C

Appendix C Insitu Testing and Laboratory Testing

PARTICLE SIZE ANALYSIS
TEST REPORT

Project:	**Southern Landfill, Stage 4 AEE**
Location:	**Southern Landfill**
Client:	**Wellington City Council**
Contractor:	**N/a**
Sampled by:	**URS New Zealand - Ewan Ross**
Date sampled:	**19.01.11**
Sampling method:	**Test Pit, Bag samples**
Sample description:	**Gravelly SILT-SAND: f-c, o.brown, with clay, some rootlets**
Sample source:	**Sample 1 TP1 (0.5-0.7m)**
Sample condition:	**As received**
Solid density	**2.70** t/m^3 **Assumed**
Water content as rec'd	**19.5** % **whole**

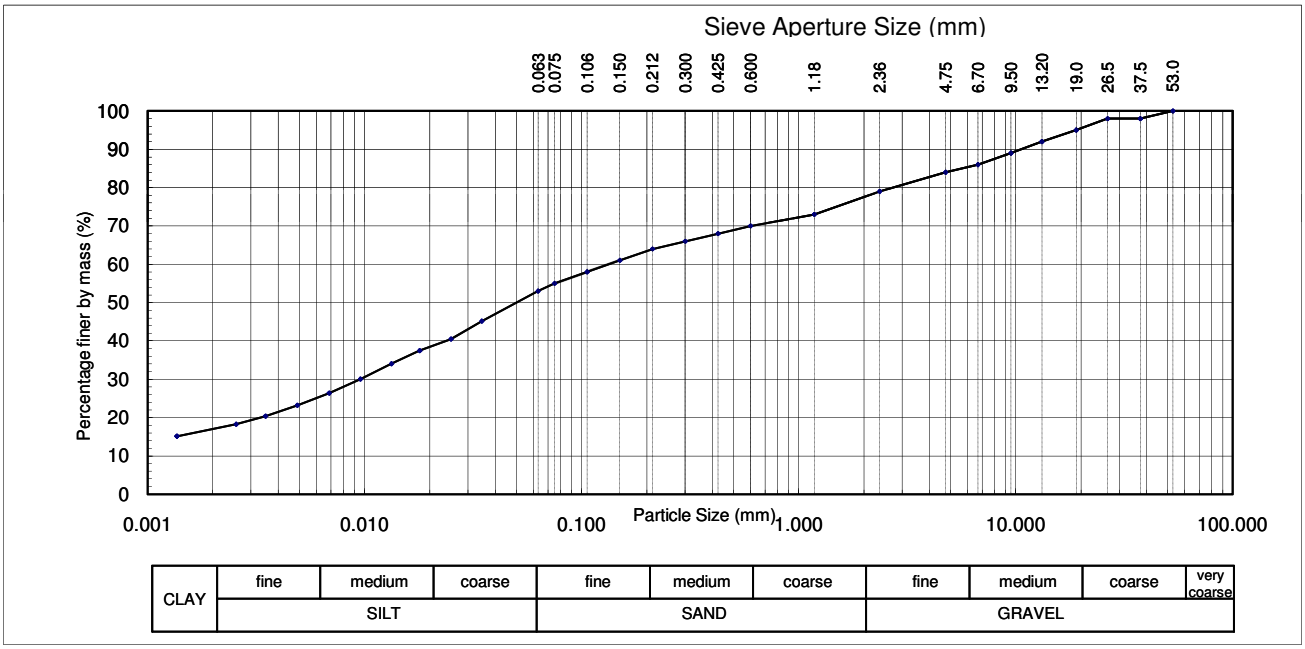
Report No:	**522900/987**
Sample No:	**2-11/019**
Client Ref:	**245016US**

Sieve Analysis

Sieve Size (mm)	Passing (%)	Sieve Size (mm)	Passing (%)	Sieve Size (mm)	Passing (%)
53.0	**100**	6.70	**86**	0.300	**66**
37.5	**98**	4.75	**84**	0.212	**64**
26.5	**98**	2.36	**79**	0.150	**61**
19.0	**95**	1.18	**73**	0.106	**58**
13.20	**92**	0.600	**70**	0.075	**55**
9.50	**89**	0.425	**68**	0.063	**53**

Hydrometer Analysis

Particle Size (mm)	Passing (%)	Particle Size (mm)	Passing (%)
0.0347	**45**	0.0049	**23**
0.0250	**41**	0.0035	**20**
0.0179	**37**	0.0026	**18**
0.0133	**34**	0.0014	**15**
0.0096	**30**		
0.0069	**26**		



Test Methods	Notes
Particle Size Analysis: NZS 4402 1986 Test 2.8.1 (Wet Sieve)	History: Air dried
Particle Size Analysis: NZS 4402 1986 Test 2.8.4 (Hydrometer)	Uncalibrated Sieve sizes: 0.212mm & 0.106mm

Date Tested: 15-28.02.2011

Date Reported: 3.03.2011

Testing only is covered by IANZ Accreditation

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IANZ Approved Signatory

Designation : *Engineering Technician (DW Pollard)*

Date : 3.03.2011

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

PF-LAB-100

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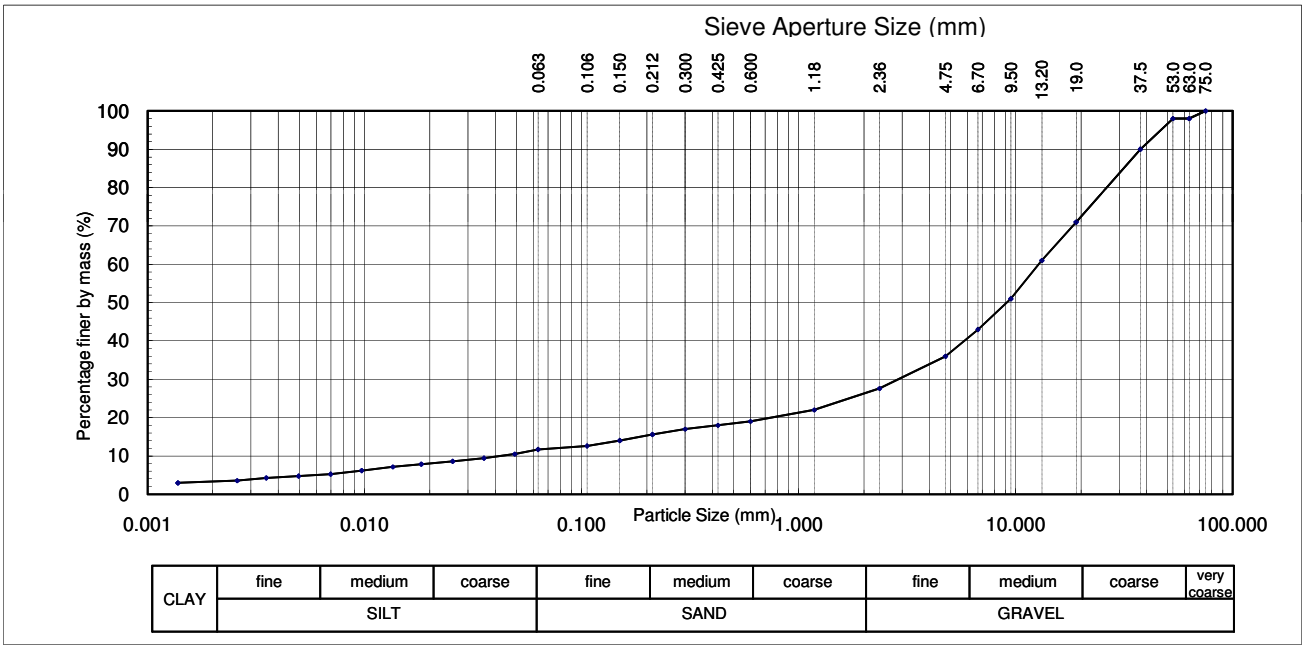
PARTICLE SIZE ANALYSIS
TEST REPORT

Project:	**Southern Landfill, Stage 4 AEE**
Location:	**Southern Landfill**
Client:	**Wellington City Council**
Contractor:	**N/a**
Sampled by:	**URS New Zealand - Ewan Ross**
Date sampled:	**19.01.11**
Sampling method:	**Test Pit, Bag samples**
Sample description:	**GRAVEL: f-c, orange brown, with sand, some silt and roots**
Sample source:	**Sample 2 TP2 (0.4m)**
Sample condition:	**As received**
Solid density	**2.70** t/m^3 **Assumed**
Water content as rec'd	**6.8** % **whole**

Report No:	**522900/987**
Sample No:	**2-11/020**
Client Ref:	**245016US**

Sieve Analysis						Hydrometer Analysis			
Sieve Size (mm)	Passing (%)	Sieve Size (mm)	Passing (%)	Sieve Size (mm)	Passing (%)	Particle Size (mm)	Passing (%)	Particle Size (mm)	Passing (%)
75.0	**100**	9.50	**51**	0.425	**18**	0.0492	**10**	0.0070	**5**
63.0	**98**	6.70	**43**	0.300	**17**	0.0355	**9**	0.0050	**5**
53.0	**98**	4.75	**36**	0.212	**16**	0.0255	**9**	0.0035	**4**
37.5	**90**	2.36	**28**	0.150	**14**	0.0183	**8**	0.0026	**4**
19.0	**71**	1.18	**22**	0.106	**13**	0.0135	**7**	0.0014	**3**
13.20	**61**	0.600	**19**	0.063	**12**	0.0097	**6**		



Test Methods	Notes
Particle Size Analysis: NZS 4402 1986 Test 2.8.1 (Wet Sieve)	History: As received
Particle Size Analysis: NZS 4402 1986 Test 2.8.4 (Hydrometer)	Uncalibrated Sieve sizes: 0.212mm & 0.106mm

Date Tested: 15-28.02.2011

Date Reported: 3.03.2011

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IANZ Approved Signatory

Designation : *Engineering Technician (DW Pollard)*

Date : 3.03.2011

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PARTICLE SIZE ANALYSIS
TEST REPORT

Project:	**Southern Landfill, Stage 4 AEE**
Location:	**Southern Landfill**
Client:	**Wellington City Council**
Contractor:	**N/a**
Sampled by:	**URS New Zealand - Ewan Ross**
Date sampled:	**19.01.11**
Sampling method:	**Test Pit, Bag samples**
Sample source:	**Sample 3 TP3 (0.6m)**
Sample description:	**Sandy GRAVEL: f-c, orange brown, with rootlets**
Sample condition:	**As received**
Solid density	**2.70** t/m^3 **Assumed**
Water content as rec'd	**7.0** % **whole**

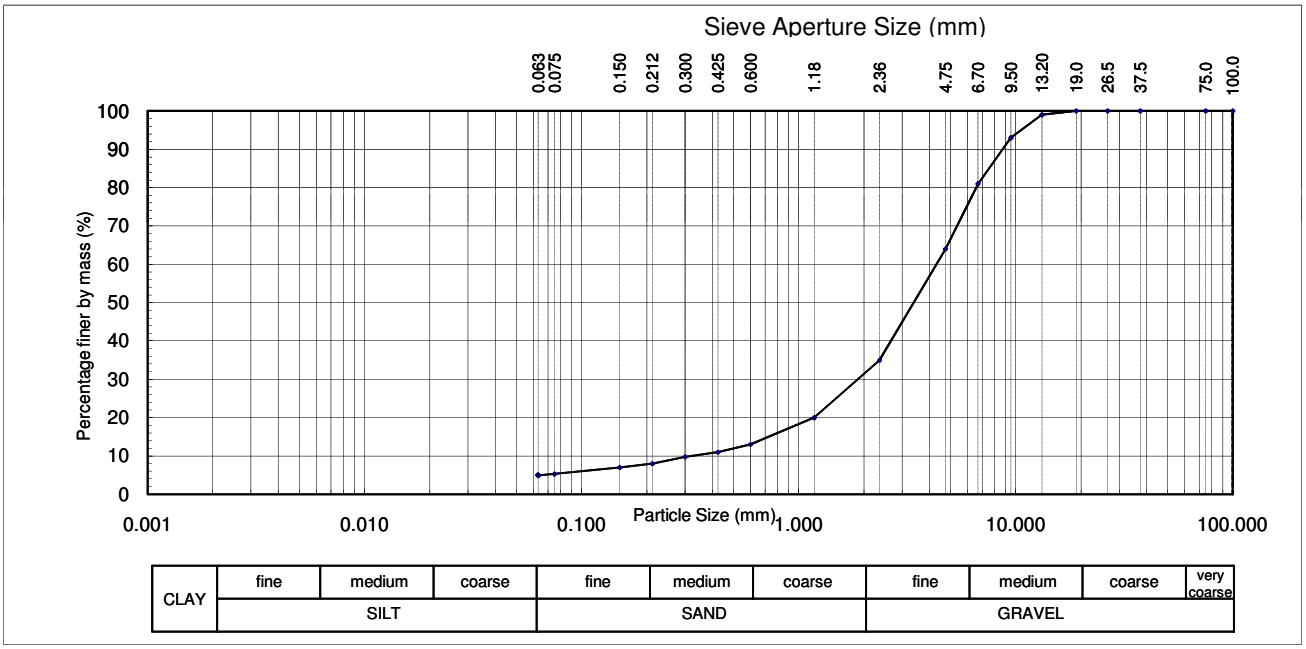
Report No:	**522900/987**
Sample No:	**2-11/021**
Client Ref:	**245016US**

