



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP26**



Originator

JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:

B108

Chk & App

FMR

Status

FINAL





Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP27**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Chk & App
FMR

Status
FINAL

Fig No:



B109



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP27**



Originator

JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:

B109

Chk & App

Status

FMR

FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP28**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Chk & App
FMR

Status
FINAL

Fig No:



B110



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Trial Pit No.

TP28



Style: TP PHOTOS File: P:\GINTW\PROJECTS\26667.GPJ Printed: 01/11/2024 15:48:24 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

Originator

JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:



B110

Chk & App

Status

FMR

FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP29**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS



Fig No:

B111

Chk & App
FMR

Status
FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Trial Pit No.
TP29



Style: TP PHOTOS File: P:\GINTWP\PROJECTS\26667.GPJ Printed: 01/11/2024 15:48:37 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

	Originator
	JDUD
Chk & App	Status
FMR	FINAL

Title:
PHOTOGRAPHS OF TRIAL PITS

Fig No:
B111



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Trial Pit No.
TP29A



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:



B112

Chk & App
FMR

Status
FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP29A**



Style: TP PHOTOS File: P:\GINTW\PROJECTS\26667.GPJ Printed: 01/11/2024 15:48:48 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Chk & App
FMR

Status
FINAL

Fig No:

B112





Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP29B**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Chk & App
FMR

Status
FINAL

Fig No:



B113



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP29B**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:



B113

Chk & App
FMR

Status
FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP29C**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Chk & App
FMR

Status
FINAL

Fig No:

B114



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP29C**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Chk & App
FMR

Status
FINAL

Fig No:



B114



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP30**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Chk & App
FMR

Status
FINAL

Fig No:



B115



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP30**



Style: TP PHOTOS File: P:\GINTWP\PROJECTS\26667.GPJ Printed: 01/11/2024 15:49:34 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

Originator

JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:

B115

Chk & App

Status

FMR

FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP31**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:



B116

Chk & App
FMR

Status
FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP31**



Style: TP PHOTOS File: P:\GINTW\PROJECTS\26667.GPJ Printed: 01/11/2024 15:50:19 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:



B116

Chk & App
FMR

Status
FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP32**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:

B117

Chk & App
FMR

Status
FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Trial Pit No.
TP32



Style: TP PHOTOS File: P:\GINTW\PROJECTS\26667.GPJ Printed: 01/11/2024 15:50:32 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

	Originator
	JDUD
Chk & App	Status
FMR	FINAL

Title:
PHOTOGRAPHS OF TRIAL PITS

Fig No:
 B117



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP33**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Chk & App
FMR

Status
FINAL

Fig No:



B118



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP33**



Originator

JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:

B118

Chk & App

Status

FMR

FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP34**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Chk & App
FMR

Status
FINAL

Fig No:



B119



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP34**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Chk & App
FMR

Status
FINAL

Fig No:



B119



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP35**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS



Fig No:

B120

Chk & App
FMR

Status
FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Contract No: 26667

Trial Pit No.
TP35



Style: TP PHOTOS File: P:\GINTW\PROJECTS\26667.GPJ Printed: 01/11/2024 15:51:10 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

	Originator
	JDUD
Chk & App	Status
FMR	FINAL

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:

 B120



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP35A**



Originator
JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:



B121

Chk & App
FMR

Status
FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

**Trial Pit No.
TP35A**



Originator

JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:

B121

Chk & App

FMR

Status

FINAL





Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

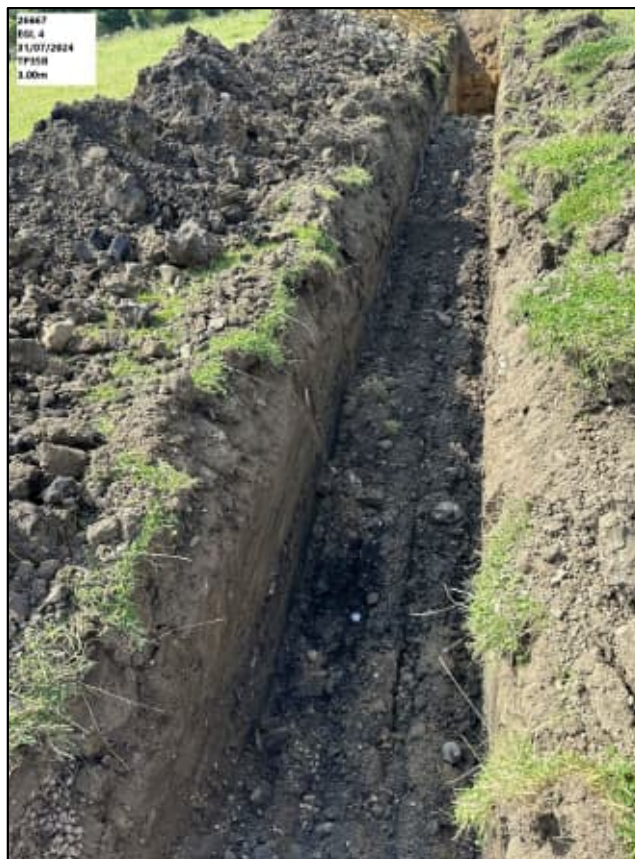
Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Trial Pit No.

TP35B



Originator

JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:

B122

Chk & App

FMR

Status

FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Trial Pit No.
TP35B



Style: TP PHOTOS File: P:\GINTW\PROJECTS\26667.GPJ Printed: 01/11/2024 15:51:33 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

	Originator JDUD	Title: PHOTOGRAPHS OF TRIAL PITS		Fig No: B122
Chk & App FMR	Status FINAL			



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Trial Pit No.

TP36



Originator

JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:

B123

Chk & App

Status

FMR

FINAL



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Trial Pit No.

TP36



Originator

JDUD

Title:

PHOTOGRAPHS OF TRIAL PITS

Fig No:

B123

Chk & App

Status

FMR

FINAL

	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No	26667	
	Client	Scottish Power Energy Networks		Test Pit No	TP05 SA	
	Engineer	Scottish Power Energy Networks		Test Run No	1	
				Date of Test	06/08/24	

Time (minute)	Depth to Water (m)
0	0.49
1	0.49
2	0.49
3	0.49
4	0.49
5	0.49
10	0.49
15	0.49
20	0.49
25	0.49
30	0.49
45	0.49
60	0.50
90	0.50
120	0.50
150	0.50
180	0.50

Weather Conditions

Overcast, dry

Non Engineering Strata Description

MADE GROUND: Brown stiff friable slightly gravelly sandy clay

Test Pit Dimensions

Length	m	2.00
Width	m	0.50
Depth	m	1.00

Test Parameters

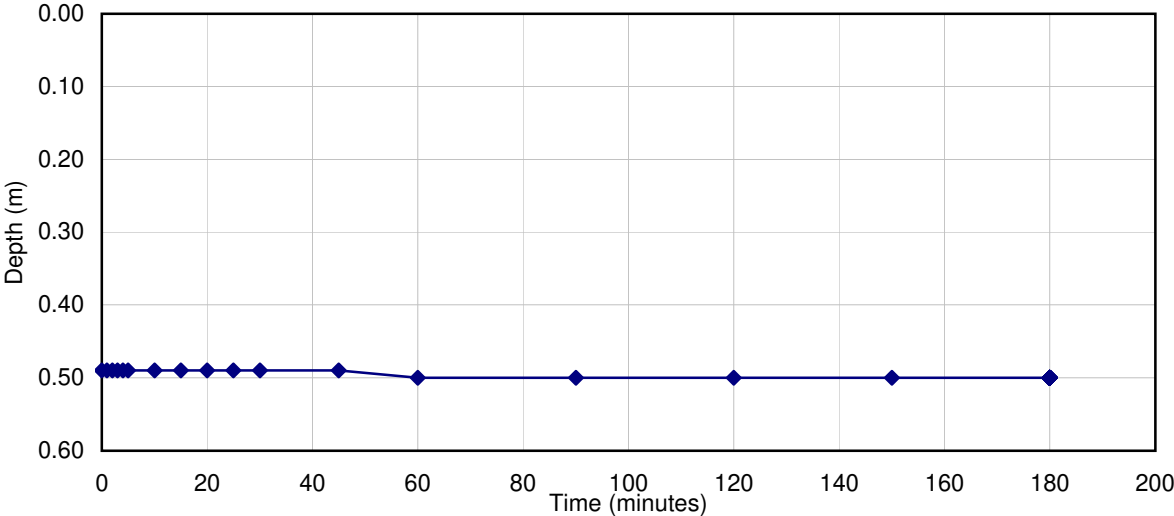
Maximum Effective Depth	m	0.49
75% Effective Depth	m	0.62
25 % Effective Depth	m	0.87
Effective Storage Volume	m³	0.26
Surface Area a _{p50}	m²	2.28
Time for 75%	min	~
Time for 25%	min	~
t _{p75-25}	min	~

Soil Infiltration Rate

Indeterminable

Comments

Test abandoned after 180mins due to slow outflow of water from test pit.



Originator	Checked & Approved	SOAKAWAY BRE 365	 B124
JD	 06/11/2024		

Sheet 1 of 1

Site EASTERN GREEN LINK 4 - HVDC CONVERTER
STATION

Client Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No 26667

Test Pit No TP14 SA

Test Run No 1

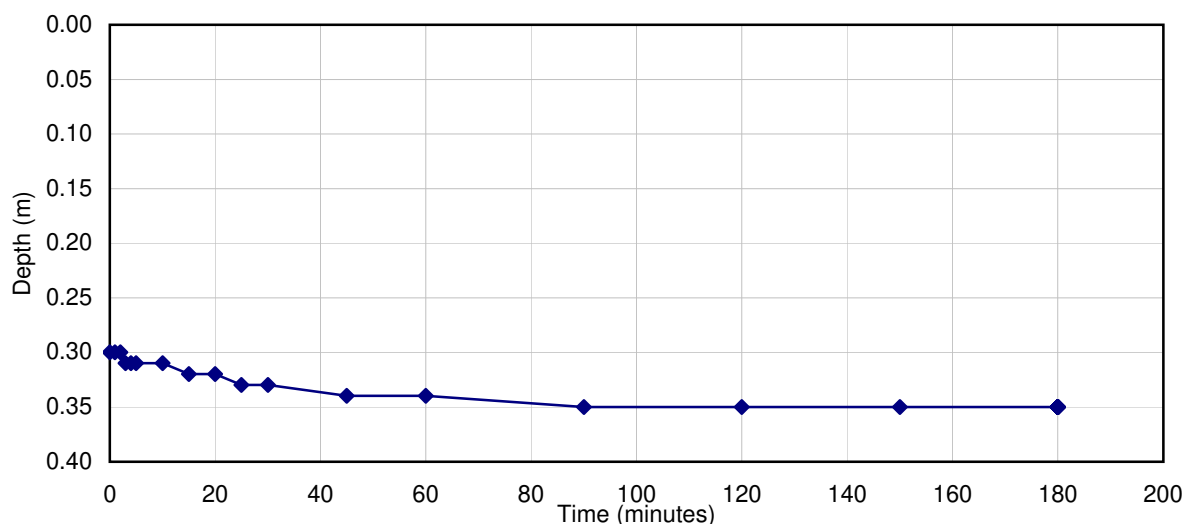
Date of Test 06/08/24

Time (minute)	Depth to Water (m)
0	0.30
1	0.30
2	0.30
3	0.31
4	0.31
5	0.31
10	0.31
15	0.32
20	0.32
25	0.33
30	0.33
45	0.34
60	0.34
90	0.35
120	0.35
150	0.35
180	0.35

Weather Conditions		
Overcast, dry		
Non Engineering Strata Description		
MADE GROUND: Brown stiff friable slightly gravelly sandy clay		
Test Pit Dimensions		
Length	m	1.70
Width	m	0.50
Depth	m	1.00
Test Parameters		
Maximum Effective Depth	m	0.30
75% Effective Depth	m	0.48
25 % Effective Depth	m	0.83
Effective Storage Volume	m ³	0.30
Surface Area a _{p50}	m ²	2.39
Time for 75%	min	~
Time for 25%	min	~
t _{p75-25}	min	~

Soil Infiltration Rate
Indeterminable

Comments
Test abandoned after 180mins due to slow outflow of water from test pit.



Originator	Checked & Approved	SOAKAWAY BRE 365	B125
JD	06/11/2024		



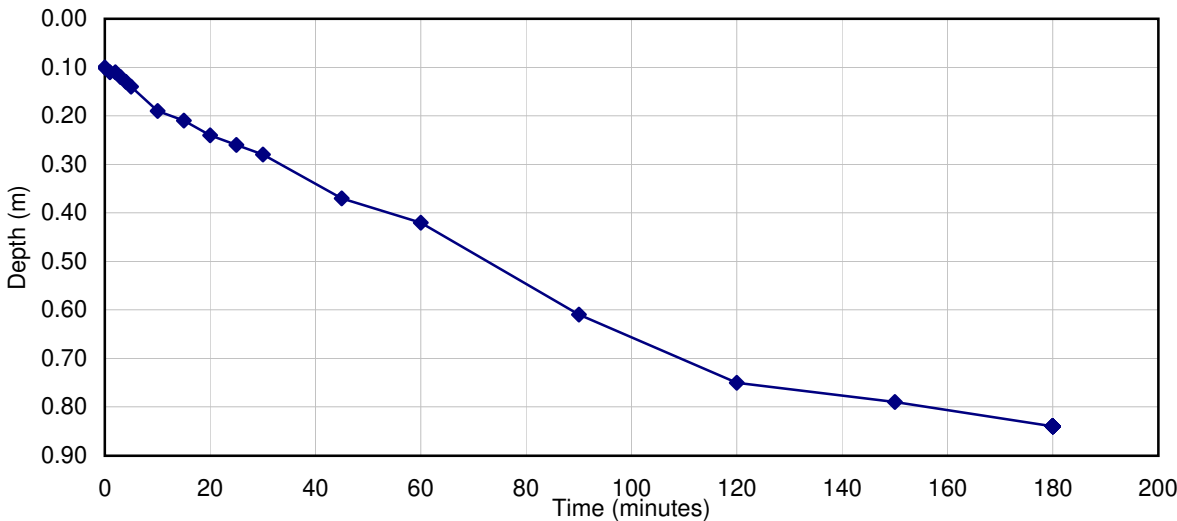
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
Client	Scottish Power Energy Networks	Test Pit No	TP22 SA
Engineer	Scottish Power Energy Networks	Test Run No	1
		Date of Test	07/08/24

Time (minute)	Depth to Water (m)
0	0.10
1	0.11
2	0.11
3	0.12
4	0.13
5	0.14
10	0.19
15	0.21
20	0.24
25	0.26
30	0.28
45	0.37
60	0.42
90	0.61
120	0.75
150	0.79
180	0.84

Weather Conditions		
Overcast, dry		
Non Engineering Strata Description		
MADE GROUND: Dark grey gravelly fine to coarse sand		
Test Pit Dimensions		
Length	m	1.80
Width	m	0.50
Depth	m	1.00
Test Parameters		
Maximum Effective Depth	m	0.10
75% Effective Depth	m	0.33
25 % Effective Depth	m	0.78
Effective Storage Volume	m ³	0.41
Surface Area a _{p50}	m ²	2.97
Time for 75%	min	37.5
Time for 25%	min	142.5
t _{p75-25}	min	105

Soil Infiltration Rate
2.2E-5 m/s

Comments
~



Originator	Checked & Approved	SOAKAWAY BRE 365	B126
JD	06/11/2024		



SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

**Whistleberry Road
Hamilton
ML3 0HP**

SPT Hammer Ref: AB2 2024
Test Date: 08/06/2024
Report Date: 08/06/2024
File Name: AB2 2024.spt
Test Operator: KS

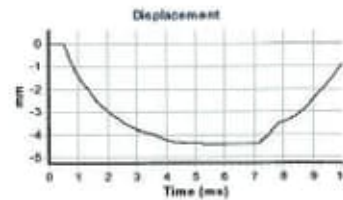
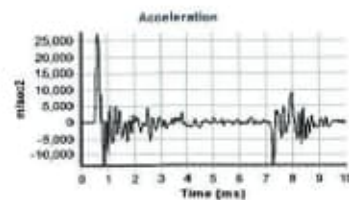
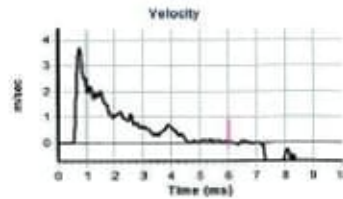
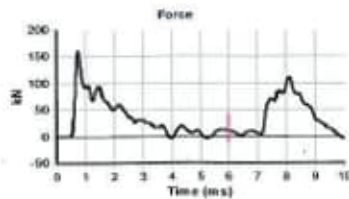
Instrumented Rod Data

Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.8
Assumed Modulus E_R (GPa): 208
Accelerometer No.1: 69559
Accelerometer No.2: 69560

SPT Hammer Information

Hammer Mass m (kg): 63.5
Falling Height h (mm): 760
SPT String Length L (m): 14.5

Comments / Location



Calculations

Area of Rod A (mm²): 1008
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 331

Energy Ratio E_r (%): **70**

Signed: Kevin Steele
Title: Drilling Store Manager

The recommended calibration interval is 12 months

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SPT Hammer Energy Test Report

In accordance with BS EN ISO 22476-3:2005

**Whistleberry Road
Hamilton
ML3 0HP**

SPT Hammer Ref: RD54 2024
Test Date: 09/05/2024
Report Date: 09/05/2024
File Name: RD54 2024.spt
Test Operator: K STEELE

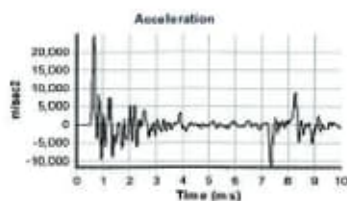
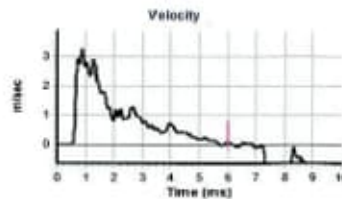
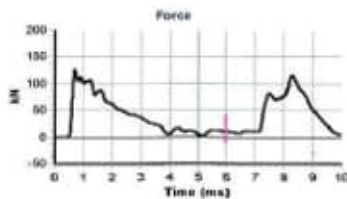
Instrumented Rod Data

Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.8
Assumed Modulus E_a (GPa): 208
Accelerometer No.1: 69559
Accelerometer No.2: 69560

SPT Hammer Information

Hammer Mass m (kg): 63.5
Falling Height h (mm): 760
SPT String Length L (m): 14.5

Comments / Location



Calculations

Area of Rod A (mm^2): 1008
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 352

Energy Ratio E_r (%): 74

The recommended calibration interval is 12 months

Signed: Kevin Steele
Title: Drilling Store Manager

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ENG-23

Universal Instrument Services

14 Rose Way, Ebby,
Leicester LE9 4TY

Tel: 0116 275 0123

www.uiscal.com
e-mail: sales@uiscal.co.uk



CERTIFICATE OF CALIBRATION

Date of Calibration: 12th June 2024		Certificate Number: 00381376		Page: 1 of 3
Date of issue: 12th June 2024				
Acc No	RAE001	Manufacturer	IMPACT Test Equipment	
Customer	Raeburn Drilling & Geotechnical Ltd	Description	Hand Vane Tester	
	Whistleberry Road	Model	SLB10	
	Hamilton	Serial No	847	
Engineer	W.Kendall	Asset No	ENG23	
Our Ref	489323	Order No	H01707	

CONDITION OF INSTRUMENT	YES/NO
The instrument was adjusted	N
The instrument was repaired	N

ADDITIONAL COMMENTS

STABILITY

The readings only apply to the equipment detailed above and are the results at the time of calibration, they do not carry any implication regarding the long term stability of the unit under test.

ACCREDITATIONS

This calibration is based on our accreditations to the BMS of BS EN ISO 9001:2015 and BS EN ISO/IEC 17025:2017.

PROCEDURE

UIS procedure CP7.7.10

ENVIRONMENT

The instrument was calibrated at UIS maintaining ambient conditions of 18 °C to 28 °C, humidity <85%rh

TRACEABILITY

The test equipment used is traceable to National Standards. The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95%.

TEST EQUIPMENT USED

Asset No.	Description	Certificate No.	Expiry date
ID347	ETS 10Nm	275441	20/JUN/2024
ID1123	Digital Calliper	73276	07/JUN/2026

Originator	FMR	Title:	HAND VANE CALIBRATION CERTIFICATE	Fig No:	B129 page 1 of 3
Chk & App	Status				
CJH	FINAL				

CERTIFICATE OF CALIBRATION

Date of Calibration: 12th June 2024
Date of issue: 20th June 2024

Duplicate
Number 00381370

Page 2 of 3

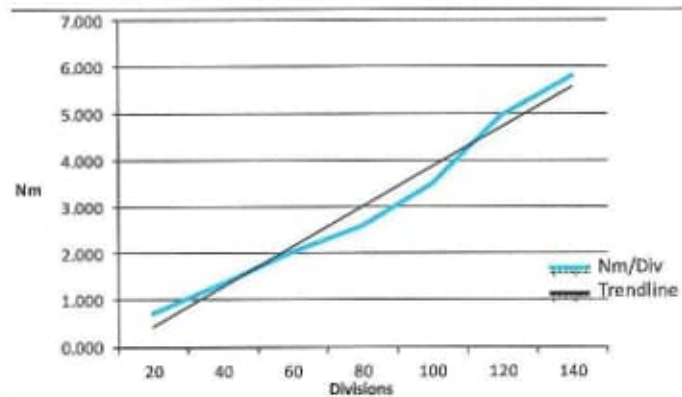
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十一	十二	十三	十四	十五	十六	十七	十八	十九	二十
二十一	二十二	二十三	二十四	二十五	二十六	二十七	二十八	二十九	三十
三十一	三十二	三十三	三十四	三十五	三十六	三十七	三十八	三十九	四十
四十一	四十二	四十三	四十四	四十五	四十六	四十七	四十八	四十九	五十
五十一	五十二	五十三	五十四	五十五	五十六	五十七	五十八	五十九	六十
六十一	六十二	六十三	六十四	六十五	六十六	六十七	六十八	六十九	七十
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八十一	八十二	八十三	八十四	八十五	八十六	八十七	八十八	八十九	九十
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[illegible]

CERTIFICATE OF CALIBRATION

Date of Calibration: 12th June 2024
Date of issue: 12th June 2024
Certificate Number: 00381376
Page 3 of 3

Vane Divisions	Mean Measured Torque(N-m)	Torque Uncertainty	Confidence Level
20	0.713	± 0.03 N-m	k=2.00
40	1.373	± 0.03 N-m	k=2.00
60	2.035	± 0.03 N-m	k=2.00
80	2.591	± 0.03 N-m	k=2.00
100	3.504	± 0.06 N-m	k=2.37
120	4.965	± 0.09 N-m	k=2.52
140	5.816	± 0.04 N-m	k=2.20



Shear strength constant (kPa/Div): 33mm blade 0.39
19 mm blade 2.17

Method of test

The vane was rotated in a clockwise direction until the pointer was aligned with the calibration value. The applied force was then recorded. This was repeated 5 times and the mean of the readings calculated at each calibration point. The resolution is the N.m equivalent to the readability of the vane scale.

Uncertainties

The uncertainties must also be taken into account when determining compliance with specifications.

Dimensional uncertainties +/- 0.1mm

Calibrated by *Universal Instrument Services Ltd.*
Universal Instrument Services Ltd.

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Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Contract No: 26667

* Water level measurements taken from ground level.

Borehole No.	Surveyed Level (m OD)	Depth to Base of Standpipe (m)	Date /Time	Atmospheric Pressure (mBar)	Gas Composition					Differential Pressure (Pa)	Flow (l/hr)	Depth to Water (m) (mBGL)	Depth (mOD)	Remarks
					CH ₄ (%vol)	CO ₂ (%vol)	O ₂ (%vol)	H ₂ S (ppm)	CO (ppm)					
BH02	84.22		11/09/24 10:31	993	0.00	0.00	19.70	0.00	0.00	0.00	0.00	1.78	82.44	Dry, sunny, breezy
	84.22		11/09/24 10:32		0.00	0.00	20.50	0.00	0.00					Dry, sunny, breezy
	84.22		11/09/24 10:33		0.00	0.00	20.50	0.00	0.00					Dry, sunny, breezy
	84.22		11/09/24 10:34		0.00	0.00	20.50	0.00	0.00					Dry, sunny, breezy
	84.22		11/09/24 10:35		0.00	0.00	20.50	0.00	0.00					Dry, sunny, breezy
	84.22		11/09/24 10:36		0.00	0.00	20.50	0.00	0.00					Dry, sunny, breezy
	84.22		16/09/24 15:49	1020	0.00	0.50	20.40	0.00	1.00	0.00	0.00	1.83	82.39	Dry, sunny, warm/mild
	84.22		16/09/24 15:50		0.00	1.40	18.90	0.00	0.00					Dry, sunny, warm/mild
	84.22		16/09/24 15:51		0.00	1.60	18.40	0.00	0.00					Dry, sunny, warm/mild
	84.22		16/09/24 15:52		0.00	1.70	18.10	0.00	0.00					Dry, sunny, warm/mild
	84.22		16/09/24 15:53		0.00	1.90	17.40	0.00	0.00					Dry, sunny, warm/mild
	84.22		16/09/24 15:54		0.00	2.30	16.00	0.00	0.00					Dry, sunny, warm/mild
	84.22		27/09/24 10:32	996	0.00	0.10	19.70	4.00	0.00	0.00	0.00	1.80	82.42	Cool, sunny
	84.22		27/09/24 10:33		0.00	0.50	19.90	0.00	0.00					Cool, sunny
	84.22		27/09/24 10:34		0.00	0.50	19.60	0.00	0.00					Cool, sunny
	84.22		27/09/24 10:35		0.00	0.60	19.80	0.00	0.00					Cool, sunny
	84.22		27/09/24 10:36		0.00	0.50	19.80	0.00	0.00					Cool, sunny
	84.22		27/09/24 10:37		0.00	0.50	19.80	0.00	0.00					Cool, sunny
	84.22		04/10/24 12:40	1005	0.00	0.40	15.10	0.00	0.00	0.00	0.00	1.86	82.36	Cold, dry, cloudy
	84.22		04/10/24 12:41		0.00	8.90	0.40	0.00	0.00					Cold, dry, cloudy
	84.22		04/10/24 12:42		0.00	9.00	0.30	0.00	0.00					Cold, dry, cloudy
	84.22		04/10/24 12:43		0.00	9.10	0.20	0.00	0.00					Cold, dry, cloudy
	84.22		04/10/24 12:44		0.00	9.70	0.00	0.00	0.00					Cold, dry, cloudy
	84.22		04/10/24 12:45		0.00	9.80	0.00	0.00	0.00					Cold, dry, cloudy
	84.22		10/10/24 13:05	1000	0.00	0.10	19.60	0.00	0.00	0.00	0.00	2.89	81.33	cold, dry but slightly cloudy
	84.22		10/10/24 13:06		0.00	0.60	19.60	0.00	0.00					cold, dry but slightly cloudy
	84.22		10/10/24 13:07		0.00	0.60	19.60	0.00	0.00					cold, dry but slightly cloudy
	84.22		10/10/24 13:08		0.00	0.60	19.50	0.00	0.00					cold, dry but slightly cloudy
	84.22		10/10/24 13:09		0.00	0.70	19.20	0.00	0.00					cold, dry but slightly cloudy
	84.22		10/10/24 13:10		0.00	0.80	18.70	0.00	0.00					cold, dry but slightly cloudy
	84.22		18/10/24 11:50	994	0.00	7.50	12.10	0.00	0.00	4.00	0.40	2.84	81.38	Dry and slightly cloudy
	84.22		18/10/24 11:51		0.00	9.30	6.00	0.00	0.00					Dry and slightly cloudy
	84.22		18/10/24 11:52		0.00	9.60	5.30	0.00	0.00					Dry and slightly cloudy
	84.22		18/10/24 11:53		0.00	10.30	4.60	0.00	0.00					Dry and slightly cloudy
	84.22		18/10/24 11:54		0.00	11.80	3.40	0.00	0.00					Dry and slightly cloudy
	84.22		18/10/24 11:55		0.00	13.40	1.90	0.00	0.00					Dry and slightly cloudy
BH05	88.30		11/04/24 13:15	993	0.00	0.10	18.70	0.00	0.00	0.00	0.00	2.62	85.68	Dry, sunny, v breezy
	88.30		11/04/24 13:16		0.00	0.70	19.90	0.00	0.00					Dry, sunny, v breezy
	88.30		11/04/24 13:17		0.00	0.70	19.90	0.00	0.00					Dry, sunny, v breezy
	88.30		11/04/24 13:18		0.00	0.60	19.90	0.00	0.00					Dry, sunny, v breezy
	88.30		11/04/24 13:19		0.00	0.60	20.00	0.00	0.00					Dry, sunny, v breezy
	88.30		11/04/24 13:20		0.00	0.60	20.00	0.00	0.00					Dry, sunny, v breezy
	88.30		16/09/24 14:55	1023	0.00	0.40	19.70	0.00	0.00	0.00	0.00	2.67	85.63	Dry, sunny, warm/mild
	88.30		16/09/24 14:56		0.00	0.30	21.00	0.00	0.00					Dry, sunny, warm/mild

	Originator	Title: RESULTS OF GAS AND WATER LEVEL MONITORING IN STANDPIPES		Fig No:
	LR			
Chk & App	Status			
FMR	Final			
				B130
				Sheet 1 of 4



SHEET NO.	Originator	Title: RESULTS OF GAS AND WATER LEVEL MONITORING IN STANDPIPES	RABBIT	Fig No:
	LR			
	Chk & App			Status
	FMR	Final		Sheet 2 of 4

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Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Contract No: 26667

* Water level measurements taken from ground level.

Borehole No.	Surveyed Level (m OD)	Depth to Base of Standpipe (m)	Date /Time	Atmospheric Pressure (mBar)	Gas Composition					Differential Pressure (Pa)	Flow (l/hr)	Depth to Water (m) (mBGL)	Depth (mOD)	Remarks
					CH ₄ (%vol)	CO ₂ (%vol)	O ₂ (%vol)	H ₂ S (ppm)	CO (ppm)					
BH06	86.94		27/09/24 09:09		0.00	4.70	10.60	0.00	0.00					Cool, sunny
	86.94		27/09/24 09:10		0.00	4.70	10.70	0.00	0.00					Cool, sunny
	86.94		04/10/24 14:00	1004	0.00	0.80	16.40	0.00	0.00	0.00	0.00	2.71	84.23	Cold, dry, cloudy
	86.94		04/10/24 14:01		0.00	1.80	17.00	0.00	0.00					Cold, dry, cloudy
	86.94		04/10/24 14:02		0.00	1.90	16.90	0.00	0.00					Cold, dry, cloudy
	86.94		04/10/24 14:03		0.00	2.10	16.40	0.00	0.00					Cold, dry, cloudy
	86.94		04/10/24 14:04		0.00	2.40	15.90	0.00	0.00					Cold, dry, cloudy
	86.94		04/10/24 14:05		0.00	2.80	15.40	0.00	0.00					Cold, dry, cloudy
	86.94		10/10/24 13:42	995	0.00	0.90	18.50	0.00	0.00	0.00	0.00	2.65	84.29	cold, dry but slightly cloudy
	86.94		10/10/24 13:43		0.00	4.90	13.90	0.00	0.00					cold, dry but slightly cloudy
	86.94		10/10/24 13:44		0.00	4.90	13.70	0.00	0.00					cold, dry but slightly cloudy
	86.94		10/10/24 13:45		0.00	4.90	13.70	0.00	0.00					cold, dry but slightly cloudy
	86.94		10/10/24 13:46		0.00	4.90	13.70	0.00	0.00					cold, dry but slightly cloudy
	86.94		10/10/24 13:47		0.00	4.90	13.70	0.00	0.00					cold, dry but slightly cloudy
	86.94		18/10/24 12:25	992	0.00	3.30	15.10	0.00	0.00	0.00	0.00	2.75	84.19	Dry and slightly cloudy
	86.94		18/10/24 12:26		0.00	3.60	12.60	0.00	0.00					Dry and slightly cloudy
	86.94		18/10/24 12:27		0.00	3.70	12.20	0.00	0.00					Dry and slightly cloudy
	86.94		18/10/24 12:28		0.00	3.90	11.70	0.00	0.00					Dry and slightly cloudy
	86.94		18/10/24 12:29		0.00	4.10	11.20	0.00	0.00					Dry and slightly cloudy
	86.94		18/10/24 12:30		0.00	4.20	10.80	0.00	0.00					Dry and slightly cloudy
BH08	87.86		11/09/24 11:09	991	0.00	0.10	19.40	0.00	0.00	0.00	0.00	2.48	85.38	Dry, sunny, breezy
	87.86		11/09/24 11:10		0.00	4.40	18.20	0.00	0.00					Dry, sunny, breezy
	87.86		11/09/24 11:11		0.00	4.40	18.10	0.00	0.00					Dry, sunny, breezy
	87.86		11/09/24 11:12		0.00	4.40	18.20	0.00	0.00					Dry, sunny, breezy
	87.86		11/09/24 11:13		0.00	4.40	18.20	0.00	0.00					Dry, sunny, breezy
	87.86		11/09/24 11:14		0.00	4.40	18.20	0.00	0.00					Dry, sunny, breezy
	87.86		16/09/24 13:10	1017	0.00	0.00	20.20	0.00	0.00	0.00	0.00	2.51	85.35	Dry, sunny, warm/mild
	87.86		16/09/24 13:11		0.00	1.90	19.70	0.00	0.00					Dry, sunny, warm/mild
	87.86		16/09/24 13:12		0.00	1.90	19.50	0.00	0.00					Dry, sunny, warm/mild
	87.86		16/09/24 13:13		0.00	1.90	19.40	0.00	0.00					Dry, sunny, warm/mild
	87.86		16/09/24 13:14		0.00	1.90	19.40	0.00	0.00					Dry, sunny, warm/mild
	87.86		16/09/24 13:15		0.00	1.90	19.40	0.00	0.00					Dry, sunny, warm/mild
	87.86		27/09/24 09:17	995	0.00	0.00	19.00	0.00	0.00	0.00	0.00	2.52	85.34	Cool, sunny
	87.86		27/09/24 09:18		0.00	2.60	19.20	0.00	0.00					Cool, sunny
	87.86		27/09/24 09:19		0.00	2.60	19.20	0.00	0.00					Cool, sunny
	87.86		27/09/24 09:20		0.00	2.60	19.20	0.00	0.00					Cool, sunny
	87.86		27/09/24 09:21		0.00	2.60	19.30	0.00	0.00					Cool, sunny
	87.86		27/09/24 09:22		0.00	2.60	19.30	0.00	0.00					Cool, sunny
	87.86		04/10/24 12:10	1005	0.00	0.30	17.20	0.00	0.00	0.00	0.00	2.94	84.92	Cold, dry, cloudy
	87.86		04/10/24 12:11		0.00	12.00	0.80	0.00	0.00					Cold, dry, cloudy
	87.86		04/10/24 12:12		0.00	12.20	0.30	0.00	0.00					Cold, dry, cloudy
	87.86		04/10/24 12:13		0.00	12.40	0.20	0.00	0.00					Cold, dry, cloudy
	87.86		04/10/24 12:14		0.00	12.70	0.00	0.00	0.00					Cold, dry, cloudy
	87.86		04/10/24 12:15		0.00	13.00	0.00	0.00	0.00					Cold, dry, cloudy

Chk & App FMR	Originator LR	Title: RESULTS OF GAS AND WATER LEVEL MONITORING IN STANDPIPES		Fig No: B130 Sheet 3 of 4
	Status			
	Final			

Engineer: Scottish Power Energy Networks

* Water level measurements taken from ground level.

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RAEBURN DRILLING & GEOTECHNICAL LTD				Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION									Contract No: 26667	
				Client: Scottish Power Energy Networks Engineer: Scottish Power Energy Networks									Water level measurements taken from ground level.	
Borehole No.	Surveyed Level (m OD)	Depth to Base of Standpipe (m)	Date /Time	Atmospheric Pressure (mBar)	Gas Composition					Differential Pressure (Pa)	Flow (l/hr)	Depth to Water (m) (mBGL)	Depth (mOD)	Remarks
					CH ₄ (%vol)	CO ₂ (%vol)	O ₂ (%vol)	H ₂ S (ppm)	CO (ppm)					
BH13	93.46		16/09/24 13:00		0.00	0.00	20.40	0.00	0.00					Dry, sunny, warm/mild
	93.46		16/09/24 13:01		0.00	0.00	20.20	0.00	0.00					Dry, sunny, warm/mild
	93.46		16/09/24 13:02		0.00	0.00	20.10	0.00	0.00					Dry, sunny, warm/mild
	93.46		16/09/24 13:03		0.00	0.00	20.00	0.00	0.00					Dry, sunny, warm/mild
	93.46		27/09/24 09:40	994	0.00	0.00	19.80	0.00	0.00	-299.00	-20.70	8.64	84.82	Cool, sunny
	93.46		27/09/24 09:41		0.00	0.00	20.30	0.00	0.00					Cool, sunny
	93.46		27/09/24 09:42		0.00	0.00	20.20	0.00	0.00					Cool, sunny
	93.46		27/09/24 09:43		0.00	0.00	20.20	0.00	0.00					Cool, sunny
	93.46		27/09/24 09:44		0.00	0.00	20.20	0.00	0.00					Cool, sunny
	93.46		27/09/24 09:45		0.00	0.00	20.20	0.00	0.00		-20.40			Cool, sunny
	93.46		04/10/24 11:43	1004	0.00	1.00	14.20	0.00	0.00	77.00	7.80	8.73	84.73	Cold, dry, cloudy
	93.46		04/10/24 11:44		0.00	10.90	3.00	0.00	0.00					Cold, dry, cloudy
	93.46		04/10/24 11:45		0.00	11.00	2.80	0.00	0.00					Cold, dry, cloudy
	93.46		04/10/24 11:46		0.00	11.00	2.70	0.00	0.00					Cold, dry, cloudy
	93.46		04/10/24 11:47		0.00	11.10	2.70	0.00	0.00					Cold, dry, cloudy
	93.46		04/10/24 11:48		0.00	11.10	2.70	0.00	0.00					Cold, dry, cloudy
	93.46		10/10/24 10:45	995	0.00	0.20	19.60	0.00	0.00	0.00	0.00	8.69	84.77	cold, dry but slightly cloudy
	93.46		10/10/24 10:46		0.00	0.00	20.20	0.00	0.00					cold, dry but slightly cloudy
	93.46		10/10/24 10:47		0.00	0.00	20.20	0.00	0.00					cold, dry but slightly cloudy
	93.46		10/10/24 10:48		0.00	0.00	20.20	0.00	0.00					cold, dry but slightly cloudy
	93.46		10/10/24 10:49		0.00	0.10	20.10	0.00	0.00					cold, dry but slightly cloudy
	93.46		10/10/24 10:50		0.00	0.90	19.80	0.00	0.00					cold, dry but slightly cloudy
	93.46		18/10/24 10:10	992	0.00	1.80	14.40	0.00	0.00	27.00	3.30	8.69	84.77	Dry, slightly cloudy
	93.46		18/10/24 10:11		0.00	1.40	18.10	0.00	0.00					Dry, slightly cloudy
	93.46		18/10/24 10:12		0.00	1.50	17.90	0.00	0.00					Dry, slightly cloudy
	93.46		18/10/24 10:13		0.00	2.20	16.40	0.00	0.00					Dry, slightly cloudy
	93.46		18/10/24 10:14		0.00	4.40	12.40	0.00	0.00					Dry, slightly cloudy
	93.46		18/10/24 10:15		0.00	8.20	6.60	0.00	0.00		4.00			Dry, slightly cloudy
BH14	89.06		11/09/24 11:52	993	0.00	0.00	20.00	0.00	0.00	-2.00	-0.90	8.11	80.95	Dry, sunny, breezy
	89.06		11/09/24 11:53		0.00	0.00	20.40	0.00	0.00					Dry, sunny, breezy
	89.06		11/09/24 11:54		0.00	0.00	20.40	0.00	0.00					Dry, sunny, breezy
	89.06		11/09/24 11:55		0.00	0.00	20.40	0.00	0.00					Dry, sunny, breezy
	89.06		11/09/24 11:56		0.00	0.00	20.40	0.00	0.00					Dry, sunny, breezy
	89.06		11/09/24 11:57		0.00	0.00	20.40	0.00	0.00		-0.40			Dry, sunny, breezy
	89.06		16/09/24 13:52	1017	0.00	0.20	20.70	0.00	0.00	0.00	0.00	8.91	80.15	Dry, sunny, warm/mild
	89.06		16/09/24 13:53		0.00	0.20	20.70	0.00	0.00					Dry, sunny, warm/mild
	89.06		16/09/24 13:54		0.00	0.20	20.70	0.00	0.00					Dry, sunny, warm/mild
	89.06		16/09/24 13:55		0.00	0.20	20.80	0.00	0.00					Dry, sunny, warm/mild
	89.06		16/09/24 13:56		0.00	0.20	20.80	0.00	0.00					Dry, sunny, warm/mild
	89.06		16/09/24 13:57		0.00	0.20	20.80	0.00	0.00					Dry, sunny, warm/mild
	89.06		27/09/24 09:30	994	0.00	0.00	19.70	0.00	0.00	-7.00	-1.50	8.61	80.45	Cool, sunny
	89.06		27/09/24 09:31		0.00	0.00	20.10	0.00	17.00					Cool, sunny
	89.06		27/09/24 09:32		0.00	0.10	20.10	0.00	0.00					Cool, sunny
	89.06		27/09/24 09:33		0.00	0.10	20.10	0.00	0.00					Cool, sunny
Originator		Title: RESULTS OF GAS AND WATER LEVEL MONITORING IN STANDPIPES												
LR														
Status														
Final														
Chk & App		Fig No: B130												
FMR														
													RAEBURN	Sheet 2 of 4

Borehole No.	Surveyed Level (m OD)	Depth to Base of Standpipe (m)	Date /Time	Atmospheric Pressure (mBar)	Gas Composition					Differential Pressure (Pa)	Flow (l/hr)	Depth to Water (m) (mBGL)	Depth (mOD)	Remarks
					CH ₄ (%vol)	CO ₂ (%vol)	O ₂ (%vol)	H ₂ S (ppm)	CO (ppm)					
BH14	89.06		27/09/24 09:34		0.00	0.10	20.10	0.00	0.00					Cool, sunny
	89.06		27/09/24 09:35		0.00	0.10	20.10	0.00	0.00		-1.50			Cool, sunny
	89.06		04/10/24 11:57	1005	0.00	0.10	16.70	0.00	0.00	0.00	0.00	8.87	80.19	Cold, dry, cloudy
	89.06		04/10/24 11:58		0.00	8.80	9.80	0.00	0.00					Cold, dry, cloudy
	89.06		04/10/24 11:59		0.00	8.90	9.70	0.00	0.00					Cold, dry, cloudy
	89.06		04/10/24 12:00		0.00	9.00	9.70	0.00	0.00					Cold, dry, cloudy
	89.06		04/10/24 12:01		0.00	9.10	9.50	0.00	0.00					Cold, dry, cloudy
	89.06		04/10/24 12:02		0.00	9.50	8.80	0.00	0.00					Cold, dry, cloudy
	89.06		10/10/24 11:05	997	0.00	0.00	19.90	0.00	0.00	1.00	0.00	8.75	80.31	cold, dry but slightly cloudy
	89.06		10/10/24 11:06		0.00	0.10	19.90	0.00	0.00					cold, dry but slightly cloudy
	89.06		10/10/24 11:07		0.00	0.10	19.80	0.00	0.00					cold, dry but slightly cloudy
	89.06		10/10/24 11:08		0.00	0.10	19.80	0.00	0.00					cold, dry but slightly cloudy
	89.06		10/10/24 11:09		0.00	0.10	19.80	0.00	0.00					cold, dry but slightly cloudy
	89.06		10/10/24 11:10		0.00	0.10	19.80	0.00	0.00					cold, dry but slightly cloudy
	89.06		18/10/24 10:30	992	0.00	1.90	17.40	0.00	0.00	0.00	0.00	8.93	80.13	Dry and slightly cloudy
	89.06		18/10/24 10:31		0.00	2.00	17.10	0.00	0.00					Dry and slightly cloudy
	89.06		18/10/24 10:32		0.00	2.10	16.80	0.00	0.00					Dry and slightly cloudy
	89.06		18/10/24 10:33		0.00	2.50	16.10	0.00	0.00					Dry and slightly cloudy
	89.06		18/10/24 10:34		0.00	4.00	14.50	0.00	0.00					Dry and slightly cloudy
	89.06		18/10/24 10:35		0.00	5.80	12.00	0.00	0.00					Dry and slightly cloudy
BH16	95.21		11/09/24 12:15	992	0.00	0.10	20.10	0.00	0.00	-11.00	-4.20	Dry		Dry, sunny, breezy
	95.21		11/09/24 12:16		0.00	5.30	17.30	0.00	0.00					Dry, sunny, breezy
	95.21		11/09/24 12:17		0.00	5.70	17.20	0.00	0.00					Dry, sunny, breezy
	95.21		11/09/24 12:18		0.00	5.70	17.20	0.00	0.00					Dry, sunny, breezy
	95.21		11/09/24 12:19		0.00	5.60	17.20	0.00	0.00					Dry, sunny, breezy
	95.21		11/09/24 12:20		0.00	5.60	17.30	0.00	0.00		-2.40			Dry, sunny, breezy
	95.21		16/09/24 11:51	1019	0.00	0.00	19.30	0.00	0.00	0.00	0.00	Dry		Dry, sunny, warm/mild
	95.21		16/09/24 11:52		0.00	4.60	16.90	0.00	0.00					Dry, sunny, warm/mild
	95.21		16/09/24 11:53		0.00	4.70	16.80	0.00	0.00					Dry, sunny, warm/mild
	95.21		16/09/24 11:54		0.00	4.70	16.80	1.00	0.00					Dry, sunny, warm/mild
	95.21		16/09/24 11:55		0.00	4.70	16.50	0.00	0.00					Dry, sunny, warm/mild
	95.21		16/09/24 11:56		0.00	4.70	16.40	0.00	11.00					Dry, sunny, warm/mild
	95.21		27/09/24 10:05	994	0.00	0.00	19.60	0.00	0.00	-38.00	-4.30	Dry		Cool, sunny
	95.21		27/09/24 10:06		0.00	0.00	20.20	0.00	0.00					Cool, sunny
	95.21		27/09/24 10:07		0.00	0.00	20.20	0.00	0.00					Cool, sunny
	95.21		27/09/24 10:08		0.00	0.00	20.20	0.00	0.00					Cool, sunny
	95.21		27/09/24 10:09		0.00	20.10	0.20	0.00	0.00					Cool, sunny
	95.21		27/09/24 10:10		0.00	19.70	1.90	0.00	0.00		-4.30			Cool, sunny
	95.21		04/10/24 11:05	1005	0.00	18.60	2.40	0.00	0.00	6.00	1.20	GL		Cold, dry, cloudy
	95.21		04/10/24 11:06		0.00	18.50	0.50	0.00	0.00					Cold, dry, cloudy
	95.21		04/10/24 11:07		0.00	18.50	0.10	0.00	0.00					Cold, dry, cloudy
	95.21		04/10/24 11:08		0.00	18.80	0.00	0.00	0.00					Cold, dry, cloudy
	95.21		04/10/24 11:09		0.00	18.80	0.00	0.00	0.00					Cold, dry, cloudy
	95.21		04/10/24 11:10		0.00	18.80	0.00	0.00	0.00		1.00			Cold, dry, cloudy

Style: SPIPE MONITORING File: P:\GINTW\PROJECTS\26667.GPJ Printed: 06/11/2024 14:19:28 Raeburn Drilling and Geotechnical Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD					Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION Client: Scottish Power Energy Networks Engineer: Scottish Power Energy Networks							Contract No: 26667 * Water level measurements taken from ground level.			
Borehole No.	Surveyed Level (m OD)	Depth to Base of Standpipe (m)	Date /Time	Atmospheric Pressure (mBar)	Gas Composition					Differential Pressure (Pa)	Flow (l/hr)	Depth to Water (m) (mBGL)	Depth (mOD)	Remarks	
					CH ₄ (%vol)	CO ₂ (%vol)	O ₂ (%vol)	H ₂ S (ppm)	CO (ppm)						
BH16	95.21		10/10/24 10:20	997	0.00	1.20	19.80	0.00	0.00	0.00	0.00	0.00	95.21	cold, dry but slightly cloudy	
	95.21		10/10/24 10:21		0.00	4.40	17.30	0.00	0.00					cold, dry but slightly cloudy	
	95.21		10/10/24 10:22		0.00	4.40	17.20	0.00	0.00					cold, dry but slightly cloudy	
	95.21		10/10/24 10:23		0.00	4.40	17.20	0.00	0.00					cold, dry but slightly cloudy	
	95.21		10/10/24 10:24		0.00	4.40	17.10	0.00	0.00					cold, dry but slightly cloudy	
	95.21		10/10/24 10:25		0.00	4.40	17.10	0.00	0.00					cold, dry but slightly cloudy	
BH17	92.87		11/09/24 12:34	992	0.00	0.30	19.50	0.00	0.00	0.00	0.00	Dry		Dry, sunny, v breezy	
	92.87		11/09/24 12:35		0.00	14.90	2.30	0.00	0.00					Dry, sunny, v breezy	
	92.87		11/09/24 12:36		0.00	15.30	2.00	0.00	0.00					Dry, sunny, v breezy	
	92.87		11/09/24 12:37		0.00	15.40	1.90	0.00	0.00					Dry, sunny, v breezy	
	92.87		11/09/24 12:38		0.00	15.50	1.70	0.00	0.00					Dry, sunny, v breezy	
	92.87		11/09/24 12:39		0.00	15.70	1.30	0.00	0.00					Dry, sunny, v breezy	
	92.87		16/09/24 12:05	1019	0.00	0.20	19.20	0.00	0.00	0.00	0.00	Dry		Dry, sunny, warm/mild	
	92.87		16/09/24 12:06		0.00	14.20	4.20	0.00	0.00					Dry, sunny, warm/mild	
	92.87		16/09/24 12:07		0.00	14.40	4.00	0.00	0.00					Dry, sunny, warm/mild	
	92.87		16/09/24 12:08		0.00	14.40	3.90	0.00	0.00					Dry, sunny, warm/mild	
	92.87		16/09/24 12:09		0.00	14.50	3.80	0.00	0.00					Dry, sunny, warm/mild	
	92.87		16/09/24 12:10		0.00	14.60	3.50	0.00	0.00					Dry, sunny, warm/mild	
	92.87		27/09/24 09:55	994	0.00	0.00	19.80	0.00	0.00	-3.00	-0.40	15.12	77.75	Cool, sunny	
	92.87		27/09/24 09:56		0.00	3.00	17.10	0.00	0.00					Cool, sunny	
	92.87		27/09/24 09:57		0.00	3.20	16.80	0.00	0.00					Cool, sunny	
	92.87		27/09/24 09:58		0.00	3.20	16.70	0.00	0.00					Cool, sunny	
	92.87		27/09/24 09:59		0.00	3.50	16.40	0.00	0.00					Cool, sunny	
	92.87		27/09/24 10:00		0.00	3.80	16.10	0.00	0.00		0.00			Cool, sunny	
	92.87		04/10/24 14:36	1003	0.00	5.60	17.40	0.00	0.00	0.00	0.00	15.28	77.59	Cold, dry, cloudy	
	92.87		04/10/24 14:37		0.00	16.50	0.40	0.00	0.00					Cold, dry, cloudy	
	92.87		04/10/24 14:38		0.00	16.60	0.00	0.00	0.00					Cold, dry, cloudy	
	92.87		04/10/24 14:39		0.00	16.60	0.00	0.00	0.00					Cold, dry, cloudy	
	92.87		04/10/24 14:40		0.00	16.70	0.00	0.00	0.00					Cold, dry, cloudy	
	92.87		04/10/24 14:41		0.00	16.60	0.00	0.00	0.00					Cold, dry, cloudy	
	92.87		10/10/24 14:13	996	0.00	0.10	19.40	0.00	0.00	0.00	0.00	15.61	77.26	cold, dry but slightly cloudy	
	92.87		10/10/24 14:14		0.00	0.00	20.30	0.00	0.00					cold, dry but slightly cloudy	
	92.87		10/10/24 14:15		0.00	0.00	20.40	0.00	0.00					cold, dry but slightly cloudy	
	92.87		10/10/24 14:16		0.00	0.00	20.30	0.00	0.00					cold, dry but slightly cloudy	
	92.87		10/10/24 14:17		0.00	0.00	20.30	0.00	0.00					cold, dry but slightly cloudy	
	92.87		10/10/24 14:18		0.00	0.00	20.30	0.00	0.00					cold, dry but slightly cloudy	
92.87		18/10/24 09:35	92	0.00	2.50	19.20	0.00	0.00	0.00	0.00	15.19	77.68	Dry, Overcast, Breezy		
92.87		18/10/24 09:36		0.00	16.10	0.30	0.00	0.00					Dry, Overcast, Breezy		
92.87		18/10/24 09:37		0.00	16.20	0.00	0.00	0.00					Dry, Overcast, Breezy		
92.87		18/10/24 09:38		0.00	16.20	0.00	0.00	16.20					Dry, Overcast, Breezy		
92.87		18/10/24 09:39		0.00	16.30	0.00	0.00	0.00					Dry, Overcast, Breezy		
92.87		18/10/24 09:40		0.00	16.30	0.00	0.00	0.00		0.00			Dry, Overcast, Breezy		
Originator		Title:		RESULTS OF GAS AND WATER LEVEL MONITORING IN STANDPIPES								RAEBURN		Fig No:	
LR														B130	
Status														Sheet 4 of 4	
Chk & App	FMR		Final												



Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Style: APPENDIX C File: P:\GINTW\PROJECTS\26667.GPJ Printed: 06/11/2024 16:01:40 Raeburn Drilling and Geotechnical Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

APPENDIX C
GEOTECHNICAL LABORATORY TESTING



Raeburn Drilling & Geotechnical Ltd t/a igne H
Whistleberry Road
Hamilton
ML6 OHP

For the attention of Fiona Raeburn

Report No: A15347-1
Issue No: 03
Date of issue: 06/11/2024

LABORATORY TEST REPORT

Project Name		EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	
Project Number		A15347-1	Date samples received
Your Ref		26667	Date written instructions received 28/08/2024
Purchase Order		26667	Date testing commenced 05/09/2024
Please find enclosed the results as summarised below			
Figure / Table	Test Quantity	Description	ISO 17025 Accredited
C1	126	Determination of Water Content	Yes
C2	1	Bulk Density	Yes
C3-C95	93	Particle Size Distribution	Yes
C96-C184	89	Particle Size Distribution	Yes
C185-C195	11	Moisture Content / Dry Density Relationship	Yes
C196-C206	11	Moisture Condition Value	Yes
C207-C230	24	California Bearing Ratio	Yes
C231	1	One Dimensional Consolidation	Yes
C232-C327	6	Shear Strength by Direct Shear	Yes
C328	1	Unconsolidated Undrained Multi Stage Triaxial Compression	Withdrawn
Remarks: Final merged Geo			Key to symbols used in this report S/C : Testing was sub-contracted
Issued by: C Donnelly Laboratory Coordinator  06/11/2024 Approved Signatories: C Donnelly - Laboratory Coordinator, C Loudon - Field Services Manager, S McDonagh - Laboratory Supervisor, S Gilchrist - Quality Supervisor, R Hobson - Field Services Manager, T Johnson - Senior Technician			
Unless we are notified to the contrary, any remaining samples will be disposed of, 4 weeks after the date this report was issued Results contained in this report are provisional unless signed by an approved signatory This report should not be reproduced without written approval from Terra Tek Limited (Trading as igne) The enclosed results remain the property of Terra Tek Limited (Trading as igne) and we reserve the right to withdraw 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 this report may be left: https://forms.office.com/pages/responsepage.aspx?id=CwCZTjwYeUGWZfIDBJbk1g0fy8UwdJQhLtt3HBD1SytUMzNYWTdFVVPmWjdHREcwQUg1MDJLM09OTI4u&wdLOR			



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

				SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No26667		
				ClientScottish Power Energy Networks				
				EngineerScottish Power Energy Networks				
Sample Identification								
Exploratory Hole	Depth m	Sample Ref	Sample Type					
BH01	0.50		B	2027423	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	16.9		
BH01	0.50		D	2027424	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	17.5		
BH01	2.20		UT100	2027425	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	18.8		
BH01	2.70		D	2027426	Brown silty SAND and GRAVEL. Gravel is fine to coarse	13.8		
BH02	0.50		D	2027428	Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	12.8		
BH02	1.20		D	2027430	Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	15		
BH03	0.50		D	2027432	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	23.4		
BH04	5.70		D	2027439	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	15.9		
BH05	0.50		B	2027440	Brown very gravelly very silty SAND with cobbles and pockets of clay. Gravel is fine to coarse	18.4		
BH05	0.50		D	2027441	Brown very gravelly very silty SAND with pockets of clay. Gravel is fine to coarse	18.2		
BH05	1.20		D	2027442	Brown very silty SAND and GRAVEL with pockets of clay. Gravel is fine to coarse	7.7		
BH05	6.70		D	2027445	Brown very silty SAND and GRAVEL with pockets of clay. Gravel is fine to coarse	20.6		
BH06	0.50		B	2027446	Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse	20.3		
BH06	0.50		D	2027447	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	19.2		
Notes								
Originator	Checked & Approved		Determination of the Water Content BS EN ISO 17892-1:2014				 Figure C1	
AM	 06/11/2024							Sheet 1 of 10

				SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No26667	
				ClientScottish Power Energy Networks			
				EngineerScottish Power Energy Networks			
Sample Identification							
Exploratory Hole	Depth m	Sample Ref	Sample Type				Lab Sample ID
BH06	1.70		D	2027449	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	15.6	
BH06	2.70		D	2027451	Brown gravelly very silty SAND with pockets of clay. Gravel is fine to coarse	11	
BH06	5.70		D	2027452	Brown very silty SAND and GRAVEL with pockets of clay. Gravel is fine to coarse	19.1	
BH07	0.40		D	2027453	Brown very silty SAND and GRAVEL with pockets of clay. Gravel is fine to coarse	20	
BH08	0.60		D	2027455	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	8	
BH08	1.70		D	2027457	Brown silty SAND and GRAVEL with pockets of clay. Gravel is fine to coarse	16.4	
BH08	3.20		D	2027458	Brown silty SAND and GRAVEL. Gravel is fine to coarse	25.8	
BH08	3.70		D	2027460	Brown gravelly silty SAND with pockets of clay. Gravel is fine to coarse	20.5	
BH09	0.50		B+D	2027461	Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	18.5	
BH09	1.20		D	2027462	Brown silty SAND and GRAVEL. Gravel is fine to coarse	17.9	
BH09	1.70		B	2028398	Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	19.5	
BH10	0.40		B	2027463	Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	18.4	
BH10	0.40		D	2027464	Brown silty SAND and GRAVEL with pockets of clay. Gravel is fine to coarse	16.4	
BH10	1.70		D	2027466	Brown silty SAND and GRAVEL with pockets of clay. Gravel is fine to coarse	18.6	
Notes							
Originator	Checked & Approved		Determination of the Water Content BS EN ISO 17892-1:2014			 Figure C1	
AM	 06/11/2024						Sheet 2 of 10

				Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No 26667	
				Client Scottish Power Energy Networks			
				Engineer Scottish Power Energy Networks			
Sample Identification				Lab Sample ID	Non Engineering Description	Water Content %	
Exploratory Hole	Depth m	Sample Ref	Sample Type				
BH10A	3.70		D	2027468	Brown very silty SAND and GRAVEL with pockets of clay. Gravel is fine to coarse	16.5	
BH11	0.50		D	2027470	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	19.2	
BH11	0.50		D	2027632	Brown slightly gravelly sandy clayey SILT. Gravel is fine to coarse	19.2	
BH12	0.40		D	2027471	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	15.2	
BH12	1.70		B	2027472	Brown gravelly very silty SAND with cobbles and pockets of clay. Gravel is fine to coarse	16.1	
BH12	1.70		D	2027473	Brown gravelly very silty SAND with pockets of clay. Gravel is fine to coarse	13.5	
BH13	3.20		D	2027475	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	13.1	
BH13	3.70		B	2027476	Brown gravelly very silty SAND with cobbles and pockets of clay. Gravel is fine to coarse	13.5	
BH14	0.50		B	2027477	Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse	11.7	
BH14	0.50		D	2027478	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	12.2	
BH15	0.50		B	2027480	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	16.4	
BH15	0.50		D	2027481	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	16.1	
BH16	0.50		B	2027483	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	16.9	
BH16	0.50		D	2027484	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	14.5	
Notes							
Originator	Checked & Approved		Determination of the Water Content BS EN ISO 17892-1:2014			 Figure C1	
AM	 06/11/2024						Sheet 3 of 10



Version 026 - 01/09/2023

1212 - Moisture Content Table - Multi Project - A15347-1.xls

62 Rochsolloch Road, Airdrie, ML6 9BG

Lab Project No A15347-1 : 06/11/2024 13:43:37

igne				SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No26667	
				ClientScottish Power Energy Networks			
				EngineerScottish Power Energy Networks			
Sample Identification							
Exploratory Hole	Depth m	Sample Ref	Sample Type				
TP09	0.50		D	2026770	Brown very silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	15.5	
TP09	1.50		D	2026772	Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	14.8	
TP10	0.50		D	2026773	Brown silty SAND and GRAVEL with pockets of clay. Gravel is fine to coarse	14.6	
TP10	1.50		D	2026775	Brown silty very sandy fine to coarse GRAVEL with pockets of clay	26.6	
TP11	0.20		ES	2026776	Brown slightly sandy CLAY	20.4	
TP11	0.50		D	2026777	Brown slightly sandy CLAY	47.2	
TP11	1.50		D	2026779	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	14.2	
TP11	2.50		D	2026781	Brown very silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	11.3	
TP12	0.50		D	2026783	Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse	21	
TP12	2.00		D	2026785	Brown silty very sandy fine to coarse GRAVEL with cobble and pockets of clay	13.5	
TP13	1.00		D	2026787	Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	10.9	
TP13	2.00		B	2026788	Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	14.3	
TP13	2.00		D	2026789	Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	14.6	
TP14	0.50		B	2026790	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	14.1	
Notes							
Originator		Checked & Approved		Determination of the Water Content BS EN ISO 17892-1:2014			Figure C1
AM		CD 06/11/2024					

				Site		EASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No 26667	
				Client		Scottish Power Energy Networks			
				Engineer		Scottish Power Energy Networks			
Sample Identification				Lab Sample ID	Non Engineering Description	Water Content %			
Exploratory Hole	Depth m	Sample Ref	Sample Type						
TP14	0.50		D	2026791	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	17			
TP15	2.00		D	2026793	Brown silty very sandy fine to coarse GRAVEL with cobble and pockets of clay	22.6			
TP16	0.50		B	2026794	Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	38.7			
TP16	0.50		D	2026795	Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	23.5			
TP16	2.50		D	2026798	Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse	20.1			
TP18	0.50		B	2026800	Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	13.2			
TP18	0.50		D	2026801	Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	15.9			
TP18	3.00		D	2026802	Brown silty sandy fine to coarse GRAVEL with pockets of clay	16.5			
TP18	3.00		LB	2026803	Brown silty sandy fine to coarse GRAVEL with cobbles and pockets of clay	14.6			
TP19	0.50		D	2026804	Brown silty sandy fine to coarse GRAVEL with pockets of clay	15.9			
TP20	3.50		D	2026806	Brown silty sandy fine to coarse GRAVEL with cobble and pockets of clay	18			
TP20	3.50		LB	2026807	Brown silty sandy fine to coarse GRAVEL with cobble and pockets of clay	21.6			
TP20	4.00		D	2026808	Brown silty sandy fine to coarse GRAVEL with cobble and pockets of clay	21.3			
TP21	0.50		D	2026809	Brown very silty SAND and GRAVEL with pockets of clay. Gravel is fine to coarse	17.8			
Notes									
Originator		Checked & Approved		Determination of the Water Content BS EN ISO 17892-1:2014			 Figure C1		
AM		 06/11/2024							
Sheet 7 of 10									



				SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No26667		
				ClientScottish Power Energy Networks				
				EngineerScottish Power Energy Networks				
Sample Identification								
Exploratory Hole	Depth m	Sample Ref	Sample Type					Lab Sample ID
TP28	1.50		B	2026830	Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	13.3		
TP28	1.50		D	2026831	Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	15.5		
TP29	0.50		D	2026833	Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	15.2		
TP30	1.50		D	2026834	Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	14.6		
TP30	1.50		LB	2026835	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	15.8		
TP31	1.50		D	2026837	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	17.5		
TP32	0.50		D	2026839	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	16.5		
TP32	1.50		B	2026840	Brown silty very sandy fine to coarse GRAVEL with cobble and pockets of clay	11.2		
TP32	1.50		D	2026841	Brown silty very sandy fine to coarse GRAVEL with cobble and pockets of clay	10.8		
TP33	0.50		D	2026842	Brown silty very sandy fine to coarse GRAVEL with pockets of clay	14.4		
TP33	3.50		D	2026845	Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	17.9		
TP34	0.50		D	2026847	Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse	15.2		
TP34	2.00		D	2026849	Brown silty very sandy fine to coarse GRAVEL with pockets of clay	11.3		
TP36	0.50		D	2026852	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	18.6		
Notes								
Originator		Checked & Approved		Determination of the Water Content BS EN ISO 17892-1:2014			 Figure C1	
AM								
								Sheet 9 of 10

Version 026 - 01/09/2023
1212 - Moisture Content Table - Multi Project - A15347-1.xls

62 Rochsolloch Road, Airdrie, ML6 9BG
Lab Project No A15347- 1 : 06/11/2024 13:43:40

				Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No 26667	
				Client Scottish Power Energy Networks			
				Engineer Scottish Power Energy Networks			
Sample Identification				Lab Sample ID	Non Engineering Description	Water Content %	
Exploratory Hole	Depth m	Sample Ref	Sample Type				
Notes							
Originator		Checked & Approved		Determination of the Water Content BS EN ISO 17892-1:2014		 Figure C1	
AM		CD 06/11/2024					
						Sheet 10 of 10	

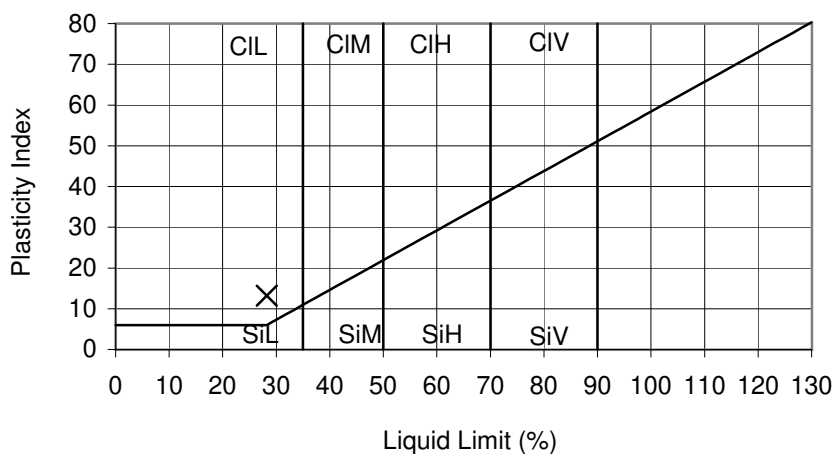
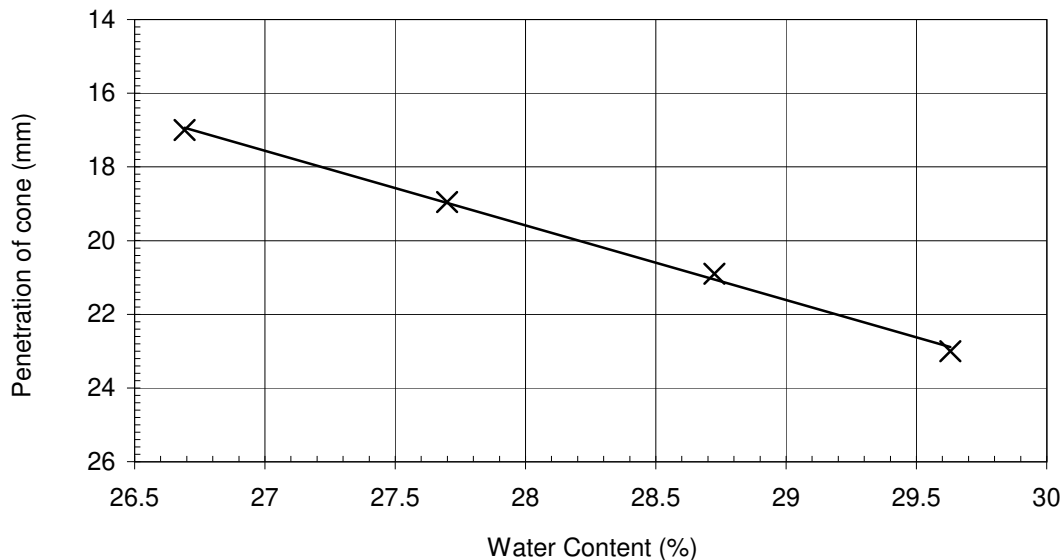
				Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No 26667			
				Client Scottish Power Energy Networks					
				Engineer Scottish Power Energy Networks					
Sample Identification					Lab Sample ID	Non Engineering Description	Bulk Density Mg/m³	Dry Density Mg/m³	Water Content %
Hole ID	Depth m	Sample Ref	Sample Type						
BH01	2.20		UT100						
					2027425	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	2.23	1.88	18.8
Notes									
Originator		Checked & Approved		BULK DENSITY BS EN ISO 17892-2 Determination of bulk density Linear measurement method				 Figure C2 Sheet 1 of 1	
SM		 06/11/2024							



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH01
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	2.20
		Sample Type	UT100

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	18.8 %
Percentage retained on 425µm sieve :	8 %
Liquid Limit :	28 %
Plastic Limit :	15 %
Plasticity Index :	13
Equivalent water content of material passing 425µm sieve :	20.4 %
Liquidity Index :	0.42

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 Sheet 1 of 1
CM	CD 06/11/2024		



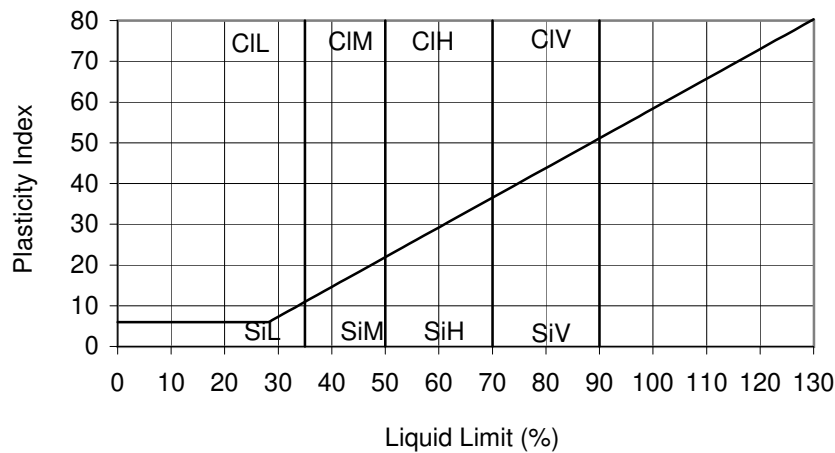
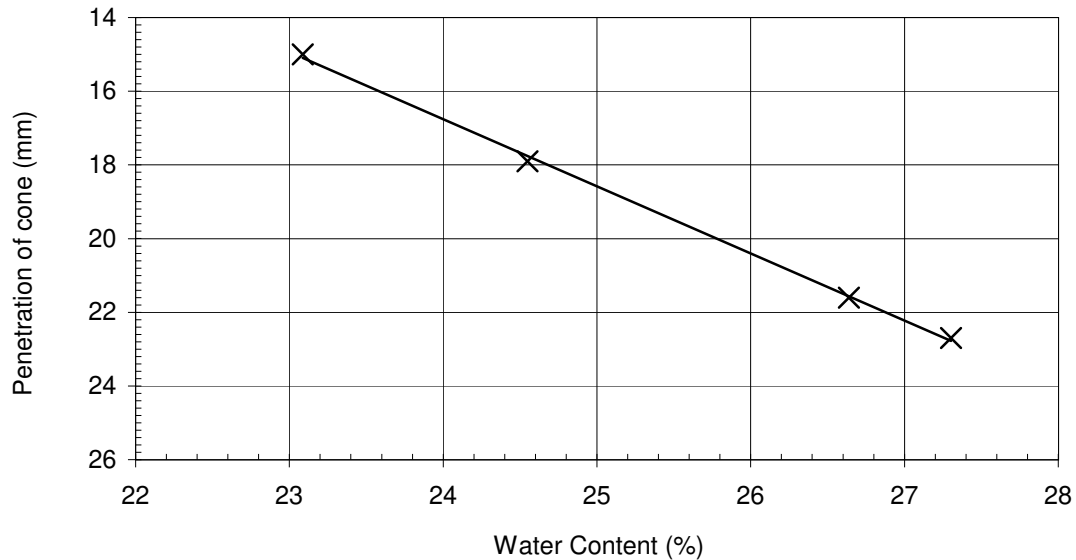
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	BH01
Sample Ref	
Depth (m)	2.70
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)	13.8 %
Percentage retained on 425µm sieve :	29 %
Liquid Limit :	26 %
Plastic Limit :	Non-Plastic %

Equivalent water content of material passing 425µm sieve : 19.4 %

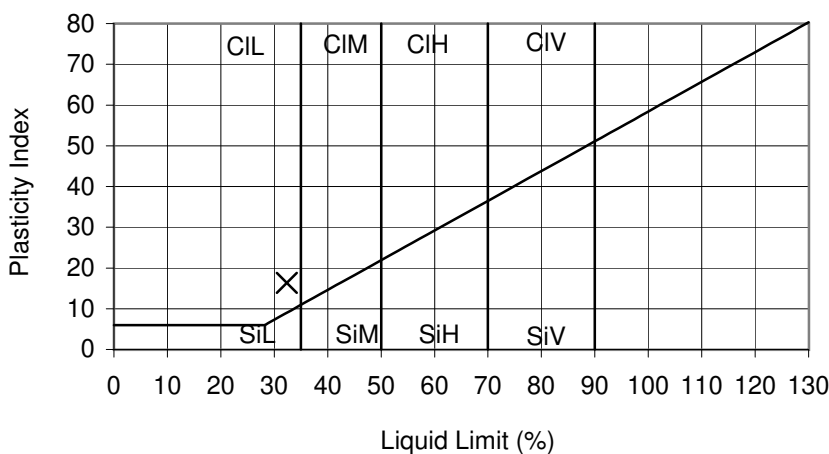
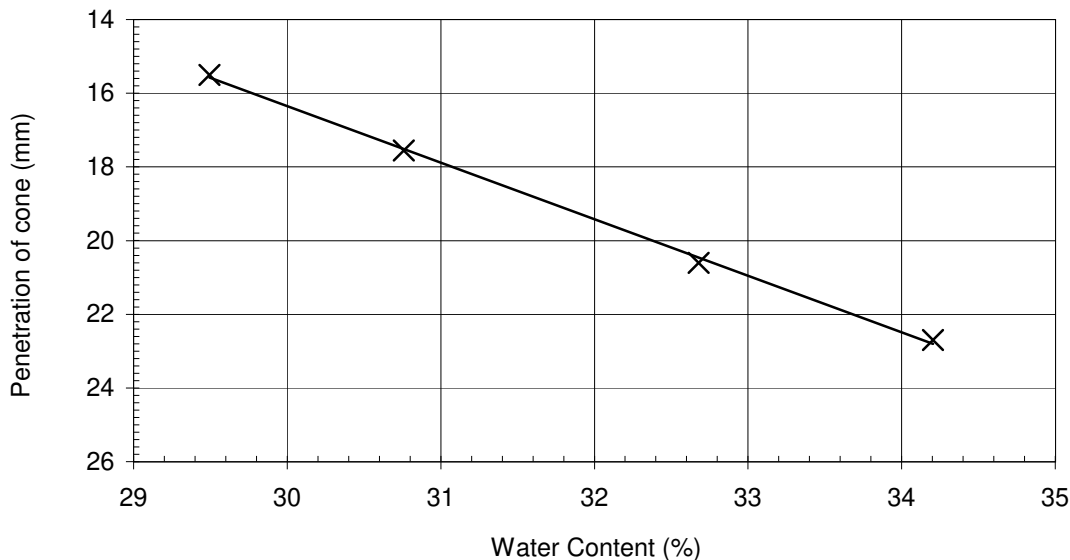
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	 Figure C4 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH02
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	12.8 %
Percentage retained on 425µm sieve :	17 %
Liquid Limit :	32 %
Plastic Limit :	16 %
Plasticity Index :	16
Equivalent water content of material passing 425µm sieve :	15.4 %
Liquidity Index :	-0.04

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 Sheet 1 of 1
NW	CD 06/11/2024		



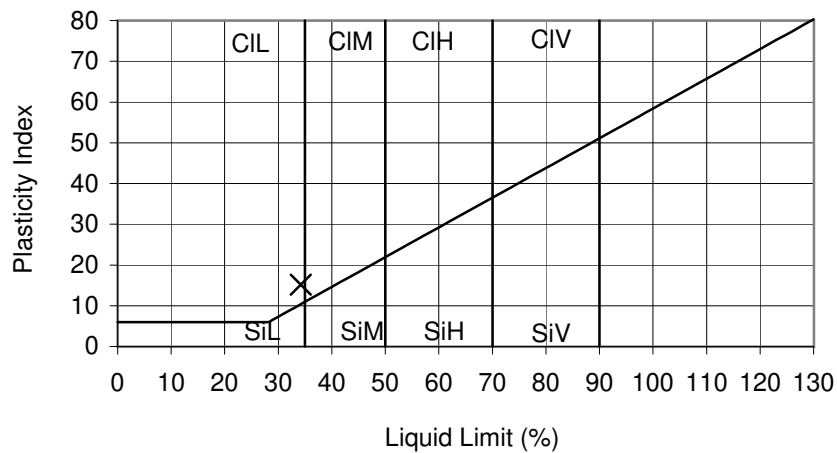
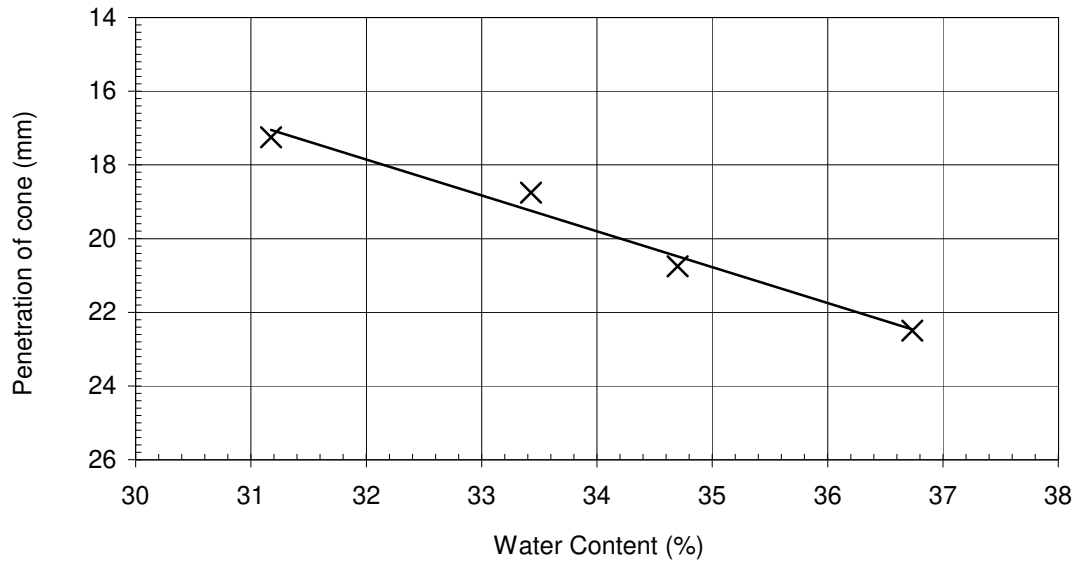
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	BH02
Sample Ref	
Depth (m)	1.20
Sample Type	D

Non Engineering Description : Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	15.0 %
Percentage retained on 425µm sieve :	37 %
Liquid Limit :	34 %
Plastic Limit :	19 %
Plasticity Index :	15
Equivalent water content of material passing 425µm sieve :	23.8 %
Liquidity Index :	0.32

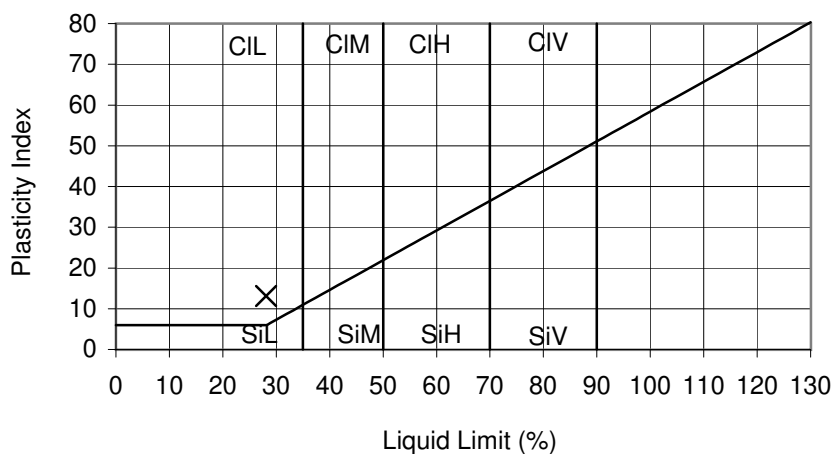
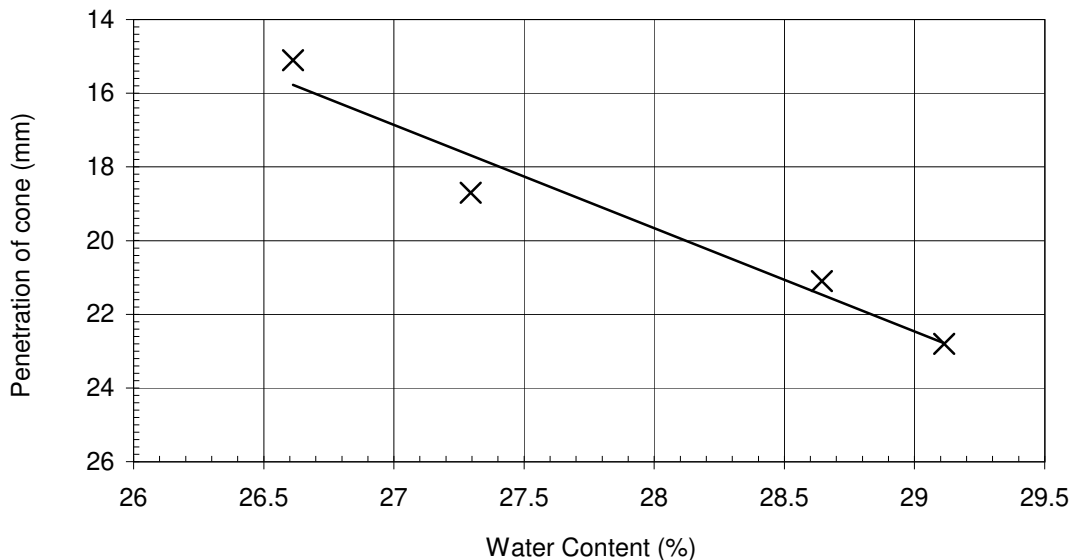
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	 Figure C6 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH03
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 23.4 %
 Percentage retained on 425µm sieve : 6 %
 Liquid Limit : 28 %
 Plastic Limit : 15 %
 Plasticity Index : 13

Equivalent water content of material passing 425µm sieve : 24.9 %
 Liquidity Index : 0.76

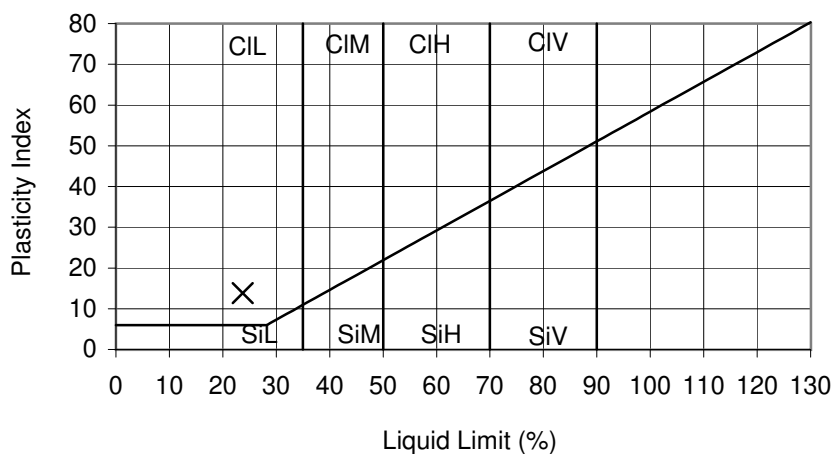
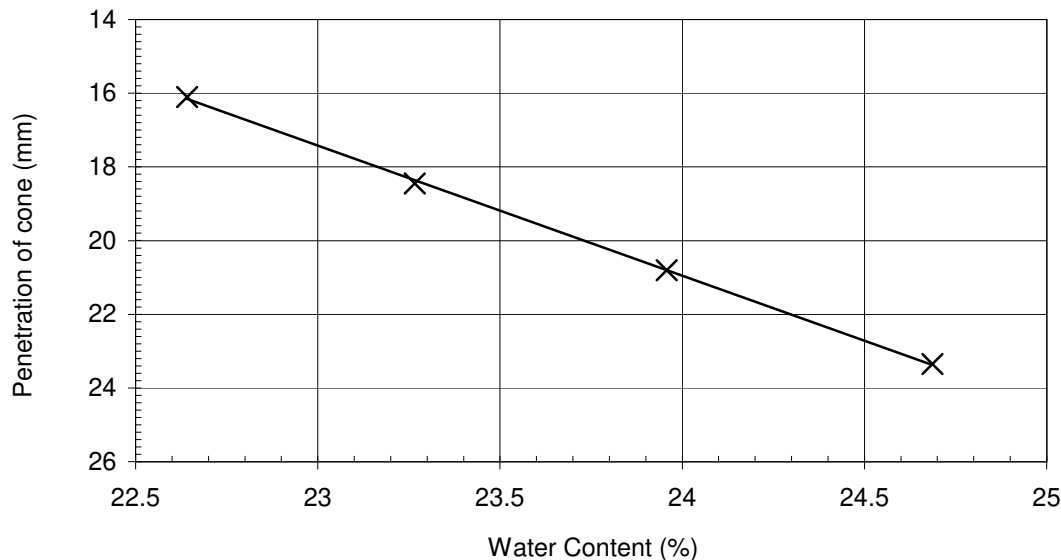
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C7 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH04
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	5.70
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	15.9 %
Percentage retained on 425µm sieve :	10 %
Liquid Limit :	24 %
Plastic Limit :	9.9 %
Plasticity Index :	14
Equivalent water content of material passing 425µm sieve :	17.7 %
Liquidity Index :	0.55

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 Sheet 1 of 1
GL	CD 06/11/2024		



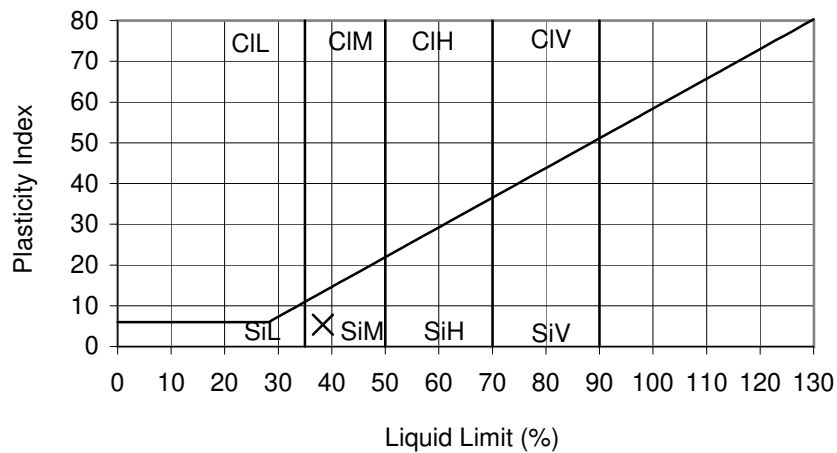
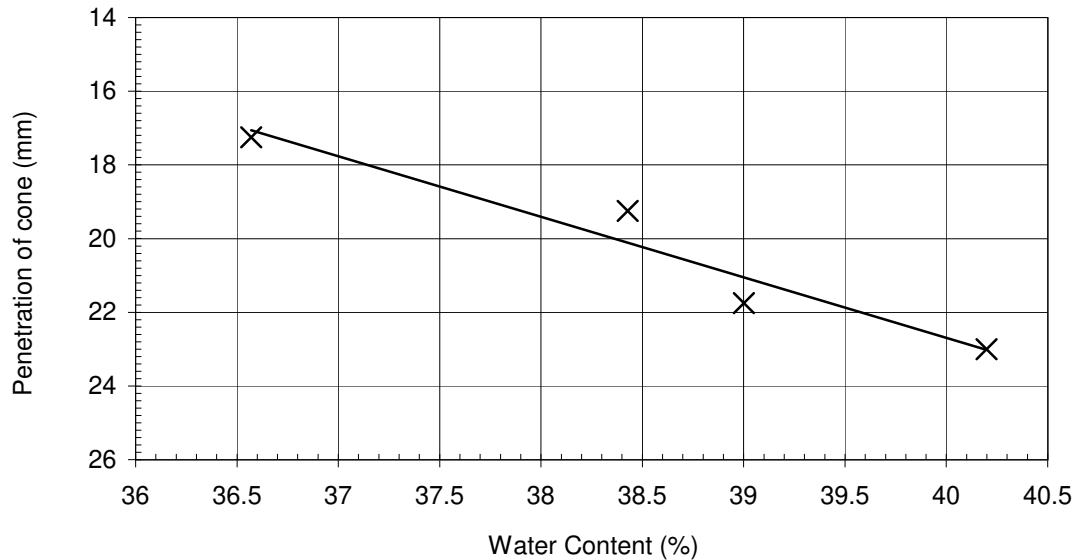
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	BH05
Sample Ref	
Depth (m)	0.50
Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	18.2 %
Percentage retained on 425µm sieve :	28 %
Liquid Limit :	38 %
Plastic Limit :	33 %
Plasticity Index :	5.0
Equivalent water content of material passing 425µm sieve :	25.3 %
Liquidity Index :	-1.54

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 Sheet 1 of 1
CM	CD 06/11/2024		



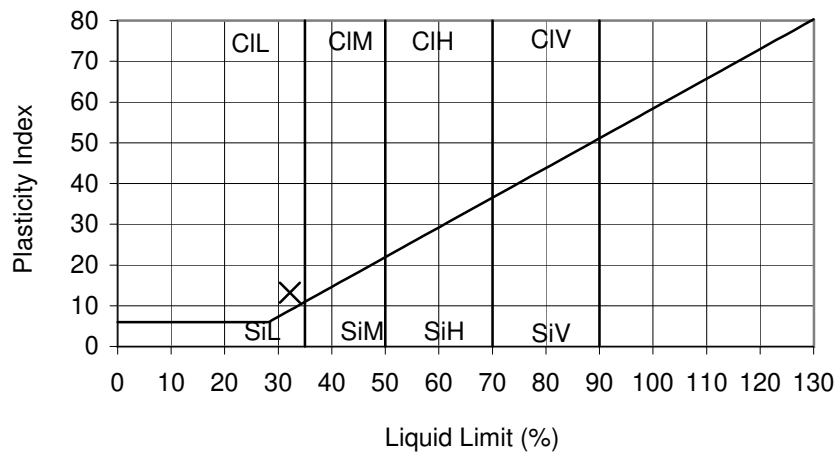
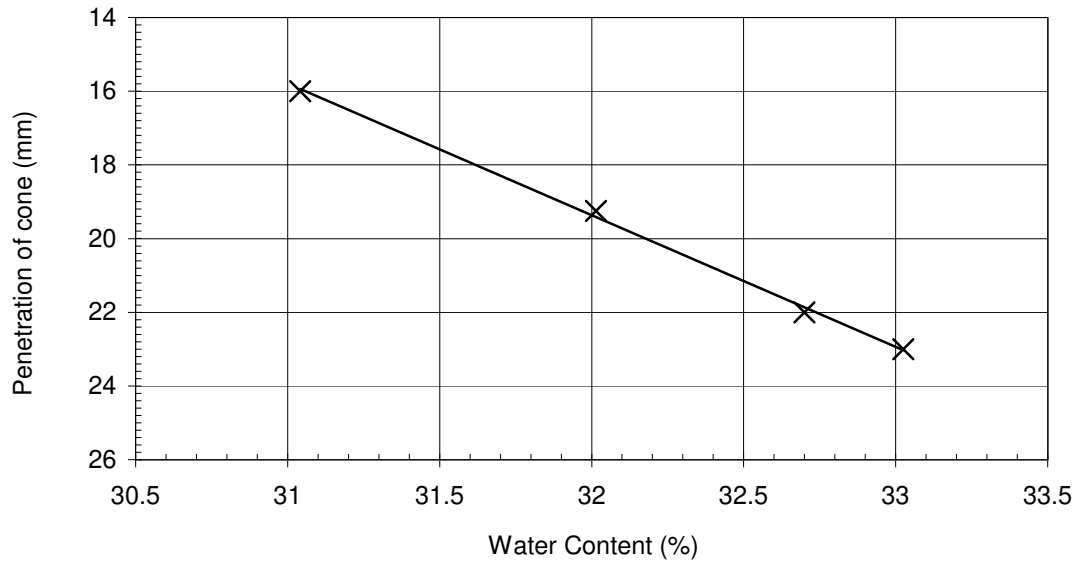
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	BH05
Sample Ref	
Depth (m)	1.20
Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	7.7 %
Percentage retained on 425µm sieve :	48 %
Liquid Limit :	32 %
Plastic Limit :	19 %
Plasticity Index :	13
Equivalent water content of material passing 425µm sieve :	14.8 %
Liquidity Index :	-0.32

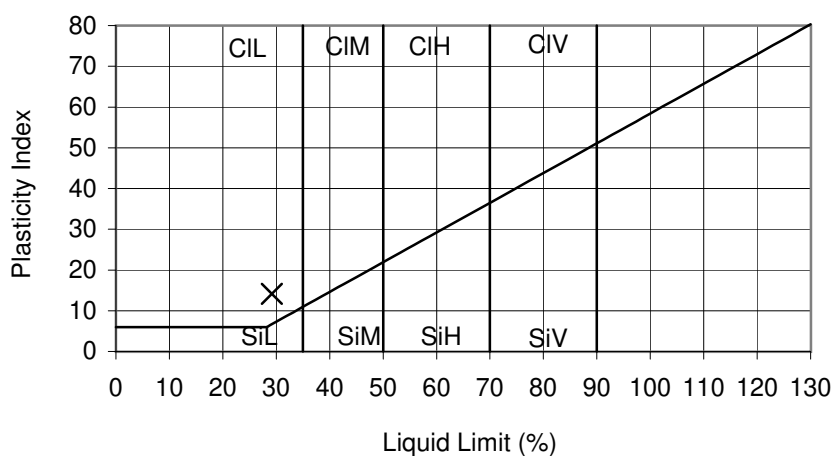
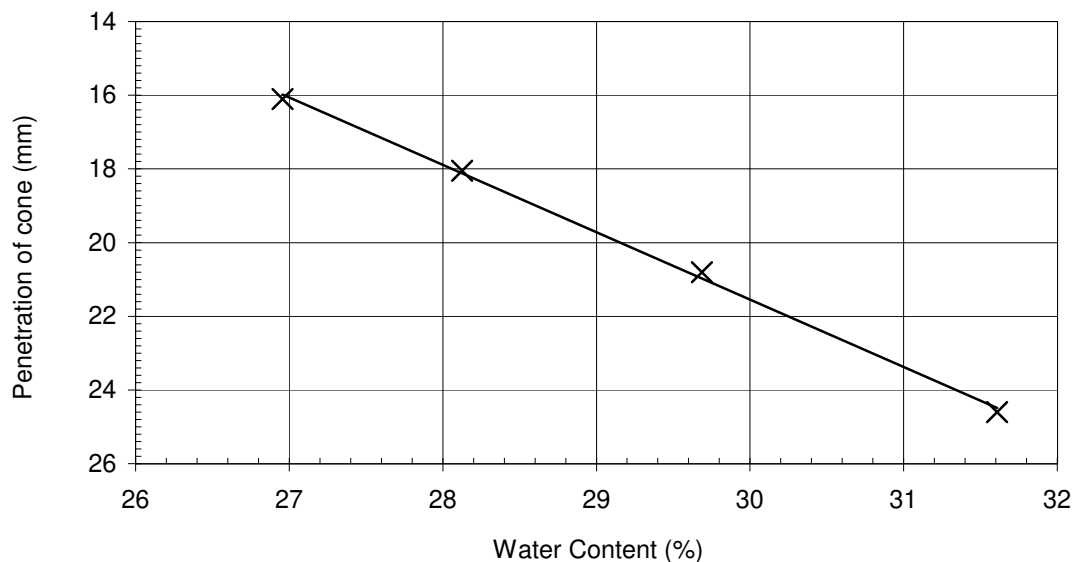
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	 Figure C10 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH05
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	6.70
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 20.6 %
Percentage retained on 425µm sieve : 41 %
Liquid Limit : 29 %
Plastic Limit : 15 %
Plasticity Index : 14

Equivalent water content of material passing 425µm sieve : 34.9 %
Liquidity Index : 1.42

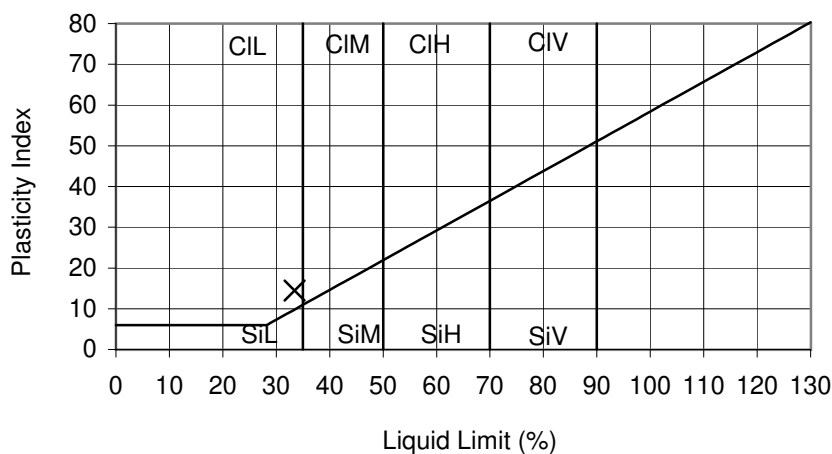
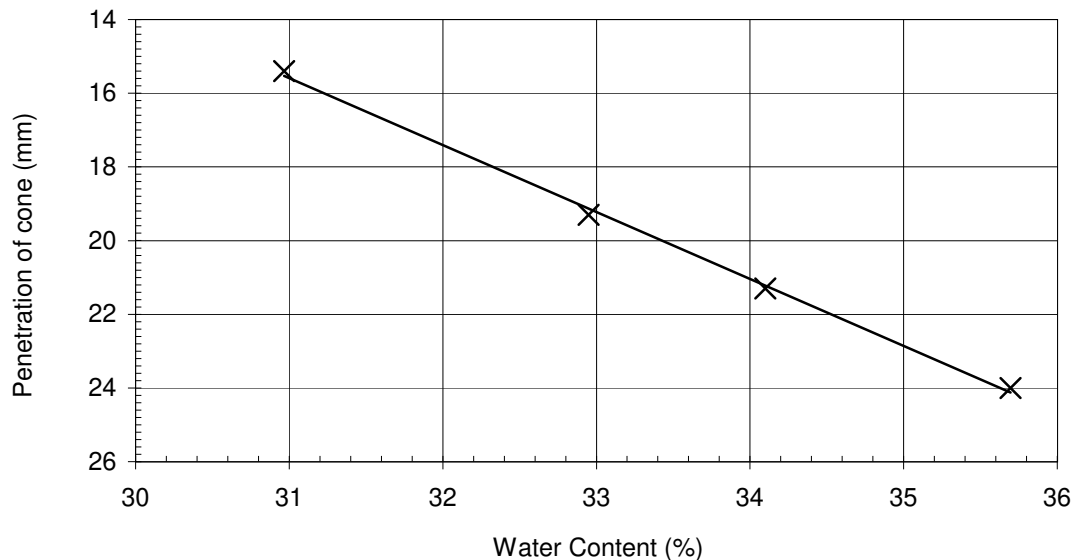
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C11 Sheet 1 of 1
GL	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH06
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 19.2 %
 Percentage retained on 425µm sieve : 35 %
 Liquid Limit : 33 %
 Plastic Limit : 19 %
 Plasticity Index : 14

