APPENDIX C
GEOTECHNICAL LABORATORY TESTING

Style: APPENDIX C File: P:\GINTW\PROJECTS\26491.GPJ Printed: 19/11/2023 11:27:34 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

TEST	STANDARD
CLASSIFICATION TESTS	
Determination of water content	BS EN ISO 17892-1:2014
Determination of liquid limit	BS 1377 : 1990 : Part 2 : 4.3 and 4.4
Determination of liquid and plastic limits	BS EN ISO 17892-12:2018
Determination of bulk density	BS EN ISO 17892-2:2014
Determination of particle density	BS EN ISO 17892-3:2016
Determination of particle size distribution	BS EN ISO 17892-4:2016
CHEMICAL TESTS	
Determination of organic matter content	BS 1377 : 1990 : Part 3 : 3.4
Determination of mass loss on ignition	BS 1377 : 1990 : Part 3 : 4.3
Determination of sulphate content of soil and groundwater	BS 1377 : 1990 : Part 3 : 5.2, 5.3 and 5.5
Determination of chloride content	BS 1377 : 1990 : Part 3 : 7.2 and 7.3
Determination of pH value	BS 1377 : 1990 : Part 3 : 9.5
COMPACTION-RELATED TESTS	
Determination of dry density/moisture content relationship	BS 1377 : 1990 : Part 4 : 3.3 to 3.6
Determination of moisture condition value (MCV)	SDD Tech Memo SH7/83; SDD Appls Guide No.1 Rev. 1989
Determination of California Bearing Ratio (CBR)	BS 1377 : 1990 : Part 4 : 7.4
CONSOLIDATION AND STRENGTH TESTS	
Incremental loading oedemeter test	BS EN ISO 17892-5:2017
Unconfined compression test	BS EN ISO 17892-7:2018
Unconsolidated undrained triaxial test	BS EN ISO 17892-8:2018
Consolidated triaxial compression tests on water saturated soils	BS EN ISO 17892-9:2018
Lab Vane Tests	BS 1377 : 1990
Direct shear tests	BS EN ISO 17892-10:2019
Permeability tests	BS EN ISO 17892-11:2019
Fall cone test	BS EN ISO 17892-6:2017
ROCK TESTS	
Determination of point load strength	ISRM Commission on Testing Methods, 1985
Determination of unconfined compressive strength	ASTM D7012-14
LA Abrasion Tests	BS EN 1097-2-2010 and BS 818 : Part 2 : 1990
Magnesium Soundness Tests	BS EN 1367-2
Slake durability	ISRM Suggested methods
Rock porosity / density	ISRM Suggested methods

Style: NOTES LABORATORY File: P:\GINTW\PROJECTS\26491.GPJ Printed: 05/09/2023 13:54:52 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING AND GEOTECHNICAL LTD

FORT AUGUSTUS SUBSTATION

CONTRACT:26491

Hole ID	Depth Top	Samp Type	Test	Reason	Instruction
FAT04	1.20	B	Thermal Resistivity	Insufficient Material - Only 8kg of material (Mainly cobbles with little fines).	Cancel test
FAT06	1.20	LB	Large shearbox	Insufficient material. 16kg passing 20mm. Requires approx 30kg	Cancel test

TESTING RESTRICTIONS

ORIGINATOR: SS

CHECKED BY: CJH

Figure No:C0

Raeburn Drilling & Geotechnical Ltd
Whistleberry Road
Hamilton
ML6 OHP

For the attention of Syed Adil Ali Shah

Report No: A14979-1
Issue No 03

LABORATORY TEST REPORT

Project Name	**LT519 FORT AUGUSTUS 400K V UPGRADE**		
Project Number	**A14979-1**	Date samples received	
Your Ref	26491	Date written instructions received	21/09/2023
Purchase Order	26491	Date testing commenced	23/09/2023

Please find enclosed the results as summarised below

Figure / Table	Test Quantity	Description	ISO 17025 Accredited
C1	29	Determination of Water Content	Yes
C2-C11	10	Atterberg Limit	Yes
C12-C99	88	Particle Size Distribution	Yes
C100-C106	7	Moisture Content / Dry Density Relationship	Yes
C107	7	Maximum & Minimum Dry Densities for Granular Soils	No
C108-C110	3	Shear Strength by Direct Shear	Yes
C111-C118	8	Thermal Resistivity	Yes

Remarks : Final merged report

Issued by : C Donnelly Date of Issue : 20/11/2023

Approved Signatories : CD 20/11/2023

C Donnelly (Laboratory Coordinator), C Loudon (Quality Manager), I McMillan (Site Supervisor), S Gilchrist (Quality Supervisor), S McDonagh (Laboratory Supervisor)

Key to symbols used in this report
S/C : Testing was sub-contracted

Unless we are notified to the contrary, samples will be disposed after a period of one month from this date.
All results contained in this report are provisional unless signed by an approved signatory
This report should not be reproduced except in full without the written approval of the laboratory.
Under multisite accreditation, testing in this report may have been performed at another Terra Tek Ltd (Trading as igne) laboratory.
The enclosed results remain the property of Terra Tek Limited (Trading as igne) and we reserve the right to withdraw our report if we have not received cleared funds in accordance with our standard terms and conditions

Only those results indicated in this report are UKAS accredited and any opinions or interpretations expressed are outside the scope of UKAS accreditation.

Feedback on the this report may be left via our website www.igne.com/contact

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Head Office : Whistleberry Road, Hamilton, Glasgow, Scotland, ML3 0HP

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Site LT519 FORT AUGUSTUS 400K V UPGRADE

Client SSEN

Engineer Jacobs

Contract No 26491

Sample Identification				Lab Sample ID	Non Enginering Description	Water Content %
Exploratory Hole	Depth m	Sample Ref	Sample Type			
FAB01	3.50		D	2010338	Brown very silty silty very gravelly SAND. Gravel is fine to coarse	17.6
FAB03	0.30		D	2010347	Brown slightly silty very sandy fine to coarse GRAVEL	5.5
FAB03	2.00		D	2010349	Brown slightly silty very sandy fine to coarse GRAVEL	5.9
FAB03	4.00		D	2010350	Brown slightly silty very sandy fine to coarse GRAVEL	5.2
FAB05	1.00		D	2010362	Brown slightly silty very sandy fine to coarse GRAVEL	24.0
FAB05	9.50		D	2010367	Brown silty sandy fine to coarse GRAVEL with cobbles	8.5
FAB05	12.00		D	2010369	Brown slightly silty very gravelly SAND. Gravel is fine to coarse	13.5
FAB07	1.50		D	2010379	Brown slightly silty sandy fine to coarse GRAVEL	5.5
FAB07	3.00		D	2010381	Brown slightly silty sandy fine to coarse GRAVEL	5.0
FAB08	1.50		D	2010384	Brown silty SAND and GRAVEL. Gravel is fine to coarse	4.2
FAB09	1.50		D	2010394	Brown slightly gravelly slightly silty SAND. Gravel is fine to medium	8.1
FAB12	1.00		D	2010413	Brown slightly silty sandy fine to coarse GRAVEL	12.4
FAB12	4.00		D	2010414	Brown slightly silty very sandy fine to coarse GRAVEL	8.2
FAB12	5.50		D	2010416	Brown slightly silty very sandy fine to coarse GRAVEL	7.7

Notes

Originator	Checked & Approved
C1	CD 20/11/2023

Determination of the Water Content

BS EN ISO 17892-1:2014

62 Rochsolloch Road, Airdrie, ML6 9BG

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Site LT519 FORT AUGUSTUS 400K V UPGRADE

Client SSEN

Engineer Jacobs

Contract No 26491

Sample Identification				Lab Sample ID	Non Enginering Description	Water Content %
Exploratory Hole	Depth m	Sample Ref	Sample Type			
FATP01	1.70		LB	2010426	Brown slightly silty sandy fine to coarse GRAVEL with cobbles	10.0
FATP04	1.70		LB	2010433	Brown silty very gravelly SAND with cobbles and pockets of clay. Gravel is fine to coarse	11.9
FATP05	0.50		D	2010434	Brown slightly gravelly sandy SILT. Gravel is fine to medium	33.1
FATP08A	1.00		D	2010450	Brown very silty SAND and GRAVEL. Gravel is fine to coarse	13.6
FATP08C	0.30		D	2010453	Brown silty very sandy fine to coarse GRAVEL	7.0
FATP08C	0.80		D	2010454	Brown silty very sandy fine to coarse GRAVEL	9.4
FATP09	1.60		LB	2010457	Brown slightly silty SAND and GRAVEL with cobbles. Gravel is fine to coarse	5.2
FATP12	0.50		D	2010463	Brown silty very sandy fine to coarse GRAVEL	11.6
FATP12	1.00		D	2010464	Brown silty very sandy fine to coarse GRAVEL	12.1
FATP12	1.30		LB	2010466	Brown slightly silty very sandy fine to coarse GRAVEL with cobbles	9.9
FATP13	0.70		LB	2010467	Brown slightly silty sandy fine to coarse GRAVEL with cobbles	5.1
FATP16	1.30		LB	2010475	Brown gravelly very silty SAND with cobbles, pockets of clay and organic matter. Gravel is fine to coarse	58.9
FATP16	1.50		D	2010476	Brown gravelly very silty SAND with organic matter. Gravel is fine to coarse	38.9
FATP17	1.50		D	2010480	Brown silty SAND and GRAVEL with pockets of clay and rootlets. Gravel is fine to coarse	27.7

Notes

Originator	Checked & Approved
C1	CD 20/11/2023

Determination of the Water Content
BS EN ISO 17892-1:2014

62 Rochsolloch Road, Airdrie, ML6 9BG
Lab Project No A14979-1 : 20/11/2023 11:21:47

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Site LT519 FORT AUGUSTUS 400K V UPGRADE

Client SSEN

Engineer Jacobs

Contract No **26491**

Sample Identification				Lab Sample ID	Non Enginering Description	Water Content %
Exploratory Hole	Depth m	Sample Ref	Sample Type			
FATP18	1.50		LB	2010483	Brown silty SAND and GRAVEL with cobbles. Gravel is fine to coarse	14.6

Notes

Originator	Checked & Approved
C1	CD 20/11/2023

Determination of the Water Content

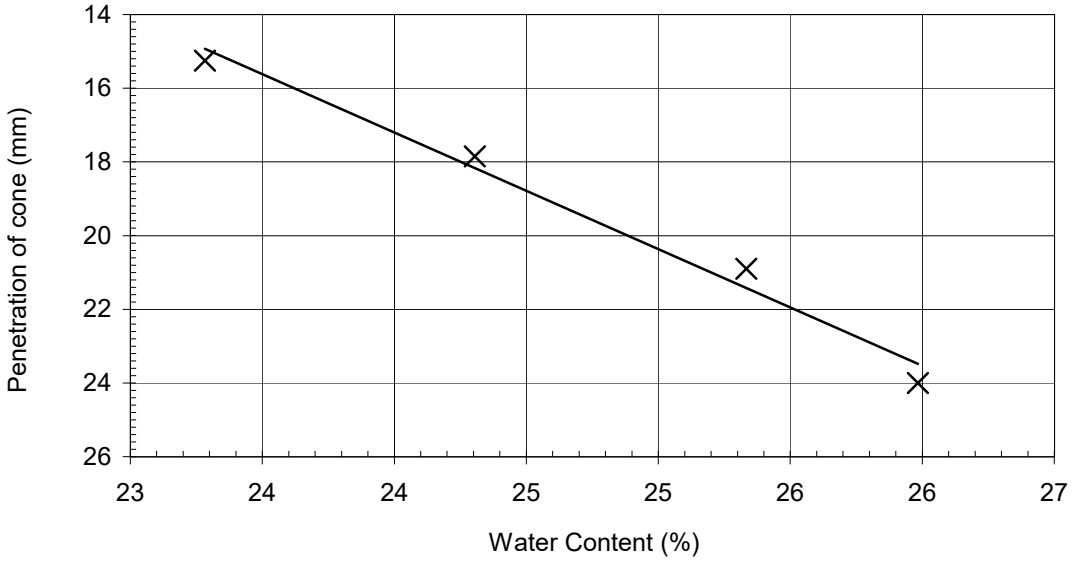
BS EN ISO 17892-1:2014

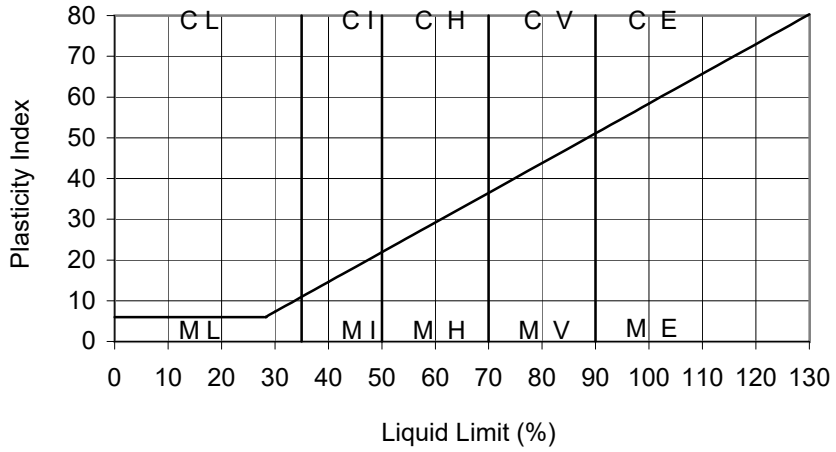
62 Rochsolloch Road, Airdrie, ML6 9BG

igne	Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No. 26491**
	Client	SSEN	Hole ID FAB01
	Engineer	Jacobs	Sample Ref Depth (m) 3.50 Sample Type D

Non Engineering Description : Brown very silty silty very gravelly SAND. Gravel is fine to coarse

Preparation : Sample oven dried, Percentage retained on 425µm sieve measured by wet sieving





Sample was determined to be Non-Plastic after preparation
Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

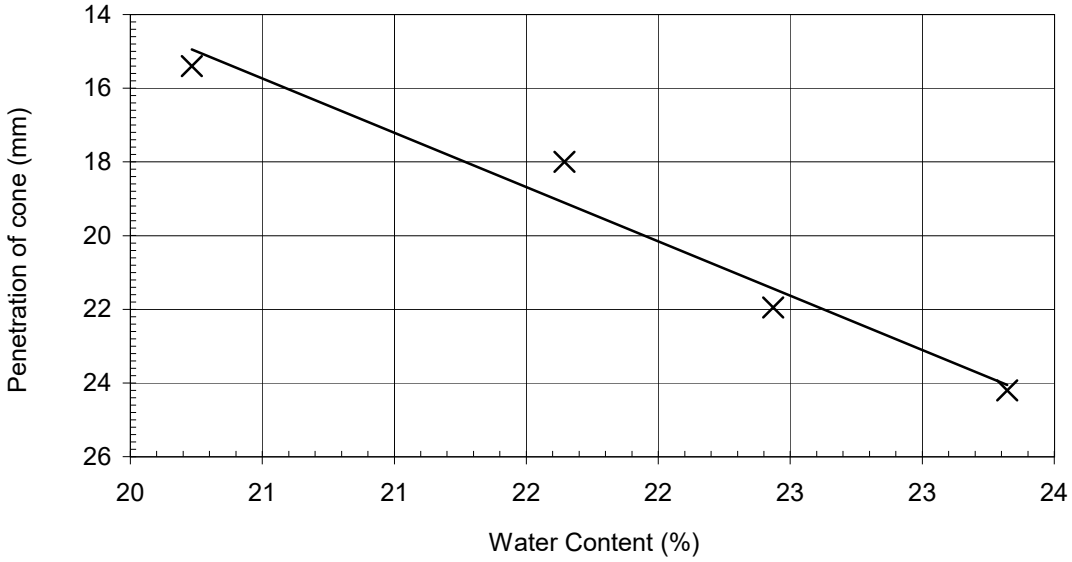
As Received Water Content : (BS EN ISO 17892-1:2014)	18	%
Percentage retained on 425µm sieve :	43	%
Liquid Limit :	25	%
Plastic Limit :	Non-Plastic	%
Equivalent water content of material passing 425µm sieve :	31.6	%

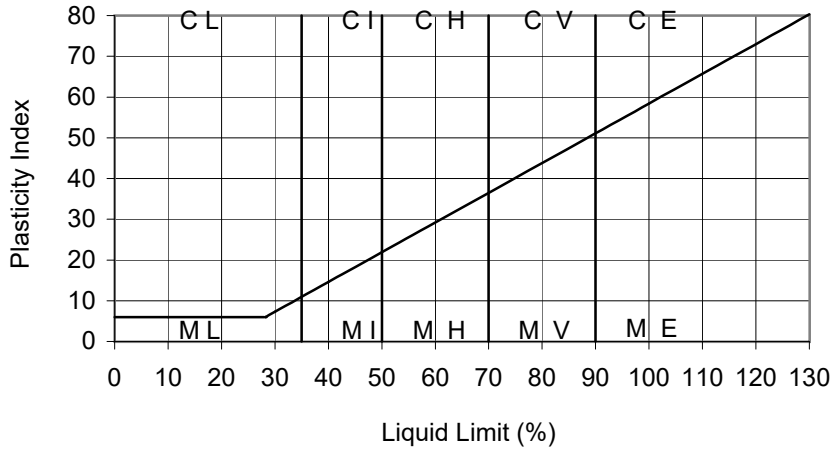
Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method)** **Plastic Limit, Plasticity Index & Liquidity Index** BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5		**Figure C2**
SM	CD 20/11/2023			Sheet 1 of 1

igne	Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No. 26491**
	Client	SSEN	Hole ID FAB05
	Engineer	Jacobs	Sample Ref Depth (m) 1.00 Sample Type D

Non Engineering Description : Brown slightly silty very sandy fine to coarse GRAVEL

Preparation : Sample oven dried, Percentage retained on 425µm sieve measured by wet sieving





Sample was determined to be Non-Plastic after preparation
Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

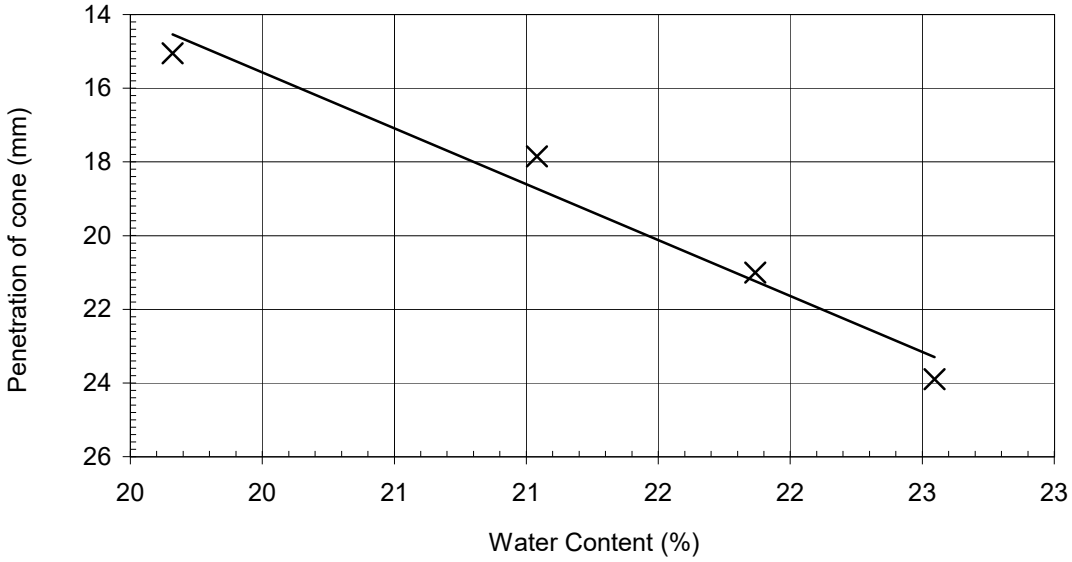
As Received Water Content : (BS EN ISO 17892-1:2014)	24	%
Percentage retained on 425µm sieve :	79	%
Liquid Limit :	22	%
Plastic Limit :	Non-Plastic	%
Equivalent water content of material passing 425µm sieve :	114	%

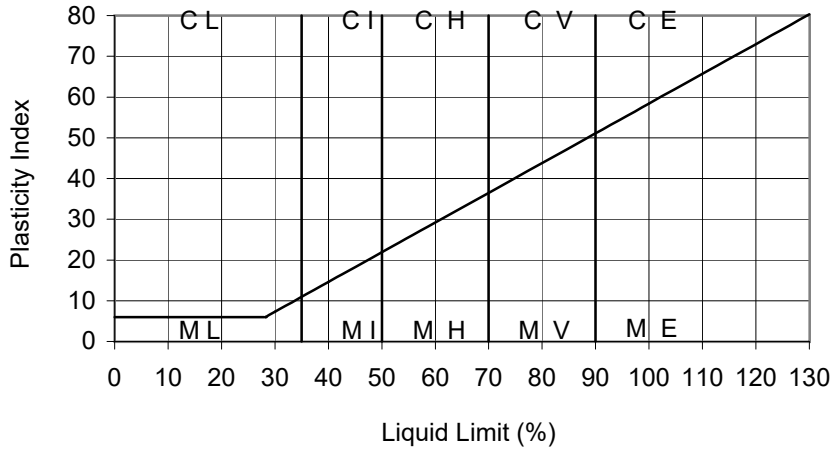
Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method)** **Plastic Limit, Plasticity Index & Liquidity Index** BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	**Figure C3**
SM	CD 20/11/2023		Sheet 1 of 1

igne	Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No. 26491**
	Client	SSEN	Hole ID FAB07
	Engineer	Jacobs	Sample Ref Depth (m) 1.50 Sample Type D

Non Engineering Description : Brown slightly silty sandy fine to coarse GRAVEL

Preparation : Sample oven dried, Percentage retained on 425µm sieve measured by wet sieving





Sample was determined to be Non-Plastic after preparation
Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

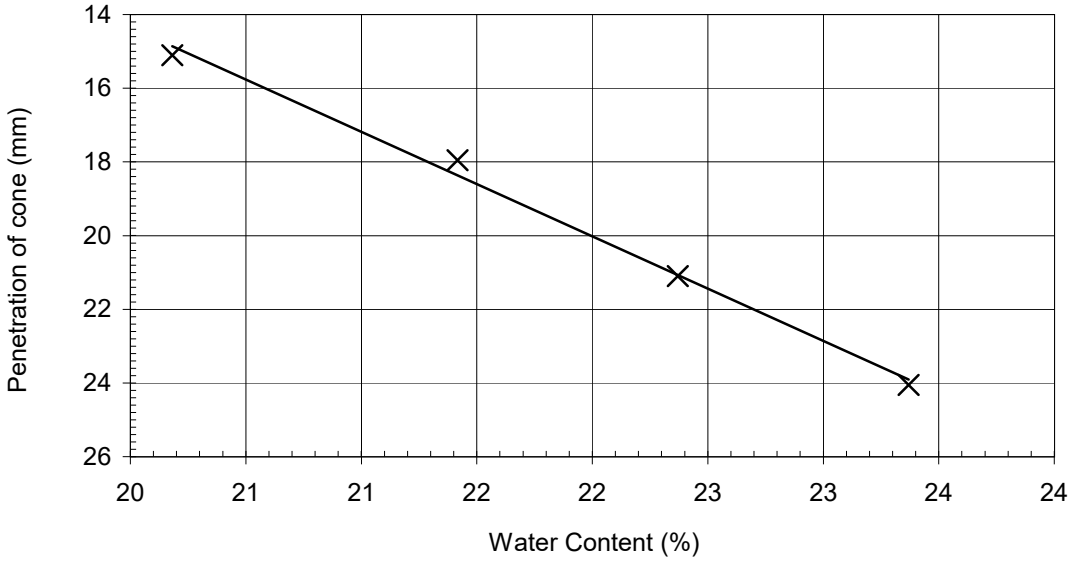
As Received Water Content : (BS EN ISO 17892-1:2014)	6	%
Percentage retained on 425µm sieve :	90	%
Liquid Limit :	21	%
Plastic Limit :	Non-Plastic	%
Equivalent water content of material passing 425µm sieve :	60.0	%

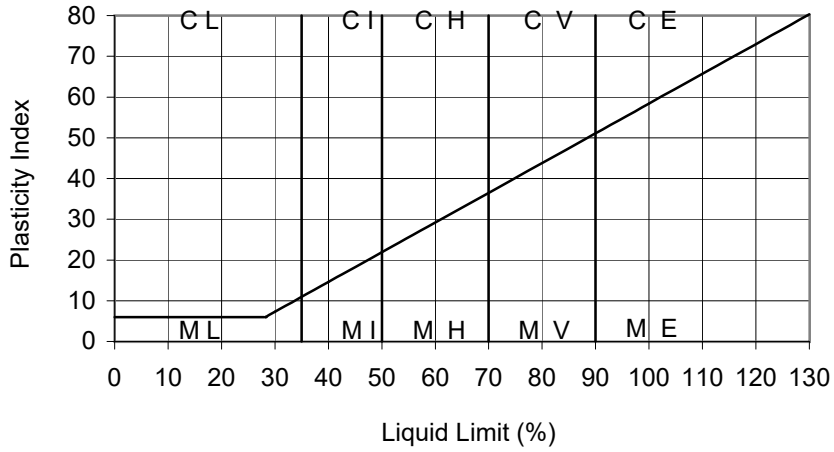
Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method)** **Plastic Limit, Plasticity Index & Liquidity Index** BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	**Figure C4**
SM	CD 20/11/2023		Sheet 1 of 1

igne	Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No. 26491**
	Client	SSEN	Hole ID FAB07
	Engineer	Jacobs	Sample Ref Depth (m) 3.00 Sample Type D

Non Engineering Description : Brown slightly silty sandy fine to coarse GRAVEL

Preparation : Sample oven dried, Percentage retained on 425µm sieve measured by wet sieving





Sample was determined to be Non-Plastic after preparation
Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

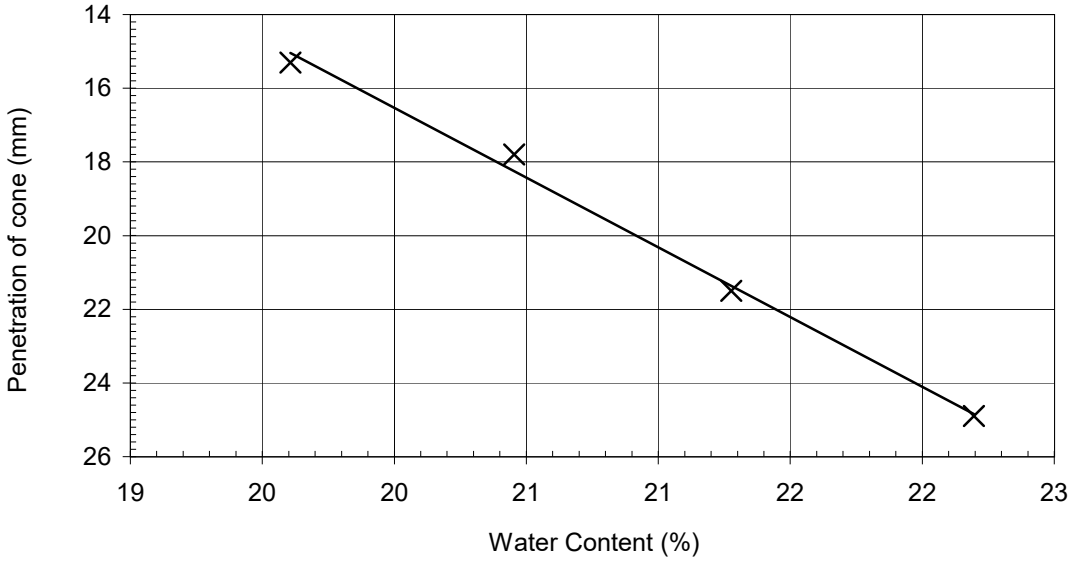
As Received Water Content : (BS EN ISO 17892-1:2014)	5	%
Percentage retained on 425µm sieve :	88	%
Liquid Limit :	22	%
Plastic Limit :	Non-Plastic	%
Equivalent water content of material passing 425µm sieve :	41.7	%

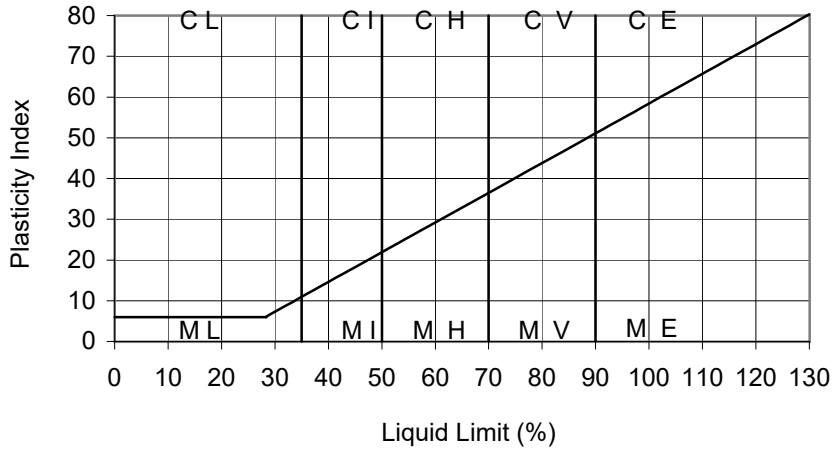
Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method)** **Plastic Limit, Plasticity Index & Liquidity Index** BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	**Figure C5**
SM	CD 20/11/2023		Sheet 1 of 1

igne	Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No. 26491**
	Client	SSEN	Hole ID FAB08
	Engineer	Jacobs	Sample Ref Depth (m) 1.50 Sample Type D

Non Engineering Description : Brown silty SAND and GRAVEL. Gravel is fine to coarse

Preparation : Sample oven dried, Percentage retained on 425µm sieve measured by wet sieving





Sample was determined to be Non-Plastic after preparation
Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

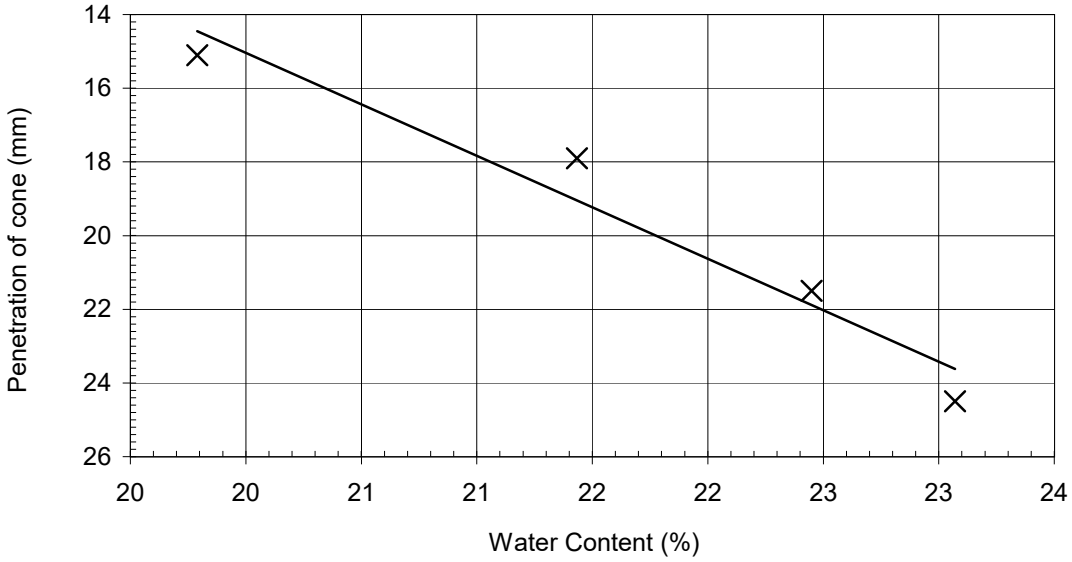
As Received Water Content : (BS EN ISO 17892-1:2014)	4	%
Percentage retained on 425µm sieve :	82	%
Liquid Limit :	21	%
Plastic Limit :	Non-Plastic	%
Equivalent water content of material passing 425µm sieve :	22.2	%

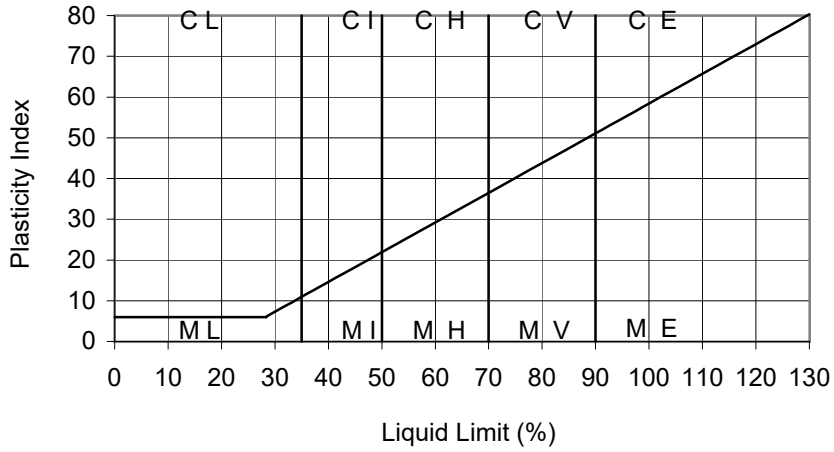
Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method)** **Plastic Limit, Plasticity Index & Liquidity Index** BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	**Figure C6**
SM	CD 20/11/2023		Sheet 1 of 1

igne	Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No. 26491**
	Client	SSEN	Hole ID FAB09
	Engineer	Jacobs	Sample Ref Depth (m) 1.50 Sample Type D

Non Engineering Description : Brown slightly gravelly slightly silty SAND. Gravel is fine to medium

Preparation : Sample oven dried, Percentage retained on 425µm sieve measured by wet sieving





Sample was determined to be Non-Plastic after preparation
Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

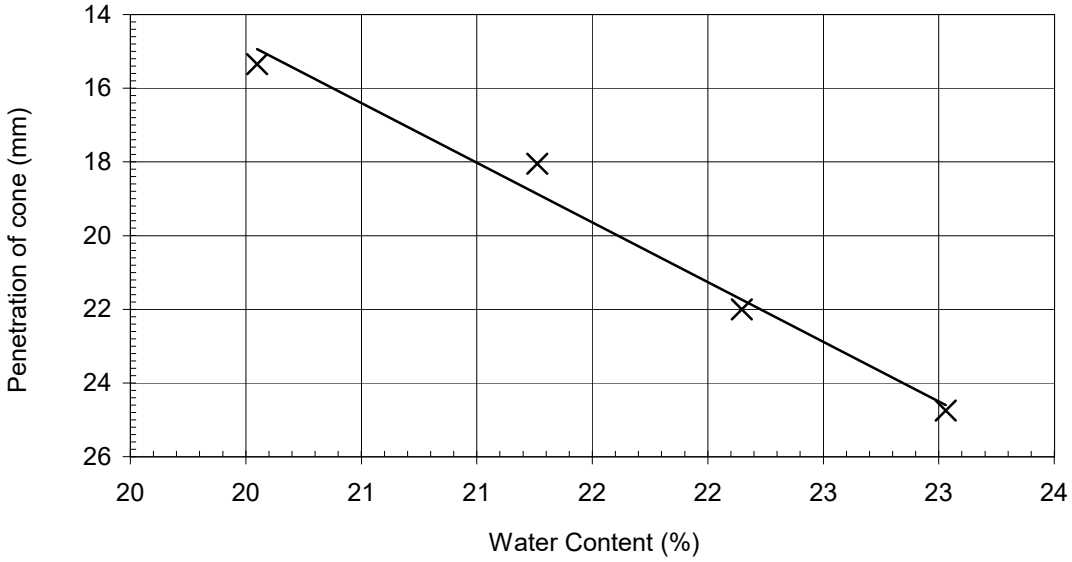
As Received Water Content : (BS EN ISO 17892-1:2014)	8	%
Percentage retained on 425µm sieve :	11	%
Liquid Limit :	22	%
Plastic Limit :	Non-Plastic	%
Equivalent water content of material passing 425µm sieve :	9.0	%

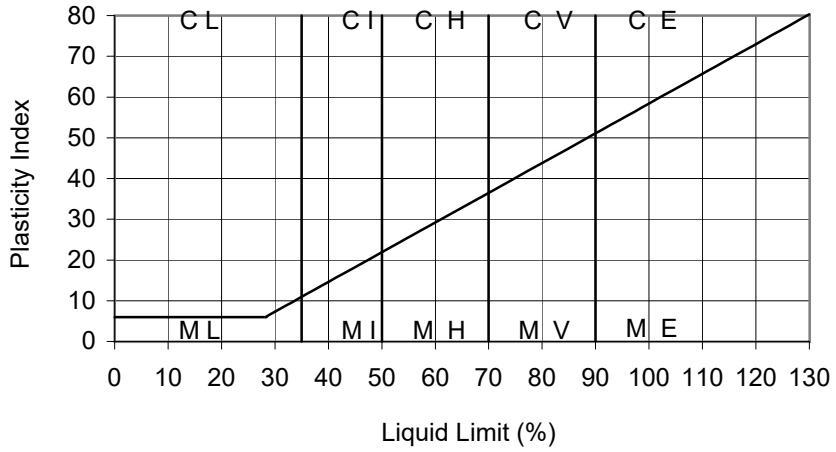
Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method)** **Plastic Limit, Plasticity Index & Liquidity Index** BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	**Figure C7**
SM	CD 20/11/2023		Sheet 1 of 1

igne	Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No. 26491**
	Client	SSEN	Hole ID FAB12
	Engineer	Jacobs	Sample Ref Depth (m) 1.00 Sample Type D

Non Engineering Description : Brown slightly silty sandy fine to coarse GRAVEL

Preparation : Sample oven dried, Percentage retained on 425µm sieve measured by wet sieving





Sample was determined to be Non-Plastic after preparation
Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

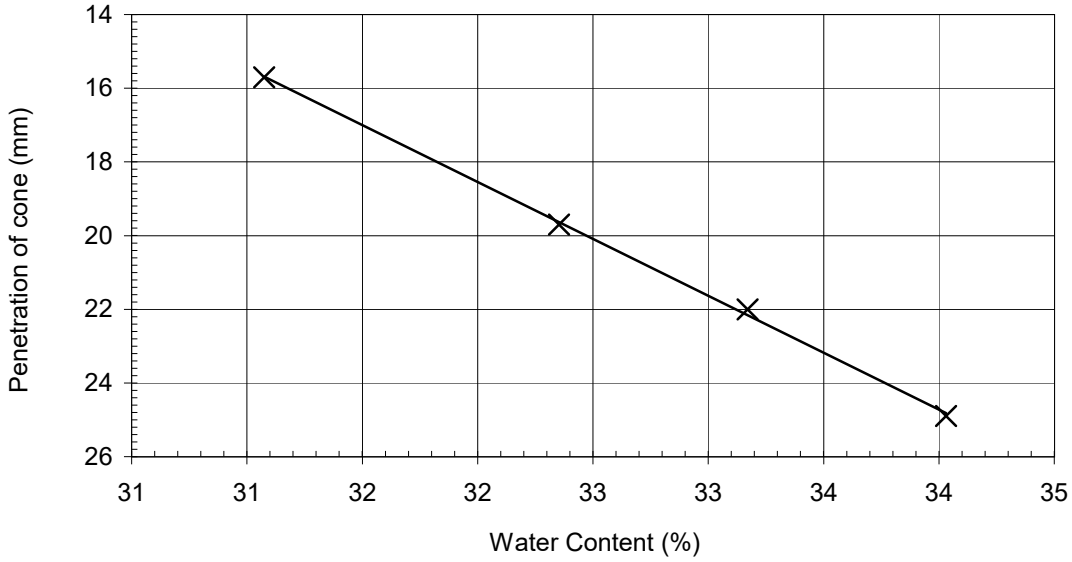
As Received Water Content : (BS EN ISO 17892-1:2014)	12	%
Percentage retained on 425µm sieve :	92	%
Liquid Limit :	22	%
Plastic Limit :	Non-Plastic	%
Equivalent water content of material passing 425µm sieve :	150	%

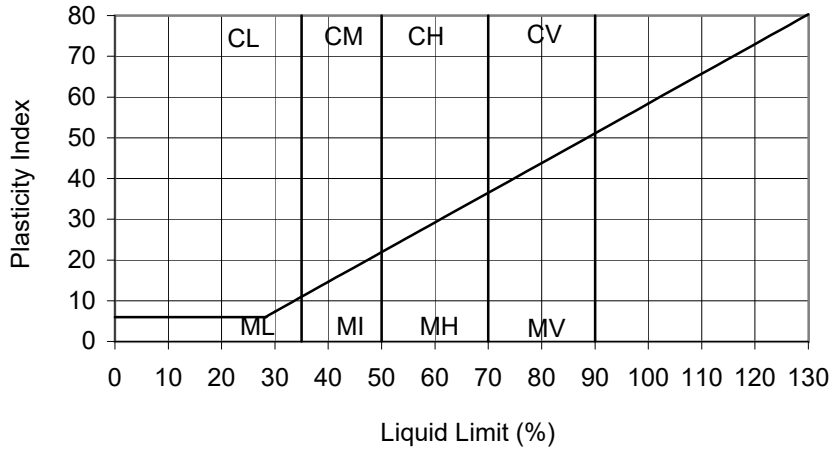
Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method)** **Plastic Limit, Plasticity Index & Liquidity Index** BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	**Figure C8**
SM	CD 20/11/2023		Sheet 1 of 1

igne	Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No. 26491**
	Client	SSEN	Hole ID FATP08A
	Engineer	Jacobs	Sample Ref Depth (m) 1.00 Sample Type D

Non Engineering Description : Brown very silty SAND and GRAVEL. Gravel is fine to coarse

Preparation : Sample oven dried, Percentage retained on 425µm sieve measured by wet sieving





Sample was determined to be Non-Plastic after preparation
Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

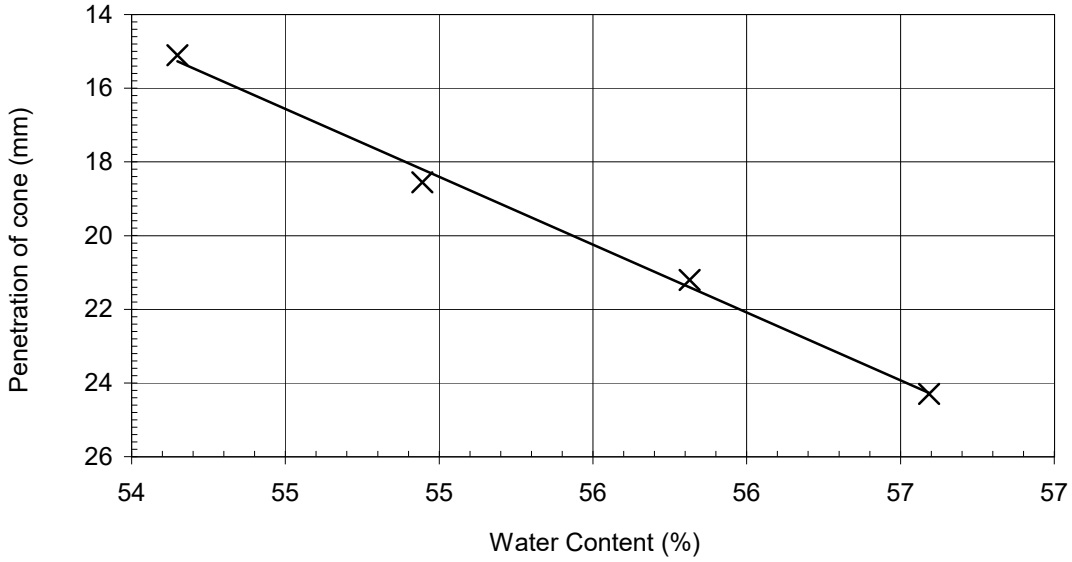
As Received Water Content : (BS EN ISO 17892-1:2014)	14	%
Percentage retained on 425µm sieve :	63	%
Liquid Limit :	32	%
Plastic Limit :	Non-Plastic	%
Equivalent water content of material passing 425µm sieve :	37.8	%

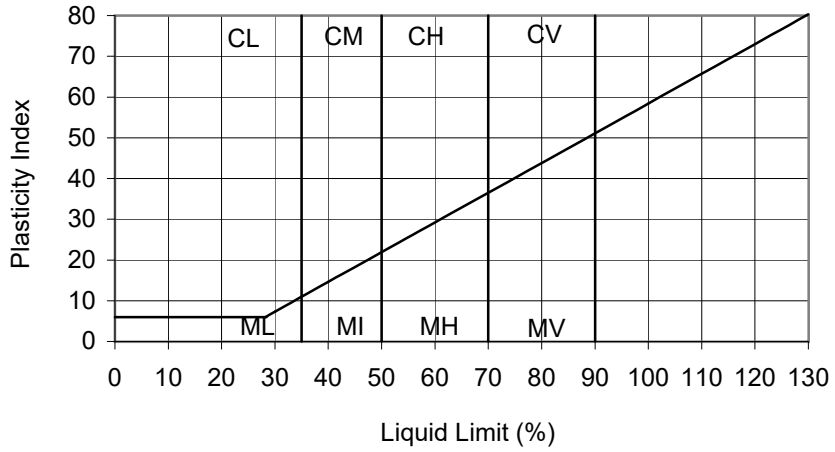
Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method)** **Plastic Limit, Plasticity Index & Liquidity Index** BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	**Figure C9**
NW	CD 20/11/2023		Sheet 1 of 1

igne	Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No. 26491**
	Client	SSEN	Hole ID FATP16
	Engineer	Jacobs	Sample Ref Depth (m) 1.50 Sample Type D

Non Engineering Description : Brown gravelly very silty SAND with organic matter. Gravel is fine to coarse

Preparation : Sample oven dried, Percentage retained on 425µm sieve measured by wet sieving





Sample was determined to be Non-Plastic after preparation
Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

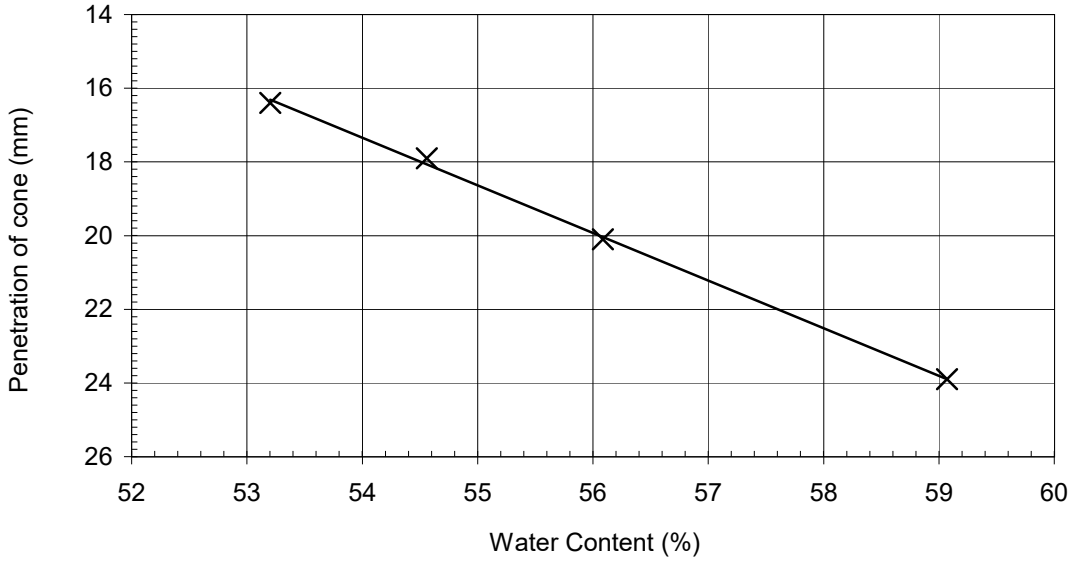
As Received Water Content : (BS EN ISO 17892-1:2014)	39	%
Percentage retained on 425µm sieve :	33	%
Liquid Limit :	55	%
Plastic Limit :	Non-Plastic	%
Equivalent water content of material passing 425µm sieve :	58.2	%

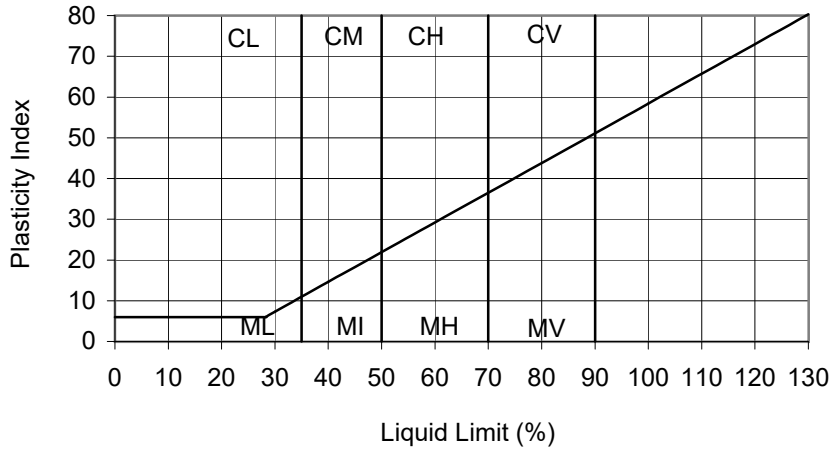
Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method)** **Plastic Limit, Plasticity Index & Liquidity Index** BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	**Figure C10**
NW	CD 20/11/2023		Sheet 1 of 1

igne	Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No. 26491**
	Client	SSEN	Hole ID FATP17
	Engineer	Jacobs	Sample Ref Depth (m) 1.50 Sample Type D

Non Engineering Description : Brown silty SAND and GRAVEL with pockets of clay and rootlets. Gravel is fine to coarse

Preparation : Sample oven dried, Percentage retained on 425µm sieve measured by wet sieving





Sample was determined to be Non-Plastic after preparation
Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	28	%
Percentage retained on 425µm sieve :	59	%
Liquid Limit :	56	%
Plastic Limit :	Non-Plastic	%
Equivalent water content of material passing 425µm sieve :	68.3	%

Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method)** **Plastic Limit, Plasticity Index & Liquidity Index** BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	**Figure C11**
NW	CD 20/11/2023		Sheet 1 of 1

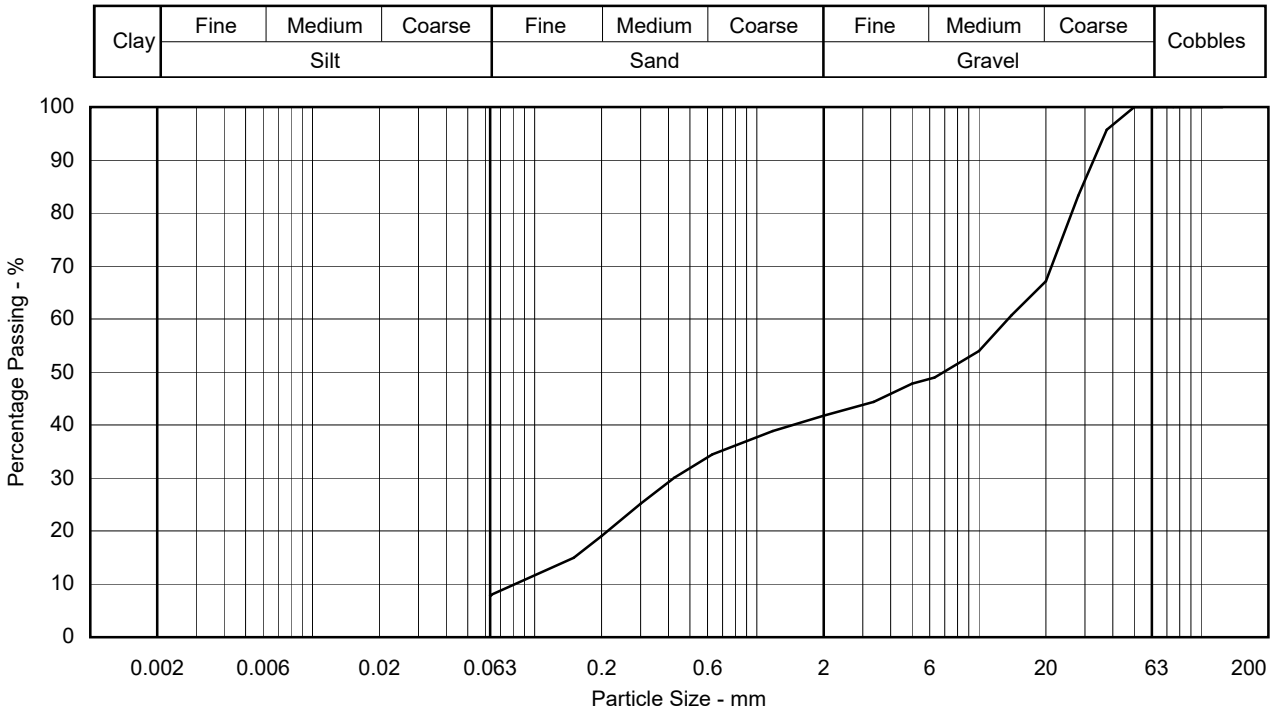
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB01
	Engineer Jacobs	Sample Ref Depth (m) 1.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	96
28.0 mm	83
20.0 mm	67
14.0 mm	61
10.0 mm	54
6.30 mm	49
5.00 mm	48
3.35 mm	44
2.00 mm	42
1.18 mm	39
630 µm	34
425 µm	30
300 µm	25
200 µm	19
150 µm	15
63 µm	8

Non Engineering Description
Brown silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	58.2
Sand	33.9
Silt & Clay	7.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	50
D60	14
D10	0.082
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	170.7

Notes



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C12

62 Rochsolloch Road, Airdrie, ML6 9BG

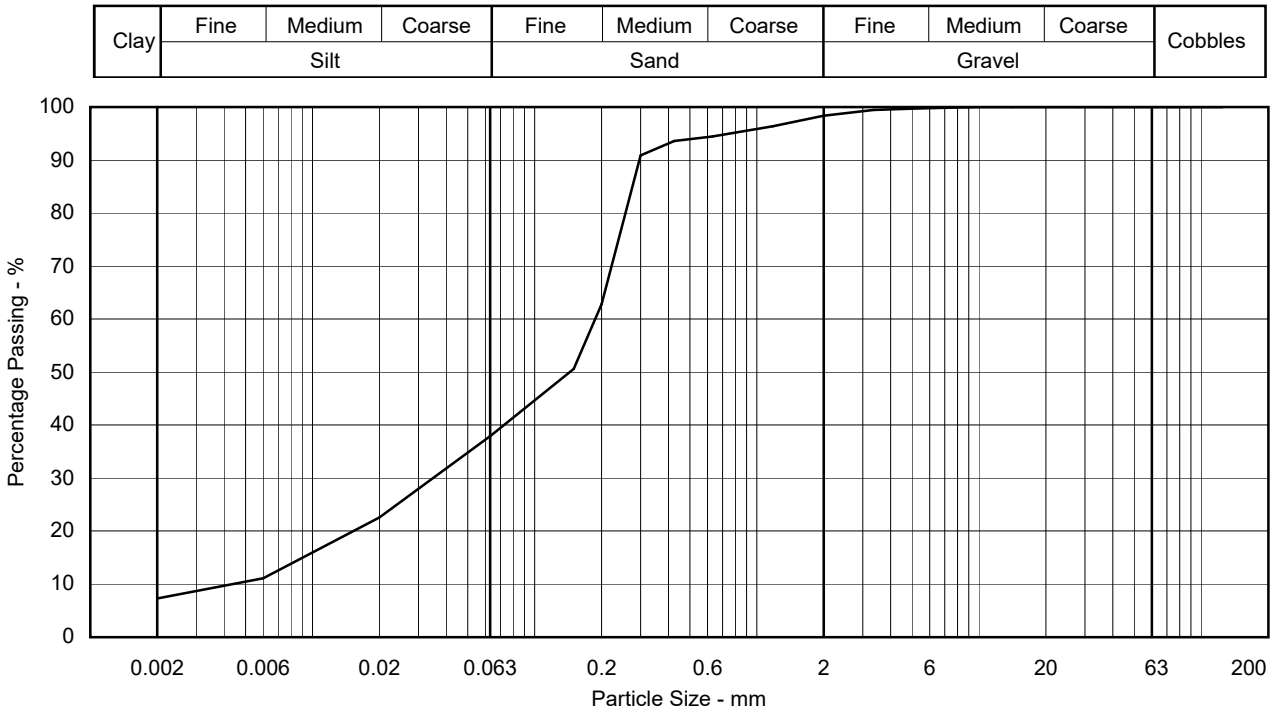
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB01
	Engineer Jacobs	Sample Ref Depth (m) 3.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	99
2.00 mm	98
1.18 mm	96
630 µm	94
425 µm	94
300 µm	91
200 µm	63
150 µm	51
63 µm	38
20 µm	23
6 µm	11
2 µm	7

Non Engineering Description
Brown slightly gravelly sandy SILT with pockets of clay. Gravel is fine to medium

Sample Proportions - %	
Cobbles	0.0
Gravel	1.6
Sand	61.6
Silt	29.6
Clay	7.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	10
D60	0.19
D10	0.0044
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	43.2

Notes
Sedimentation sample not pre-treated



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Figure C13

62 Rochsolloch Road, Airdrie, ML6 9BG

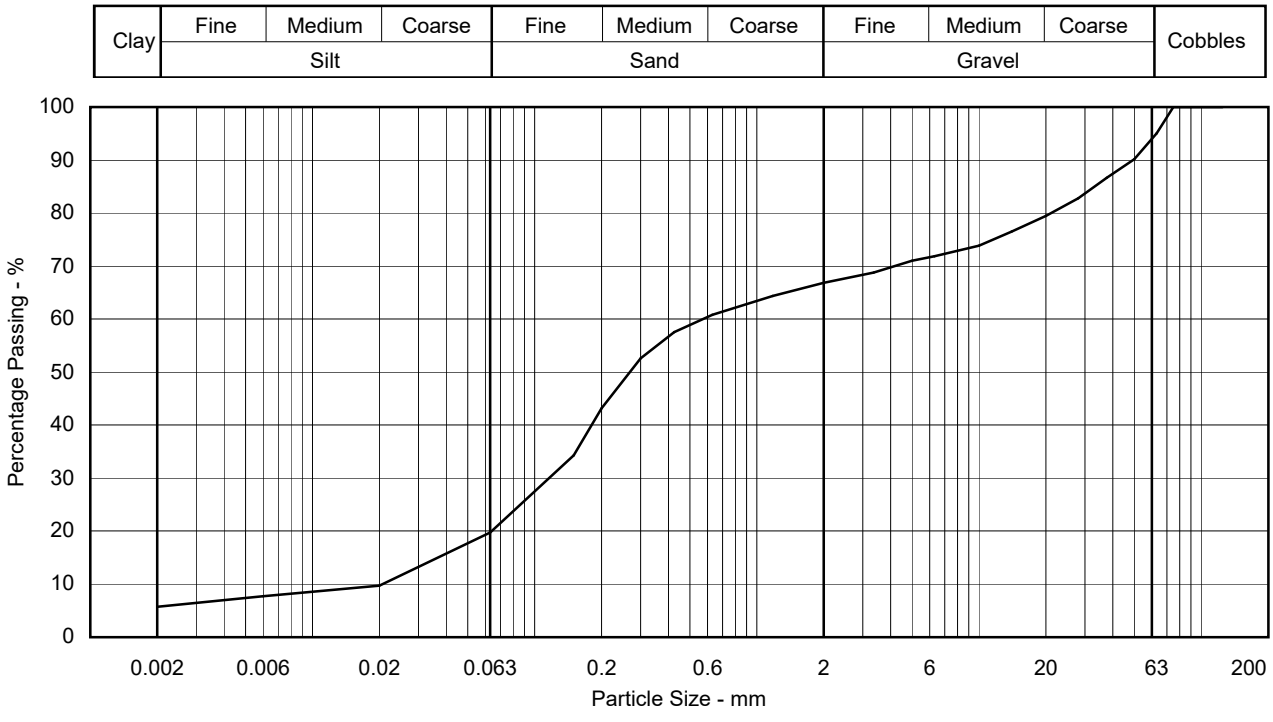
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB01
	Engineer Jacobs	Sample Ref Depth (m) 4.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	95
50.0 mm	90
37.5 mm	87
28.0 mm	83
20.0 mm	79
14.0 mm	77
10.0 mm	74
6.30 mm	72
5.00 mm	71
3.35 mm	69
2.00 mm	67
1.18 mm	64
630 µm	61
425 µm	58
300 µm	53
200 µm	43
150 µm	34
63 µm	20
20 µm	10
6 µm	8
2 µm	6

Non Engineering Description
Brown silty very gravelly SAND with cobbles and pockets of clay. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	5.0
Gravel	28.2
Sand	47.8
Silt	13.3
Clay	5.7
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	0.57
D10	0.021
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	27.1

Notes
Sedimentation sample not pre-treated



Originator	Checked & Approved
JM	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Figure C14

62 Rochsolloch Road, Airdrie, ML6 9BG

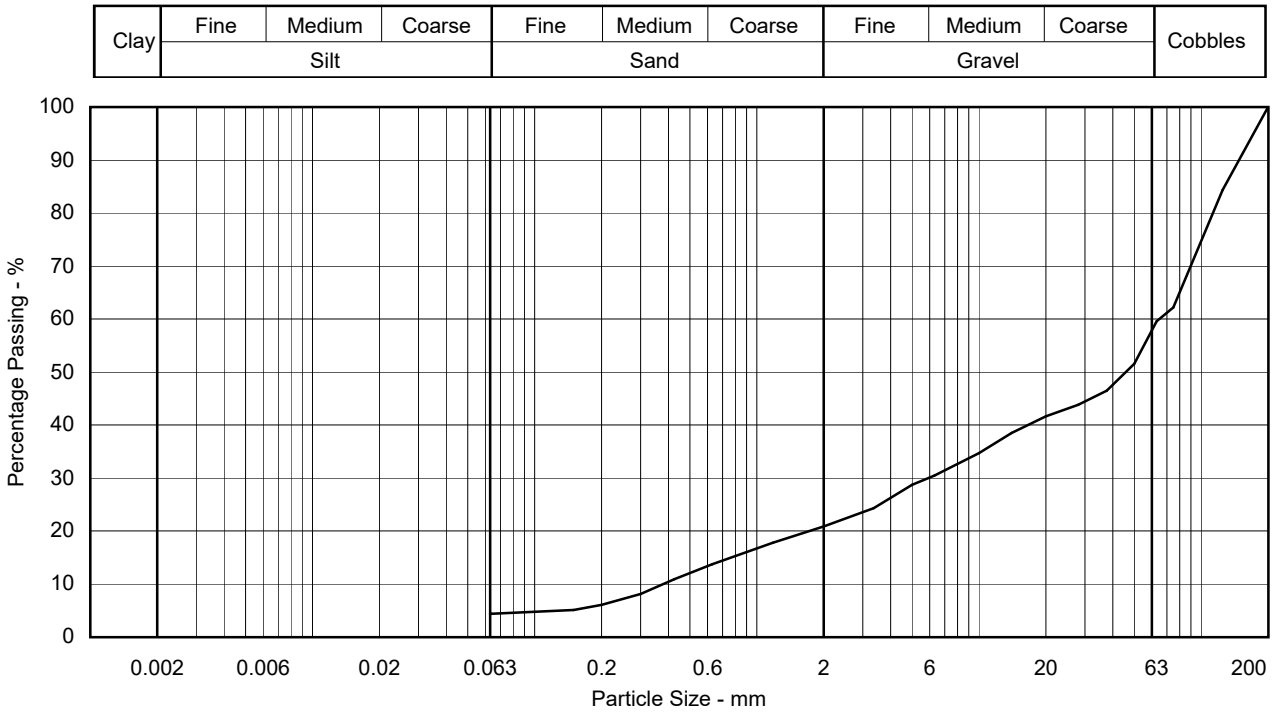
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB01
	Engineer Jacobs	Sample Ref Depth (m) 7.50 Sample Type B