Sieve Analysis

Sieve Size (mm)	Passing (%)	Sieve Size (mm)	Passing (%)	Sieve Size (mm)	Passing (%)
100.0	**100**	9.50	**93**	0.425	**11**
75.0	**100**	6.70	**81**	0.300	**10**
37.5	**100**	4.75	**64**	0.212	**8**
26.5	**100**	2.36	**35**	0.150	**7**
19.0	**100**	1.18	**20**	0.075	**5**
13.20	**99**	0.600	**13**	0.063	**5**

Hydrometer Analysis

Particle Size (mm)	Passing (%)	Particle Size (mm)	Passing (%)



Test Methods	Notes
Particle Size Analysis: NZS 4402 1986 Test 2.8.1 (Wet Sieve)	History: Air dried Uncalibrated Sieve sizes: 0.212mm

Date Tested: 15-21.02.2011

Date Reported: 3.03.2011

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IANZ Approved Signatory

Designation : *Engineering Technician (DW Pollard)*

Date : 3.03.2011

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PARTICLE SIZE ANALYSIS
TEST REPORT

Project:	**Southern Landfill, Stage 4 AEE**
Location:	**Southern Landfill**
Client:	**Wellington City Council**
Contractor:	**N/a**
Sampled by:	**URS New Zealand - Ewan Ross**
Date sampled:	**19.01.11**
Sampling method:	**Test Pit, Bag samples**
Sample source:	**Sample 4 TP3 (1.3m)**
Sample description:	**GRAVEL: f-c, orange brown, with sand**
Sample condition:	**As received**
Solid density	**2.70** t/m^3 **Assumed**
Water content as rec'd	**2.1** % **whole**

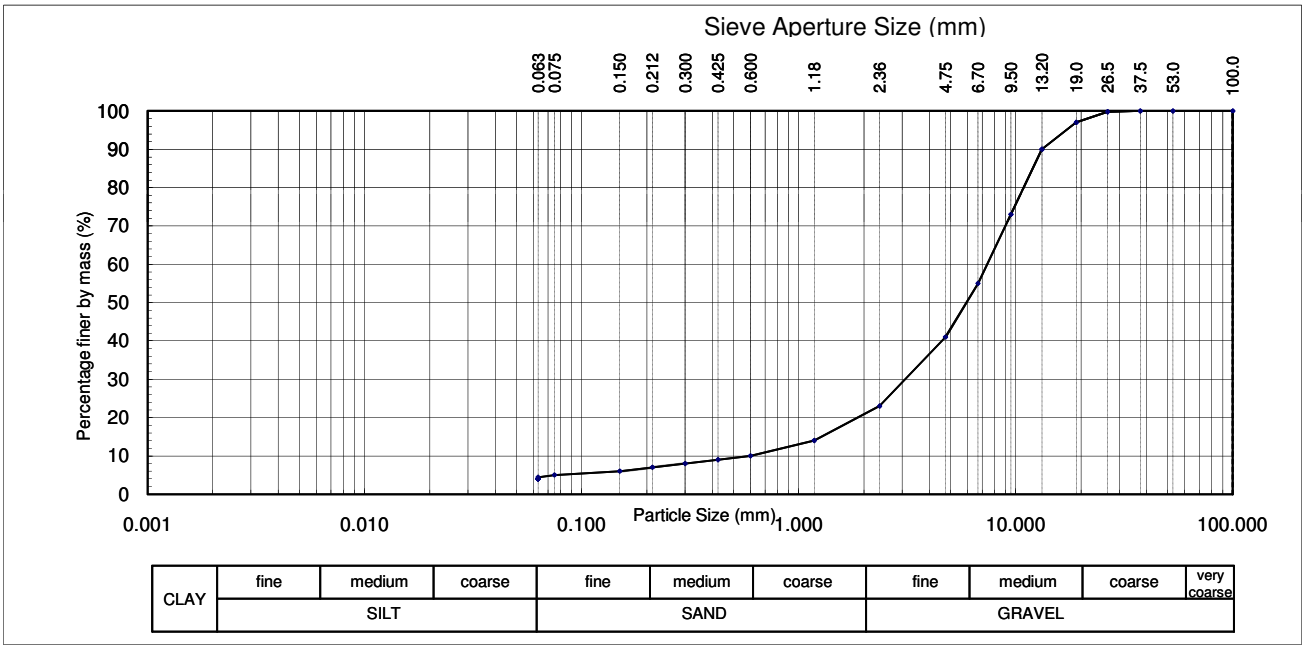
Report No:	**522900/987**
Sample No:	**2-11/022**
Client Ref:	**245016US**

Sieve Analysis

Sieve Size (mm)	Passing (%)	Sieve Size (mm)	Passing (%)	Sieve Size (mm)	Passing (%)
100.0	**100**	9.50	**73**	0.425	**9**
53.0	**100**	6.70	**55**	0.300	**8**
37.5	**100**	4.75	**41**	0.212	**7**
26.5	**100**	2.36	**23**	0.150	**6**
19.0	**97**	1.18	**14**	0.075	**5**
13.20	**90**	0.600	**10**	0.063	**4**

Hydrometer Analysis

Particle Size (mm)	Passing (%)	Particle Size (mm)	Passing (%)



Test Methods	Notes
Particle Size Analysis: NZS 4402 1986 Test 2.8.1 (Wet Sieve)	History: Air dried Uncalibrated Sieve sizes: 0.212mm

Date Tested: 15-22.02.2011

Date Reported: 3.03.2011

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IANZ Approved Signatory

Designation : *Engineering Technician (DW Pollard)*

Date : 3.03.2011

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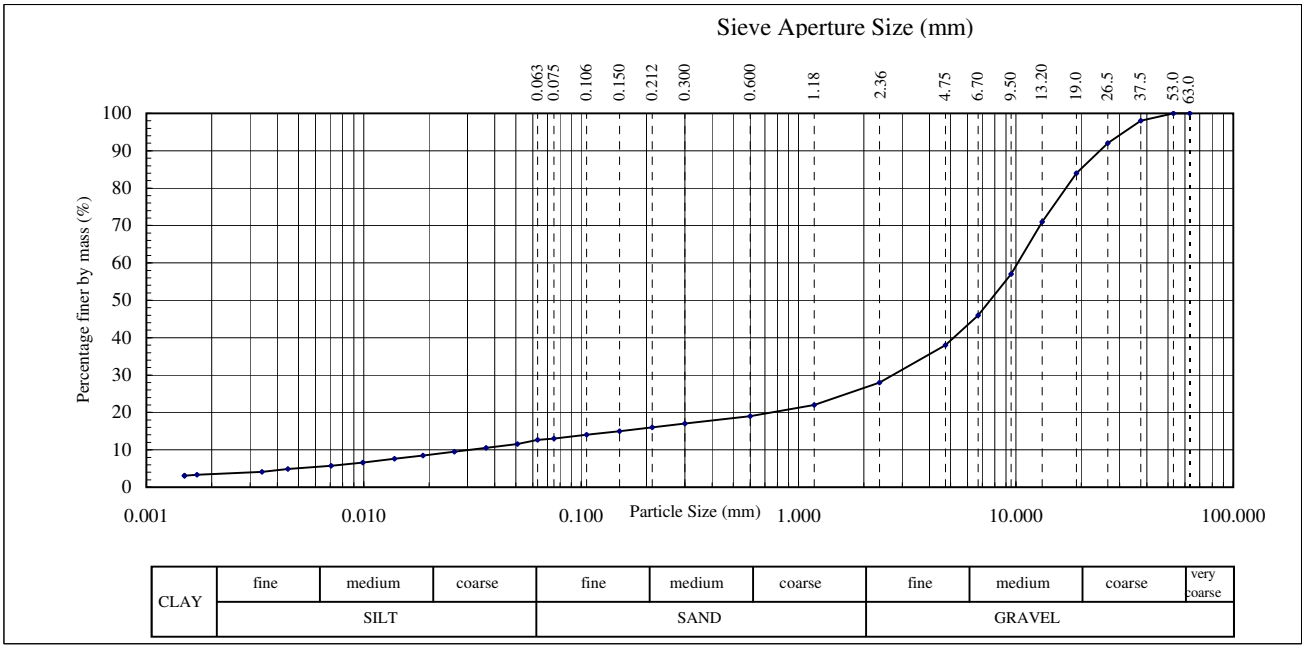
PARTICLE SIZE ANALYSIS
TEST REPORT

Project:	**Southern Landfill, Stage 4 AEE**
Location:	**Southern Landfill**
Client:	**Wellington City Council**
Contractor:	**N/a**
Sampled by:	**URS New Zealand - Ewan Ross**
Date sampled:	**19.1.11**
Sampling method:	**Test Pit, Bag sample**
Sample source:	**TP4 1.0m**
Sample description:	**GRAVEL: f-c, yellow brown, with sand, some silt**
Sample condition:	**As received**
Solid density	**2.65** t/m^3 **Assumed**
Water content as rec'd	**8.7** % **whole**

Report No:	**522900/987**
Sample No:	**2-11/023**
Client Ref:	**o/n 245016US**

Sieve Analysis						Hydrometer Analysis			
Sieve Size (mm)	Passing (%)	Sieve Size (mm)	Passing (%)	Sieve Size (mm)	Passing (%)	Particle Size (mm)	Passing (%)	Particle Size (mm)	Passing (%)
63.0	**100**	9.50	**57**	0.300	**17**	0.0509	**12**	0.0071	**6**
53.0	**100**	6.70	**46**	0.212	**16**	0.0365	**11**	0.0045	**5**
37.5	**98**	4.75	**38**	0.150	**15**	0.0261	**10**	0.0034	**4**
26.5	**92**	2.36	**28**	0.106	**14**	0.0187	**8**	0.0017	**3**
19.0	**84**	1.18	**22**	0.075	**13**	0.0138	**8**	0.0015	**3**
13.20	**71**	0.600	**19**	0.063	**13**	0.0099	**7**		



Test Methods	Notes
Particle Size Analysis: NZS 4402 1986 Test 2.8.1 (Wet Sieve)	History: Air dried
Particle Size Analysis: NZS 4402 1986 Test 2.8.4 (Hydrometer)	Uncalibrated Sieve sizes: 0.212, 0.106mm

Date Tested: 24.2-4.3.11

Date Reported: 4.3.11

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IANZ Approved Signatory

Designation : *Technical Officer (MJ Mclachlan)*

Date : 4.3.11

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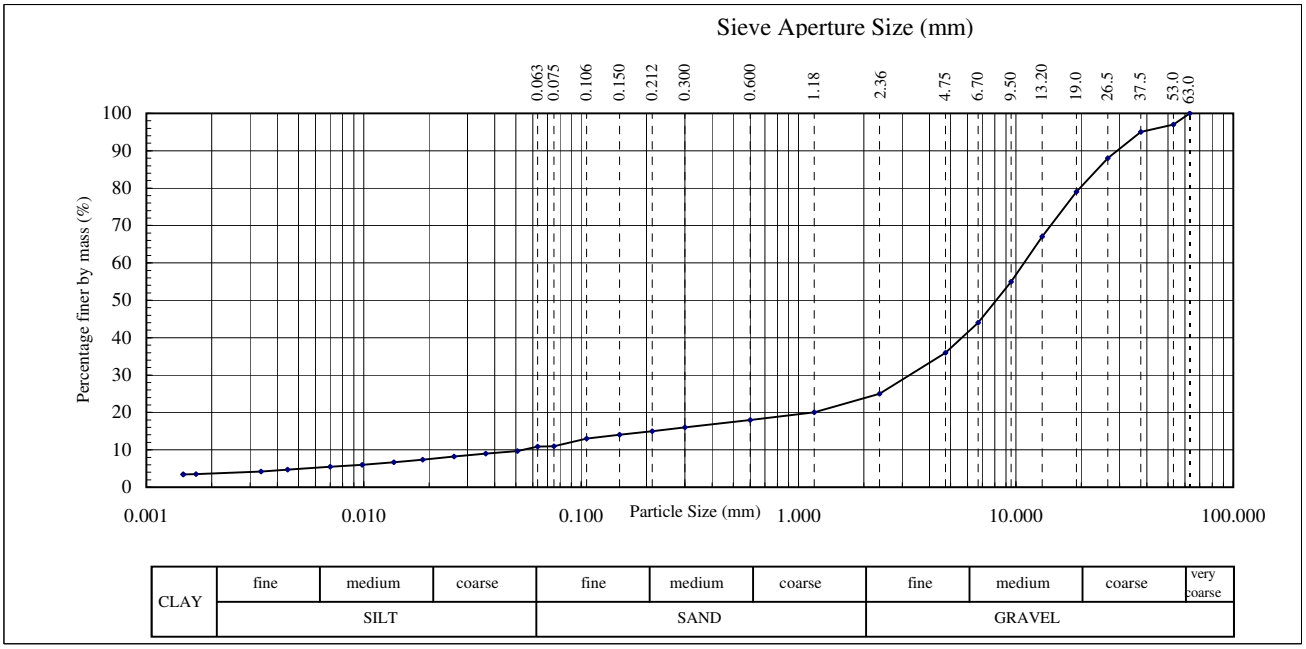
PARTICLE SIZE ANALYSIS
TEST REPORT