Equivalent water content of material passing 425µm sieve : 29.5 %
 Liquidity Index : 0.75

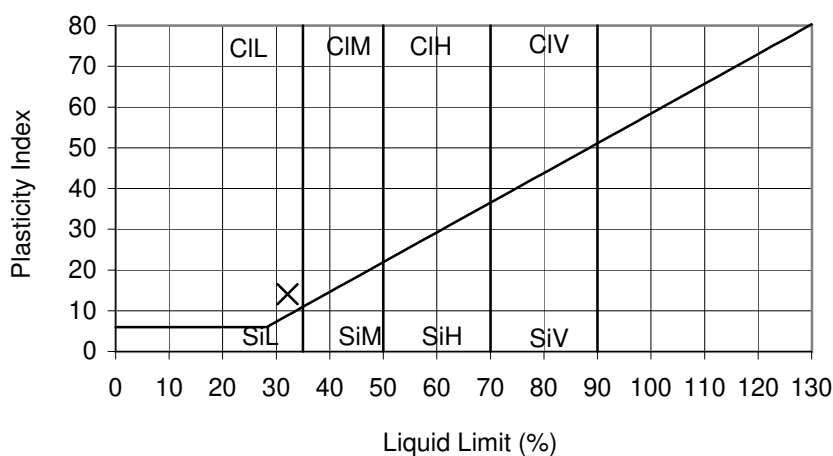
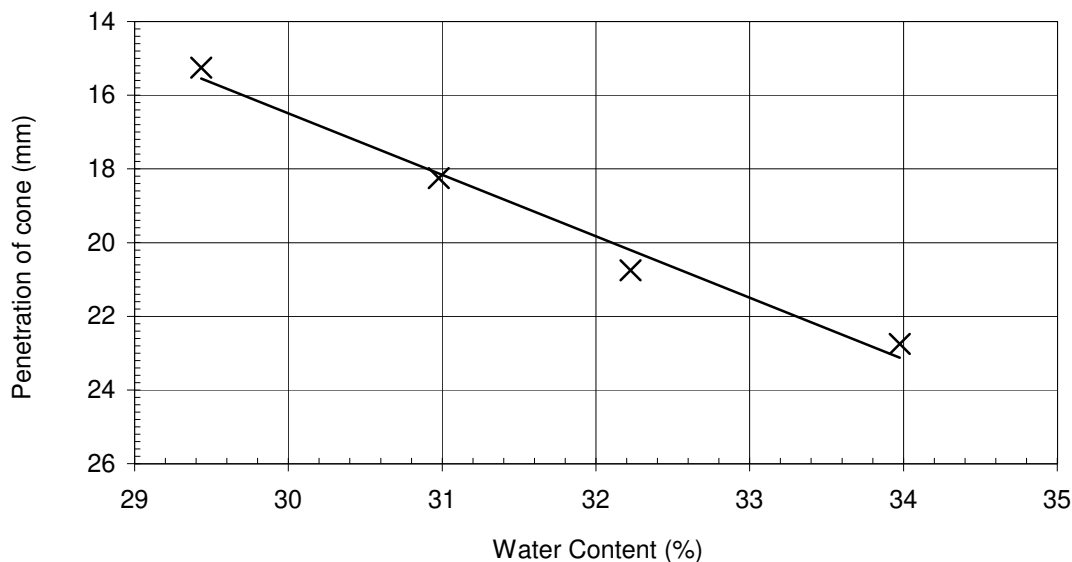
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C12 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH06
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.70
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 15.6 %
 Percentage retained on 425µm sieve : 9 %
 Liquid Limit : 32 %
 Plastic Limit : 18 %
 Plasticity Index : 14

Equivalent water content of material passing 425µm sieve : 17.1 %
 Liquidity Index : -0.06

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 C13 Sheet 1 of 1
CM	CD 06/11/2024		



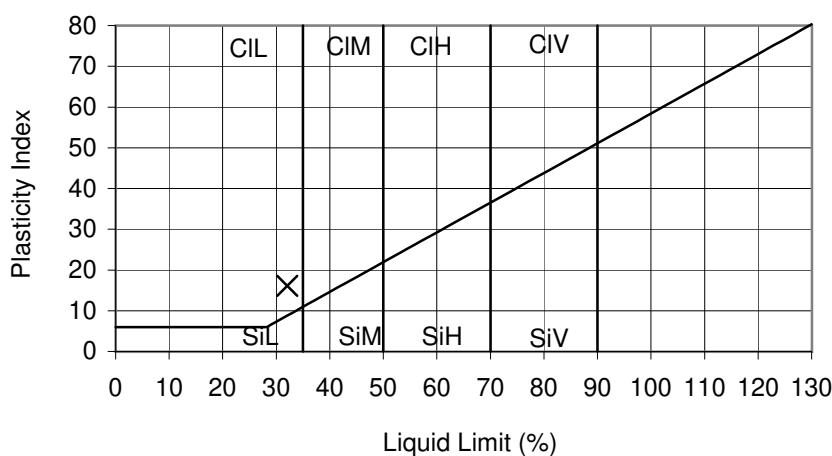
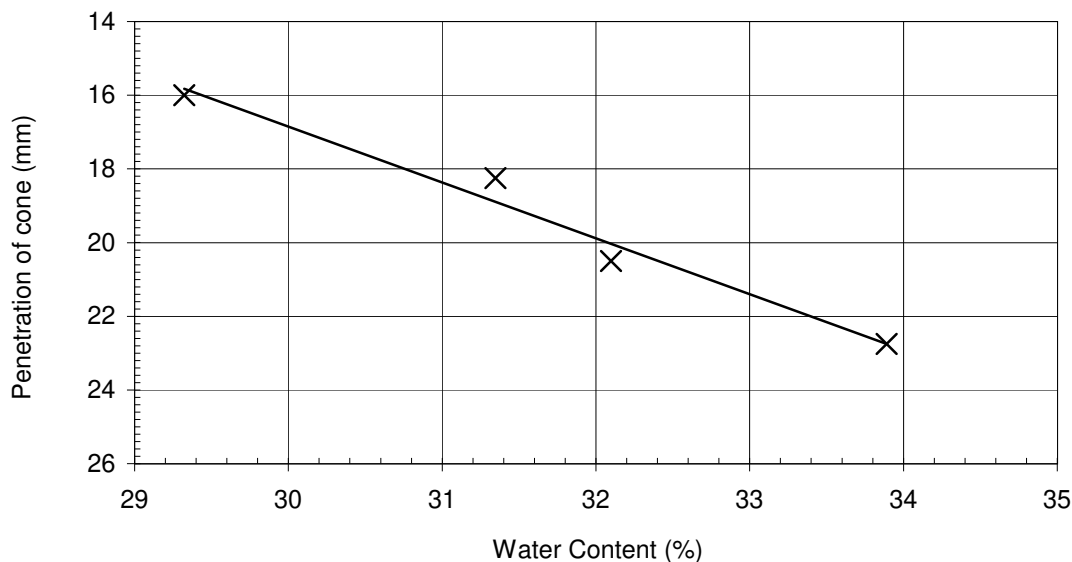
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	BH06
Sample Ref	
Depth (m)	2.70
Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	11.0 %
Percentage retained on 425µm sieve :	30 %
Liquid Limit :	32 %
Plastic Limit :	16 %
Plasticity Index :	16
Equivalent water content of material passing 425µm sieve :	15.7 %
Liquidity Index :	-0.02

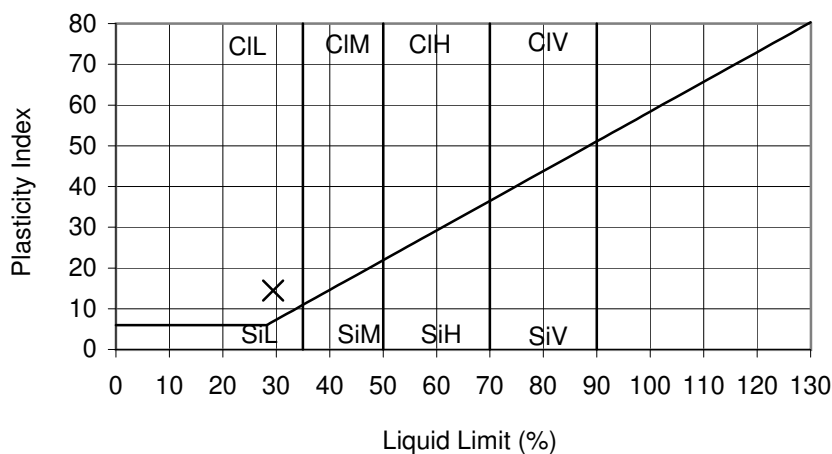
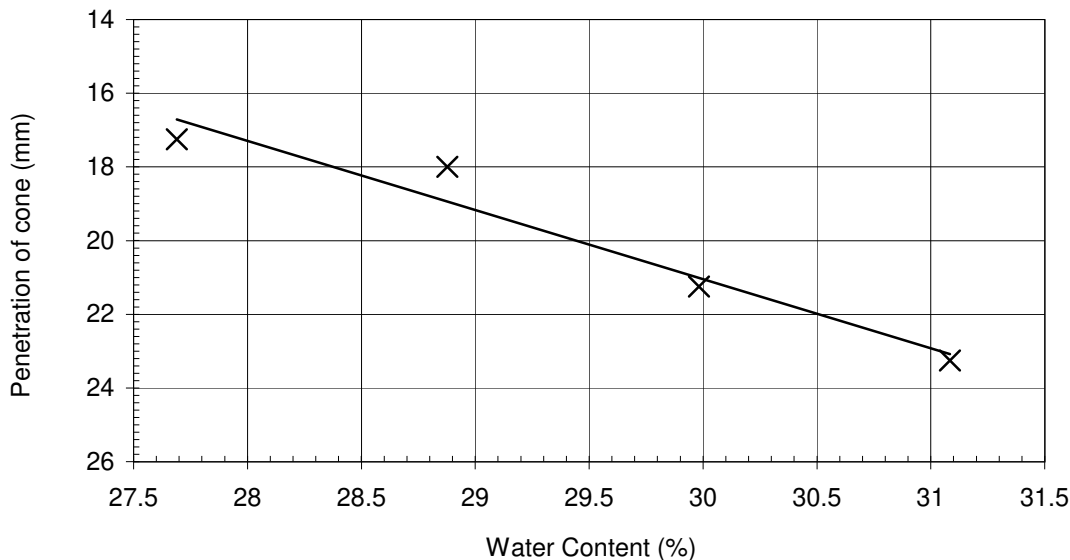
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C14 Sheet 1 of 1
CM	 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH06
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	5.70
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	19.1 %
Percentage retained on 425µm sieve :	55 %
Liquid Limit :	29 %
Plastic Limit :	15 %
Plasticity Index :	14
Equivalent water content of material passing 425µm sieve :	42.4 %
Liquidity Index :	1.96

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 C15 Sheet 1 of 1
CM	CD 06/11/2024		



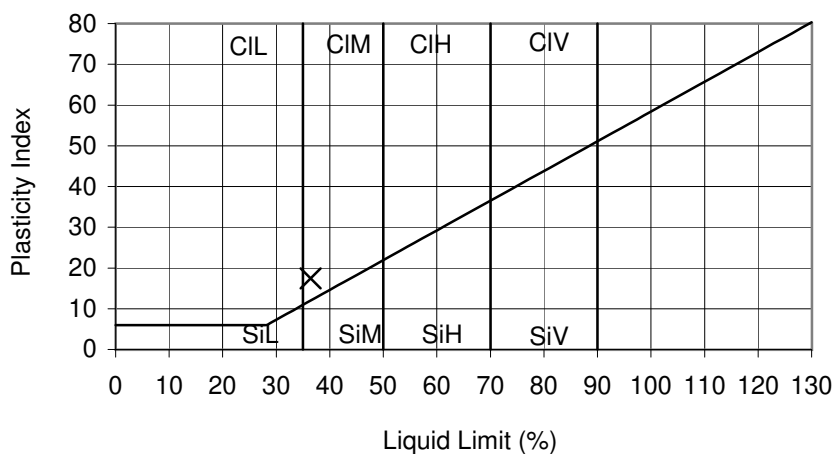
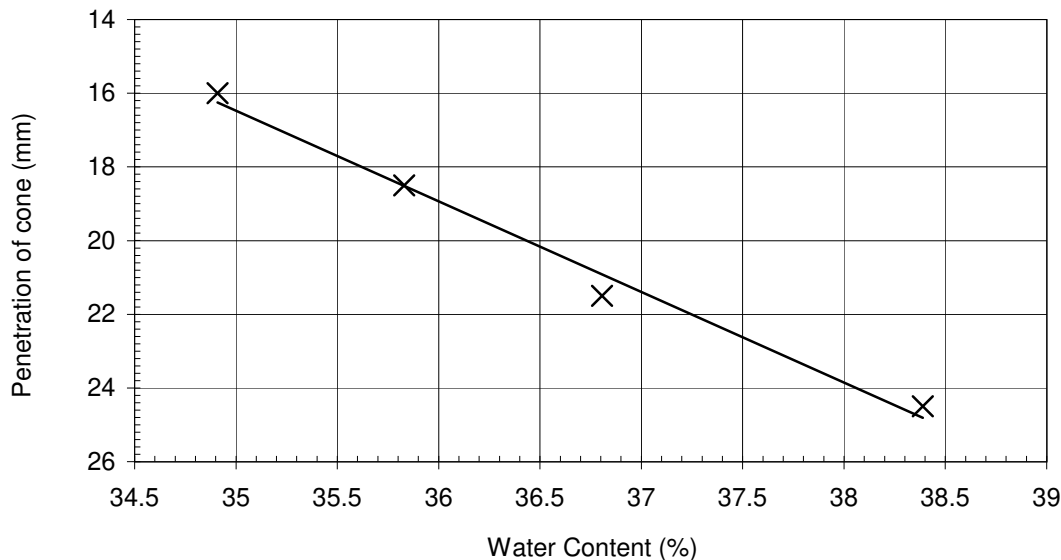
Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

Contract No. 26667

Hole ID BH07
Sample Ref
Depth (m) 0.40
Sample Type D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 20.0 %
Percentage retained on 425µm sieve : 42 %
Liquid Limit : 36 %
Plastic Limit : 19 %
Plasticity Index : 17

Equivalent water content of material passing 425µm sieve : 34.5 %
Liquidity Index : 0.91

Originator	Checked & Approved
CM	CD 06/11/2024

**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 C16

Sheet 1 of 1



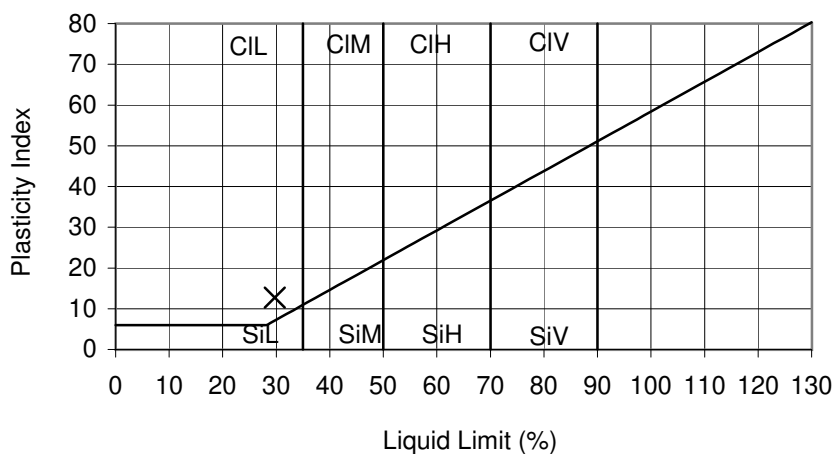
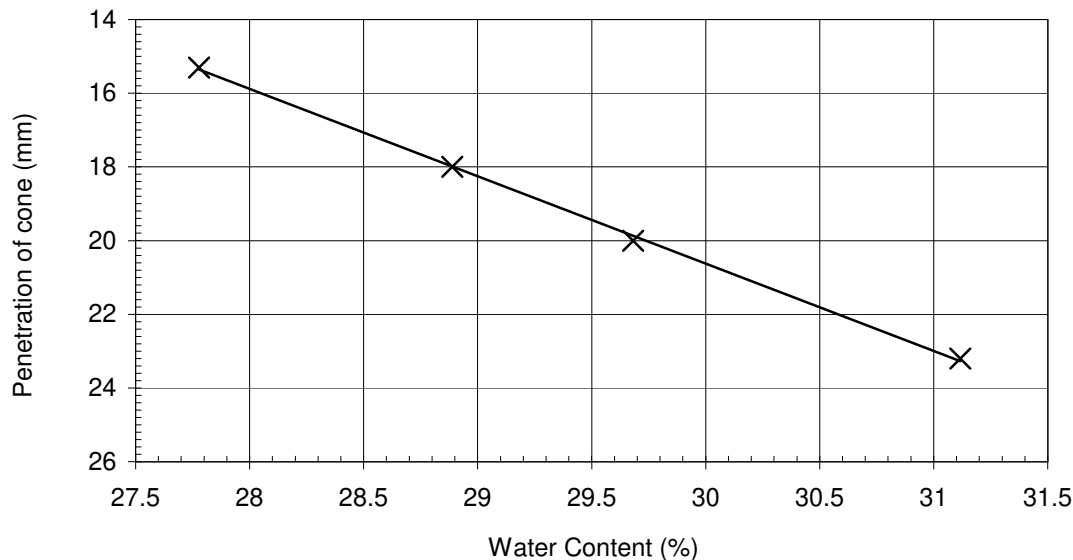
Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

Contract No. 26667

Hole ID BH08
Sample Ref
Depth (m) 0.60
Sample Type D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 8.0 %
Percentage retained on 425µm sieve : 22 %
Liquid Limit : 30 %
Plastic Limit : 17 %
Plasticity Index : 13

Equivalent water content of material passing 425µm sieve : 10.3 %
Liquidity Index : -0.52

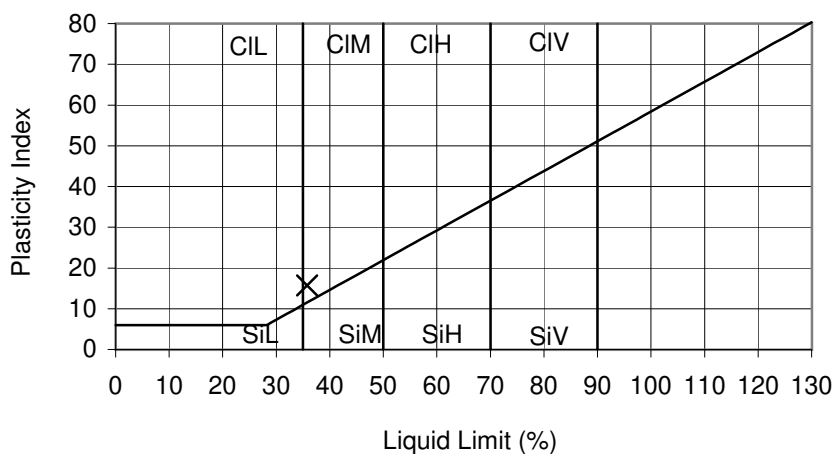
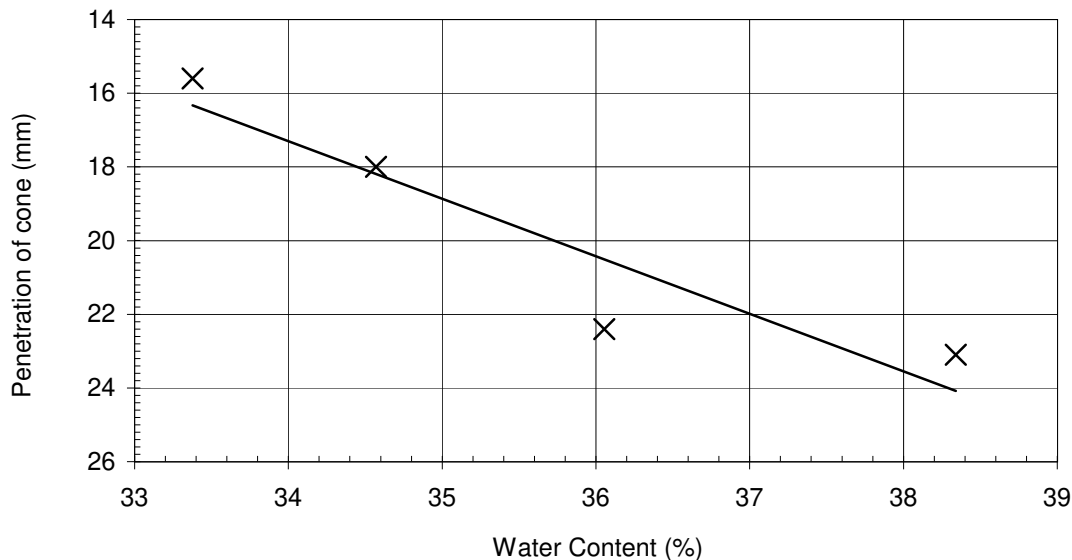
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C17 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH08
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.70
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 16.4 %
 Percentage retained on 425µm sieve : 56 %
 Liquid Limit : 36 %
 Plastic Limit : 20 %
 Plasticity Index : 16

Equivalent water content of material passing 425µm sieve : 37.3 %
 Liquidity Index : 1.08

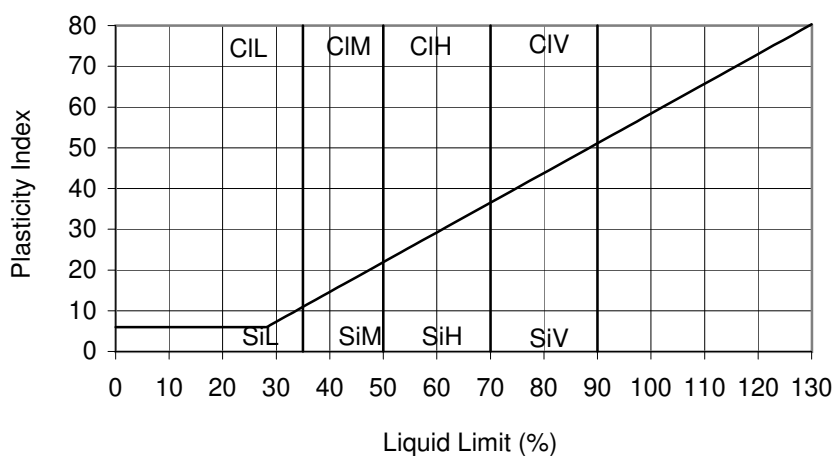
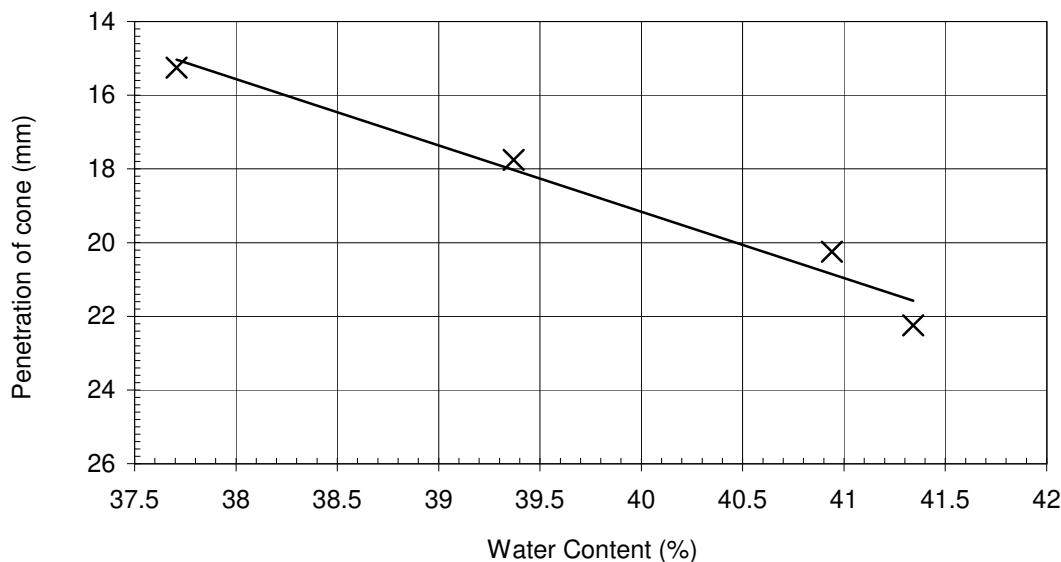
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C18 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH08
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	3.20
		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) 25.8 %
Percentage retained on 425µm sieve : 45 %
Liquid Limit : 40 %
Plastic Limit : Non-Plastic %

Equivalent water content of material passing 425µm sieve : 46.9 %

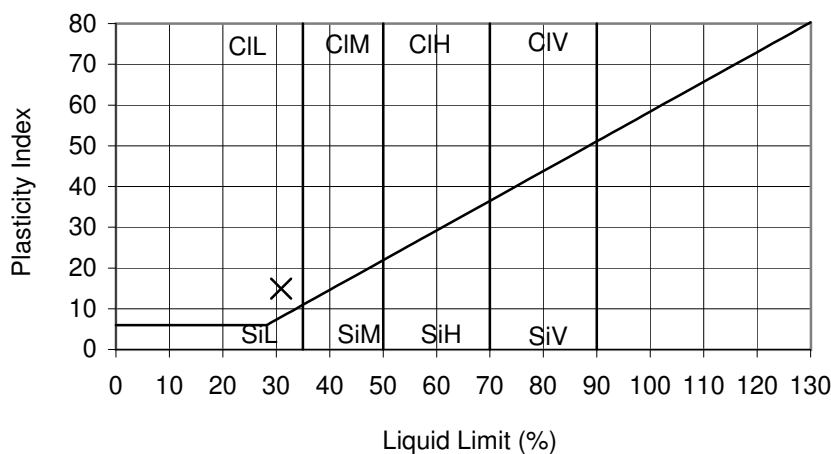
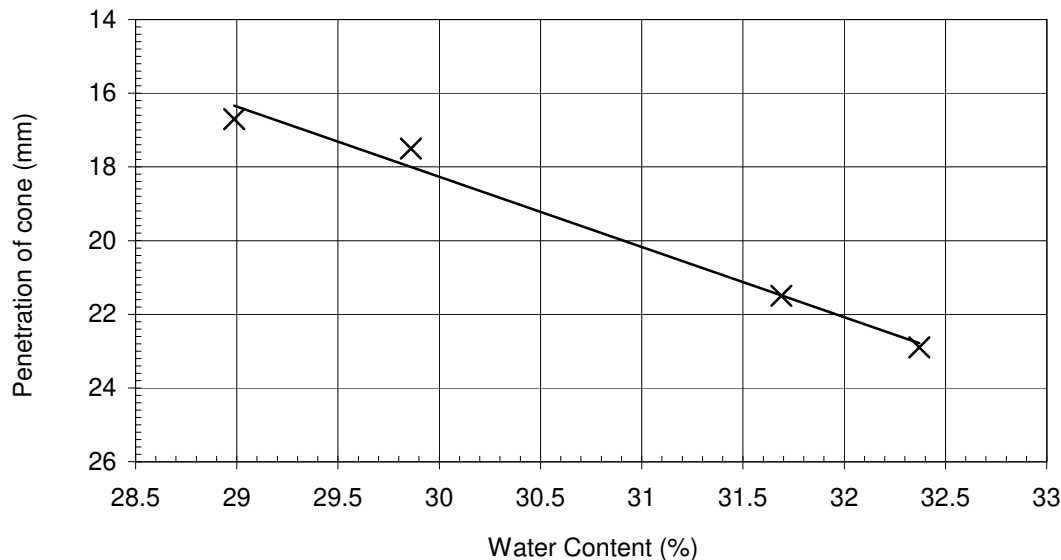
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C19 Sheet 1 of 1
CM	06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH08
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	3.70
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	20.5 %
Percentage retained on 425µm sieve :	48 %
Liquid Limit :	31 %
Plastic Limit :	16 %
Plasticity Index :	15
Equivalent water content of material passing 425µm sieve :	39.4 %
Liquidity Index :	1.56

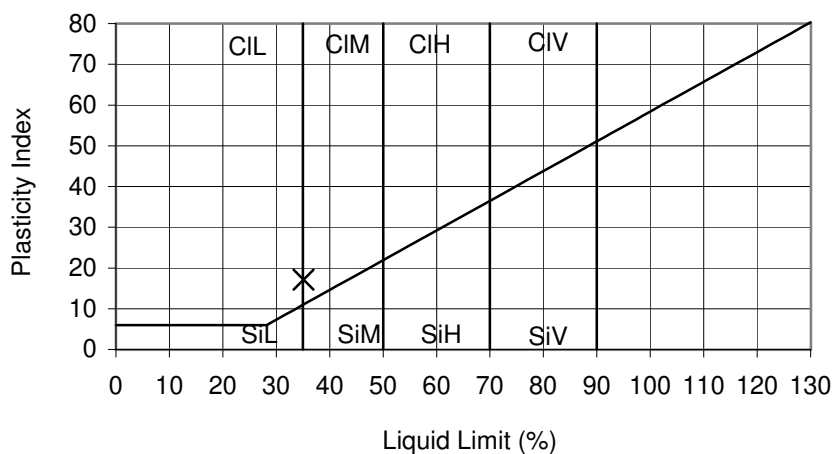
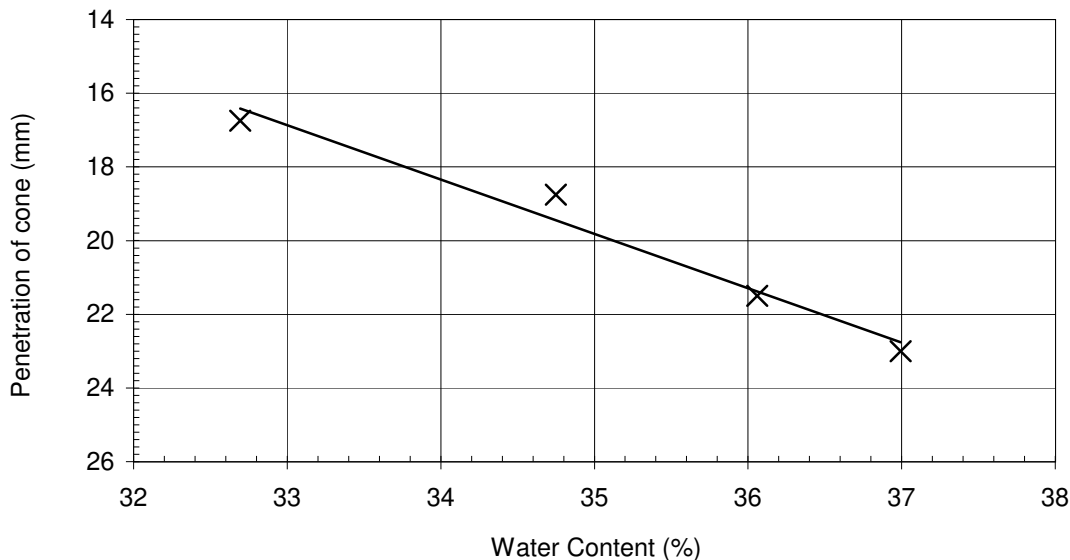
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C20 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH09
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	B+D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 18.5 %
 Percentage retained on 425µm sieve : 52 %
 Liquid Limit : 35 %
 Plastic Limit : 18 %
 Plasticity Index : 17

Equivalent water content of material passing 425µm sieve : 38.5 %
 Liquidity Index : 1.21

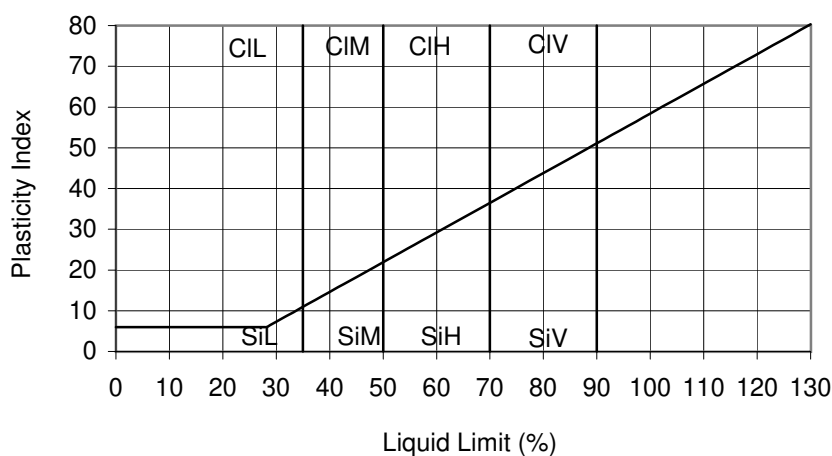
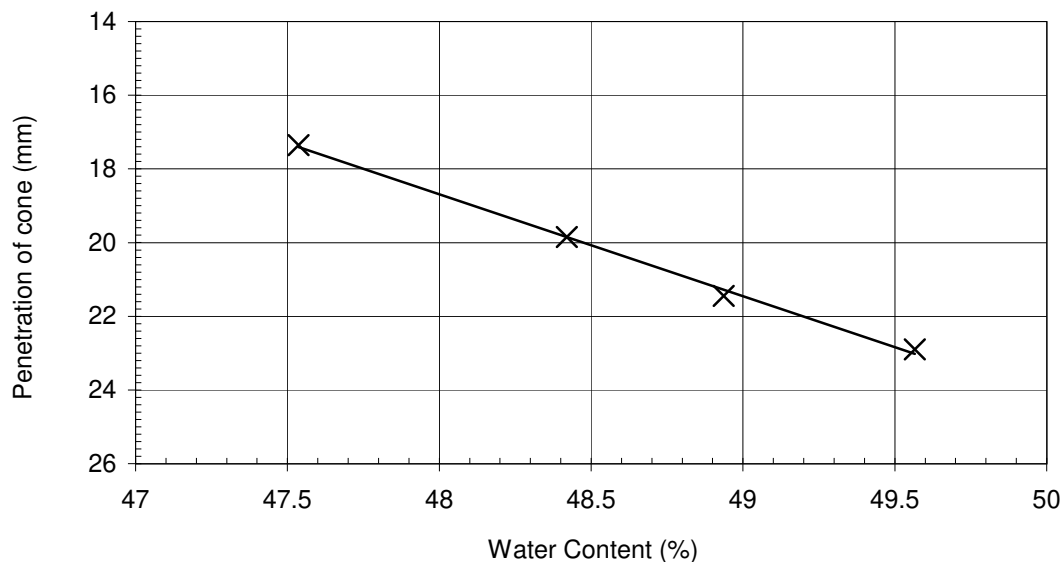
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C21 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH09
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.20
		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) 17.9 %
Percentage retained on 425µm sieve : 52 %
Liquid Limit : 48 %
Plastic Limit : Non-Plastic %

Equivalent water content of material passing 425µm sieve : 37.3 %

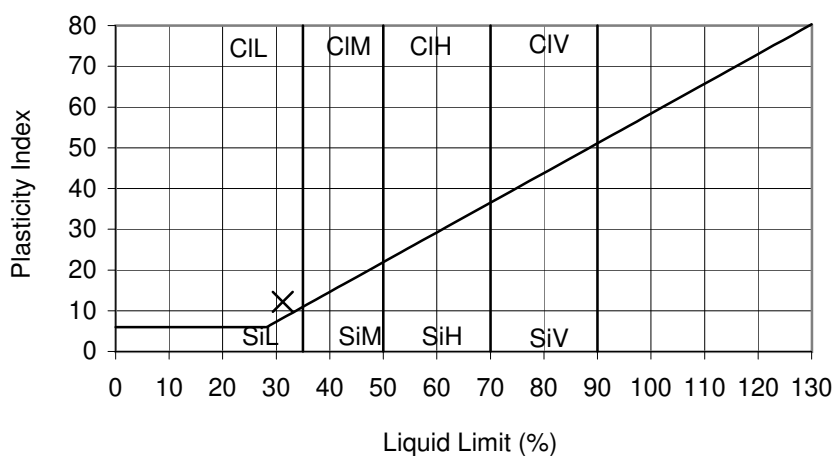
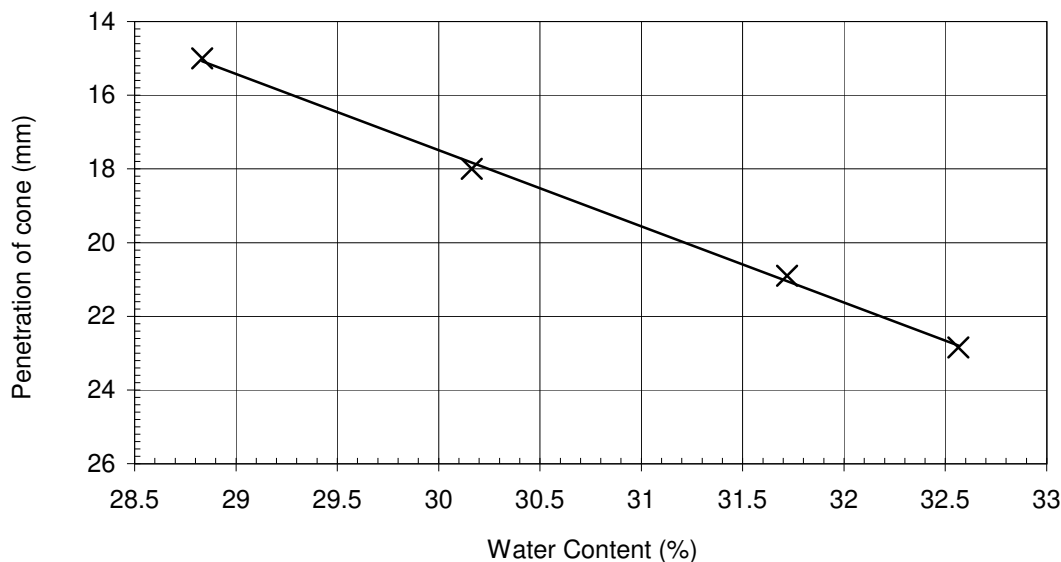
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C22 Sheet 1 of 1
GL	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH10A
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	3.70
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	16.5 %
Percentage retained on 425µm sieve :	50 %
Liquid Limit :	31 %
Plastic Limit :	19 %
Plasticity Index :	12
Equivalent water content of material passing 425µm sieve :	33.0 %
Liquidity Index :	1.17

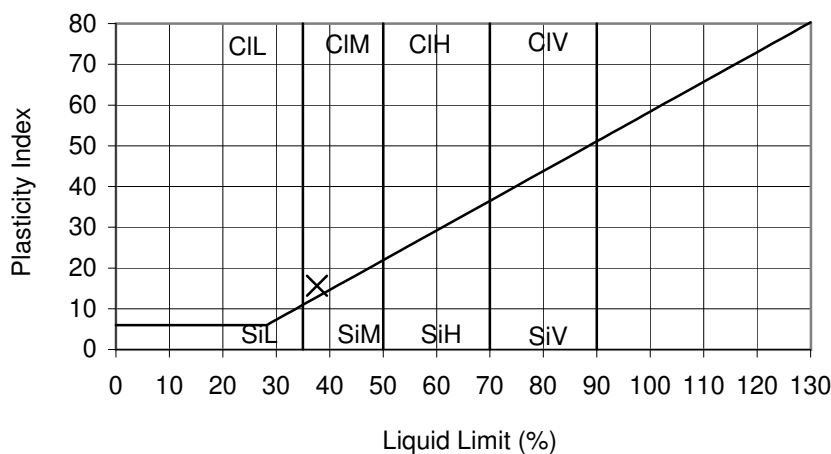
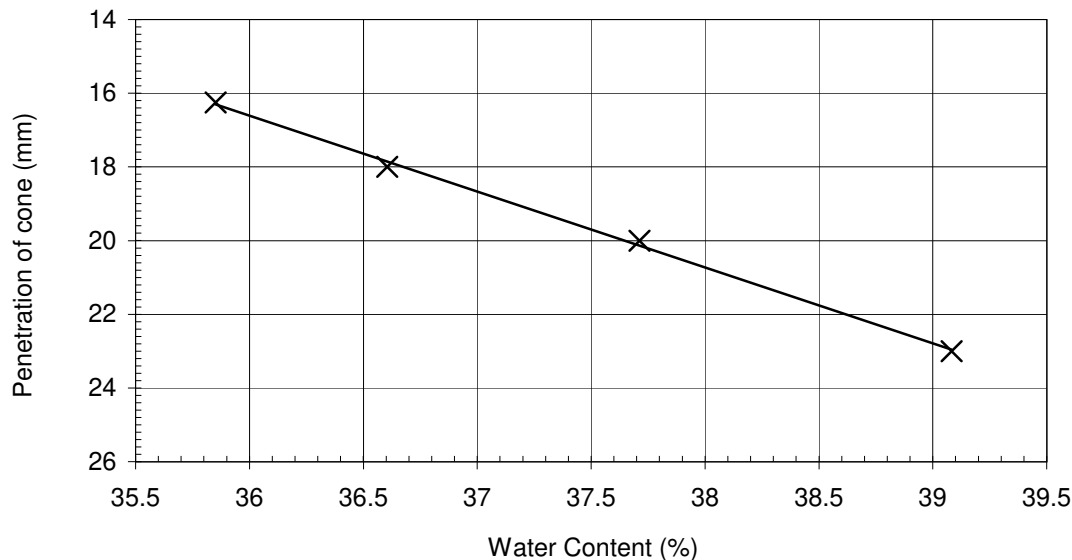
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C25 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH10
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.40
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	16.4 %
Percentage retained on 425µm sieve :	52 %
Liquid Limit :	38 %
Plastic Limit :	22 %
Plasticity Index :	16
Equivalent water content of material passing 425µm sieve :	34.2 %
Liquidity Index :	0.76

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 C23 Sheet 1 of 1
CM	CD 06/11/2024		



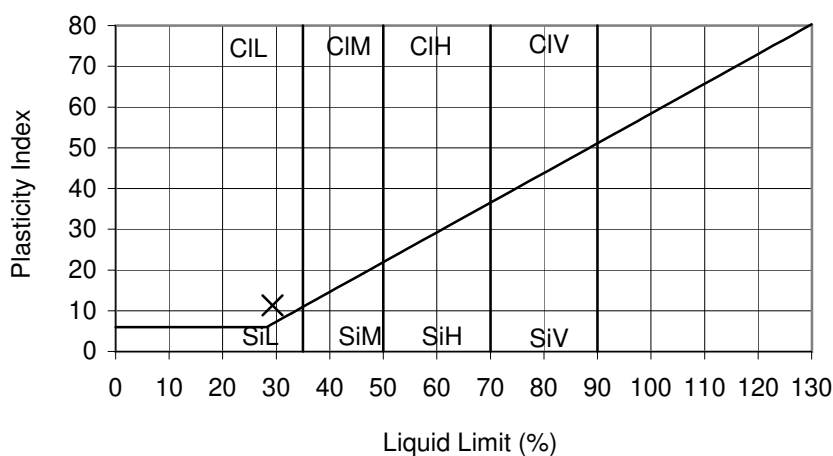
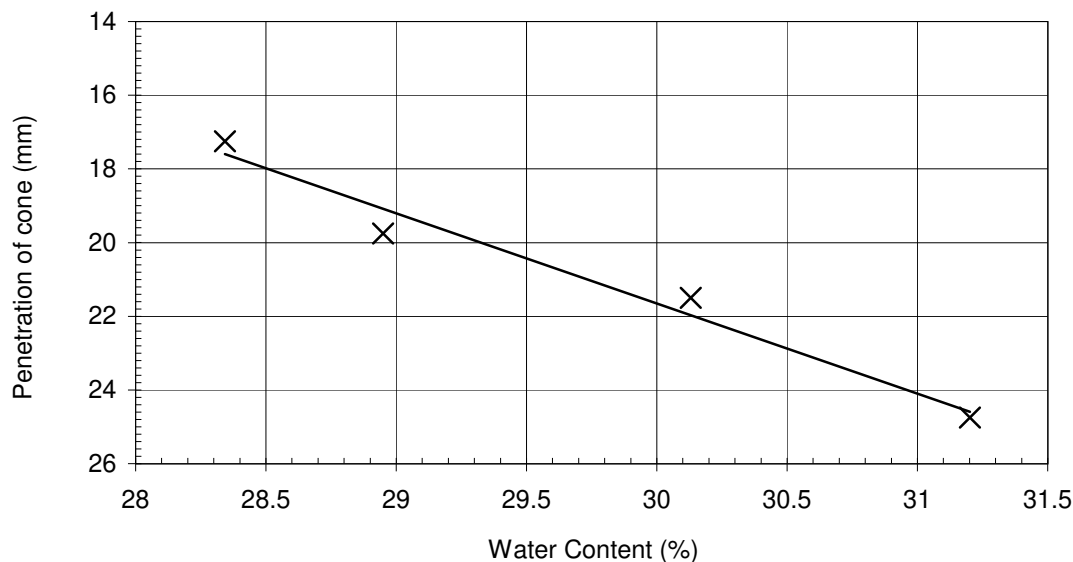
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	BH10
Sample Ref	
Depth (m)	1.70
Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	18.6 %
Percentage retained on 425µm sieve :	68 %
Liquid Limit :	29 %
Plastic Limit :	18 %
Plasticity Index :	11
Equivalent water content of material passing 425µm sieve :	58.1 %
Liquidity Index :	3.65

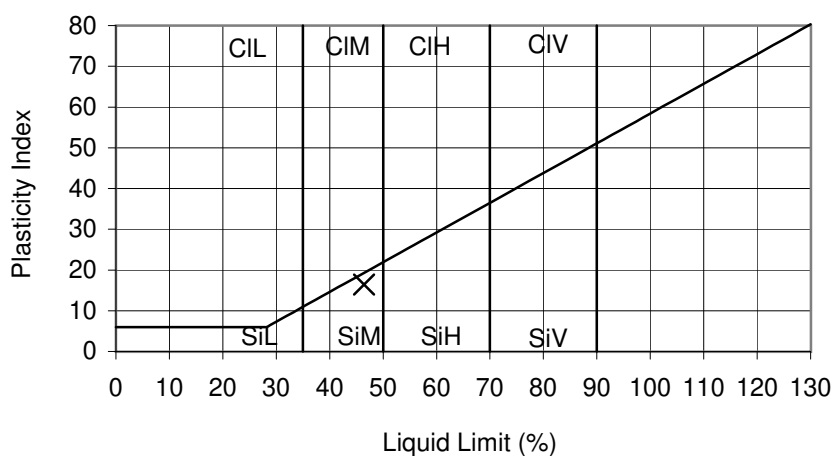
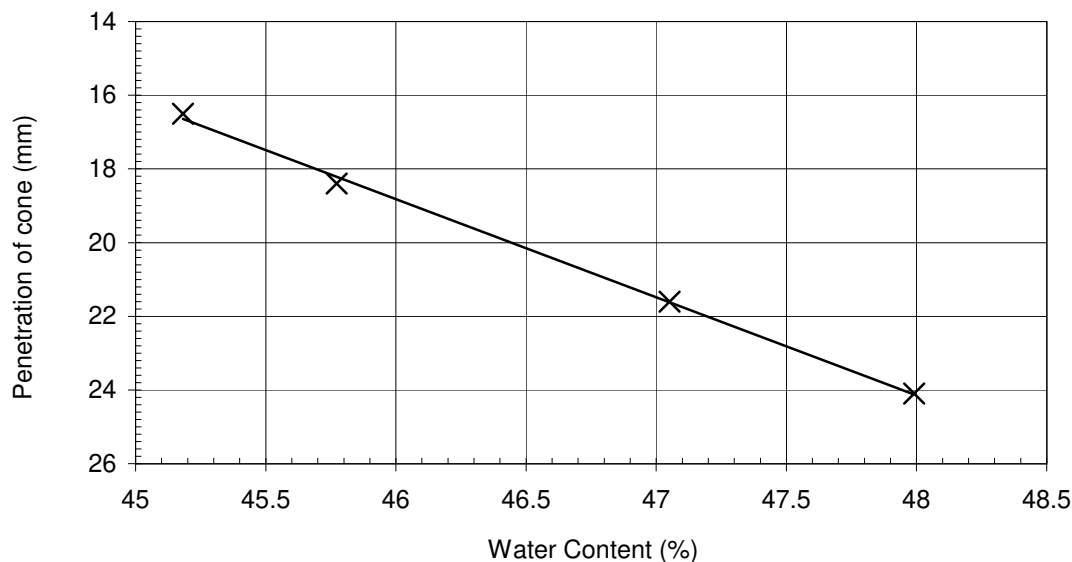
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C24 Sheet 1 of 1
CM	 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH11
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy clayey SILT. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	19.2 %
Percentage retained on 425µm sieve :	38 %
Liquid Limit :	46 %
Plastic Limit :	30 %
Plasticity Index :	16
Equivalent water content of material passing 425µm sieve :	31.0 %
Liquidity Index :	0.06

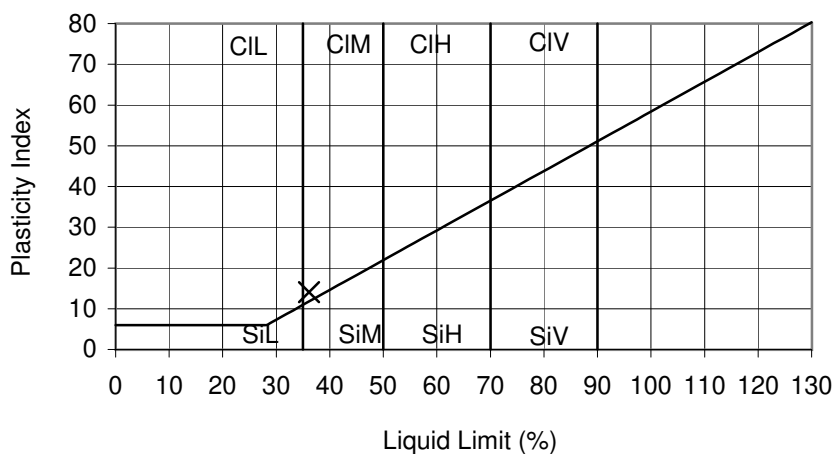
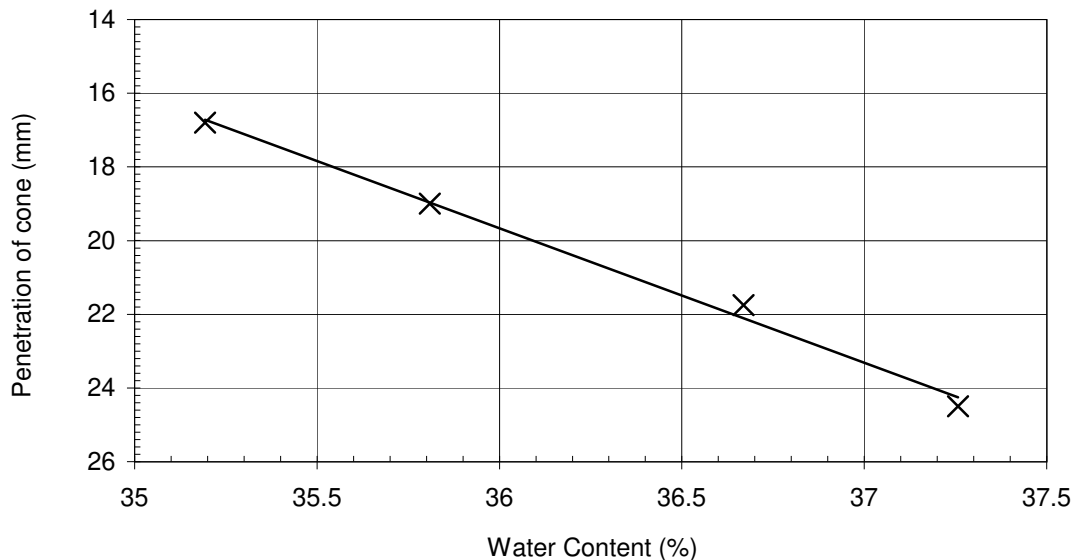
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C26 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH12
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.40
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	15.2 %
Percentage retained on 425µm sieve :	20 %
Liquid Limit :	36 %
Plastic Limit :	22 %
Plasticity Index :	14
Equivalent water content of material passing 425µm sieve :	19.0 %
Liquidity Index :	-0.21

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 C27 Sheet 1 of 1
CM	CD 06/11/2024		



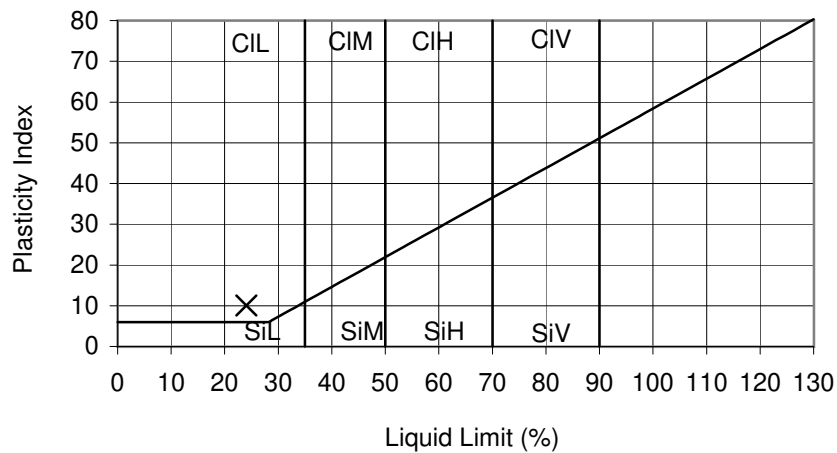
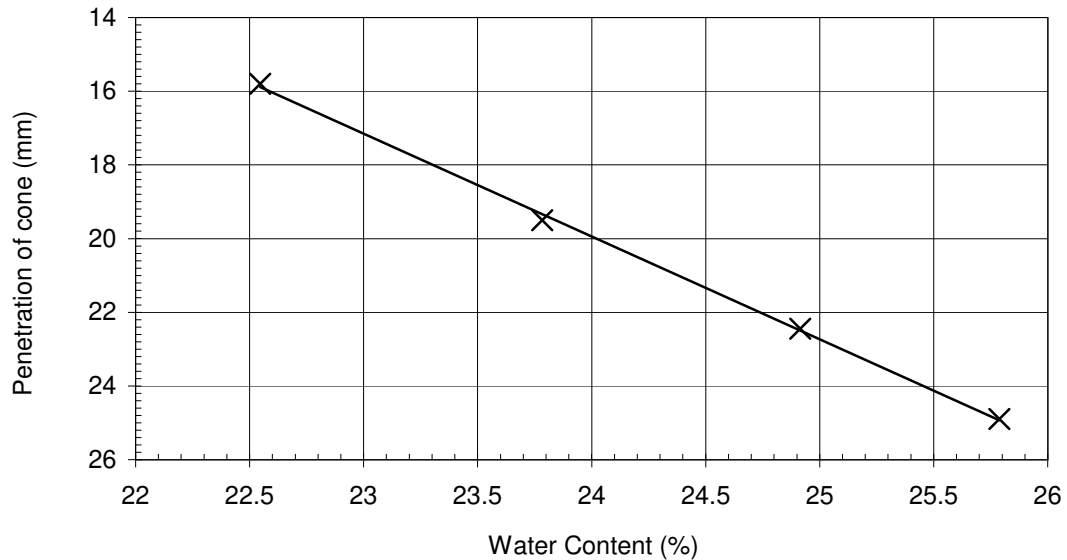
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	BH12
Sample Ref	
Depth (m)	1.70
Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	13.5 %
Percentage retained on 425µm sieve :	37 %
Liquid Limit :	24 %
Plastic Limit :	14 %
Plasticity Index :	10
Equivalent water content of material passing 425µm sieve :	21.4 %
Liquidity Index :	0.74

Originator	Checked & Approved
NW	CD 06/11/2024

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 C28

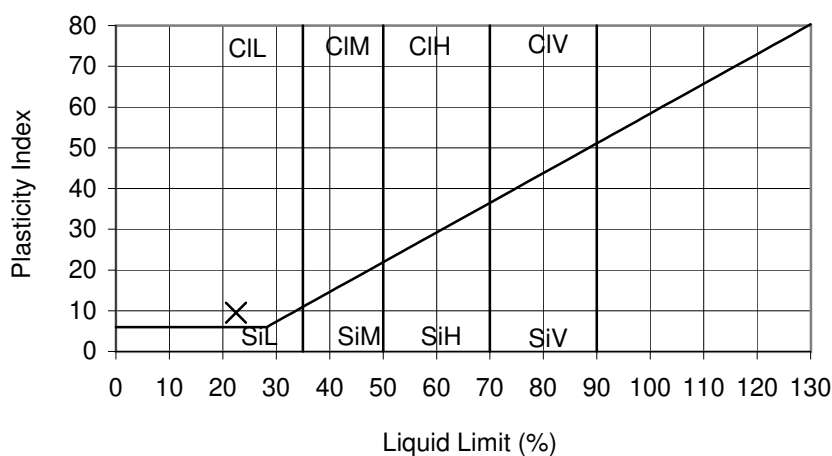
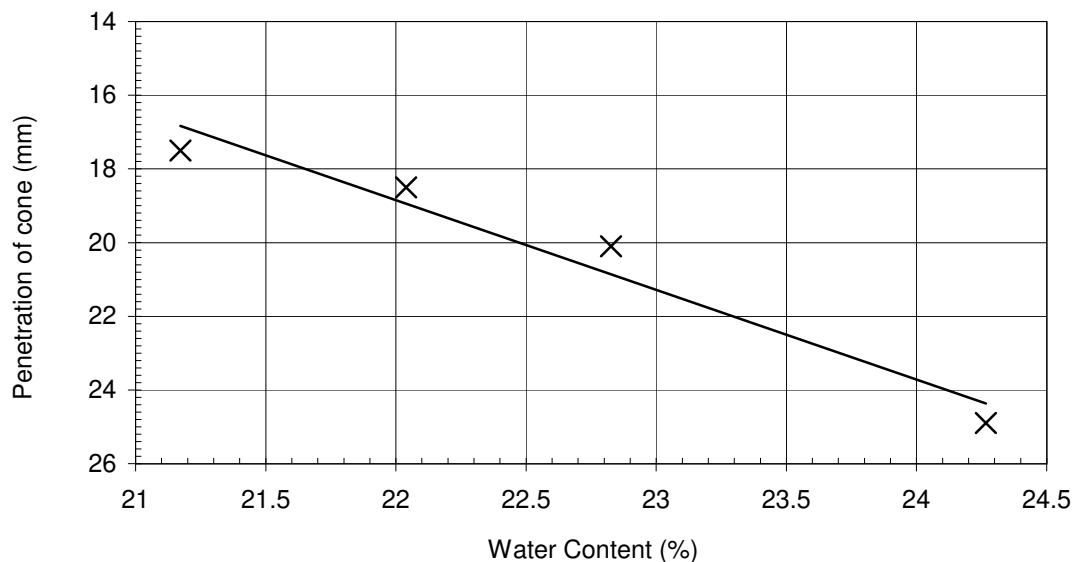
Sheet 1 of 1



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH13
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	3.20
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	13.1 %
Percentage retained on 425µm sieve :	4 %
Liquid Limit :	22 %
Plastic Limit :	13 %
Plasticity Index :	9.0
Equivalent water content of material passing 425µm sieve :	13.6 %
Liquidity Index :	0.07

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 C29 Sheet 1 of 1
NW	CD 06/11/2024		



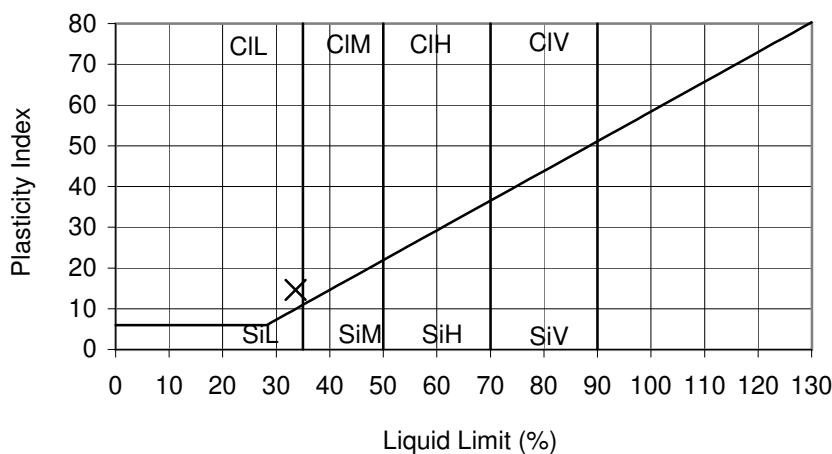
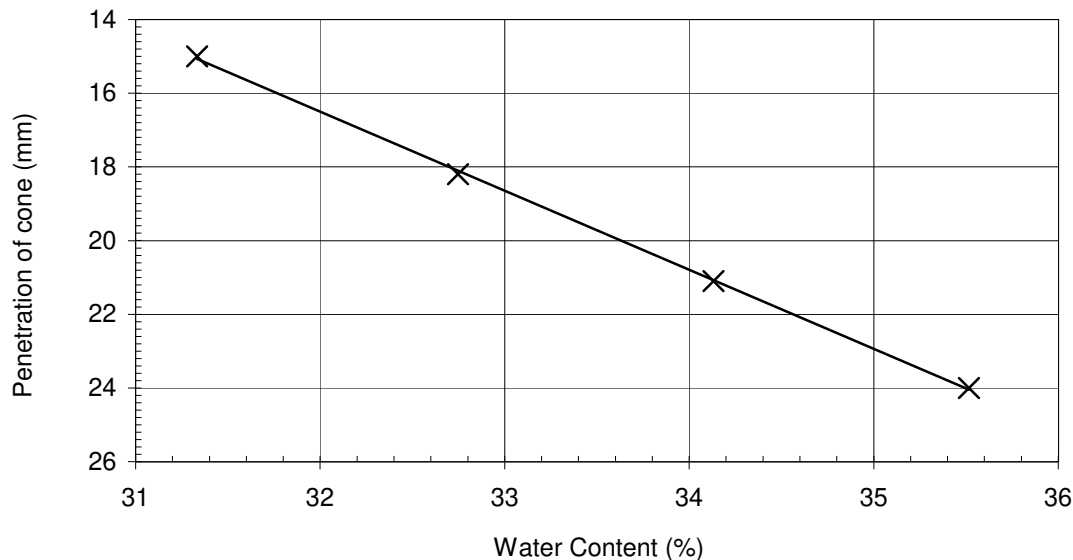
Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

Contract No. 26667

Hole ID BH14
Sample Ref
Depth (m) 0.50
Sample Type D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 12.2 %
Percentage retained on 425µm sieve : 30 %
Liquid Limit : 34 %
Plastic Limit : 19 %
Plasticity Index : 15

Equivalent water content of material passing 425µm sieve : 17.4 %
Liquidity Index : -0.11

Originator	Checked & Approved
NW	CD 06/11/2024

**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 C30

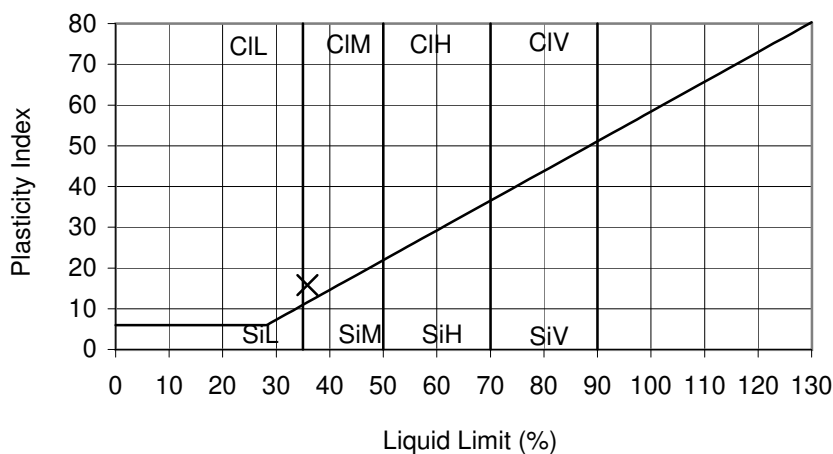
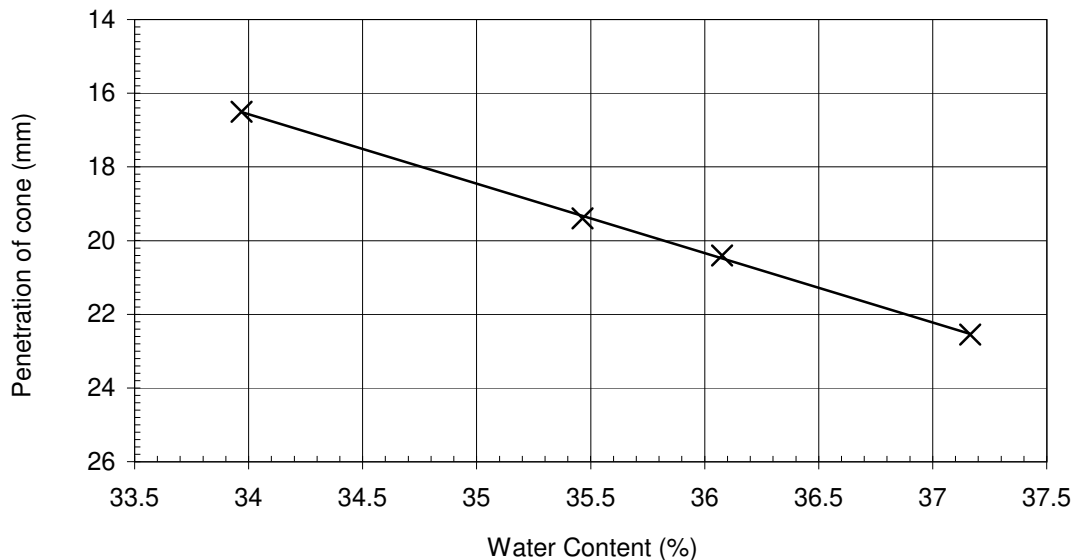
Sheet 1 of 1



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH15
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 16.1 %
 Percentage retained on 425µm sieve : 19 %
 Liquid Limit : 36 %
 Plastic Limit : 20 %
 Plasticity Index : 16

Equivalent water content of material passing 425µm sieve : 19.9 %
 Liquidity Index : -0.01

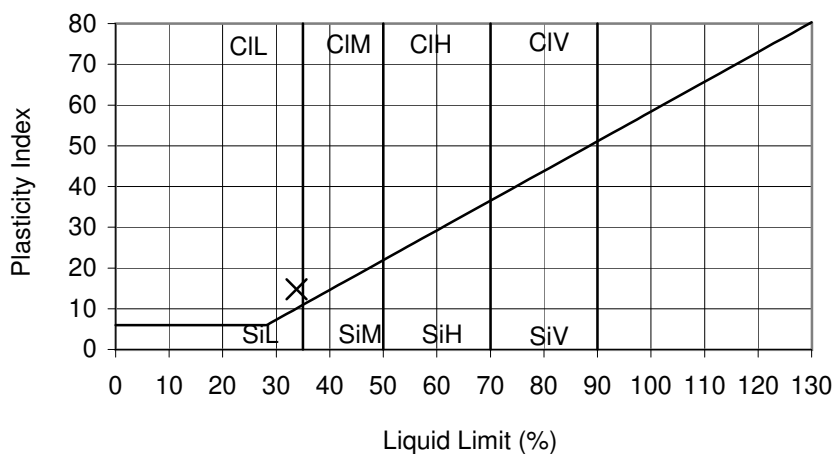
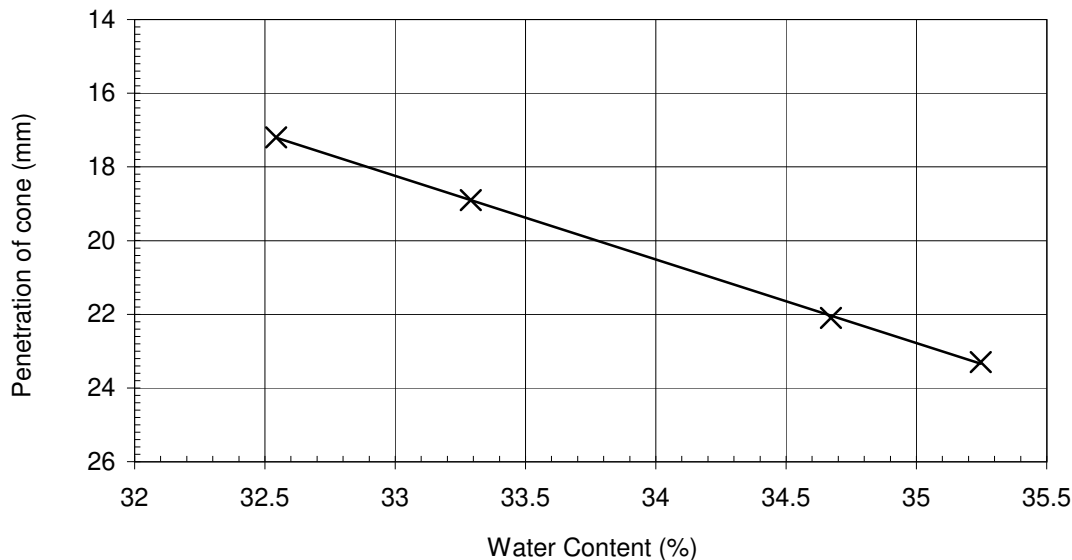
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C31 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH16
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	14.5 %
Percentage retained on 425µm sieve :	25 %
Liquid Limit :	34 %
Plastic Limit :	19 %
Plasticity Index :	15
Equivalent water content of material passing 425µm sieve :	19.3 %
Liquidity Index :	0.02

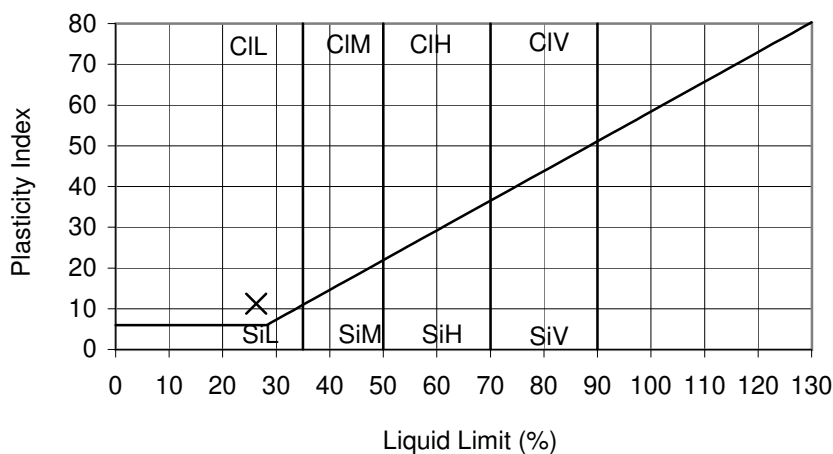
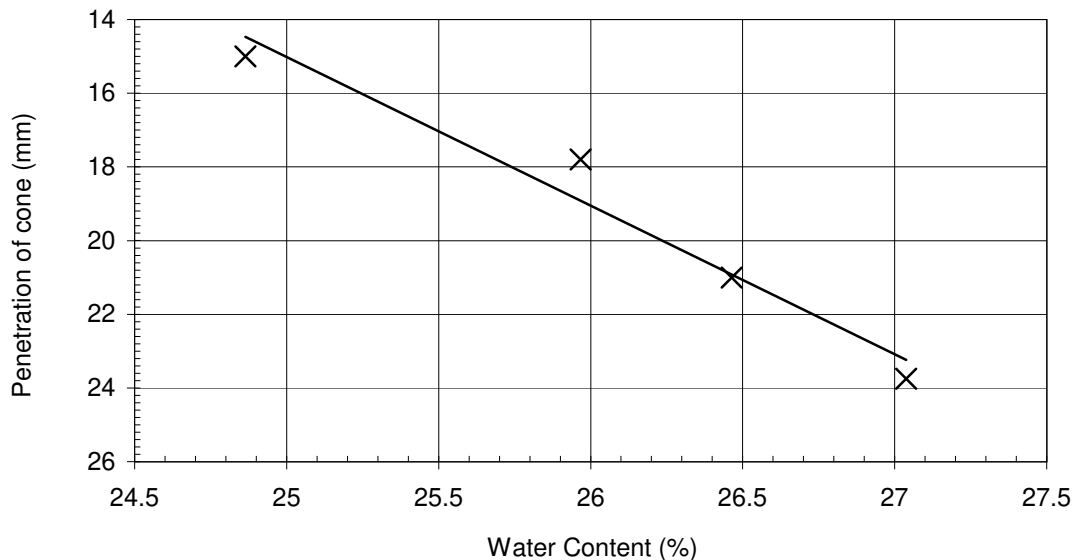
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C32 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH16
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.20
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	11.1 %
Percentage retained on 425µm sieve :	53 %
Liquid Limit :	26 %
Plastic Limit :	15 %
Plasticity Index :	11
Equivalent water content of material passing 425µm sieve :	23.6 %
Liquidity Index :	0.78

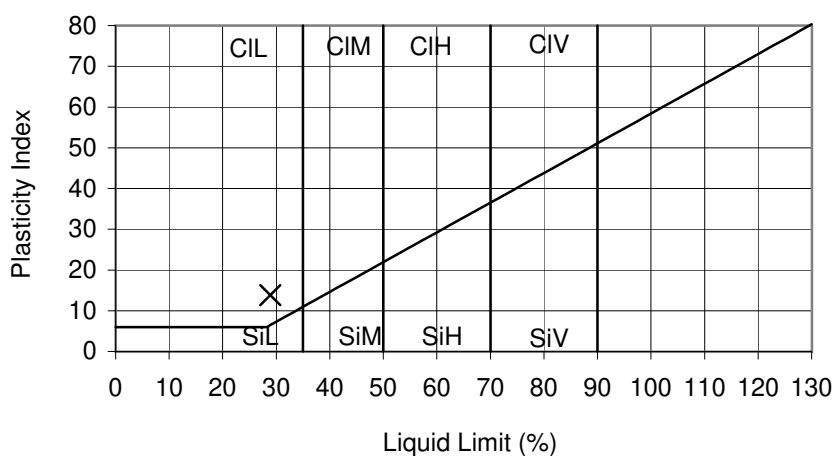
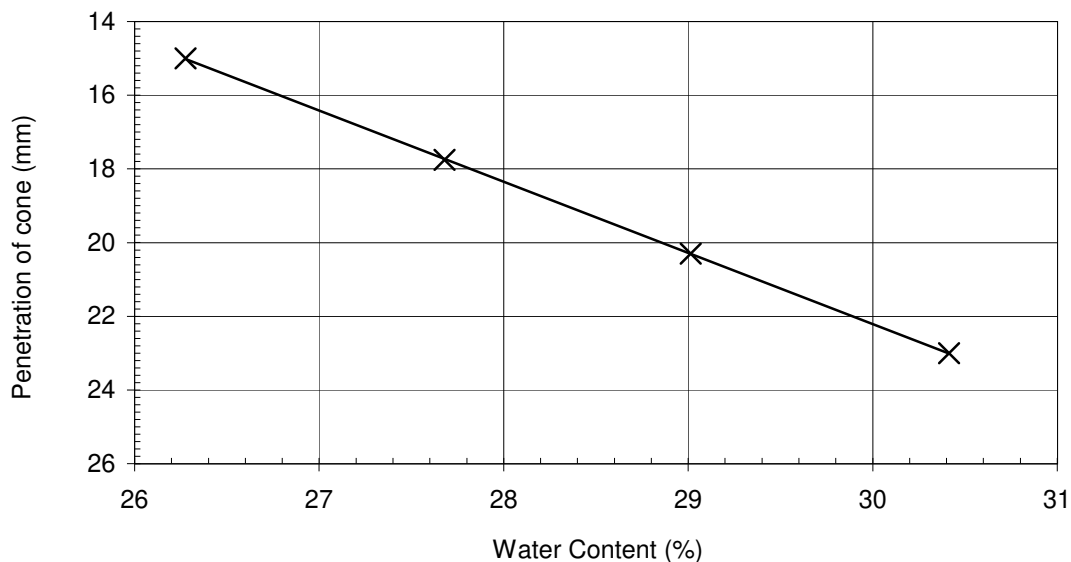
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C33 Sheet 1 of 1
CM	06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH16
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	4.20
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 9.7 %
 Percentage retained on 425µm sieve : 65 %
 Liquid Limit : 29 %
 Plastic Limit : 15 %
 Plasticity Index : 14

Equivalent water content of material passing 425µm sieve : 27.7 %
 Liquidity Index : 0.91

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 C34 Sheet 1 of 1
CM	CD 06/11/2024		



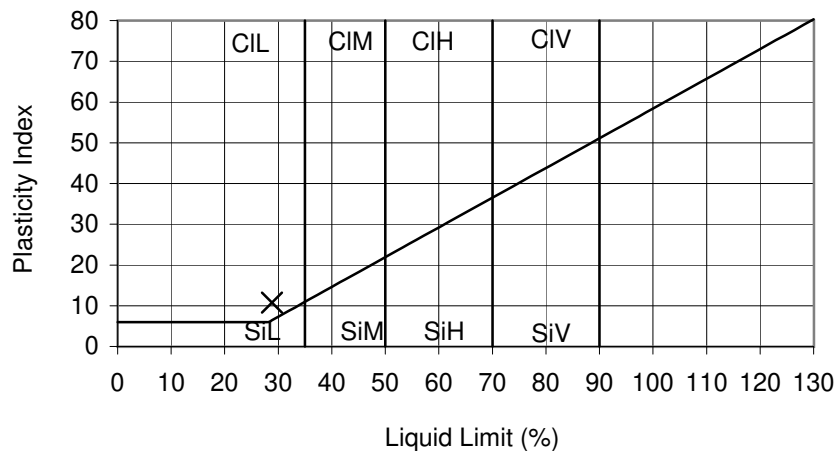
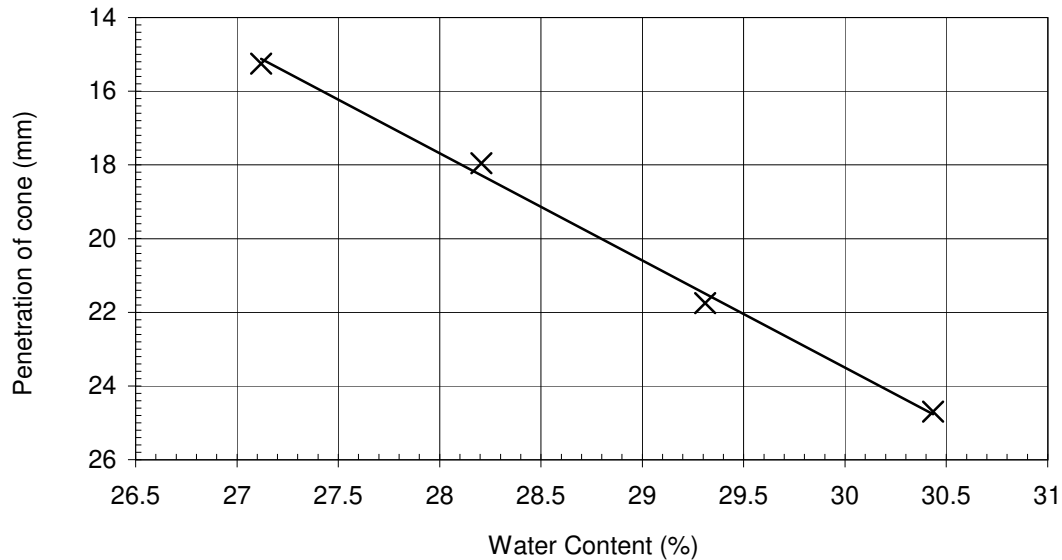
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	BH16
Sample Ref	
Depth (m)	7.20
Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	6.4 %
Percentage retained on 425µm sieve :	39 %
Liquid Limit :	29 %
Plastic Limit :	18 %
Plasticity Index :	11
Equivalent water content of material passing 425µm sieve :	10.5 %
Liquidity Index :	-0.68

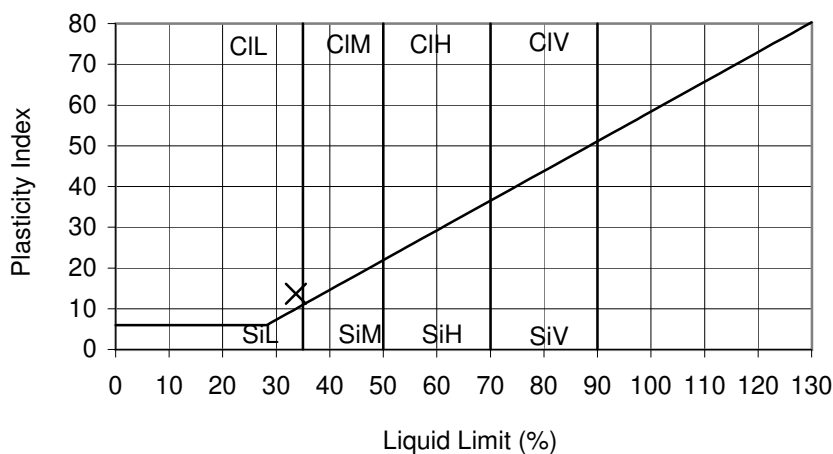
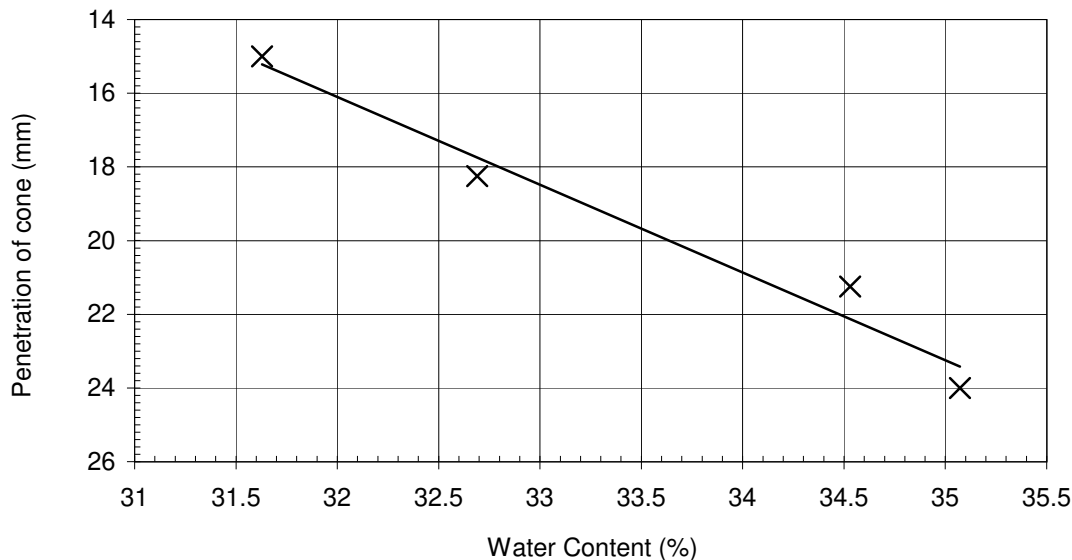
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	 Figure C35 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH16
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	9.45
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 14.2 %
 Percentage retained on 425µm sieve : 45 %
 Liquid Limit : 34 %
 Plastic Limit : 20 %
 Plasticity Index : 14

Equivalent water content of material passing 425µm sieve : 25.8 %
 Liquidity Index : 0.41

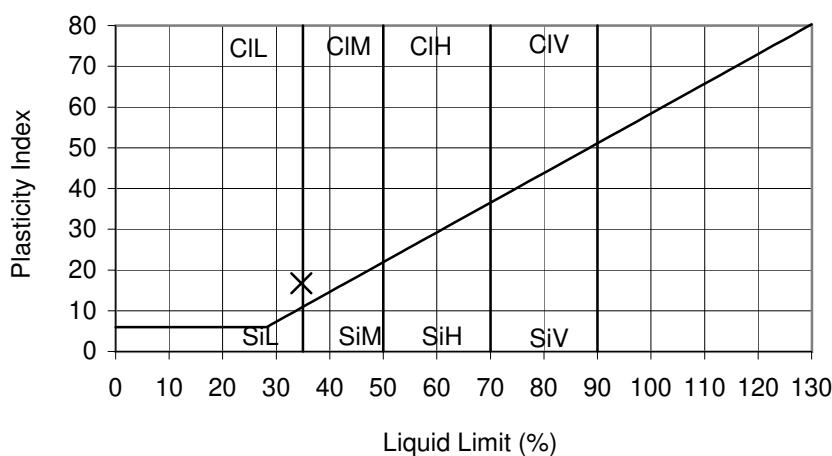
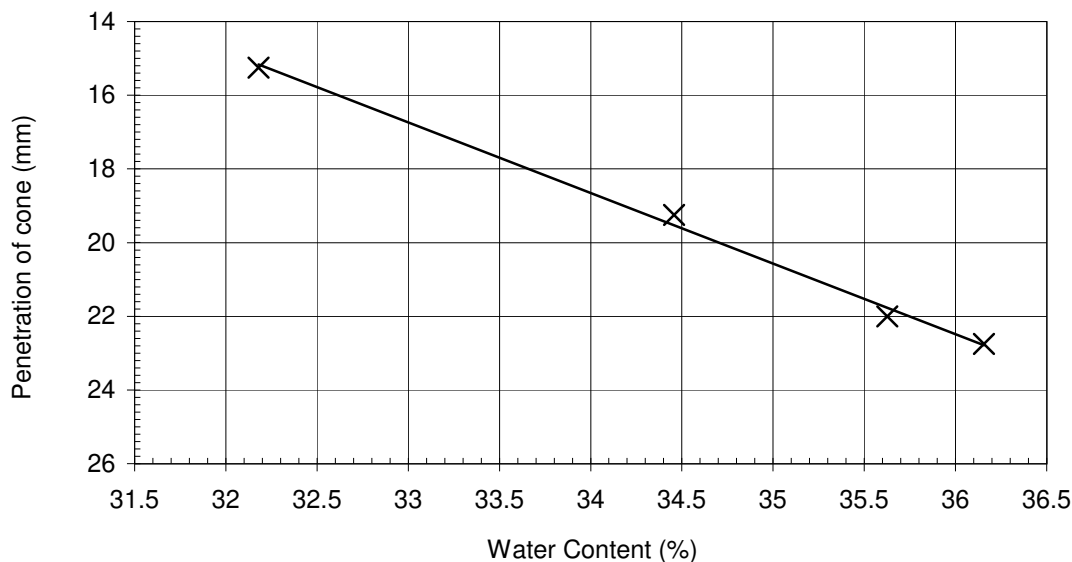
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C36 Sheet 1 of 1
CM	06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH16
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	16.20
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 24.6 %
 Percentage retained on 425µm sieve : 55 %
 Liquid Limit : 35 %
 Plastic Limit : 18 %
 Plasticity Index : 17

Equivalent water content of material passing 425µm sieve : 54.7 %
 Liquidity Index : 2.16

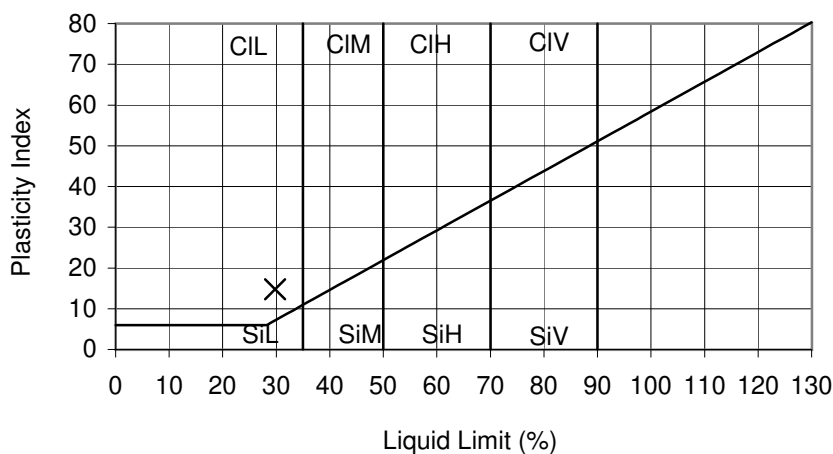
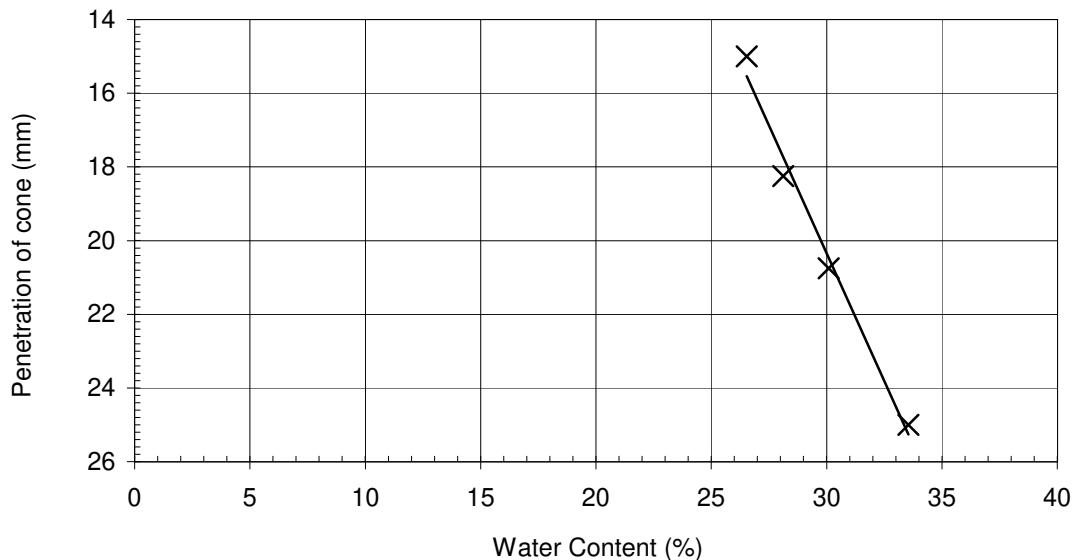
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C37 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH16
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	20.90
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	15.7 %
Percentage retained on 425µm sieve :	57 %
Liquid Limit :	30 %
Plastic Limit :	15 %
Plasticity Index :	15
Equivalent water content of material passing 425µm sieve :	36.5 %
Liquidity Index :	1.43

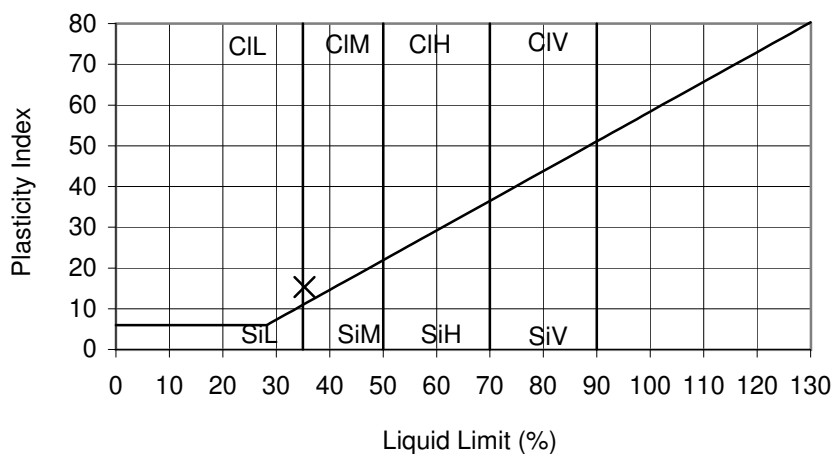
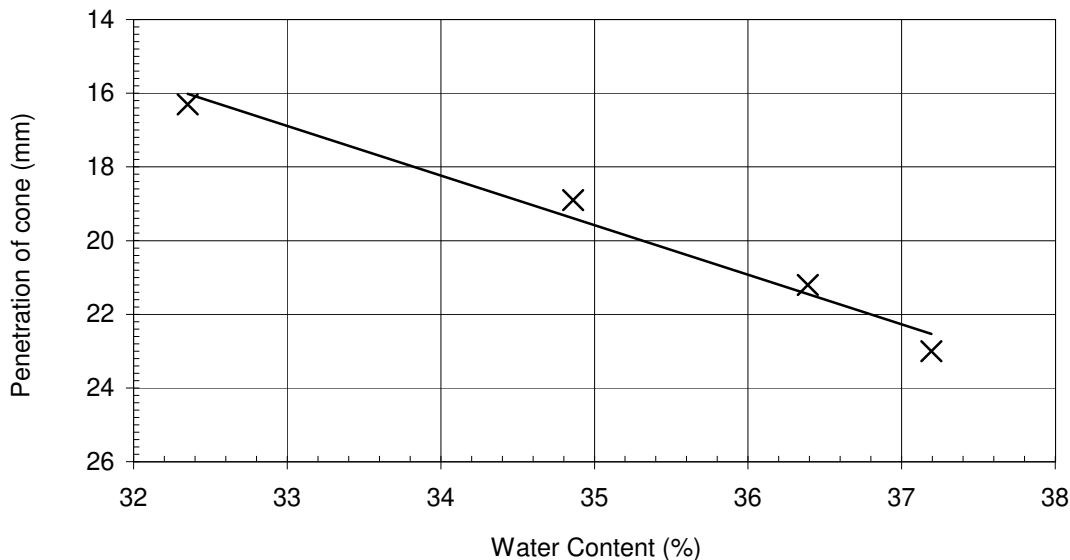
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C38 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH16
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	29.70
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 14.0 %
 Percentage retained on 425µm sieve : 28 %
 Liquid Limit : 35 %
 Plastic Limit : 20 %
 Plasticity Index : 15

Equivalent water content of material passing 425µm sieve : 19.4 %
 Liquidity Index : -0.04

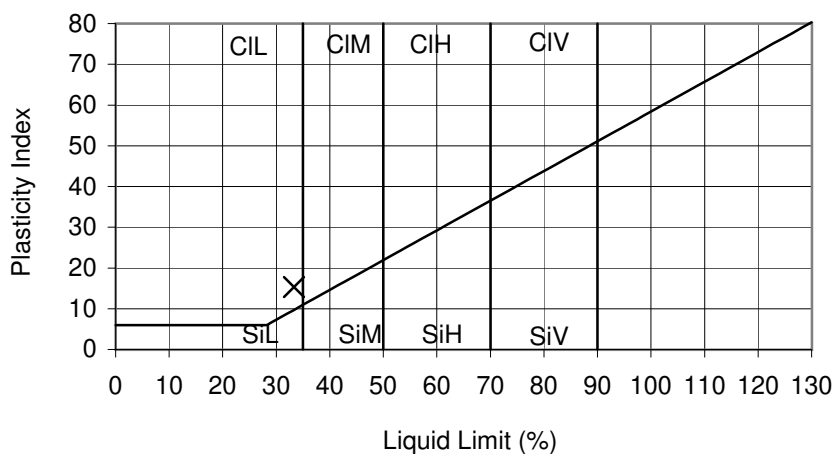
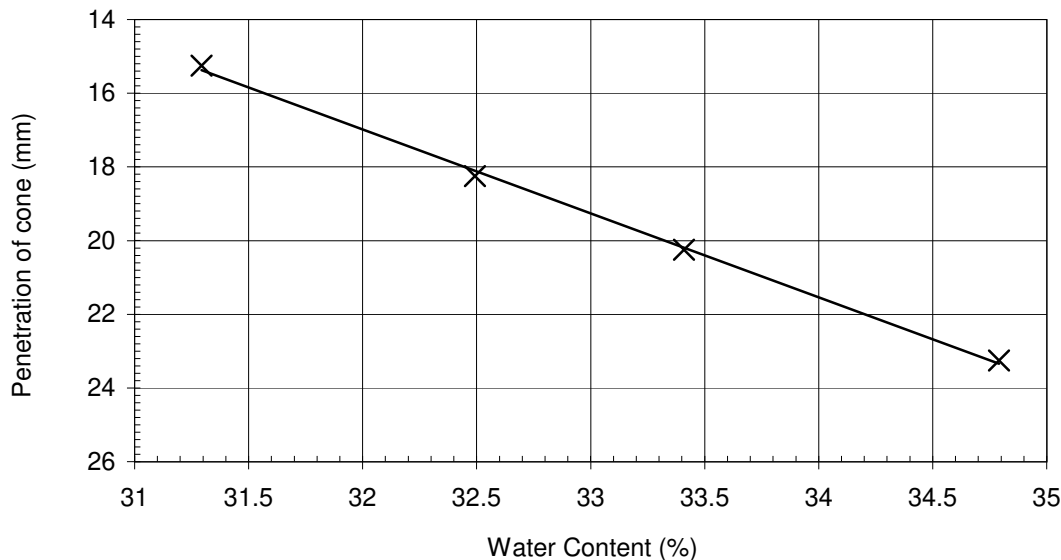
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C39 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH17
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.00
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	14.9 %
Percentage retained on 425µm sieve :	35 %
Liquid Limit :	33 %
Plastic Limit :	18 %
Plasticity Index :	15
Equivalent water content of material passing 425µm sieve :	22.9 %
Liquidity Index :	0.33

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 C40 Sheet 1 of 1
CM	CD 06/11/2024		



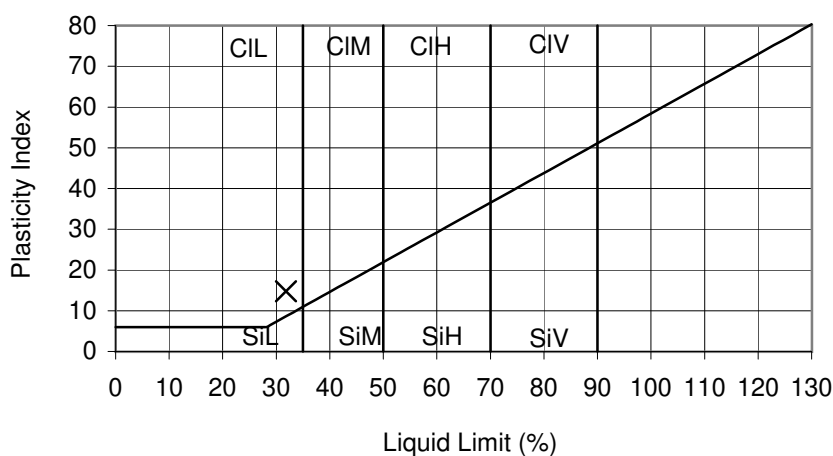
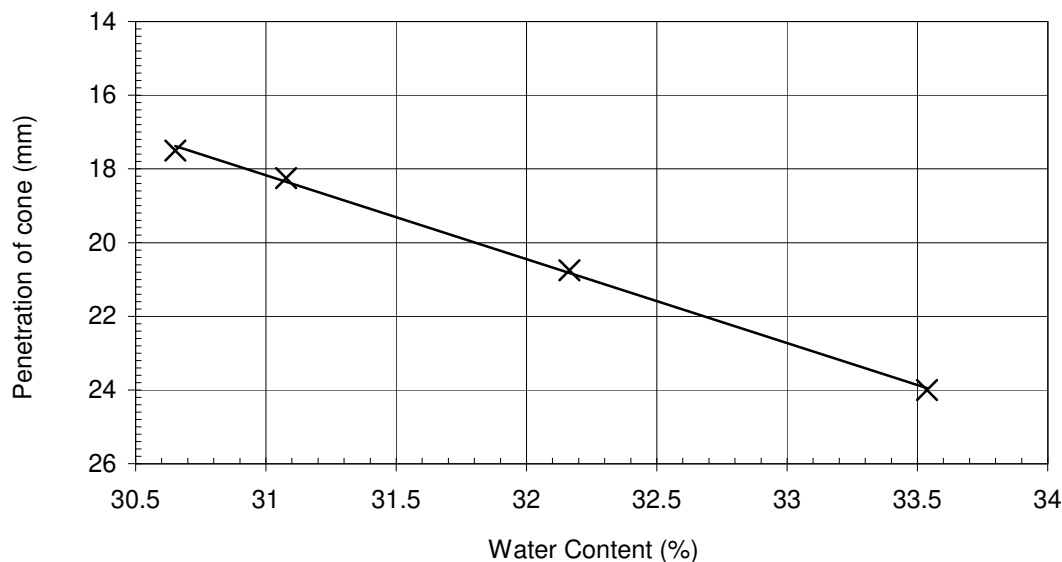
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	BH17
Sample Ref	
Depth (m)	1.60
Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	16.8 %
Percentage retained on 425µm sieve :	36 %
Liquid Limit :	32 %
Plastic Limit :	17 %
Plasticity Index :	15
Equivalent water content of material passing 425µm sieve :	26.3 %
Liquidity Index :	0.62