Particle Size	% Passing
200.0 mm	100
125.0 mm	84
75.0 mm	62
63.0 mm	60
50.0 mm	52
37.5 mm	46
28.0 mm	44
20.0 mm	42
14.0 mm	39
10.0 mm	35
6.30 mm	30
5.00 mm	29
3.35 mm	24
2.00 mm	21
1.18 mm	18
630 µm	14
425 µm	11
300 µm	8
200 µm	6
150 µm	5
63 µm	4

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	40.4
Gravel	38.7
Sand	16.5
Silt & Clay	4.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	200
D60	65
D10	0.38
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	171.1

Notes



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C15

62 Rochsolloch Road, Airdrie, ML6 9BG

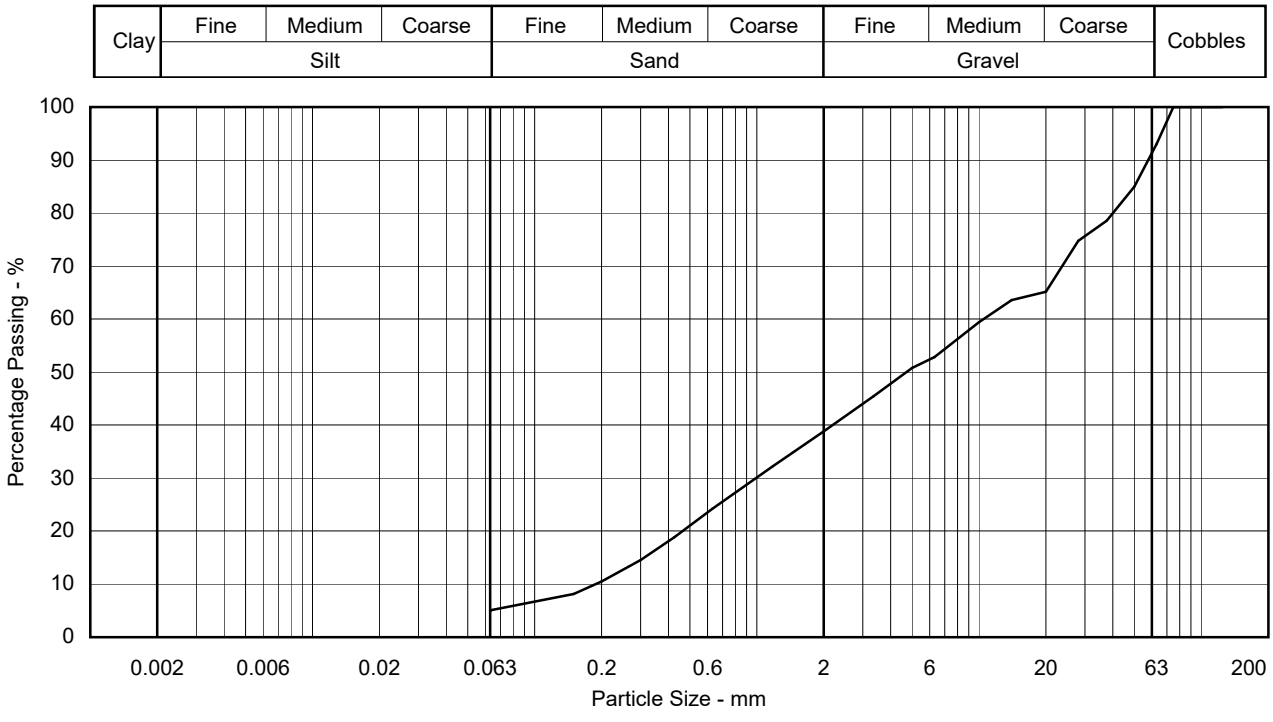
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB02
	Engineer Jacobs	Sample Ref Depth (m) 1.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	93
50.0 mm	85
37.5 mm	79
28.0 mm	75
20.0 mm	65
14.0 mm	64
10.0 mm	59
6.30 mm	53
5.00 mm	51
3.35 mm	45
2.00 mm	39
1.18 mm	32
630 µm	24
425 µm	19
300 µm	14
200 µm	10
150 µm	8
63 µm	5

Non Engineering Description
Brown silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	7.0
Gravel	54.3
Sand	33.8
Silt & Clay	5.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	11
D10	0.19
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	57.9

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C16

62 Rochsolloch Road, Airdrie, ML6 9BG

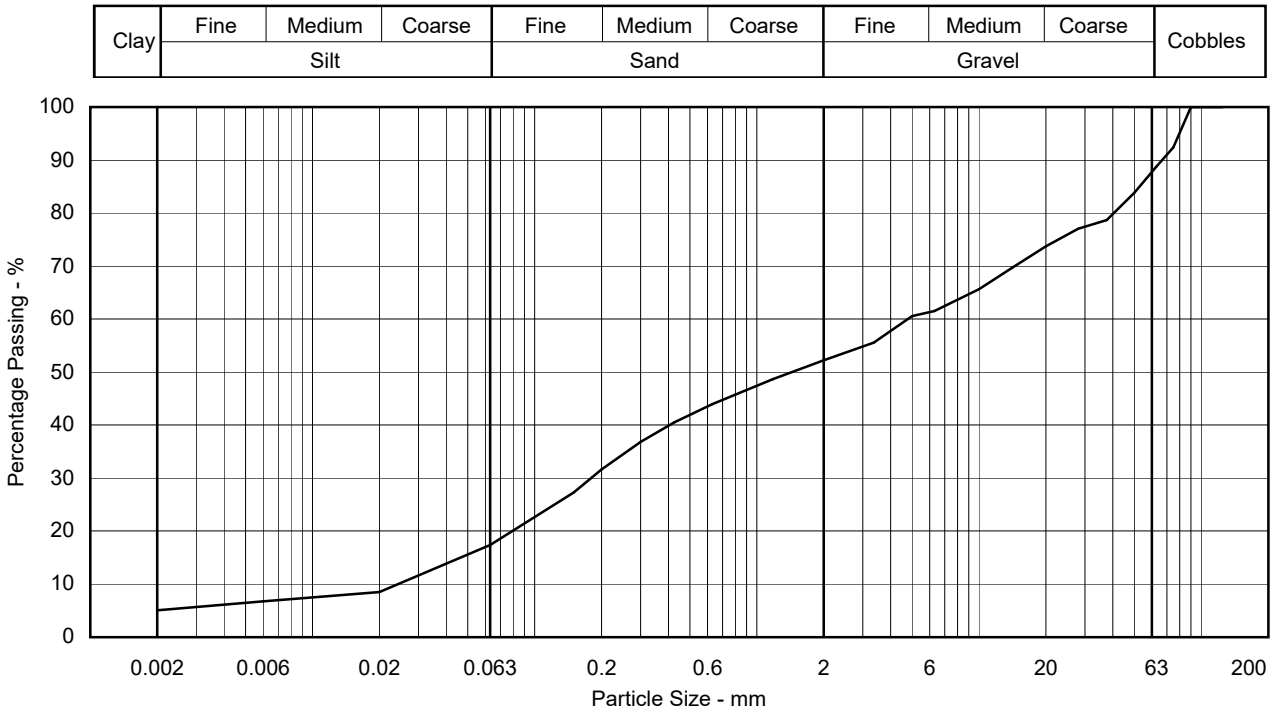
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB02
	Engineer Jacobs	Sample Ref Depth (m) 3.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	92
63.0 mm	89
50.0 mm	84
37.5 mm	79
28.0 mm	77
20.0 mm	74
14.0 mm	70
10.0 mm	66
6.30 mm	62
5.00 mm	61
3.35 mm	56
2.00 mm	52
1.18 mm	49
630 µm	44
425 µm	40
300 µm	37
200 µm	32
150 µm	27
63 µm	17
20 µm	8
6 µm	7
2 µm	5

Non Engineering Description
Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	11.2
Gravel	36.6
Sand	35.5
Silt	11.7
Clay	5.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	4.8
D10	0.024
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	200.0

Notes
Sedimentation sample not pre-treated



Originator	Checked & Approved
MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Figure C17

62 Rochsolloch Road, Airdrie, ML6 9BG

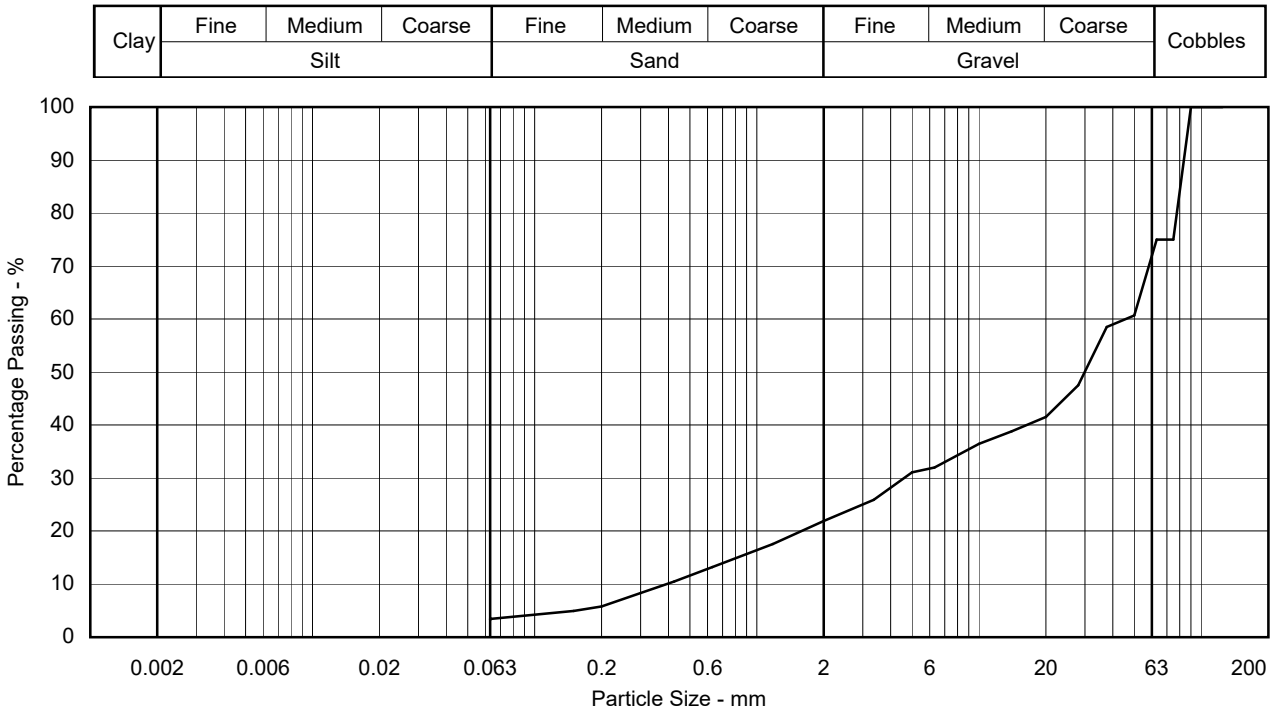
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB02
	Engineer Jacobs	Sample Ref Depth (m) 6.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	75
63.0 mm	75
50.0 mm	61
37.5 mm	58
28.0 mm	48
20.0 mm	41
14.0 mm	39
10.0 mm	36
6.30 mm	32
5.00 mm	31
3.35 mm	26
2.00 mm	22
1.18 mm	18
630 µm	13
425 µm	10
300 µm	8
200 µm	6
150 µm	5
63 µm	3

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	25.0
Gravel	53.2
Sand	18.5
Silt & Clay	3.4
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	46
D10	0.40
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	115.0

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C18

62 Rochsolloch Road, Airdrie, ML6 9BG

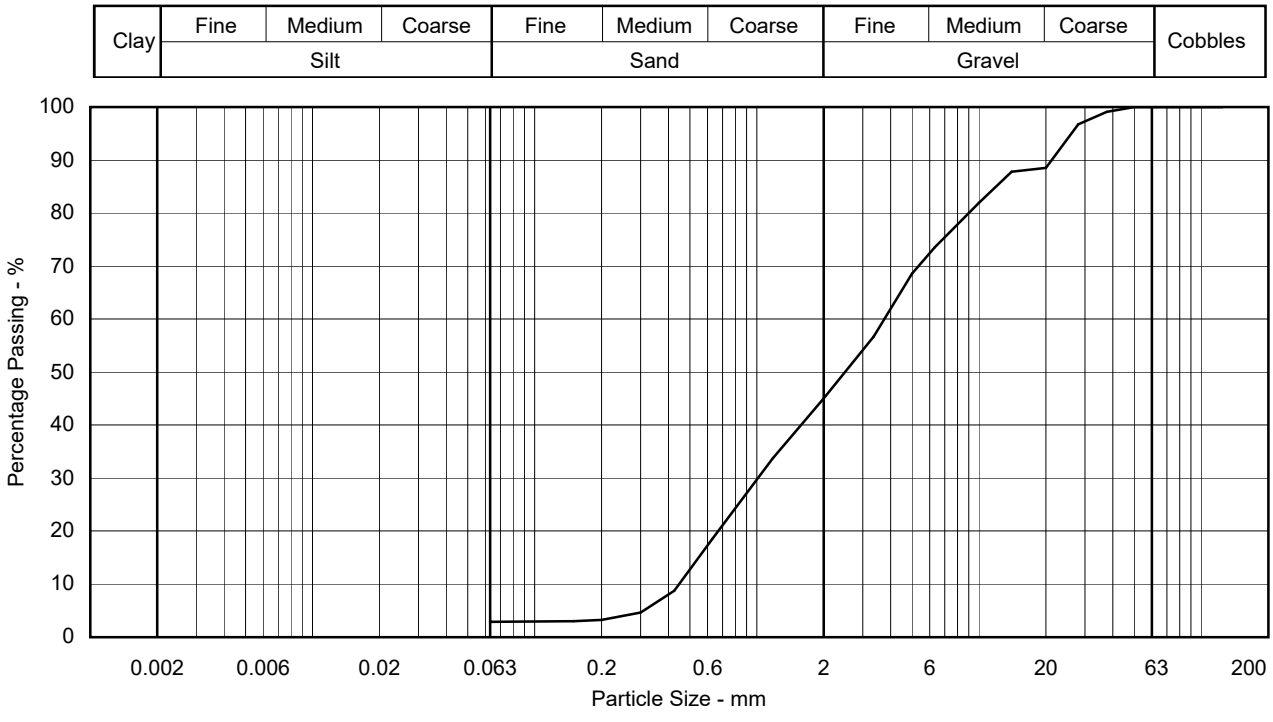
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB02
	Engineer Jacobs	Sample Ref Depth (m) 10.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	99
28.0 mm	97
20.0 mm	89
14.0 mm	88
10.0 mm	82
6.30 mm	73
5.00 mm	69
3.35 mm	57
2.00 mm	45
1.18 mm	34
630 µm	18
425 µm	9
300 µm	5
200 µm	3
150 µm	3
63 µm	3

Non Engineering Description
Brown slightly silty SAND and GRAVEL. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	55.0
Sand	42.2
Silt & Clay	2.9
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	50
D60	3.7
D10	0.45
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	8.2

Notes



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C19

62 Rochsolloch Road, Airdrie, ML6 9BG

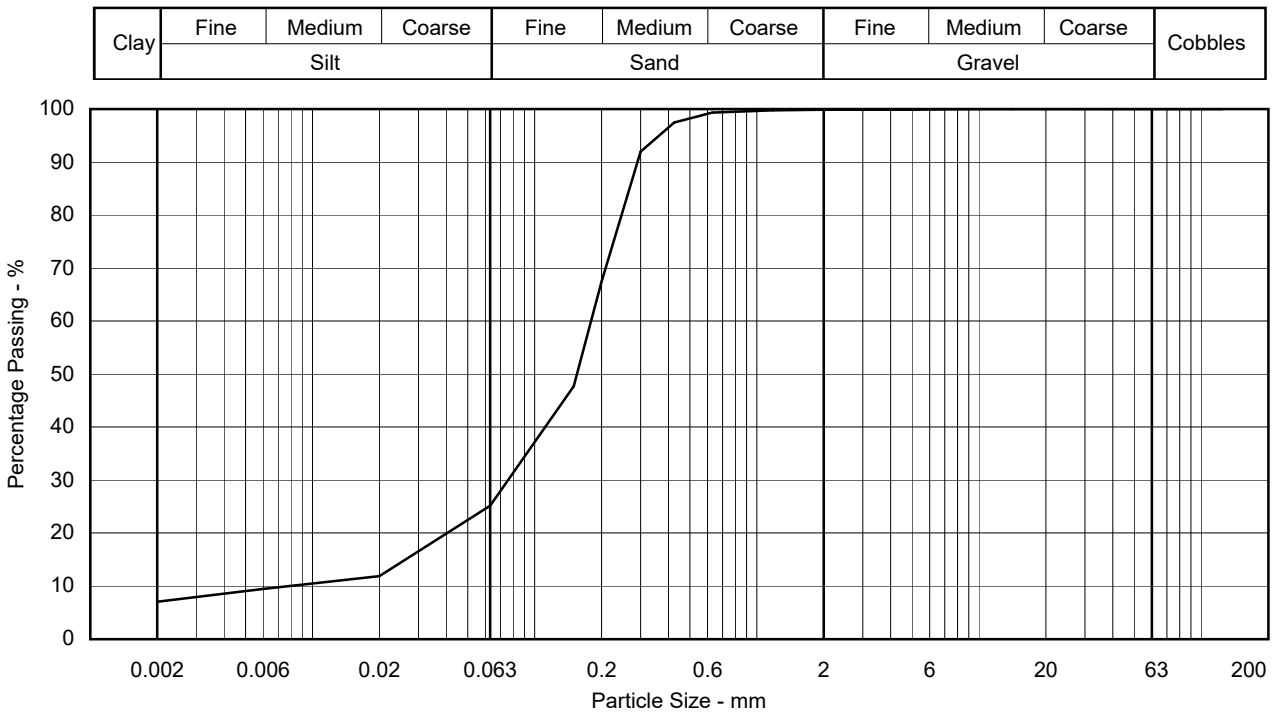
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB02
	Engineer Jacobs	Sample Ref Depth (m) 13.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	100
1.18 mm	100
630 µm	99
425 µm	97
300 µm	92
200 µm	67
150 µm	48
63 µm	25
20 µm	12
6 µm	9
2 µm	7

Non Engineering Description
Brown silty SAND with pockets of clay

Sample Proportions - %	
Cobbles	0.0
Gravel	0.1
Sand	75.7
Silt	17.2
Clay	7.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	10
D60	0.18
D10	0.0080
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	22.5

Notes
Sedimentation sample not pre-treated



Originator	Checked & Approved
JM	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Figure C20

62 Rochsolloch Road, Airdrie, ML6 9BG

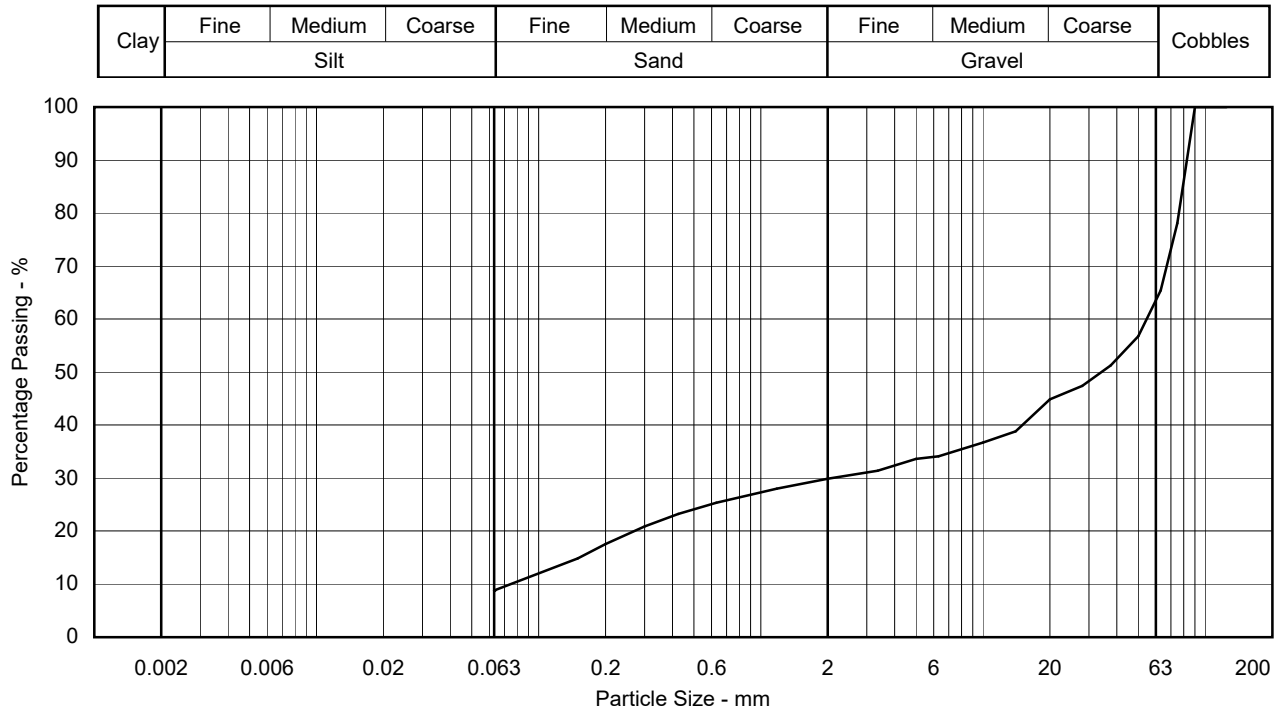
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB03
	Engineer Jacobs	Sample Ref Depth (m) 1.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	78
63.0 mm	65
50.0 mm	57
37.5 mm	51
28.0 mm	47
20.0 mm	45
14.0 mm	39
10.0 mm	37
6.30 mm	34
5.00 mm	34
3.35 mm	31
2.00 mm	30
1.18 mm	28
630 µm	25
425 µm	23
300 µm	21
200 µm	18
150 µm	15
63 µm	9

Non Engineering Description
Brown silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	34.6
Gravel	35.5
Sand	21.1
Silt & Clay	8.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	55
D10	0.075
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	733.3

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
JM	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C21

62 Rochsolloch Road, Airdrie, ML6 9BG

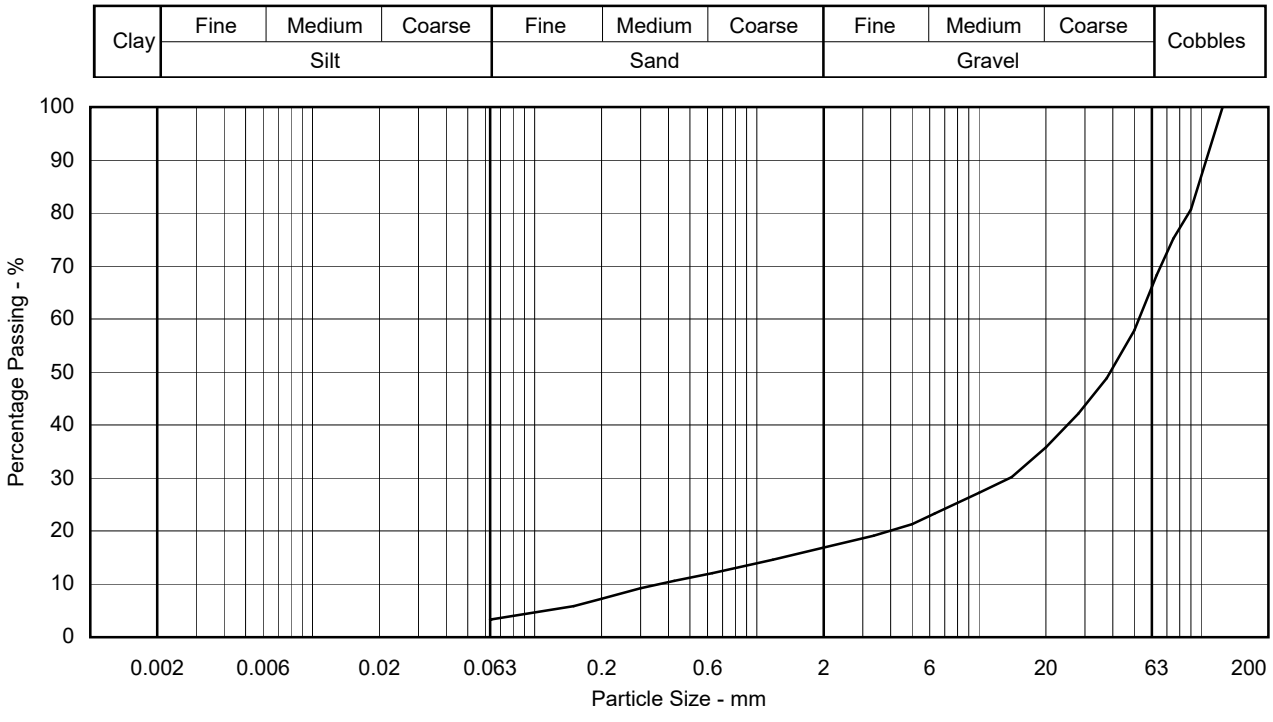
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB03
	Engineer Jacobs	Sample Ref Depth (m) 4.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	81
75.0 mm	75
63.0 mm	68
50.0 mm	58
37.5 mm	49
28.0 mm	42
20.0 mm	36
14.0 mm	30
10.0 mm	27
6.30 mm	23
5.00 mm	21
3.35 mm	19
2.00 mm	17
1.18 mm	15
630 µm	12
425 µm	11
300 µm	9
200 µm	7
150 µm	6
63 µm	3

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	31.7
Gravel	51.4
Sand	13.6
Silt & Clay	3.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	125
D60	52
D10	0.37
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	140.5

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C22

62 Rochsolloch Road, Airdrie, ML6 9BG

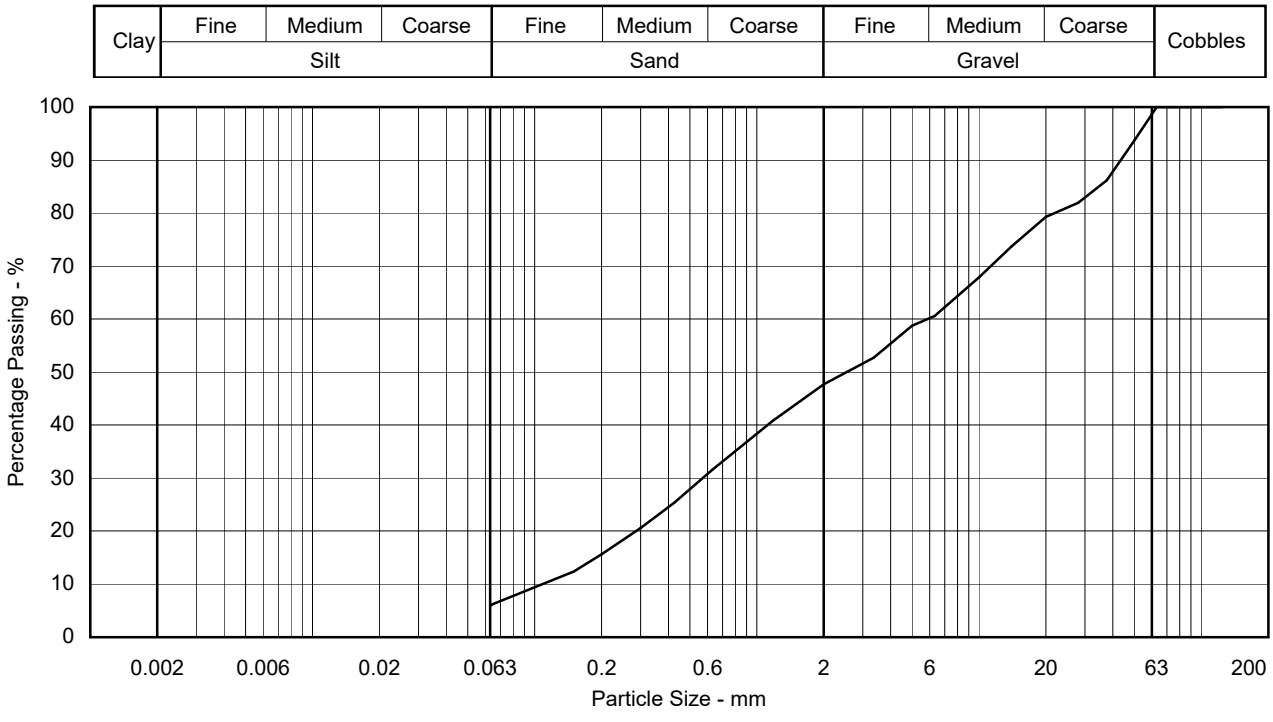
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB03
	Engineer Jacobs	Sample Ref Depth (m) 6.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	94
37.5 mm	86
28.0 mm	82
20.0 mm	79
14.0 mm	74
10.0 mm	68
6.30 mm	61
5.00 mm	59
3.35 mm	53
2.00 mm	48
1.18 mm	41
630 µm	32
425 µm	25
300 µm	21
200 µm	16
150 µm	12
63 µm	6

Non Engineering Description
Brown silty SAND and GRAVEL. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	52.3
Sand	41.7
Silt & Clay	6.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	5.9
D10	0.11
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	53.6

Notes



Originator	Checked & Approved
RF	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C23

62 Rochsolloch Road, Airdrie, ML6 9BG

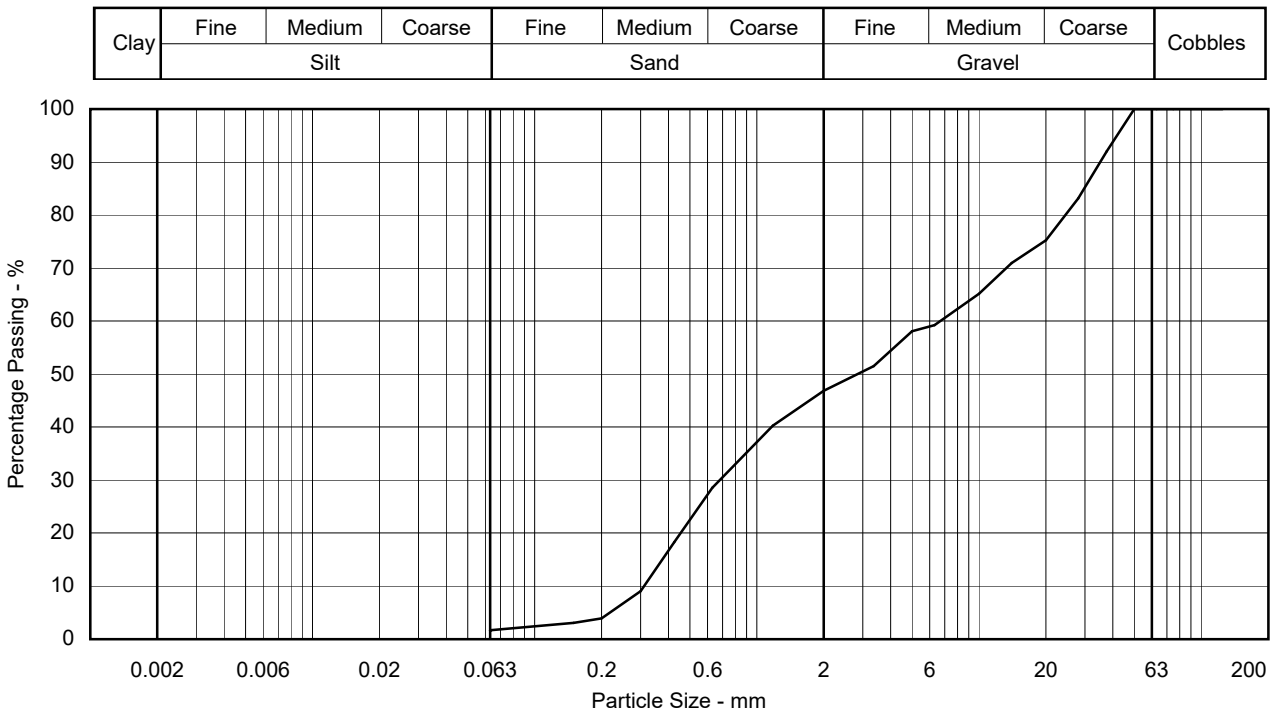
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB03
	Engineer Jacobs	Sample Ref Depth (m) 9.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	92
28.0 mm	83
20.0 mm	75
14.0 mm	71
10.0 mm	65
6.30 mm	59
5.00 mm	58
3.35 mm	52
2.00 mm	47
1.18 mm	40
630 µm	29
425 µm	18
300 µm	9
200 µm	4
150 µm	3
63 µm	2

Non Engineering Description
Brown slightly silty SAND and GRAVEL. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	53.2
Sand	45.2
Silt & Clay	1.6
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	50
D60	6.7
D10	0.31
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	21.6

Notes



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Figure C24

62 Rochsolloch Road, Airdrie, ML6 9BG

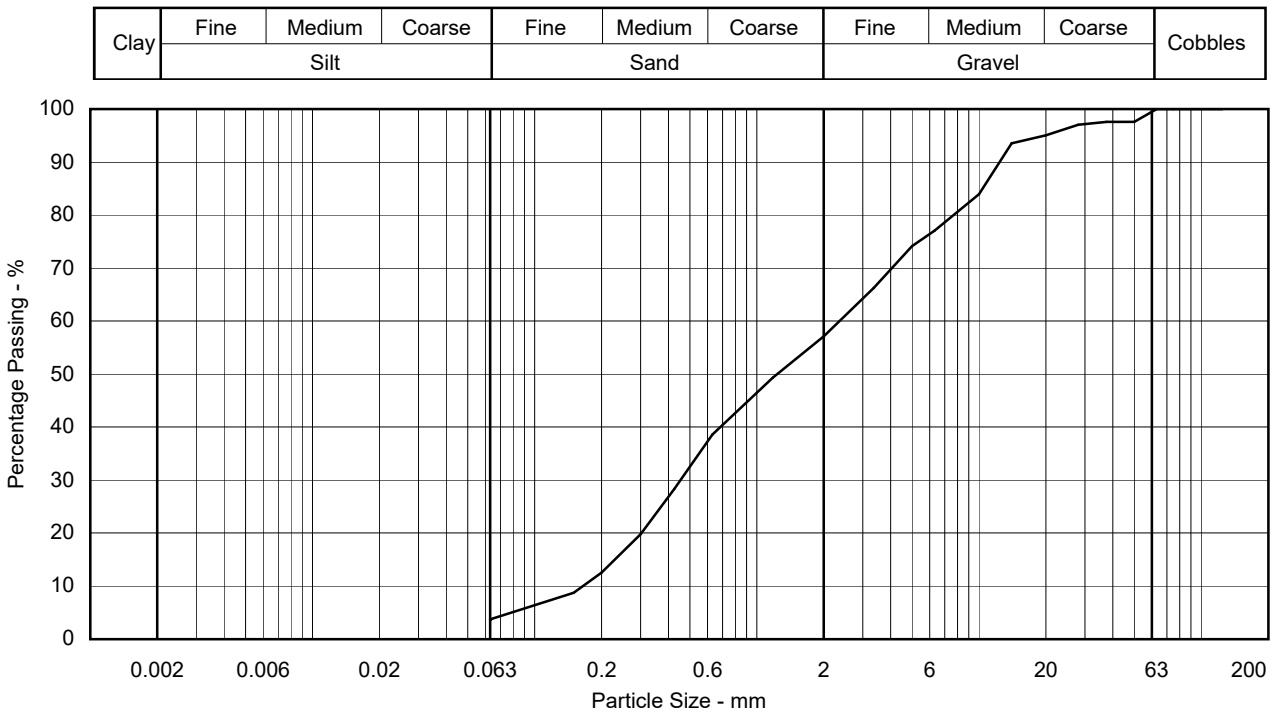
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB03
	Engineer Jacobs	Sample Ref Depth (m) 12.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	98
37.5 mm	98
28.0 mm	97
20.0 mm	95
14.0 mm	94
10.0 mm	84
6.30 mm	77
5.00 mm	74
3.35 mm	66
2.00 mm	57
1.18 mm	49
630 µm	39
425 µm	28
300 µm	20
200 µm	13
150 µm	9
63 µm	4

Non Engineering Description
Brown slightly silty SAND and GRAVEL. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	42.9
Sand	53.4
Silt & Clay	3.7
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	2.4
D10	0.17
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	14.1

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C25

62 Rochsolloch Road, Airdrie, ML6 9BG

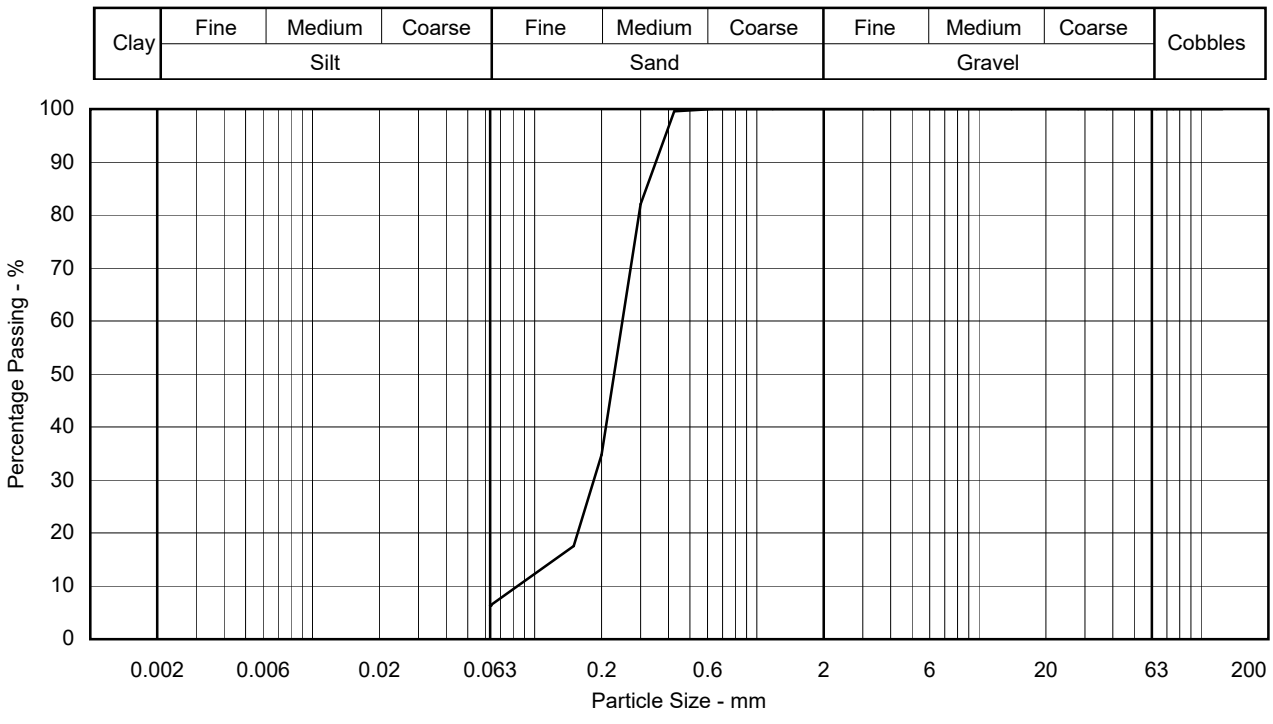
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB03
	Engineer Jacobs	Sample Ref Depth (m) 13.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	100
1.18 mm	100
630 µm	100
425 µm	100
300 µm	82
200 µm	35
150 µm	18
63 µm	6

Non Engineering Description
Brown silty SAND

Sample Proportions - %	
Cobbles	0.0
Gravel	0.0
Sand	93.7
Silt & Clay	6.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	0.63
D60	0.25
D10	0.084
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	3.0

Notes



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PARTICLE SIZE DISTRIBUTION
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Figure C26

62 Rochsolloch Road, Airdrie, ML6 9BG

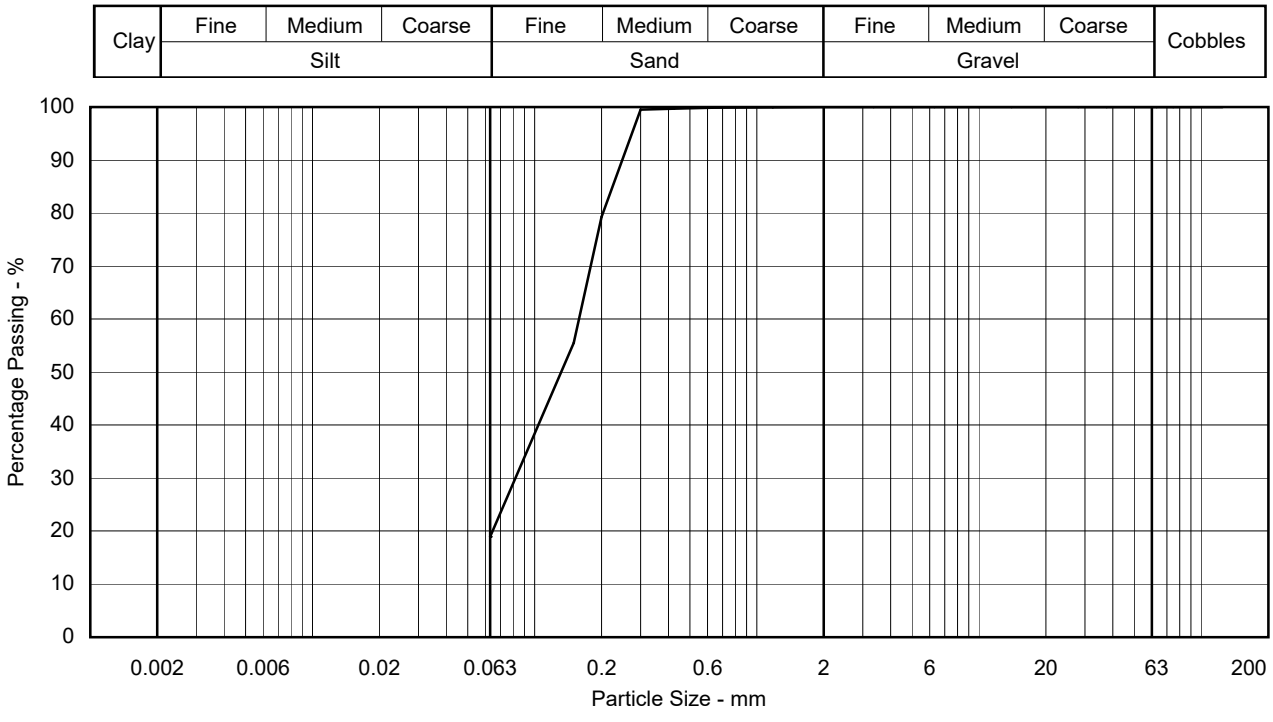
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB03
	Engineer Jacobs	Sample Ref Depth (m) 15.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	100
1.18 mm	100
630 µm	100
425 µm	100
300 µm	100
200 µm	79
150 µm	55
63 µm	19

Non Engineering Description
Brown silty SAND

Sample Proportions - %	
Cobbles	0.0
Gravel	0.0
Sand	81.1
Silt & Clay	18.9
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	2.0
D60	0.16
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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PARTICLE SIZE DISTRIBUTION
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Figure C27

62 Rochsolloch Road, Airdrie, ML6 9BG

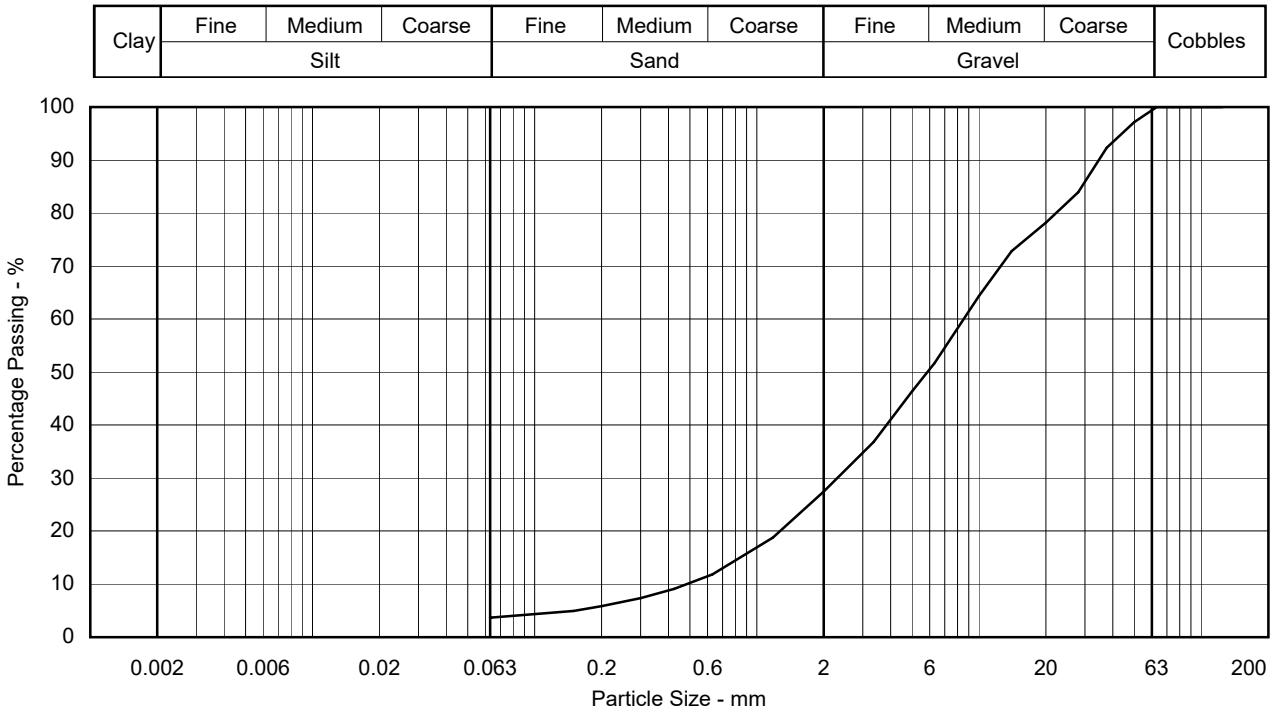
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB04
	Engineer Jacobs	Sample Ref Depth (m) 3.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	97
37.5 mm	92
28.0 mm	84
20.0 mm	78
14.0 mm	73
10.0 mm	64
6.30 mm	52
5.00 mm	46
3.35 mm	37
2.00 mm	27
1.18 mm	19
630 µm	12
425 µm	9
300 µm	7
200 µm	6
150 µm	5
63 µm	4

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	72.6
Sand	23.8
Silt & Clay	3.6
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	8.5
D10	0.49
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	17.3

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C28

62 Rochsolloch Road, Airdrie, ML6 9BG

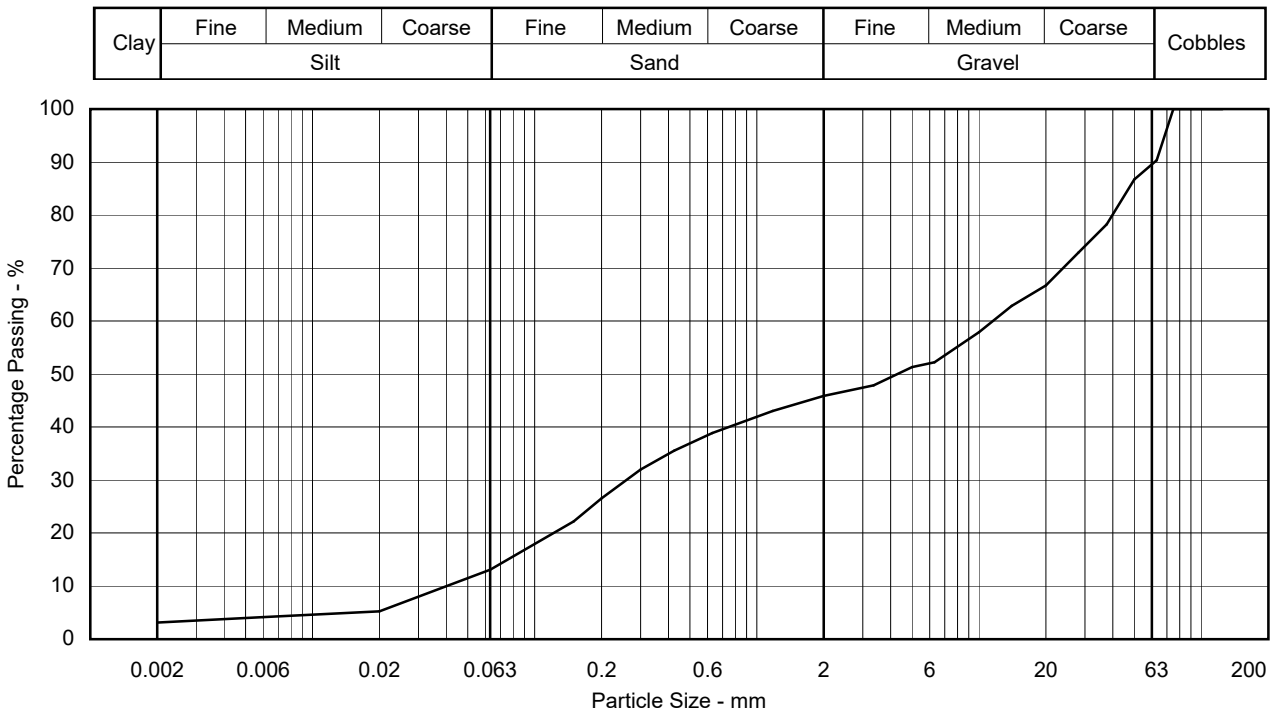
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB04
	Engineer Jacobs	Sample Ref Depth (m) 4.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	90
50.0 mm	87
37.5 mm	78
28.0 mm	73
20.0 mm	67
14.0 mm	63
10.0 mm	58
6.30 mm	52
5.00 mm	51
3.35 mm	48
2.00 mm	46
1.18 mm	43
630 µm	39
425 µm	36
300 µm	32
200 µm	27
150 µm	22
63 µm	13
20 µm	5
6 µm	4
2 µm	3

Non Engineering Description
Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	9.7
Gravel	44.5
Sand	33.4
Silt	9.4
Clay	3.1
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	12
D10	0.040
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	300.0

Notes
Sedimentation sample not pre-treated



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BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Figure C29

62 Rochsolloch Road, Airdrie, ML6 9BG

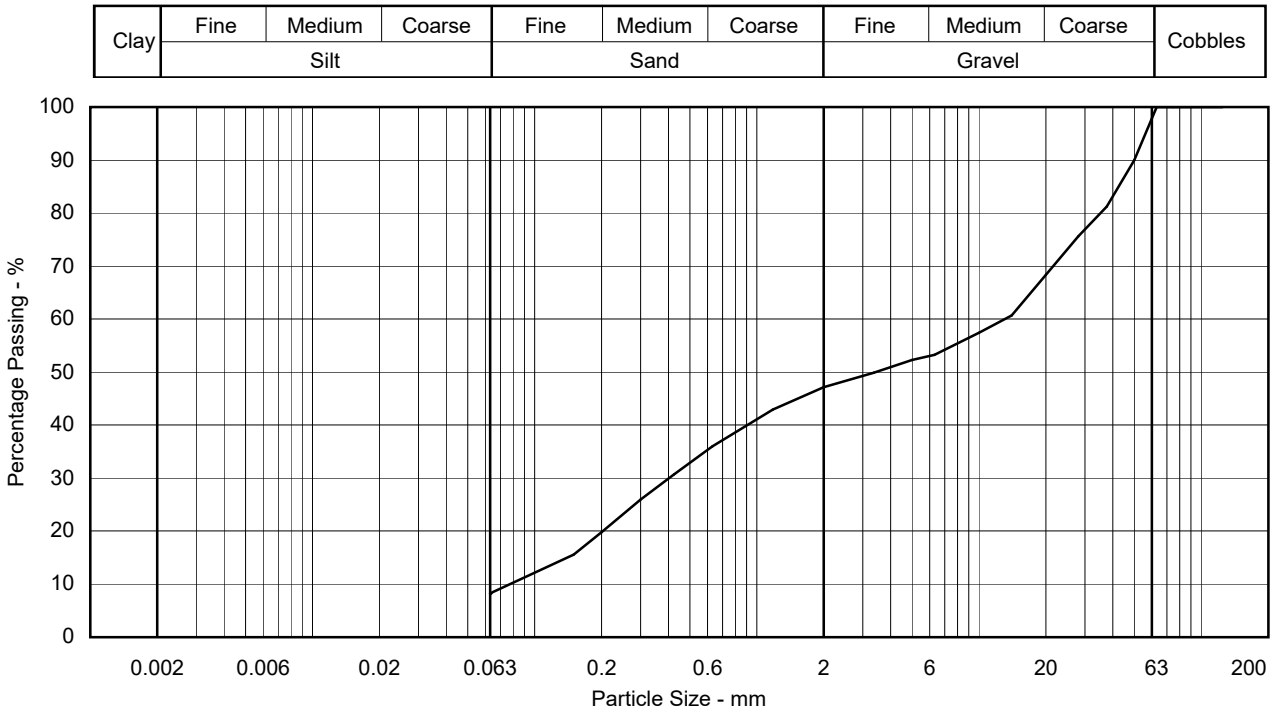
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB04
	Engineer Jacobs	Sample Ref Depth (m) 6.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	90
37.5 mm	81
28.0 mm	76
20.0 mm	68
14.0 mm	61
10.0 mm	57
6.30 mm	53
5.00 mm	52
3.35 mm	50
2.00 mm	47
1.18 mm	43
630 µm	36
425 µm	31
300 µm	26
200 µm	20
150 µm	16
63 µm	8

Non Engineering Description
Brown silty SAND and GRAVEL. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	52.9
Sand	39.0
Silt & Clay	8.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	13
D10	0.078
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	166.7

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
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Figure C30

62 Rochsolloch Road, Airdrie, ML6 9BG

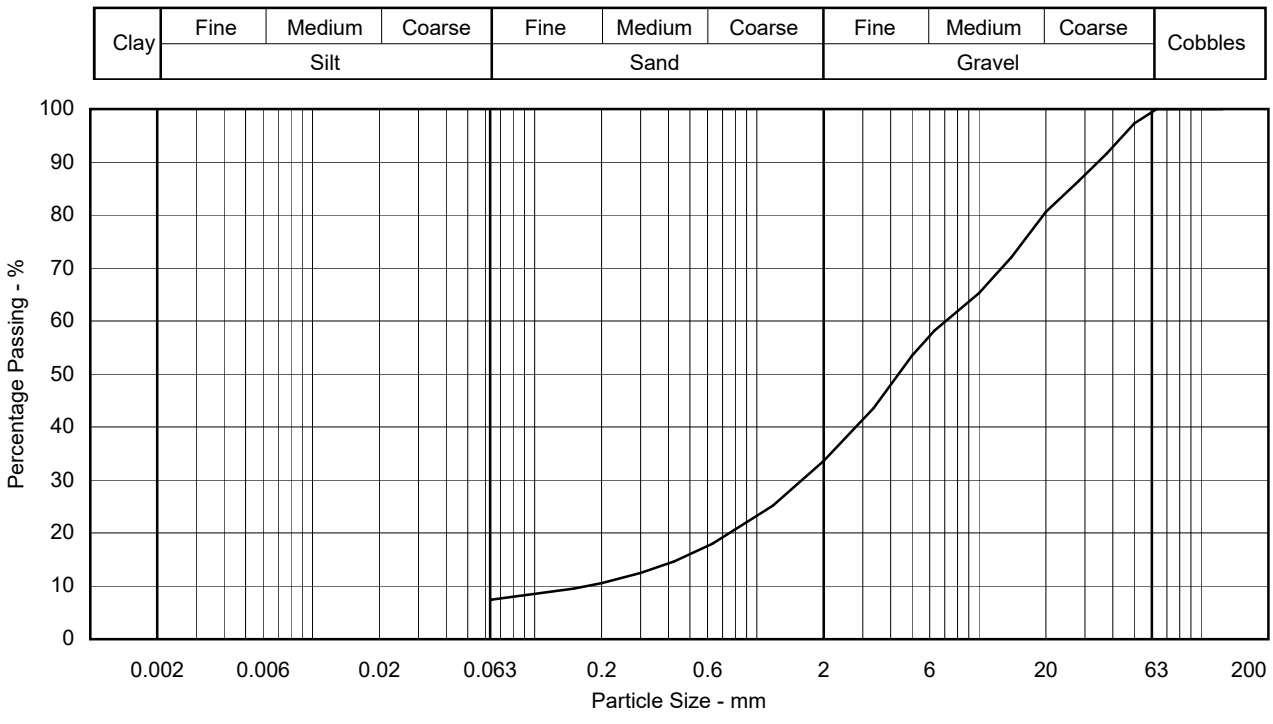
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB04
	Engineer Jacobs	Sample Ref Depth (m) 7.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	97
37.5 mm	92
28.0 mm	86
20.0 mm	81
14.0 mm	72
10.0 mm	65
6.30 mm	58
5.00 mm	53
3.35 mm	44
2.00 mm	34
1.18 mm	25
630 µm	18
425 µm	15
300 µm	12
200 µm	11
150 µm	10
63 µm	7

Non Engineering Description
Brown silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	66.4
Sand	26.2
Silt & Clay	7.4
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	7.1
D10	0.17
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	41.8

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C31

62 Rochsolloch Road, Airdrie, ML6 9BG

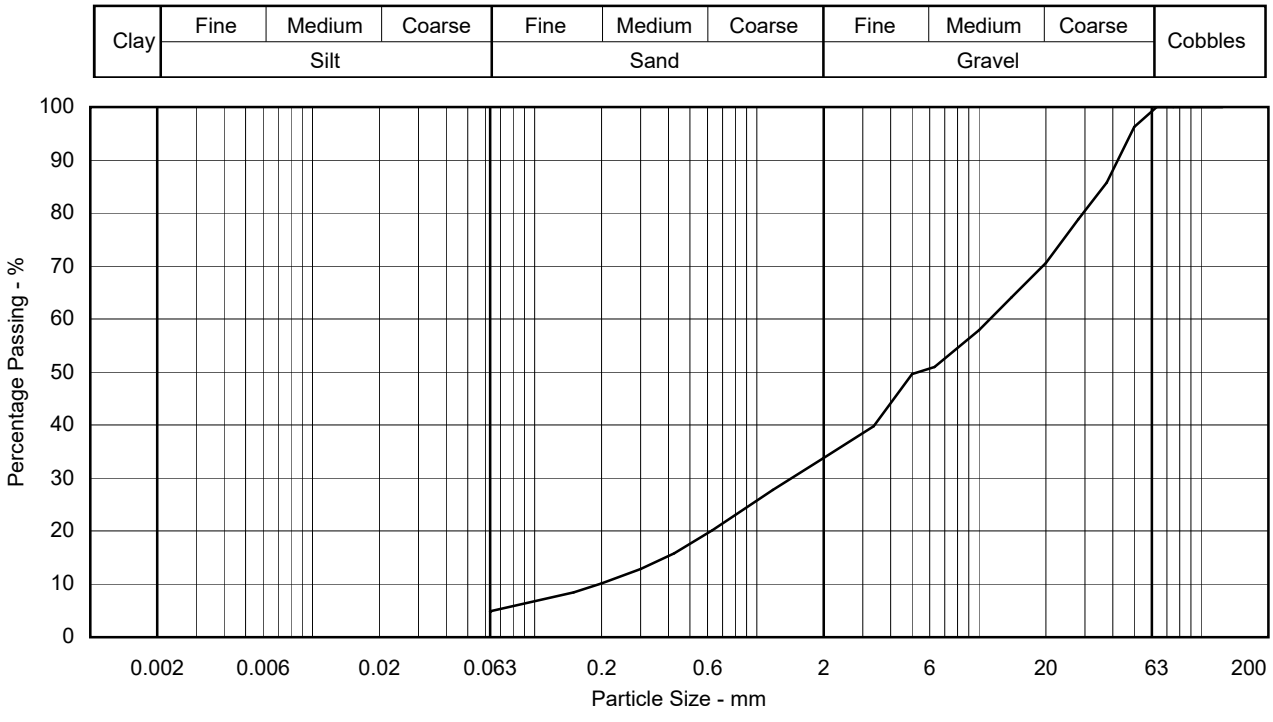
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB05
	Engineer Jacobs	Sample Ref Depth (m) 1.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	96
37.5 mm	86
28.0 mm	79
20.0 mm	71
14.0 mm	64
10.0 mm	58
6.30 mm	51
5.00 mm	50
3.35 mm	40
2.00 mm	34
1.18 mm	28
630 µm	20
425 µm	16
300 µm	13
200 µm	10
150 µm	8
63 µm	5

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	66.2
Sand	28.9
Silt & Clay	4.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	11
D10	0.20
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	55.0

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C32

62 Rochsolloch Road, Airdrie, ML6 9BG

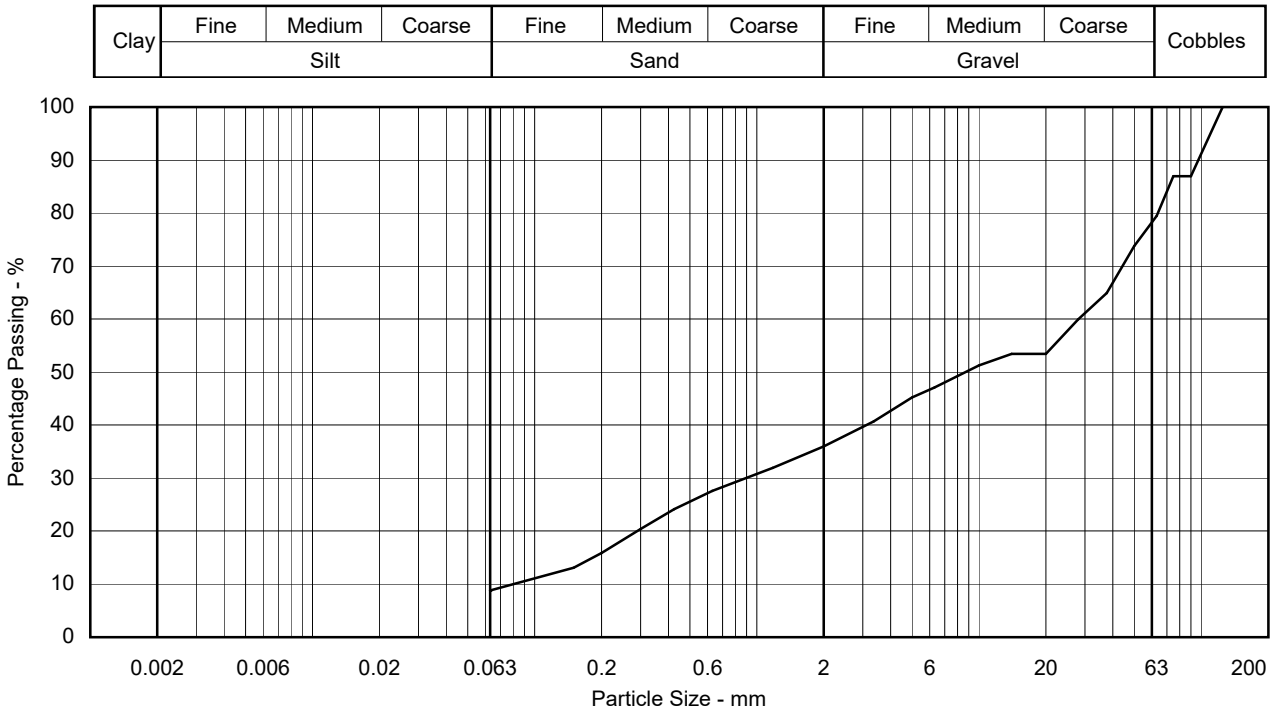
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB05
	Engineer Jacobs	Sample Ref Depth (m) 4.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	87
75.0 mm	87
63.0 mm	79
50.0 mm	74
37.5 mm	65
28.0 mm	60
20.0 mm	53
14.0 mm	53
10.0 mm	51
6.30 mm	47
5.00 mm	45
3.35 mm	41
2.00 mm	36
1.18 mm	32
630 µm	28
425 µm	24
300 µm	20
200 µm	16
150 µm	13
63 µm	9

