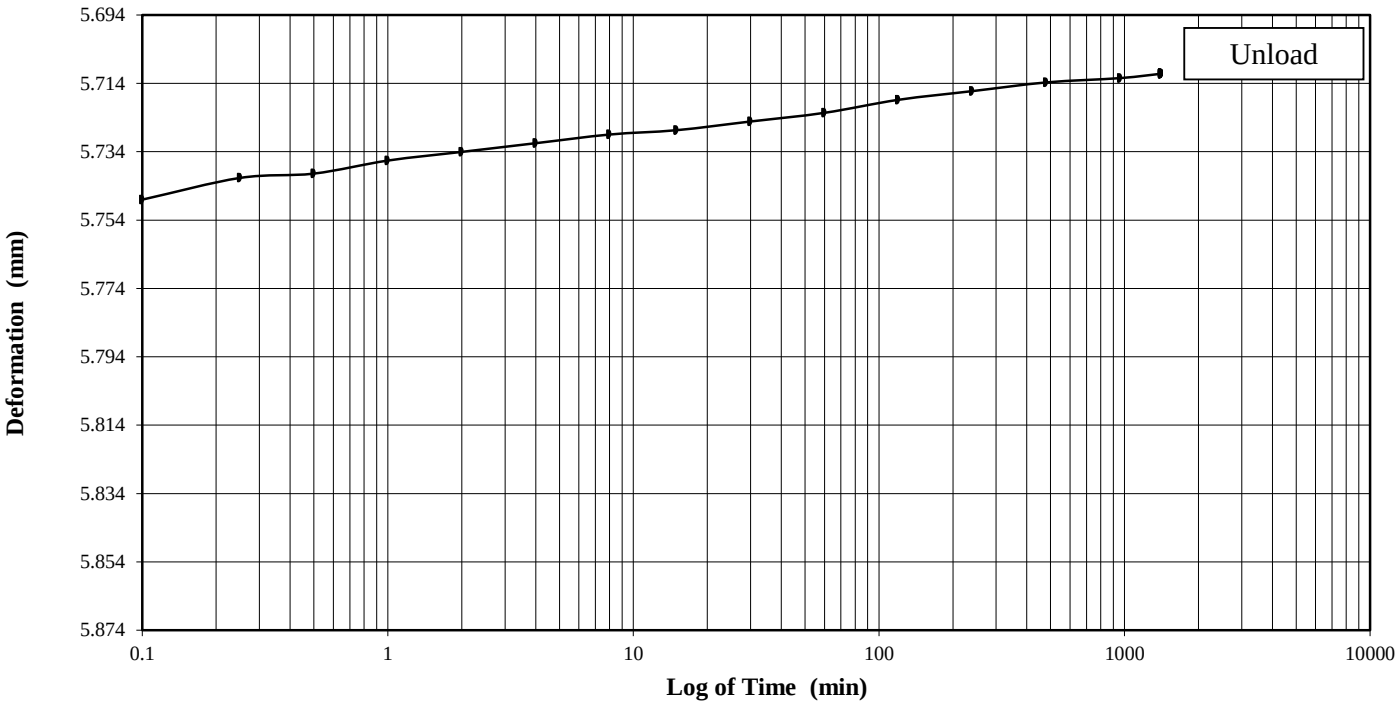
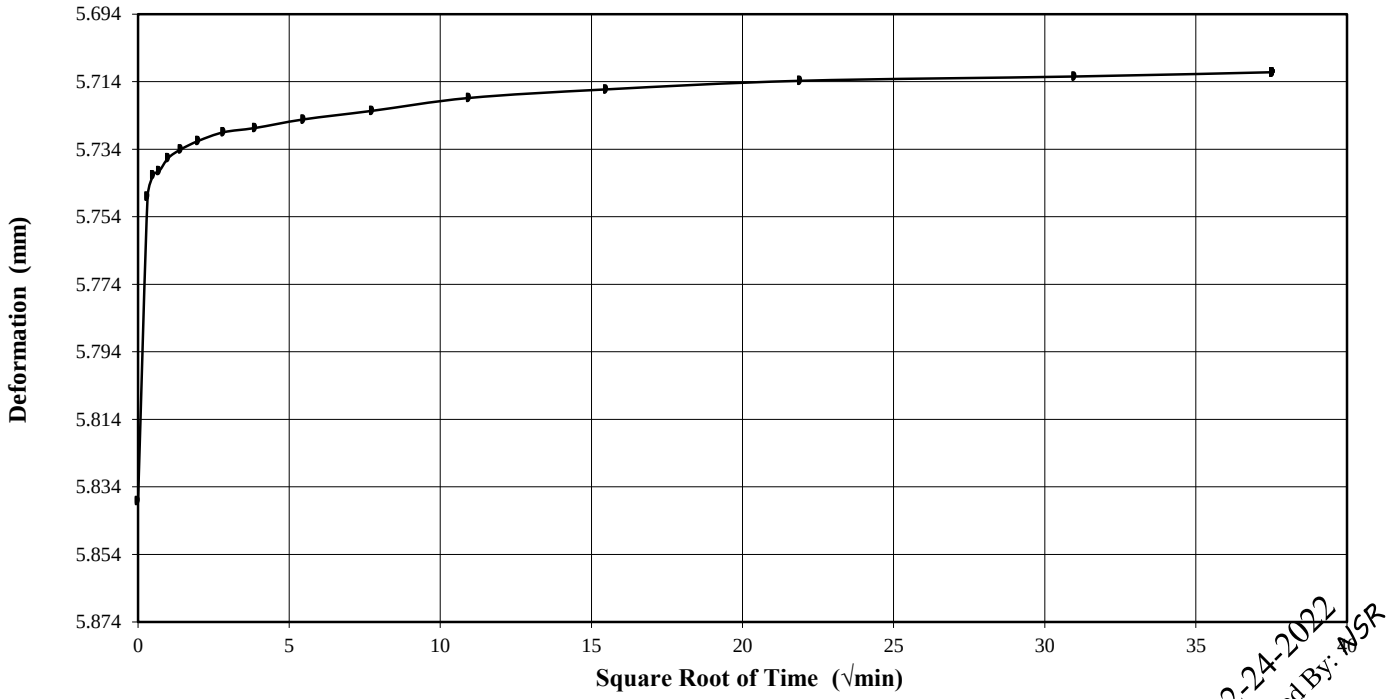
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-116 (22-24') ST
Lab Sample No:	22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 11 - 8000 psf





02-24-2022
Approved By: MSR

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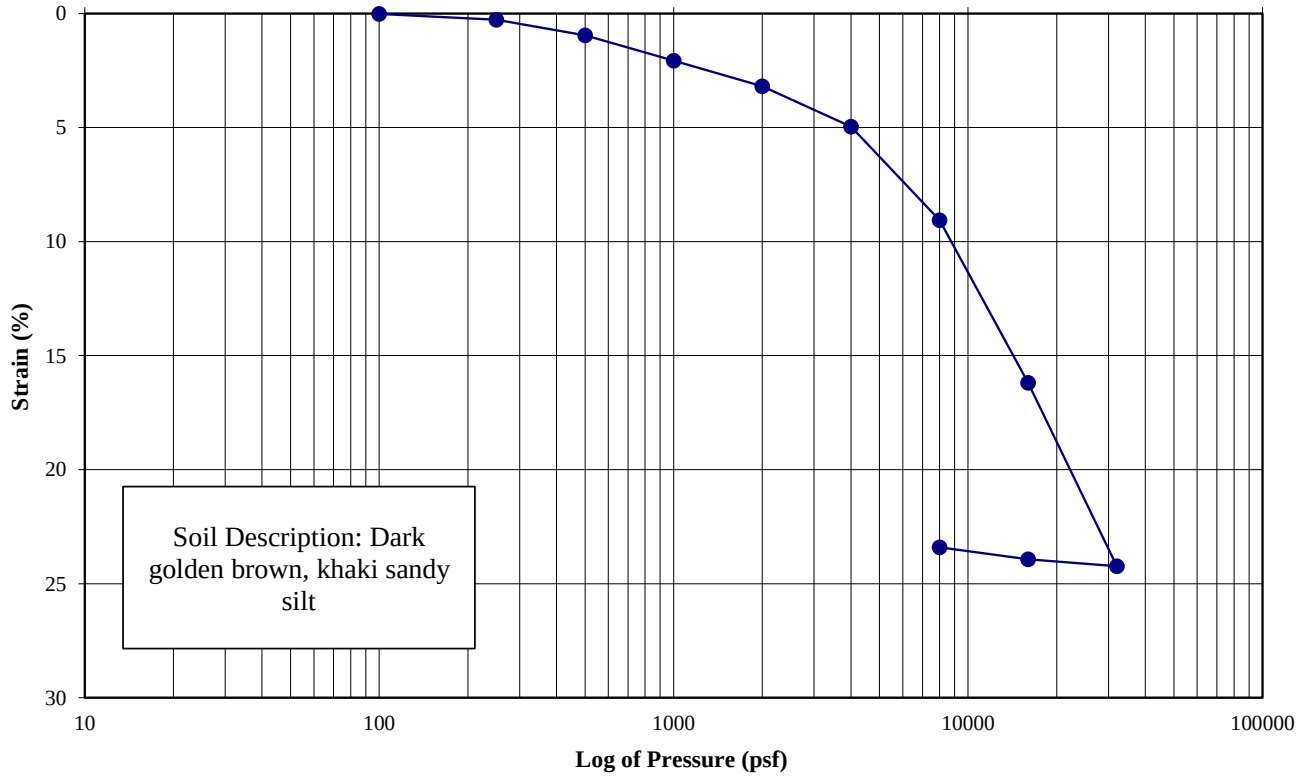
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-116 (22-24') ST
Lab Sample No:	22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST



Client Sample ID	Lab Sample No.	Specimen Quality 1-10 (Bad to Good)	Test Specimen Initial Conditions				Consolidation Pressure (psf)	Pressure Increment Duration (min)	Accumu.(1) Vertical Strain (%)	Figure No.	Remarks
			Height (cm)	Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (%)					
GS-116 (22-24') ST	22A070	8	2.44	6.34	65.6	56.9	100	60	0.0	1	Seating Load
							250	1023	0.3	2	Load
							500	1442	1.0	3	Load
							1000	1424	2.1	4	Load
							2000	1608	3.2	5	Load
							4000	1314	5.0	6	Load
							8000	1451	9.1	7	Load
							16000	1516	16.2	8	Load
							32000	1392	24.2	9	Load
							16000	1620	23.9	10	Unload
							8000	1409	23.4	11	Unload

Notes:

For each pressure increment, the vertical strain values were calculated based on the final deformation measurements.

02-24-2022
Approved By: NSR

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Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Sample ID:	GS-116 (22-24') ST
Lab Sample No:	22A070

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

(a)

After Consolidation

(b)

After Consolidation

(a) (b)

(c)

Notes: (a) Top view

(b) Bottom view

(c) Specimen split open

02-24-2022
Approved By: N5R

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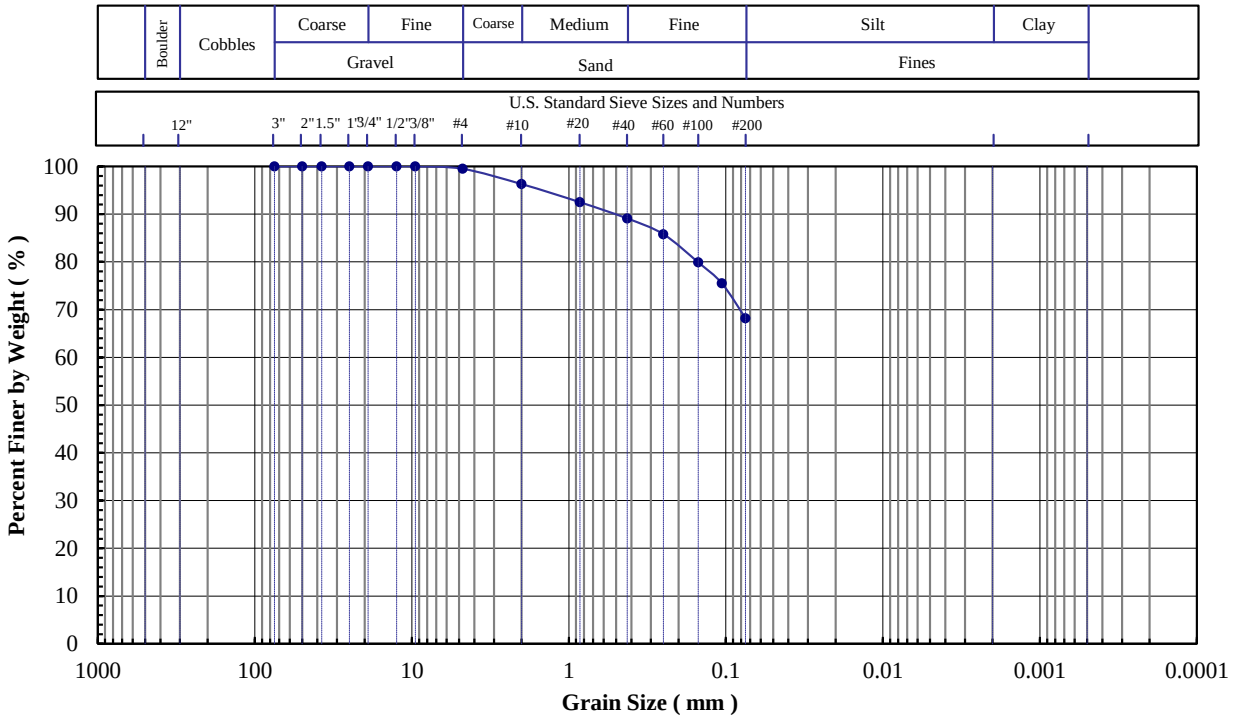
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-116 (22-24') ST
Lab Sample No:	22A070

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

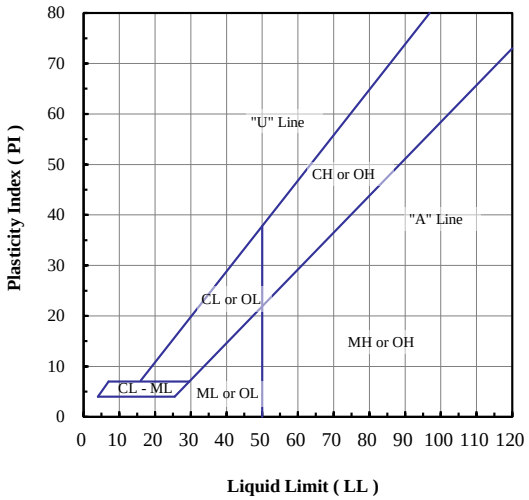


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.5
#10	2.00	96.3
#20	0.850	92.5
#40	0.425	89.1
#60	0.250	85.8
#100	0.150	79.9
#140	0.106	75.5
#200	0.075	68.2

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.5
Sand (%):	31.3
Fines (%):	68.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-116 (22-24') ST	22A070	49.0	68.2	NP	NP	NP	ML - Sandy silt

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-22-2022
Approved By: NSR

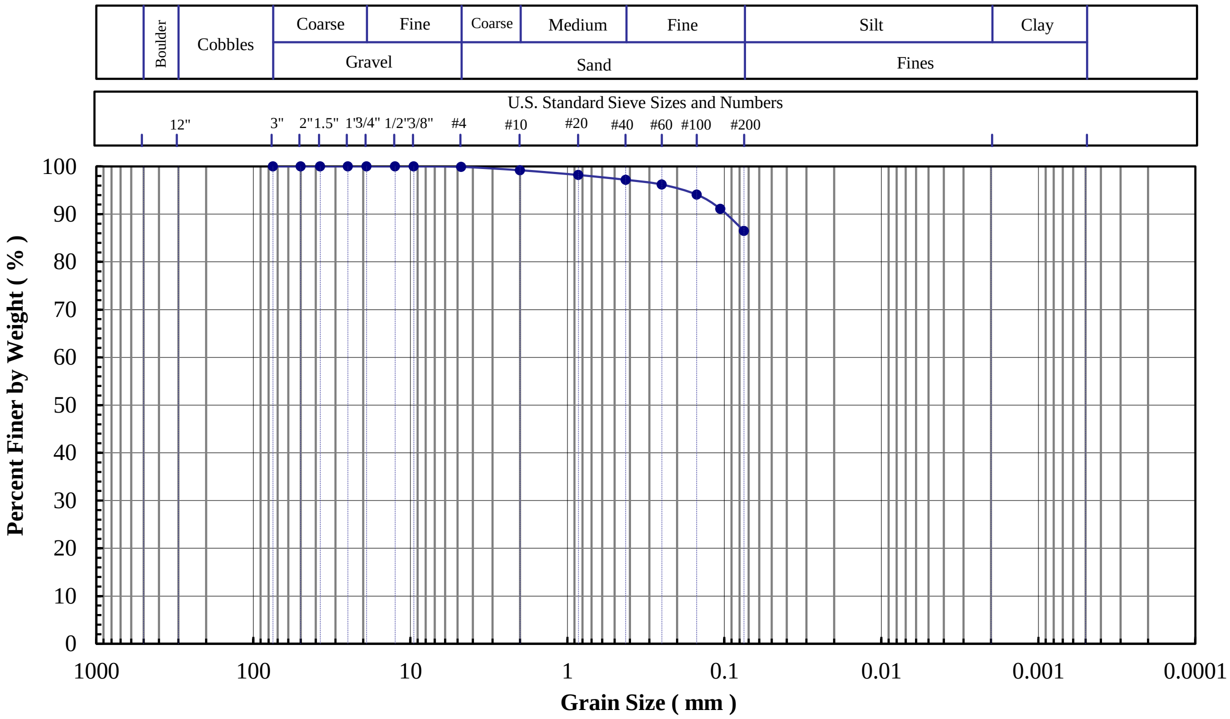
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-117 (22-24') ST
Lab Sample No:	22A073

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

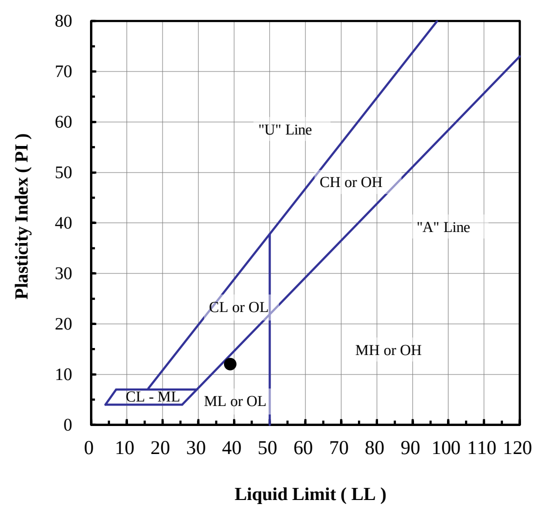


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.9
#10	2.00	99.2
#20	0.850	98.2
#40	0.425	97.2
#60	0.250	96.2
#100	0.150	94.1
#140	0.106	91.1
#200	0.075	86.5

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.1
Sand (%):	13.4
Fines (%):	86.5
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-117 (22-24') ST	22A073		86.5	39	27	12	ML - Silt

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

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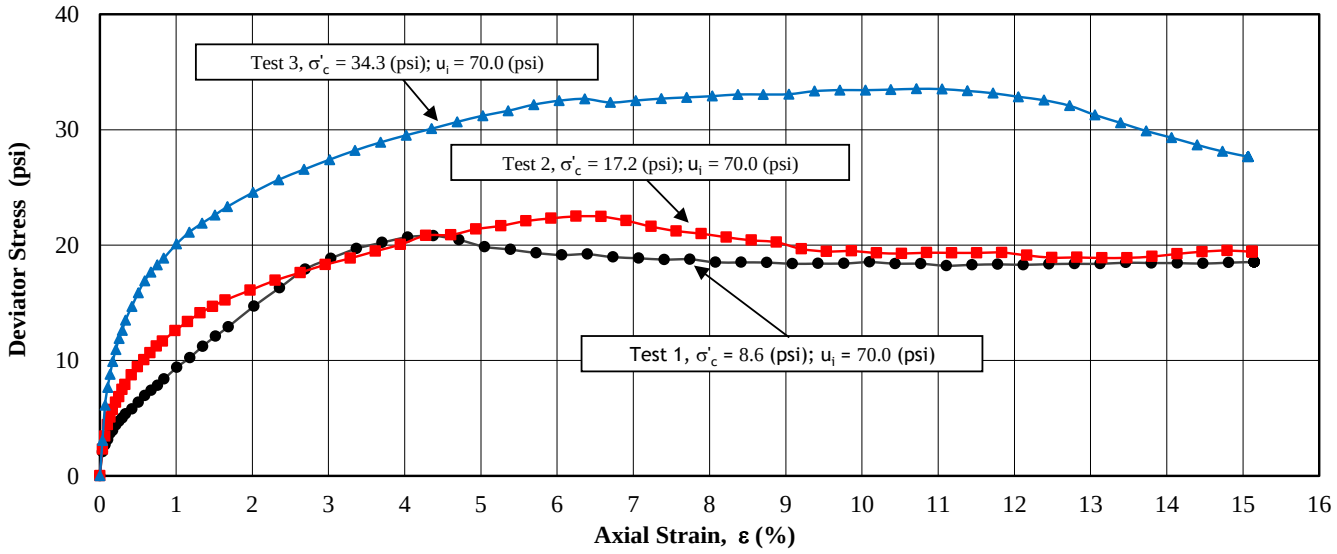
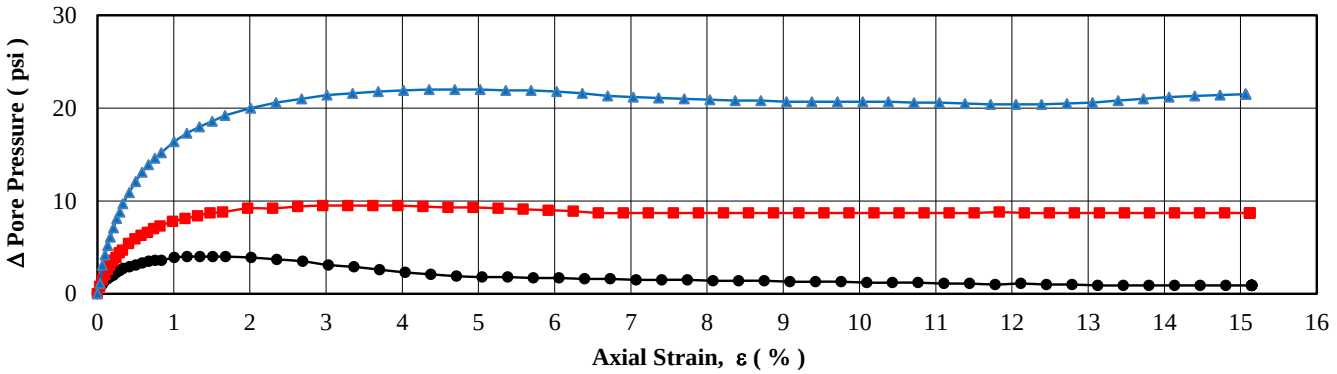
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-117 (22-24) ST
Lab Sample No:	22A073

ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 1





Test Specimen No.	Maximum Strength				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	20.8	27.3	6.5	72.1	4.4
2	22.5	30.8	8.3	78.9	6.2
3	33.5	47.2	13.7	90.6	10.7

Test Specimen No.	Strength at App. 15% Axial Strain				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	18.5	26.2	7.7	70.9	15.1
2	19.4	27.9	8.5	78.7	15.1
3	27.7	40.5	12.8	91.5	15.1

Notes:

σ'_c = Consolidation pressure, (psi) u_i = Initial pore pressure,(psi)

02-14-2022
Approved By: NSR

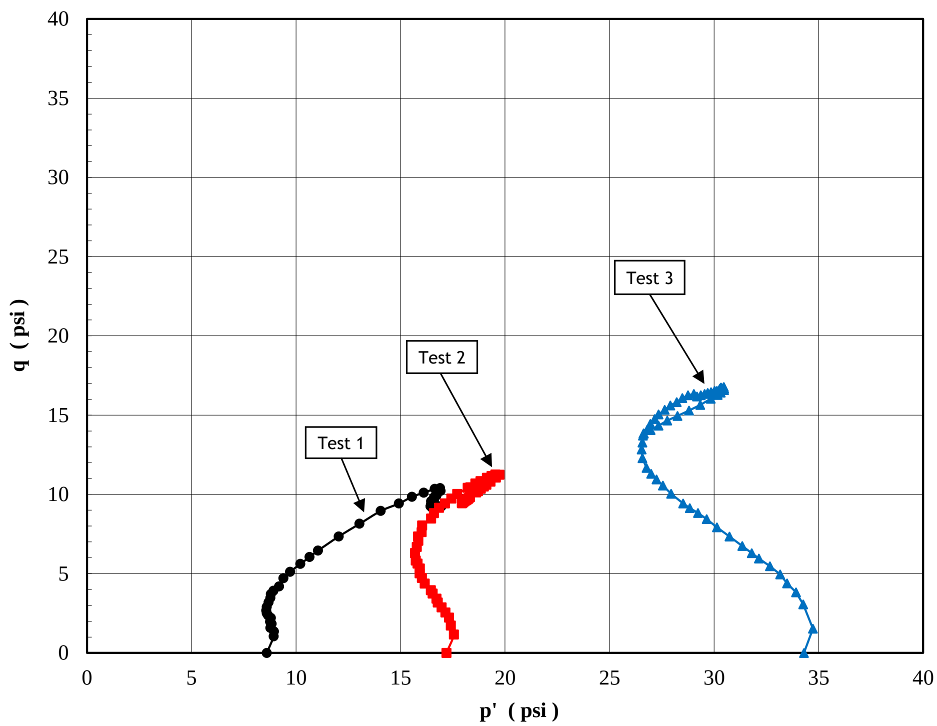
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-117 (22-24) ST
Lab Sample No:	22A073

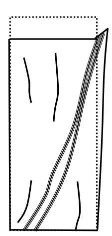
ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

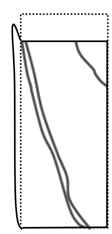
Figure 2



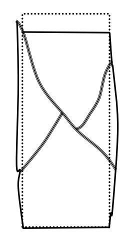
Test Specimen Number (-)	Specimen Quality Bad to Good (1 to 10)	Initial Conditions							Consolidation Stage		Loading
		Height (in .)	Diameter (in.)	Moisture Content (%)	Dry Unit Weight (pcf)	B Parameter (-)	Initial Pore Pressure (u_i) (psi)	Consolidation Pressure (σ'_c) (psi)	Axial Strain (%)	Volumetric Strain (%)	Axial Rate (% / min)
1	6	6.00	2.82	37.6	82.1	1.00	70.0	8.6	0.98	2.27	0.033
2	7	6.20	2.83	41.8	77.6	0.99	70.0	17.2	1.85	3.19	0.032
3	5	6.15	2.82	38.5	81.1	0.97	70.0	34.3	2.86	4.18	0.033



Specimen No.1
Greenish brown sandy silty clay



Specimen No. 2
Greenish brown sandy silty clay



Specimen No. 3
Greenish brown sandy silty clay

Notes:

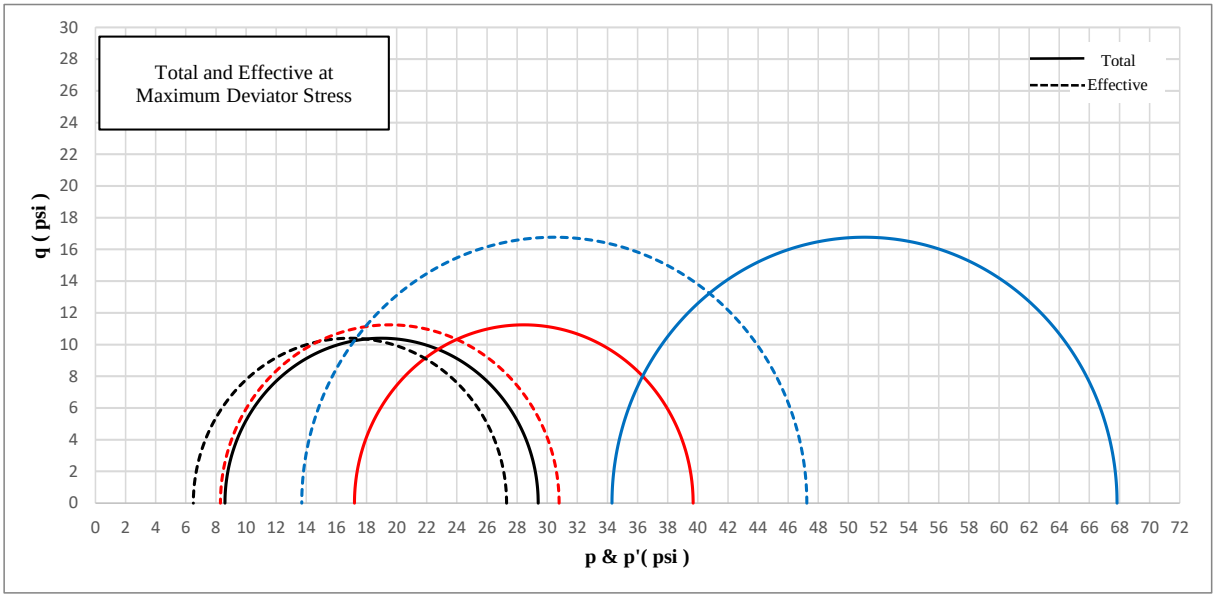
02-14-2022
Approved By: NSR

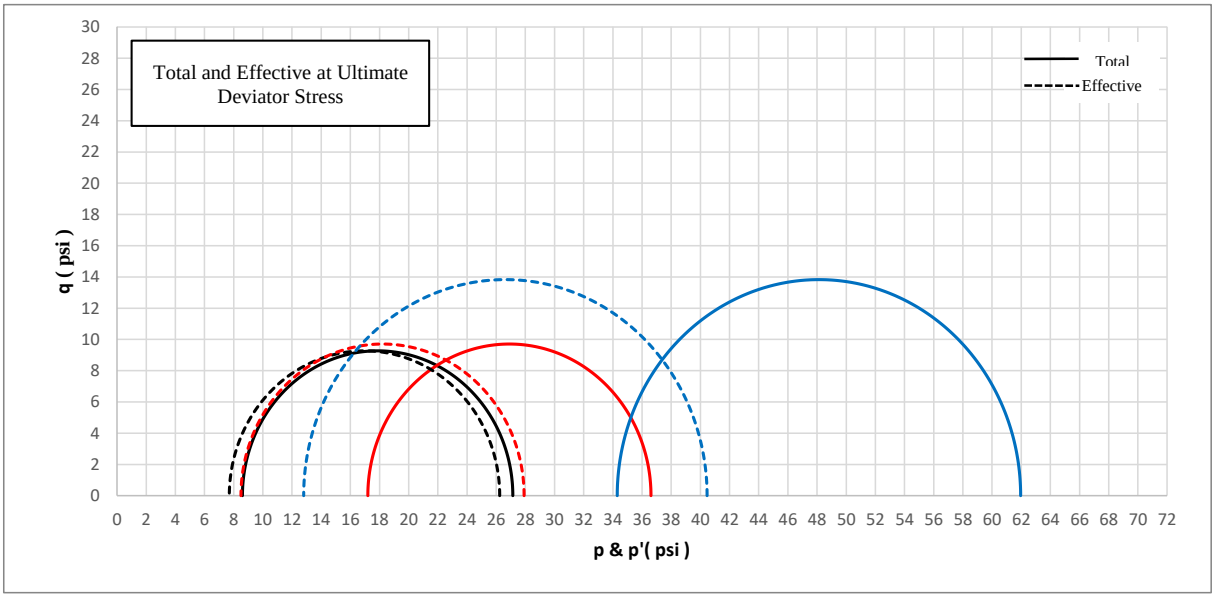
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-117 (22-24) ST
Lab Sample No:	22A073

ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 3





02-14-2022
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Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

Sample ID: GS-117 (22-24) ST

Lab Sample No: 22A073

ASTM D 4767

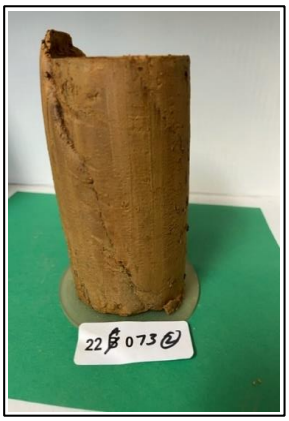
CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

(a)

Specimen No. 1
Greenish brown sandy silty clay

(b)

(a)



Specimen No. 2
Greenish brown sandy silty clay

(b)

(a)

Specimen No. 3
Greenish brown sandy silty clay

(b)