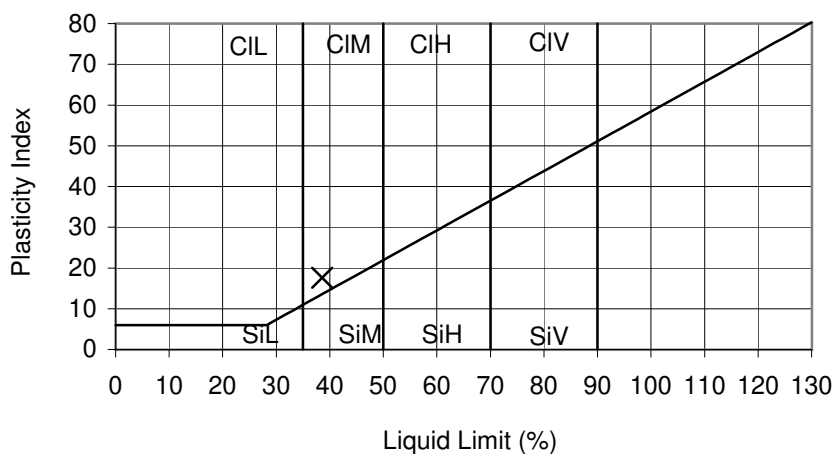
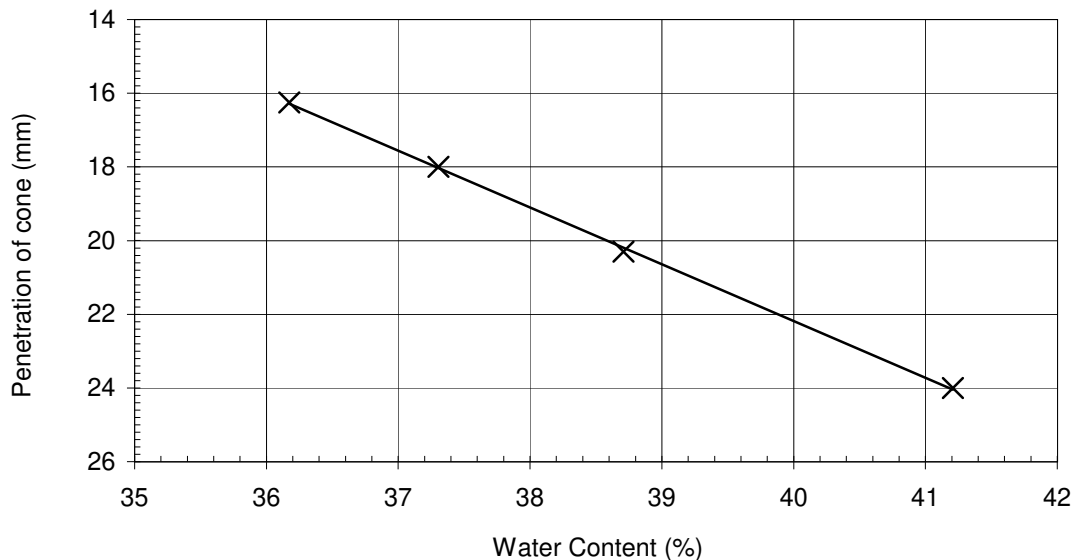
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C41 Sheet 1 of 1
CM	 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH17
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	4.50
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 15.0 %
 Percentage retained on 425µm sieve : 56 %
 Liquid Limit : 39 %
 Plastic Limit : 21 %
 Plasticity Index : 18

Equivalent water content of material passing 425µm sieve : 34.1 %
 Liquidity Index : 0.73

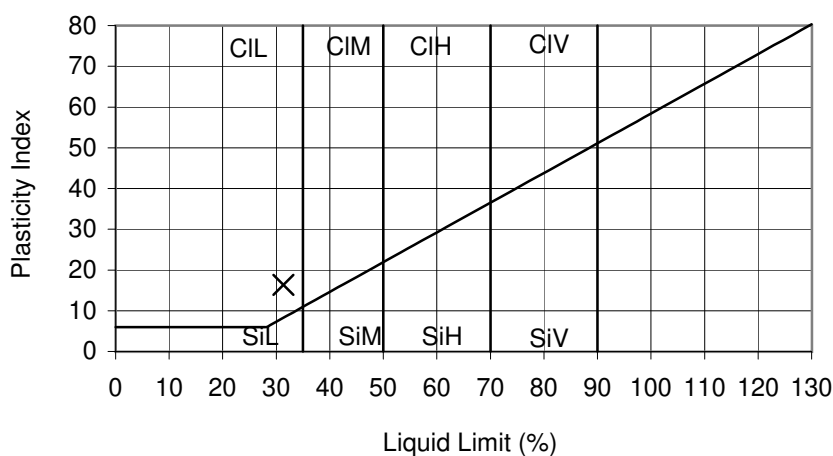
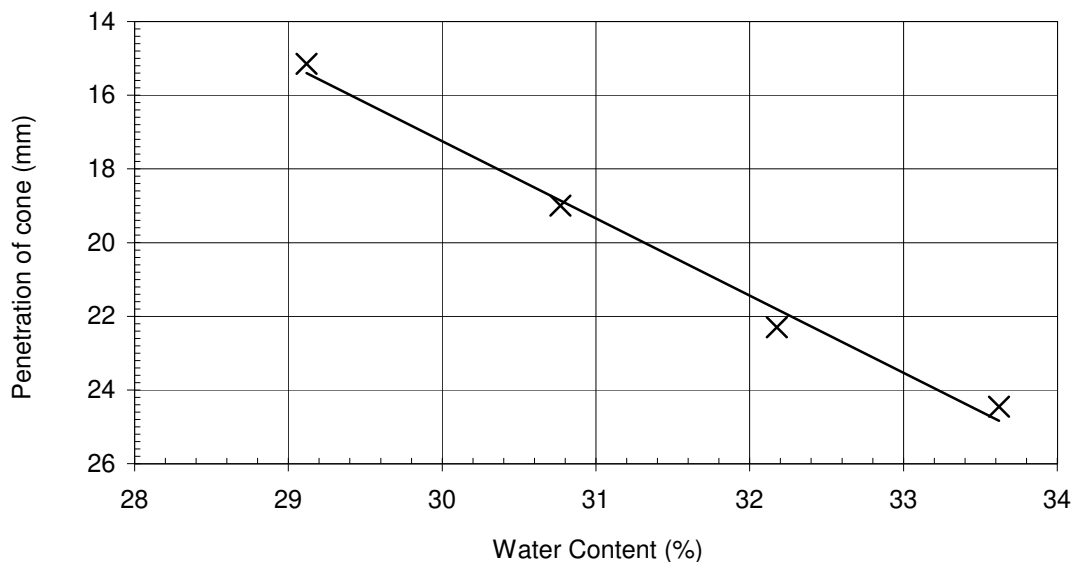
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C42 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH18
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	16.6 %
Percentage retained on 425µm sieve :	42 %
Liquid Limit :	31 %
Plastic Limit :	15 %
Plasticity Index :	16
Equivalent water content of material passing 425µm sieve :	28.6 %
Liquidity Index :	0.85

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 C43 Sheet 1 of 1
DW	CD 06/11/2024		



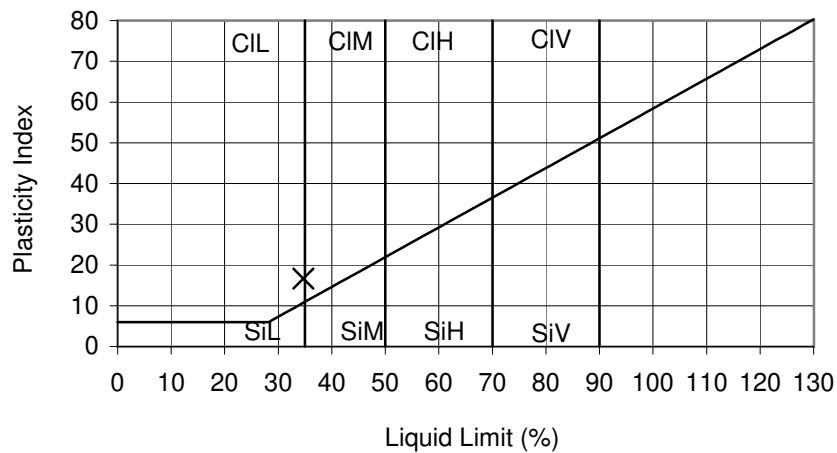
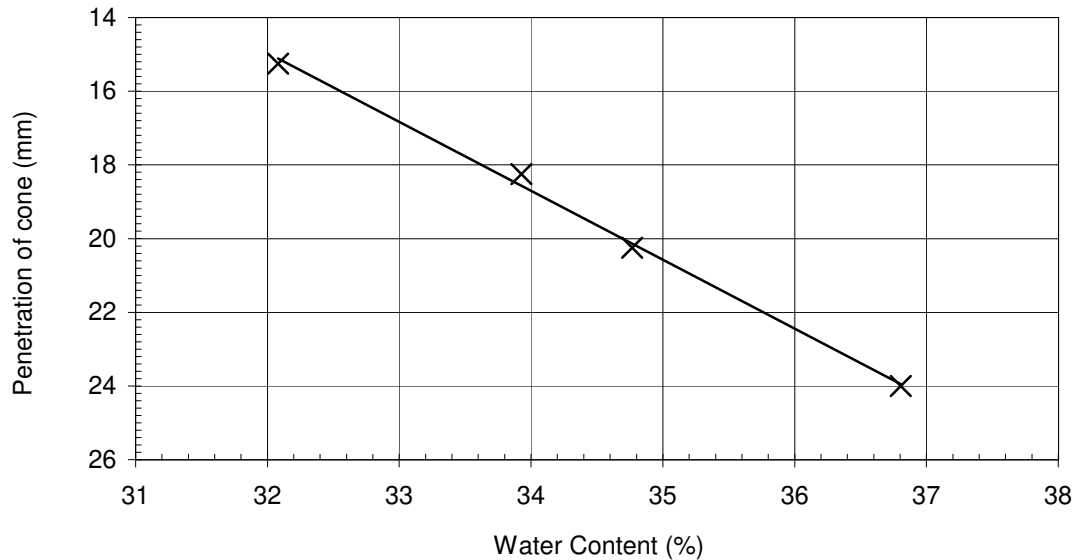
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	BH18
Sample Ref	
Depth (m)	1.50
Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	25.0 %
Percentage retained on 425µm sieve :	61 %
Liquid Limit :	35 %
Plastic Limit :	18 %
Plasticity Index :	17
Equivalent water content of material passing 425µm sieve :	64.1 %
Liquidity Index :	2.71

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 C44 Sheet 1 of 1
CM	CD 06/11/2024		



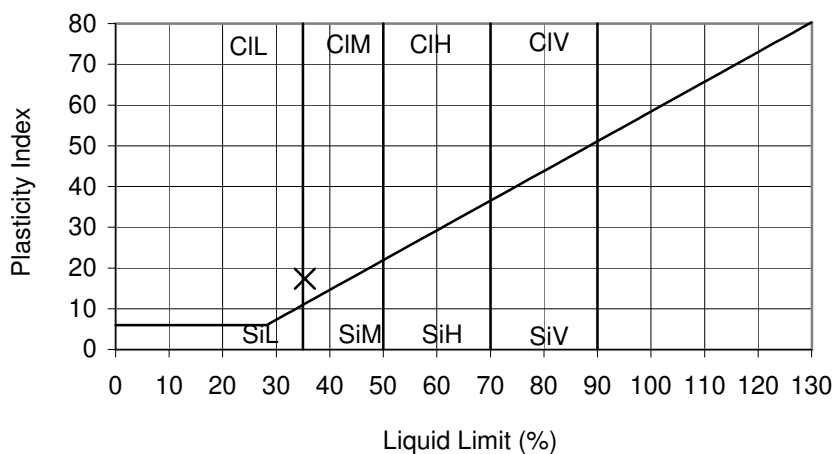
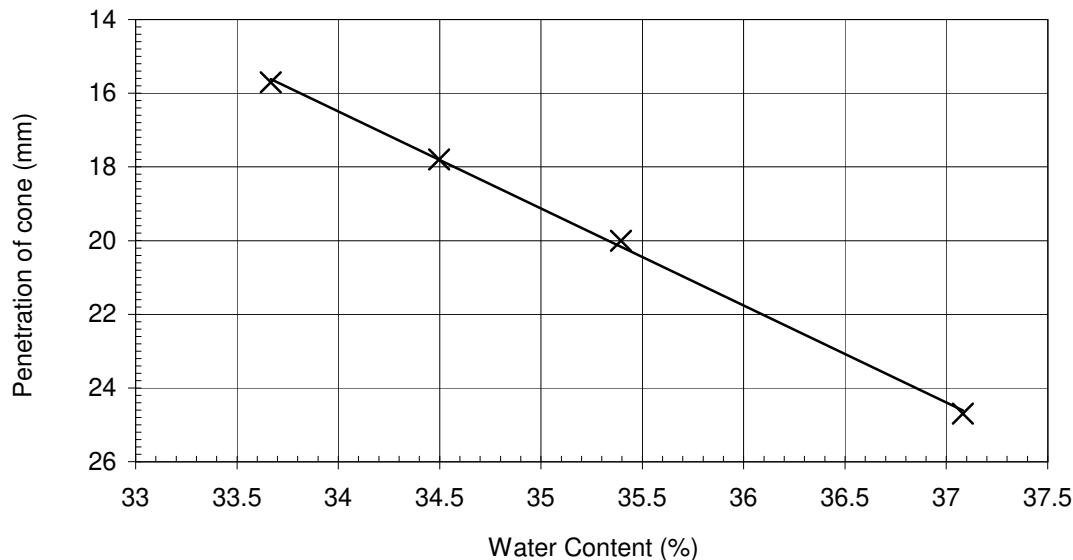
Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

Contract No. 26667

Hole ID BH19
Sample Ref
Depth (m) 0.50
Sample Type D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 13.4 %
Percentage retained on 425µm sieve : 48 %
Liquid Limit : 35 %
Plastic Limit : 18 %
Plasticity Index : 17

Equivalent water content of material passing 425µm sieve : 25.8 %
Liquidity Index : 0.46

Originator	Checked & Approved
NW	CD 06/11/2024

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 C45

Sheet 1 of 1



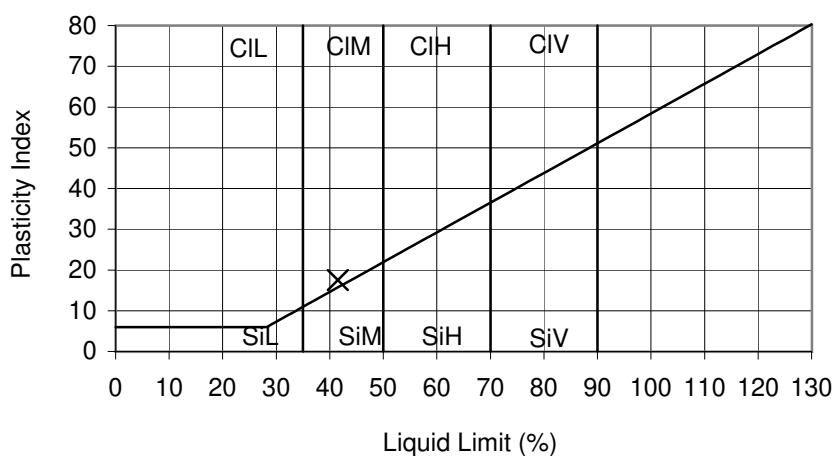
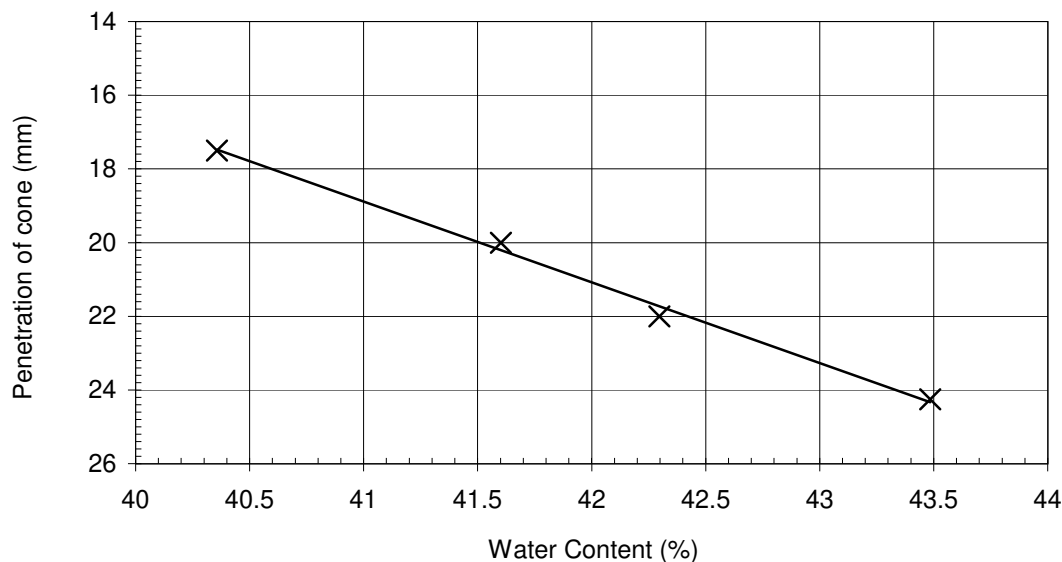
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	BH19
Sample Ref	
Depth (m)	1.70
Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	19.8 %
Percentage retained on 425µm sieve :	60 %
Liquid Limit :	42 %
Plastic Limit :	24 %
Plasticity Index :	18
Equivalent water content of material passing 425µm sieve :	49.5 %
Liquidity Index :	1.42

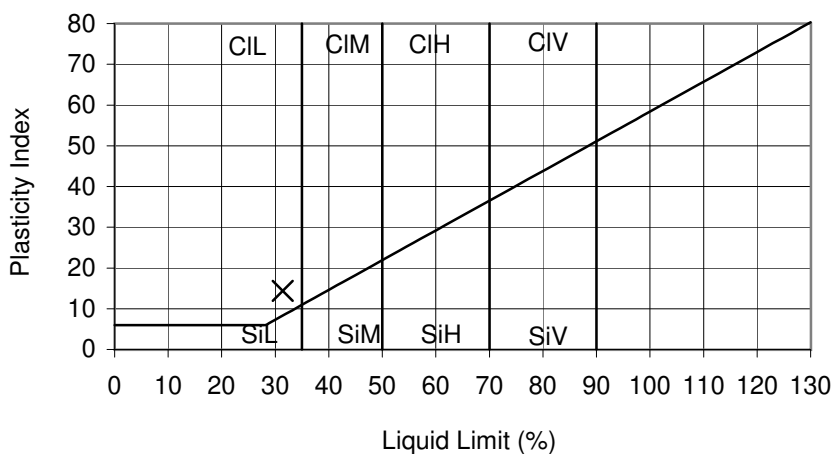
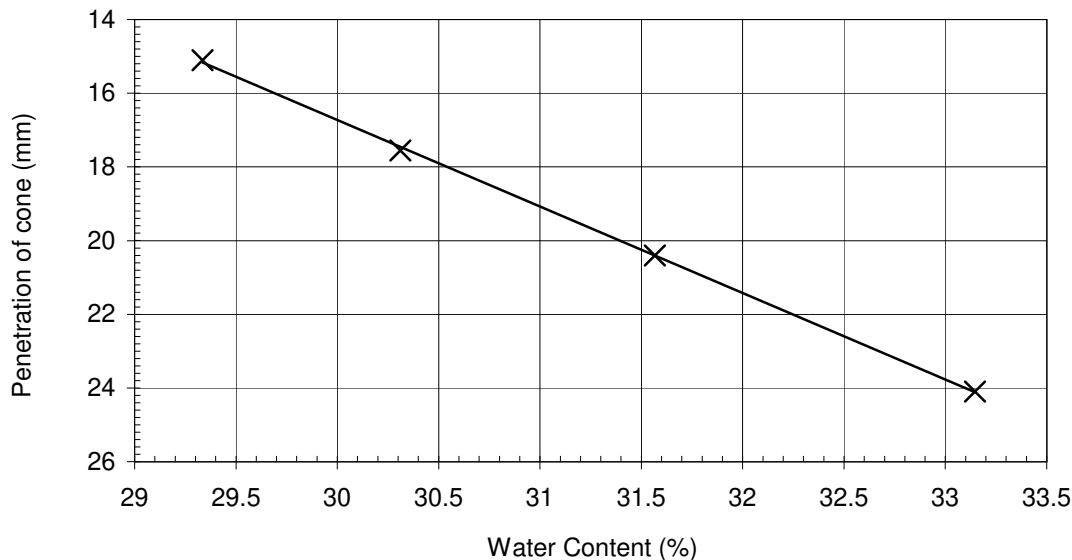
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C46 Sheet 1 of 1
CM	06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	BH20
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	14.0 %
Percentage retained on 425µm sieve :	33 %
Liquid Limit :	31 %
Plastic Limit :	17 %
Plasticity Index :	14
Equivalent water content of material passing 425µm sieve :	20.9 %
Liquidity Index :	0.28

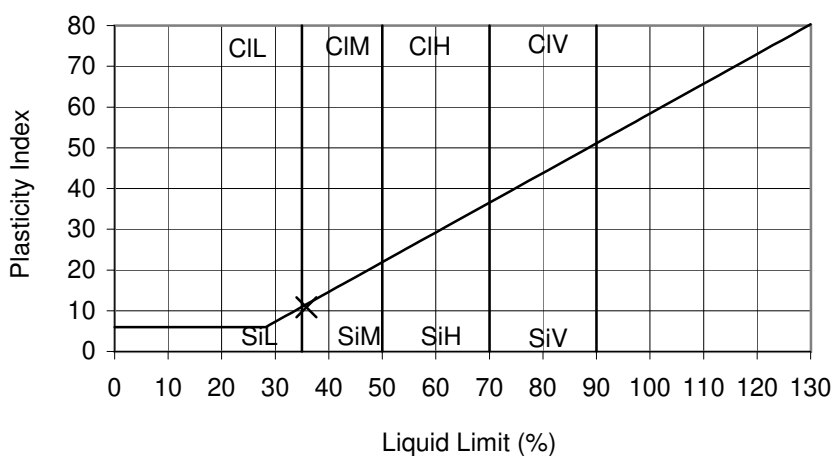
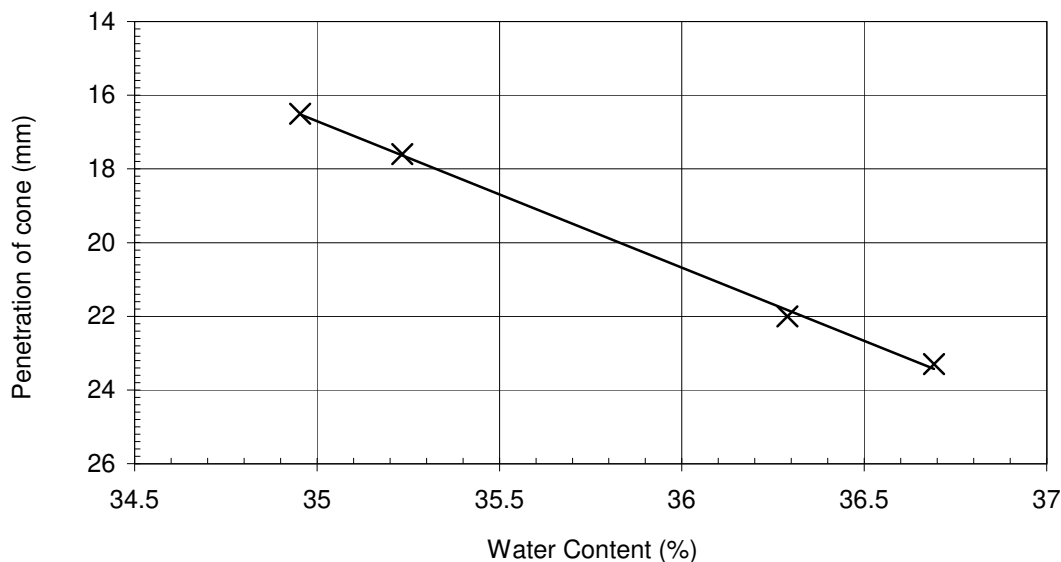
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C47 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP04
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 21.3 %
 Percentage retained on 425µm sieve : 56 %
 Liquid Limit : 36 %
 Plastic Limit : 25 %
 Plasticity Index : 11

Equivalent water content of material passing 425µm sieve : 48.4 %
 Liquidity Index : 2.13

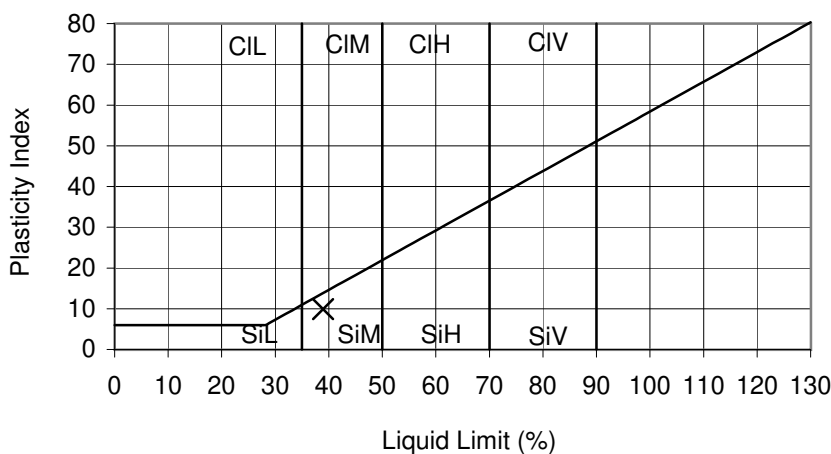
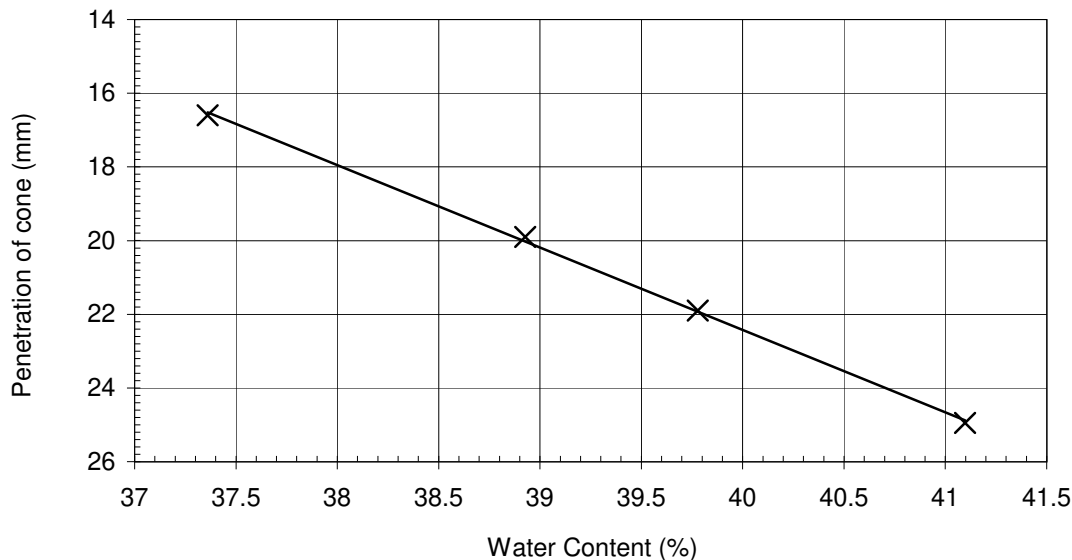
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C48 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP05
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 23.9 %
 Percentage retained on 425µm sieve : 10 %
 Liquid Limit : 39 %
 Plastic Limit : 29 %
 Plasticity Index : 10

Equivalent water content of material passing 425µm sieve : 26.6 %
 Liquidity Index : -0.24

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 C49 Sheet 1 of 1
NW	CD 06/11/2024		



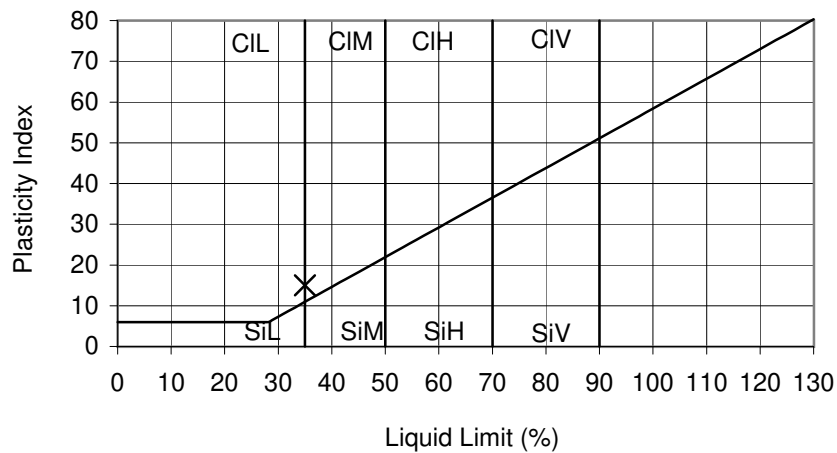
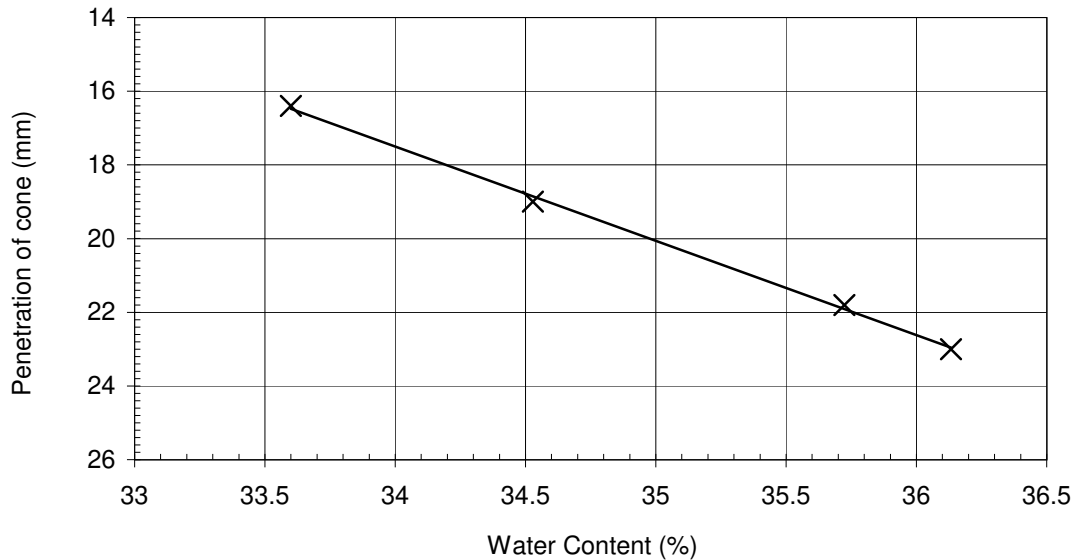
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	TP06
Sample Ref	
Depth (m)	0.50
Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	18.4 %
Percentage retained on 425µm sieve :	22 %
Liquid Limit :	35 %
Plastic Limit :	20 %
Plasticity Index :	15
Equivalent water content of material passing 425µm sieve :	23.6 %
Liquidity Index :	0.24

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 C50 Sheet 1 of 1
NW	CD 06/11/2024		



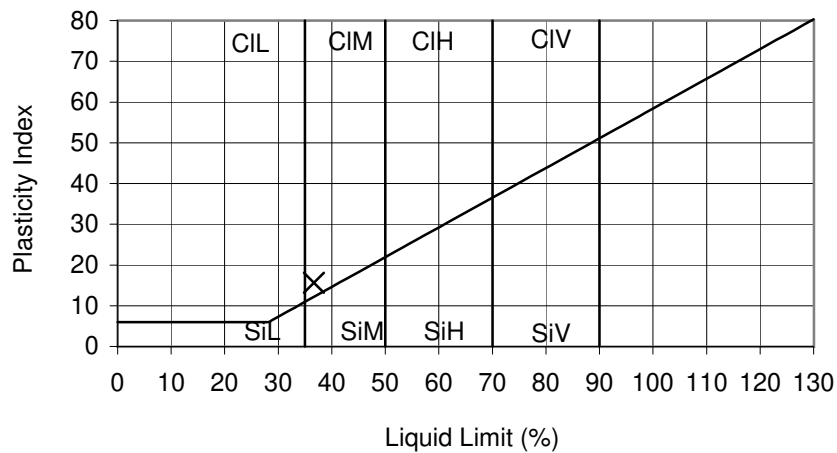
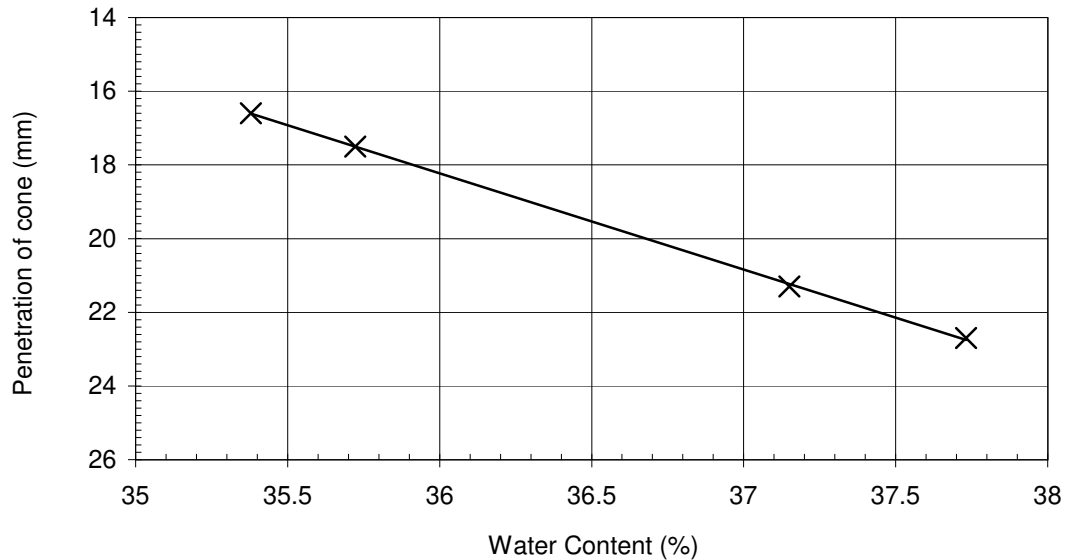
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	TP06
Sample Ref	
Depth (m)	1.50
Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	26.3 %
Percentage retained on 425µm sieve :	33 %
Liquid Limit :	37 %
Plastic Limit :	21 %
Plasticity Index :	16
Equivalent water content of material passing 425µm sieve :	39.3 %
Liquidity Index :	1.14

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 C51 Sheet 1 of 1
NW	CD 06/11/2024		



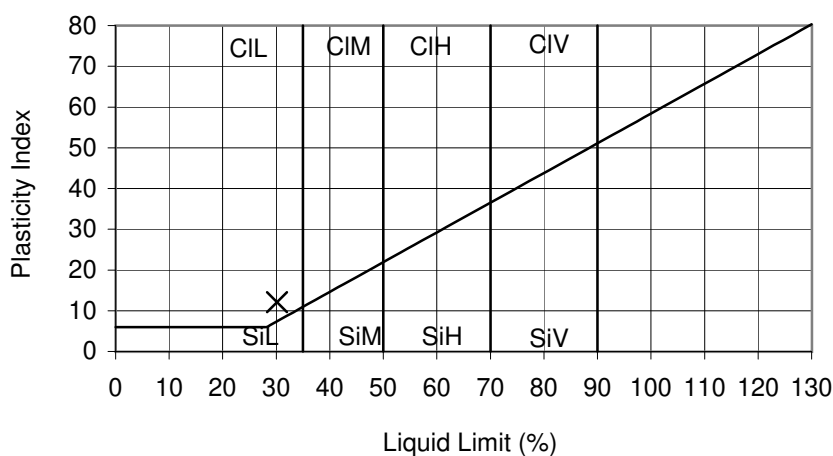
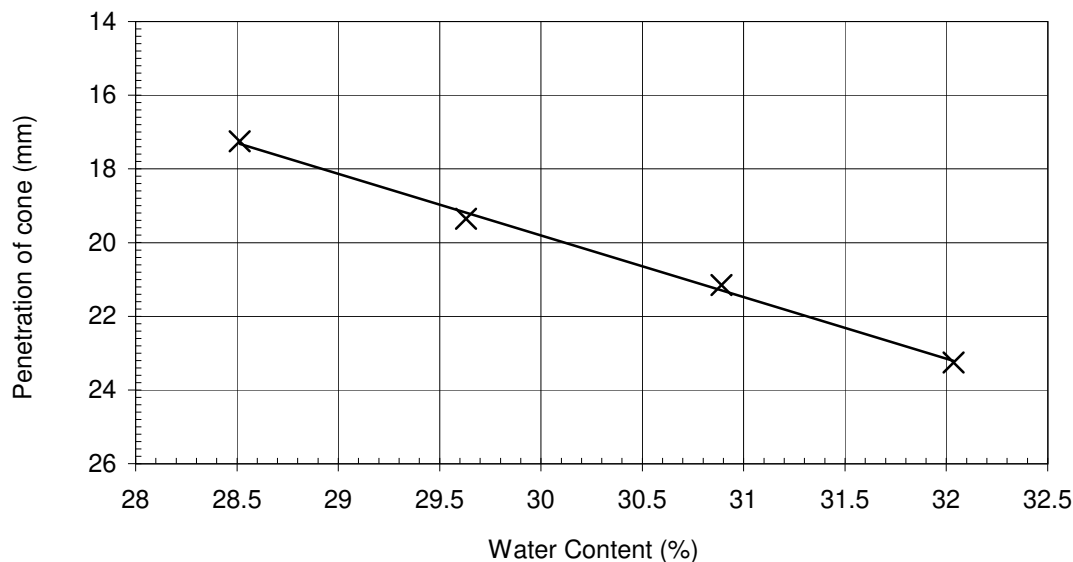
Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

Contract No. 26667

Hole ID TP06
Sample Ref
Depth (m) 2.50
Sample Type D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 12.3 %
Percentage retained on 425µm sieve : 62 %
Liquid Limit : 30 %
Plastic Limit : 18 %
Plasticity Index : 12

Equivalent water content of material passing 425µm sieve : 32.4 %
Liquidity Index : 1.20

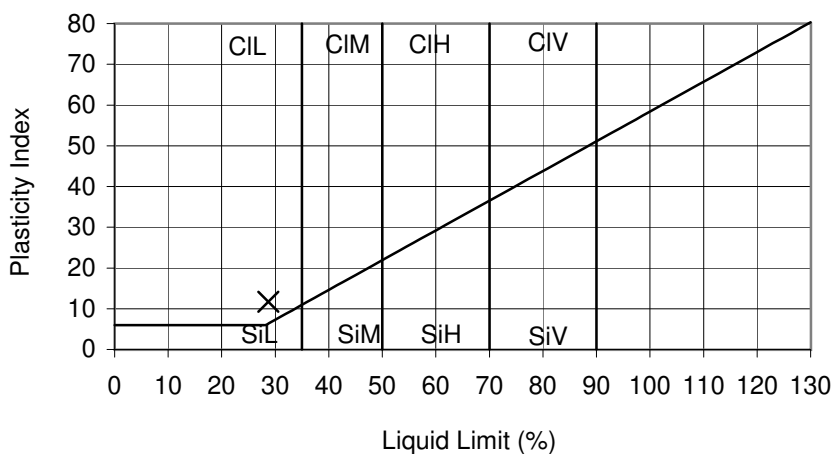
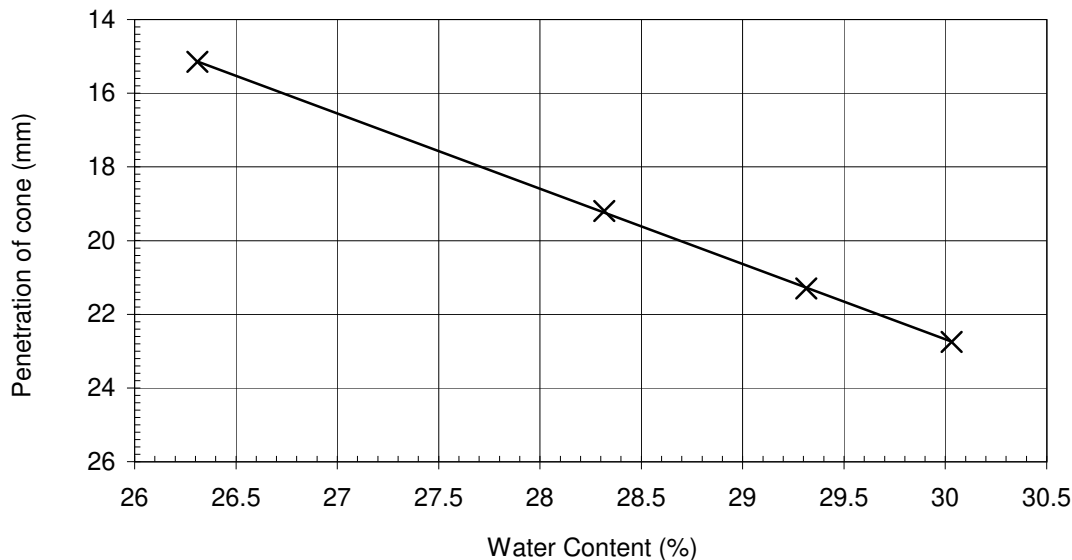
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C52 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP07
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	2.00
		Sample Type	B

Non Engineering Description : Brown silty sandy fine to coarse GRAVEL with cobbles and pockets of clay

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 9.9 %
 Percentage retained on 425µm sieve : 80 %
 Liquid Limit : 29 %
 Plastic Limit : 17 %
 Plasticity Index : 12

Equivalent water content of material passing 425µm sieve : 49.5 %
 Liquidity Index : 2.71

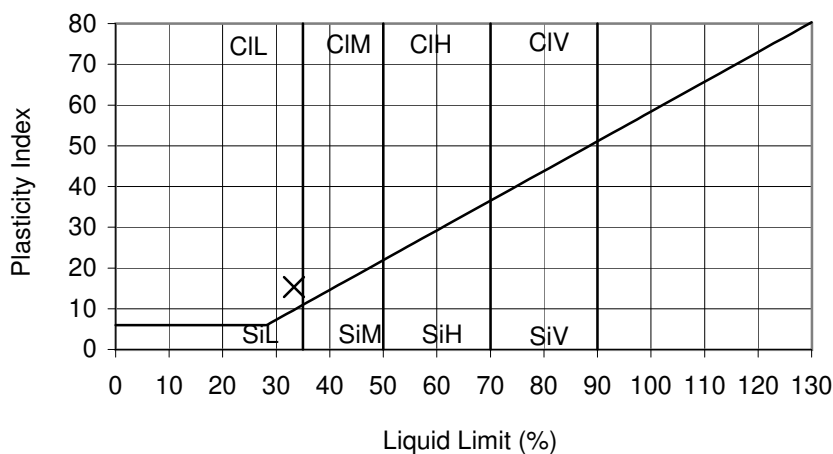
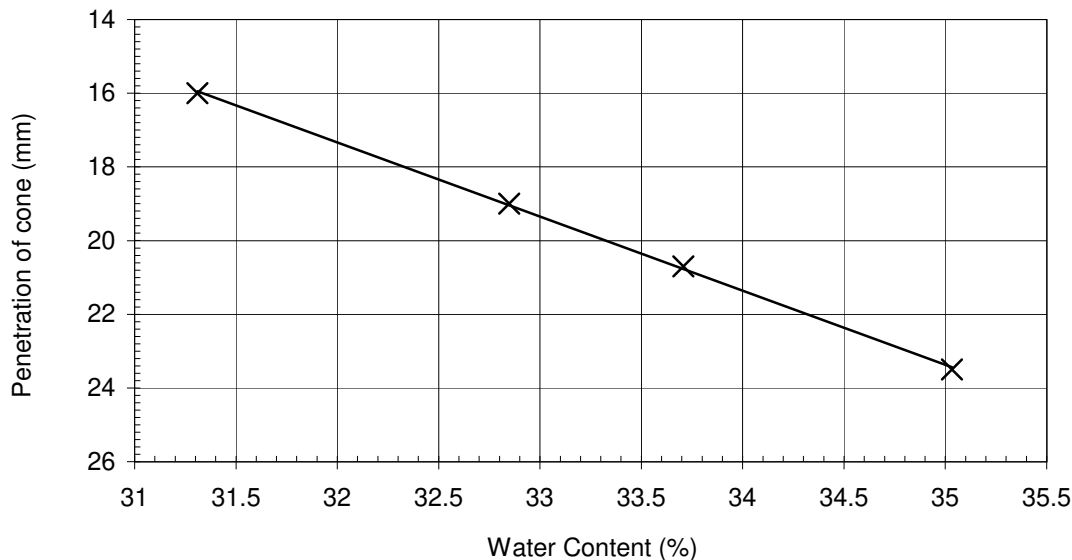
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C53 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP08
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 45.0 %
 Percentage retained on 425µm sieve : 16 %
 Liquid Limit : 33 %
 Plastic Limit : 18 %
 Plasticity Index : 15

Equivalent water content of material passing 425µm sieve : 53.6 %
 Liquidity Index : 2.37

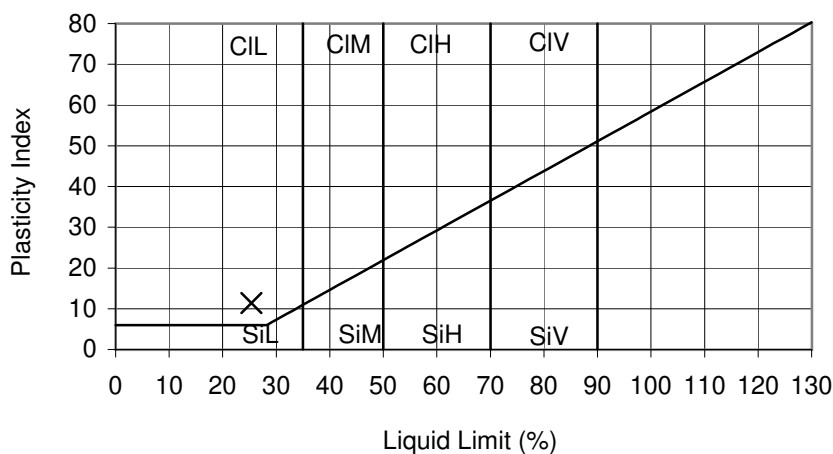
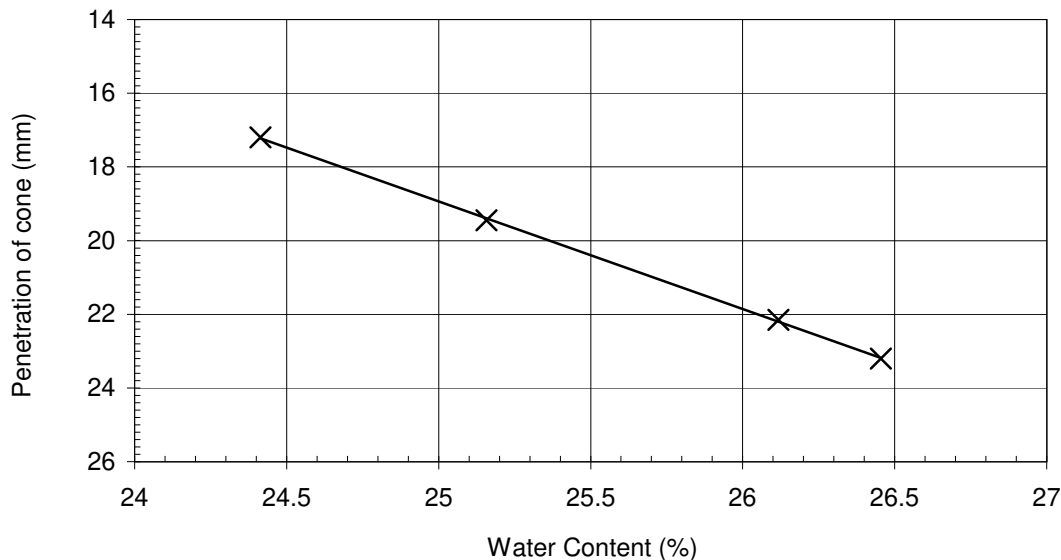
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C54 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP08
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	2.50
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 22.9 %
 Percentage retained on 425µm sieve : 38 %
 Liquid Limit : 25 %
 Plastic Limit : 14 %
 Plasticity Index : 11

Equivalent water content of material passing 425µm sieve : 36.9 %
 Liquidity Index : 2.08

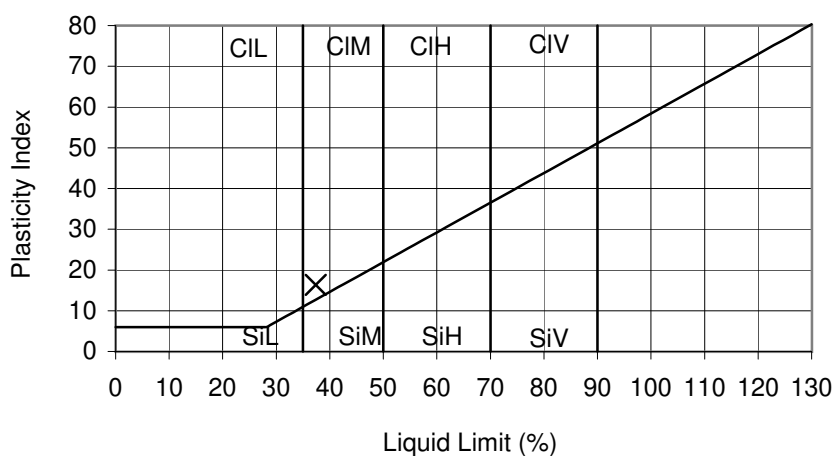
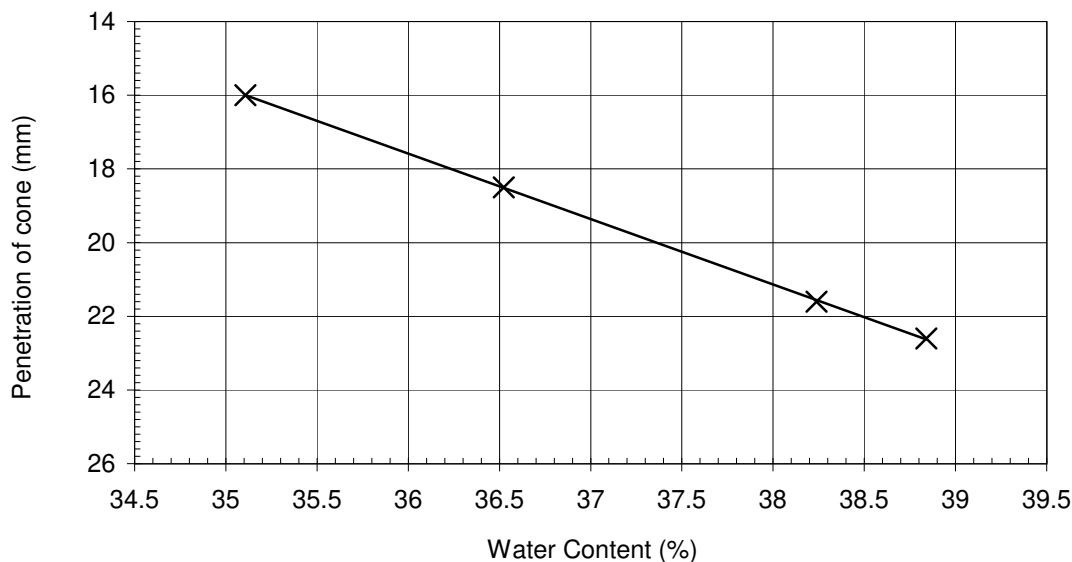
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C55 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP09
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	15.5 %
Percentage retained on 425µm sieve :	48 %
Liquid Limit :	37 %
Plastic Limit :	21 %
Plasticity Index :	16
Equivalent water content of material passing 425µm sieve :	29.8 %
Liquidity Index :	0.55

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 C56 Sheet 1 of 1
NW	CD 06/11/2024		



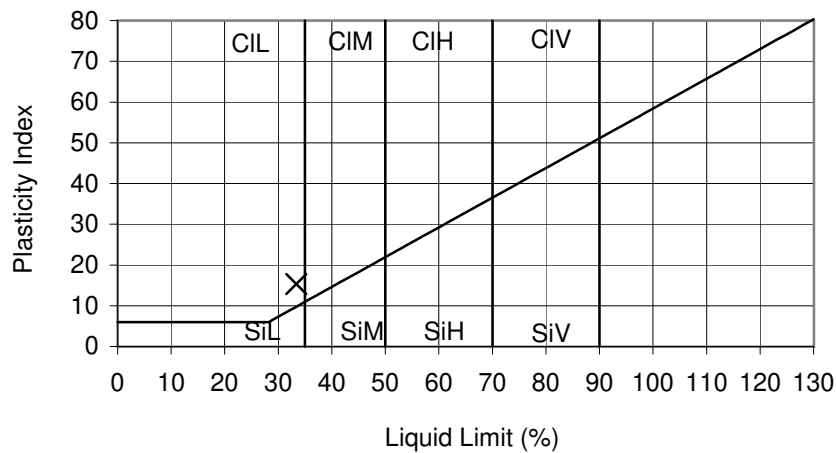
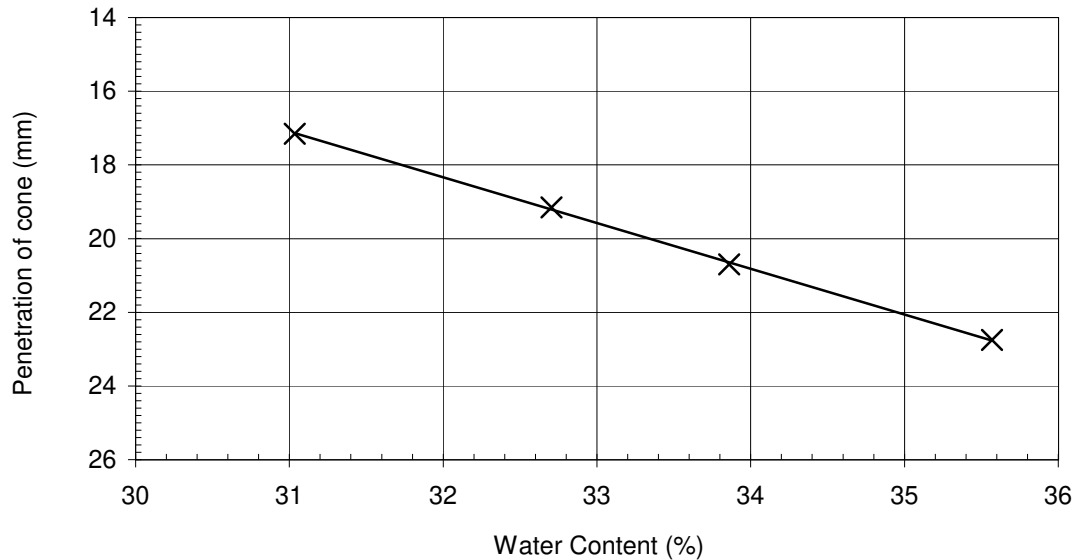
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	TP09
Sample Ref	
Depth (m)	1.50
Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	14.8 %
Percentage retained on 425µm sieve :	58 %
Liquid Limit :	33 %
Plastic Limit :	18 %
Plasticity Index :	15
Equivalent water content of material passing 425µm sieve :	35.2 %
Liquidity Index :	1.15

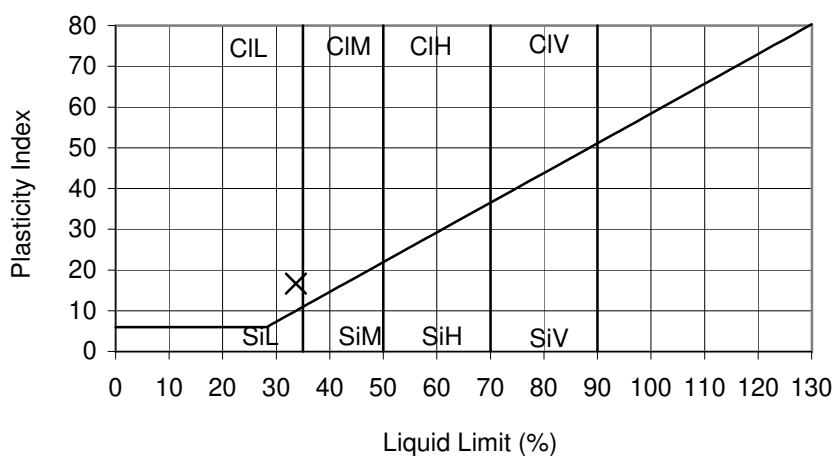
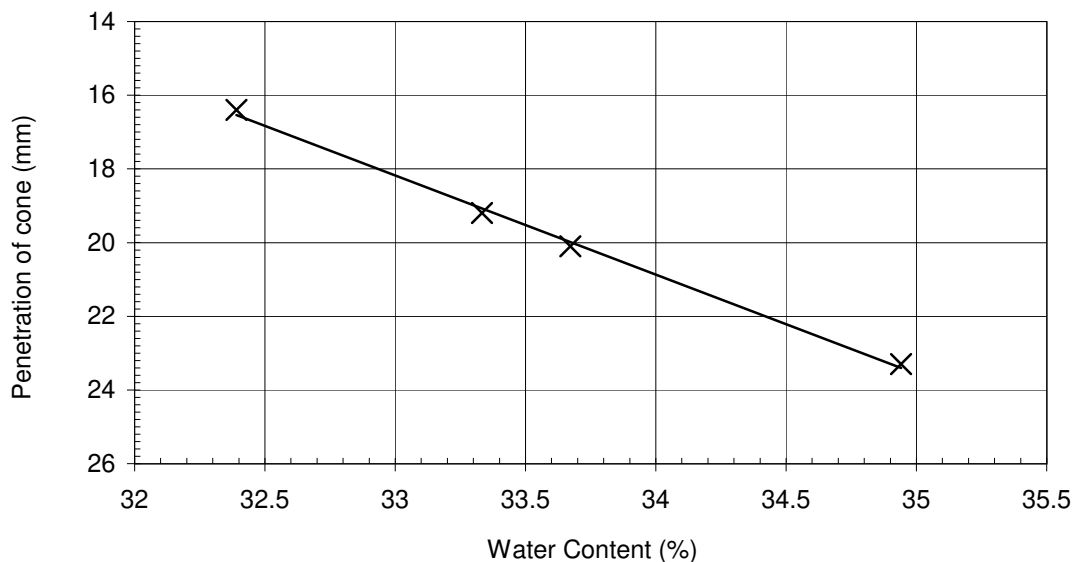
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	 Figure C57 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP10
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	14.6 %
Percentage retained on 425µm sieve :	53 %
Liquid Limit :	34 %
Plastic Limit :	17 %
Plasticity Index :	17
Equivalent water content of material passing 425µm sieve :	31.1 %
Liquidity Index :	0.83

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 C58 Sheet 1 of 1
NW	CD 06/11/2024		



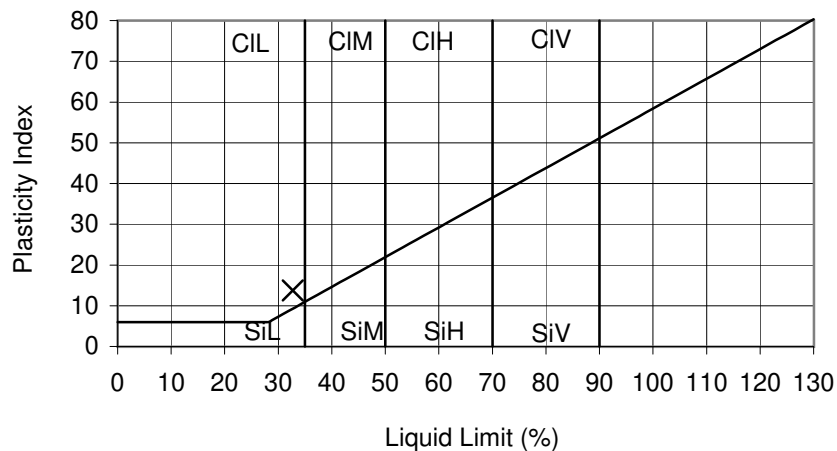
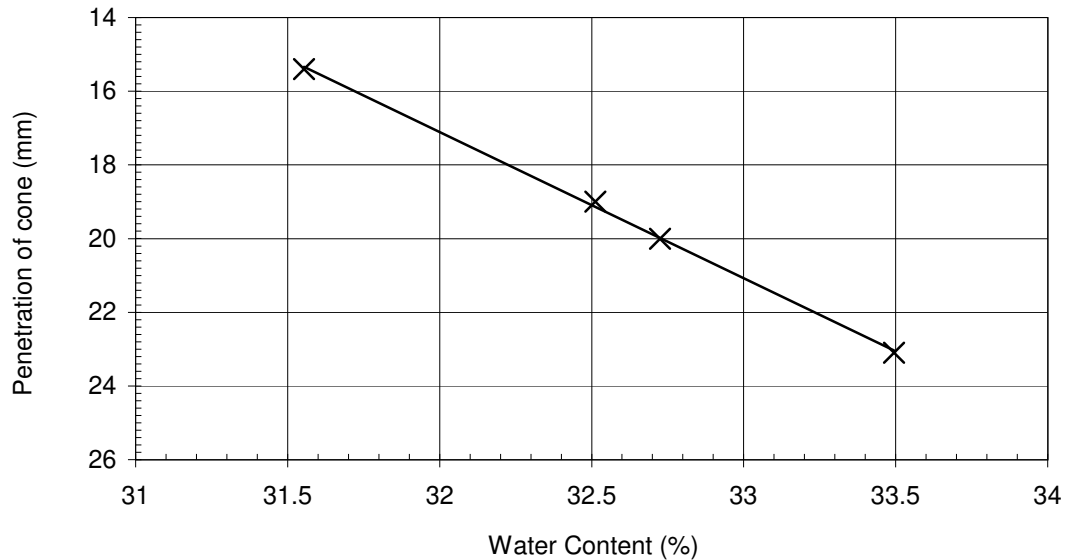
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	TP10
Sample Ref	
Depth (m)	1.50
Sample Type	D

Non Engineering Description : Brown silty very sandy fine to coarse GRAVEL with pockets of clay

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	26.6 %
Percentage retained on 425µm sieve :	74 %
Liquid Limit :	33 %
Plastic Limit :	19 %
Plasticity Index :	14
Equivalent water content of material passing 425µm sieve :	102 %
Liquidity Index :	5.93

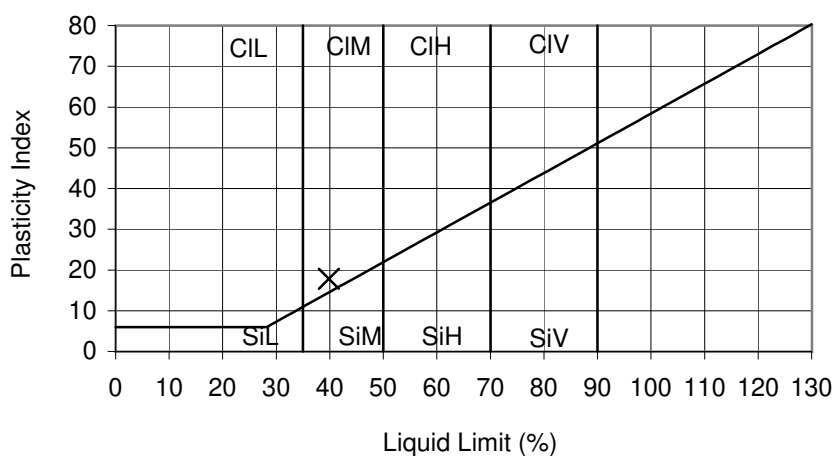
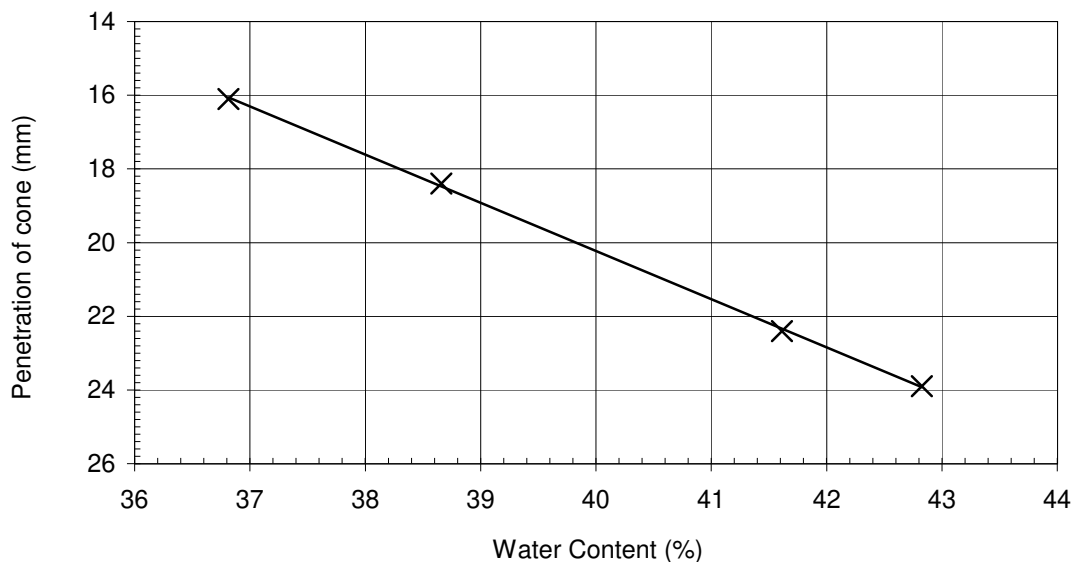
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	 Figure C59 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP11
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly sandy CLAY

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	47.2 %
Percentage retained on 425µm sieve :	1 %
Liquid Limit :	40 %
Plastic Limit :	22 %
Plasticity Index :	18
Equivalent water content of material passing 425µm sieve :	47.7 %
Liquidity Index :	1.43

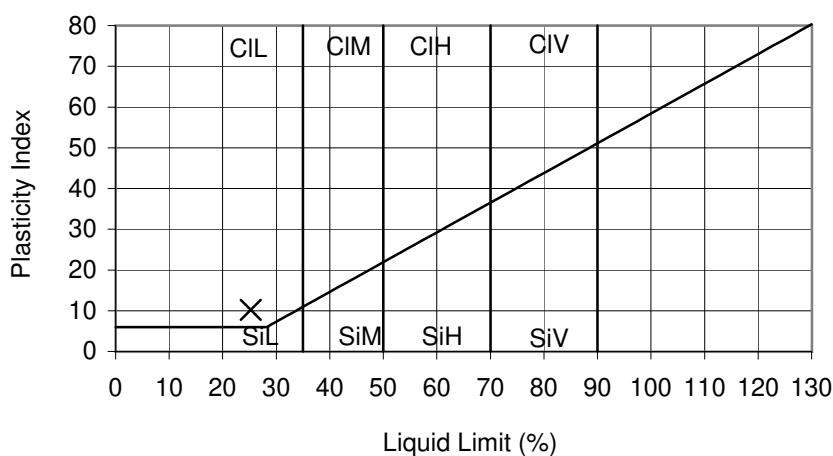
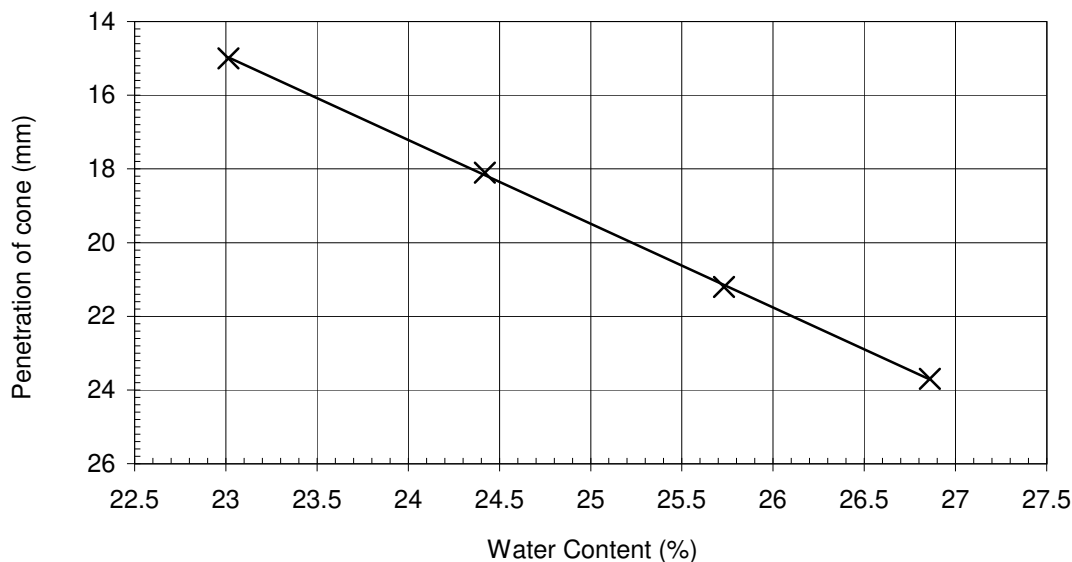
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C60 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP11
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	14.2 %
Percentage retained on 425µm sieve :	18 %
Liquid Limit :	25 %
Plastic Limit :	15 %
Plasticity Index :	10
Equivalent water content of material passing 425µm sieve :	17.3 %
Liquidity Index :	0.23

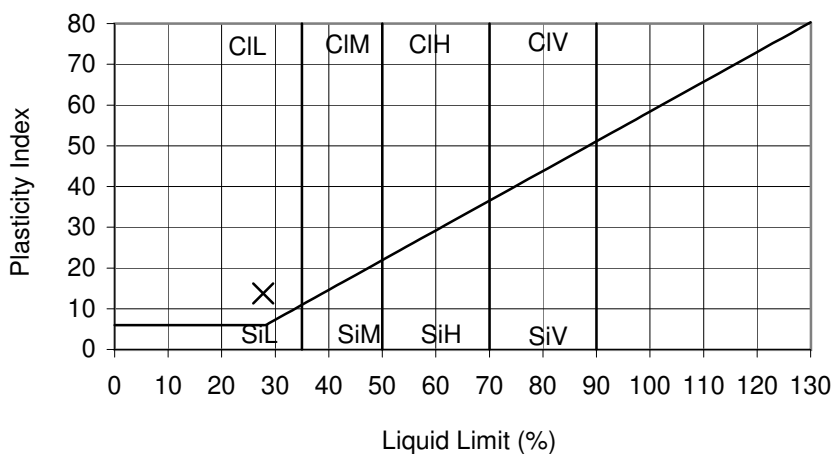
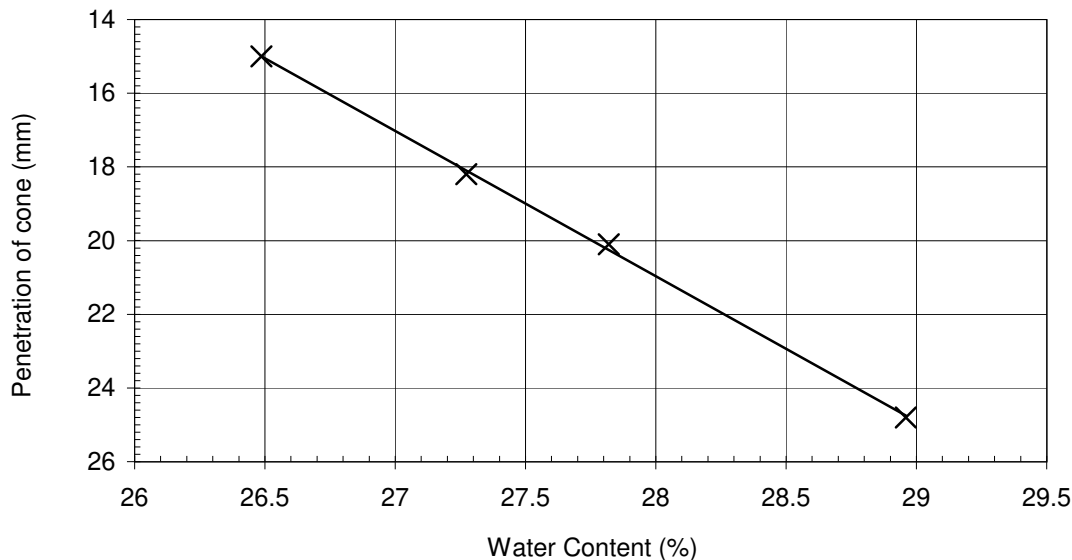
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C61 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP11
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	2.50
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	11.3 %
Percentage retained on 425µm sieve :	41 %
Liquid Limit :	28 %
Plastic Limit :	14 %
Plasticity Index :	14
Equivalent water content of material passing 425µm sieve :	19.2 %
Liquidity Index :	0.37

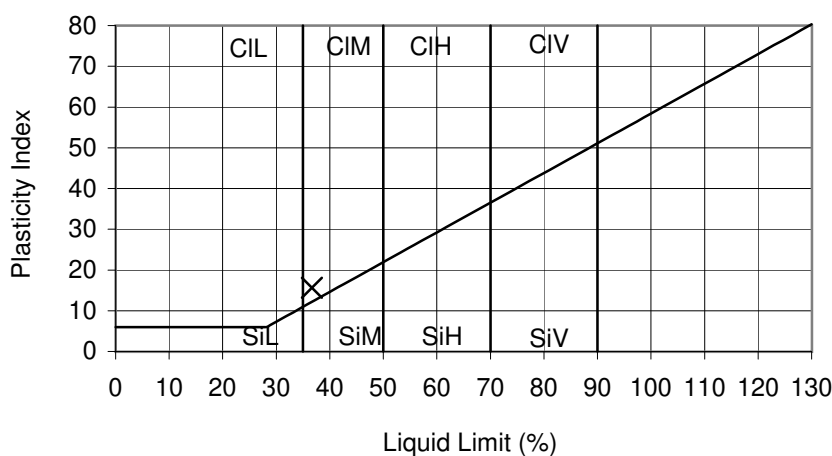
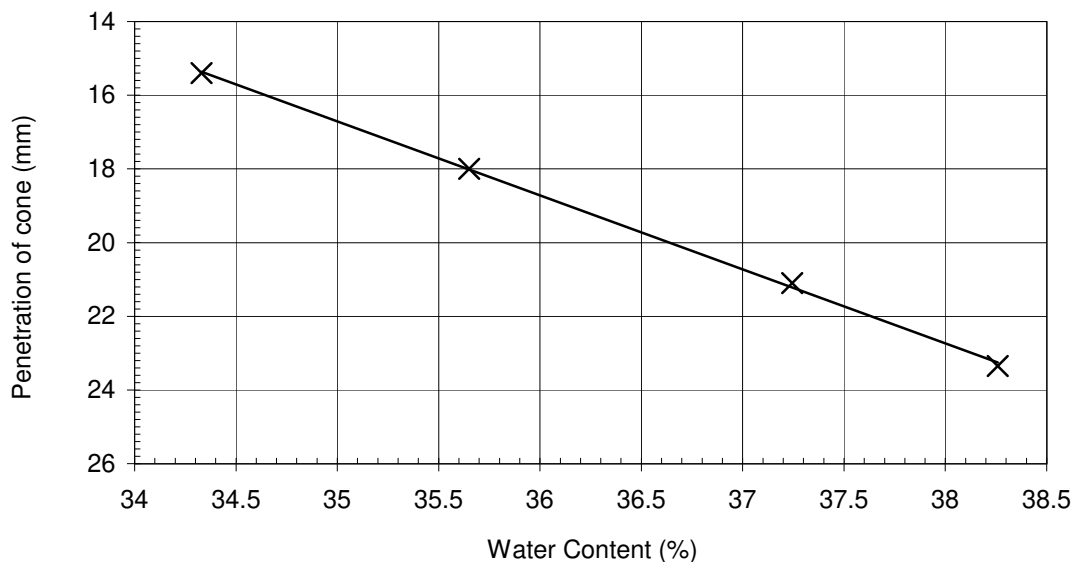
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C62 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP12
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	21.0 %
Percentage retained on 425µm sieve :	26 %
Liquid Limit :	37 %
Plastic Limit :	21 %
Plasticity Index :	16
Equivalent water content of material passing 425µm sieve :	28.4 %
Liquidity Index :	0.46

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 C63 Sheet 1 of 1
CM	CD 06/11/2024		



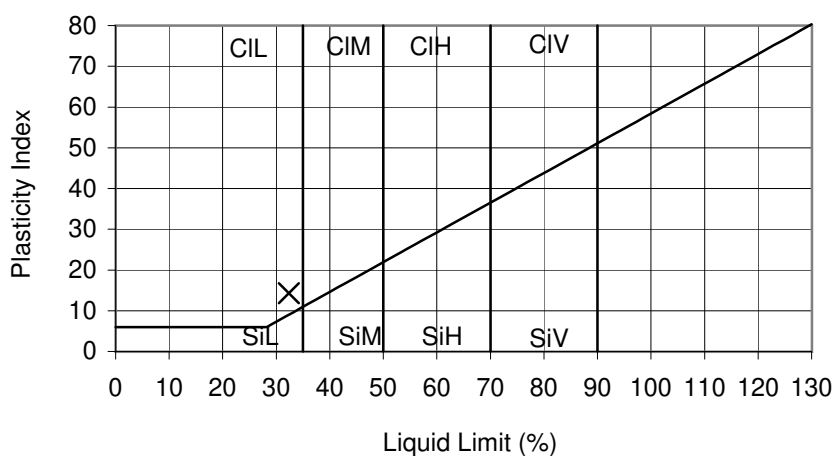
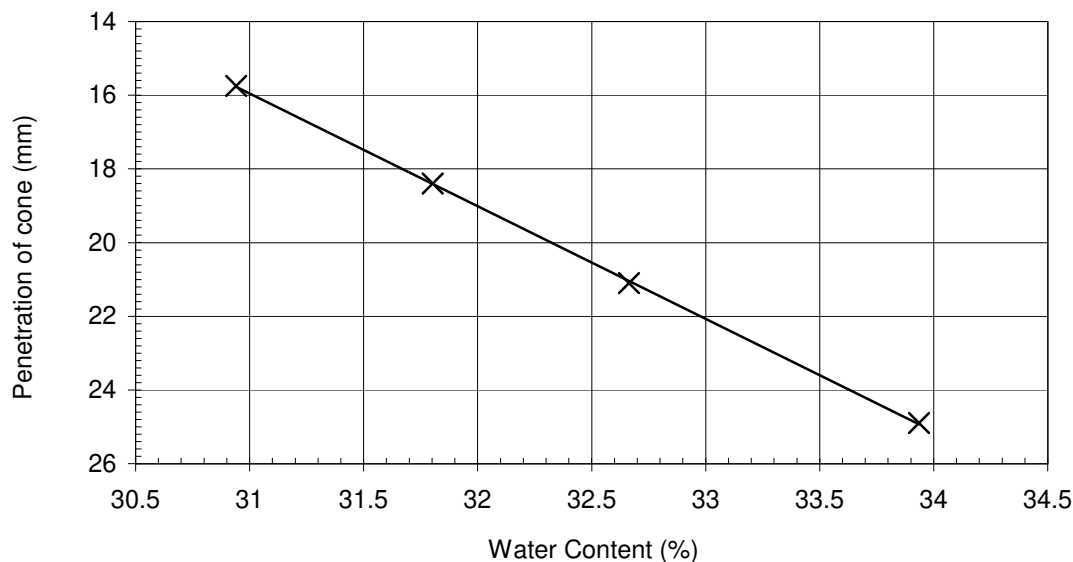
Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

Contract No. 26667

Hole ID TP12
Sample Ref
Depth (m) 2.00
Sample Type D

Non Engineering Description : Brown silty very sandy fine to coarse GRAVEL with cobble and pockets of clay

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 13.5 %
 Percentage retained on 425µm sieve : 67 %
 Liquid Limit : 32 %
 Plastic Limit : 18 %
 Plasticity Index : 14
 Equivalent water content of material passing 425µm sieve : 40.9 %
 Liquidity Index : 1.64

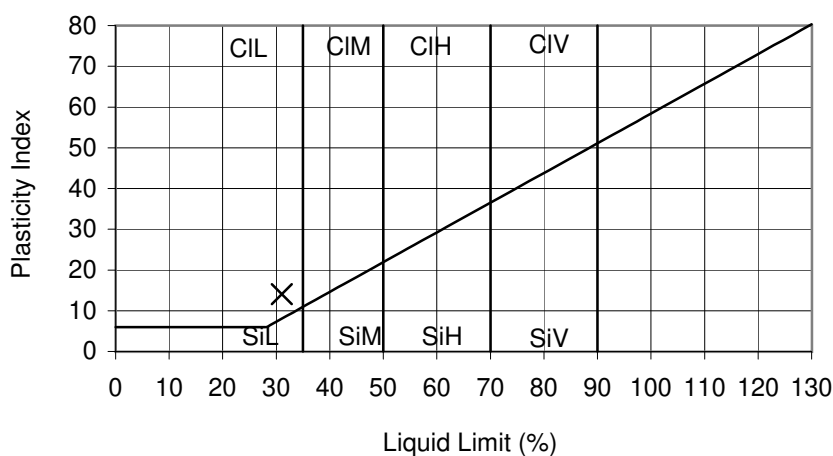
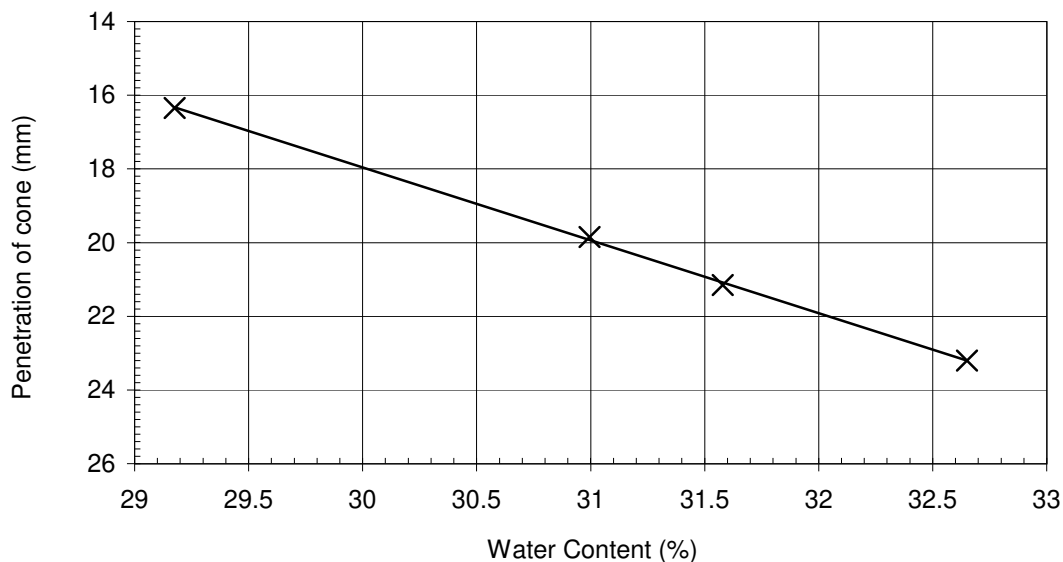
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C64 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP13
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.00
		Sample Type	D

Non Engineering Description : Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	10.9 %
Percentage retained on 425µm sieve :	23 %
Liquid Limit :	31 %
Plastic Limit :	17 %
Plasticity Index :	14
Equivalent water content of material passing 425µm sieve :	14.2 %
Liquidity Index :	-0.20

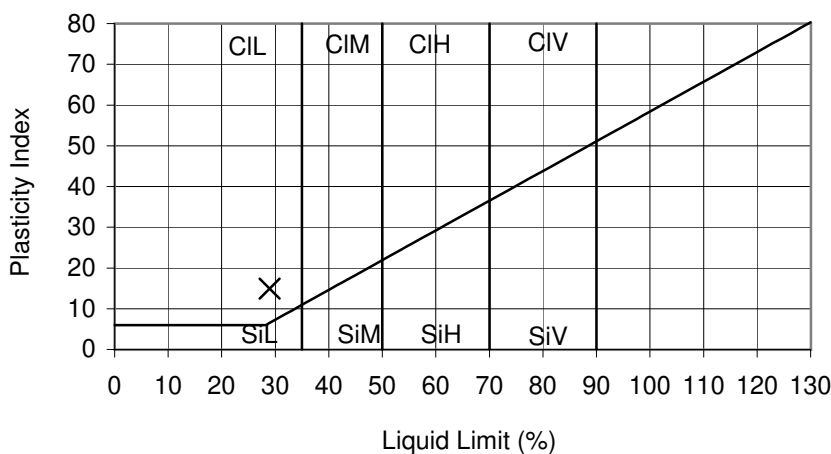
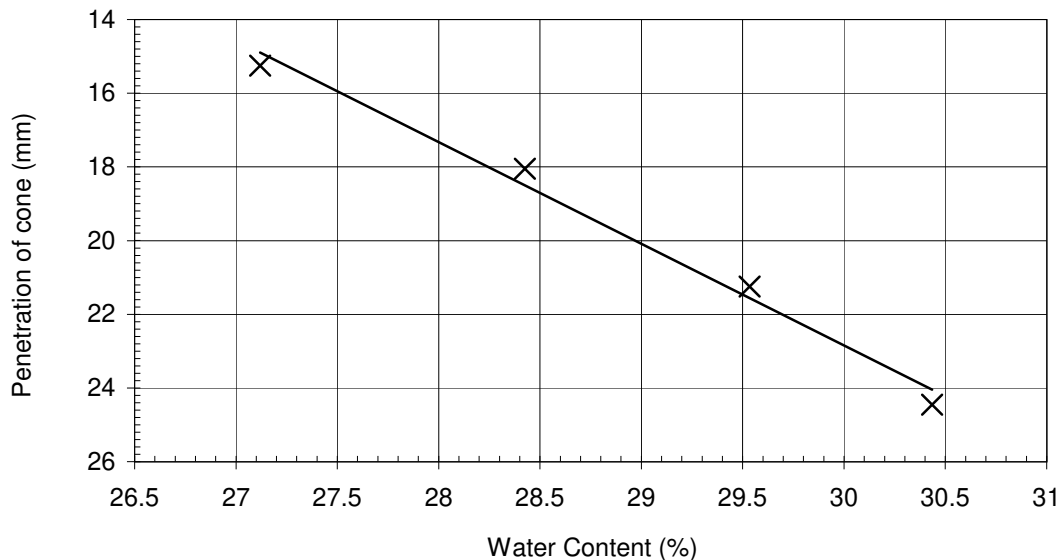
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C65 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP13
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	2.00
		Sample Type	D

Non Engineering Description : Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	14.6 %
Percentage retained on 425µm sieve :	34 %
Liquid Limit :	29 %
Plastic Limit :	14 %
Plasticity Index :	15
Equivalent water content of material passing 425µm sieve :	22.1 %
Liquidity Index :	0.54

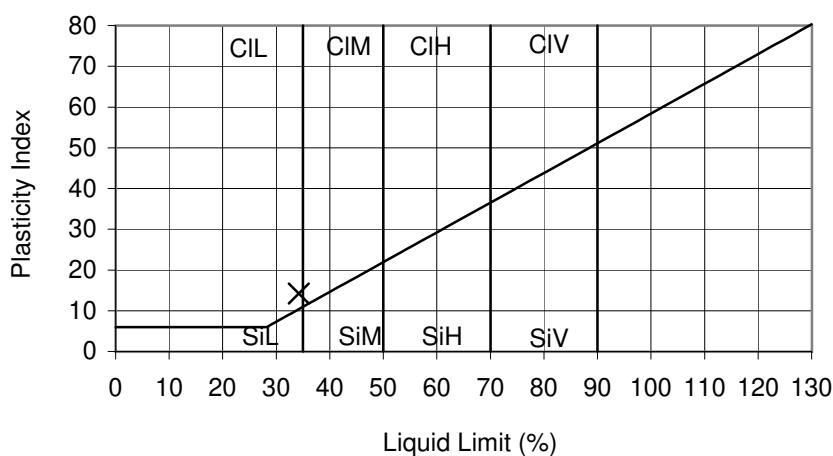
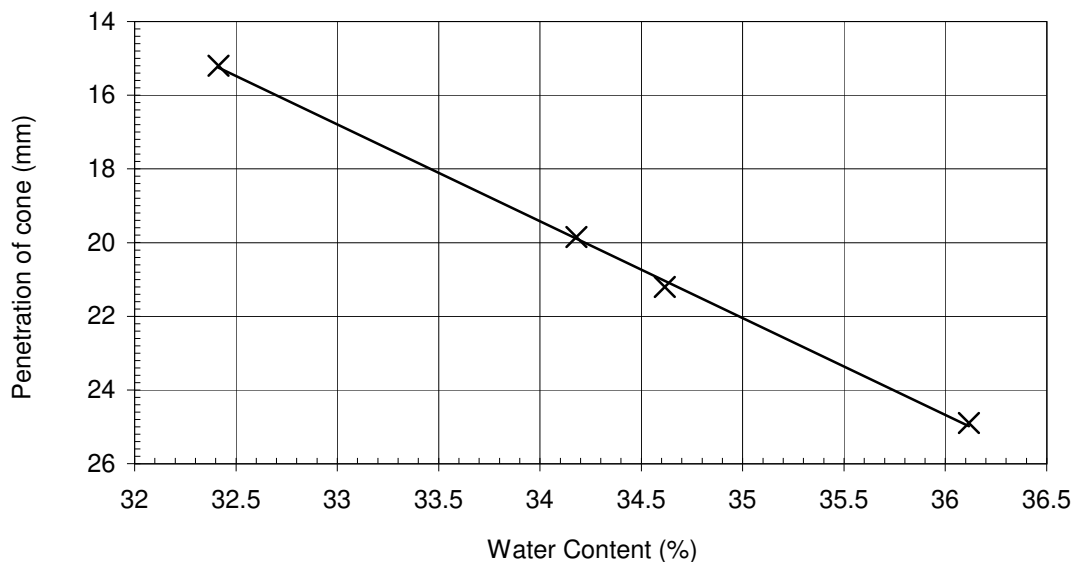
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C66 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP14
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 17.0 %
 Percentage retained on 425µm sieve : 20 %
 Liquid Limit : 34 %
 Plastic Limit : 20 %
 Plasticity Index : 14

Equivalent water content of material passing 425µm sieve : 21.3 %
 Liquidity Index : 0.09

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 C67 Sheet 1 of 1
CM	CD 06/11/2024		



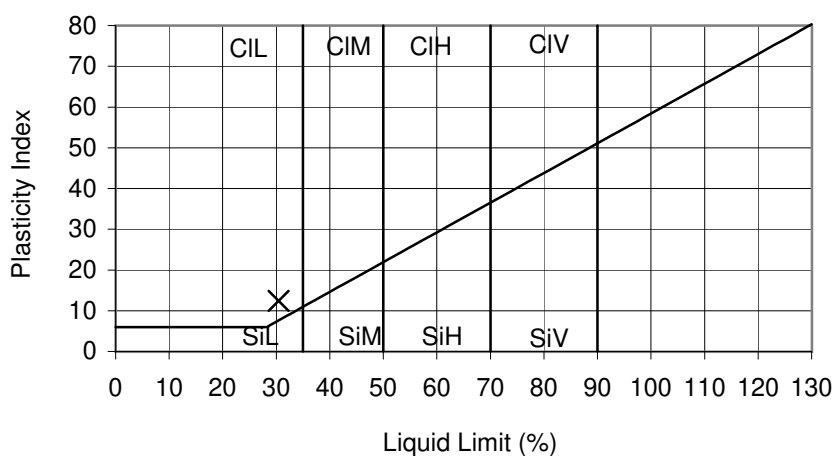
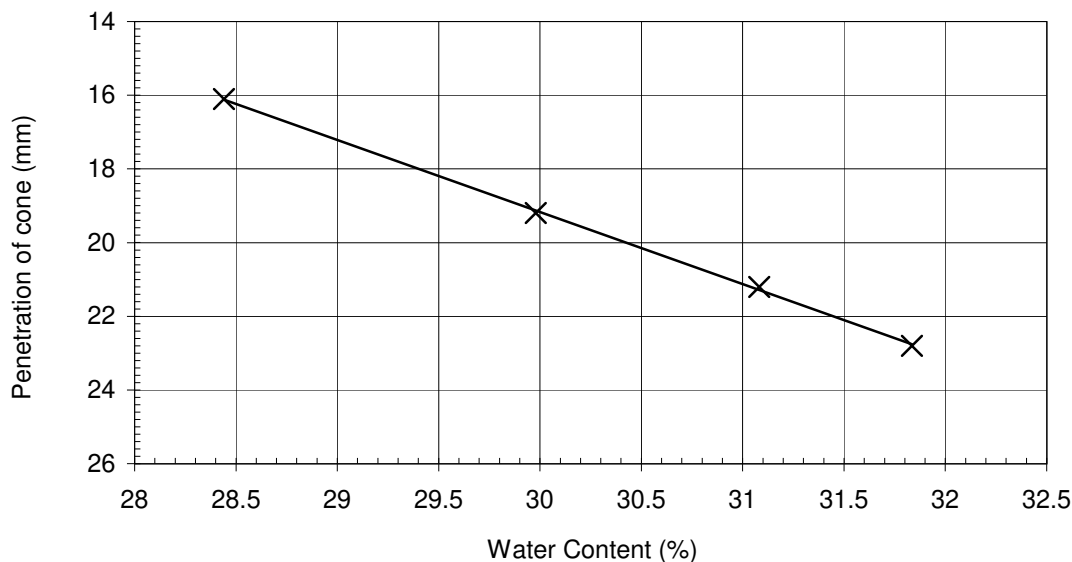
Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

Contract No. 26667

Hole ID TP15
Sample Ref
Depth (m) 2.00
Sample Type D

Non Engineering Description : Brown silty very sandy fine to coarse GRAVEL with cobble and pockets of clay

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 22.6 %
Percentage retained on 425µm sieve : 62 %
Liquid Limit : 30 %
Plastic Limit : 18 %
Plasticity Index : 12

Equivalent water content of material passing 425µm sieve : 59.5 %
Liquidity Index : 3.46

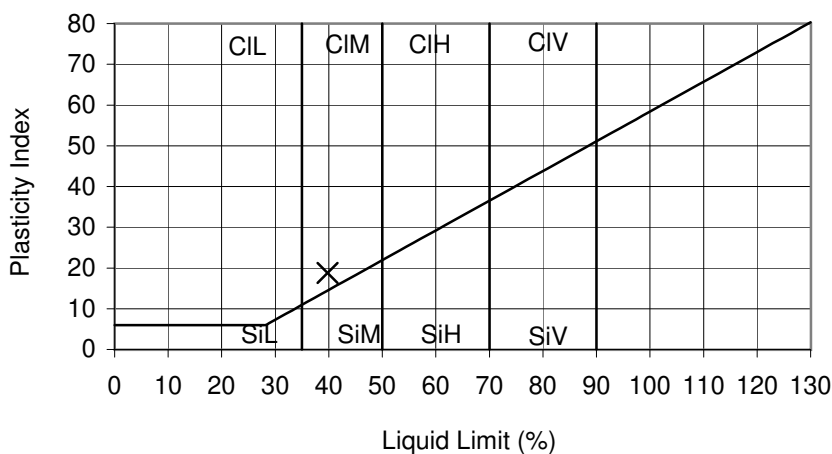
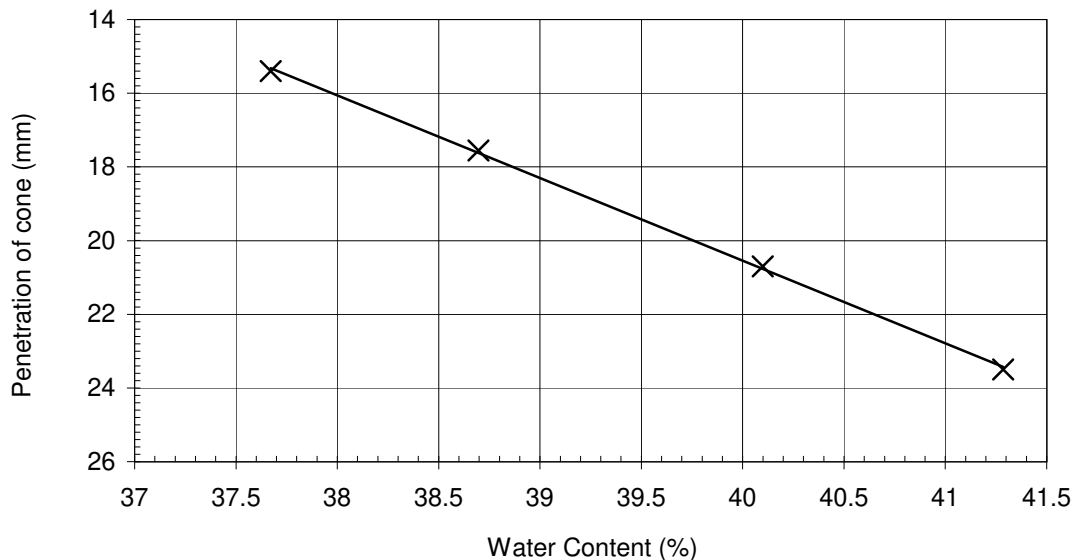
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C68 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP16
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	23.5 %
Percentage retained on 425µm sieve :	16 %
Liquid Limit :	40 %
Plastic Limit :	21 %
Plasticity Index :	19
Equivalent water content of material passing 425µm sieve :	28.0 %
Liquidity Index :	0.37