Project:	**Southern Landfill, Stage 4 AEE**
Location:	**Southern Landfill**
Client:	**Wellington City Council**
Contractor:	**N/a**
Sampled by:	**URS New Zealand - Ewan Ross**
Date sampled:	**19.1.11**
Sampling method:	**Test Pit, Bag sample**
Sample source:	**TP4 2.0m**
Sample description:	**GRAVEL: f-c, yellow brown, with sand, some silt**
Sample condition:	**As received**
Solid density	**2.65** t/m^3 **Assumed**
Water content as rec'd	**9.5** % **whole**

Report No:	**522900/987**
Sample No:	**2-11/024**
Client Ref:	**o/n 245016US**

Sieve Analysis						Hydrometer Analysis			
Sieve Size (mm)	Passing (%)	Sieve Size (mm)	Passing (%)	Sieve Size (mm)	Passing (%)	Particle Size (mm)	Passing (%)	Particle Size (mm)	Passing (%)
63.0	**100**	9.50	**55**	0.300	**16**	0.0508	**10**	0.0070	**6**
53.0	**97**	6.70	**44**	0.212	**15**	0.0364	**9**	0.0045	**5**
37.5	**95**	4.75	**36**	0.150	**14**	0.0260	**8**	0.0034	**4**
26.5	**88**	2.36	**25**	0.106	**13**	0.0186	**7**	0.0017	**4**
19.0	**79**	1.18	**20**	0.075	**11**	0.0138	**7**	0.0015	**3**
13.20	**67**	0.600	**18**	0.063	**11**	0.0098	**6**		



Test Methods	Notes
Particle Size Analysis: NZS 4402 1986 Test 2.8.1 (Wet Sieve)	History: Air dried
Particle Size Analysis: NZS 4402 1986 Test 2.8.4 (Hydrometer)	Uncalibrated Sieve sizes: 0.212, 0.106mm

Date Tested: 24.2-4.3.11
Date Reported: 4.3.11

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IANZ Approved Signatory
Designation : *Technical Officer (MJ Mclachlan)*
Date : 4.3.11

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PLASTICITY INDEX FOR SOILS
TEST REPORT

Project :	**Southern Landfill, Stage 4 AEE**
Location :	**Southern Landfill**
Client :	**Wellington City Council**
Contractor :	**N/a**
Sampled by :	**URS New Zealand - Ewan Ross**
Date sampled :	**19.01.11**
Sampling method :	**Test Pit, Bag samples**
Sample source:	**see table**
Sample condition :	**As received**

Report No:	**522900/987**
Sample No:	**see table**
Client Ref:	**245016US**

Test Results

Sample no:	**2-11/019**	**2-11/020**	**-**	**-**	**-**	**-**
Sample source:	**SAMPLE 1 TP1 (0.5-0.7m)**	**SAMPLE 2 TP2 (0.4m)**	**-**	**-**	**-**	**-**
Sample description	**Gravelly SILT-SAND: f-c, orange brown, with clay, some rootlets**	**GRAVEL: f-c, orange brown, with sand, some silt and roots**	**-**	**-**	**-**	**-**
Liquid Limit (LL):	**31 ± 1**	**-**	**-**	**-**	**-**	**-**
Cone Pen. Limit (CPL):	**-**	**37 ± 1**	**-**	**-**	**-**	**-**
Plastic Limit (PL):	**23 ± 1**	**28 ± 1**	**-**	**-**	**-**	**-**
Plasticity Index (PI):	**8 ± 2**	**9 ± 2**	**-**	**-**	**-**	**-**
Natural Water Content (%) :	**19.5**	**6.8**	**-**	**-**	**-**	**-**
Fraction tested	**-0.425mm**	**-0.425mm**	**-**	**-**	**-**	**-**
Number of LL or CPL points	**5**	**6**	**-**	**-**	**-**	**-**

Test Methods		**Notes**
Liquid Limit	NZS 4402 : 1986, Test 2.2	Alternative 0.01g accuracy balance used. NZS 4402:1986 requires the reporting of a range of values.
Plastic Limit	NZS 4402 : 1986, Test 2.3	
Plasticity Index	NZS 4402 : 1986, Test 2.4	History : Sample 2-11/019 air dried. Sample 2-11/020 as received
Cone Penetration Limit	NZS 4402 : 1986, Test 2.5	

Date tested : 23-28.02.2011
Date reported : 3.03.2011

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IANZ Approved Signatory
Designation : *Engineering Technician (DW Pollard)*
Date : 3.03.2011

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

CSF 2101 (13/09/2006)

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UNIXIAL COMPRESSIVE STRENGTH TEST REPORT

OPUS INTERNATIONAL CONSULTANTS

URS Centre
Level 4, 13-15 College Hill
Auckland 1011

Attn: Greg Haldane

Project :	**Southern Landfill, Stage 4 AEE**
Location :	**Southern Landfill**
Client :	**Wellington City Council**
Contractor :	**-**
Sampled by :	**Ewan Ross**
Sampling date :	**17/12/10 - 27/1/11**
Sample description :	**HQ core**
Sampling method :	**HQ core**
Date received :	**02/02/11**

Project No :	**522911.07**
Lab Ref No :	**See below**
Client Ref No	**42775090.23**

Test Results

Date tested		9/02/11					
Labs ref. no.		2-11/025	2-11/026	2-11/027	2-11/028	2-11/029	2-11/030
Specimen location		BH3A 5.2 - 5.4m	BH3A 52.35 - 52.5m	BH4A 5.19 - 5.39m	BH4A 18.25-18.39m	BH4A 38.11-38.27m	BH4A 46.9 - 47.05m
Average diameter	(mm)	60.6	60.7	60.7	60.7	61.0	-
Height	(mm)	103.0	65.0	105.5	80.5	69.5	-
Height to diameter ratio		1.70	1.07	1.74	1.33	1.14	-
Compressive strength	(MPa)	-	-	-	-	-	-
Corrected compressive strength[1]	(MPa)	93.0	87.0	11.5	122.0	103.5	-
Bulk density	(kg/m^3)	2,700	2,770	2,590	2,670	2,680	-
Ends capped		2	2	2	2	2	-
Defects prior to testing		*Note 2*	-	*Note 3*	-	*Note 4*	*Note 5*
Failure mode		Normal	Normal	*Note 3*	Normal	Normal	-
Conditioning type		Dry	Dry	Dry	Dry	Dry	-

Test Methods	Notes
Compressive strength: NZS 3112:Part 2: 1986 Clause 6	1. Strengths of specimens with height to diameter ratio 1.00 to 1.90 are corrected to account for the effect of the reduced height to diameter.
Capping: NZS 3112 : 1986, Pt 2 Clause 4 (amendment No 2 2000)	
Correction for height to diameter ratio: in-house method CL-04-511.	
Specimens received dry.	2. Joint ≤ 0.1mm across half the circumference of the core.
Specimens were stored at room temperature until tested.	3. Failure along joint approximately 50° from the horizontal.
The volume of each specimen was determined by measurement.	4. Joint ≤ 0.1mm sub vertical through core.
	5. Core sample unsuitable for tresting.

Date reported : 9/02/11

D. Wong
Designation : *Concrete Technologist*
Date : 9/02/11

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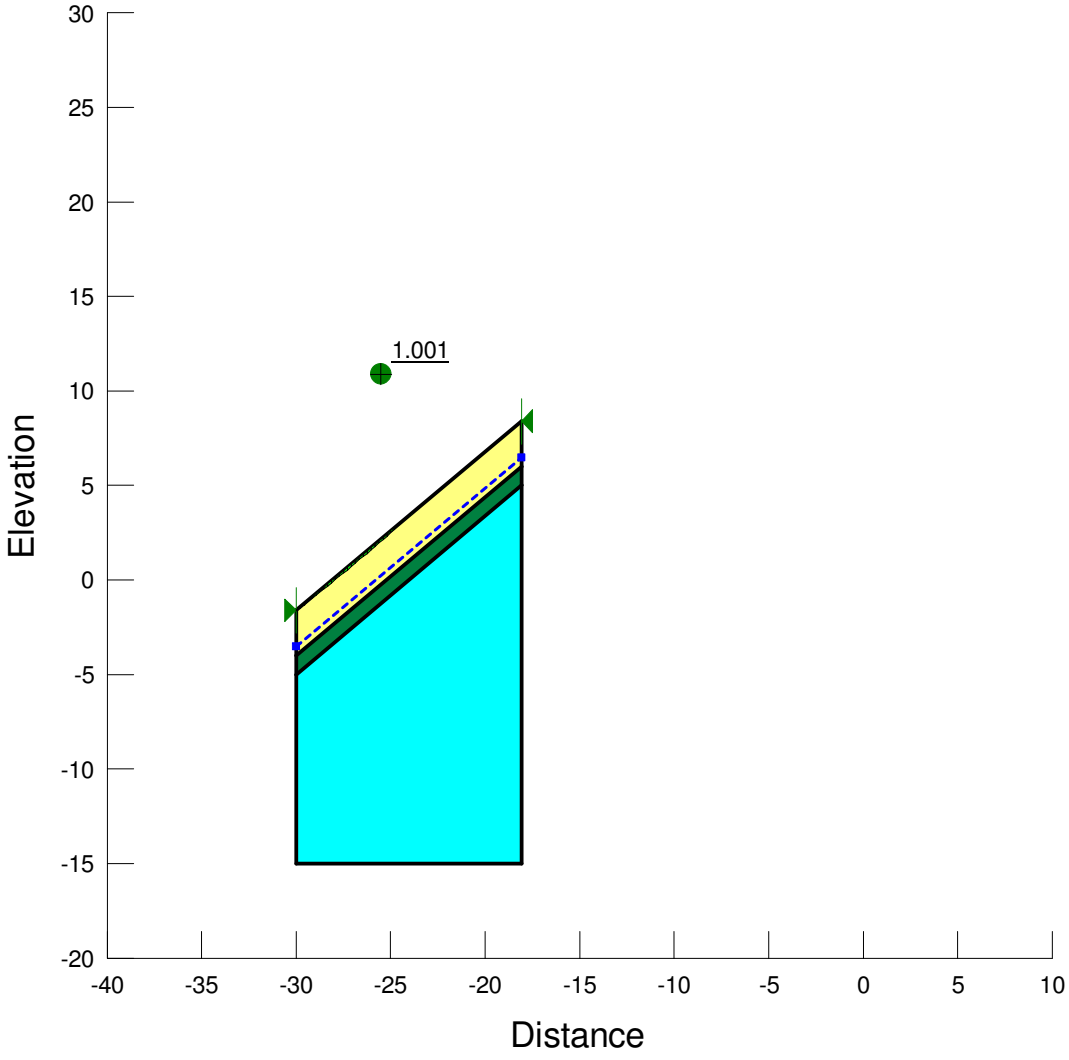
D