Notes: (a) Failure after shear

(b) Specimen split open

02-14-2022
Approved By: NSR

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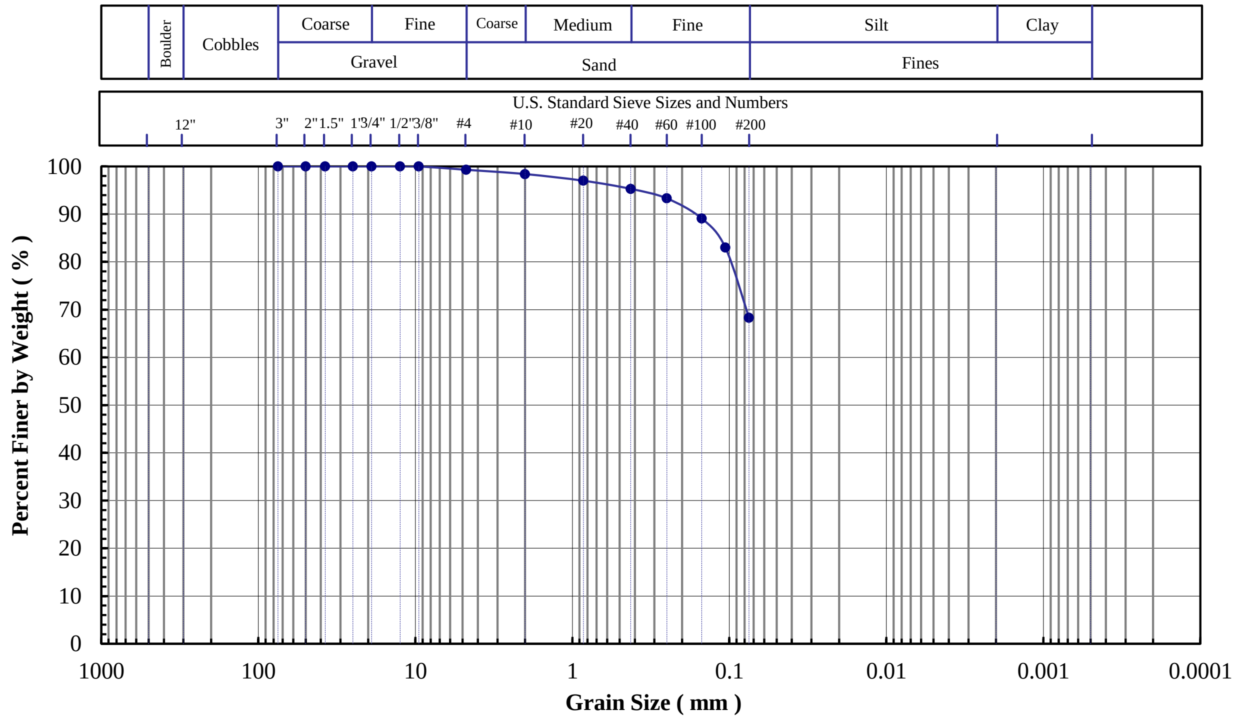
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-118 (18-20') ST
Lab Sample No:	22B052

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

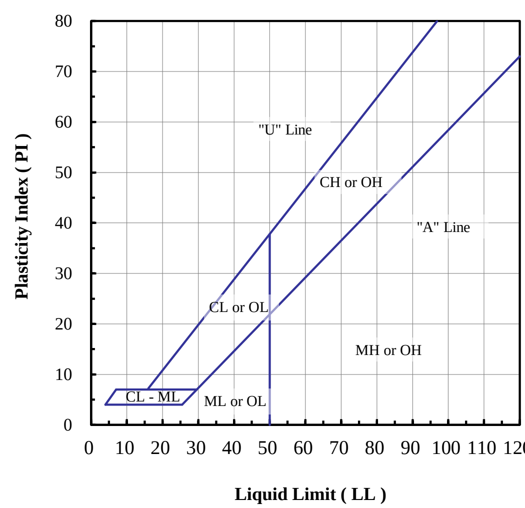


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.3
#10	2.00	98.4
#20	0.850	97.0
#40	0.425	95.3
#60	0.250	93.3
#100	0.150	89.1
#140	0.106	83.0
#200	0.075	68.3

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.7
Sand (%):	31.0
Fines (%):	68.3
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-118 (18-20') ST	22B052		68.3	NP	NP	NP	ML - Sandy silt

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

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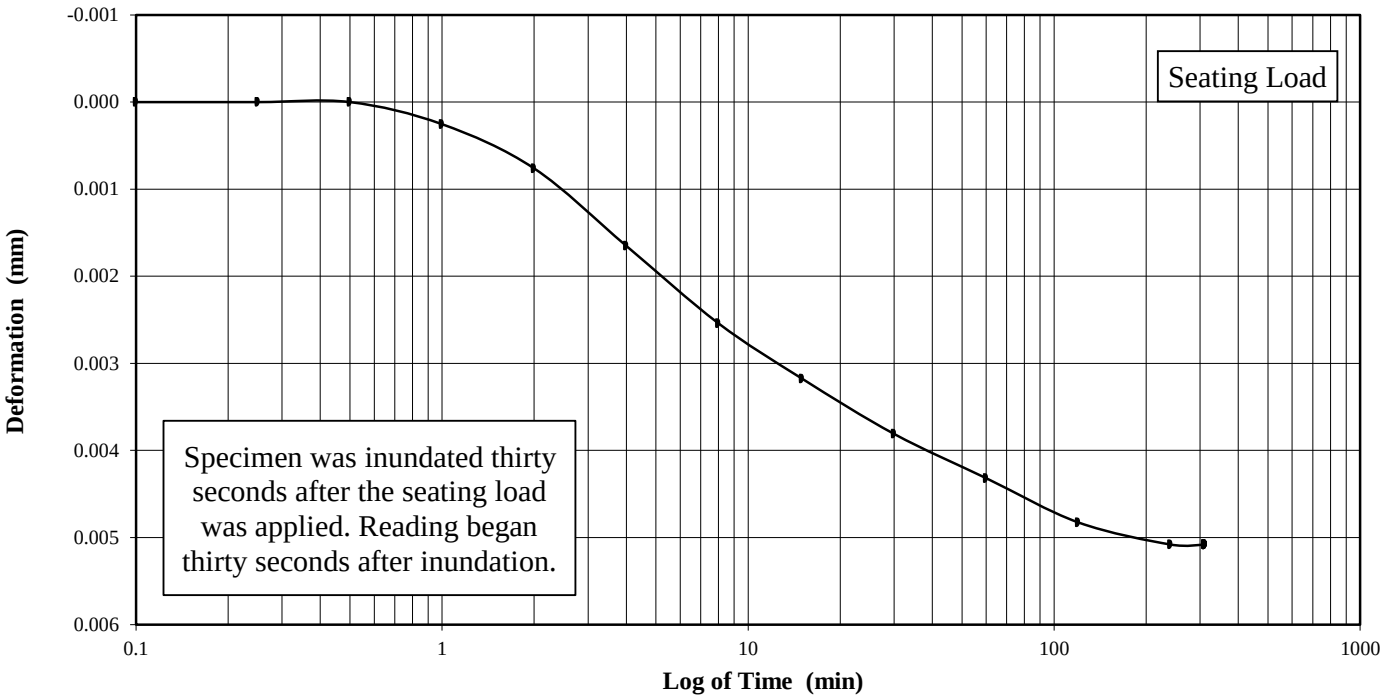
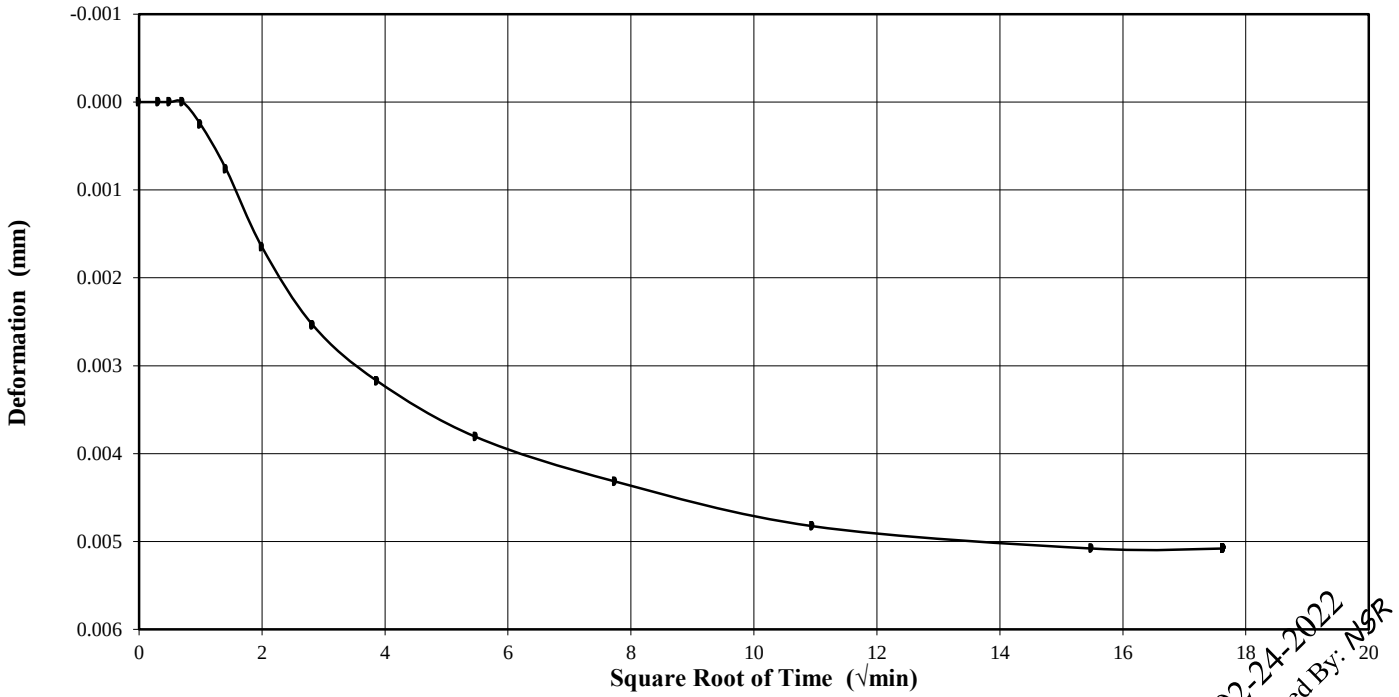
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-119 (14-16') ST
Lab Sample No: 22A075

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 1 - 100 psf





02-24-2022
Approved By: NSR

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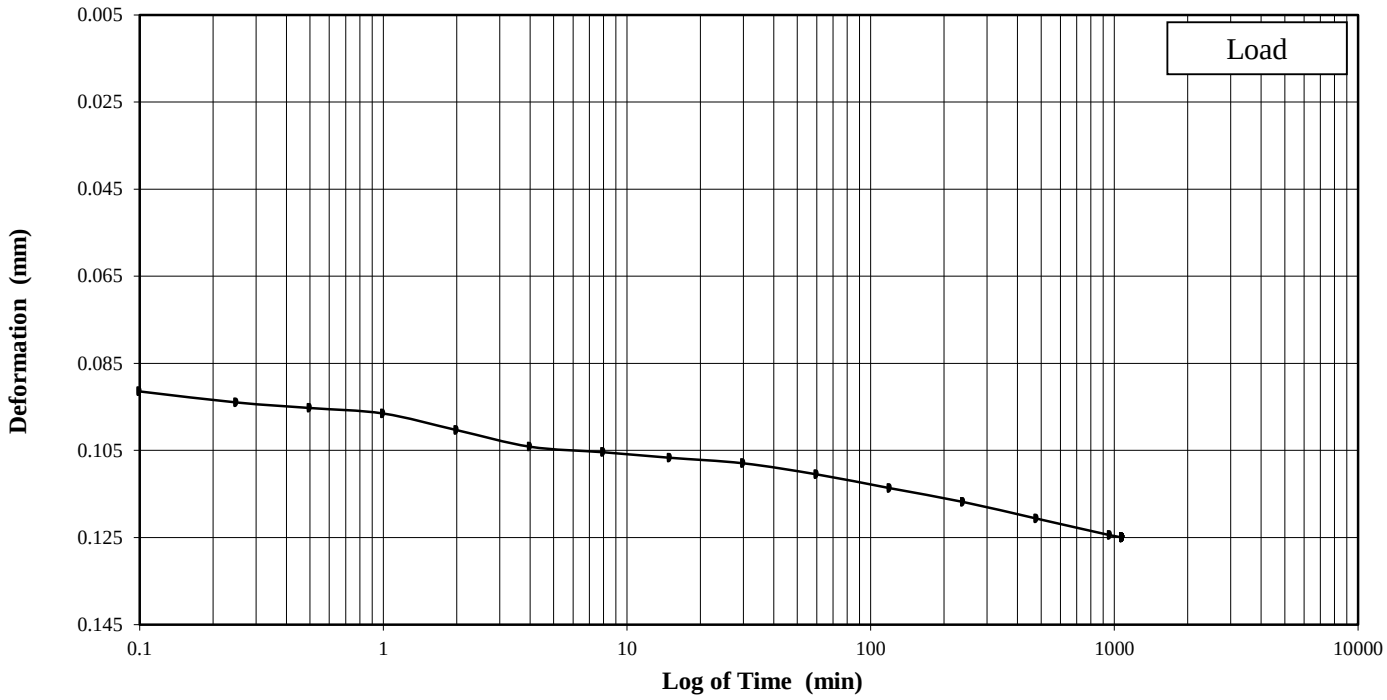
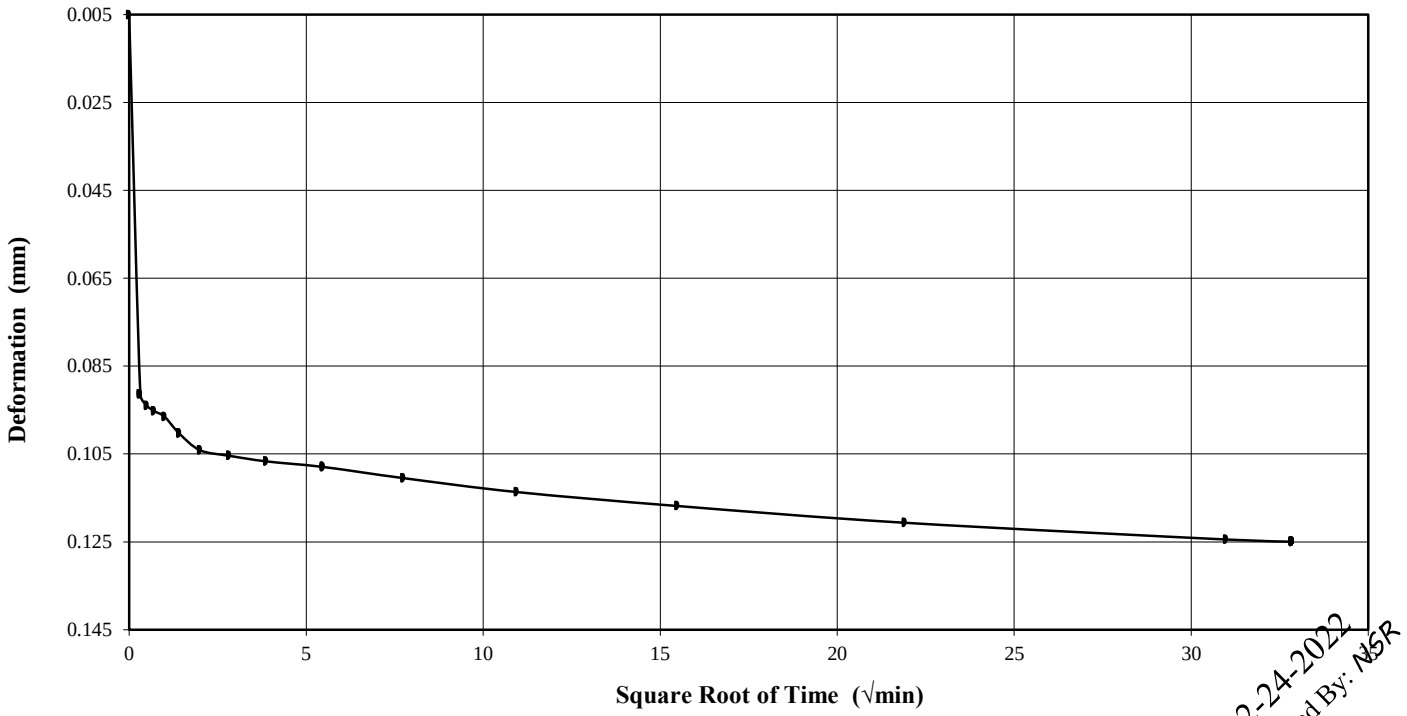
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-119 (14-16') ST
Lab Sample No: 22A075

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 2 - 250 psf





02-24-2022
Approved By: MSR

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Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

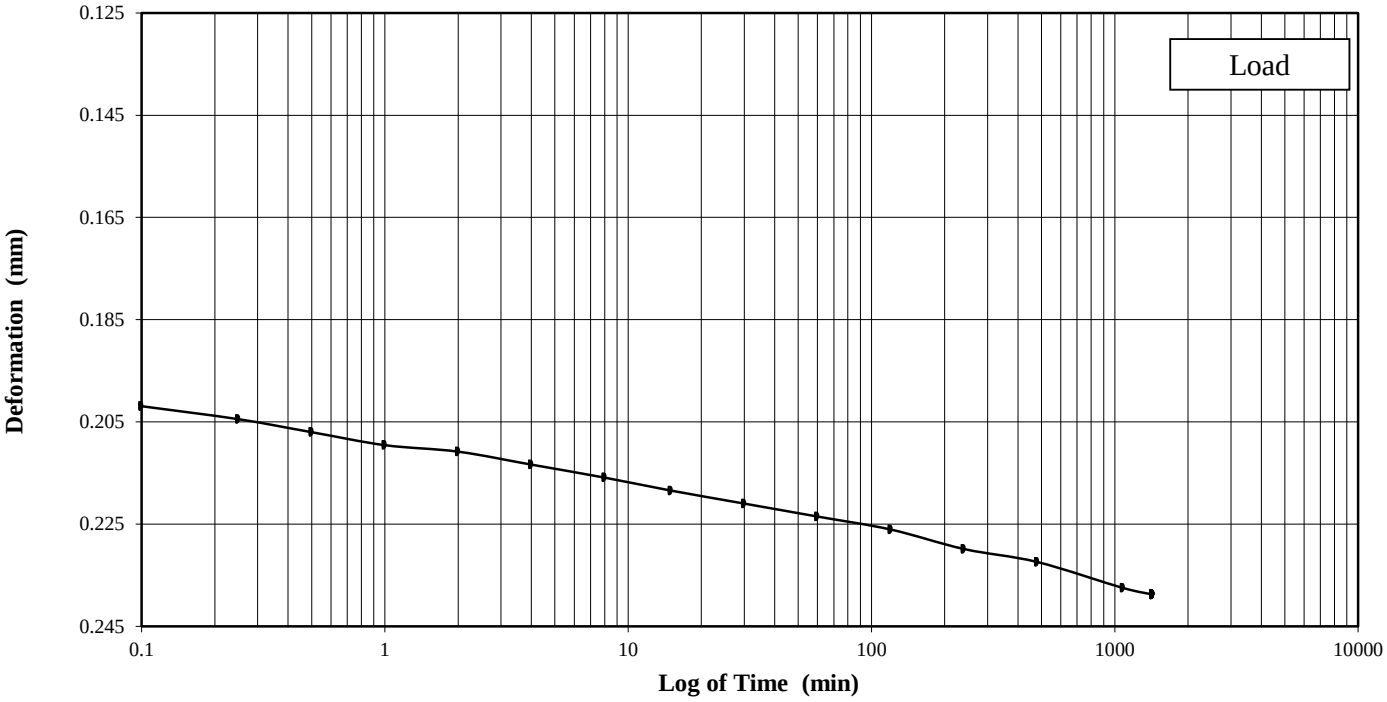
Client Sample ID: GS-119 (14-16') ST

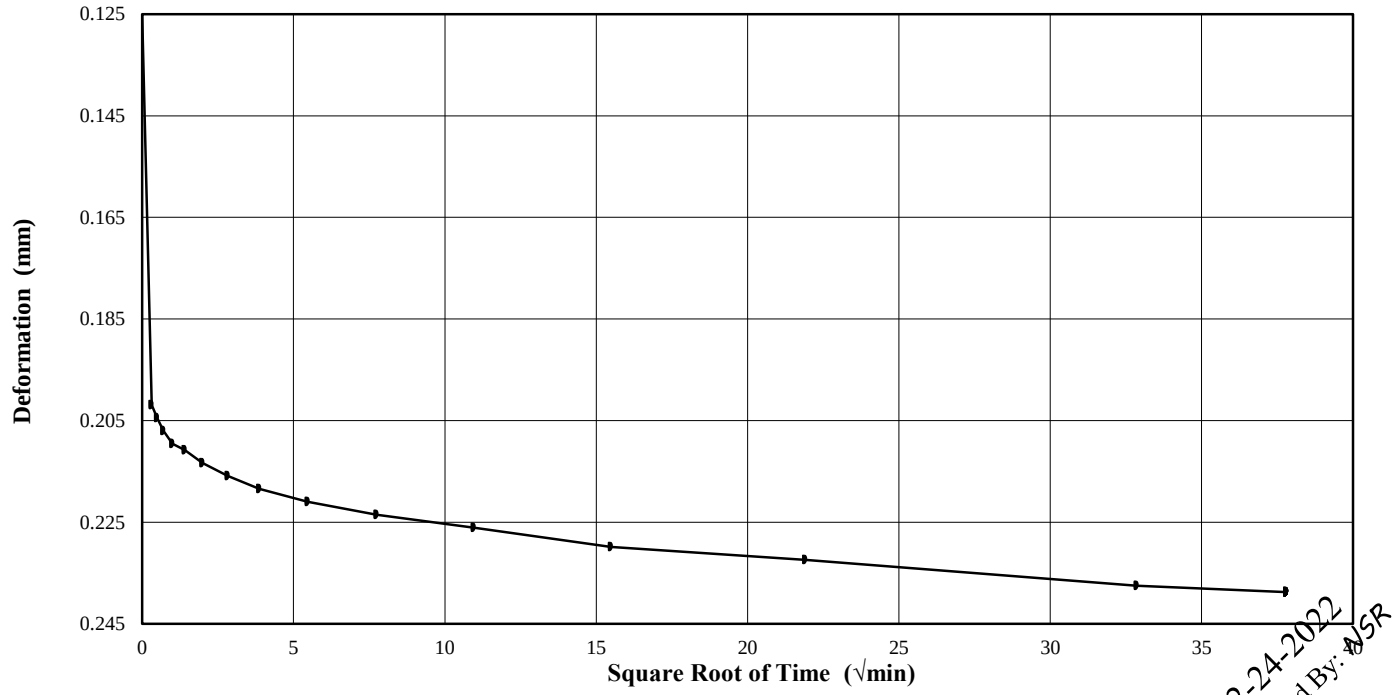
Lab Sample No: 22A075

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 3 - 500 psf





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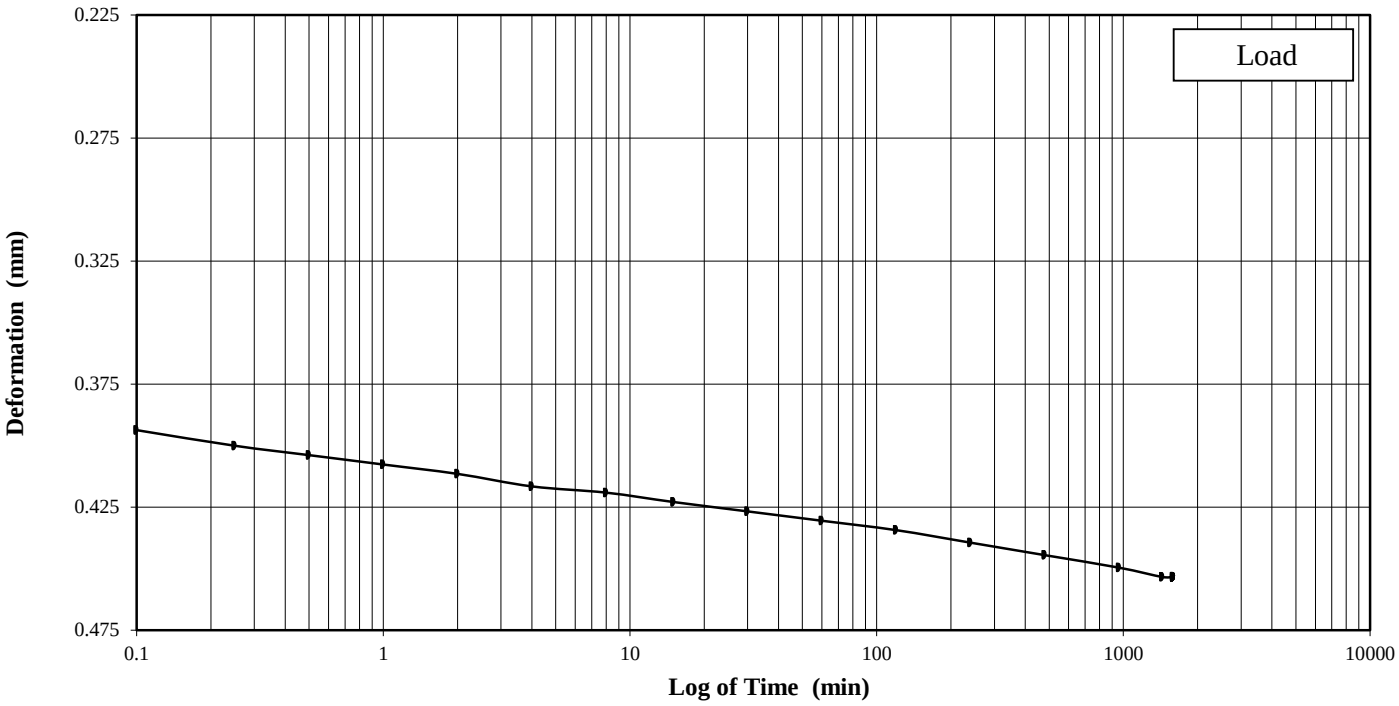
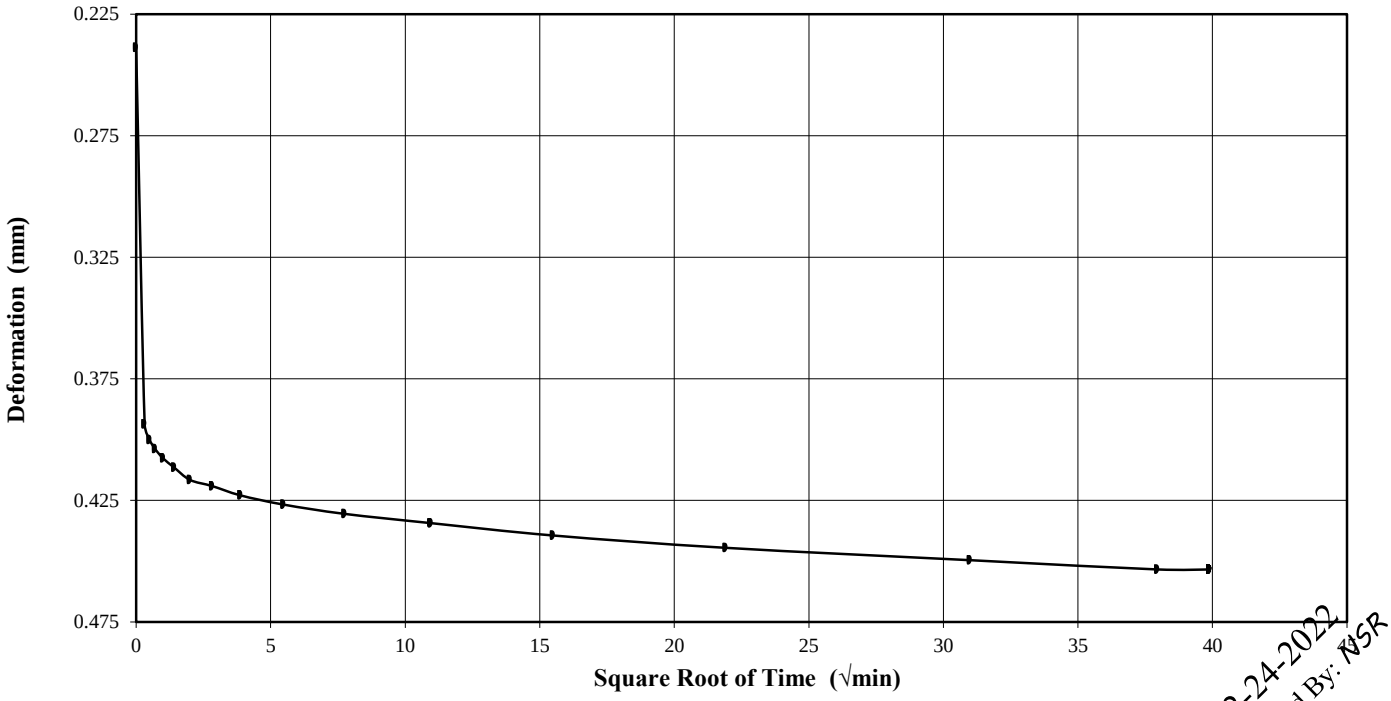
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-119 (14-16') ST
Lab Sample No: 22A075

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 4 - 1000 psf





02-24-2022
Approved By: MSR

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Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