Non Engineering Description
Brown silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	20.5
Gravel	43.5
Sand	27.2
Silt & Clay	8.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	125
D60	28
D10	0.081
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	345.7

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C33

62 Rochsolloch Road, Airdrie, ML6 9BG

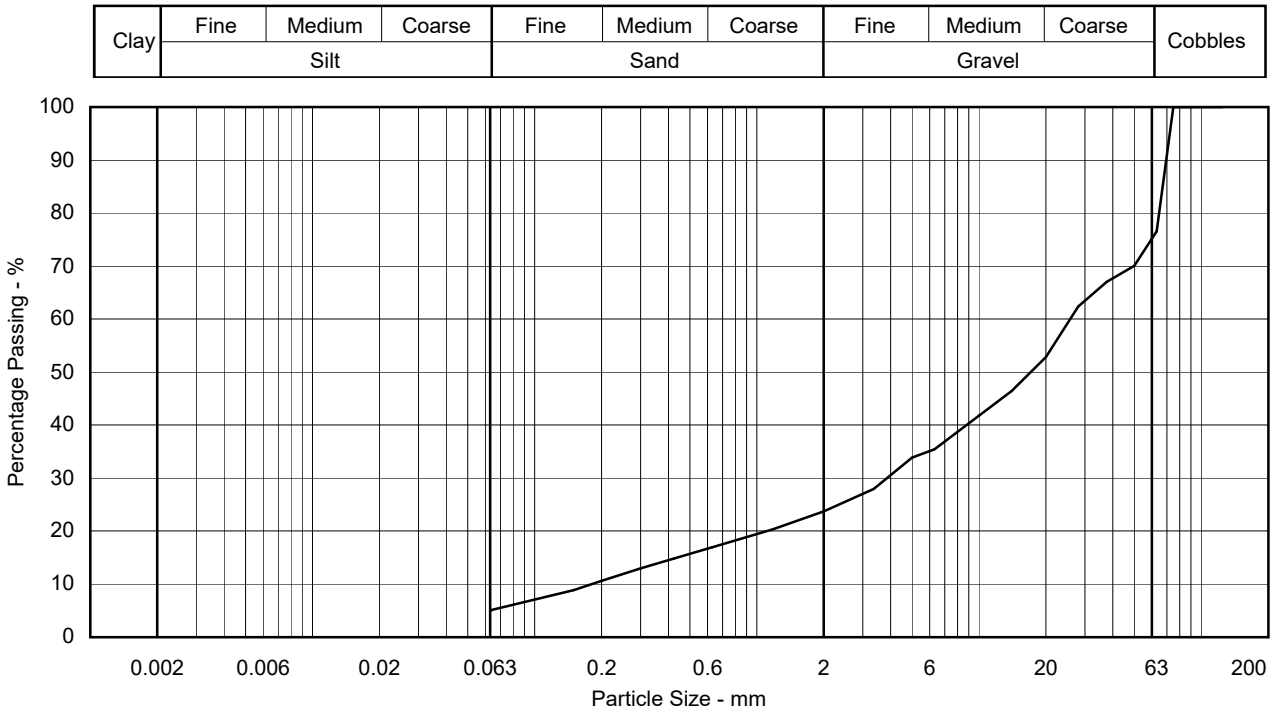
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB05
	Engineer Jacobs	Sample Ref Depth (m) 7.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	77
50.0 mm	70
37.5 mm	67
28.0 mm	62
20.0 mm	53
14.0 mm	46
10.0 mm	42
6.30 mm	35
5.00 mm	34
3.35 mm	28
2.00 mm	24
1.18 mm	20
630 µm	17
425 µm	15
300 µm	13
200 µm	11
150 µm	9
63 µm	5

Non Engineering Description
Brown silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	23.5
Gravel	52.9
Sand	18.6
Silt & Clay	5.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	26
D10	0.18
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	144.4

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C34

62 Rochsolloch Road, Airdrie, ML6 9BG

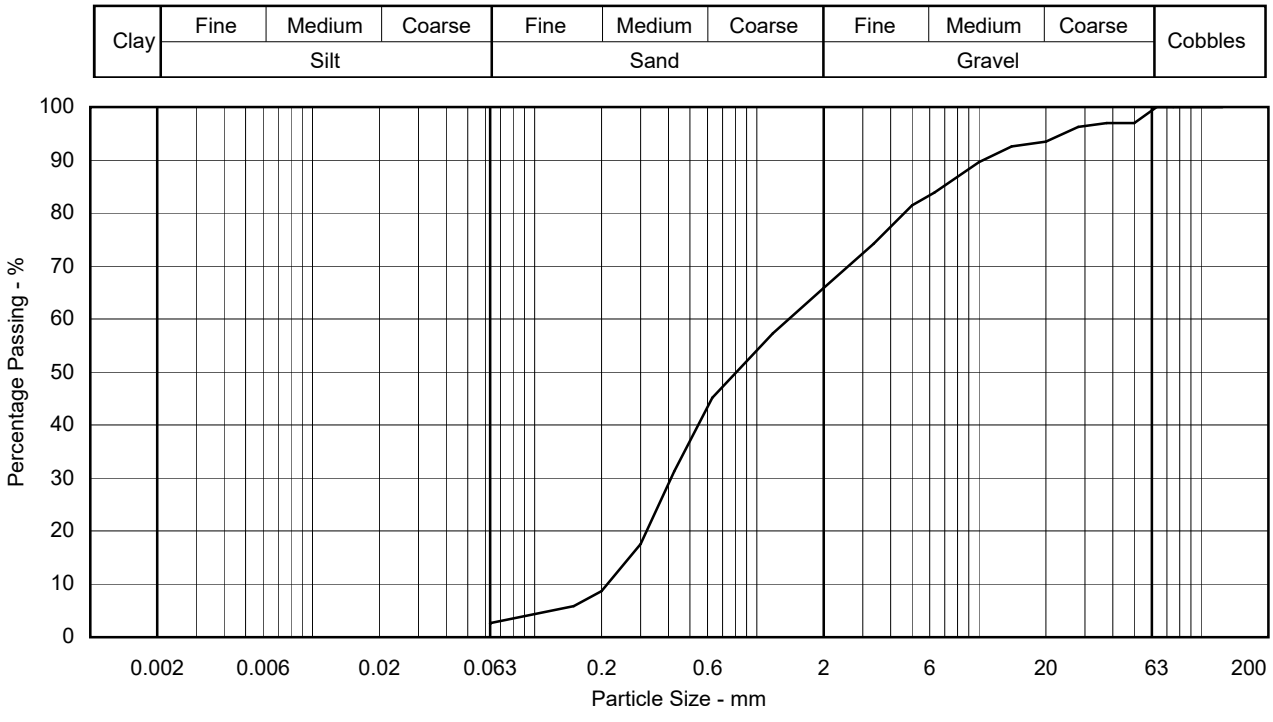
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB05
	Engineer Jacobs	Sample Ref Depth (m) 12.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	97
37.5 mm	97
28.0 mm	96
20.0 mm	93
14.0 mm	93
10.0 mm	90
6.30 mm	84
5.00 mm	81
3.35 mm	74
2.00 mm	66
1.18 mm	57
630 µm	45
425 µm	31
300 µm	18
200 µm	9
150 µm	6
63 µm	3

Non Engineering Description
Brown slightly silty very gravelly SAND. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	34.1
Sand	63.3
Silt & Clay	2.6
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	1.4
D10	0.21
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	6.7

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C35

62 Rochsolloch Road, Airdrie, ML6 9BG

igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB05
	Engineer Jacobs	Sample Ref Depth (m) 13.00 Sample Type B

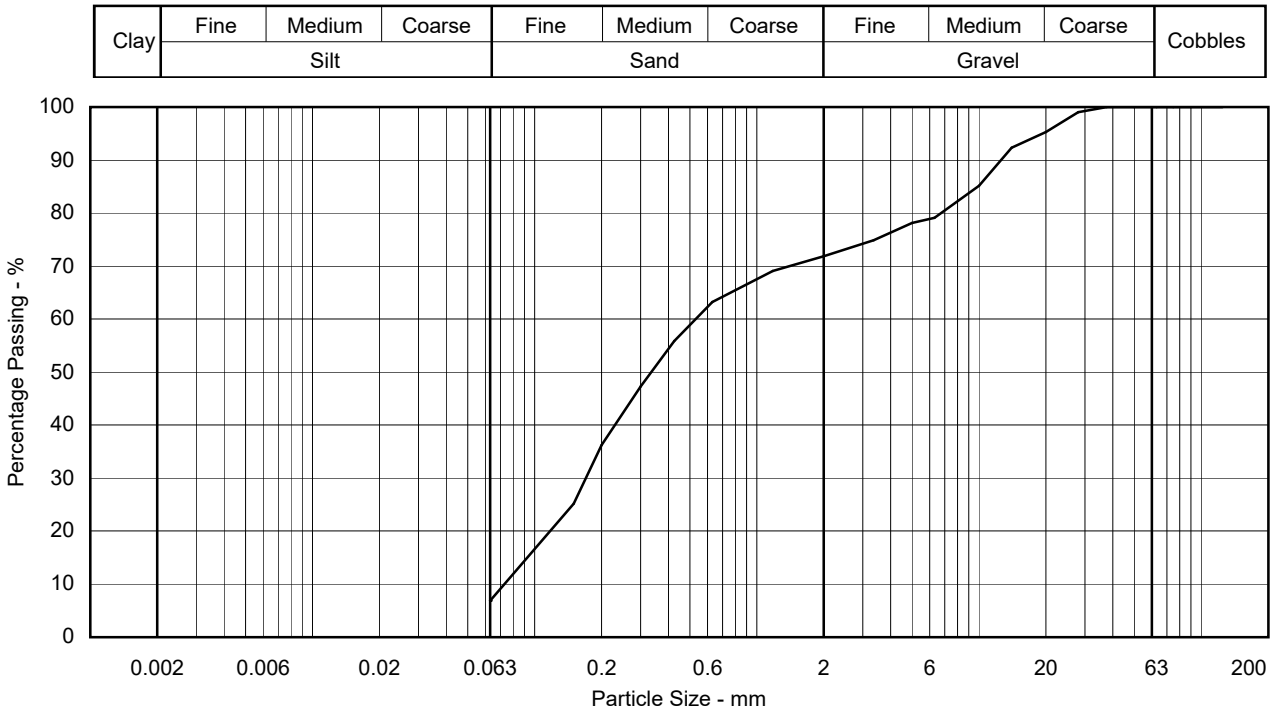
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	99
20.0 mm	95
14.0 mm	92
10.0 mm	85
6.30 mm	79
5.00 mm	78
3.35 mm	75
2.00 mm	72
1.18 mm	69
630 µm	63
425 µm	56
300 µm	47
200 µm	36
150 µm	25
63 µm	7

Non Engineering Description

Brown slightly silty very gravelly SAND. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	28.2
Sand	65.0
Silt & Clay	6.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	38
D60	0.53
D10	0.073
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	7.3

Notes



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BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C36

62 Rochsolloch Road, Airdrie, ML6 9BG

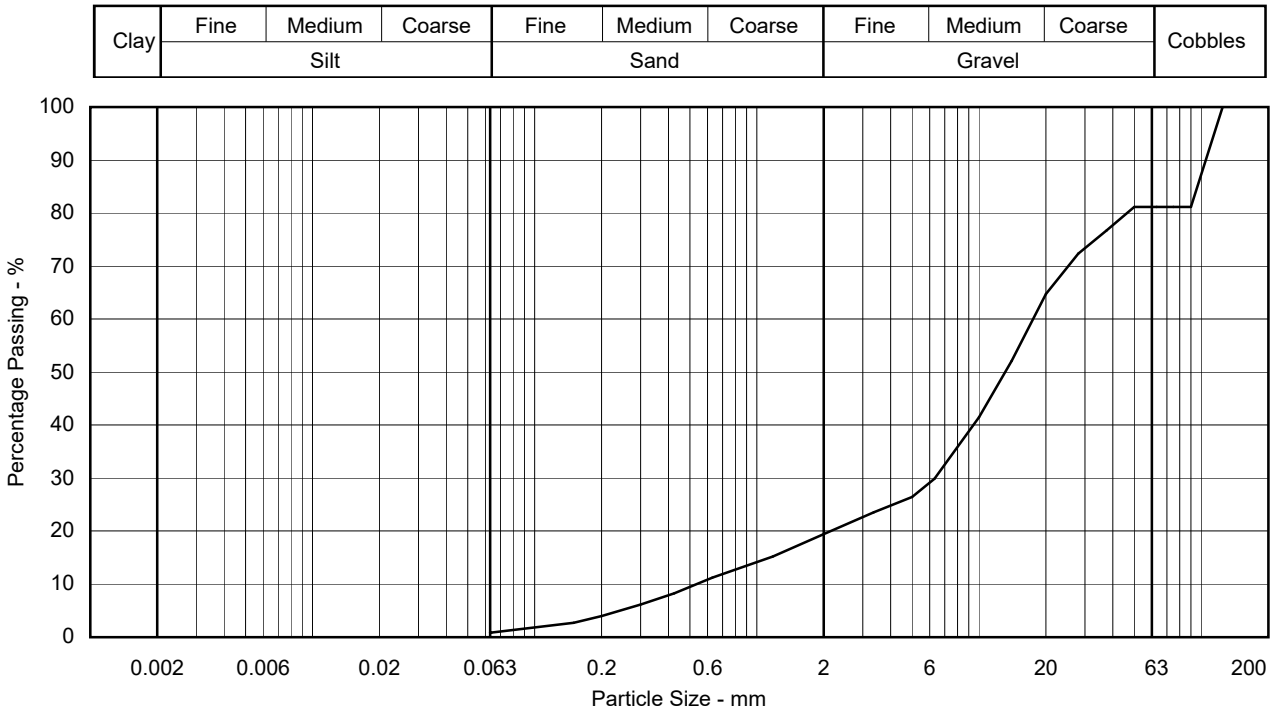
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB06
	Engineer Jacobs	Sample Ref Depth (m) 1.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	81
75.0 mm	81
63.0 mm	81
50.0 mm	81
37.5 mm	77
28.0 mm	72
20.0 mm	65
14.0 mm	52
10.0 mm	41
6.30 mm	30
5.00 mm	26
3.35 mm	23
2.00 mm	19
1.18 mm	15
630 µm	11
425 µm	8
300 µm	6
200 µm	4
150 µm	3
63 µm	1

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	18.8
Gravel	61.8
Sand	18.6
Silt & Clay	0.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	125
D60	18
D10	0.54
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	33.3

Notes



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PARTICLE SIZE DISTRIBUTION
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Figure C37

62 Rochsolloch Road, Airdrie, ML6 9BG

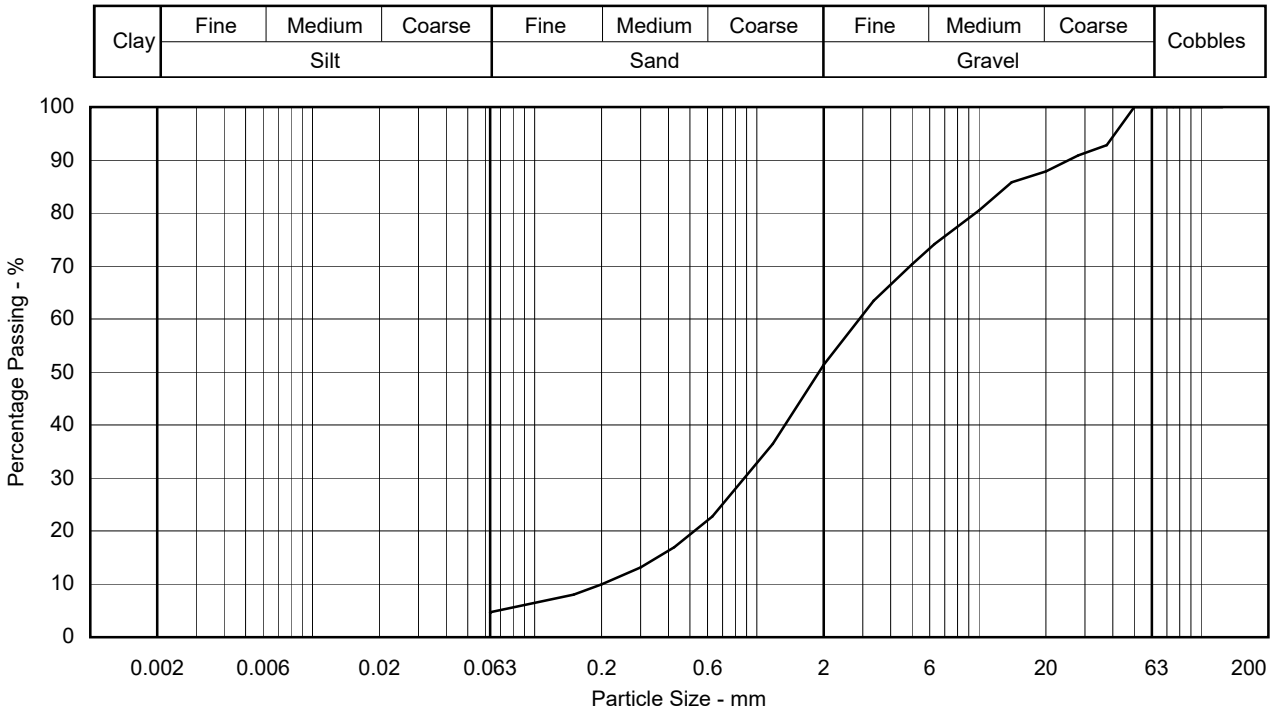
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB06
	Engineer Jacobs	Sample Ref Depth (m) 2.70 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	93
28.0 mm	91
20.0 mm	88
14.0 mm	86
10.0 mm	80
6.30 mm	74
5.00 mm	70
3.35 mm	63
2.00 mm	51
1.18 mm	36
630 µm	23
425 µm	17
300 µm	13
200 µm	10
150 µm	8
63 µm	5

Non Engineering Description
Brown slightly silty SAND and GRAVEL. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	48.6
Sand	46.7
Silt & Clay	4.7
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	50
D60	2.9
D10	0.20
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	14.5

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C38

62 Rochsolloch Road, Airdrie, ML6 9BG

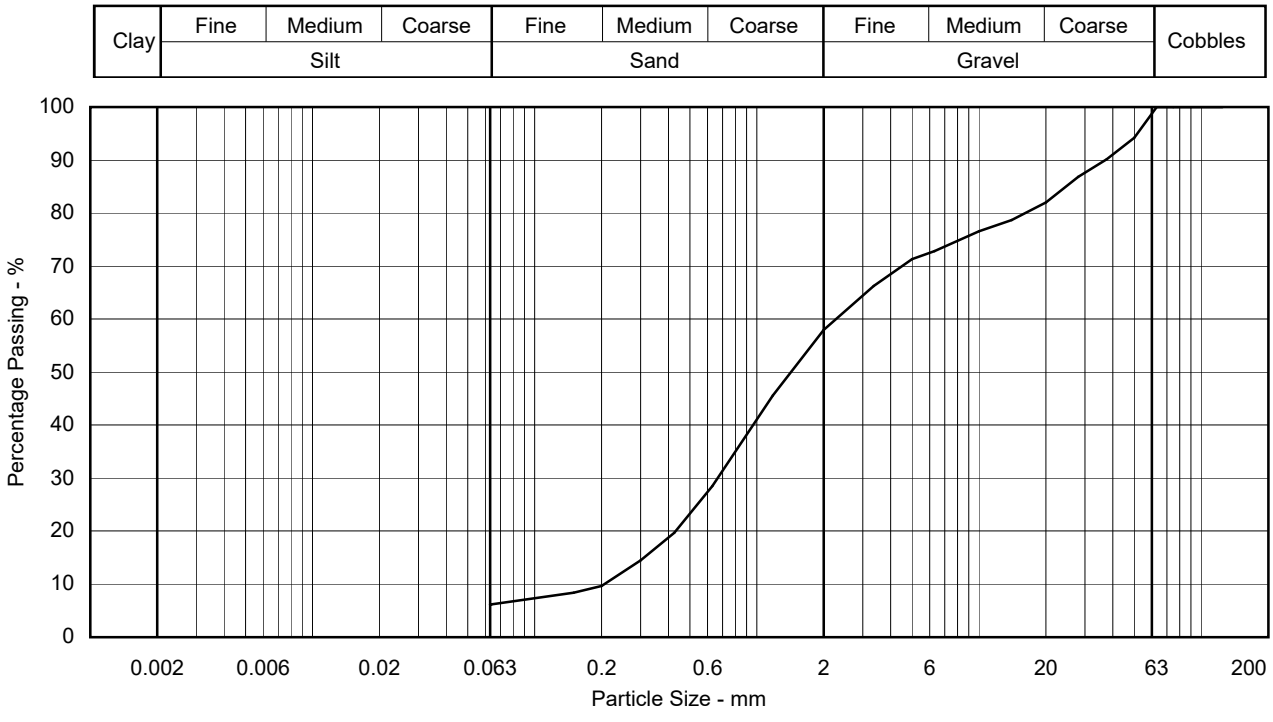
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB06
	Engineer Jacobs	Sample Ref Depth (m) 4.20 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	94
37.5 mm	90
28.0 mm	87
20.0 mm	82
14.0 mm	79
10.0 mm	77
6.30 mm	73
5.00 mm	71
3.35 mm	66
2.00 mm	58
1.18 mm	46
630 µm	28
425 µm	20
300 µm	14
200 µm	10
150 µm	8
63 µm	6

Non Engineering Description
Brown silty SAND and GRAVEL. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	42.0
Sand	51.8
Silt & Clay	6.1
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	2.3
D10	0.21
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	11.0

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C39

62 Rochsolloch Road, Airdrie, ML6 9BG

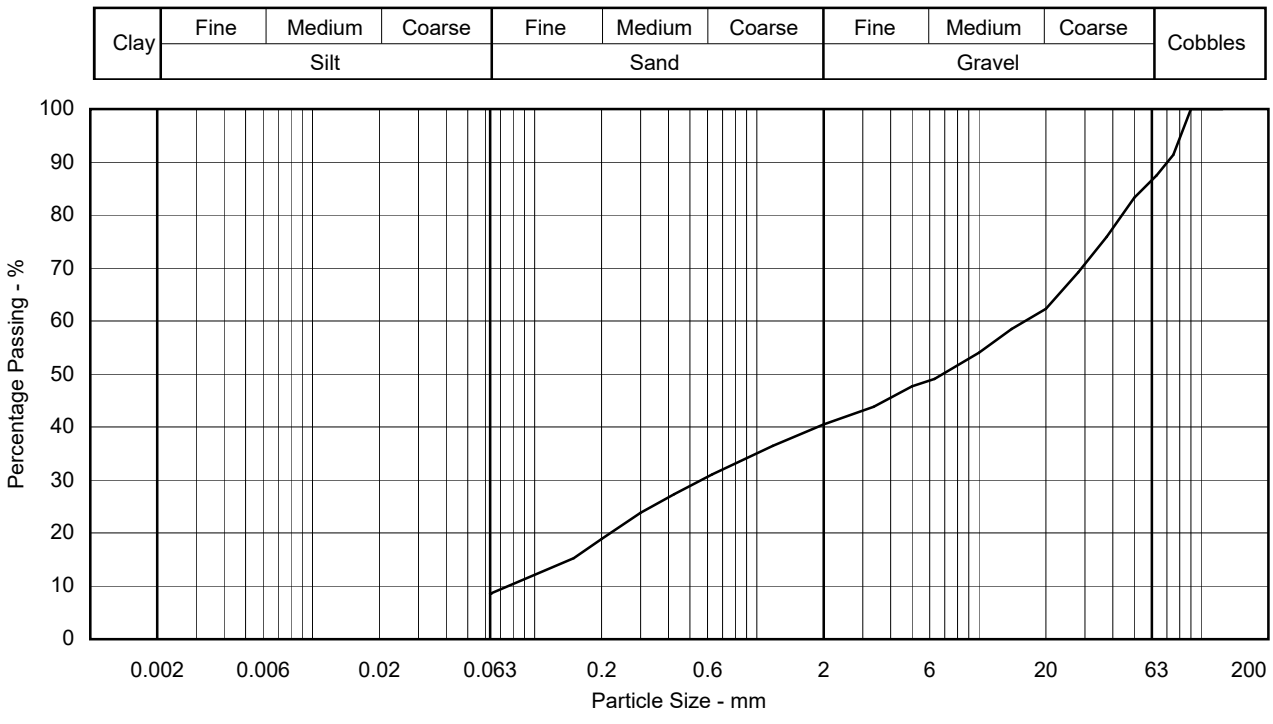
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB06
	Engineer Jacobs	Sample Ref Depth (m) 5.70 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	91
63.0 mm	87
50.0 mm	83
37.5 mm	76
28.0 mm	69
20.0 mm	62
14.0 mm	58
10.0 mm	54
6.30 mm	49
5.00 mm	48
3.35 mm	44
2.00 mm	40
1.18 mm	36
630 µm	31
425 µm	27
300 µm	24
200 µm	19
150 µm	15
63 µm	9

Non Engineering Description
Brown silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	12.5
Gravel	47.0
Sand	32.0
Silt & Clay	8.5
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	16
D10	0.076
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	210.5

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C40

62 Rochsolloch Road, Airdrie, ML6 9BG

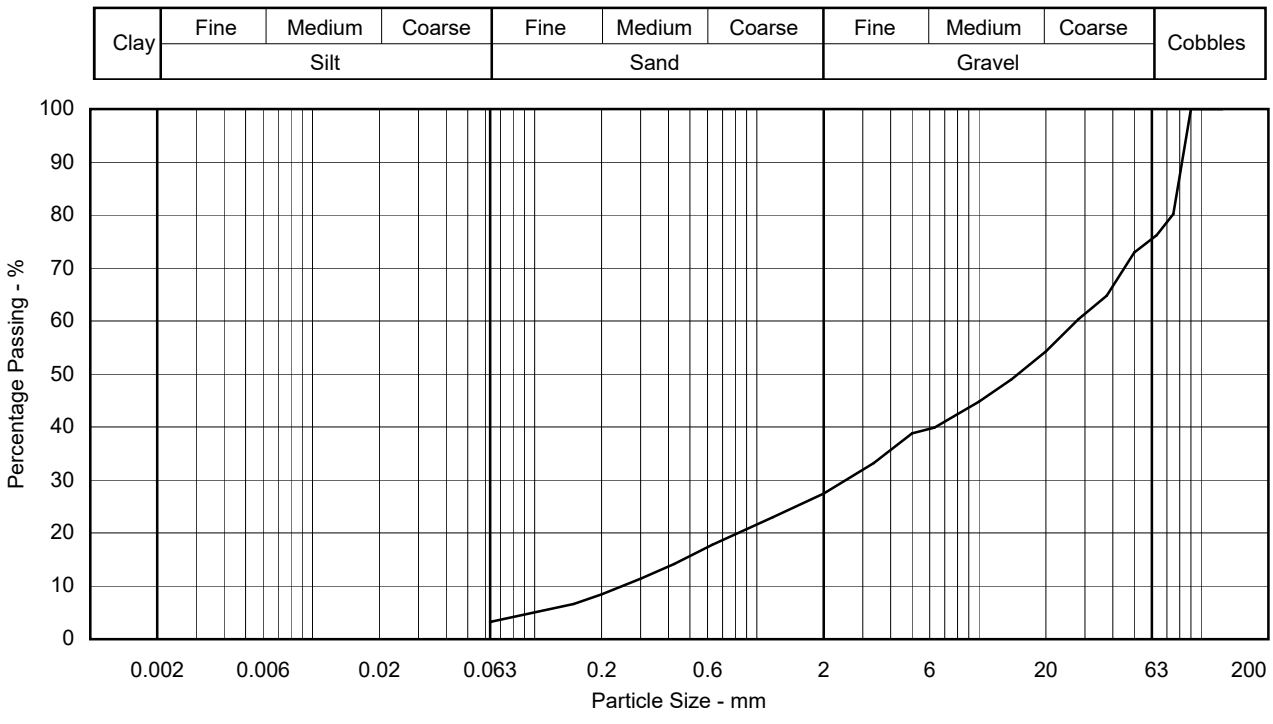
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB06
	Engineer Jacobs	Sample Ref Depth (m) 7.20 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	80
63.0 mm	76
50.0 mm	73
37.5 mm	65
28.0 mm	60
20.0 mm	54
14.0 mm	49
10.0 mm	45
6.30 mm	40
5.00 mm	39
3.35 mm	33
2.00 mm	27
1.18 mm	23
630 µm	18
425 µm	14
300 µm	11
200 µm	8
150 µm	7
63 µm	3

Non Engineering Description
Brown silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	23.8
Gravel	48.8
Sand	24.3
Silt & Clay	3.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	28
D10	0.25
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	112.0

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C41

62 Rochsolloch Road, Airdrie, ML6 9BG

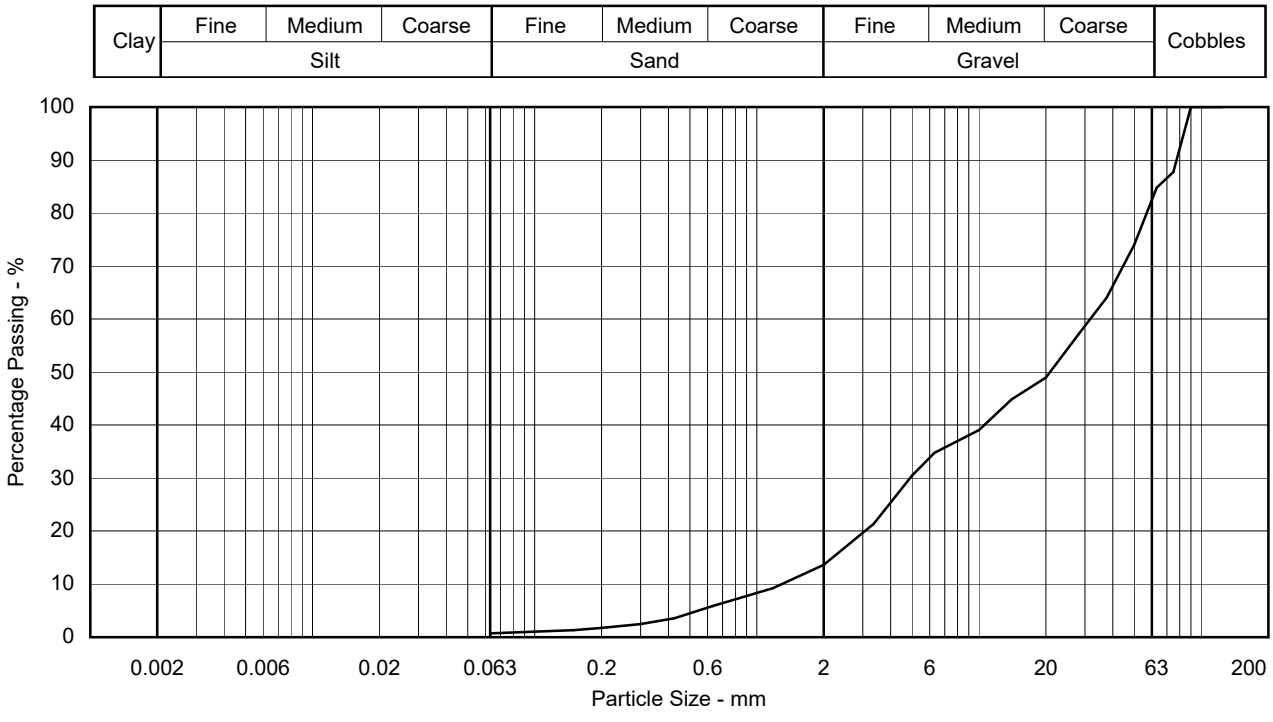
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB07
	Engineer Jacobs	Sample Ref Depth (m) 1.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	88
63.0 mm	85
50.0 mm	74
37.5 mm	64
28.0 mm	57
20.0 mm	49
14.0 mm	45
10.0 mm	39
6.30 mm	35
5.00 mm	30
3.35 mm	21
2.00 mm	14
1.18 mm	9
630 µm	6
425 µm	4
300 µm	2
200 µm	2
150 µm	1
63 µm	1

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	15.2
Gravel	71.2
Sand	13.0
Silt & Clay	0.7
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	32
D10	1.3
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	24.6

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C42

Sheet 1 of 1

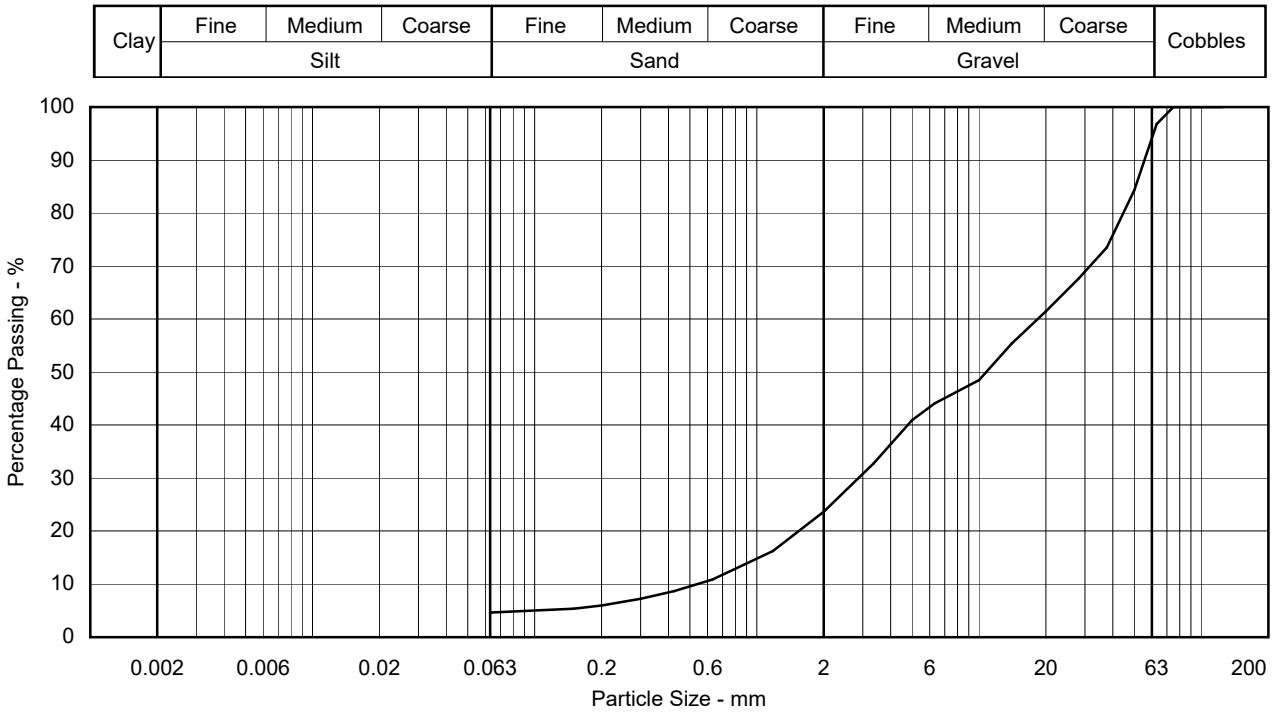
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB07
	Engineer Jacobs	Sample Ref Depth (m) 1.20 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	97
50.0 mm	84
37.5 mm	73
28.0 mm	68
20.0 mm	61
14.0 mm	55
10.0 mm	48
6.30 mm	44
5.00 mm	41
3.35 mm	33
2.00 mm	24
1.18 mm	16
630 µm	11
425 µm	9
300 µm	7
200 µm	6
150 µm	5
63 µm	5

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	3.2
Gravel	73.2
Sand	19.1
Silt & Clay	4.6
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	18
D10	0.54
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	33.3

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C43

62 Rochsolloch Road, Airdrie, ML6 9BG

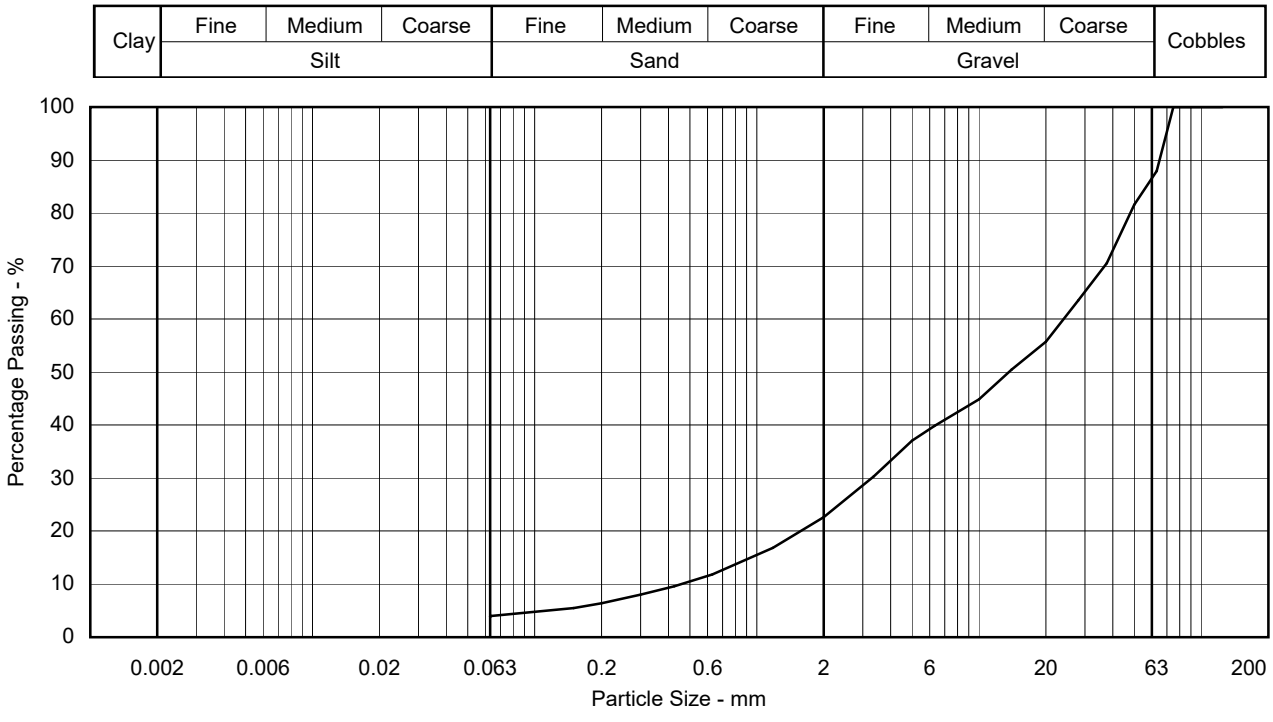
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB07
	Engineer Jacobs	Sample Ref Depth (m) 2.70 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	88
50.0 mm	82
37.5 mm	71
28.0 mm	64
20.0 mm	56
14.0 mm	50
10.0 mm	45
6.30 mm	40
5.00 mm	37
3.35 mm	30
2.00 mm	23
1.18 mm	17
630 µm	12
425 µm	10
300 µm	8
200 µm	6
150 µm	5
63 µm	4

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	12.1
Gravel	65.3
Sand	18.7
Silt & Clay	3.9
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	24
D10	0.46
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	52.2

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C44

62 Rochsolloch Road, Airdrie, ML6 9BG

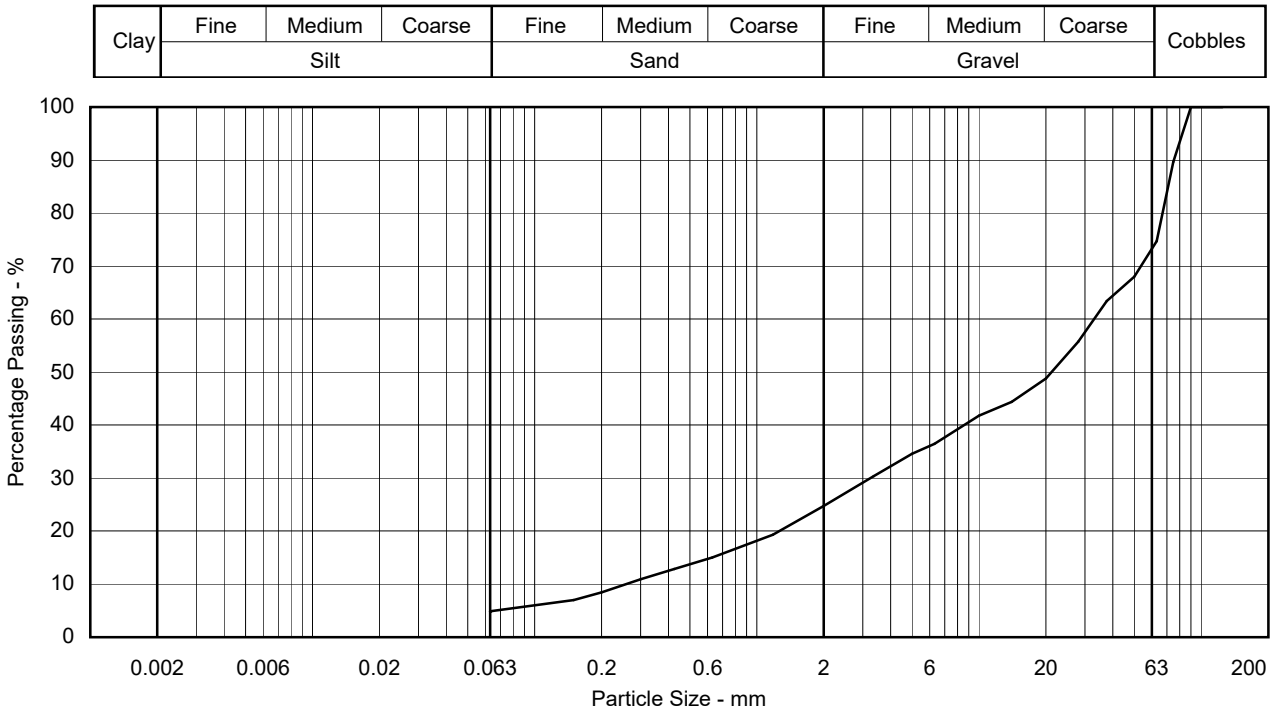
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB07
	Engineer Jacobs	Sample Ref Depth (m) 5.70 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	90
63.0 mm	75
50.0 mm	68
37.5 mm	63
28.0 mm	56
20.0 mm	49
14.0 mm	44
10.0 mm	42
6.30 mm	36
5.00 mm	35
3.35 mm	30
2.00 mm	25
1.18 mm	19
630 µm	15
425 µm	13
300 µm	11
200 µm	8
150 µm	7
63 µm	5

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	25.3
Gravel	50.0
Sand	19.9
Silt & Clay	4.9
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	33
D10	0.26
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	126.9

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C45

62 Rochsolloch Road, Airdrie, ML6 9BG

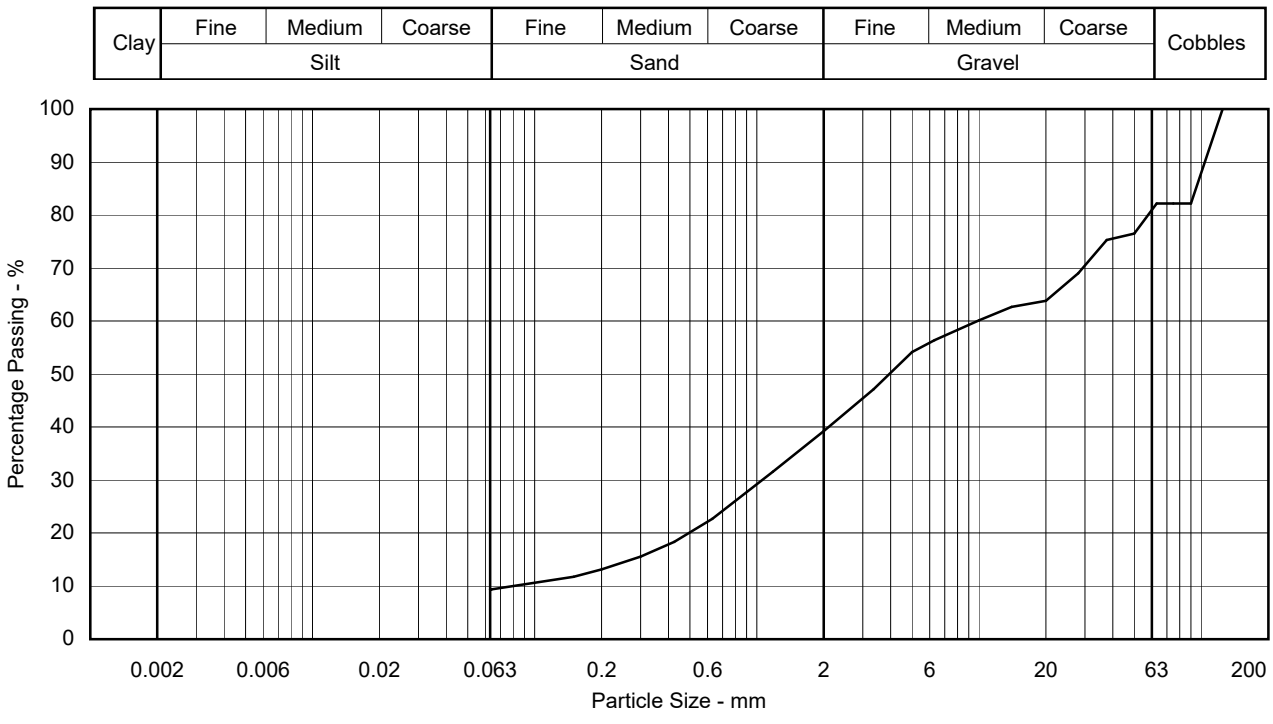
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB08
	Engineer Jacobs	Sample Ref Depth (m) 1.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	82
75.0 mm	82
63.0 mm	82
50.0 mm	76
37.5 mm	75
28.0 mm	69
20.0 mm	64
14.0 mm	63
10.0 mm	60
6.30 mm	56
5.00 mm	54
3.35 mm	47
2.00 mm	39
1.18 mm	32
630 µm	23
425 µm	18
300 µm	16
200 µm	13
150 µm	12
63 µm	9

Non Engineering Description
Brown silty SAND and GRAVEL with cobbles. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	17.8
Gravel	42.9
Sand	29.9
Silt & Clay	9.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	125
D60	9.9
D10	0.081
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	122.2

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C46

62 Rochsolloch Road, Airdrie, ML6 9BG

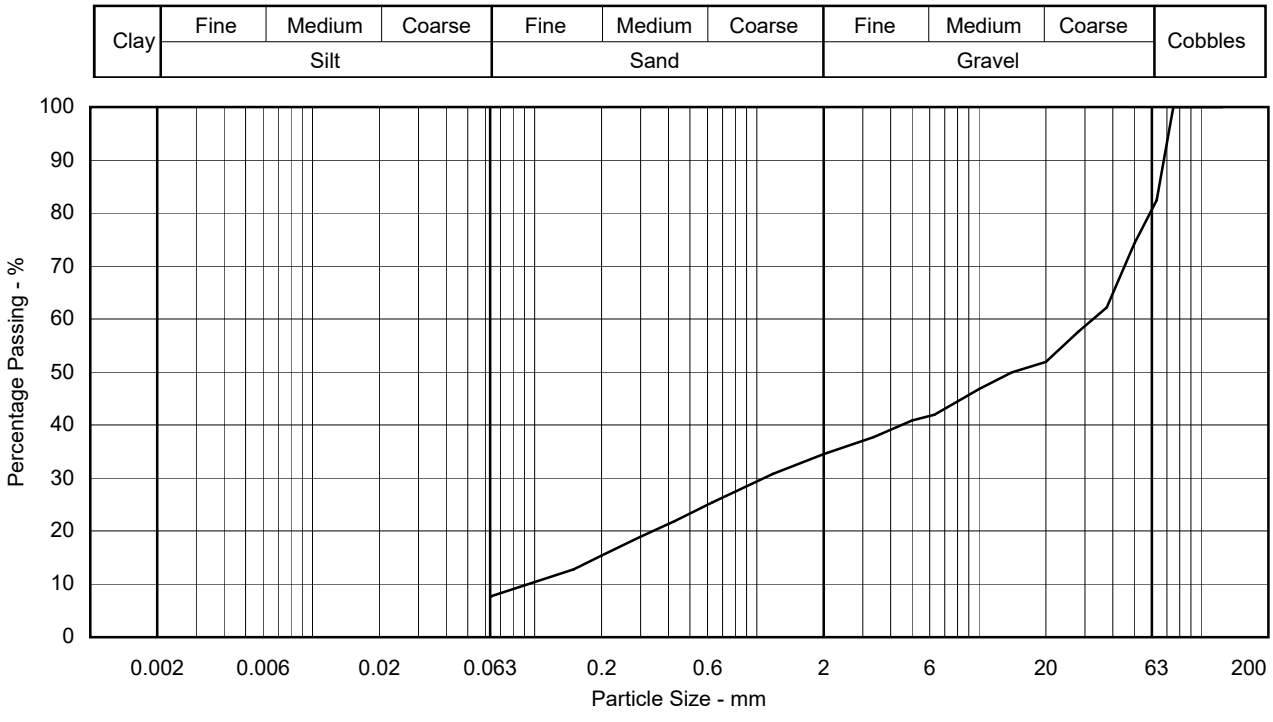
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB08
	Engineer Jacobs	Sample Ref Depth (m) 4.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	82
50.0 mm	74
37.5 mm	62
28.0 mm	58
20.0 mm	52
14.0 mm	50
10.0 mm	47
6.30 mm	42
5.00 mm	41
3.35 mm	38
2.00 mm	35
1.18 mm	31
630 µm	25
425 µm	22
300 µm	19
200 µm	15
150 µm	13
63 µm	8

Non Engineering Description
Brown silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	17.6
Gravel	47.9
Sand	26.9
Silt & Clay	7.6
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	33
D10	0.094
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	351.1

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C47

62 Rochsolloch Road, Airdrie, ML6 9BG

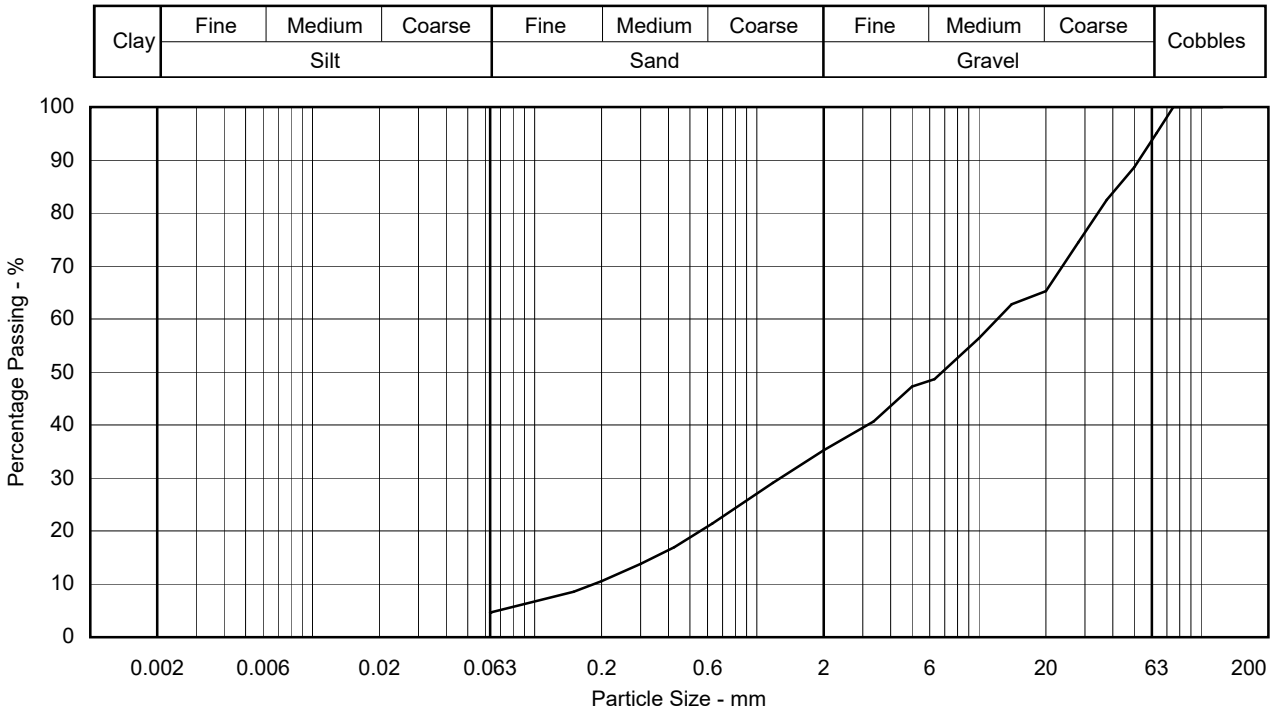
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB08
	Engineer Jacobs	Sample Ref Depth (m) 7.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	95
50.0 mm	89
37.5 mm	83
28.0 mm	74
20.0 mm	65
14.0 mm	63
10.0 mm	56
6.30 mm	49
5.00 mm	47
3.35 mm	41
2.00 mm	35
1.18 mm	29
630 µm	21
425 µm	17
300 µm	14
200 µm	11
150 µm	9
63 µm	5

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	4.9
Gravel	59.9
Sand	30.6
Silt & Clay	4.6
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	12
D10	0.19
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	63.2

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C48

62 Rochsolloch Road, Airdrie, ML6 9BG

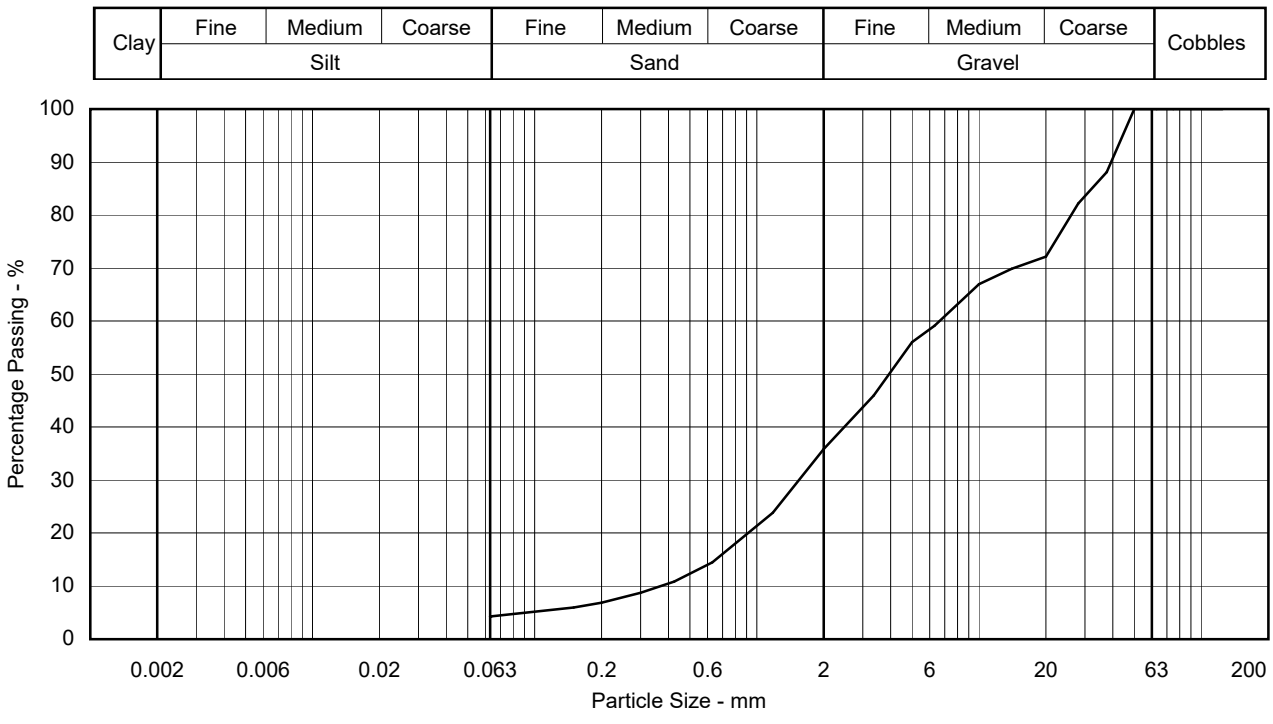
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB08
	Engineer Jacobs	Sample Ref Depth (m) 9.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	88
28.0 mm	82
20.0 mm	72
14.0 mm	70
10.0 mm	67
6.30 mm	59
5.00 mm	56
3.35 mm	46
2.00 mm	36
1.18 mm	24
630 µm	14
425 µm	11
300 µm	9
200 µm	7
150 µm	6
63 µm	4

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	64.2
Sand	31.6
Silt & Clay	4.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	50
D60	6.6
D10	0.37
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	17.8

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C49

62 Rochsolloch Road, Airdrie, ML6 9BG

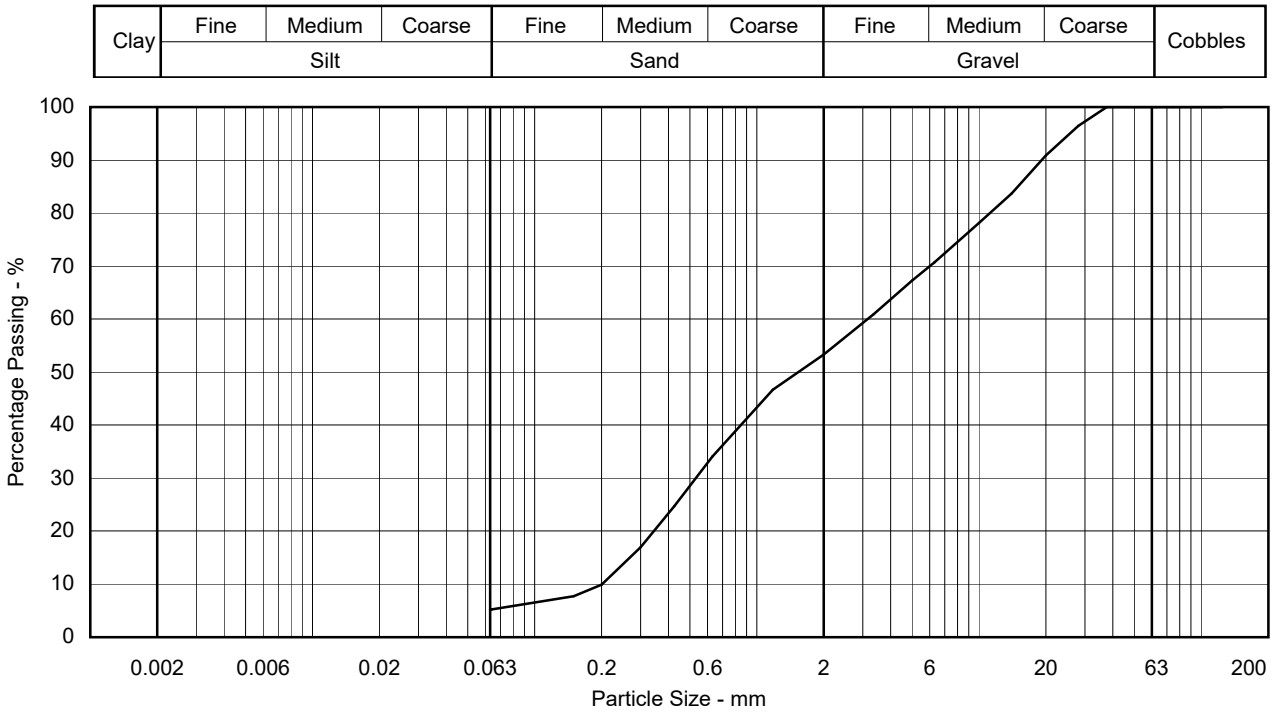
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB08
	Engineer Jacobs	Sample Ref Depth (m) 12.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	96
20.0 mm	91
14.0 mm	84
10.0 mm	78
6.30 mm	71
5.00 mm	67
3.35 mm	61
2.00 mm	53
1.18 mm	47
630 µm	34
425 µm	25
300 µm	17
200 µm	10
150 µm	8
63 µm	5

Non Engineering Description
Brown silty SAND and GRAVEL. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	46.7
Sand	48.1
Silt & Clay	5.1
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	38
D60	3.1
D10	0.20
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	15.5

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C50

62 Rochsolloch Road, Airdrie, ML6 9BG

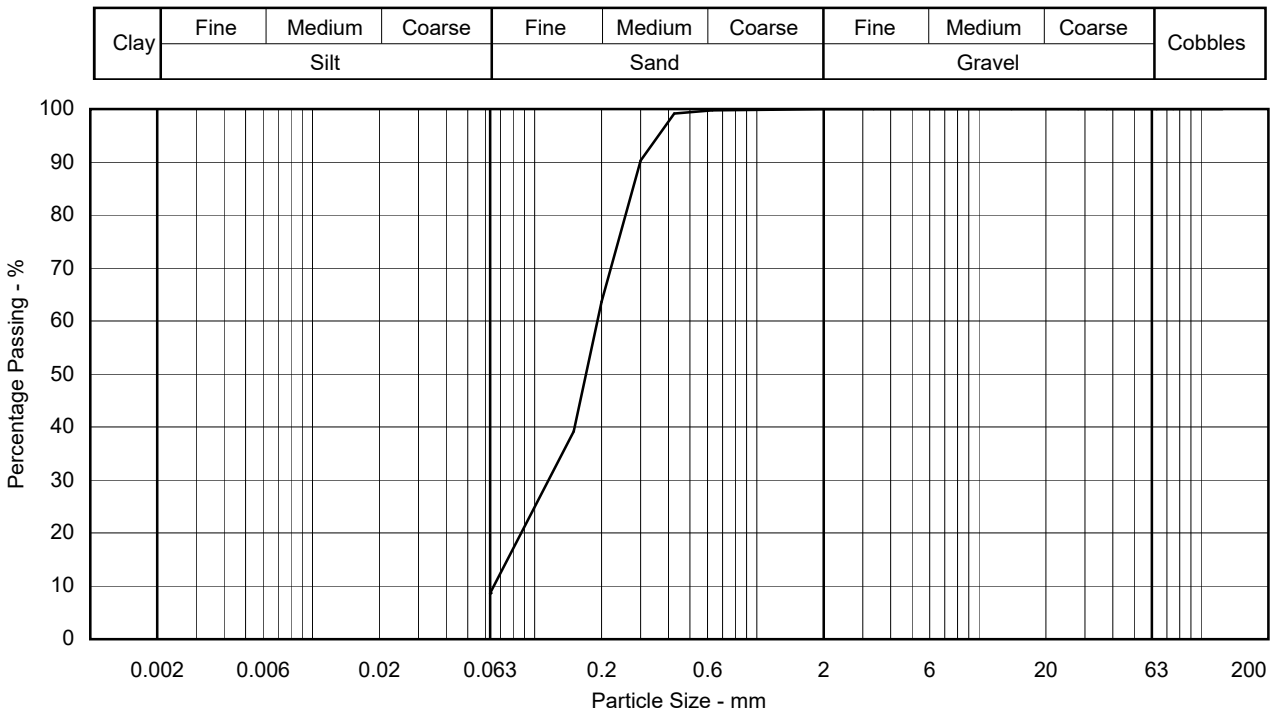
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB08
	Engineer Jacobs	Sample Ref Depth (m) 13.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	100
1.18 mm	100
630 µm	100
425 µm	99
300 µm	90
200 µm	64
150 µm	39
63 µm	9