Appendix D Slope Stability Analysis

Soil Slope Static Analysis

Soil Slope Seismic Analysis

File Name: SL Stage 4 - SSS - 40deg 2.4m CC V1.gsz

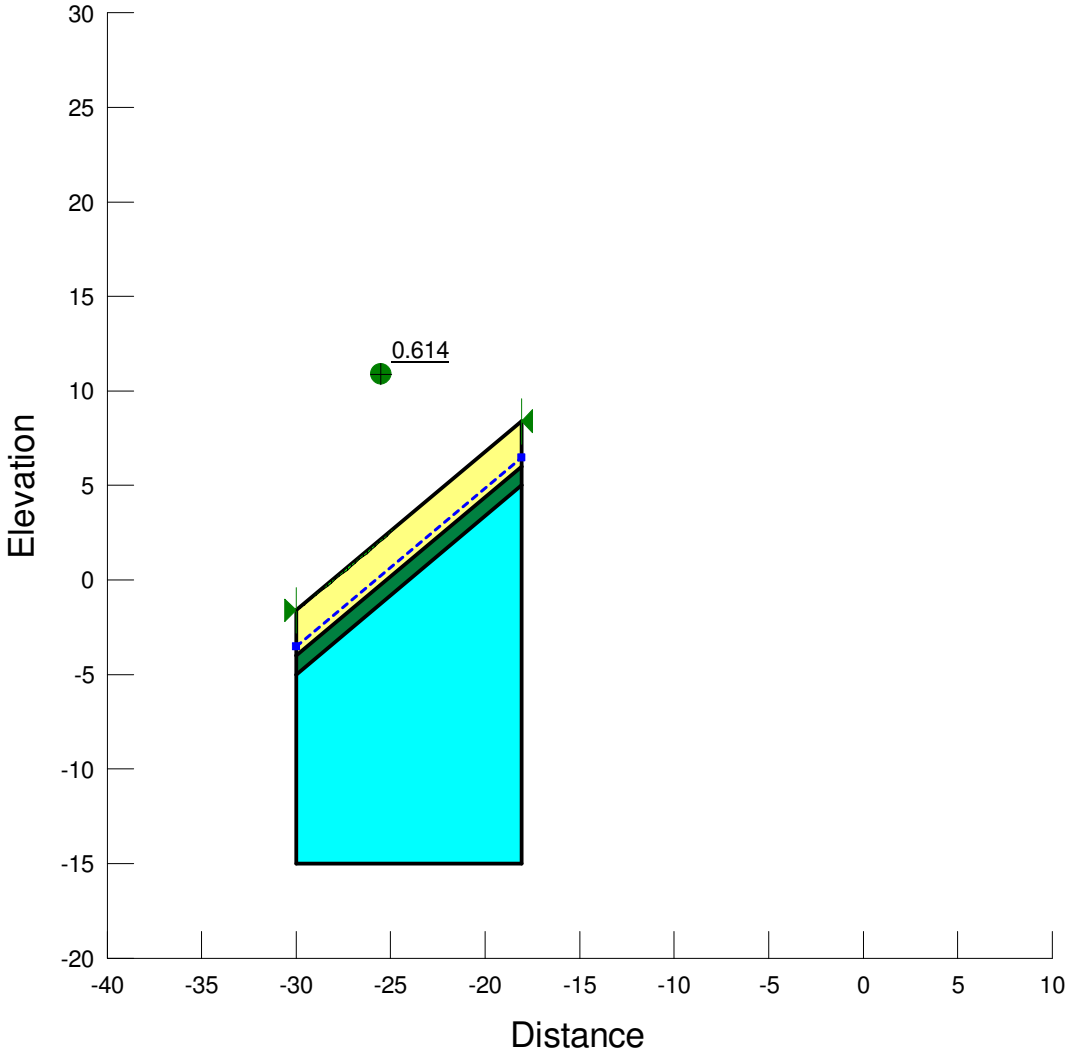


Name: Colluvium (Coarse)
Model: Mohr-Coulomb
Unit Weight: 17 kN/m³
Cohesion: 0 kPa
Phi: Multiple Trial: 40 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °
Piezometric Line: 1

File Name: SL Stage 4 - SSS - 40deg 2.4m CC V1.gsz



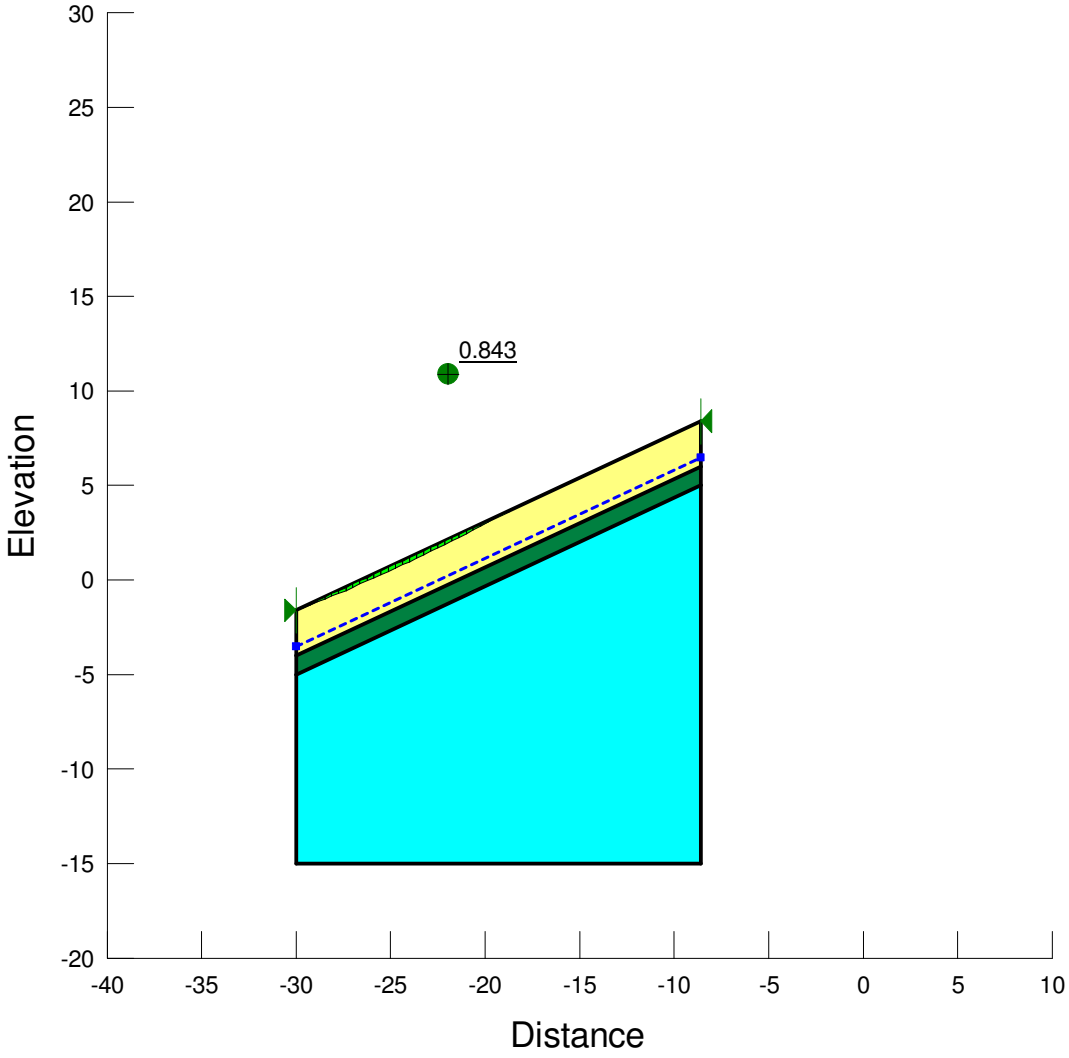
Name: Colluvium (Coarse)
Model: Mohr-Coulomb
Unit Weight: 17 kN/m³
Cohesion: 0 kPa
Phi: Multiple Trial: 40 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °
Piezometric Line: 1

Horz Seismic Load: 0.53

File Name: SL Stage 4 - SSS - 25deg 2.4m CC V1.gsz



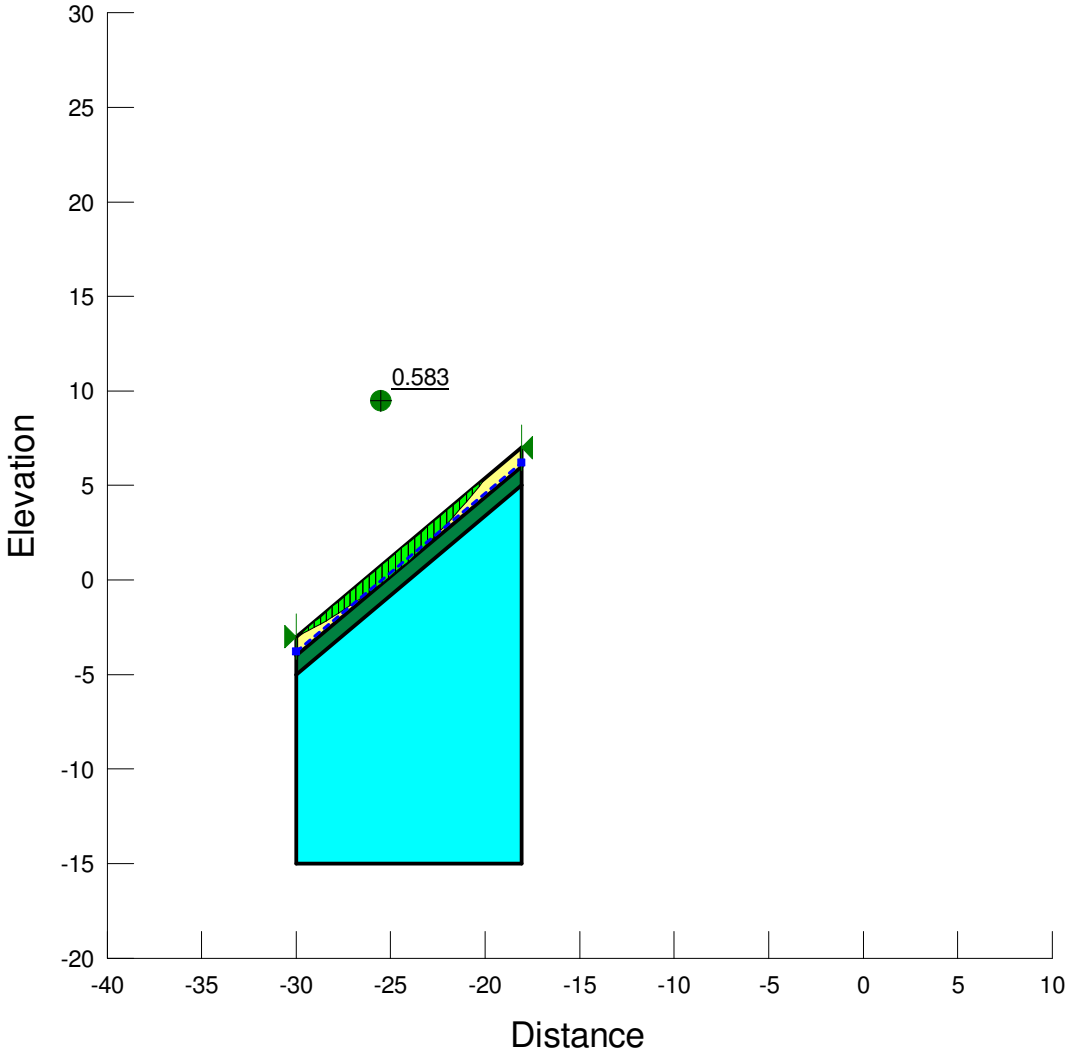
Name: Colluvium (Coarse)
Model: Mohr-Coulomb
Unit Weight: 17 kN/m³
Cohesion: 0 kPa
Phi: Multiple Trial: 40 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °
Piezometric Line: 1