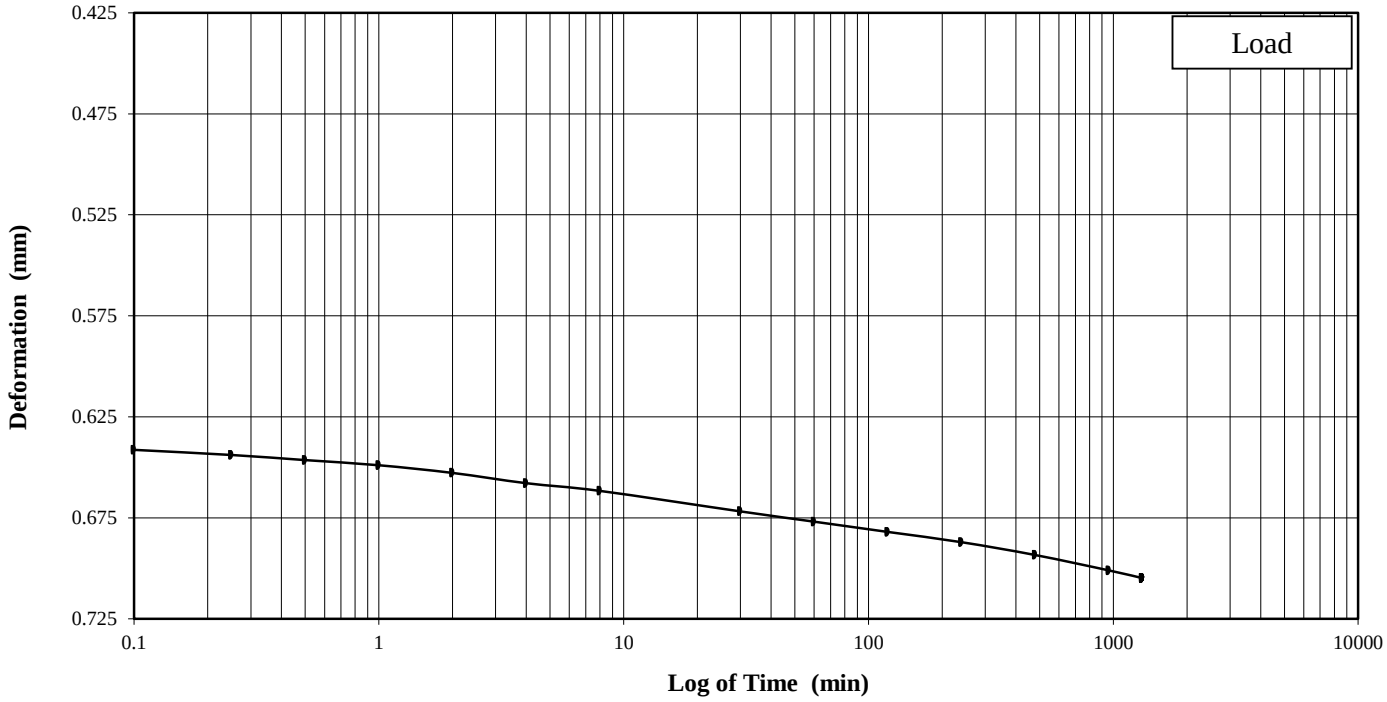
Client Sample ID: GS-119 (14-16') ST

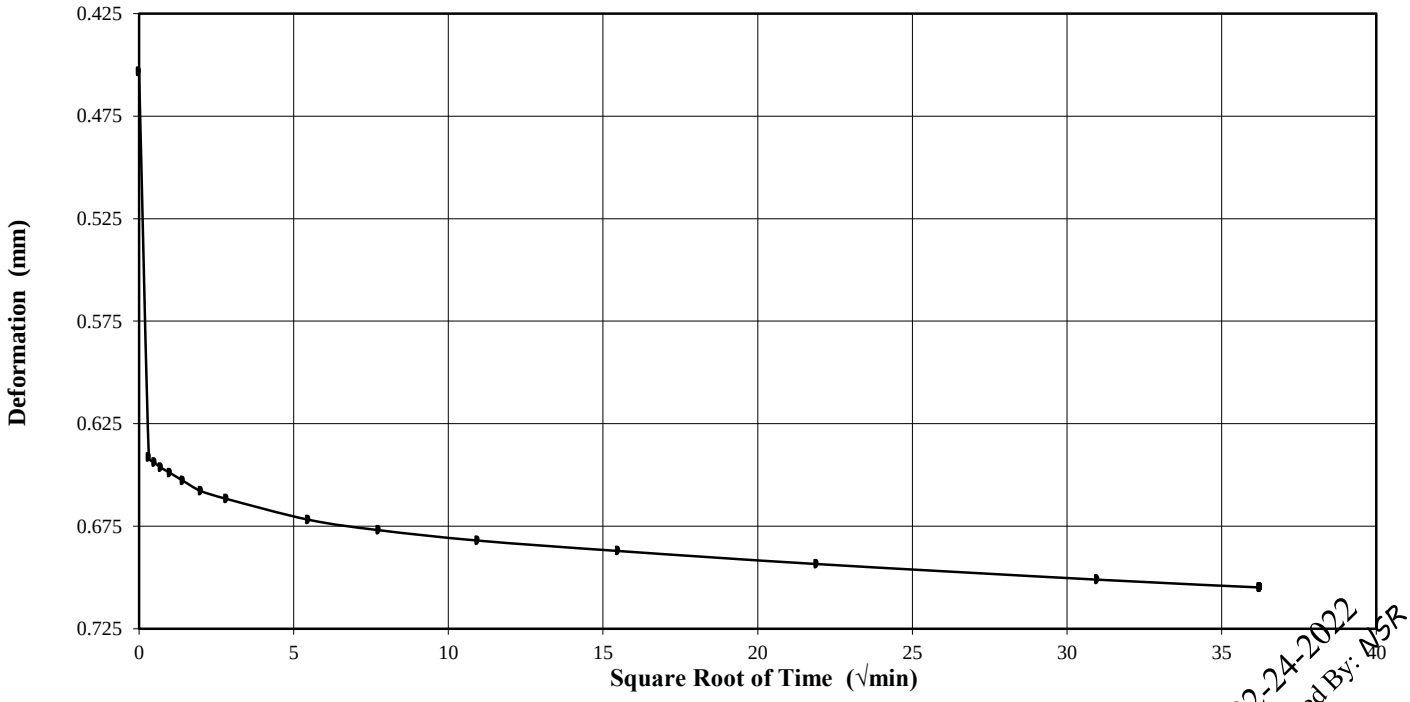
Lab Sample No: 22A075

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 5 - 2000 psf





02-24-2022
Approved By: AJSR

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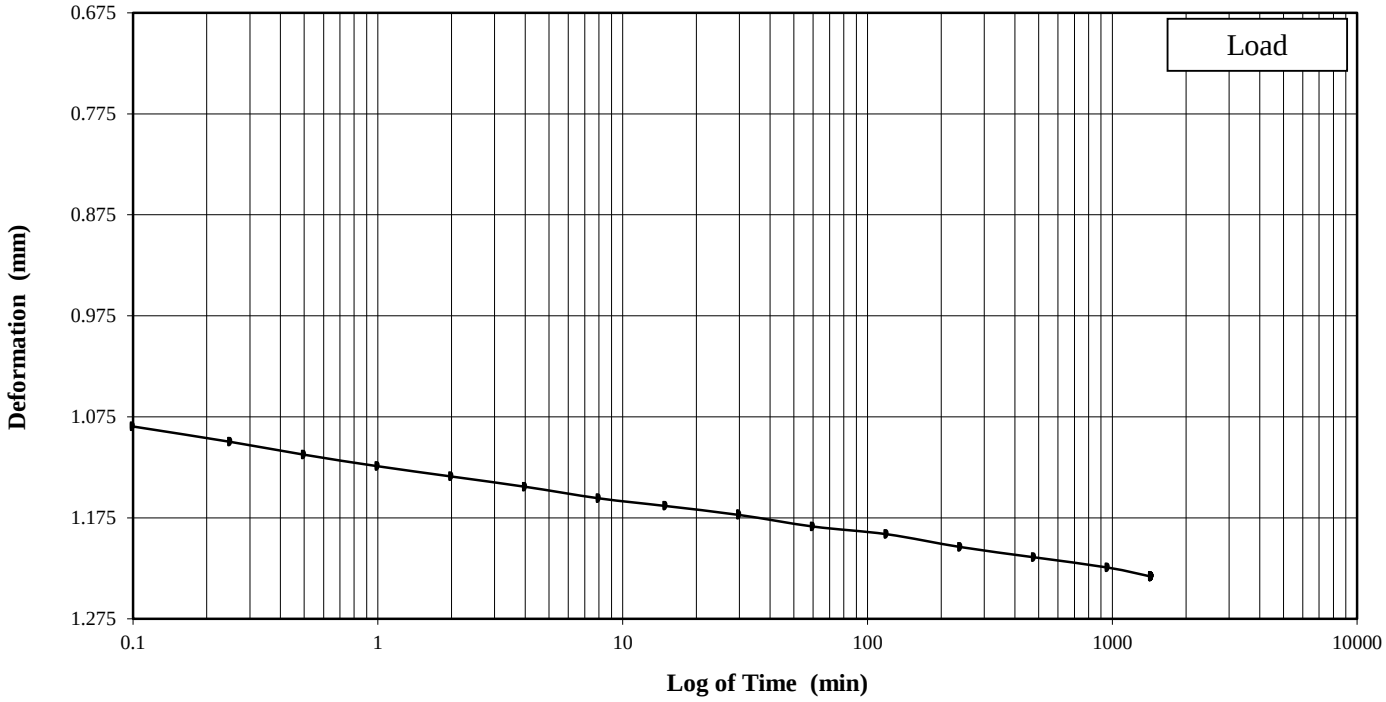
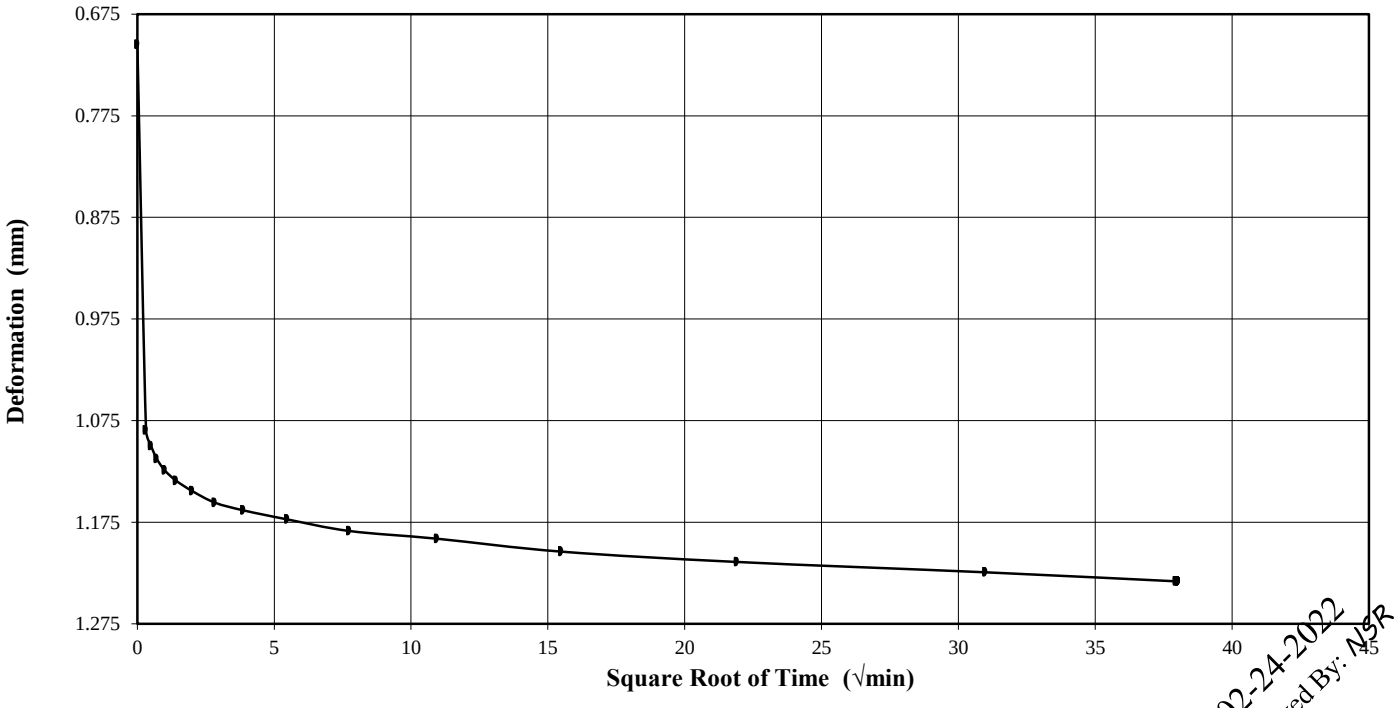
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-119 (14-16') ST
Lab Sample No: 22A075

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 6 - 4000 psf





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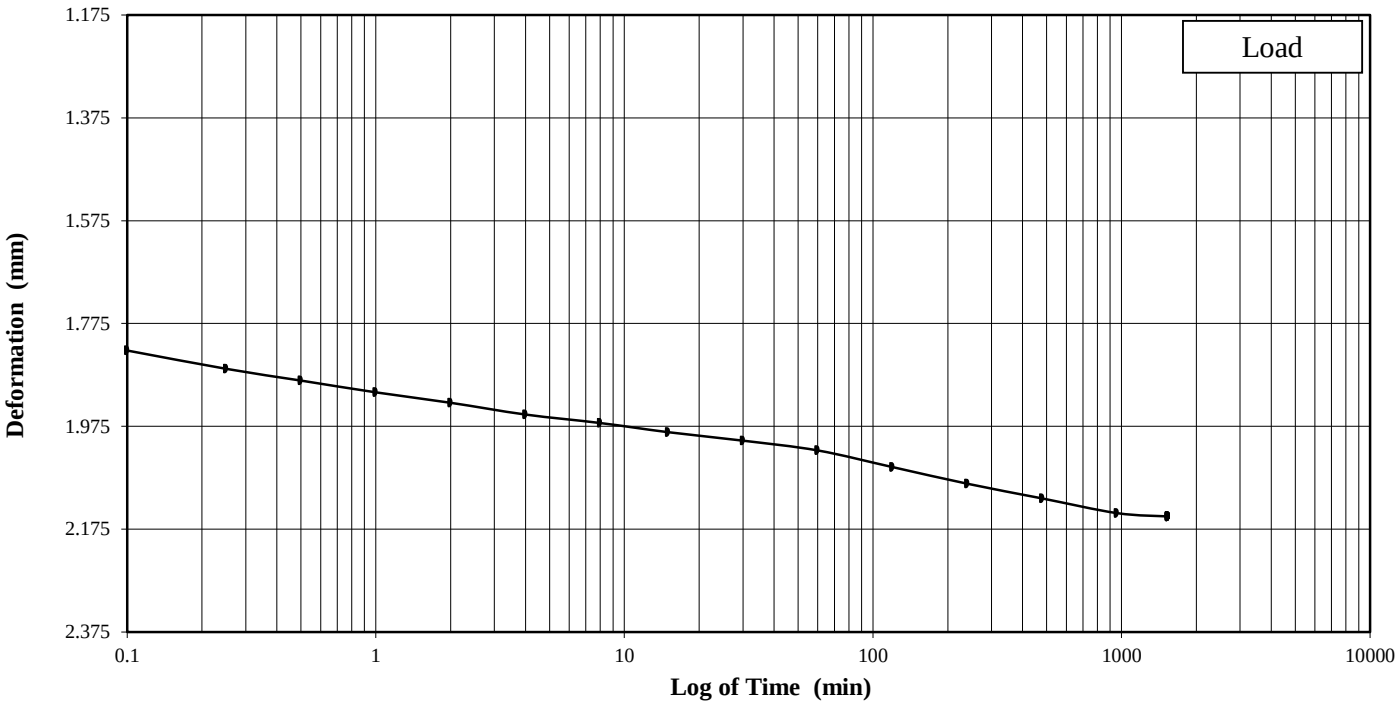
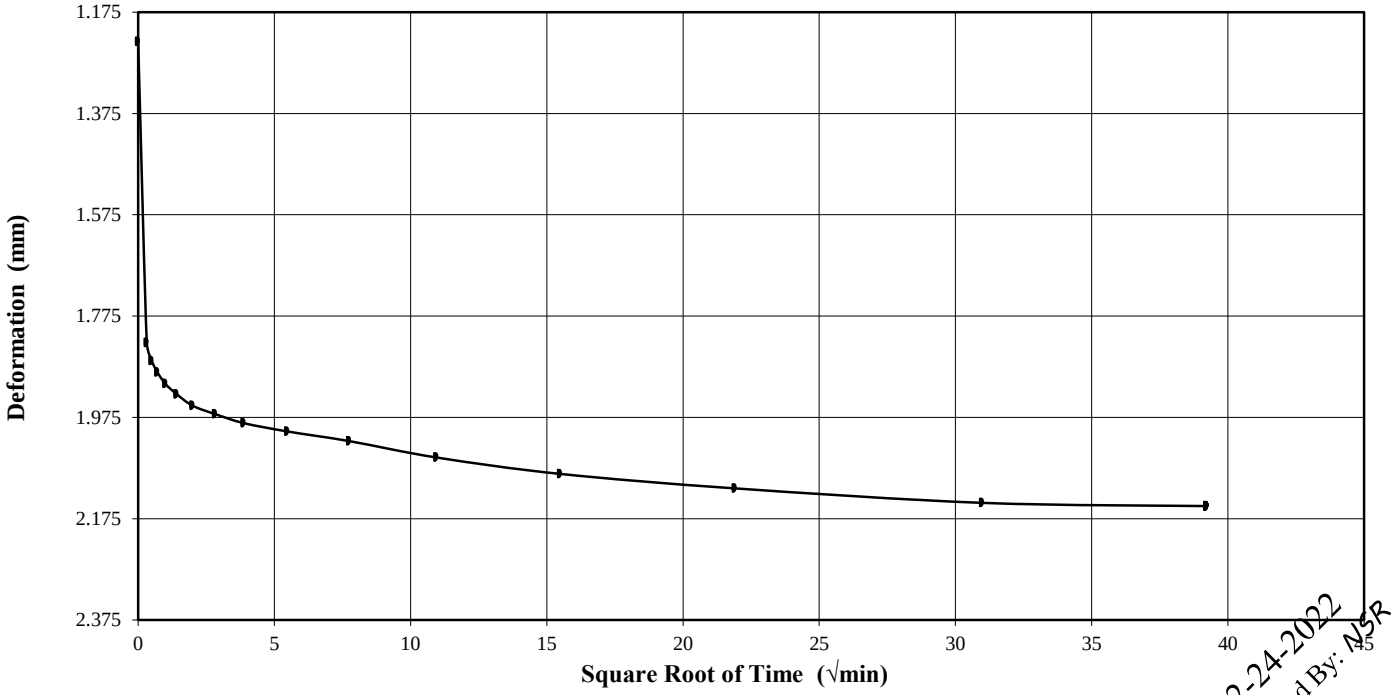
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-119 (14-16') ST
Lab Sample No:	22A075

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 7 - 8000 psf





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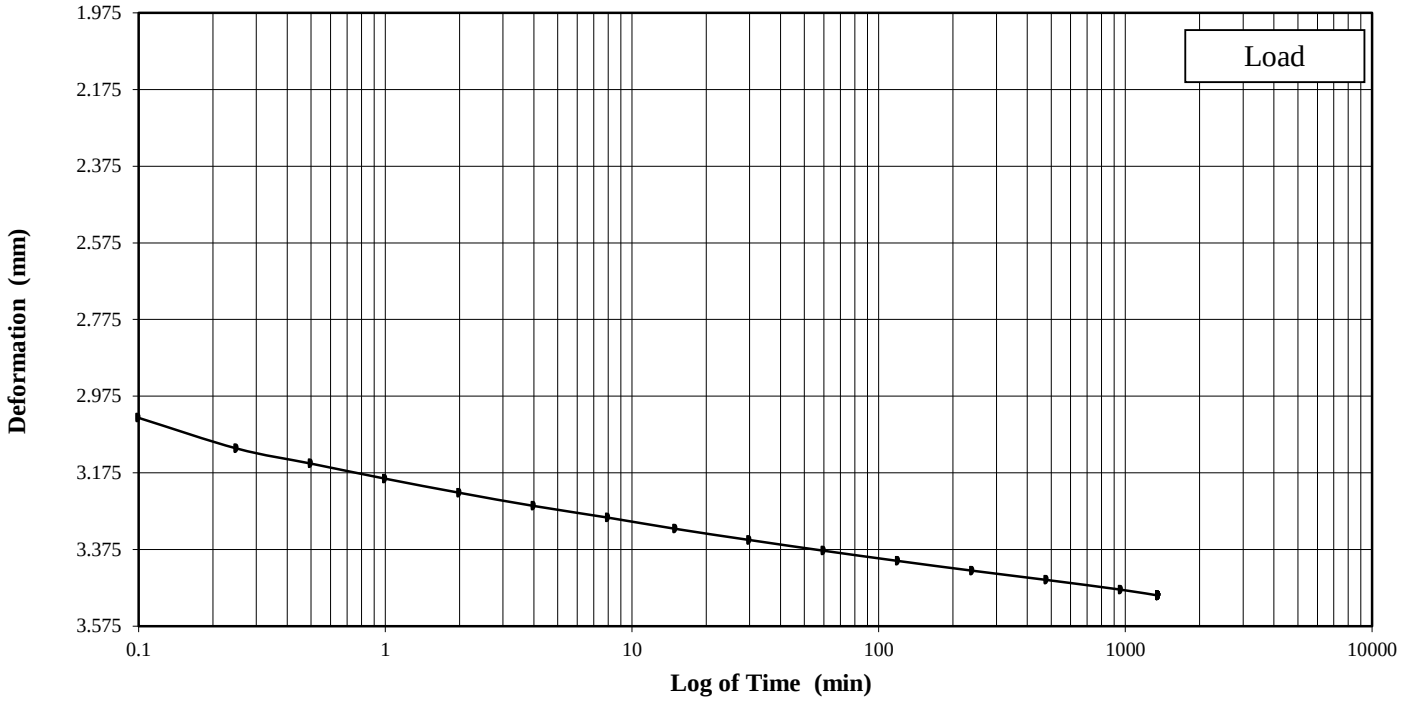
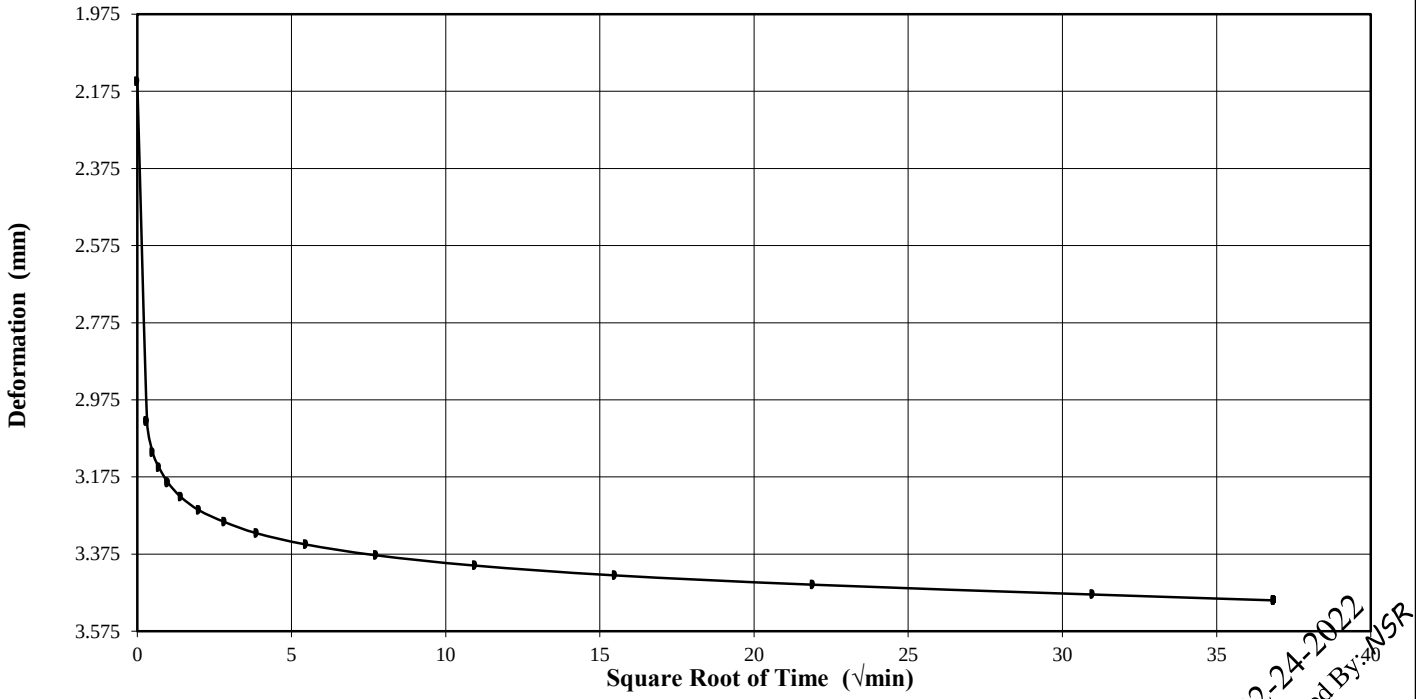
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-119 (14-16') ST
Lab Sample No: 22A075

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 8 - 16000 psf





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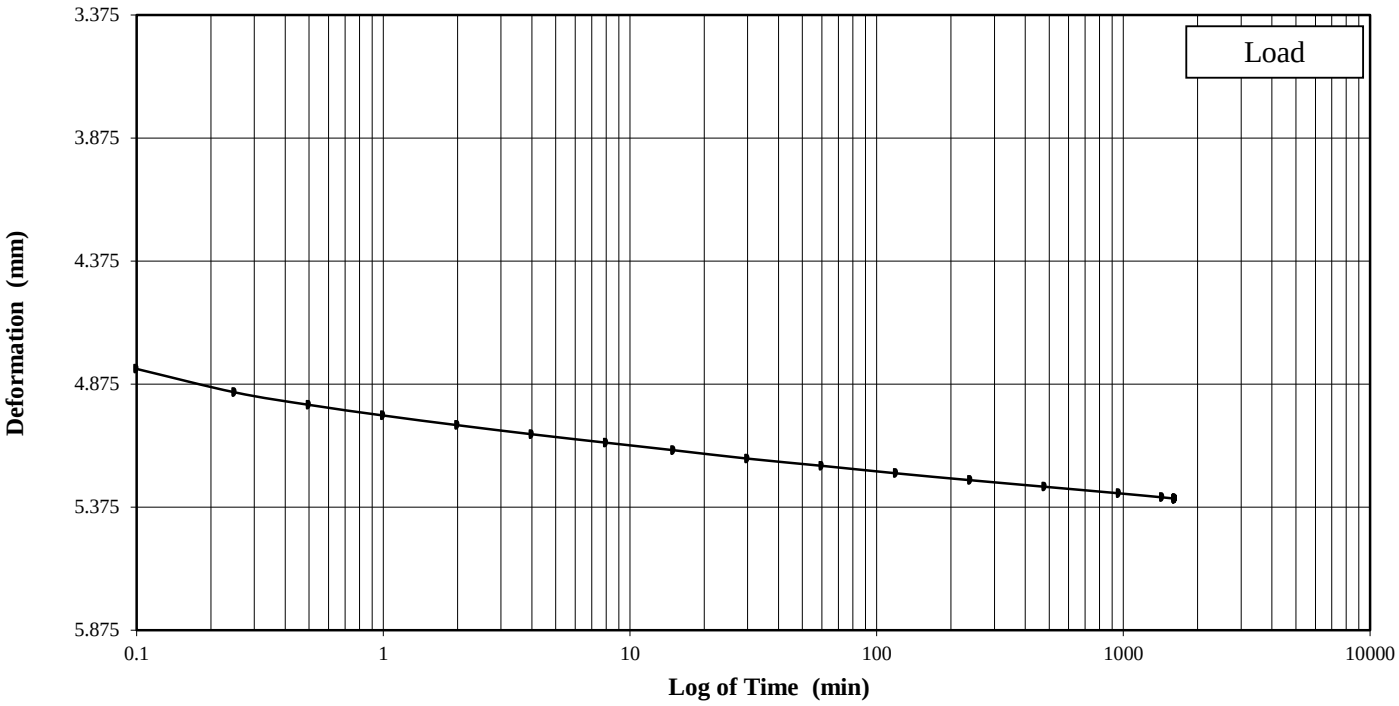
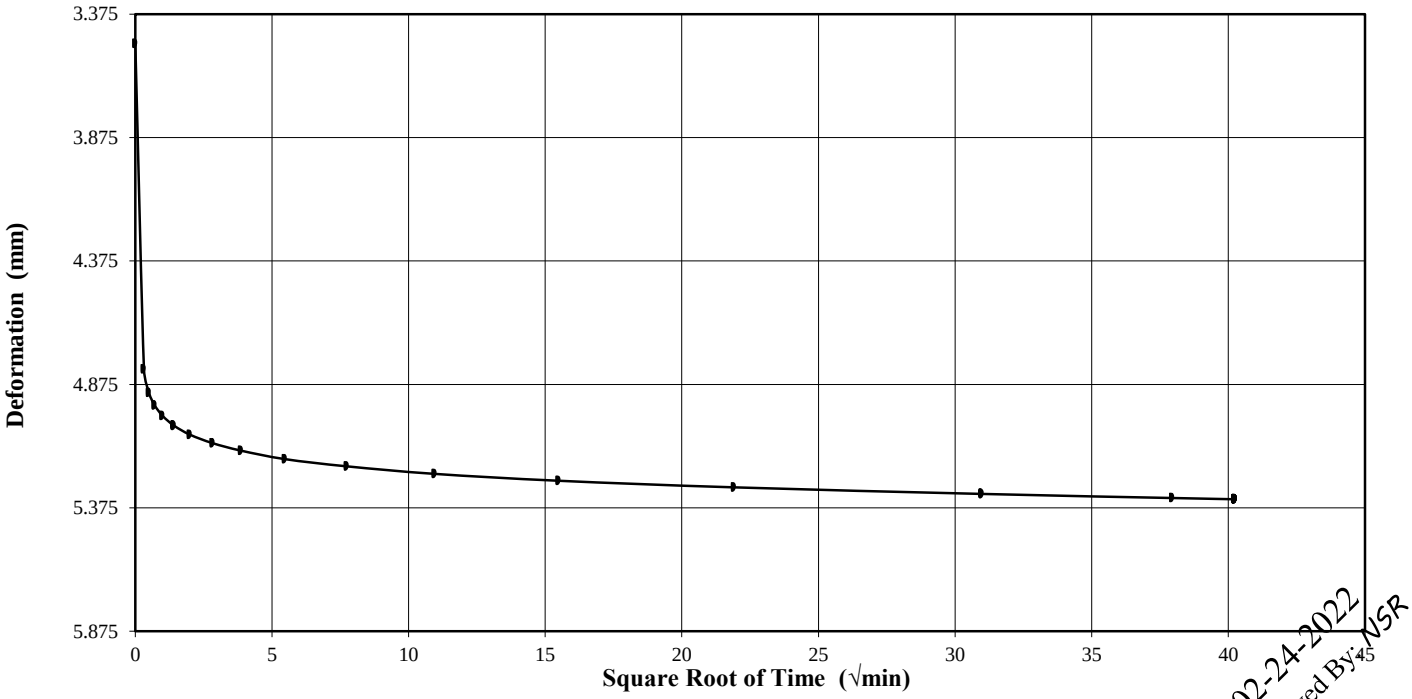
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-119 (14-16') ST
Lab Sample No: 22A075

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 9 - 32000 psf





02-24-2022
Approved By: NSR

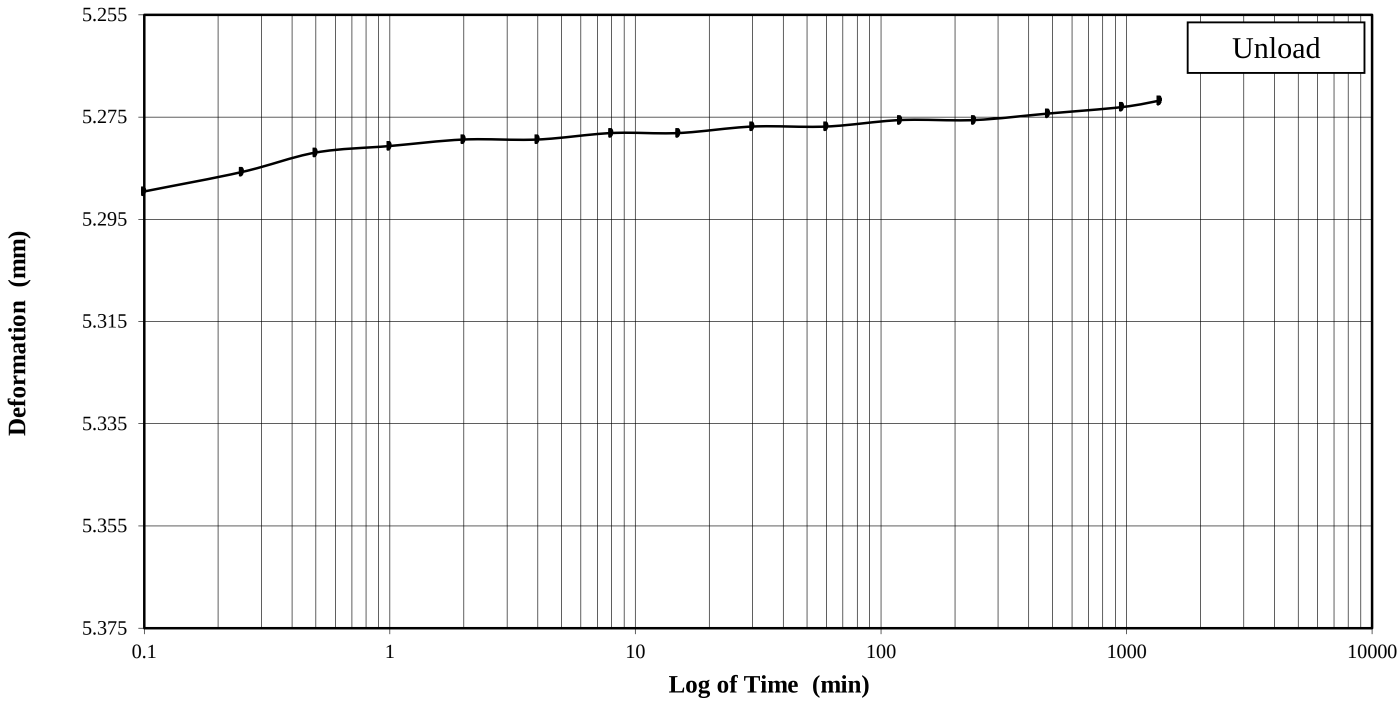
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-119 (14-16') ST
Lab Sample No:	22A075

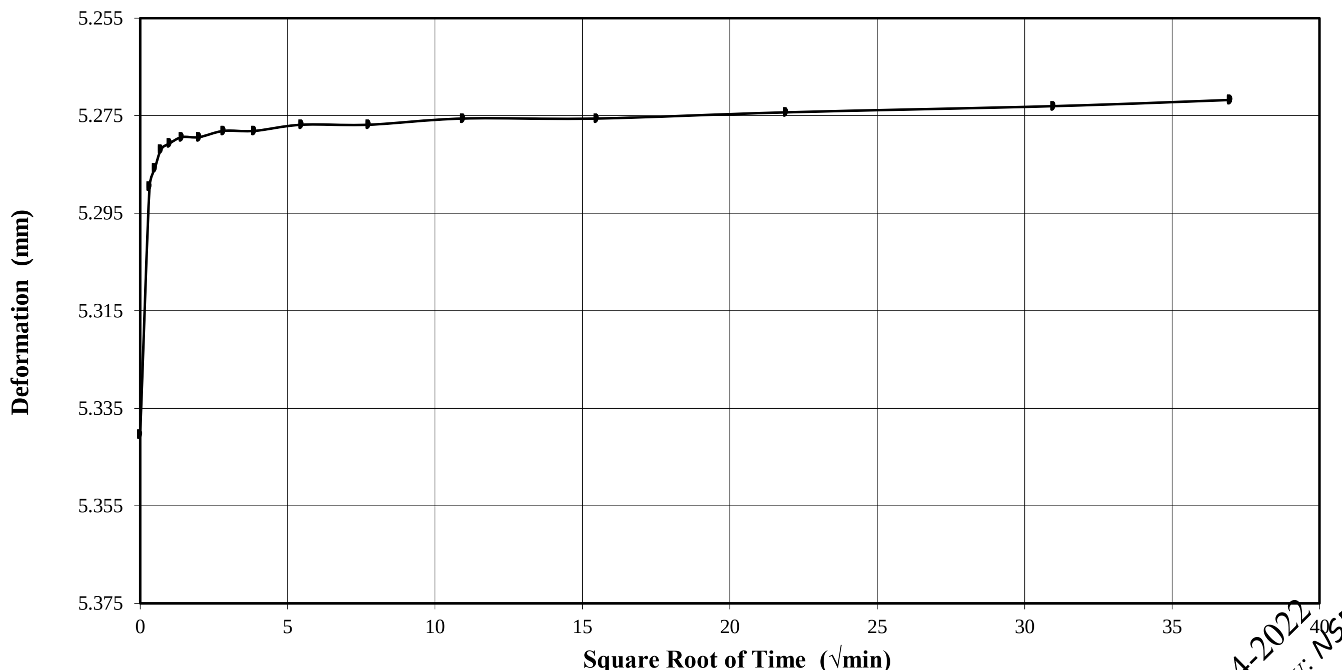
"Excellence in Testing"

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 10 - 16000 psf





02-24-2022
Approved By: NSR

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Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