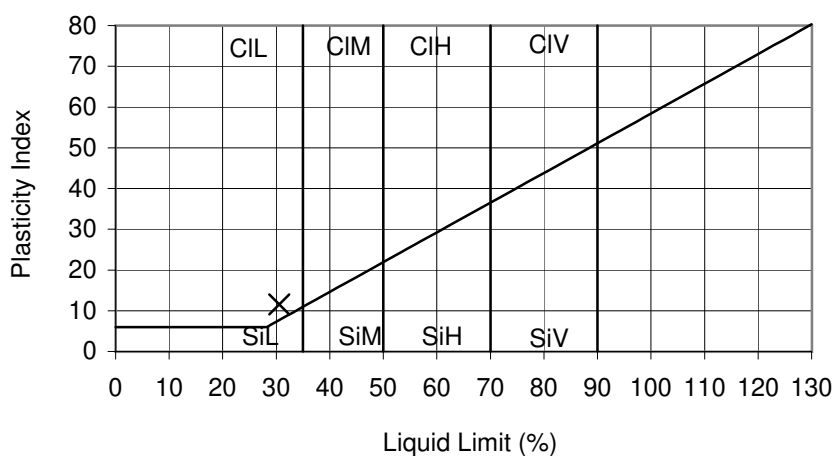
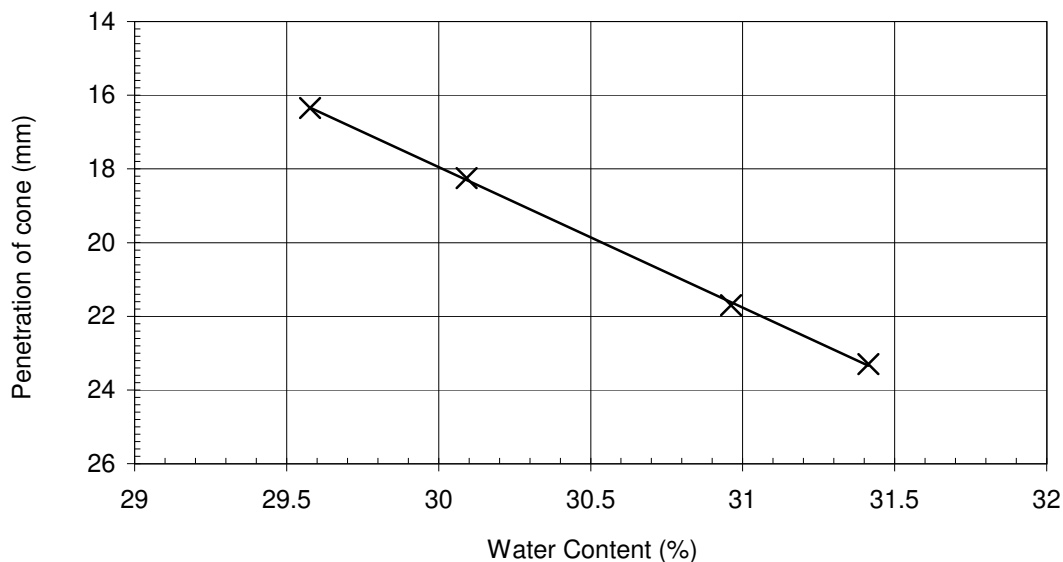
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C69 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP16
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	2.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 20.1 %
 Percentage retained on 425µm sieve : 34 %
 Liquid Limit : 31 %
 Plastic Limit : 19 %
 Plasticity Index : 12

Equivalent water content of material passing 425µm sieve : 30.5 %
 Liquidity Index : 0.96

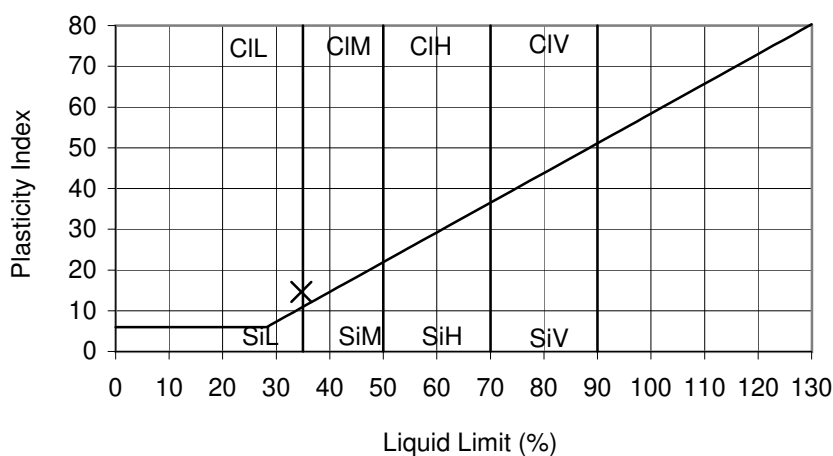
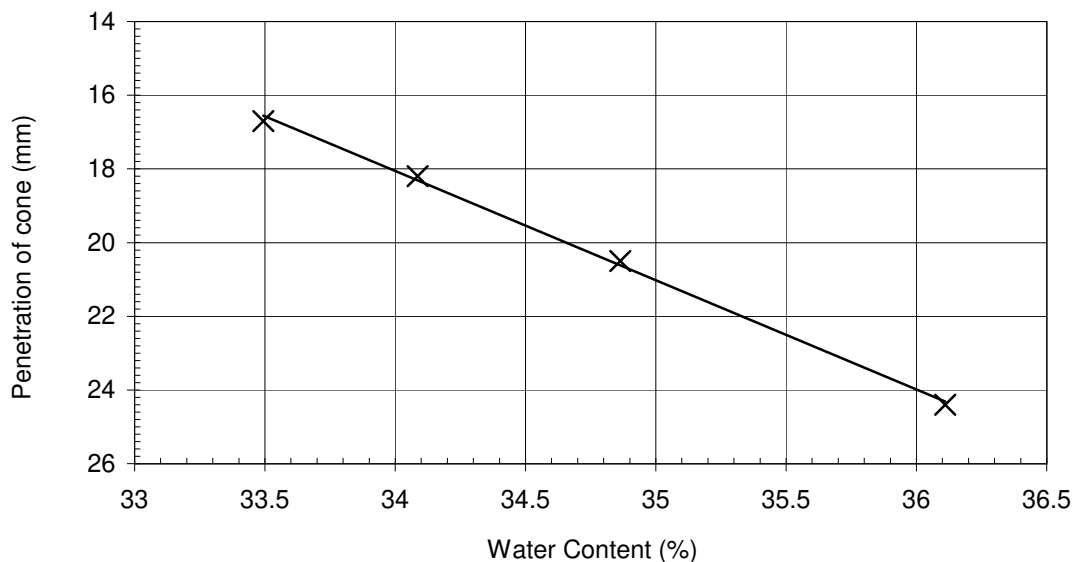
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C70 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP18
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 15.9 %
 Percentage retained on 425µm sieve : 38 %
 Liquid Limit : 35 %
 Plastic Limit : 20 %
 Plasticity Index : 15

Equivalent water content of material passing 425µm sieve : 25.6 %
 Liquidity Index : 0.37

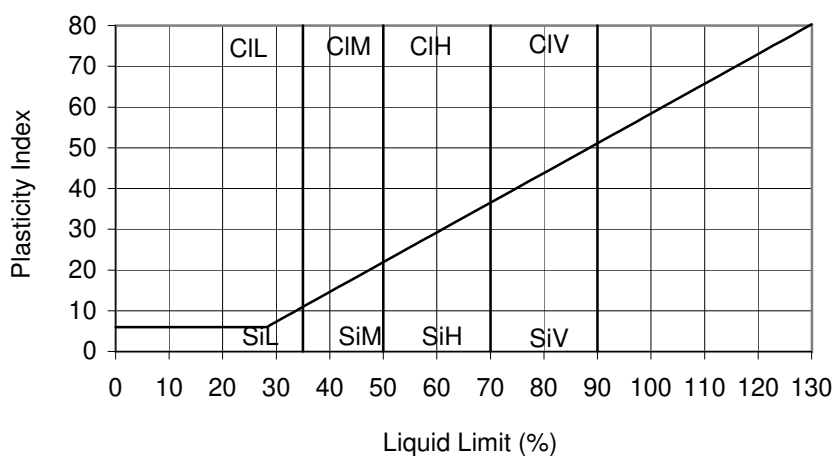
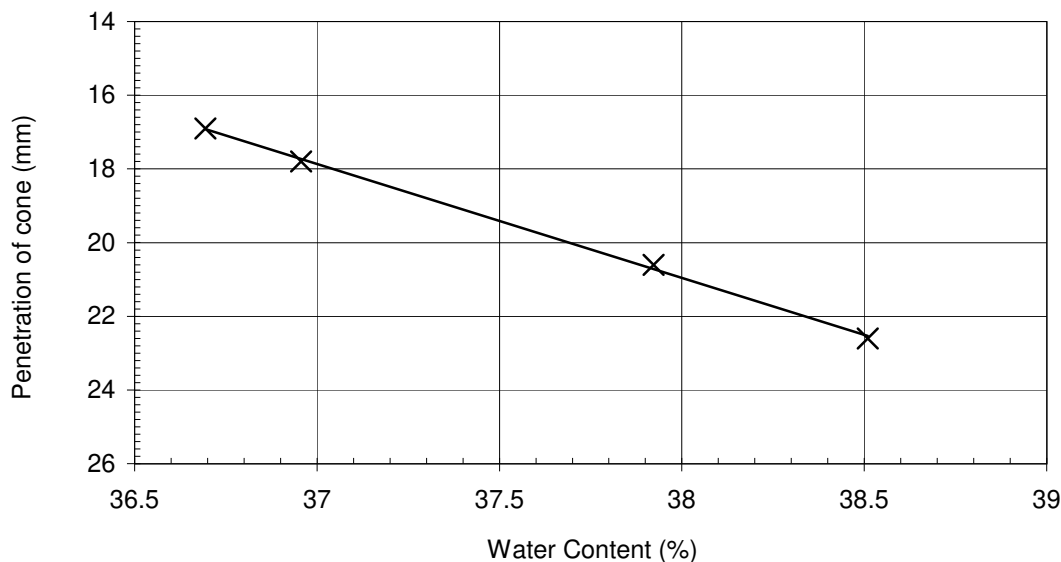
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C71 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP18
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	3.00
		Sample Type	D

Non Engineering Description : Brown silty sandy fine to coarse GRAVEL with pockets of clay

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) 16.5 %
Percentage retained on 425µm sieve : 78 %
Liquid Limit : 38 %
Plastic Limit : Non-Plastic %

Equivalent water content of material passing 425µm sieve : 75.0 %

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 C72 Sheet 1 of 1
NW	06/11/2024		



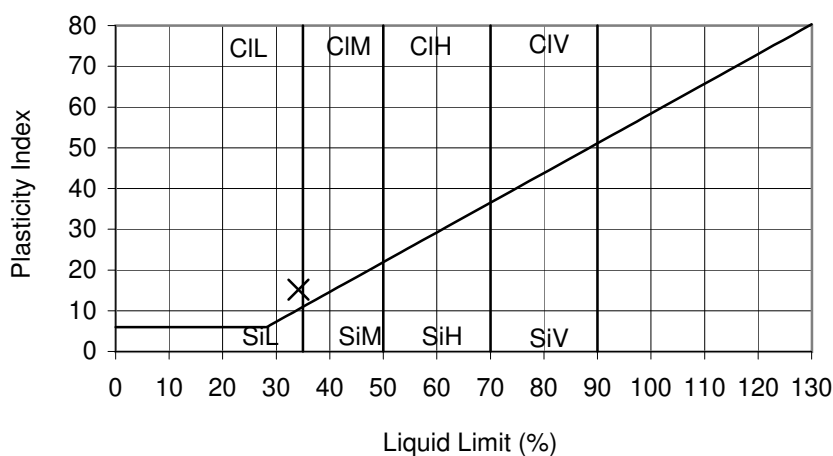
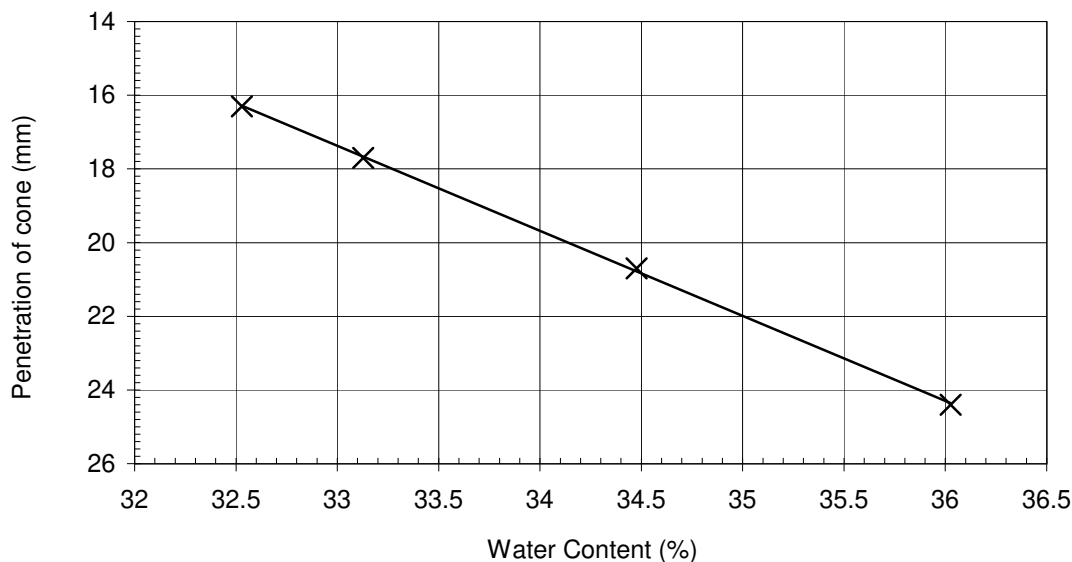
Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

Contract No. 26667

Hole ID TP19
Sample Ref
Depth (m) 0.50
Sample Type D

Non Engineering Description : Brown silty sandy fine to coarse GRAVEL with pockets of clay

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 15.9 %
Percentage retained on 425µm sieve : 68 %
Liquid Limit : 34 %
Plastic Limit : 19 %
Plasticity Index : 15

Equivalent water content of material passing 425µm sieve : 49.7 %
Liquidity Index : 2.05

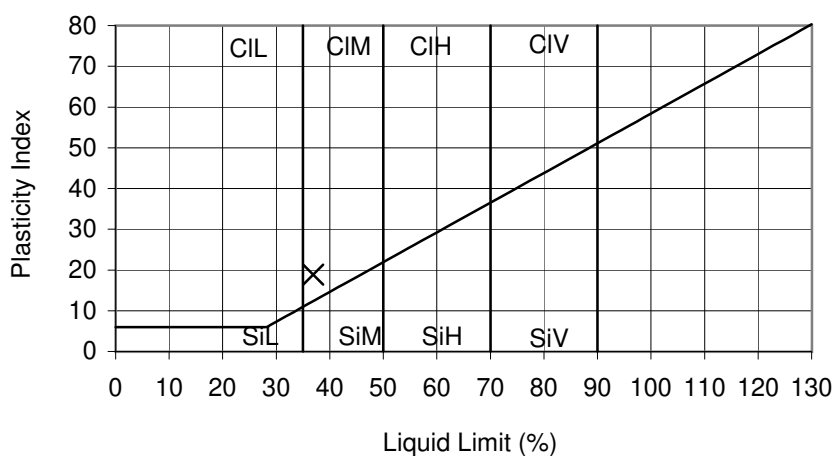
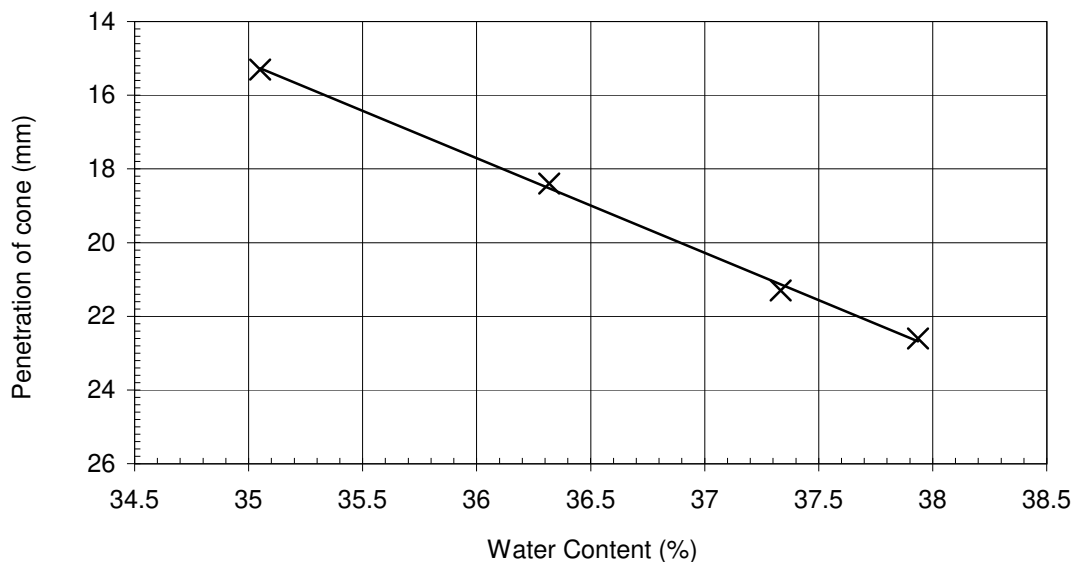
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C73 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP20
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	3.50
		Sample Type	D

Non Engineering Description : Brown silty sandy fine to coarse GRAVEL with cobble and pockets of clay

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	18.0 %
Percentage retained on 425µm sieve :	81 %
Liquid Limit :	37 %
Plastic Limit :	18 %
Plasticity Index :	19
Equivalent water content of material passing 425µm sieve :	94.7 %
Liquidity Index :	4.04

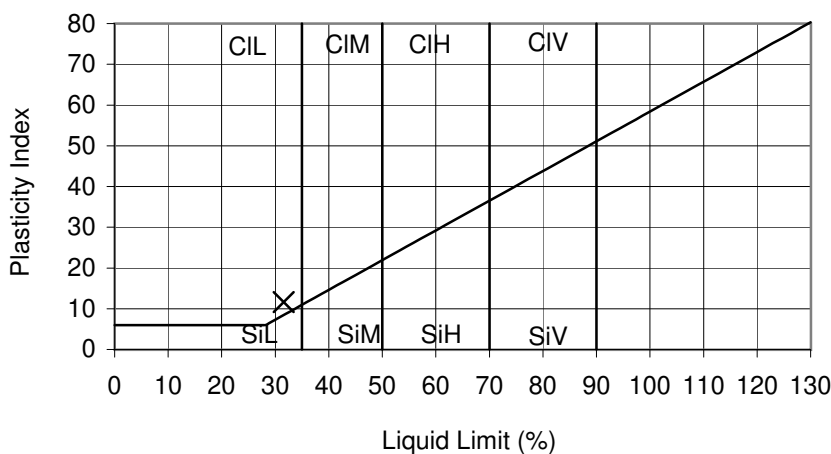
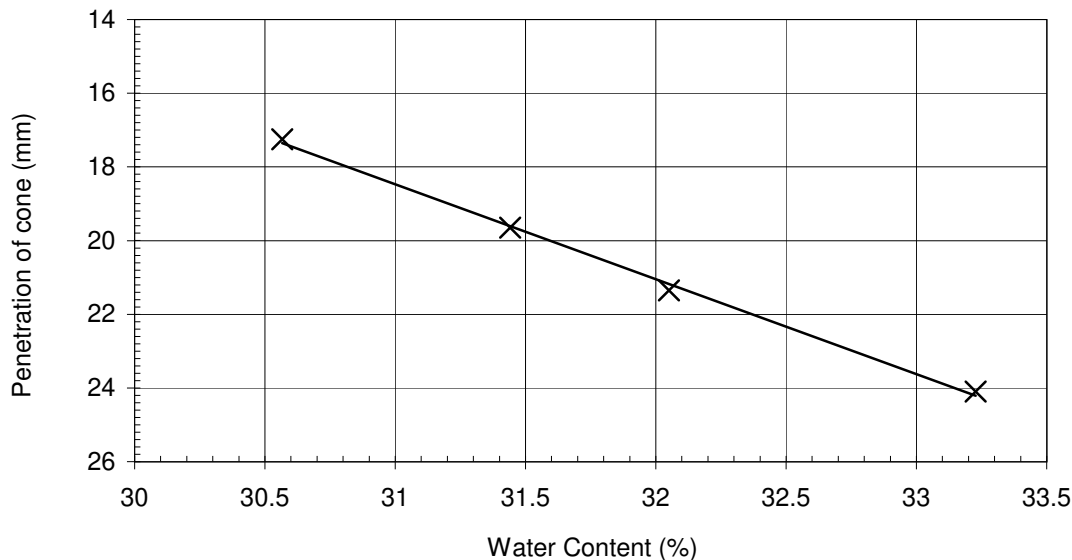
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C74 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP20
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	4.00
		Sample Type	D

Non Engineering Description : Brown silty sandy fine to coarse GRAVEL with cobble and pockets of clay

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 21.3 %
 Percentage retained on 425µm sieve : 73 %
 Liquid Limit : 32 %
 Plastic Limit : 20 %
 Plasticity Index : 12

Equivalent water content of material passing 425µm sieve : 78.9 %
 Liquidity Index : 4.91

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 C75 Sheet 1 of 1
CM	CD 06/11/2024		



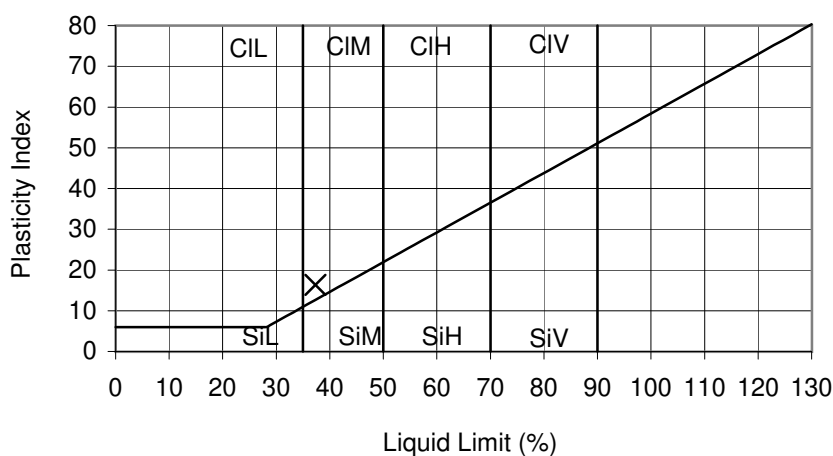
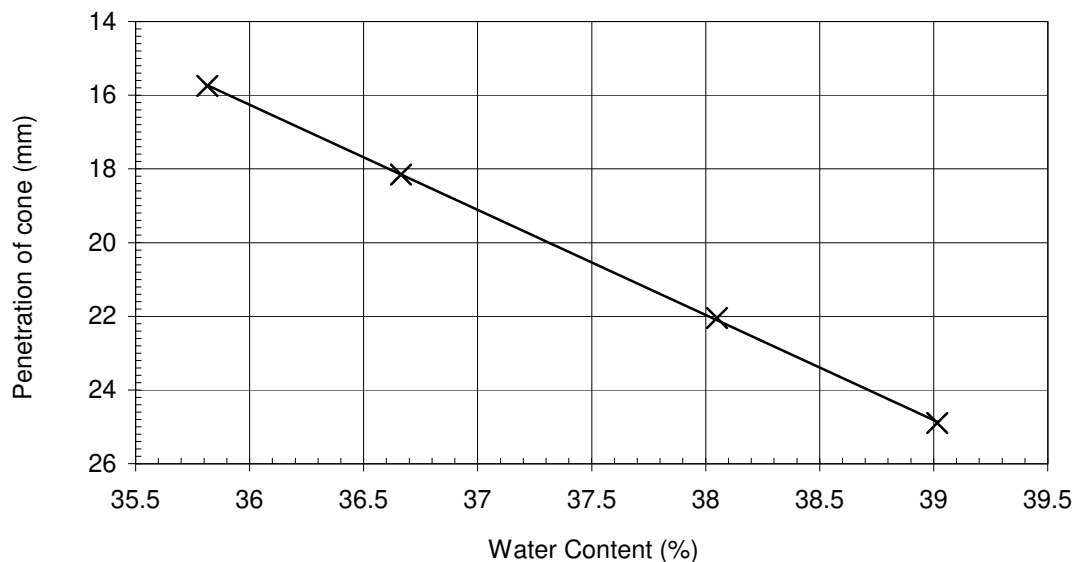
Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

Contract No. 26667

Hole ID TP21
Sample Ref
Depth (m) 0.50
Sample Type D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 17.8 %
Percentage retained on 425µm sieve : 50 %
Liquid Limit : 37 %
Plastic Limit : 21 %
Plasticity Index : 16

Equivalent water content of material passing 425µm sieve : 35.6 %
Liquidity Index : 0.91

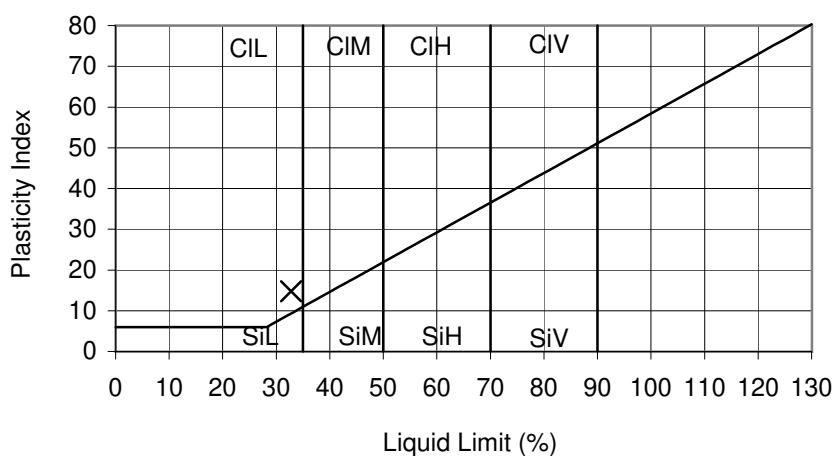
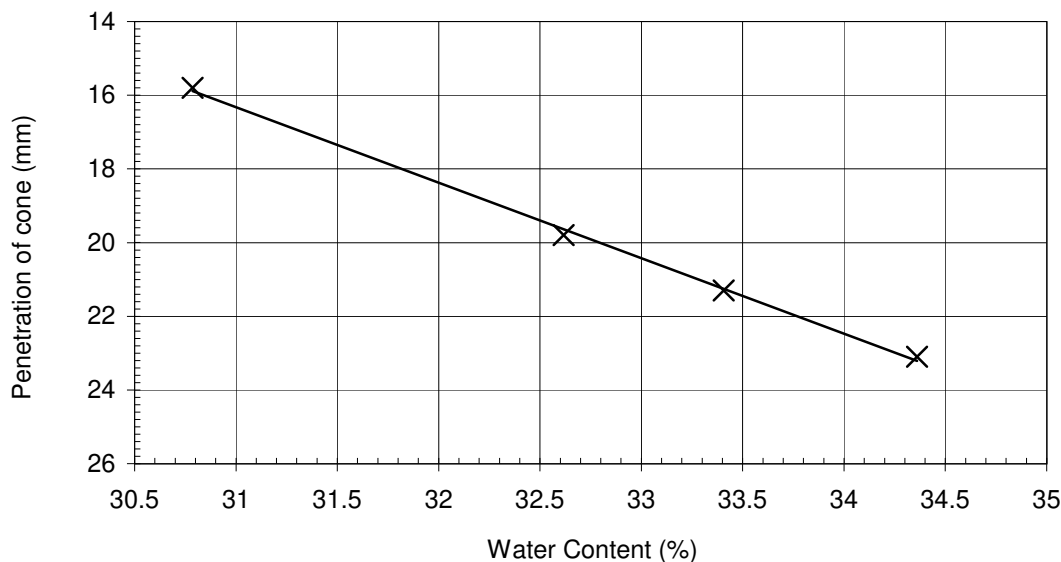
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C76 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP22
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	15.7 %
Percentage retained on 425µm sieve :	24 %
Liquid Limit :	33 %
Plastic Limit :	18 %
Plasticity Index :	15
Equivalent water content of material passing 425µm sieve :	20.7 %
Liquidity Index :	0.18

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 C77 Sheet 1 of 1
NW	CD 06/11/2024		



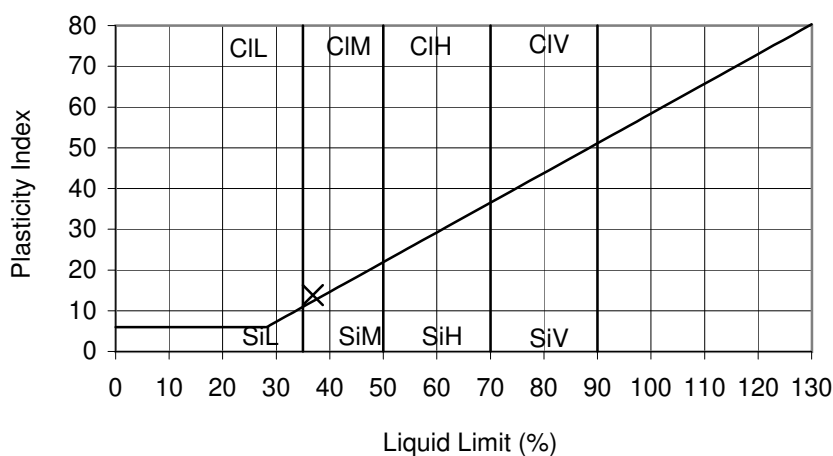
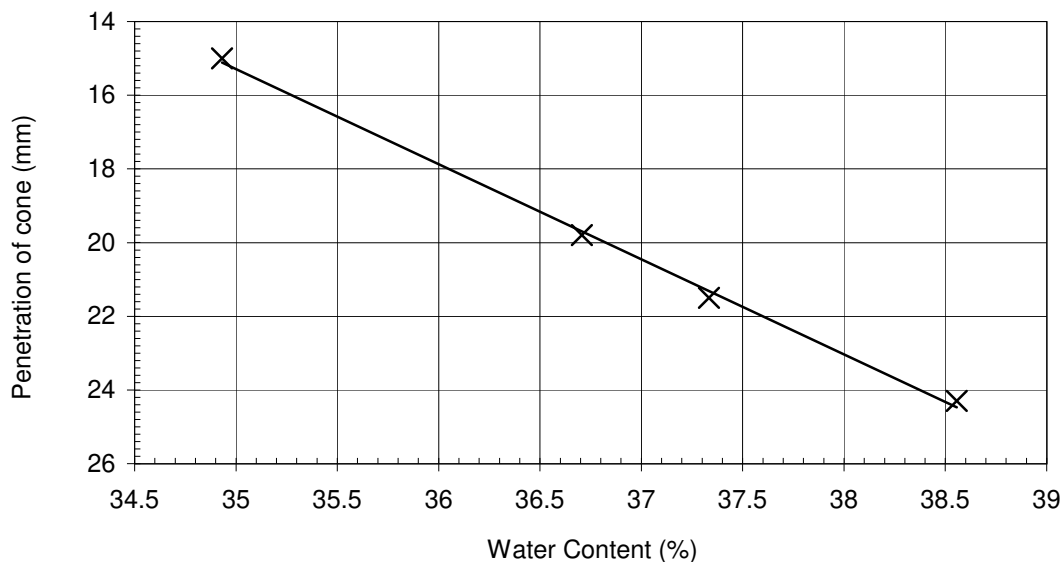
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	TP22
Sample Ref	
Depth (m)	1.50
Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	15.5 %
Percentage retained on 425µm sieve :	60 %
Liquid Limit :	37 %
Plastic Limit :	23 %
Plasticity Index :	14

Equivalent water content of material passing 425µm sieve :	38.8 %
Liquidity Index :	1.13

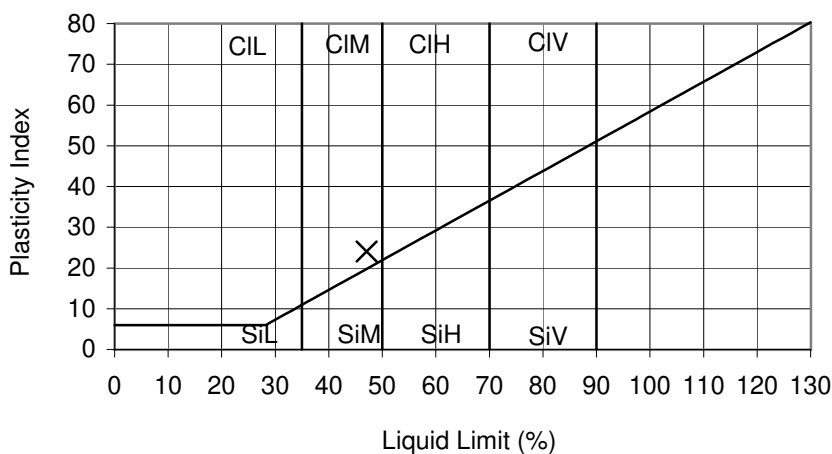
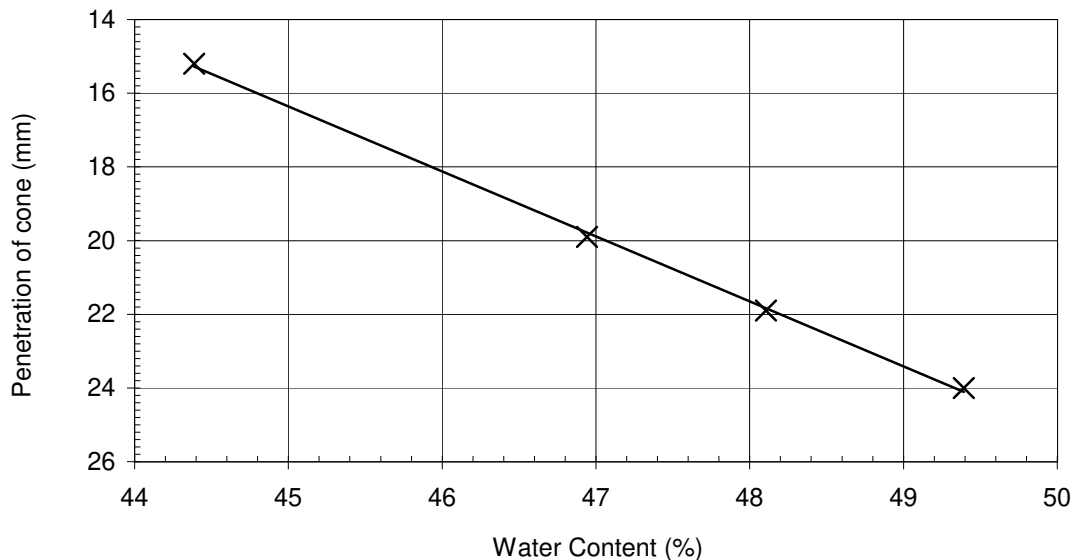
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C78 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP22
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	2.50
		Sample Type	D

Non Engineering Description : Brown very silty very sandy fine to coarse GRAVEL with pockets of clay

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 29.7 %
 Percentage retained on 425µm sieve : 57 %
 Liquid Limit : 47 %
 Plastic Limit : 23 %
 Plasticity Index : 24

Equivalent water content of material passing 425µm sieve : 69.1 %
 Liquidity Index : 1.92

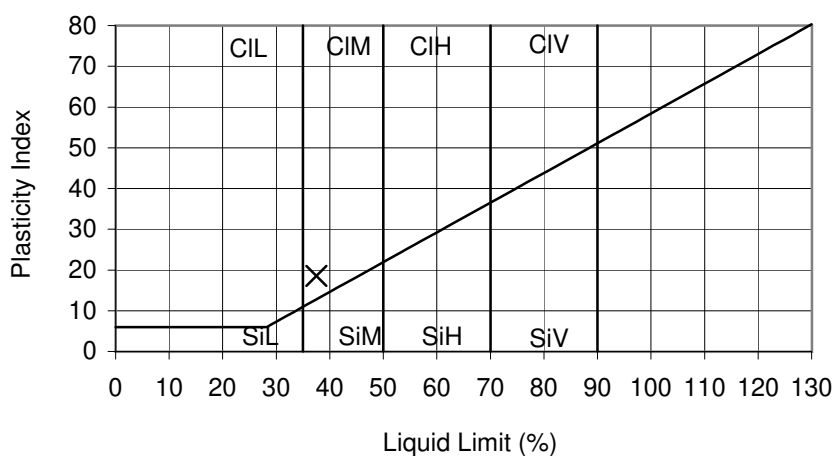
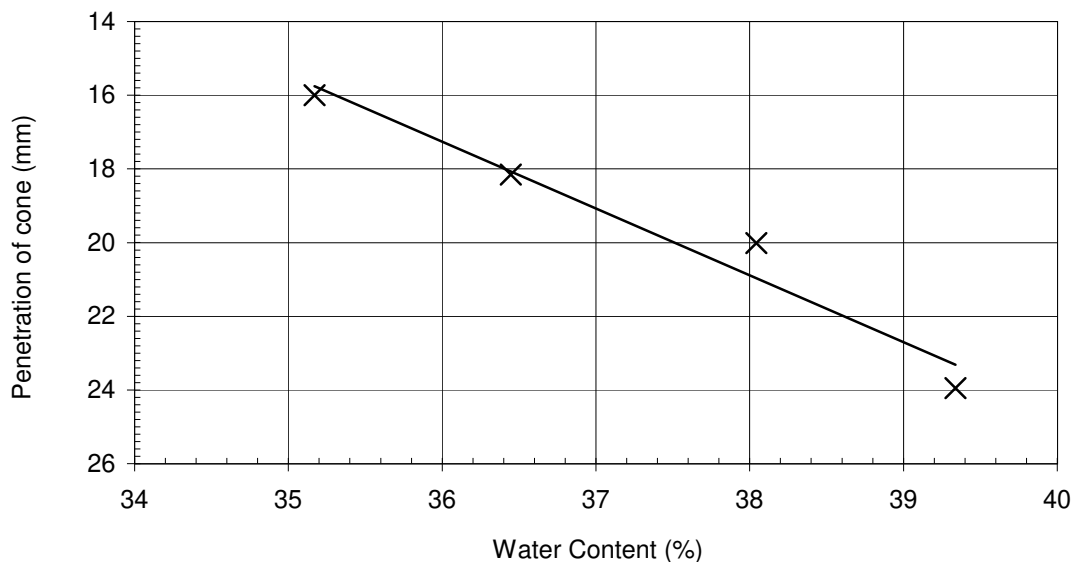
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C79 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP23
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	2.00
		Sample Type	D

Non Engineering Description : Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	13.2 %
Percentage retained on 425µm sieve :	47 %
Liquid Limit :	38 %
Plastic Limit :	19 %
Plasticity Index :	19
Equivalent water content of material passing 425µm sieve :	24.9 %
Liquidity Index :	0.31

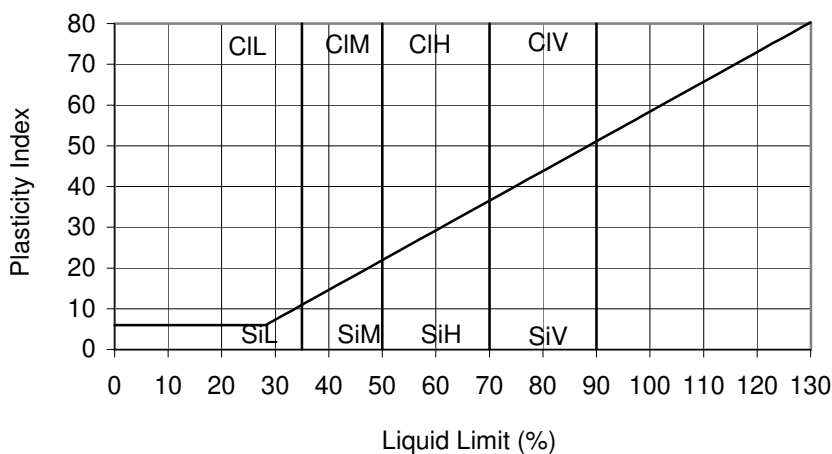
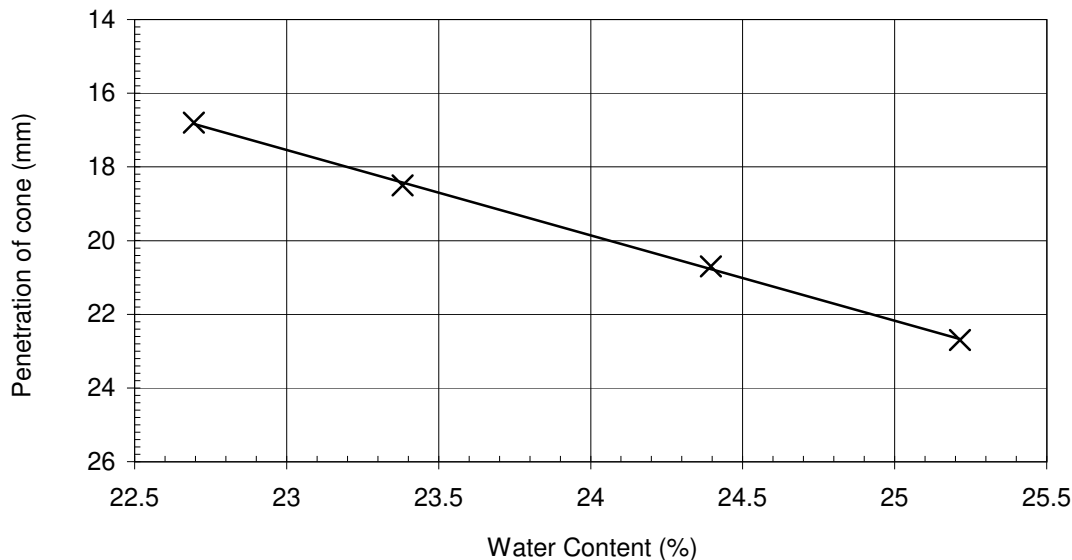
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C80 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP24
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	2.00
		Sample Type	D

Non Engineering Description : Brown silty very sandy fine to coarse GRAVEL with pockets of clay

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) 7.7 %
Percentage retained on 425µm sieve : 69 %
Liquid Limit : 24 %
Plastic Limit : Non-Plastic %

Equivalent water content of material passing 425µm sieve : 24.8 %

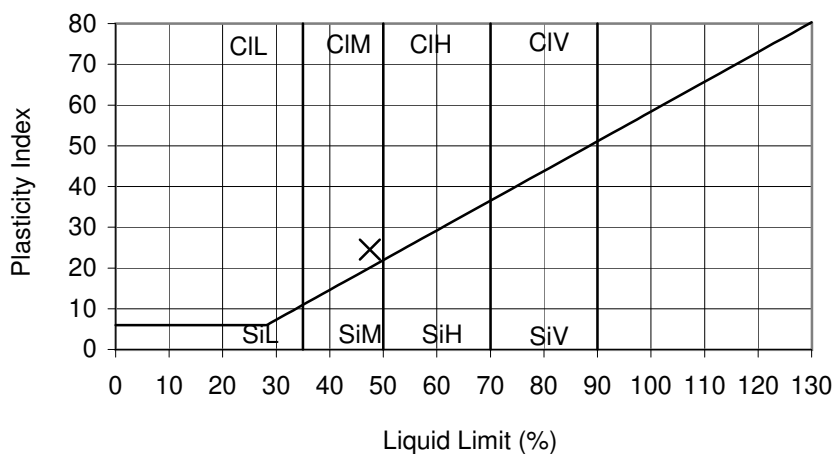
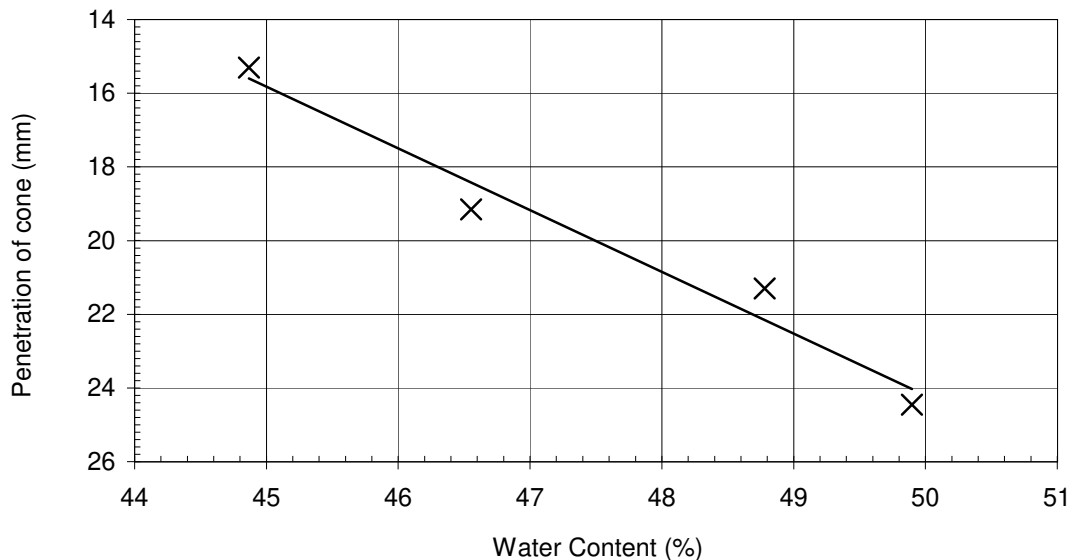
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C81 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP24
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	3.00
		Sample Type	D

Non Engineering Description : Brown silty very sandy fine to coarse GRAVEL with pockets of clay

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	28.2 %
Percentage retained on 425µm sieve :	60 %
Liquid Limit :	47 %
Plastic Limit :	23 %
Plasticity Index :	24
Equivalent water content of material passing 425µm sieve :	70.5 %
Liquidity Index :	1.98

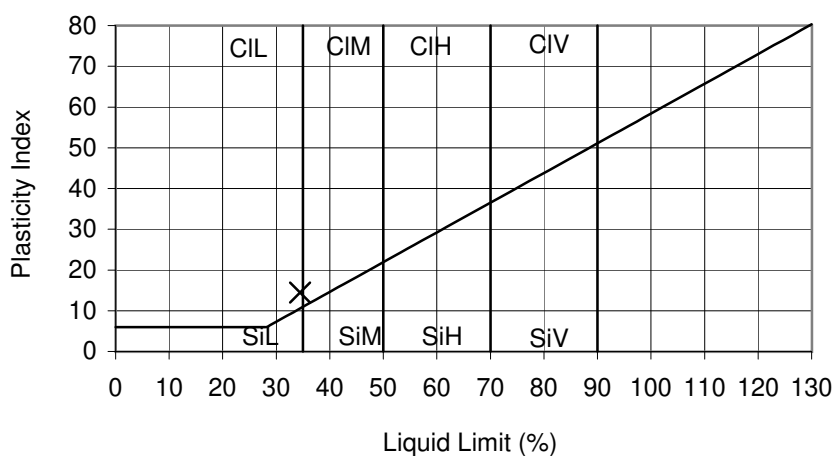
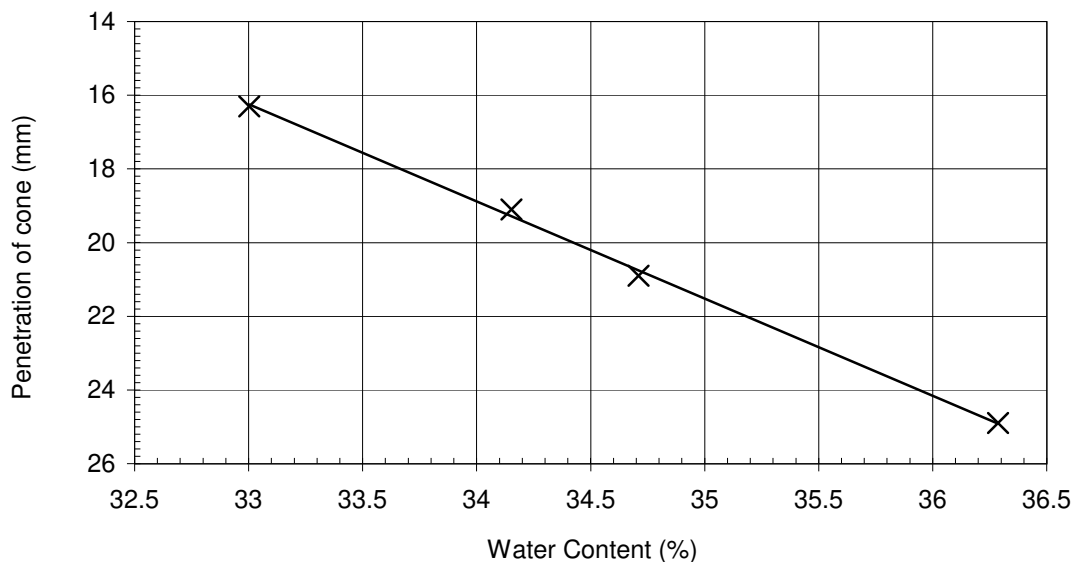
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C82 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP25
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	15.7 %
Percentage retained on 425µm sieve :	14 %
Liquid Limit :	34 %
Plastic Limit :	20 %
Plasticity Index :	14
Equivalent water content of material passing 425µm sieve :	18.3 %
Liquidity Index :	-0.12

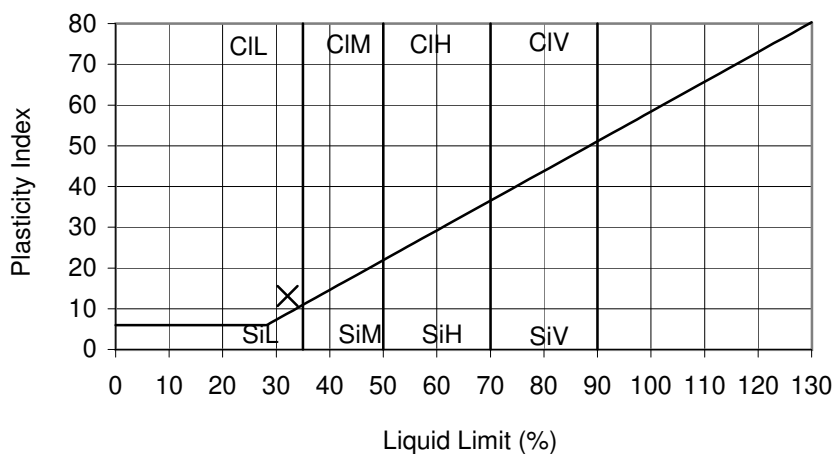
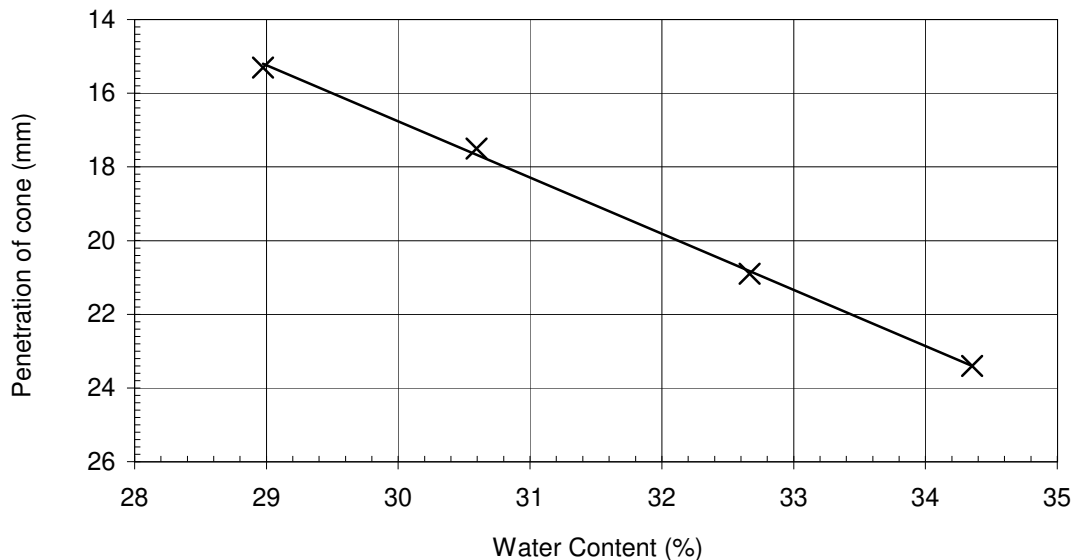
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C83 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP26
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown silty very sandy fine to coarse GRAVEL with pockets of clay

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	14.1 %
Percentage retained on 425µm sieve :	54 %
Liquid Limit :	32 %
Plastic Limit :	19 %
Plasticity Index :	13
Equivalent water content of material passing 425µm sieve :	30.7 %
Liquidity Index :	0.90

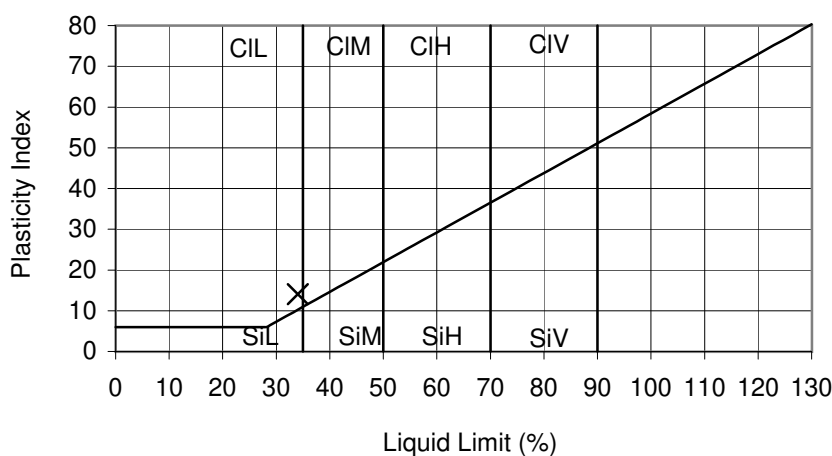
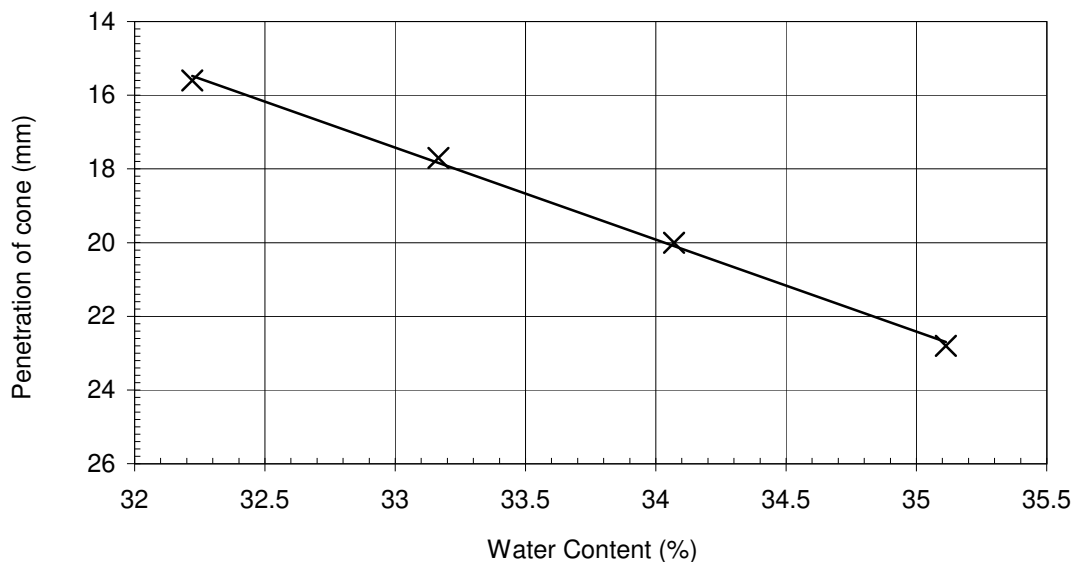
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C84 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP27
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 16.3 %
 Percentage retained on 425µm sieve : 21 %
 Liquid Limit : 34 %
 Plastic Limit : 20 %
 Plasticity Index : 14

Equivalent water content of material passing 425µm sieve : 20.6 %
 Liquidity Index : 0.04

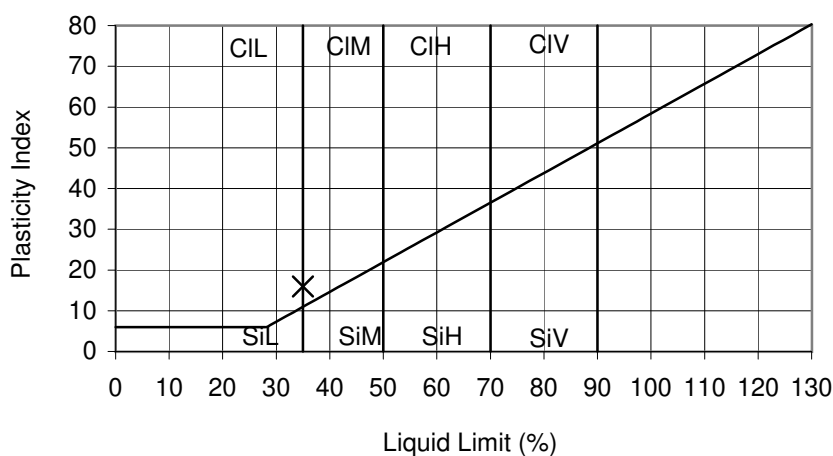
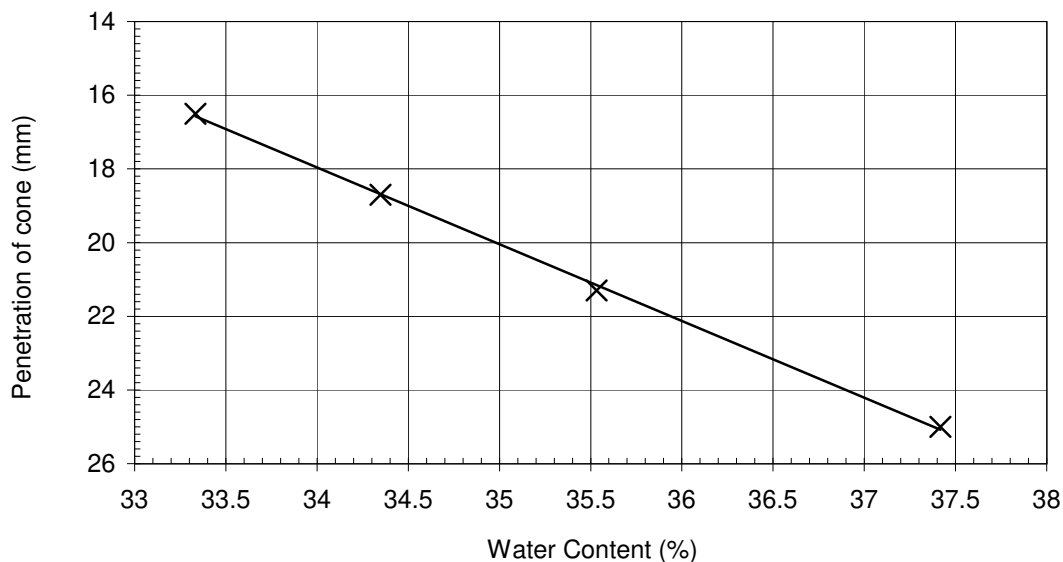
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C85 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP27
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	2.00
		Sample Type	D

Non Engineering Description : Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 15.8 %
 Percentage retained on 425µm sieve : 63 %
 Liquid Limit : 35 %
 Plastic Limit : 19 %
 Plasticity Index : 16

Equivalent water content of material passing 425µm sieve : 42.7 %
 Liquidity Index : 1.48

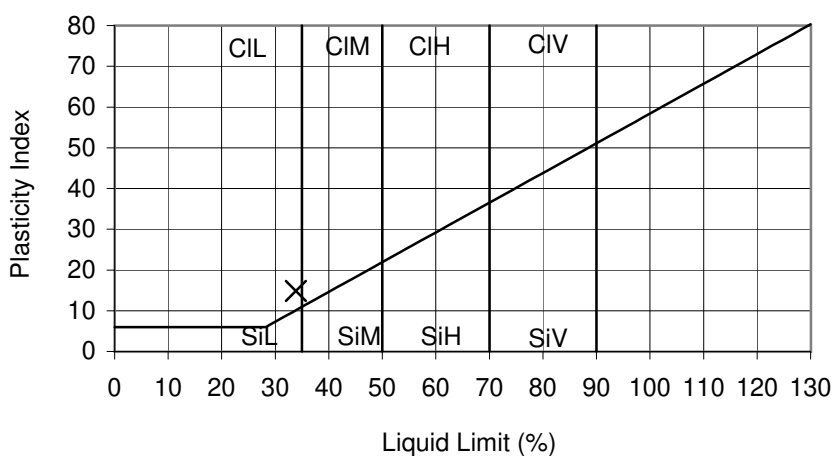
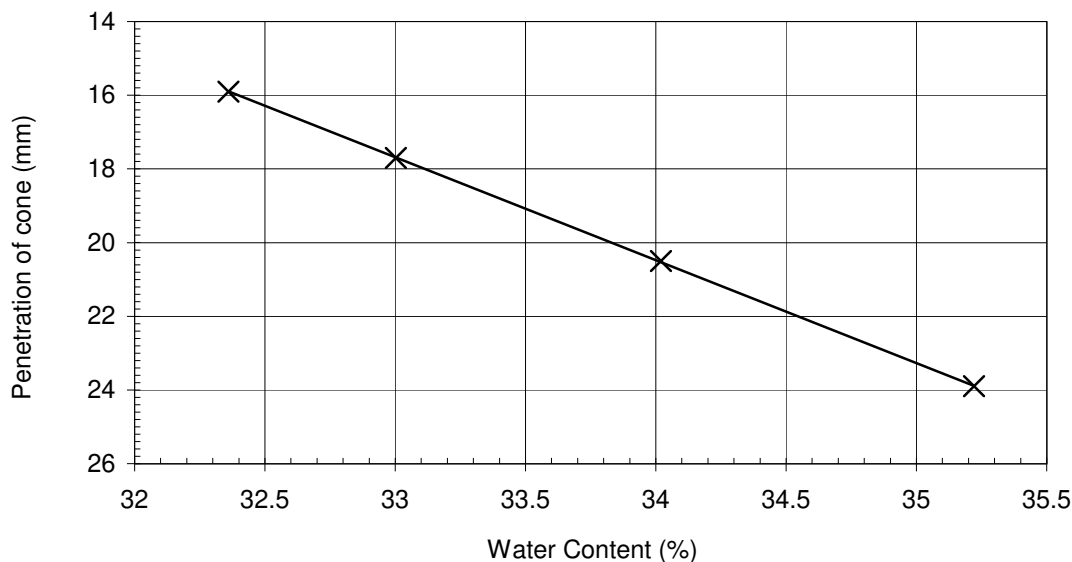
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C86 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP28
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.50
		Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	15.5 %
Percentage retained on 425µm sieve :	60 %
Liquid Limit :	34 %
Plastic Limit :	19 %
Plasticity Index :	15
Equivalent water content of material passing 425µm sieve :	38.8 %
Liquidity Index :	1.32

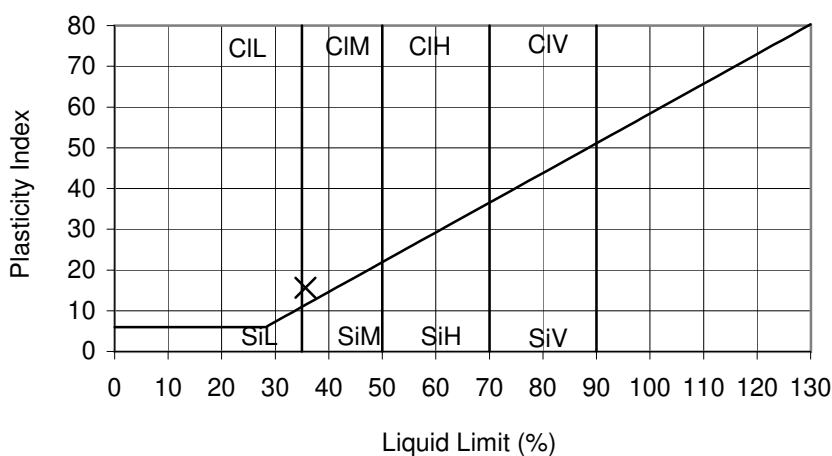
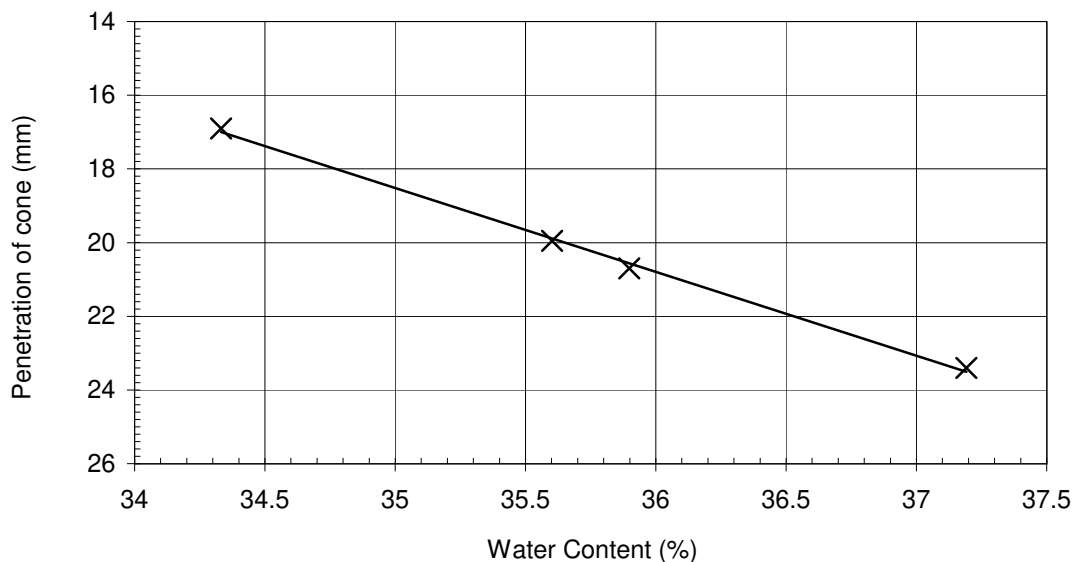
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C87 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP29
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 15.2 %
 Percentage retained on 425µm sieve : 32 %
 Liquid Limit : 36 %
 Plastic Limit : 20 %
 Plasticity Index : 16

Equivalent water content of material passing 425µm sieve : 22.4 %
 Liquidity Index : 0.15

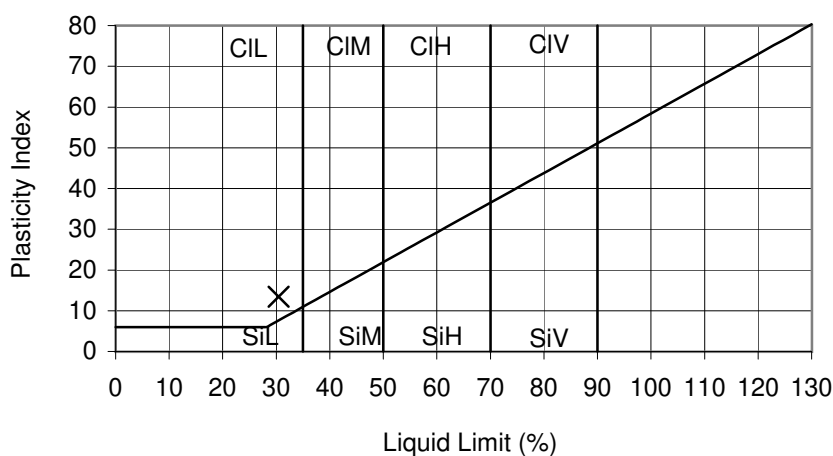
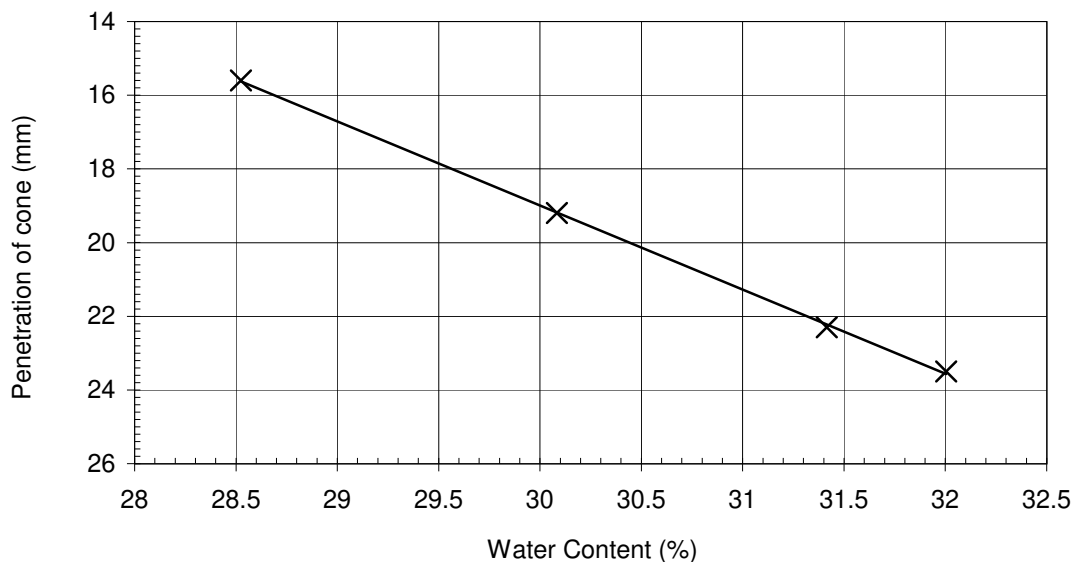
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C88 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP30
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	14.6 %
Percentage retained on 425µm sieve :	30 %
Liquid Limit :	30 %
Plastic Limit :	17 %
Plasticity Index :	13
Equivalent water content of material passing 425µm sieve :	20.9 %
Liquidity Index :	0.30

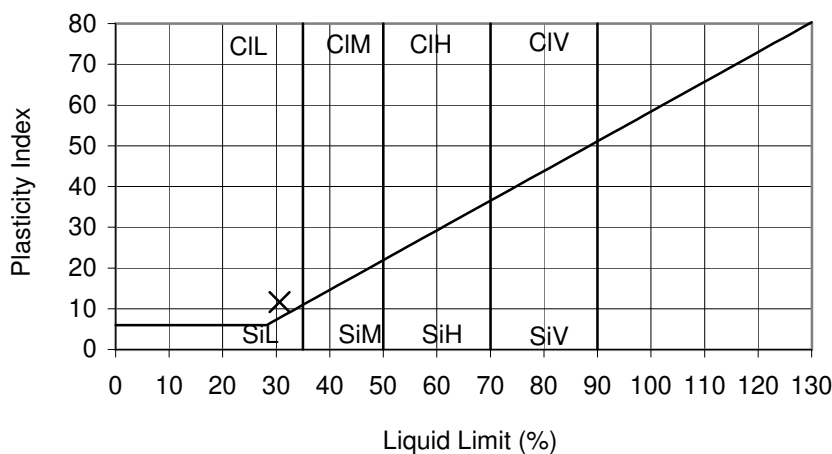
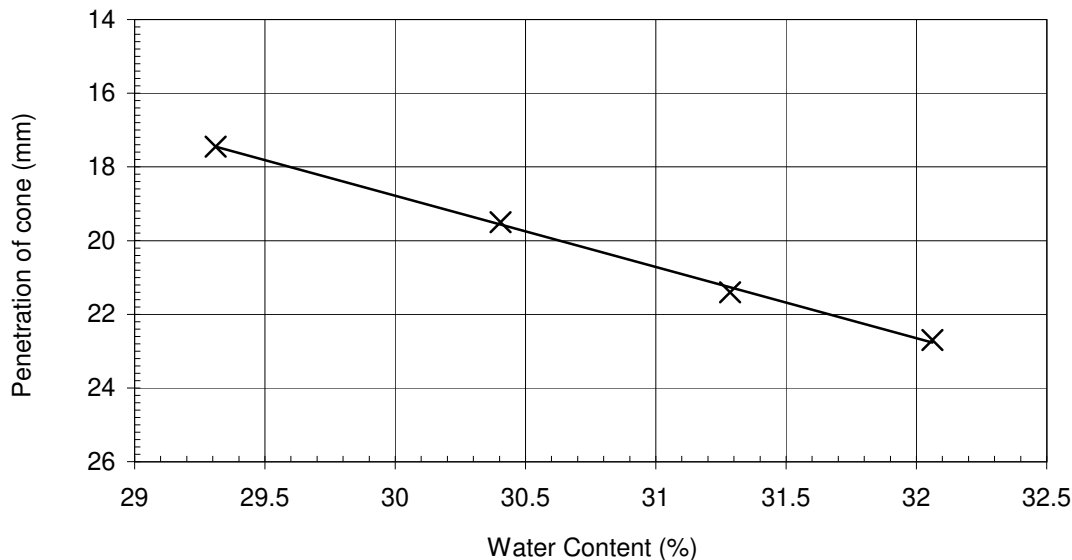
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C89 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP31
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	17.5 %
Percentage retained on 425µm sieve :	22 %
Liquid Limit :	31 %
Plastic Limit :	19 %
Plasticity Index :	12
Equivalent water content of material passing 425µm sieve :	22.4 %
Liquidity Index :	0.28

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 C90 Sheet 1 of 1
NW	CD 06/11/2024		



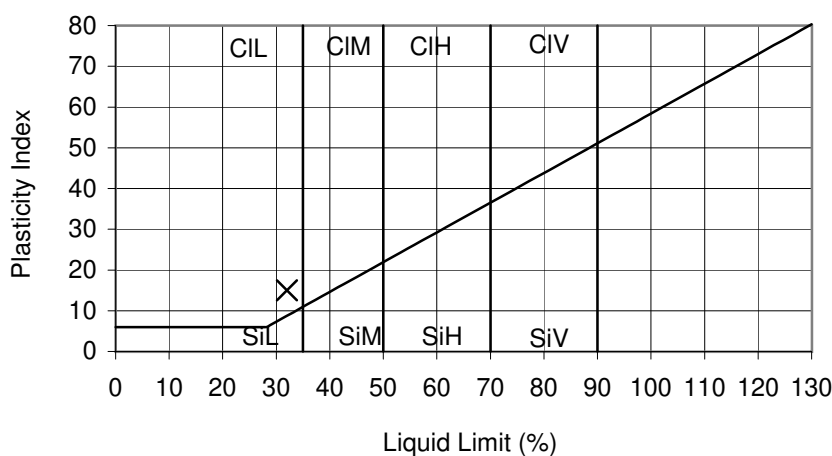
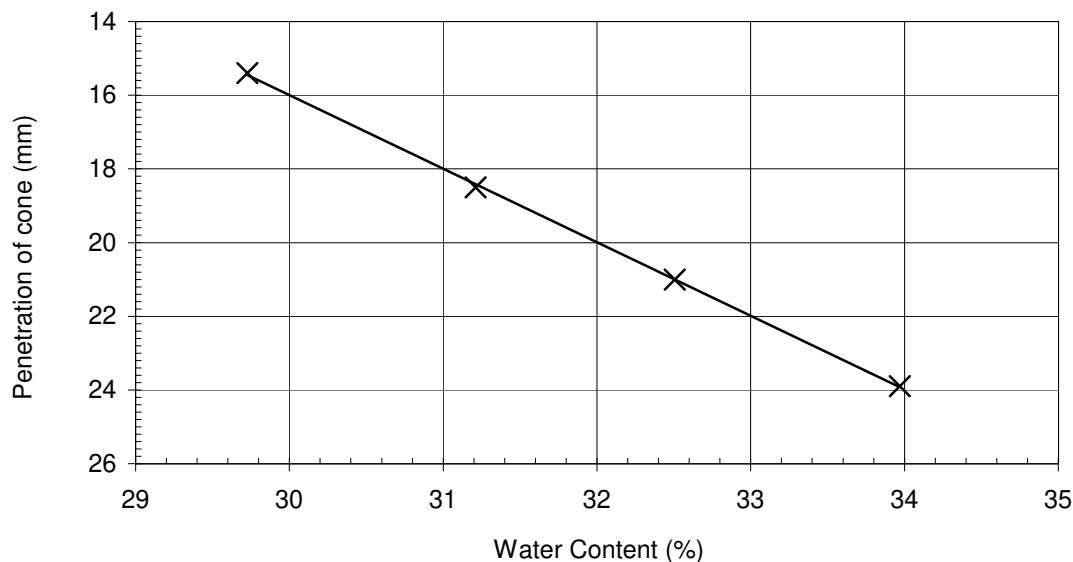
Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

Contract No. 26667

Hole ID TP32
Sample Ref
Depth (m) 0.50
Sample Type D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 16.5 %
 Percentage retained on 425µm sieve : 26 %
 Liquid Limit : 32 %
 Plastic Limit : 17 %
 Plasticity Index : 15
 Equivalent water content of material passing 425µm sieve : 22.3 %
 Liquidity Index : 0.35

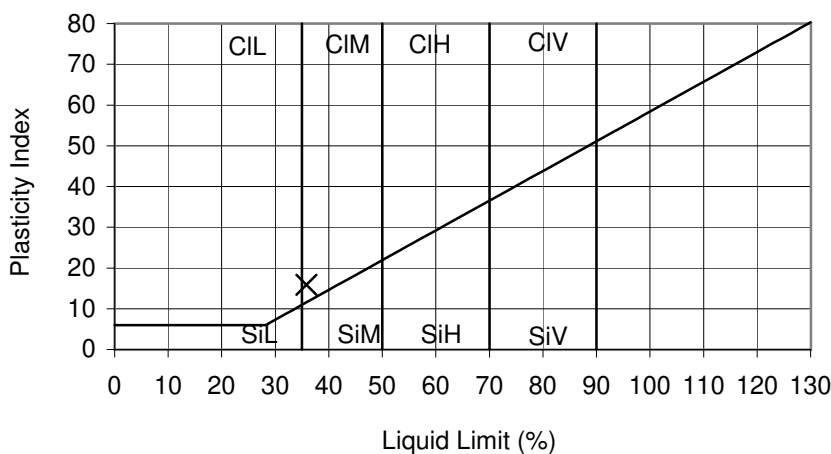
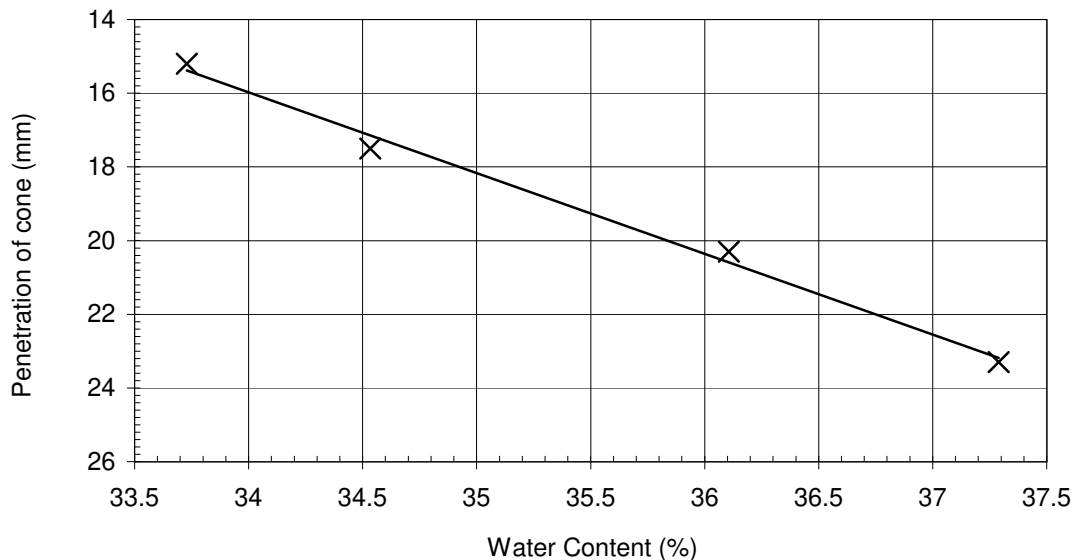
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	Figure C91 Sheet 1 of 1
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP33
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown silty very sandy fine to coarse GRAVEL with pockets of clay

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	14.4 %
Percentage retained on 425µm sieve :	53 %
Liquid Limit :	36 %
Plastic Limit :	20 %
Plasticity Index :	16
Equivalent water content of material passing 425µm sieve :	30.6 %
Liquidity Index :	0.66

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 C92 Sheet 1 of 1
CM	CD 06/11/2024		



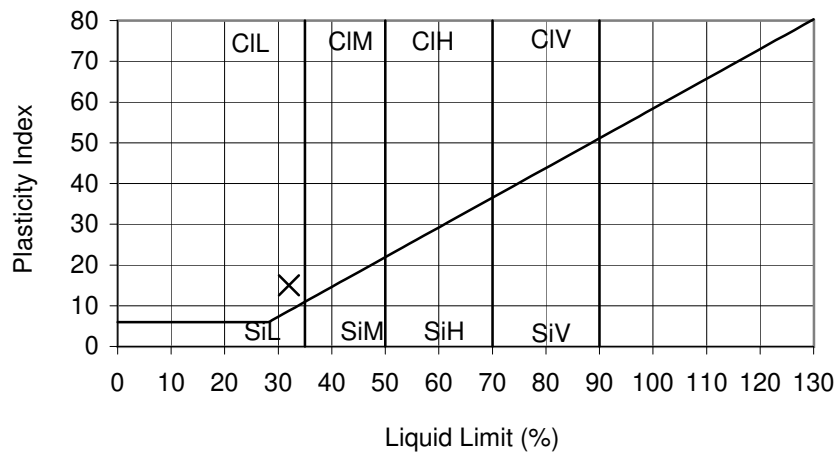
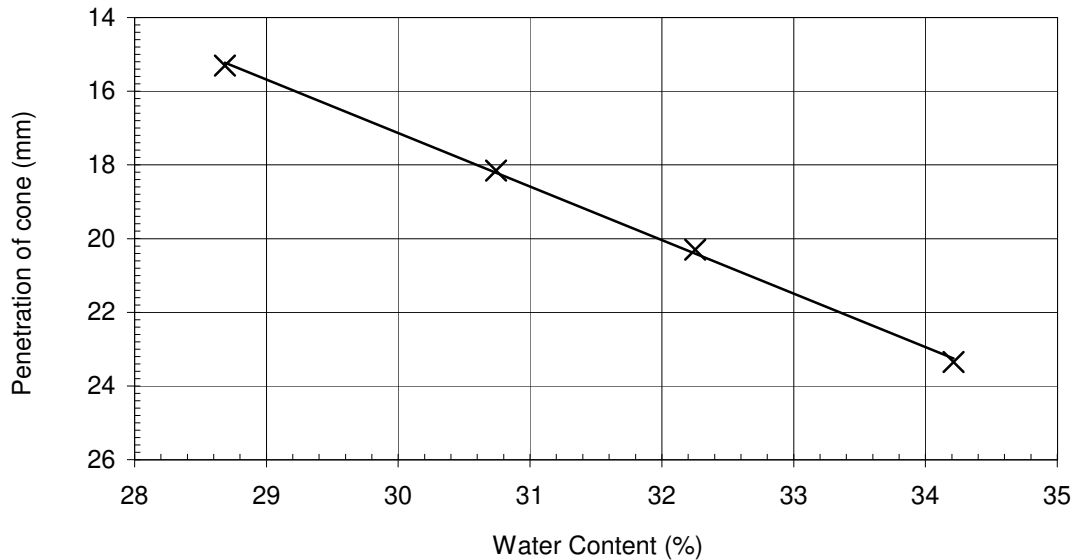
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	TP33
Sample Ref	
Depth (m)	3.50
Sample Type	D

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

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	17.9 %
Percentage retained on 425µm sieve :	57 %
Liquid Limit :	32 %
Plastic Limit :	17 %
Plasticity Index :	15
Equivalent water content of material passing 425µm sieve :	41.6 %
Liquidity Index :	1.64

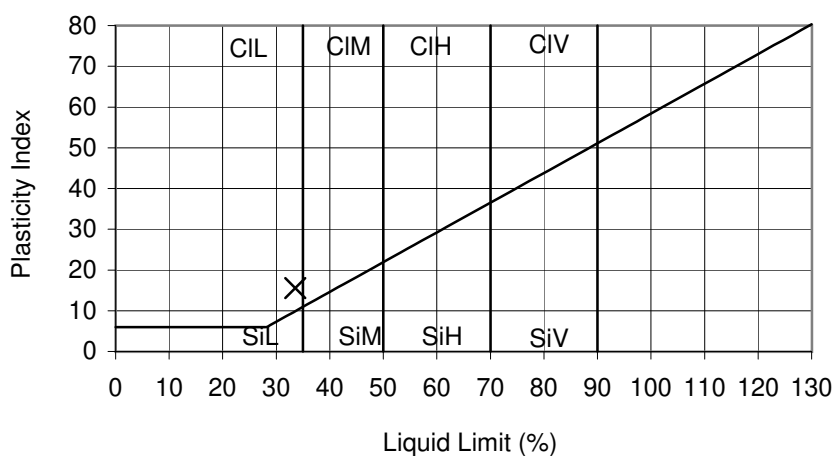
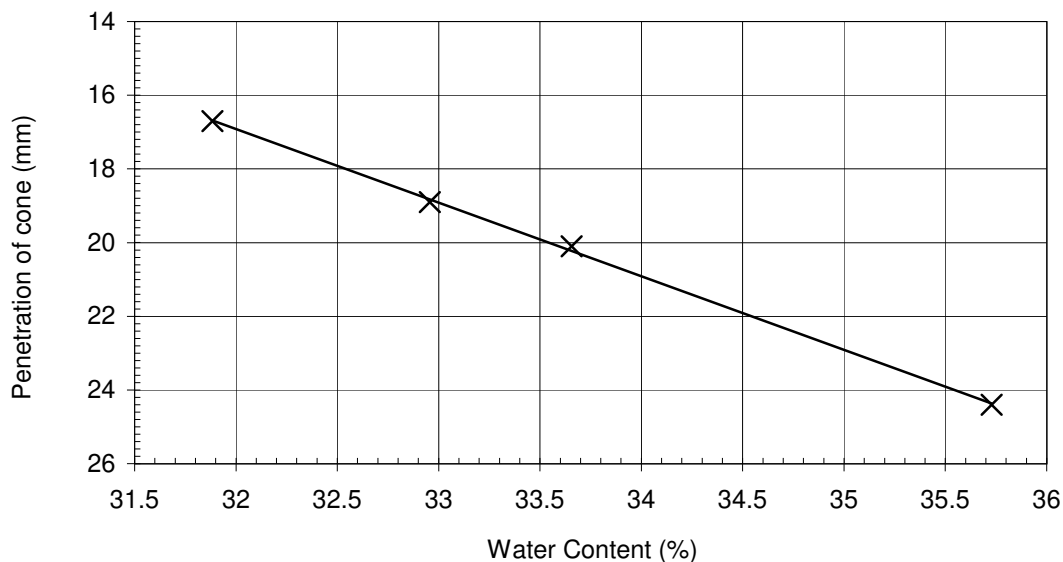
Originator	Checked & Approved	Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index BS EN ISO 17892-12:2018 Clause 5.3 BS EN ISO 17892-12:2018 Clause 5.5	 Figure C93 Sheet 1 of 1
CM	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No.	26667
Client	Scottish Power Energy Networks	Hole ID	TP34
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	0.50
		Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014) 15.2 %
 Percentage retained on 425µm sieve : 28 %
 Liquid Limit : 34 %
 Plastic Limit : 18 %
 Plasticity Index : 16

Equivalent water content of material passing 425µm sieve : 21.1 %
 Liquidity Index : 0.19

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 C94 Sheet 1 of 1
NW	CD 06/11/2024		



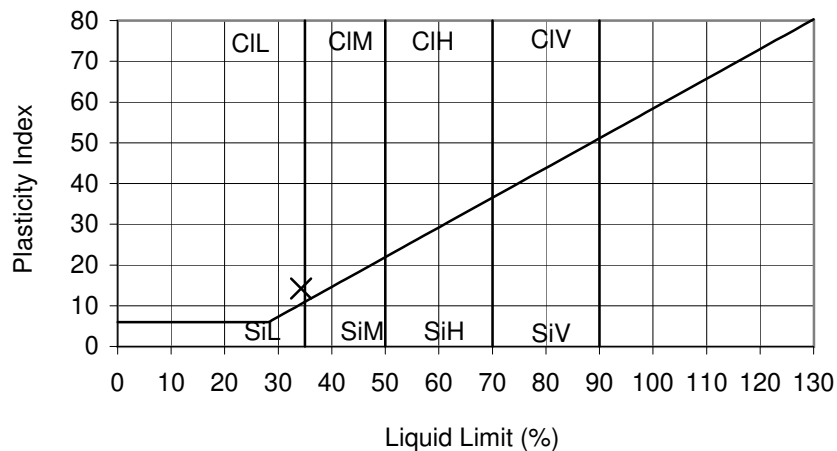
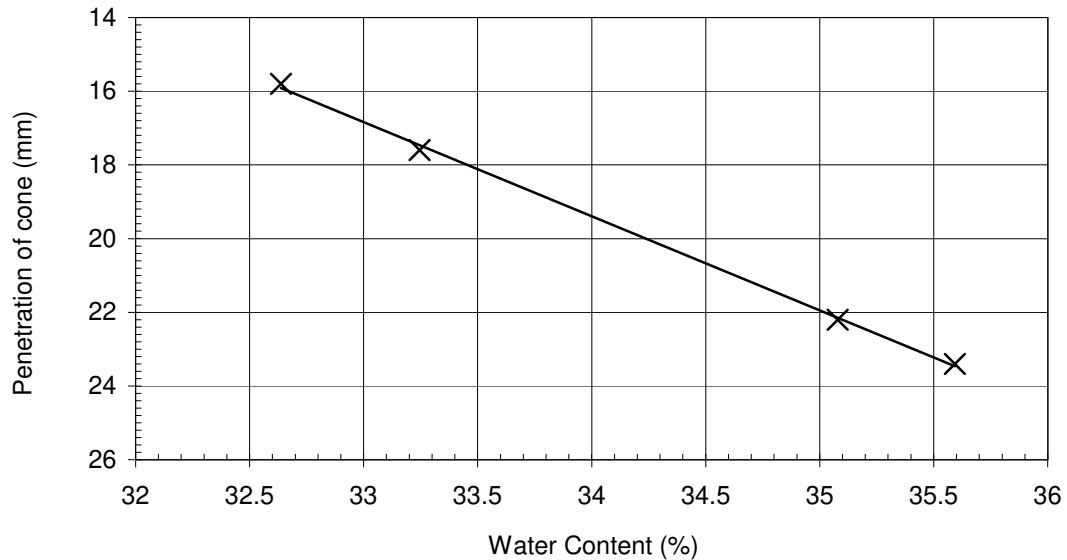
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No. 26667

Hole ID	TP36
Sample Ref	
Depth (m)	0.50
Sample Type	D

Non Engineering Description : Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

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



Liquid Limit was determined by mixing using increasing water content and 30° cone

Results :

As Received Water Content : (BS EN ISO 17892-1:2014)	18.6 %
Percentage retained on 425µm sieve :	18 %
Liquid Limit :	34 %
Plastic Limit :	20 %
Plasticity Index :	14
Equivalent water content of material passing 425µm sieve :	22.7 %
Liquidity Index :	0.19

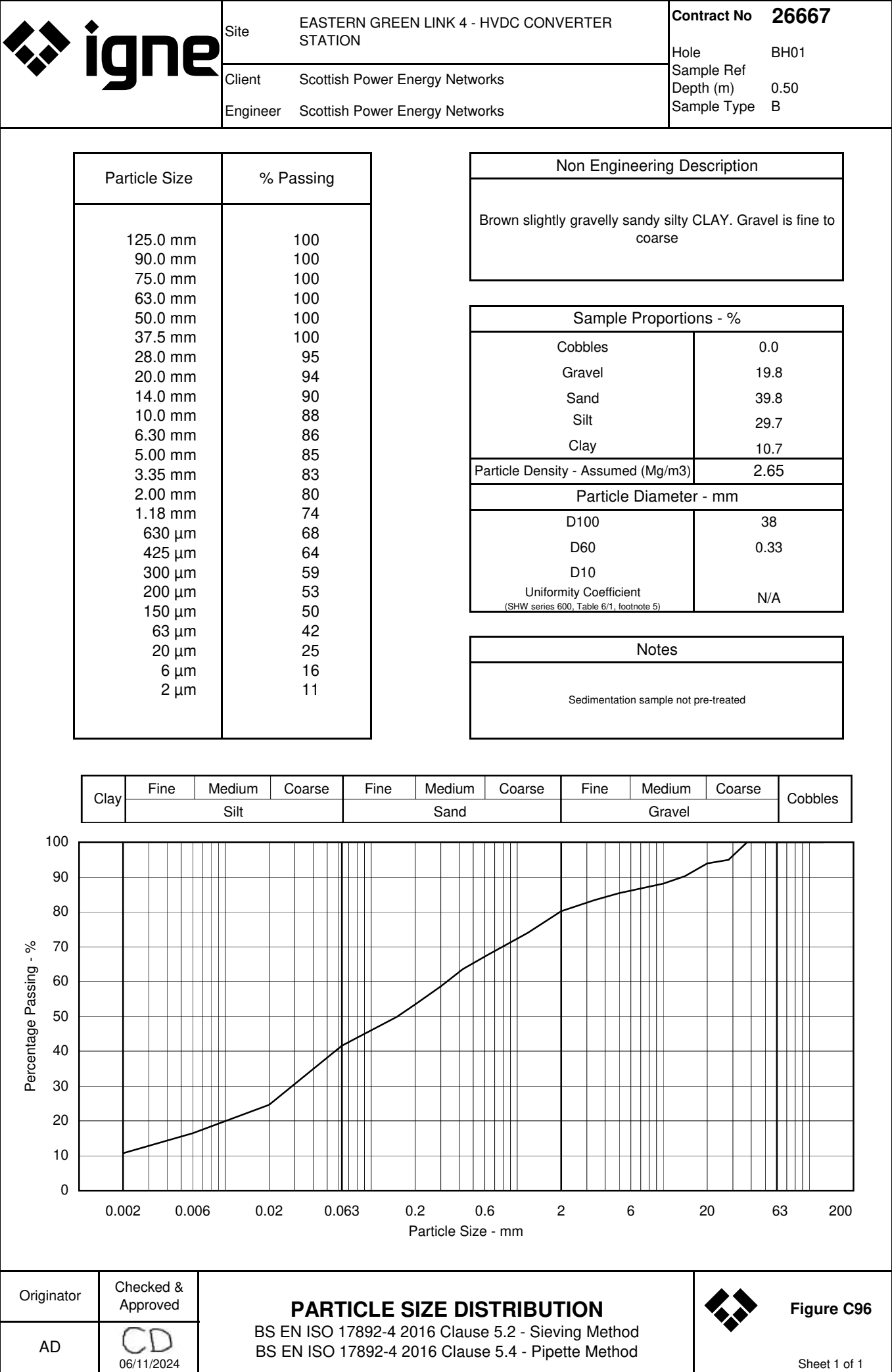
Originator	Checked & Approved
NW	CD 06/11/2024

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 C95

Sheet 1 of 1



Originator	Checked & Approved	

	Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No 26667	
	Client Scottish Power Energy Networks		Hole BH03	
	Engineer Scottish Power Energy Networks		Sample Ref Depth (m) 1.70 Sample Type B	

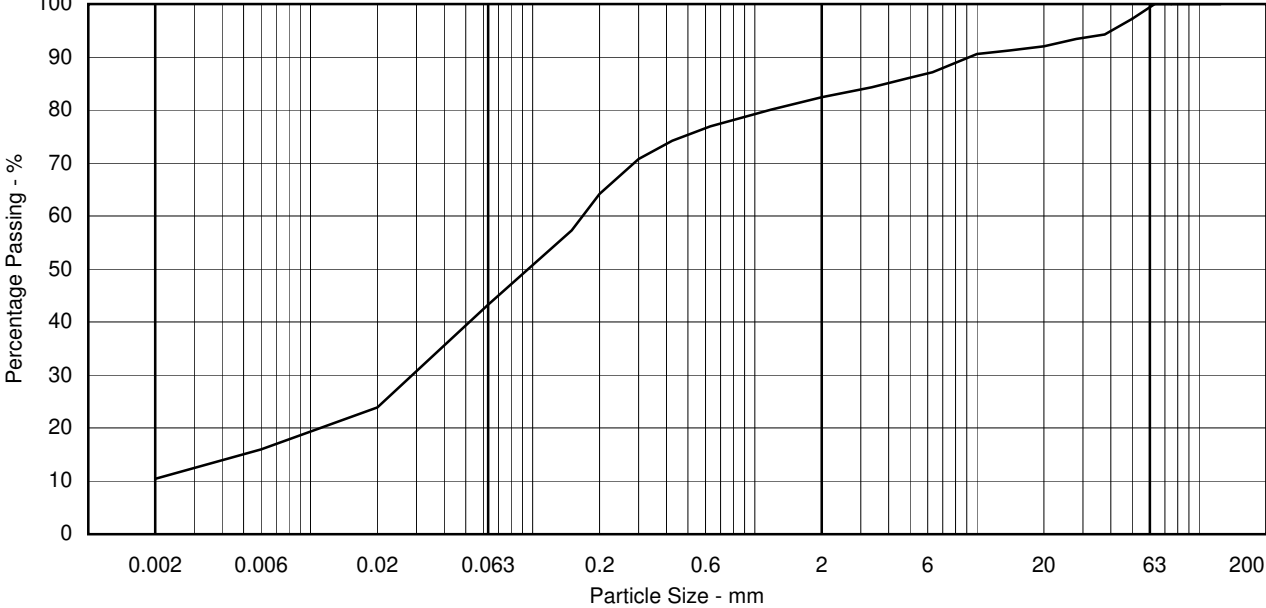
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	97
37.5 mm	94
28.0 mm	93
20.0 mm	92
14.0 mm	91
10.0 mm	91
6.30 mm	87
5.00 mm	86
3.35 mm	84
2.00 mm	82
1.18 mm	80
630 µm	77
425 µm	74
300 µm	71
200 µm	64
150 µm	57
63 µm	43
20 µm	24
6 µm	16
2 µm	10

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

Sample Proportions - %	
Cobbles	0.0
Gravel	17.6
Sand	40.5
Silt	31.6
Clay	10.4
Particle Density - Assumed (Mg/m3) 2.65	
Particle Diameter - mm	
D100	63
D60	0.17
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5) N/A	

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt				Sand			Gravel			



Percentage Passing - %

Particle Size - mm

Originator	Checked & Approved	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 C100 Sheet 1 of 1
AM	CD 06/11/2024		

	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleBH03	
	EngineerScottish Power Energy Networks				Sample Ref	
Depth (m)					2.70	
				Sample Type	B	

Particle Size	% Passing
125.0 mm	100
90.0 mm	94
75.0 mm	78
63.0 mm	78
50.0 mm	78
37.5 mm	67
28.0 mm	64
20.0 mm	62
14.0 mm	59
10.0 mm	58
6.30 mm	55
5.00 mm	54
3.35 mm	54
2.00 mm	52
1.18 mm	51
630 µm	48
425 µm	46
300 µm	43
200 µm	38
150 µm	33
63 µm	23
20 µm	13
6 µm	10
2 µm	4

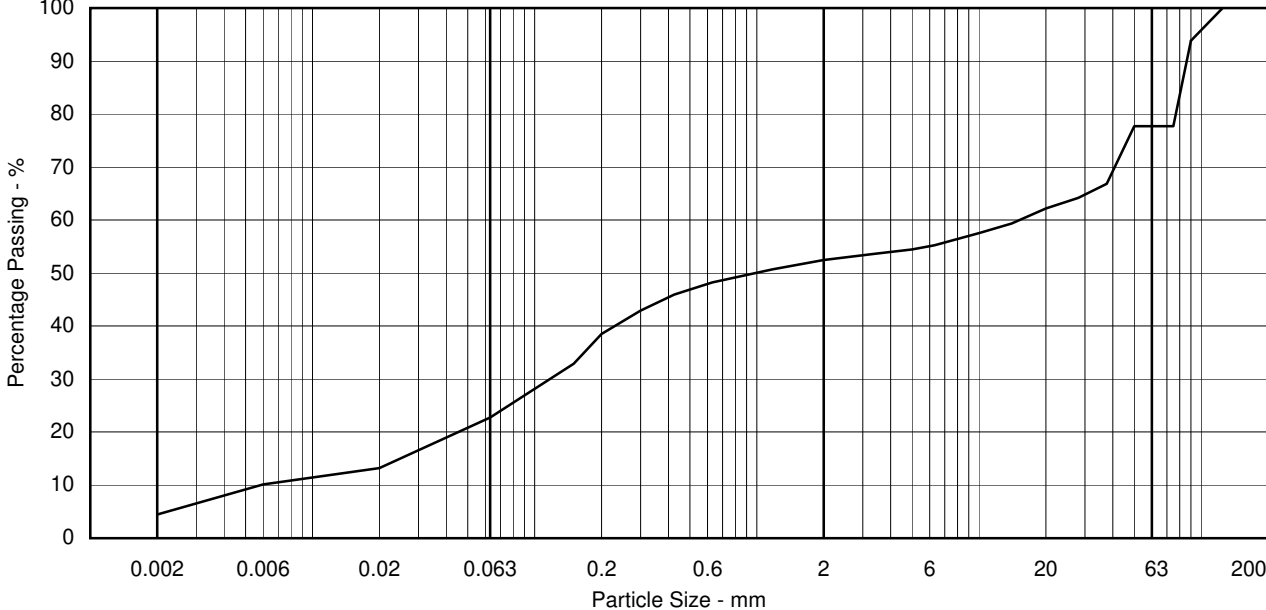
Non Engineering Description	
Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	22.3
Gravel	25.3
Sand	30.4
Silt	17.6
Clay	4.4
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	125
D60	15
D10	0.0059
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	2542.4