Horz Seismic Load: 0.53

File Name: SL Stage 4 - SSS - 40deg 1.0m CC V1.gsz



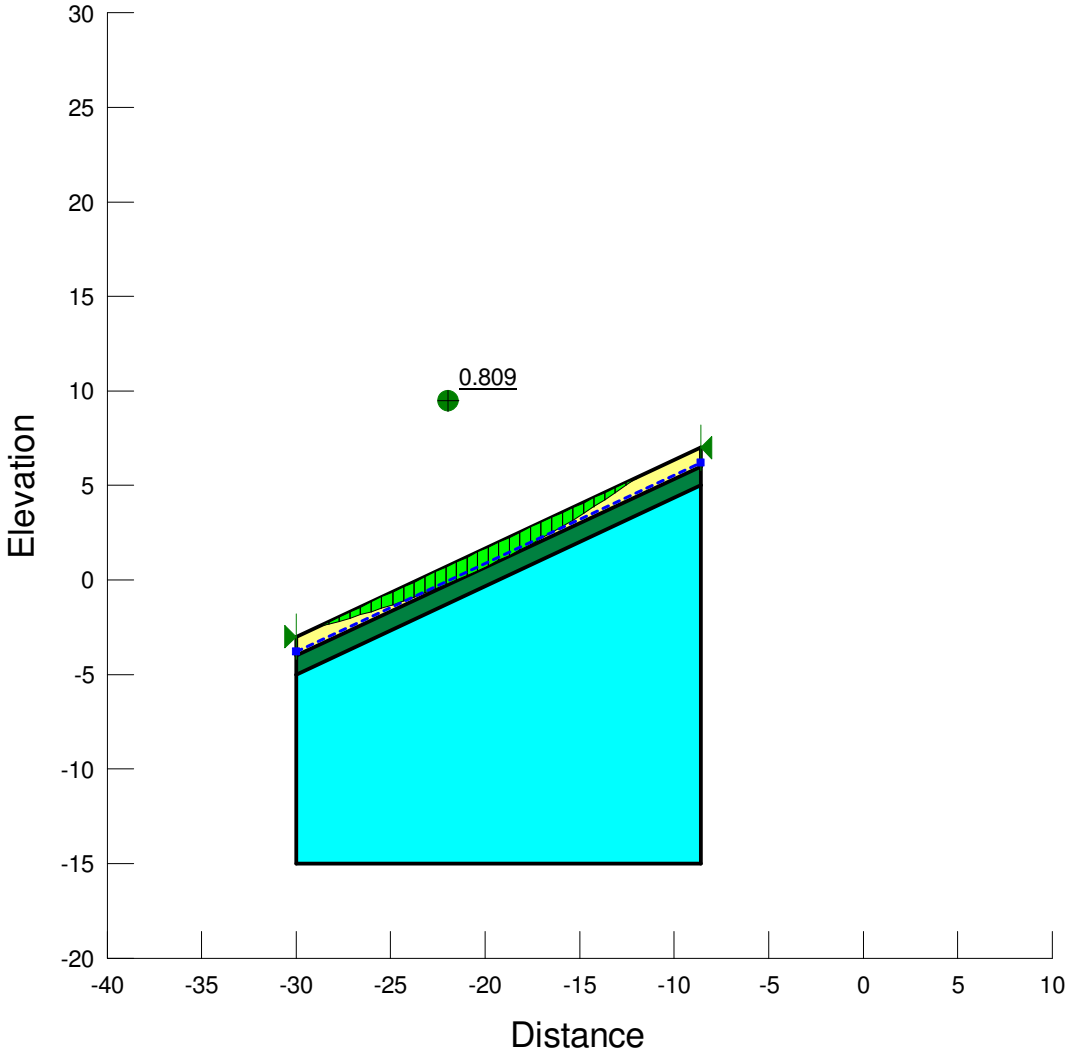
Name: Colluvium (Coarse)
Model: Mohr-Coulomb
Unit Weight: 17 kN/m³
Cohesion: 0 kPa
Phi: Multiple Trial: 40 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °

Horz Seismic Load: 0.53

File Name: SL Stage 4 - SSS - 25deg 1.0m CC V1.gsz



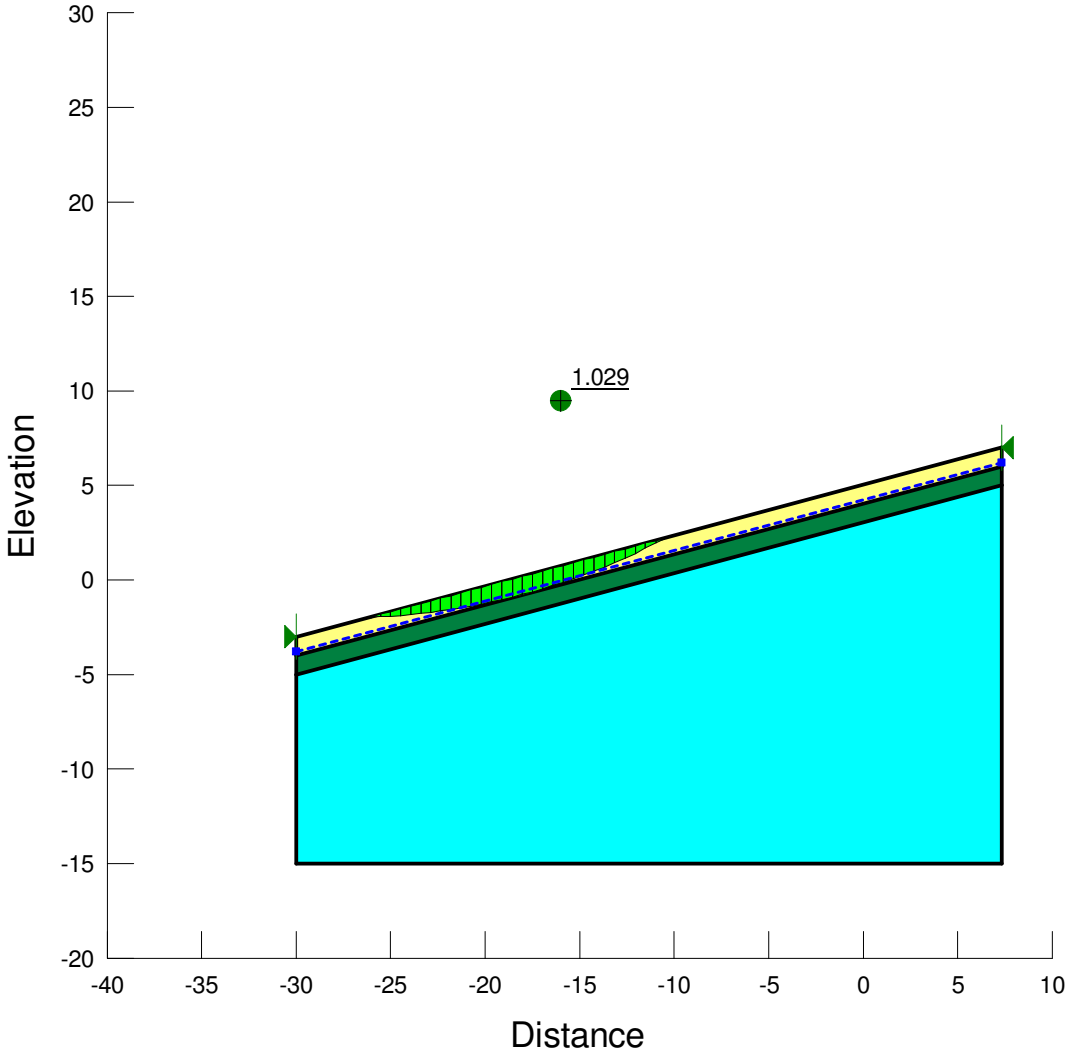
Name: Colluvium (Coarse)
Model: Mohr-Coulomb
Unit Weight: 17 kN/m³
Cohesion: 0 kPa
Phi: Multiple Trial: 40 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °

Horz Seismic Load: 0.53

File Name: SL Stage 4 - SSS - 15deg 1.0m CC V1.gsz



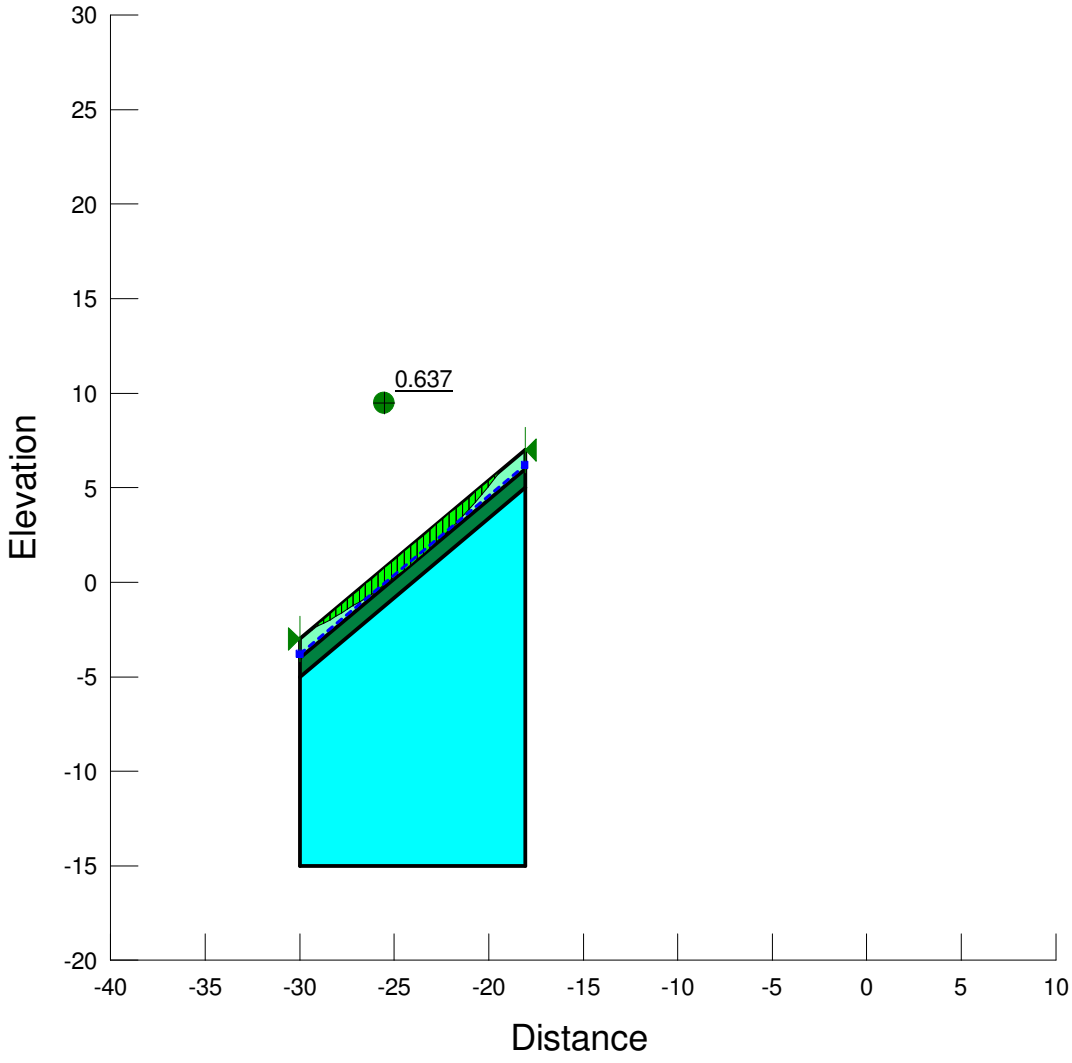
Name: Colluvium (Coarse)
Model: Mohr-Coulomb
Unit Weight: 17 kN/m³
Cohesion: 0 kPa
Phi: Multiple Trial: 40 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °

Horz Seismic Load: 0.53

File Name: SL Stage 4 - SSS - 40deg 1.0m FC V1.gsz



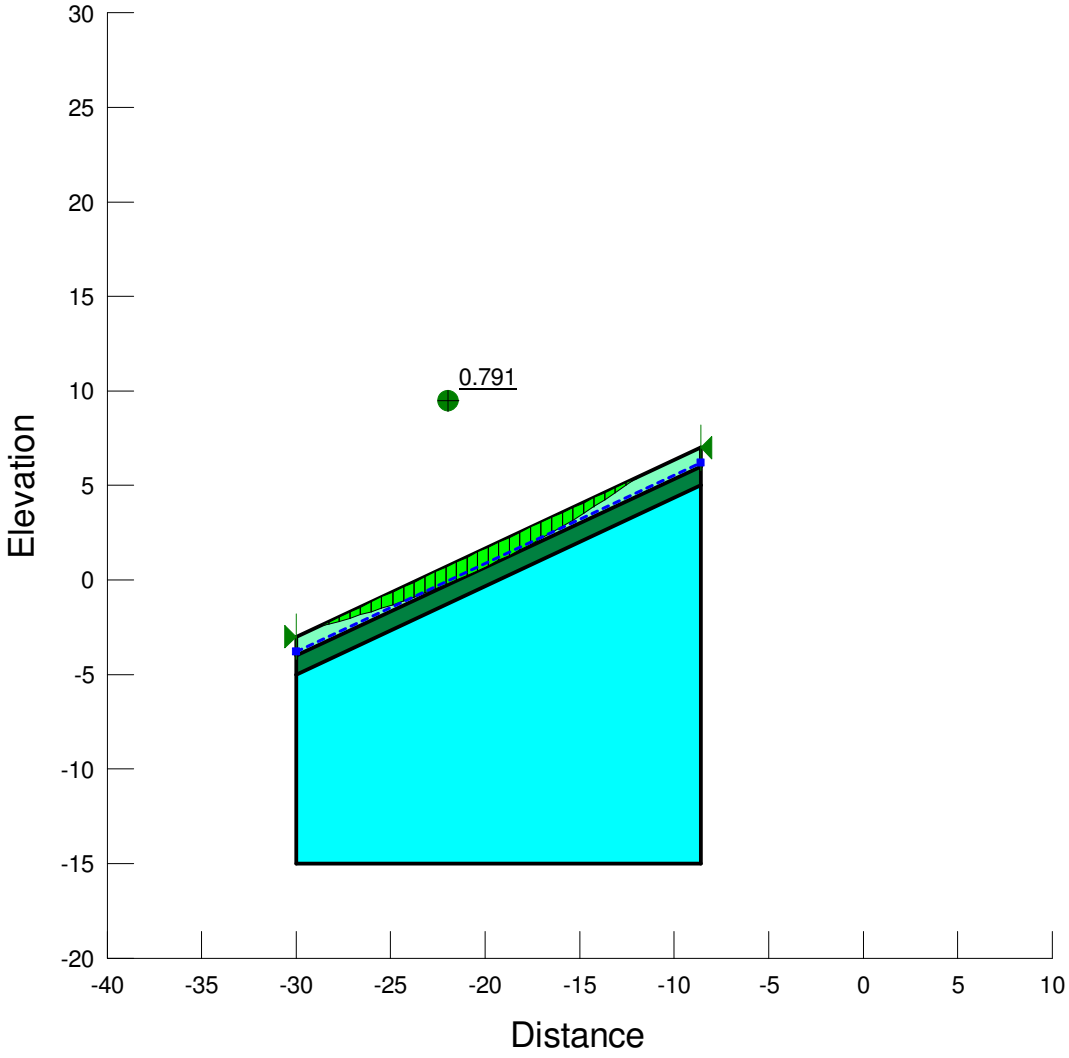
Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °

Name: Colluvium (Fine)
Model: Mohr-Coulomb
Unit Weight: 16 kN/m³
Cohesion: 2 kPa
Phi: 30 °
Piezometric Line: 1

Horz Seismic Load: 0.53

File Name: SL Stage 4 - SSS - 25deg 1.0m FC V1.gsz



Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °

Name: Colluvium (Fine)
Model: Mohr-Coulomb
Unit Weight: 16 kN/m³
Cohesion: 2 kPa
Phi: 30 °
Piezometric Line: 1

Horz Seismic Load: 0.53

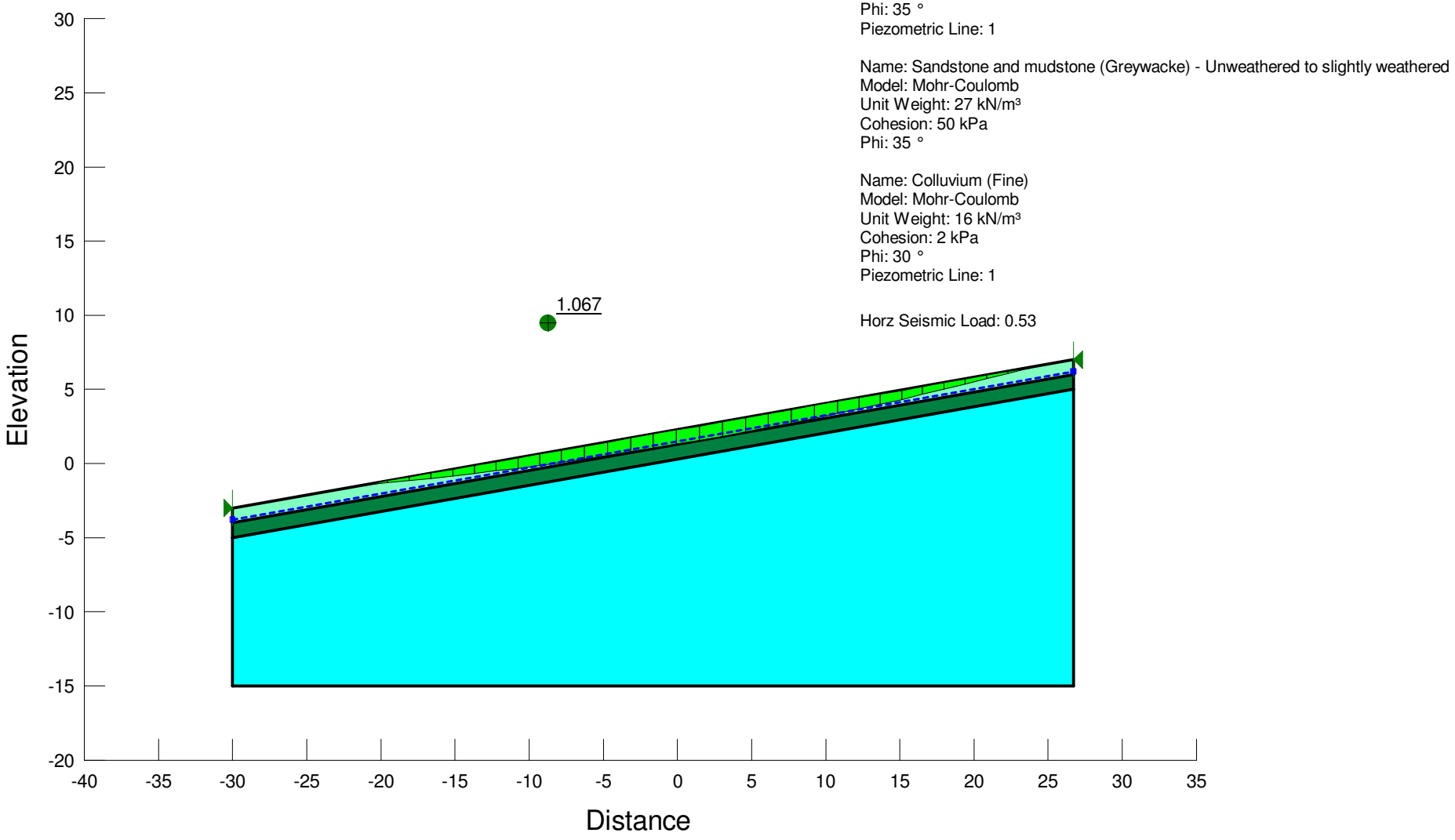
File Name: SL Stage 4 - SSS - 10deg 1.0m FC V1.gsz

Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

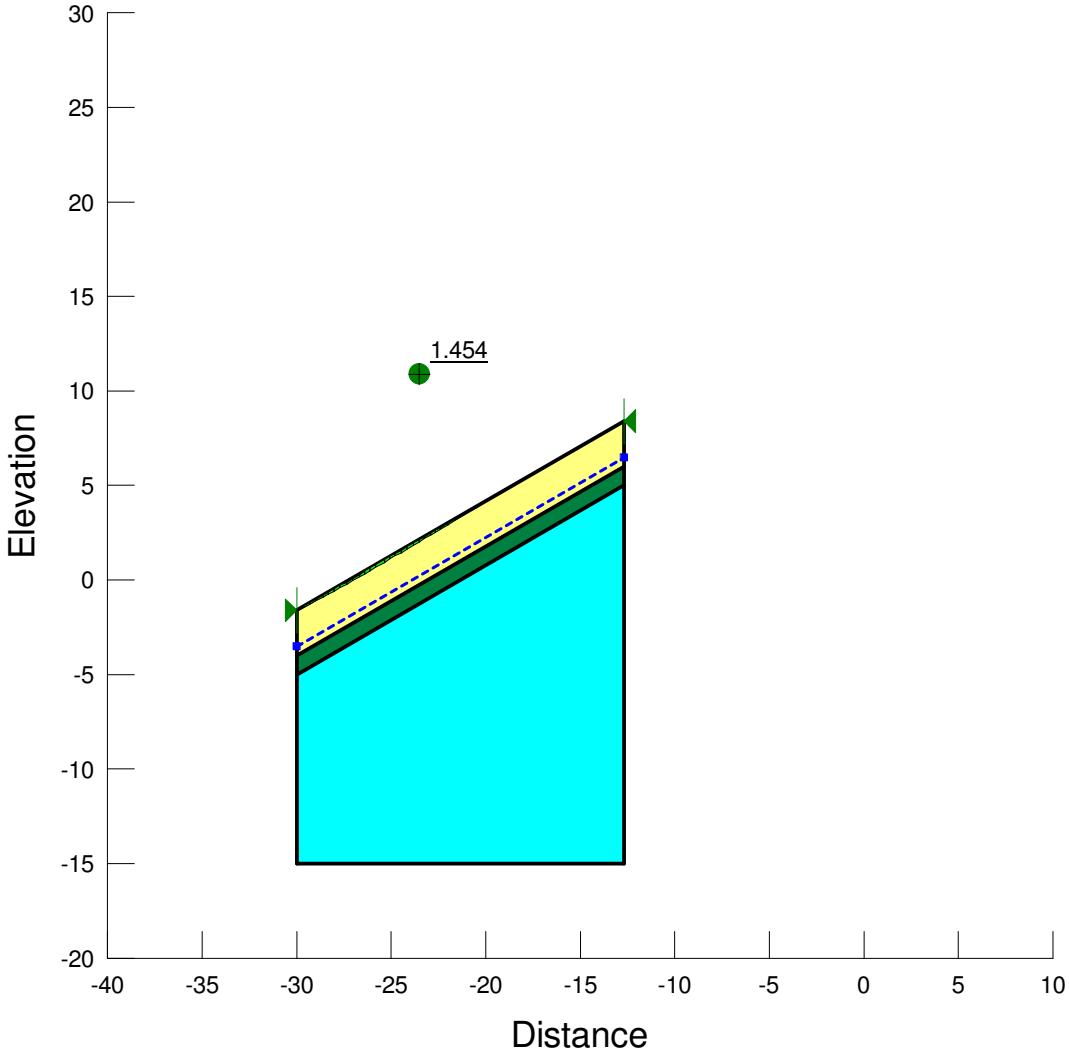
Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 35 °

Name: Colluvium (Fine)
Model: Mohr-Coulomb
Unit Weight: 16 kN/m³
Cohesion: 2 kPa
Phi: 30 °
Piezometric Line: 1

Horz Seismic Load: 0.53



File Name: SL Stage 4 - SSS - 30deg 2.4m CC V1.gsz

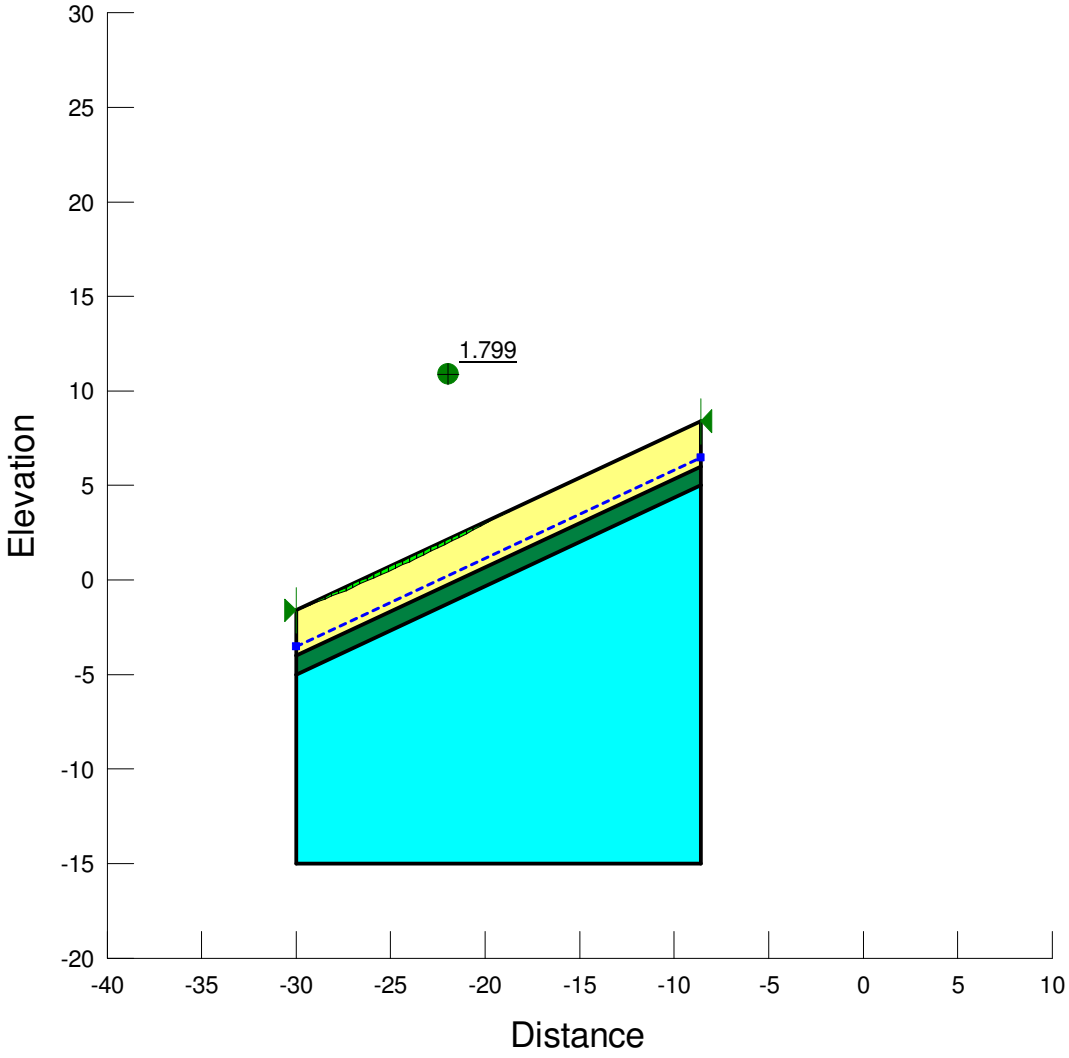


Name: Colluvium (Coarse)
Model: Mohr-Coulomb
Unit Weight: 17 kN/m³
Cohesion: 0 kPa
Phi: Multiple Trial: 40 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °
Piezometric Line: 1