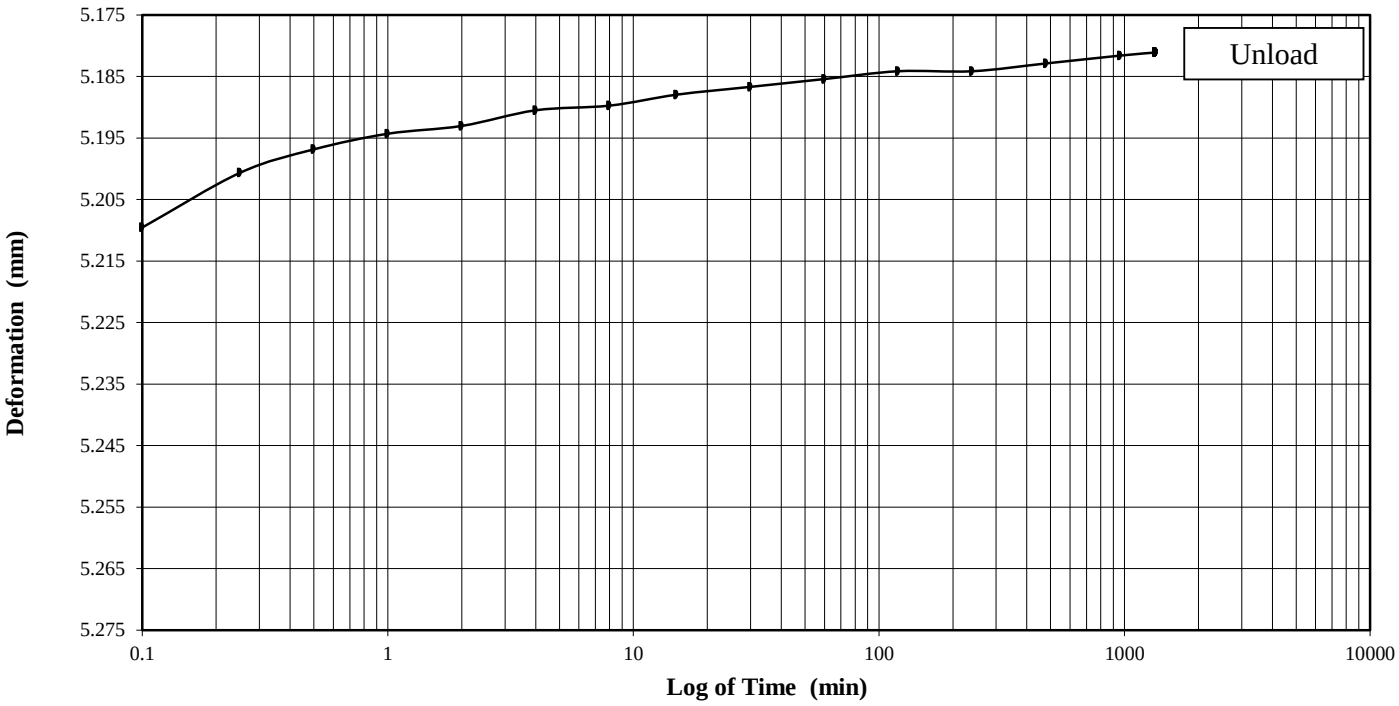
Client Sample ID: GS-119 (14-16') ST

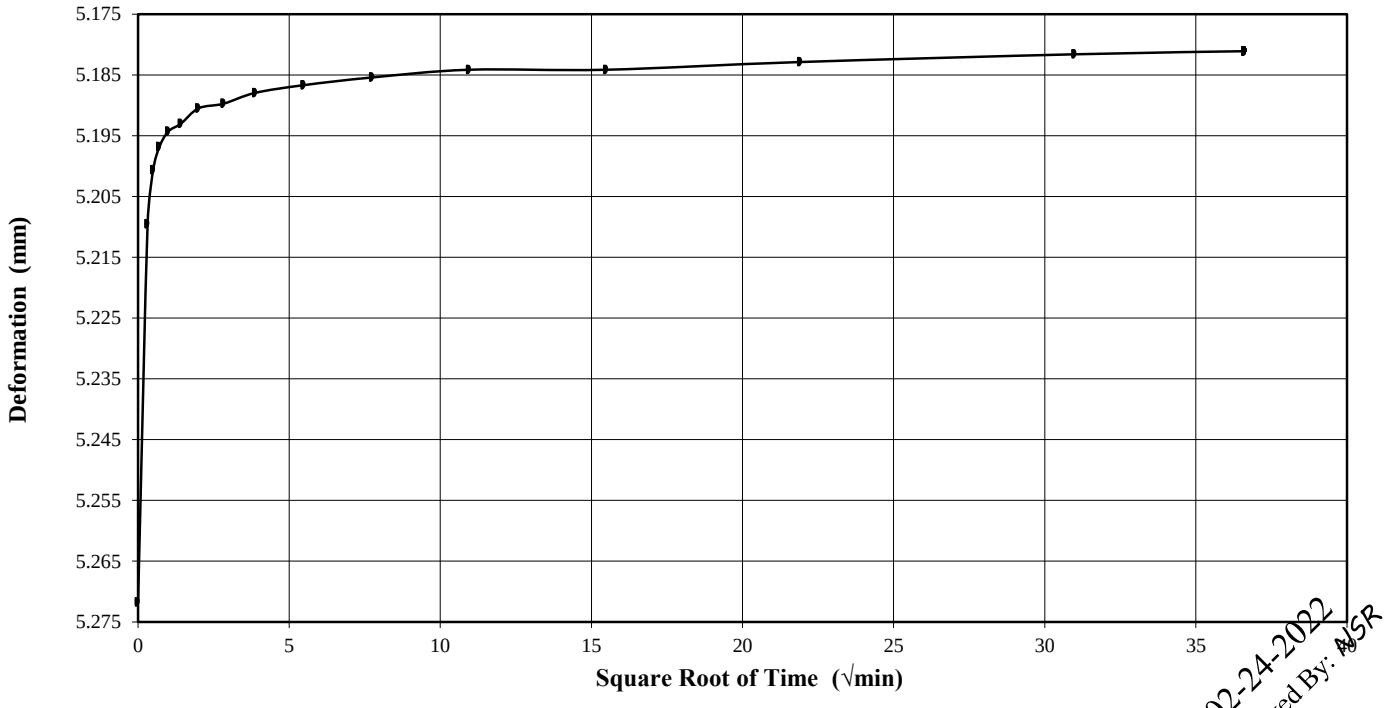
Lab Sample No: 22A075

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 11 - 8000 psf





02-24-2022
Approved By: MSR

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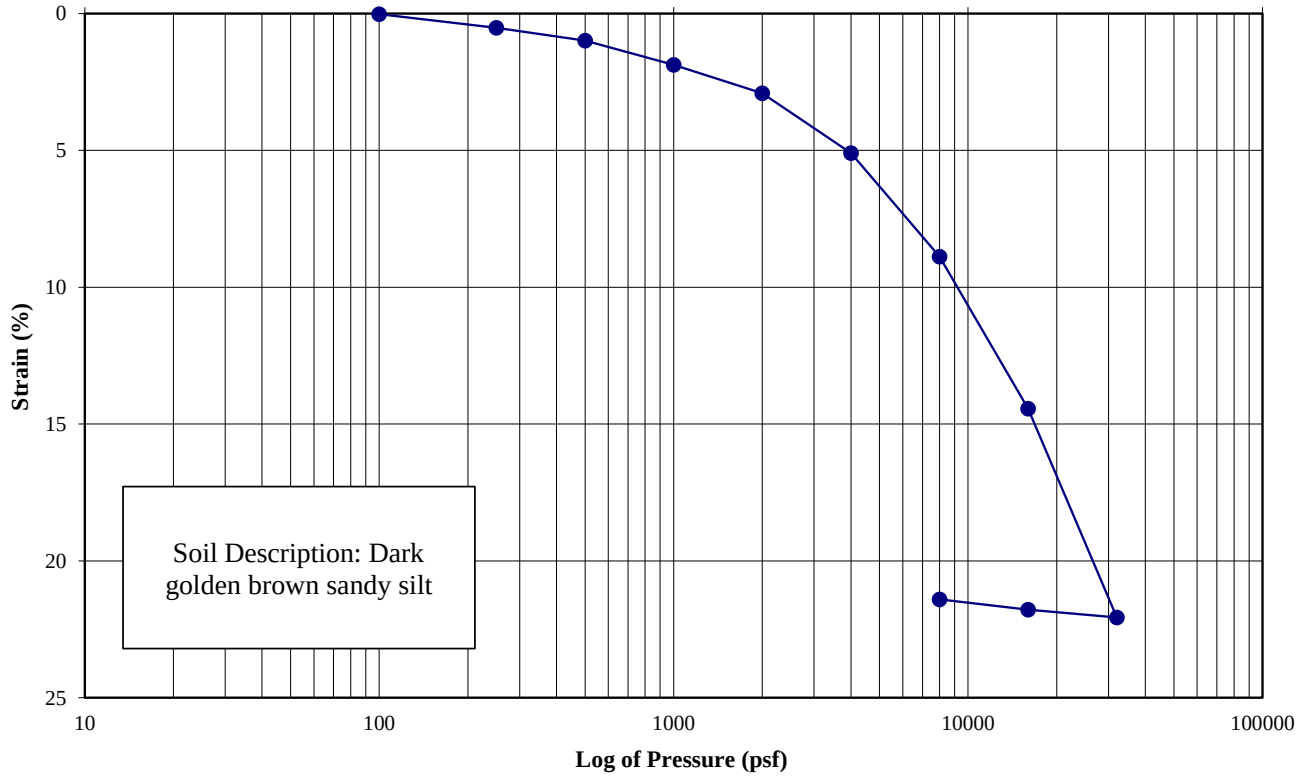
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-119 (14-16') ST
Lab Sample No: 22A075

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST



Client Sample ID	Lab Sample No.	Specimen Quality 1-10 (Bad to Good)	Test Specimen Initial Conditions				Consolidation Pressure (psf)	Pressure Increment Duration (min)	Accumu.(1) Vertical Strain (%)	Figure No.	Remarks
			Height (cm)	Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (%)					
GS-119 (14-16') ST	22A075	8	2.42	6.34	73.3	45.4	100	311	0.0	1	Seating Load
							250	1079	0.5	2	Load
							500	1429	1.0	3	Load
							1000	1591	1.9	4	Load
							2000	1314	2.9	5	Load
							4000	1446	5.1	6	Load
							8000	1538	8.9	7	Load
							16000	1359	14.4	8	Load
							32000	1619	22.1	9	Load
							16000	1367	21.8	10	Unload
							8000	1340	21.4	11	Unload

Notes:

For each pressure increment, the vertical strain values were calculated based on the final deformation measurements.

02-24-2022
Approved By: NSR

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Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Sample ID:	GS-119 (14-16') ST
Lab Sample No:	22A075

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

(a)

After Consolidation

(b)

After Consolidation

(a) (b)

(c)

02-24-2022
Approved By: NSR

Notes: (a) Top view
(b) Bottom view
(c) Specimen split open

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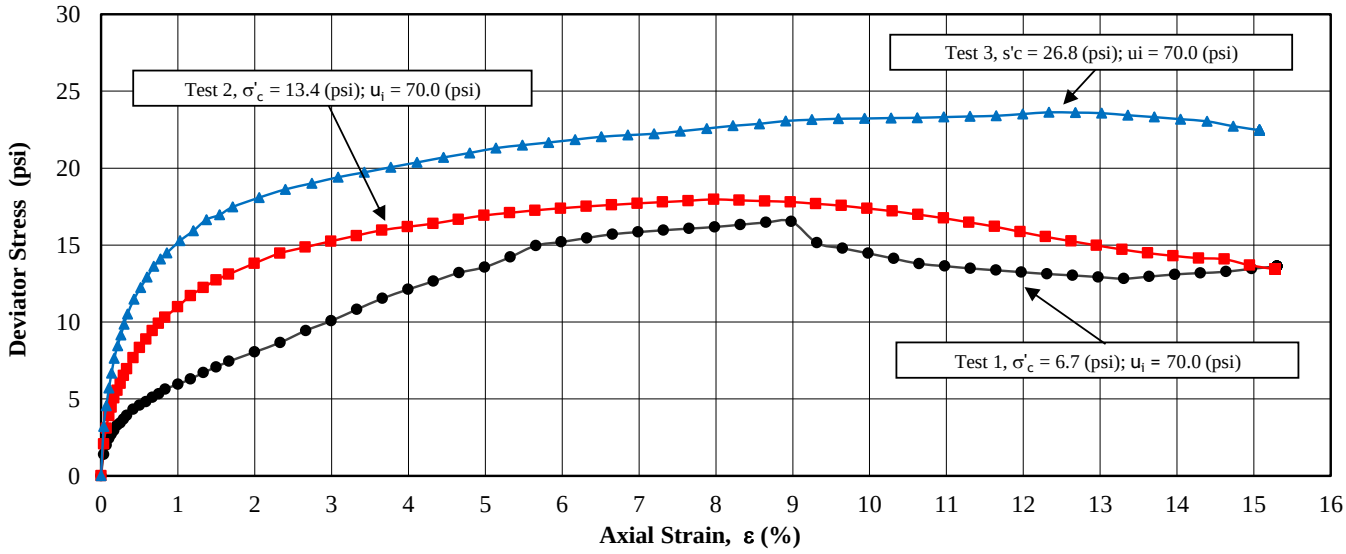
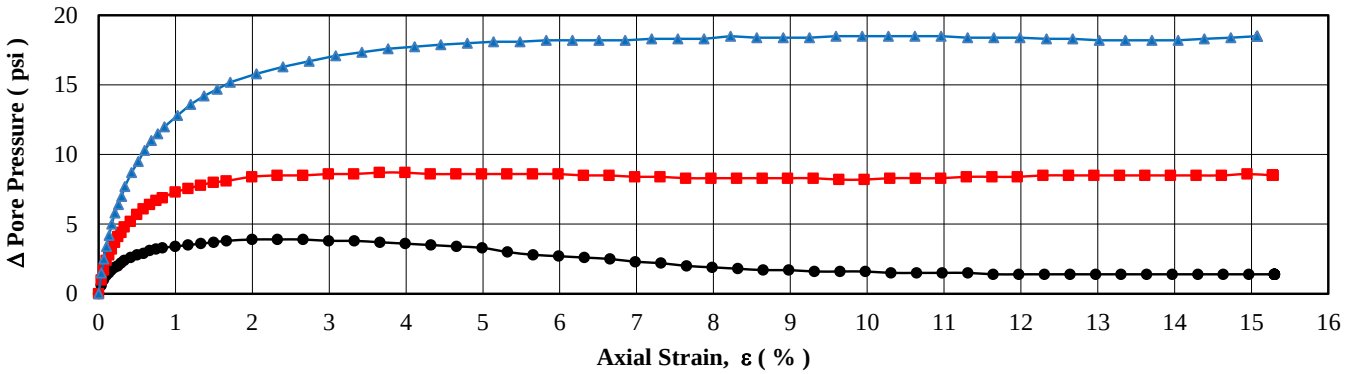
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-118 (18-20') ST
Lab Sample No:	22B052

ASTM D4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 1





Test Specimen No.	Maximum Strength				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	16.5	21.5	5.0	71.7	9.0
2	18.0	23.1	5.1	78.3	8.0
3	23.6	32.1	8.5	88.3	12.3

Test Specimen No.	Strength at App. 15% Axial Strain				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	13.6	18.9	5.3	71.4	15.3
2	13.4	18.3	4.9	78.5	15.3
3	22.5	30.8	8.3	88.5	15.1

Notes:

σ'_c = Consolidation pressure, (psi) u_i = Initial pore pressure,(psi)

03-21-2022
Approved By: NSR

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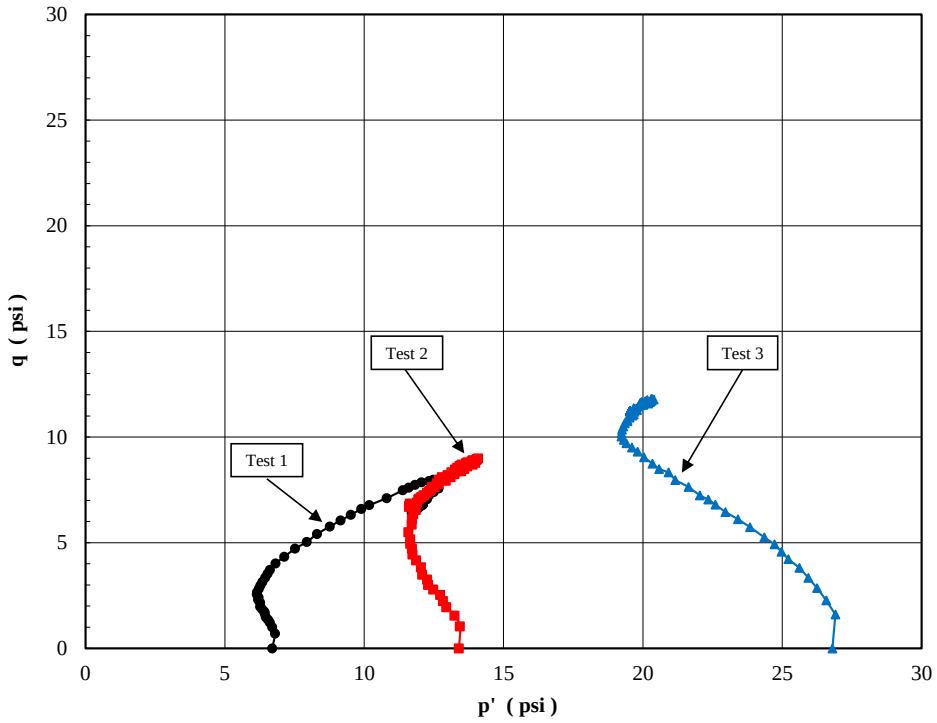
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-118 (18-20') ST
Lab Sample No:	22B052

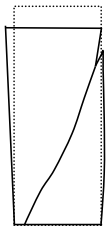
ASTM D4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

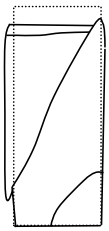
Figure 2



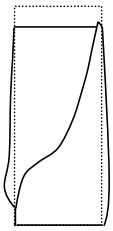
Test Specimen Number (-)	Specimen Quality Bad to Good (1 to 10)	Initial Conditions							Consolidation Stage		Loading
		Height (in .)	Diameter (in.)	Moisture Content (%)	Dry Unit Weight (pcf)	B Parameter (-)	Initial Pore Pressure (u_i) (psi)	Consolidation Pressure (σ'_c) (psi)	Axial Strain (%)	Volumetric Strain (%)	Axial Rate (% / min)
1	7	6.11	2.87	33.5	79.6	0.99	70.0	6.7	1.57	4.91	0.065
2	6	6.13	2.87	50.6	68.8	1.00	70.0	13.4	1.71	4.25	0.065
3	5	6.06	2.86	54.4	65.4	1.00	70.0	26.8	3.71	9.97	0.066



Specimen No.1
Dark golden brown sandy silt



Specimen No. 2
Dark golden brown sandy silt



Specimen No. 3
Dark golden brown sandy silt

Notes:

03-21-2022
Approved By: *NSR*

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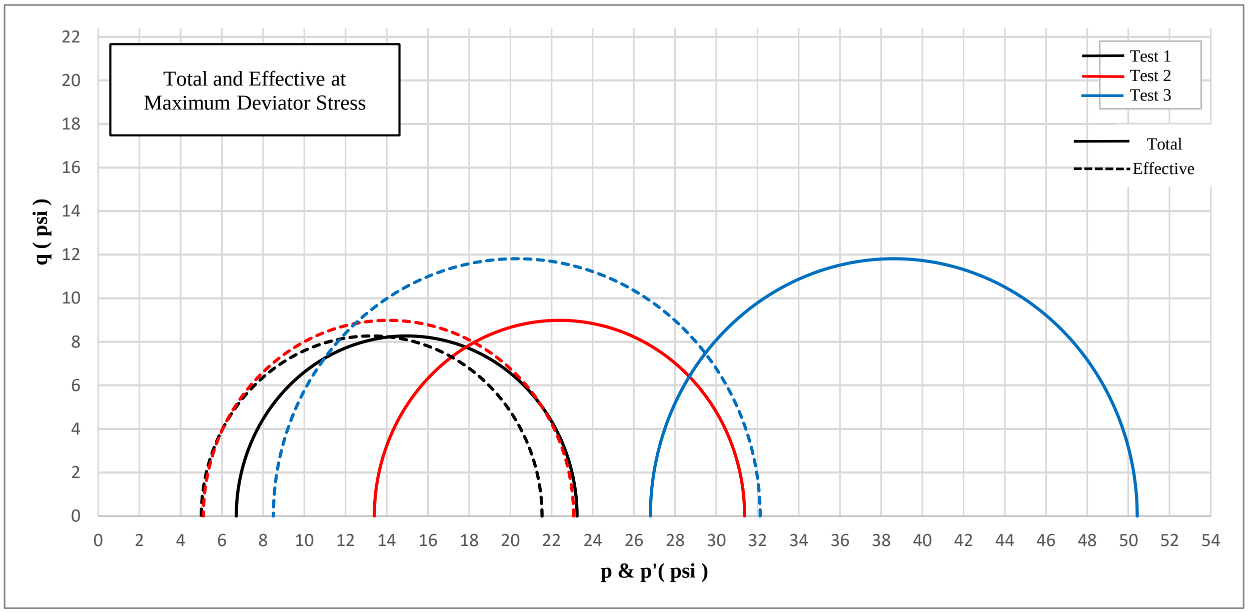
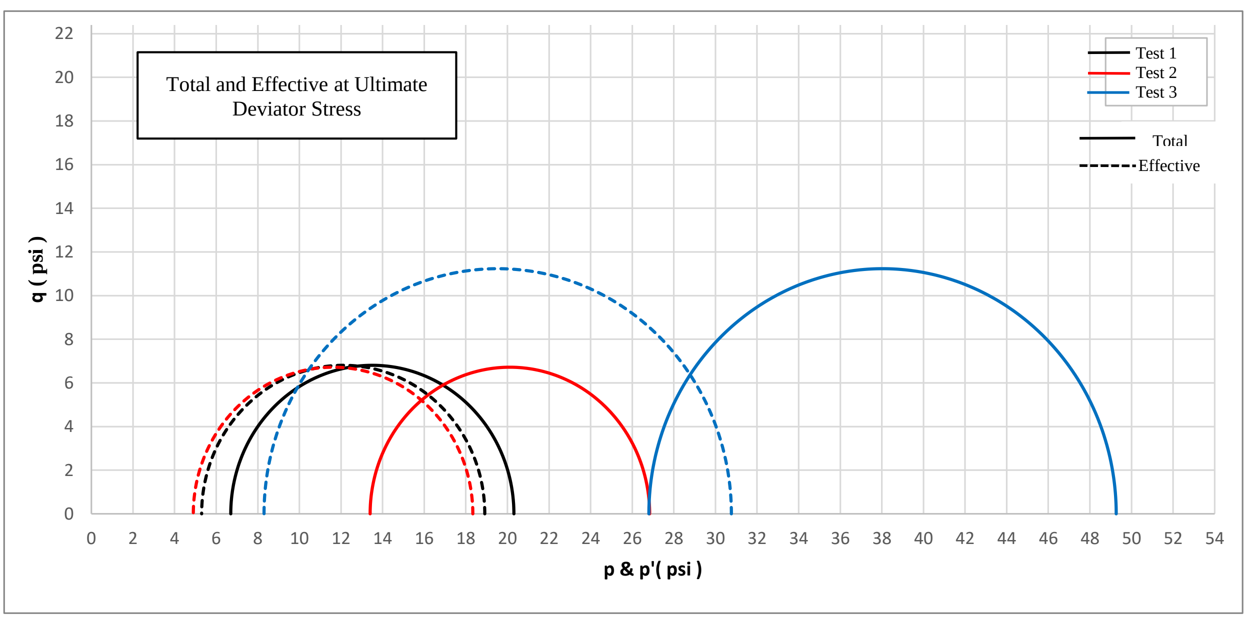
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-118 (18-20') ST
Lab Sample No:	22B052

ASTM D4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 3





03-21-2022
Approved By: NSR

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Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

Sample ID: GS-118 (18-20') ST

Lab Sample No: 22B052

ASTM D4767

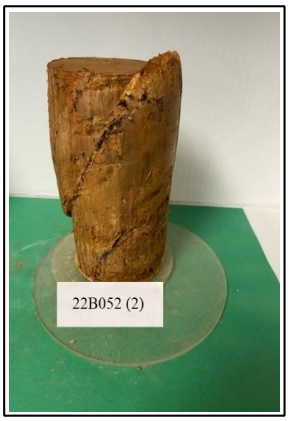
CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

(a)

Specimen No. 1
Dark golden brown sandy silt

(b)

(a)



Specimen No. 2
Dark golden brown sandy silt

(b)

(a)

Specimen No. 3
Dark golden brown sandy silt

(b)

Notes: (a) Failure after shear

(b) Specimen split open

03-21-2022
Approved By: NSR

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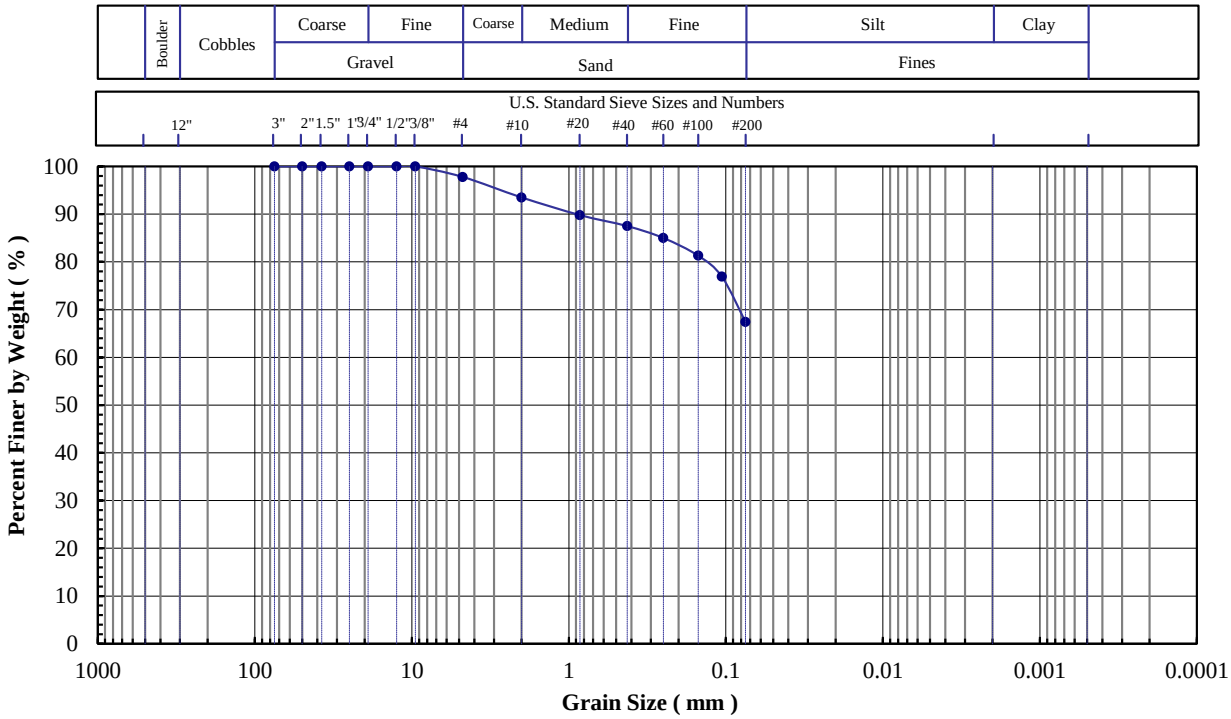
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-119 (8-10')
Lab Sample No:	22A074

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

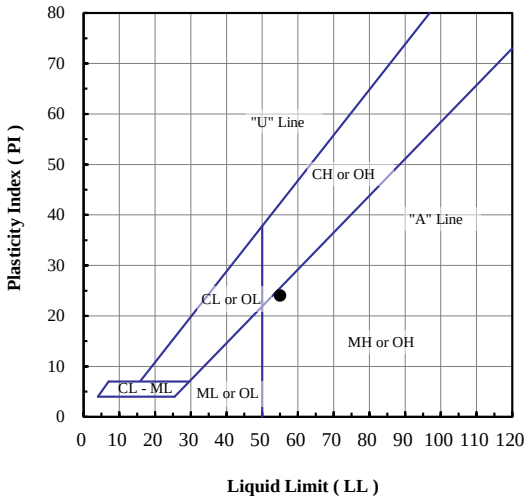


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	97.8
#10	2.00	93.5
#20	0.850	89.8
#40	0.425	87.5
#60	0.250	85.0
#100	0.150	81.3
#140	0.106	76.9
#200	0.075	67.4

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	2.2
Sand (%):	30.4
Fines (%):	67.4
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
GS-119 (8-10')	22A074		67.4	55	31	24	MH - Sandy elastic silt

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-22-2022
Approved By: NSR

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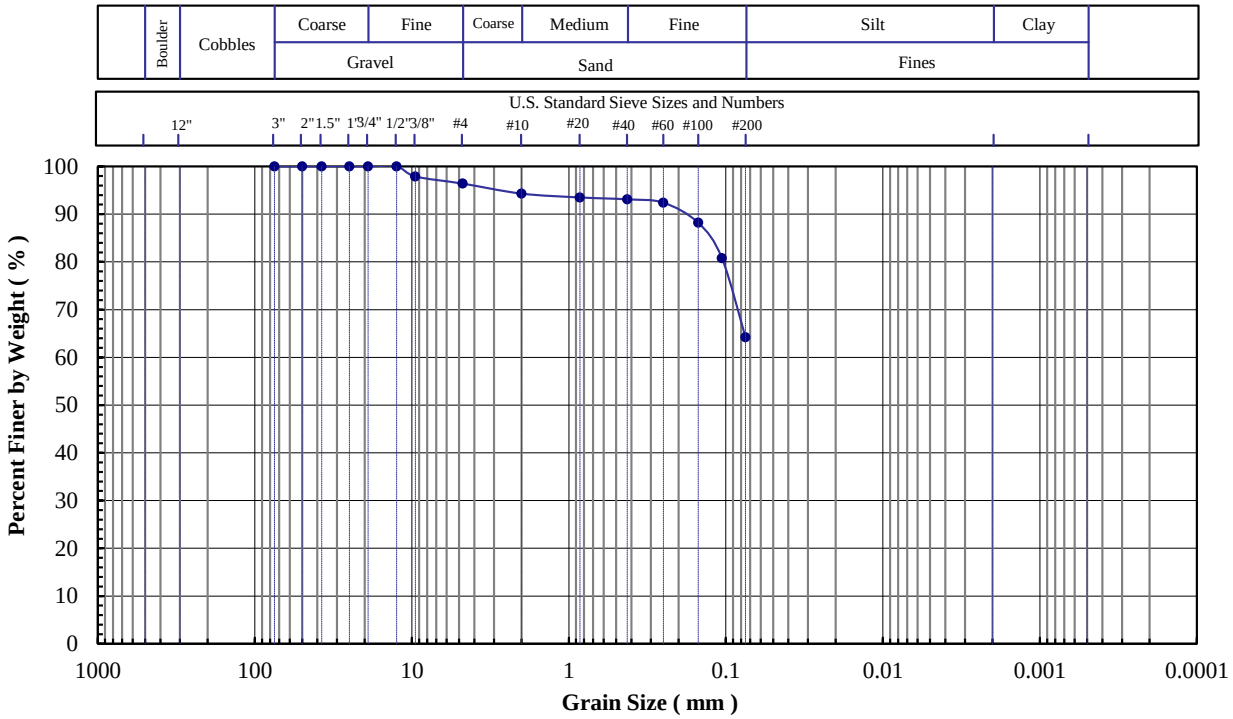
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-119 (20-22')
Lab Sample No:	22A076

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

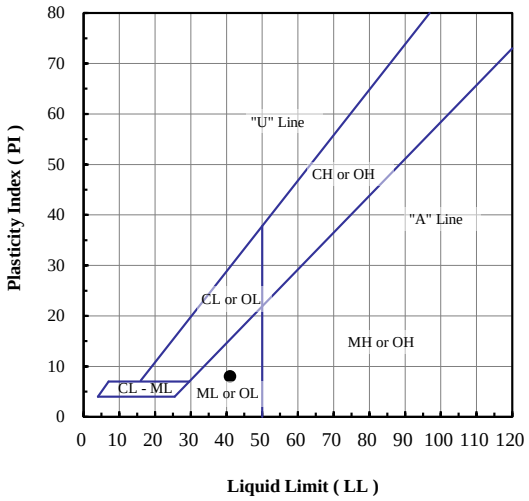


Sieve No.	Size (mm)	% Finer
3"	75	100
2"	50	100
1.5"	37.5	100
1"	25	100
3/4"	19	100
3/8"	9.5	98
#4	4.75	96
#10	2.00	94
#20	0.850	94
#40	0.425	93
#60	0.250	92
#100	0.150	88
#140	0.106	81
#200	0.075	64

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	4
Sand (%):	32
Fines (%):	64
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
GS-119 (20-22')	22A076		64	41	33	8	ML - Sandy silt

Note(s): Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: N5R

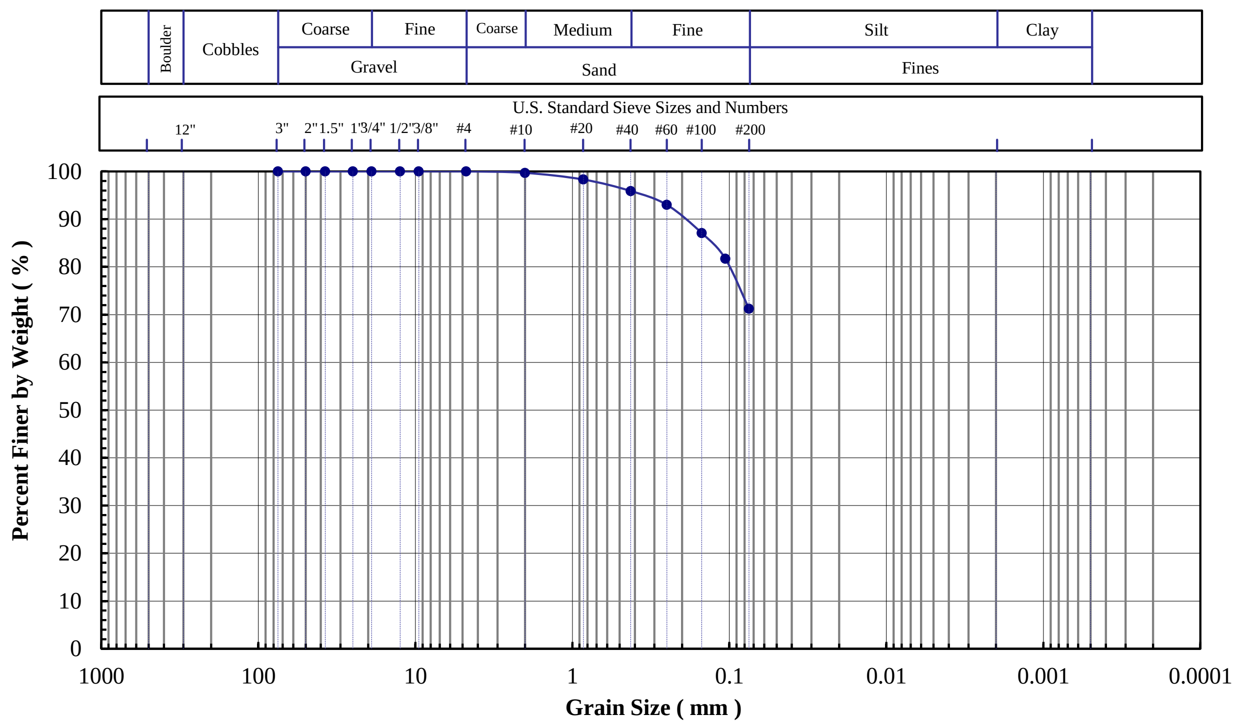
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-119 (14-16') ST
Lab Sample No:	22A075