Non Engineering Description
Brown silty SAND

Sample Proportions - %	
Cobbles	0.0
Gravel	0.0
Sand	91.4
Silt & Clay	8.6
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	2.0
D60	0.19
D10	0.066
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	2.9

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C51

62 Rochsolloch Road, Airdrie, ML6 9BG

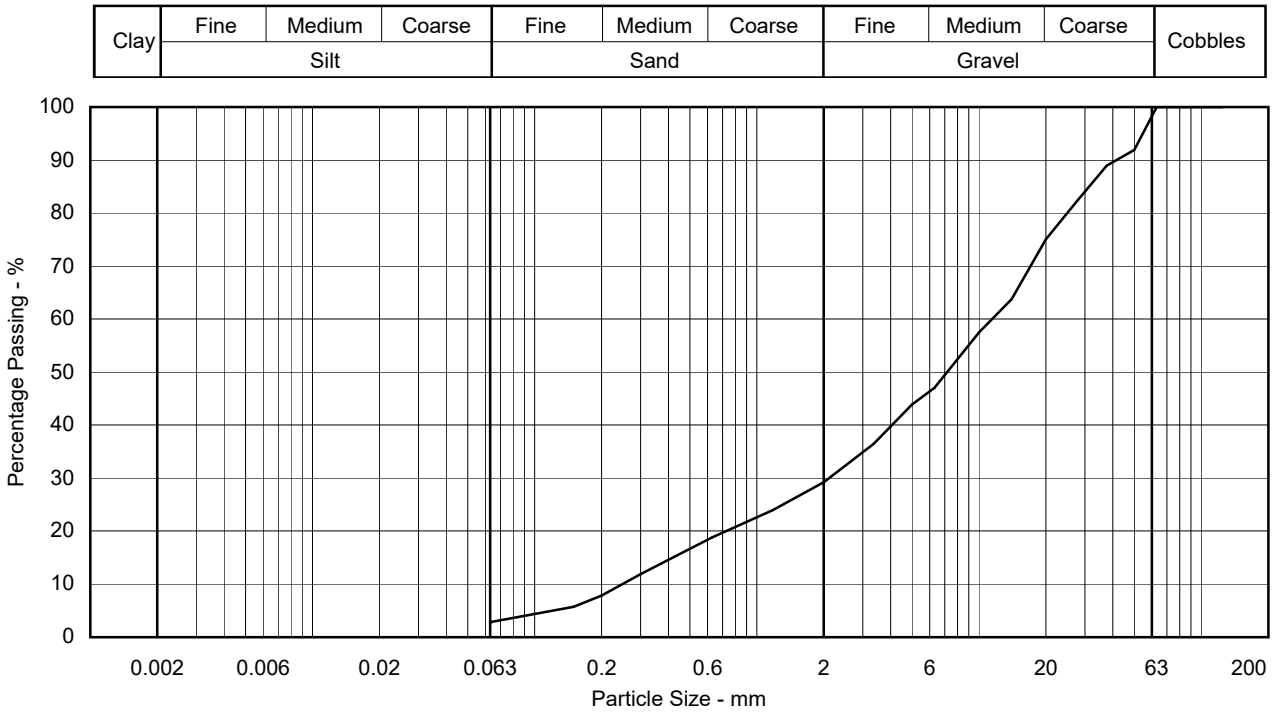
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB09
	Engineer Jacobs	Sample Ref Depth (m) 0.70 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	92
37.5 mm	89
28.0 mm	83
20.0 mm	75
14.0 mm	64
10.0 mm	57
6.30 mm	47
5.00 mm	44
3.35 mm	36
2.00 mm	29
1.18 mm	24
630 µm	19
425 µm	15
300 µm	12
200 µm	8
150 µm	6
63 µm	3

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	70.8
Sand	26.4
Silt & Clay	2.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	11
D10	0.25
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	44.0

Notes



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PARTICLE SIZE DISTRIBUTION
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Figure C52

62 Rochsolloch Road, Airdrie, ML6 9BG

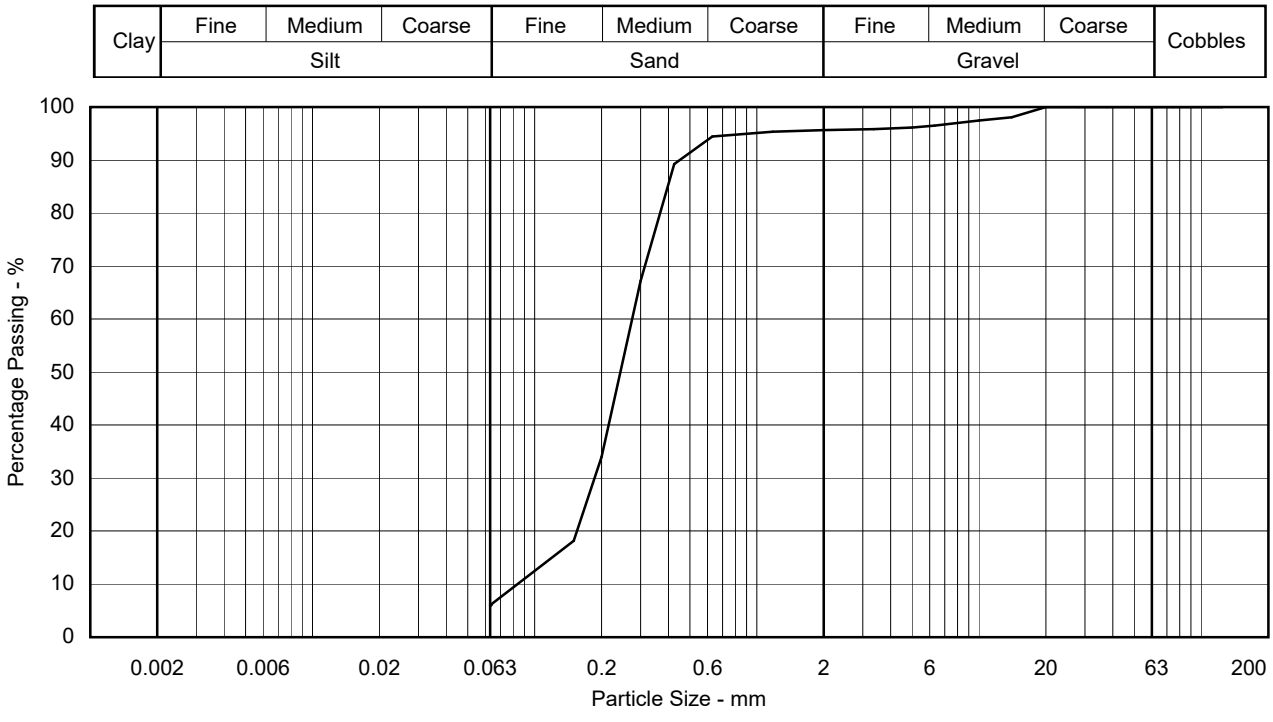
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB09
	Engineer Jacobs	Sample Ref Depth (m) 1.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	98
10.0 mm	97
6.30 mm	96
5.00 mm	96
3.35 mm	96
2.00 mm	96
1.18 mm	95
630 µm	94
425 µm	89
300 µm	67
200 µm	34
150 µm	18
63 µm	6

Non Engineering Description
Brown slightly gravelly silty SAND. Gravel is fine to medium

Sample Proportions - %	
Cobbles	0.0
Gravel	4.3
Sand	89.7
Silt & Clay	6.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	20
D60	0.27
D10	0.084
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	3.2

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C53

62 Rochsolloch Road, Airdrie, ML6 9BG

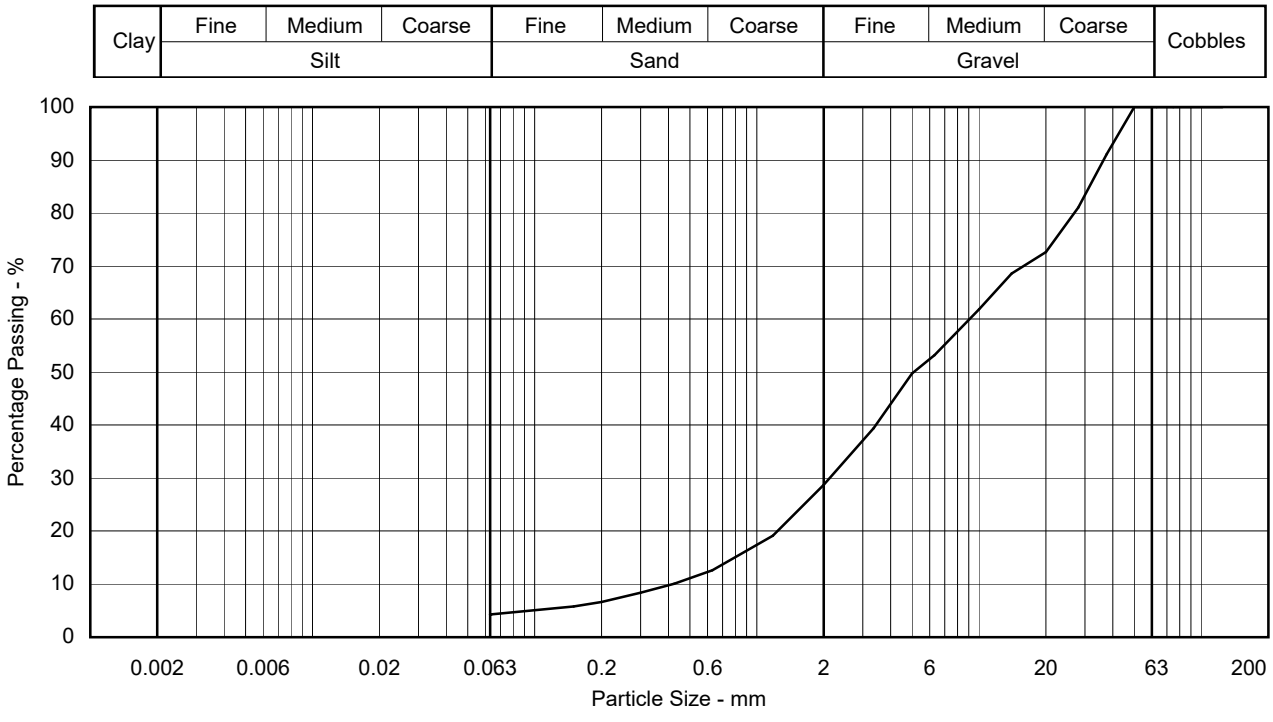
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB09
	Engineer Jacobs	Sample Ref Depth (m) 4.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	91
28.0 mm	81
20.0 mm	73
14.0 mm	69
10.0 mm	62
6.30 mm	53
5.00 mm	50
3.35 mm	39
2.00 mm	29
1.18 mm	19
630 µm	13
425 µm	10
300 µm	8
200 µm	7
150 µm	6
63 µm	4

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	71.3
Sand	24.5
Silt & Clay	4.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	50
D60	9.1
D10	0.42
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	21.7

Notes



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C54

62 Rochsolloch Road, Airdrie, ML6 9BG

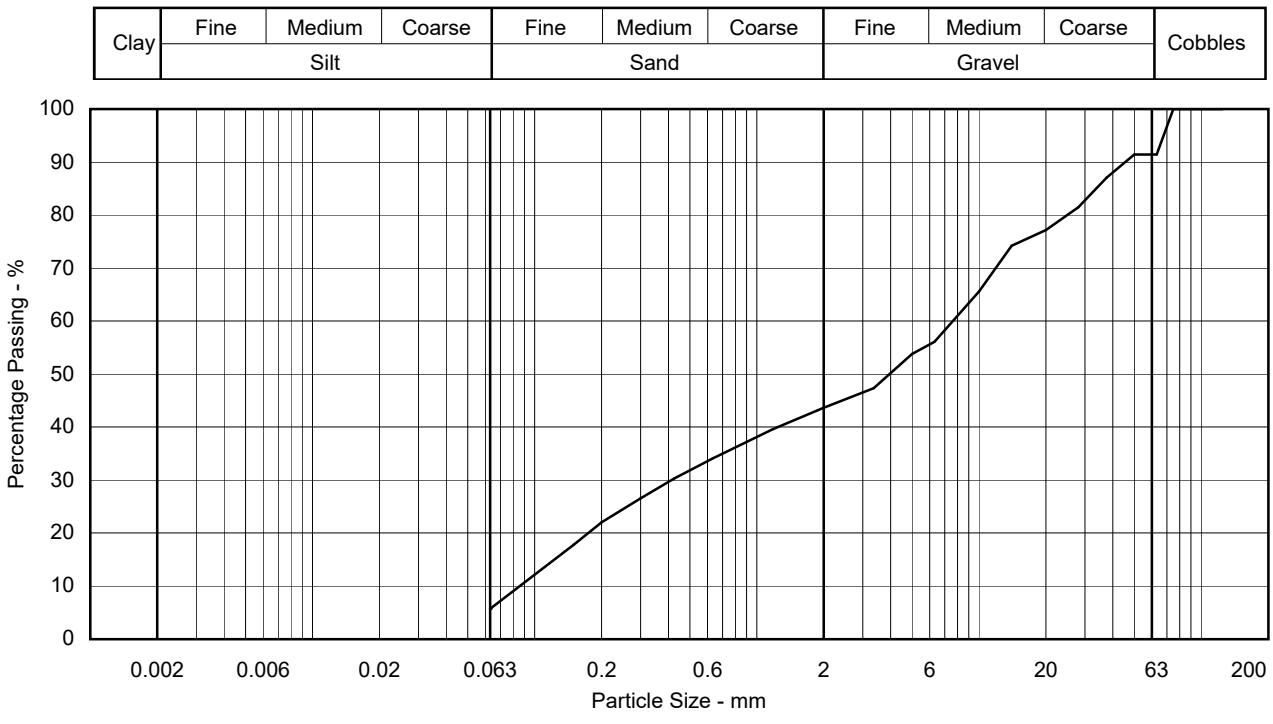
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB09
	Engineer Jacobs	Sample Ref Depth (m) 7.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	91
50.0 mm	91
37.5 mm	87
28.0 mm	81
20.0 mm	77
14.0 mm	74
10.0 mm	66
6.30 mm	56
5.00 mm	54
3.35 mm	47
2.00 mm	44
1.18 mm	40
630 µm	34
425 µm	30
300 µm	27
200 µm	22
150 µm	18
63 µm	6

Non Engineering Description
Brown silty SAND and GRAVEL with cobbles. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	8.6
Gravel	47.8
Sand	37.9
Silt & Clay	5.7
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	7.6
D10	0.086
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	88.4

Notes



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PARTICLE SIZE DISTRIBUTION
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Figure C55

62 Rochsolloch Road, Airdrie, ML6 9BG

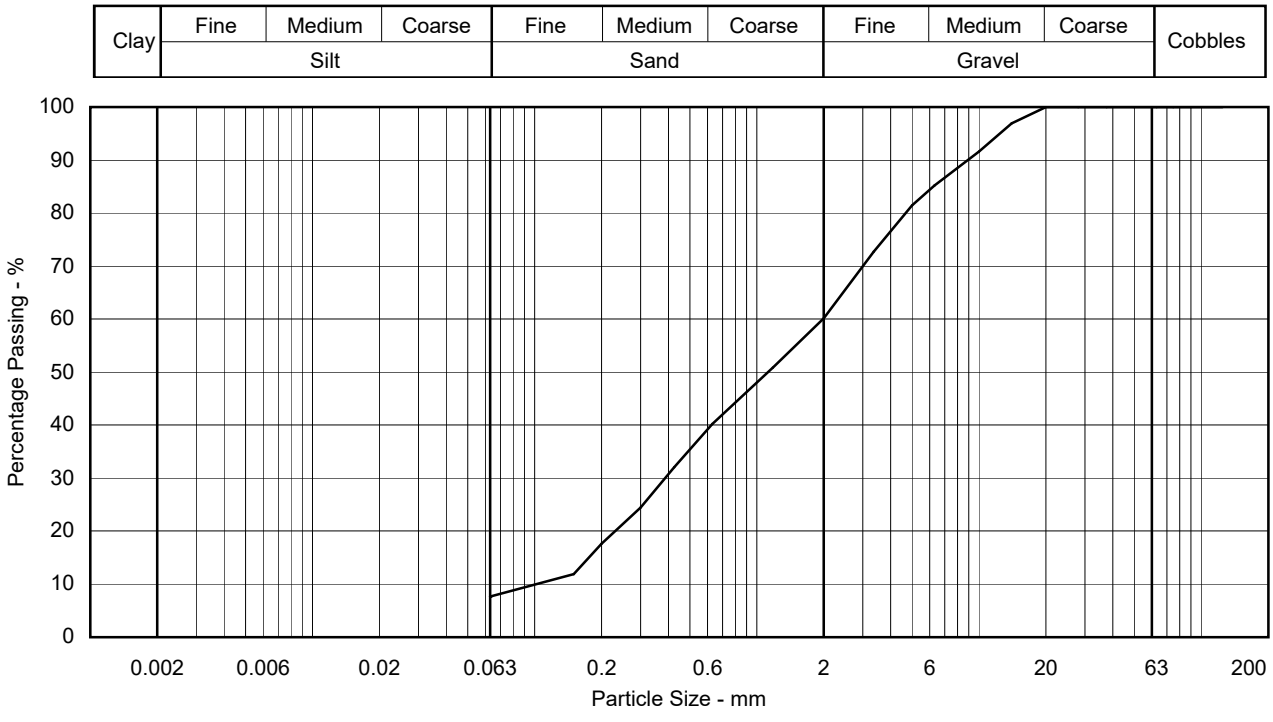
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB09
	Engineer Jacobs	Sample Ref
		Depth (m) 9.00
		Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	97
10.0 mm	92
6.30 mm	85
5.00 mm	81
3.35 mm	73
2.00 mm	60
1.18 mm	51
630 µm	40
425 µm	32
300 µm	24
200 µm	18
150 µm	12
63 µm	8

Non Engineering Description
Brown silty SAND and GRAVEL. Gravel is fine to medium

Sample Proportions - %	
Cobbles	0.0
Gravel	39.9
Sand	52.5
Silt & Clay	7.6
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	20
D60	2.0
D10	0.10
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	20.0

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C56

62 Rochsolloch Road, Airdrie, ML6 9BG

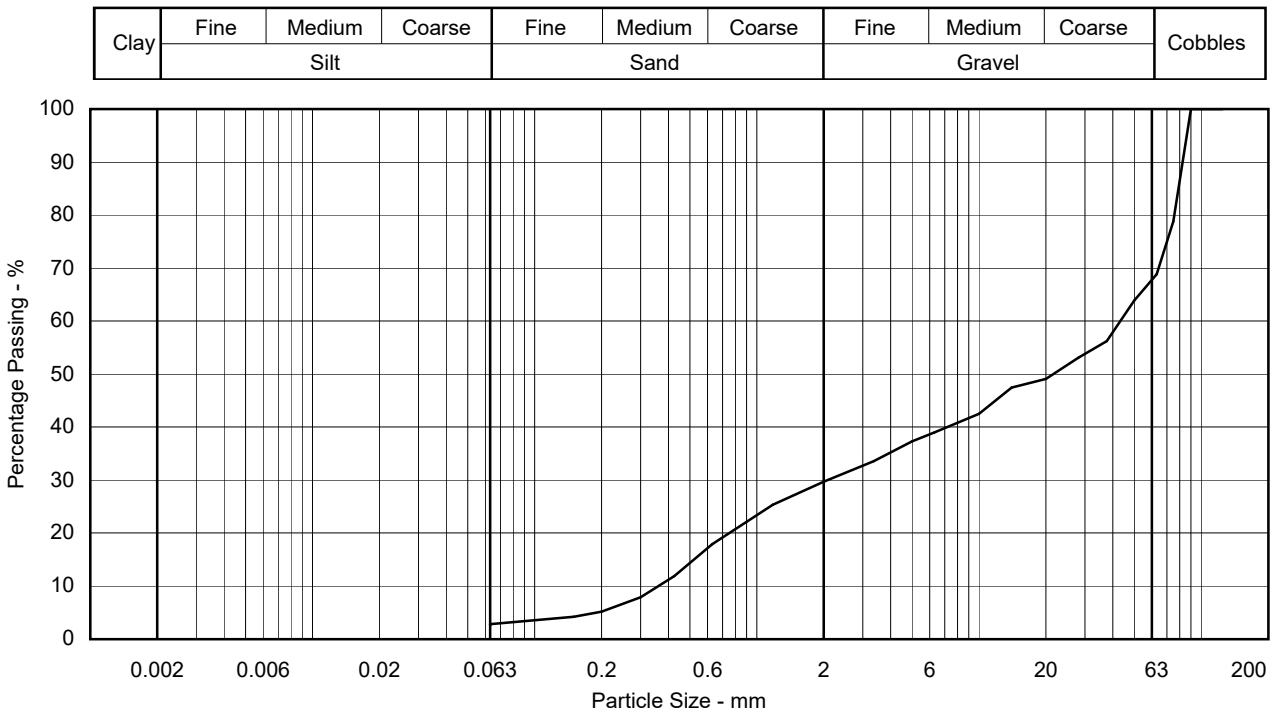
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB09
	Engineer Jacobs	Sample Ref Depth (m) 12.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	79
63.0 mm	69
50.0 mm	64
37.5 mm	56
28.0 mm	53
20.0 mm	49
14.0 mm	47
10.0 mm	42
6.30 mm	39
5.00 mm	37
3.35 mm	34
2.00 mm	30
1.18 mm	25
630 µm	18
425 µm	12
300 µm	8
200 µm	5
150 µm	4
63 µm	3

Non Engineering Description
Brown slightly silty SAND and GRAVEL with cobbles. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	31.2
Gravel	39.1
Sand	26.9
Silt & Clay	2.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	43
D10	0.36
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	119.4

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C57

62 Rochsolloch Road, Airdrie, ML6 9BG

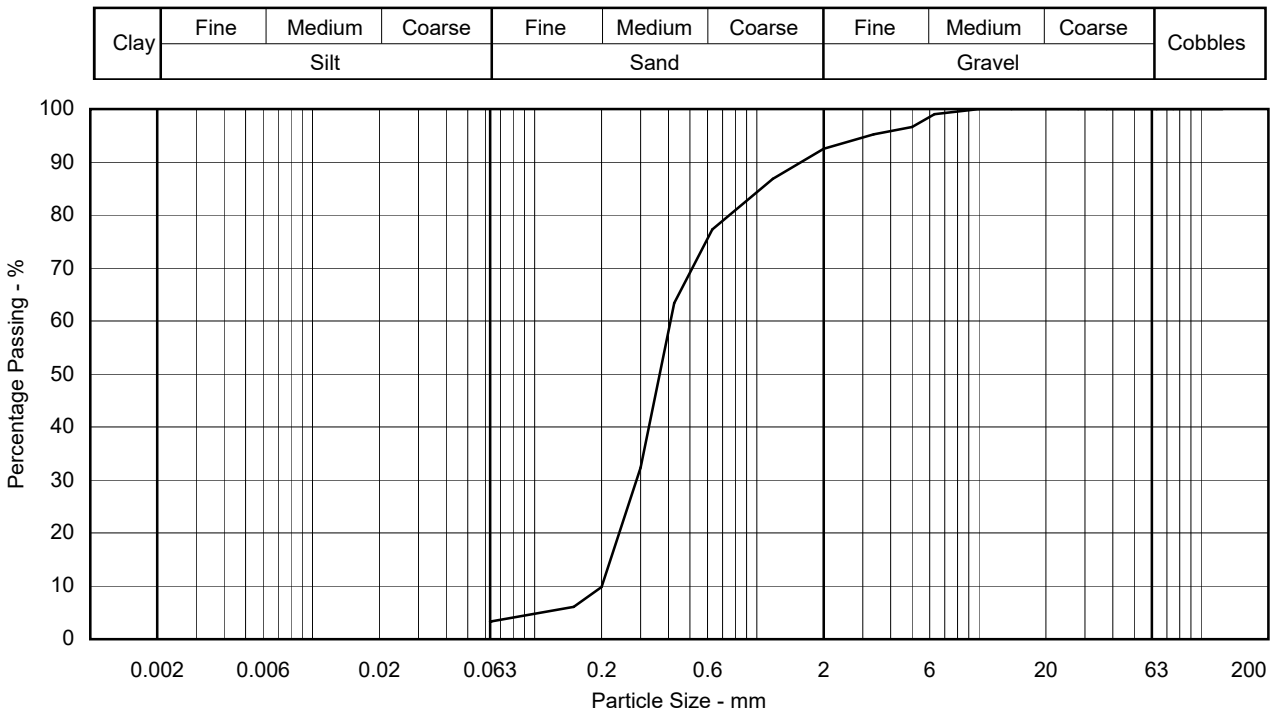
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB09
	Engineer Jacobs	Sample Ref Depth (m) 13.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	99
5.00 mm	97
3.35 mm	95
2.00 mm	93
1.18 mm	87
630 µm	77
425 µm	63
300 µm	32
200 µm	10
150 µm	6
63 µm	3

Non Engineering Description
Brown slightly silty gravelly SAND. Gravel is fine to medium

Sample Proportions - %	
Cobbles	0.0
Gravel	7.5
Sand	89.3
Silt & Clay	3.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	10
D60	0.41
D10	0.20
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	2.1

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C58

62 Rochsolloch Road, Airdrie, ML6 9BG

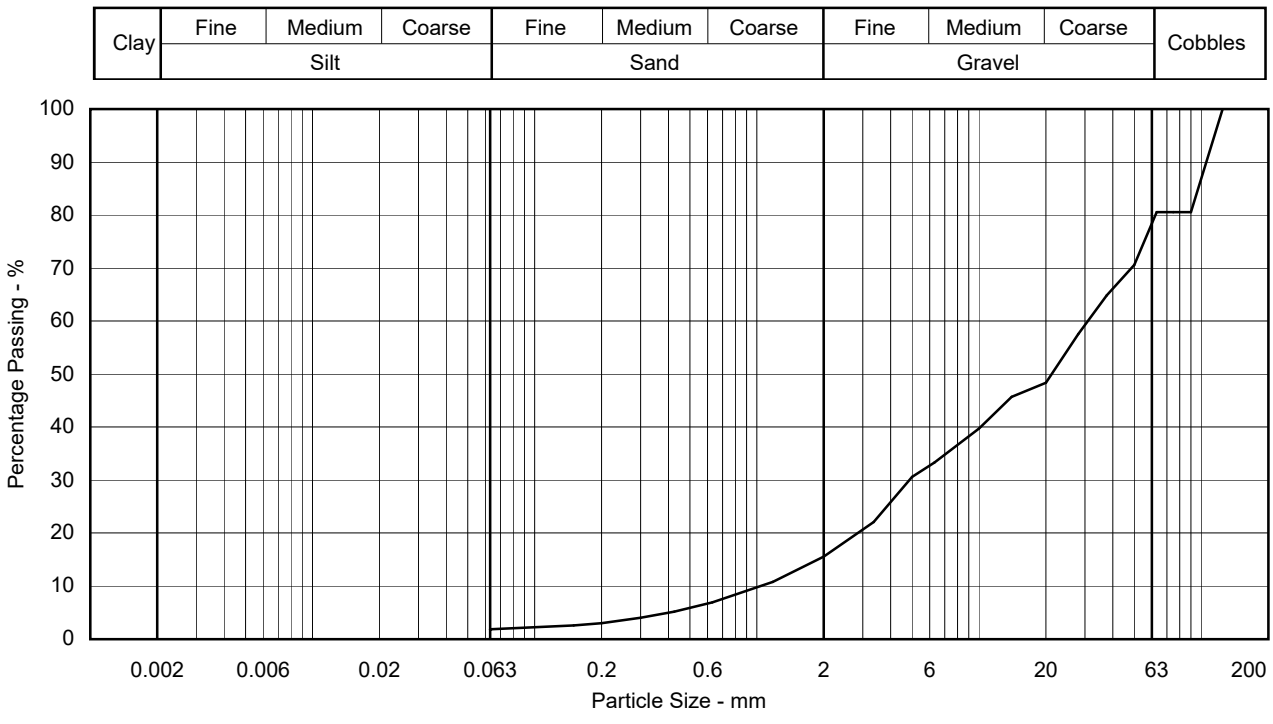
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB10
	Engineer Jacobs	Sample Ref Depth (m) 1.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	81
75.0 mm	81
63.0 mm	81
50.0 mm	71
37.5 mm	65
28.0 mm	58
20.0 mm	48
14.0 mm	46
10.0 mm	40
6.30 mm	33
5.00 mm	31
3.35 mm	22
2.00 mm	16
1.18 mm	11
630 µm	7
425 µm	5
300 µm	4
200 µm	3
150 µm	3
63 µm	2

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	19.4
Gravel	65.1
Sand	13.7
Silt & Clay	1.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	125
D60	31
D10	1.0
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	31.0

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C59

62 Rochsolloch Road, Airdrie, ML6 9BG

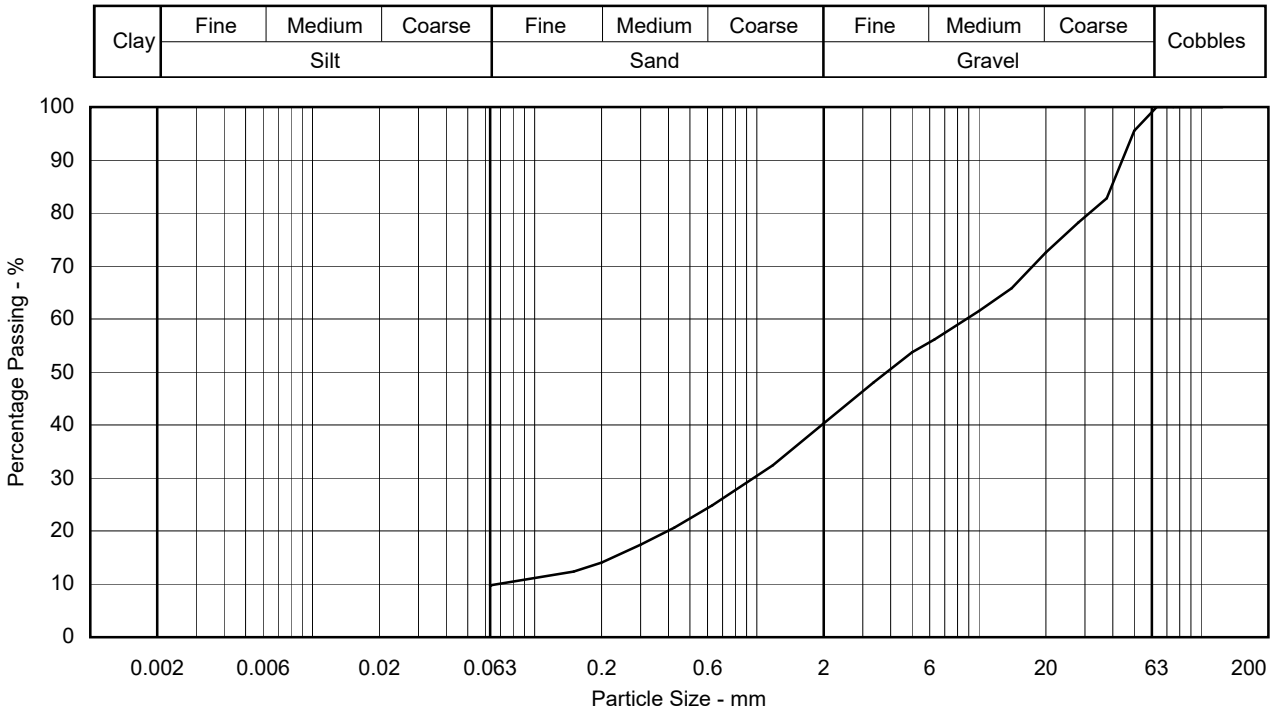
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB10
	Engineer Jacobs	Sample Ref Depth (m) 3.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	96
37.5 mm	83
28.0 mm	78
20.0 mm	73
14.0 mm	66
10.0 mm	61
6.30 mm	56
5.00 mm	54
3.35 mm	48
2.00 mm	40
1.18 mm	32
630 µm	25
425 µm	21
300 µm	17
200 µm	14
150 µm	12
63 µm	10

Non Engineering Description
Brown silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	59.7
Sand	30.6
Silt & Clay	9.7
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	8.8
D10	0.069
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	127.5

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C60

62 Rochsolloch Road, Airdrie, ML6 9BG

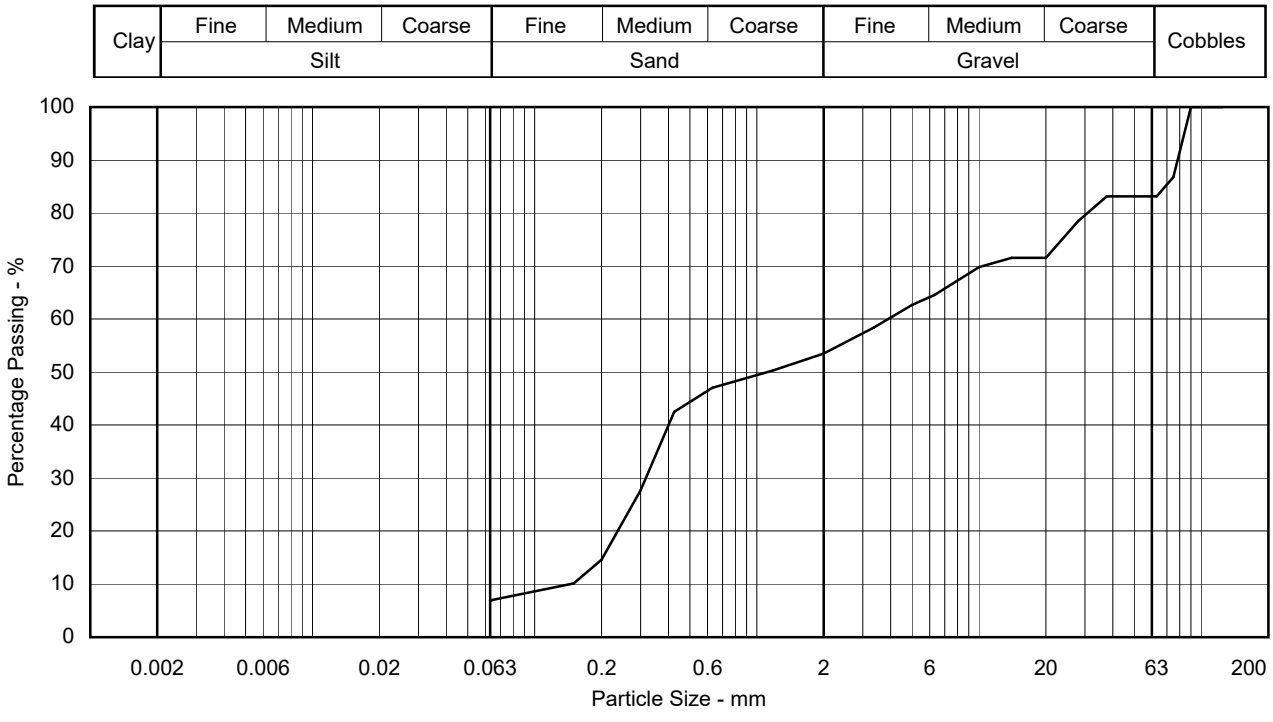
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB10
	Engineer Jacobs	Sample Ref Depth (m) 4.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	87
63.0 mm	83
50.0 mm	83
37.5 mm	83
28.0 mm	78
20.0 mm	72
14.0 mm	72
10.0 mm	70
6.30 mm	65
5.00 mm	63
3.35 mm	58
2.00 mm	53
1.18 mm	50
630 µm	47
425 µm	42
300 µm	28
200 µm	15
150 µm	10
63 µm	7

Non Engineering Description
Brown silty very gravelly SAND with cobbles. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	16.8
Gravel	29.7
Sand	46.6
Silt & Clay	6.9
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	3.9
D10	0.15
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	26.0

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C61

62 Rochsolloch Road, Airdrie, ML6 9BG

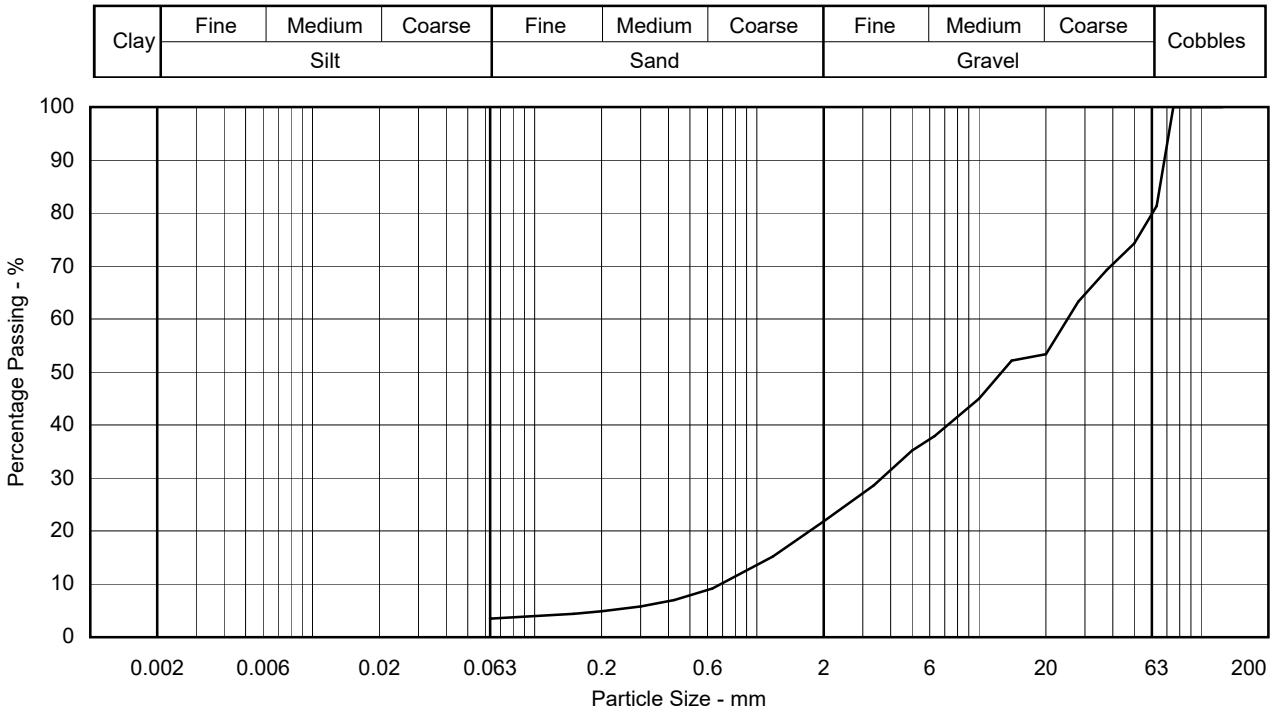
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB10
	Engineer Jacobs	Sample Ref Depth (m) 6.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	81
50.0 mm	74
37.5 mm	69
28.0 mm	63
20.0 mm	53
14.0 mm	52
10.0 mm	45
6.30 mm	38
5.00 mm	35
3.35 mm	29
2.00 mm	22
1.18 mm	15
630 µm	9
425 µm	7
300 µm	6
200 µm	5
150 µm	4
63 µm	3

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	18.7
Gravel	59.5
Sand	18.4
Silt & Clay	3.5
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	25
D10	0.69
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	36.2

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C62

62 Rochsolloch Road, Airdrie, ML6 9BG

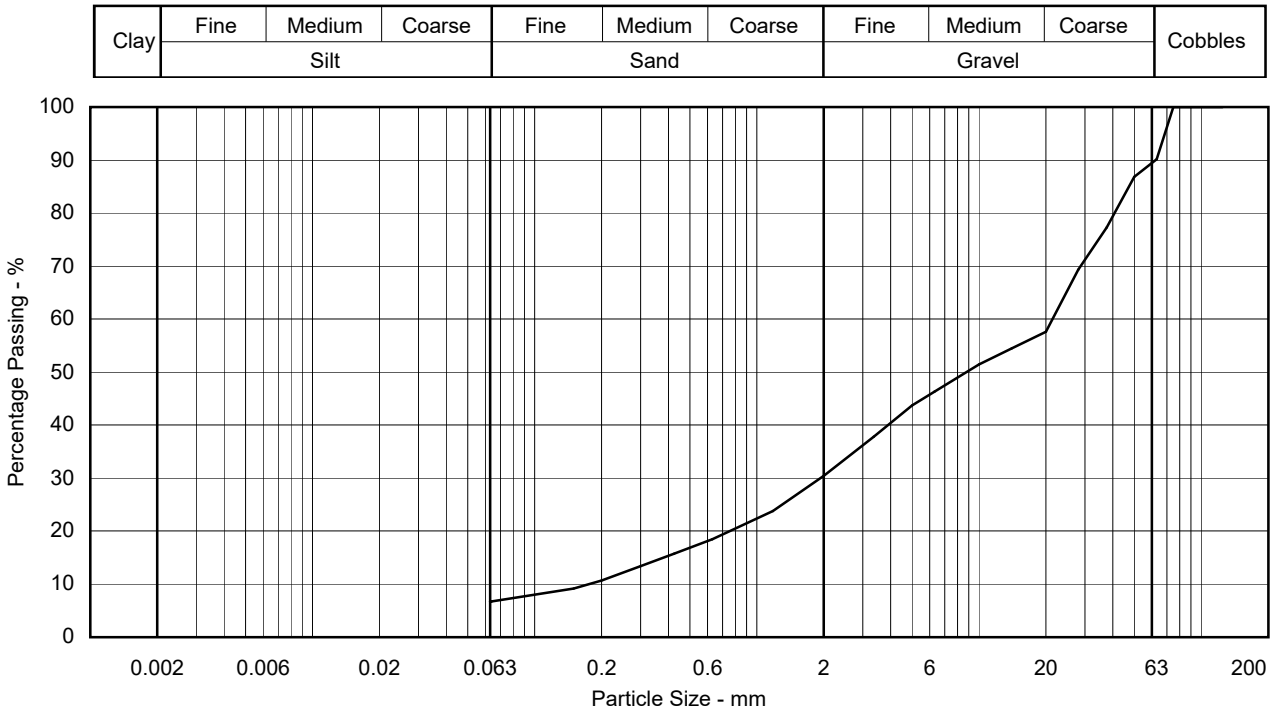
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB10
	Engineer Jacobs	Sample Ref Depth (m) 7.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	90
50.0 mm	87
37.5 mm	77
28.0 mm	69
20.0 mm	58
14.0 mm	54
10.0 mm	51
6.30 mm	46
5.00 mm	44
3.35 mm	38
2.00 mm	30
1.18 mm	24
630 µm	18
425 µm	16
300 µm	13
200 µm	11
150 µm	9
63 µm	7

Non Engineering Description
Brown silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	9.9
Gravel	59.7
Sand	23.7
Silt & Clay	6.7
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	21
D10	0.18
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	116.7

Notes



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PARTICLE SIZE DISTRIBUTION
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Figure C63

62 Rochsolloch Road, Airdrie, ML6 9BG

igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB10
	Engineer Jacobs	Sample Ref Depth (m) 9.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	99
14.0 mm	99
10.0 mm	99
6.30 mm	99
5.00 mm	99
3.35 mm	99
2.00 mm	99
1.18 mm	99
630 µm	98
425 µm	96
300 µm	83
200 µm	63
150 µm	57
63 µm	46
20 µm	27
6 µm	13
2 µm	9

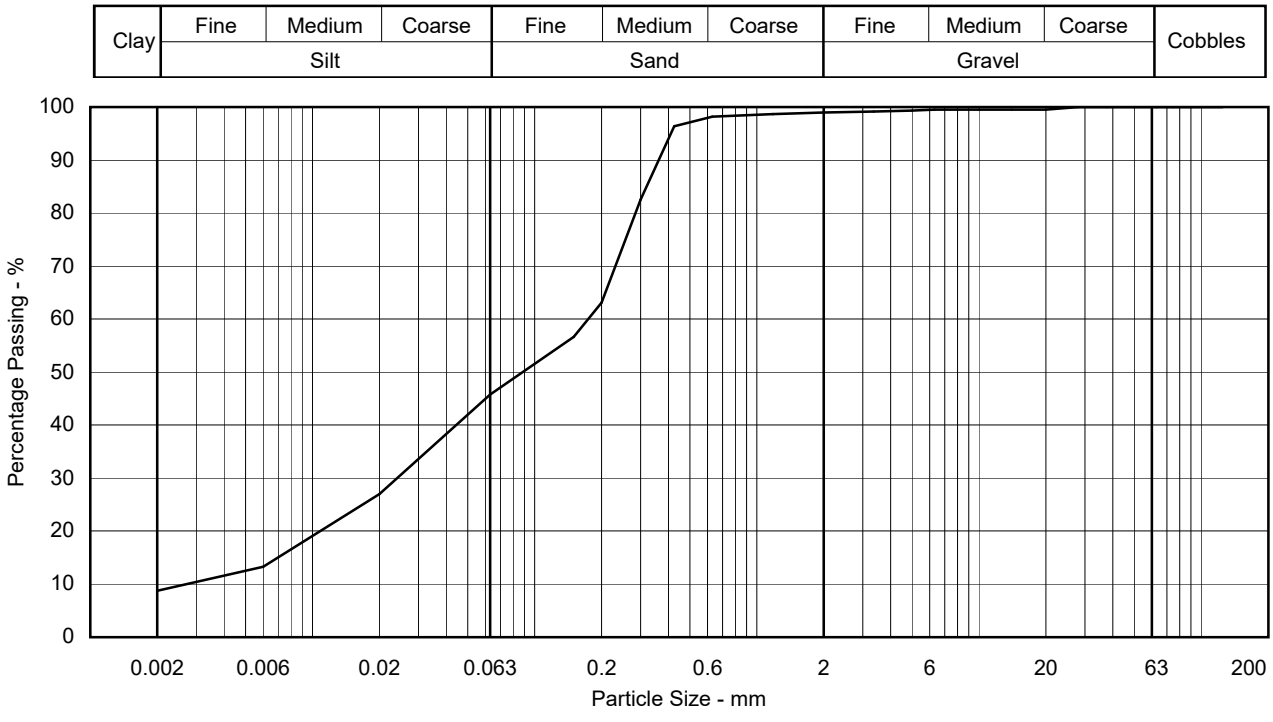
Non Engineering Description

Brown slightly gravelly sandy SILT with pockets of clay. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	1.0
Sand	54.5
Silt	35.8
Clay	8.7
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	28
D60	0.17
D10	0.0028
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	60.7

Notes

Sedimentation sample not pre-treated



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PARTICLE SIZE DISTRIBUTION

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Figure C64

62 Rochsolloch Road, Airdrie, ML6 9BG

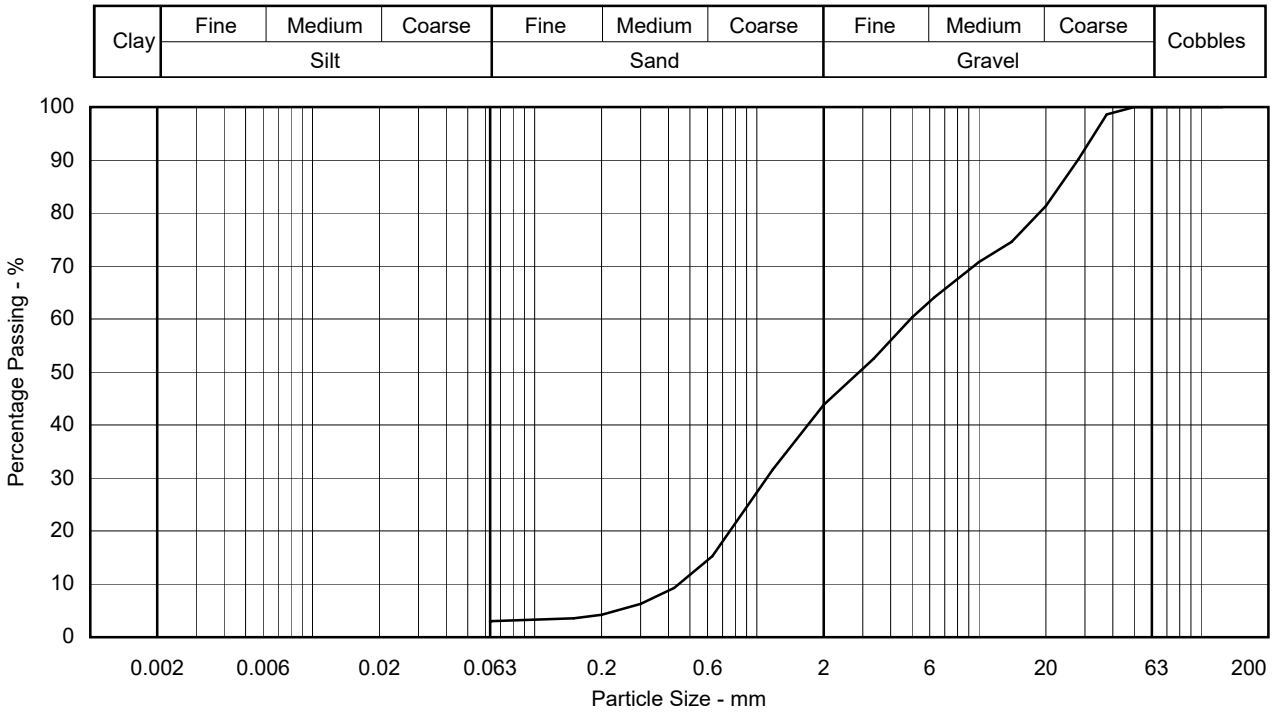
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB10
	Engineer Jacobs	Sample Ref Depth (m) 12.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	99
28.0 mm	90
20.0 mm	81
14.0 mm	75
10.0 mm	71
6.30 mm	64
5.00 mm	60
3.35 mm	53
2.00 mm	44
1.18 mm	32
630 µm	15
425 µm	9
300 µm	6
200 µm	4
150 µm	4
63 µm	3

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	56.2
Sand	40.8
Silt & Clay	3.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	50
D60	4.9
D10	0.45
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	10.9

Notes



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PARTICLE SIZE DISTRIBUTION
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Figure C65

62 Rochsolloch Road, Airdrie, ML6 9BG

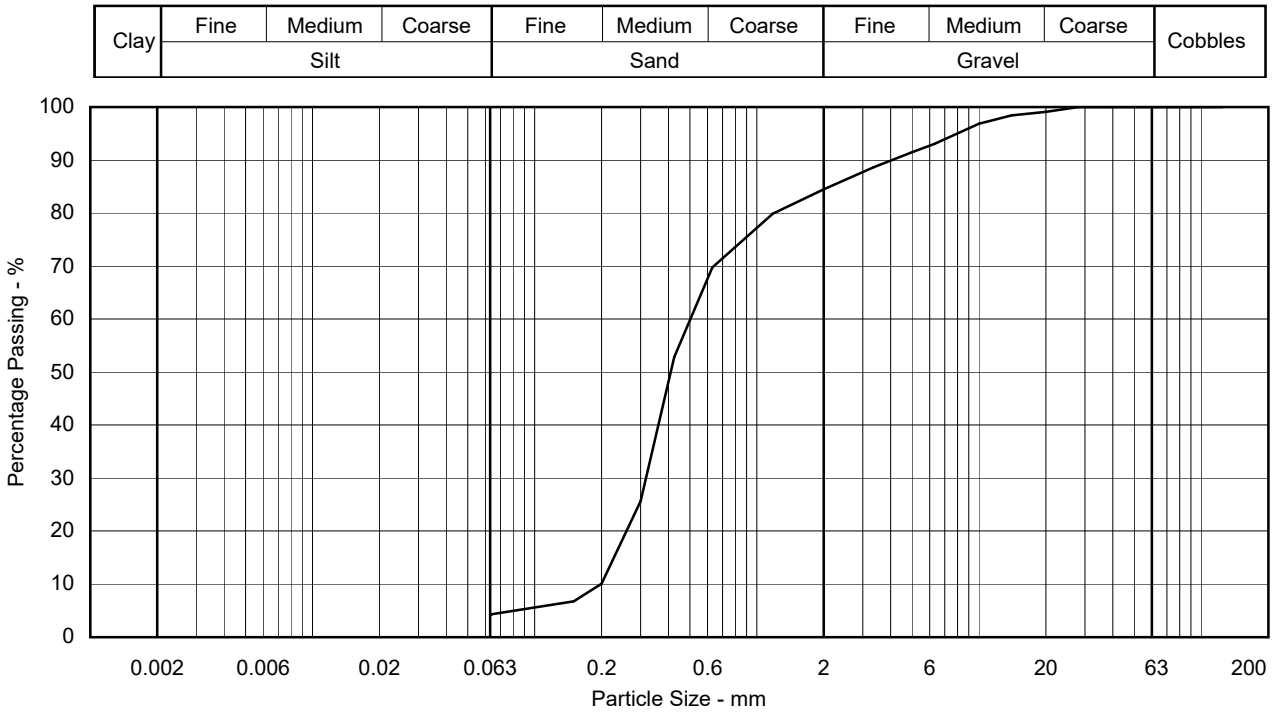
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB10
	Engineer Jacobs	Sample Ref Depth (m) 13.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	99
14.0 mm	98
10.0 mm	97
6.30 mm	93
5.00 mm	91
3.35 mm	89
2.00 mm	84
1.18 mm	80
630 µm	70
425 µm	53
300 µm	26
200 µm	10
150 µm	7
63 µm	4

Non Engineering Description
Brown slightly silty gravelly SAND. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	15.6
Sand	80.2
Silt & Clay	4.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	28
D60	0.50
D10	0.20
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	2.5

Notes



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Figure C66

62 Rochsolloch Road, Airdrie, ML6 9BG

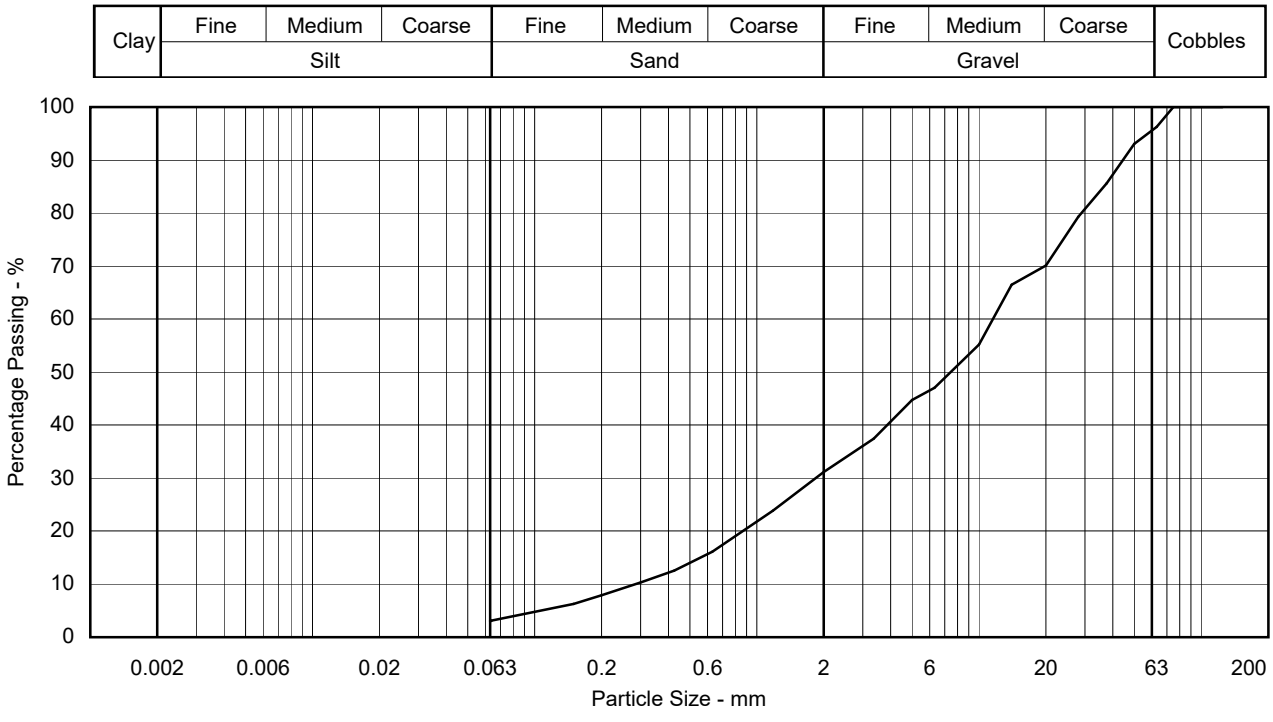
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB11
	Engineer Jacobs	Sample Ref Depth (m) 2.70 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	96
50.0 mm	93
37.5 mm	86
28.0 mm	79
20.0 mm	70
14.0 mm	66
10.0 mm	55
6.30 mm	47
5.00 mm	45
3.35 mm	37
2.00 mm	31
1.18 mm	24
630 µm	16
425 µm	12
300 µm	10
200 µm	8
150 µm	6
63 µm	3

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	3.7
Gravel	65.2
Sand	28.1
Silt & Clay	3.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	12
D10	0.29
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	41.4

Notes



Originator	Checked & Approved
RF	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C67

62 Rochsolloch Road, Airdrie, ML6 9BG

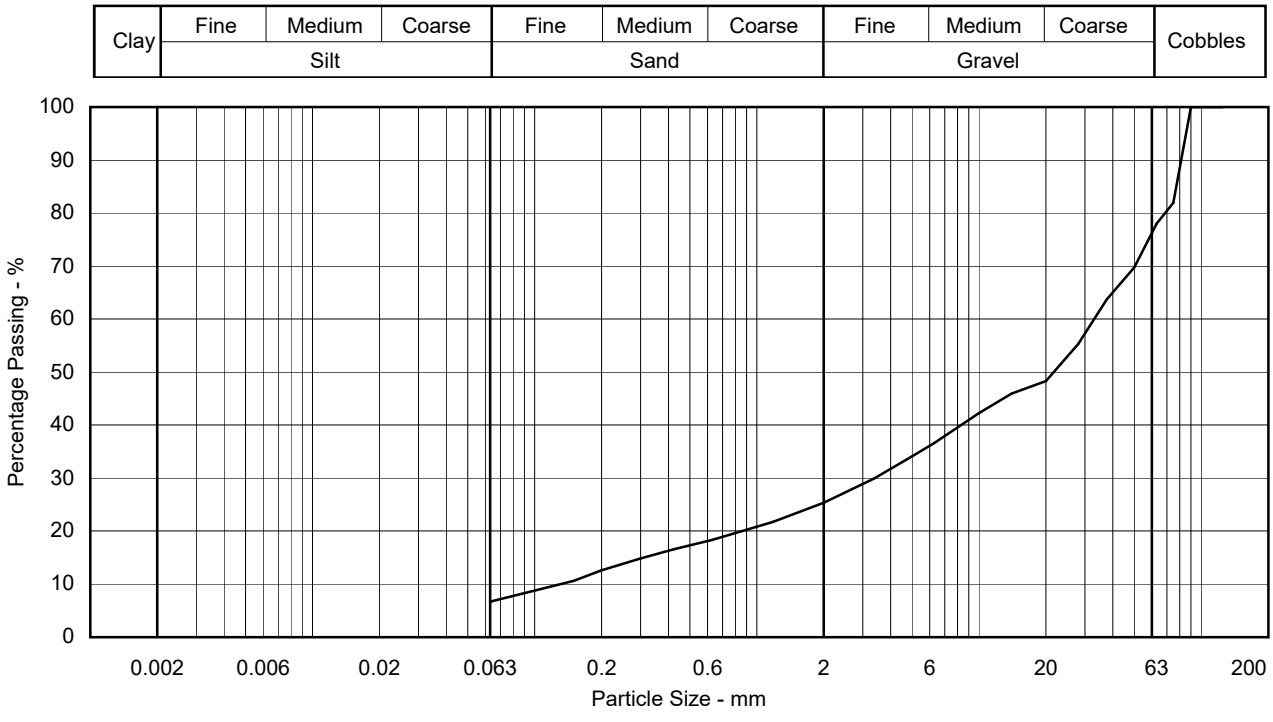
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB11
	Engineer Jacobs	Sample Ref Depth (m) 4.20 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	82
63.0 mm	78
50.0 mm	70
37.5 mm	64
28.0 mm	55
20.0 mm	48
14.0 mm	46
10.0 mm	42
6.30 mm	37
5.00 mm	34
3.35 mm	30
2.00 mm	25
1.18 mm	22
630 µm	18
425 µm	17
300 µm	15
200 µm	13
150 µm	11
63 µm	7

Non Engineering Description
Brown silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	22.0
Gravel	52.7
Sand	18.7
Silt & Clay	6.6
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	33
D10	0.13
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	253.8

Notes



Originator	Checked & Approved
JM	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C68

62 Rochsolloch Road, Airdrie, ML6 9BG

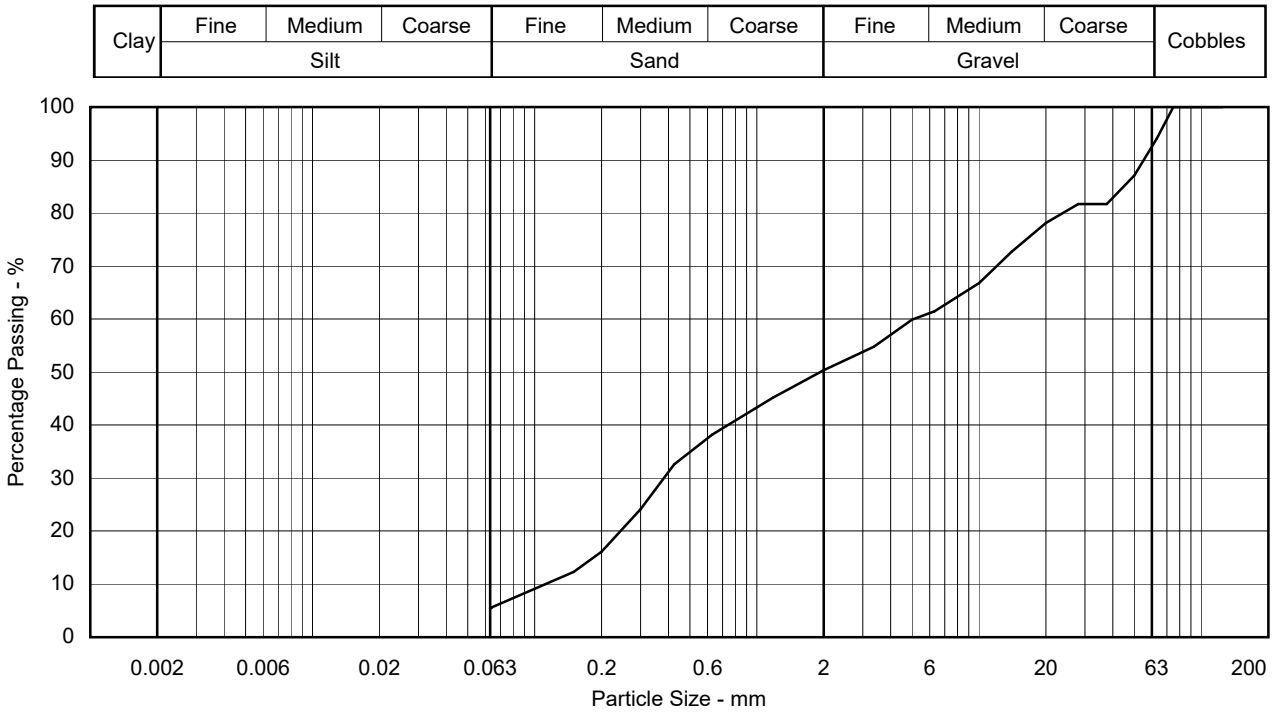
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB11
	Engineer Jacobs	Sample Ref Depth (m) 5.70 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	94
50.0 mm	87
37.5 mm	82
28.0 mm	82
20.0 mm	78
14.0 mm	73
10.0 mm	67
6.30 mm	61
5.00 mm	60
3.35 mm	55
2.00 mm	50
1.18 mm	45
630 µm	38
425 µm	33
300 µm	24
200 µm	16
150 µm	12
63 µm	5