File Name: SL Stage 4 - SSS - 25deg 2.4m CC V1.gsz

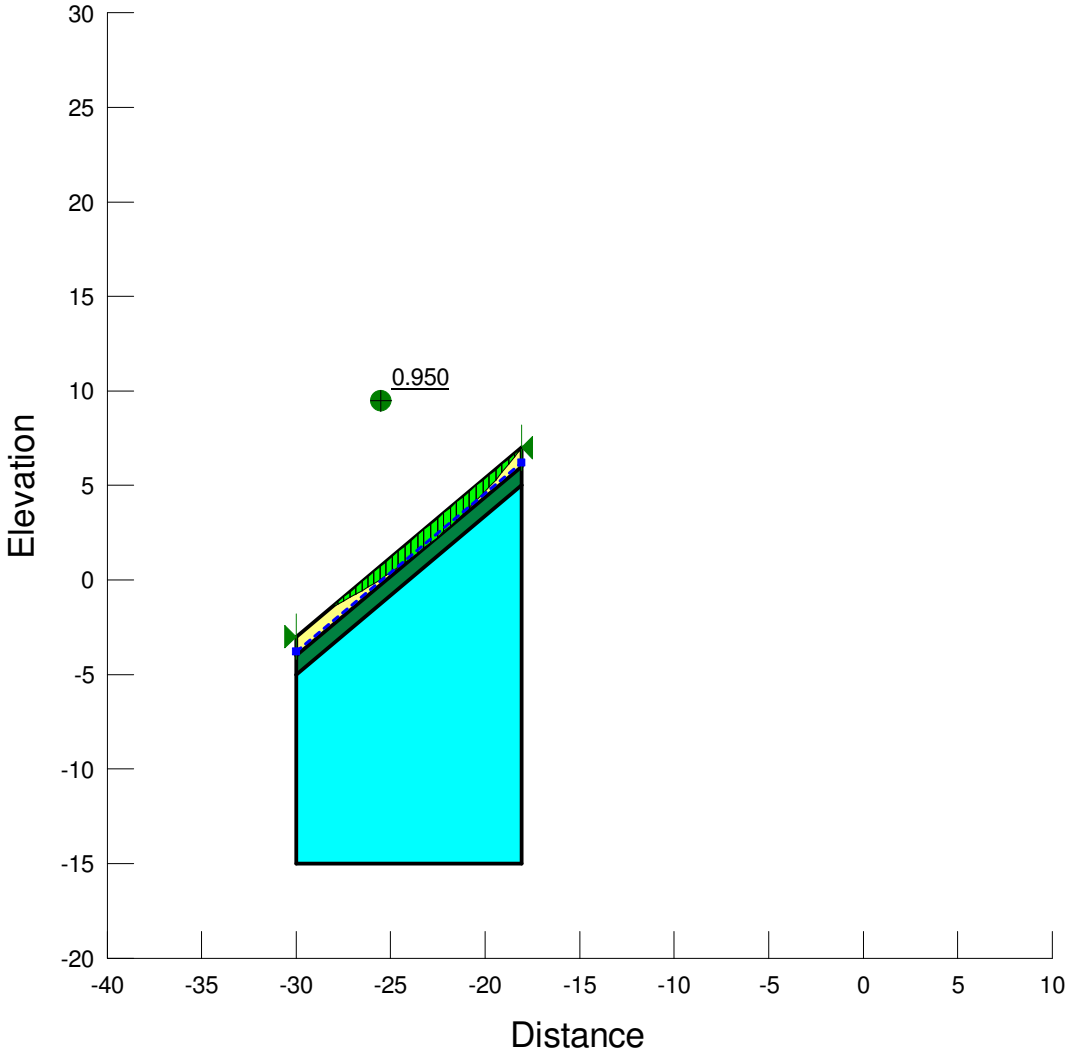


Name: Colluvium (Coarse)
Model: Mohr-Coulomb
Unit Weight: 17 kN/m³
Cohesion: 0 kPa
Phi: Multiple Trial: 40 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °
Piezometric Line: 1

File Name: SL Stage 4 - SSS - 40deg 1.0m CC V1.gsz

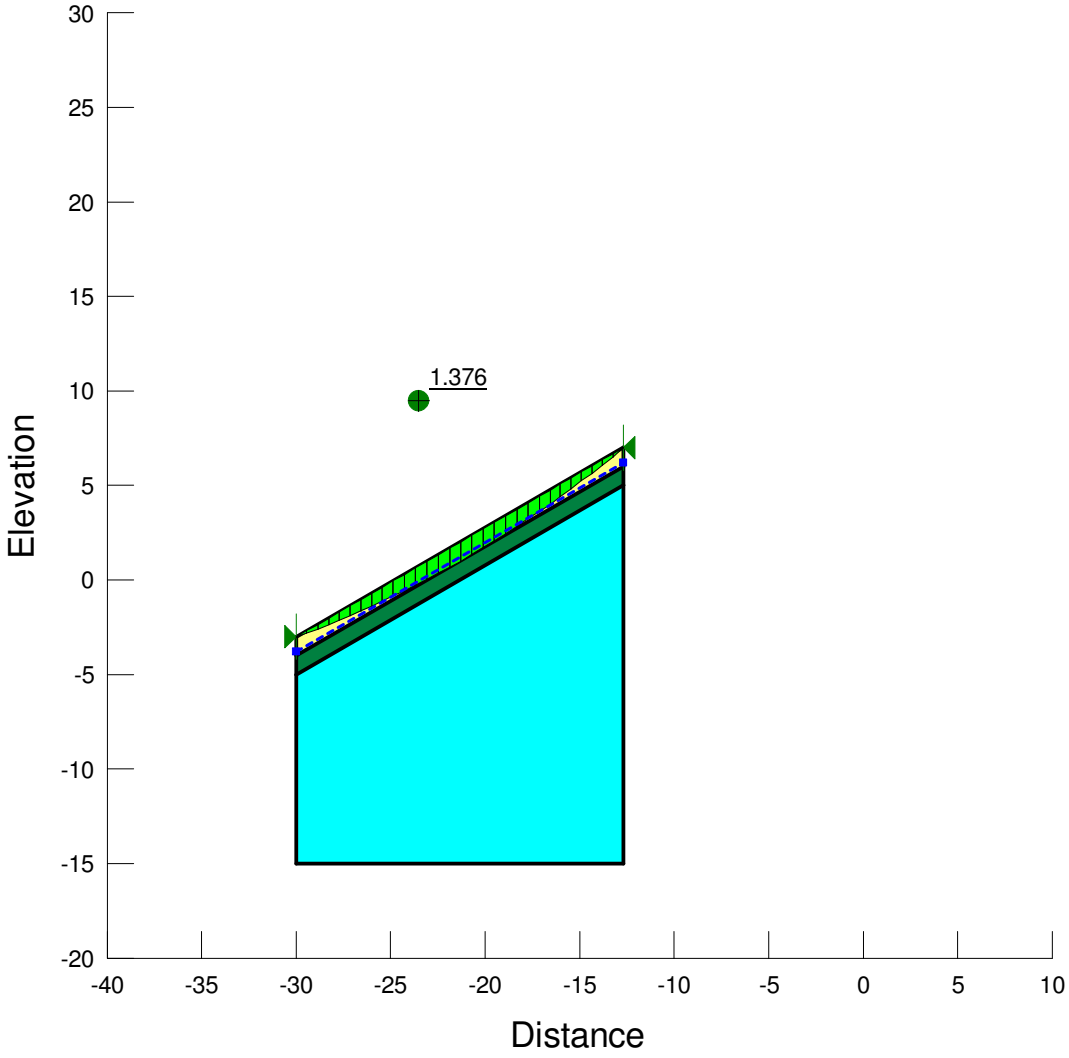


Name: Colluvium (Coarse)
Model: Mohr-Coulomb
Unit Weight: 17 kN/m³
Cohesion: 0 kPa
Phi: Multiple Trial: 40 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °

File Name: SL Stage 4 - SSS - 30deg 1.0m CC.gsz

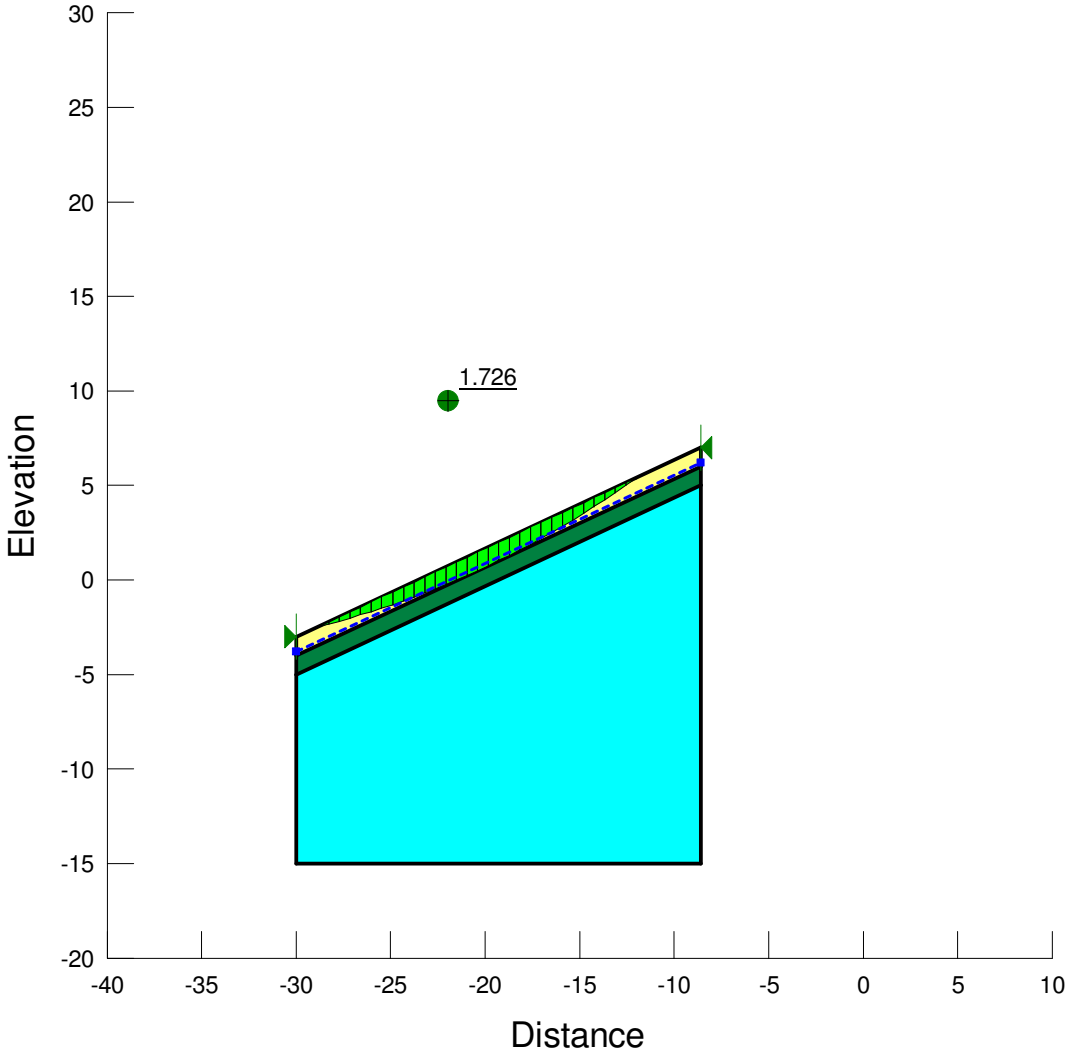


Name: Colluvium (Coarse)
Model: Mohr-Coulomb
Unit Weight: 17 kN/m³
Cohesion: 0 kPa
Phi: Multiple Trial: 40 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °

File Name: SL Stage 4 - SSS - 25deg 1.0m CC V1.gsz

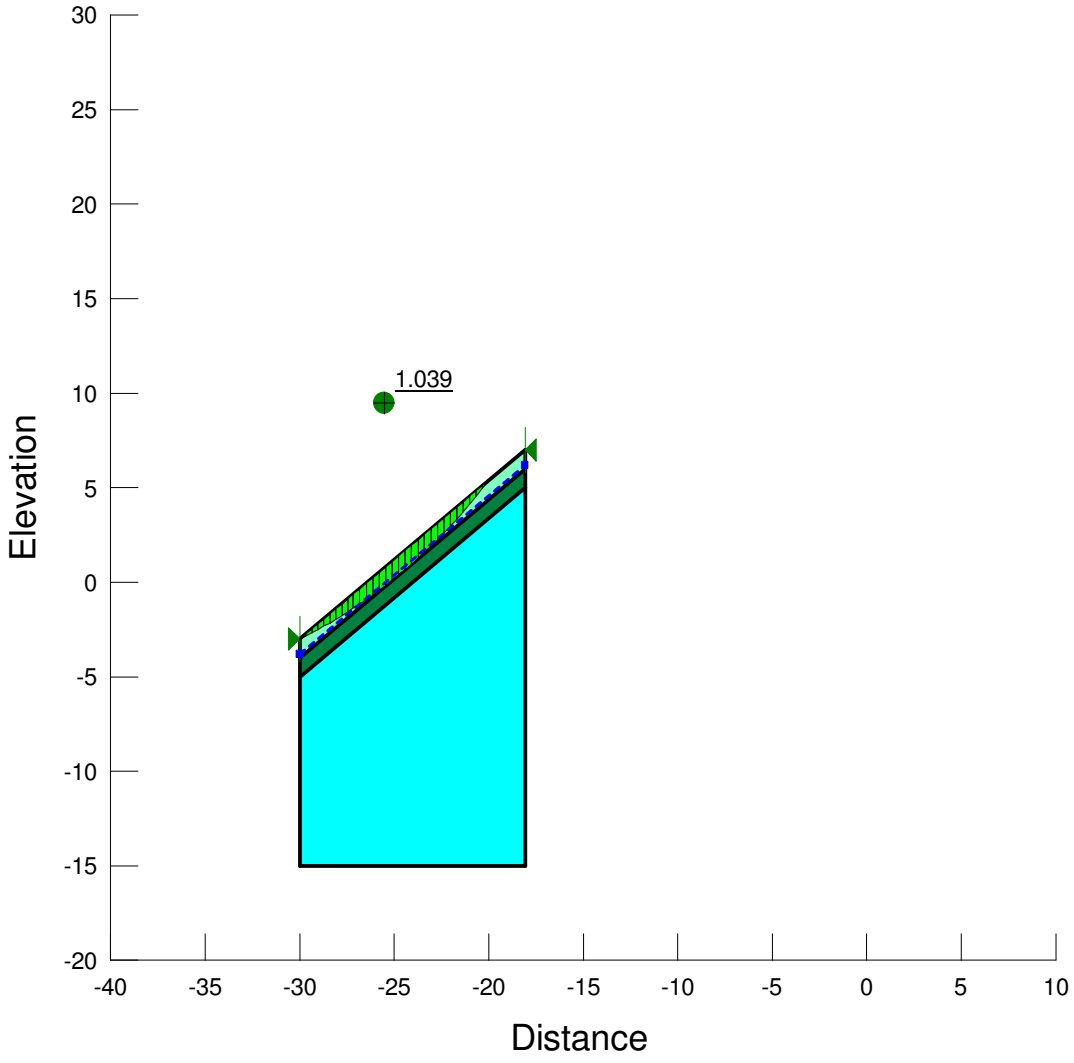


Name: Colluvium (Coarse)
Model: Mohr-Coulomb
Unit Weight: 17 kN/m³
Cohesion: 0 kPa
Phi: Multiple Trial: 40 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °

File Name: SL Stage 4 - SSS - 40deg 1.0m FC V1.gsz

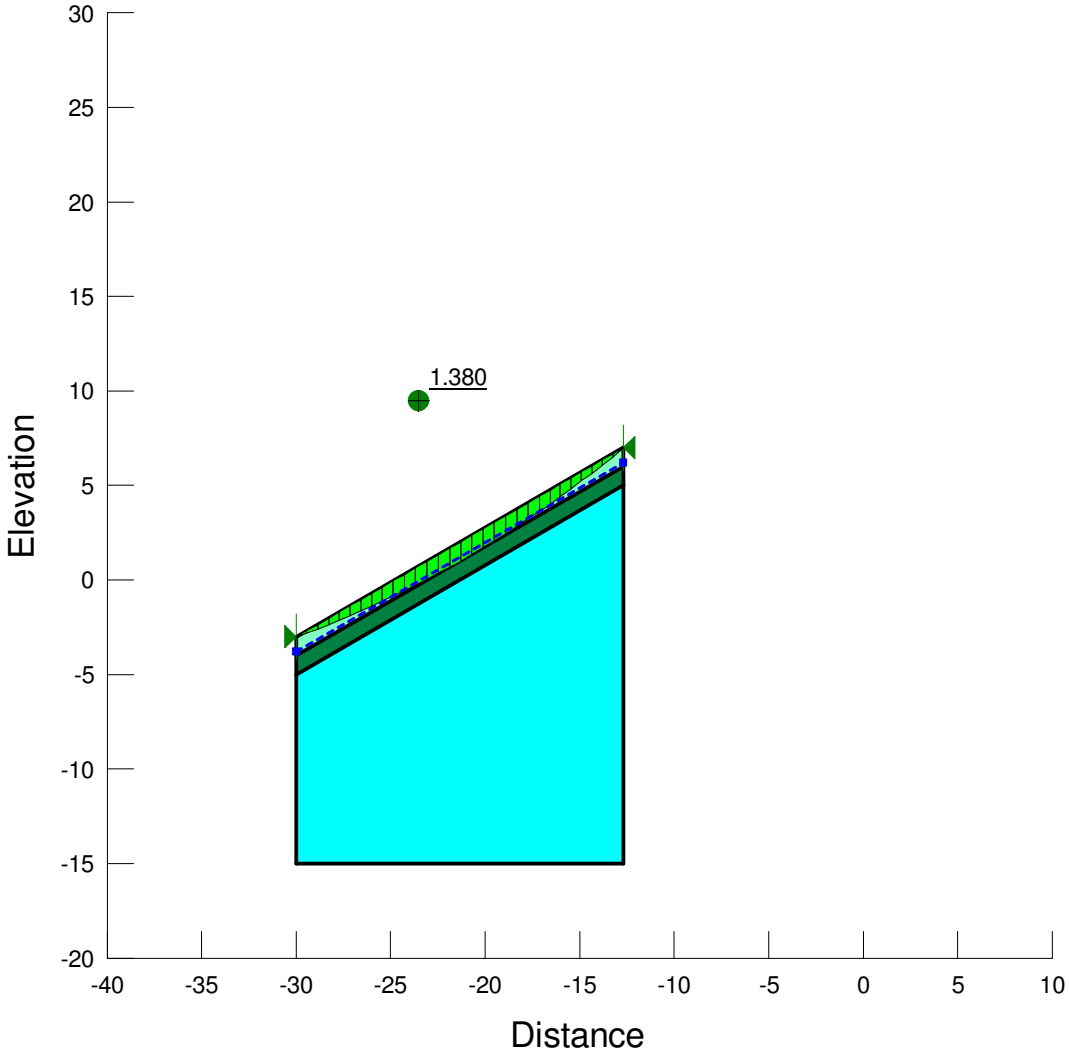


Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °

Name: Colluvium (Fine)
Model: Mohr-Coulomb
Unit Weight: 16 kN/m³
Cohesion: 2 kPa
Phi: 30 °
Piezometric Line: 1

File Name: SL Stage 4 - SSS - 30deg 1.0m FC V1.gsz

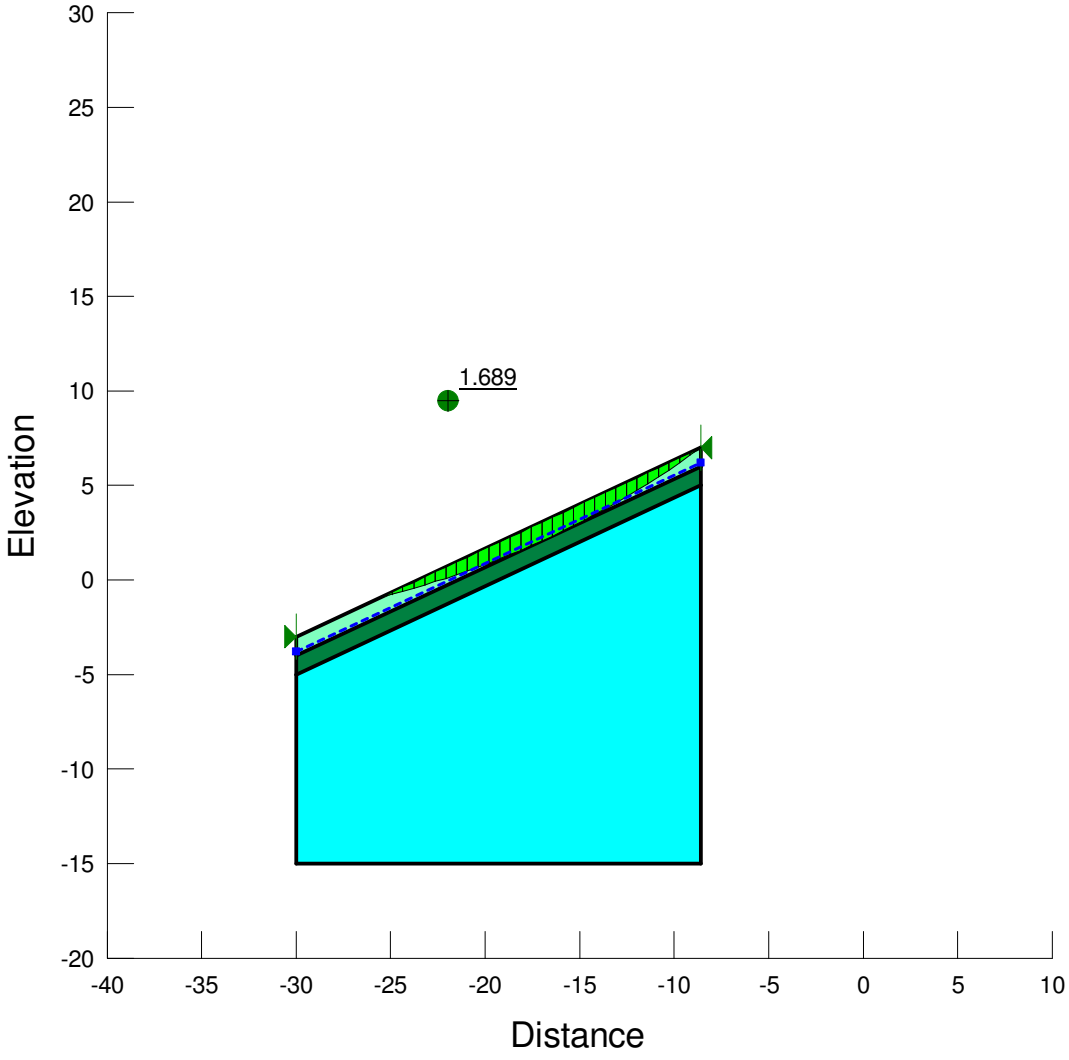


Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °

Name: Colluvium (Fine)
Model: Mohr-Coulomb
Unit Weight: 16 kN/m³
Cohesion: 2 kPa
Phi: 30 °
Piezometric Line: 1

File Name: SL Stage 4 - SSS - 25deg 1.0m FC V1.gsz



Name: Sandstone and mudstone (Greywacke) - Moderately weathered
Model: Mohr-Coulomb
Unit Weight: 22 kN/m³
Cohesion: 15 kPa
Phi: 35 °
Piezometric Line: 1

Name: Sandstone and mudstone (Greywacke) - Unweathered to slightly weathered
Model: Mohr-Coulomb
Unit Weight: 27 kN/m³
Cohesion: 50 kPa
Phi: 39 °

Name: Colluvium (Fine)
Model: Mohr-Coulomb
Unit Weight: 16 kN/m³
Cohesion: 2 kPa
Phi: 30 °
Piezometric Line: 1