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

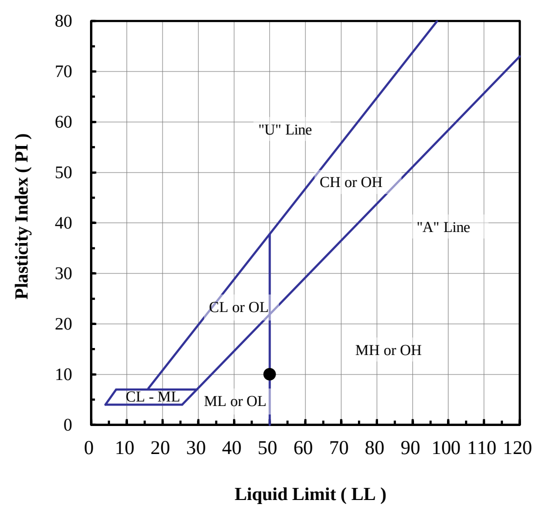


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.7
#20	0.850	98.3
#40	0.425	95.9
#60	0.250	93.0
#100	0.150	87.1
#140	0.106	81.7
#200	0.075	71.2

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	28.8
Fines (%):	71.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-): 2.631 | **Org. Content (%):** | **Carbon. Content (%):**

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-119 (14-16') ST	22A075		71.2	50	40	10	MH - Elastic silt with sand

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

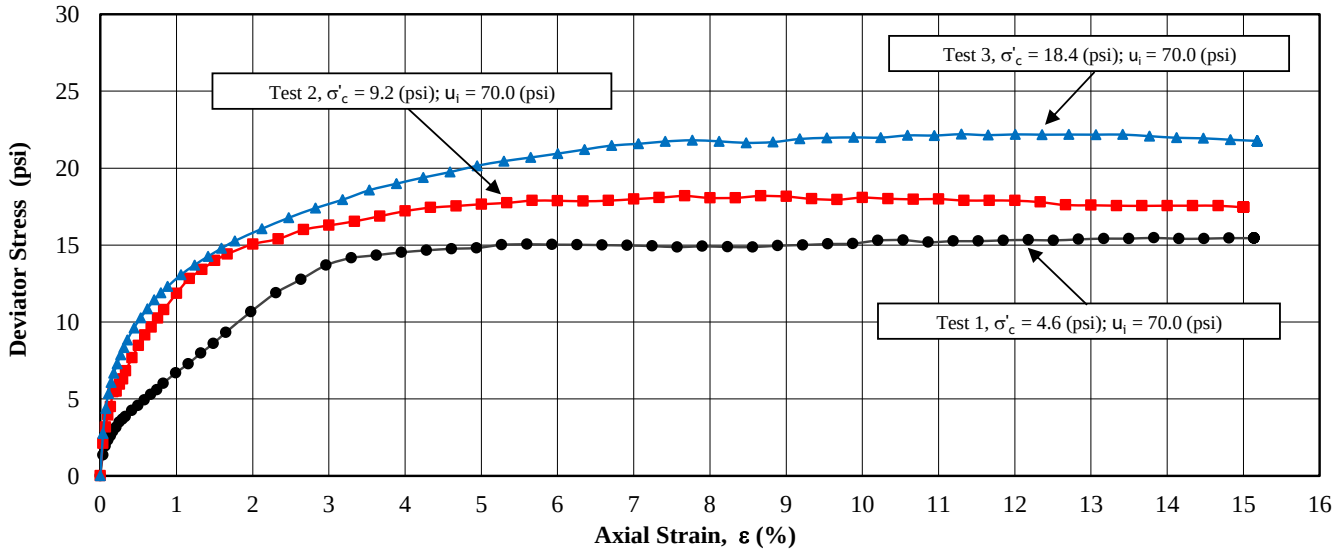
03-21-2022
Approved By: NSR

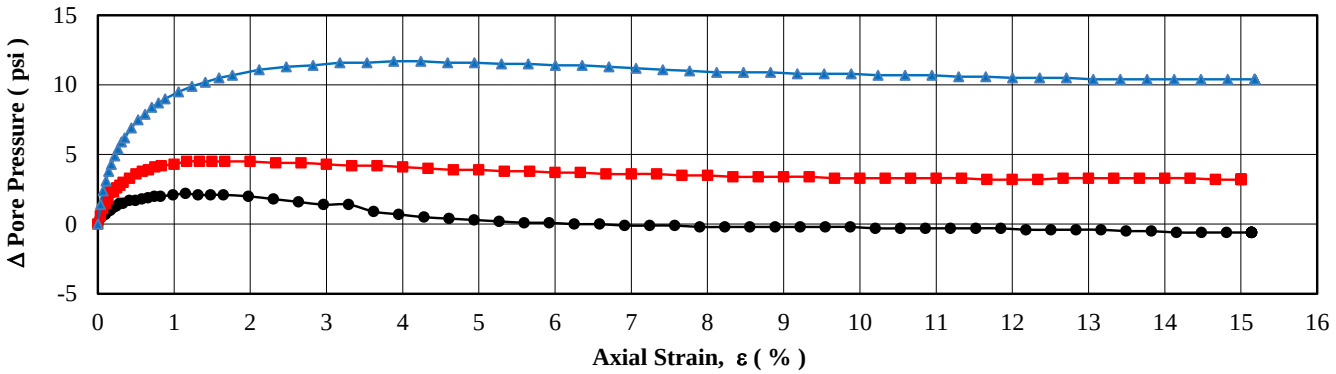
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-119 (14-16) ST
Lab Sample No:	22A075

ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 1





Test Specimen No.	Maximum Strength				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	15.5	20.6	5.1	69.5	13.8
2	18.2	24.0	5.8	73.4	8.7
3	22.2	30.0	7.8	80.6	11.3

Test Specimen No.	Strength at App. 15% Axial Strain				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	15.4	20.6	5.2	69.4	15.1
2	17.4	23.4	6.0	73.2	15.0
3	21.8	29.8	8.0	80.4	15.2

Notes:

σ'_c = Consolidation pressure, (psi) u_i = Initial pore pressure,(psi)

02-14-2022
Approved By: NSR

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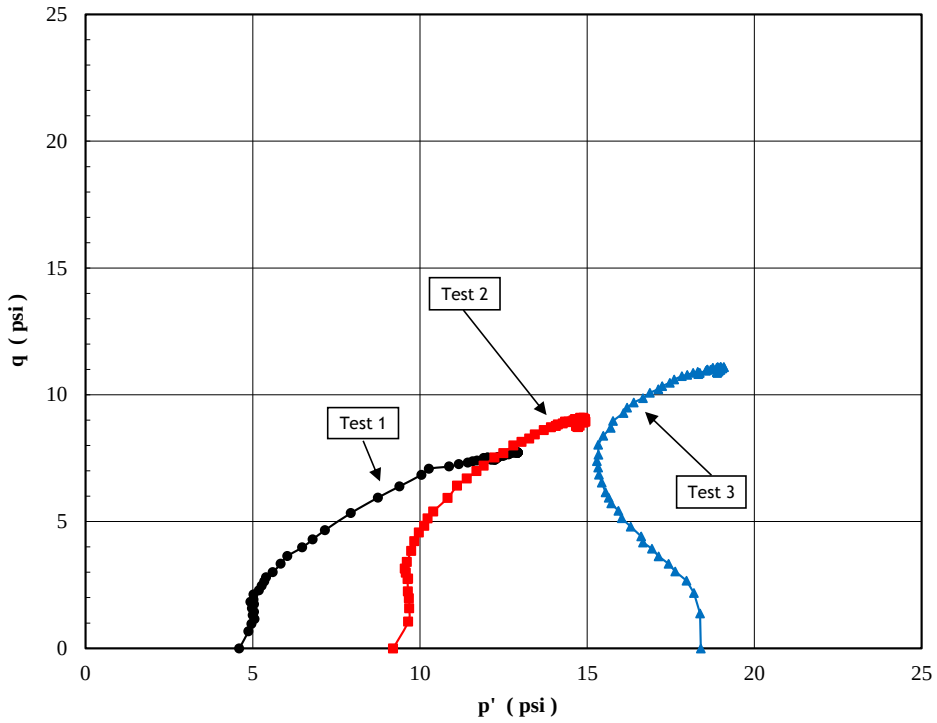
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-119 (14-16) ST
Lab Sample No:	22A075

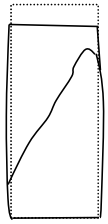
ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

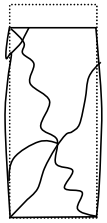
Figure 2



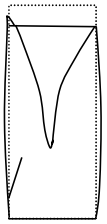
Test Specimen Number (-)	Specimen Quality Bad to Good (1 to 10)	Initial Conditions							Consolidation Stage		Loading
		Height (in .)	Diameter (in.)	Moisture Content (%)	Dry Unit Weight (pcf)	B Parameter (-)	Initial Pore Pressure (u_i) (psi)	Consolidation Pressure (σ'_c) (psi)	Axial Strain (%)	Volumetric Strain (%)	Axial Rate (% / min)
1	8	6.11	2.85	45.9	74.5	0.99	70.0	4.6	0.57	1.06	0.033
2	8	6.06	2.86	55.6	66.6	0.98	70.0	9.2	0.96	1.58	0.033
3	6	5.79	2.84	52.8	68.7	0.98	70.0	18.4	2.16	2.99	0.035



Specimen No.1
Grey, light orange brown sandy silt with some gravel



Specimen No. 2
Dark golden brown sandy silt with some gravel



Specimen No. 3
Dark golden brown sandy silt with some gravel

Notes:

02-14-2022
Approved By: NSR

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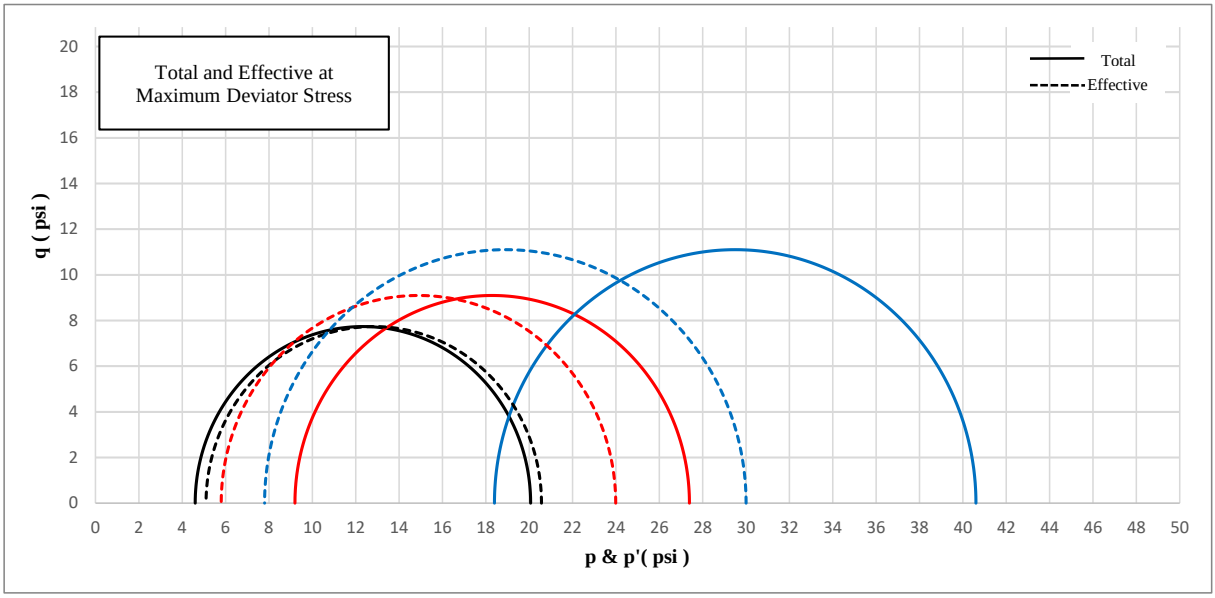
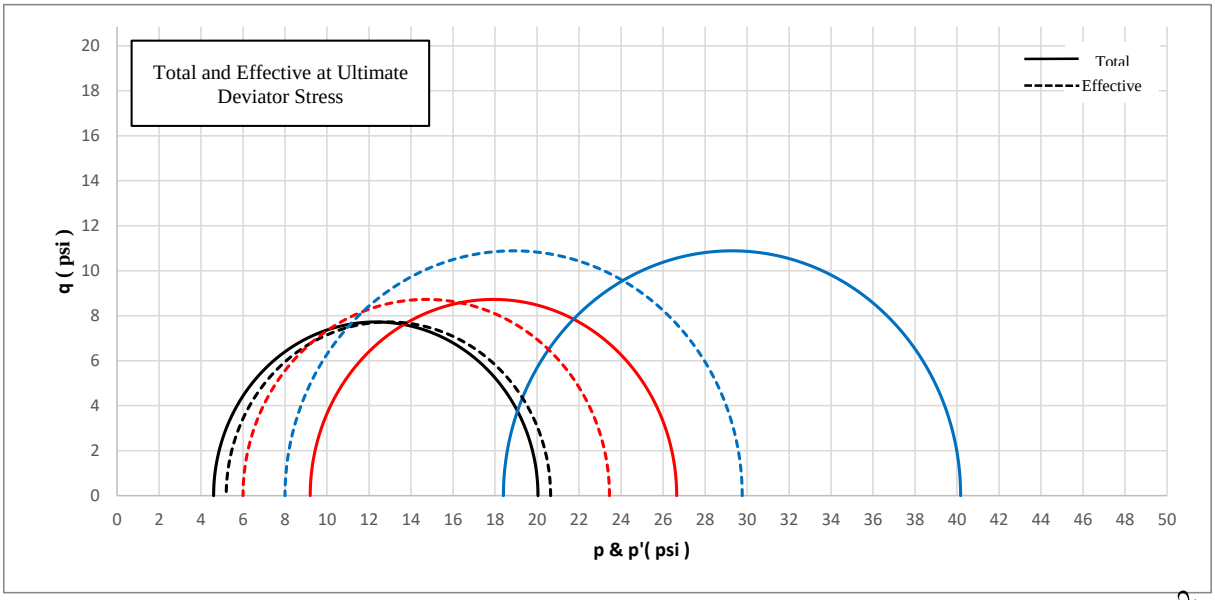
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-119 (14-16) ST
Lab Sample No:	22A075

ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 3





02-14-2022
Approved By: NSR

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Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

Sample ID: GS-119 (14-16) ST

Lab Sample No: 22A075

ASTM D 4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

(a)

Specimen No. 1
Grey, light orange brown sandy silt with some gravel

(b)

(a)

Specimen No. 2
Dark golden brown sandy silt with some gravel

(b)

(a)

Specimen No. 3
Dark golden brown sandy silt with some gravel

(b)

Notes: (a) Failure after shear

(b) Specimen split open

02-14-2022
Approved By: NSR

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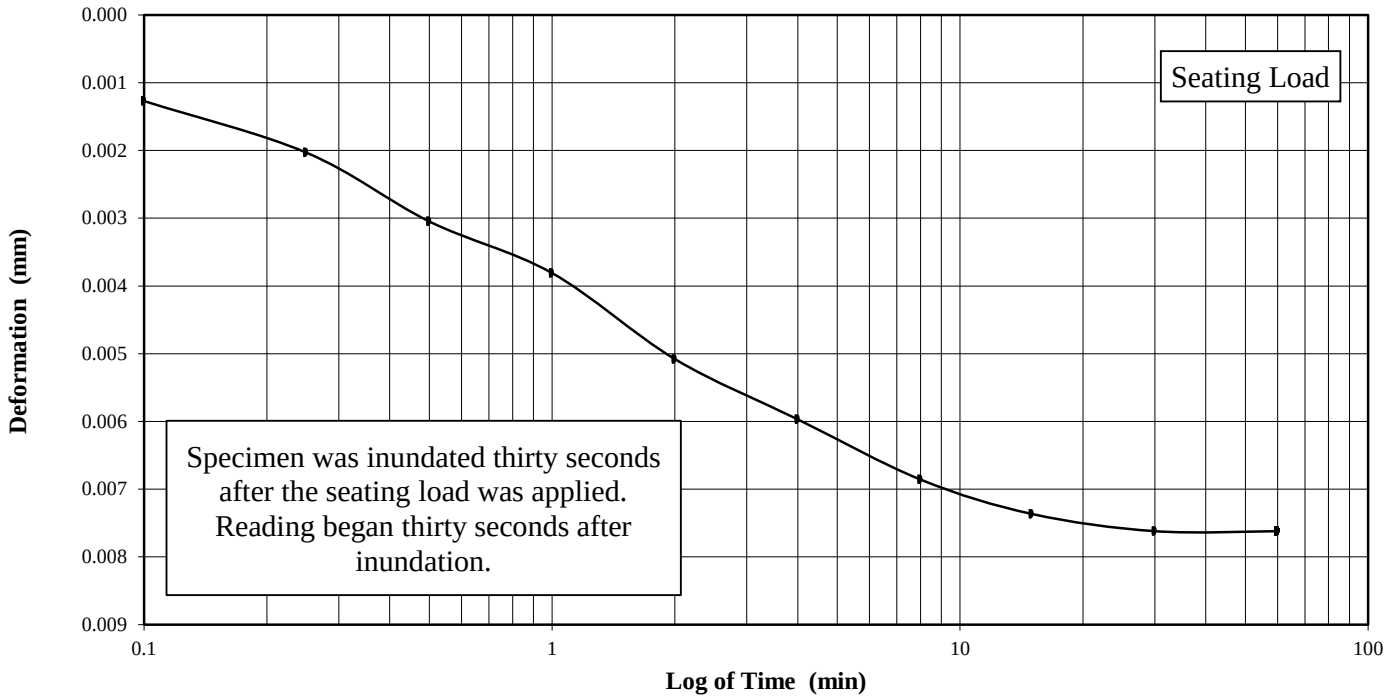
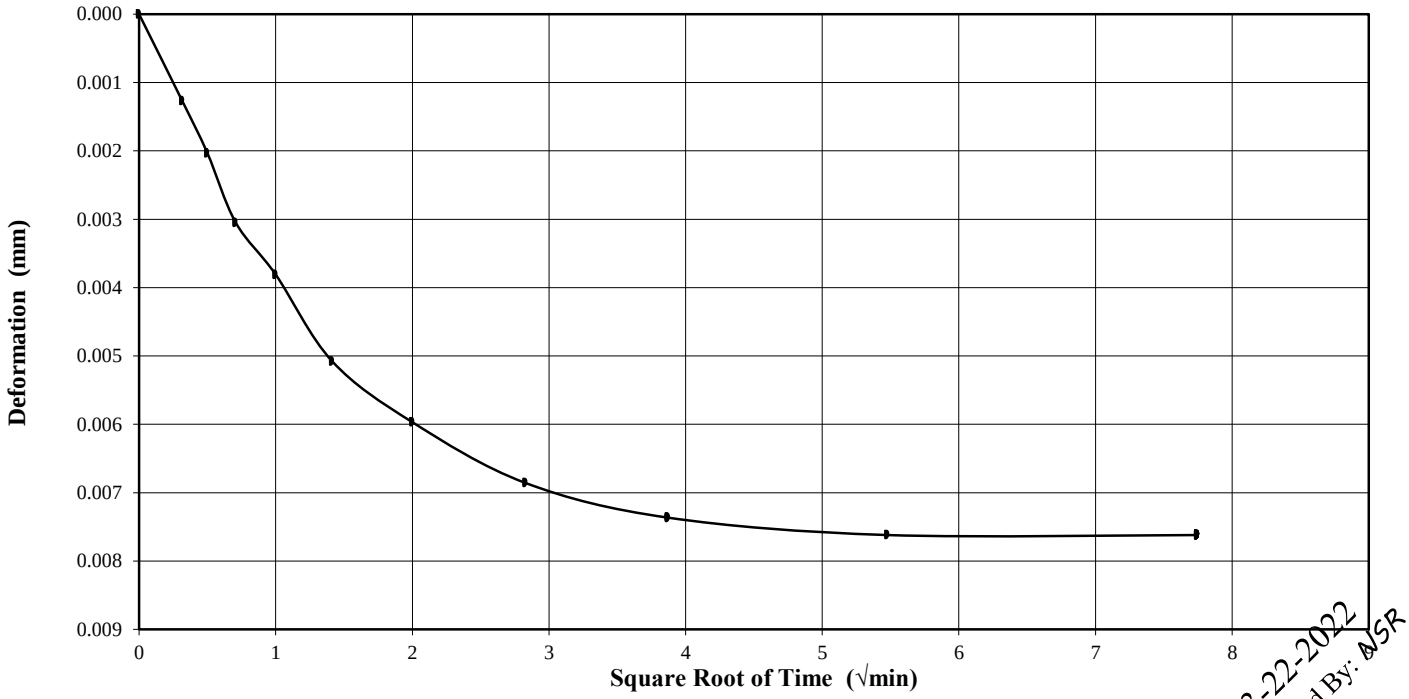
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-120 (6-8') ST
Lab Sample No: 22B053

ASTM D2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 1 - 100 psf





03-22-2022
Approved By: MSR

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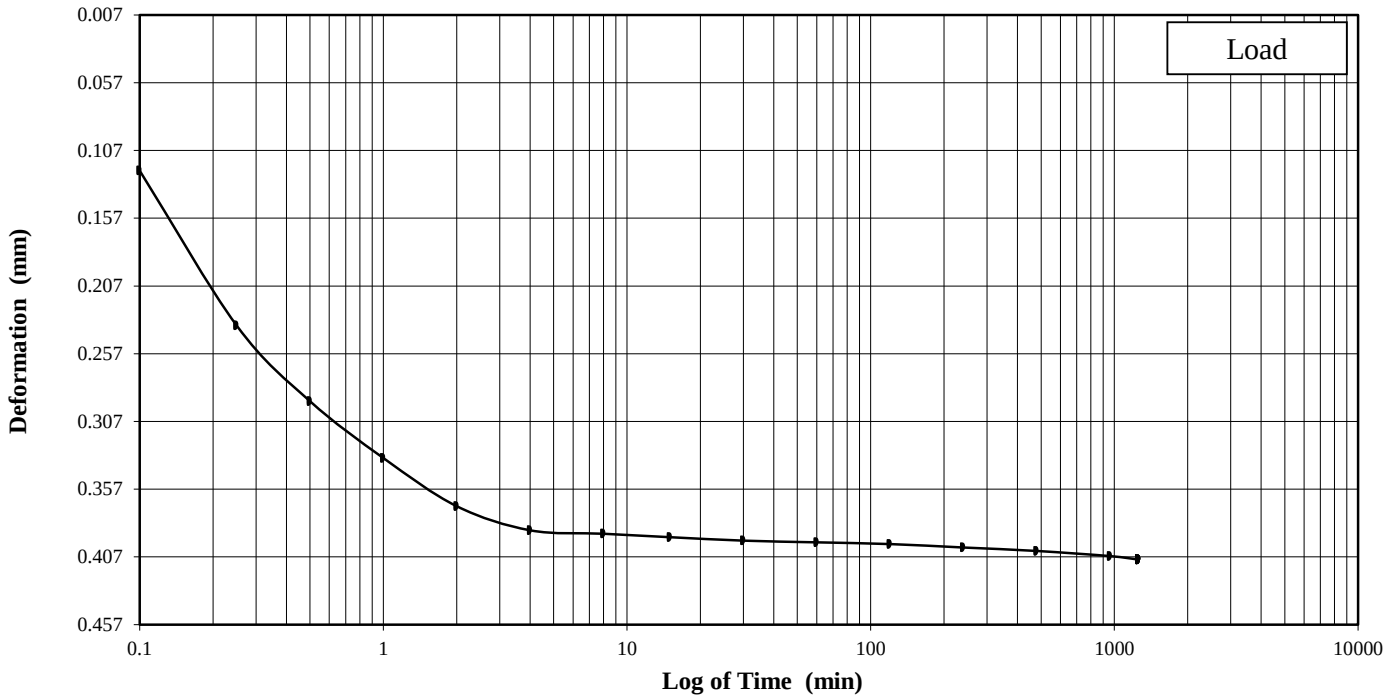
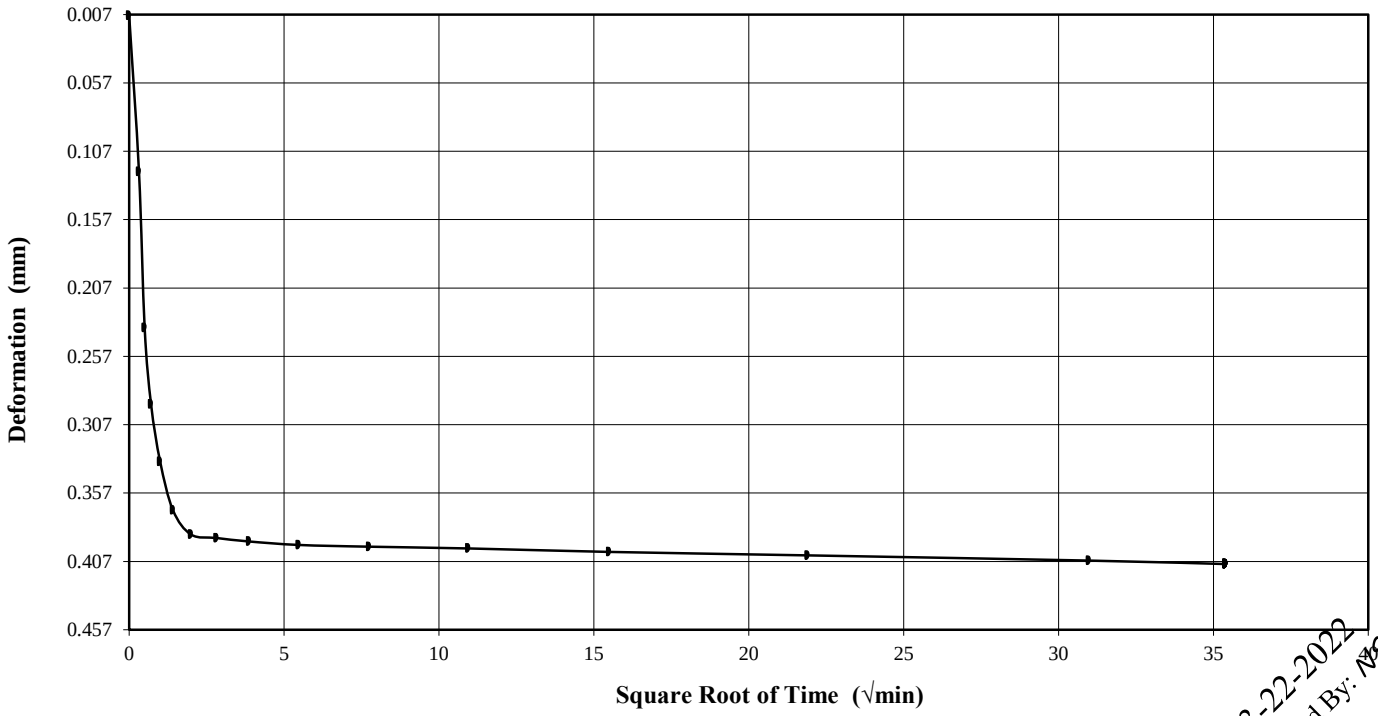
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-120 (6-8') ST
Lab Sample No:	22B053

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 2 - 250 psf





03-22-2022
Approved By: MSR

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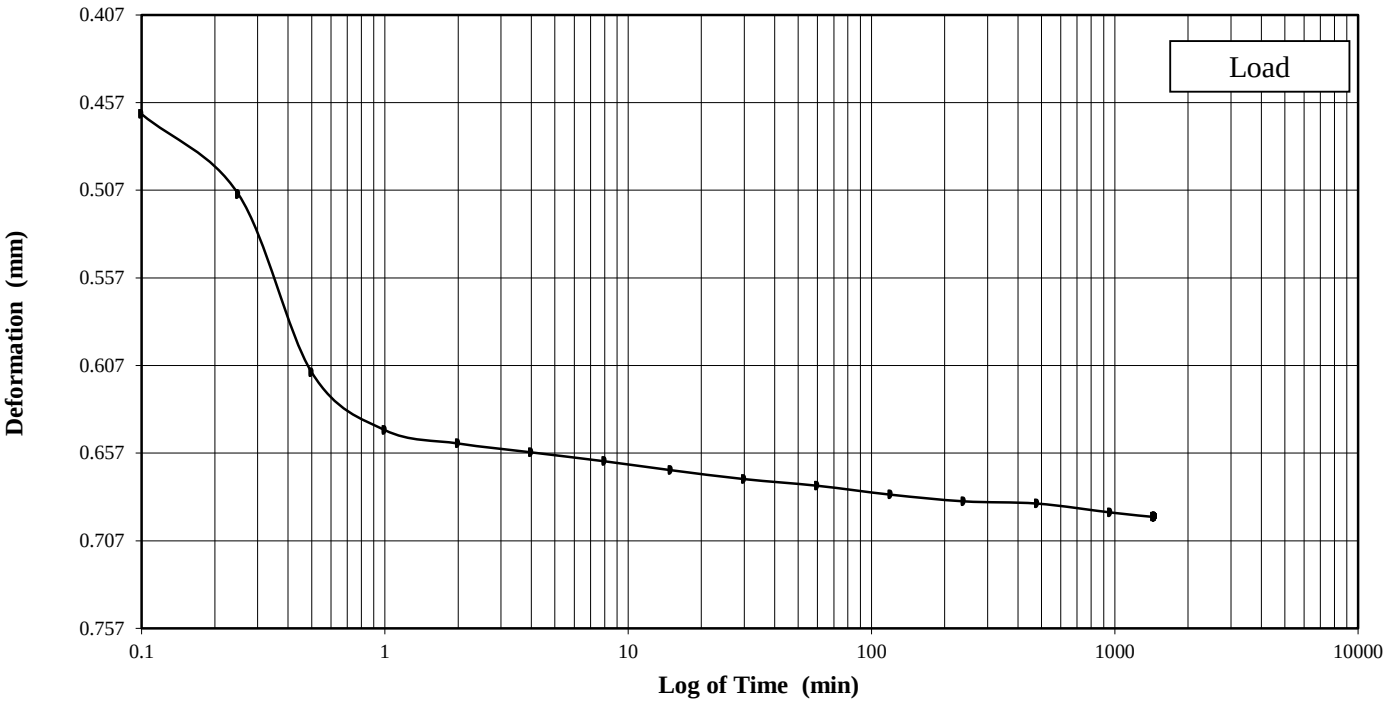
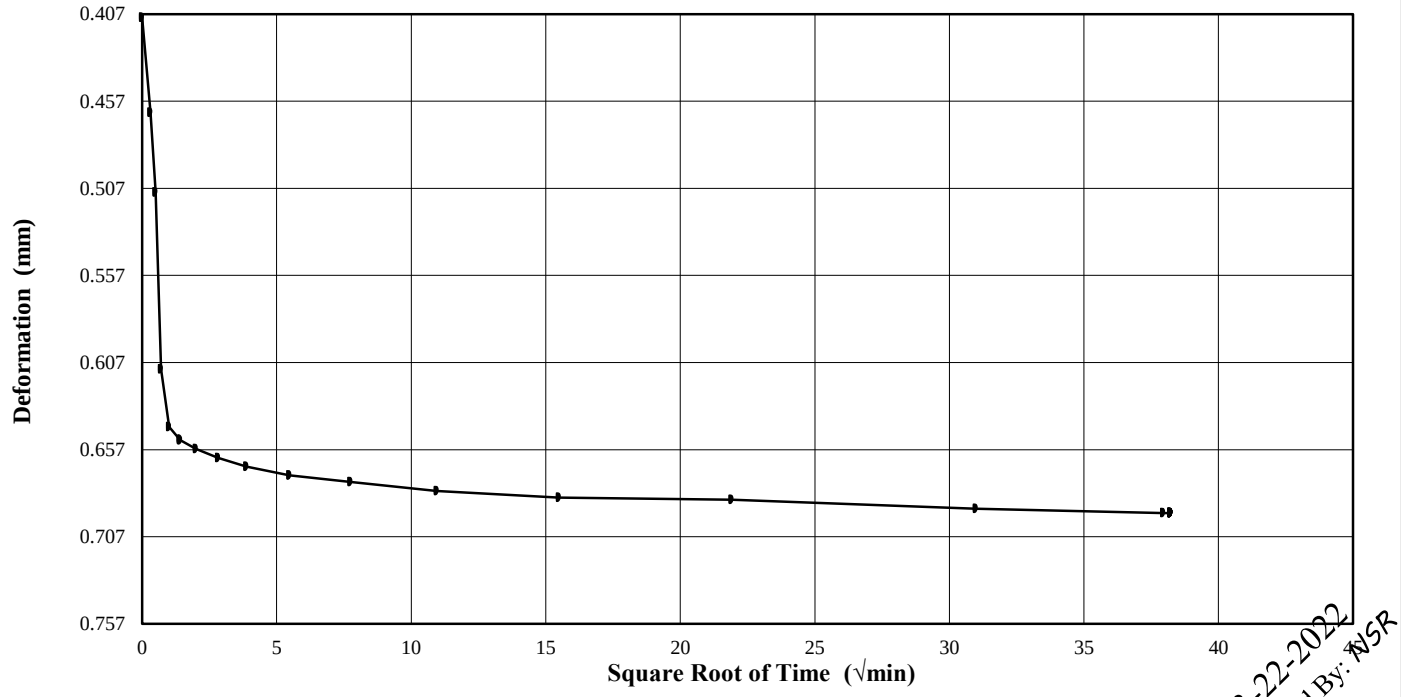
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-120 (6-8') ST
Lab Sample No: 22B053