Non Engineering Description
Brown silty SAND and GRAVEL with cobbles. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	6.0
Gravel	43.7
Sand	44.9
Silt & Clay	5.4
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	5.1
D10	0.11
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	46.4

Notes



Originator	Checked & Approved
JM	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C69

62 Rochsolloch Road, Airdrie, ML6 9BG

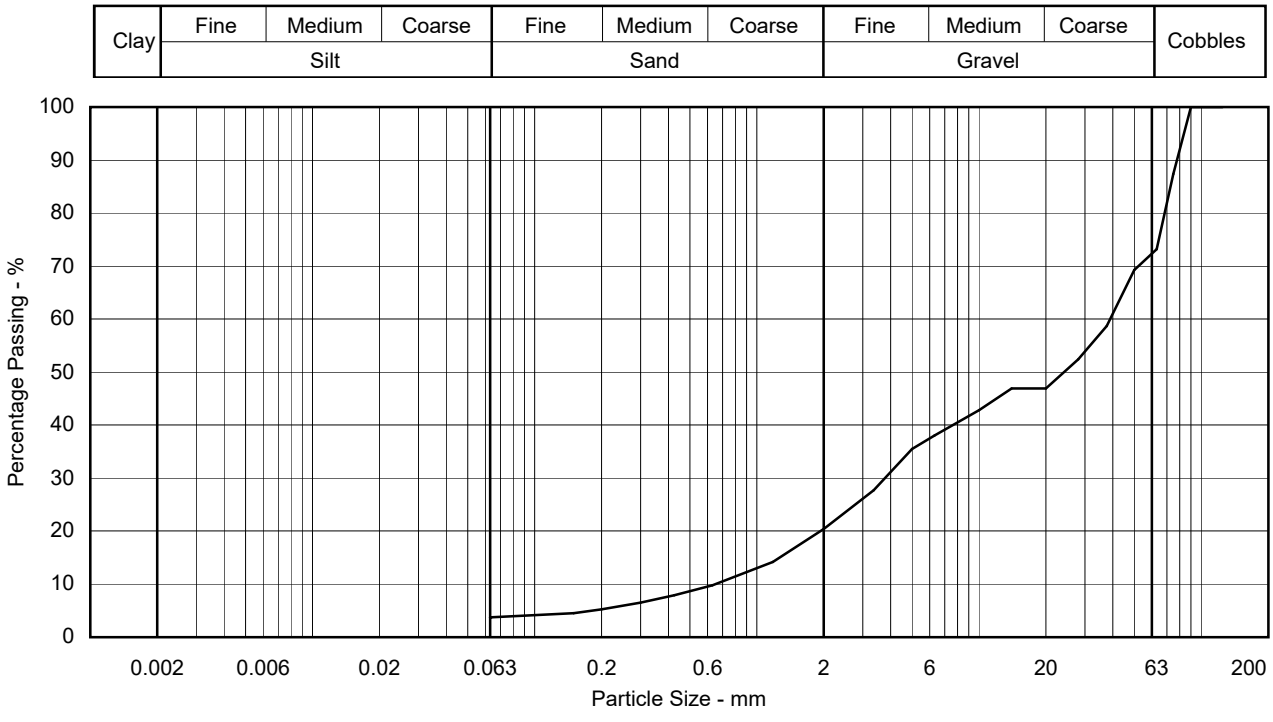
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB11
	Engineer Jacobs	Sample Ref Depth (m) 8.70 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	87
63.0 mm	73
50.0 mm	69
37.5 mm	59
28.0 mm	52
20.0 mm	47
14.0 mm	47
10.0 mm	43
6.30 mm	38
5.00 mm	35
3.35 mm	28
2.00 mm	20
1.18 mm	14
630 µm	10
425 µm	8
300 µm	6
200 µm	5
150 µm	4
63 µm	4

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	26.8
Gravel	52.8
Sand	16.7
Silt & Clay	3.7
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	39
D10	0.65
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	60.0

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
JM	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C70

62 Rochsolloch Road, Airdrie, ML6 9BG

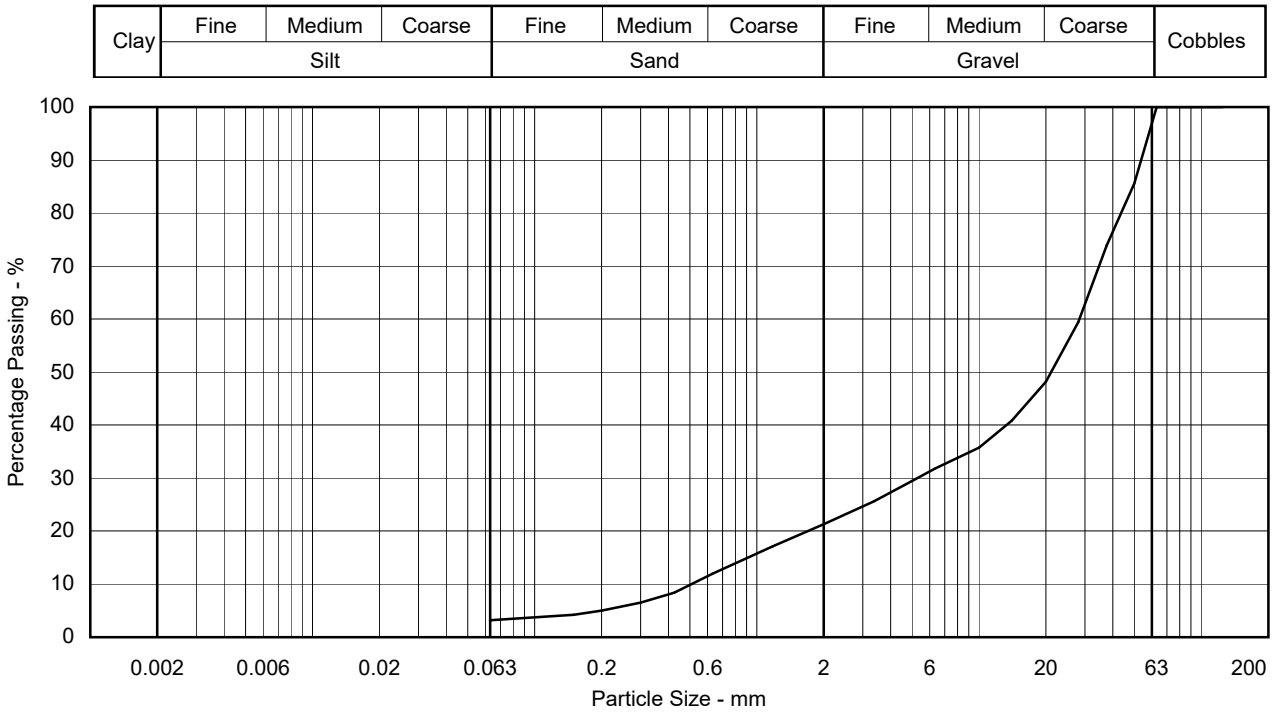
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB12
	Engineer Jacobs	Sample Ref Depth (m) 1.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	86
37.5 mm	74
28.0 mm	59
20.0 mm	48
14.0 mm	41
10.0 mm	36
6.30 mm	32
5.00 mm	29
3.35 mm	26
2.00 mm	21
1.18 mm	17
630 µm	12
425 µm	8
300 µm	6
200 µm	5
150 µm	4
63 µm	3

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	78.7
Sand	18.1
Silt & Clay	3.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	28
D10	0.51
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	54.9

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C71

62 Rochsolloch Road, Airdrie, ML6 9BG

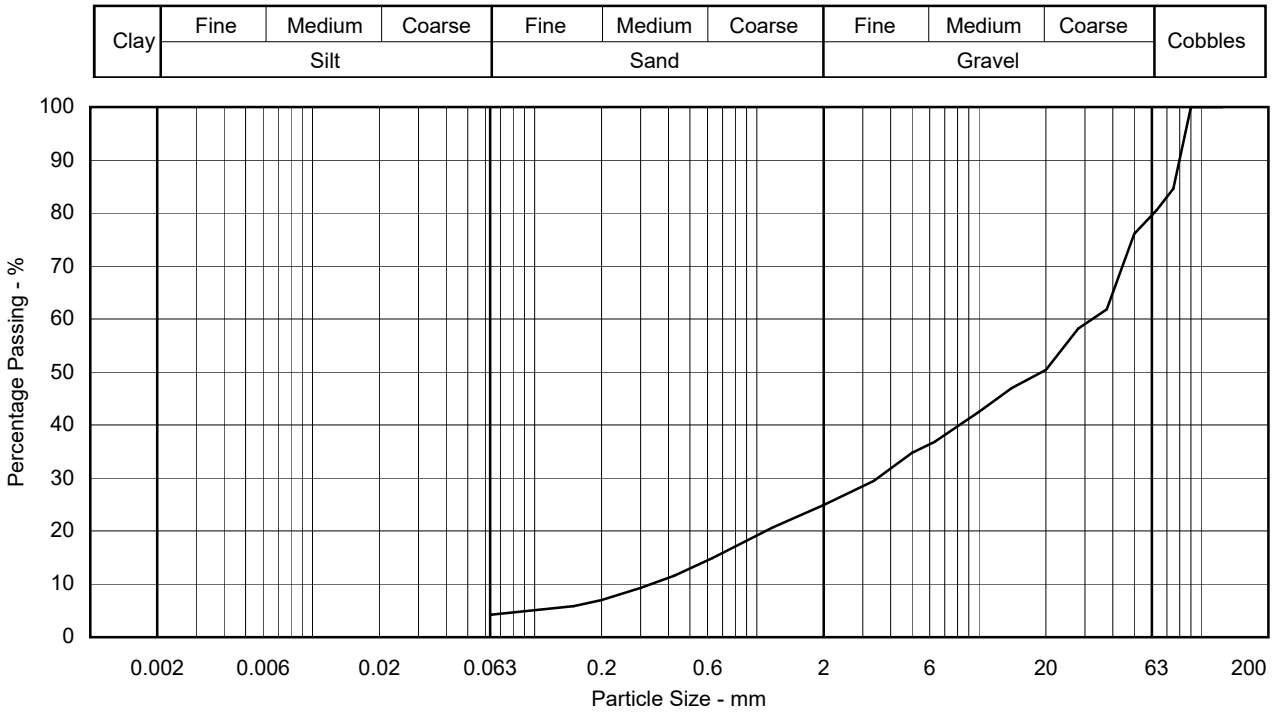
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB12
	Engineer Jacobs	Sample Ref Depth (m) 4.20 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	85
63.0 mm	81
50.0 mm	76
37.5 mm	62
28.0 mm	58
20.0 mm	50
14.0 mm	47
10.0 mm	43
6.30 mm	37
5.00 mm	35
3.35 mm	29
2.00 mm	25
1.18 mm	21
630 µm	15
425 µm	12
300 µm	9
200 µm	7
150 µm	6
63 µm	4

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	19.4
Gravel	55.7
Sand	20.7
Silt & Clay	4.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	32
D10	0.34
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	94.1

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C72

62 Rochsolloch Road, Airdrie, ML6 9BG

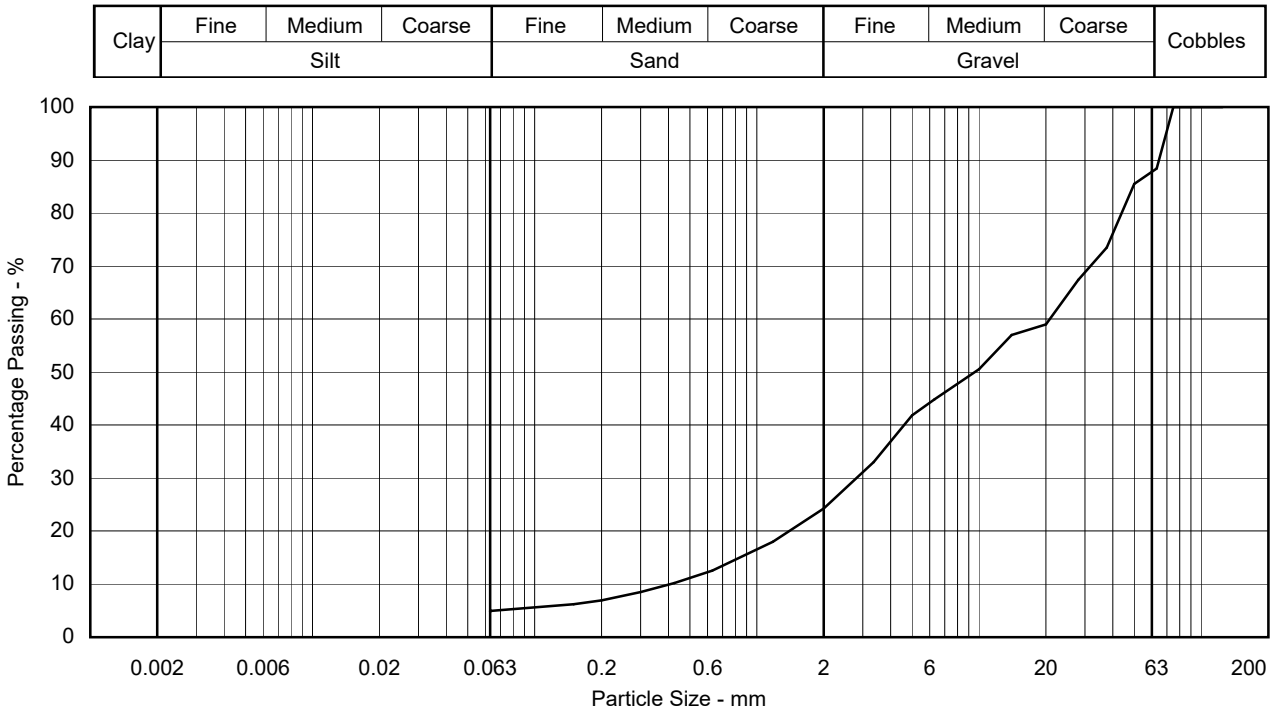
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FAB12
	Engineer Jacobs	Sample Ref Depth (m) 7.20 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	88
50.0 mm	86
37.5 mm	73
28.0 mm	67
20.0 mm	59
14.0 mm	57
10.0 mm	51
6.30 mm	45
5.00 mm	42
3.35 mm	33
2.00 mm	24
1.18 mm	18
630 µm	13
425 µm	10
300 µm	8
200 µm	7
150 µm	6
63 µm	5

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	11.6
Gravel	64.1
Sand	19.4
Silt & Clay	4.9
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	21
D10	0.41
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	51.2

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C73

62 Rochsolloch Road, Airdrie, ML6 9BG

igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP01
	Engineer Jacobs	Sample Ref Depth (m) 1.70 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	92
63.0 mm	84
50.0 mm	75
37.5 mm	62
28.0 mm	53
20.0 mm	47
14.0 mm	41
10.0 mm	35
6.30 mm	30
5.00 mm	29
3.35 mm	26
2.00 mm	24
1.18 mm	23
630 µm	21
425 µm	19
300 µm	17
200 µm	12
150 µm	8
63 µm	4

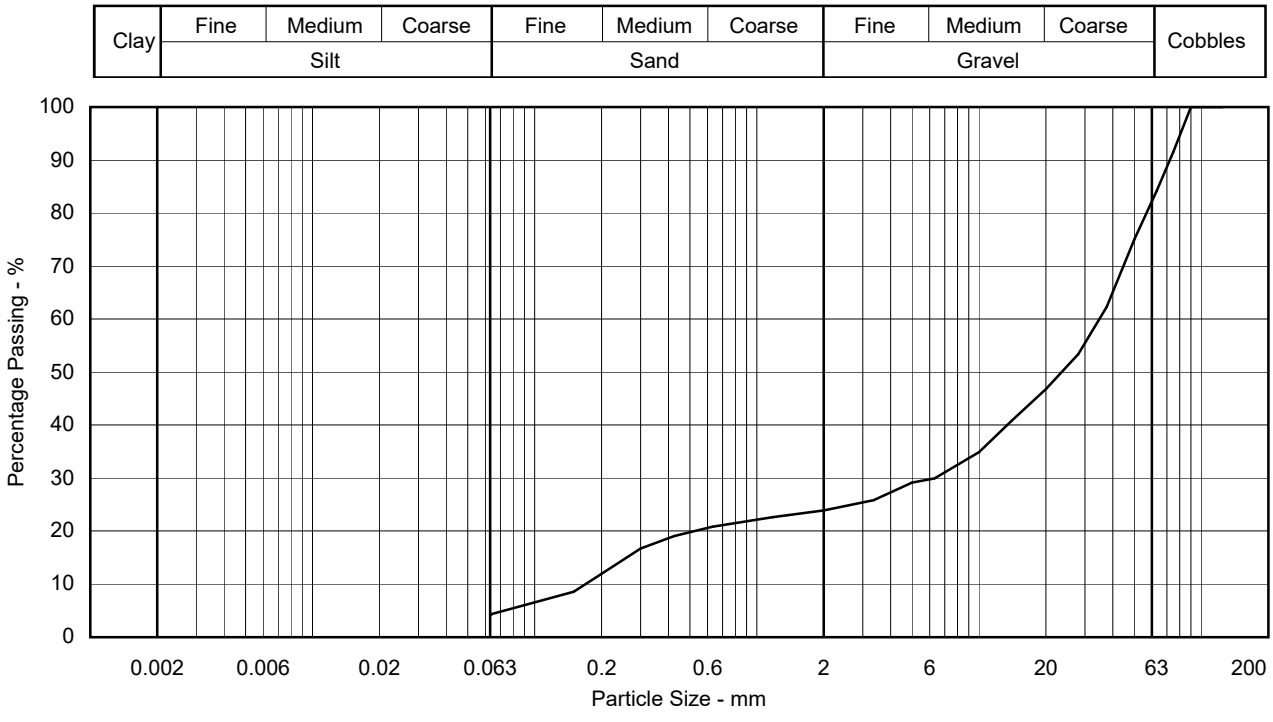
Non Engineering Description

Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	15.8
Gravel	60.3
Sand	19.7
Silt & Clay	4.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	35
D10	0.17
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	205.9

Notes

Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C74

62 Rochsolloch Road, Airdrie, ML6 9BG

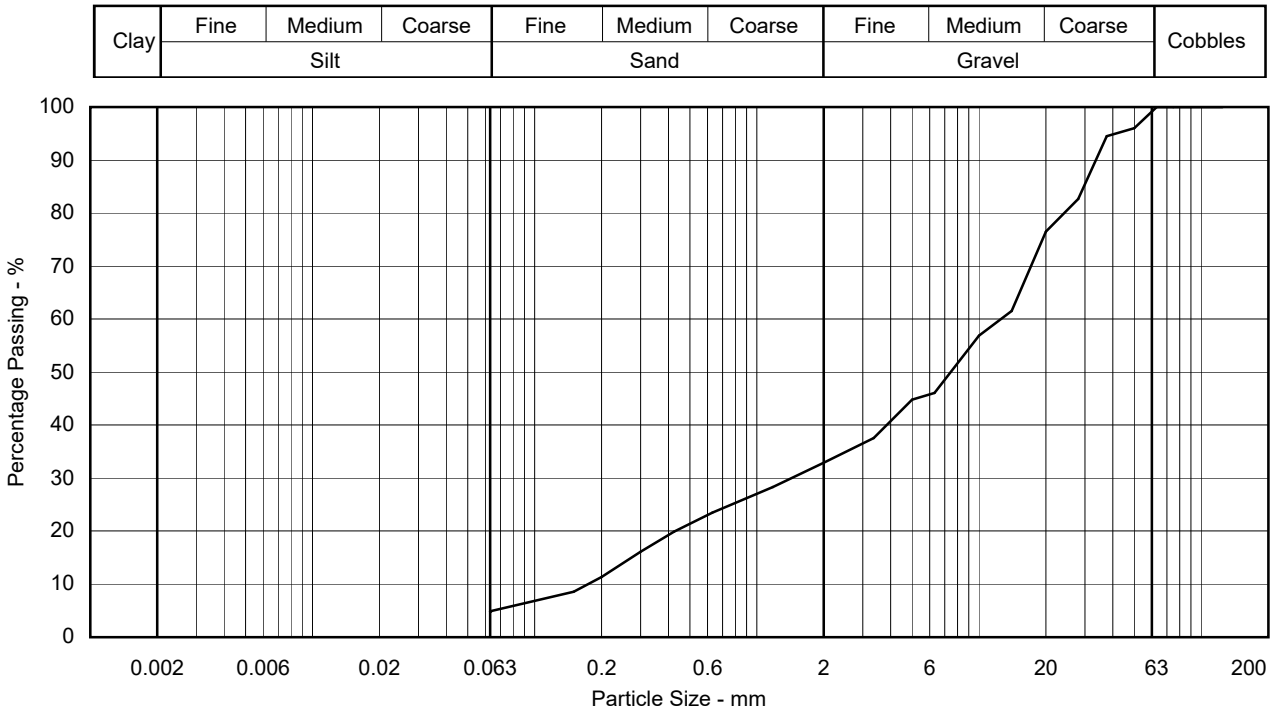
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP02
	Engineer Jacobs	Sample Ref Depth (m) 1.80 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	96
37.5 mm	95
28.0 mm	83
20.0 mm	77
14.0 mm	62
10.0 mm	57
6.30 mm	46
5.00 mm	45
3.35 mm	37
2.00 mm	33
1.18 mm	28
630 µm	23
425 µm	20
300 µm	16
200 µm	11
150 µm	9
63 µm	5

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	67.1
Sand	28.0
Silt & Clay	4.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	13
D10	0.17
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	76.5

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C75

62 Rochsolloch Road, Airdrie, ML6 9BG

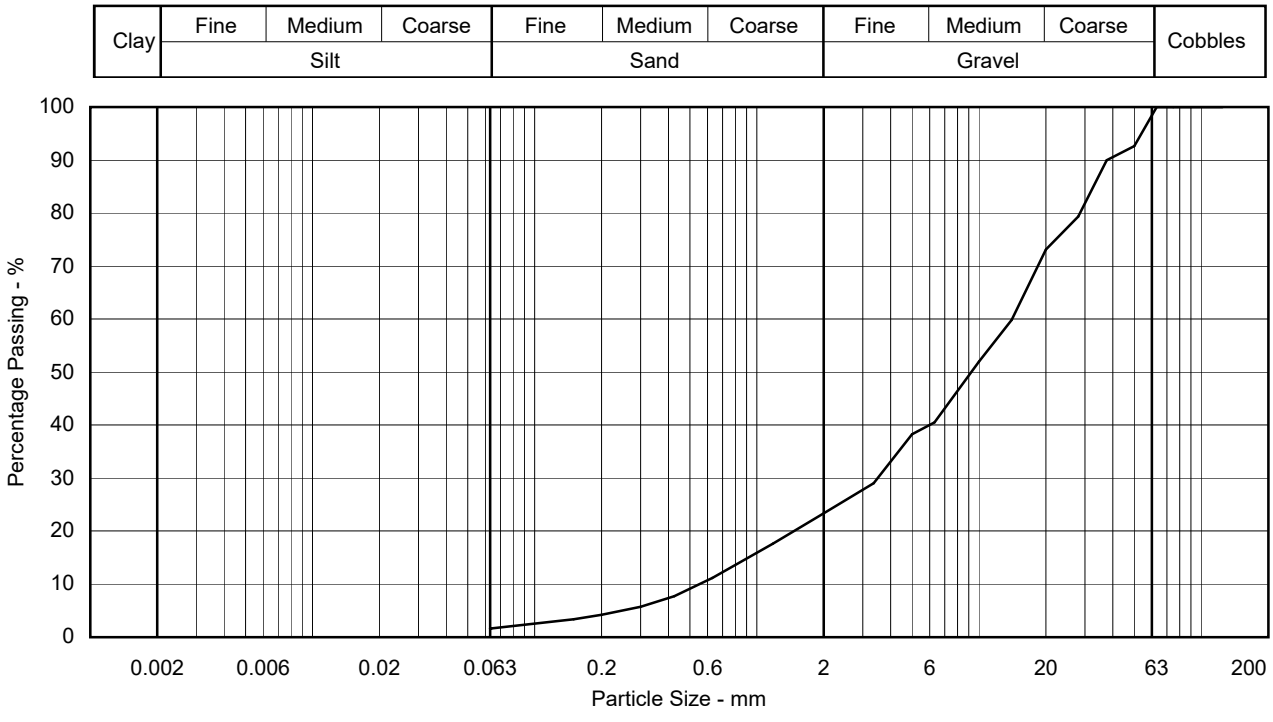
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP03
	Engineer Jacobs	Sample Ref Depth (m) 1.10 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	93
37.5 mm	90
28.0 mm	79
20.0 mm	73
14.0 mm	60
10.0 mm	52
6.30 mm	40
5.00 mm	38
3.35 mm	29
2.00 mm	23
1.18 mm	18
630 µm	11
425 µm	8
300 µm	6
200 µm	4
150 µm	3
63 µm	2

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	76.7
Sand	21.7
Silt & Clay	1.6
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	14
D10	0.56
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	25.0

Notes



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C76

62 Rochsolloch Road, Airdrie, ML6 9BG

igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP04
	Engineer Jacobs	Sample Ref Depth (m) 1.20 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	87
50.0 mm	80
37.5 mm	69
28.0 mm	60
20.0 mm	53
14.0 mm	47
10.0 mm	42
6.30 mm	39
5.00 mm	38
3.35 mm	36
2.00 mm	34
1.18 mm	32
630 µm	30
425 µm	26
300 µm	22
200 µm	18
150 µm	15
63 µm	8

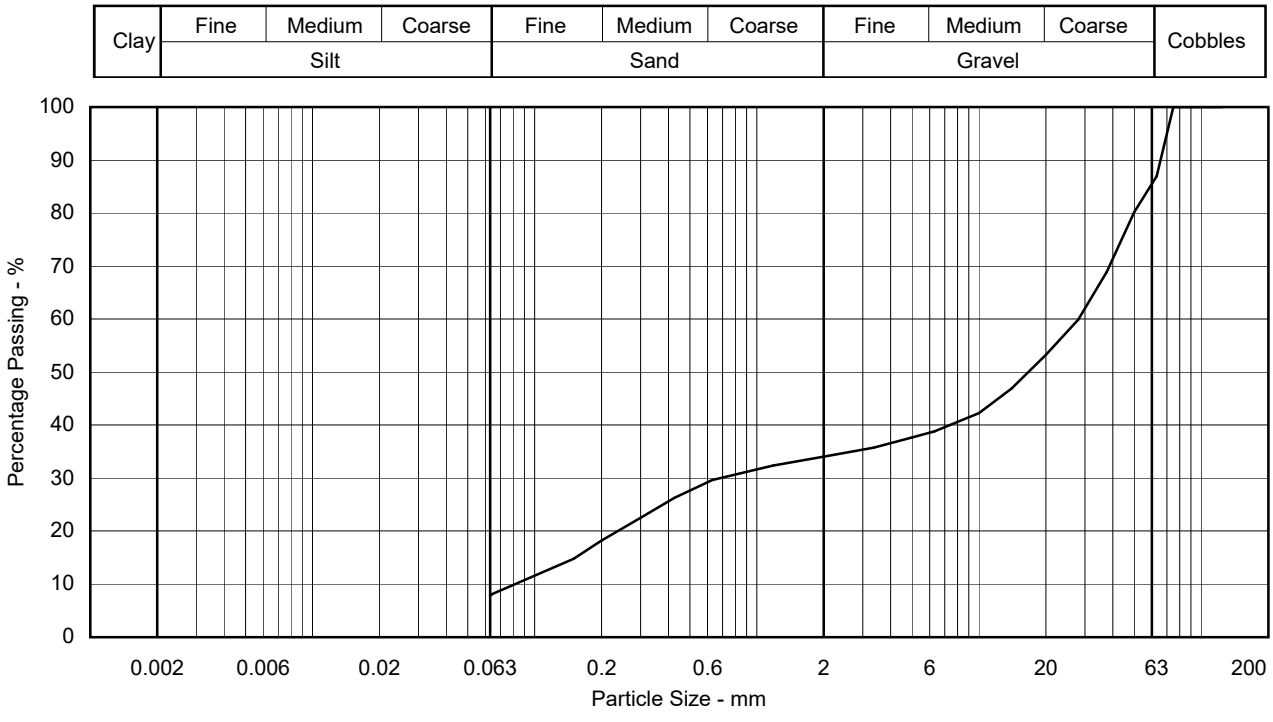
Non Engineering Description

Brown silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	13.0
Gravel	52.9
Sand	26.1
Silt & Clay	7.9
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	28
D10	0.082
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	341.5

Notes

Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C77

62 Rochsolloch Road, Airdrie, ML6 9BG

Version 060 - 22/08/2023
1263 - PSD - BS EN 17892 FAT04 01.70 LB - A14979-2-2010433.xls : Sample ID 2010433

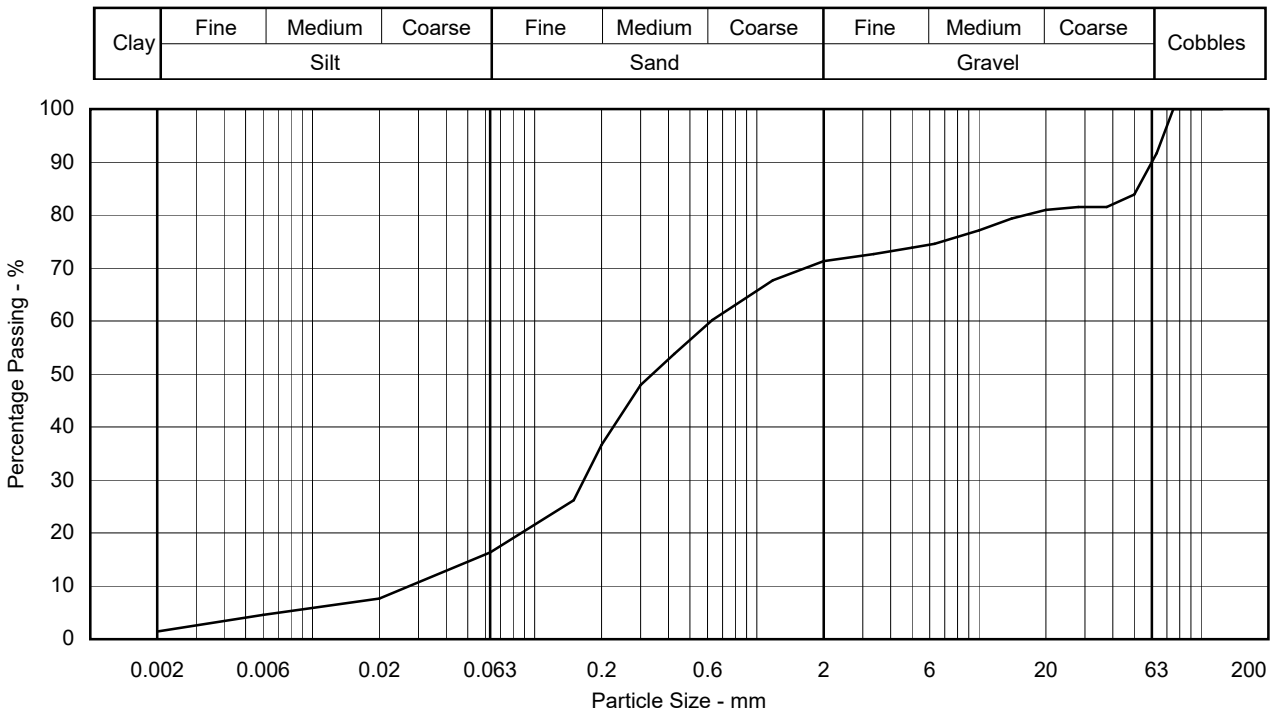
Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** **26491**
Client	SSEN	Hole FATP04
Engineer	Jacobs	Sample Ref Depth (m) 1.70 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	92
50.0 mm	84
37.5 mm	82
28.0 mm	82
20.0 mm	81
14.0 mm	79
10.0 mm	77
6.30 mm	75
5.00 mm	74
3.35 mm	73
2.00 mm	71
1.18 mm	68
630 µm	60
425 µm	54
300 µm	48
200 µm	37
150 µm	26
63 µm	16
20 µm	8
6 µm	5
2 µm	1

Non Engineering Description
Brown silty very gravelly SAND with cobbles and pockets of clay. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	8.3
Gravel	20.3
Sand	55.6
Silt	14.3
Clay	1.4
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	0.62
D10	0.027
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	23.0

Notes
Sedimentation sample not pre-treated



Originator	Checked & Approved
MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Figure C78

62 Rochsolloch Road, Airdrie, ML6 9BG
Lab Project No A14979-1 : 20/11/2023 11:24:40

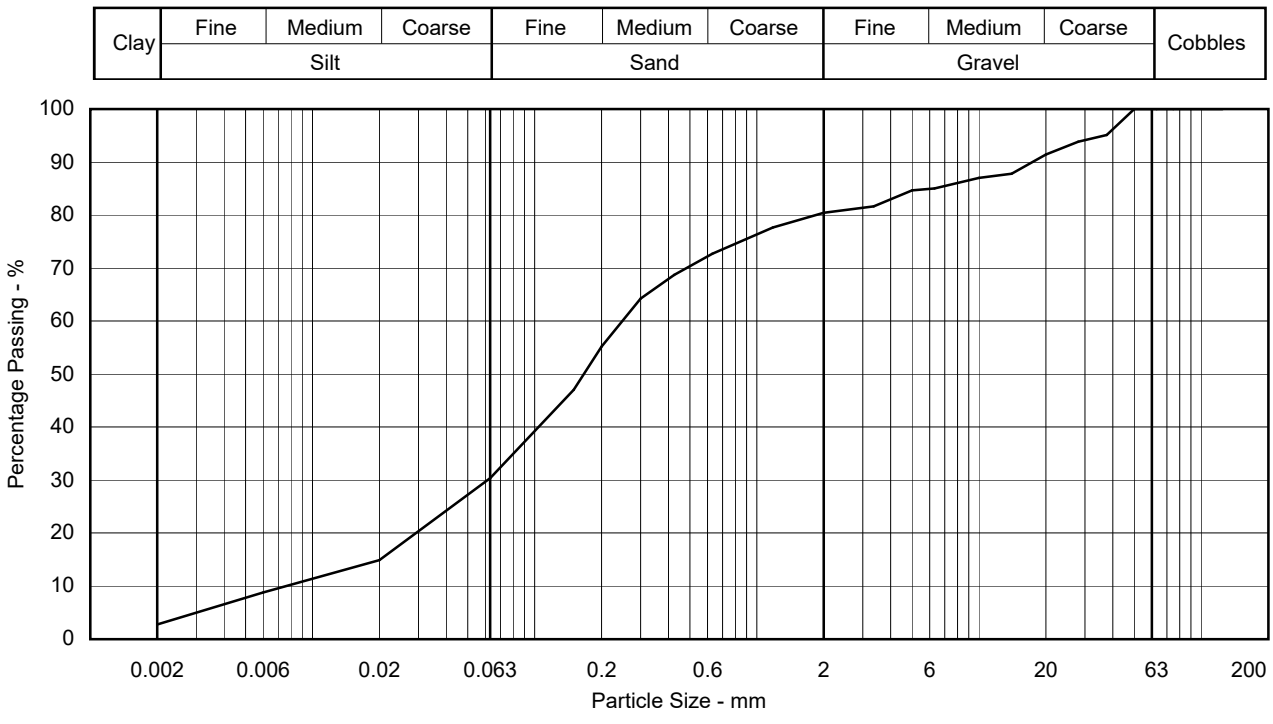
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP05
	Engineer Jacobs	Sample Ref Depth (m) 0.60 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	95
28.0 mm	94
20.0 mm	91
14.0 mm	88
10.0 mm	87
6.30 mm	85
5.00 mm	85
3.35 mm	82
2.00 mm	80
1.18 mm	78
630 µm	73
425 µm	69
300 µm	64
200 µm	55
150 µm	47
63 µm	30
20 µm	15
6 µm	9
2 µm	3

Non Engineering Description
Brown gravelly very silty SAND with pockets of clay. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	19.6
Sand	51.1
Silt	26.5
Clay	2.7
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	50
D60	0.25
D10	0.0076
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	32.9

Notes
Sedimentation sample not pre-treated



Originator	Checked & Approved
MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Figure C79

62 Rochsolloch Road, Airdrie, ML6 9BG

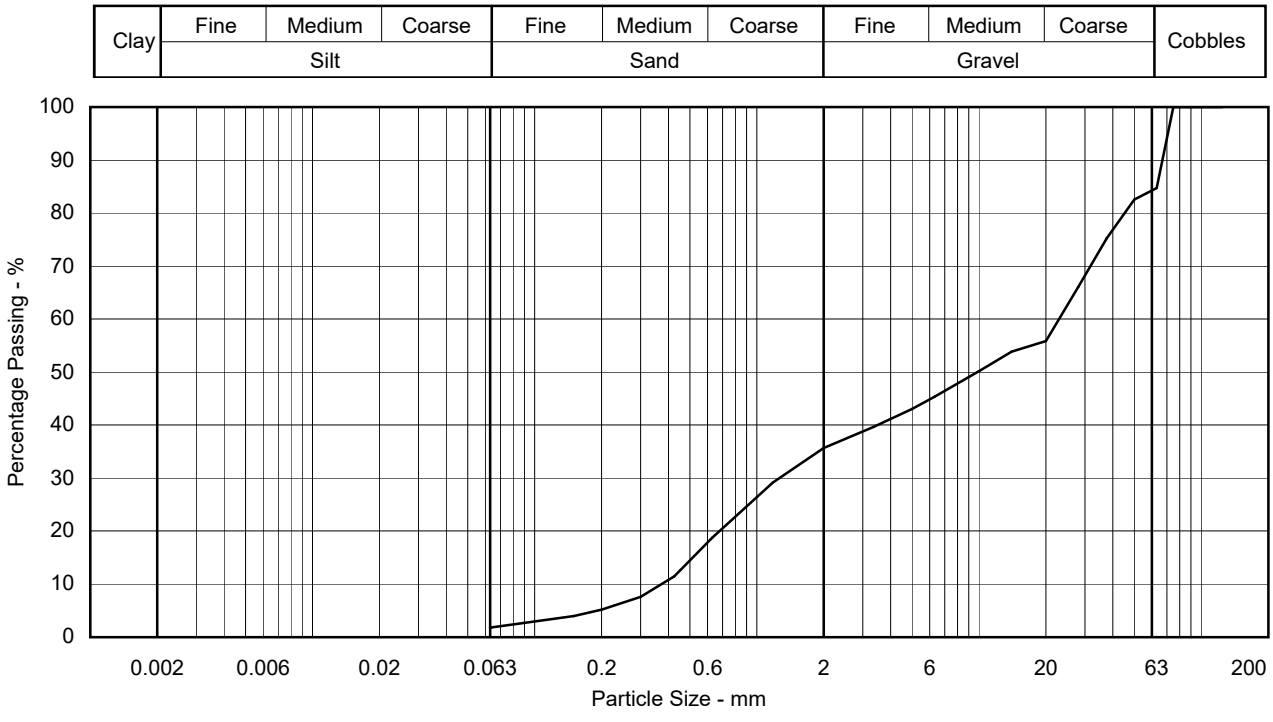
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP05
	Engineer Jacobs	Sample Ref Depth (m) 1.30 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	85
50.0 mm	83
37.5 mm	75
28.0 mm	66
20.0 mm	56
14.0 mm	54
10.0 mm	50
6.30 mm	45
5.00 mm	43
3.35 mm	40
2.00 mm	36
1.18 mm	29
630 µm	19
425 µm	11
300 µm	8
200 µm	5
150 µm	4
63 µm	2

Non Engineering Description
Brown slightly silty SAND and GRAVEL with cobbles. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	15.3
Gravel	49.1
Sand	33.9
Silt & Clay	1.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	23
D10	0.37
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	62.2

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
SH	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C80

62 Rochsolloch Road, Airdrie, ML6 9BG

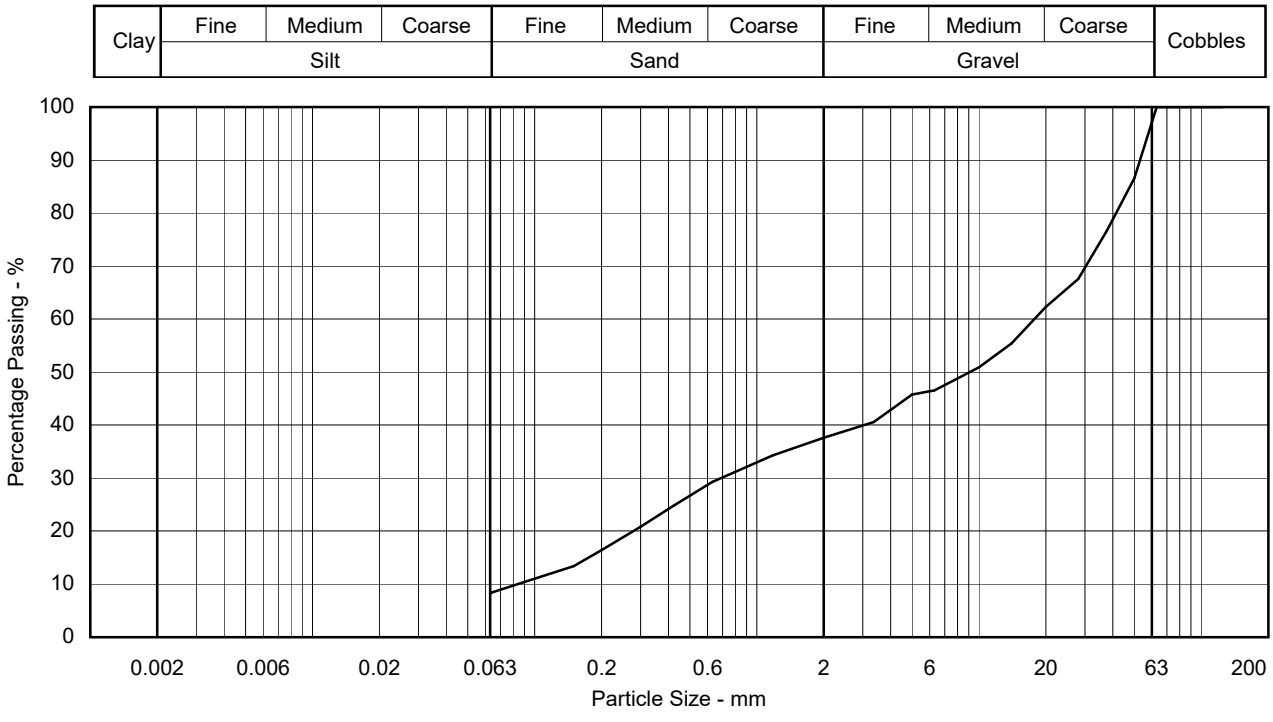
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP06
	Engineer Jacobs	Sample Ref Depth (m) 0.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	87
37.5 mm	77
28.0 mm	68
20.0 mm	62
14.0 mm	55
10.0 mm	51
6.30 mm	47
5.00 mm	46
3.35 mm	41
2.00 mm	38
1.18 mm	34
630 µm	29
425 µm	25
300 µm	21
200 µm	16
150 µm	13
63 µm	8

Non Engineering Description
Brown silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	62.4
Sand	29.3
Silt & Clay	8.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	18
D10	0.085
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	211.8

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C81

62 Rochsolloch Road, Airdrie, ML6 9BG

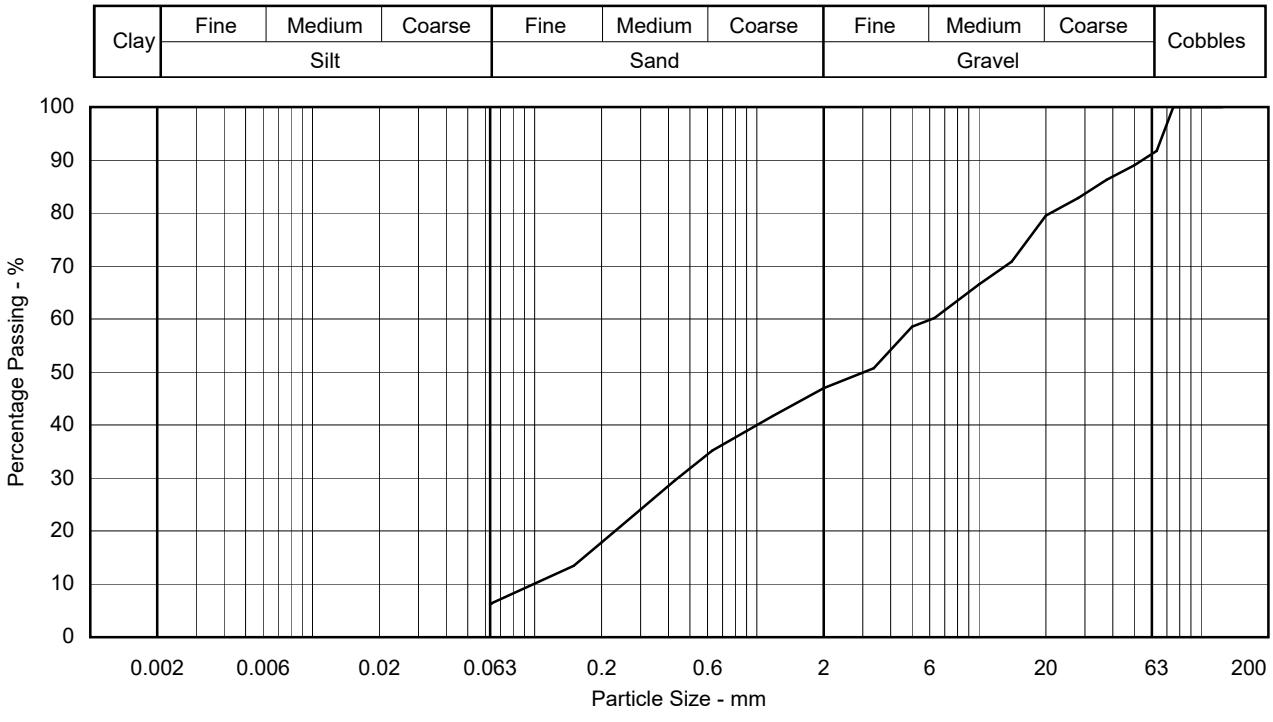
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP06
	Engineer Jacobs	Sample Ref Depth (m) 1.20 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	92
50.0 mm	89
37.5 mm	86
28.0 mm	83
20.0 mm	80
14.0 mm	71
10.0 mm	67
6.30 mm	60
5.00 mm	59
3.35 mm	51
2.00 mm	47
1.18 mm	42
630 µm	35
425 µm	29
300 µm	24
200 µm	18
150 µm	13
63 µm	6

Non Engineering Description
Brown silty SAND and GRAVEL with cobbles. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	8.3
Gravel	44.8
Sand	40.7
Silt & Clay	6.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	6.2
D10	0.100
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	62.0

Notes



Originator	Checked & Approved
MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C82

62 Rochsolloch Road, Airdrie, ML6 9BG

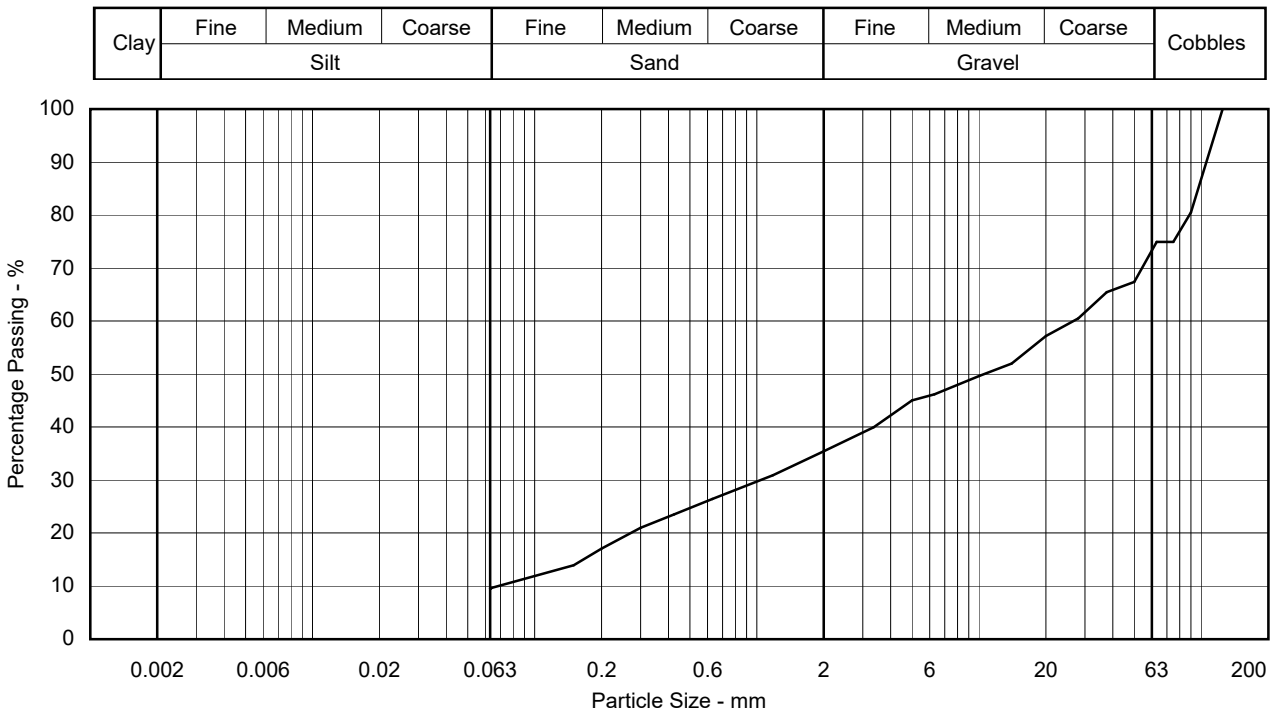
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP07
	Engineer Jacobs	Sample Ref Depth (m) 2.00 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	81
75.0 mm	75
63.0 mm	75
50.0 mm	67
37.5 mm	65
28.0 mm	60
20.0 mm	57
14.0 mm	52
10.0 mm	50
6.30 mm	46
5.00 mm	45
3.35 mm	40
2.00 mm	35
1.18 mm	31
630 µm	26
425 µm	24
300 µm	21
200 µm	17
150 µm	14
63 µm	10

Non Engineering Description
Brown silty SAND and GRAVEL with cobbles. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	25.1
Gravel	39.5
Sand	25.9
Silt & Clay	9.5
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	125
D60	27
D10	0.069
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	391.3

Notes



Originator	Checked & Approved
SH	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C83

62 Rochsolloch Road, Airdrie, ML6 9BG

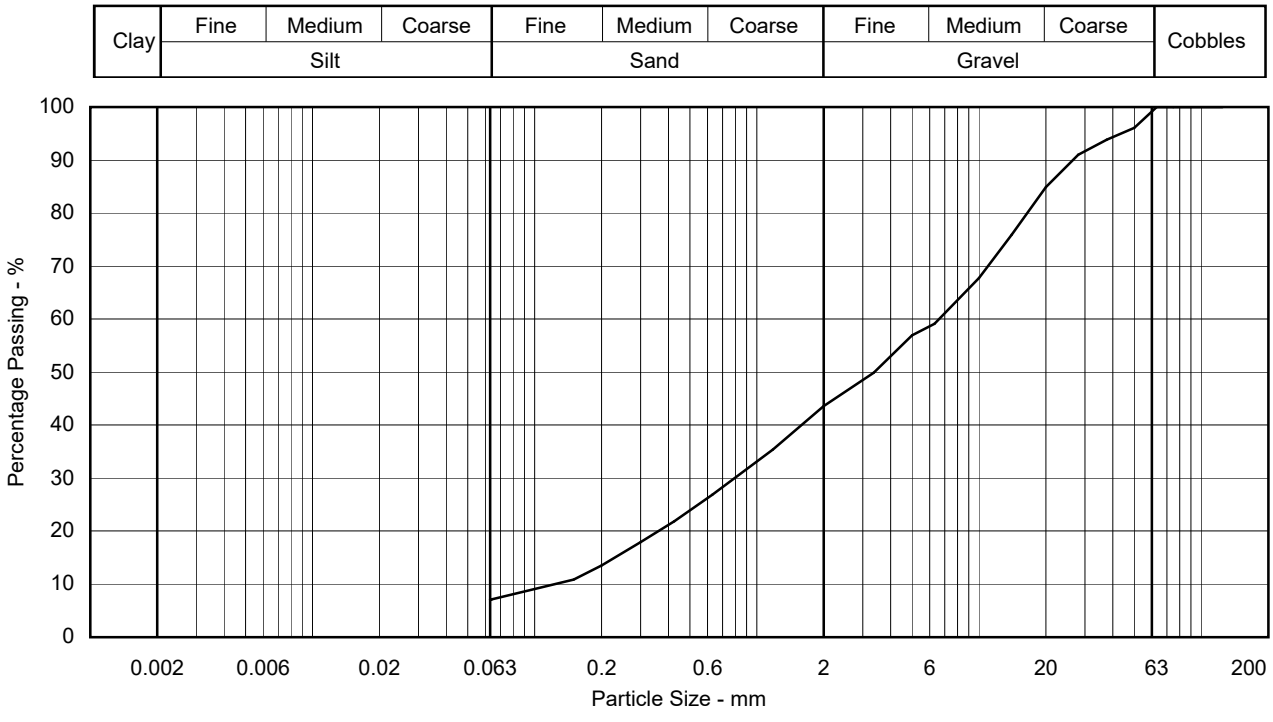
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP08A
	Engineer Jacobs	Sample Ref Depth (m) 1.30 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	96
37.5 mm	94
28.0 mm	91
20.0 mm	85
14.0 mm	76
10.0 mm	68
6.30 mm	59
5.00 mm	57
3.35 mm	50
2.00 mm	44
1.18 mm	35
630 µm	27
425 µm	22
300 µm	18
200 µm	13
150 µm	11
63 µm	7

Non Engineering Description
Brown silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	56.4
Sand	36.5
Silt & Clay	7.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	6.6
D10	0.12
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	55.0

Notes



Originator	Checked & Approved
MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C84

62 Rochsolloch Road, Airdrie, ML6 9BG

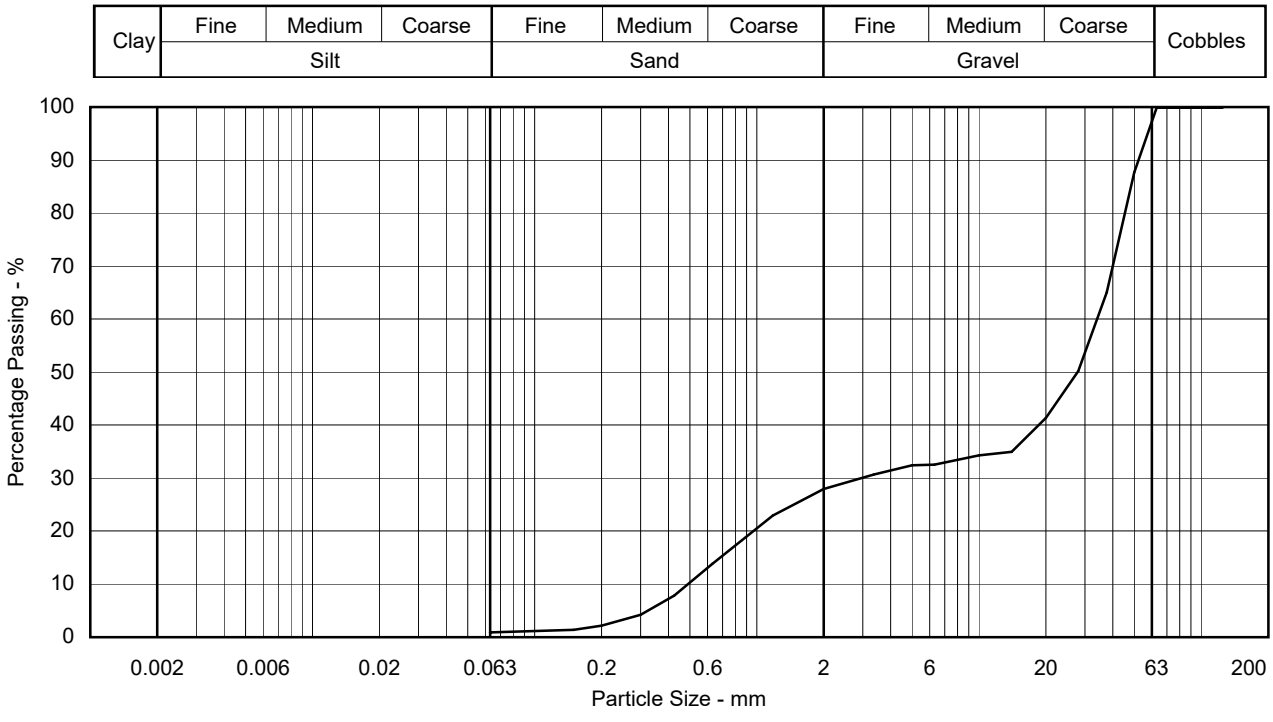
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP08B
	Engineer Jacobs	Sample Ref Depth (m) 1.20 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	88
37.5 mm	65
28.0 mm	50
20.0 mm	41
14.0 mm	35
10.0 mm	34
6.30 mm	33
5.00 mm	32
3.35 mm	31
2.00 mm	28
1.18 mm	23
630 µm	14
425 µm	8
300 µm	4
200 µm	2
150 µm	1
63 µm	1

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL

Sample Proportions - %	
Cobbles	0.0
Gravel	72.0
Sand	27.0
Silt & Clay	1.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	125
D60	34
D10	0.49
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	69.4

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C85

62 Rochsolloch Road, Airdrie, ML6 9BG

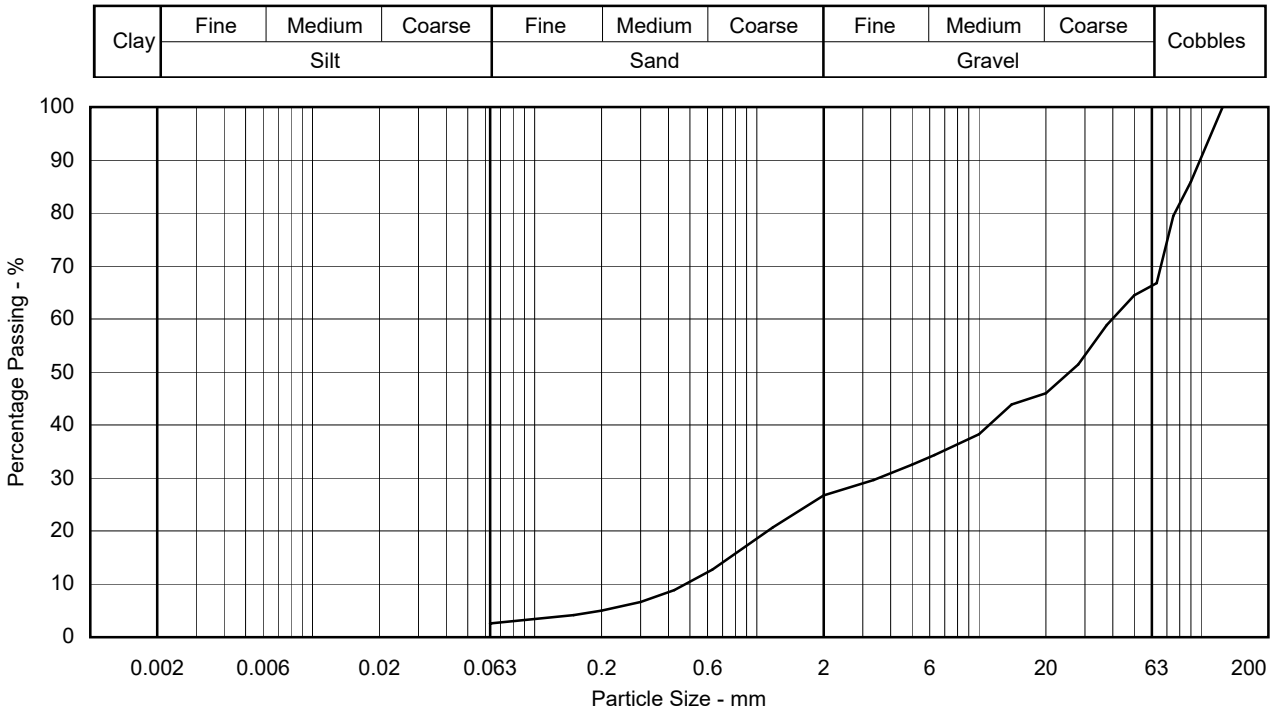
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP08C
	Engineer Jacobs	Sample Ref Depth (m) 0.80 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	86
75.0 mm	79
63.0 mm	67
50.0 mm	64
37.5 mm	59
28.0 mm	51
20.0 mm	46
14.0 mm	44
10.0 mm	38
6.30 mm	34
5.00 mm	32
3.35 mm	30
2.00 mm	27
1.18 mm	21
630 µm	13
425 µm	9
300 µm	7
200 µm	5
150 µm	4
63 µm	3

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	33.3
Gravel	40.1
Sand	24.2
Silt & Clay	2.5
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	125
D60	40
D10	0.48
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	83.3

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C86

62 Rochsolloch Road, Airdrie, ML6 9BG

igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP09
	Engineer Jacobs	Sample Ref Depth (m) 1.60 Sample Type LB

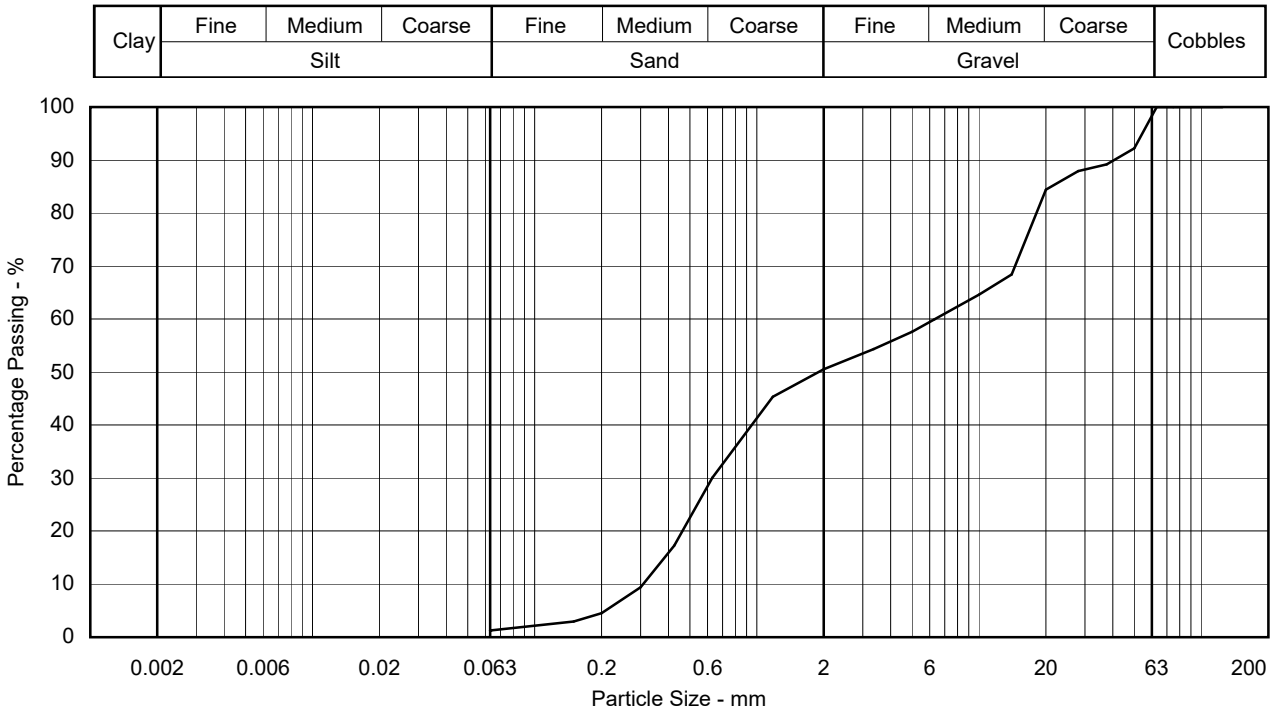
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	92
37.5 mm	89
28.0 mm	88
20.0 mm	84
14.0 mm	68
10.0 mm	65
6.30 mm	60
5.00 mm	58
3.35 mm	54
2.00 mm	51
1.18 mm	45
630 µm	30
425 µm	17
300 µm	9
200 µm	4
150 µm	3
63 µm	1