Notes	
Sedimentation sample not pre-treated	

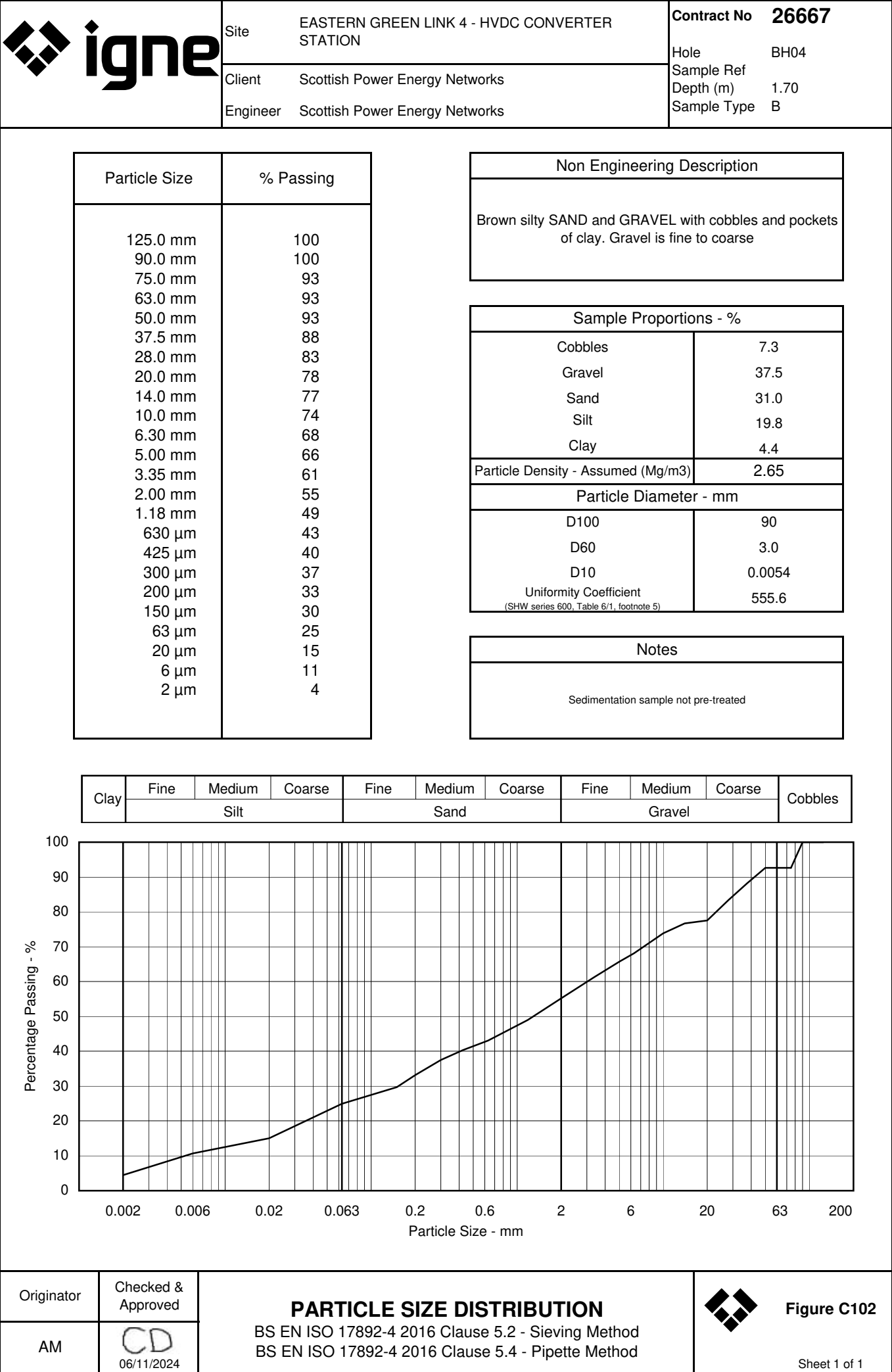
Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C101
AD	CD 06/11/2024		



	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleBH04	
	EngineerScottish Power Energy Networks				Sample Ref	
Depth (m)					3.70	
				Sample Type	B	

Particle Size	% Passing
125.0 mm	100
90.0 mm	81
75.0 mm	74
63.0 mm	55
50.0 mm	52
37.5 mm	48
28.0 mm	45
20.0 mm	41
14.0 mm	40
10.0 mm	39
6.30 mm	37
5.00 mm	35
3.35 mm	34
2.00 mm	31
1.18 mm	29
630 µm	26
425 µm	24
300 µm	22
200 µm	18
150 µm	14
63 µm	11
20 µm	6
6 µm	4
2 µm	2

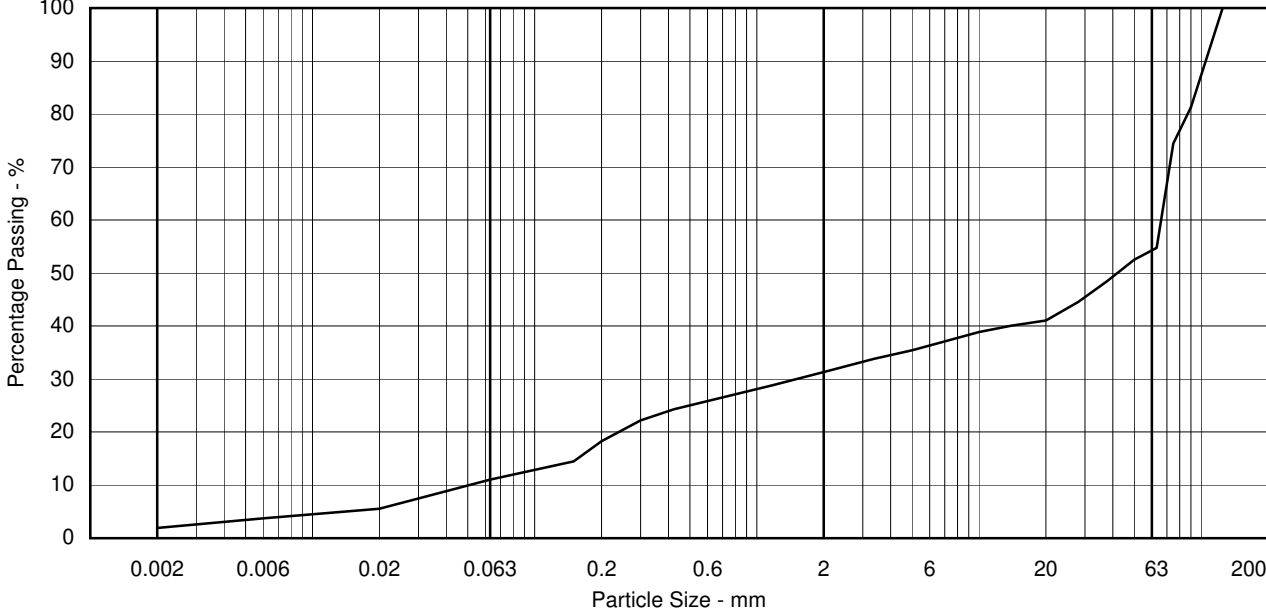
Non Engineering Description	
Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	45.2
Gravel	23.4
Sand	20.7
Silt	8.8
Clay	1.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	125
D60	66
D10	0.051
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	1294.1

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

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C103 Sheet 1 of 1
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Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client	Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No	26667

Hole	BH05

Sample Ref

Depth (m)	2.70

Sample Type	B

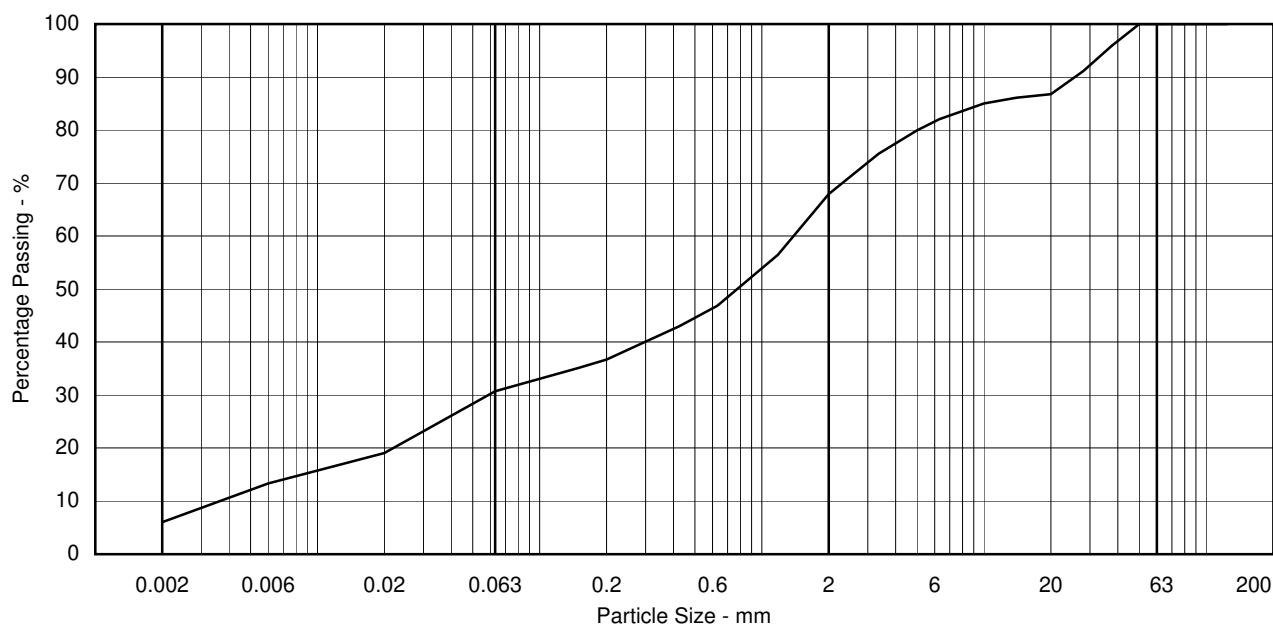
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	96
28.0 mm	91
20.0 mm	87
14.0 mm	86
10.0 mm	85
6.30 mm	82
5.00 mm	80
3.35 mm	75
2.00 mm	68
1.18 mm	56
630 µm	47
425 µm	43
300 µm	40
200 µm	37
150 µm	35
63 µm	31
20 µm	19
6 µm	13
2 µm	6

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

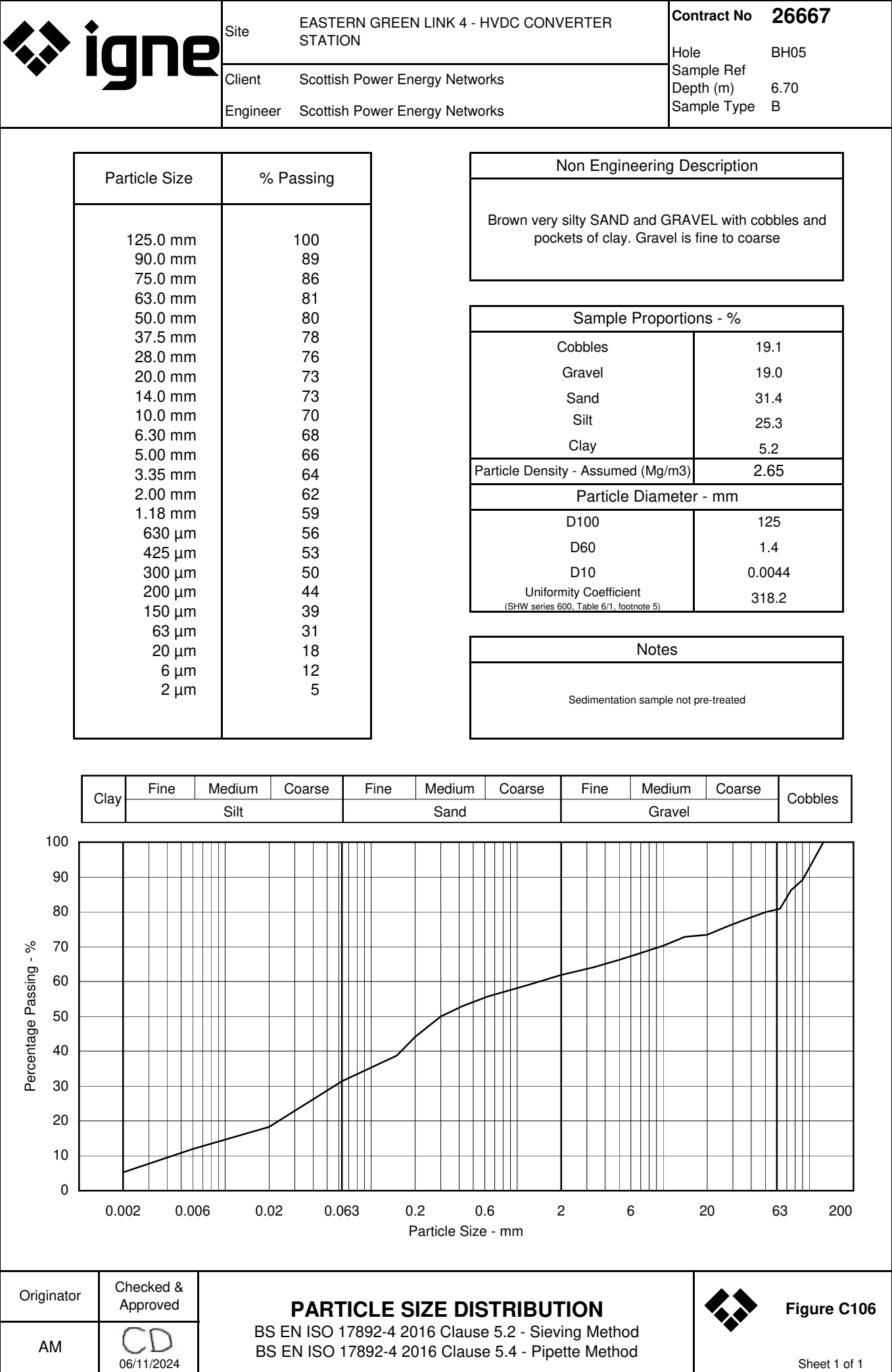
Sample Proportions - %	
Cobbles	0.0
Gravel	32.1
Sand	38.0
Silt	23.9
Clay	6.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	50
D60	1.4
D10	0.0037
Uniformity Coefficient	378.4

Notes
Sedimentation sample not pre-treated

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			



Originator	Checked & Approved	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 C105
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		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No26667	
		ClientScottish Power Energy Networks		HoleBH06	
		EngineerScottish Power Energy Networks		Sample Ref	
				Depth (m)0.50	
				Sample TypeB	

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	85
50.0 mm	85
37.5 mm	85
28.0 mm	85
20.0 mm	83
14.0 mm	82
10.0 mm	79
6.30 mm	77
5.00 mm	77
3.35 mm	75
2.00 mm	74
1.18 mm	72
630 µm	68
425 µm	65
300 µm	62
200 µm	55
150 µm	49
63 µm	38
20 µm	23
6 µm	17
2 µm	12

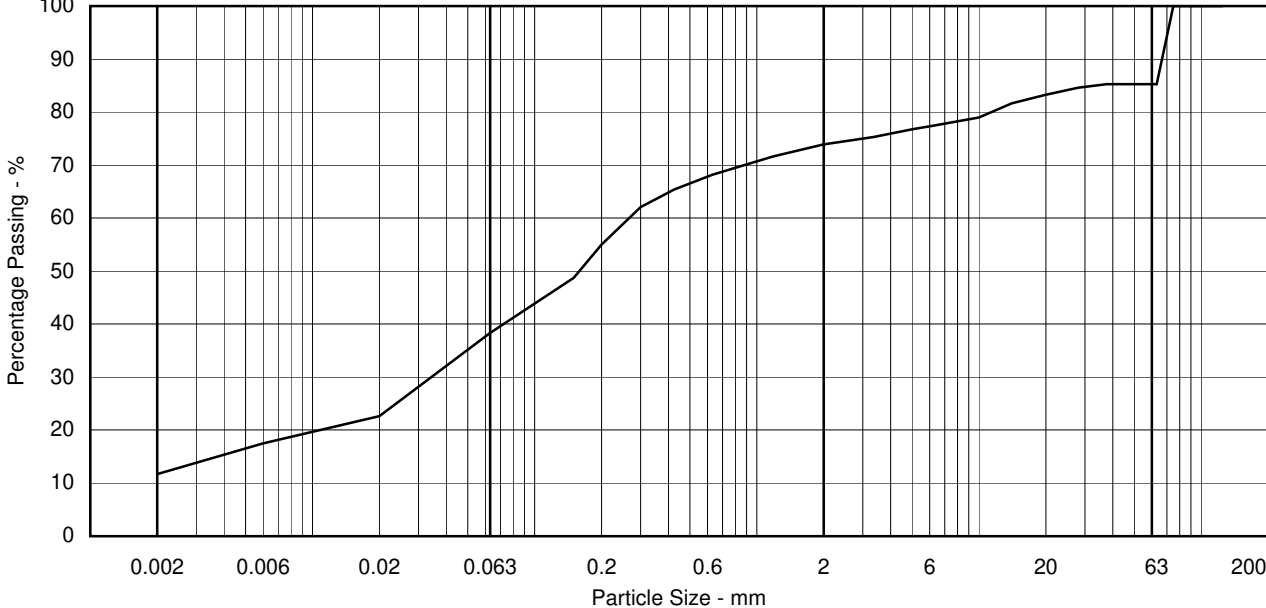
Non Engineering Description	
Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	14.7
Gravel	11.4
Sand	36.7
Silt	25.6
Clay	11.6
Particle Density - Assumed (Mg/m3)2.65	
Particle Diameter - mm	
D100	75
D60	0.27
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

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

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C107
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	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION			Contract No	26667	
	Client	Scottish Power Energy Networks			Hole	BH08	
	Engineer	Scottish Power Energy Networks			Sample Ref		
					Depth (m)	0.60	
					Sample Type	B	

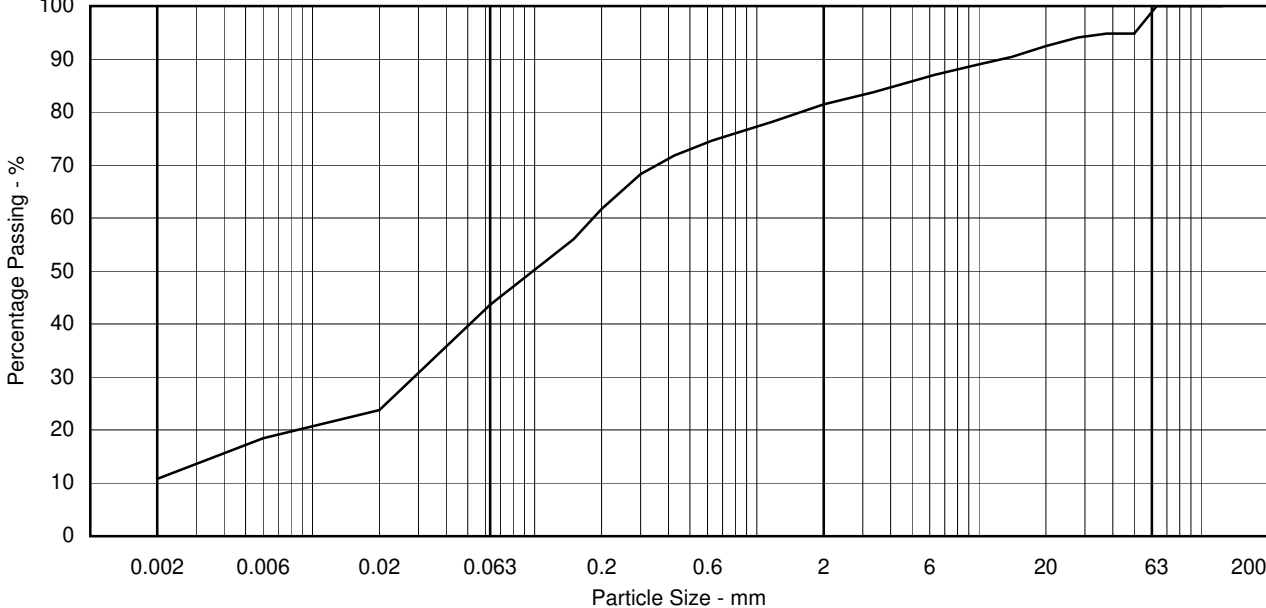
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	95
37.5 mm	95
28.0 mm	94
20.0 mm	92
14.0 mm	90
10.0 mm	89
6.30 mm	87
5.00 mm	86
3.35 mm	84
2.00 mm	81
1.18 mm	78
630 µm	75
425 µm	72
300 µm	68
200 µm	62
150 µm	56
63 µm	44
20 µm	24
6 µm	18
2 µm	11

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

Sample Proportions - %		
Cobbles	0.0	
Gravel	18.6	
Sand	39.2	
Silt	31.5	
Clay	10.8	
Particle Density - Assumed (Mg/m3)		2.65
Particle Diameter - mm		
D100	63	
D60	0.18	
D10		
Uniformity Coefficient		N/A
(SHW series 600, Table 6/1, footnote 5)		

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			



Originator	Checked & Approved	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 C109
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	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleBH08	Sample Ref Depth (m)1.70 Sample TypeB
	EngineerScottish Power Energy Networks					

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	92
63.0 mm	87
50.0 mm	85
37.5 mm	85
28.0 mm	84
20.0 mm	81
14.0 mm	78
10.0 mm	76
6.30 mm	69
5.00 mm	66
3.35 mm	60
2.00 mm	55
1.18 mm	50
630 µm	44
425 µm	41
300 µm	38
200 µm	34
150 µm	30
63 µm	25
20 µm	12
6 µm	8
2 µm	6

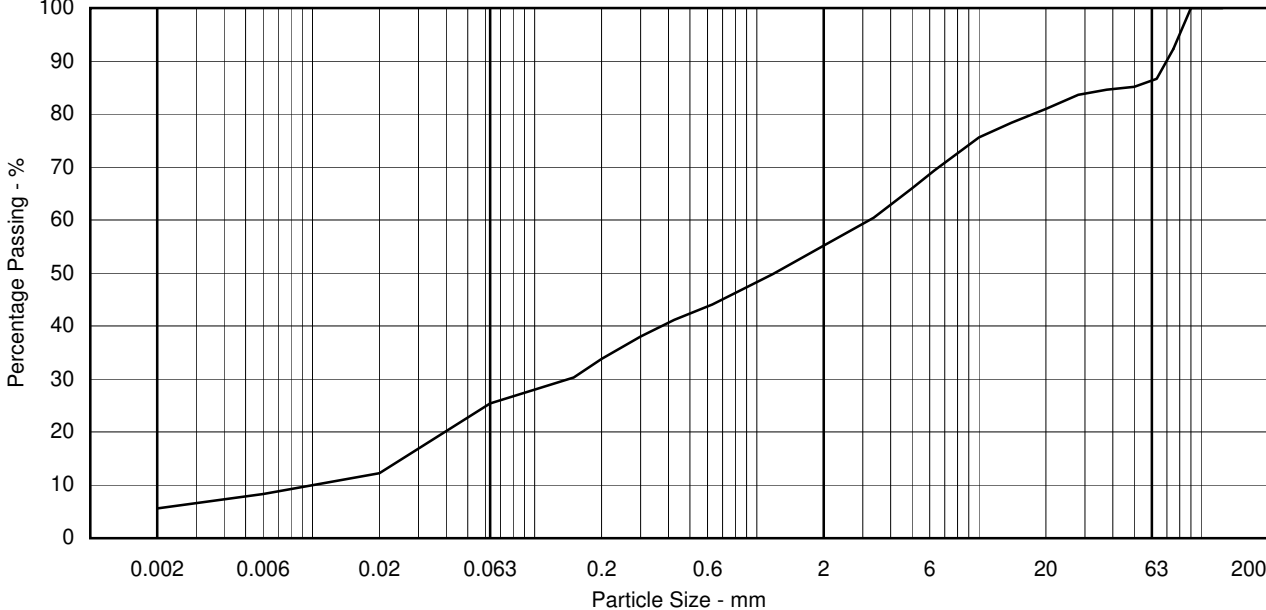
Non Engineering Description	
Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	13.3
Gravel	31.5
Sand	30.7
Silt	18.9
Clay	5.5
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	3.2
D10	0.010
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	320.0

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C110
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Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client	Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No	26667

Hole	BH08

Sample Ref

Depth (m)	3.70

Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	70
75.0 mm	70
63.0 mm	70
50.0 mm	70
37.5 mm	67
28.0 mm	66
20.0 mm	65
14.0 mm	64
10.0 mm	64
6.30 mm	62
5.00 mm	61
3.35 mm	61
2.00 mm	60
1.18 mm	58
630 µm	55
425 µm	53
300 µm	50
200 µm	43
150 µm	36
63 µm	24
20 µm	12
6 µm	8
2 µm	4

Non Engineering Description

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

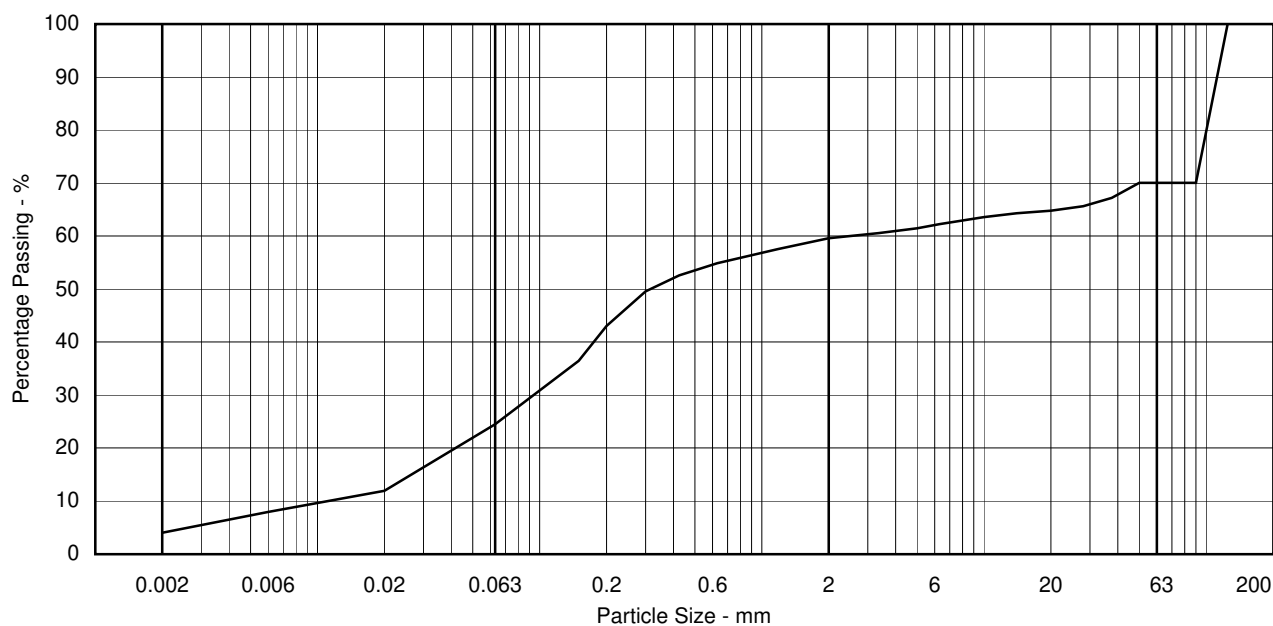
Sample Proportions - %

Cobbles	30.0
Gravel	10.5
Sand	35.9
Silt	19.6
Clay	4.0
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	125
D60	2.5
D10	0.011
Uniformity Coefficient (SHM Series 600, Table 6/1, footnote 5)	227.3

Notes

Sedimentation sample not pre-treated

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			



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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 C111

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SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION

ClientScottish Power Energy Networks

EngineerScottish Power Energy Networks

Contract No26667

HoleBH09

Sample Ref

Depth (m)0.50

Sample TypeB+D

Particle Size	% Passing
125.0 mm	100
90.0 mm	75
75.0 mm	68
63.0 mm	68
50.0 mm	68
37.5 mm	66
28.0 mm	64
20.0 mm	62
14.0 mm	62
10.0 mm	60
6.30 mm	57
5.00 mm	56
3.35 mm	54
2.00 mm	51
1.18 mm	48
630 µm	44
425 µm	42
300 µm	39
200 µm	35
150 µm	32
63 µm	24
20 µm	14
6 µm	9
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	32.3
Gravel	16.7
Sand	27.7
Silt	18.6
Clay	4.7

Particle Density - Assumed (Mg/m3)2.65

Particle Diameter - mm

D100	125
D60	11
D10	0.0070

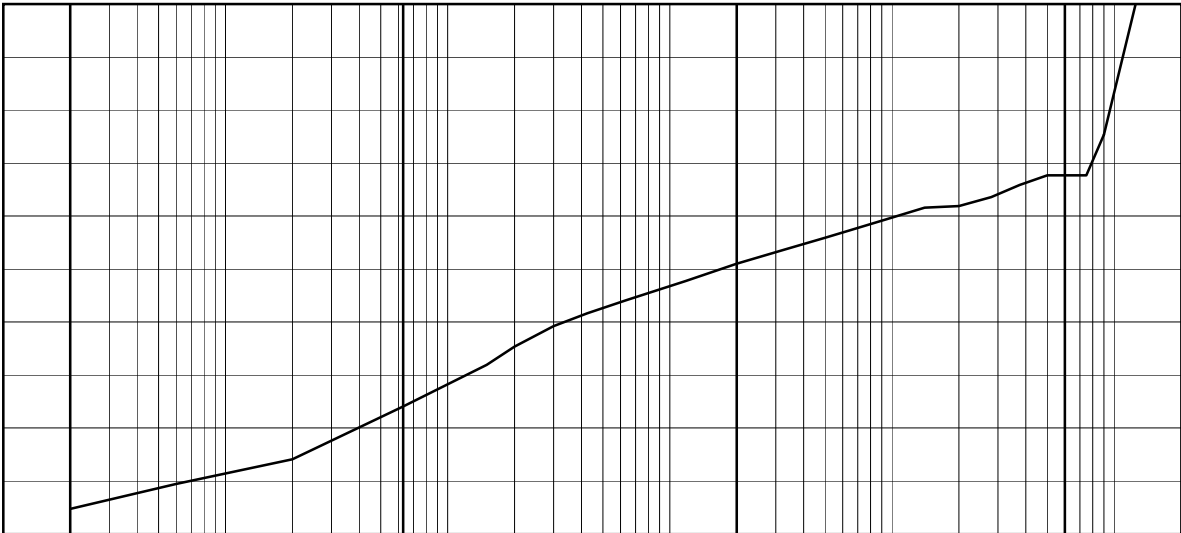
Uniformity Coefficient
(SHW series 600, Table 6/1, footnote 5)1571.4

Notes

Sedimentation sample not pre-treated

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt				Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator

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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 C112

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	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleBH09	
	EngineerScottish Power Energy Networks				Sample Ref	
Depth (m)1.70						
				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	96
37.5 mm	91
28.0 mm	85
20.0 mm	78
14.0 mm	67
10.0 mm	64
6.30 mm	61
5.00 mm	58
3.35 mm	54
2.00 mm	49
1.18 mm	43
630 µm	36
425 µm	31
300 µm	26
200 µm	21
150 µm	15
63 µm	11
20 µm	6
6 µm	4
2 µm	3

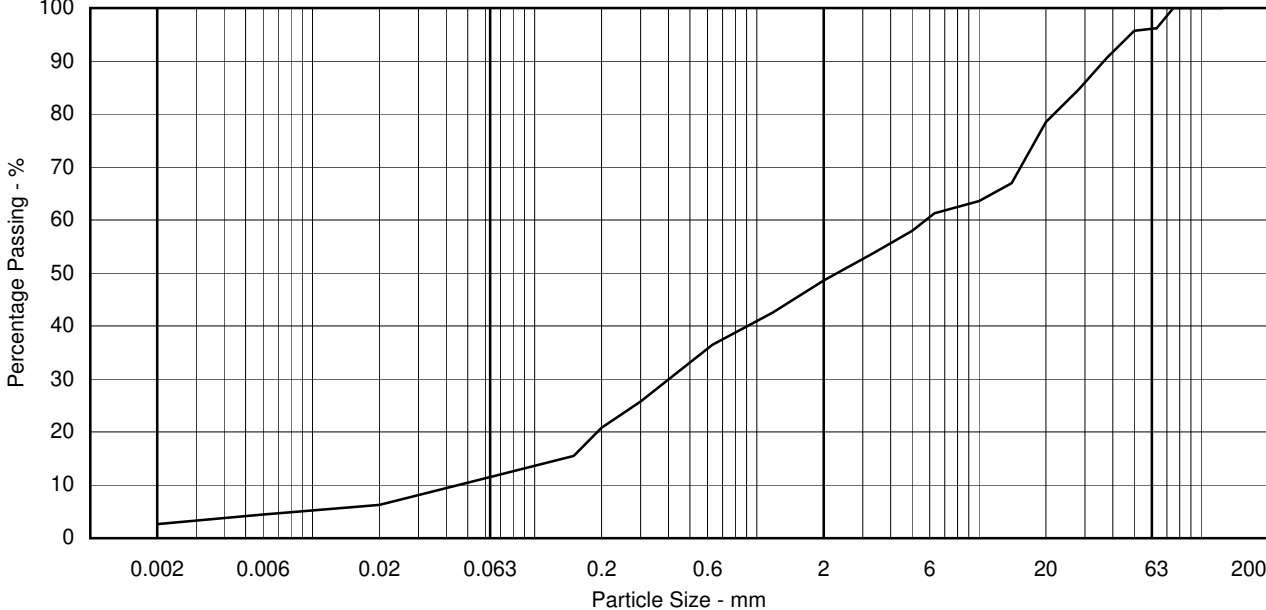
Non Engineering Description	
Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	3.8
Gravel	47.6
Sand	37.5
Silt	8.5
Clay	2.6
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	5.8
D10	0.046
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	126.1

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C113
AD	CD 06/11/2024		

	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No	26667
	Client	Scottish Power Energy Networks		Hole	BH10A
	Engineer	Scottish Power Energy Networks		Sample Ref	
				Depth (m)	3.70
				Sample Type	B

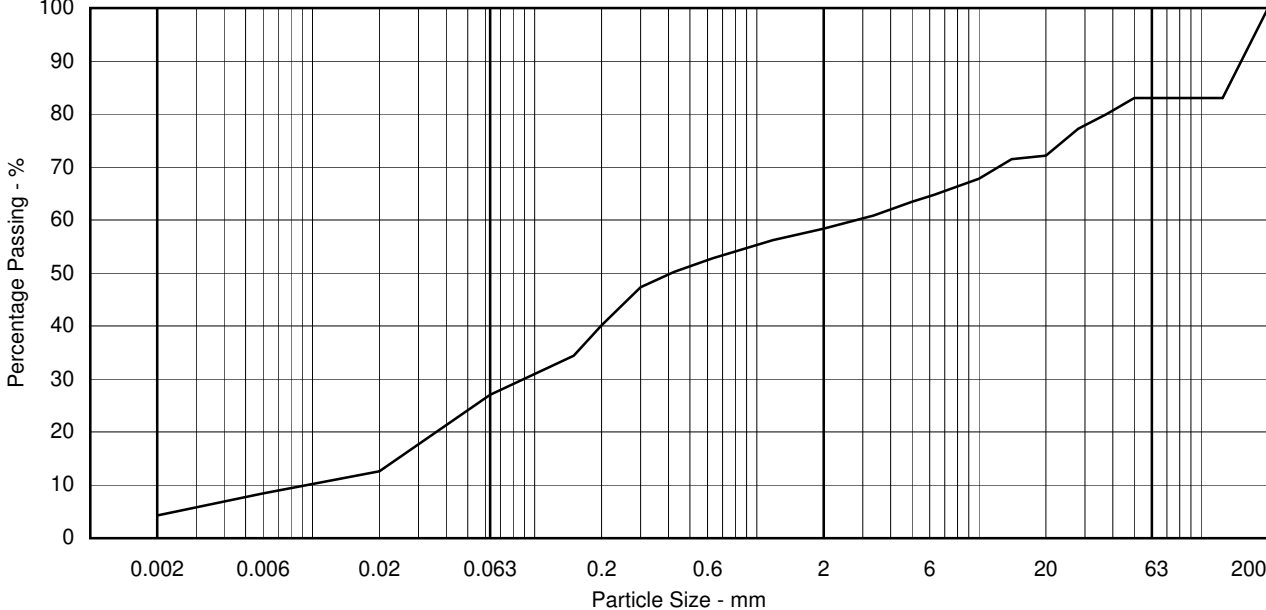
Particle Size	% Passing
200.0 mm	100
125.0 mm	83
75.0 mm	83
63.0 mm	83
50.0 mm	83
37.5 mm	80
28.0 mm	77
20.0 mm	72
14.0 mm	71
10.0 mm	68
6.30 mm	65
5.00 mm	63
3.35 mm	61
2.00 mm	58
1.18 mm	56
630 µm	53
425 µm	50
300 µm	47
200 µm	40
150 µm	34
63 µm	27
20 µm	13
6 µm	8
2 µm	4

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

Sample Proportions - %	
Cobbles	17.0
Gravel	24.7
Sand	32.4
Silt	21.8
Clay	4.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	200
D60	2.8
D10	0.0096
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	291.7

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			



Originator	Checked & Approved	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 C116
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		Site		EASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No		26667	
		Client		Scottish Power Energy Networks		Hole		BH10	
		Engineer		Scottish Power Energy Networks		Sample Ref			
						Depth (m)		0.40	
						Sample Type		B	

Particle Size	% Passing
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
50.0 mm	92
37.5 mm	82
28.0 mm	78
20.0 mm	75
14.0 mm	73
10.0 mm	71
6.30 mm	66
5.00 mm	64
3.35 mm	62
2.00 mm	58
1.18 mm	53
630 µm	48
425 µm	46
300 µm	43
200 µm	39
150 µm	35
63 µm	23
20 µm	12
6 µm	8
2 µm	5

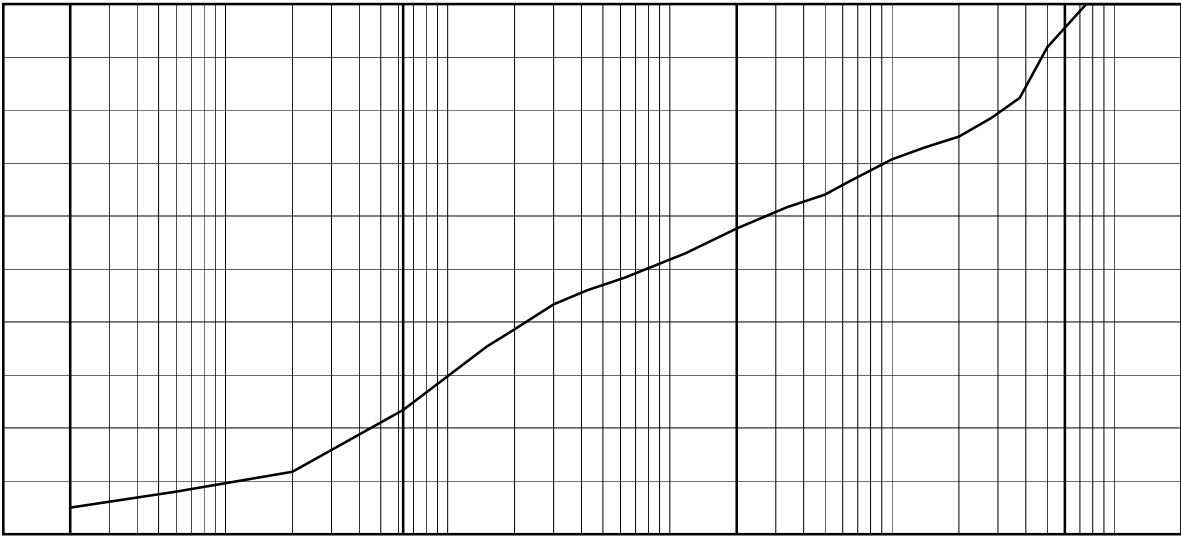
Non Engineering Description	
Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	3.9
Gravel	38.5
Sand	35.1
Silt	17.6
Clay	4.9
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	2.7
D10	0.012
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	225.0

Notes	
Sedimentation sample not pre-treated	

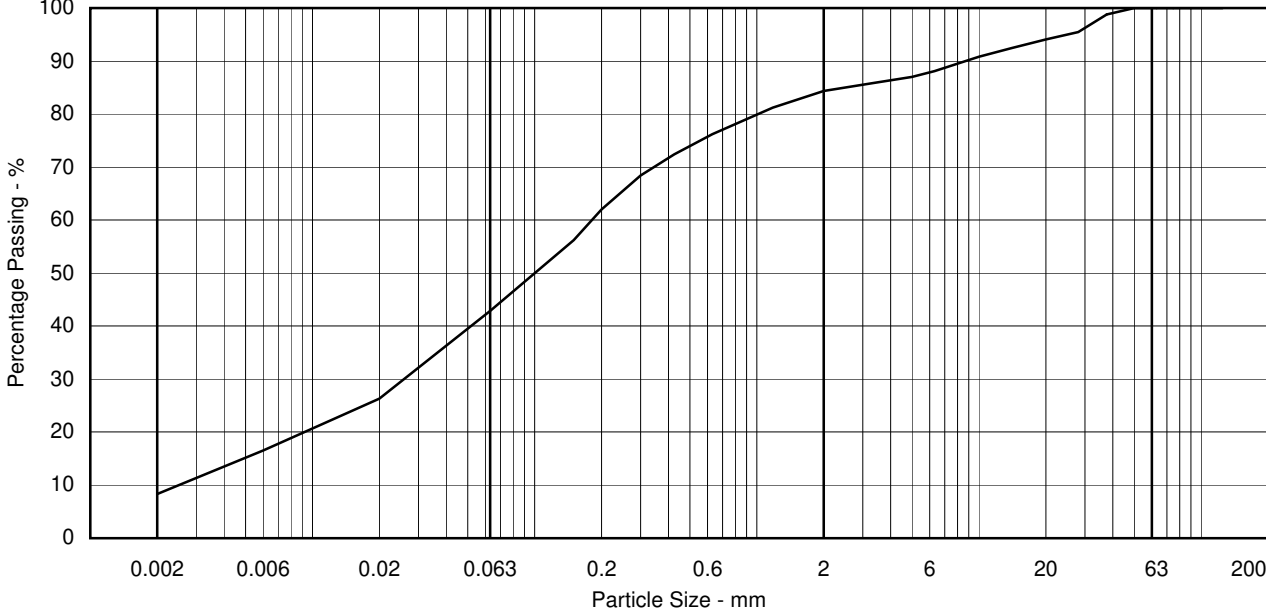
Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	</

		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667																																																							
		ClientScottish Power Energy Networks				HoleBH11																																																							
		EngineerScottish Power Energy Networks				Sample Ref																																																							
						Depth (m)0.50																																																							
						Sample TypeB																																																							
<table><tr><th>Particle Size</th><th>% Passing</th></tr><tr><td>125.0 mm</td><td>100</td></tr><tr><td>90.0 mm</td><td>100</td></tr><tr><td>75.0 mm</td><td>100</td></tr><tr><td>63.0 mm</td><td>100</td></tr><tr><td>50.0 mm</td><td>100</td></tr><tr><td>37.5 mm</td><td>99</td></tr><tr><td>28.0 mm</td><td>95</td></tr><tr><td>20.0 mm</td><td>94</td></tr><tr><td>14.0 mm</td><td>92</td></tr><tr><td>10.0 mm</td><td>91</td></tr><tr><td>6.30 mm</td><td>88</td></tr><tr><td>5.00 mm</td><td>87</td></tr><tr><td>3.35 mm</td><td>86</td></tr><tr><td>2.00 mm</td><td>84</td></tr><tr><td>1.18 mm</td><td>81</td></tr><tr><td>630 µm</td><td>76</td></tr><tr><td>425 µm</td><td>72</td></tr><tr><td>300 µm</td><td>68</td></tr><tr><td>200 µm</td><td>62</td></tr><tr><td>150 µm</td><td>56</td></tr><tr><td>63 µm</td><td>43</td></tr><tr><td>20 µm</td><td>26</td></tr><tr><td>6 µm</td><td>16</td></tr><tr><td>2 µm</td><td>8</td></tr></table>					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	95	20.0 mm	94	14.0 mm	92	10.0 mm	91	6.30 mm	88	5.00 mm	87	3.35 mm	86	2.00 mm	84	1.18 mm	81	630 µm	76	425 µm	72	300 µm	68	200 µm	62	150 µm	56	63 µm	43	20 µm	26	6 µm	16	2 µm	8	<table><tr><th colspan="2">Non Engineering Description</th></tr><tr><td colspan="2">Brown slightly gravelly sandy clayey SILT. Gravel is fine to coarse</td></tr></table>			Non Engineering Description	
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																																																												
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20.0 mm	94																																																												
14.0 mm	92																																																												
10.0 mm	91																																																												
6.30 mm	88																																																												
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Non Engineering Description																																																													
Brown slightly gravelly sandy clayey SILT. Gravel is fine to coarse																																																													
					<table><tr><th colspan="2">Sample Proportions - %</th></tr><tr><td>Cobbles</td><td>0.0</td></tr><tr><td>Gravel</td><td>15.6</td></tr><tr><td>Sand</td><td>42.7</td></tr><tr><td>Silt</td><td>33.4</td></tr><tr><td>Clay</td><td>8.3</td></tr><tr><td colspan="2">Particle Density - Assumed (Mg/m3)</td><td>2.65</td></tr><tr><th colspan="2">Particle Diameter - mm</th></tr><tr><td>D100</td><td>50</td></tr><tr><td>D60</td><td>0.18</td></tr><tr><td>D10</td><td>0.0025</td></tr><tr><td colspan="2">Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)</td><td>72.0</td></tr></table>			Sample Proportions - %		Cobbles	0.0	Gravel	15.6	Sand	42.7	Silt	33.4	Clay	8.3	Particle Density - Assumed (Mg/m3)		2.65	Particle Diameter - mm		D100	50	D60	0.18	D10	0.0025	Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)		72.0																												
Sample Proportions - %																																																													
Cobbles	0.0																																																												
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D60	0.18																																																												
D10	0.0025																																																												
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)		72.0																																																											
					<table><tr><th colspan="2">Notes</th></tr><tr><td colspan="2">Sedimentation sample not pre-treated</td></tr></table>			Notes		Sedimentation sample not pre-treated																																																			
Notes																																																													
Sedimentation sample not pre-treated																																																													
<table><tr><td rowspan="2">Clay</td><td>Fine</td><td>Medium</td><td>Coarse</td><td>Fine</td><td>Medium</td><td>Coarse</td><td>Fine</td><td>Medium</td><td>Coarse</td><td rowspan="2">Cobbles</td></tr><tr><td colspan="3">Silt</td><td colspan="3">Sand</td><td colspan="3">Gravel</td></tr></table> 										Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Silt			Sand			Gravel																																		
Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse		Cobbles																																																		
	Silt			Sand			Gravel																																																						
Originator		Checked & Approved		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 C117																																																					
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	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleBH13	Sample Ref Depth (m)1.70 Sample TypeB
	EngineerScottish Power Energy Networks					

Particle Size	% Passing
125.0 mm	100
90.0 mm	88
75.0 mm	81
63.0 mm	81
50.0 mm	79
37.5 mm	77
28.0 mm	75
20.0 mm	73
14.0 mm	73
10.0 mm	72
6.30 mm	70
5.00 mm	69
3.35 mm	67
2.00 mm	64
1.18 mm	61
630 µm	58
425 µm	56
300 µm	50
200 µm	34
150 µm	25
63 µm	19
20 µm	10
6 µm	7
2 µm	5

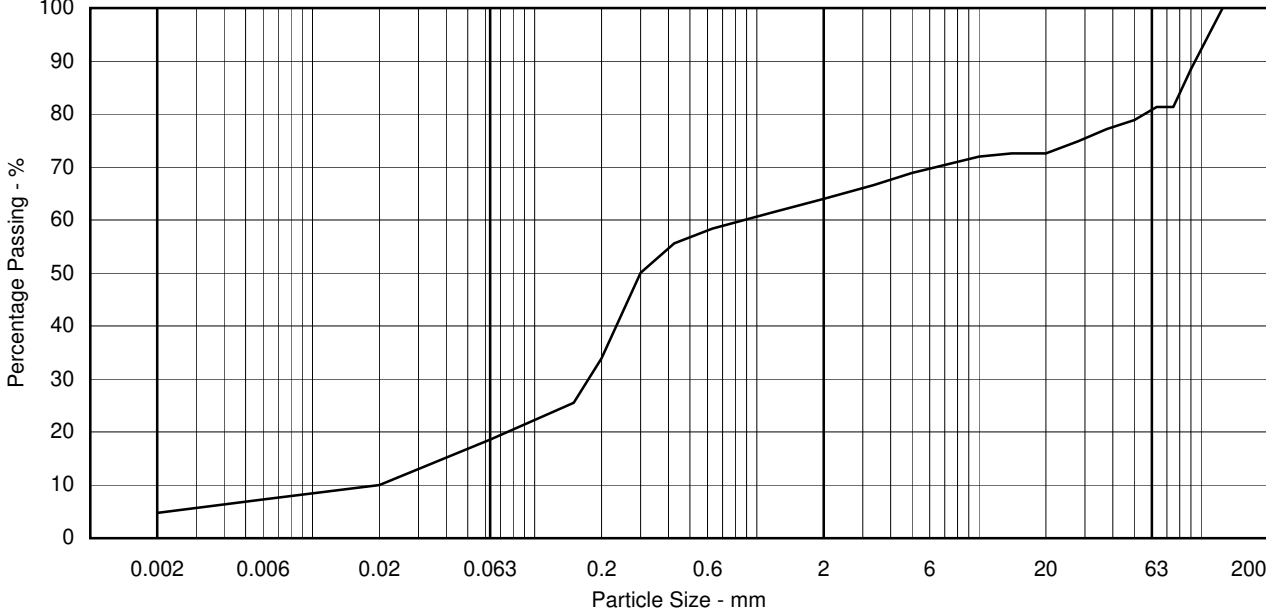
Non Engineering Description	
Brown silty gravelly SAND with cobbles and pockets of clay. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	18.7
Gravel	17.3
Sand	46.1
Silt	13.2
Clay	4.7
Particle Density - Assumed (Mg/m3)2.65	
Particle Diameter - mm	
D100	125
D60	0.88
D10	0.020
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5) 44.0	

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

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Originator	Checked & Approved	Figure C120
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	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleBH14	
	EngineerScottish Power Energy Networks				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	91
50.0 mm	91
37.5 mm	91
28.0 mm	87
20.0 mm	85
14.0 mm	84
10.0 mm	83
6.30 mm	81
5.00 mm	80
3.35 mm	79
2.00 mm	77
1.18 mm	75
630 µm	72
425 µm	69
300 µm	65
200 µm	59
150 µm	51
63 µm	41
20 µm	21
6 µm	16
2 µm	10

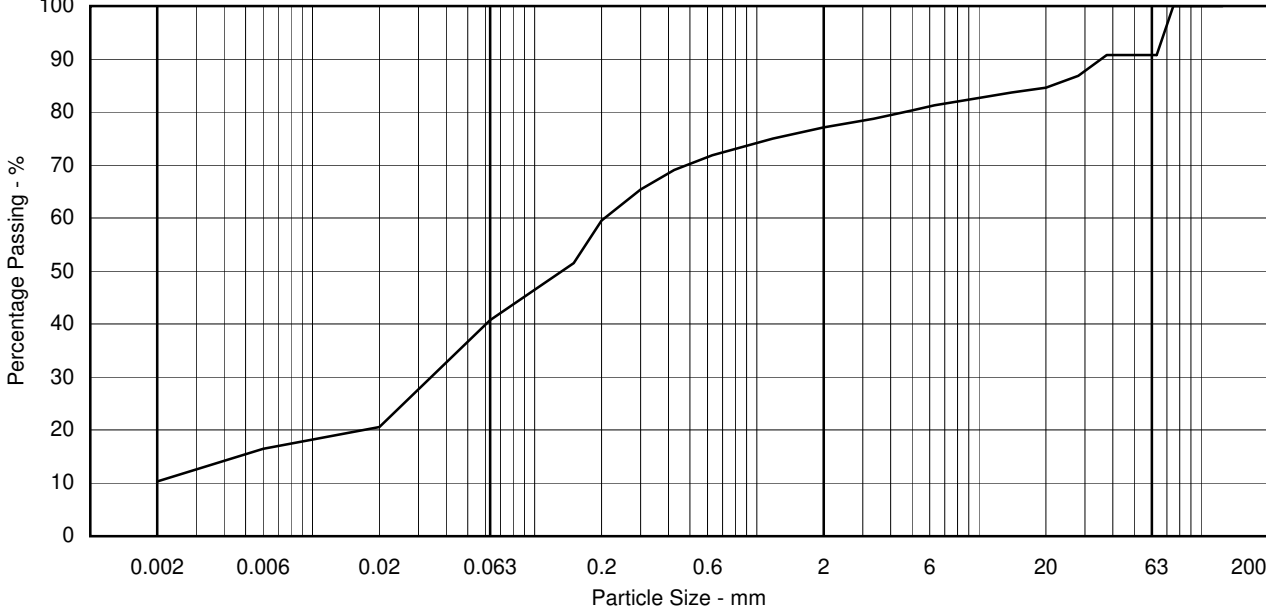
Non Engineering Description	
Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	9.3
Gravel	13.6
Sand	37.8
Silt	29.0
Clay	10.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	0.21
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C121 Sheet 1 of 1
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Engineer Scottish Power Energy Networks

Sample Ref	
Depth (m)	4.20
Sample Type	B

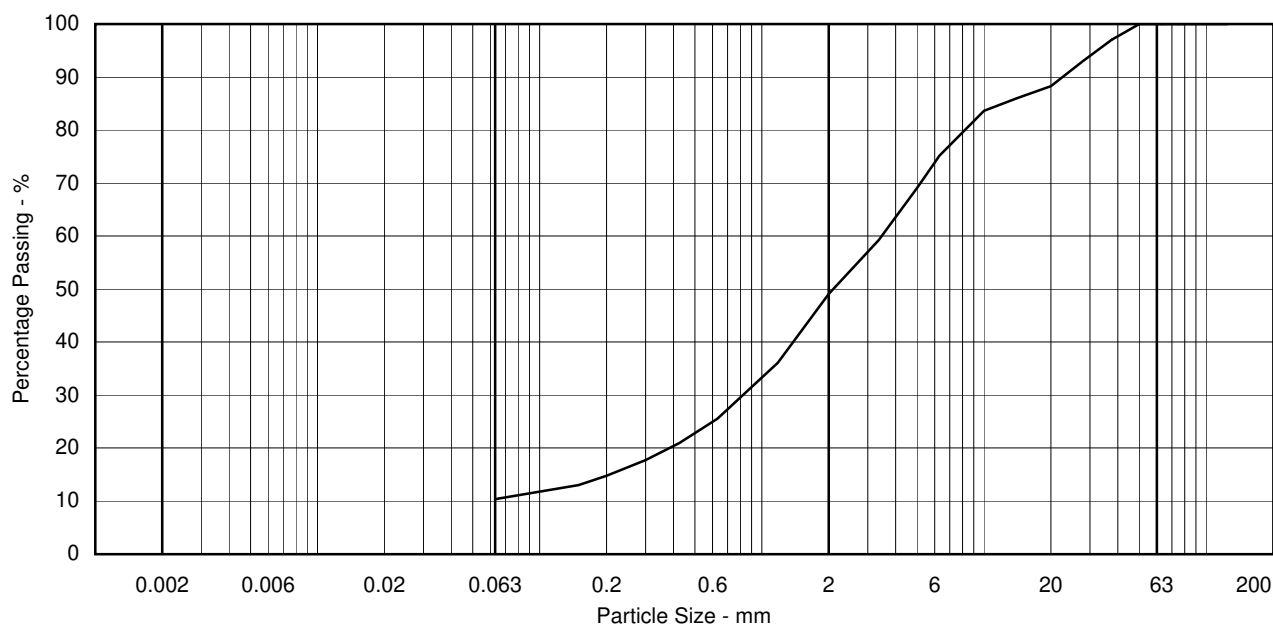
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	97
28.0 mm	93
20.0 mm	88
14.0 mm	86
10.0 mm	84
6.30 mm	75
5.00 mm	69
3.35 mm	59
2.00 mm	49
1.18 mm	36
630 µm	25
425 µm	21
300 µm	18
200 µm	15
150 µm	13
63 µm	10

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

Sample Proportions - %	
Cobbles	0.0
Gravel	51.0
Sand	38.7
Silt & Clay	10.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	50
D60	3.5
D10	
Uniformity Coefficient	N/A

Notes

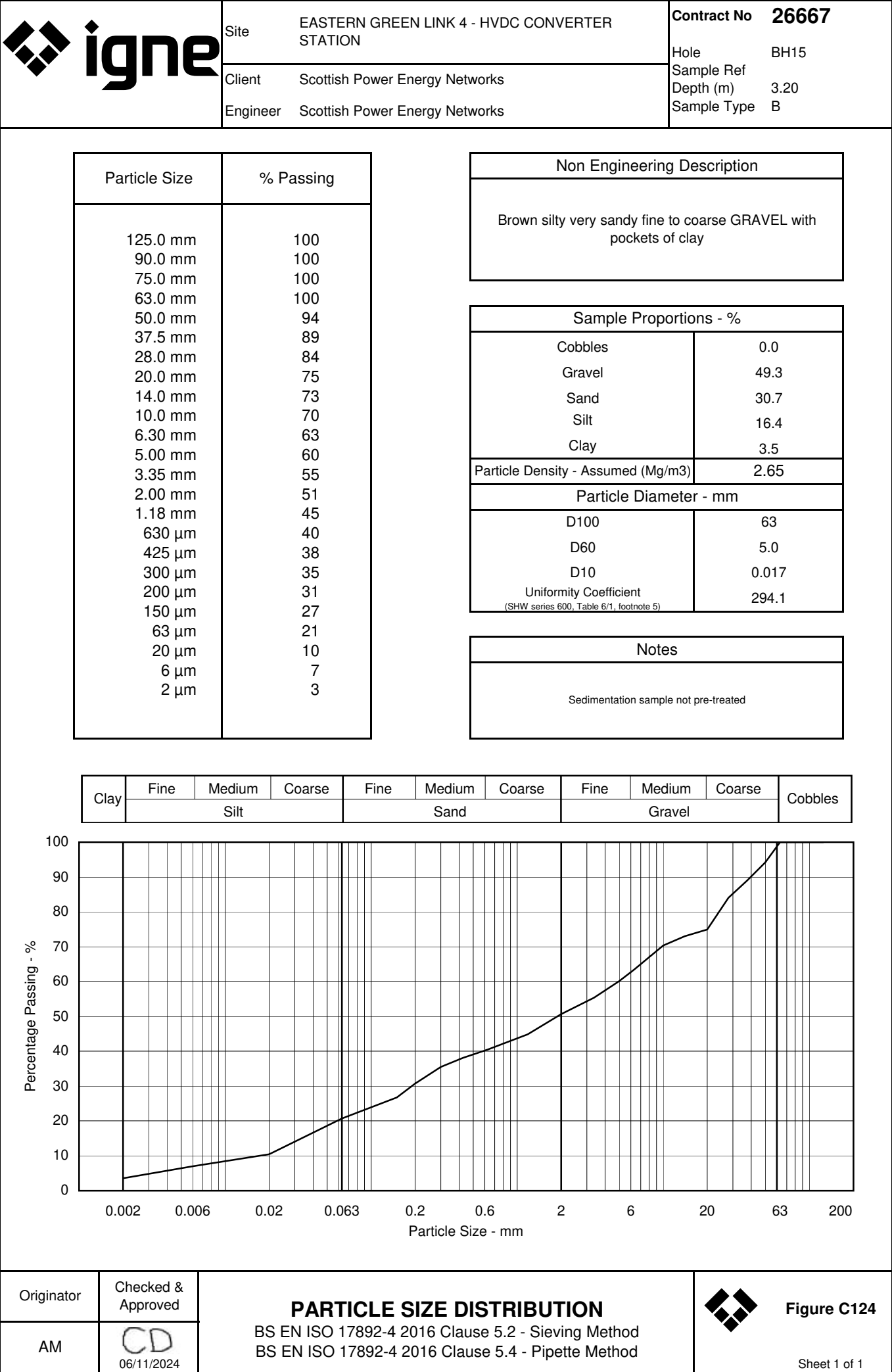
Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			



Originator	Checked & Approved	PARTICLE SIZE DISTRIBUTION BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method	 Figure C122
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SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION

ClientScottish Power Energy Networks

EngineerScottish Power Energy Networks

Contract No26667

HoleBH16

Sample Ref

Depth (m)0.50

Sample TypeB

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	98
20.0 mm	97
14.0 mm	97
10.0 mm	96
6.30 mm	94
5.00 mm	94
3.35 mm	92
2.00 mm	91
1.18 mm	88
630 µm	84
425 µm	80
300 µm	76
200 µm	69
150 µm	61
63 µm	47
20 µm	29
6 µm	21
2 µm	11

Non Engineering Description

Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

Sample Proportions - %

Cobbles	0.0
Gravel	9.4
Sand	45.0
Silt	34.1
Clay	11.5

Particle Density - Assumed (Mg/m3)2.65

Particle Diameter - mm

D100	38
D60	0.14
D10	

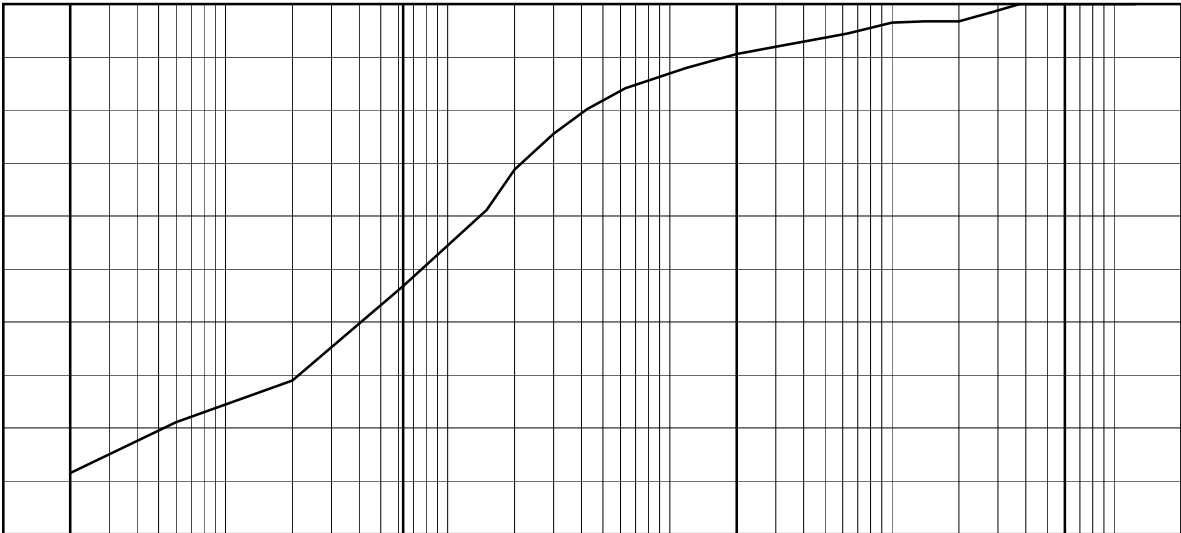
Uniformity Coefficient
(SHW series 600, Table 6/1, footnote 5)N/A

Notes

Sedimentation sample not pre-treated

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt			Sand			Gravel				

Percentage Passing - %



Particle Size - mm

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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



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		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No26667	
		ClientScottish Power Energy Networks		HoleBH16	
		EngineerScottish Power Energy Networks		Sample Ref	
				Depth (m)1.50	
				Sample TypeB	

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	90
20.0 mm	84
14.0 mm	84
10.0 mm	84
6.30 mm	84
5.00 mm	84
3.35 mm	79
2.00 mm	72
1.18 mm	62
630 µm	53
425 µm	44
300 µm	37
200 µm	31
150 µm	26
63 µm	24
20 µm	13
6 µm	9
2 µm	5

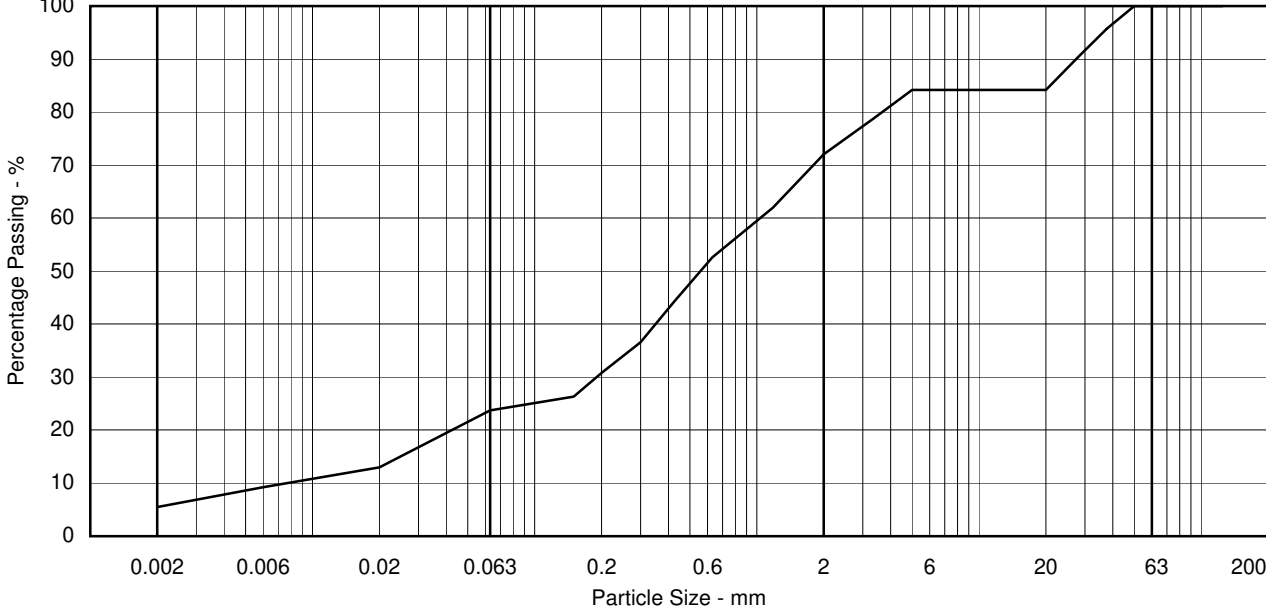
Non Engineering Description	
Brown silty very gravelly SAND with pockets of clay. Gravel is fine to coarse	

Sample Proportions - %		
Cobbles	0.0	
Gravel	28.0	
Sand	49.1	
Silt	17.5	
Clay	5.4	
Particle Density - Assumed (Mg/m3)2.65		
Particle Diameter - mm		
D100	50	
D60	1.0	
D10	0.0078	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)		128.2

Notes	
Sedimentation sample not pre-treated	

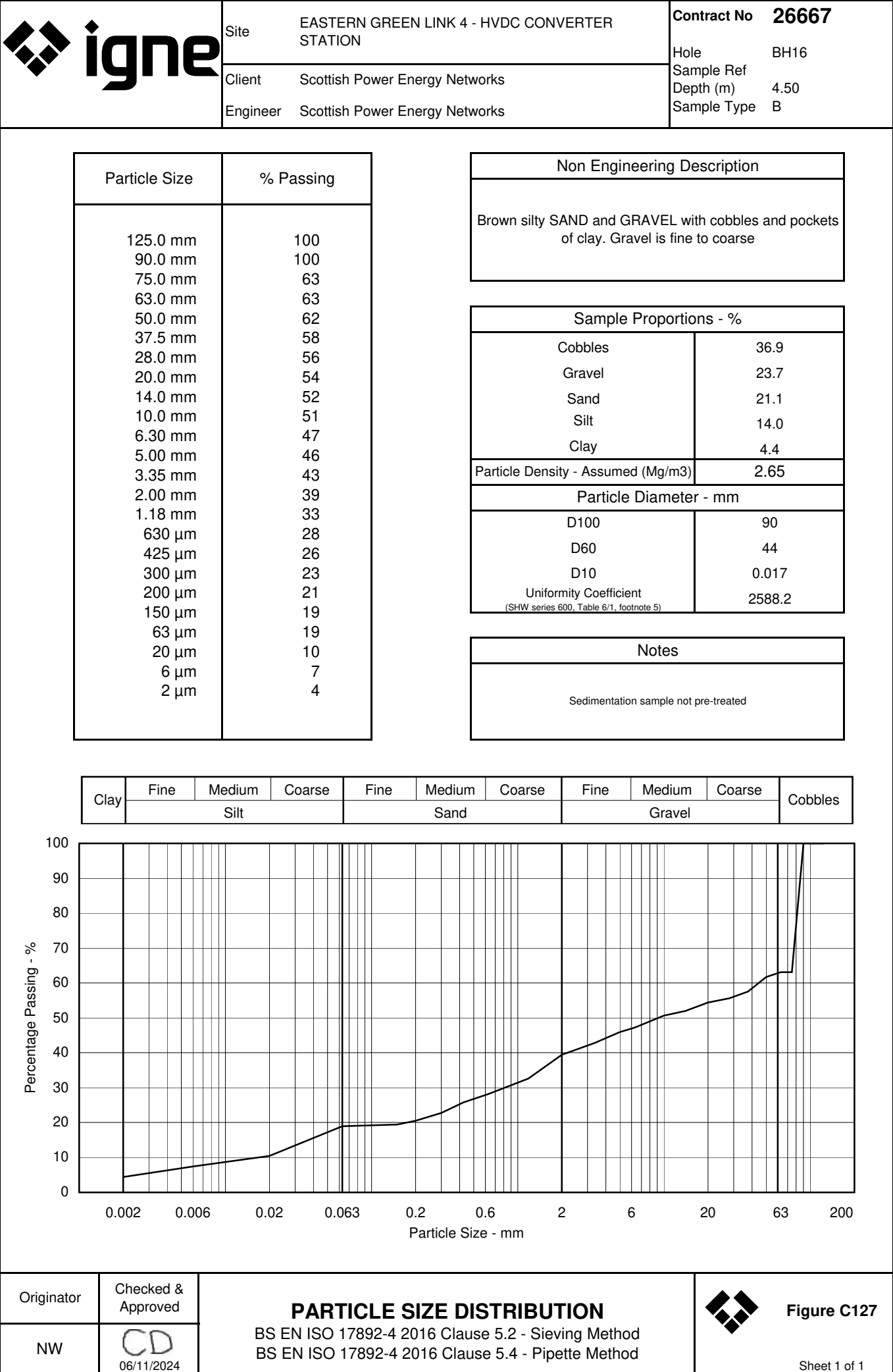
Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	</



	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleBH16	
	EngineerScottish Power Energy Networks				Sample Ref	
					Depth (m)	7.95
					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	95
37.5 mm	92
28.0 mm	86
20.0 mm	82
14.0 mm	82
10.0 mm	82
6.30 mm	82
5.00 mm	82
3.35 mm	80
2.00 mm	78
1.18 mm	73
630 µm	66
425 µm	58
300 µm	50
200 µm	43
150 µm	39
63 µm	36
20 µm	22
6 µm	15
2 µm	10

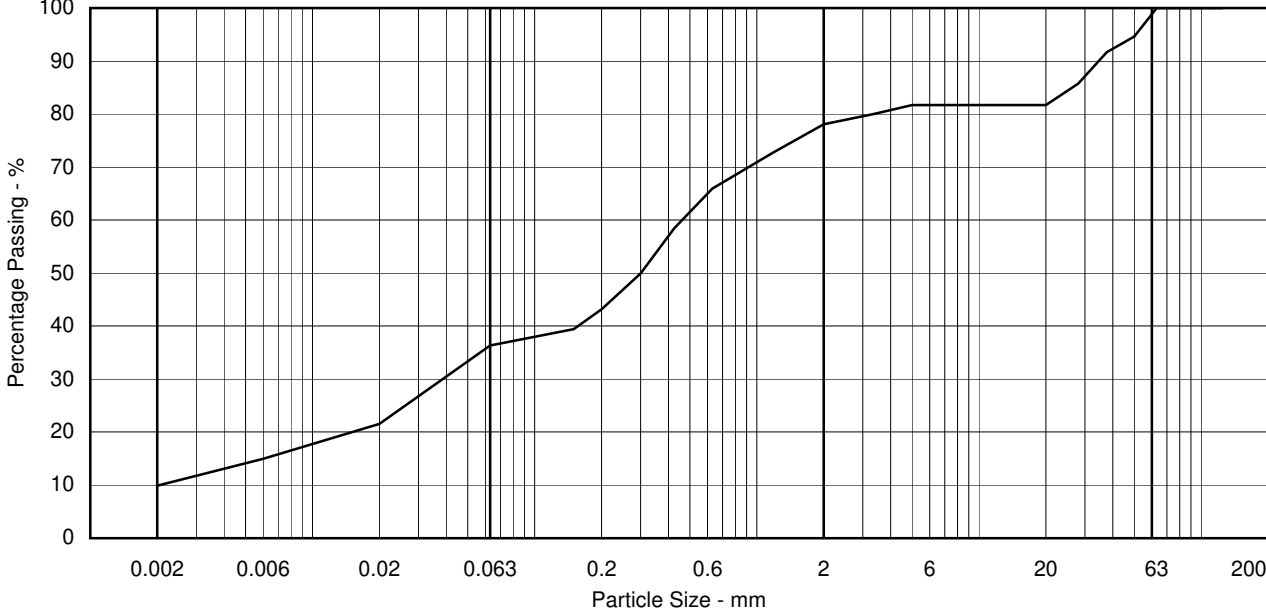
Non Engineering Description	
Brown slightly gravelly sandy clayey SILT. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	0.0
Gravel	21.9
Sand	42.8
Silt	25.4
Clay	9.8
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	0.46
D10	0.0021
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	219.0

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt				Sand			Gravel			

Percentage Passing - %



Particle Size - mm

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SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION

ClientScottish Power Energy Networks

EngineerScottish Power Energy Networks

Contract No26667

HoleBH16

Sample Ref

Depth (m)30.45

Sample TypeB

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	98
20.0 mm	97
14.0 mm	97
10.0 mm	97
6.30 mm	97
5.00 mm	97
3.35 mm	93
2.00 mm	87
1.18 mm	80
630 µm	73
425 µm	65
300 µm	55
200 µm	48
150 µm	42
63 µm	40
20 µm	25
6 µm	19
2 µm	14

Non Engineering Description

Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

Sample Proportions - %

Cobbles	0.0
Gravel	12.9
Sand	48.6
Silt	24.6
Clay	13.9

Particle Density - Assumed (Mg/m3)2.65

Particle Diameter - mm

D100	63
D60	0.36
D10	

Uniformity Coefficient
(SHW series 600, Table 6/1, footnote 5)

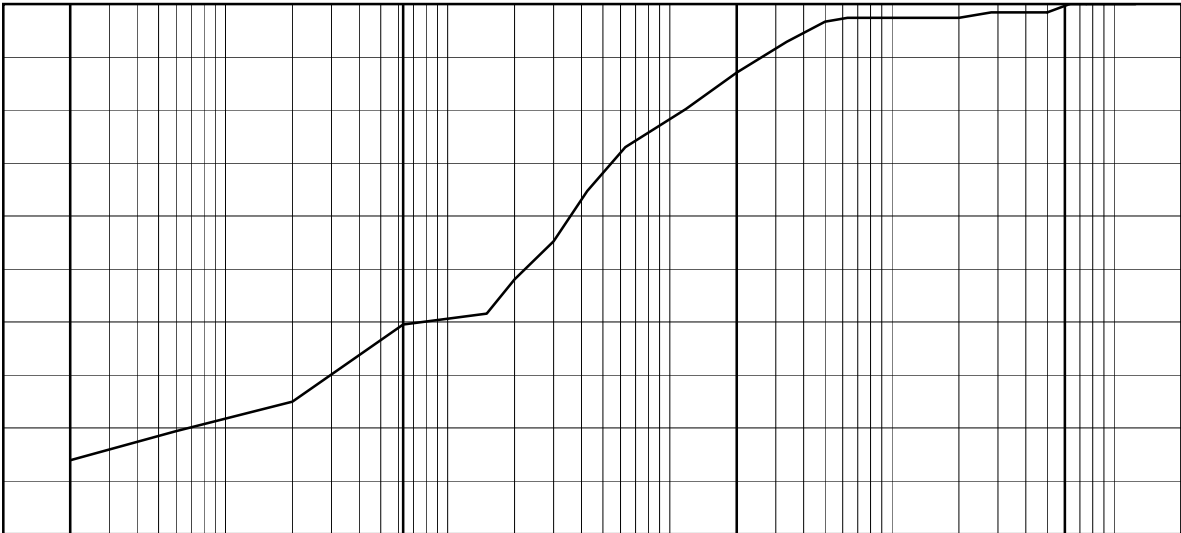
N/A

Notes

Sedimentation sample not pre-treated

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt				Sand			Gravel			

Percentage Passing - %



Particle Size - mm

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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



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		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION			Contract No26667	
ClientScottish Power Energy Networks		HoleBH17			Sample Ref	
EngineerScottish Power Energy Networks		Sample Ref			Depth (m)1.95	
		Sample TypeB				

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	96
20.0 mm	94
14.0 mm	94
10.0 mm	94
6.30 mm	90
5.00 mm	87
3.35 mm	83
2.00 mm	77
1.18 mm	71
630 µm	65
425 µm	59
300 µm	52
200 µm	46
150 µm	39
63 µm	38
20 µm	24
6 µm	18
2 µm	13

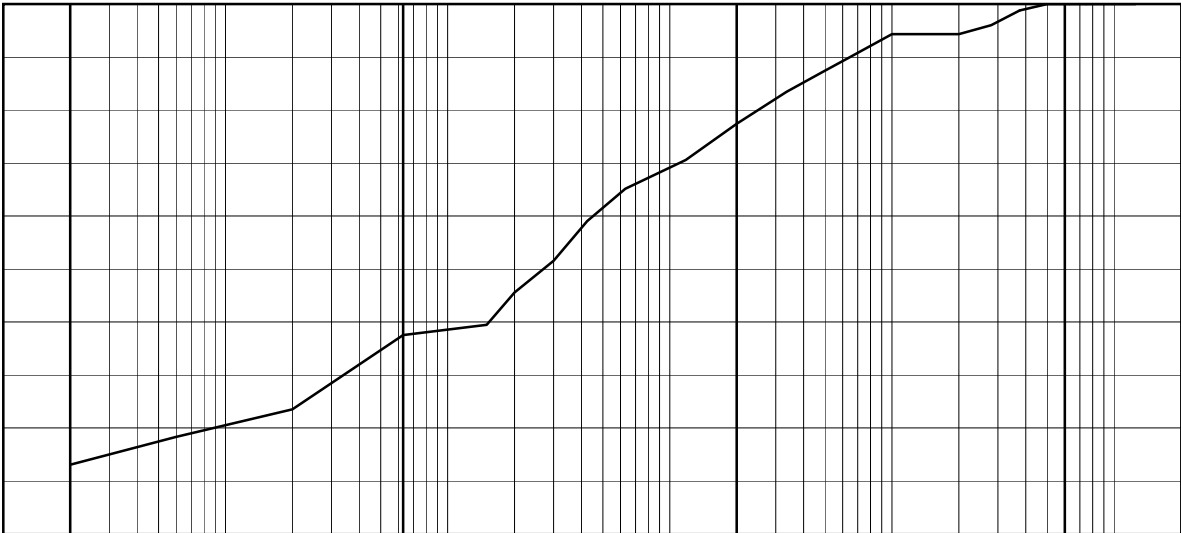
Non Engineering Description	
Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	0.0
Gravel	22.6
Sand	40.9
Silt	23.5
Clay	13.1
Particle Density - Assumed (Mg/m3)	
2.65	
Particle Diameter - mm	
D100	50
D60	0.45
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	
N/A	

Notes	
Sedimentation sample not pre-treated	

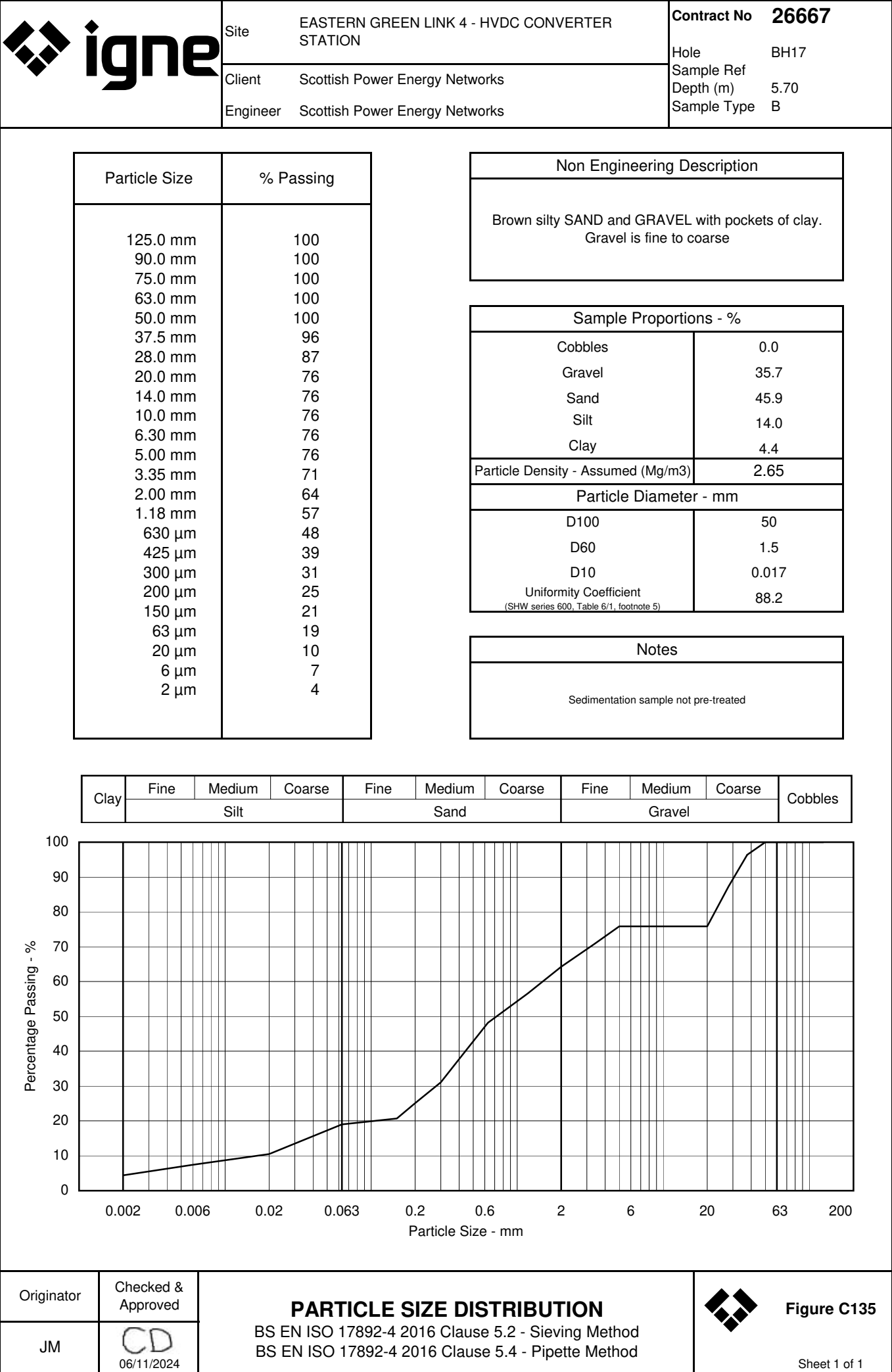
Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt			Sand			Gravel				

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C133 Sheet 1 of 1
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Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client	Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No	26667

Hole	BH18

Sample Ref

Depth (m)	1.00

Sample Type	B

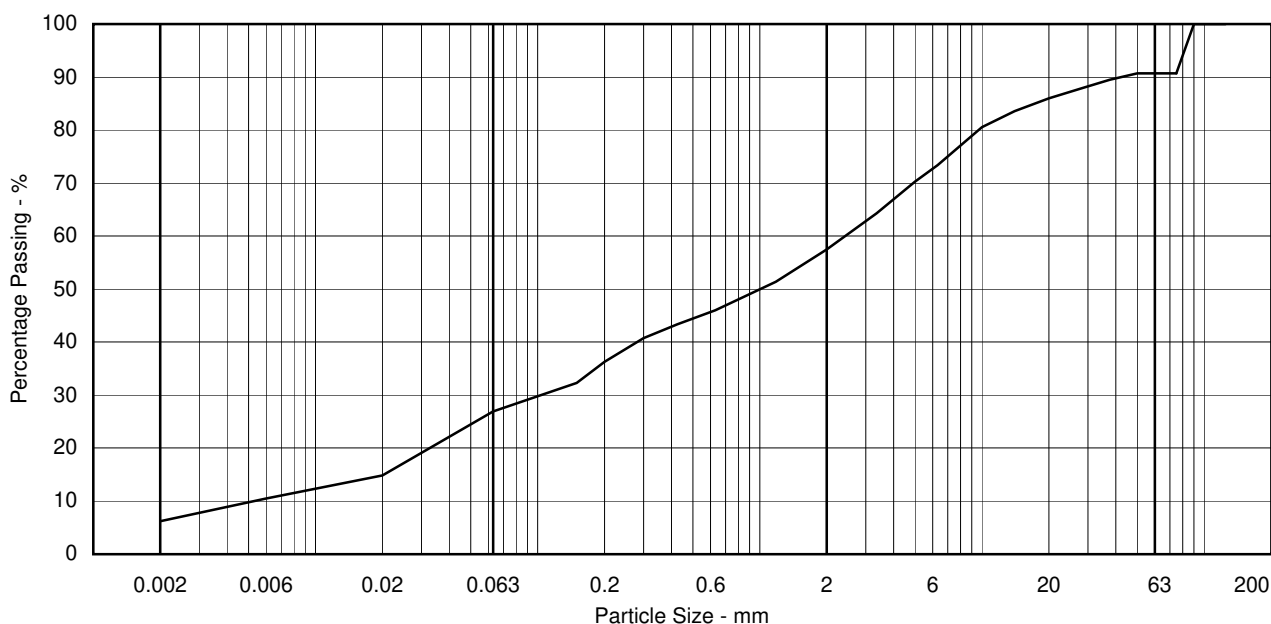
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	91
63.0 mm	91
50.0 mm	91
37.5 mm	89
28.0 mm	88
20.0 mm	86
14.0 mm	84
10.0 mm	81
6.30 mm	73
5.00 mm	70
3.35 mm	64
2.00 mm	57
1.18 mm	51
630 μ m	46
425 μ m	43
300 μ m	41
200 μ m	36
150 μ m	32
63 μ m	27
20 μ m	15
6 μ m	10
2 μ m	6

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

Sample Proportions - %	
Cobbles	9.3
Gravel	33.3
Sand	31.5
Silt	19.8
Clay	6.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	2.4
D10	0.0053
Uniformity Coefficient (SHM, eqn. 600, Table 6/1, footnote 5)	452.8

Notes
Sedimentation sample not pre-treated

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			



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	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleBH18	
	EngineerScottish Power Energy Networks				Sample Ref	
Depth (m)					3.70	
				Sample Type	B	

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	85
50.0 mm	69
37.5 mm	62
28.0 mm	56
20.0 mm	47
14.0 mm	47
10.0 mm	47
6.30 mm	47
5.00 mm	47
3.35 mm	45
2.00 mm	42
1.18 mm	38
630 µm	34
425 µm	28
300 µm	23
200 µm	20
150 µm	17
63 µm	14
20 µm	8
6 µm	6
2 µm	3

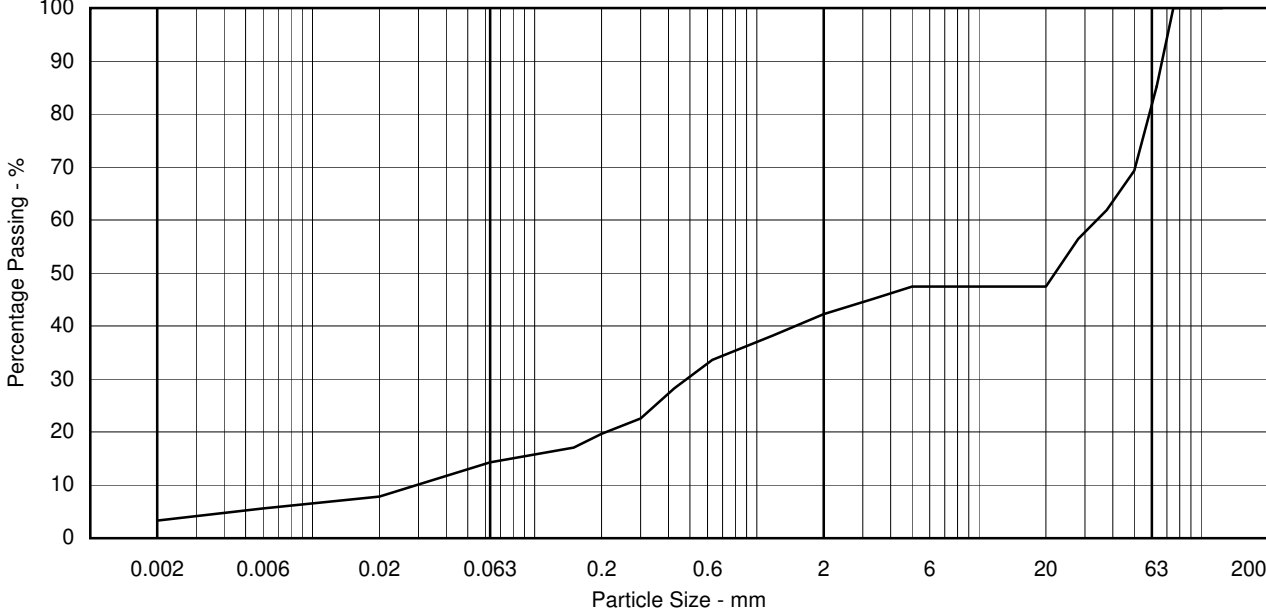
Non Engineering Description	
Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	14.8
Gravel	43.0
Sand	28.4
Silt	10.6
Clay	3.3
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	34
D10	0.029
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	1172.4

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

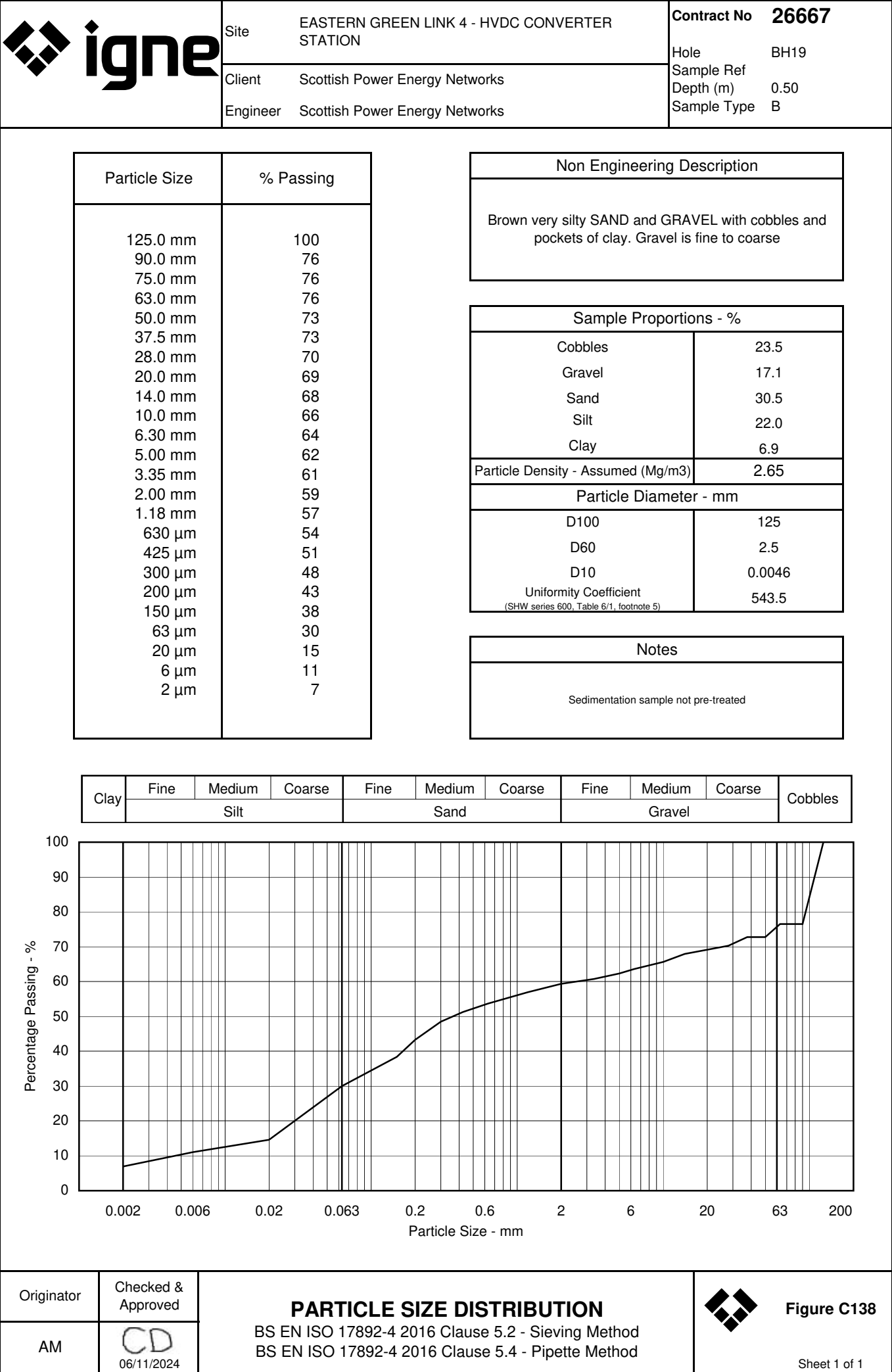
Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

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	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleBH19	
	EngineerScottish Power Energy Networks				Sample Ref	
Depth (m)					1.70	
				Sample Type	B	

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	87
28.0 mm	83
20.0 mm	78
14.0 mm	75
10.0 mm	71
6.30 mm	66
5.00 mm	63
3.35 mm	58
2.00 mm	52
1.18 mm	47
630 µm	42
425 µm	38
300 µm	35
200 µm	31
150 µm	28
63 µm	21
20 µm	12
6 µm	8
2 µm	5

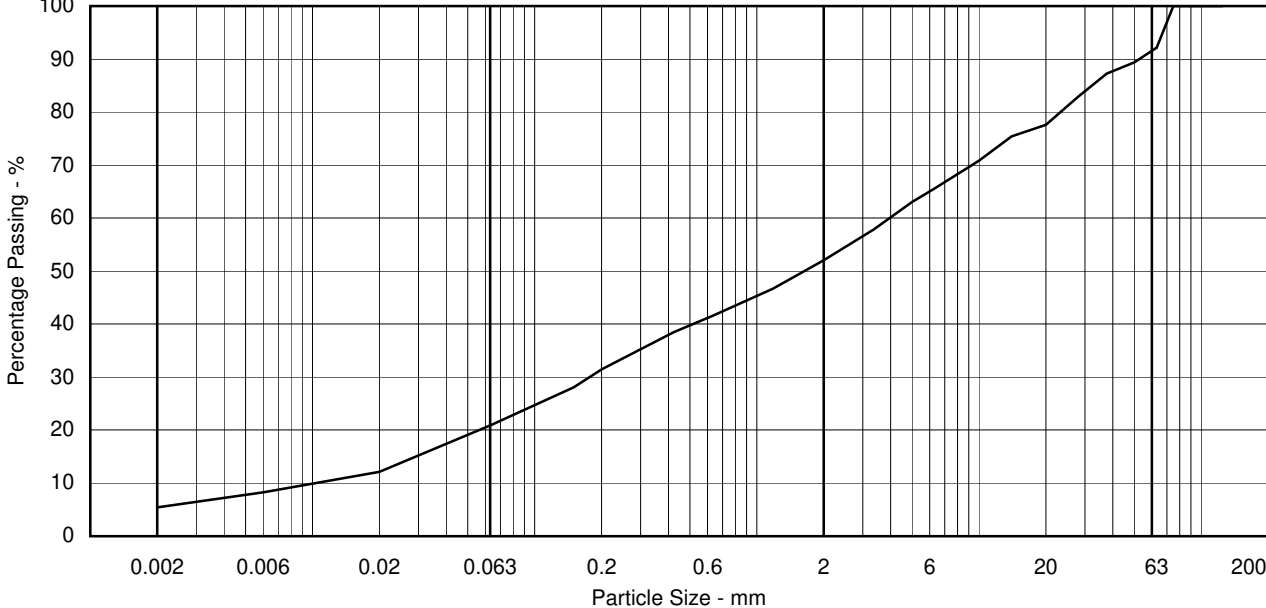
Non Engineering Description	
Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	7.9
Gravel	40.1
Sand	31.8
Silt	14.9
Clay	5.4
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	75
D60	4.0
D10	0.011
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	363.6

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt			Sand			Gravel				

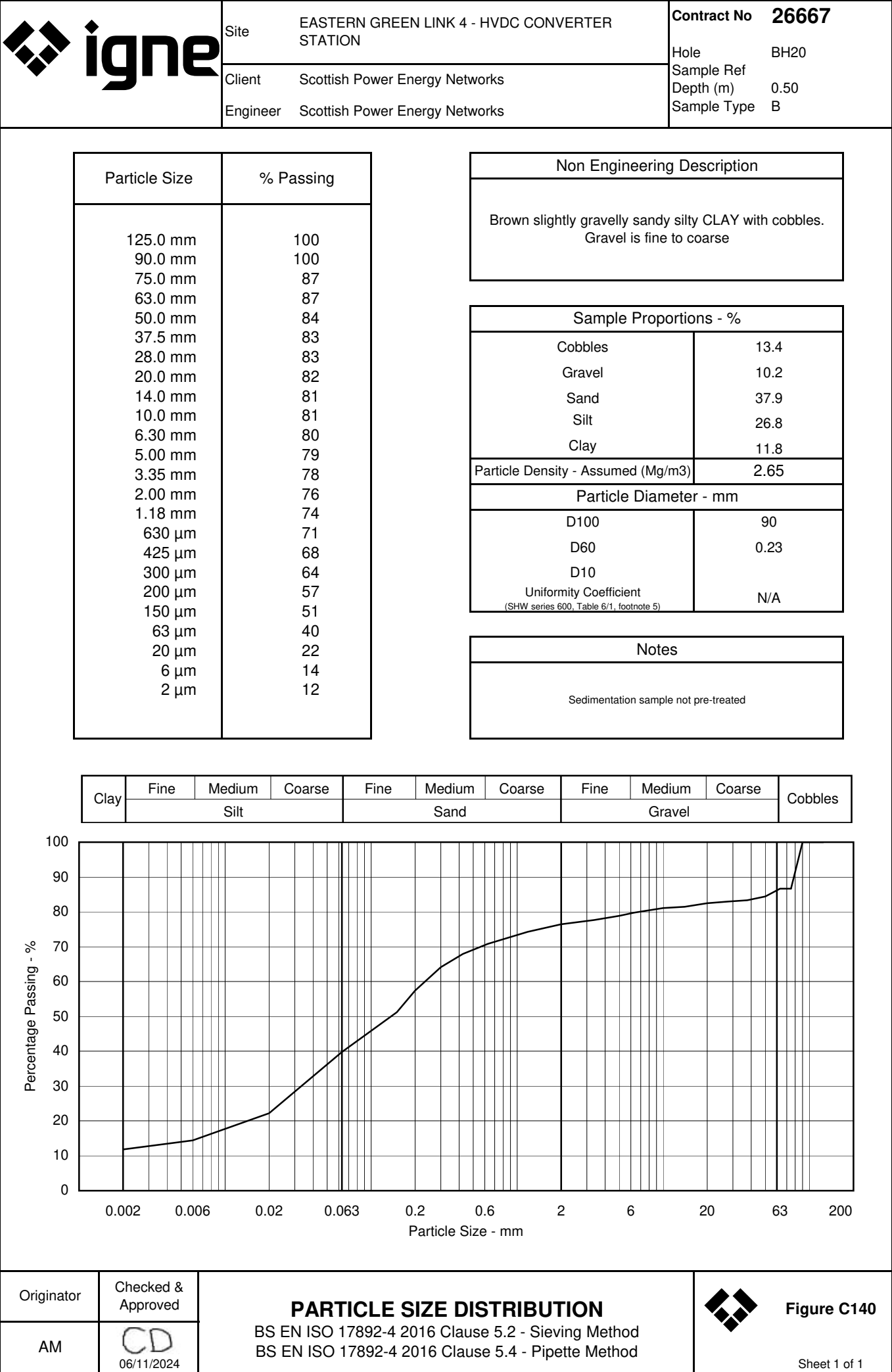
Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C139
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		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No26667	
		ClientScottish Power Energy Networks		HoleBH20	
		EngineerScottish Power Energy Networks		Sample Ref	
				Depth (m)1.70	
				Sample TypeB	