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 3 - 500 psf





03-22-2022
Approved By: WSR

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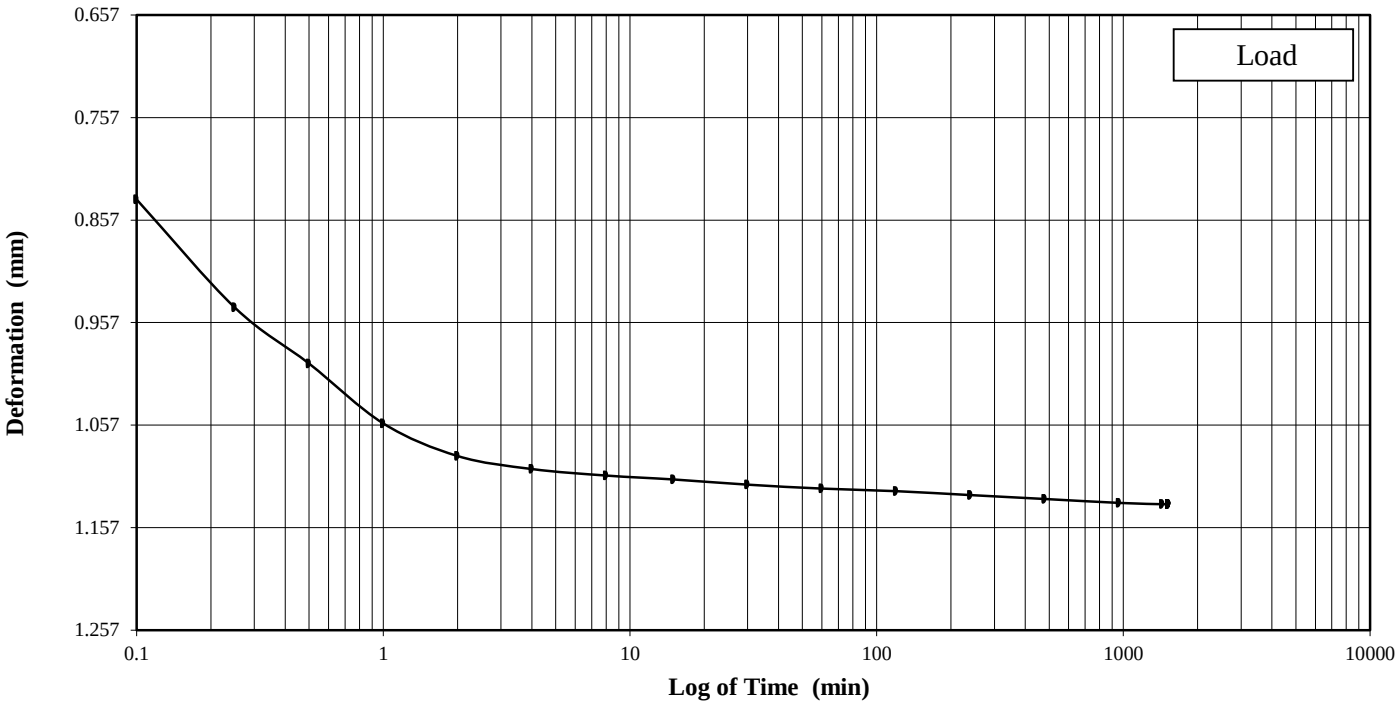
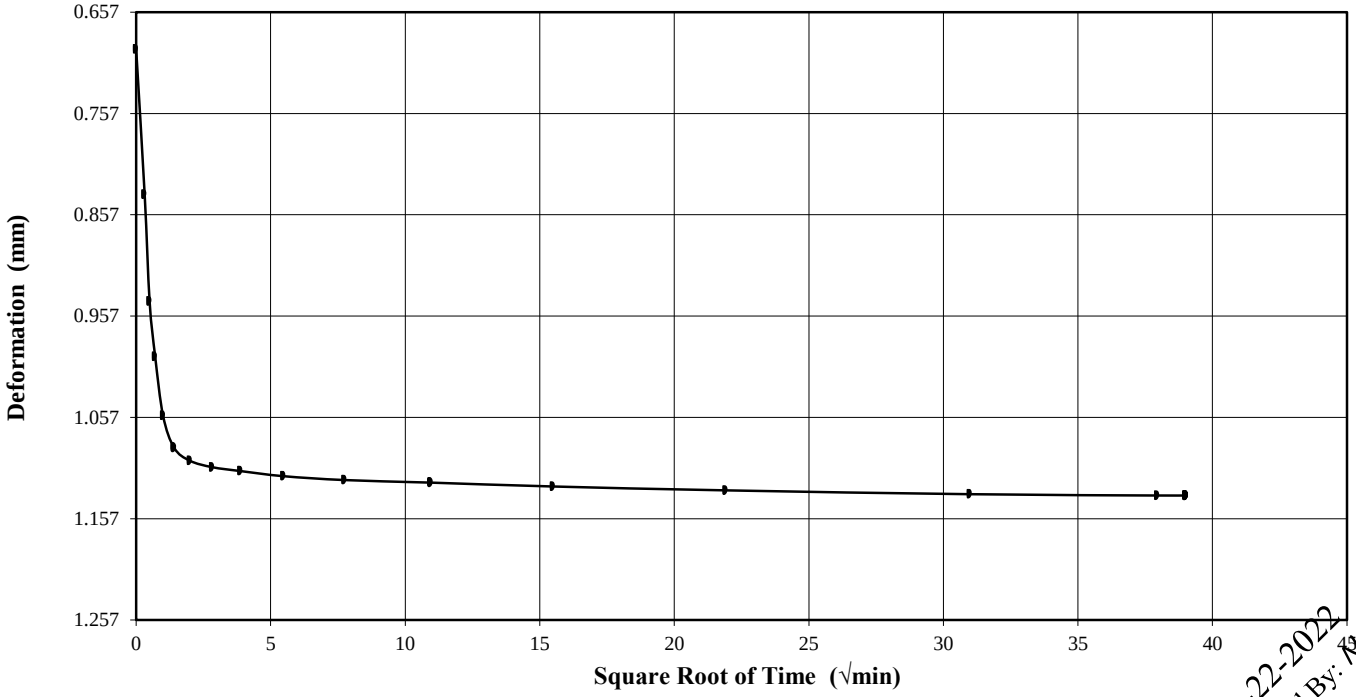
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-120 (6-8') ST
Lab Sample No: 22B053

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 4 - 1000 psf





03-22-2022
Approved By: MSR

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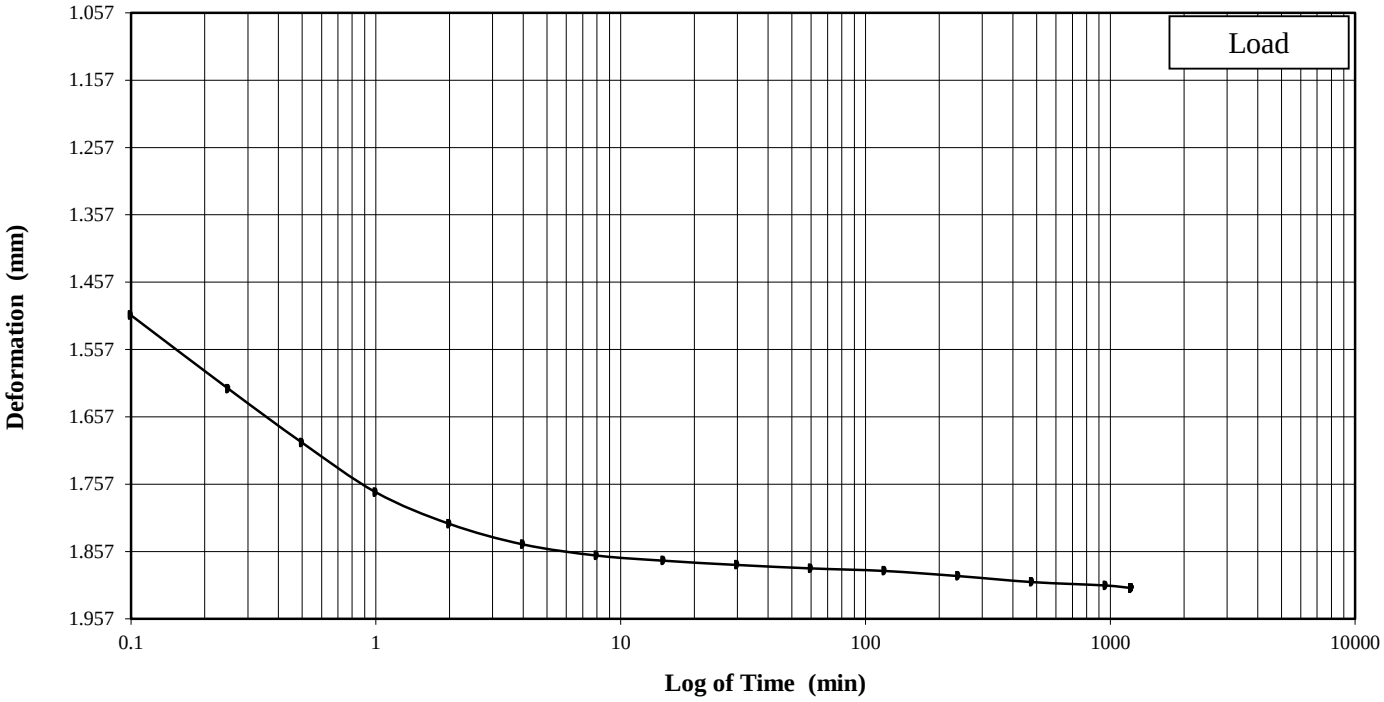
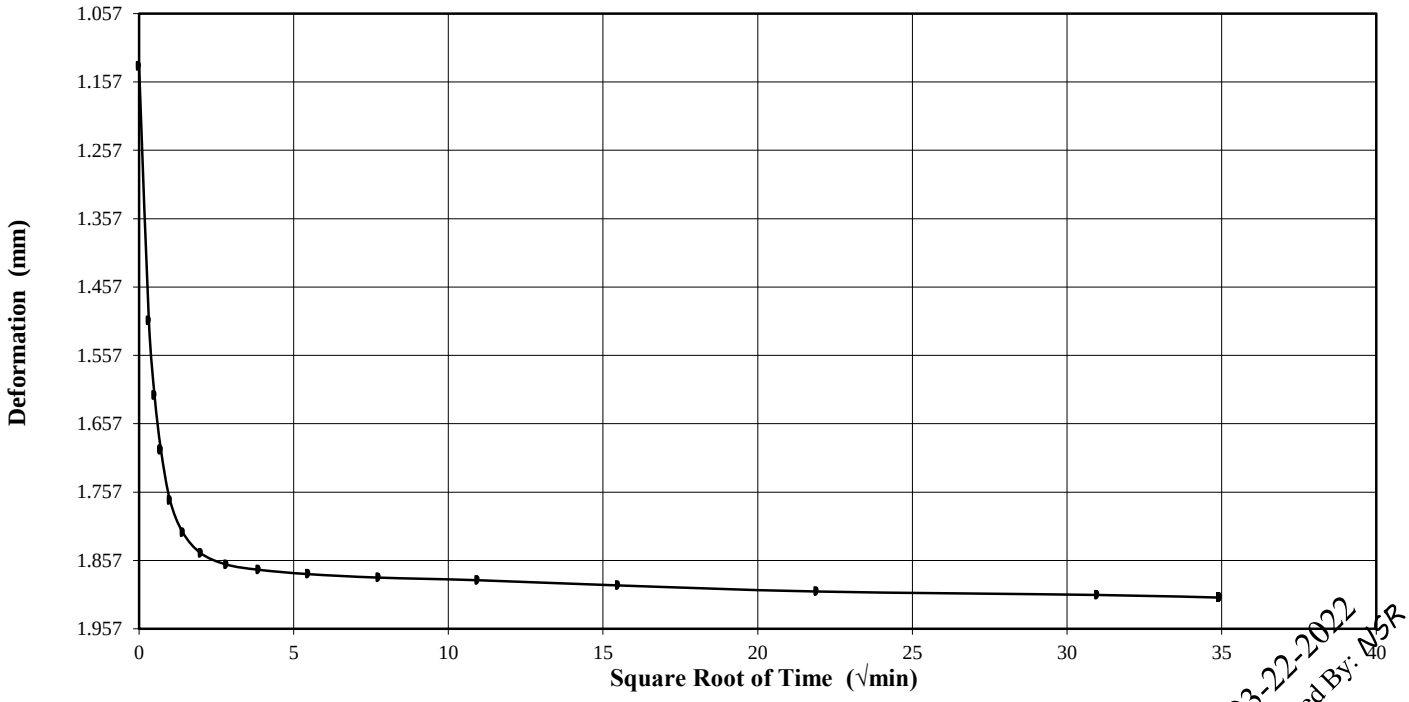
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-120 (6-8') ST
Lab Sample No:	22B053

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 5 - 2000 psf





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Approved By: AJSR

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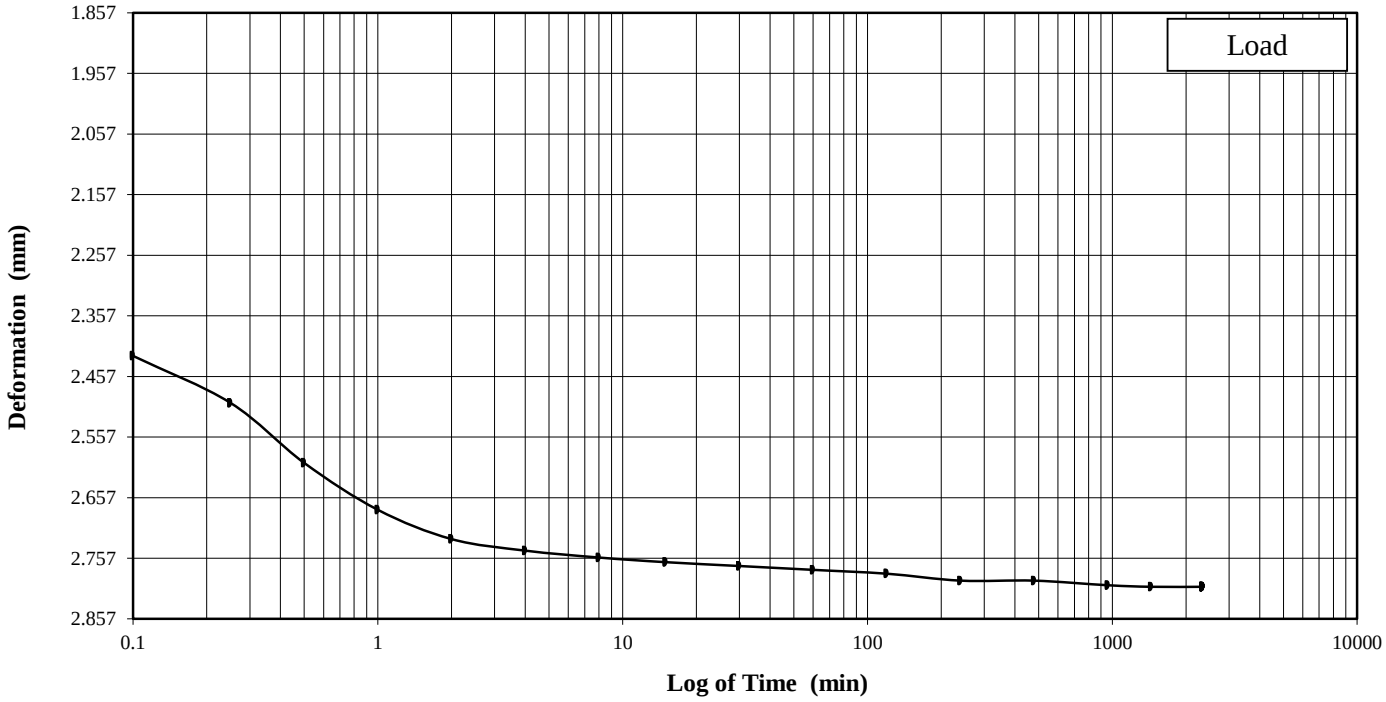
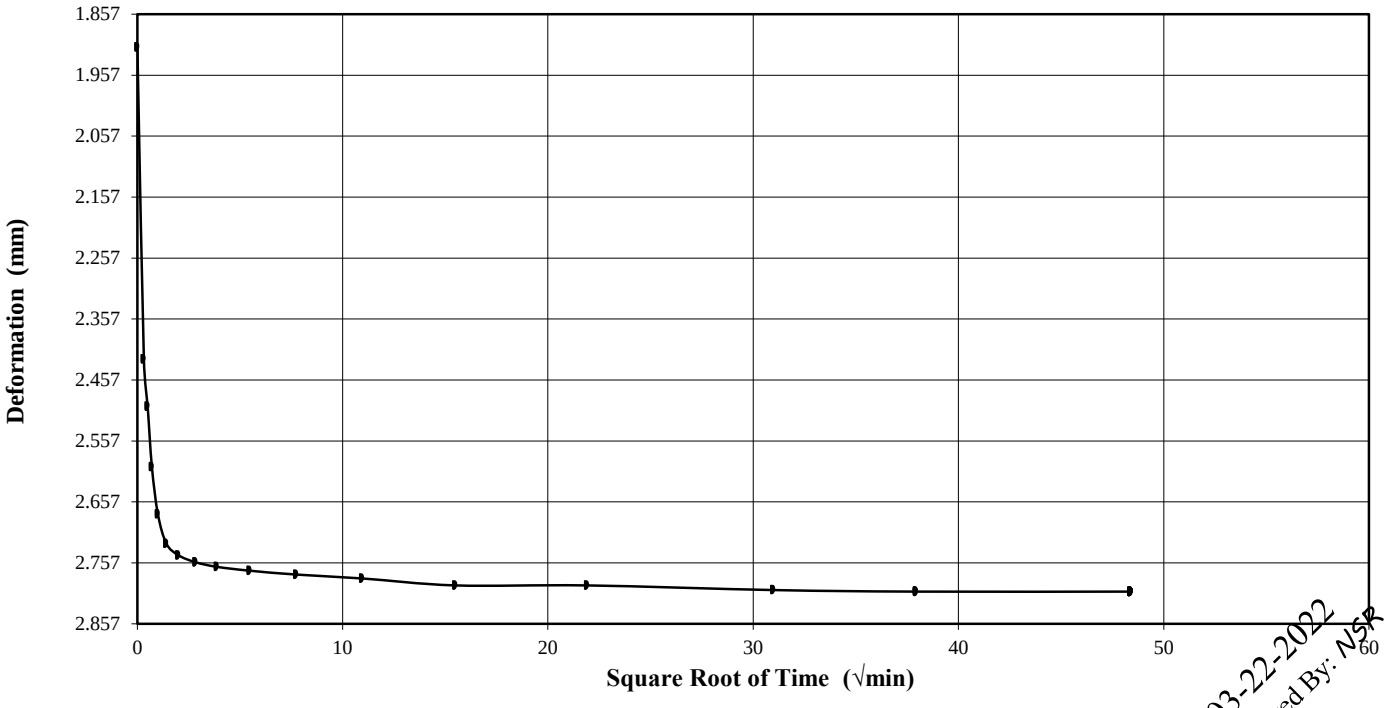
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-120 (6-8') ST
Lab Sample No:	22B053

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 6 - 4000 psf





03-22-2022
Approved By: NSR

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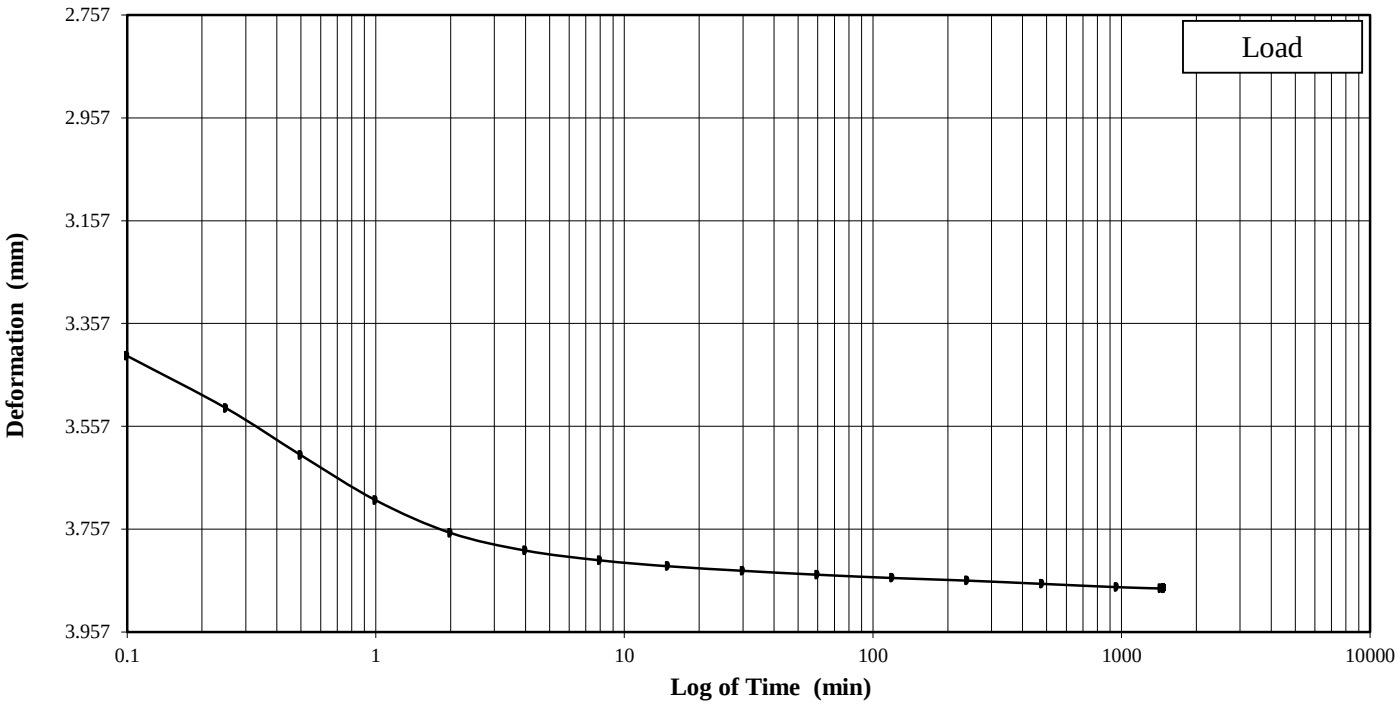
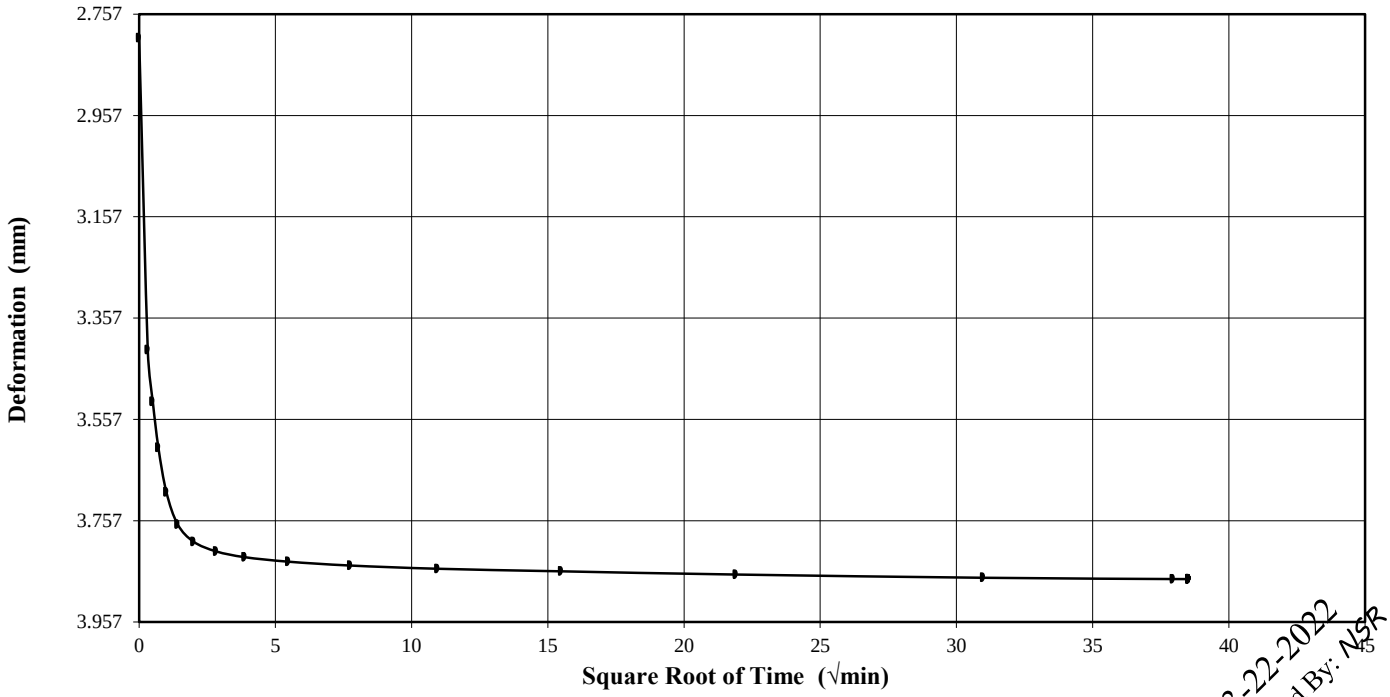
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-120 (6-8') ST
Lab Sample No:	22B053

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 7 - 8000 psf





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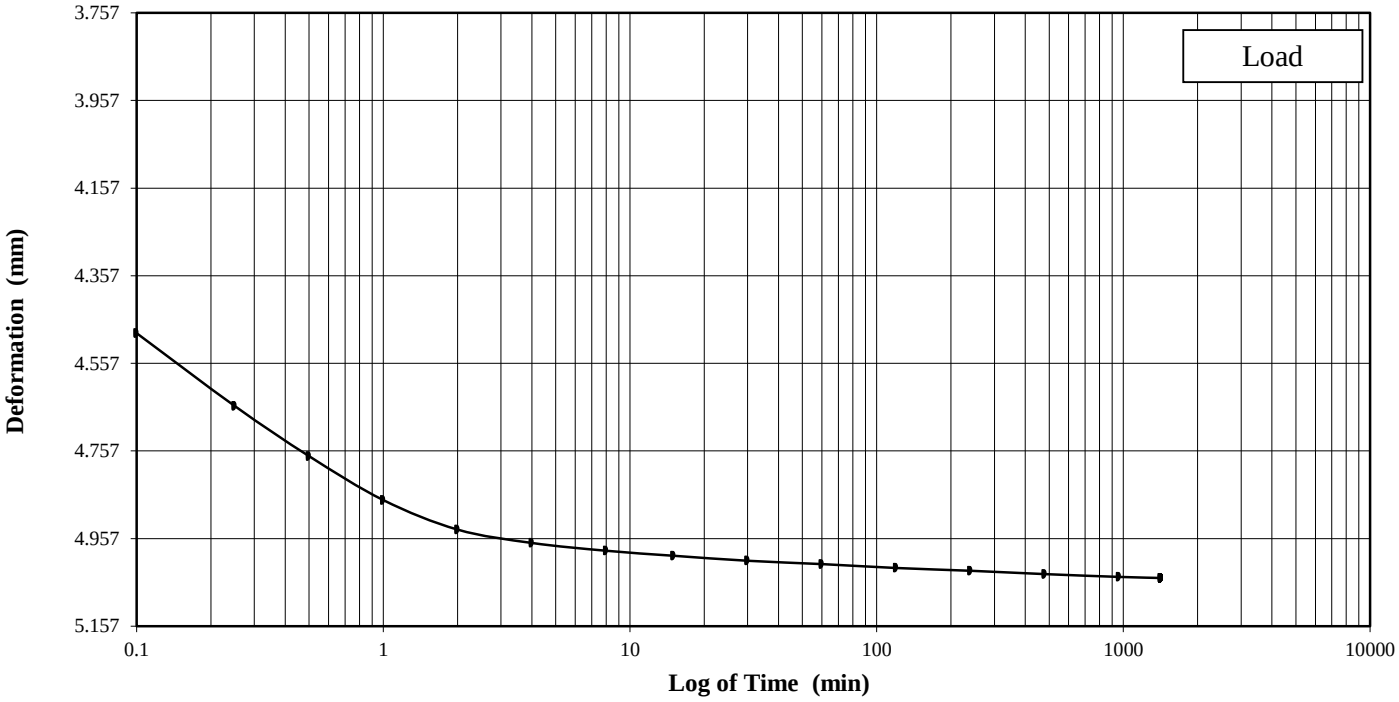
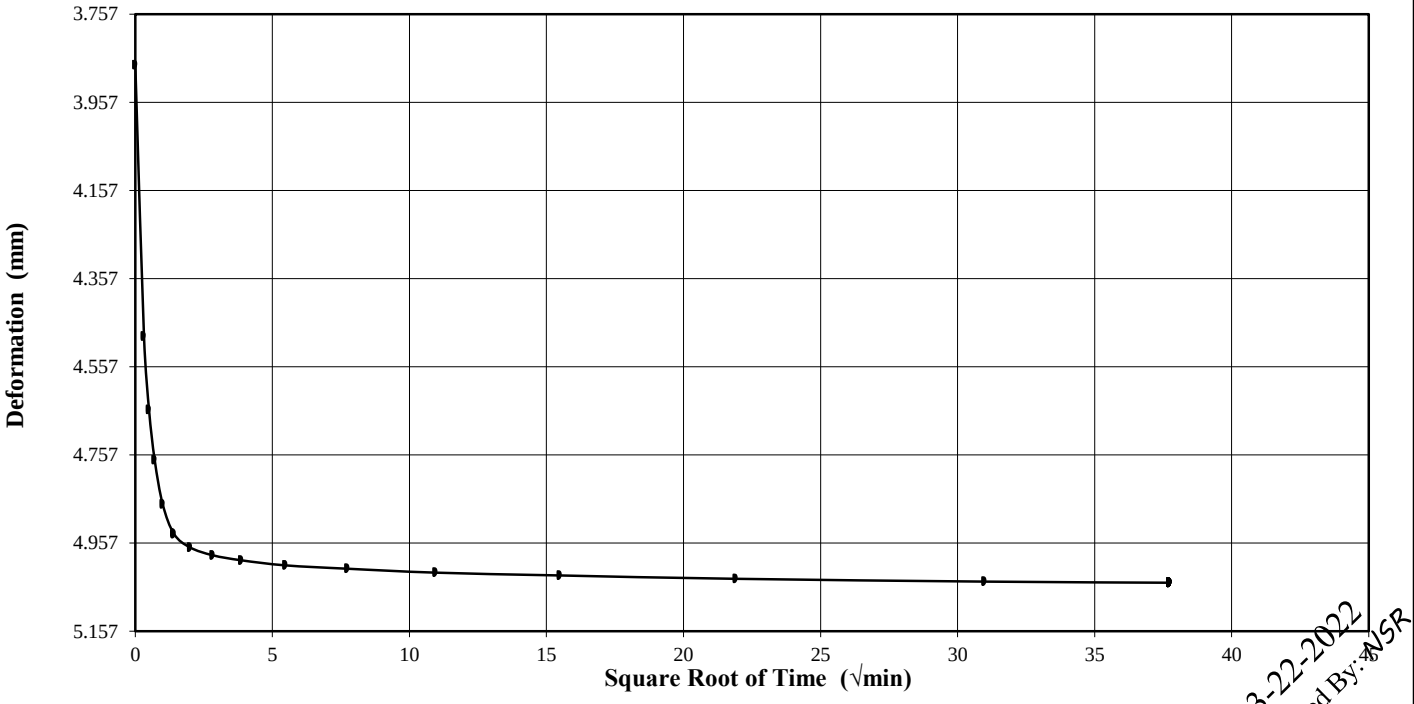
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-120 (6-8') ST
Lab Sample No:	22B053