Non Engineering Description

Brown slightly silty SAND and GRAVEL with cobbles. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	49.5
Sand	49.3
Silt & Clay	1.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	6.3
D10	0.31
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	20.3

Notes



Originator	Checked & Approved
SG	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C87

62 Rochsolloch Road, Airdrie, ML6 9BG

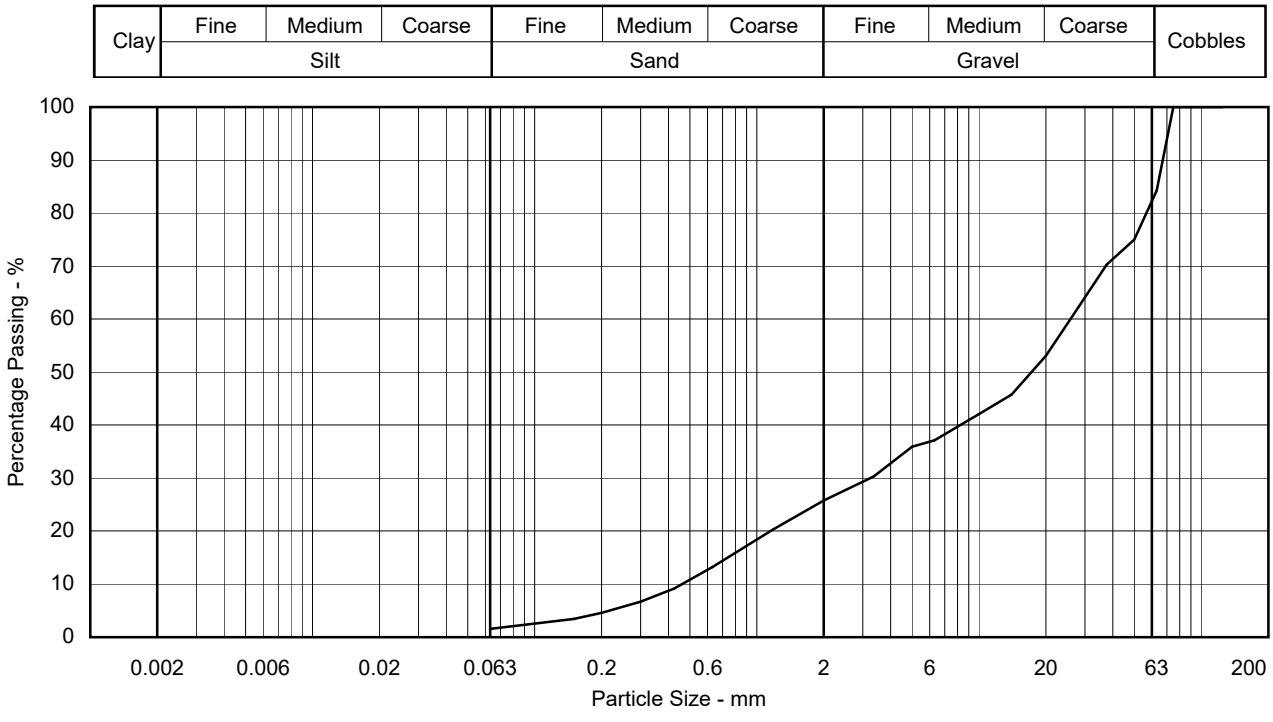
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP10
	Engineer Jacobs	Sample Ref Depth (m) 1.60 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	84
50.0 mm	75
37.5 mm	70
28.0 mm	62
20.0 mm	53
14.0 mm	46
10.0 mm	42
6.30 mm	37
5.00 mm	36
3.35 mm	30
2.00 mm	26
1.18 mm	20
630 µm	13
425 µm	9
300 µm	7
200 µm	5
150 µm	3
63 µm	1

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	15.8
Gravel	58.5
Sand	24.2
Silt & Clay	1.5
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	26
D10	0.46
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	56.5

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C88

62 Rochsolloch Road, Airdrie, ML6 9BG

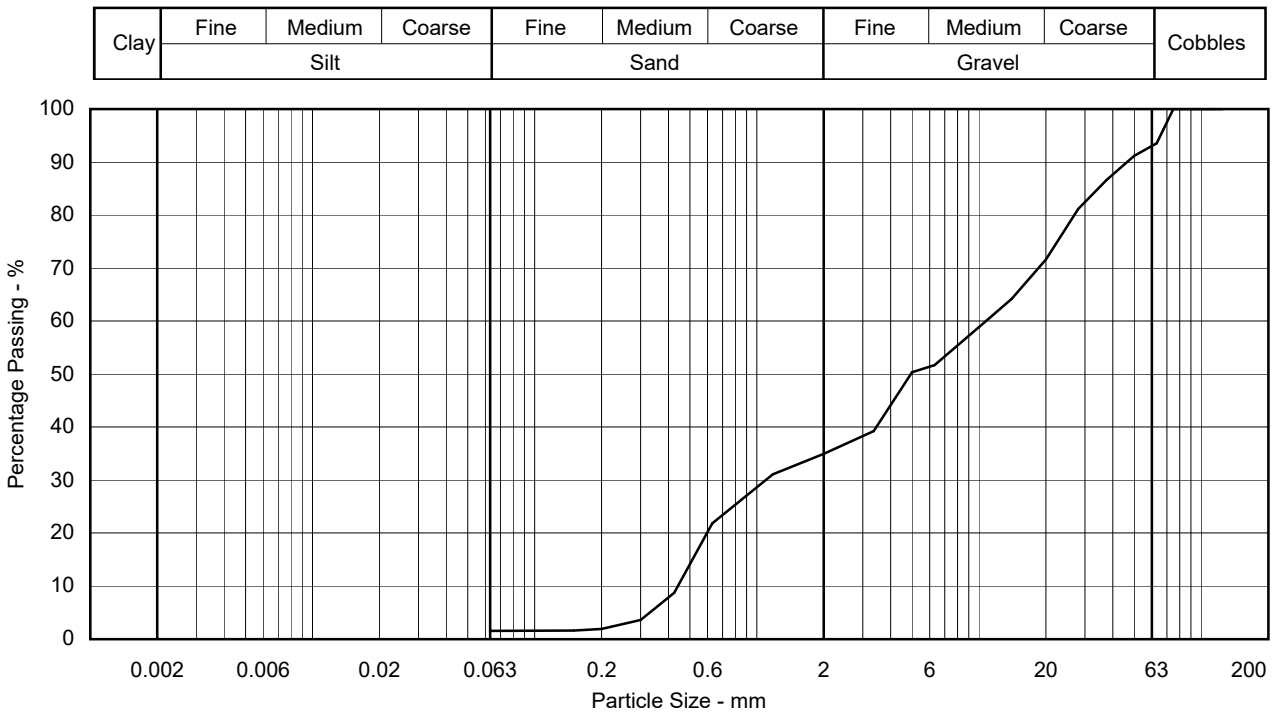
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP11
	Engineer Jacobs	Sample Ref Depth (m) 0.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	94
50.0 mm	91
37.5 mm	87
28.0 mm	81
20.0 mm	72
14.0 mm	64
10.0 mm	59
6.30 mm	52
5.00 mm	50
3.35 mm	39
2.00 mm	35
1.18 mm	31
630 µm	22
425 µm	9
300 µm	4
200 µm	2
150 µm	2
63 µm	2

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	6.4
Gravel	58.7
Sand	33.4
Silt & Clay	1.5
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	11
D10	0.44
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	25.0

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C89

62 Rochsolloch Road, Airdrie, ML6 9BG

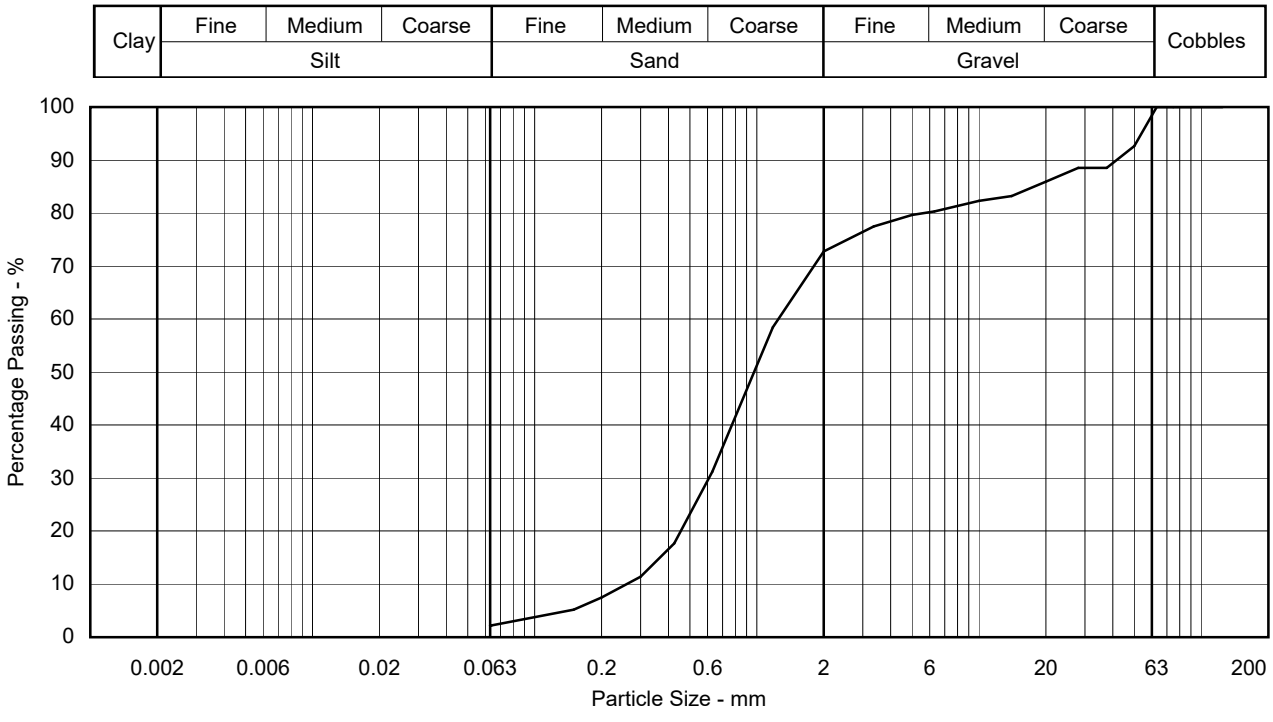
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP11
	Engineer Jacobs	Sample Ref Depth (m) 1.50 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	93
37.5 mm	89
28.0 mm	89
20.0 mm	86
14.0 mm	83
10.0 mm	82
6.30 mm	80
5.00 mm	80
3.35 mm	77
2.00 mm	73
1.18 mm	58
630 µm	31
425 µm	18
300 µm	11
200 µm	7
150 µm	5
63 µm	2

Non Engineering Description
Brown slightly silty very gravelly SAND. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	27.2
Sand	70.6
Silt & Clay	2.1
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	1.2
D10	0.26
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	4.6

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C90

62 Rochsolloch Road, Airdrie, ML6 9BG

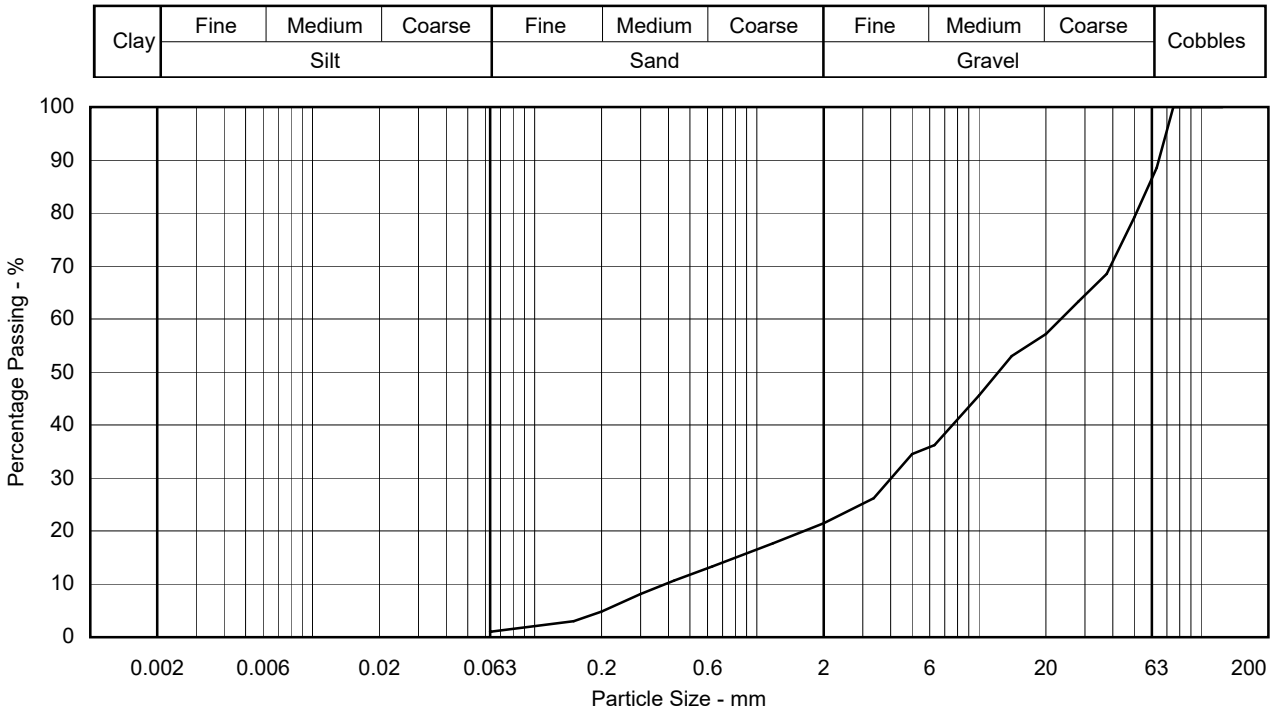
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP12
	Engineer Jacobs	Sample Ref Depth (m) 1.30 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	89
50.0 mm	79
37.5 mm	69
28.0 mm	63
20.0 mm	57
14.0 mm	53
10.0 mm	46
6.30 mm	36
5.00 mm	35
3.35 mm	26
2.00 mm	21
1.18 mm	18
630 µm	13
425 µm	11
300 µm	8
200 µm	5
150 µm	3
63 µm	1

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	11.5
Gravel	67.1
Sand	20.5
Silt & Clay	1.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	23
D10	0.39
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	59.0

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C91

62 Rochsolloch Road, Airdrie, ML6 9BG

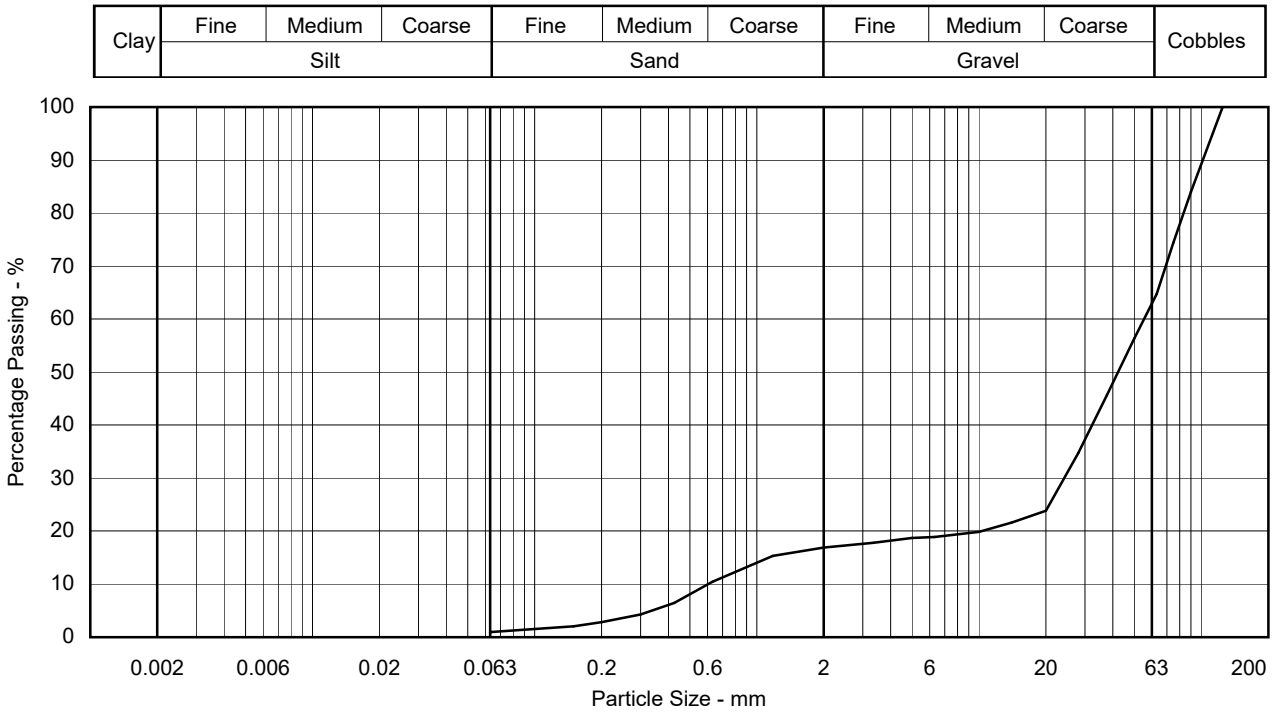
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP13
	Engineer Jacobs	Sample Ref Depth (m) 0.70 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	84
75.0 mm	74
63.0 mm	65
50.0 mm	56
37.5 mm	46
28.0 mm	35
20.0 mm	24
14.0 mm	22
10.0 mm	20
6.30 mm	19
5.00 mm	19
3.35 mm	18
2.00 mm	17
1.18 mm	15
630 µm	10
425 µm	6
300 µm	4
200 µm	3
150 µm	2
63 µm	1

Non Engineering Description
Brown slightly silty sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	35.3
Gravel	47.9
Sand	15.9
Silt & Clay	0.9
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	125
D60	55
D10	0.61
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	90.2

Notes



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C92

62 Rochsolloch Road, Airdrie, ML6 9BG

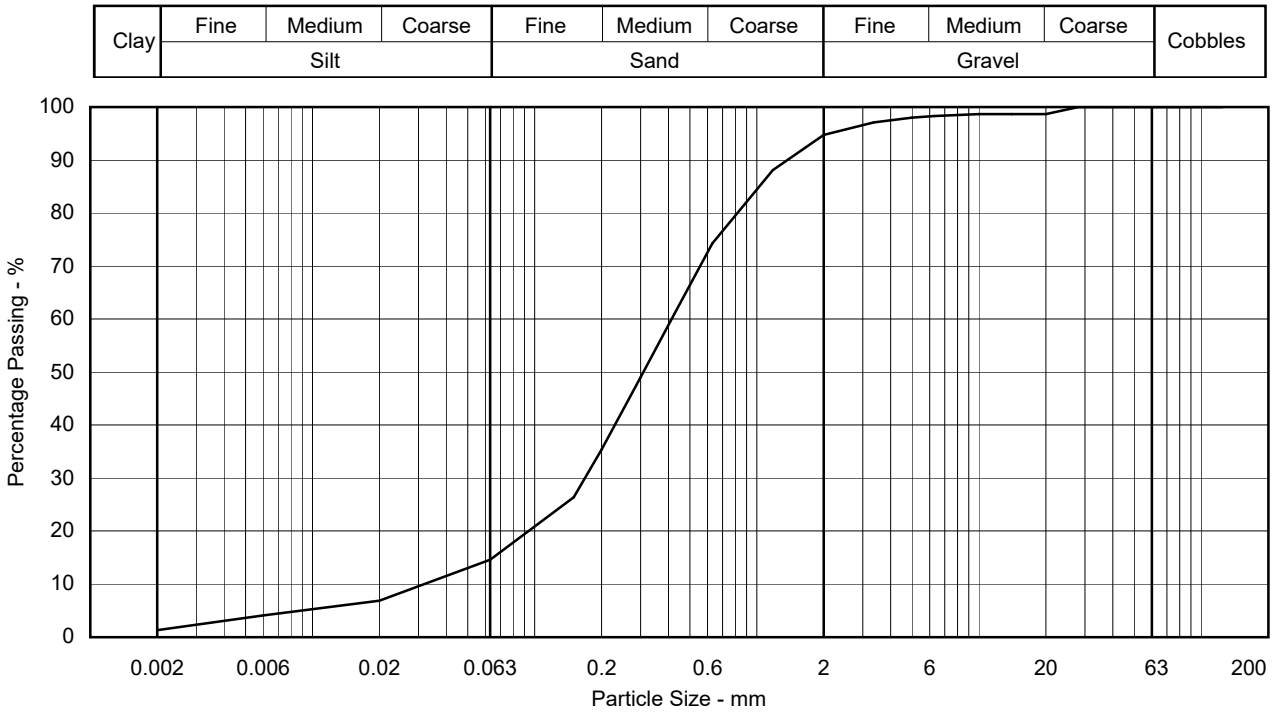
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP14
	Engineer Jacobs	Sample Ref Depth (m) 1.10 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	99
14.0 mm	99
10.0 mm	99
6.30 mm	98
5.00 mm	98
3.35 mm	97
2.00 mm	95
1.18 mm	88
630 µm	74
425 µm	61
300 µm	49
200 µm	35
150 µm	26
63 µm	15
20 µm	7
6 µm	4
2 µm	1

Non Engineering Description
Brown gravelly silty SAND with pockets of clay. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	5.3
Sand	80.7
Silt	12.8
Clay	1.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	28
D60	0.41
D10	0.032
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	12.8

Notes
Sedimentation sample not pre-treated



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PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Figure C93

62 Rochsolloch Road, Airdrie, ML6 9BG

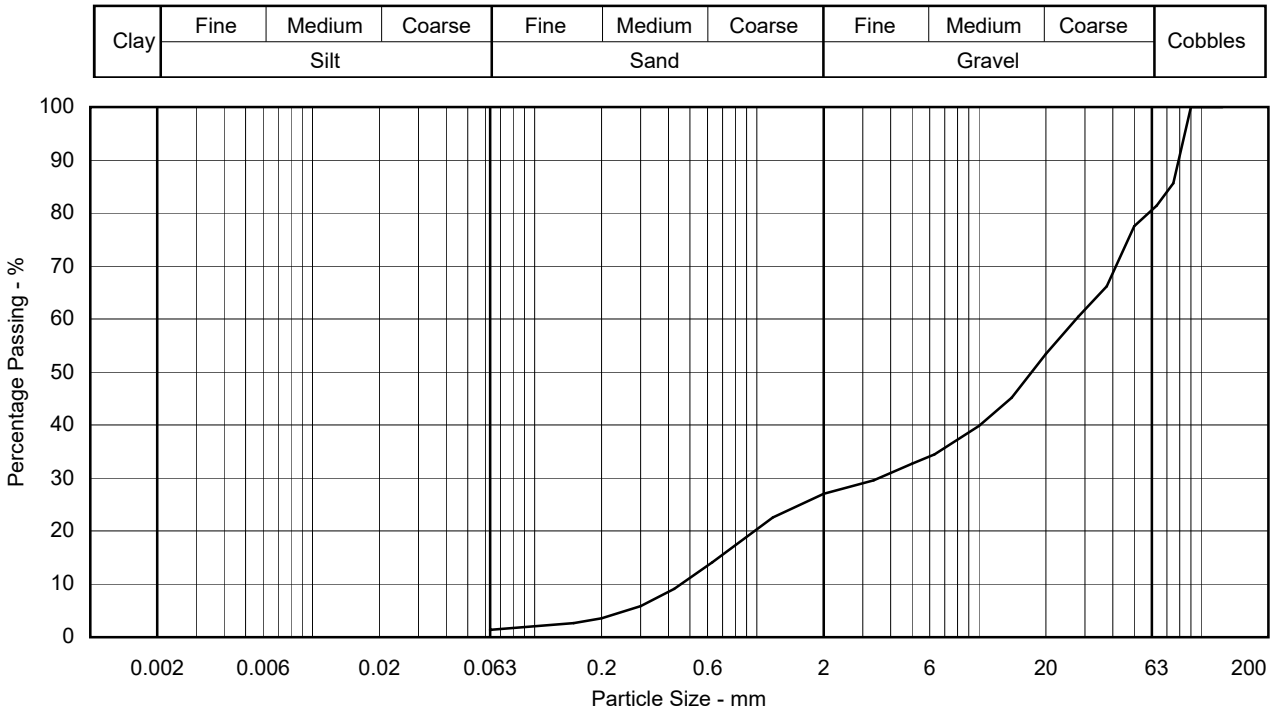
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP15
	Engineer Jacobs	Sample Ref Depth (m) 1.70 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	86
63.0 mm	81
50.0 mm	78
37.5 mm	66
28.0 mm	60
20.0 mm	53
14.0 mm	45
10.0 mm	40
6.30 mm	34
5.00 mm	33
3.35 mm	30
2.00 mm	27
1.18 mm	23
630 µm	14
425 µm	9
300 µm	6
200 µm	4
150 µm	3
63 µm	1

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	18.6
Gravel	54.4
Sand	25.7
Silt & Clay	1.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	27
D10	0.46
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	58.7

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C94

62 Rochsolloch Road, Airdrie, ML6 9BG

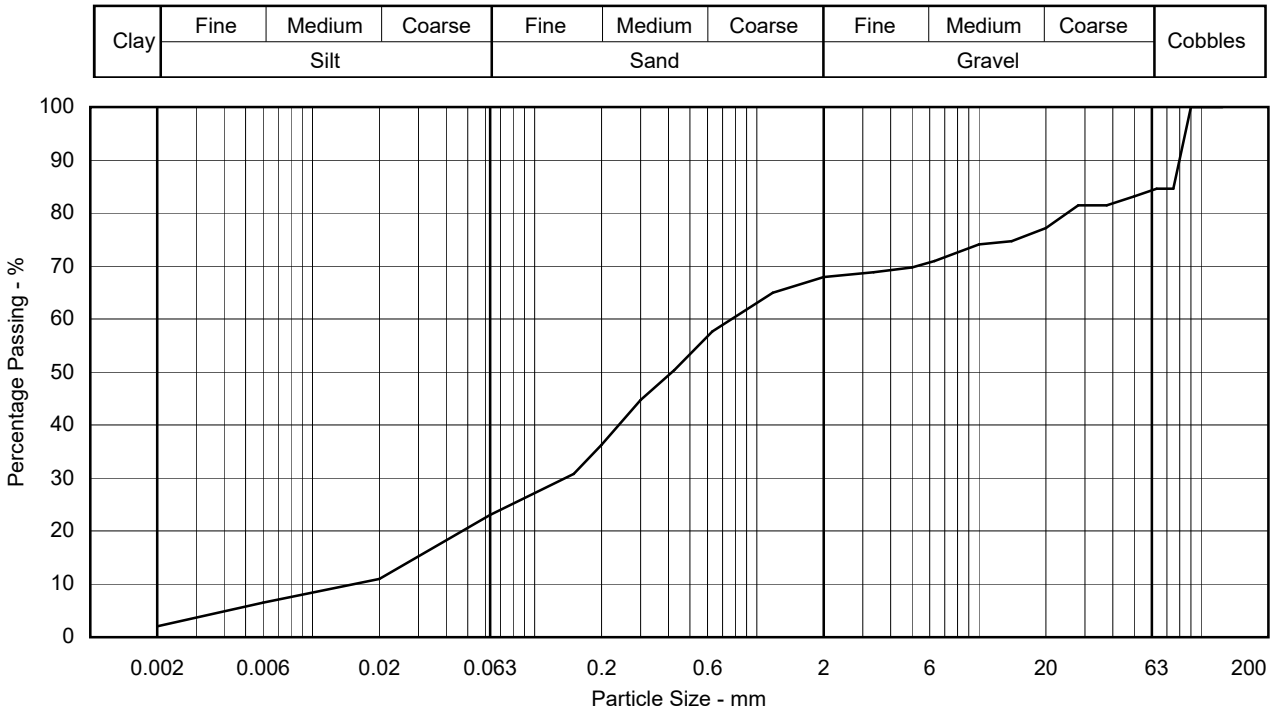
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP16
	Engineer Jacobs	Sample Ref Depth (m) 1.30 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	85
63.0 mm	85
50.0 mm	83
37.5 mm	81
28.0 mm	81
20.0 mm	77
14.0 mm	75
10.0 mm	74
6.30 mm	71
5.00 mm	70
3.35 mm	69
2.00 mm	68
1.18 mm	65
630 µm	58
425 µm	50
300 µm	45
200 µm	36
150 µm	31
63 µm	23
20 µm	11
6 µm	6
2 µm	2

Non Engineering Description
Brown gravelly very silty SAND with cobbles, pockets of clay and organic matter. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	15.4
Gravel	16.6
Sand	45.8
Silt	20.2
Clay	2.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	0.77
D10	0.016
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	48.1

Notes
Sedimentation sample not pre-treated



Originator	Checked & Approved
SG	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Figure C95

62 Rochsolloch Road, Airdrie, ML6 9BG

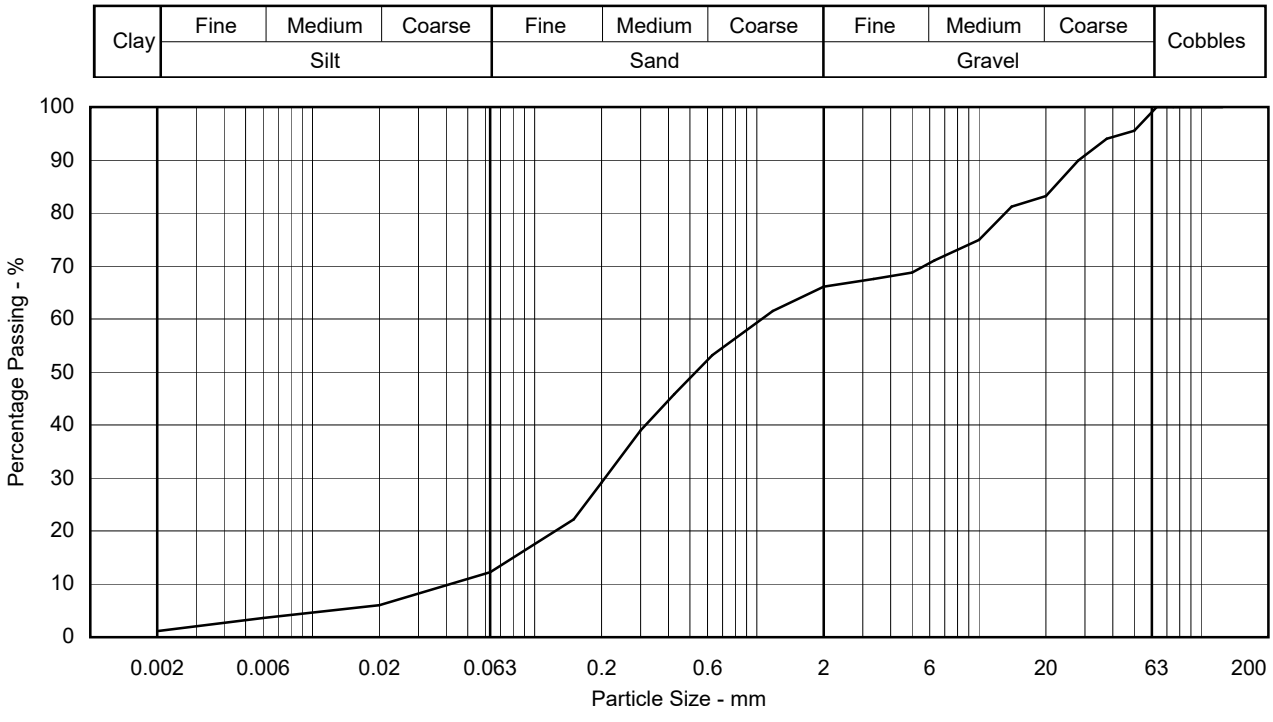
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP16
	Engineer Jacobs	Sample Ref Depth (m) 2.50 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	96
37.5 mm	94
28.0 mm	90
20.0 mm	83
14.0 mm	81
10.0 mm	75
6.30 mm	71
5.00 mm	69
3.35 mm	68
2.00 mm	66
1.18 mm	62
630 µm	53
425 µm	46
300 µm	39
200 µm	29
150 µm	22
63 µm	12
20 µm	6
6 µm	4
2 µm	1

Non Engineering Description
Brown silty very gravelly SAND with pockets of clay. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	33.9
Sand	54.3
Silt	10.7
Clay	1.1
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	1.1
D10	0.042
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	26.2

Notes
Sedimentation sample not pre-treated



Originator	Checked & Approved
MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Figure C96

62 Rochsolloch Road, Airdrie, ML6 9BG

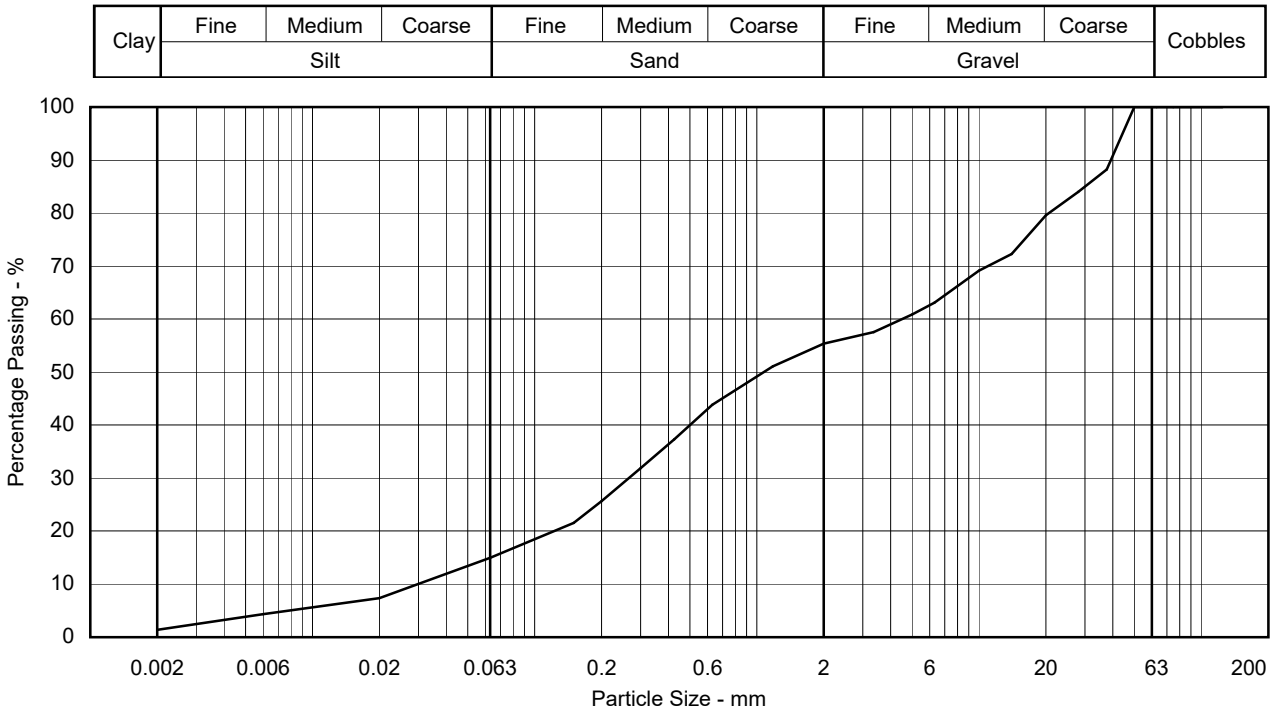
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP17
	Engineer Jacobs	Sample Ref Depth (m) 1.50 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	88
28.0 mm	84
20.0 mm	80
14.0 mm	72
10.0 mm	69
6.30 mm	63
5.00 mm	61
3.35 mm	58
2.00 mm	55
1.18 mm	51
630 µm	44
425 µm	37
300 µm	32
200 µm	26
150 µm	21
63 µm	15
20 µm	7
6 µm	4
2 µm	1

Non Engineering Description
Brown silty SAND and GRAVEL with pockets of clay and rootlets. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	0.0
Gravel	44.7
Sand	41.0
Silt	13.0
Clay	1.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	50
D60	4.5
D10	0.030
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	150.0

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements Sedimentation sample not pre-treated



Originator	Checked & Approved
SG	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method

Figure C97

62 Rochsolloch Road, Airdrie, ML6 9BG

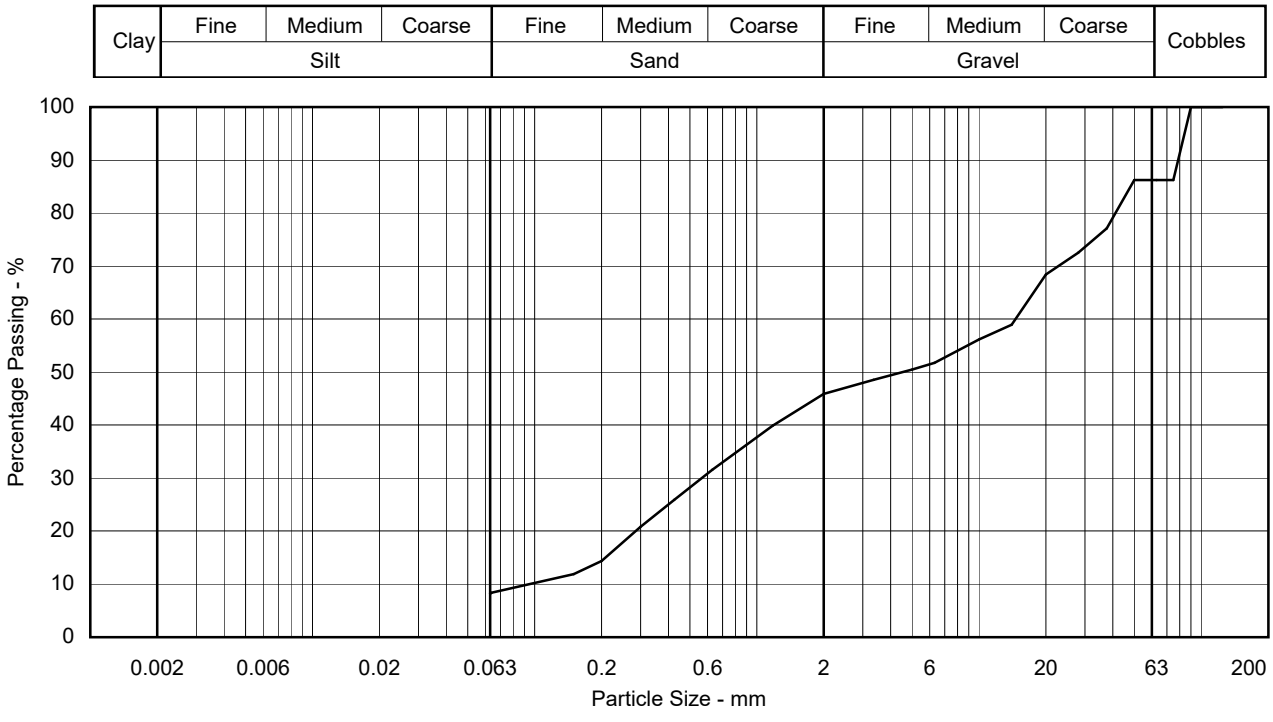
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP18
	Engineer Jacobs	Sample Ref Depth (m) 1.50 Sample Type LB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	86
63.0 mm	86
50.0 mm	86
37.5 mm	77
28.0 mm	73
20.0 mm	68
14.0 mm	59
10.0 mm	56
6.30 mm	52
5.00 mm	50
3.35 mm	48
2.00 mm	46
1.18 mm	40
630 µm	32
425 µm	26
300 µm	21
200 µm	14
150 µm	12
63 µm	8

Non Engineering Description
Brown silty SAND and GRAVEL with cobbles. Gravel is fine to coarse

Sample Proportions - %	
Cobbles	13.8
Gravel	40.4
Sand	37.6
Silt & Clay	8.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	15
D10	0.096
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	156.3

Notes



Originator	Checked & Approved
MC	CD 20/11/2023

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C98

62 Rochsolloch Road, Airdrie, ML6 9BG

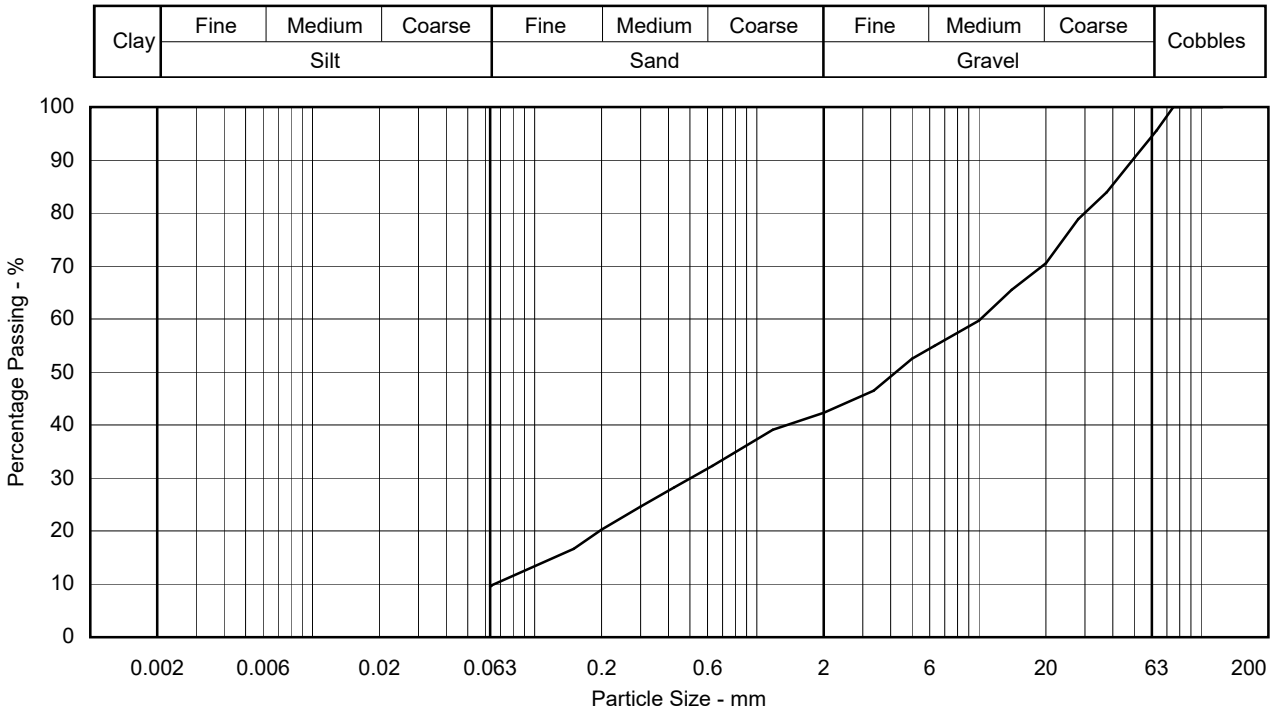
igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP18
	Engineer Jacobs	Sample Ref Depth (m) 3.10 Sample Type B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	96
50.0 mm	90
37.5 mm	84
28.0 mm	79
20.0 mm	70
14.0 mm	65
10.0 mm	60
6.30 mm	55
5.00 mm	53
3.35 mm	46
2.00 mm	42
1.18 mm	39
630 µm	32
425 µm	28
300 µm	25
200 µm	20
150 µm	17
63 µm	10

Non Engineering Description
Brown slightly silty very sandy fine to coarse GRAVEL with cobbles

Sample Proportions - %	
Cobbles	4.4
Gravel	53.3
Sand	32.7
Silt & Clay	9.6
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	10
D10	0.066
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	151.5

Notes



Originator	Checked & Approved
MC	CD 20/11/2023

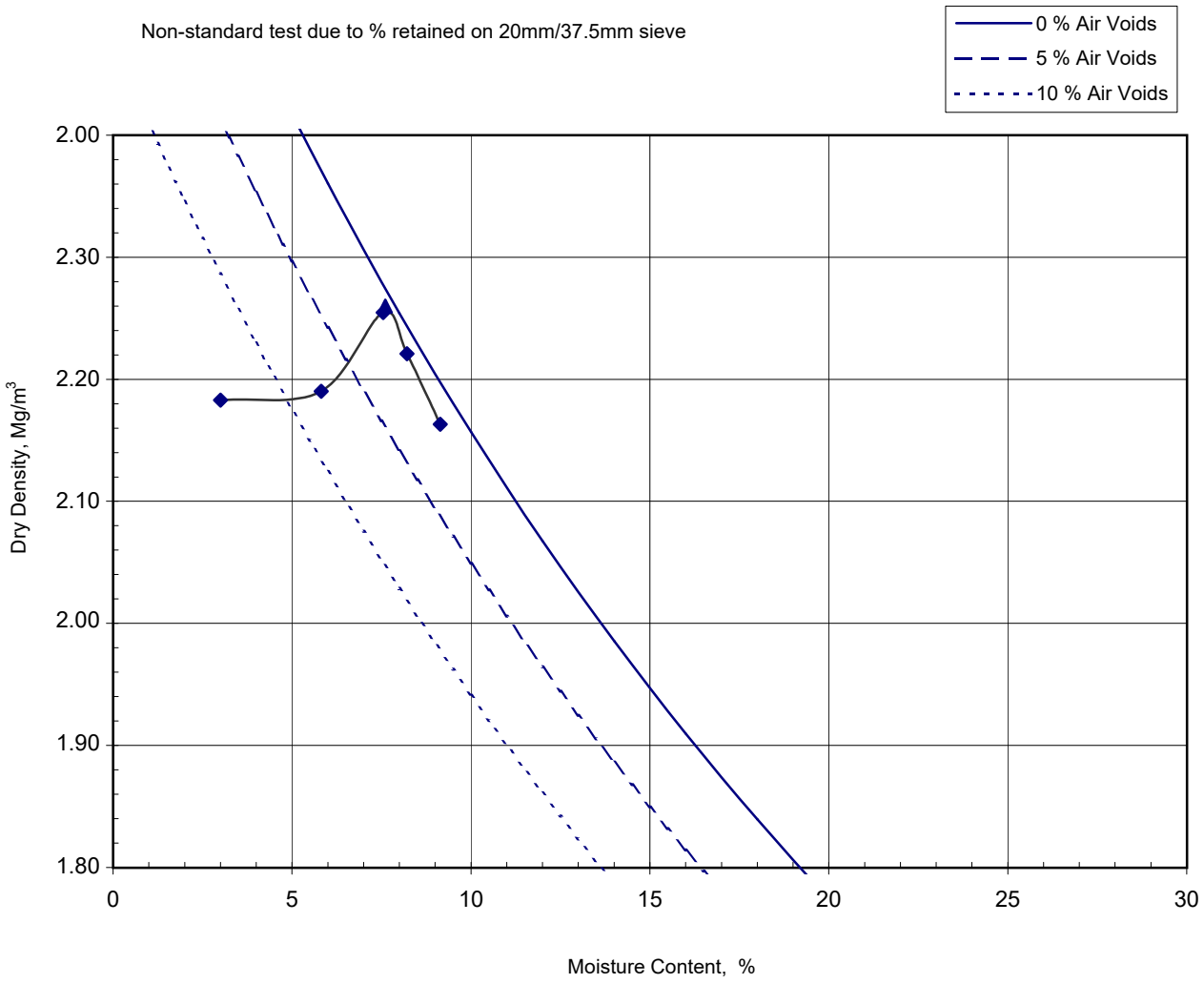
PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Figure C99

62 Rochsolloch Road, Airdrie, ML6 9BG

Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** **26491**
Client	SSEN	Hole FATP01
Engineer	Jacobs	Sample Ref
		Depth (m) 1.70
		Sample Type LB

Non-standard test due to % retained on 20mm/37.5mm sieve



Non Engineering Description		Brown slightly silty sandy fine to coarse GRAVEL with cobbles
Preparation		Oven dried
Test Method		Vibrating Hammer
Samples Used		Single
Mass Retained on 37.5 mm Sieve	%	38
Mass Retained on 20.0 mm Sieve	%	53
Particle Density - Assumed	Mg/m³	2.75
Natural Moisture Content	%	10
Maximum Dry Density	Mg/m³	2.26
Optimum Moisture Content	%	7.6

Originator	Checked & Approved
SH	CD 20/11/2023

Moisture Content / Dry Density Relationship

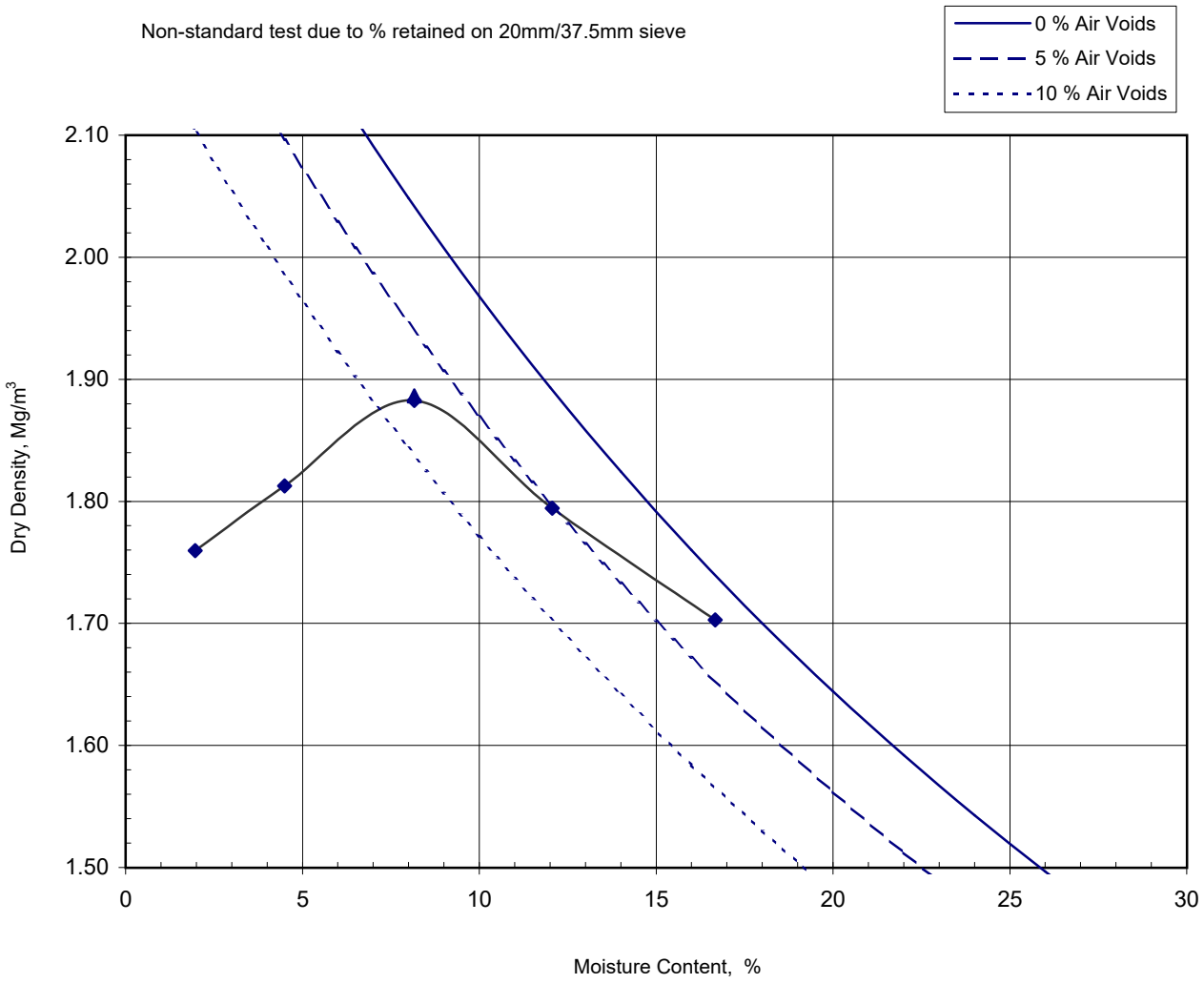
BS1377:Part 4:1990 Clause 3.7

Figure C100

62 Rochsolloch Road, Airdrie, ML6 9BG

igne	Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** **26491**
	Client	SSEN	Hole FATP04
	Engineer	Jacobs	Sample Ref Depth (m) 1.70 Sample Type LB

Non-standard test due to % retained on 20mm/37.5mm sieve



Non Engineering Description		Brown silty very gravelly SAND with cobbles and pockets of clay. Gravel is fine to coarse
Preparation		Oven dried
Test Method		4.5kg Rammer for soils with some coarse gravel-size particles
Samples Used		Single
Mass Retained on 37.5 mm Sieve	%	18
Mass Retained on 20.0 mm Sieve	%	19
Particle Density - Assumed	Mg/m³	2.45
Natural Moisture Content	%	12
Maximum Dry Density	Mg/m³	1.89
Optimum Moisture Content	%	8.2

Originator	Checked & Approved
RF	CD 20/11/2023

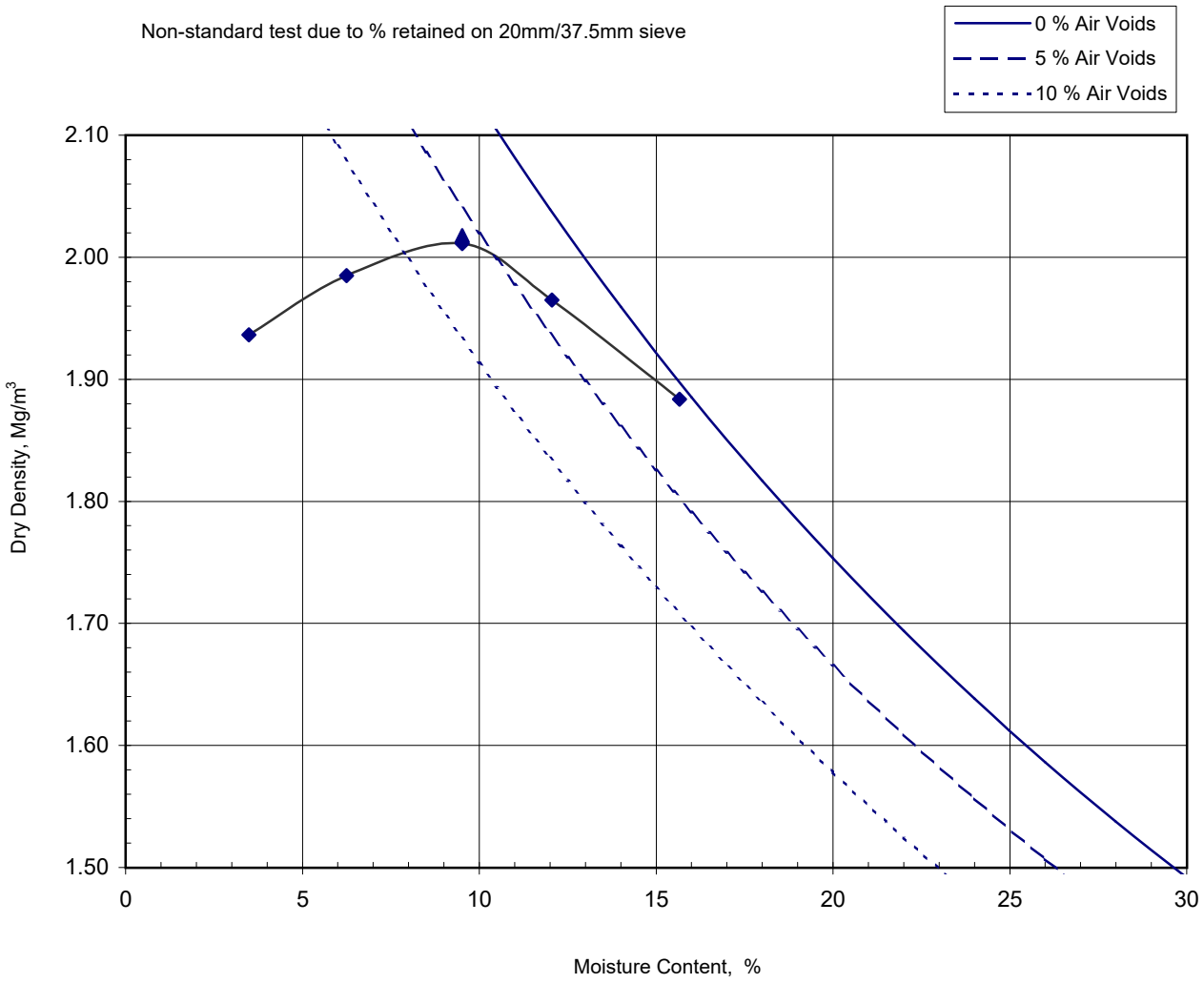
Moisture Content / Dry Density Relationship
BS1377:Part 4:1990 Clause 3.6

Figure C101

62 Rochsolloch Road, Airdrie, ML6 9BG

igne	Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** **26491**
	Client	SSEN	Hole FATP09
	Engineer	Jacobs	Sample Ref Depth (m) 1.60 Sample Type LB

Non-standard test due to % retained on 20mm/37.5mm sieve



Non Engineering Description		Brown slightly silty SAND and GRAVEL with cobbles. Gravel is fine to coarse
Preparation		Oven dried
Test Method		4.5kg Rammer for soils with some coarse gravel-size particles
Samples Used		Single
Mass Retained on 37.5 mm Sieve	%	11
Mass Retained on 20.0 mm Sieve	%	16
Particle Density - Assumed	Mg/m³	2.70
Natural Moisture Content	%	5.2
Maximum Dry Density	Mg/m³	2.02
Optimum Moisture Content	%	9.5

Originator	Checked & Approved
NW	CD 20/11/2023

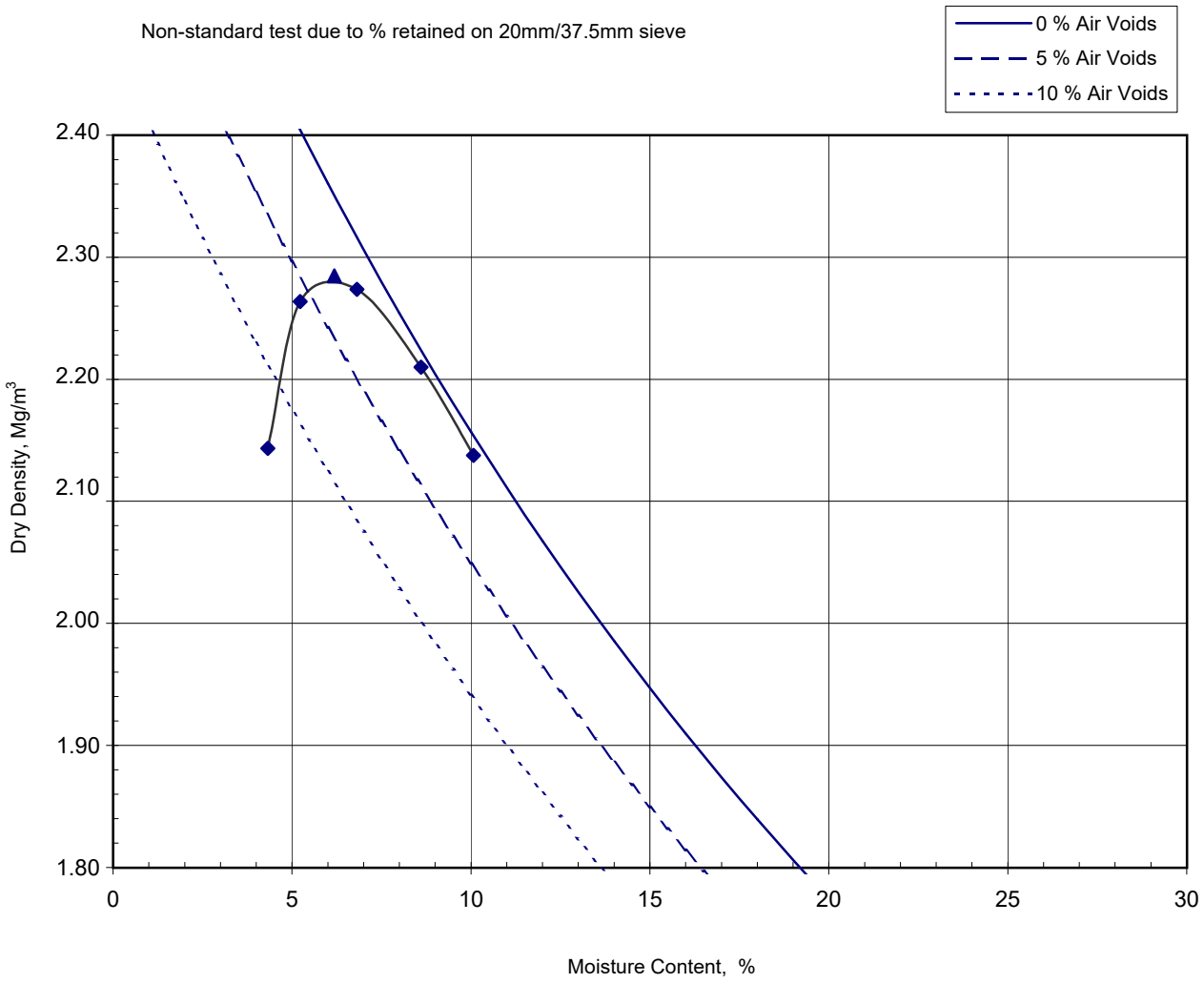
Moisture Content / Dry Density Relationship
BS1377:Part 4:1990 Clause 3.6

Figure C102

62 Rochsolloch Road, Airdrie, ML6 9BG

igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP12
	Engineer Jacobs	Sample Ref
		Depth (m) 1.30
		Sample Type LB

Non-standard test due to % retained on 20mm/37.5mm sieve



Non Engineering Description		Brown slightly silty very sandy fine to coarse GRAVEL with cobbles
Preparation		Oven dried
Test Method		Vibrating Hammer
Samples Used		Single
Mass Retained on 37.5 mm Sieve	%	31
Mass Retained on 20.0 mm Sieve	%	43
Particle Density - Assumed	Mg/m³	2.75
Natural Moisture Content	%	9.9
Maximum Dry Density	Mg/m³	2.28
Optimum Moisture Content	%	6.2