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	94
2.00 mm	93
1.18 mm	85
630 µm	75
425 µm	62
300 µm	50
200 µm	39
150 µm	30
63 µm	24
20 µm	13
6 µm	9
2 µm	5

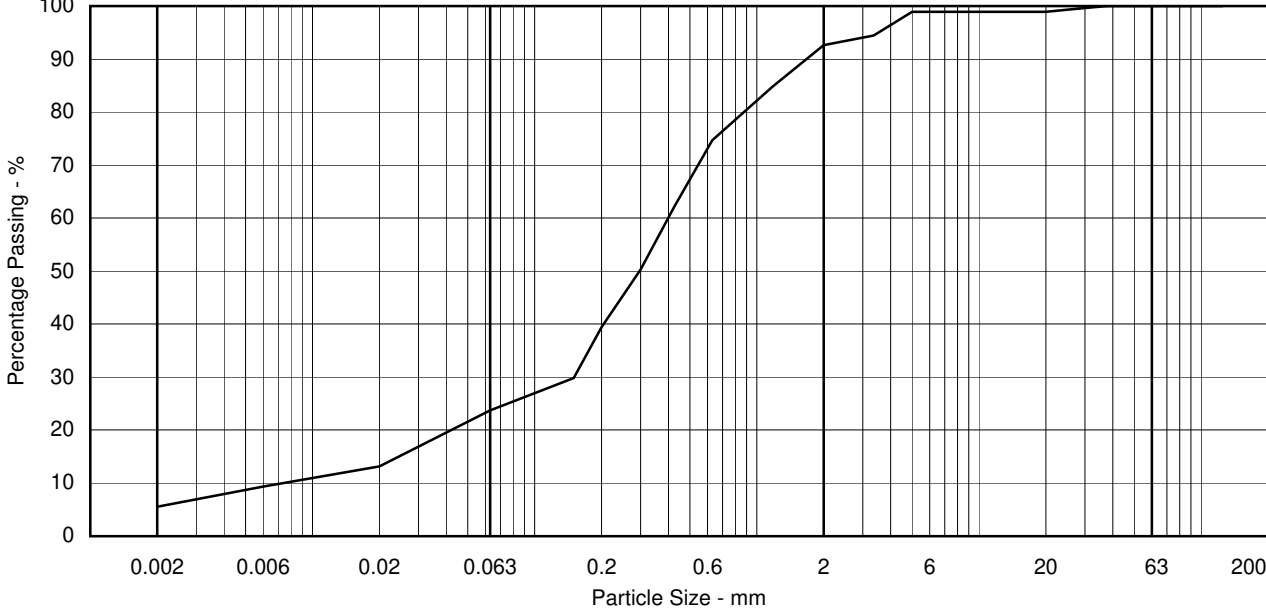
Non Engineering Description	
Brown gravelly silty SAND with pockets of clay. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	0.0
Gravel	7.4
Sand	69.7
Silt	17.5
Clay	5.5
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	38
D60	0.40
D10	0.0075
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	53.3

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C141
AD	CD 06/11/2024		

	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleTP04	
	EngineerScottish Power Energy Networks				Sample Ref	
Depth (m)					1.50	
				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	81
28.0 mm	77
20.0 mm	76
14.0 mm	76
10.0 mm	72
6.30 mm	69
5.00 mm	66
3.35 mm	62
2.00 mm	57
1.18 mm	51
630 µm	46
425 µm	44
300 µm	41
200 µm	37
150 µm	33
63 µm	28
20 µm	16
6 µm	12
2 µm	8

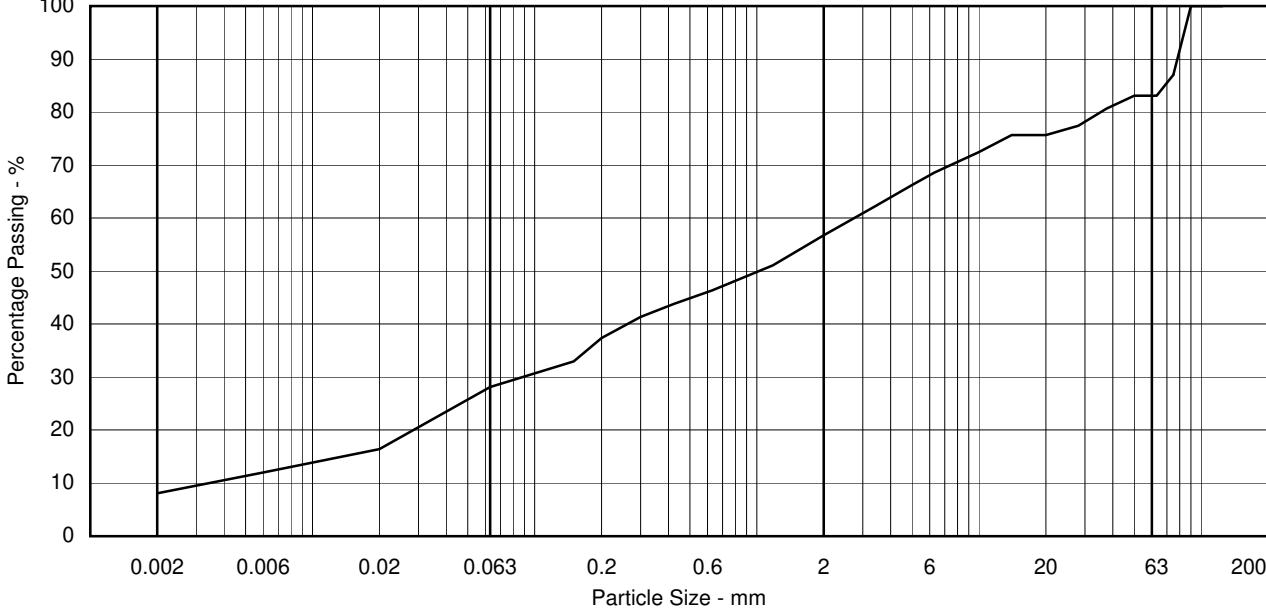
Non Engineering Description	
Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	16.9
Gravel	26.4
Sand	29.5
Silt	19.2
Clay	8.1
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	2.7
D10	0.0035
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	771.4

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C142 Sheet 1 of 1
AD	CD 06/11/2024		



Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client	Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No	26667

Hole	TP06

[illegible]

Depth (m)	1.50

Sample Type	B

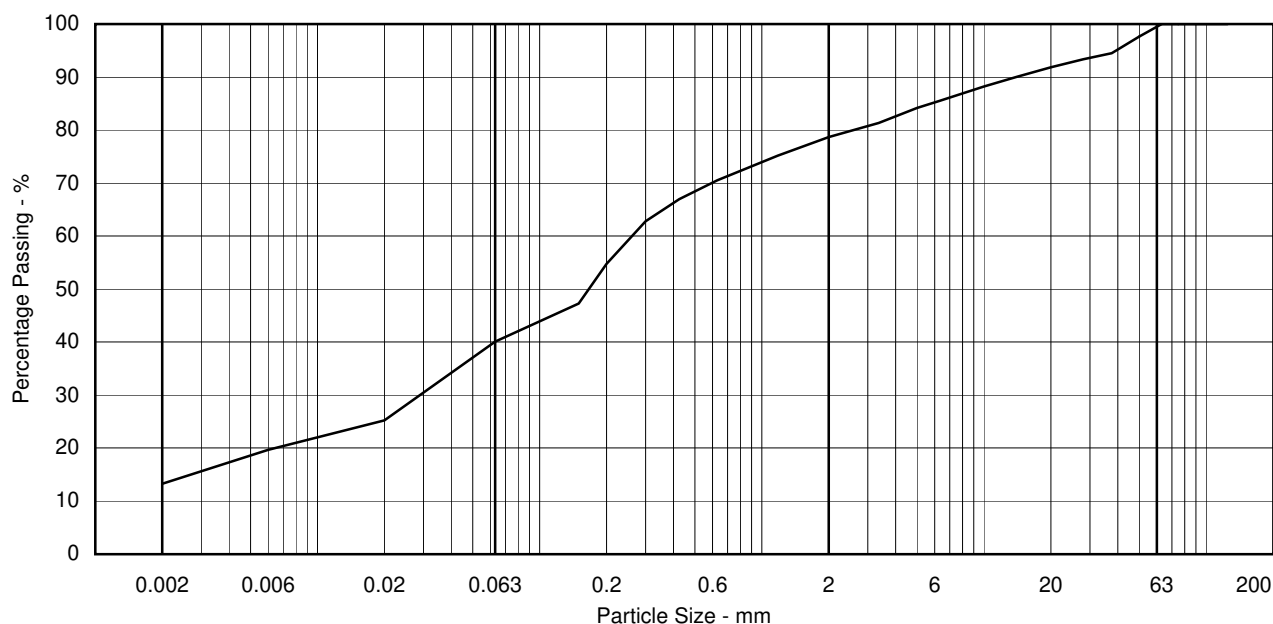
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	98
37.5 mm	94
28.0 mm	93
20.0 mm	92
14.0 mm	90
10.0 mm	88
6.30 mm	85
5.00 mm	84
3.35 mm	81
2.00 mm	79
1.18 mm	75
630 µm	71
425 µm	67
300 µm	63
200 µm	55
150 µm	47
63 µm	40
20 µm	25
6 µm	20
2 µm	13

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

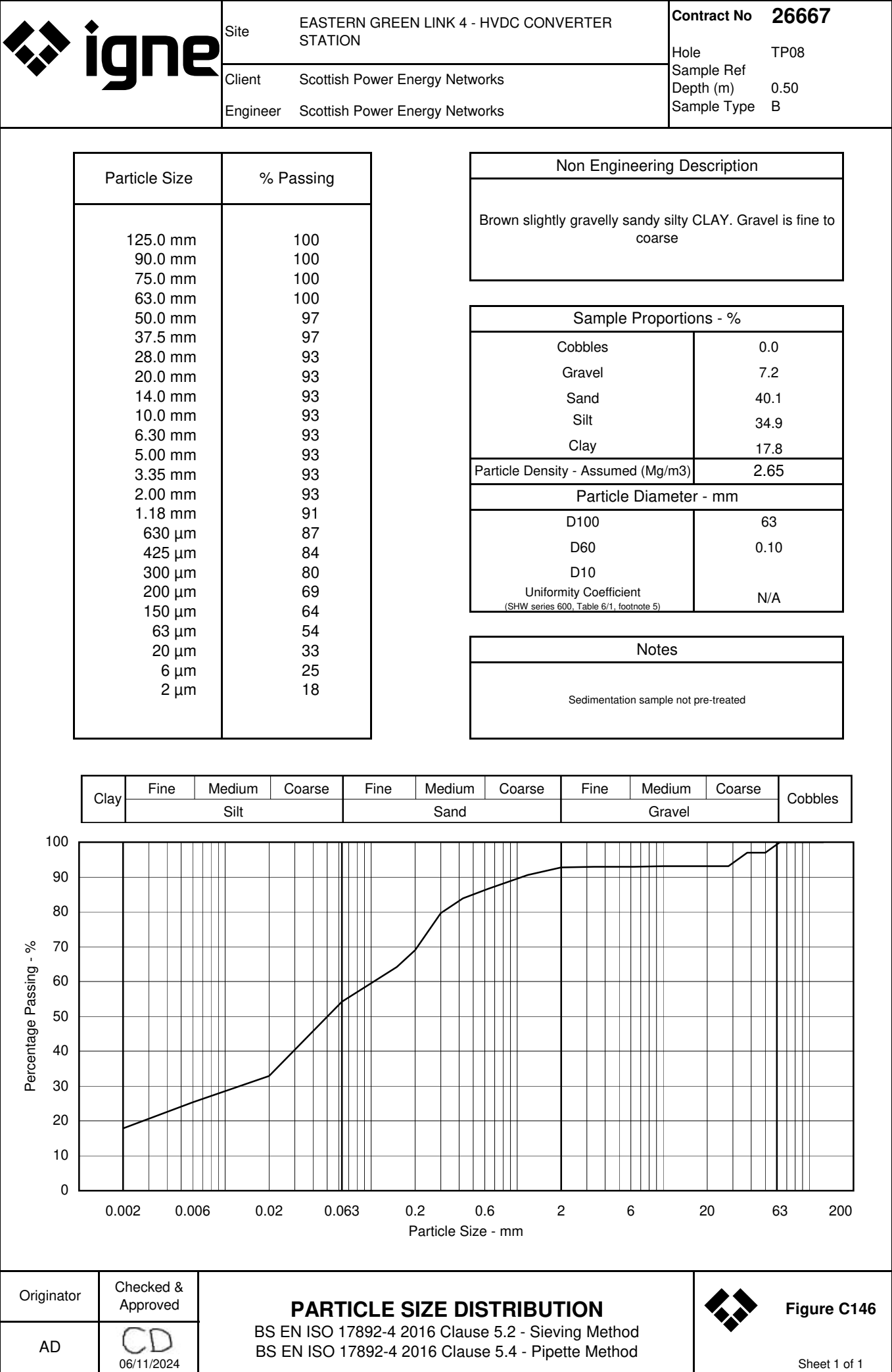
Sample Proportions - %	
Cobbles	0.0
Gravel	21.3
Sand	39.6
Silt	25.8
Clay	13.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	0.26
D10	
Uniformity Coefficient	N/A

Notes
Sedimentation sample not pre-treated

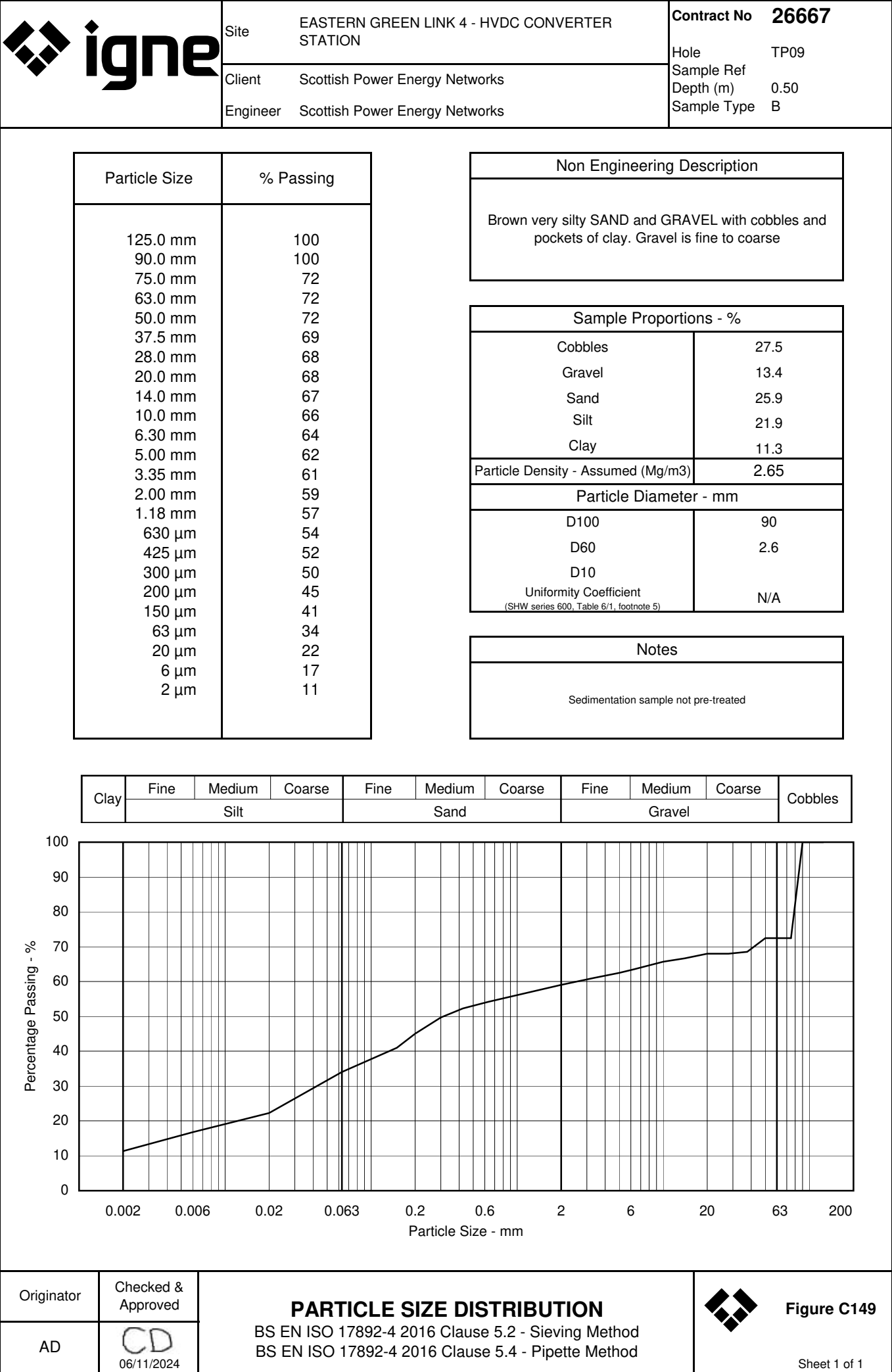
Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			



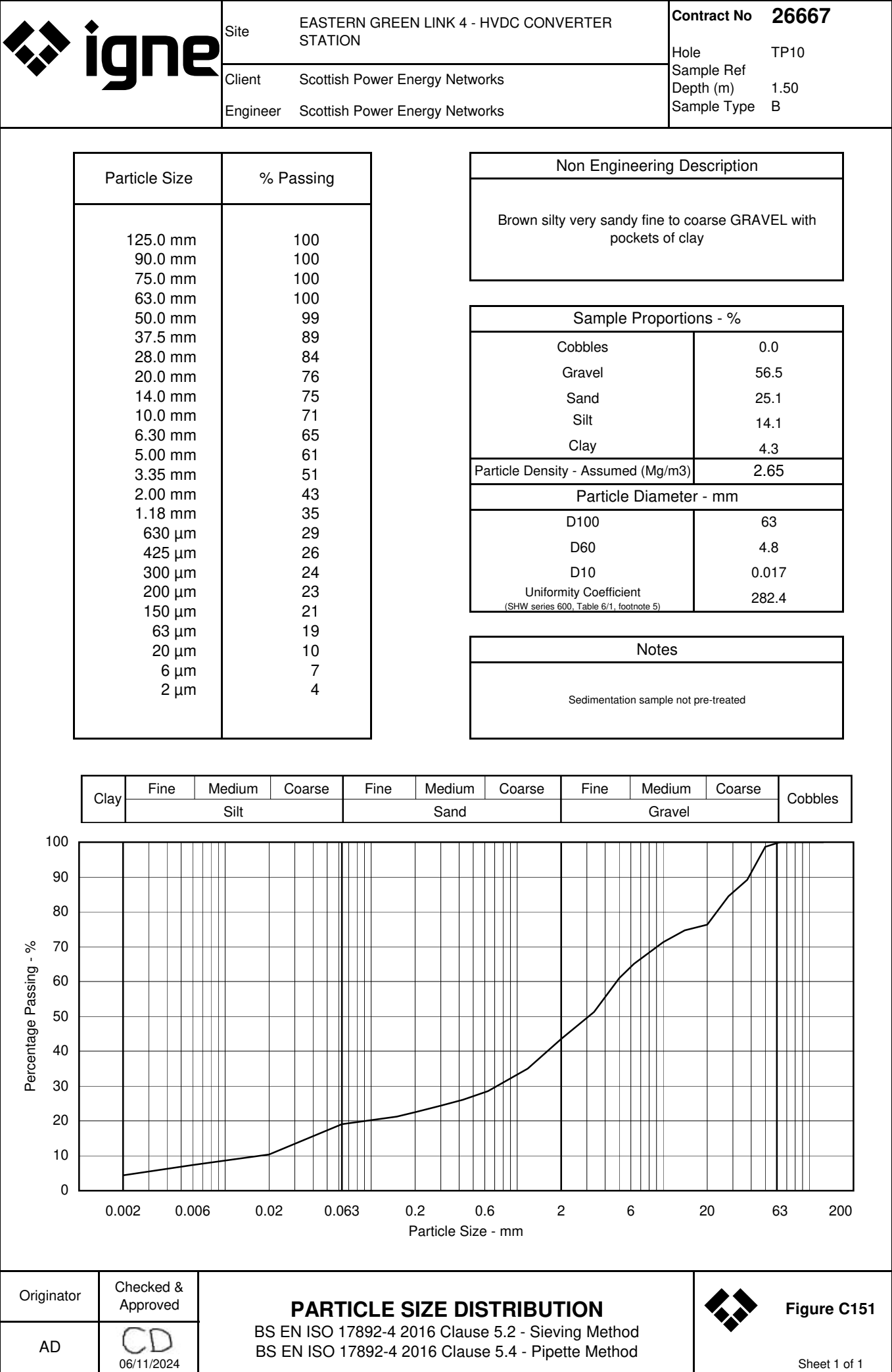
Originator	Checked & Approved	PARTICLE SIZE DISTRIBUTION BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method	Figure C144 Sheet 1 of 1
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Originator	Checked & Approved	Figure C147
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Originator	Checked & Approved	Figure C150
AD	CD 06/11/2024	





SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION

ClientScottish Power Energy Networks

EngineerScottish Power Energy Networks

Contract No26667

HoleTP11

Sample Ref

Depth (m)2.50

Sample TypeB

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	87
50.0 mm	81
37.5 mm	81
28.0 mm	80
20.0 mm	77
14.0 mm	76
10.0 mm	73
6.30 mm	72
5.00 mm	71
3.35 mm	69
2.00 mm	67
1.18 mm	65
630 µm	62
425 µm	59
300 µm	56
200 µm	47
150 µm	41
63 µm	33
20 µm	20
6 µm	15
2 µm	10

Non Engineering Description

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

Sample Proportions - %

Cobbles	12.6
Gravel	20.7
Sand	34.4
Silt	22.8
Clay	9.6

Particle Density - Assumed (Mg/m3)2.65

Particle Diameter - mm

D100	75
D60	0.46
D10	0.0022

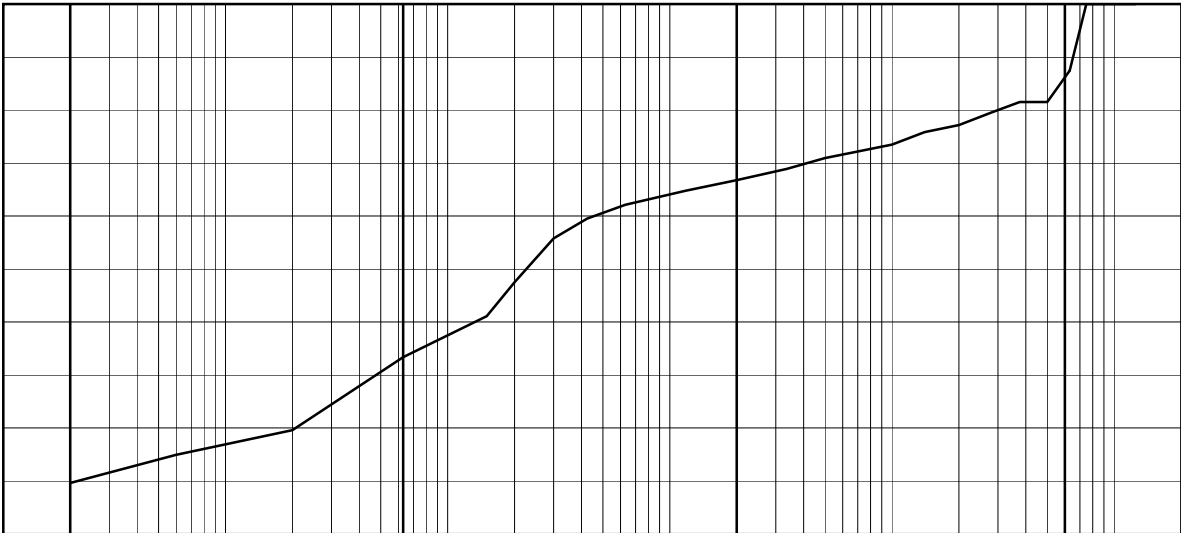
Uniformity Coefficient
(SHW series 600, Table 6/1, footnote 5)209.1

Notes

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

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt			Sand			Gravel				

Percentage Passing - %



Particle Size - mm

Originator

AD

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CD
06/11/2024

PARTICLE SIZE DISTRIBUTION

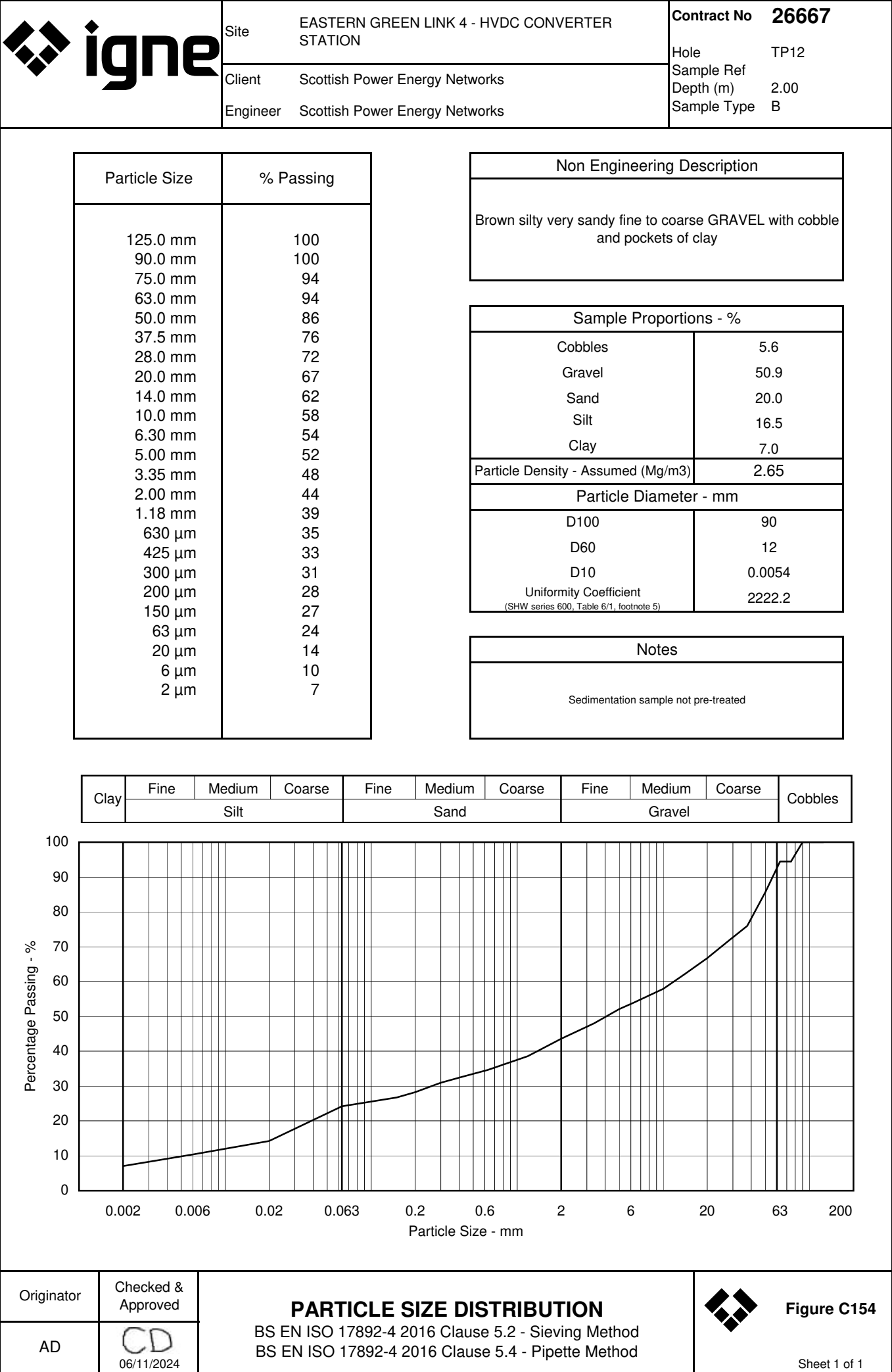
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

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



Figure C152

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		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
		ClientScottish Power Energy Networks EngineerScottish Power Energy Networks				HoleTP13	
						Sample Ref	
						Depth (m)1.00	
						Sample TypeB	

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	95
37.5 mm	95
28.0 mm	94
20.0 mm	93
14.0 mm	88
10.0 mm	87
6.30 mm	86
5.00 mm	85
3.35 mm	84
2.00 mm	83
1.18 mm	81
630 µm	79
425 µm	77
300 µm	73
200 µm	65
150 µm	60
63 µm	52
20 µm	33
6 µm	26
2 µm	17

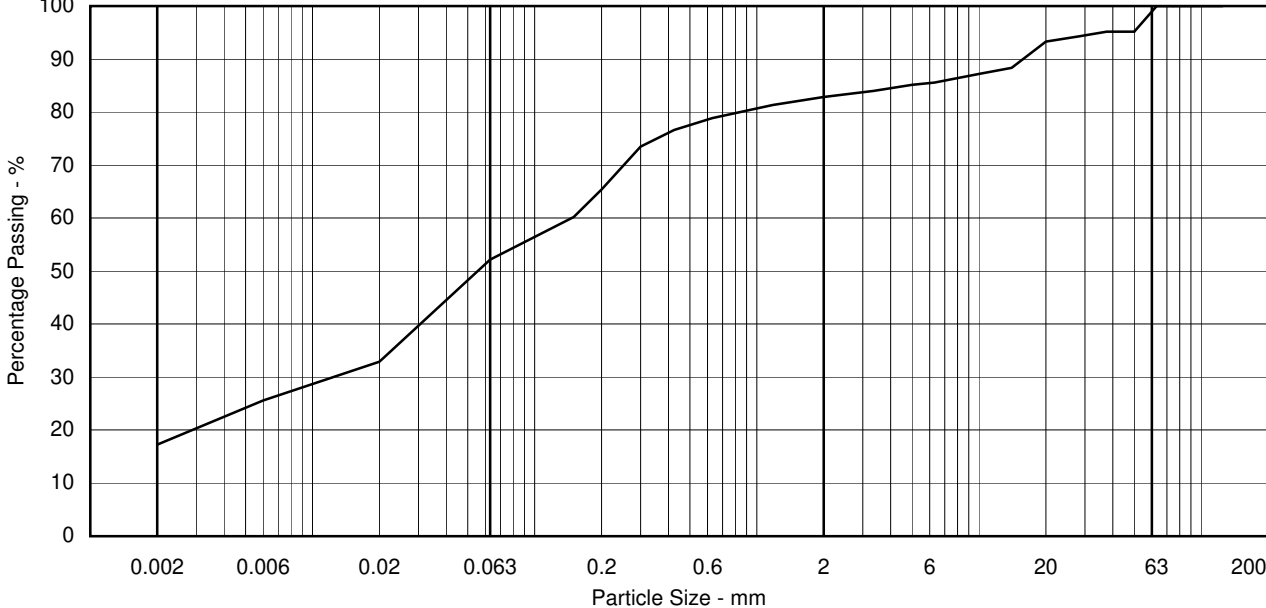
Non Engineering Description	
Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	

Sample Proportions - %		
Cobbles	0.0	
Gravel	17.2	
Sand	32.0	
Silt	33.6	
Clay	17.2	
Particle Density - Assumed (Mg/m3)2.65		
Particle Diameter - mm		
D100	63	
D60	0.15	
D10		
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)		N/A

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	

		Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION			Contract No 26667	
Client Scottish Power Energy Networks		Hole TP13			Sample Ref	
Engineer Scottish Power Energy Networks		Depth (m) 2.00			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	84
28.0 mm	84
20.0 mm	82
14.0 mm	78
10.0 mm	78
6.30 mm	76
5.00 mm	75
3.35 mm	74
2.00 mm	72
1.18 mm	71
630 µm	68
425 µm	66
300 µm	63
200 µm	56
150 µm	49
63 µm	39
20 µm	24
6 µm	18
2 µm	11

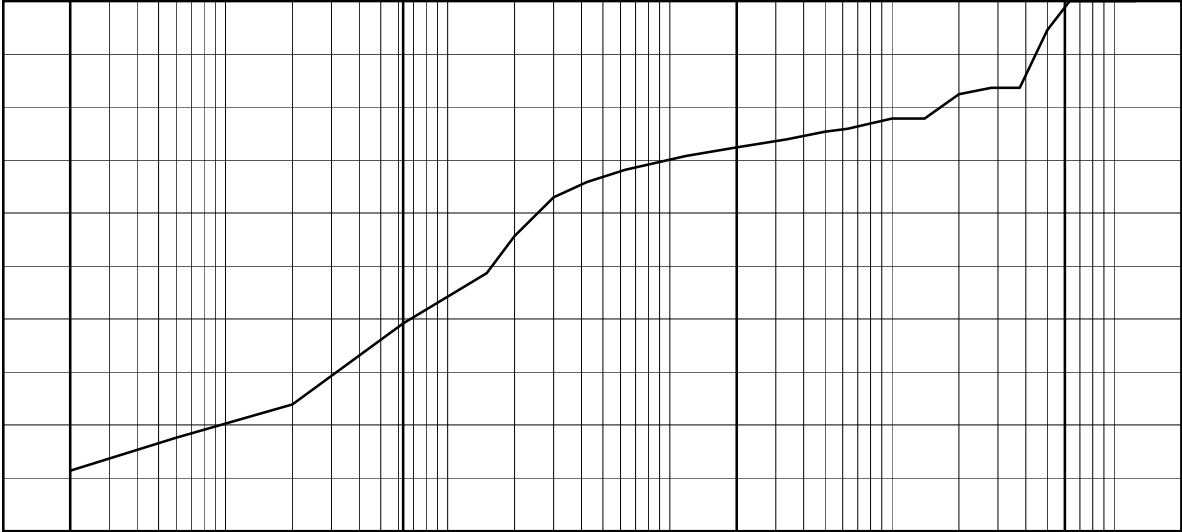
Non Engineering Description	
Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	0.0
Gravel	27.6
Sand	34.3
Silt	26.7
Clay	11.3
Particle Density - Assumed (Mg/m3)	
2.65	
Particle Diameter - mm	
D100	63
D60	0.25
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	
N/A	

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

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt			Sand			Gravel				

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C156 Sheet 1 of 1
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	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleTP14	
	EngineerScottish Power Energy Networks				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	96
37.5 mm	96
28.0 mm	96
20.0 mm	95
14.0 mm	94
10.0 mm	93
6.30 mm	91
5.00 mm	90
3.35 mm	89
2.00 mm	87
1.18 mm	85
630 µm	82
425 µm	80
300 µm	76
200 µm	66
150 µm	56
63 µm	49
20 µm	31
6 µm	24
2 µm	16

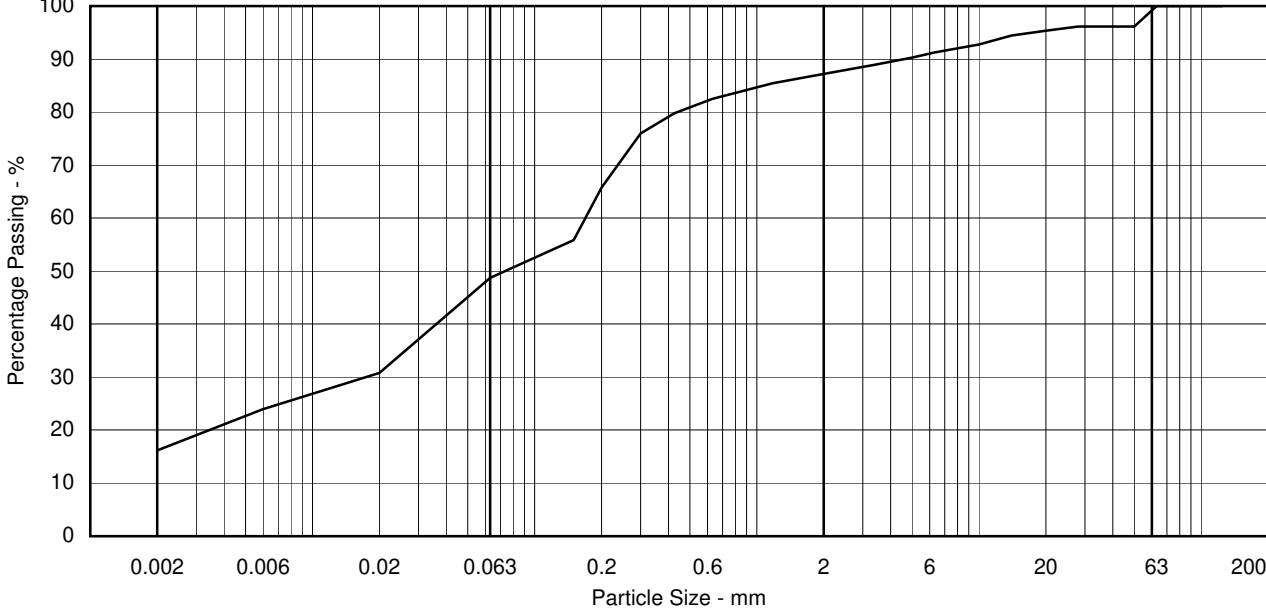
Non Engineering Description	
Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse	

Sample Proportions - %		
Cobbles	0.0	
Gravel	12.8	
Sand	39.8	
Silt	31.3	
Clay	16.1	
Particle Density - Assumed (Mg/m3)		2.65
Particle Diameter - mm		
D100	63	
D60	0.17	
D10		
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)		N/A

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C157 Sheet 1 of 1
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SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION

ClientScottish Power Energy Networks

EngineerScottish Power Energy Networks

Contract No26667

HoleTP16

Sample Ref

Depth (m)0.50

Sample TypeB

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	98
20.0 mm	97
14.0 mm	97
10.0 mm	95
6.30 mm	94
5.00 mm	89
3.35 mm	88
2.00 mm	87
1.18 mm	87
630 µm	85
425 µm	84
300 µm	82
200 µm	76
150 µm	71
63 µm	64
20 µm	40
6 µm	31
2 µm	21

Non Engineering Description

Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

Sample Proportions - %

Cobbles	0.0
Gravel	12.6
Sand	24.8
Silt	41.5
Clay	21.1

Particle Density - Assumed (Mg/m3)

2.65

Particle Diameter - mm

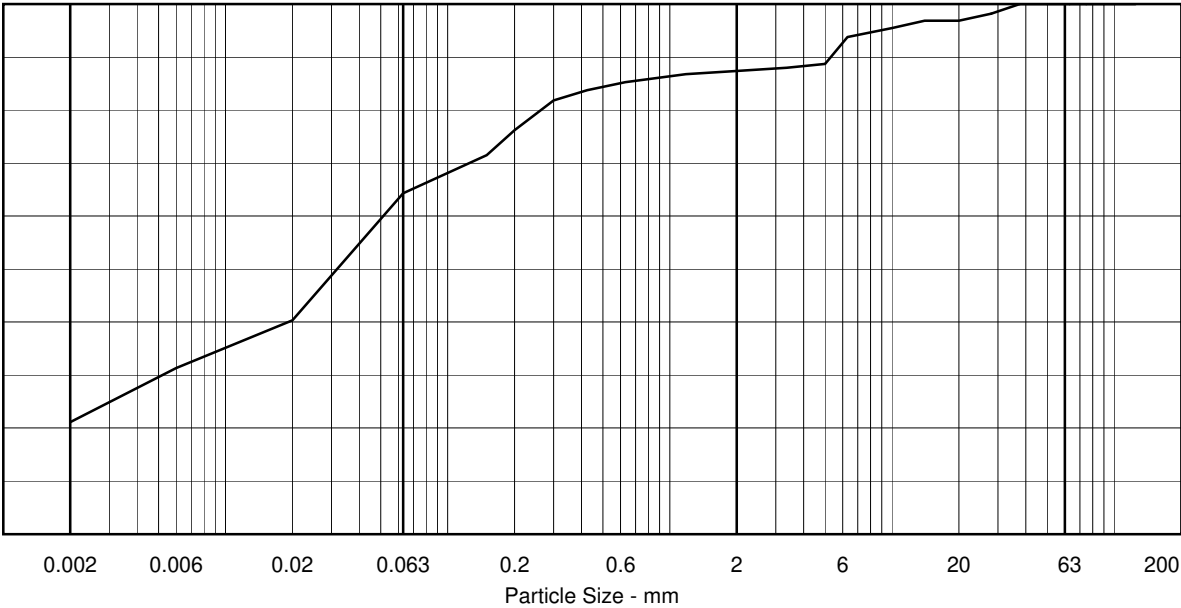
D100	38
D60	0.051
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sedimentation sample not pre-treated

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt			Sand			Gravel				

Percentage Passing - %



Particle Size - mm

Originator

RF

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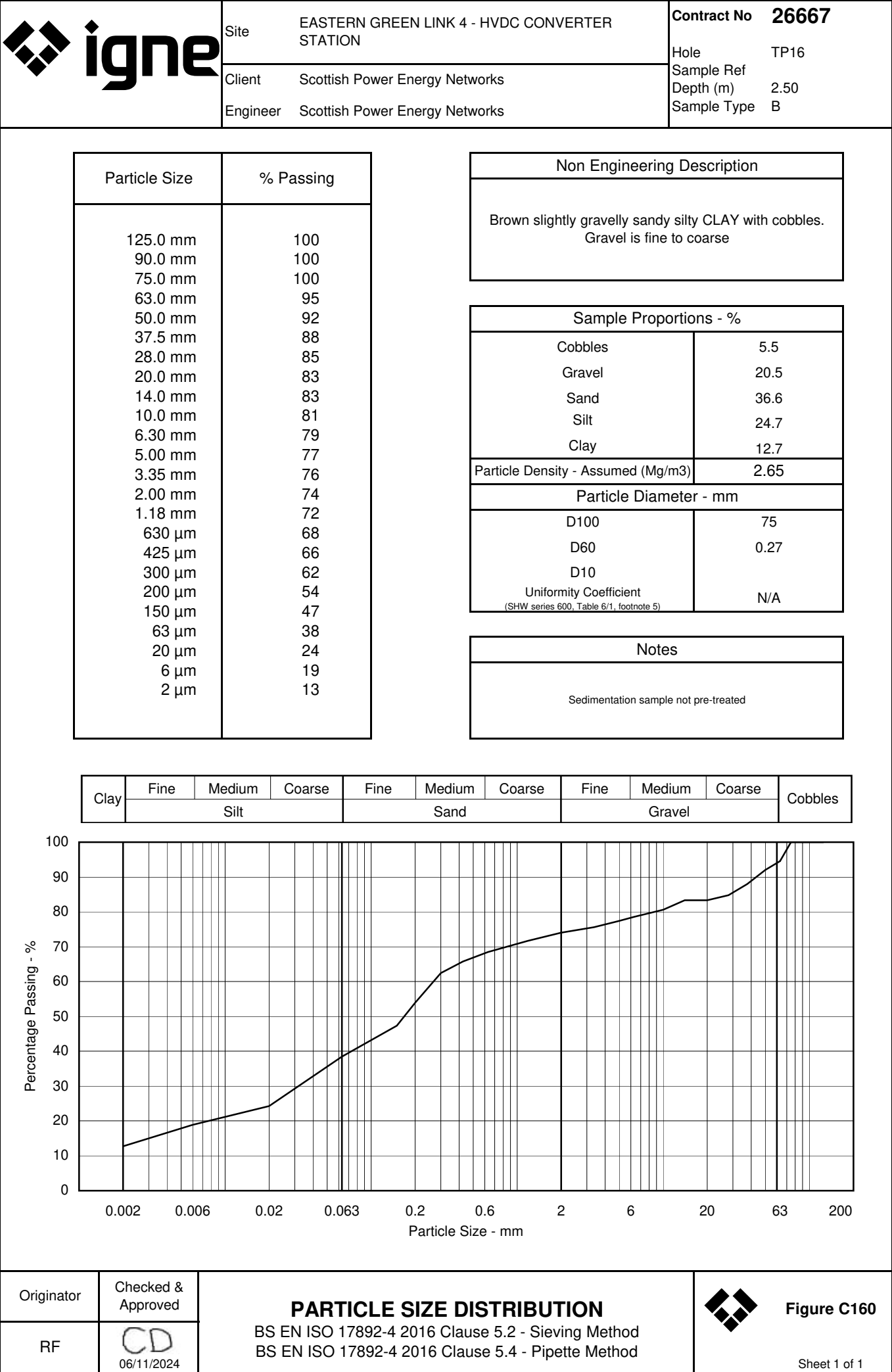
PARTICLE SIZE DISTRIBUTION

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

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

Figure C159

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	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleTP17	
	EngineerScottish Power Energy Networks				Sample Ref	
Depth (m)1.50						
				Sample TypeB		

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	95
63.0 mm	91
50.0 mm	79
37.5 mm	76
28.0 mm	65
20.0 mm	57
14.0 mm	53
10.0 mm	49
6.30 mm	43
5.00 mm	40
3.35 mm	35
2.00 mm	30
1.18 mm	26
630 µm	22
425 µm	21
300 µm	20
200 µm	19
150 µm	18
63 µm	16
20 µm	9
6 µm	6
2 µm	4

Non Engineering Description	
Brown silty sandy fine to coarse GRAVEL with cobbles and pockets of clay	

Sample Proportions - %		
Cobbles	8.6	
Gravel	61.0	
Sand	15.1	
Silt	11.7	
Clay	3.6	
Particle Density - Assumed (Mg/m3)2.65		
Particle Diameter - mm		
D100	90	
D60	23	
D10	0.025	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)		920.0

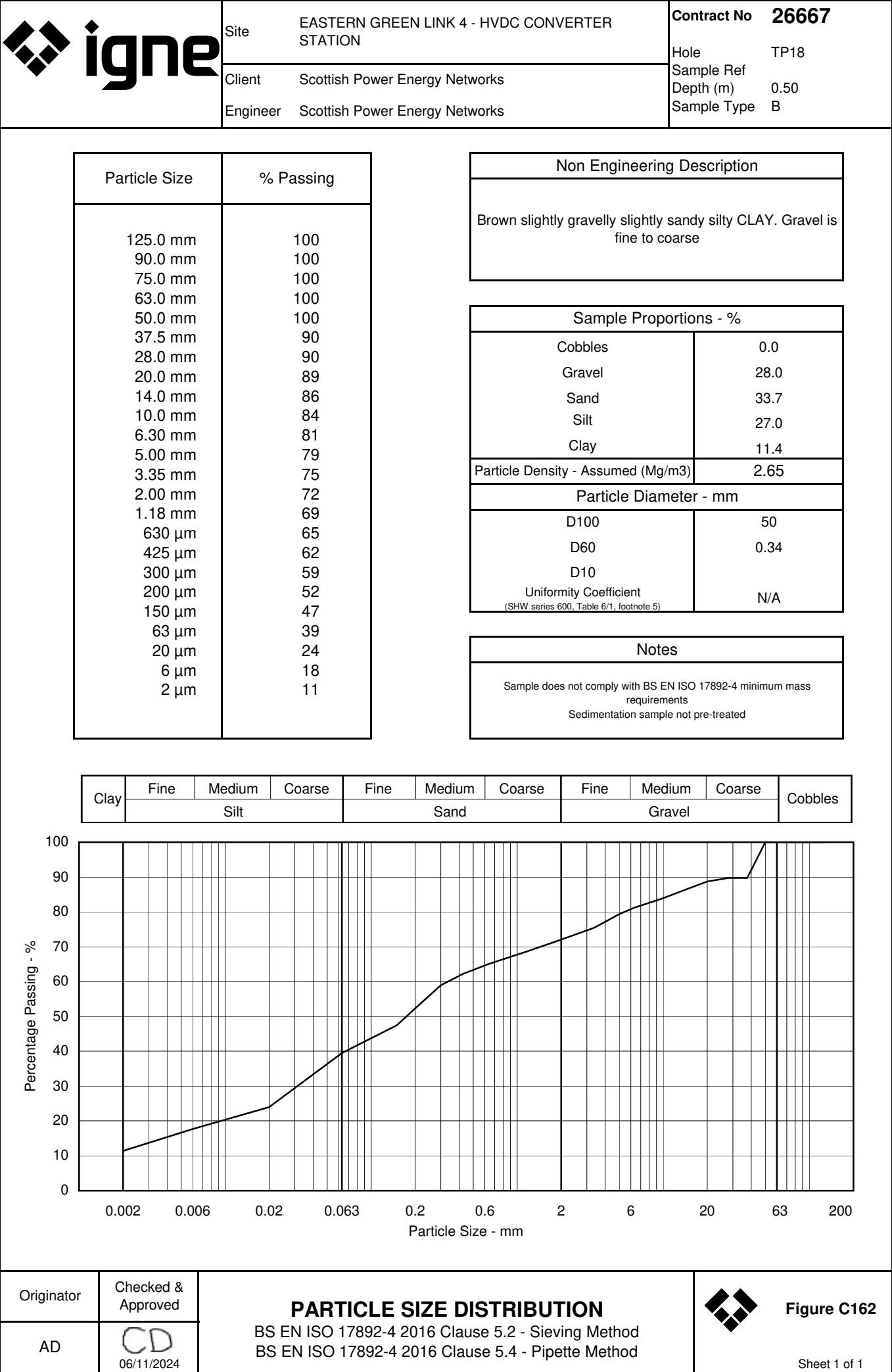
Notes	
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements Sedimentation sample not pre-treated	

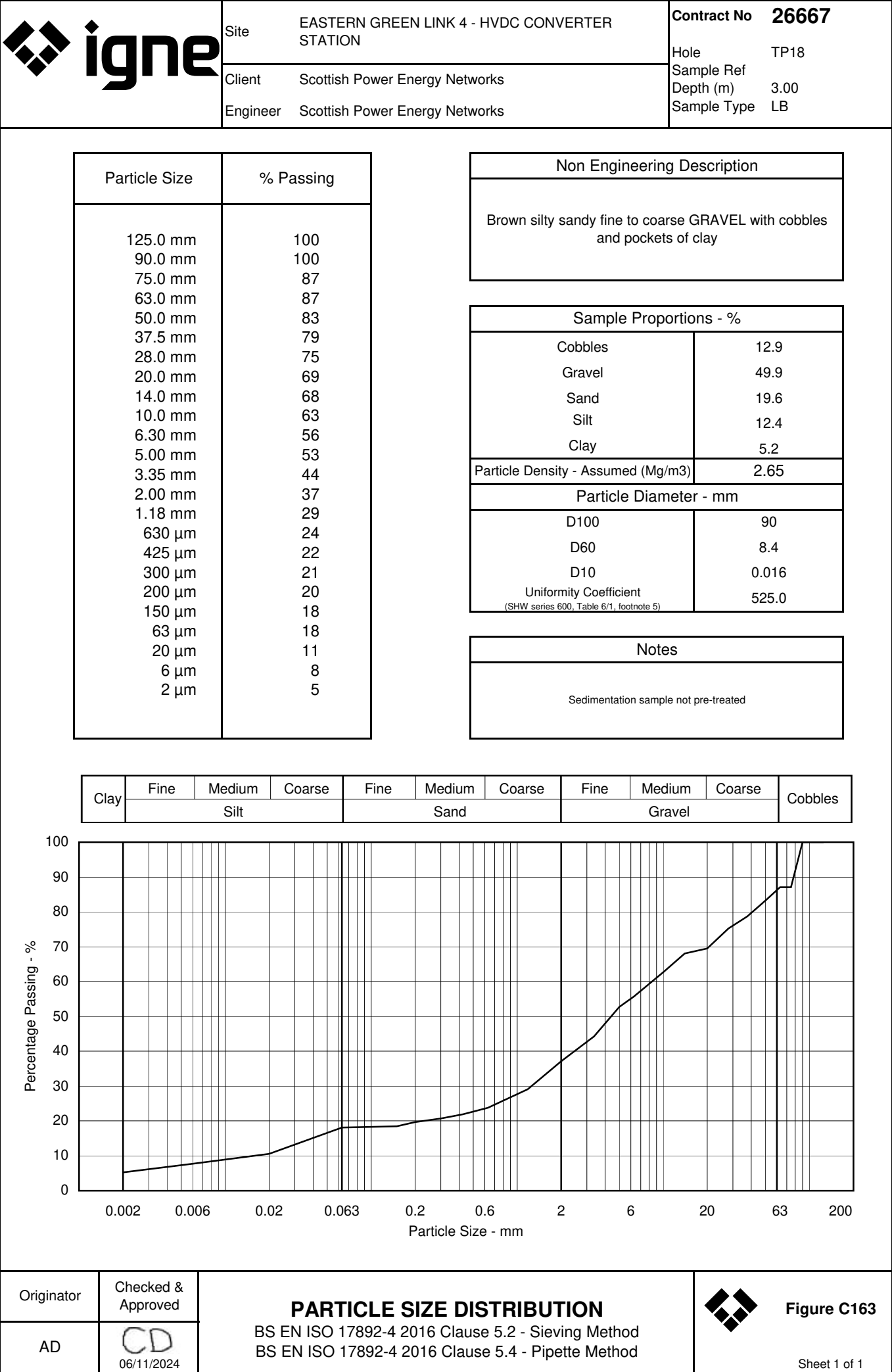
Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %

Particle Size - mm

Originator	Checked & Approved	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 C161 Sheet 1 of 1
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		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION			Contract No26667	
ClientScottish Power Energy Networks		HoleTP20			Sample Ref	
EngineerScottish Power Energy Networks		Depth (m)3.50			Sample TypeLB	

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	87
63.0 mm	85
50.0 mm	77
37.5 mm	68
28.0 mm	61
20.0 mm	49
14.0 mm	46
10.0 mm	44
6.30 mm	40
5.00 mm	38
3.35 mm	33
2.00 mm	28
1.18 mm	23
630 µm	20
425 µm	19
300 µm	18
200 µm	16
150 µm	15
63 µm	14
20 µm	8
6 µm	6
2 µm	4

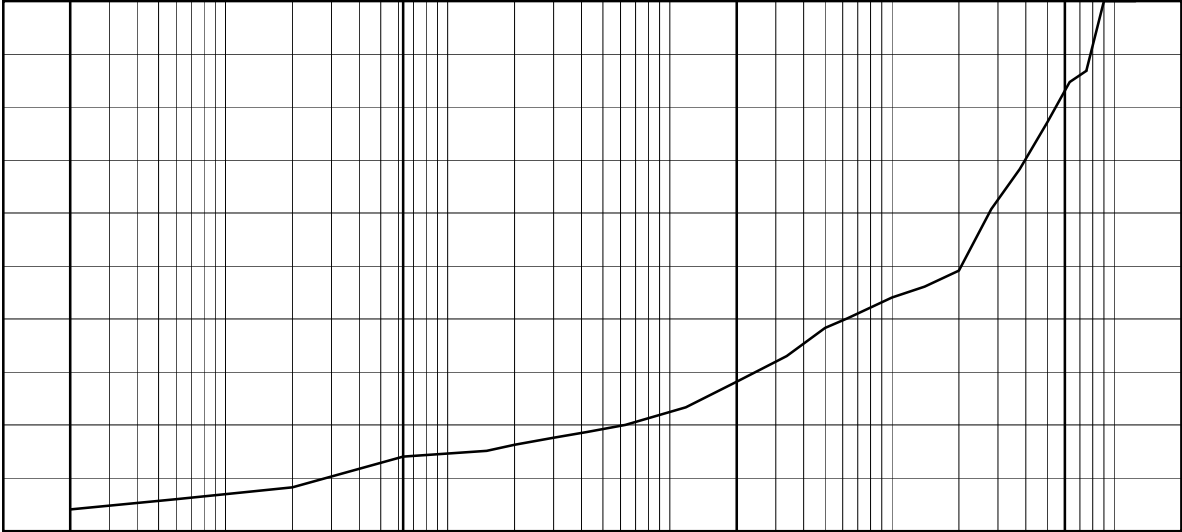
Non Engineering Description	
Brown silty sandy fine to coarse GRAVEL with cobble and pockets of clay	

Sample Proportions - %	
Cobbles	15.3
Gravel	56.5
Sand	14.6
Silt	9.6
Clay	4.0
Particle Density - Assumed (Mg/m3)	
2.65	
Particle Diameter - mm	
D100	90
D60	27
D10	0.028
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	
964.3	

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt				Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C165 Sheet 1 of 1
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Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client	Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No	26667

Hole TP22

Sample Ref

Depth (m)	0.50

Sample Type	B

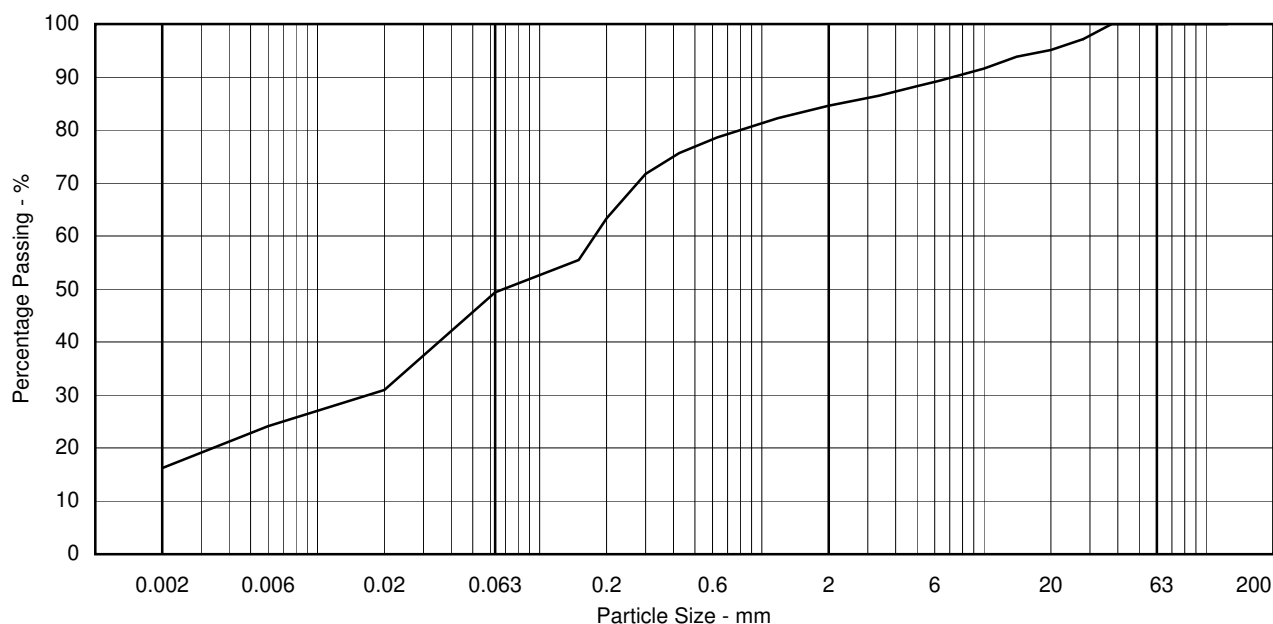
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	97
20.0 mm	95
14.0 mm	94
10.0 mm	92
6.30 mm	89
5.00 mm	88
3.35 mm	86
2.00 mm	85
1.18 mm	82
630 µm	79
425 µm	76
300 µm	72
200 µm	63
150 µm	55
63 µm	49
20 µm	31
6 µm	24
2 µm	16

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

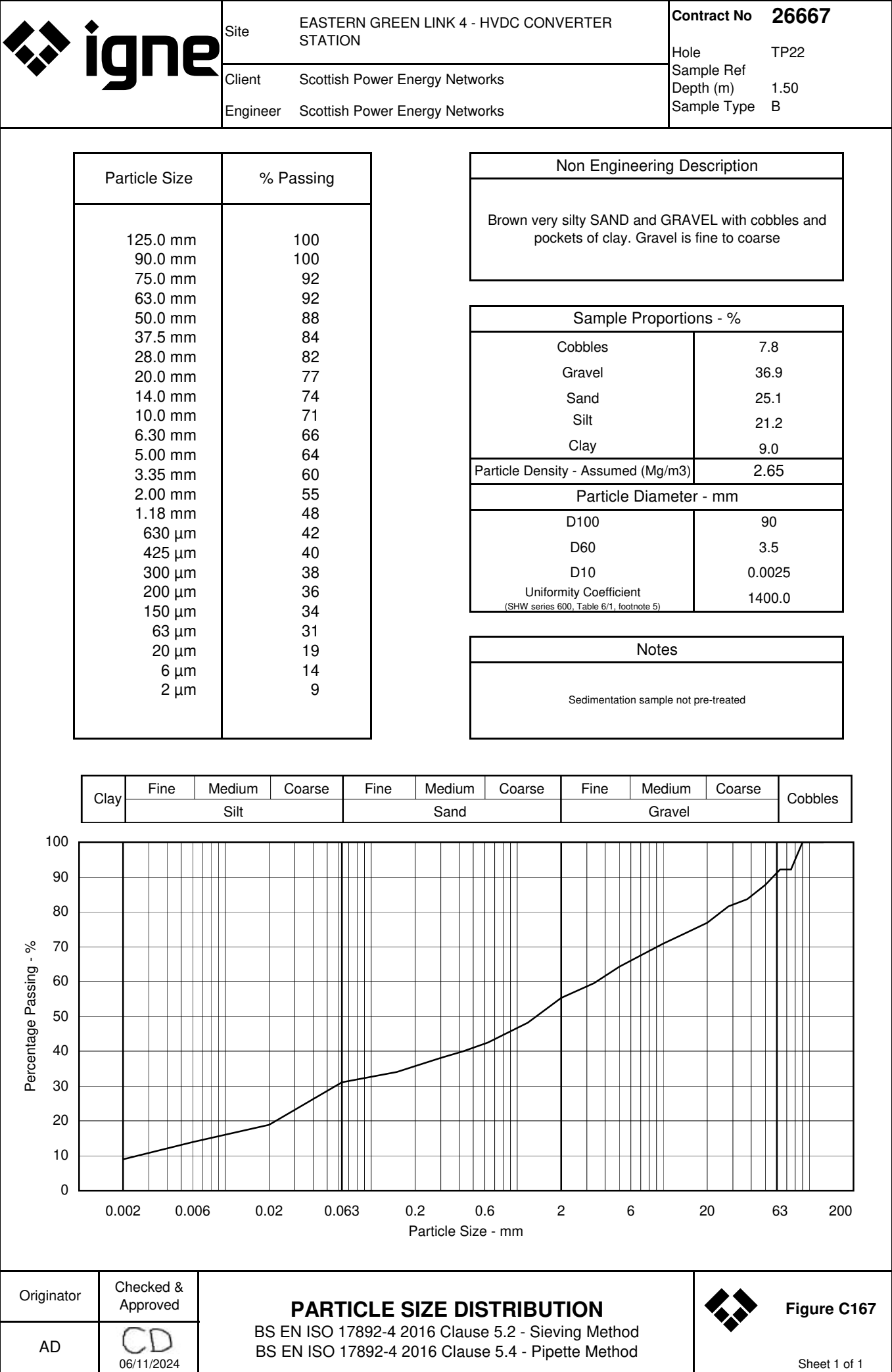
Sample Proportions - %	
Cobbles	0.0
Gravel	15.4
Sand	36.5
Silt	31.9
Clay	16.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	38
D60	0.18
D10	
Uniformity Coefficient	N/A

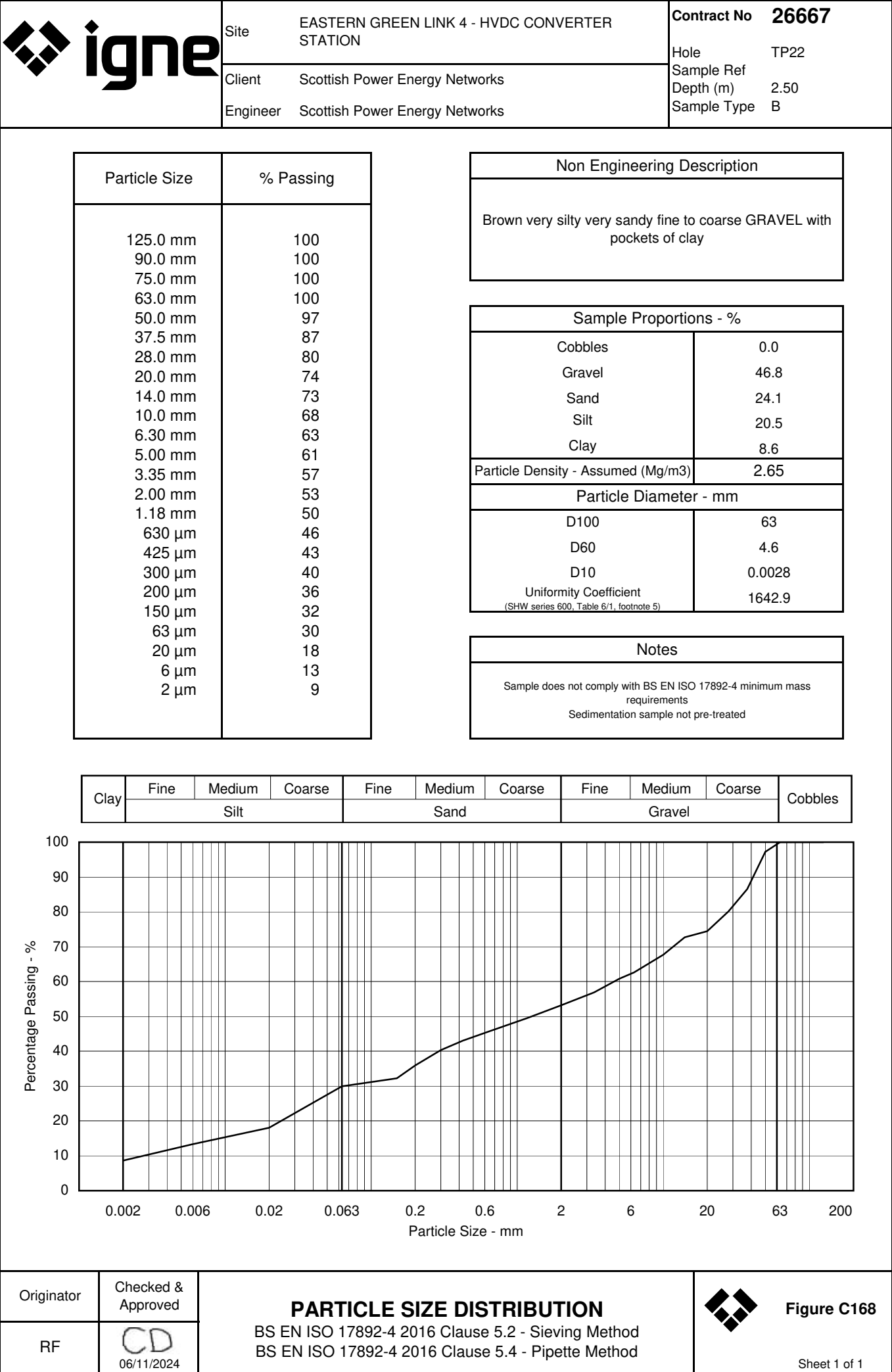
Notes
Sedimentation sample not pre-treated

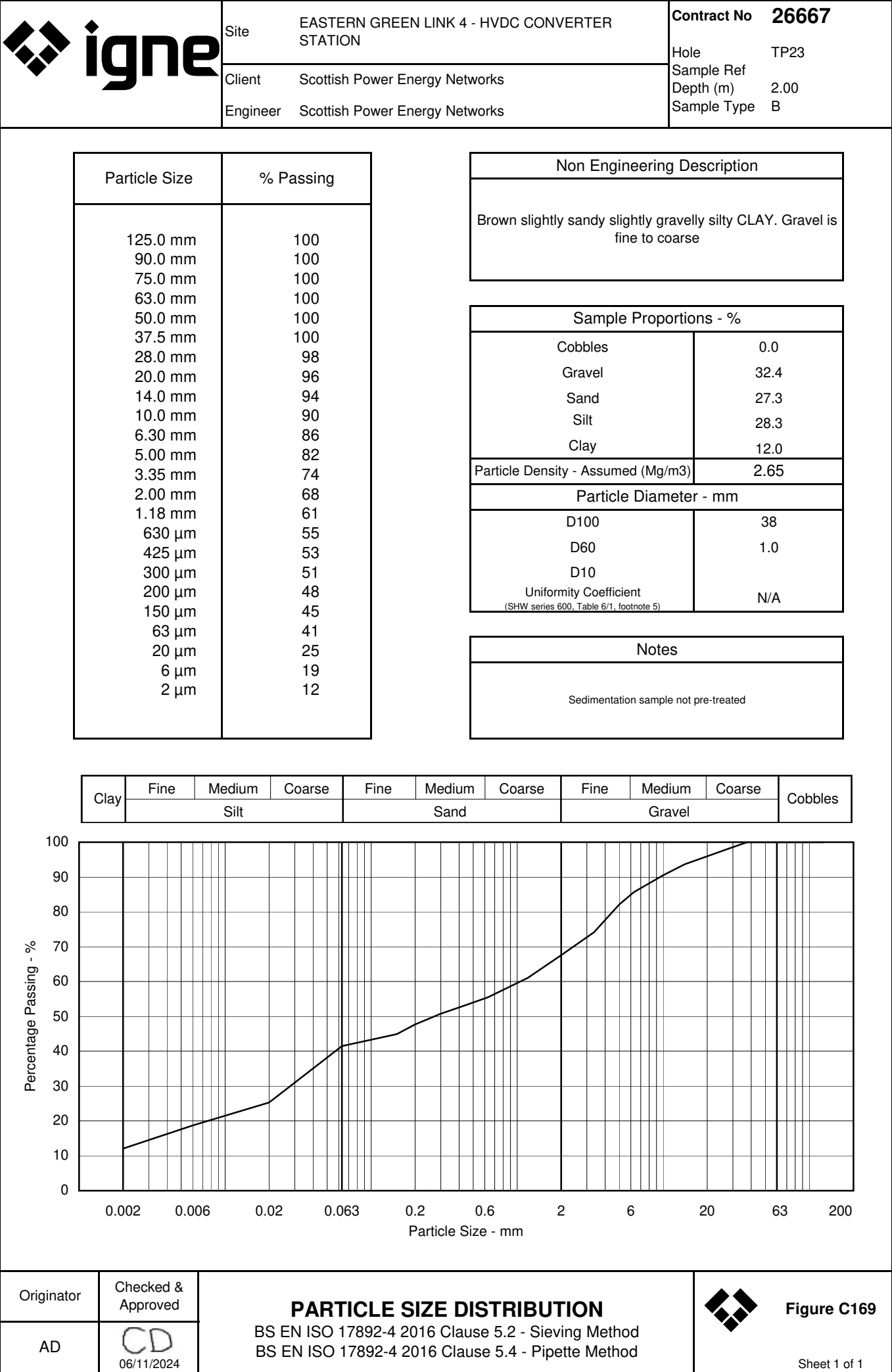
Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			



Originator	Checked & Approved	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 C166
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Originator	Checked & Approved	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 C170 Sheet 1 of 1
RF	CD 06/11/2024		

		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
		ClientScottish Power Energy Networks EngineerScottish Power Energy Networks				HoleTP24	
						Sample Ref	
						Depth (m)	2.00
						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	91
37.5 mm	78
28.0 mm	72
20.0 mm	67
14.0 mm	65
10.0 mm	63
6.30 mm	60
5.00 mm	57
3.35 mm	51
2.00 mm	44
1.18 mm	39
630 µm	34
425 µm	31
300 µm	27
200 µm	21
150 µm	16
63 µm	11
20 µm	6
6 µm	4
2 µm	2

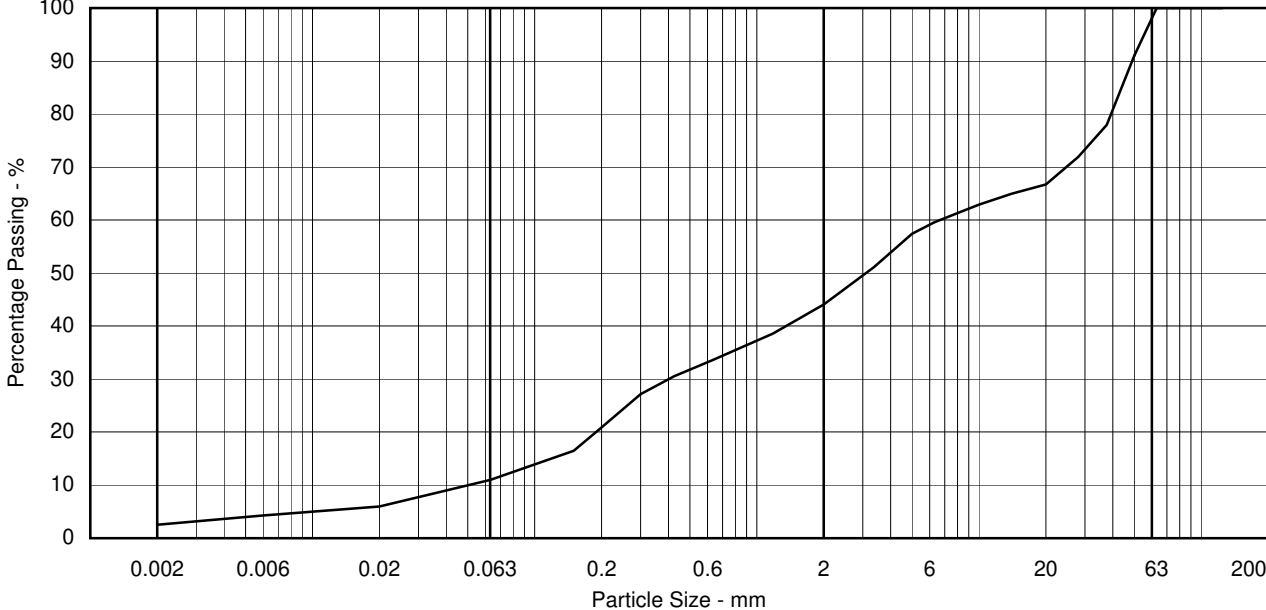
Non Engineering Description	
Brown silty very sandy fine to coarse GRAVEL with pockets of clay	

Sample Proportions - %	
Cobbles	0.0
Gravel	55.9
Sand	33.5
Silt	8.1
Clay	2.5
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	63
D60	6.7
D10	0.051
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	131.4

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

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C171
RF	CD 06/11/2024		

		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No26667	
		ClientScottish Power Energy Networks		HoleTP27	
		EngineerScottish Power Energy Networks		Sample Ref	
				Depth (m)0.50	
				Sample TypeB	

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	97
28.0 mm	96
20.0 mm	96
14.0 mm	94
10.0 mm	93
6.30 mm	92
5.00 mm	91
3.35 mm	89
2.00 mm	87
1.18 mm	85
630 µm	82
425 µm	79
300 µm	76
200 µm	69
150 µm	61
63 µm	55
20 µm	33
6 µm	25
2 µm	16

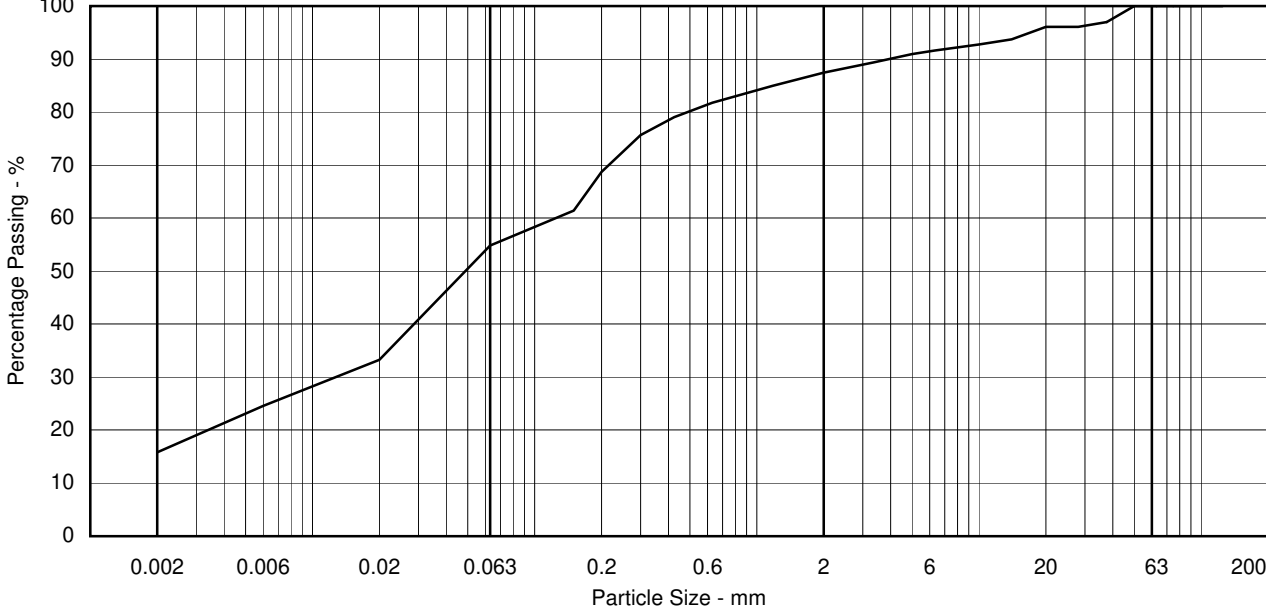
Non Engineering Description	
Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse	

Sample Proportions - %	
Cobbles	0.0
Gravel	12.6
Sand	34.1
Silt	37.5
Clay	15.8
Particle Density - Assumed (Mg/m3)2.65	
Particle Diameter - mm	
D100	50
D60	0.13
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)N/A	

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt			Sand			Gravel				

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C173
AD	CD 06/11/2024		

Sheet 1 of 1

	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleTP27	
	EngineerScottish Power Energy Networks				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	95
50.0 mm	89
37.5 mm	88
28.0 mm	81
20.0 mm	74
14.0 mm	72
10.0 mm	67
6.30 mm	61
5.00 mm	58
3.35 mm	54
2.00 mm	48
1.18 mm	42
630 µm	36
425 µm	33
300 µm	30
200 µm	25
150 µm	20
63 µm	17
20 µm	10
6 µm	7
2 µm	4

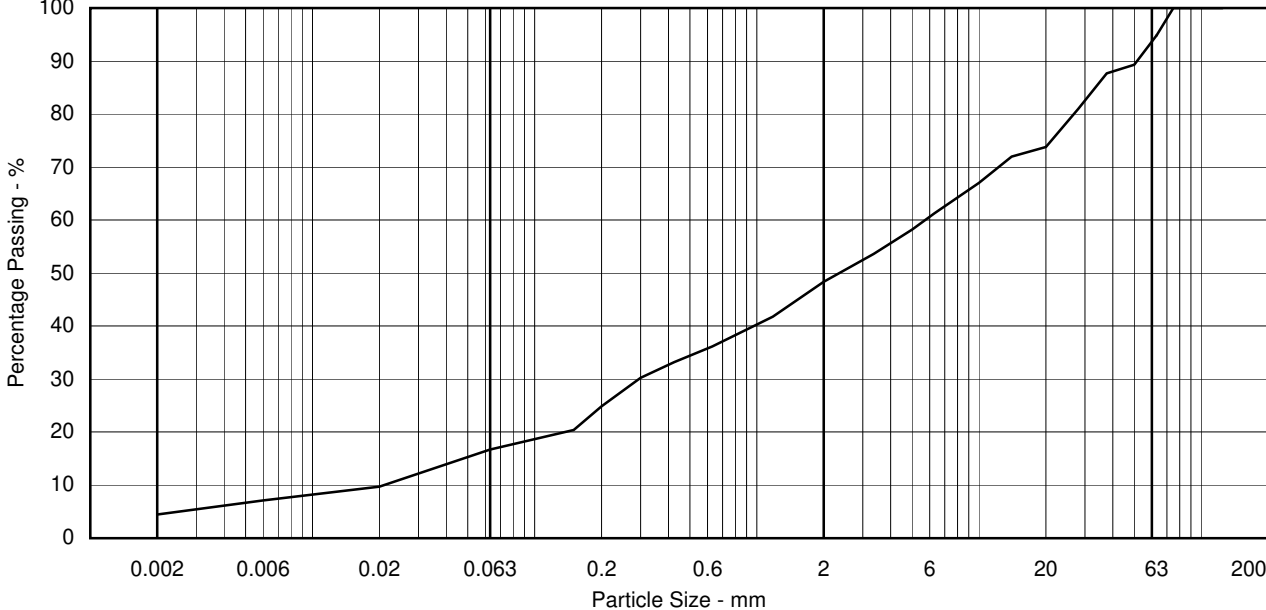
Non Engineering Description	
Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	

Sample Proportions - %		
Cobbles	5.1	
Gravel	46.6	
Sand	32.1	
Silt	11.8	
Clay	4.4	
Particle Density - Assumed (Mg/m3)		2.65
Particle Diameter - mm		
D100	75	
D60	5.7	
D10	0.021	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)		271.4

Notes	
Sedimentation sample not pre-treated	

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C174
AD	CD 06/11/2024		

Sheet 1 of 1

	SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No26667	
	ClientScottish Power Energy Networks				HoleTP28	
	EngineerScottish Power Energy Networks				Sample Ref	
Depth (m)2.50						
				Sample Type	B	

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	96
63.0 mm	90
50.0 mm	76
37.5 mm	74
28.0 mm	68
20.0 mm	60
14.0 mm	56
10.0 mm	53
6.30 mm	47
5.00 mm	43
3.35 mm	38
2.00 mm	32
1.18 mm	26
630 µm	22
425 µm	19
300 µm	18
200 µm	16
150 µm	15
63 µm	11
20 µm	7
6 µm	5
2 µm	3

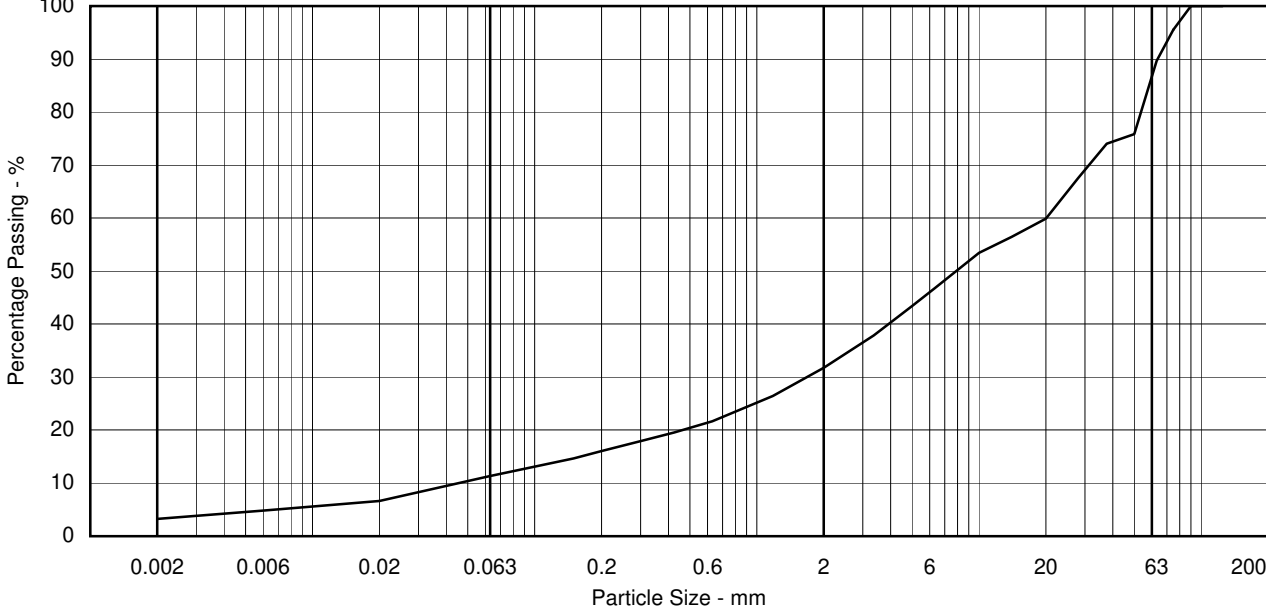
Non Engineering Description	
Brown silty very sandy fine to coarse GRAVEL with cobble and pockets of clay	

Sample Proportions - %	
Cobbles	10.3
Gravel	58.0
Sand	20.8
Silt	7.7
Clay	3.2
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	90
D60	20
D10	0.046
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	434.8

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

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			

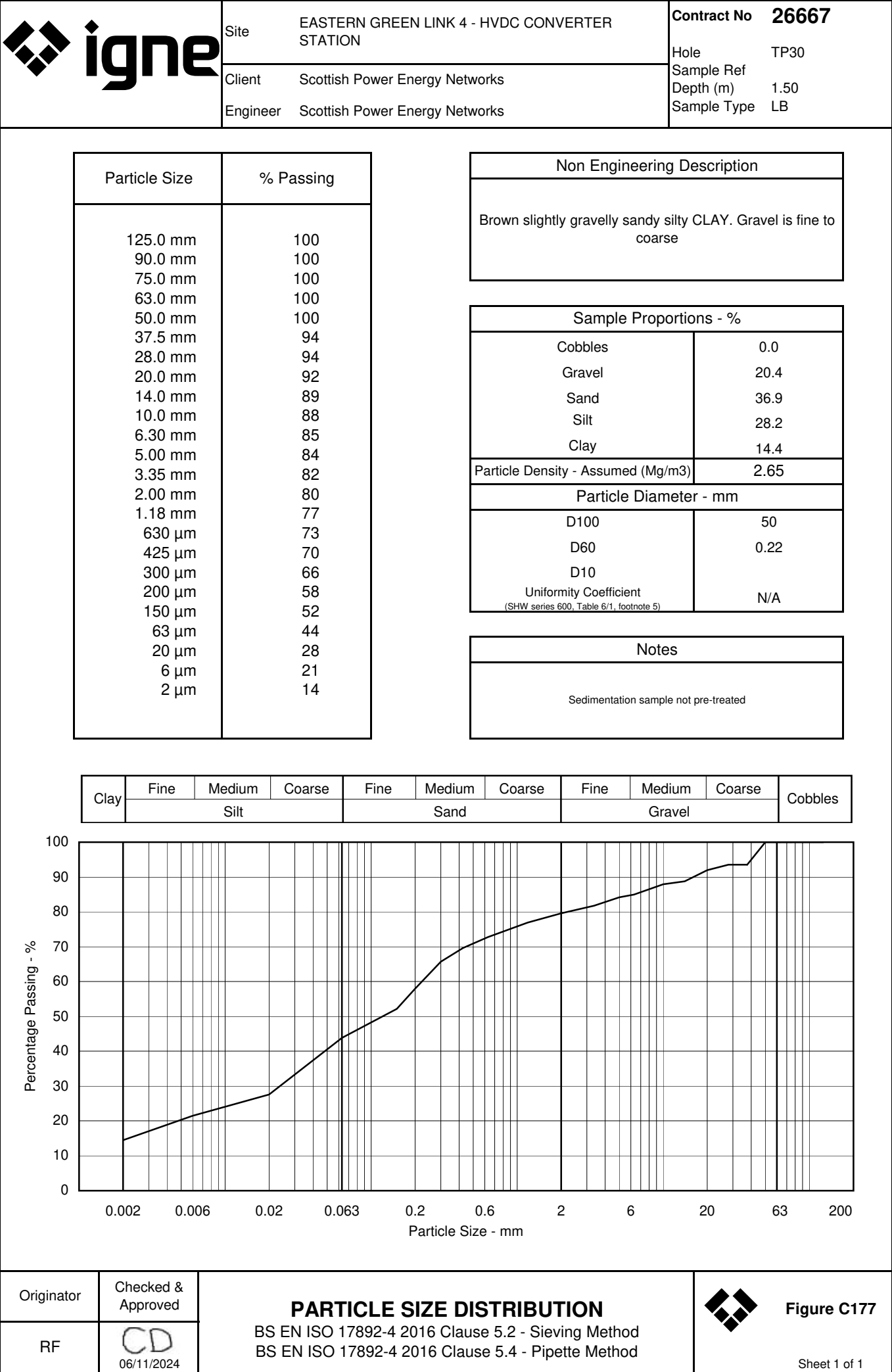
Percentage Passing - %

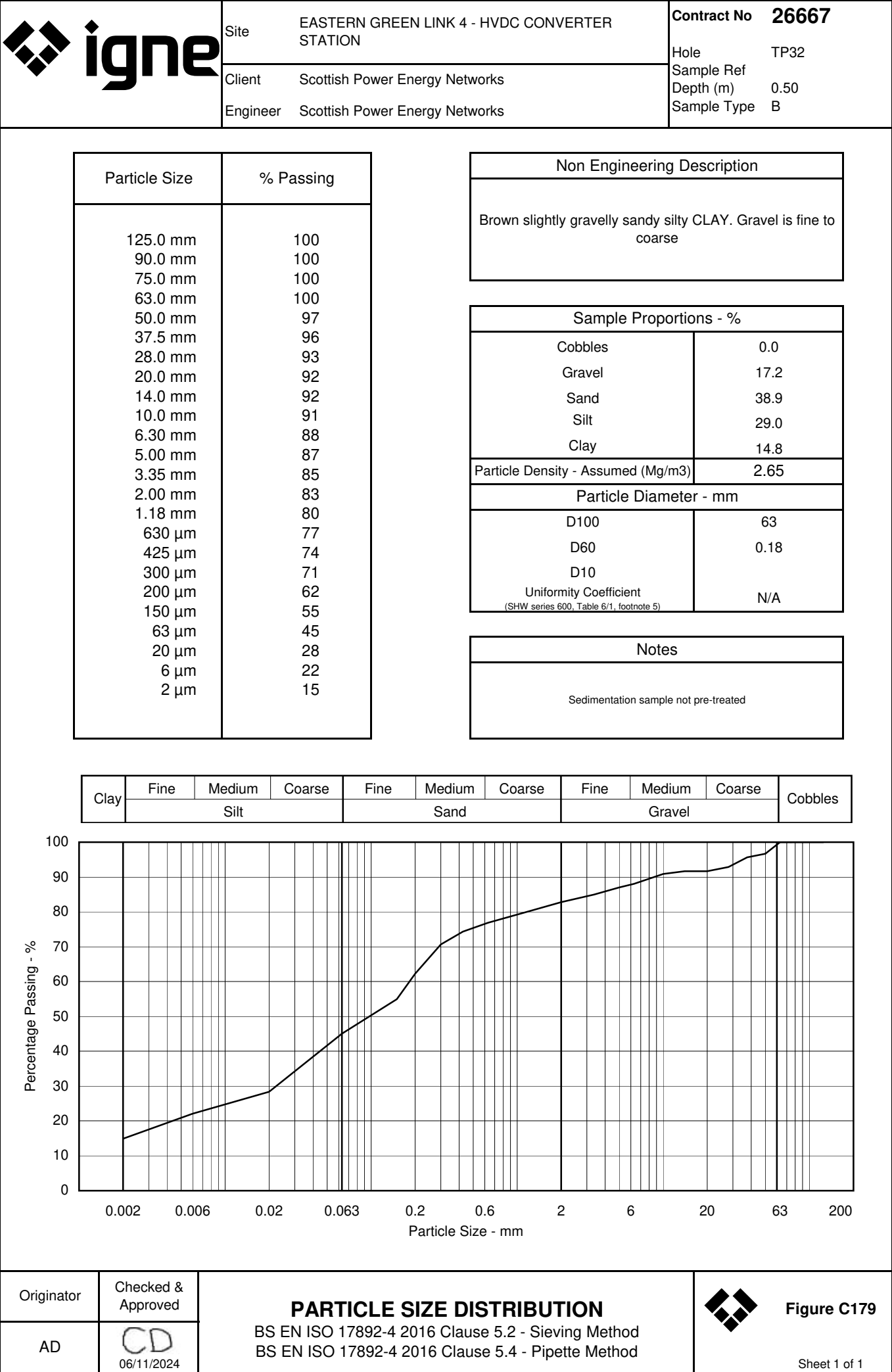


Particle Size - mm

Originator	Checked & Approved	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 C176
RF	CD 06/11/2024		

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		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION			Contract No26667	
ClientScottish Power Energy Networks		HoleTP32			Sample Ref	
EngineerScottish Power Energy Networks		Depth (m)1.50			Sample TypeB	

Particle Size	% Passing
125.0 mm	100
90.0 mm	93
75.0 mm	93
63.0 mm	82
50.0 mm	76
37.5 mm	71
28.0 mm	63
20.0 mm	54
14.0 mm	52
10.0 mm	48
6.30 mm	45
5.00 mm	43
3.35 mm	41
2.00 mm	38
1.18 mm	36
630 µm	33
425 µm	30
300 µm	26
200 µm	19
150 µm	15
63 µm	11
20 µm	6
6 µm	5
2 µm	3

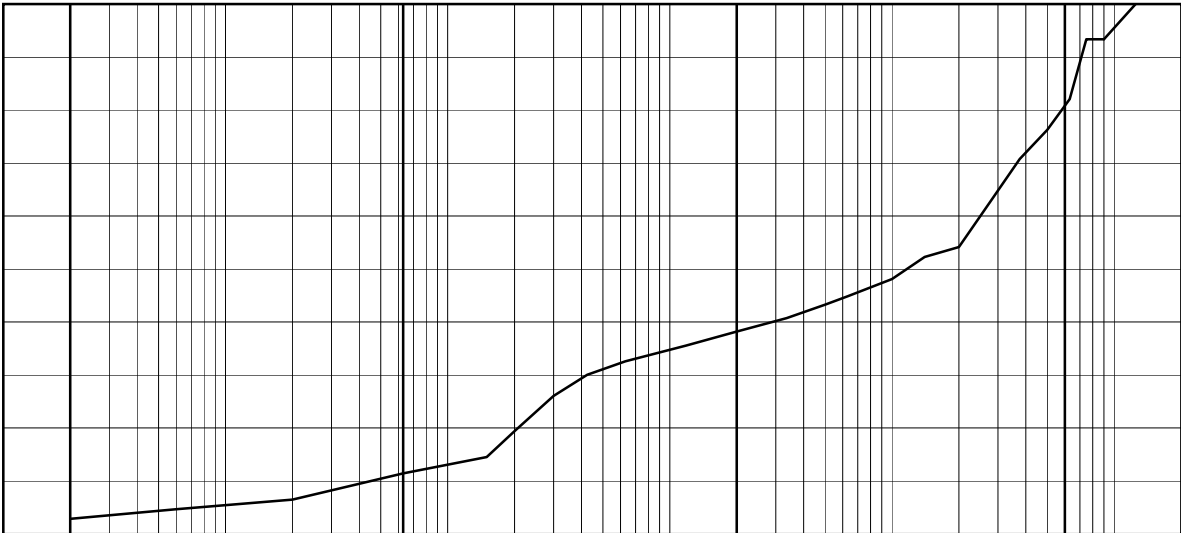
Non Engineering Description	
Brown silty very sandy fine to coarse GRAVEL with cobble and pockets of clay	

Sample Proportions - %	
Cobbles	17.9
Gravel	43.9
Sand	27.1
Silt	8.2
Clay	2.8
Particle Density - Assumed (Mg/m3)	
2.65	
Particle Diameter - mm	
D100	125
D60	25
D10	0.046
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	
543.5	

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

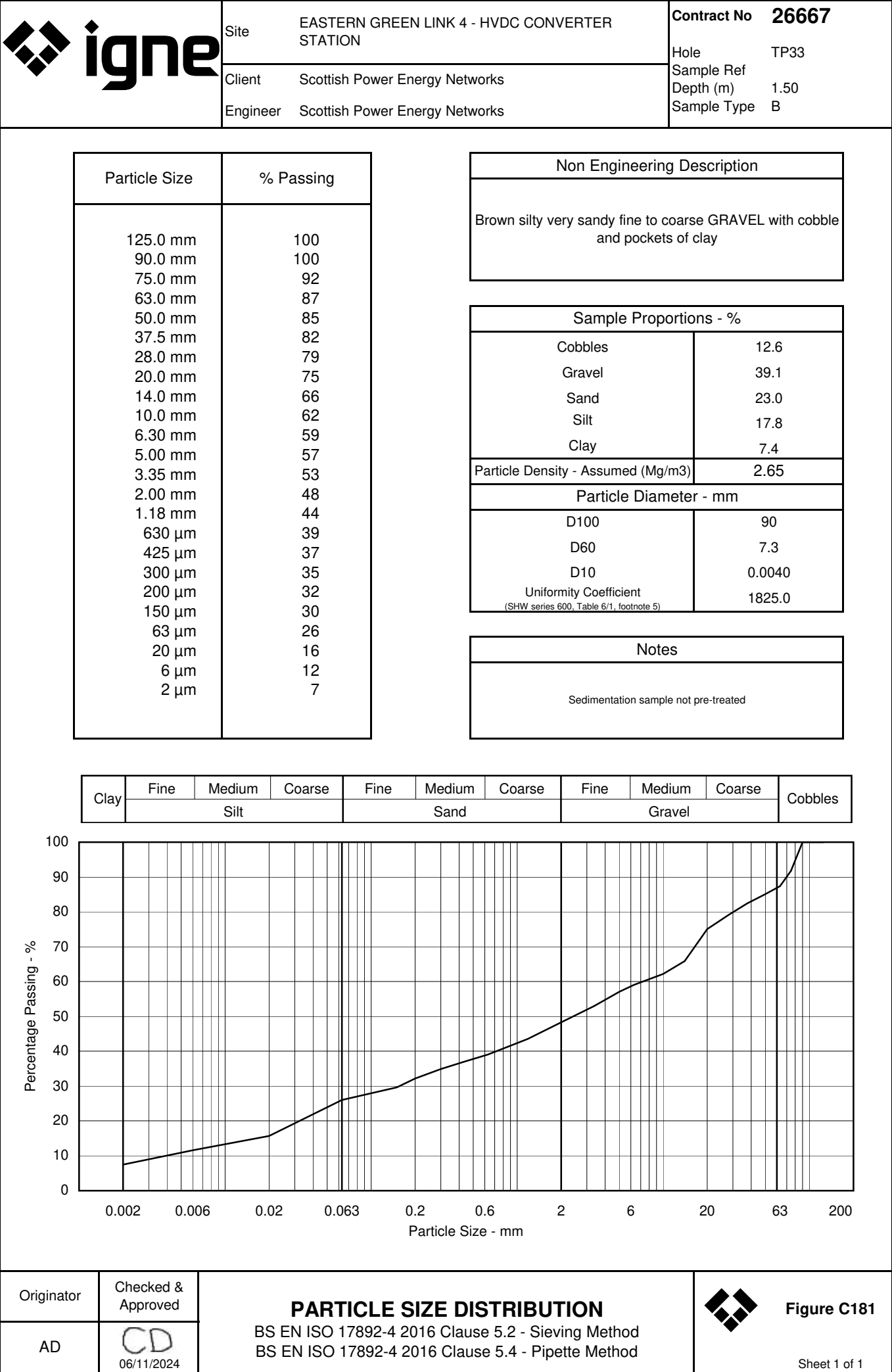
Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
Silt				Sand			Gravel			