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 8 - 16000 psf





03-22-2022
Approved By: NSR

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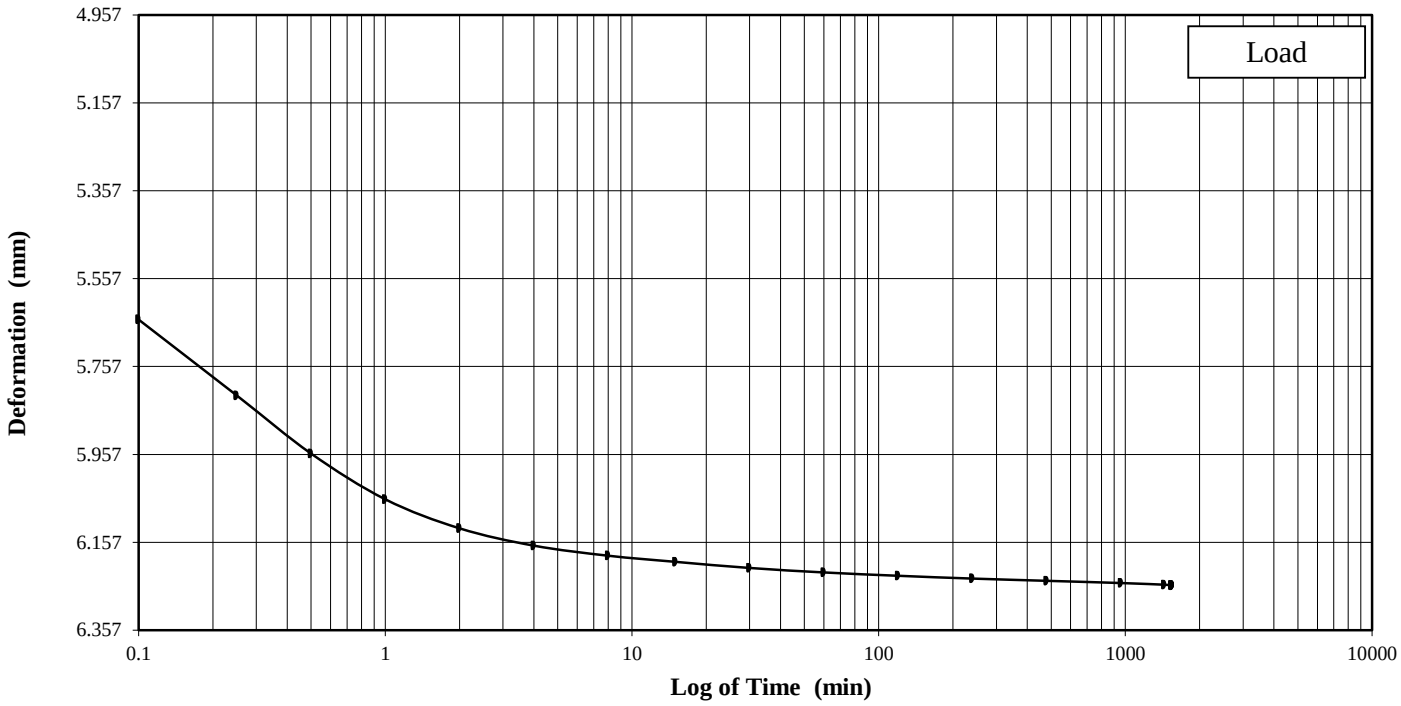
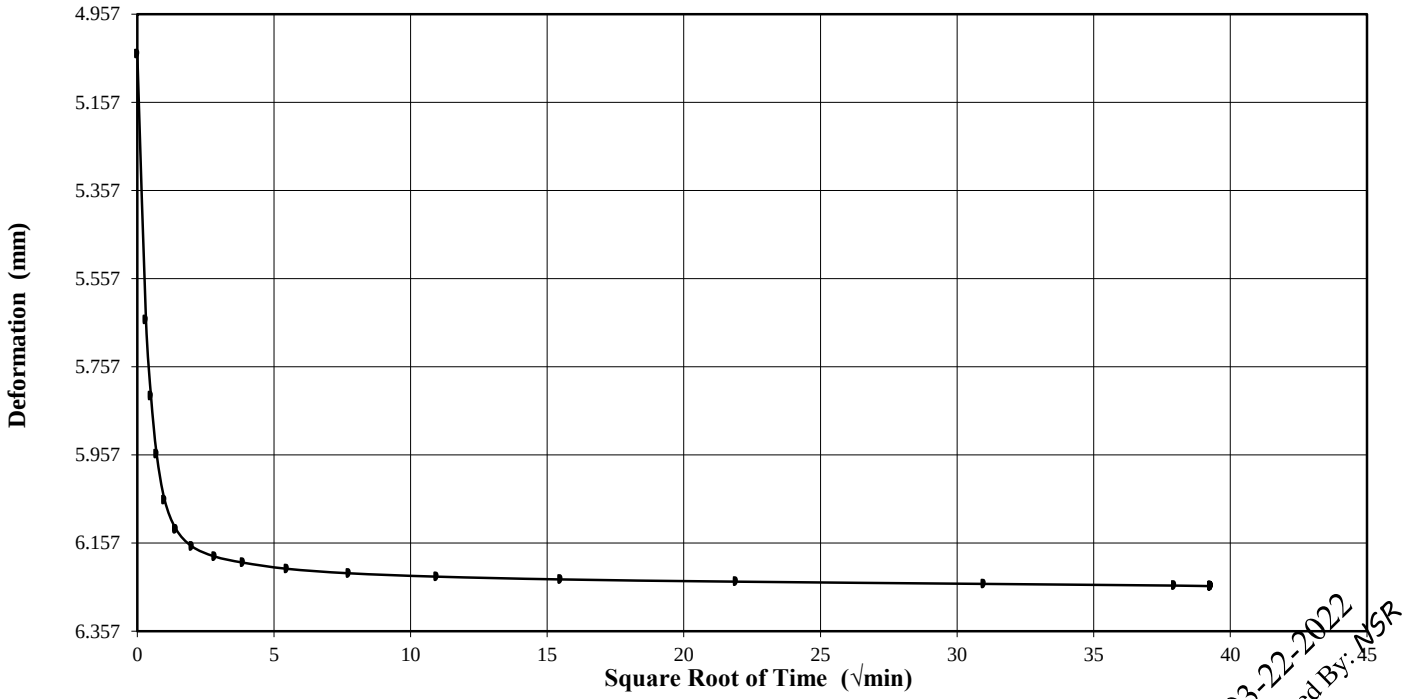
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-120 (6-8') ST
Lab Sample No: 22B053

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 9 - 32000 psf





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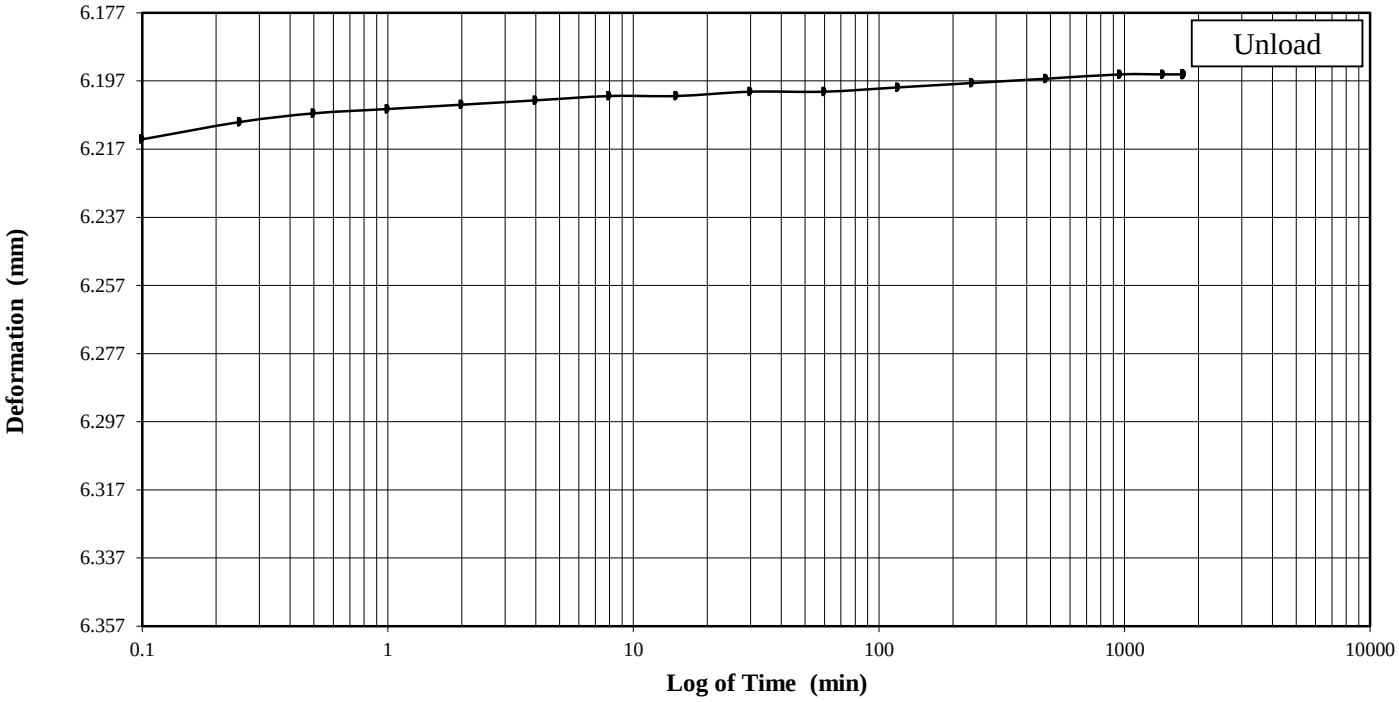
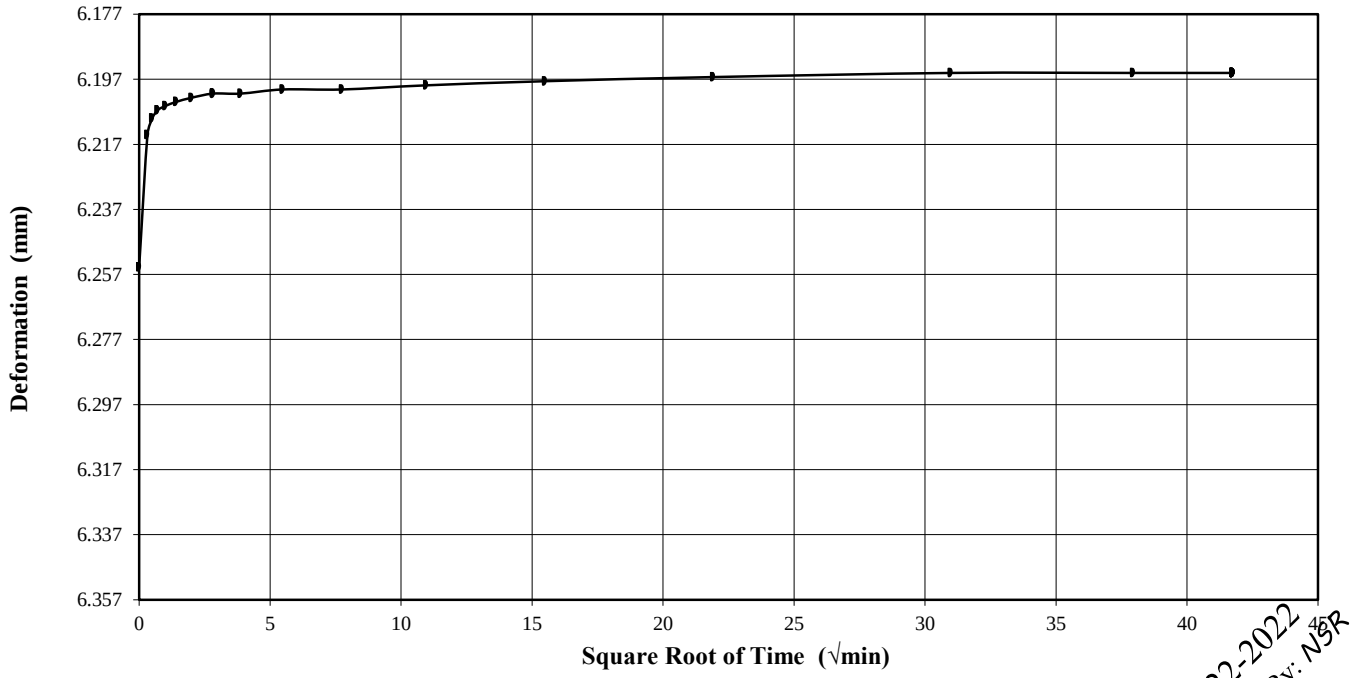
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-120 (6-8') ST
Lab Sample No:	22B053

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 10 - 16000 psf





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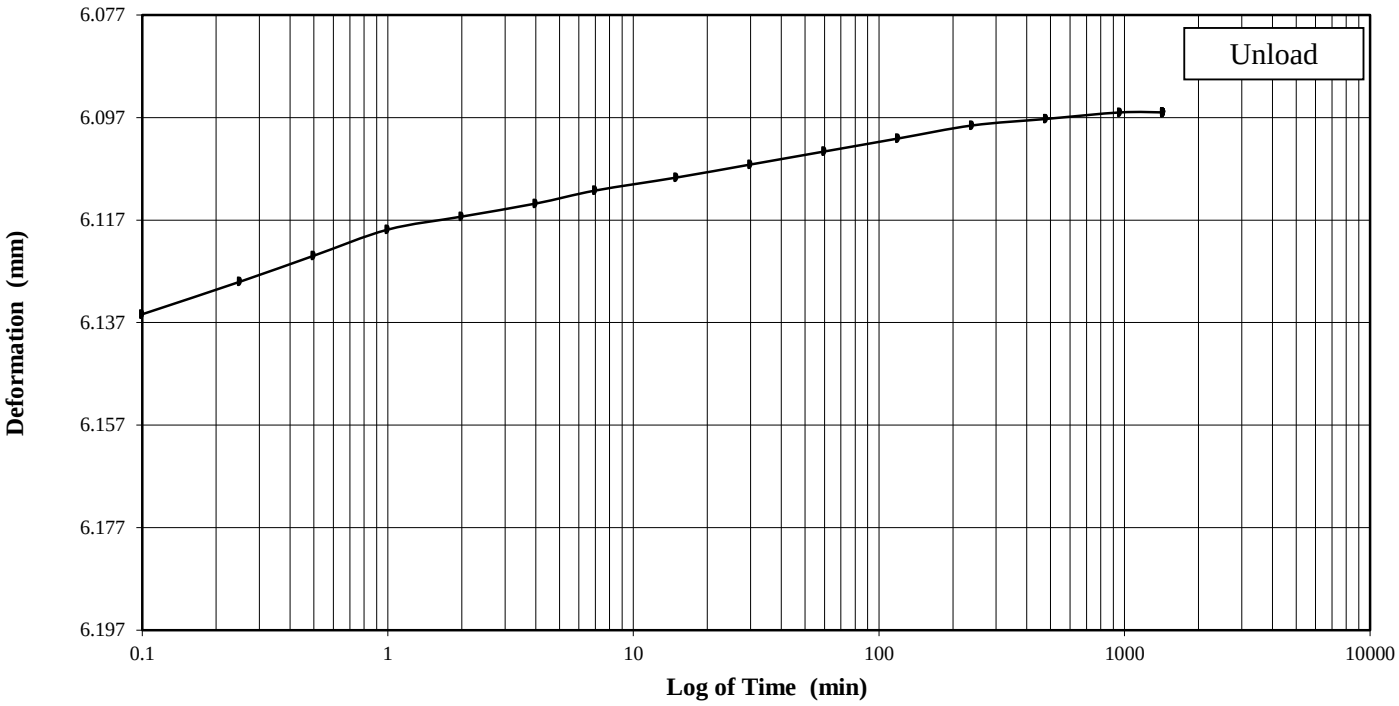
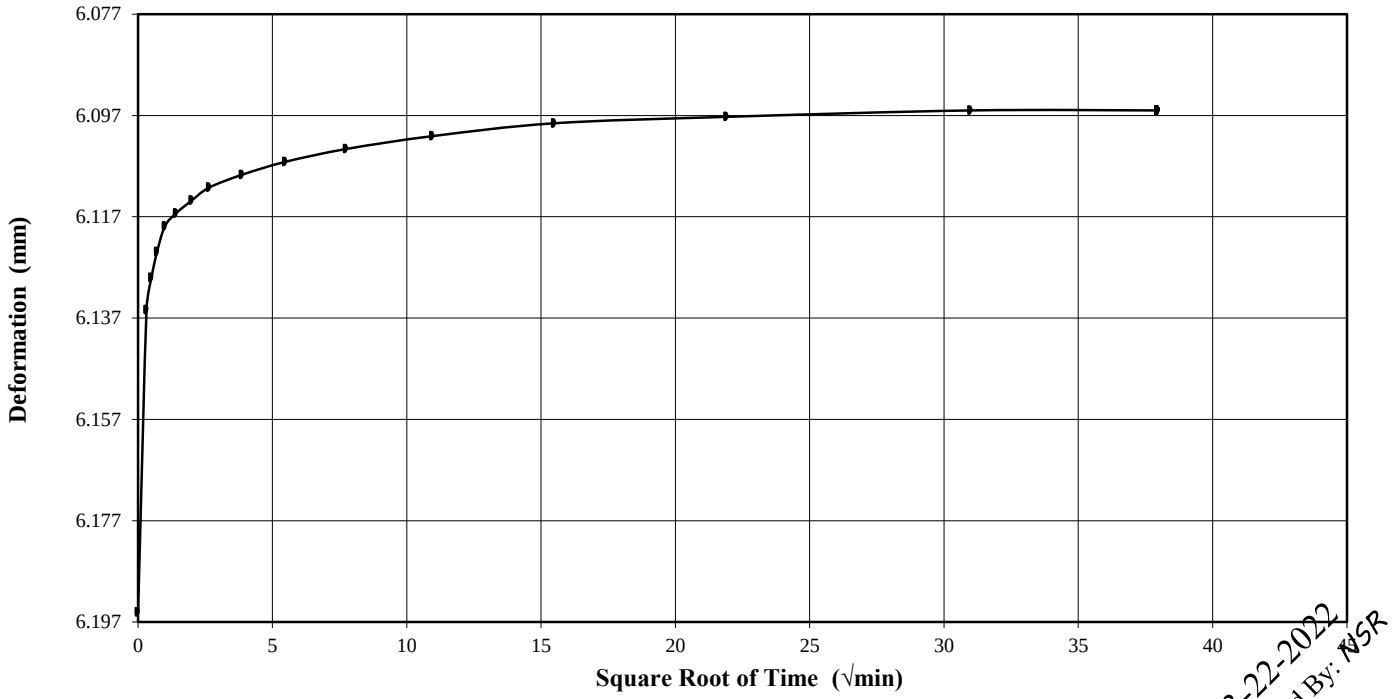
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-120 (6-8') ST
Lab Sample No: 22B053

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

Figure 11 - 8000 psf





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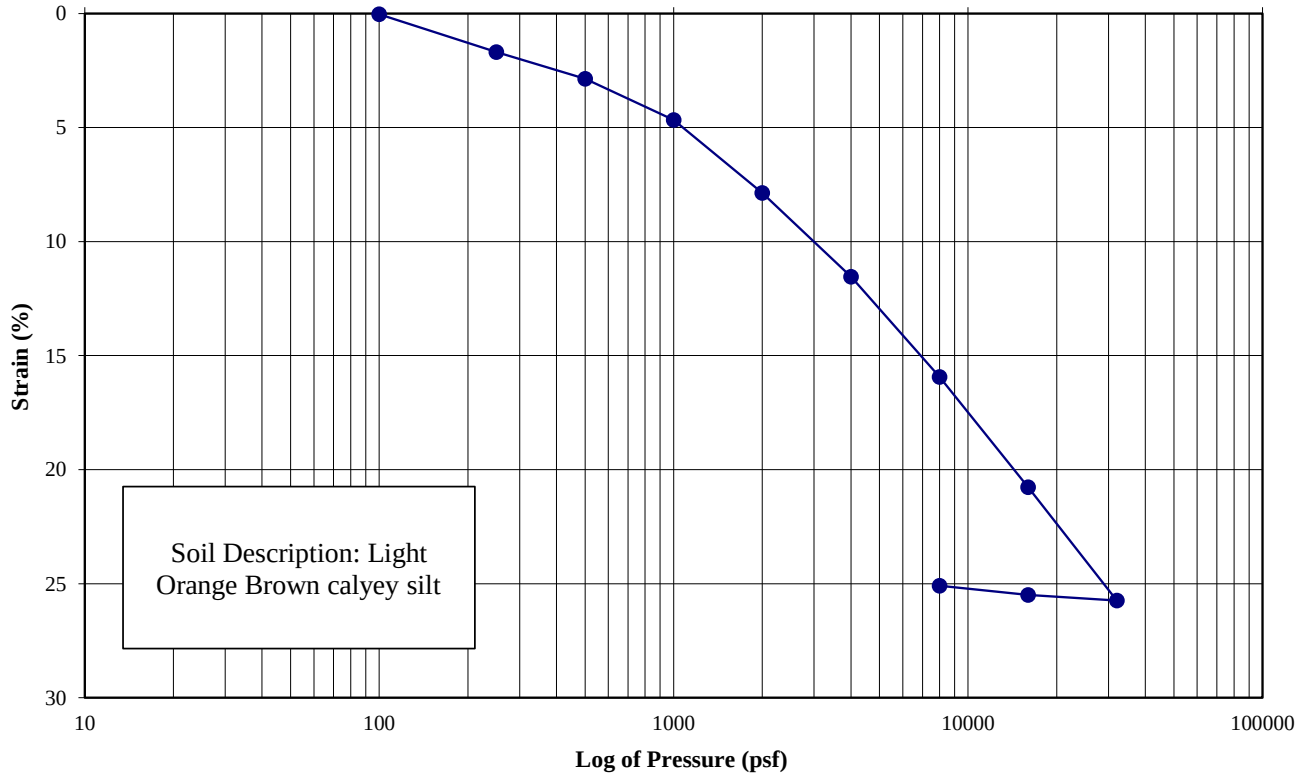
Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Client Sample ID: GS-120 (6-8') ST
Lab Sample No: 22B053

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST



Client Sample ID	Lab Sample No.	Specimen Quality 1-10 (Bad to Good)	Test Specimen Initial Conditions				Consolidation Pressure (psf)	Pressure Increment Duration (min)	Accumu.(1) Vertical Strain (%)	Figure No.	Remarks
			Height (cm)	Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (%)					
GS-120 (6-8') ST	22B053	6	2.43	6.34	77.1	44.4	100	60	0.0	1	Starting Load
							250	1253	1.7	2	Load
							500	1461	2.9	3	Load
							1000	1522	4.7	4	Load
							2000	1220	7.9	5	Load
							4000	2342	11.5	6	Load
							8000	1484	15.9	7	Load
							16000	1424	20.8	8	Load
							32000	1543	25.7	9	Load
							16000	1743	25.5	10	Unload
							8000	1440	25.1	11	Unload

Notes:

For each pressure increment, the vertical strain values were calculated based on the final deformation measurements.

03-22-2022
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Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Sample ID:	GS-120 (6-8') ST
Lab Sample No:	22B053

ASTM D 2435

ONE-DIMENSIONAL CONSOLIDATION TEST

(a)

After Consolidation

(b)

After Consolidation

(c)

Notes: (a) Top view

(b) Bottom view

(c) Specimen split open

03-22-2022
Approved By: MSR

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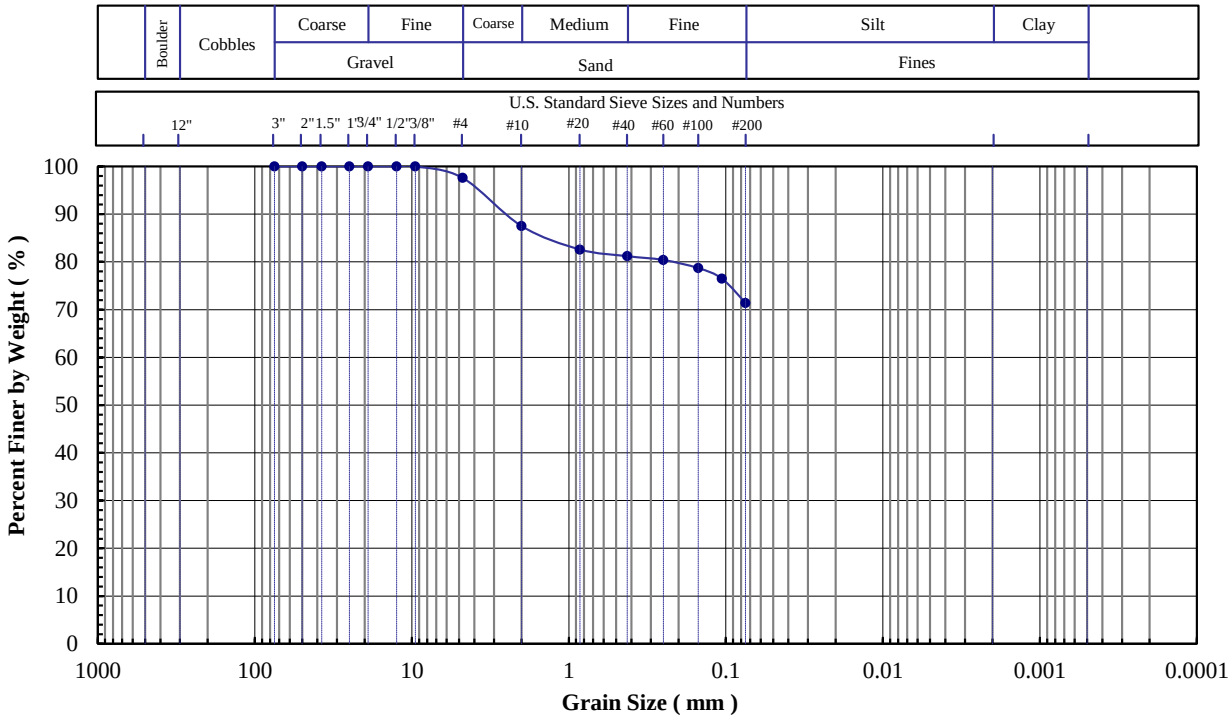
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-120 (6-8') ST
Lab Sample No:	22B053

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

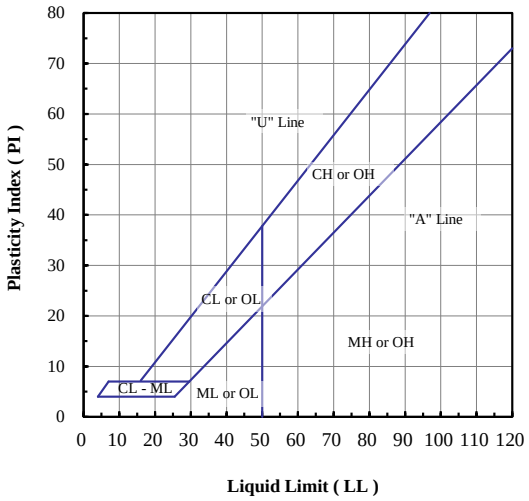


Sieve No.	Size (mm)	% Finer
3"	75	100
2"	50	100
1.5"	37.5	100
1"	25	100
3/4"	19	100
3/8"	9.5	100
#4	4.75	98
#10	2.00	88
#20	0.850	83
#40	0.425	81
#60	0.250	80
#100	0.150	79
#140	0.106	77
#200	0.075	71

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	2
Sand (%):	27
Fines (%):	71
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
GS-120 (6-8') ST	22B053		71	NP	NP	NP	ML - Silt with sand

Note(s): Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.
Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-22-2022
Approved By: NSR

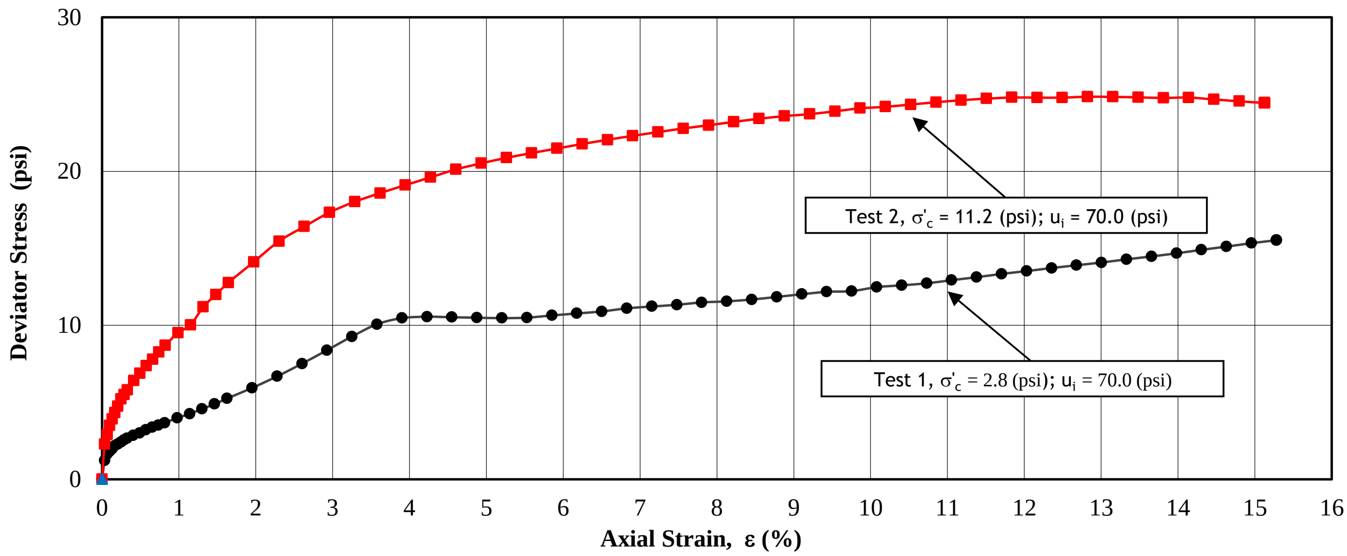
"Excellence in Testing"

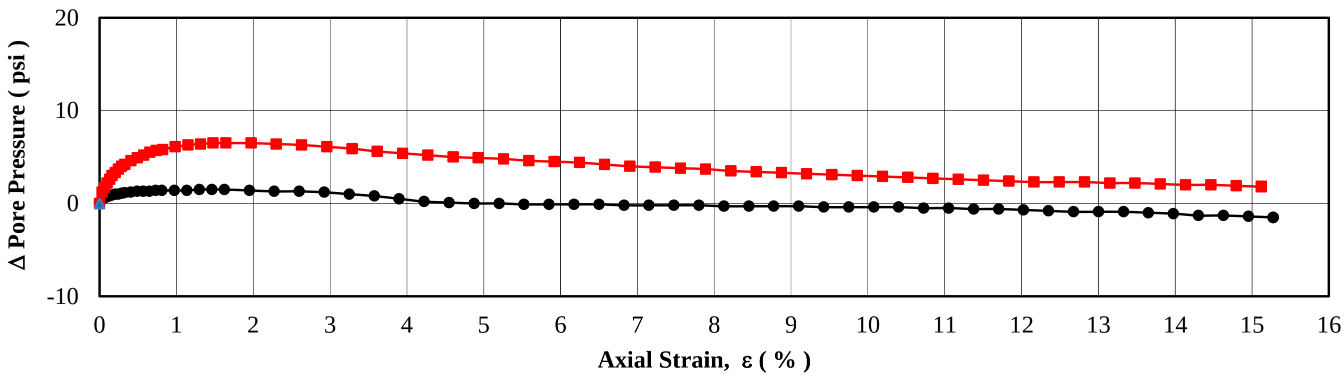
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-120 (6-8') ST
Lab Sample No:	22B053

ASTM D4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 1





Test Specimen No.	Maximum Strength				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	15.5	19.8	4.3	68.5	15.3
2	24.8	33.7	8.9	72.3	12.8

Test Specimen No.	Strength at App. 15% Axial Strain				
	Deviator Stress ($\sigma'_1 - \sigma'_3$) (psi)	Effective Axial Stress (σ'_1) (psi)	Effective Radial Stress (σ'_3) (psi)	Pore Pressure (u) (psi)	Axial Strain (ε_a) (%)
1	15.5	19.8	4.3	68.5	15.3
2	24.4	33.8	9.4	71.8	15.1

Notes:

σ'_c = Consolidation pressure, (psi) u_i = Initial pore pressure,(psi)

03-21-2022
Approved By: NSR

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"Excellence in Testing"
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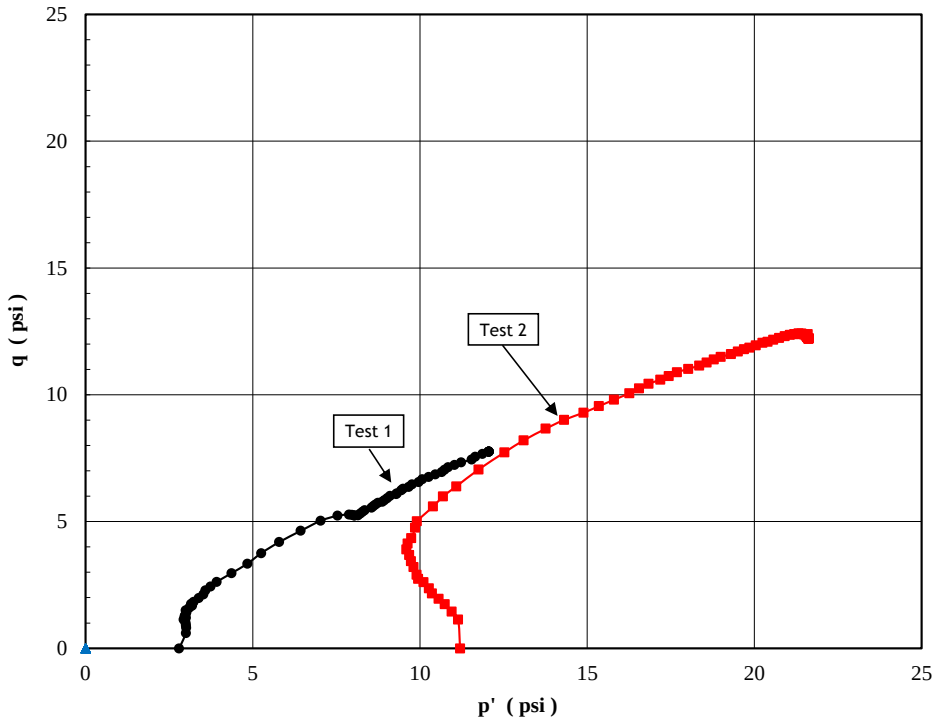
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-120 (6-8') ST
Lab Sample No:	22B053

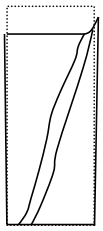
ASTM D4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

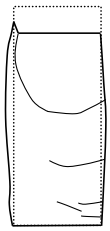
Figure 2



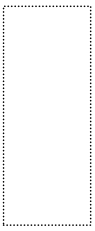
Test Specimen Number (-)	Specimen Quality Bad to Good (1 to 10)	Initial Conditions							Consolidation Stage		Loading
		Height (in .)	Diameter (in.)	Moisture Content (%)	Dry Unit Weight (pcf)	B Parameter (-)	Initial Pore Pressure (u_i) (psi)	Consolidation Pressure (σ'_c) (psi)	Axial Strain (%)	Volumetric Strain (%)	Axial Rate (% / min)
1	7	6.18	2.87	35.3	79.9	0.99	70.0	2.8	0.47	1.58	0.065
2	8	6.17	2.88	39.0	75.4	0.96	70.0	11.2	1.46	3.23	0.065



Specimen No.1
Golden brown sandy silt



Specimen No. 2
Golden brown sandy silt



Specimen No. 3

Notes:

03-21-2022
Approved By: NSR

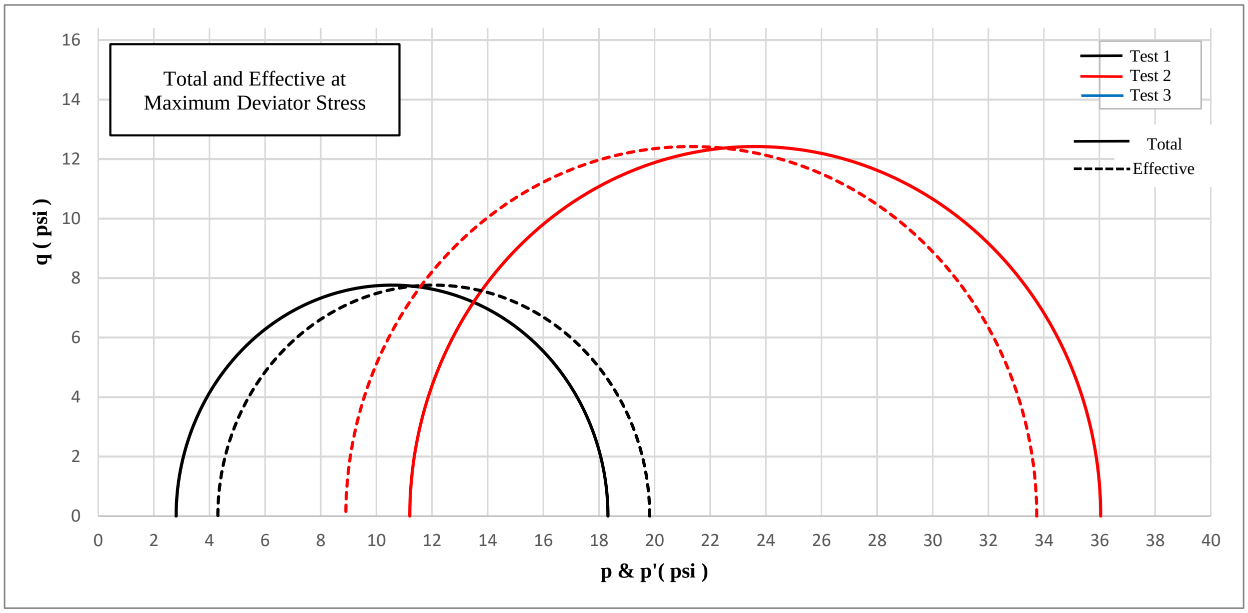
"Excellence in Testing"

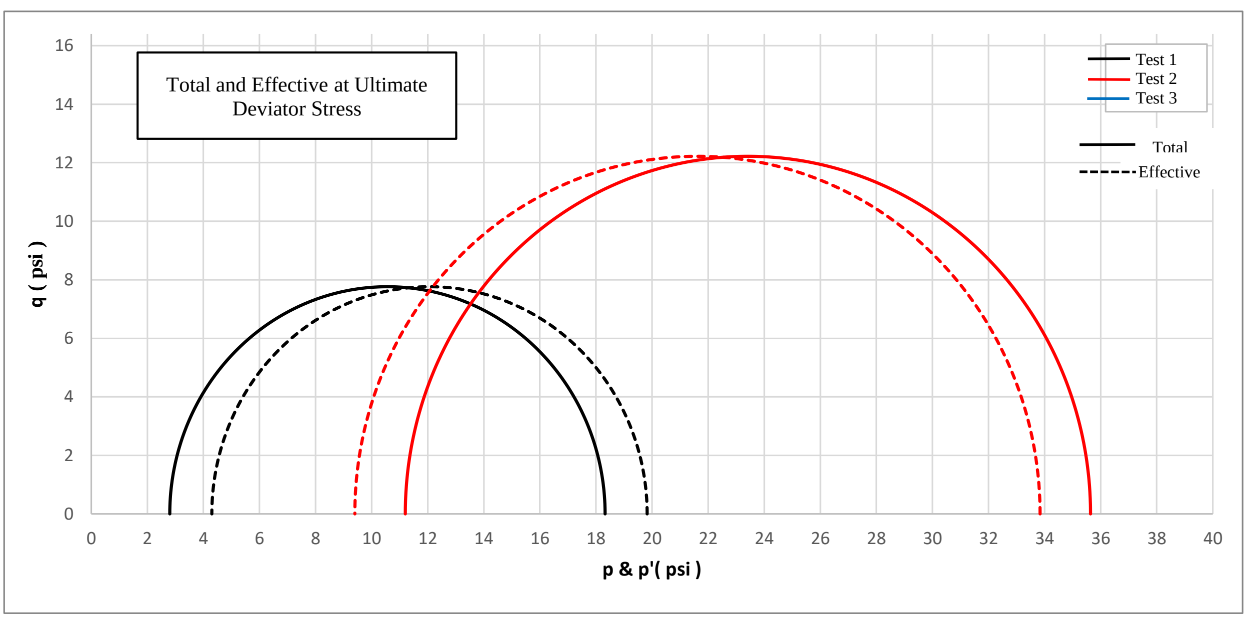
Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Site Sample ID:	GS-120 (6-8') ST
Lab Sample No:	22B053

ASTM D4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

Figure 3





03-21-2022
Approved By: NSR

[illegible]
"Excellence in Testing"
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Project Name: Plant Wansley Existing Landfill Investigation
Project No: PN1056
Sample ID: GS-120 (6-8') ST
Lab Sample No: 22B053

ASTM D4767

CONSOLIDATED-UNDRAINED (CU) TRIAXIAL TEST WITH PORE PRESSURE MEASUREMENTS

(a)

Specimen No. 1
Golden brown sandy silt

(b)

(a)

Specimen No. 2
Golden brown sandy silt

(b)

(a) BLANK

Specimen No. 3

BLANK (b)

Notes: (a) Failure after shear
(b) Specimen split open

03-21-2022
Approved By: NSR

"Excellence in Testing"

Project Name: Plant Wansley Existing Landfill Investigation

Project No: PN1056

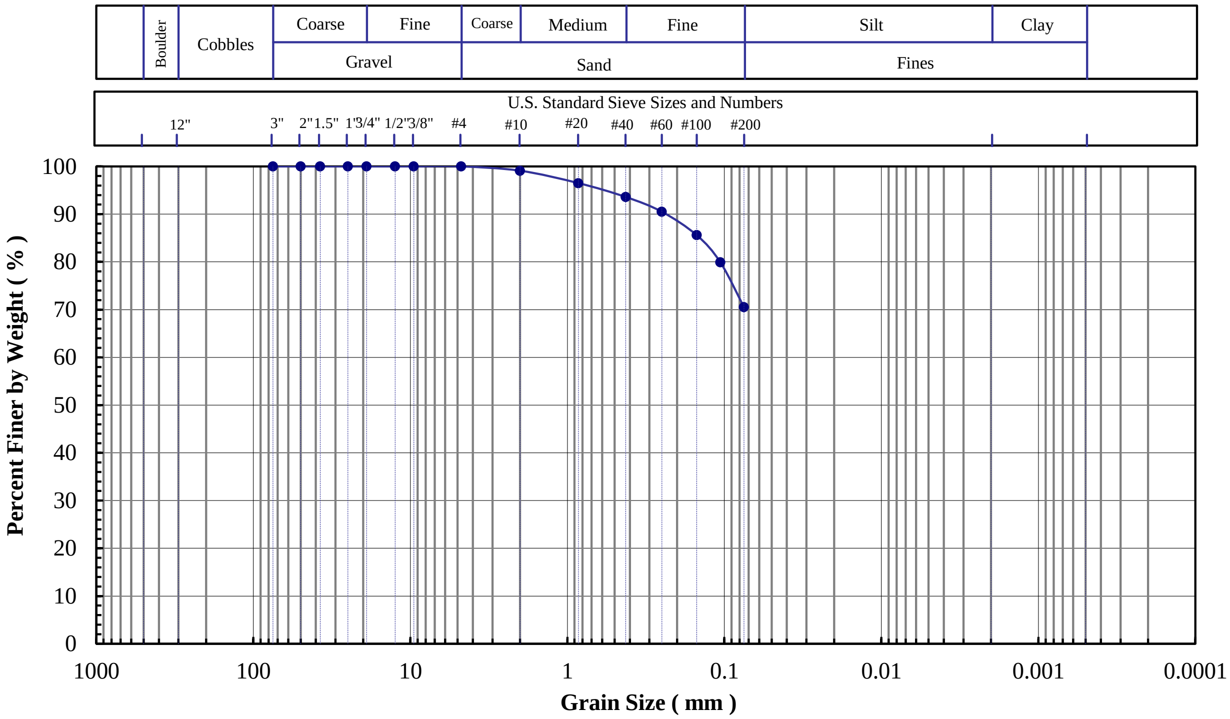
Client Sample ID: GW-121 (12-14')

Lab Sample No: 22A077

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

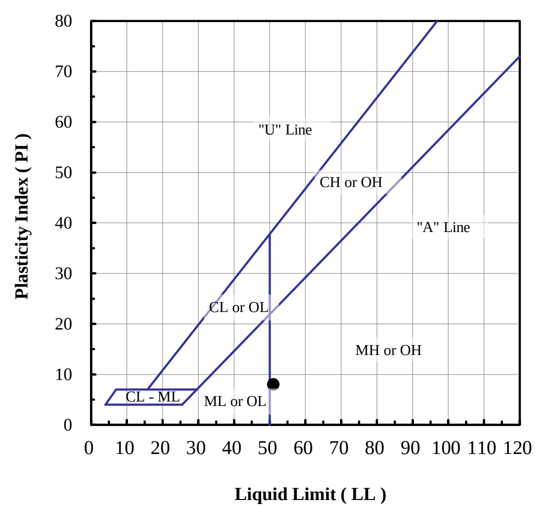


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.1
#20	0.850	96.5
#40	0.425	93.6
#60	0.250	90.5
#100	0.150	85.6
#140	0.106	79.9
#200	0.075	70.5

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	29.5
Fines (%):	70.5
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GW-121 (12-14')	22A077		70.5	51	43	8	MH - Elastic silt with sand

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

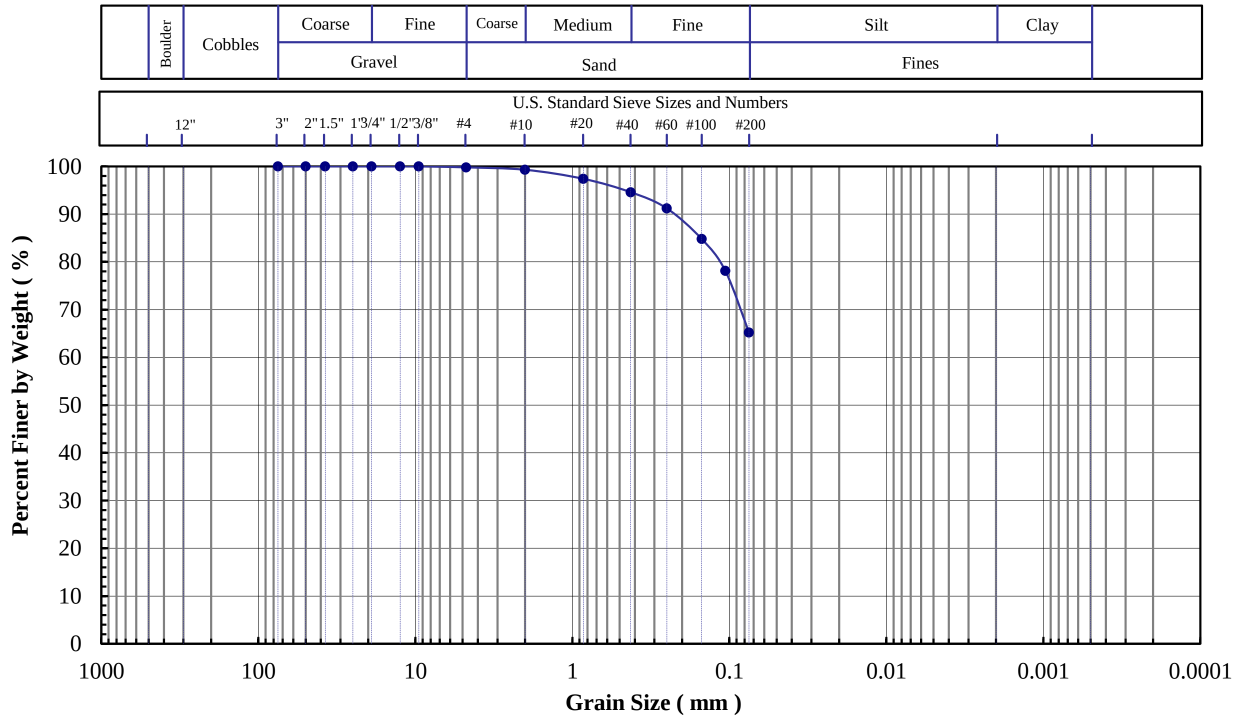
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GW-121 (26-28')
Lab Sample No:	22A078

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

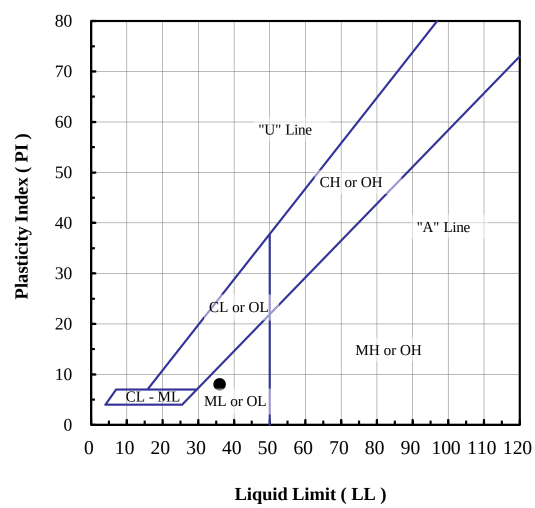


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.8
#10	2.00	99.3
#20	0.850	97.4
#40	0.425	94.6
#60	0.250	91.2
#100	0.150	84.8
#140	0.106	78.1
#200	0.075	65.2

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.2
Sand (%):	34.6
Fines (%):	65.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GW-121 (26-28')	22A078		65.2	36	28	8	ML - Sandy silt

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-19-2022
Approved By: NSR

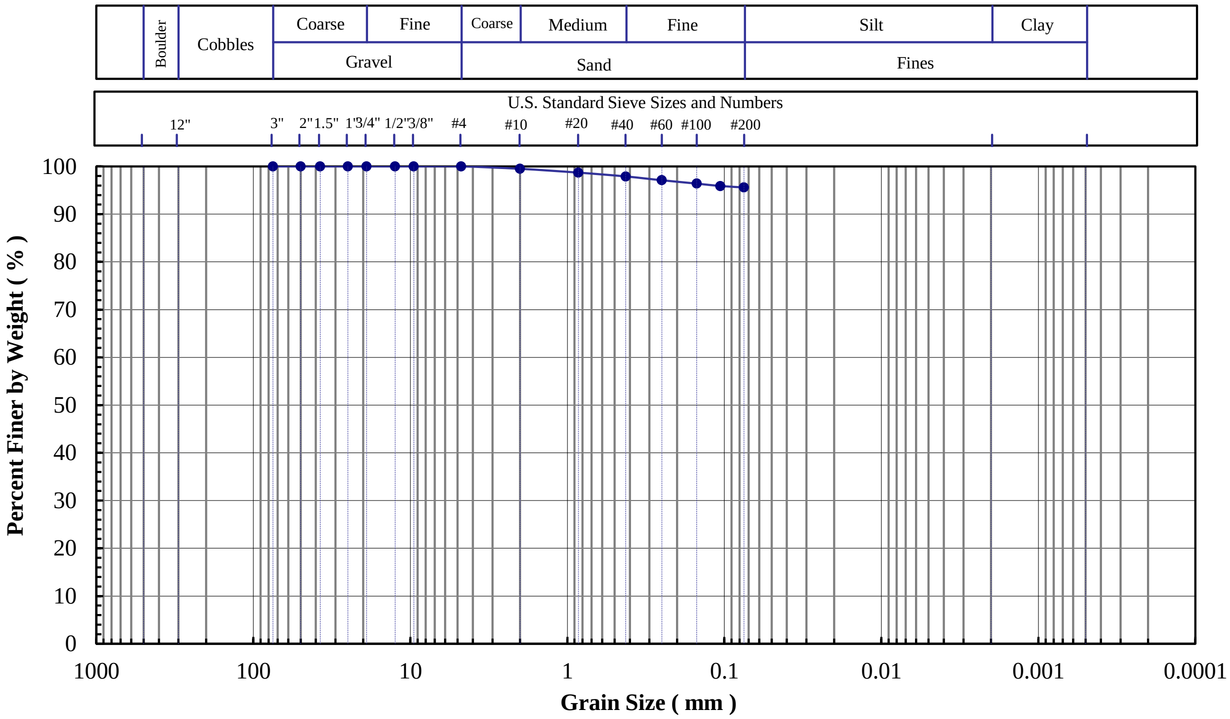
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-122 (13-15')
Lab Sample No:	22B054

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

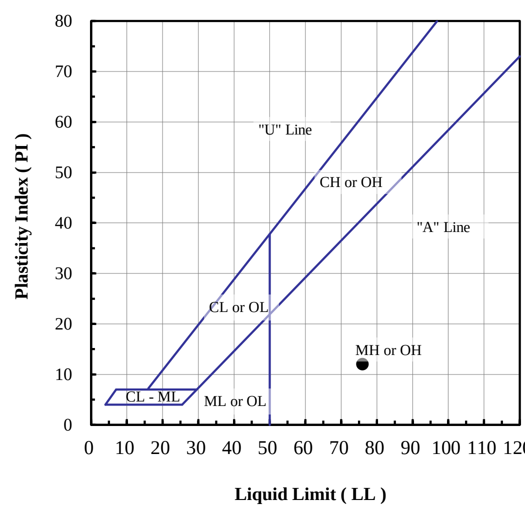


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.5
#20	0.850	98.7
#40	0.425	97.9
#60	0.250	97.1
#100	0.150	96.4
#140	0.106	95.9
#200	0.075	95.6

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	4.4
Fines (%):	95.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
GS-122 (13-15')	22B054		95.6	76	64	12	MH - Elastic silt

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-22-2022
Approved By: NSR

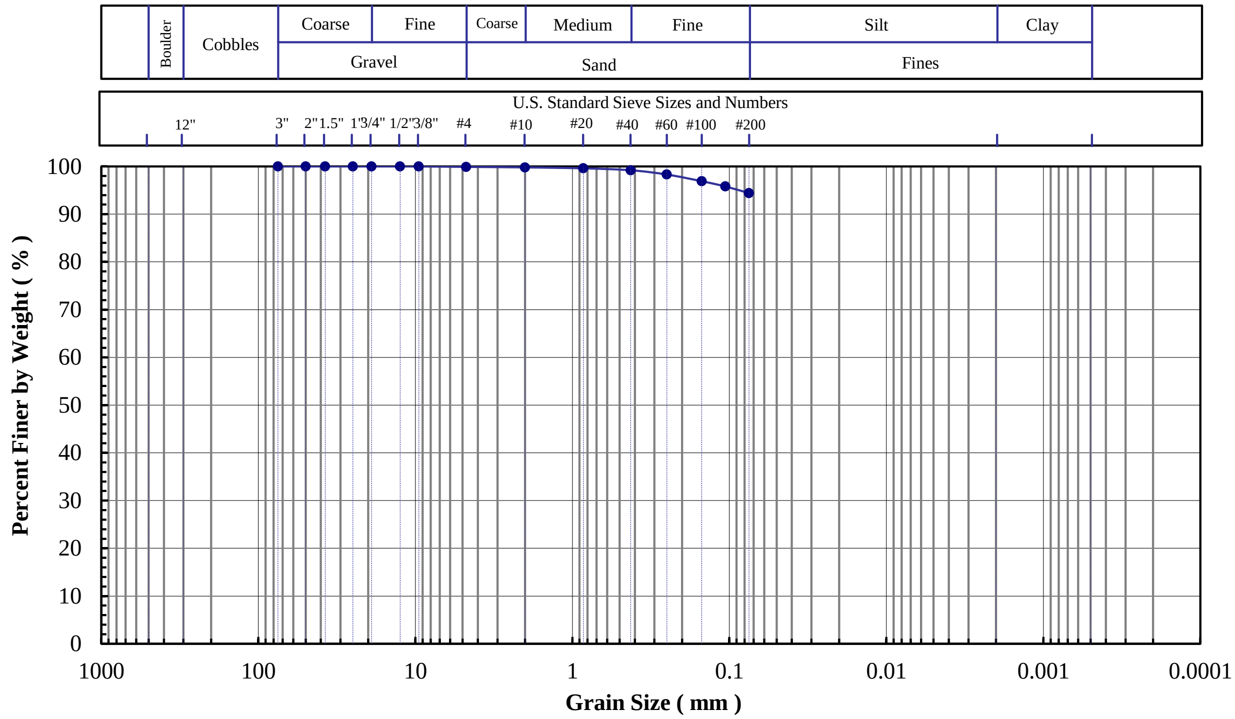
"Excellence in Testing"

Project Name:	Plant Wansley Existing Landfill Investigation
Project No:	PN1056
Client Sample ID:	GS-122 (23-25')
Lab Sample No:	22B055

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

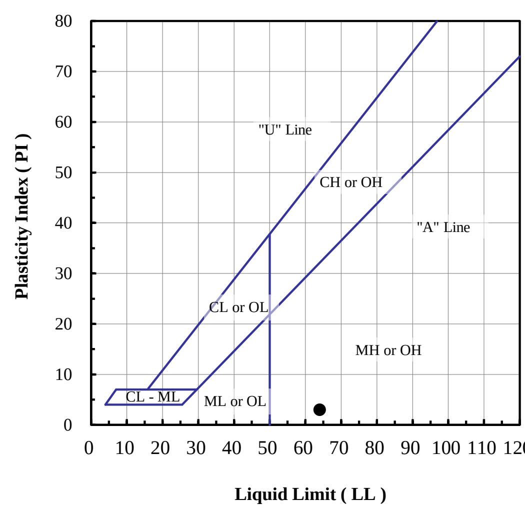


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.9
#10	2.00	99.8
#20	0.850	99.6
#40	0.425	99.2
#60	0.250	98.3
#100	0.150	96.9
#140	0.106	95.8
#200	0.075	94.4

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.1
Sand (%):	5.5
Fines (%):	94.4
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Specific Gravity (-):		**Org. Content (%):**		**Carbon. Content (%):**	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
GS-122 (23-25')	22B055		94.4	64	61	3	MH - Elastic silt

Note(s): Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

03-22-2022
Approved By: NSR

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"Excellence in Testing"

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[illegible]

Test Results Summary

Project Name: Plant Wansley Existing Landfill Investigation

Project No.: PN1056

Site ID	Lab No.	Moist. Cont. ASTM D2216	Grain Sizenalysis ASTM D6913 Gravel Cont.	Sand Cont.	Fines Cont.	Silt Cont.	Clay Cont.	Atterberg Limits ASTM D4318 LL	PL	PI	Engine. Classifi. ASTM D2487	Specific Gravity ASTM D854	Hydraulic Conductivity ASTM D5084 Dry Unit Weight	Moist. Cont.	Conso. Press.	Hyd. Conduct.	Other Tests		Remarks
(-)	(-)	(%)	(%)	(%)	(%)	(%)	(%)	(-)	(-)	(-)	(-)	(-)	(pcf)	(%)	(psi)	(cm/sec)	(-)		
GS-101 (4-6')	22A085	28.3	1.5	42.4	56.1			46	32	14	ML								Note 1
GS-101 (16-18')	22A086	18.8	6.0	69.2	24.8			NP	NP	NP	SM								Note 1
GS-106 (20-22')	22A065	28.7	8	31	61														Notes 1, 2, & 3
GS-111 (6-8')	22A087	14.3	3.0	72.1	24.9			NP	NP	NP	SM								Note 1
GS-114 (16-18')	22A066	49.4	2	18	80			48	37	11	ML								Notes 1 & 2
GS-115 (4-6')	22A067	31.0	8	34	58			31	23	8	ML								Notes 1, 2, & 3
GS-115 (28-30')	22A068	19.1	5.8	45.3	48.9														Note 1
GS-116 (6-8') ST	22A069	29.3	0.9	18.6	80.5			53	35	18	MH						TX-CU		Note 1
GS-116 (22-24') ST	22A070	49.0	0.5	31.3	68.2			NP	NP	NP	ML		71.6	46.3	9.0	3.8E-05		OD	Note 1
GS-117 (12-14')	22A071	33.1						32	29	3									
GS-117 (16-18')	22A072	51.6						37	33	4									
GS-117 (22-24') ST	22A073	39.3	0.1	13.4	86.5			39	27	12	ML						TX-CU		Note 1
GS-119 (8-10')	22A074	24.2	2.2	30.4	67.4			55	31	24	MH								Note 1
GS-119 (14-16') ST	22A075	45.4	0.0	28.8	71.2			50	40	10	MH	2.631					TX-CU	OD	Notes 1 & 4
GS-119 (20-22')	22A076	49.9	4	32	64			41	33	8	ML								Notes 1 & 2
GW-121 (12-14')	22A077	58.3	0.0	29.5	70.5			51	43	8	MH								Note 1
GW-121 (26-28')	22A078	29.3	0.2	34.6	65.2			36	28	8	ML								Note 1

Notes:

1 - Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

2 - Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.

3 - Sieve test specimen was undersized.

4 - Not enough materials to perform the permeability test.

03-23-2022
Approved By: NSR

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Test Results Summary

Project Name: Plant Wansley Existing Landfill Investigation

22A26 **Project No.: PN1056 (PWLI)** **R02**

Site ID	Lab No.	Test Information																	Remarks
		Moist. Cont.	Grain Sizenalysis ASTM D6913					Atterberg Limits ASTM D4318			Engine. Classifi.	Specific Gravity	Hydraulic Conductivity ASTM D5084				Other Tests		
		ASTM D2216	Gravel Cont.	Sand Cont.	Fines Cont.	Silt Cont.	Clay Cont.	LL	PL	PI	ASTM D2487	ASTM D854	Dry Unit Weight	Moist. Cont.	Conso. Press.	Hyd. Conduct.			
(-)	(-)	(%)	(%)	(%)	(%)	(%)	(%)	(-)	(-)	(-)	(-)	(-)	(pcf)	(%)	(psi)	(cm/sec)	(-)		
GS-106_20-22	22A065		✓	✓	✓														
GS-114_16-18	22A066		✓	✓	✓			✓	✓	✓									
GS-115_4-6	22A067		✓	✓	✓			✓	✓	✓									
GS-115_28-30	22A068		✓	✓	✓														
GS-116_6-8_ST	22A069	✓						✓	✓	✓	✓						TX-CU		2.8, 5.6, & 11.2 psi
GS-116_22-24_ST	22A070																	1D	Note A
GS-117_12-14	22A071	✓						✓	✓	✓									
GS-117_16-18	22A072	✓						✓	✓	✓									
GS-117_22-24_ST	22A073	✓						✓	✓	✓	✓						TX-CU		8.6, 17.2, & 34.3 psi
GS-119_8-10	22A074		✓	✓	✓			✓	✓	✓	✓								
GS-119_14-16_ST	22A075	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	TX-CU	1D	Note A 4.6, 9.2, & 18.4 psi
GS_119_20-22	22A076		✓	✓	✓			✓	✓	✓									
GW-121_12-14	22A077		✓	✓	✓			✓	✓	✓									
GW-121_26-28	22A078		✓	✓	✓			✓	✓	✓									

Notes: A - Confining pressure for consolidated-undrained triaxial tests and loading for 1-D consolidation tests will be provided via e-mail.
✓ - Test requested ✓✓ - Test in progress

PN1056 / PWLI / Geos / Alta PM: Jeremy Gasser (O/C: 608-438-4277) PE: Not Available (O/C: -) MC: Not Available (O/C: -) Deadline:
Sent Results To: PM: jgasser@geosyntec.com MC: Not Available WR: Wednesday

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"Excellence in Testing"

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T□□□□□□□□□□□□ □□□□□□□ □ □ □□□□□□□□□□□□□□□□□□□□□

Test Results Summary

Project Name: Plant Wansley Existing Landfill Investigation

22B02 **Project No.: PN1056 (PWLI)** **R07**

Site ID	Lab No.	Test Information																	Remarks
		Moist. Cont.	Grain Sizenalysis ASTM D6913					Atterberg Limits ASTM D4318			Engine. Classifi.	Specific Gravity	Hydraulic Conductivity ASTM D5084				Other Tests		
		ASTM D2216	Gravel Cont.	Sand Cont.	Fines Cont.	Silt Cont.	Clay Cont.	LL	PL	PI	ASTM D2487	ASTM D854	Dry Unit Weight	Moist. Cont.	Conso. Press.	Hyd. Conduct.			
(-)	(-)	(%)	(%)	(%)	(%)	(%)	(%)	(-)	(-)	(-)	(-)	(-)	(pcf)	(%)	(psi)	(cm/sec)	(-)		
GS-101 (4-6)	22A085	28.3	✓✓	✓✓	✓✓			✓	✓	✓									
GS-101 (16-18)	22A086	18.8	✓✓	✓✓	✓✓						✓								
GS-106 (20-22)	22A065	28.7	✓✓	✓✓	✓✓														
GS-111 (6-8)	22A087	14.3	✓✓	✓✓	✓✓						✓								
GS-114 (16-18)	22A066	49.4	✓✓	✓✓	✓✓			✓	✓	✓									
GS-115 (4-6)	22A067	31.0	✓✓	✓✓	✓✓			✓	✓	✓									
GS-115 (28-30)	22A068	19.1	✓✓	✓✓	✓✓														
GS-116 (6-8) ST	22A069	✓						✓	✓	✓	✓						TX-CU 33-333		Note X 2.8, 5.6, & 11.2 psi
GS-116 (22-24) ST	22A070	✓						✓	✓	✓	✓							1D	Note A
GS-117 (12-14)	22A071	33.1						✓	✓	✓									
GS-117 (16-18)	22A072	51.6						✓	✓	✓									
GS-117 (22-24) ST	22A073	✓						✓	✓	✓	✓						TX-CU 33-221		Note Y 8.6, 17.2, & 34.3 psi
GS-119 (8-10)	22A074	24.2	✓✓	✓✓	✓✓			✓	✓	✓	✓								
GS-119 (14-16) ST	22A075	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	TX-CU 33-111	1D	Notes A & Z 4.6, 9.2, & 18.4 psi
GS-119 (20-22)	22A076	49.9	✓	✓	✓			✓	✓	✓									
GW-121 (12-14)	22A077	58.3	✓✓	✓✓	✓✓			✓	✓	✓									
GW-121 (26-28)	22A078	29.3	✓✓	✓✓	✓✓			✓	✓	✓									

Notes: A - Loadings for 1-D consolidation tests will be provided via e-mail.
X - 3 tests requested, 3 tests done. Y - 3 tests requested, 2 tests sheared, 1 test satup Z - 3 tests requested, 3 tests satup.
✓ - Test requested ✓✓ - Test in progress

PN1056 / PWLI / Geos / Alta PM: Jeremy Gasser (O/C: 608-438-4277) PE: Not Available (O/C: -) MC: Not Available (O/C: -) Deadline:
Sent Results To: PM: jgasser@geosyntec.com MC: Not Available WR: Wednesday

Results have not been checked.

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"Excellence in Testing"
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Test Results Summary

Project Name: Plant Wansley Existing Landfill Investigation

Project No.: PN1056

Site ID	Lab No.	Test Information																	Remarks
		Moist. Cont.	Grain Sizenalysis ASTM D6913					Atterberg Limits ASTM D4318			Engine. Classifi.	Specific Gravity	Hydraulic Conductivity ASTM D5084				Other Tests		
		ASTM D2216	Gravel Cont.	Sand Cont.	Fines Cont.	Silt Cont.	Clay Cont.	LL	PL	PI	ASTM D2487	ASTM D854	Dry Unit Weight	Moist. Cont.	Conso. Press.	Hyd. Conduct.			
(-)	(-)	(%)	(%)	(%)	(%)	(%)	(%)	(-)	(-)	(-)	(-)	(-)	(pcf)	(%)	(psi)	(cm/sec)	(-)		
GS-103 (12-14')	22B013	17.6	3	55	42			NP	NP	NP	SM	2.773							Notes 1 & 2
GS-103 (33-35')	22B014	48.4	0.1	23.1	76.8			NP	NP	NP	ML								Notes 1 & 2
GS-104 (6-8') ST	22B010		6.1	44.7	49.2			46	36	10	SM						TX-CU		
GS-104 (24-26')	22B015	36.7	4	34	62			NP	NP	NP	ML								Notes 1, 2 & 3
GS-105 (4-6')	22B016	37.8	12	24	64			64	33	31	MH								Notes 1, 2 & 3
GS-106a (38-40')	22B048		0.0	24.9	75.1			NP	NP	NP	ML								Note 1
GS-106a (43-45')	22B049	58.9	1.9	18.6	79.5			48	39	9	ML								Note 1
GS-108 (6-8') ST	22B050	24.9	1	30	69			28	20	8	CL	2.689	96.1	28.4	3.0	4.5E-07		OD	Notes 1 & 2
GS-112 (23-25')	22B051	57.0	1.4	15.4	83.2			NP	NP	NP	ML	2.767							Note 1
GS-118 (18-20') ST	22B052		0.7	31.0	68.3			NP	NP	NP	ML						TX-CU		Note 1
GS-120 (6-8') ST	22B053		2	27	71			NP	NP	NP	ML						TX-CU	OD	Notes 1 & 2
GS-122 (13-15')	22B054	76.8	0.0	4.4	95.6			76	64	12	MH								Note 1
GS-122 (23-25')	22B055	85.6	0.1	5.5	94.4			64	61	3	MH								Note 1

Notes:

1 - Sample contained hard soil particles which continuously broke down when utilizing ASTM standard procedural effort.

2 - Sieve test specimen was not large enough to report the results to the accuracy of one decimal point.

3 - Sieve test specimen was undersized.

03-23-2022
Approved By: NSR