Originator	Checked & Approved
RF	CD 20/11/2023

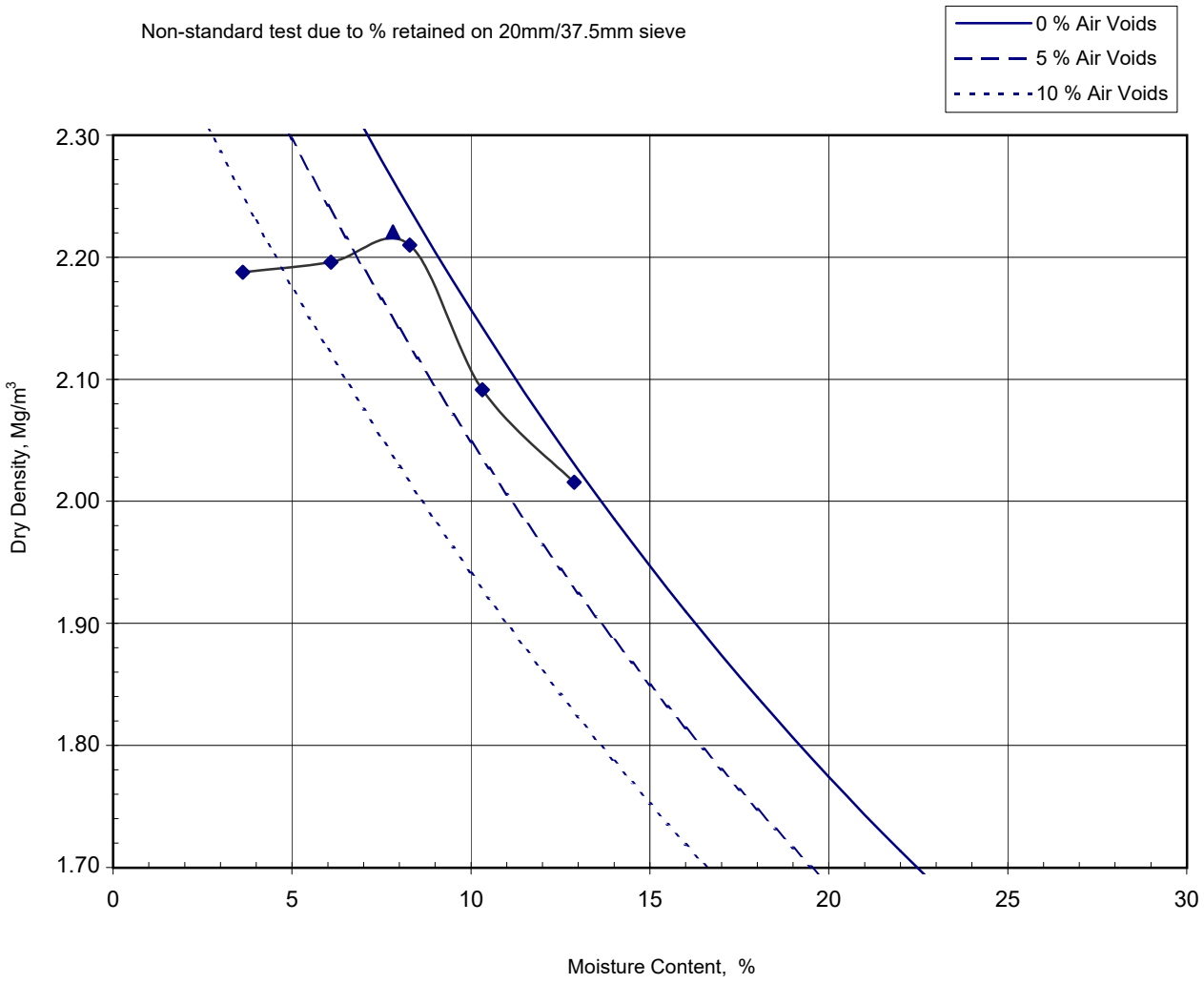
Moisture Content / Dry Density Relationship
BS1377:Part 4:1990 Clause 3.7

Figure C103

62 Rochsolloch Road, Airdrie, ML6 9BG

Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** **26491**
Client	SSEN	Hole FATP13
Engineer	Jacobs	Sample Ref Depth (m) 0.70 Sample Type LB

Non-standard test due to % retained on 20mm/37.5mm sieve



Non Engineering Description		Brown slightly silty sandy fine to coarse GRAVEL with cobbles
Preparation		Oven dried
Test Method		Vibrating Hammer
Samples Used		Single
Mass Retained on 37.5 mm Sieve	%	54
Mass Retained on 20.0 mm Sieve	%	76
Particle Density - Assumed	Mg/m³	2.75
Natural Moisture Content	%	5.1
Maximum Dry Density	Mg/m³	2.22
Optimum Moisture Content	%	7.8

Originator	Checked & Approved
RF	CD 20/11/2023

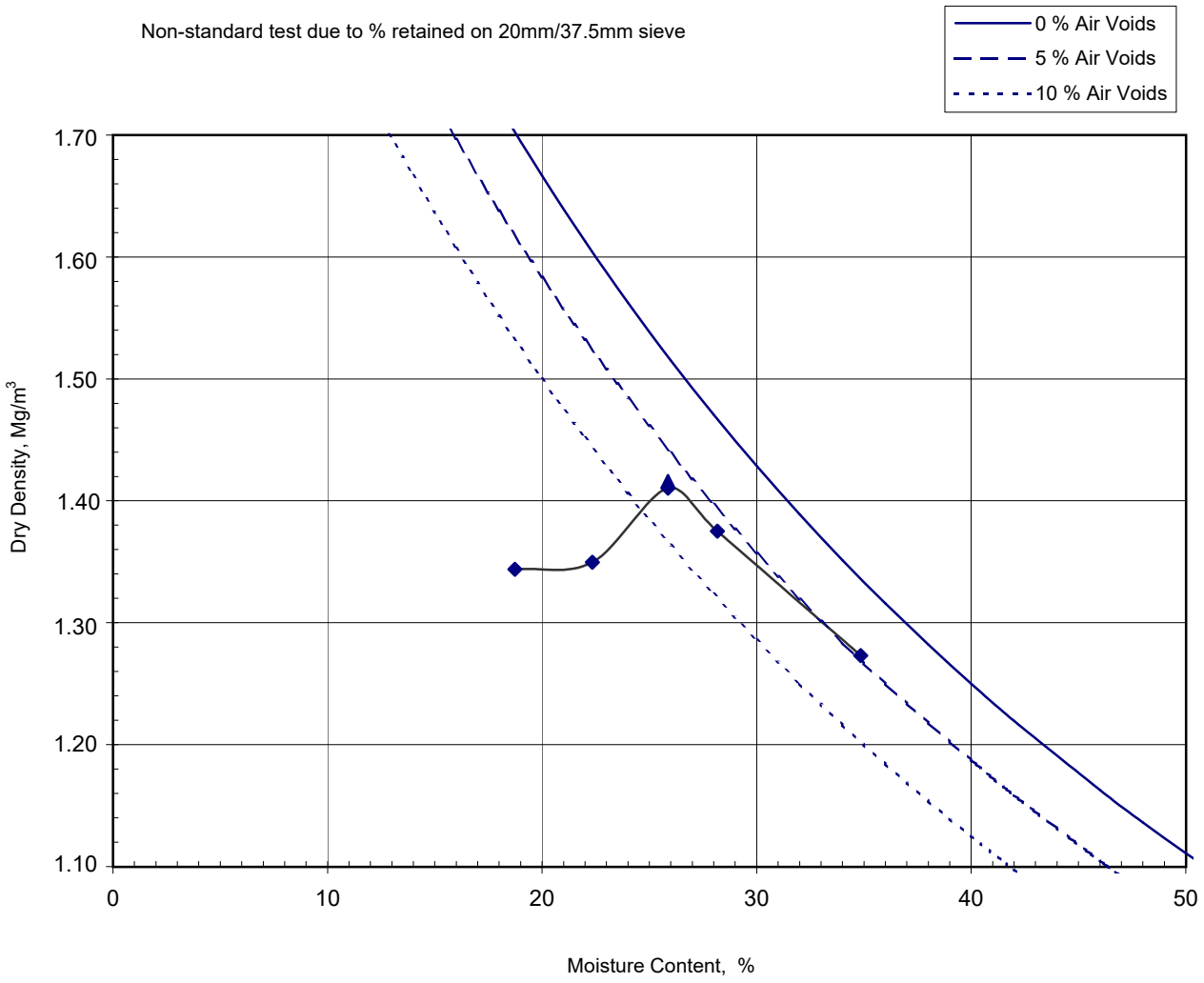
Moisture Content / Dry Density Relationship
BS1377:Part 4:1990 Clause 3.7

Figure C104

62 Rochsolloch Road, Airdrie, ML6 9BG

igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No 26491**
	Client SSEN	Hole FATP16
	Engineer Jacobs	Sample Ref Depth (m) 1.30 Sample Type LB

Non-standard test due to % retained on 20mm/37.5mm sieve



Non Engineering Description		Brown gravelly very silty SAND with cobbles, pockets of clay and organic matter. Gravel is fine to coarse
Preparation		Oven dried
Test Method		4.5kg Rammer for soils with some coarse gravel-size particles
Samples Used		Single
Mass Retained on 37.5 mm Sieve	%	19
Mass Retained on 20.0 mm Sieve	%	23
Particle Density - Assumed	Mg/m³	2.50
Natural Moisture Content	%	59
Maximum Dry Density	Mg/m³	1.42
Optimum Moisture Content	%	25.9

Originator	Checked & Approved
NW	CD 20/11/2023

Moisture Content / Dry Density Relationship

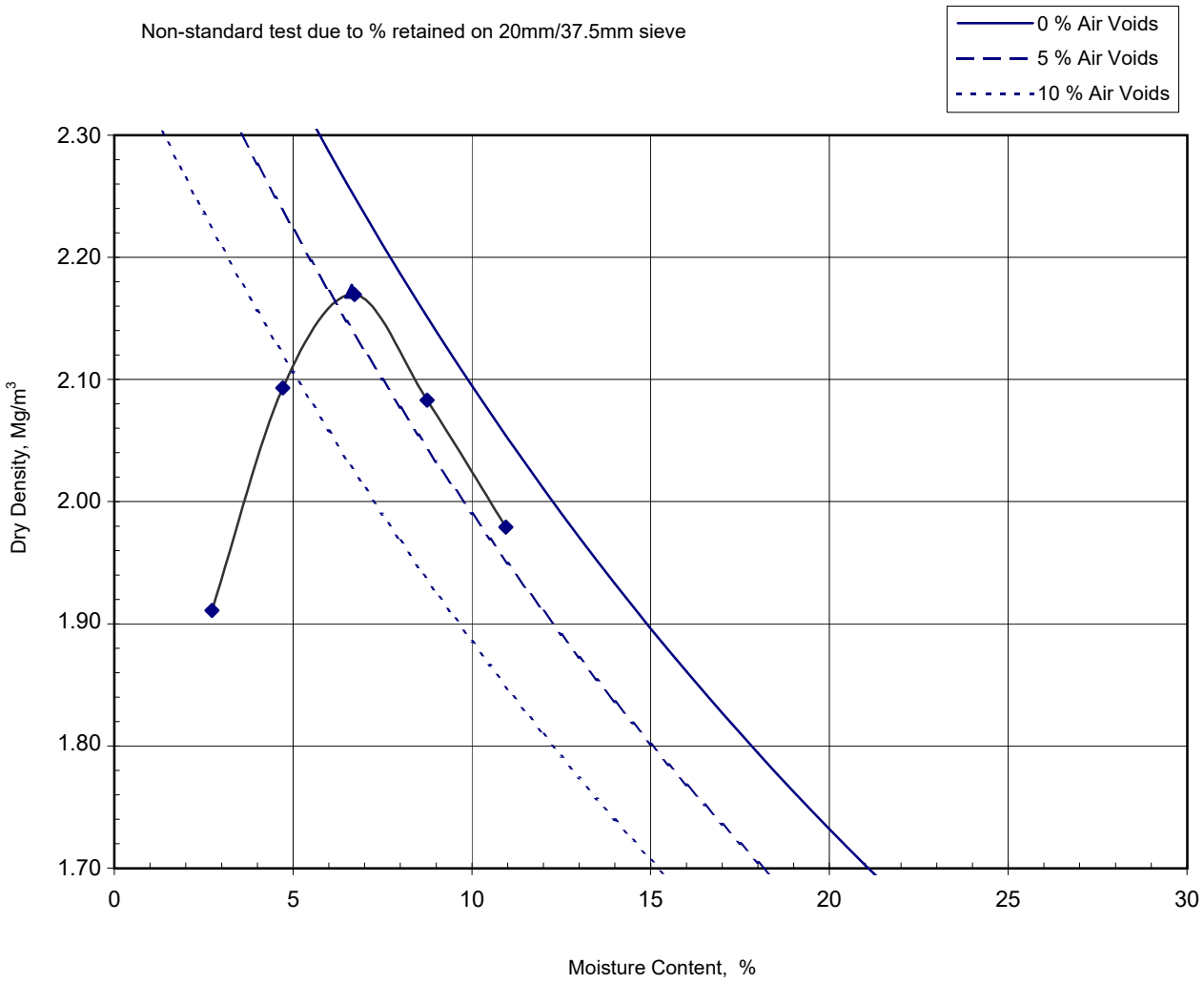
BS1377:Part 4:1990 Clause 3.6

Figure C105

62 Rochsolloch Road, Airdrie, ML6 9BG

igne	Site LT519 FORT AUGUSTUS 400K V UPGRADE Client SSEN Engineer Jacobs	**Contract No 26491** Hole FATP18 Sample Ref Depth (m) 1.50 Sample Type LB

Non-standard test due to % retained on 20mm/37.5mm sieve



Non Engineering Description		Brown silty SAND and GRAVEL with cobbles. Gravel is fine to coarse
Preparation		Oven dried
Test Method		Vibrating Hammer
Samples Used		Single
Mass Retained on 37.5 mm Sieve	%	23
Mass Retained on 20.0 mm Sieve	%	53
Particle Density - Assumed	Mg/m³	2.65
Natural Moisture Content	%	15
Maximum Dry Density	Mg/m³	2.17
Optimum Moisture Content	%	6.6

Originator	Checked & Approved
RF	CD 20/11/2023

Moisture Content / Dry Density Relationship

BS1377:Part 4:1990 Clause 3.7

Figure C106

62 Rochsolloch Road, Airdrie, ML6 9BG

TERRA TEK
Site Investigation & Laboratory Services

Site LT519 FORT AUGUSTUS 400K V UPGRADE

Client SSEN

Engineer Jacobs

Contract No **26491**

Sample Identification				Lab Sample ID	Bulk Density Mg/m³	Dry Density Mg/m³	Particle Density Mg/m³	Minimum Density Mg/m³	Maximum Density Mg/m³	Notes
Exploratory Hole	Depth m	Sample Ref	Sample Type							
FATP01	1.50		LB	2010426	~	~	~	1.23	2.33	~
FATP04	1.70		LB	2010433	~	~	~	1.21	2.40	~
FATP09	1.60		LB	2010457	~	~	~	1.18	2.29	~
FATP12	1.30		LB	2010466	~	~	~	1.18	2.36	~
FATP16	1.30		LB	2010475	~	~	~	0.81	2.20	~
FATP18	1.50		LB	2010483	~	~	~	1.18	2.25	~

Notes Opinions and interpretations are outside the scope of UKAS accreditation

UKAS Accredited Test: Yes | Yes | Yes | No | No

Originator	Approved
TP	CD 20/11/2023

MAXIMUM AND MINIMUM DRY DENSITIES FOR GRANULAR SOILS

BS1377-2:2022 clause 12

Table C107

62 Rochsolloch Road, Airdrie, ML6 9BG

Shearbox FAT07 01.00 B - A149792C8530-2010445.xls : Sample ID 2010445

Specimen Details

Depth within original sample	n/a
Orientation within original sample	n/a
Test condition	Non-Submerged
Description	Greyish brown slightly silty gravelly SAND. Gravel is fine to coarse.
Preparation	Material >20mm removed (67% passing). Remoulded using 2.5 Kg compactive effort at the as-received moisture content.

Specimen Number		1	2	3
Length	mm	301.2	301.2	301.2
Width	mm	302.2	302.2	302.2
Height	mm	136.0	136.0	136.0
Initial water content	%	9.9	9.9	9.9
Initial bulk density	Mg/m^3	2.18	2.19	2.19
Initial dry density	Mg/m^3	1.98	1.99	1.99
Particle Density (assumed)	Mg/m^3	2.65	2.65	2.65
Application Pressure Stage				
Normal stress	kPa	25	50	100
Height change	mm	-0.5	-1.3	-3.0
Duration	day(s)	-	-	-
Shearing Stage				
Normal stress	kPa	25	50	100
Peak Conditions:				
Rate of horizontal displacement	mm/min	1	1	1
Maximum shear stress	kPa	23	36	75
Horizontal displacement	mm	39.6	45.7	45.7
Height change	mm	1.7	-0.5	-1.9
Residual Conditions:				
Rate of horizontal displacement	mm/min	n/a	n/a	n/a
Residual shear stress	kPa	n/a	n/a	n/a
Final cumulative displacement	mm	n/a	n/a	n/a
Total traverses	No.	n/a	n/a	n/a
Method of reversal		n/a	n/a	n/a
Final water content	%	9.9	9.9	9.9
Duration	day(s)	1	1	1

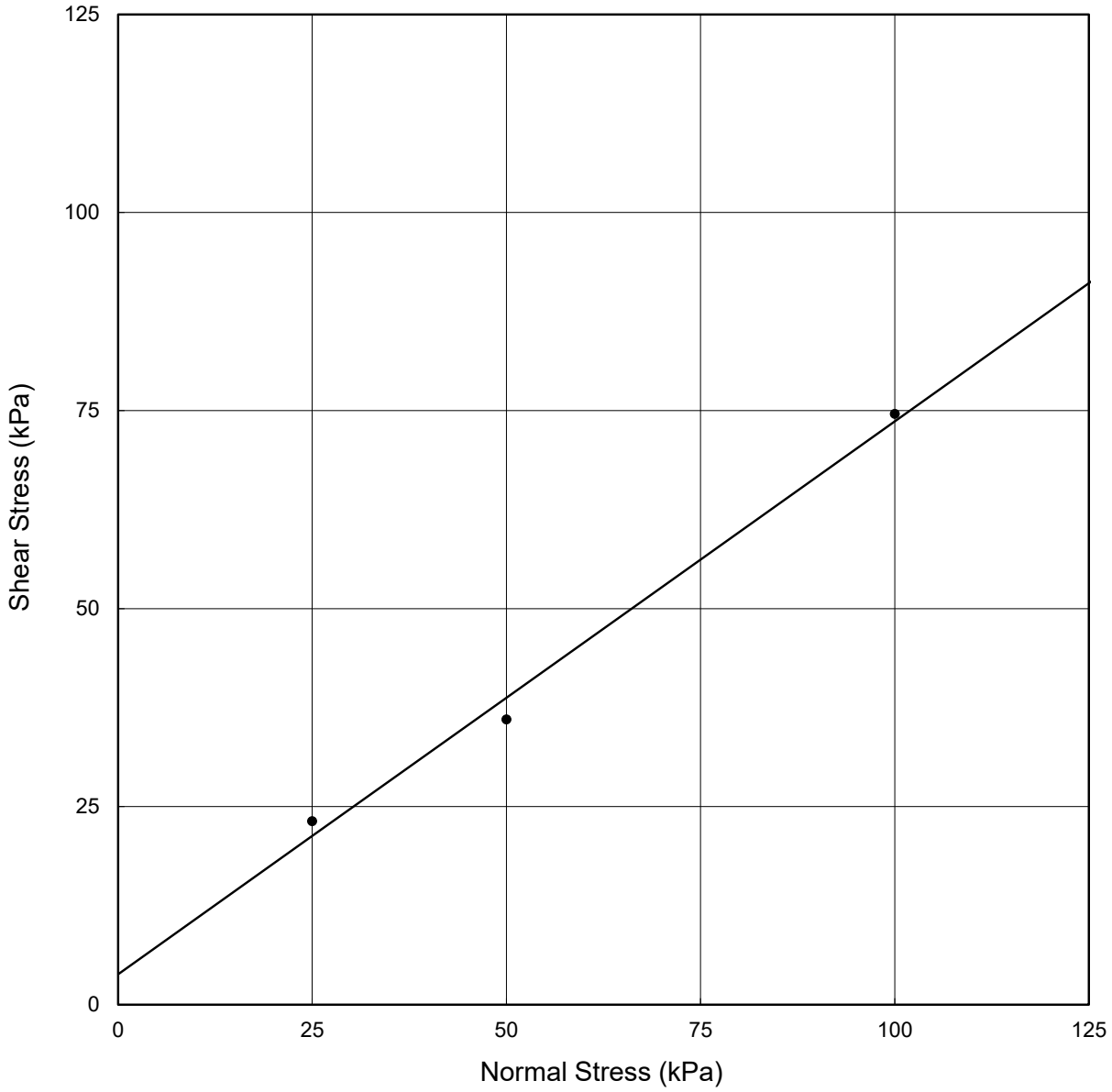
Shear Strength Parameters

Maximum Condition: (linear tangent interpretation)		
Effective Cohesion	kPa	**4**
Effective Angle of Shearing Resistance	degrees	**35**

College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No A149792C8530 : 18/10/2023 09:22:13

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE Client: SSEN Engineer: Jacobs	**Contract No. 26491** Hole ID: FATP07 Depth(m): 1 Sample Type: B

Shear Stress v Normal Stress



Shear Strength Parameters (linear tangent interpretation)

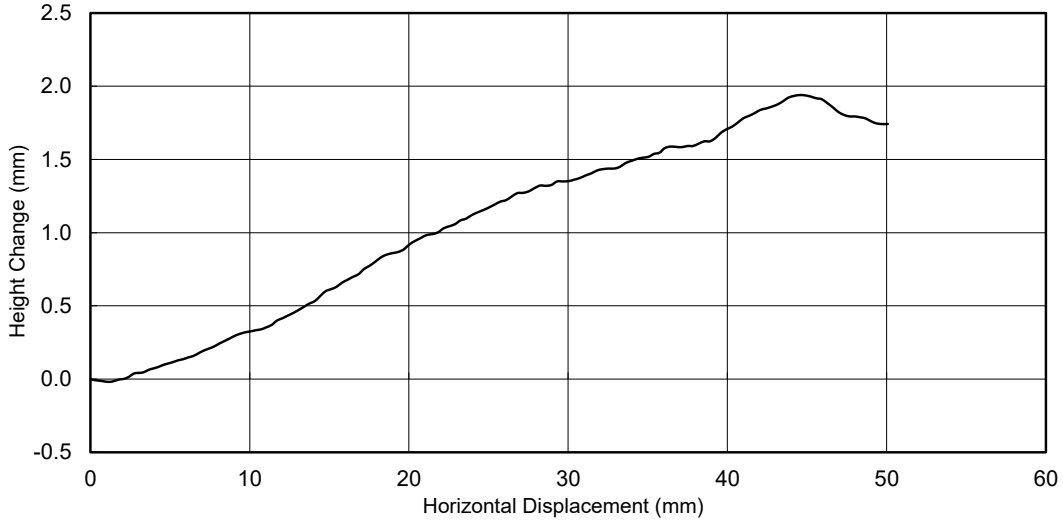
c' = 4 kPa
Ø' = 35 °

Originator	Checked & Approved	Shear Strength by Direct Shear (large shearbox)	Figure C108
VB	M.D.B 18/10/2023	BS EN ISO 17892-10:2018	Sheet 2 of 5

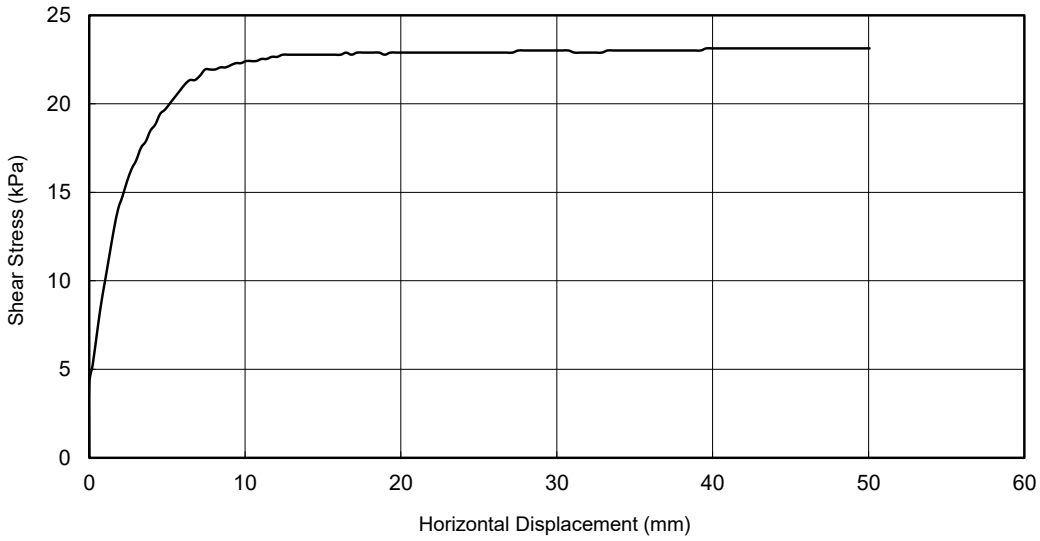
Specimen No. 1

Normal Pressure = 25 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement

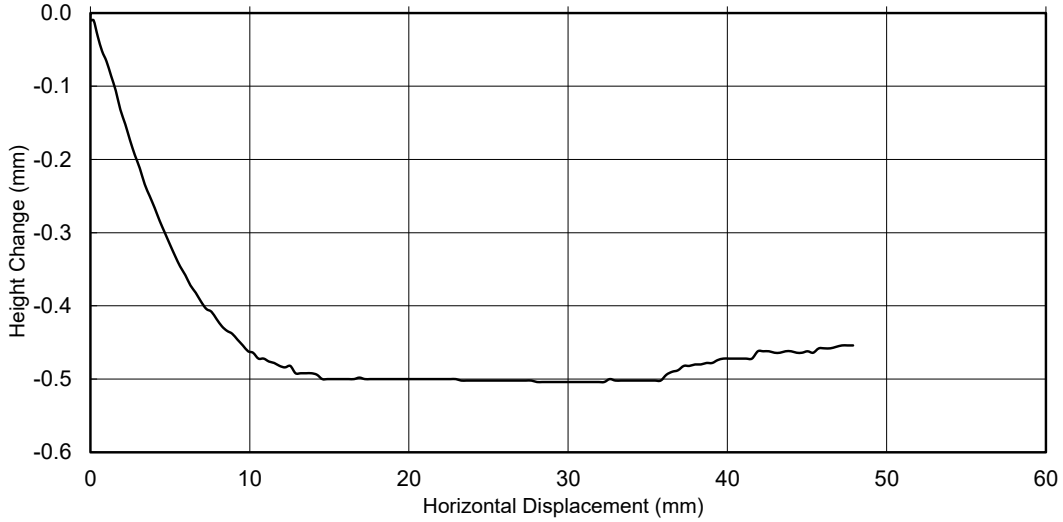


Shearbox FAT07 01.00 B - A149792C8530-2010445.xls : Sample ID 2010445
College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No A149792C8530 : 18/10/2023 09:22:13

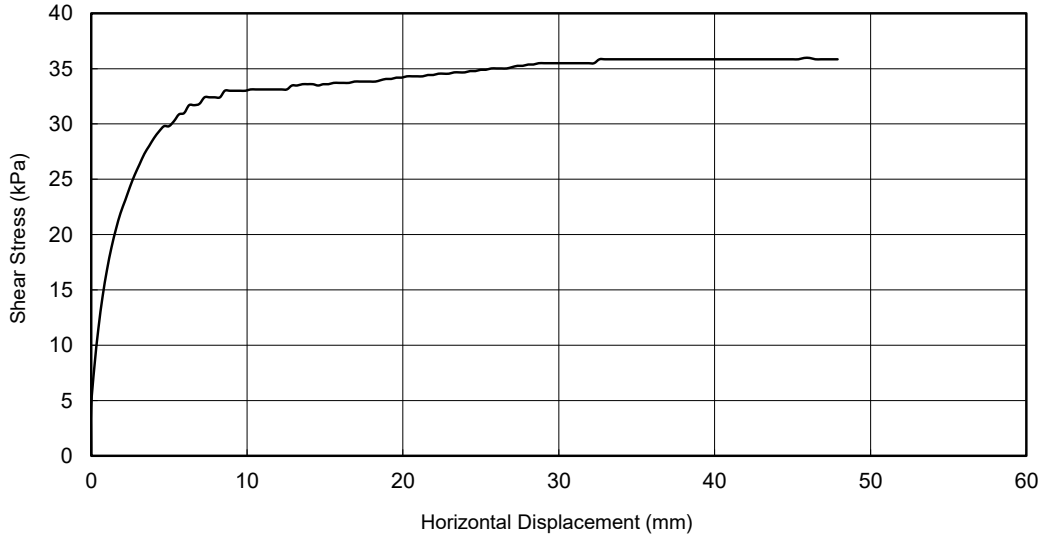
Specimen No. 2

Normal Pressure = 50 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement

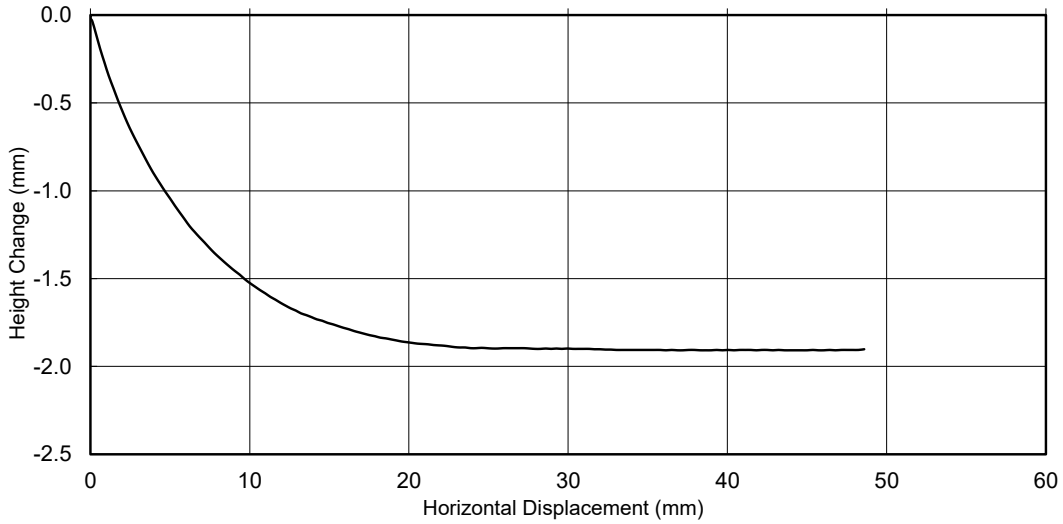


Originator	Checked & Approved	Shear Strength by Direct Shear (large shearbox)	Figure C108
VB	M.D.B 18/10/2023	BS EN ISO 17892-10:2018	Sheet 4 of 5

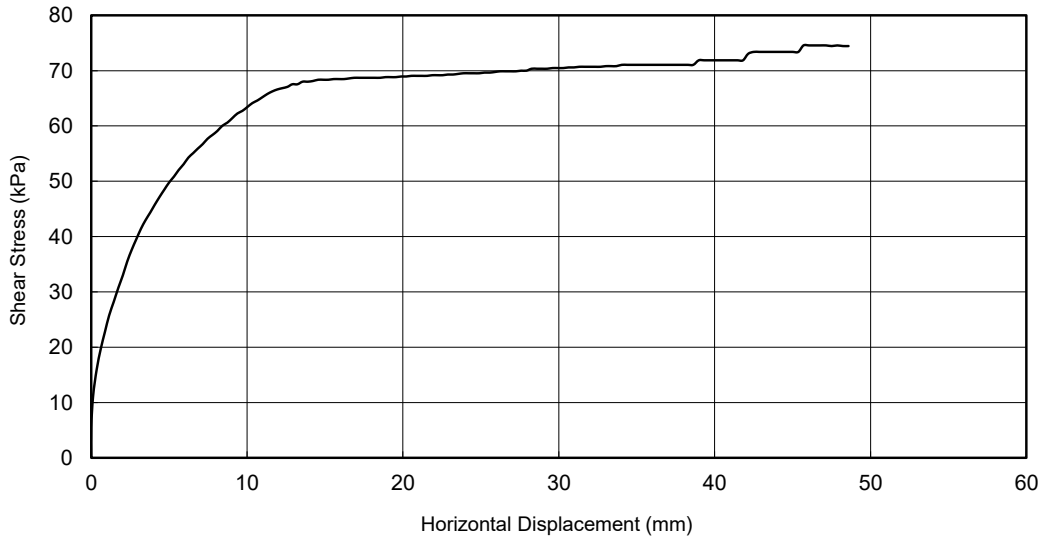
Specimen No. 3

Normal Pressure = 100 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Shearbox FAT07 01.00 B - A149792C8530-2010445.xls : Sample ID 2010445
College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No A149792C8530 : 18/10/2023 09:22:13

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE Client: SSEN Engineer: Jacobs	**Contract No. 26491** Hole ID: FATP11 Depth(m): 1.5 Sample Type: LB

Specimen Details

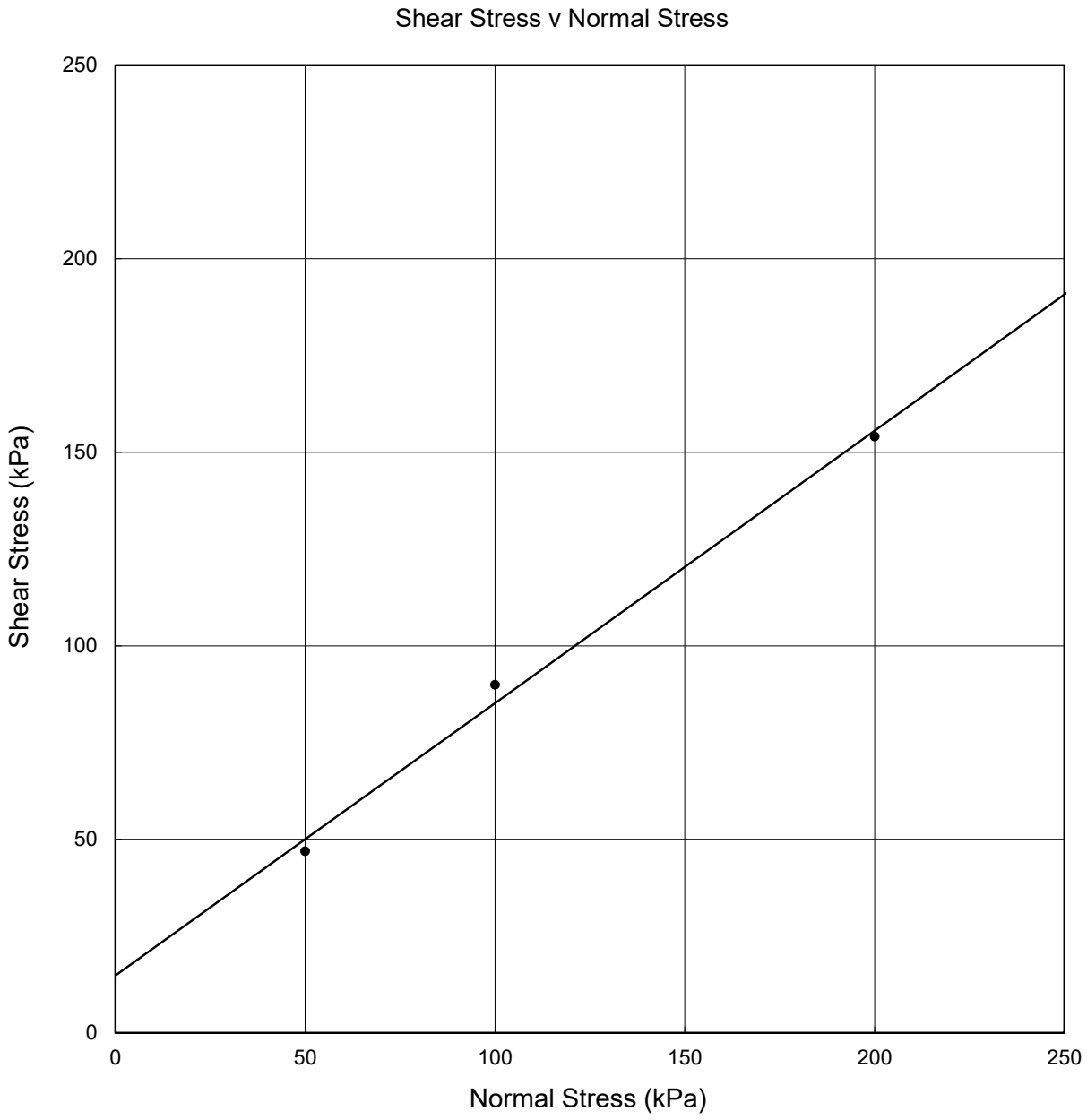
Depth within original sample	n/a
Orientation within original sample	n/a
Test condition	Non-Submerged
Description	Orange brown slightly gravelly SAND. Gravel is fine to coarse.
Preparation	Material >20mm removed (93% passing). Remoulded using 2.5 Kg compactive effort at the as-received moisture content.

Specimen Number		1	2	3
Length	mm	308.3	308.3	308.3
Width	mm	308.0	308.0	308.0
Height	mm	150.0	150.0	150.0
Initial water content	%	12.0	12.0	12.0
Initial bulk density	Mg/m³	1.95	1.95	1.95
Initial dry density	Mg/m³	1.74	1.74	1.74
Particle Density (assumed)	Mg/m³	2.65	2.65	2.65
Application Pressure Stage				
Normal stress	kPa	50	100	200
Height change	mm	-0.6	-0.9	-1.9
Duration	day(s)	-	-	-
Shearing Stage				
Normal stress	kPa	50	100	200
Peak Conditions:				
Rate of horizontal displacement	mm/min	1.02	1.02	1.02
Maximum shear stress	kPa	47	90	154
Horizontal displacement	mm	10.0	9.2	13.3
Height change	mm	1.4	0.8	0.1
Residual Conditions:				
Rate of horizontal displacement	mm/min	n/a	n/a	n/a
Residual shear stress	kPa	n/a	n/a	n/a
Final cumulative displacement	mm	n/a	n/a	n/a
Total traverses	No.	n/a	n/a	n/a
Method of reversal		n/a	n/a	n/a
Final water content	%	12.0	12.0	12.0
Duration	day(s)	1	1	1

Shear Strength Parameters

Maximum Condition: (linear tangent interpretation)		
Effective Cohesion	kPa	**15**
Effective Angle of Shearing Resistance	degrees	**35**

Originator	Checked & Approved	Shear Strength by Direct Shear (large shearbox)	Figure C109
VB	M.D.B 10/10/2023	BS EN ISO 17892-10:2018	Sheet 1 of 5



Shear Strength Parameters (linear tangent interpretation)

c' = 15 kPa
Ø' = 35 °

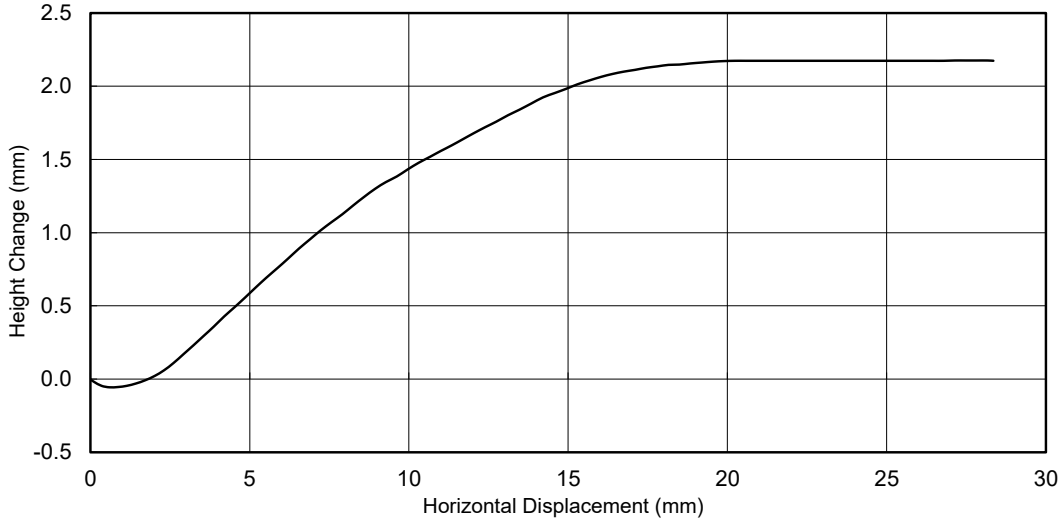
Shearbox FAT11 01.50 LB - A149792C8530-2010461.xls : Sample ID 2010461
College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No A149792C8530 : 10/10/2023 14:10:42

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE Client: SSEN Engineer: Jacobs	**Contract No. 26491** Hole ID: FATP11 Depth(m): 1.5 Sample Type: LB

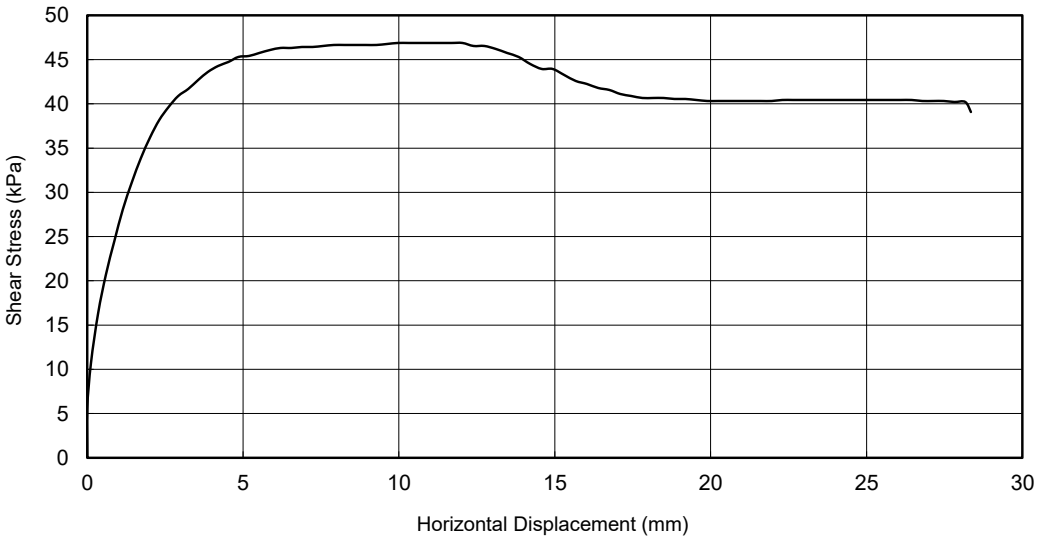
Specimen No. 1

Normal Pressure = 50 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement

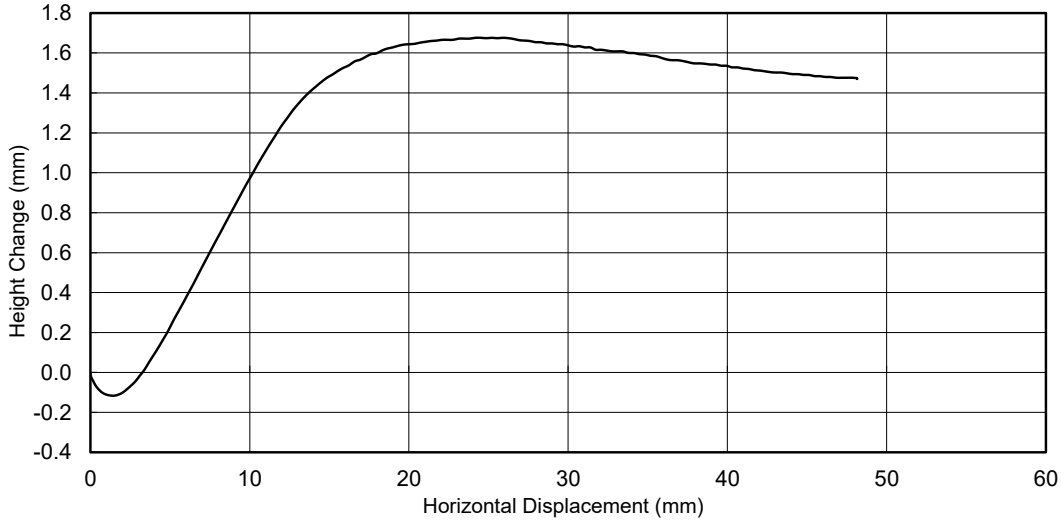


Originator	Checked & Approved	Shear Strength by Direct Shear (large shearbox)	Figure C109
VB	M.D.B 10/10/2023	BS EN ISO 17892-10:2018	Sheet 3 of 5

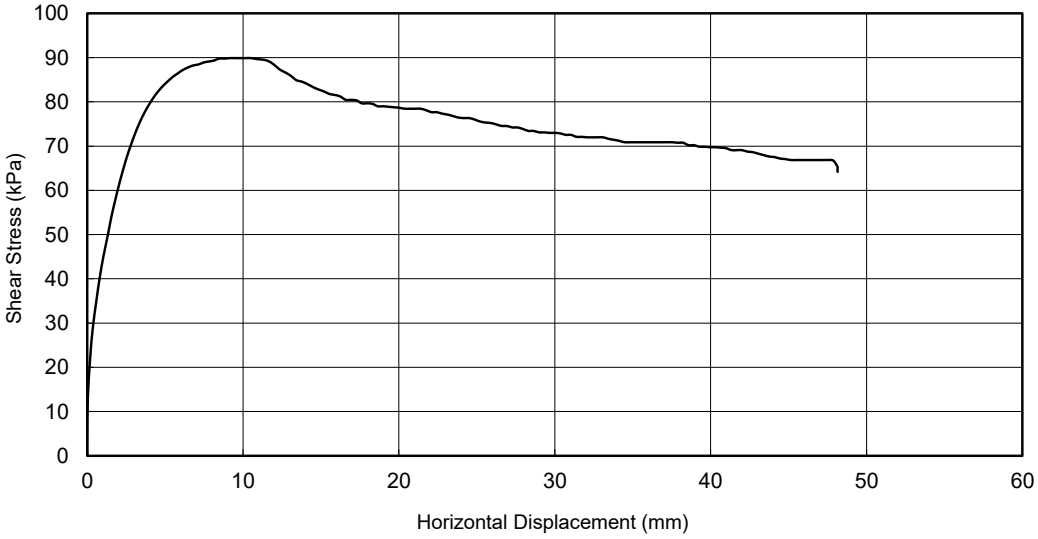
Specimen No. 2

Normal Pressure = 100 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



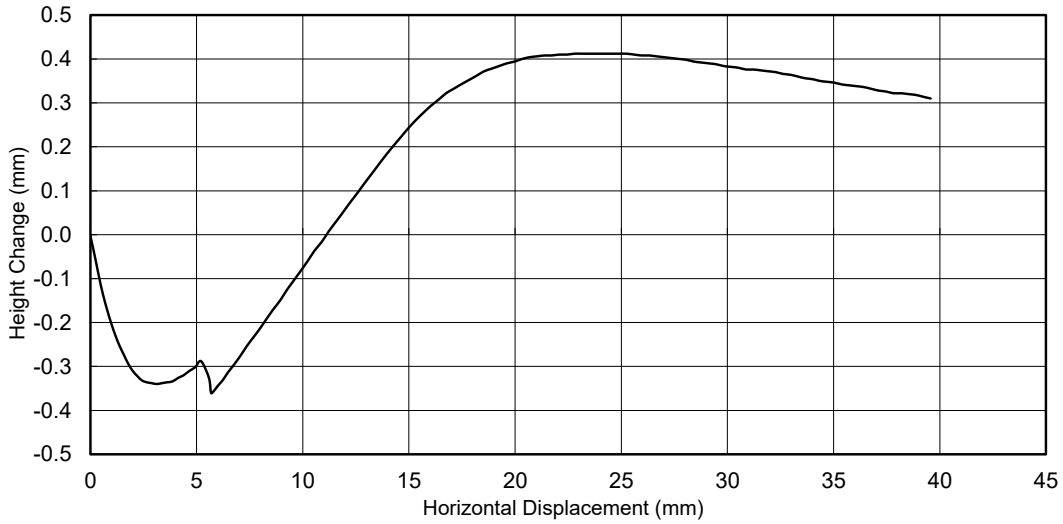
Shearbox FAT11 01.50 LB - A149792C8530-2010461.xls : Sample ID 2010461
College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No A149792C8530 : 10/10/2023 14:10:42

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE Client: SSEN Engineer: Jacobs	**Contract No. 26491** Hole ID: FATP11 Depth(m): 1.5 Sample Type: LB

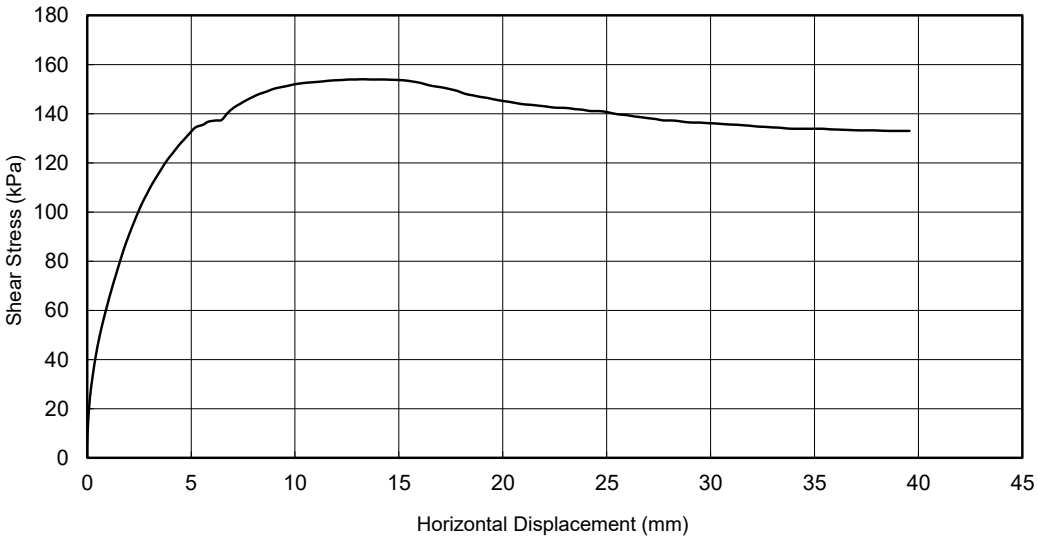
Specimen No. 3

Normal Pressure = 200 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (large shearbox)	Figure C109
VB	M.D.B 10/10/2023	BS EN ISO 17892-10:2018	Sheet 5 of 5

Shearbox FAT14 01.10 B - A149792C8530-2010471.xls : Sample ID 2010471

Specimen Details

Depth within original sample	n/a
Orientation within original sample	n/a
Test condition	Non-Submerged
Description	Brown slightly silty gravelly SAND. Gravel is fine to coarse.
Preparation	Material >20mm removed (95% passing). Remoulded using 2.5 Kg compactive effort at the as-received water content.

Specimen Number		1	2	3
Length	mm	308.3	308.3	308.3
Width	mm	308.0	308.0	308.0
Height	mm	145.0	145.0	145.0
Initial water content	%	14.8	14.8	14.8
Initial bulk density	Mg/m³	2.11	2.11	2.11
Initial dry density	Mg/m³	1.83	1.83	1.83
Particle Density (assumed)	Mg/m³	2.65	2.65	2.65
Application Pressure Stage				
Normal stress	kPa	50	100	200
Height change	mm	-1.1	-2.2	-3.7
Duration	day(s)	-	-	-
Shearing Stage				
Normal stress	kPa	50	100	200
Peak Conditions:				
Rate of horizontal displacement	mm/min	1.02	1.02	1.02
Maximum shear stress	kPa	43	74	144
Horizontal displacement	mm	15.0	46.1	35.8
Height change	mm	-0.1	-1.4	-2.0
Residual Conditions:				
Rate of horizontal displacement	mm/min	n/a	n/a	n/a
Residual shear stress	kPa	n/a	n/a	n/a
Final cumulative displacement	mm	n/a	n/a	n/a
Total traverses	No.	n/a	n/a	n/a
Method of reversal		n/a	n/a	n/a
Final water content	%	14.8	14.8	14.8
Duration	day(s)	1	1	1

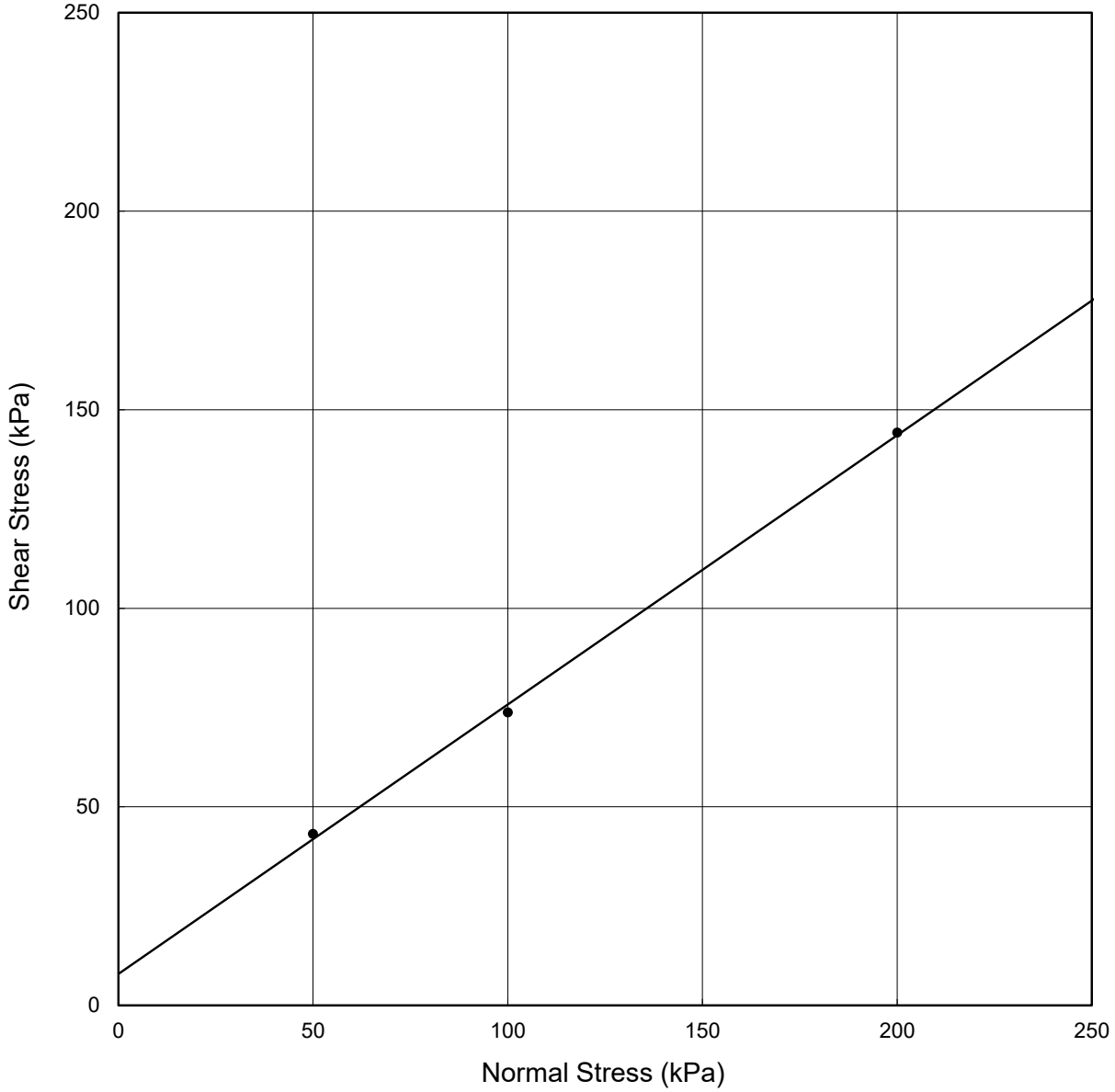
Shear Strength Parameters

Maximum Condition: (linear tangent interpretation)		
Effective Cohesion	kPa	**8**
Effective Angle of Shearing Resistance	degrees	**34**

College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No A149792C8530 : 17/10/2023 09:16:35

Shearbox FAT14 01.10 B - A149792C8530-2010471.xls : Sample ID 2010471

Shear Stress v Normal Stress



Shear Strength Parameters (linear tangent interpretation)

c' = 8 kPa
Ø' = 34 °

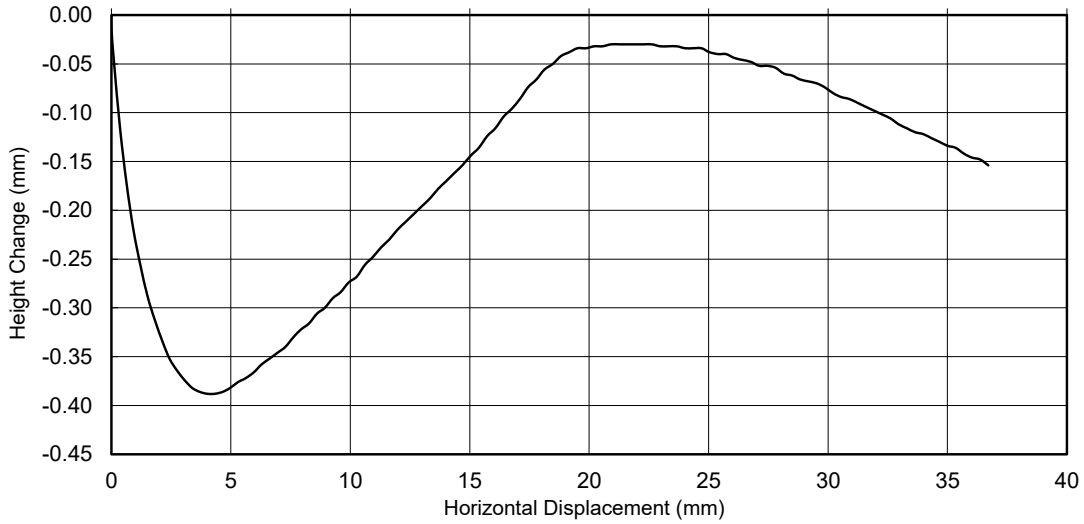
College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No A149792C8530 : 17/10/2023 09:16:35

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE Client: SSEN Engineer: Jacobs	**Contract No. 26491** Hole ID: FATP14 Depth(m): 1.1 Sample Type: B

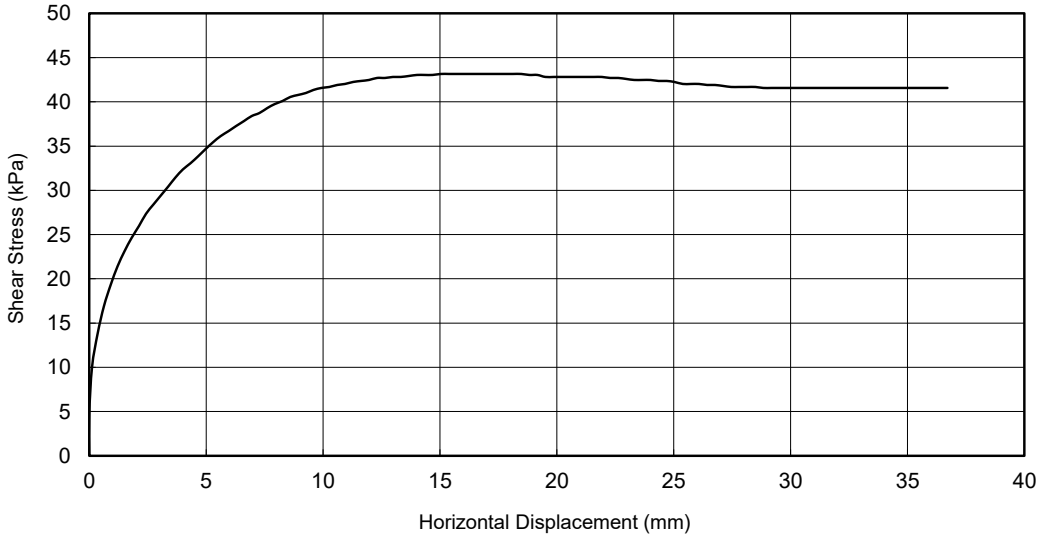
Specimen No. 1

Normal Pressure = 50 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement

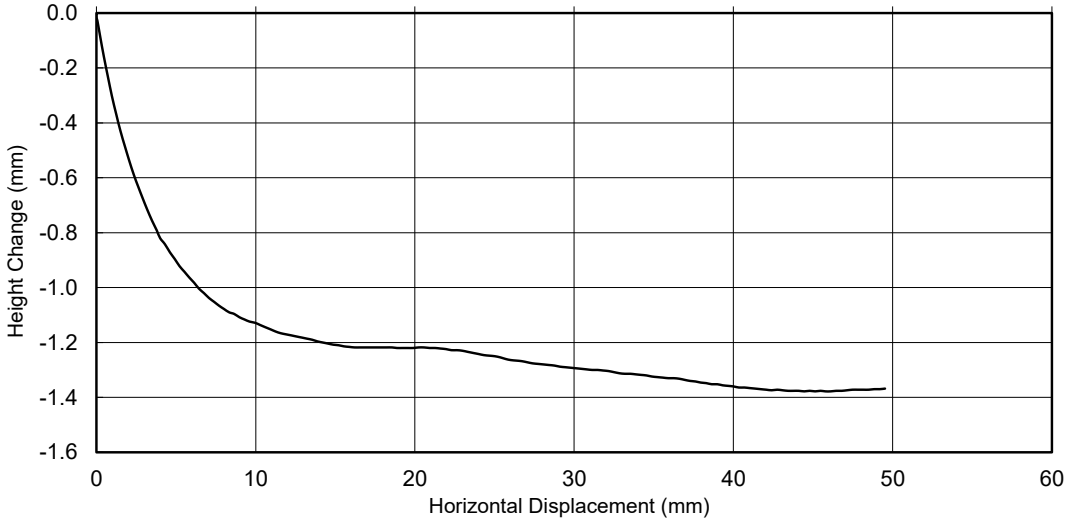


Originator	Checked & Approved	**Shear Strength by Direct Shear (large shearbox)**	Figure C110
VB	M.D.B 17/10/2023	BS EN ISO 17892-10:2018	Sheet 3 of 5

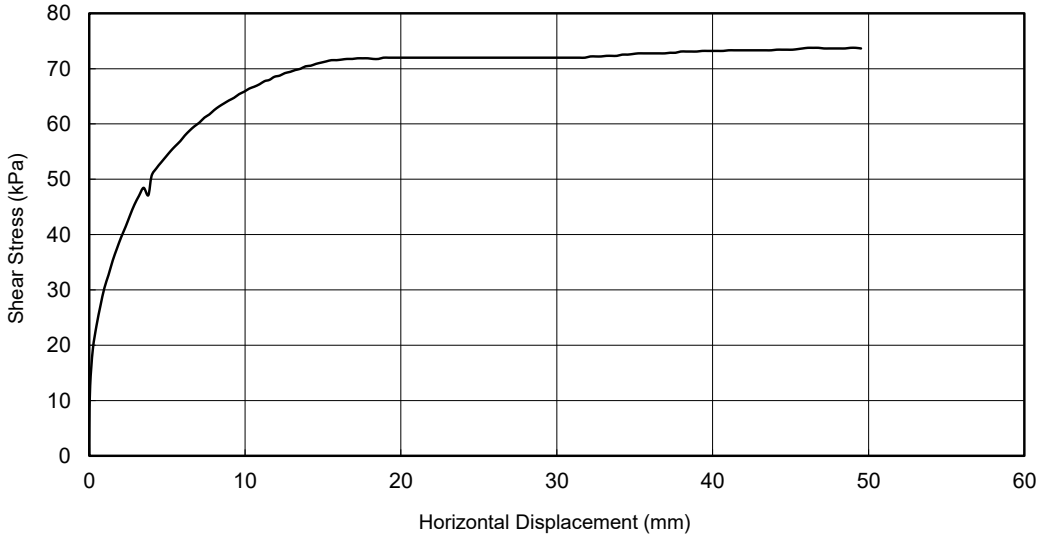
Specimen No. 2

Normal Pressure = 100 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement

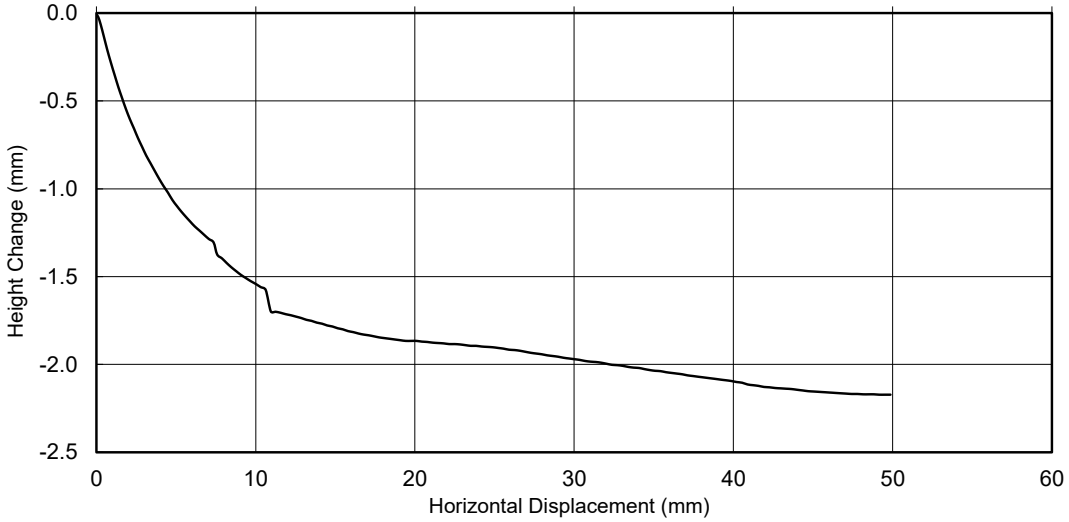


Shearbox FAT14 01.10 B - A149792C8530-2010471.xls : Sample ID 2010471
College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No A149792C8530 : 17/10/2023 09:16:35

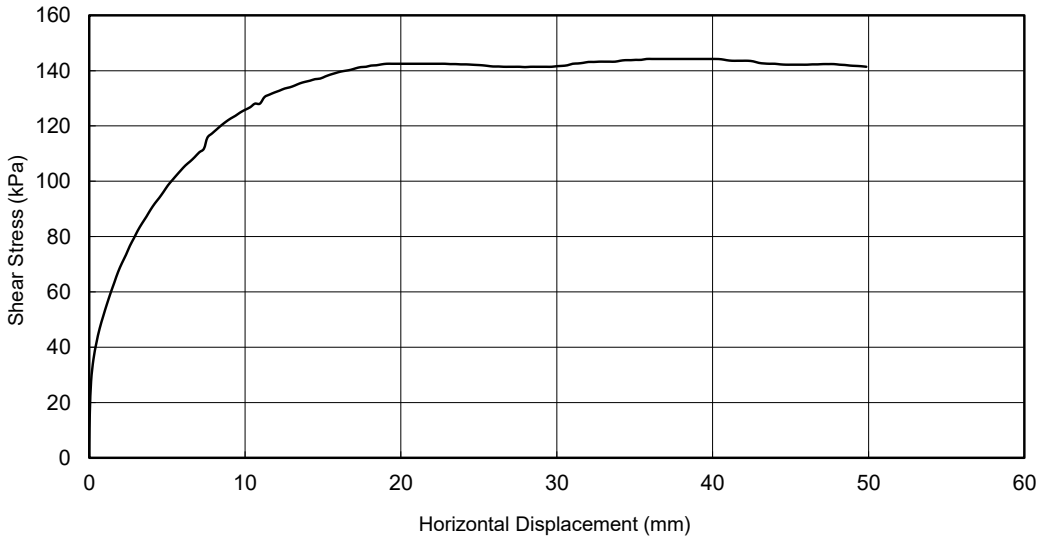
Specimen No. 3

Normal Pressure = 200 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Shearbox FAT14 01.10 B - A149792C8530-2010471.xls : Sample ID 2010471
College Road North, Aston Clinton, Bucks, HP22 5EZ
Lab Project No A149792C8530 : 17/10/2023 09:16:35

- A149792C8530 2010429.xls

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE	Contract No: A149792C8530
	Client: SSEN	
	Engineer: Jacobs	

Sample Identification																				
Hole	Depth m	Spec. Ref.	Sample Type	Lab Sample ID	Material Type	Material Condition	Percentage retained on 20mm sieve %	Water Content %	Specimen Height mm	Specimen Diameter mm	Specimen Mass g	Bulk Density Mg/m3	Dry Density Mg/m3	Soil Temperature °C	Method of Insertion	Heating Time s	Temperature Change During Heating °C	Calibration Factor	**Thermal Conductivity W/mK**	**Thermal Resistivity mK/W**	Description
FATP04	0.70		B	2010429	Soil	Recompacted	23	8.0	126.75	151.97	5134.84	2.23	2.06	18.27	Hand Pushed	60.0	1.00	1.02	**1.41**	**0.71**	Light greyish brown gravelly SAND. Gravel is fine to coarse.
Accreditation M=Mcerts U=UKAS N=No accreditation							U	U	U	U	U	U	U	U	U	U	U	U	**U**	**U**	

Originator	Checked & Approved
MAB	M.D.B 18/10/2023

SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

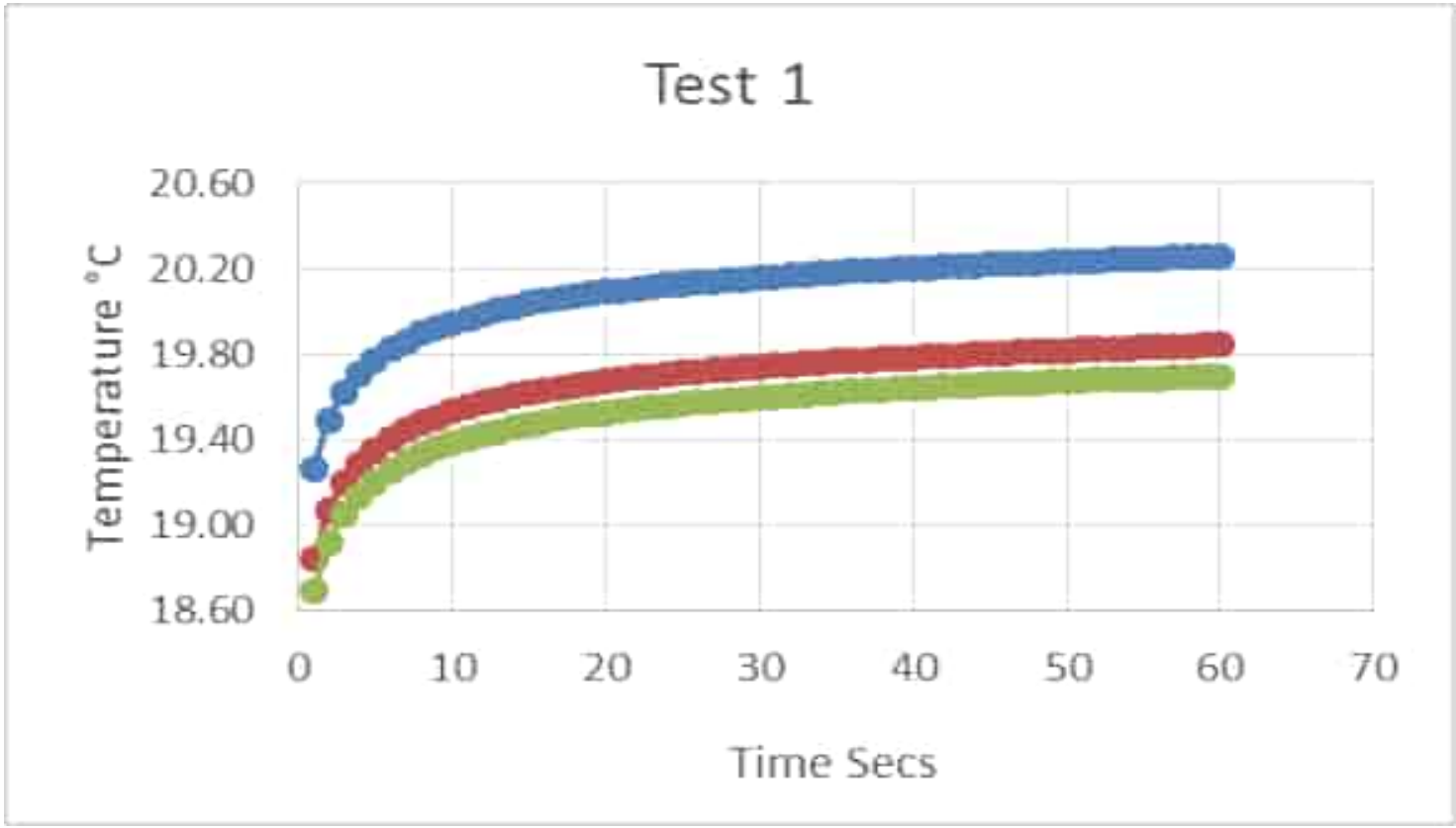
Figure C111

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

Lab Project No A149792C8530 : 18/10/2023 08:36:26

Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** A149792C8530
Client	SSEN	
Engineer	Jacobs	



Originator	Checked & Approved
MAB	M.D.B 18/10/2023

SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

Figure C111

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

- A149792C8530 2010436.xls

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE	Contract No: A149792C8530
	Client: SSEN	
	Engineer: Jacobs	

Sample Identification																				
Hole	Depth m	Spec. Ref.	Sample Type	Lab Sample ID	Material Type	Material Condition	Percentage retained on 20mm sieve %	Water Content %	Specimen Height mm	Specimen Diameter mm	Specimen Mass g	Bulk Density Mg/m3	Dry Density Mg/m3	Soil Temperature °C	Method of Insertion	Heating Time s	Temperature Change During Heating °C	Calibration Factor	**Thermal Conductivity W/mK**	**Thermal Resistivity mK/W**	Description
FATP05	1.20		B	2010436	Soil	Recompacted	11	13.4	126.81	152.12	4859.60	2.11	1.86	18.18	Hand Pushed	60.0	1.26	1.02	**1.92**	**0.52**	Brown very gravelly SAND. Gravel is fine to coarse.
Accreditation M=Mcerts U=UKAS N=No accreditation							U	U	U	U	U	U	U	U	U	U	U	U	**U**	**U**	

Originator	Checked & Approved
MAB	M.D.B 18/10/2023

SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

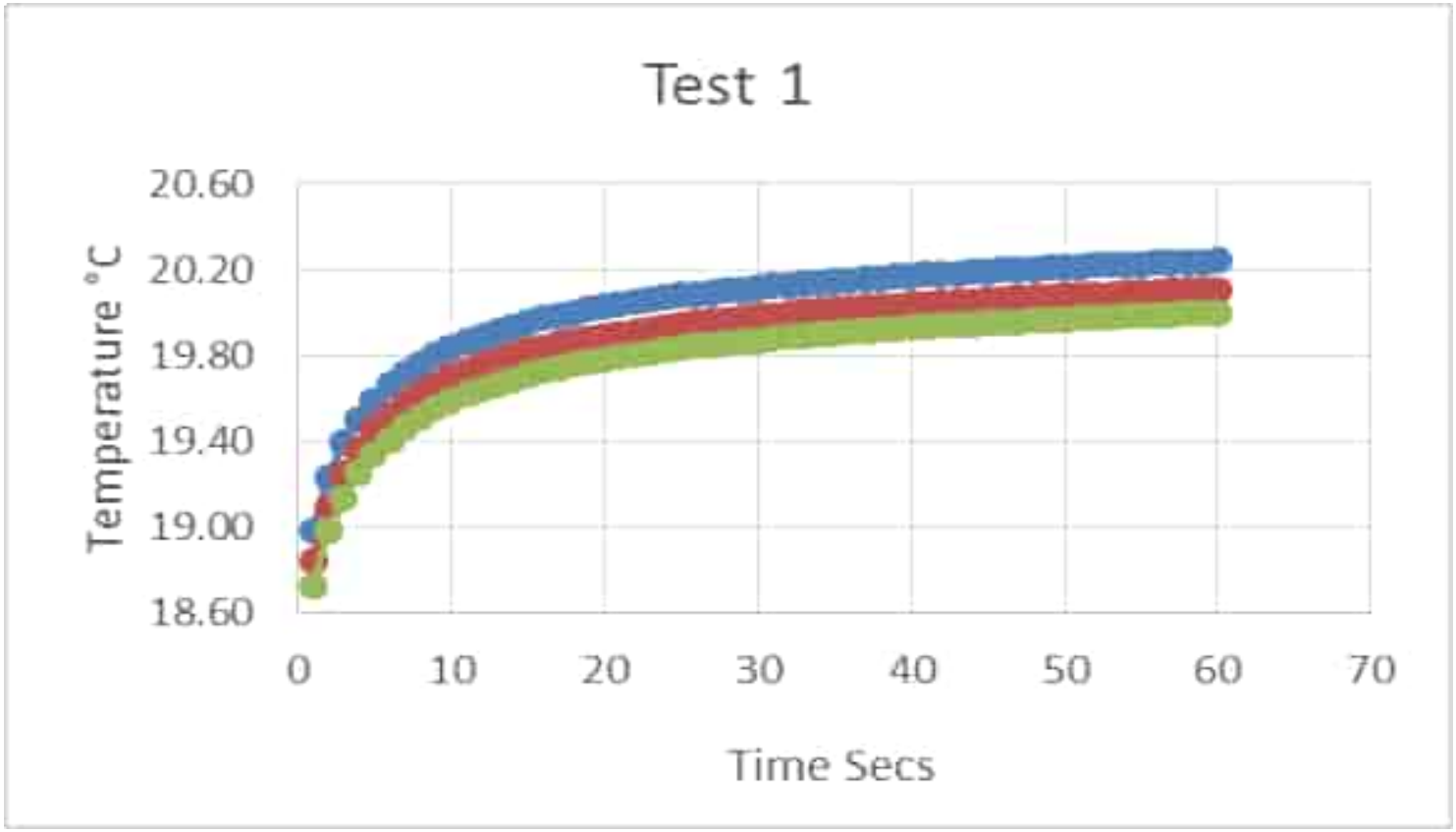
Figure C112

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

Lab Project No A149792C8530 : 18/10/2023 08:41:05

Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** A149792C8530
Client	SSEN	
Engineer	Jacobs	



Originator	Checked & Approved
MAB	M.D.B 18/10/2023

SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

Figure C112

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE	Contract No: A149792C8530
	Client: SSEN	
	Engineer: Jacobs	

Sample Identification																				
Hole	Depth m	Spec. Ref.	Sample Type	Lab Sample ID	Material Type	Material Condition	Percentage retained on 20mm sieve %	Water Content %	Specimen Height mm	Specimen Diameter mm	Specimen Mass g	Bulk Density Mg/m3	Dry Density Mg/m3	Soil Temperature °C	Method of Insertion	Heating Time s	Temperature Change During Heating °C	Calibration Factor	**Thermal Conductivity W/mK**	**Thermal Resistivity mK/W**	Description
FATP07	0.10		B	2010440	Soil	Recompacted	21	5.5	127.61	152.14	4774.10	2.06	1.95	18.42	Hand Pushed	60.0	1.62	1.02	**0.89**	**1.13**	Greyish brown very gravelly SAND. Gravel is fine to coarse.
Accreditation M=Mcerts U=UKAS N=No accreditation							U	U	U	U	U	U	U	U	U	U	U	U	**U**	**U**	

Originator	Checked & Approved
MAB	M.D.B 18/10/2023

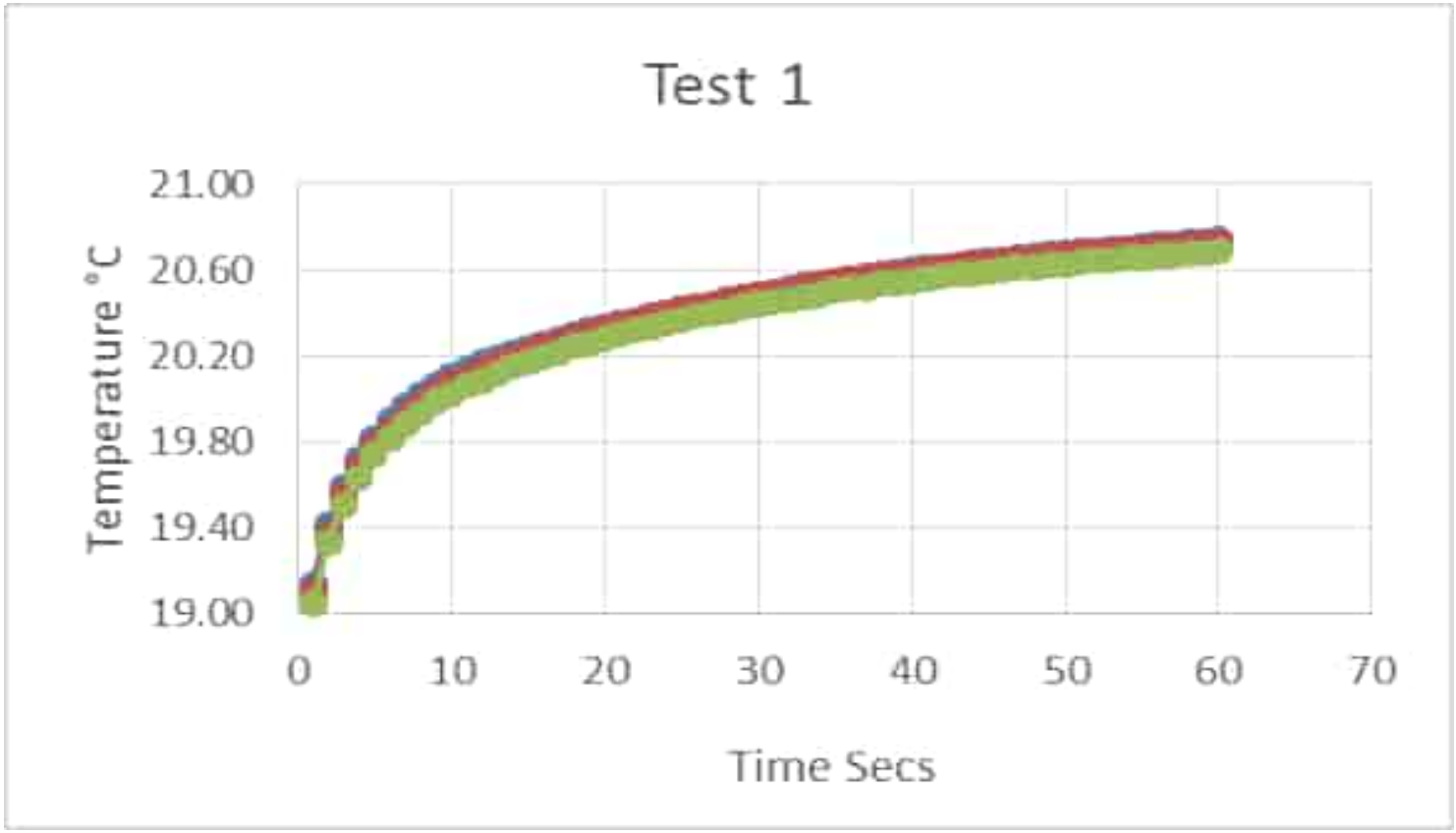
SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

Figure C113

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** A149792C8530
Client	SSEN	
Engineer	Jacobs	



Originator	Checked & Approved
MAB	M.D.B 18/10/2023

SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

Figure C113

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE	Contract No: A149792C8530
	Client: SSEN	
	Engineer: Jacobs	

Sample Identification																				
Hole	Depth m	Spec. Ref.	Sample Type	Lab Sample ID	Material Type	Material Condition	Percentage retained on 20mm sieve %	Water Content %	Specimen Height mm	Specimen Diameter mm	Specimen Mass g	Bulk Density Mg/m3	Dry Density Mg/m3	Soil Temperature °C	Method of Insertion	Heating Time s	Temperature Change During Heating °C	Calibration Factor	**Thermal Conductivity W/mK**	**Thermal Resistivity mK/W**	Description
FATP07	1.20		B	2010446	Soil	Recompacted	55	8.4	126.29	152.46	4761.19	2.07	1.91	18.70	Hand Pushed	60.0	1.37	1.02	**2.28**	**0.44**	Brown very sandy fine to coarse GRAVEL.
Accreditation M=Mcerts U=UKAS N=No accreditation							U	U	U	U	U	U	U	U	U	U	U	U	**U**	**U**	

Originator	Checked & Approved
MAB	M.D.B 18/10/2023

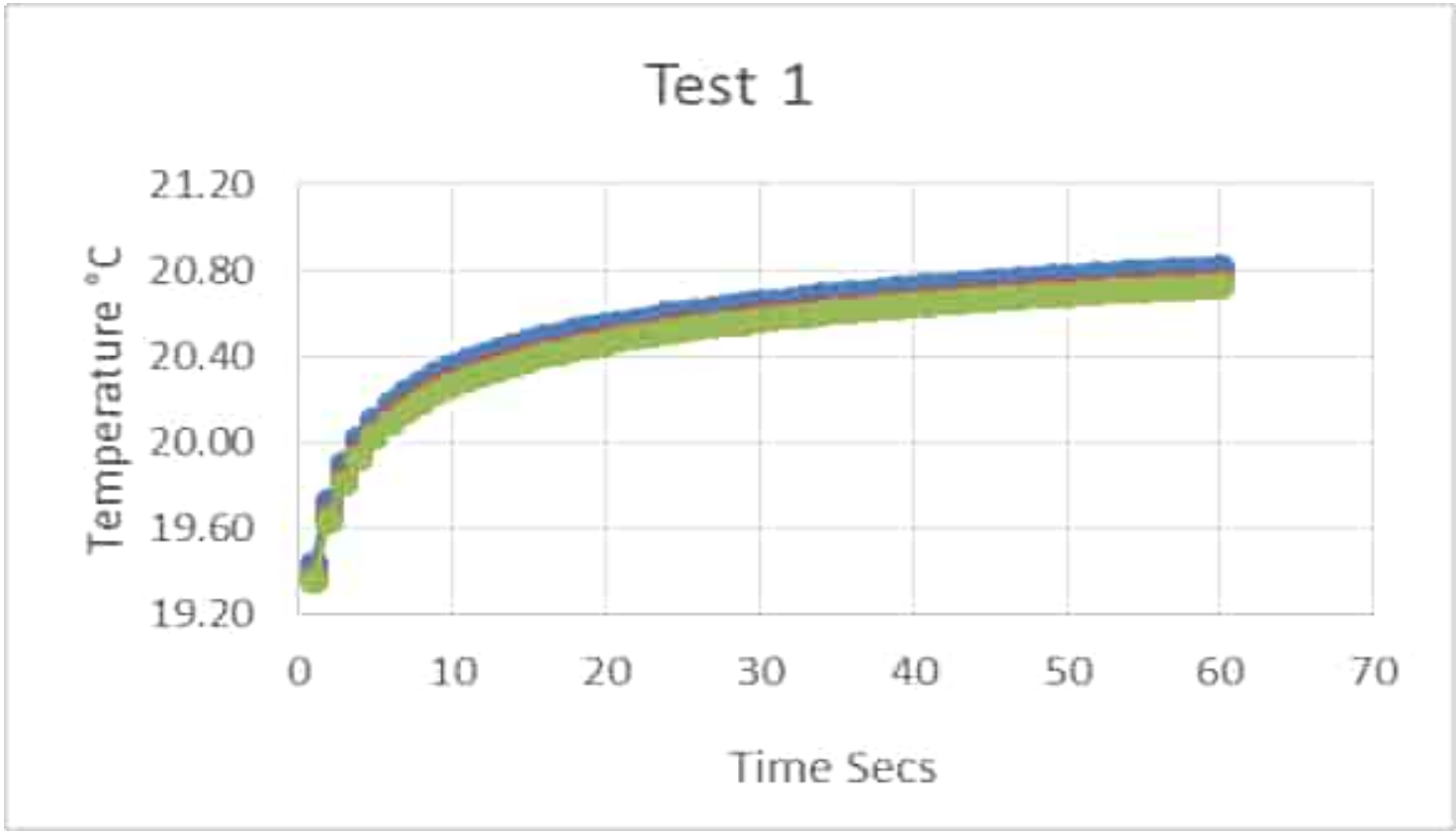
SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

Figure C114

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** A149792C8530
Client	SSEN	
Engineer	Jacobs	



Originator	Checked & Approved
MAB	M.D.B 18/10/2023

SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

Figure C114

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

- A149792C8530 2010465.xls

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE	Contract No: A149792C8530
	Client: SSEN	
	Engineer: Jacobs	

Sample Identification																				
Hole	Depth m	Spec. Ref.	Sample Type	Lab Sample ID	Material Type	Material Condition	Percentage retained on 20mm sieve %	Water Content %	Specimen Height mm	Specimen Diameter mm	Specimen Mass g	Bulk Density Mg/m3	Dry Density Mg/m3	Soil Temperature °C	Method of Insertion	Heating Time s	Temperature Change During Heating °C	Calibration Factor	**Thermal Conductivity W/mK**	**Thermal Resistivity mK/W**	Description
FATP12	1.20		B	2010465	Soil	Recompacted	49	8.7	121.81	152.12	4570.15	1.91	1.76	17.37	Hand Pushed	60.0	1.60	1.02	**2.04**	**0.49**	Brown very gravelly sandy fine to coarse GRAVEL.
Accreditation M=Mcerts U=UKAS N=No accreditation							U	U	U	U	U	U	U	U	U	U	U	U	**U**	**U**	

Originator	Checked & Approved
MAB	M.D.B 18/10/2023

SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

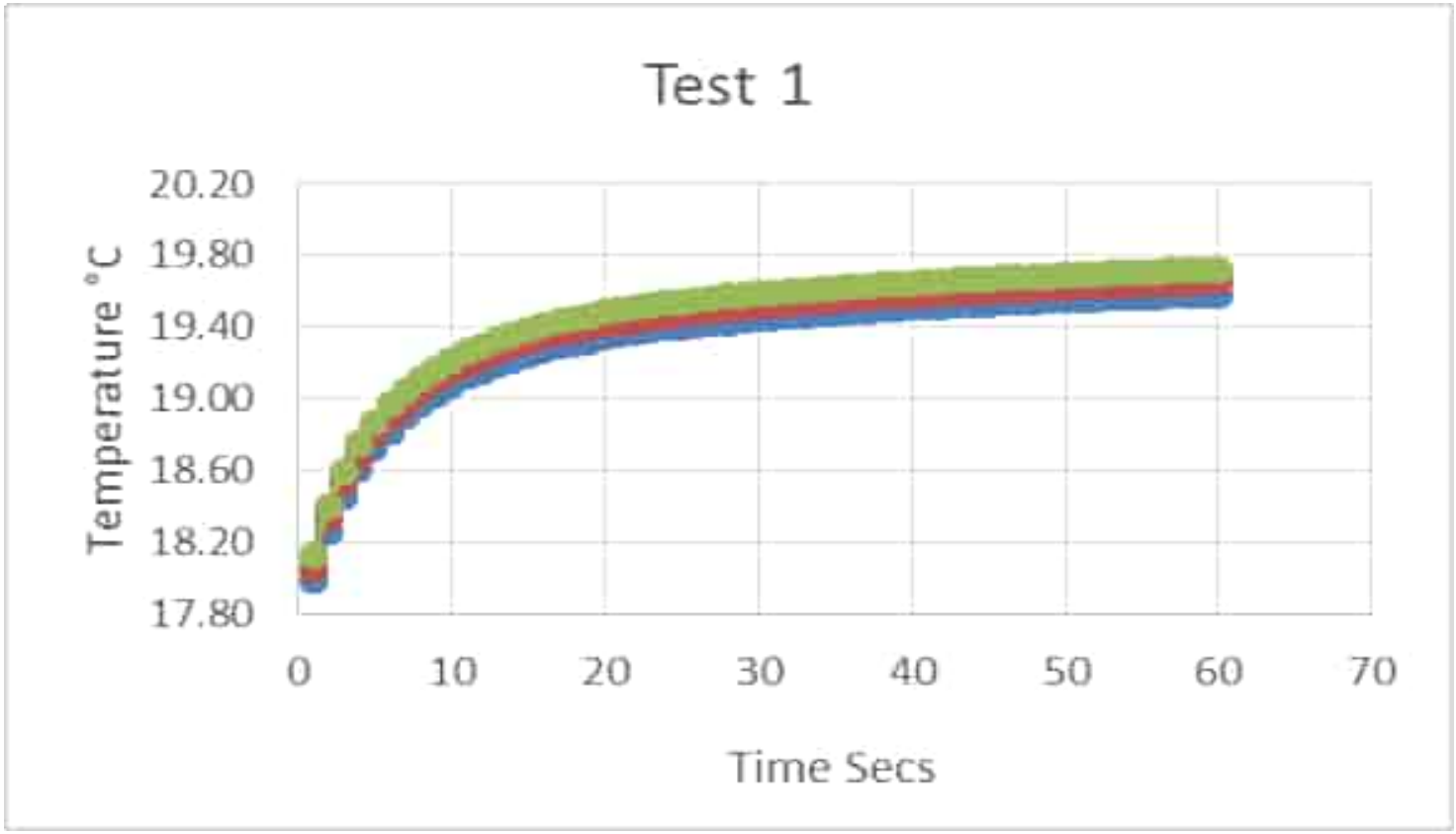
In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

Figure C115

Lab Project No A149792C8530 : 18/10/2023 08:52:03

Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** A149792C8530
Client	SSEN	
Engineer	Jacobs	



Originator	Checked & Approved
MAB	M.D.B 18/10/2023

SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

Figure C115

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE	Contract No: A149792C8530
	Client: SSEN	
	Engineer: Jacobs	

Sample Identification																				
Hole	Depth m	Spec. Ref.	Sample Type	Lab Sample ID	Material Type	Material Condition	Percentage retained on 20mm sieve %	Water Content %	Specimen Height mm	Specimen Diameter mm	Specimen Mass g	Bulk Density Mg/m3	Dry Density Mg/m3	Soil Temperature °C	Method of Insertion	Heating Time s	Temperature Change During Heating °C	Calibration Factor	**Thermal Conductivity W/mK**	**Thermal Resistivity mK/W**	Description
FATP14	0.10		B	2010468	Soil	Recompacted	28	6.6	127.61	152.14	5181.22	2.23	2.09	17.54	Hand Pushed	60.0	1.65	1.02	**1.05**	**0.95**	Dark brown very gravelly SAND. Gravel is fine to coarse.
Accreditation M=Mcerts U=UKAS N=No accreditation							U	U	U	U	U	U	U	U	U	U	U	U	**U**	**U**	

Originator	Checked & Approved
MAB	M.D.B 18/10/2023

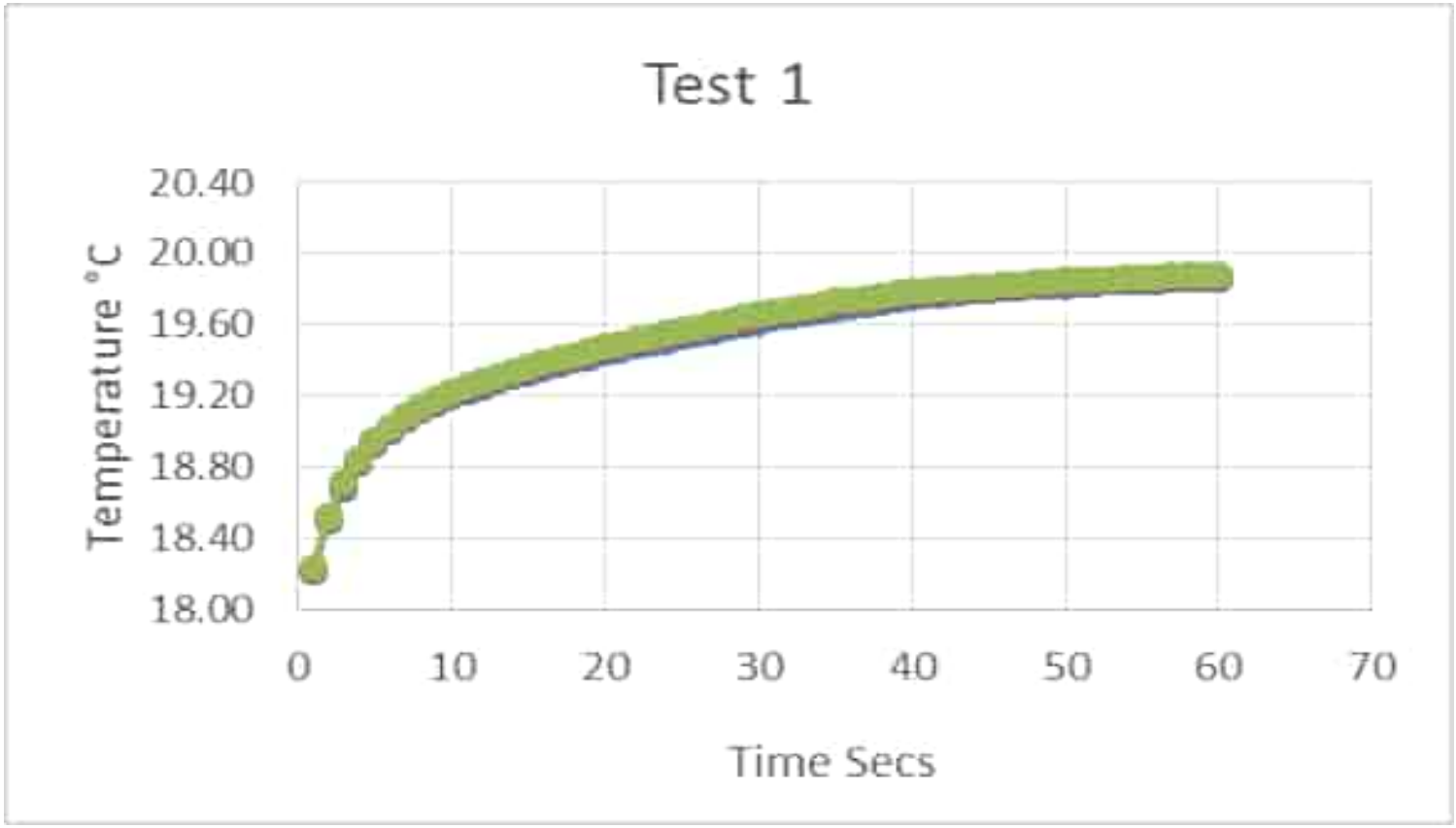
SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

Figure C116

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** A149792C8530
Client	SSEN	
Engineer	Jacobs	



Originator	Checked & Approved
MAB	M.D.B 18/10/2023

SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

Figure C116

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE	Contract No: A149792C8530
	Client: SSEN	
	Engineer: Jacobs	

Sample Identification																				
Hole	Depth m	Spec. Ref.	Sample Type	Lab Sample ID	Material Type	Material Condition	Percentage retained on 20mm sieve %	Water Content %	Specimen Height mm	Specimen Diameter mm	Specimen Mass g	Bulk Density Mg/m3	Dry Density Mg/m3	Soil Temperature °C	Method of Insertion	Heating Time s	Temperature Change During Heating °C	Calibration Factor	**Thermal Conductivity W/mK**	**Thermal Resistivity mK/W**	Description
FATP15	1.20		B	2010472	Soil	Recompacted	29	6.5	126.29	152.46	4882.62	2.12	1.99	16.90	Hand Pushed	60.0	3.05	1.02	**0.19**	**5.38**	Brown very gravelly SAND. Gravel is fine to coarse.
Accreditation M=Mcerts U=UKAS N=No accreditation							U	U	U	U	U	U	U	U	U	U	U	U	**U**	**U**	

Originator	Checked & Approved
MAB	M.D.B 18/10/2023

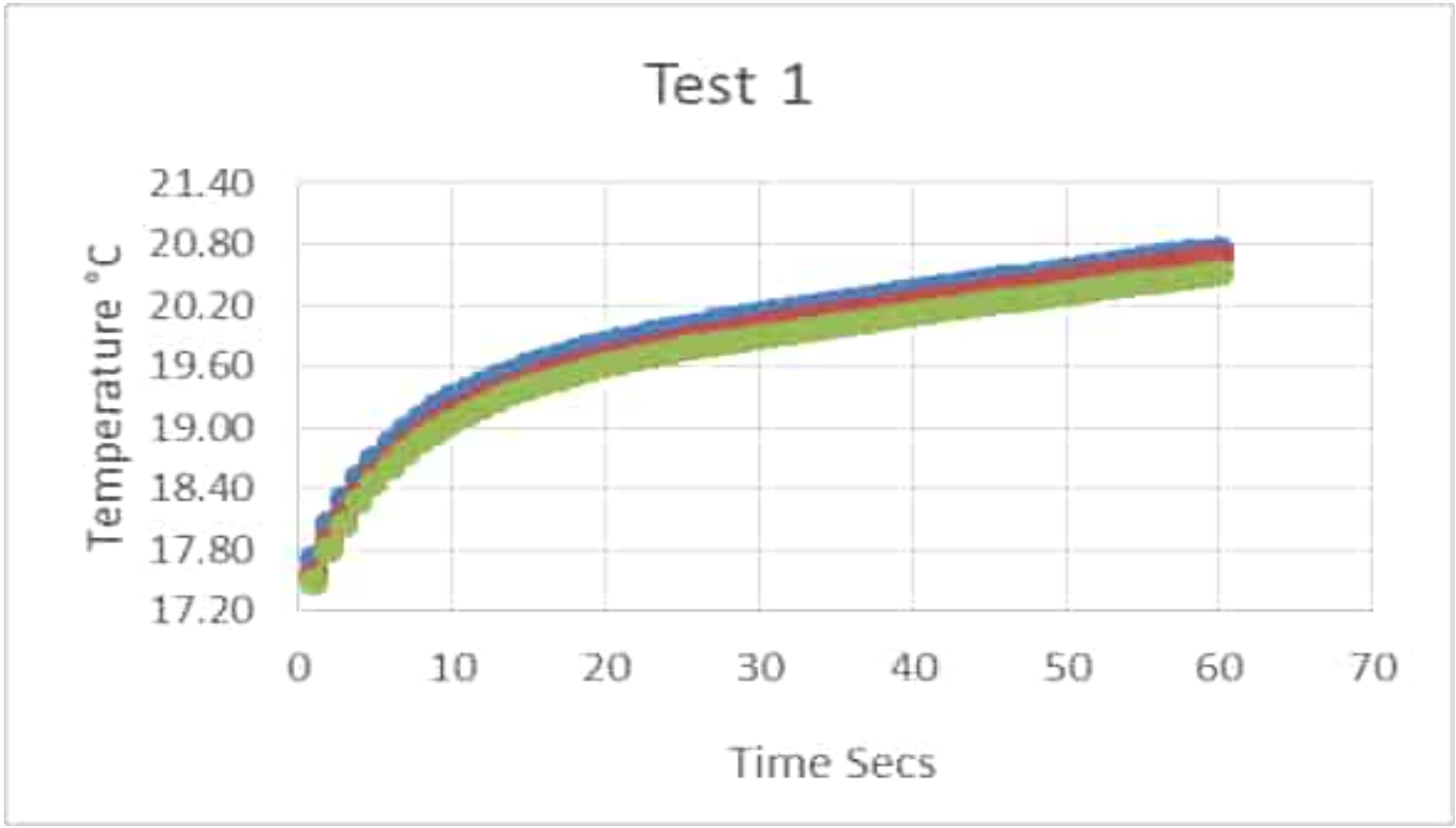
SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

Figure C117

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** A149792C8530
Client	SSEN	
Engineer	Jacobs	



Originator	Checked & Approved
MAB	M.D.B 18/10/2023

SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

Figure C117

- A149792C8530 2010479.xls

igne	Site: LT519 FORT AUGUSTUS 400K V UPGRADE	Contract No: A149792C8530
	Client: SSEN	
	Engineer: Jacobs	

Sample Identification																				
Hole	Depth m	Spec. Ref.	Sample Type	Lab Sample ID	Material Type	Material Condition	Percentage retained on 20mm sieve %	Water Content %	Specimen Height mm	Specimen Diameter mm	Specimen Mass g	Bulk Density Mg/m3	Dry Density Mg/m3	Soil Temperature °C	Method of Insertion	Heating Time s	Temperature Change During Heating °C	Calibration Factor	**Thermal Conductivity W/mK**	**Thermal Resistivity mK/W**	Description
FATP17	1.20		B	2010479	Soil	Recompacted	8	52.7	126.75	151.97	3618.90	1.57	1.03	16.85	Hand Pushed	60.0	1.15	1.02	**1.04**	**0.96**	Very dark brown slightly gravelly silty SAND. Gravel is fine to coarse with organic matter.
Accreditation M=Mcerts U=UKAS N=No accreditation							U	U	U	U	U	U	U	U	U	U	U	U	**U**	**U**	

Originator	Checked & Approved
MAB	M.D.B 18/10/2023

SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

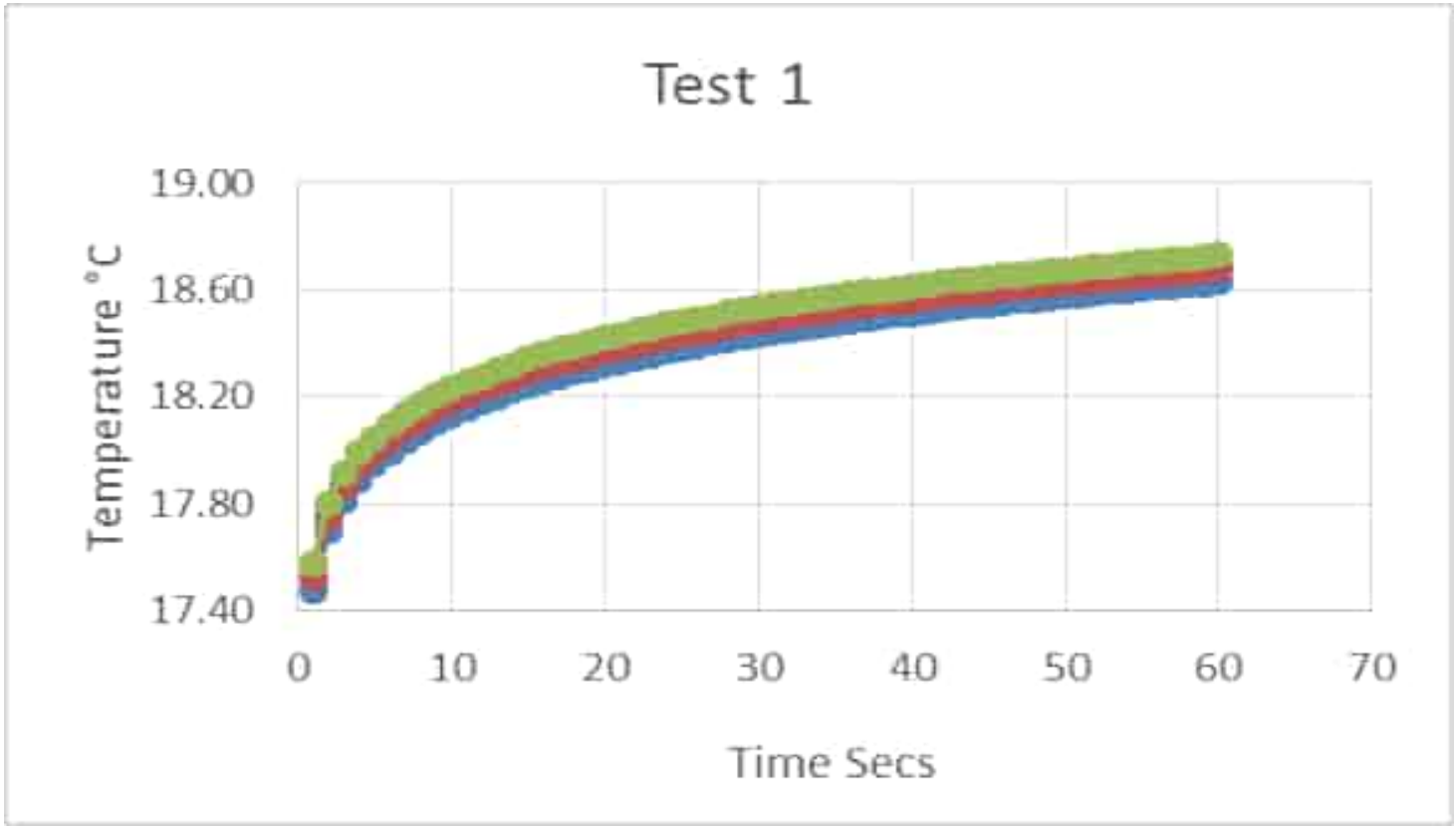
Figure C118

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

Lab Project No A149792C8530 : 18/10/2023 08:59:19

Site	LT519 FORT AUGUSTUS 400K V UPGRADE	**Contract No** A149792C8530
Client	SSEN	
Engineer	Jacobs	



Originator	Checked & Approved
MAB	M.D.B 18/10/2023

SUMMARY OF THERMAL CONDUCTIVITY / RESISTIVITY TESTS

Figure C118

In accordance with ASTM D5334-14

Water Content reported to BS EN ISO 17892-1:2014, Bulk Density reported to BS EN ISO 17892-2:2014/ BS 1377-2: 2022

SUMMARY OF CHEMICAL ANALYSIS

Report Number: 23-02953

Client Reference/Site: LT519 Fort Augustus

				Sample ID	15591	15592	15593	15594	15595	15596	15597	15598
				Other ID	2010341	2010343	2010361	2010364	2010372	2010374	2010379	2010383
				Depth m	1.50	4.50	0.10	3.00	2.70	4.90	1.50	1.00
				Lab ID	FAB02	FAB02	FAB05	FAB05	FAB06	FAB06	FAB07	FAB08
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Date	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
Test	**Method**	**Acc**	**LOD**	**Units**								
Inorganic Suite - Solid												
pH	TP019	M	0	-	7.7	7.7	9.7	8.3	7.5	7.3	7.7	5.7
Sulphate, water soluble in 2:1 extract (as SO4)	TP169	M	0.01	g/l	0.05	0.02	0.14	0.03	0.03	0.02	0.01	0.02

Key

U - Results are ISO 17025 accredited

M - Results are MCERTS and ISO 17025 accredited

N - Results are outside of accreditation

A result value of 'D' or 'ND' refers to Detected/Not Detected

d - Result deviating. Please refer to deviation table at the end of the report

Figure C119

SUMMARY OF CHEMICAL ANALYSIS

Report Number: 23-02953

Client Reference/Site: LT519 Fort Augustus

				Sample ID	15599
				Other ID	2010386
				Depth m	1.50
				Lab ID	FAB08
				Sample Type	SOIL
				Sample Date	19/09/2023
Test	**Method**	**Acc**	**LOD**	**Units**	
Inorganic Suite - Solid					
pH	TP019	M	0	-	6.7
Sulphate, water soluble in 2:1 extract (as SO4)	TP169	M	0.01	g/l	0.01

Key

U - Results are ISO 17025 accredited

M - Results are MCERTS and ISO 17025 accredited

N - Results are outside of accreditation

A result value of 'D' or 'ND' refers to Detected/Not Detected

d - Result deviating. Please refer to deviation table at the end of the report

Figure C120

SUMMARY OF CHEMICAL ANALYSIS

Report Number: 23-02953

Client Reference/Site: LT519 Fort Augustus

				Sample ID	15600
				Other ID	2010387
				Depth m	4.50
				Lab ID	FAB08
				Sample Type	SOIL
				Sample Date	19/09/2023
Test	**Method**	**Acc**	**LOD**	**Units**	
Inorganic Suite - Solid					
pH	TP019	M	0	-	7.1
Sulphate, water soluble in 2:1 extract (as SO4)	TP169	M	0.01	g/l	0.01

Key

U - Results are ISO 17025 accredited

M - Results are MCERTS and ISO 17025 accredited

N - Results are outside of accreditation

A result value of 'D' or 'ND' refers to Detected/Not Detected

d - Result deviating. Please refer to deviation table at the end of the report

Figure C121

SAMPLE DESCRIPTION AND PREPARATION DATA

Report Number: 23-02953
Client Reference / Site: LT519 Fort Augustus

Sample ID	Other ID	Depth (m)	Lab ID	Sample Date	Temperature on receipt (°C)	Primary (in uppercase) and Secondary Matrix	% Loss at 30°C	% Retained 2mm
15591	2010341	1.50	FAB02	19/09/2023	18.6	SAND with Fine to Medium Gravel	7.35	55.2
15592	2010343	4.50	FAB02	19/09/2023		SAND with Fine to Medium Gravel	5.34	50.4
15593	2010361	0.10	FAB05	19/09/2023		SAND with Fine to Medium Gravel	7.64	55.7
15594	2010364	3.00	FAB05	19/09/2023		SAND with Fine to Medium Gravel	6.24	29.4
15595	2010372	2.70	FAB06	19/09/2023		SAND with Fine to Medium Gravel	8.35	48.4
15596	2010374	4.90	FAB06	19/09/2023		SAND with Fine to Medium Gravel	7.47	37.5
15597	2010379	1.50	FAB07	19/09/2023		SAND with Fine to Medium Gravel	4.29	42.4
15598	2010383	1.00	FAB08	19/09/2023		SAND with Fine to Medium Gravel	11.8	37.3
15599	2010386	1.50	FAB08	19/09/2023		SAND with Fine to Medium Gravel	5.59	38.9
15600	2010387	4.50	FAB08	19/09/2023		SAND with Fine to Medium Gravel	5.66	51.4

Notes

Igne is accredited for clay, sand and loam matrix types only, where they constitute the major component of the sample. Other coarse granular materials such as gravel, are not accredited where they comprise the major constituent of the sample (listed as primary matrix above).Results are expressed on a dry-weight basis (samples dried at <30°C) except where stated within the test report. Samples for asbestos testing are dried at 85°C. With the exception of samples analysed for asbestos, the laboratory removes any material greater than 2mm prior to analysis. The quantity and nature of the material is shown as the secondary matrix type above.

Figure C122

DEVIATING SAMPLES

Report Number: 23-02953
Client Reference/Site: LT519 Fort Augustus

Sample ID	Other ID	Depth (m)	Lab ID	Sample Type	Sample Date	Container Type	DEVIATING CONDITIONS						
							Sampling date not provided	Incorrect sampling container	Exceeds maximum holding time for indicated test	Presence of headspace in vial	Poorly fitting cap or lid	Damaged container	Preservatives used
15591	2010341	1.50	FAB02	Solid	19/09/2023	25kg Bulk Bag							No
15592	2010343	4.50	FAB02	Solid	19/09/2023	25kg Bulk Bag							No
15593	2010361	0.10	FAB05	Solid	19/09/2023	25kg Bulk Bag							No
15594	2010364	3.00	FAB05	Solid	19/09/2023	25kg Bulk Bag							No
15595	2010372	2.70	FAB06	Solid	19/09/2023	25kg Bulk Bag							No
15596	2010374	4.90	FAB06	Solid	19/09/2023	25kg Bulk Bag							No
15597	2010379	1.50	FAB07	Solid	19/09/2023	25kg Bulk Bag							No
15598	2010383	1.00	FAB08	Solid	19/09/2023	25kg Bulk Bag							No
15599	2010386	1.50	FAB08	Solid	19/09/2023	25kg Bulk Bag							No
15600	2010387	4.50	FAB08	Solid	19/09/2023	25kg Bulk Bag							No

Presence of ✓ means that the respective sample has met the deviating condition and therefore results for a sample that has been classified as deviating, so may be compromised.

Figure C123

SUMMARY OF METHODS USED

Report Number: 23-02953
Client Reference/Site: LT519 Fort Augustus

Method Code	Method Title	Reference	MCERTS Accredited	UKAS Accredited	Wet/dry sample tested
TP019	Determination of pH	BS1377, Part 3, 1990: Soils for Civil Engineering Purposes.	Yes	Yes	DRY
GP001	Preservation & Preparation of Soil	BS1377, Part 3, 1990: Soils for Civil Engineering Purposes.	Yes	Yes	WET
TP169	Water soluble sulphate in soil	In-house documented method	Yes	Yes	DRY

Figure C124

SUMMARY OF CHEMICAL ANALYSIS

Report Number: 23-02975

Client Reference/Site: LT519 Fort Augustus

				Sample ID	15772	15773	15774	15775	15776	15777	15778
				Other ID	2010429	2010435	2010438	2010441	2010445	2010448	2010449
				Depth m	0.70	0.60	0.50	0.50	1.00	0.50	0.50
				Lab ID	FAT04	FAT05	FAT06	FAT07	FAT07	FAT08	FAT08A
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Date	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
Test	**Method**	**Acc**	**LOD**	**Units**							
Inorganic Suite - Solid											
pH	TP019	M	0	-	7.6 [d]	-	6.8 [d]	7.7 [d]	7.3 [d]	8.5 [d]	8.3 [d]
Sulphate, water soluble in 2:1 extract (as SO4)	TP169	M	0.01	g/l	0.04 [d]	-	0.09 [d]	0.02 [d]	0.06 [d]	0.13 [d]	0.21 [d]
Organic Matter	TP041	U	0.1	%	-	3.6 [d]	1.1 [d]	-	-	-	-

Key

U - Results are ISO 17025 accredited

M - Results are MCERTS and ISO 17025 accredited

N - Results are outside of accreditation

A result value of 'D' or 'ND' refers to Detected/Not Detected

d - Result deviating. Please refer to deviation table at the end of the report

Figure C125

SUMMARY OF CHEMICAL ANALYSIS

Report Number: 23-02975

Client Reference/Site: LT519 Fort Augustus

				Sample ID	15779	15780
				Other ID	2010451	2010452
				Depth m	1.30	1.20
				Lab ID	FAT08A	FAT08B
				Sample Type	SOIL	SOIL
				Sample Date	Not Provided	Not Provided
Test	**Method**	**Acc**	**LOD**	**Units**		
Inorganic Suite - Solid						
pH	TP019	M	0	-	9.0 [d]	8.0 [d]
Sulphate, water soluble in 2:1 extract (as SO4)	TP169	M	0.01	g/l	0.04 [d]	0.04 [d]
Organic Matter	TP041	U	0.1	%	-	-

Key

U - Results are ISO 17025 accredited

M - Results are MCERTS and ISO 17025 accredited

N - Results are outside of accreditation

A result value of 'D' or 'ND' refers to Detected/Not Detected

d - Result deviating. Please refer to deviation table at the end of the report

Figure C126

SUMMARY OF CHEMICAL ANALYSIS

Report Number: 23-02975

Client Reference/Site: LT519 Fort Augustus

				Sample ID	15781	15782	15783	15784	15785	15786	15787
				Other ID	2010455	2010456	2010458	2010460	2010462	2010469	2010470
				Depth m	0.80	0.60	0.60	0.50	0.50	0.50	1.10
				Lab ID	FAT08C	FAT09	FAT10	FAT11	FAT12	FAT14	FAT14
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Date	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
Test	**Method**	**Acc**	**LOD**	**Units**							
Inorganic Suite - Solid											
pH	TP019	M	0	-	7.9 [d]	-	-	7.3 [d]	-	8.1 [d]	7.1 [d]
Sulphate, water soluble in 2:1 extract (as SO4)	TP169	M	0.01	g/l	0.01 [d]	-	-	0.07 [d]	-	0.04 [d]	< 0.01 [d]
Organic Matter	TP041	U	0.1	%	-	1.6 [d]	1.9 [d]	1.6 [d]	1.2 [d]	-	-

Key

U - Results are ISO 17025 accredited

M - Results are MCERTS and ISO 17025 accredited

N - Results are outside of accreditation

A result value of 'D' or 'ND' refers to Detected/Not Detected

d - Result deviating. Please refer to deviation table at the end of the report

Figure C127

SUMMARY OF CHEMICAL ANALYSIS

Report Number: 23-02975

Client Reference/Site: LT519 Fort Augustus

				Sample ID	15788	15789
				Other ID	2010474	2010478
				Depth m	0.50	0.50
				Lab ID	FAT16	FAT17
				Sample Type	SOIL	SOIL
				Sample Date	Not Provided	Not Provided
Test	**Method**	**Acc**	**LOD**	**Units**		
Inorganic Suite - Solid						
pH	TP019	M	0	-	-	-
Sulphate, water soluble in 2:1 extract (as SO4)	TP169	M	0.01	g/l	-	-
Organic Matter	TP041	U	0.1	%	6.0 [d]	7.8 [d]

Key

U - Results are ISO 17025 accredited

M - Results are MCERTS and ISO 17025 accredited

N - Results are outside of accreditation

A result value of 'D' or 'ND' refers to Detected/Not Detected

d - Result deviating. Please refer to deviation table at the end of the report

Figure C128

SUMMARY OF CHEMICAL ANALYSIS

Report Number: 23-02975

Client Reference/Site: LT519 Fort Augustus

				Sample ID	15790	15791	15792
				Other ID	2010479	2010482	2010483
				Depth m	1.20	0.50	1.50
				Lab ID	FAT17	FAT18	FAT18
				Sample Type	SOIL	SOIL	SOIL
				Sample Date	Not Provided	Not Provided	Not Provided
Test	**Method**	**Acc**	**LOD**	**Units**			
Inorganic Suite - Solid							
Organic Matter	TP041	U	0.1	%	8.4 [d]	2.6 [d]	4.9 [d]

Key

U - Results are ISO 17025 accredited

M - Results are MCERTS and ISO 17025 accredited

N - Results are outside of accreditation

A result value of 'D' or 'ND' refers to Detected/Not Detected

d - Result deviating. Please refer to deviation table at the end of the report

Figure C129

SAMPLE DESCRIPTION AND PREPARATION DATA

Report Number: 23-02975
Client Reference / Site: LT519 Fort Augustus

Sample ID	Other ID	Depth (m)	Lab ID	Sample Date	Temperature on receipt (°C)	Primary (in uppercase) and Secondary Matrix	% Loss at 30°C	% Retained 2mm
15772	2010429	0.70	FAT04	-	19.0	SAND with Fine to Medium Gravel	4.82	66.8
15773	2010435	0.60	FAT05	-		SAND with Fine to Medium Gravel	25.3	12.0
15774	2010438	0.50	FAT06	-		SAND with Fine to Medium Gravel	20.1	2.00
15775	2010441	0.50	FAT07	-		SAND with Fine to Medium Gravel	8.29	41.4
15776	2010445	1.00	FAT07	-		SAND with Fine to Medium Gravel	7.89	35.3
15777	2010448	0.50	FAT08	-		SAND with Fine to Medium Gravel	6.25	52.5
15778	2010449	0.50	FAT08A	-		SAND with Fine to Medium Gravel	9.35	49.7
15779	2010451	1.30	FAT08A	-		SAND with Fine to Medium Gravel	10.6	42.3
15780	2010452	1.20	FAT08B	-		SAND with Fine to Medium Gravel	6.06	36.8
15781	2010455	0.80	FAT08C	-		SAND with Fine to Medium Gravel	5.33	57.8
15782	2010456	0.60	FAT09	-		SAND with Fine to Medium Gravel	7.82	44.5
15783	2010458	0.60	FAT10	-		SAND with Fine to Medium Gravel	6.88	45.6
15784	2010460	0.50	FAT11	-		SAND with Fine to Medium Gravel	4.89	53.9
15785	2010462	0.50	FAT12	-		SAND with Fine to Medium Gravel	10.3	1.58
15786	2010469	0.50	FAT14	-		SAND with Fine to Medium Gravel	5.26	62.5
15787	2010470	1.10	FAT14	-		SAND with Fine to Medium Gravel	10.6	15.3
15788	2010474	0.50	FAT16	-		SAND with Fine to Medium Gravel	28.2	13.5
15789	2010478	0.50	FAT17	-		Peaty SAND with Fine to Medium Gravel	30.3	10.0
15790	2010479	1.20	FAT17	-		SAND with Fine to Medium Gravel	32.7	8.26
15791	2010482	0.50	FAT18	-		SAND with Fine to Medium Gravel	16.5	17.0
15792	2010483	1.50	FAT18	-		SAND with Fine to Medium Gravel	19.3	28.7

Notes
Igne is accredited for clay, sand and loam matrix types only, where they constitute the major component of the sample. Other coarse granular materials such as gravel, are not accredited where they comprise the major constituent of the sample (listed as primary matrix above).Results are expressed on a dry-weight basis (samples dried at <30°C) except where stated within the test report. Samples for asbestos testing are dried at 85°C. With the exception of samples analysed for asbestos, the laboratory removes any material greater than 2mm prior to analysis. The quantity and nature of the material is shown as the secondary matrix type above.

Figure C130

DEVIATING SAMPLES

Report Number: 23-02975
Client Reference/Site: LT519 Fort Augustus

Sample ID	Other ID	Depth (m)	Lab ID	Sample Type	Sample Date	Container Type	DEVIATING CONDITIONS						
							Sampling date not provided	Incorrect sampling container	Exceeds maximum holding time for indicated test	Presence of headspace in vial	Poorly fitting cap or lid	Damaged container	Preservatives used
15772	2010429	0.70	FAT04	Solid	-	25kg Bulk Bag	✓						No
15773	2010435	0.60	FAT05	Solid	-	25kg Bulk Bag	✓						No
15774	2010438	0.50	FAT06	Solid	-	25kg Bulk Bag, 25kg Bulk Bag	✓						No
15775	2010441	0.50	FAT07	Solid	-	25kg Bulk Bag	✓						No
15776	2010445	1.00	FAT07	Solid	-	25kg Bulk Bag	✓						No
15777	2010448	0.50	FAT08	Solid	-	25kg Bulk Bag	✓						No
15778	2010449	0.50	FAT08A	Solid	-	25kg Bulk Bag	✓						No
15779	2010451	1.30	FAT08A	Solid	-	25kg Bulk Bag	✓						No
15780	2010452	1.20	FAT08B	Solid	-	25kg Bulk Bag	✓						No
15781	2010455	0.80	FAT08C	Solid	-	25kg Bulk Bag	✓						No
15782	2010456	0.60	FAT09	Solid	-	25kg Bulk Bag	✓						No
15783	2010458	0.60	FAT10	Solid	-	25kg Bulk Bag	✓						No
15784	2010460	0.50	FAT11	Solid	-	25kg Bulk Bag	✓						No
15785	2010462	0.50	FAT12	Solid	-	25kg Bulk Bag	✓						No
15786	2010469	0.50	FAT14	Solid	-	25kg Bulk Bag	✓						No
15787	2010470	1.10	FAT14	Solid	-	25kg Bulk Bag	✓						No
15788	2010474	0.50	FAT16	Solid	-	25kg Bulk Bag	✓						No
15789	2010478	0.50	FAT17	Solid	-	25kg Bulk Bag	✓						No
15790	2010479	1.20	FAT17	Solid	-	25kg Bulk Bag	✓						No
15791	2010482	0.50	FAT18	Solid	-	25kg Bulk Bag	✓						No
15792	2010483	1.50	FAT18	Solid	-	25kg Bulk Bag	✓						No

Presence of ✓ means that the respective sample has met the deviating condition and therefore results for a sample that has been classified as deviating, so may be compromised.

Figure C131

SUMMARY OF METHODS USED

Report Number: 23-02975
Client Reference/Site: LT519 Fort Augustus

Method Code	Method Title	Reference	MCERTS Accredited	UKAS Accredited	Wet/dry sample tested
TP019	Determination of pH	BS1377, Part 3, 1990: Soils for Civil Engineering Purposes.	Yes	Yes	DRY
TP041	Organic matter content in soil	BS1377, Part 3, 1990: Soils for Civil Engineering Purposes.	No	Yes	DRY
GP001	Preservation & Preparation of Soil	BS1377, Part 3, 1990: Soils for Civil Engineering Purposes.	Yes	Yes	WET
TP189	Total organic carbon in soil	In-house documented method	No	No	DRY
TP169	Water soluble sulphate in soil	In-house documented method	Yes	Yes	DRY

Figure C132