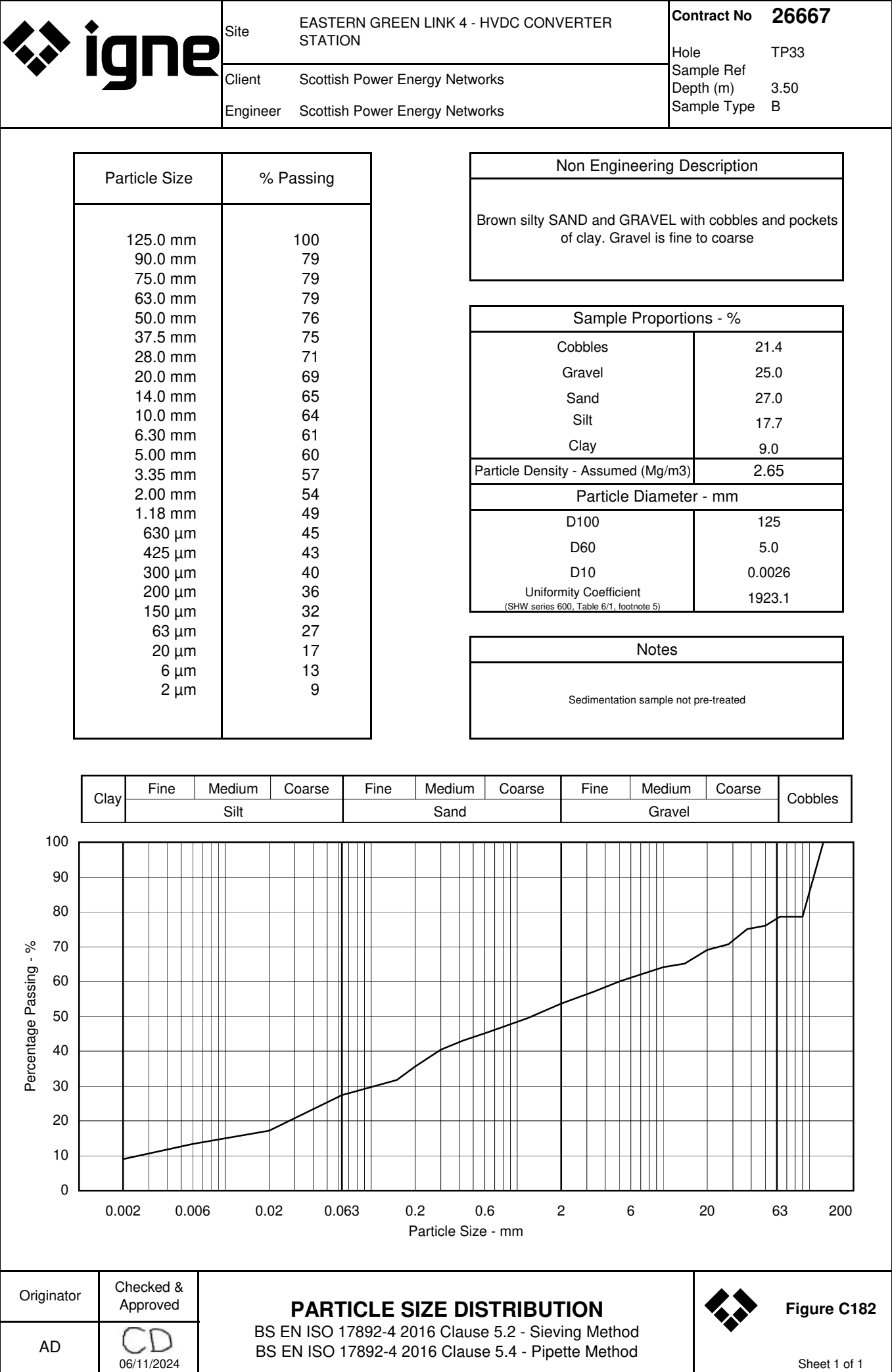
Percentage Passing - %



Particle Size - mm

Originator	Checked & Approved	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 C180 Sheet 1 of 1
AD	CD 06/11/2024		







Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client	Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No	26667

Hole	TP34

Sample Ref

Depth (m)	2.00

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	94
28.0 mm	81
20.0 mm	75
14.0 mm	71
10.0 mm	66
6.30 mm	60
5.00 mm	57
3.35 mm	52
2.00 mm	47
1.18 mm	40
630 µm	34
425 µm	31
300 µm	28
200 µm	24
150 µm	20
63 µm	16
20 µm	9
6 µm	6
2 µm	4

Non Engineering Description

Brown silty very sandy fine to coarse GRAVEL with
pockets of clay

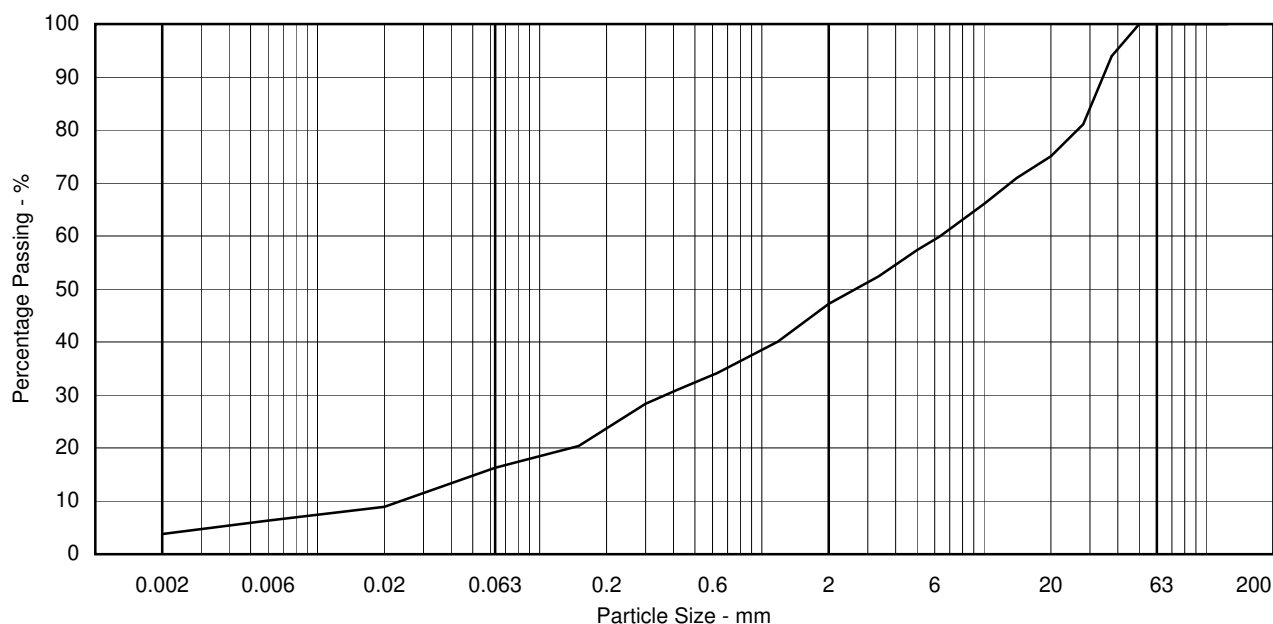
Sample Proportions - %

Cobbles	0.0
Gravel	52.8
Sand	31.5
Silt	12.0
Clay	3.7
Particle Density - Assumed (Mg/m3)	2.65
Particle Diameter - mm	
D100	50
D60	6.4
D10	0.024
Uniformity Coefficient (SHM series 600, Table 6/1, footnote 5)	266.7

Notes

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

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles
	Silt			Sand			Gravel			



Originator

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06/11/202

PARTICLE SIZE DISTRIBUTION

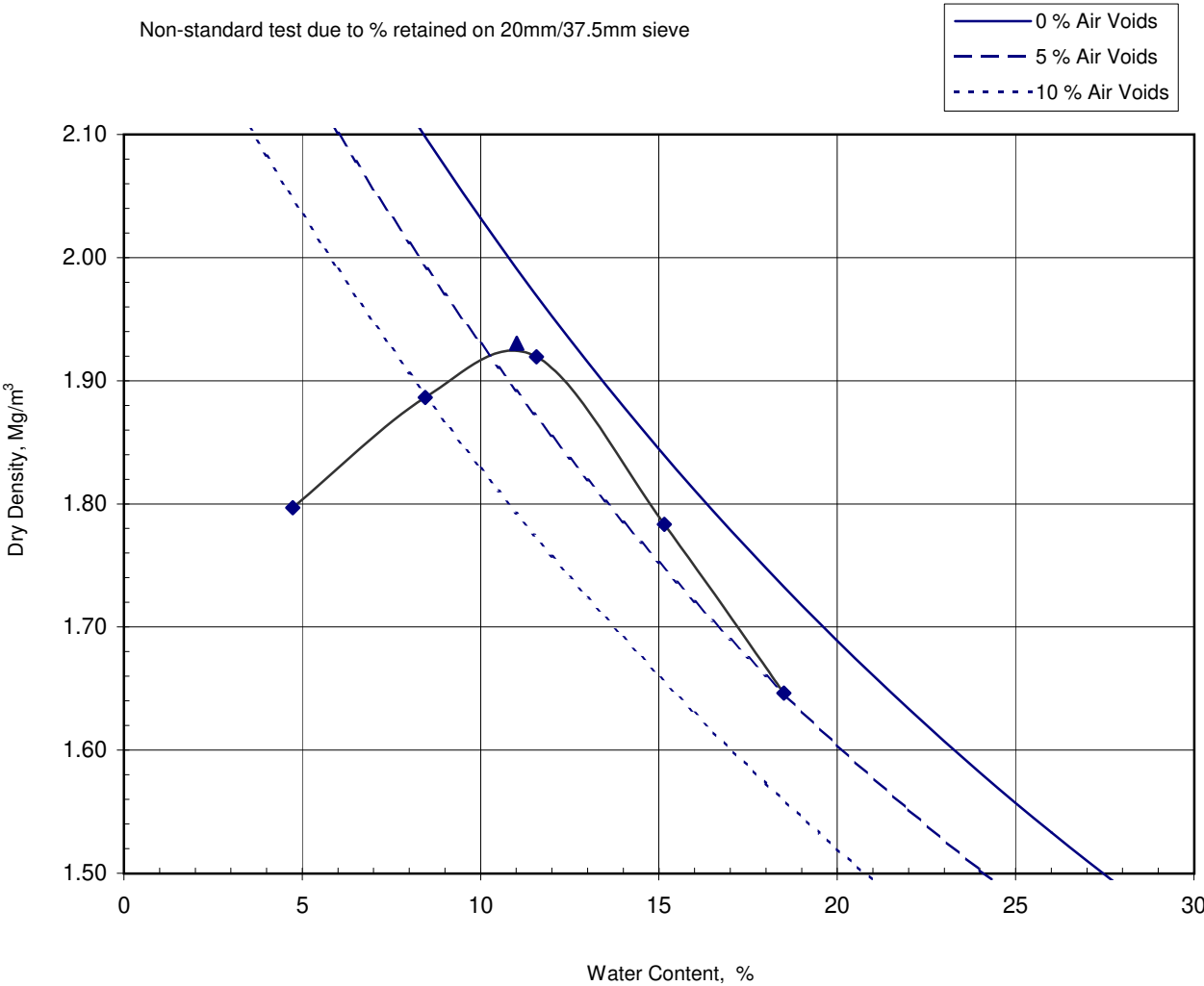
BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method
BS EN ISO 17892-4 2016 Clause 5.4 - Pipette Method



Figure C184

Sheet 1 of 1

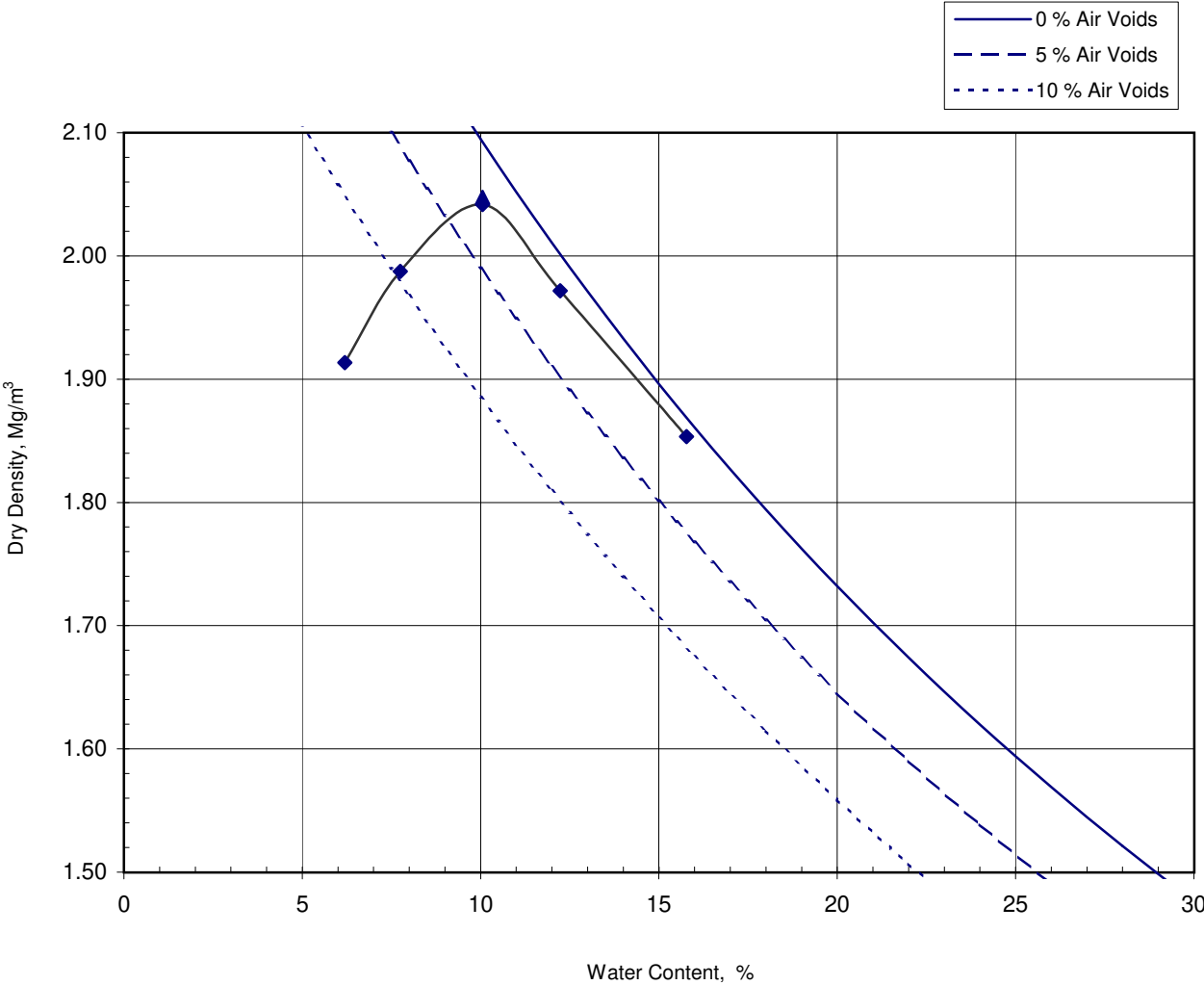
	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole	BH12
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	1.70
			Sample Type	B



Non Engineering Description	Brown gravelly very silty SAND with cobbles and pockets of clay. Gravel is fine to coarse	
Preparation	Oven dried	
Test Method	Compaction method using 4.5kg rammer with CBR mould	
Samples Used	Single	
Mass Retained on 37.5 mm Sieve	%	21
Mass Retained on 20.0 mm Sieve	%	21
Grading zone	x	
Particle Density - Assumed	Mg/m³	2.55
Natural Water Content	%	16
Maximum Dry Density	Mg/m³	1.93
Optimum Water Content	%	11.0

Originator	Checked & Approved	Determination of dry density/water content relationship BS 1377-2: 2022 cl. 11.6	 Figure C185
NW	 06/11/2024		
Sheet 1 of 1			

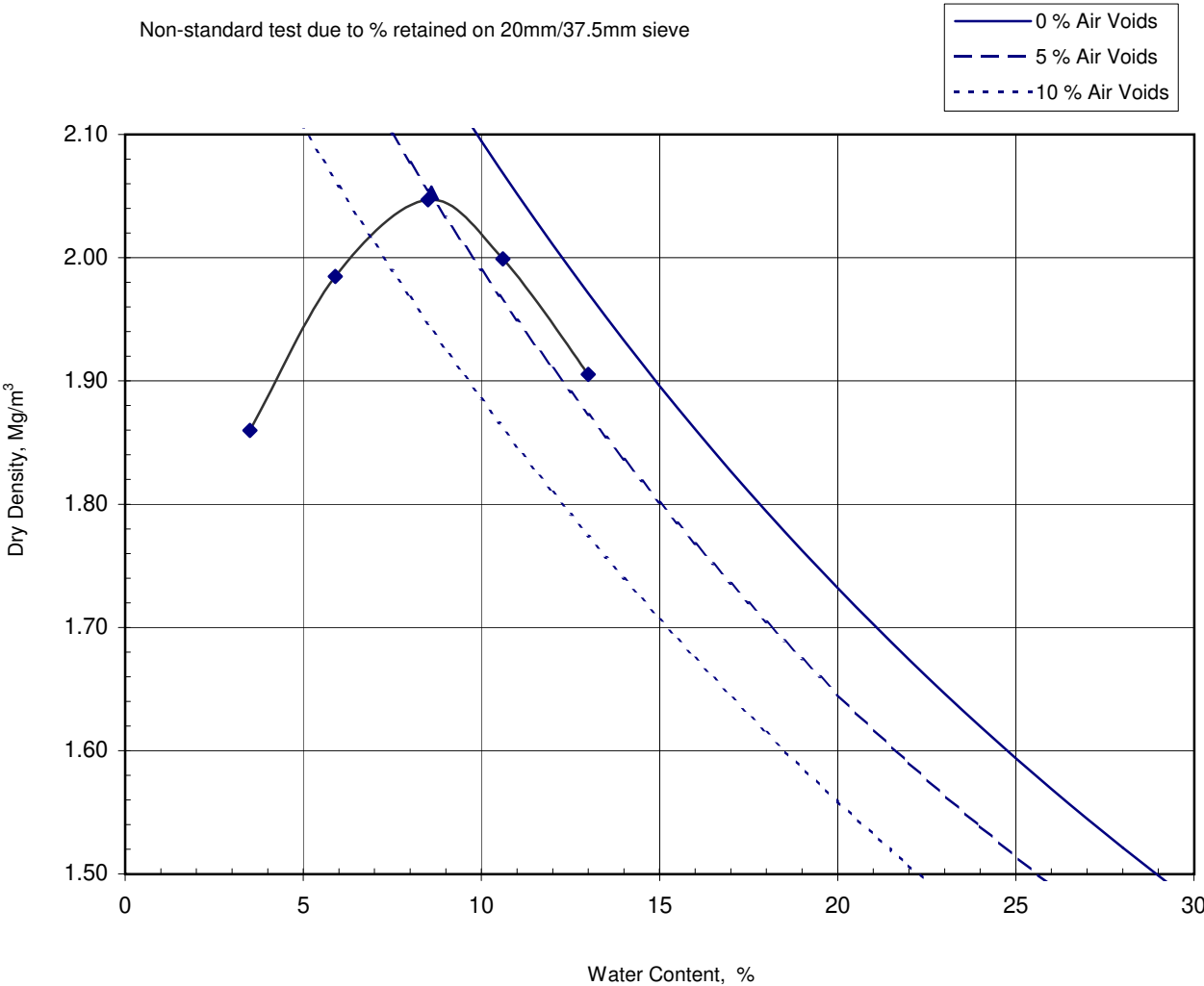
	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole	BH13
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	3.70
			Sample Type	B



Non Engineering Description	Brown gravelly very silty SAND with cobbles and pockets of clay. Gravel is fine to coarse	
Preparation	Oven dried	
Test Method	Compaction method using 4.5kg rammer with CBR mould	
Samples Used	Single	
Mass Retained on 37.5 mm Sieve	%	8
Mass Retained on 20.0 mm Sieve	%	9
Grading zone	5	
Particle Density - Assumed	Mg/m³	2.65
Natural Water Content	%	14
Maximum Dry Density	Mg/m³	2.05
Optimum Water Content	%	10.1

Originator	Checked & Approved	Determination of dry density/water content relationship BS 1377-2: 2022 cl. 11.6	 Figure C186
NW	 06/11/2024		
Sheet 1 of 1			

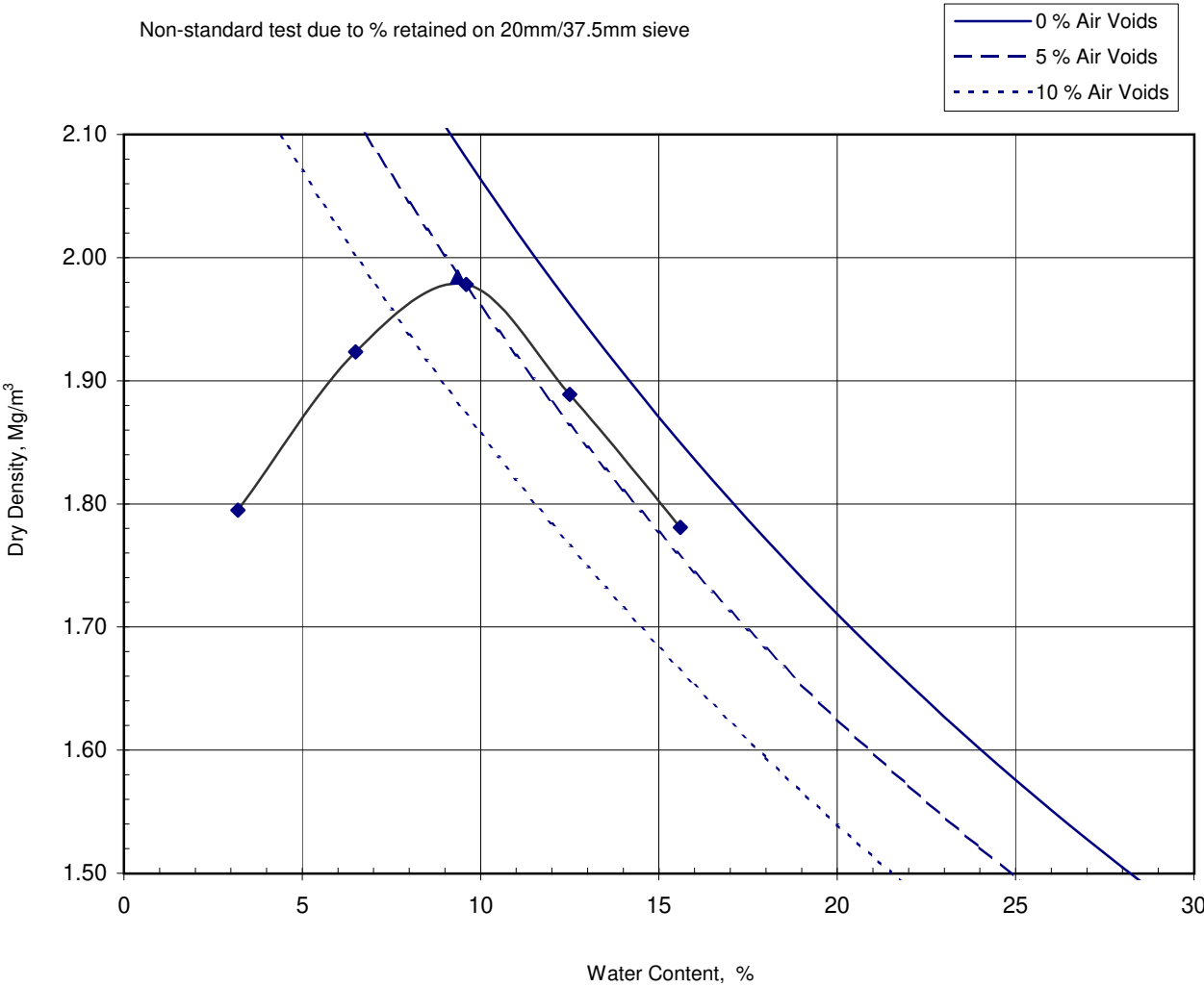
	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole	BH16
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	4.50
			Sample Type	B



Non Engineering Description	Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	
Preparation	Oven dried	
Test Method	Compaction method using 4.5kg rammer with CBR mould	
Samples Used	Single	
Mass Retained on 37.5 mm Sieve	%	42
Mass Retained on 20.0 mm Sieve	%	46
Grading zone	x	
Particle Density - Assumed	Mg/m³	2.65
Natural Water Content	%	4.1
Maximum Dry Density	Mg/m³	2.05
Optimum Water Content	%	8.6

Originator	Checked & Approved	Determination of dry density/water content relationship BS 1377-2: 2022 cl. 11.6	 Figure C187
RF	 06/11/2024		
Sheet 1 of 1			

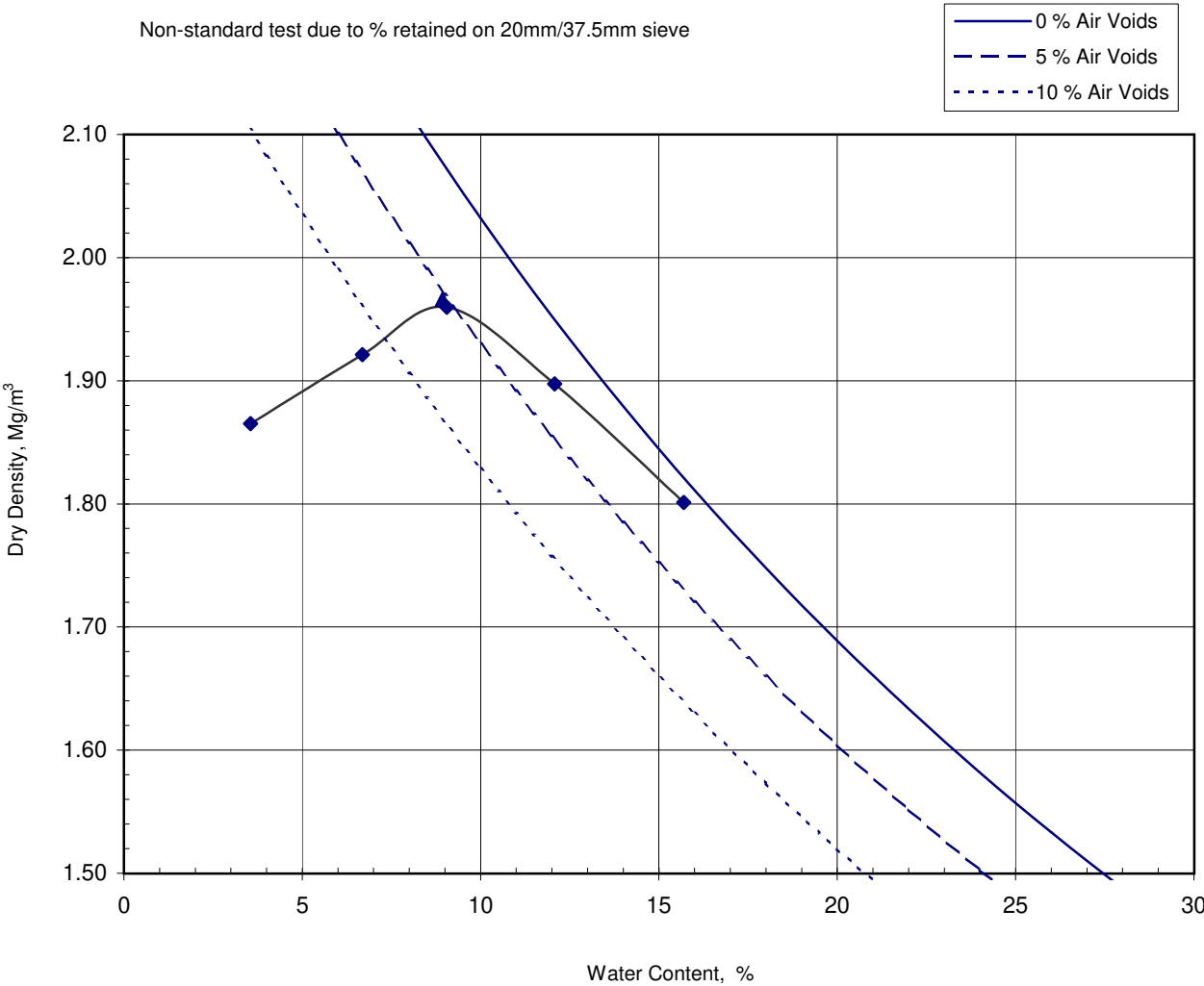
	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole	BH17
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	1.00
			Sample Type	B



Non Engineering Description	Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse	
Preparation	Oven dried	
Test Method	Compaction method using 4.5kg rammer with CBR mould	
Samples Used	Single	
Mass Retained on 37.5 mm Sieve	%	14
Mass Retained on 20.0 mm Sieve	%	17
Grading zone	x	
Particle Density - Assumed	Mg/m³	2.60
Natural Water Content	%	13
Maximum Dry Density	Mg/m³	1.98
Optimum Water Content	%	9.4

Originator	Checked & Approved	Determination of dry density/water content relationship BS 1377-2: 2022 cl. 11.6	 Figure C188
RF	 06/11/2024		
Sheet 1 of 1			

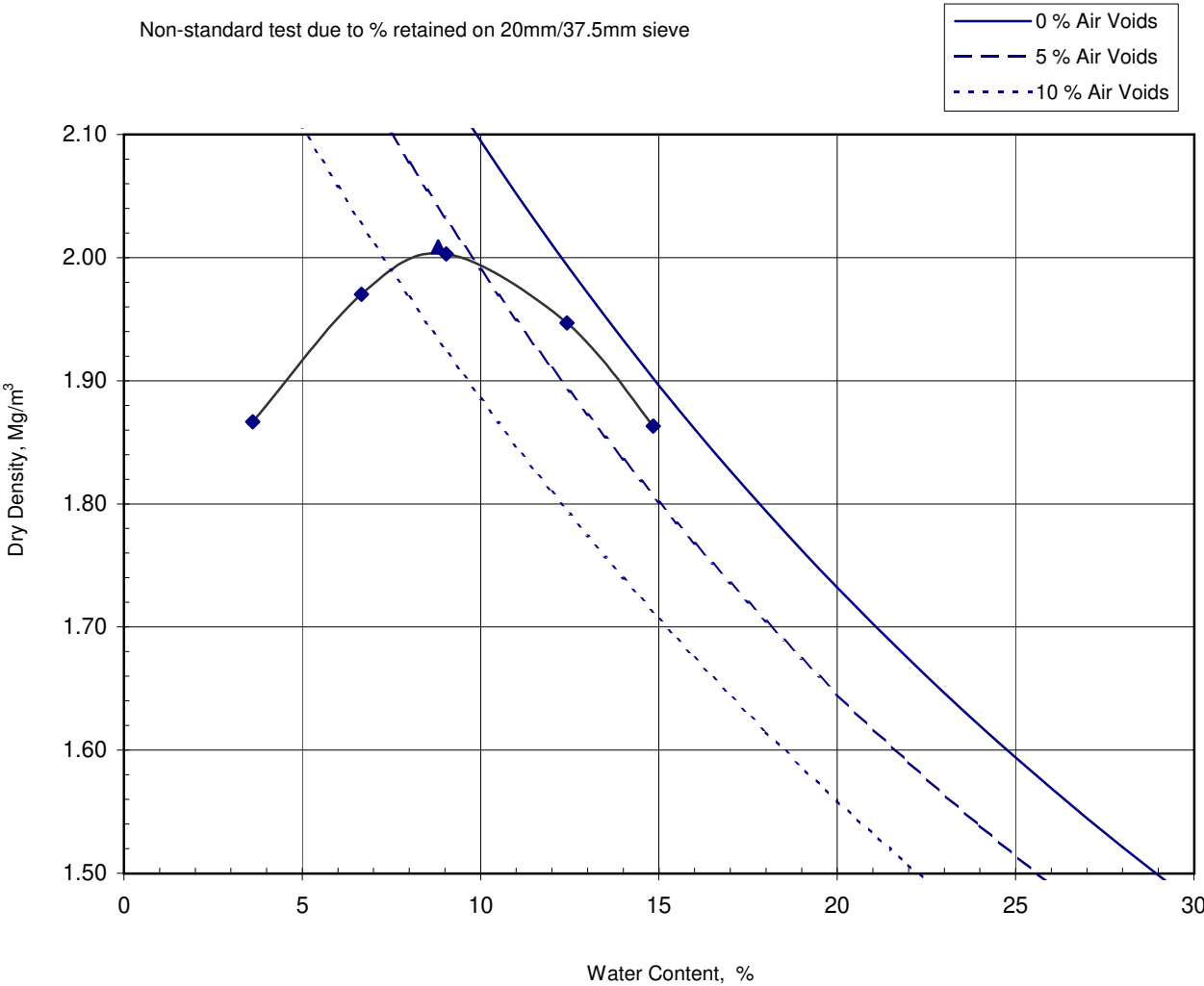
	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole	TP18
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	3.00
			Sample Type	LB



Non Engineering Description	Brown silty sandy fine to coarse GRAVEL with cobbles and pockets of clay
Preparation	Oven dried
Test Method	Compaction method using 4.5kg rammer with CBR mould
Samples Used	Single
Mass Retained on 37.5 mm Sieve	%21
Mass Retained on 20.0 mm Sieve	%31
Grading zone	x
Particle Density - Assumed	Mg/m³2.55
Natural Water Content	%15
Maximum Dry Density	Mg/m³1.97
Optimum Water Content	%8.9

Originator	Checked & Approved	Determination of dry density/water content relationship BS 1377-2: 2022 cl. 11.6	 Figure C189
RF	 06/11/2024		
Sheet 1 of 1			

	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole	TP20
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	3.50
			Sample Type	LB



Non Engineering Description	Brown silty sandy fine to coarse GRAVEL with cobble and pockets of clay	
Preparation	Oven dried	
Test Method	Compaction method using 4.5kg rammer with CBR mould	
Samples Used	Single	
Mass Retained on 37.5 mm Sieve	%	32
Mass Retained on 20.0 mm Sieve	%	51
Grading zone	x	
Particle Density - Assumed	Mg/m³	2.65
Natural Water Content	%	22
Maximum Dry Density	Mg/m³	2.01
Optimum Water Content	%	8.8

Originator	Checked & Approved	Determination of dry density/water content relationship BS 1377-2: 2022 cl. 11.6	 Figure C190
BC	 06/11/2024		
Sheet 1 of 1			



Site

EASTERN GREEN LINK 4 - HVDC CONVERTER
STATION

Client

Scottish Power Energy Networks

Engineer

Scottish Power Energy Networks

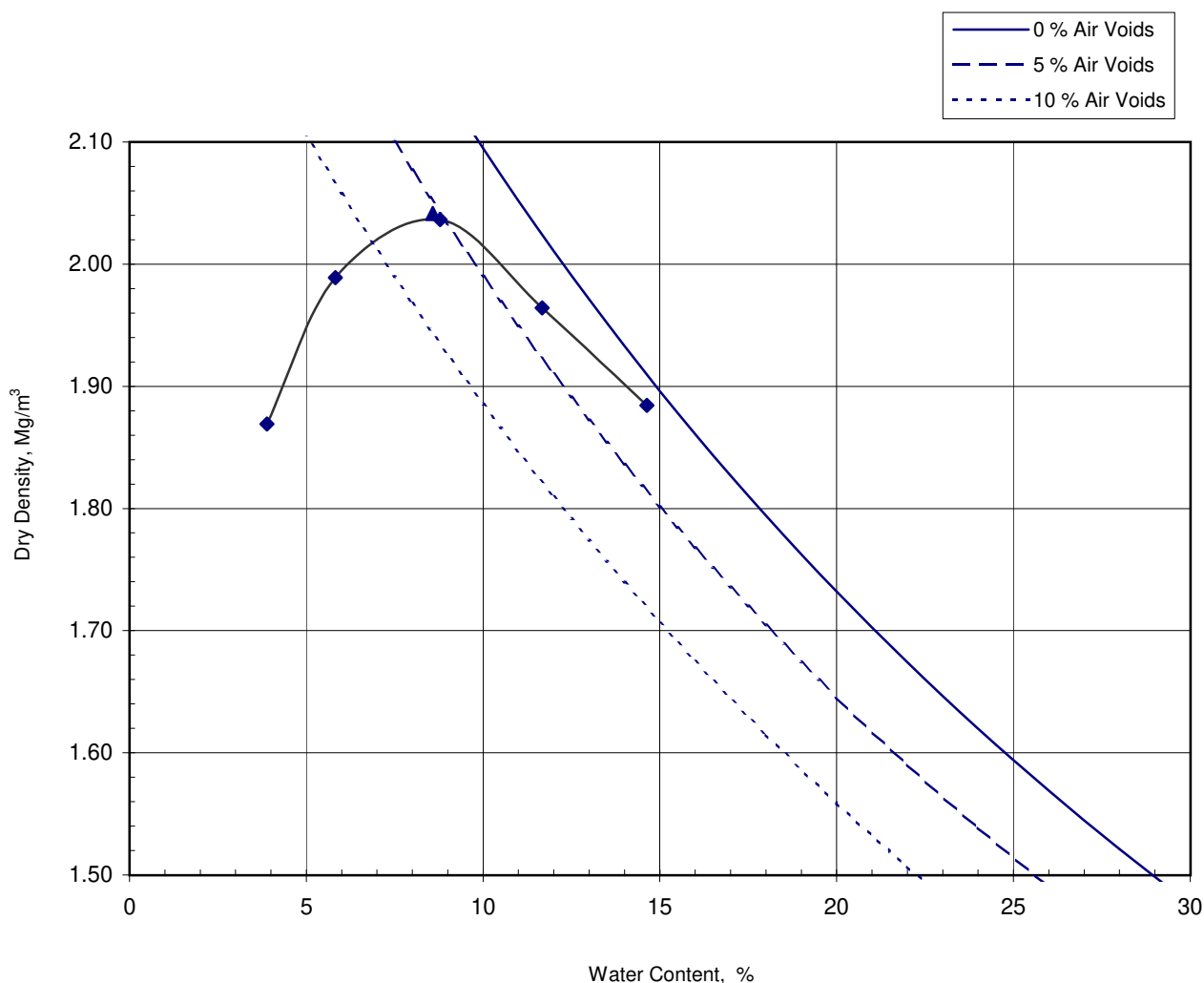
Contract No 26667

Hole TP23

Sample Ref

Depth (m) 2.00

Sample Type B



Non Engineering Description	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to coarse
Preparation	Oven dried
Test Method	Compaction method using 4.5kg rammer with 1L mould
Samples Used	Single
Mass Retained on 37.5 mm Sieve	% 0
Mass Retained on 20.0 mm Sieve	% 4
Grading zone	5
Particle Density - Assumed	Mg/m³ 2.65
Natural Water Content	% 15
Maximum Dry Density	Mg/m³ 2.04
Optimum Water Content	% 8.6

Originator

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Approved

BC

CD
06/11/2024**Determination of dry density/water content
relationship**

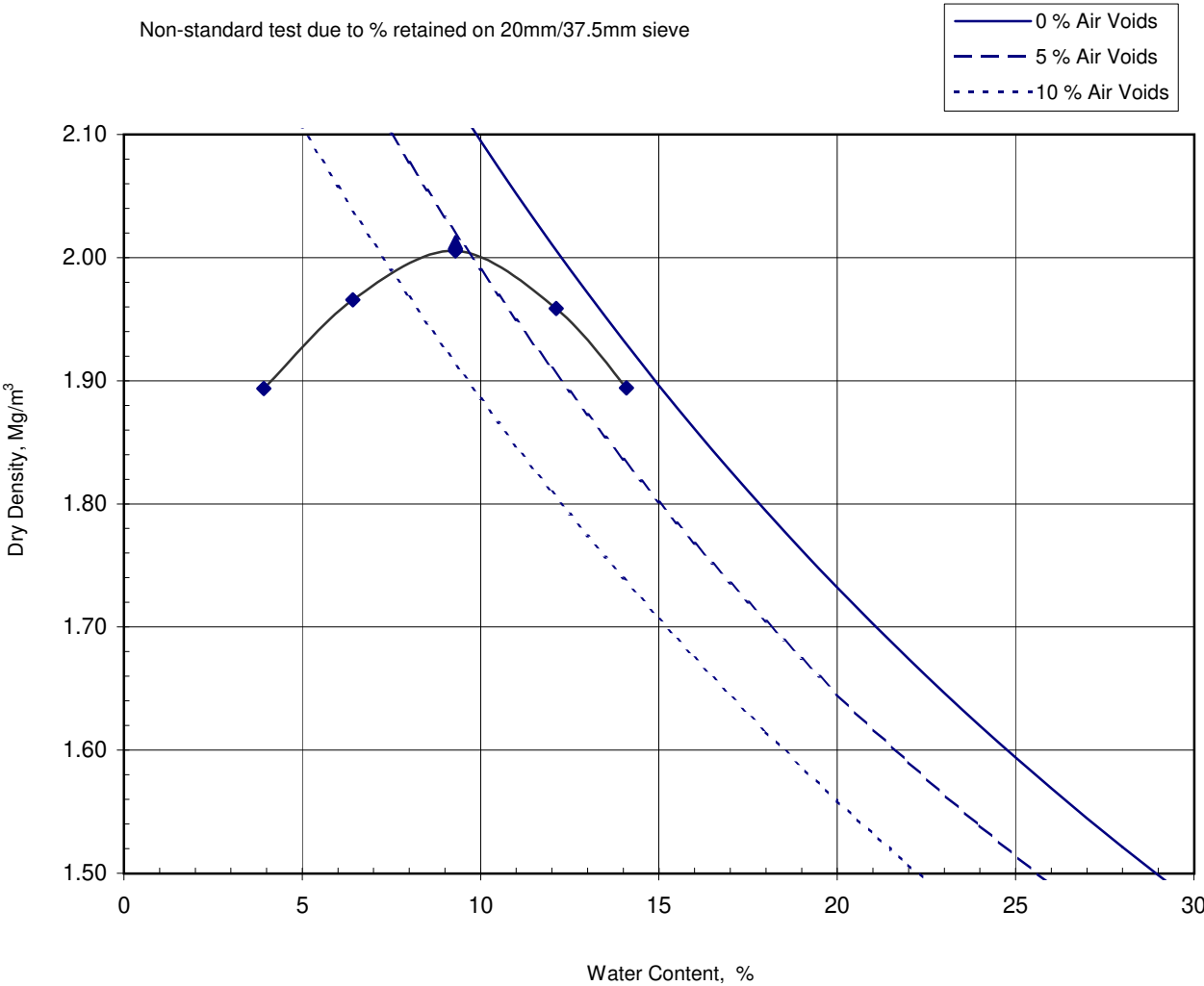
BS 1377-2: 2022 cl. 11.5



Figure C191

Sheet 1 of 1

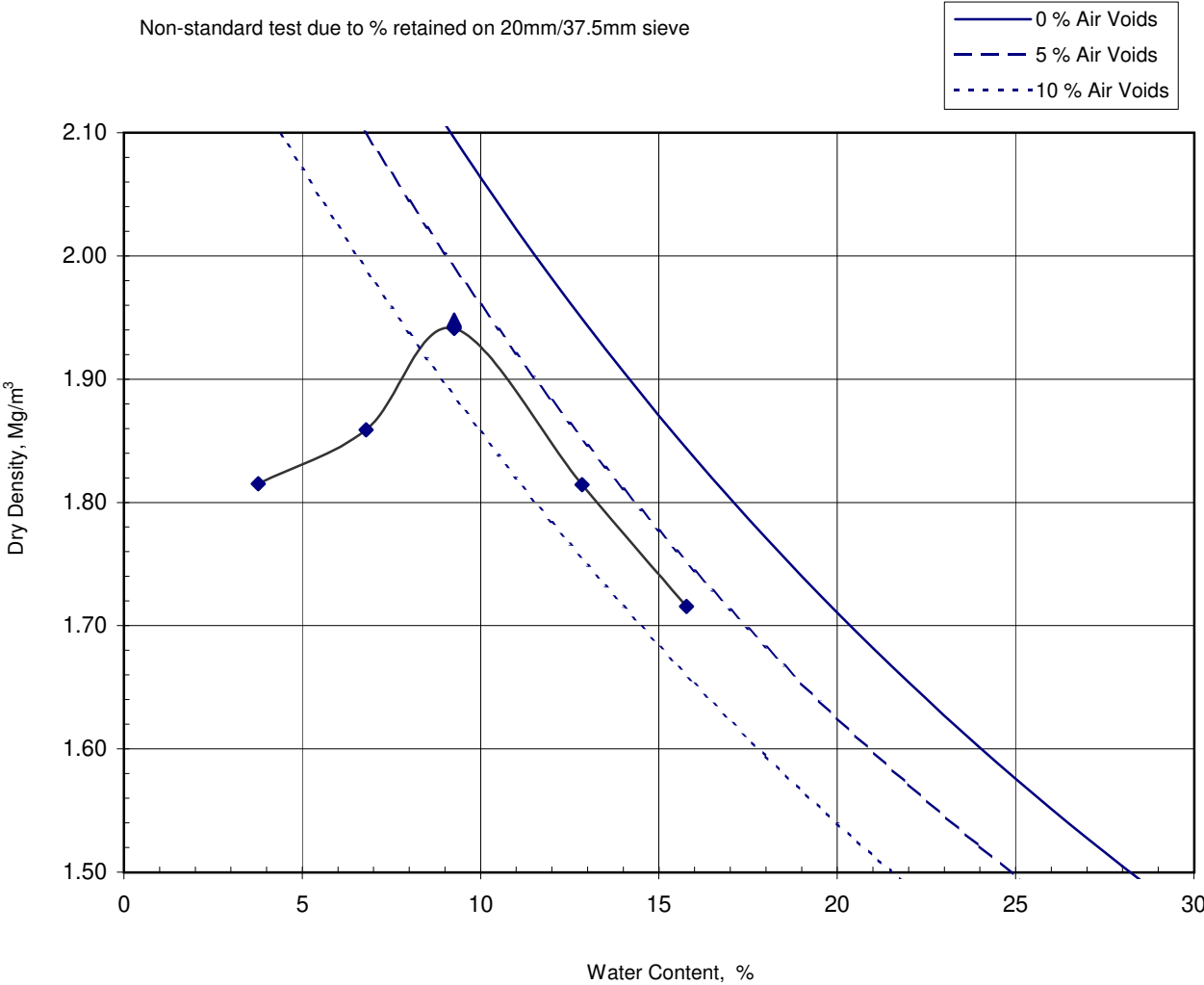
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	Client	Scottish Power Energy Networks	Hole	TP24
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	2.00
			Sample Type	LB



Non Engineering Description	Brown silty very sandy fine to coarse GRAVEL with pockets of clay	
Preparation	Oven dried	
Test Method	Compaction method using 4.5kg rammer with CBR mould	
Samples Used	Single	
Mass Retained on 37.5 mm Sieve	%	22
Mass Retained on 20.0 mm Sieve	%	33
Grading zone	x	
Particle Density - Assumed	Mg/m³	2.65
Natural Water Content	%	6.9
Maximum Dry Density	Mg/m³	2.01
Optimum Water Content	%	9.3

Originator	Checked & Approved	Determination of dry density/water content relationship BS 1377-2: 2022 cl. 11.6	 Figure C192
BC	 06/11/2024		
Sheet 1 of 1			

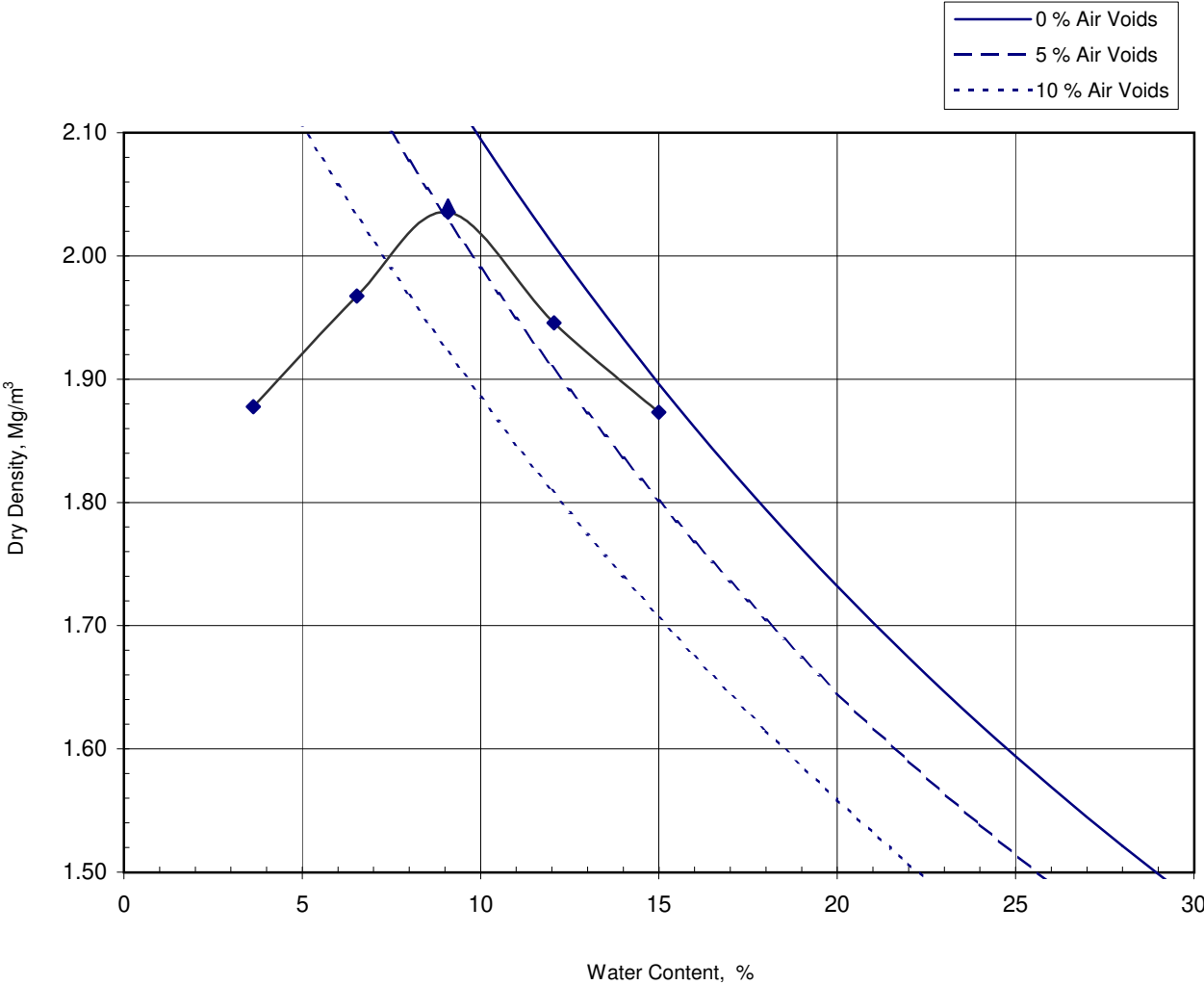
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	Client	Scottish Power Energy Networks	Hole	TP28
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	1.50
			Sample Type	B



Non Engineering Description	Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse	
Preparation	Oven dried	
Test Method	-	
Samples Used	Single	
Mass Retained on 37.5 mm Sieve	%	12
Mass Retained on 20.0 mm Sieve	%	18
Grading zone	x	
Particle Density - Assumed	Mg/m³	2.60
Natural Water Content	%	13
Maximum Dry Density	Mg/m³	1.95
Optimum Water Content	%	9.3

Originator	Checked & Approved	Determination of dry density/water content relationship BS 1377-2: 2022 cl.	 Figure C193
RF	 06/11/2024		
Sheet 1 of 1			

	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole	TP30
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	1.50
			Sample Type	LB

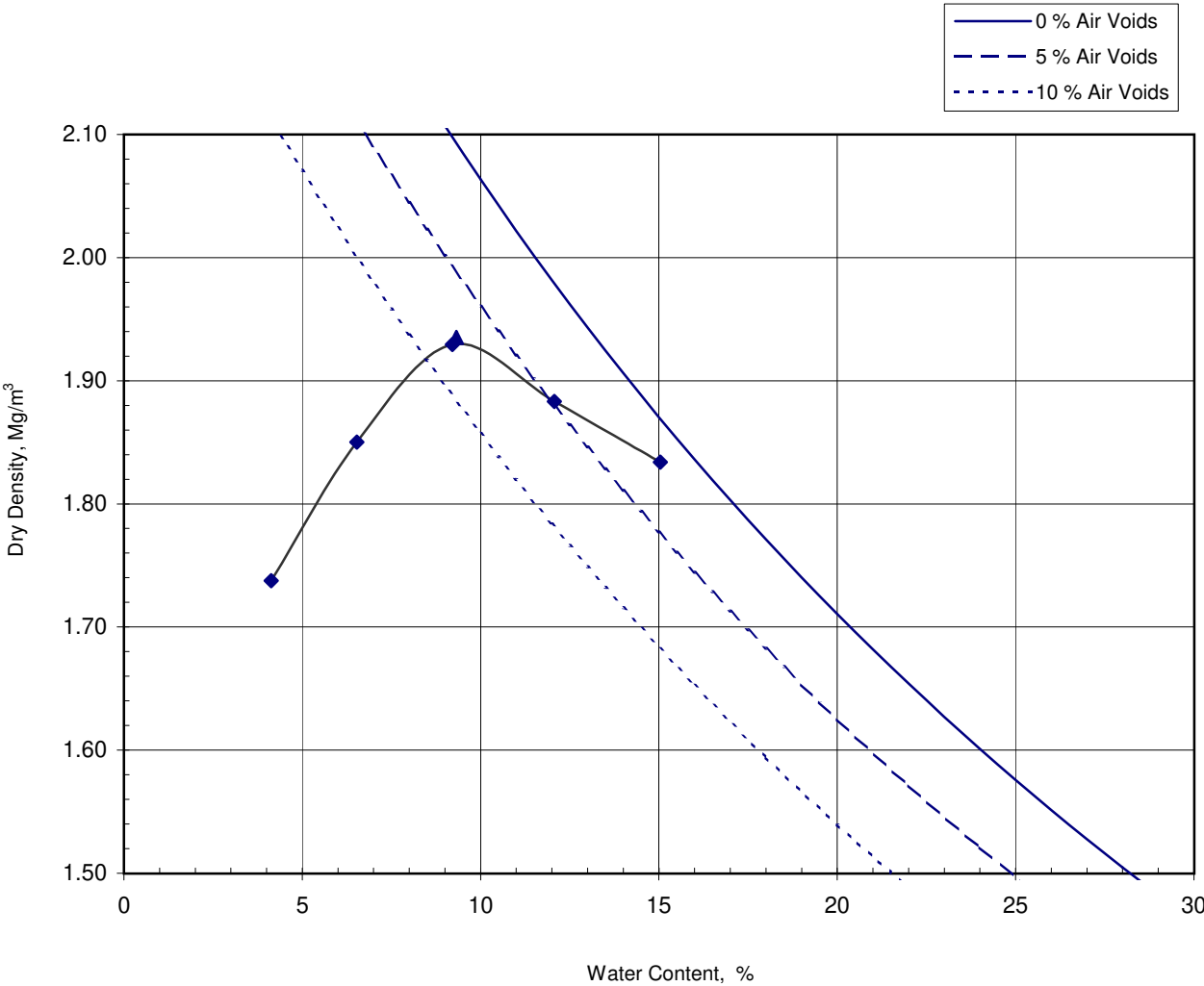


Non Engineering Description	Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse
Preparation	Oven dried
Test Method	Compaction method using 4.5kg rammer with CBR mould
Samples Used	Single
Mass Retained on 37.5 mm Sieve	% 6
Mass Retained on 20.0 mm Sieve	% 8
Grading zone	5
Particle Density - Assumed	Mg/m³ 2.65
Natural Water Content	% 16
Maximum Dry Density	Mg/m³ 2.04
Optimum Water Content	% 9.1

Originator	Checked & Approved	Determination of dry density/water content relationship BS 1377-2: 2022 cl. 11.6	 Figure C194
BC	 06/11/2024		
Sheet 1 of 1			

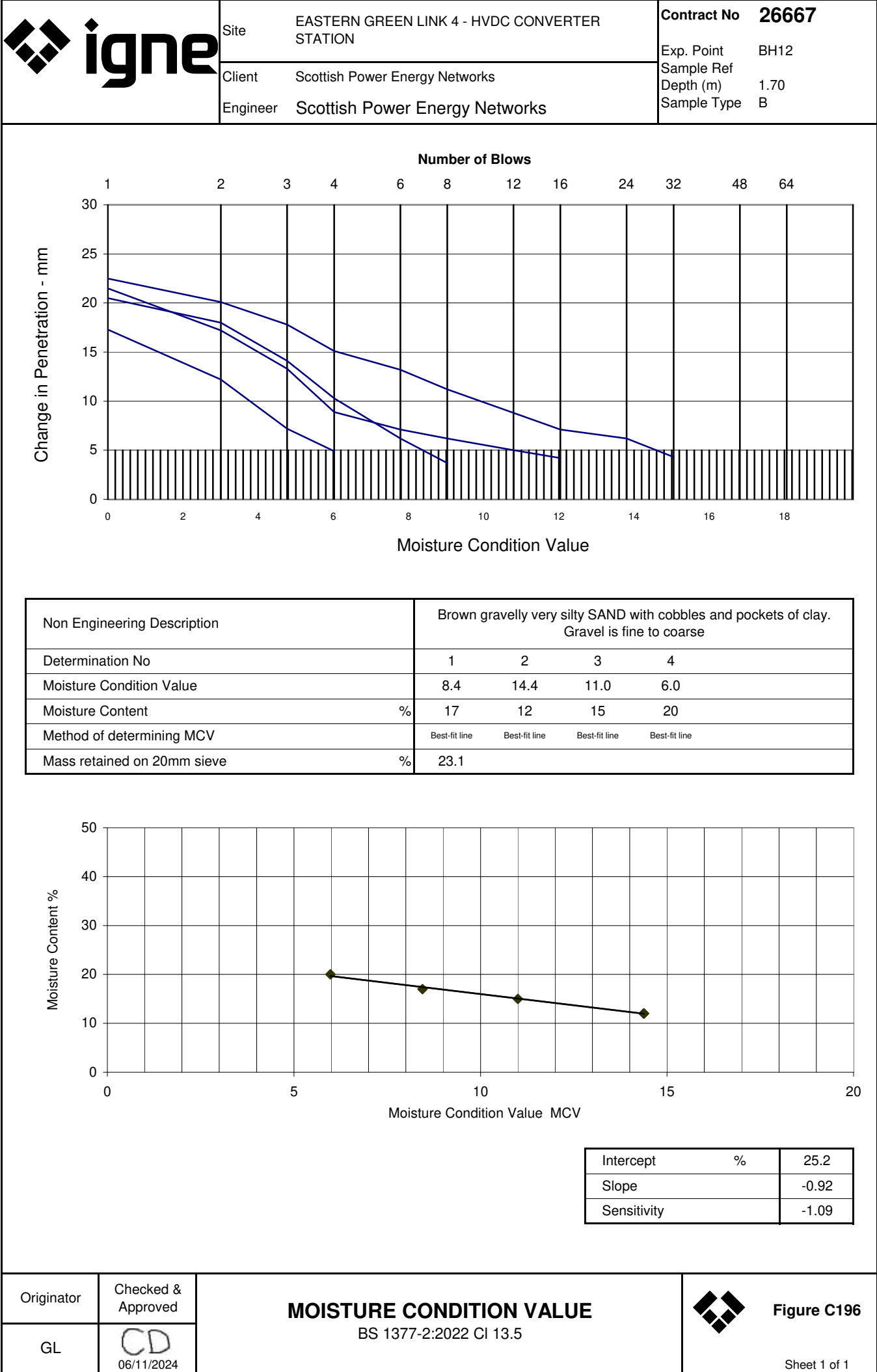


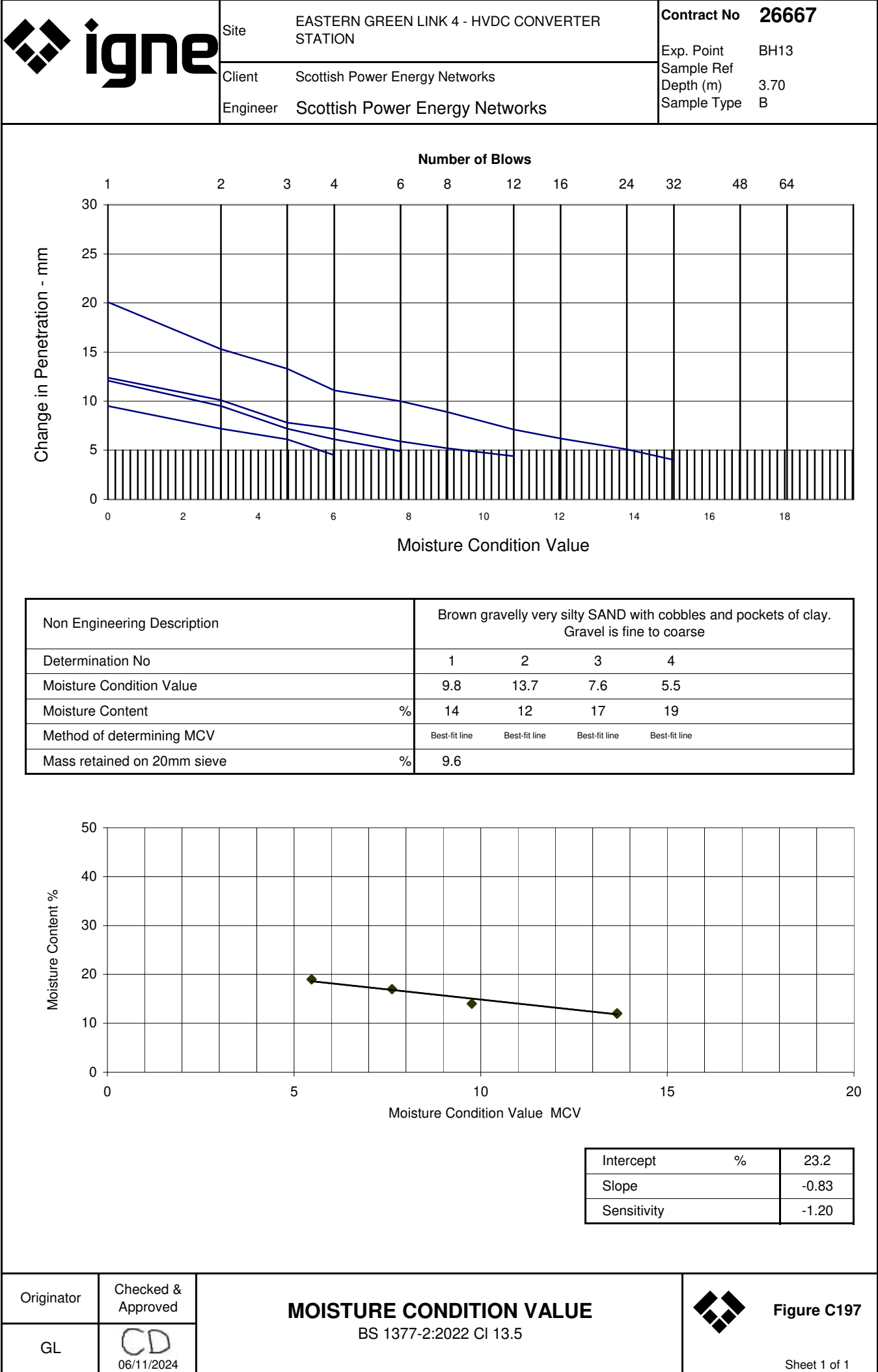
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
Client	Scottish Power Energy Networks	Hole	TP32
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.50
		Sample Type	B

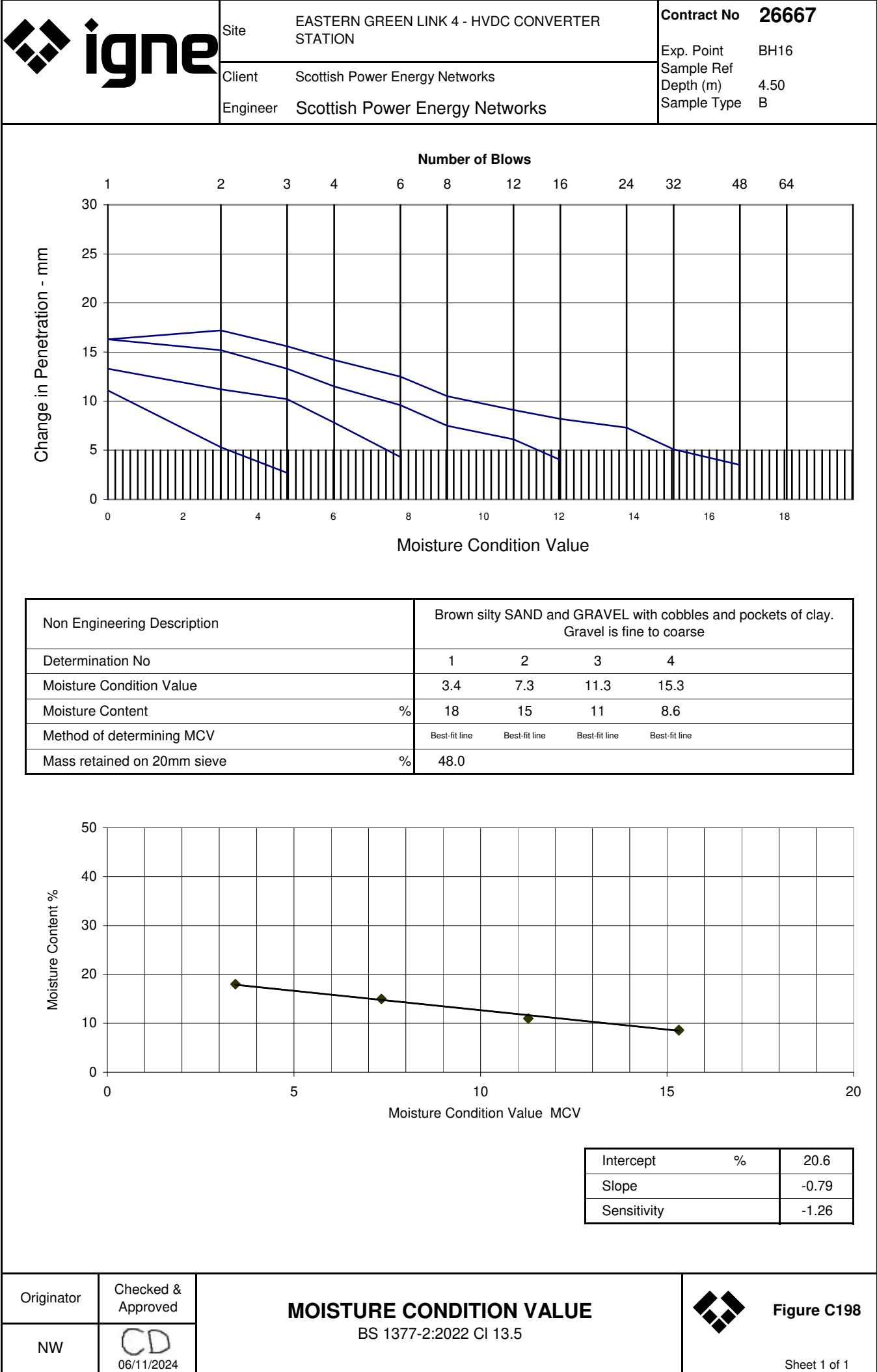


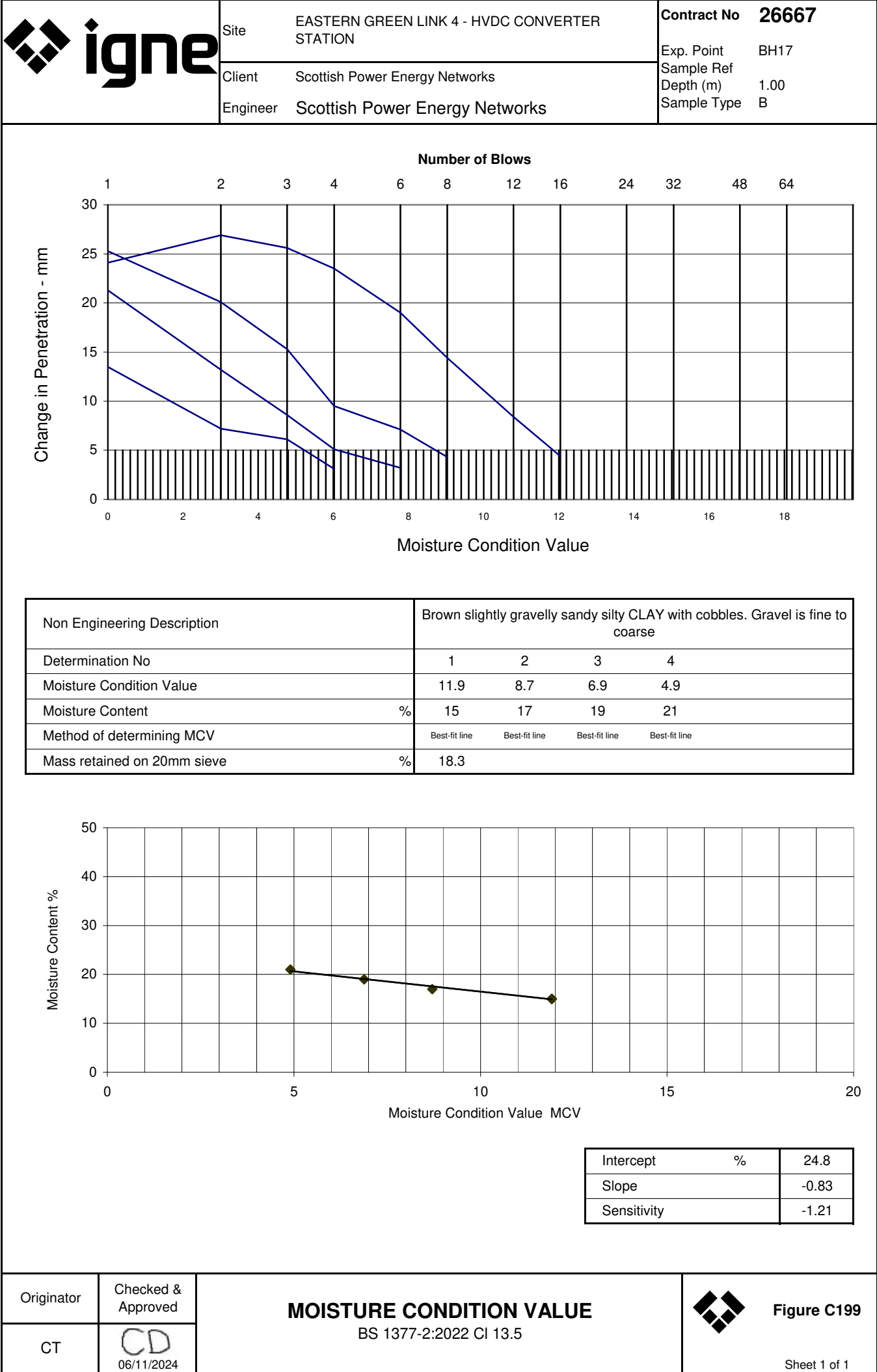
Non Engineering Description	Brown silty very sandy fine to coarse GRAVEL with cobble and pockets of clay
Preparation	Oven dried
Test Method	Compaction method using 4.5kg rammer with CBR mould
Samples Used	Single
Mass Retained on 37.5 mm Sieve	% 29
Mass Retained on 20.0 mm Sieve	% 46
Grading zone	x
Particle Density - Assumed	Mg/m³ 2.60
Natural Water Content	% 11
Maximum Dry Density	Mg/m³ 1.94
Optimum Water Content	% 9.3

Originator	Checked & Approved	Determination of dry density/water content relationship BS 1377-2: 2022 cl. 11.6	 Figure C195
BC	 06/11/2024		
Sheet 1 of 1			



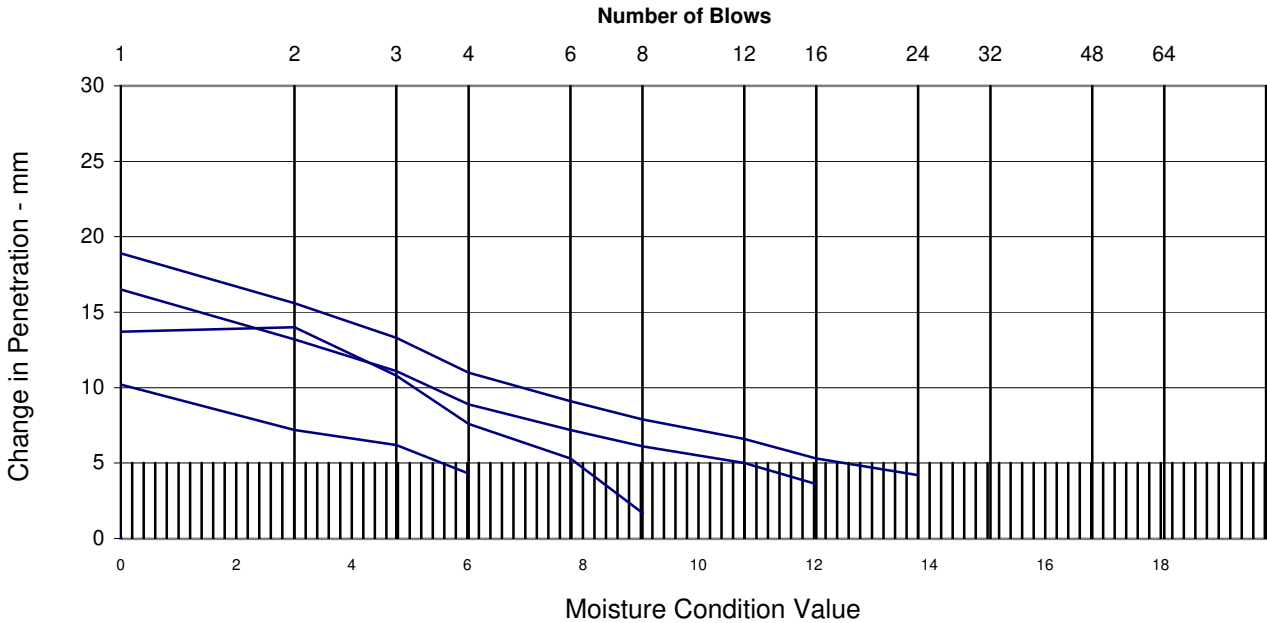




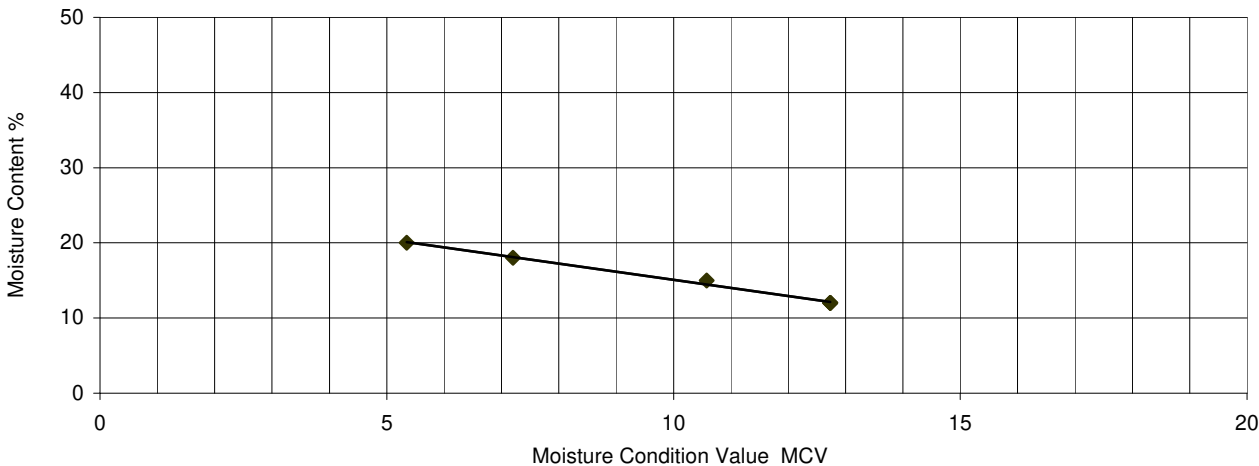




Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
Client	Scottish Power Energy Networks	Exp. Point	TP18
Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	3.00
		Sample Type	LB



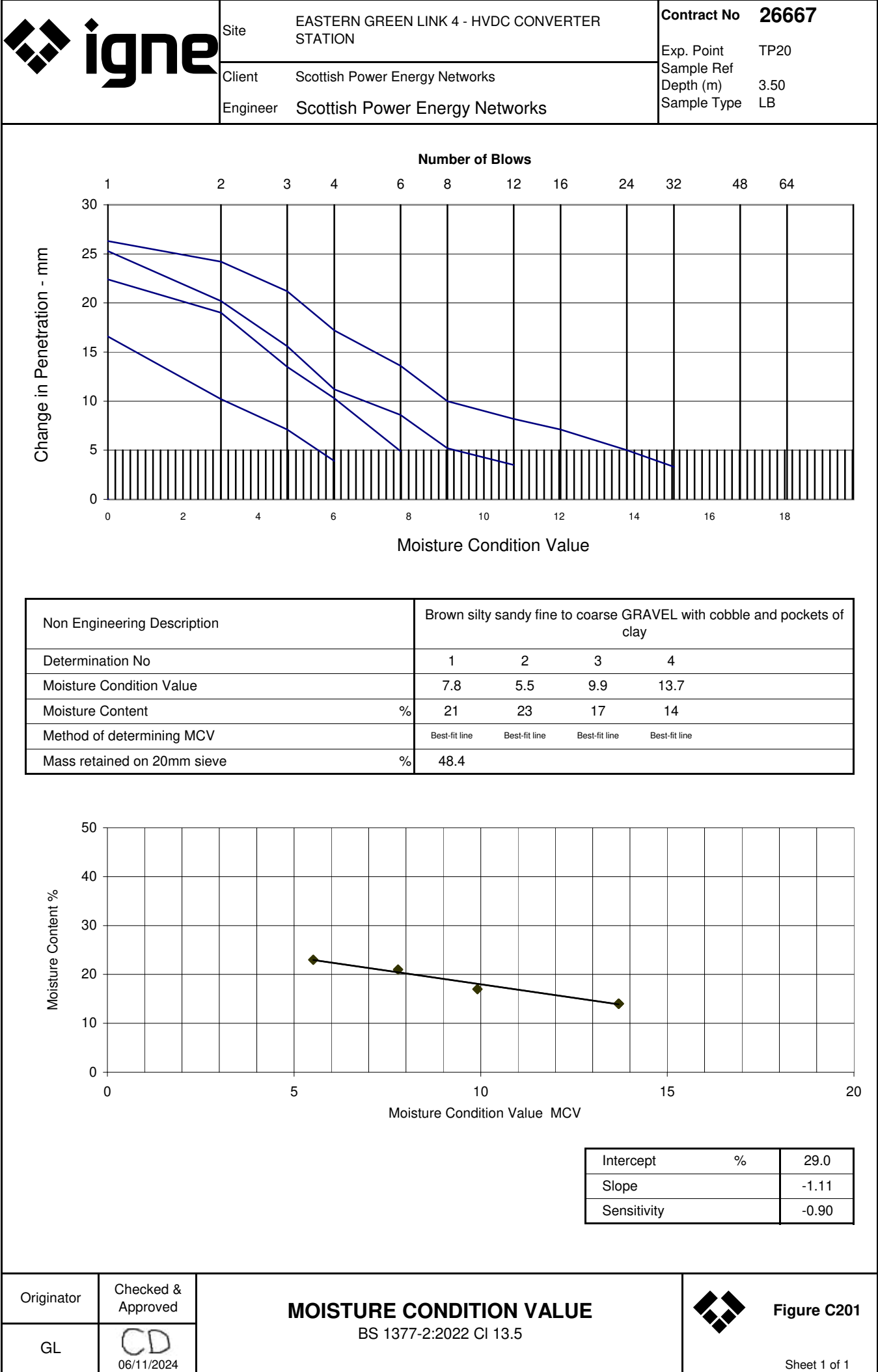
Non Engineering Description	Brown silty sandy fine to coarse GRAVEL with cobbles and pockets of clay				
Determination No	1	2	3	4	
Moisture Condition Value	7.2	5.3	10.6	12.7	
Moisture Content	%	18	20	15	12
Method of determining MCV	Best-fit line	Best-fit line	Best-fit line	Best-fit line	
Mass retained on 20mm sieve	%	28.8			

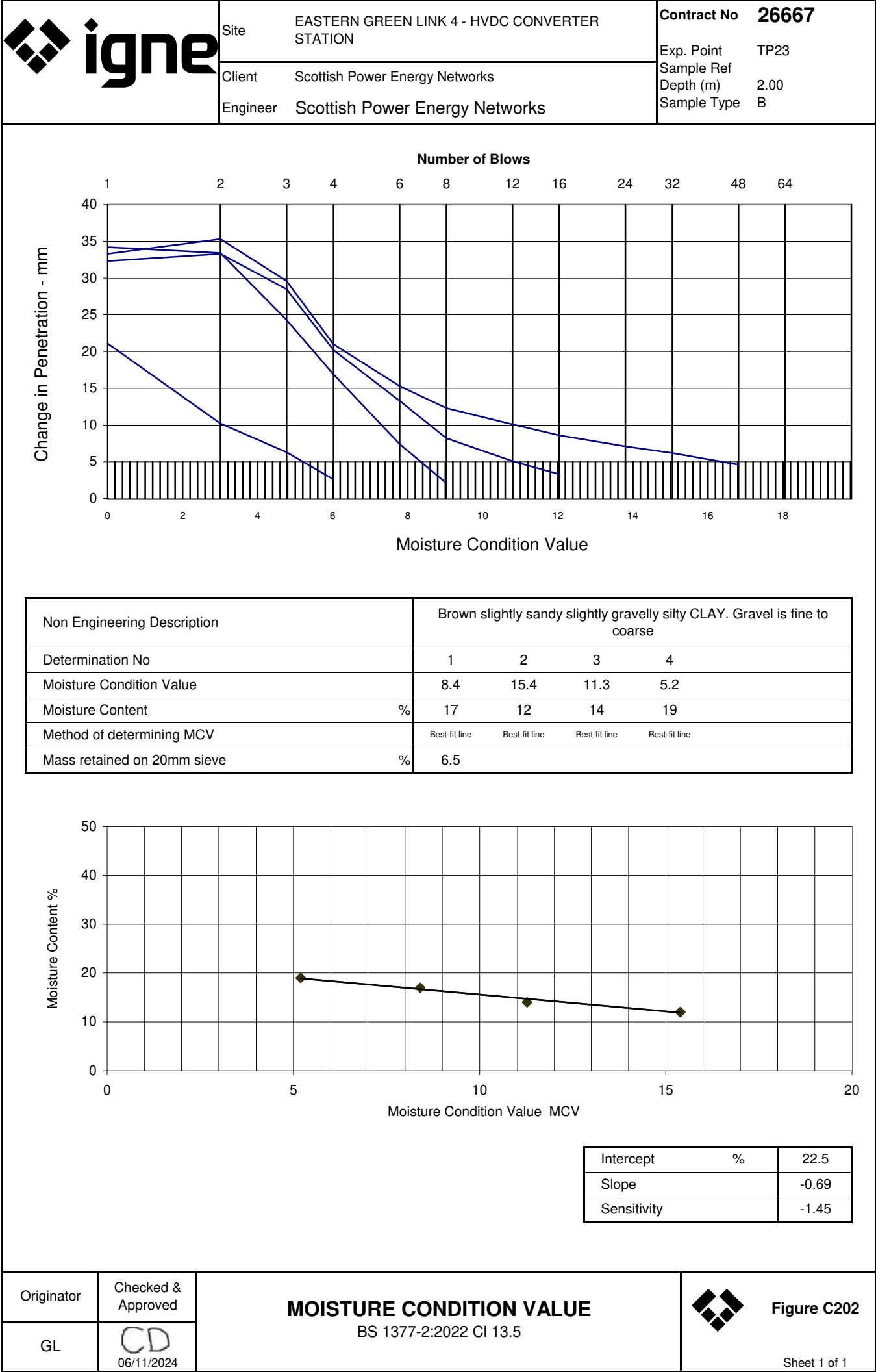


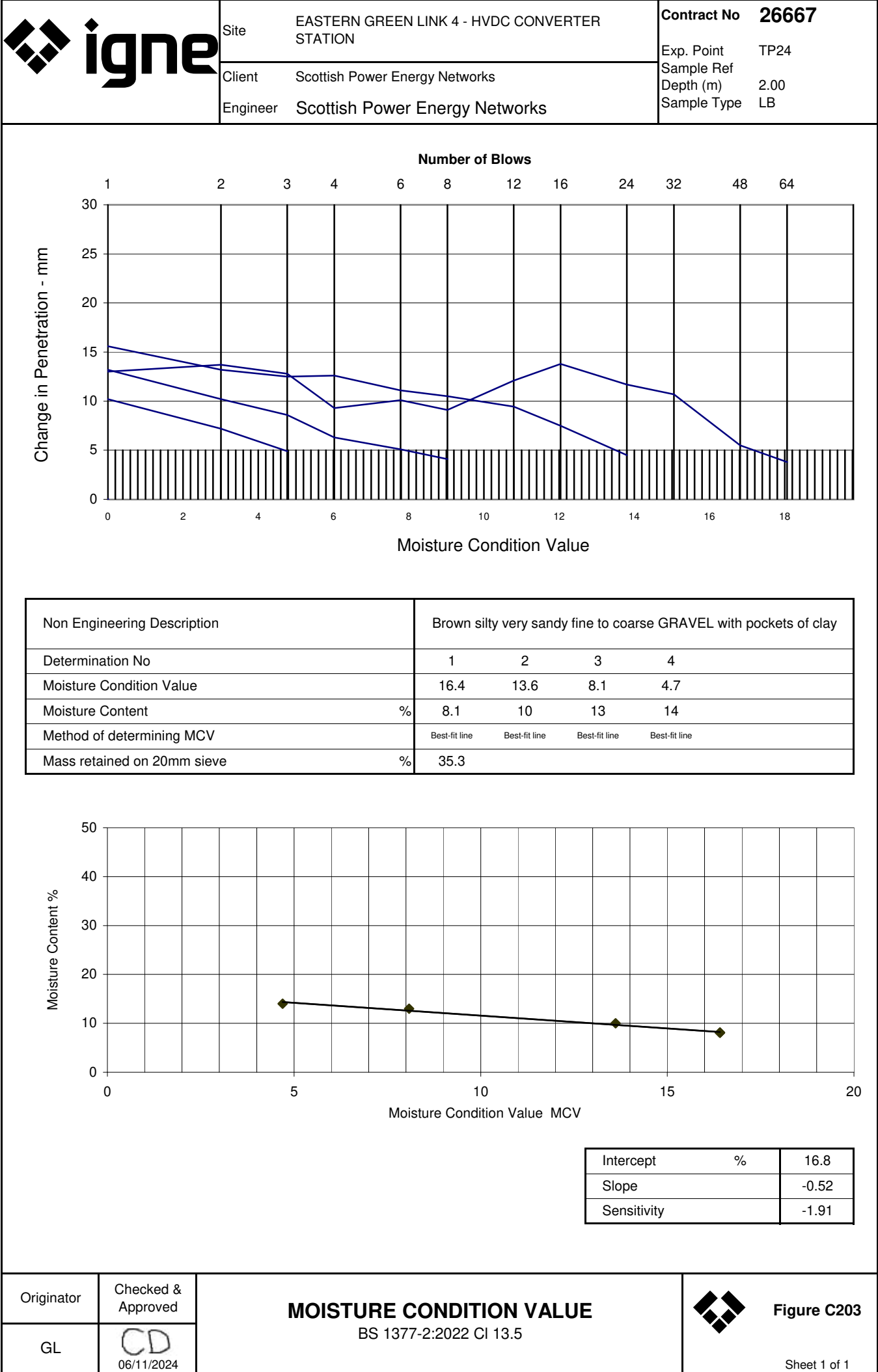
Intercept	%	25.9
Slope		-1.08
Sensitivity		-0.93

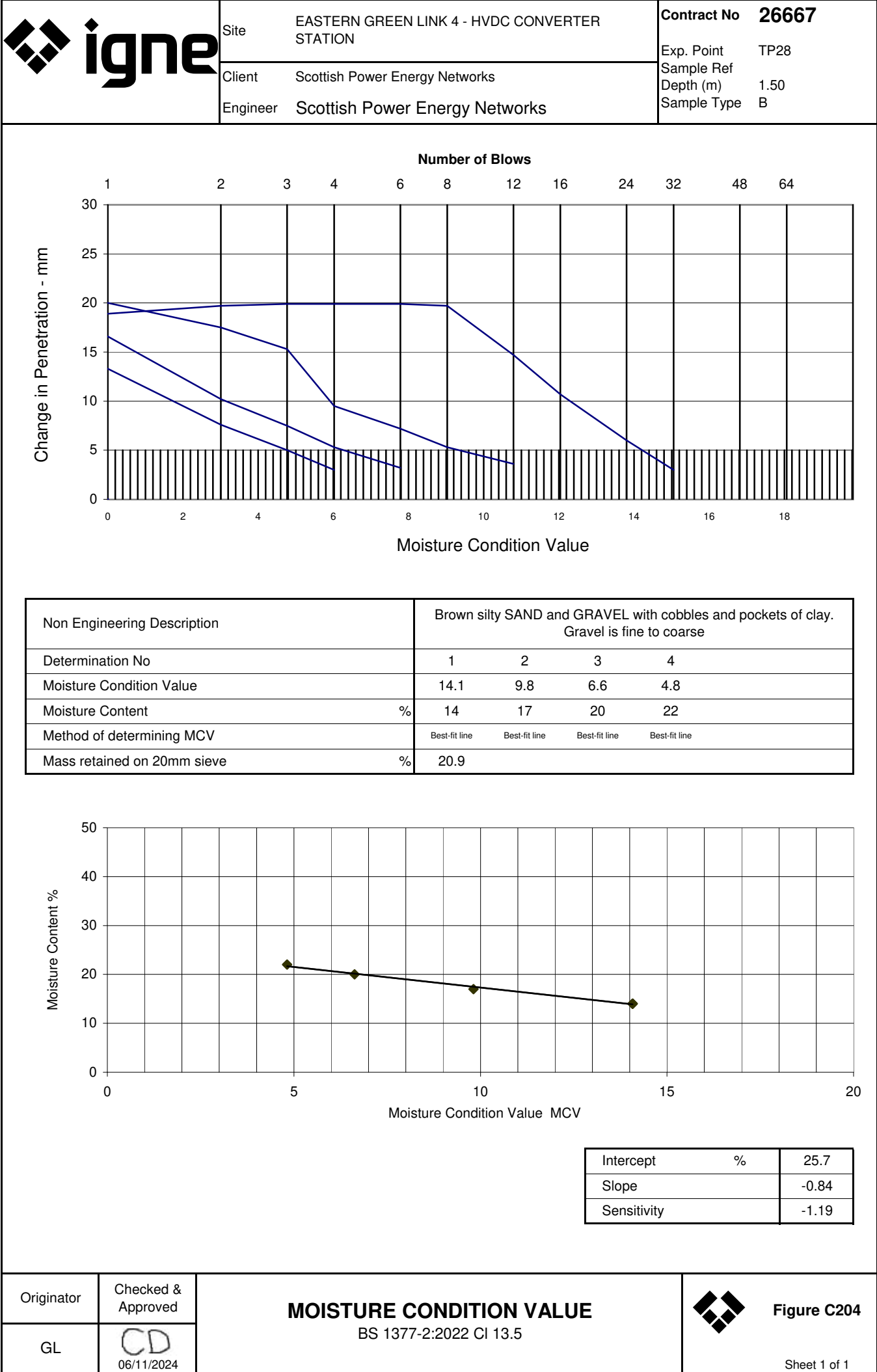
Originator	Checked & Approved	MOISTURE CONDITION VALUE BS 1377-2:2022 Cl 13.5	Figure C200
GL	CD 06/11/2024		

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Number of Blows

12

Change in Penetration - mm

15

Moisture Condition Value

10

Non Engineering Description	Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse				
Determination No	1	2	3	4	
Moisture Condition Value	14.1	9.8	6.6	4.8	
Moisture Content	%	14	17	20	22
Method of determining MCV	Best-fit line	Best-fit line	Best-fit line	Best-fit line	
Mass retained on 20mm sieve	%	20.9			

Moisture Content %

20

Moisture Condition Value MCV

10

Intercept	%	25.7
Slope		-0.84
Sensitivity		-1.19

Originator

GL

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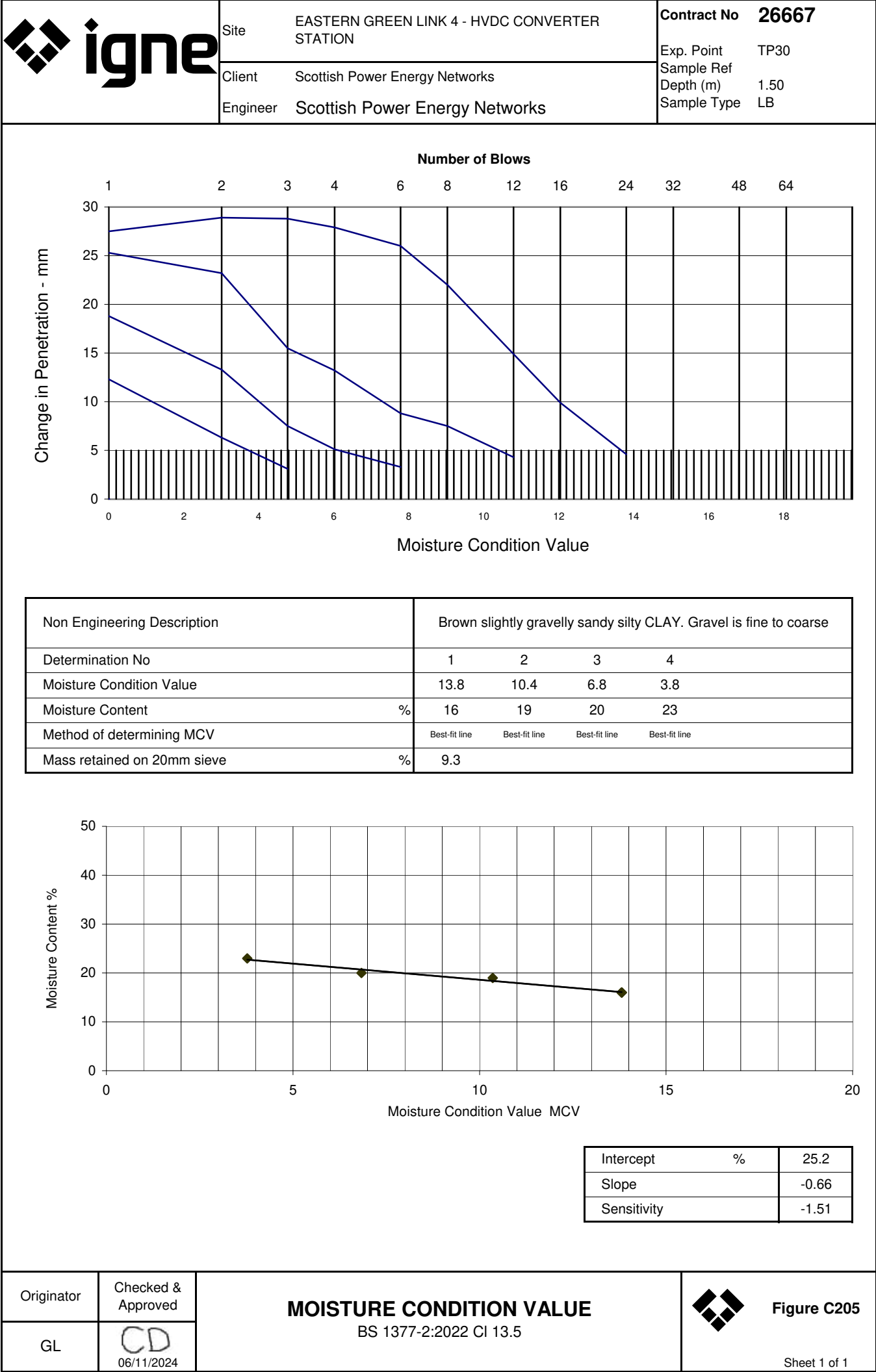
CD
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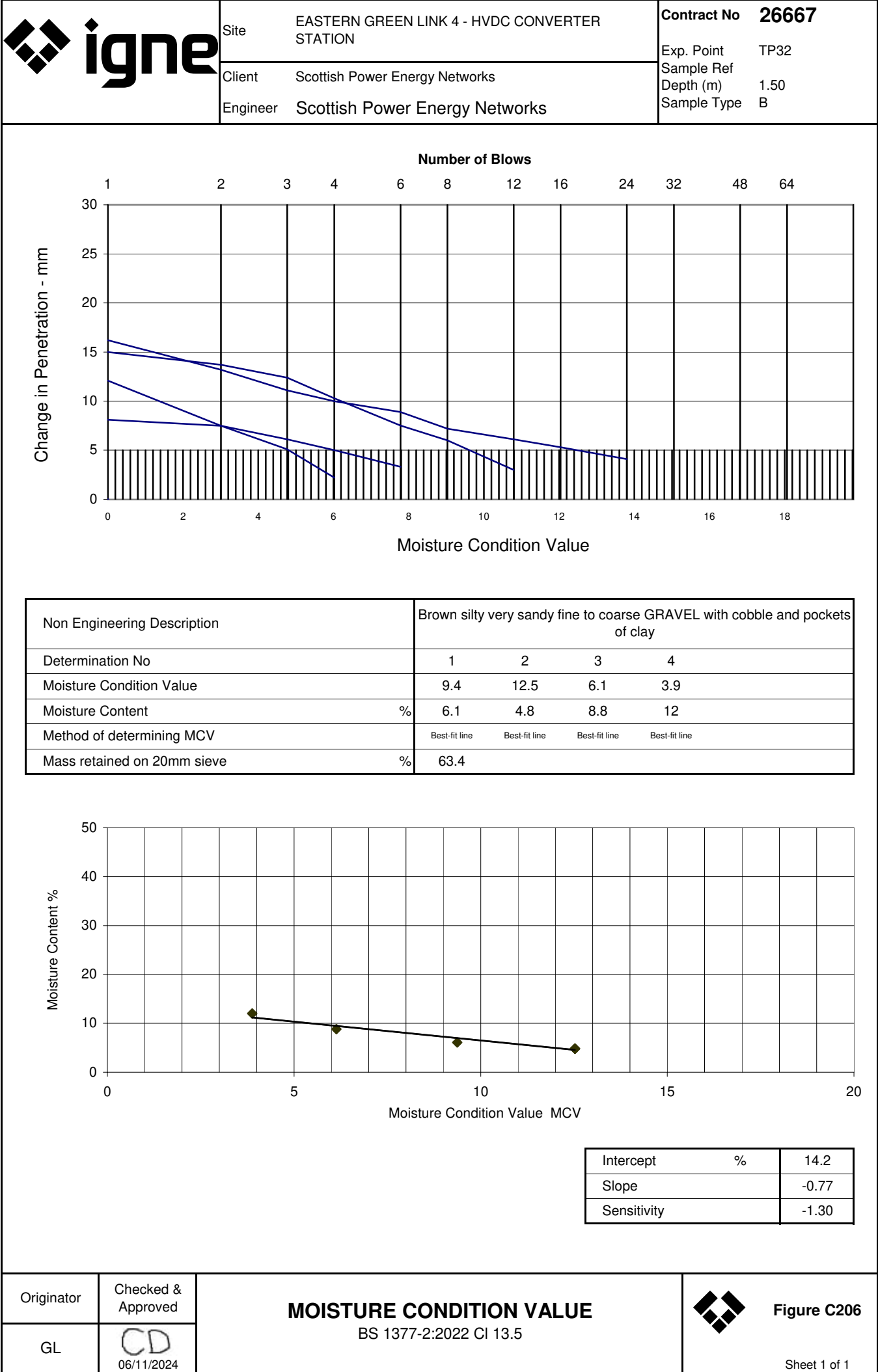
MOISTURE CONDITION VALUE

BS 1377-2:2022 Cl 13.5

 **Figure C204**

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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	BH01
Sample No	
Depth (m)	0.50
Sample Type	B

Non Engineering Description:

Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 1.97 Mg/m³Specimen Dry Density 1.68 Mg/m³

Mass of sample > 20 mm 5.3 %

Specimen Unsoaked

Test Details:

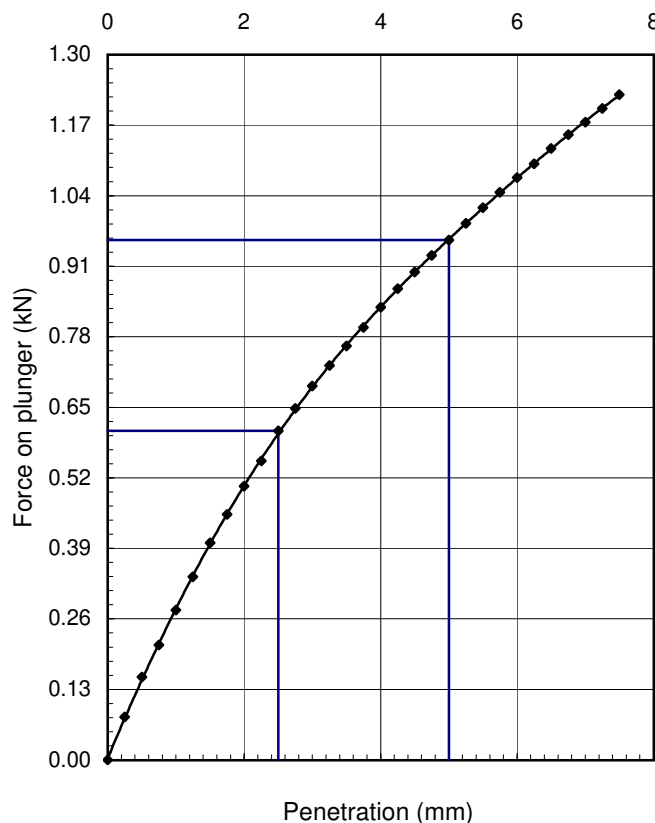
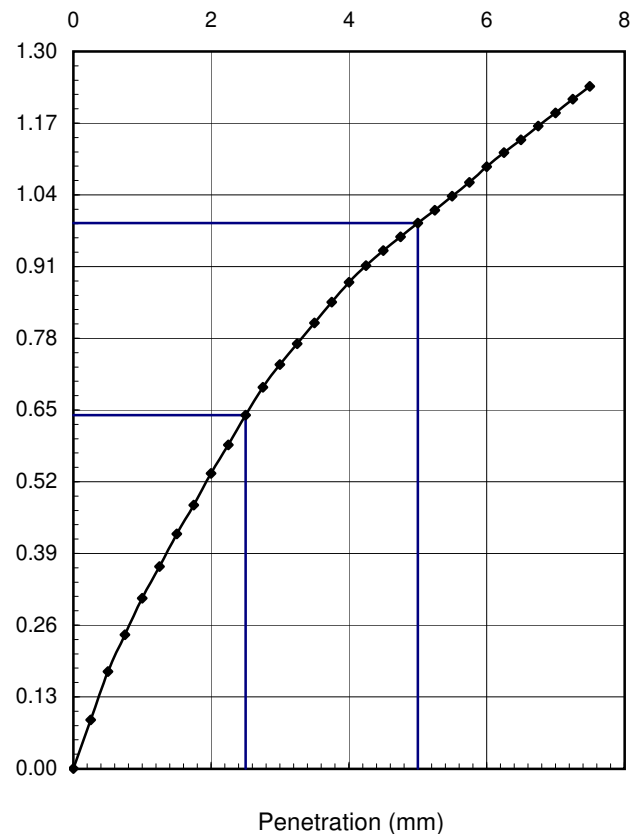
	Top
Surcharge:	2.0 kg
Seating Load:	10 N
Moisture Content:	17 %

Base

	Base
Surcharge:	2.0 kg
Seating Load:	10 N
Moisture Content:	18 %

CBR Value: 4.8 %

4.9 %

Top of Specimen
Penetration (mm)Base of Specimen
Penetration (mm)

Originator

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Figure No C207

Sheet 1 of 1

	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	BH05
	Engineer	Scottish Power Energy Networks	Sample No	
			Depth (m)	0.50
			Sample Type	B

Non Engineering Description:

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

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 1.93 Mg/m³

Specimen Dry Density 1.57 Mg/m³

Mass of sample > 20 mm 13.5 %

Specimen Unsoaked

Test Details:

Top

Surcharge: 2.0 kg

Seating Load: 10 N

Moisture Content: 23 %

Base

2.0 kg

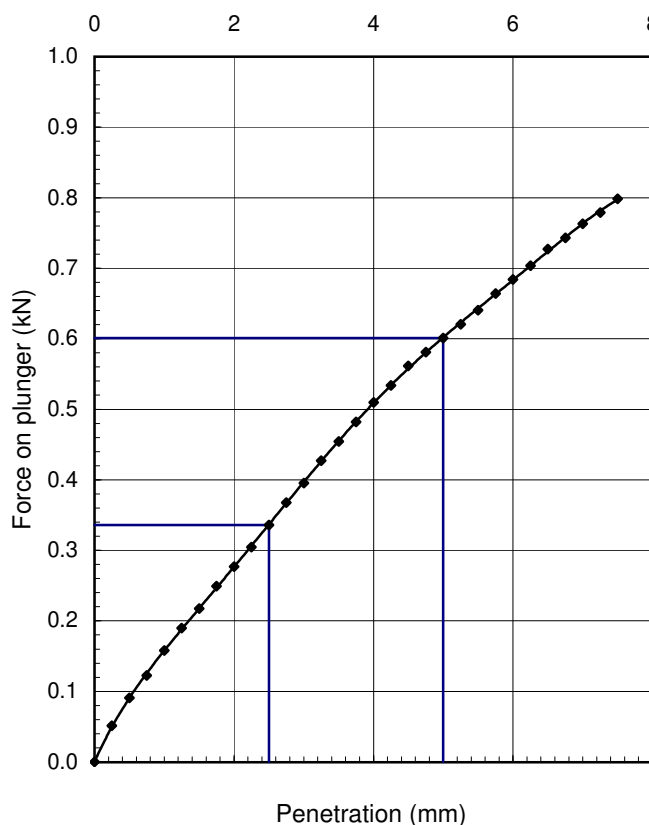
10 N

24 %

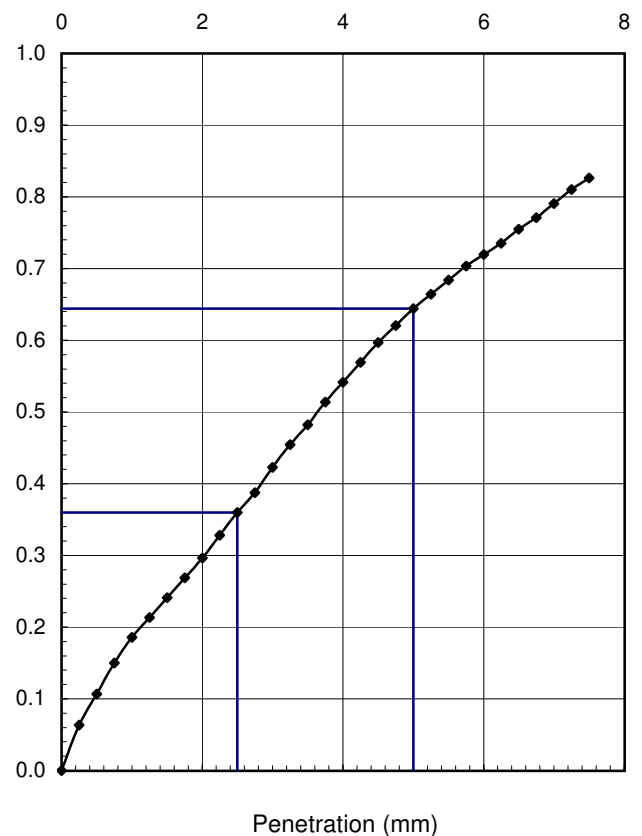
CBR Value: 3.0 %

3.2 %

Top of Specimen
Penetration (mm)



Base of Specimen
Penetration (mm)



Originator	Checked & Approved	CALIFORNIA BEARING RATIO BS1377 : Part 4 : Clause 7 : 1990	 Figure No C208
NW	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	BH06
Sample No	
Depth (m)	0.50
Sample Type	B

Non Engineering Description:

Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 1.98 Mg/m³Specimen Dry Density 1.63 Mg/m³

Mass of sample > 20 mm 16.0 %

Specimen Unsoaked

Test Details:

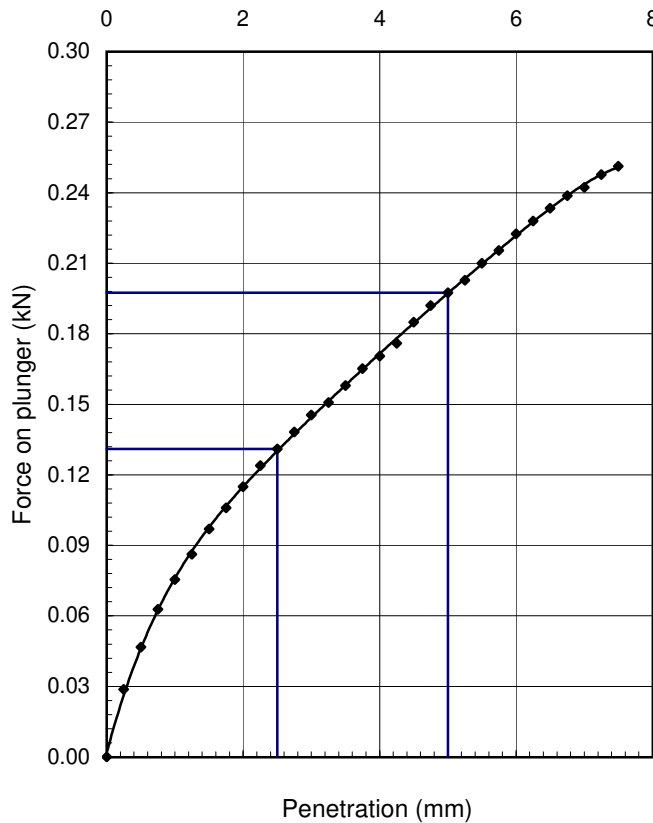
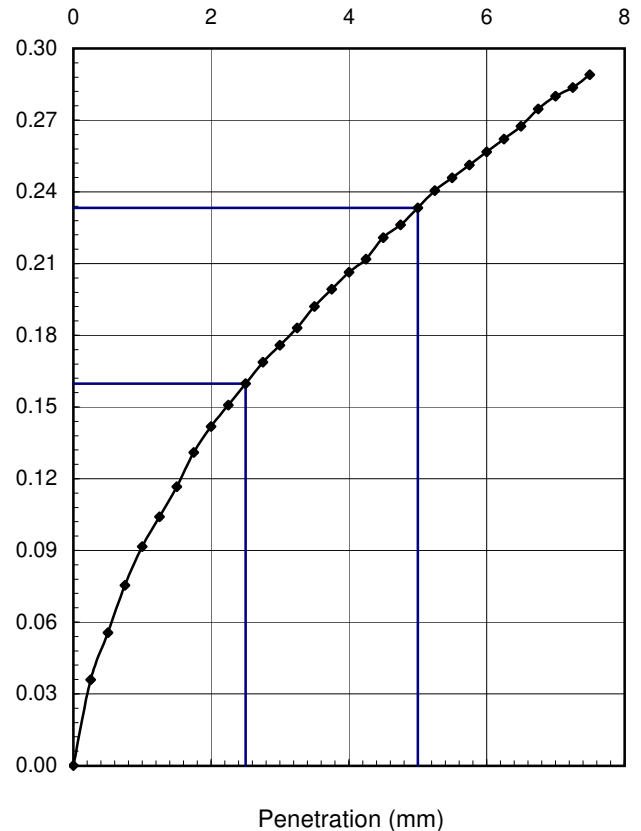
	Top	
Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	22	%

Base

Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	21	%

CBR Value: 1.0 %

1.2 %

Top of Specimen
Penetration (mm)Base of Specimen
Penetration (mm)

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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	BH09
Sample No	
Depth (m)	0.50
Sample Type	B+D

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

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.07 Mg/m³

Specimen Dry Density 1.71 Mg/m³

Mass of sample > 20 mm 38.0 %

Specimen Unsoaked

Test Details:

Top
Surcharge: 2.0 kg
Seating Load: 50 N
Moisture Content: 20 %

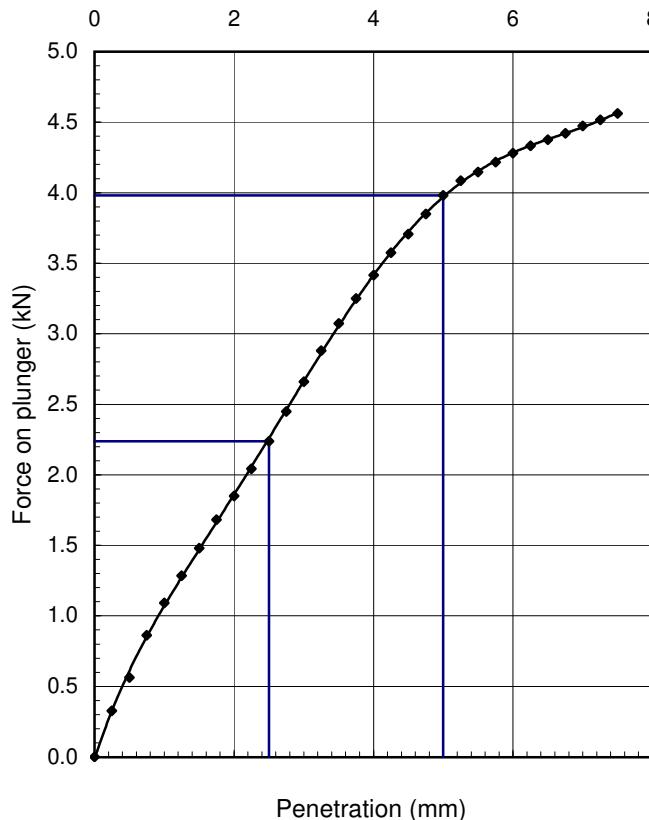
Base

2.0 kg
50 N
21 %

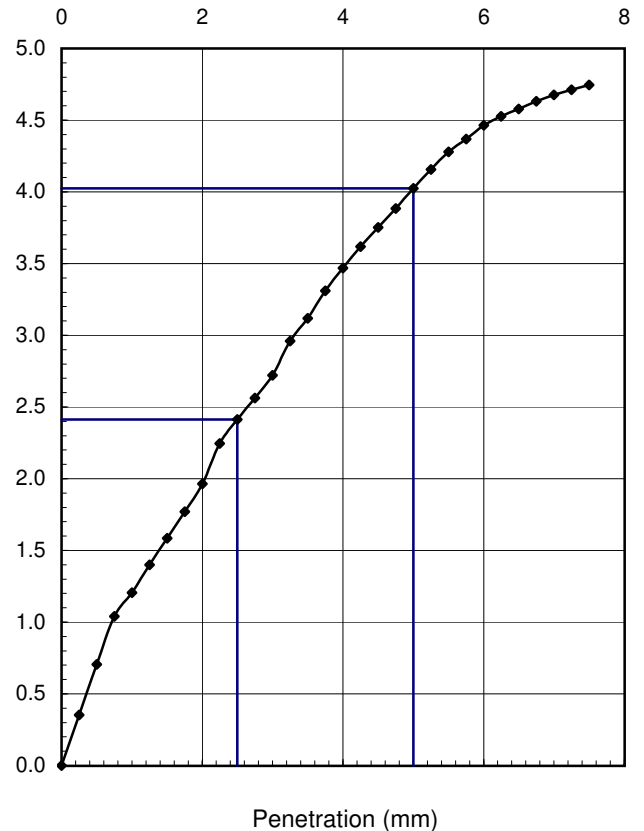
CBR Value: 19.9 %

20.1 %

Top of Specimen
Penetration (mm)



Base of Specimen
Penetration (mm)



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

Originator	Checked & Approved	CALIFORNIA BEARING RATIO BS1377 : Part 4 : Clause 7 : 1990	 Figure No C210
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	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	BH10
	Engineer	Scottish Power Energy Networks	Sample No	
			Depth (m)	0.40
			Sample Type	B

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

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 1.96 Mg/m³

Specimen Dry Density 1.63 Mg/m³

Mass of sample > 20 mm 28.8 %

Specimen Unsoaked

Test Details:

Surcharge: 2.0 kg

Seating Load: 10 N

Moisture Content: 20 %

Base

2.0 kg

10 N

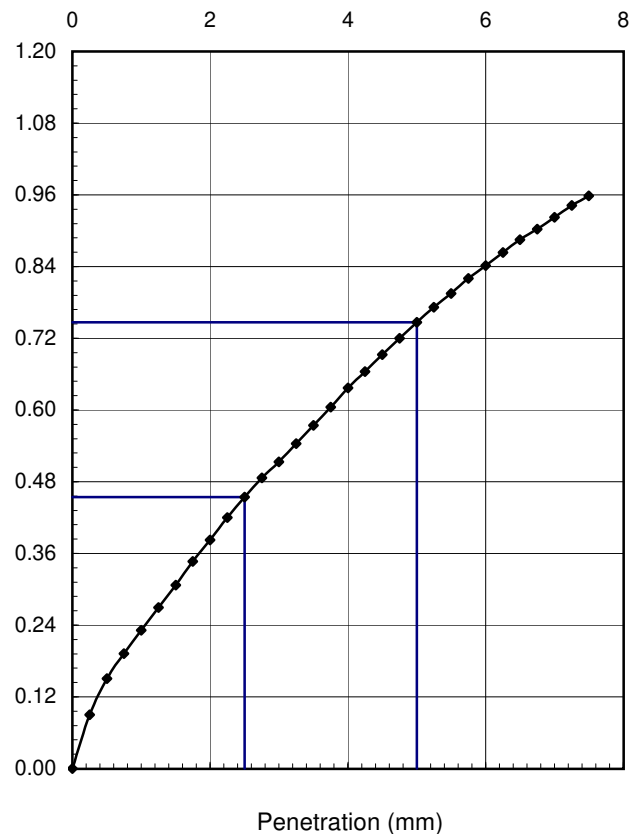
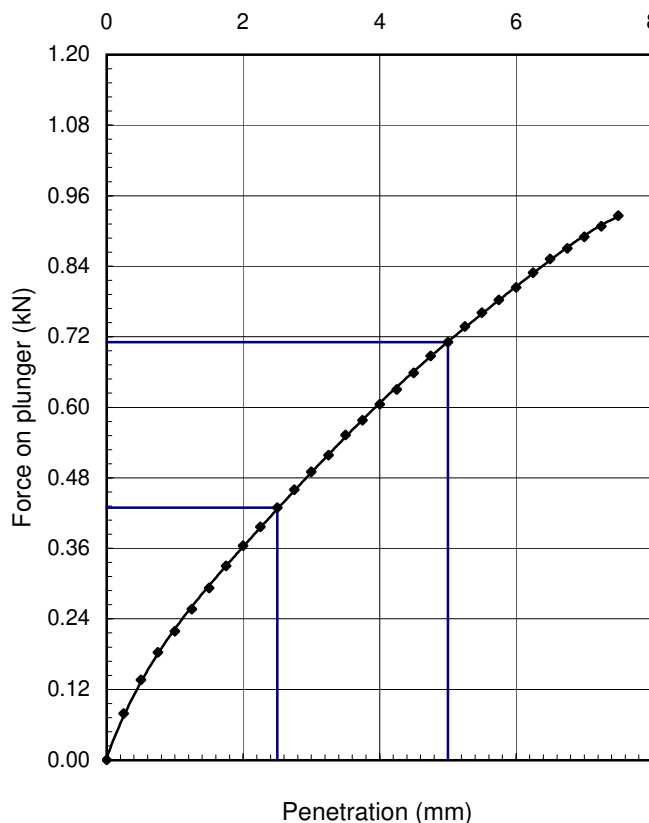
20 %

CBR Value: 3.6 %

3.7 %

Top of Specimen
Penetration (mm)

Base of Specimen
Penetration (mm)



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

Originator	Checked & Approved	CALIFORNIA BEARING RATIO BS1377 : Part 4 : Clause 7 : 1990	 Figure No C211
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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
Client	Scottish Power Energy Networks	Hole ID	BH14
Engineer	Scottish Power Energy Networks	Sample No	
		Depth (m)	0.50
		Sample Type	B

Non Engineering Description:

Brown slightly gravelly sandy silty CLAY with cobbles. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.09 Mg/m³

Specimen Dry Density 1.83 Mg/m³

Mass of sample > 20 mm 12.7 %

Specimen Unsoaked

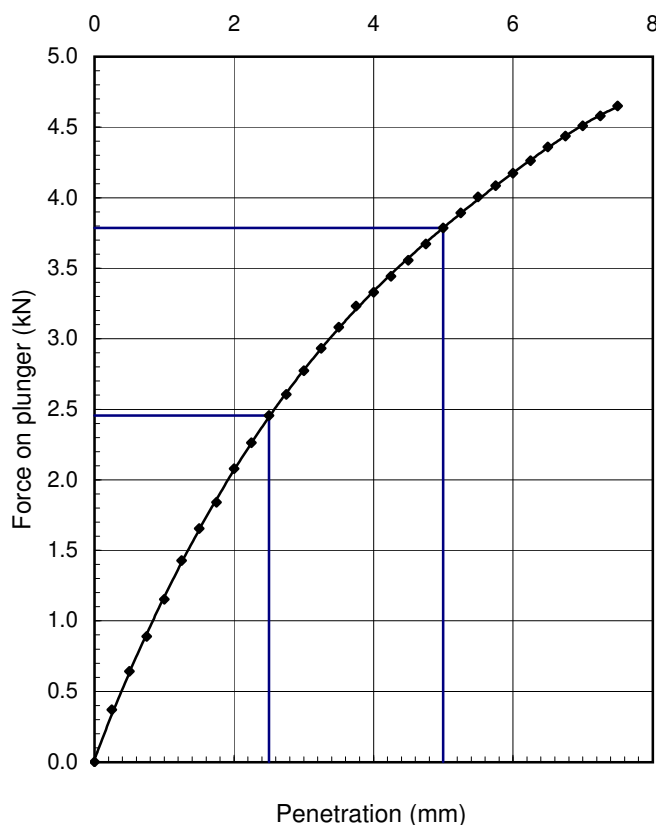
Test Details:

	Top		Base	
Surcharge:	2.0	kg	2.0	kg
Seating Load:	50	N	50	N
Moisture Content:	14	%	15	%

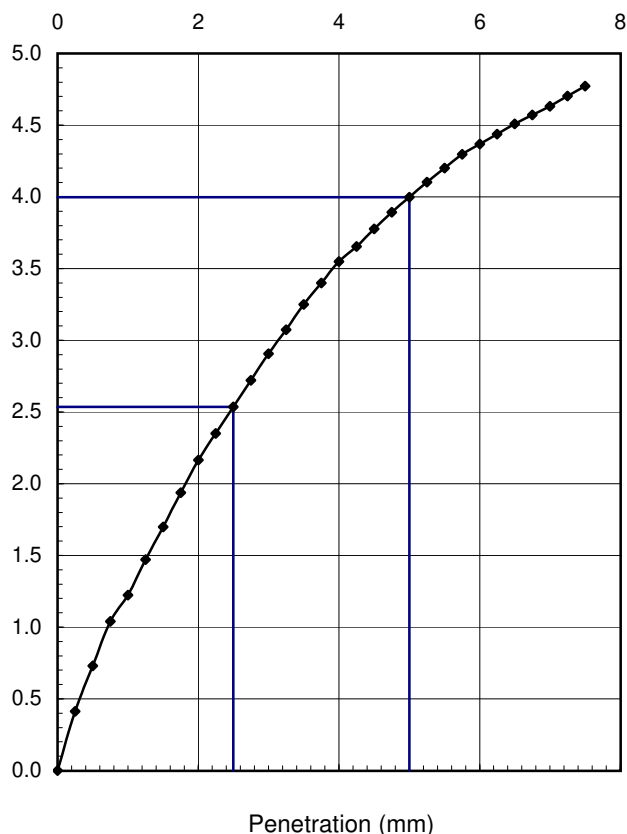
CBR Value: 18.9 %

20.0 %

Top of Specimen
Penetration (mm)



Base of Specimen
Penetration (mm)



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	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	BH15
	Engineer	Scottish Power Energy Networks	Sample No	
			Depth (m)	0.50
			Sample Type	B

Non Engineering Description: Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.03 Mg/m³

Specimen Dry Density 1.75 Mg/m³

Mass of sample > 20 mm 3.2 %

Specimen Unsoaked

Test Details:

Surcharge: 2.0 kg

Seating Load: 50 N

Moisture Content: 16 %

Base

2.0 kg

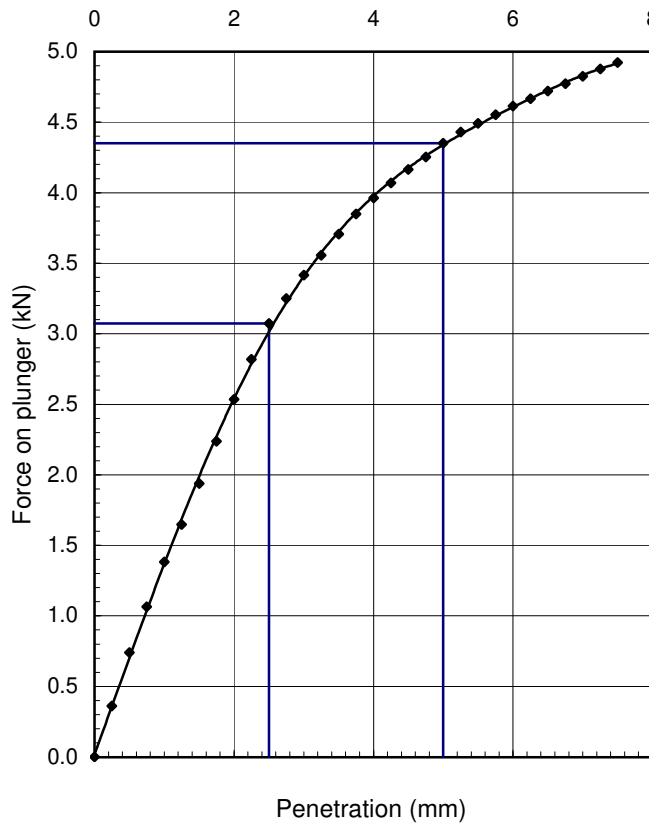
50 N

16 %

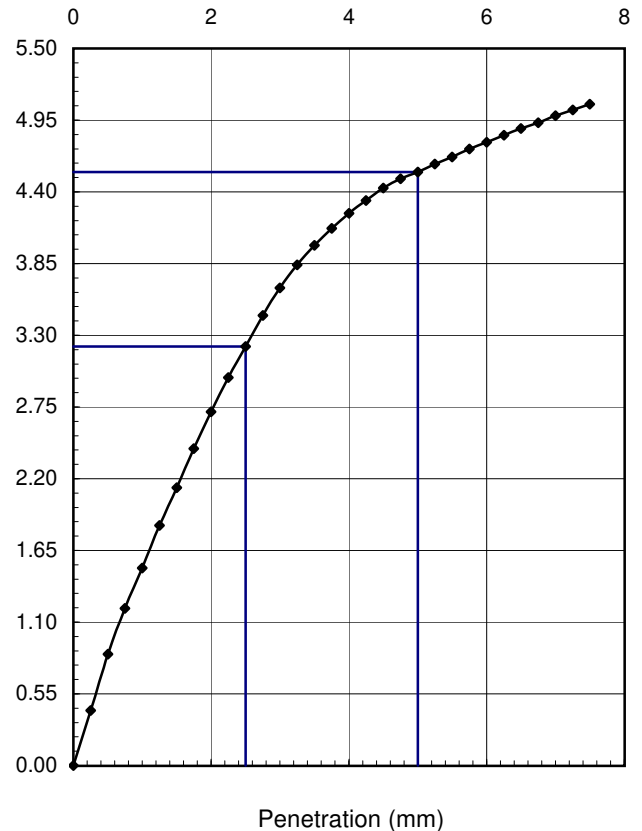
CBR Value: 23.3 %

24.3 %

Top of Specimen
Penetration (mm)



Base of Specimen
Penetration (mm)



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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	BH16
Sample No	
Depth (m)	0.50
Sample Type	B

Non Engineering Description:

Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.06 Mg/m³Specimen Dry Density 1.76 Mg/m³

Mass of sample > 20 mm 2.8 %

Specimen Unsoaked

Test Details:

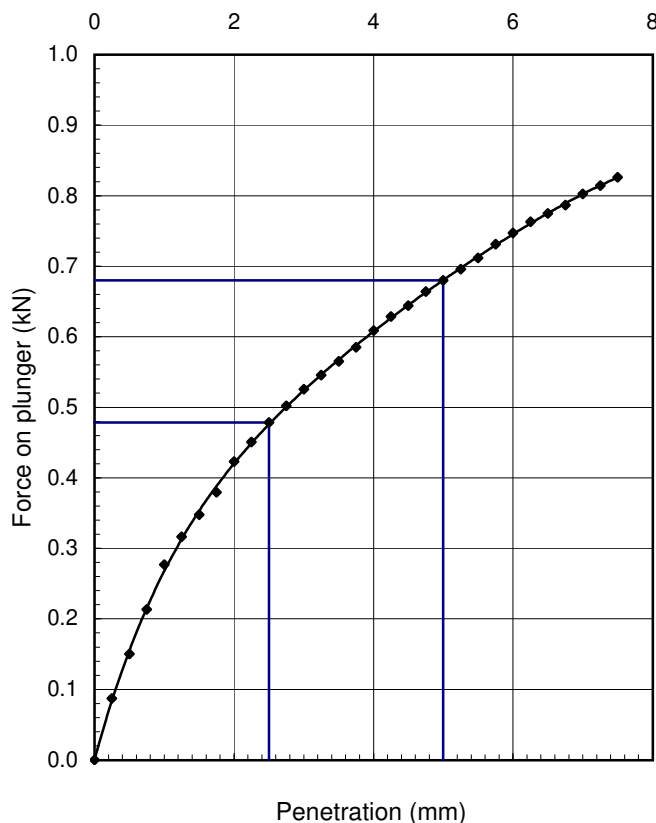
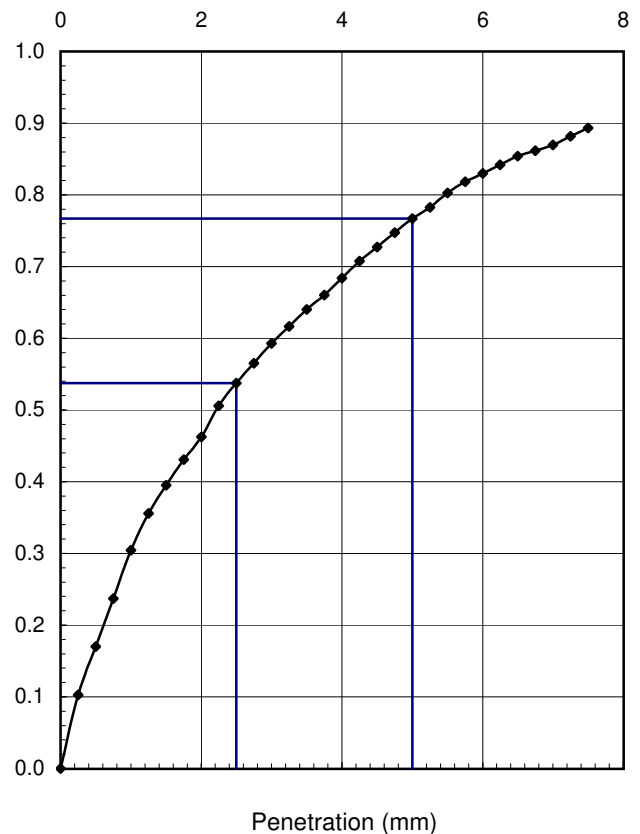
	Top	
Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	17	%

Base

Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	16	%

CBR Value: 3.6 %

4.1 %

Top of Specimen
Penetration (mm)Base of Specimen
Penetration (mm)

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	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	TP04
	Engineer	Scottish Power Energy Networks	Sample No	
			Depth (m)	0.50
			Sample Type	B

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

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 1.78 Mg/m³

Specimen Dry Density 1.42 Mg/m³

Mass of sample > 20 mm 13.6 %

Specimen Unsoaked

Test Details:

Surcharge: 2.0 kg

Seating Load: 10 N

Moisture Content: 25 %

Base

2.0 kg

10 N

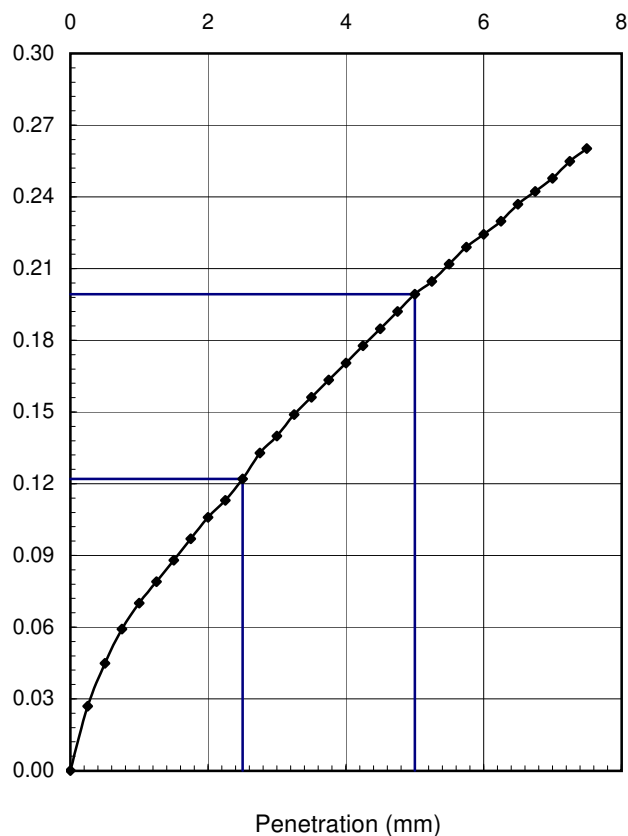
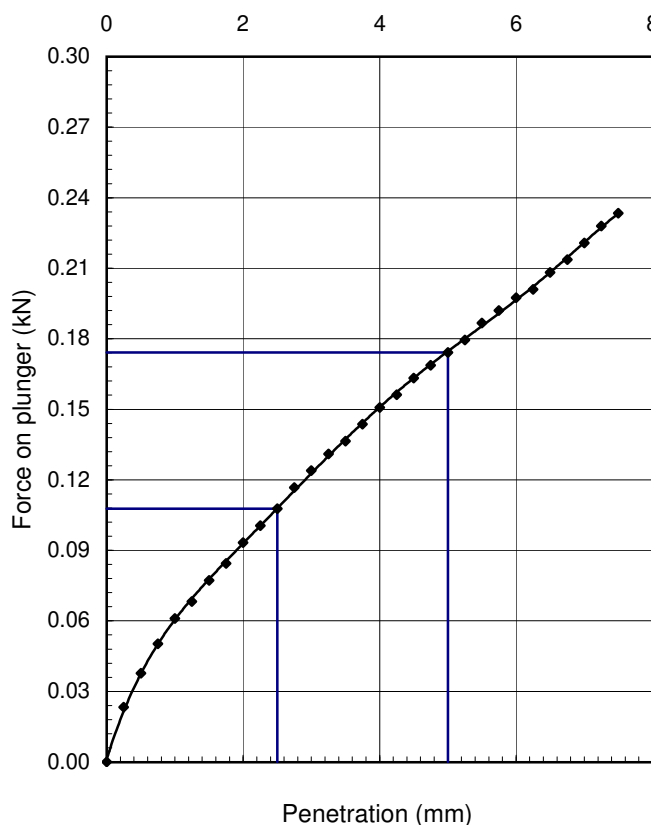
26 %

CBR Value: 0.9 %

1.0 %

Top of Specimen
Penetration (mm)

Base of Specimen
Penetration (mm)



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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	TP06
Sample No	
Depth (m)	0.50
Sample Type	B

Non Engineering Description:

Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 1.91 Mg/m³Specimen Dry Density 1.53 Mg/m³

Mass of sample > 20 mm 7.2 %

Specimen Unsoaked

Test Details:

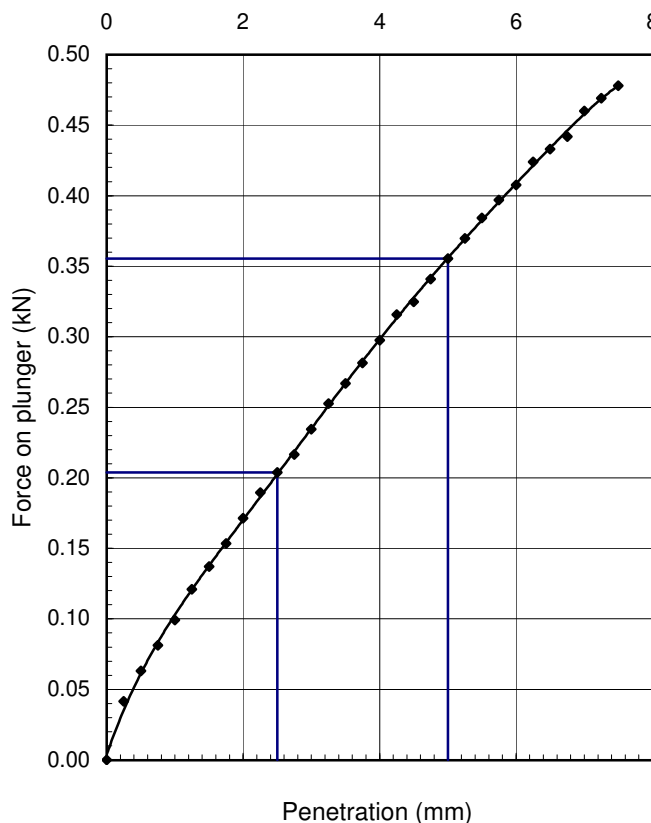
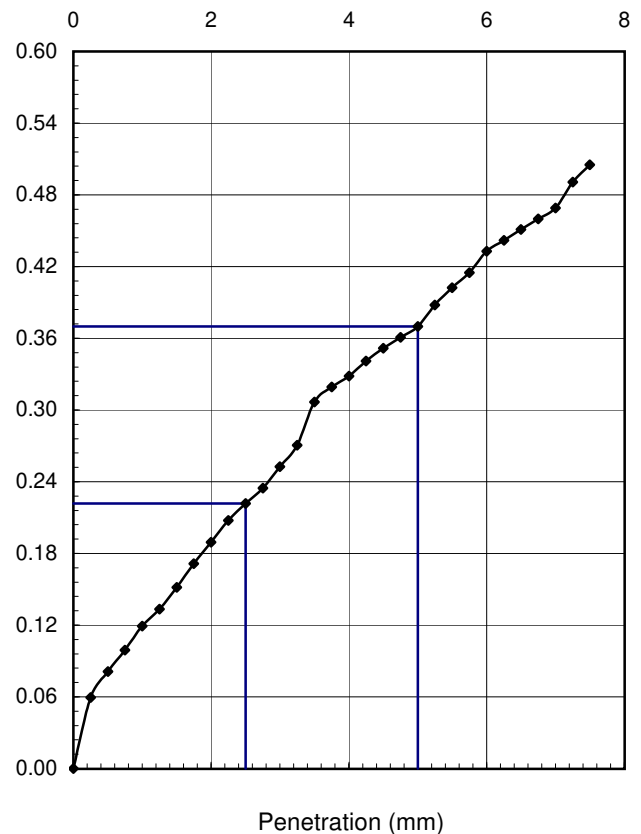
	Top	
Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	24	%

Base

Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	25	%

CBR Value: 1.8 %

1.8 %

Top of Specimen
Penetration (mm)Base of Specimen
Penetration (mm)

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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	TP09
Sample No	
Depth (m)	0.50
Sample Type	B

Non Engineering Description:

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

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.01 Mg/m³

Specimen Dry Density 1.72 Mg/m³

Mass of sample > 20 mm 32.6 %

Specimen Unsoaked

Test Details:**Top**

Surcharge: 2.0 kg

Seating Load: 10 N

Moisture Content: 17 %

Base

2.0 kg

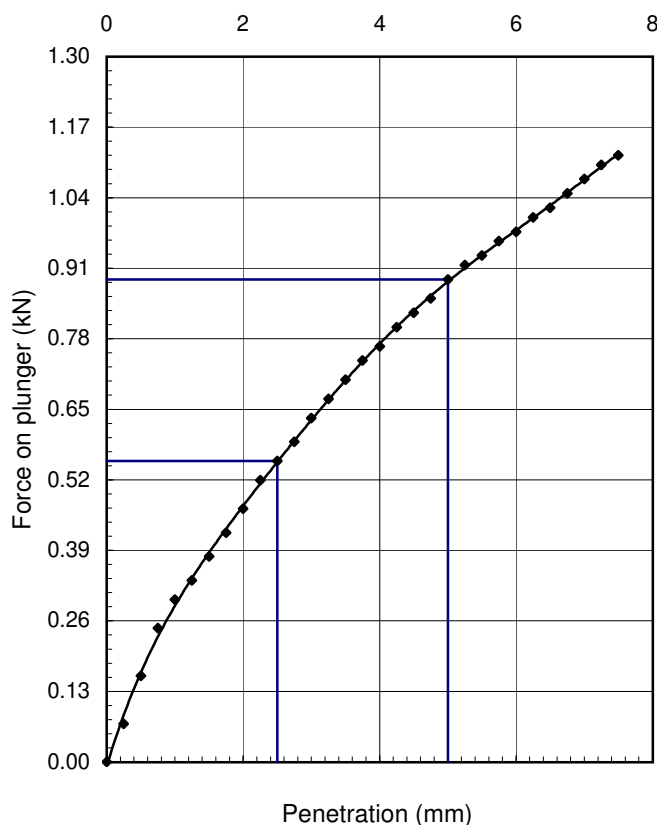
10 N

16 %

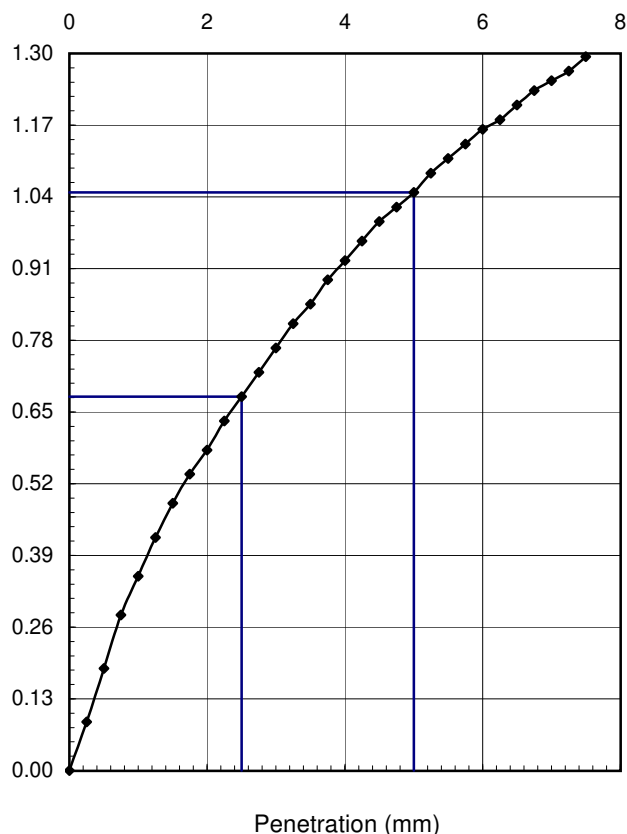
CBR Value: 4.4 %

5.2 %

Top of Specimen
Penetration (mm)



Base of Specimen
Penetration (mm)



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Figure No C217

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	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	TP13
	Engineer	Scottish Power Energy Networks	Sample No	
			Depth (m)	2.00
			Sample Type	B

Non Engineering Description: Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.06 Mg/m³

Specimen Dry Density 1.77 Mg/m³

Mass of sample > 20 mm 19.0 %

Specimen Unsoaked

Test Details:

Surcharge: 2.0 kg

Seating Load: 10 N

Moisture Content: 16 %

Base

2.0 kg

10 N

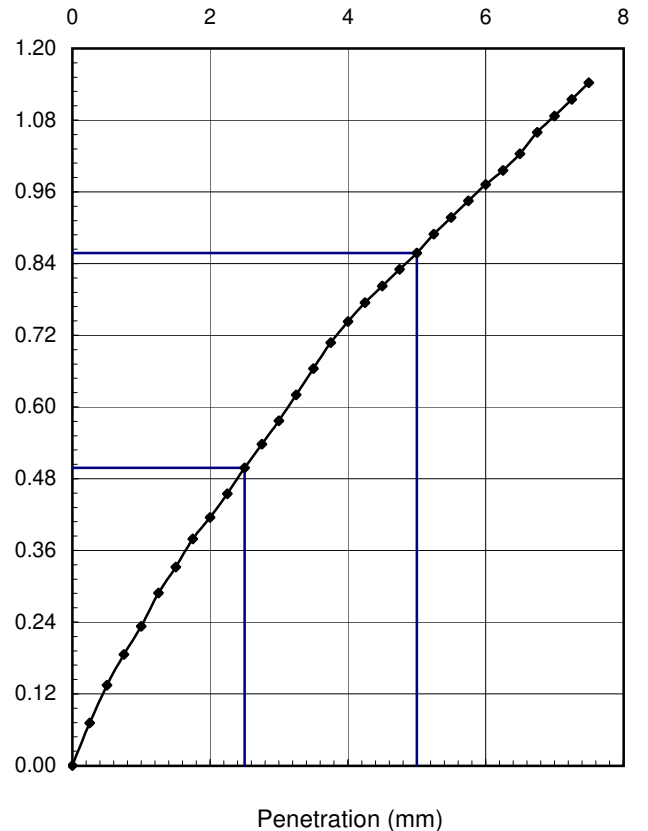
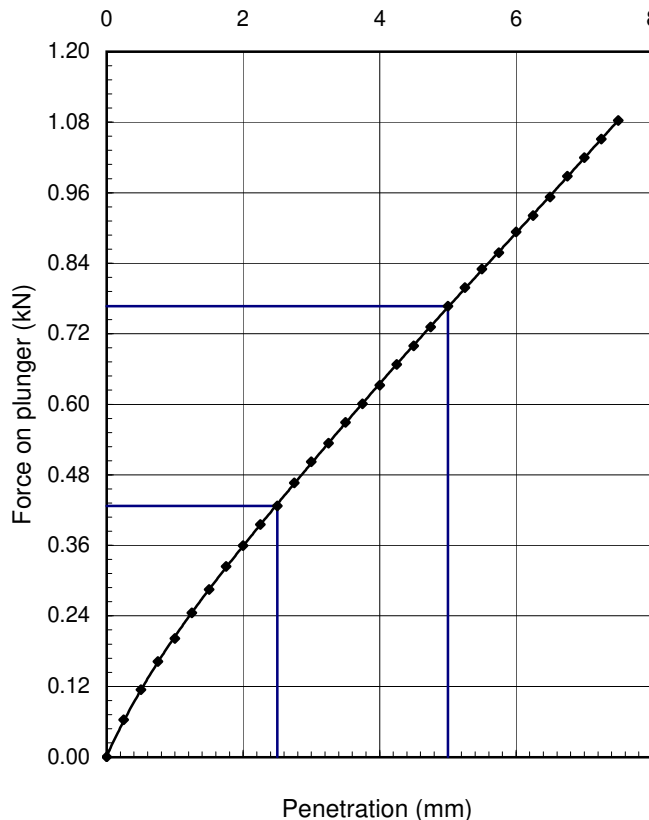
17 %

CBR Value: 3.8 %

4.3 %

Top of Specimen
Penetration (mm)

Base of Specimen
Penetration (mm)



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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	TP14
Sample No	
Depth (m)	0.50
Sample Type	B

Non Engineering Description:

Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.06 Mg/m³Specimen Dry Density 1.79 Mg/m³

Mass of sample > 20 mm 4.2 %

Specimen Unsoaked

Test Details:

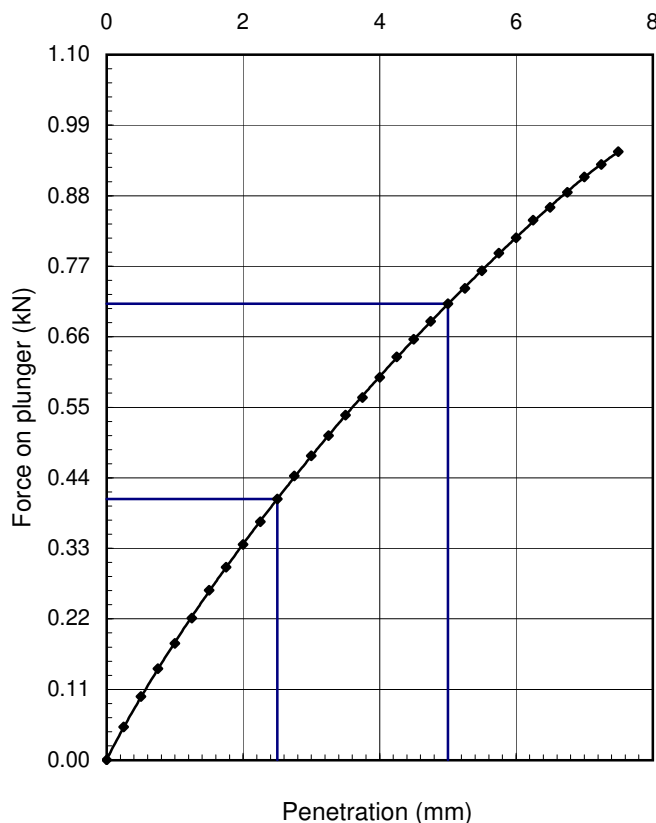
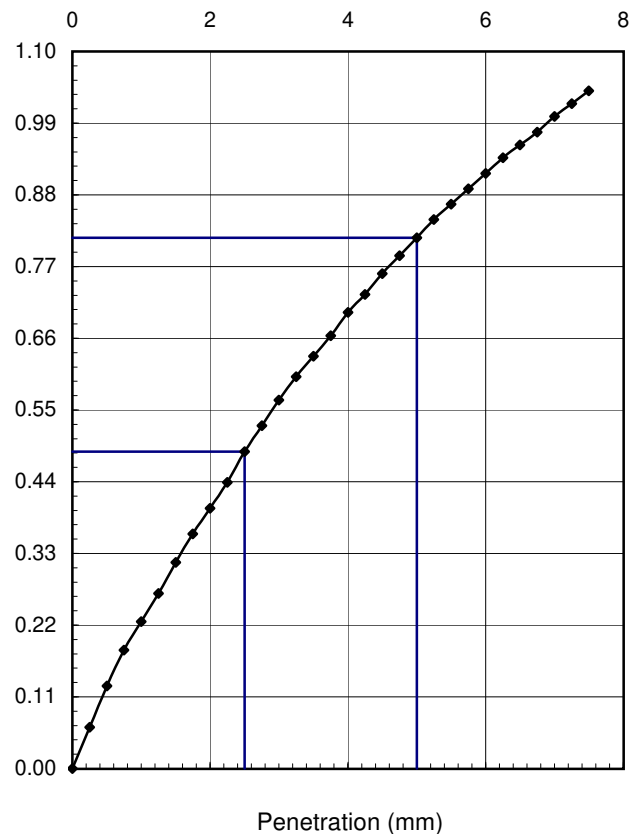
	Top	
Surcharge:	2.0 kg	
Seating Load:	10 N	
Moisture Content:	15 %	

Base

Surcharge:	2.0 kg	
Seating Load:	10 N	
Moisture Content:	15 %	

CBR Value: 3.6 %

4.1 %

Top of Specimen
Penetration (mm)Base of Specimen
Penetration (mm)

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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	TP16
Sample No	
Depth (m)	0.50
Sample Type	B

Non Engineering Description: Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 1.86 Mg/m³

Specimen Dry Density 1.33 Mg/m³

Mass of sample > 20 mm 17.5 %

Specimen Unsoaked

Test Details:

	Top	
Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	40	%

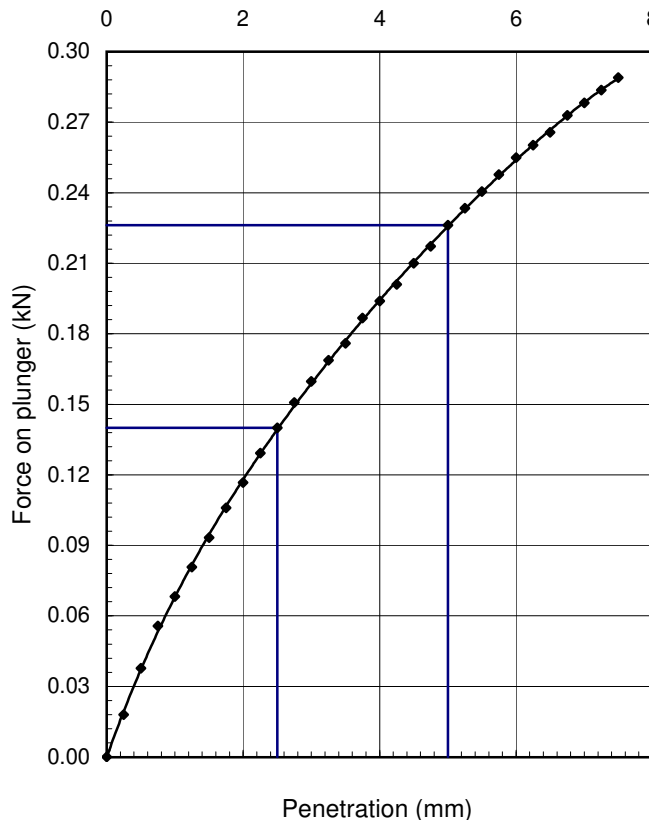
Base

Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	40	%

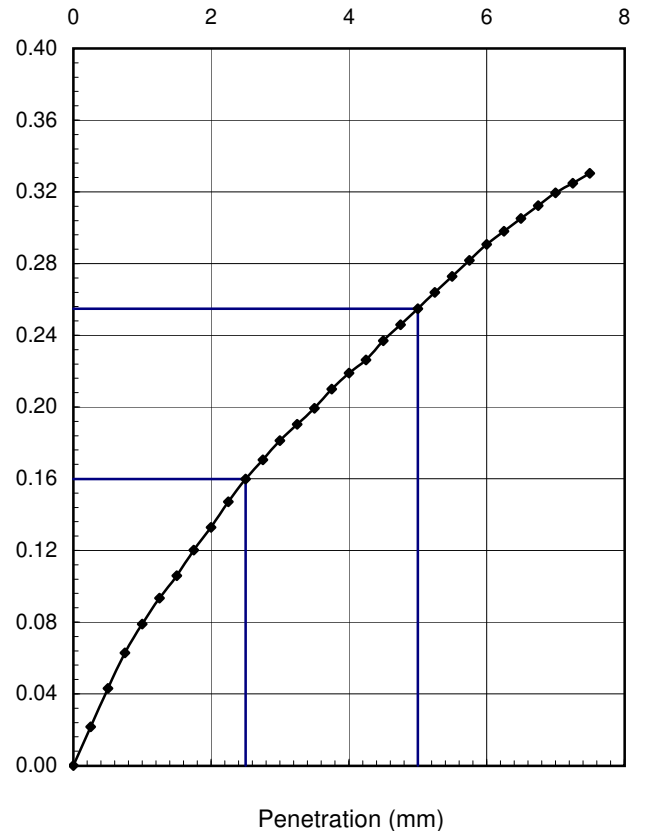
CBR Value: 1.1 %

1.3 %

Top of Specimen
Penetration (mm)



Base of Specimen
Penetration (mm)



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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	TP18
Sample No	
Depth (m)	0.50
Sample Type	B

Non Engineering Description:

Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.06 Mg/m³Specimen Dry Density 1.81 Mg/m³

Mass of sample > 20 mm 10.4 %

Specimen Unsoaked

Test Details:

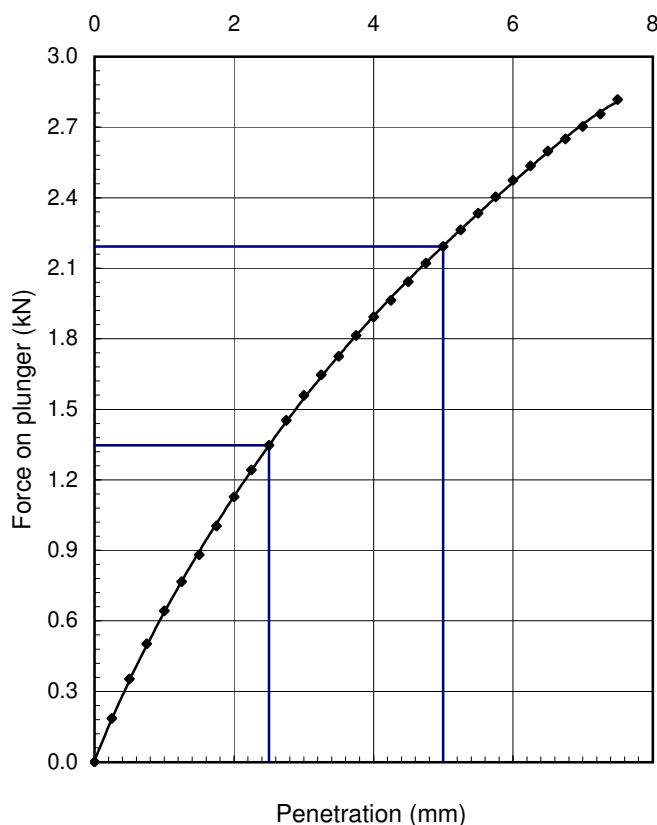
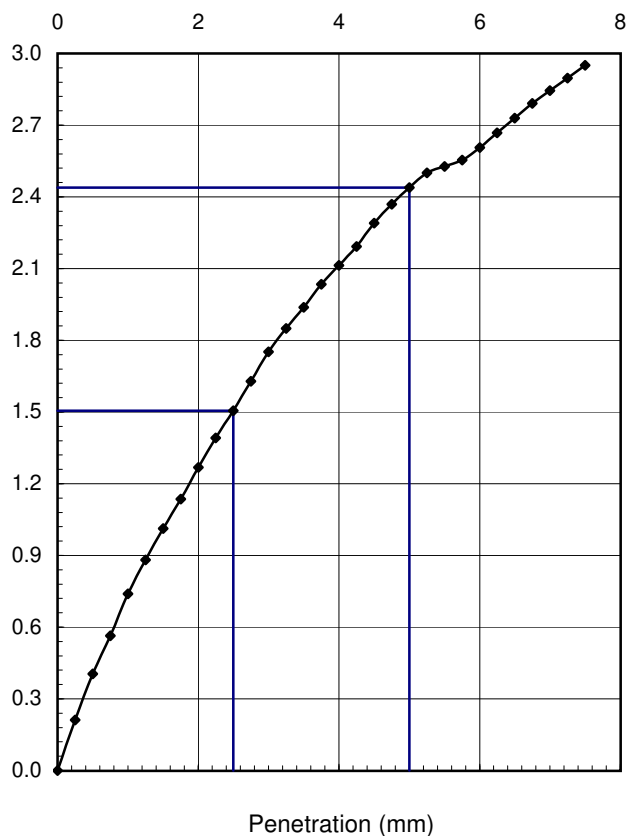
	Top	
Surcharge:	2.0	kg
Seating Load:	50	N
Moisture Content:	14	%

Base

Surcharge:	2.0	kg
Seating Load:	50	N
Moisture Content:	14	%

CBR Value: 11.0 %

12.2 %

Top of Specimen
Penetration (mm)Base of Specimen
Penetration (mm)

Originator

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BS1377 : Part 4 : Clause 7 : 1990



Figure No C221

Sheet 1 of 1

Site EASTERN GREEN LINK 4 - HVDC CONVERTER
STATION

Client Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No 26667

Hole ID TP18

Sample No

Depth (m) 3.00

Sample Type LB

**Non Engineering
Description:**

Brown silty sandy fine to coarse GRAVEL with cobbles and pockets of clay

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 1.92 Mg/m³Specimen Dry Density 1.63 Mg/m³

Mass of sample > 20 mm 31.6 %

Specimen Unsoaked

Test Details:**Top**

Surcharge: 2.0 kg

Seating Load: 50 N

Moisture Content: 18 %

Base

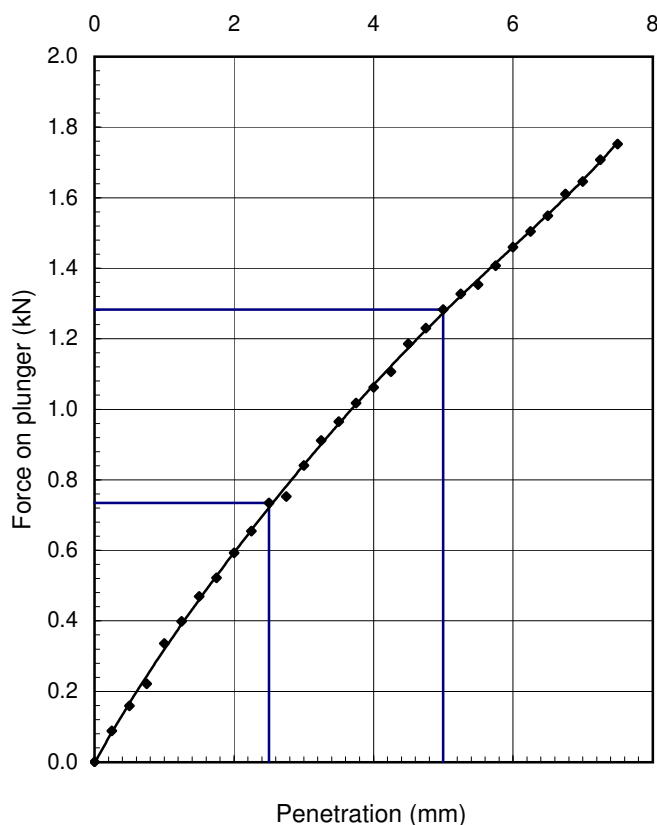
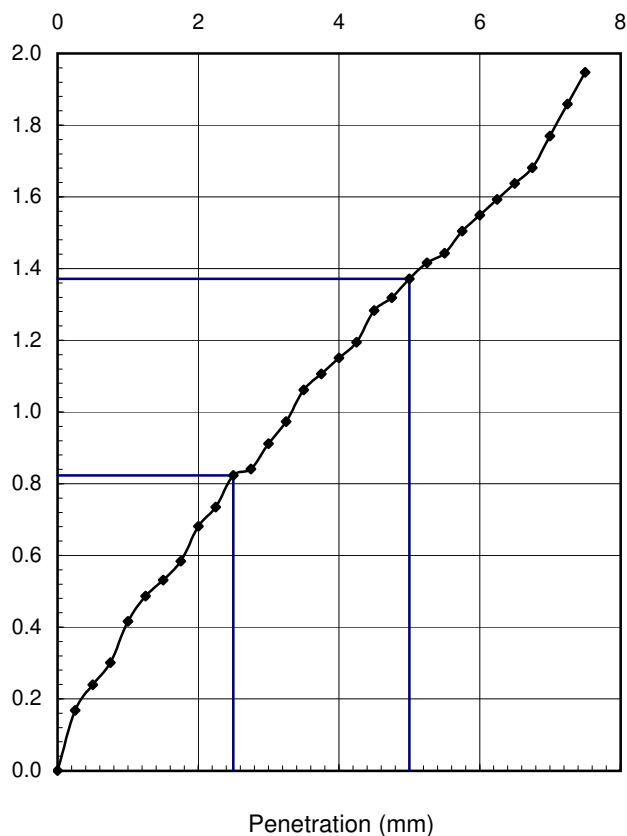
2.0 kg

50 N

18 %

CBR Value: 6.4 %

6.9 %

Top of Specimen
Penetration (mm)Base of Specimen
Penetration (mm)

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

Originator

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Figure No C222

Sheet 1 of 1



Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No 26667

Hole ID TP20

Sample No

Depth (m) 3.50

Sample Type LB

Non Engineering Description:

Brown silty sandy fine to coarse GRAVEL with cobble and pockets of clay

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 1.97 Mg/m³Specimen Dry Density 1.58 Mg/m³

Mass of sample > 20 mm 49.0 %

Specimen Unsoaked

Test Details:**Top**

Surcharge: 2.0 kg

Seating Load: 10 N

Moisture Content: 25 %

Base

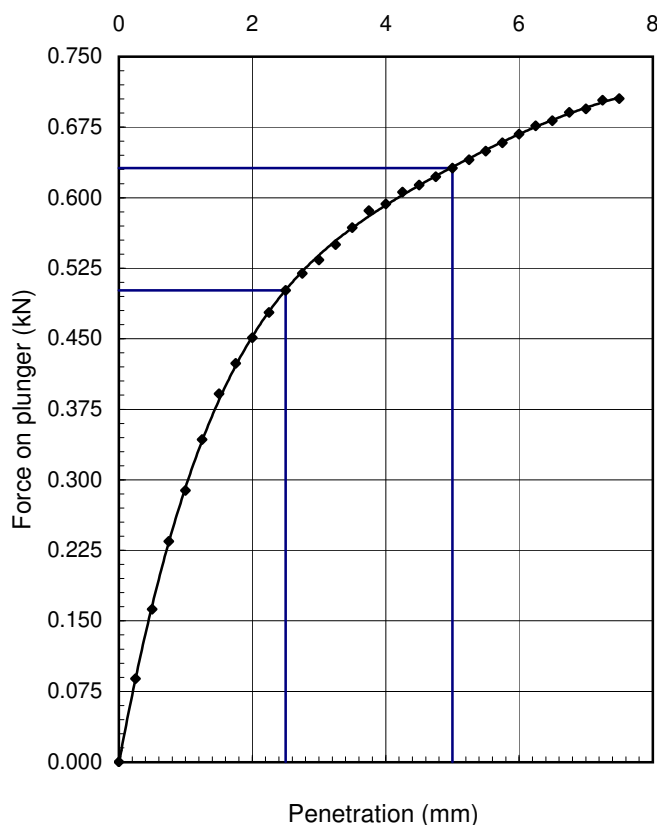
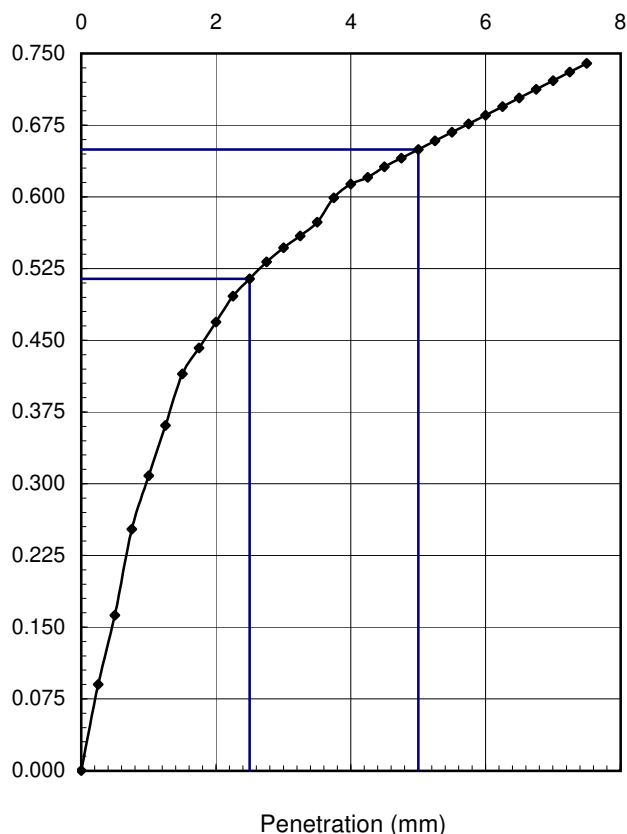
2.0 kg

10 N

24 %

CBR Value: 3.8 %

3.9 %

Top of Specimen
Penetration (mm)Base of Specimen
Penetration (mm)

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

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Figure No C223

Sheet 1 of 1

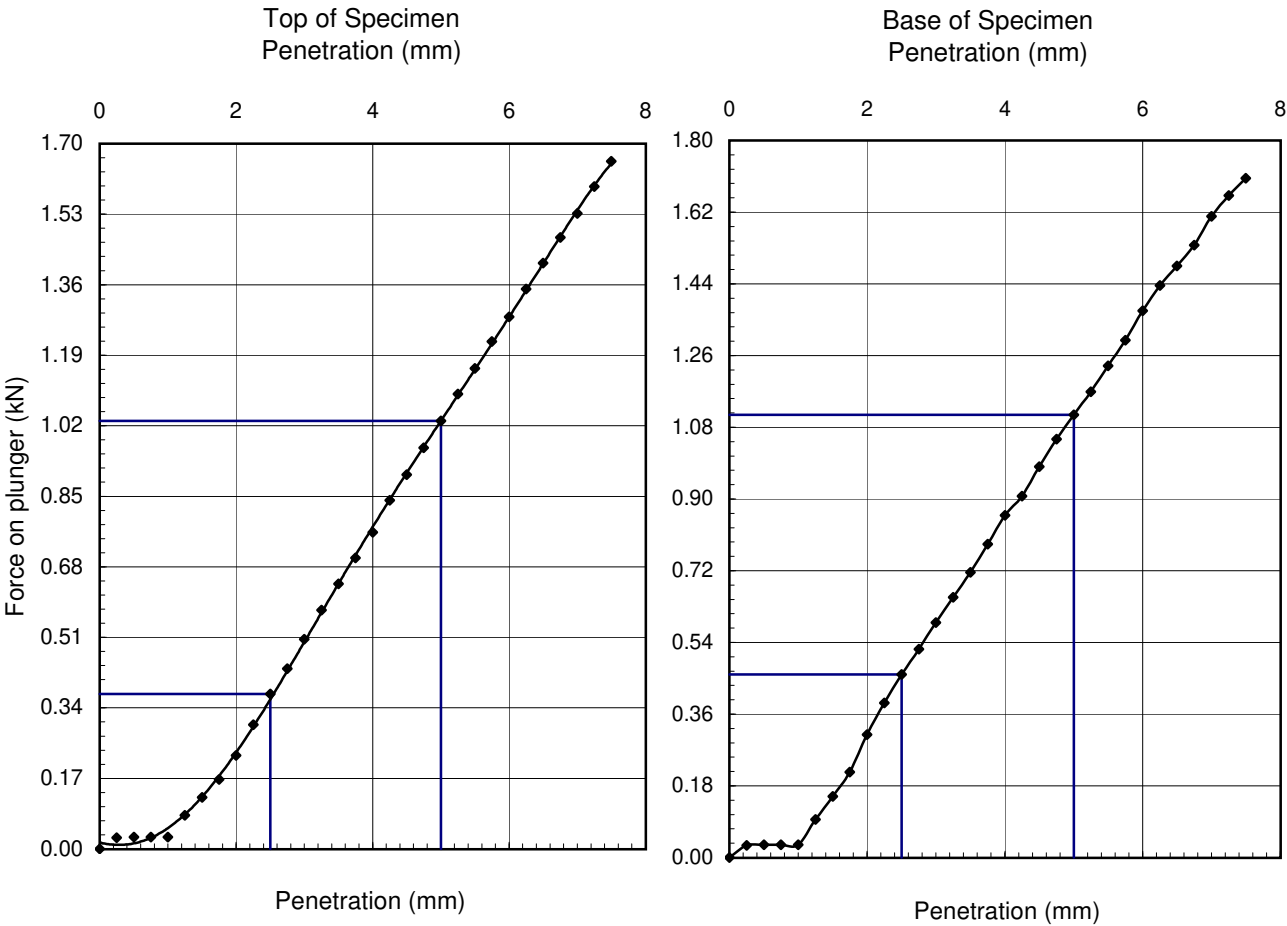
	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	TP22
	Engineer	Scottish Power Energy Networks	Sample No	
			Depth (m)	0.50
			Sample Type	B

Non Engineering Description: Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

Preparation Details:
 Specimen was prepared at Natural Moisture Content
 Compaction using 4.5kg compactive effort
 Specimen Bulk Density 2.13 Mg/m³
 Specimen Dry Density 1.85 Mg/m³
 Mass of sample > 20 mm 2.7 %
 Specimen Unsoaked

Test Details:	Top	Base
Surcharge:	2.0 kg	2.0 kg
Seating Load:	10 N	10 N
Moisture Content:	16 %	14 %

CBR Value: 5.2 % 5.6 %



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BC	 06/11/2024		
		Sheet 1 of 1	



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	TP23
Sample No	
Depth (m)	2.00
Sample Type	B

Non Engineering Description: Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.03 Mg/m³

Specimen Dry Density 1.75 Mg/m³

Mass of sample > 20 mm 6.0 %

Specimen Unsoaked

Test Details:

	Top	
Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	17	%

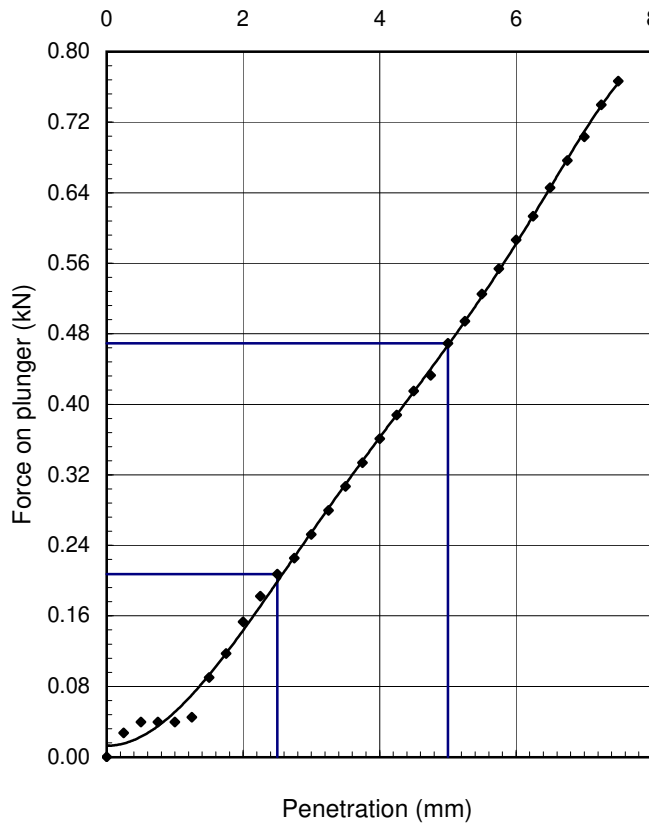
Base

Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	16	%

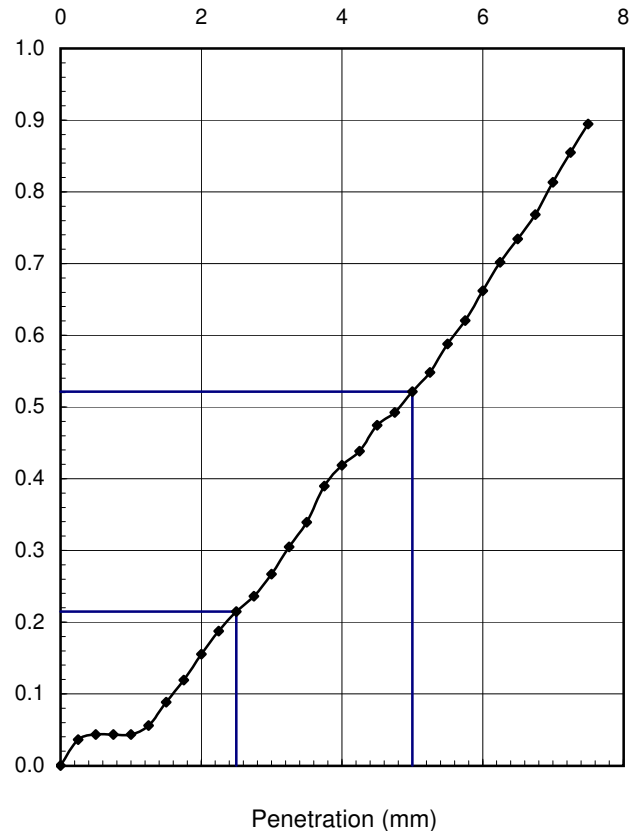
CBR Value: 2.3 %

2.6 %

Top of Specimen
Penetration (mm)



Base of Specimen
Penetration (mm)



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Figure No C225

Sheet 1 of 1

	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	TP24
	Engineer	Scottish Power Energy Networks	Sample No	
			Depth (m)	2.00
			Sample Type	LB

Non Engineering Description: Brown silty very sandy fine to coarse GRAVEL with pockets of clay

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.10 Mg/m³

Specimen Dry Density 1.93 Mg/m³

Mass of sample > 20 mm 34.0 %

Specimen Unsoaked

Test Details:

Surcharge: 2.0 kg

Seating Load: 50 N

Moisture Content: 8.7 %

Base

2.0 kg

50 N

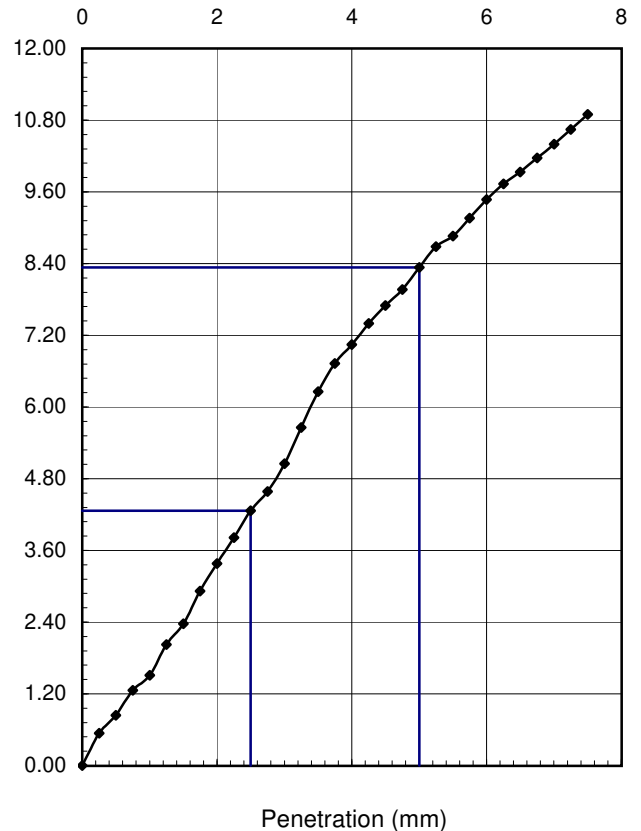
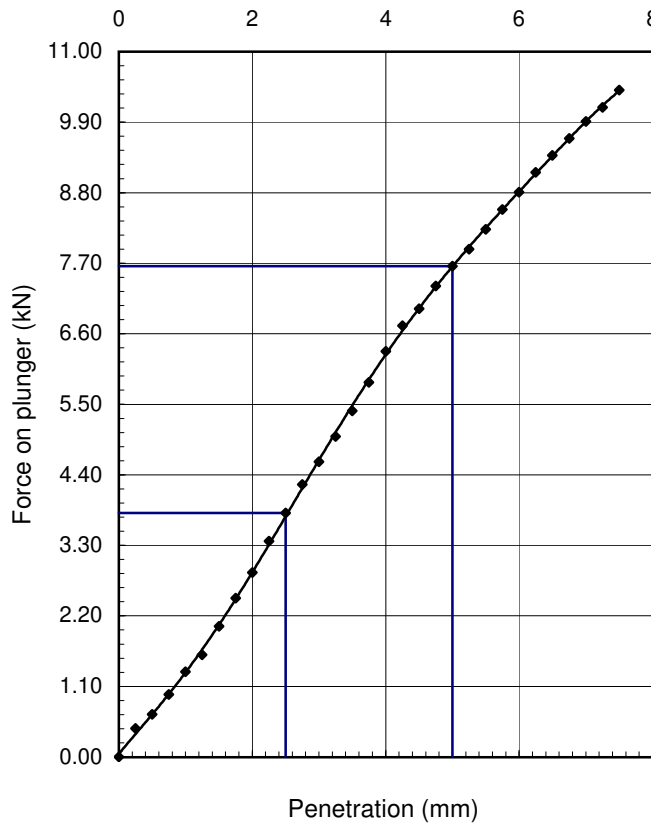
8.4 %

CBR Value: 38.3 %

41.7 %

Top of Specimen
Penetration (mm)

Base of Specimen
Penetration (mm)



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

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BC	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	TP27
Sample No	
Depth (m)	0.50
Sample Type	B

Non Engineering Description:

Brown slightly gravelly slightly sandy silty CLAY. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.16 Mg/m³Specimen Dry Density 1.87 Mg/m³

Mass of sample > 20 mm 4.6 %

Specimen Unsoaked

Test Details:

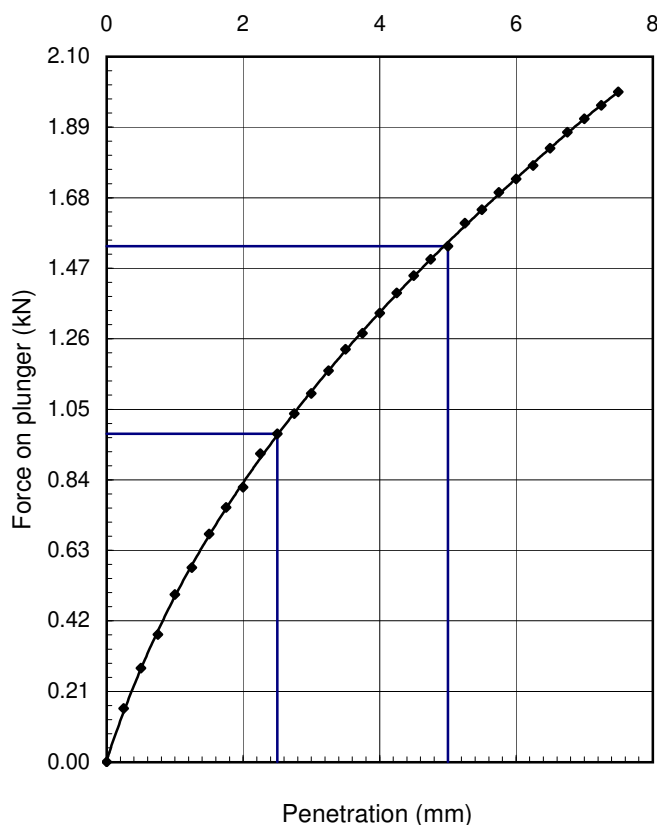
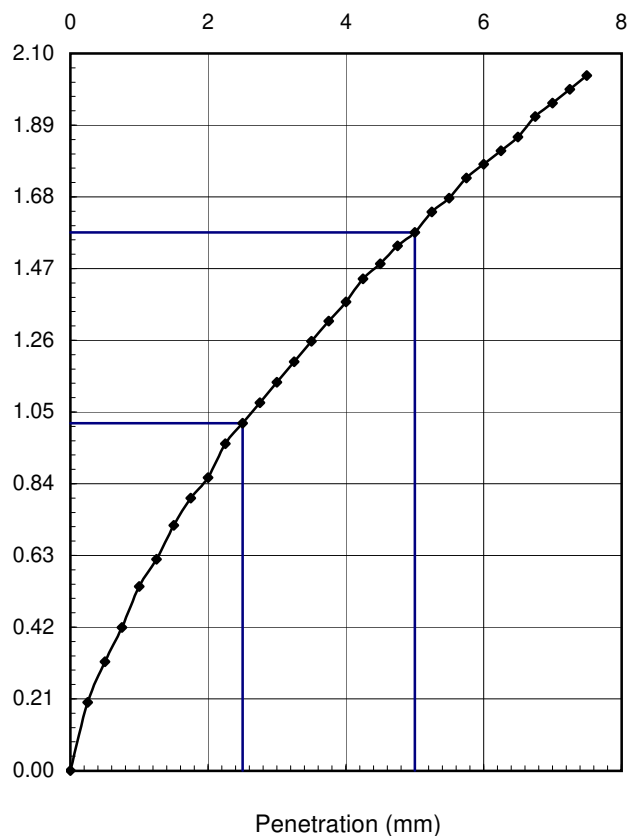
	Top
Surcharge:	2.0 kg
Seating Load:	50 N
Moisture Content:	16 %

Base

Surcharge:	2.0 kg
Seating Load:	50 N
Moisture Content:	15 %

CBR Value: 7.7 %

7.9 %

Top of Specimen
Penetration (mm)Base of Specimen
Penetration (mm)

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BS1377 : Part 4 : Clause 7 : 1990



Figure No C227

Sheet 1 of 1

	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	TP28
	Engineer	Scottish Power Energy Networks	Sample No	
			Depth (m)	1.50
			Sample Type	B

Non Engineering Description:

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

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 1.98 Mg/m³

Specimen Dry Density 1.74 Mg/m³

Mass of sample > 20 mm 18.5 %

Specimen Unsoaked

Test Details:

Top

Surcharge: 2.0 kg

Seating Load: 50 N

Moisture Content: 14 %

Base

2.0 kg

50 N

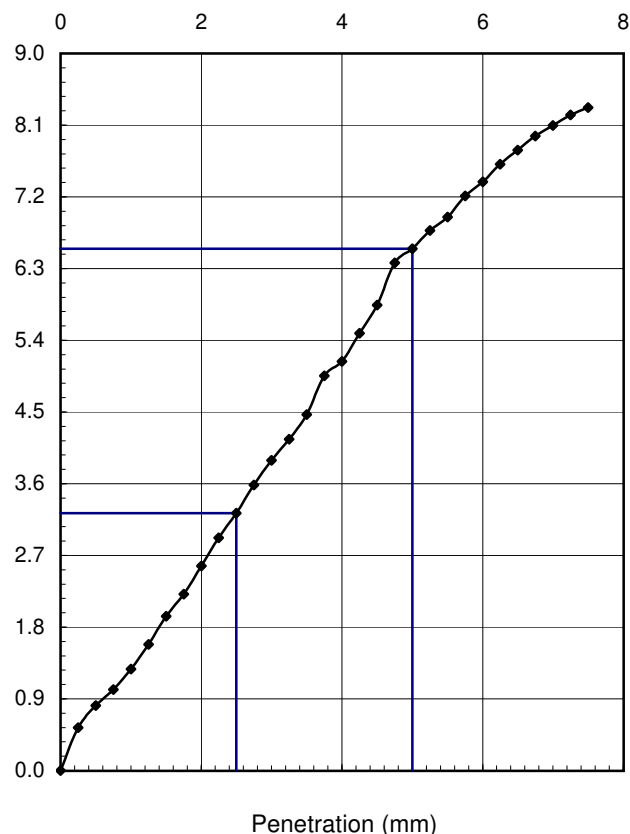
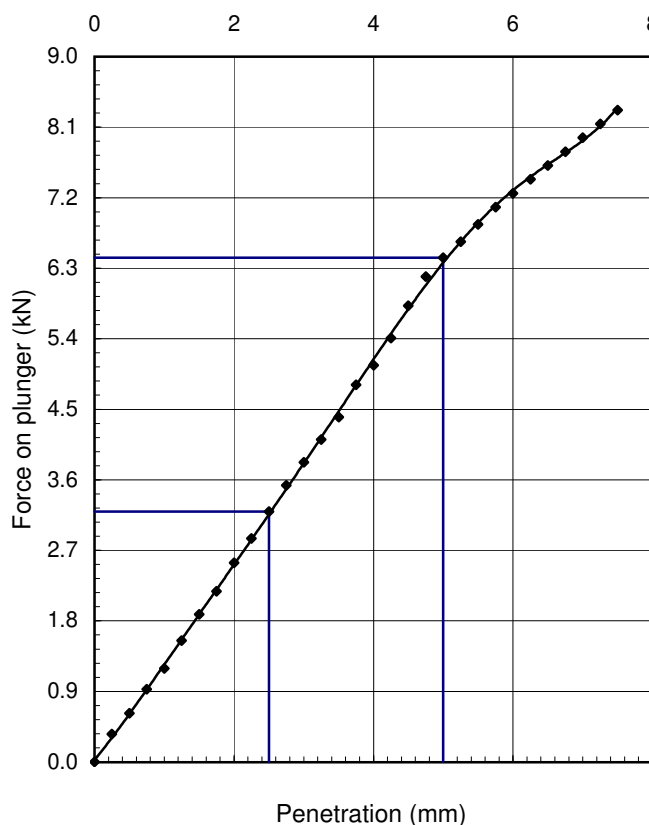
14 %

CBR Value: 32.2 %

32.7 %

Top of Specimen
Penetration (mm)

Base of Specimen
Penetration (mm)



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BC	CD 06/11/2024		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	TP30
Sample No	
Depth (m)	1.50
Sample Type	LB

Non Engineering Description:

Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.07 Mg/m³Specimen Dry Density 1.79 Mg/m³

Mass of sample > 20 mm 7.2 %

Specimen Unsoaked

Test Details:

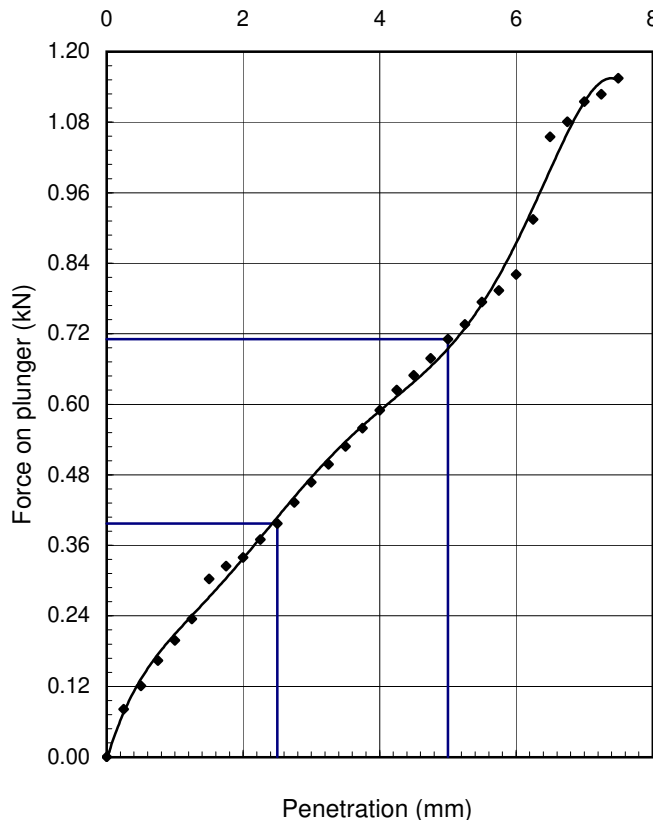
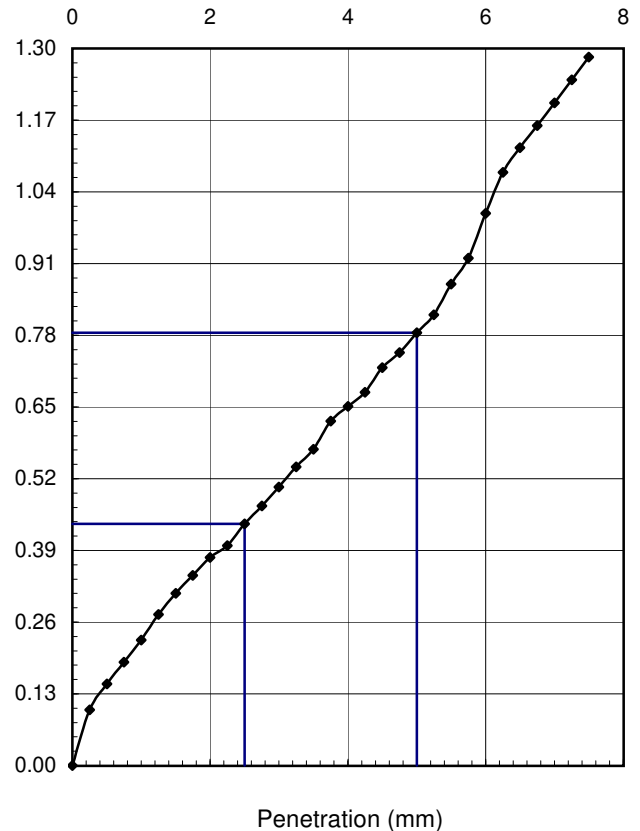
	Top	
Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	16	%

Base

Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	16	%

CBR Value: 3.6 %

3.9 %

Top of Specimen
Penetration (mm)Base of Specimen
Penetration (mm)

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Figure No C229

Sheet 1 of 1



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	TP32
Sample No	
Depth (m)	1.50
Sample Type	B

Non Engineering Description:

Brown silty very sandy fine to coarse GRAVEL with cobble and pockets of clay

Preparation Details:

Specimen was prepared at Natural Moisture Content

Compaction using 4.5kg compactive effort

Specimen Bulk Density 2.03 Mg/m³Specimen Dry Density 1.80 Mg/m³

Mass of sample > 20 mm 45.0 %

Specimen Unsoaked

Test Details:

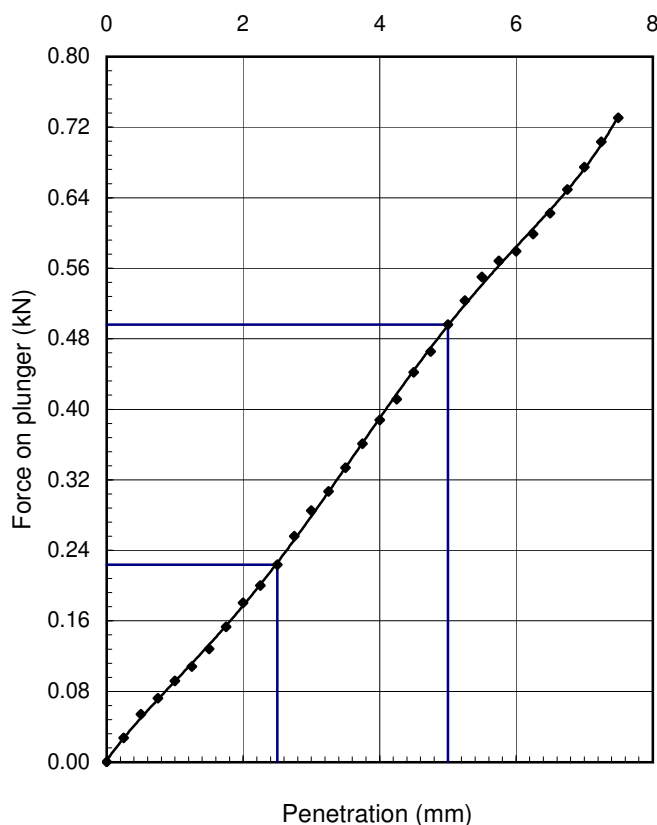
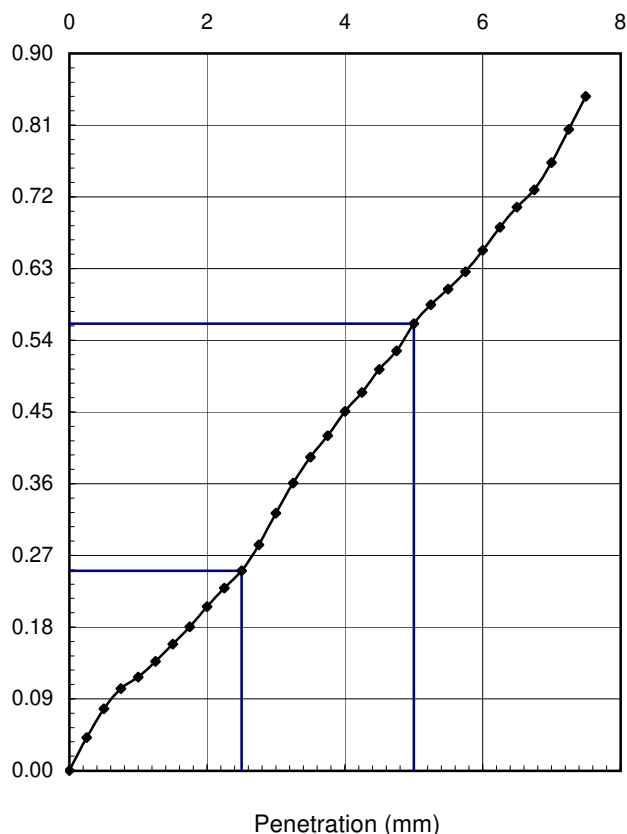
	Top	
Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	13	%

Base

Surcharge:	2.0	kg
Seating Load:	10	N
Moisture Content:	13	%

CBR Value: 2.5 %

2.8 %

Top of Specimen
Penetration (mm)Base of Specimen
Penetration (mm)**Non-standard test due to % retained on 20mm sieve**

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BS1377 : Part 4 : Clause 7 : 1990



Figure No C230

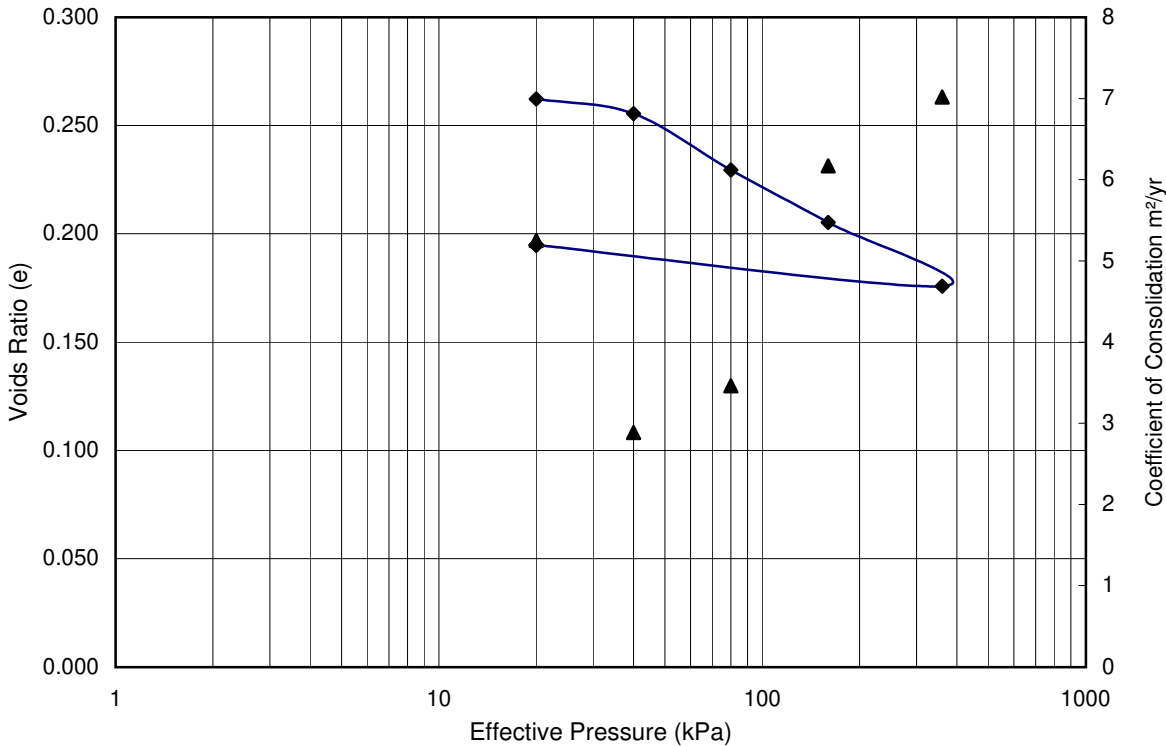
Sheet 1 of 1

	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	BH01
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth	2.20
			Sample Type	UT100

Non Engineering Description: Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

Initial Water Content	15.1 %	Final Water Content	13.3 %
Initial Voids Ratio	0.269	Final Voids Ratio	0.195
Initial Bulk Density	2.40 Mg/m ³	Specific Gravity	2.65 (assumed)
Initial Dry Density	2.09 Mg/m ³	Degree of saturation	148 %
Specimen Dimensions	19.51mm x 74.36mm dia		
Laboratory temperature	20±2°C		

Pressure Range kPa	M _v m ² /MN	C _v (t90) m ² /year	C _v (t50) m ² /year	Voids ratio (e)	C _{sec}
0 - 20	0.261	5.25	4.92	0.262	
20 - 40	0.271	2.89	7.49	0.255	
40 - 80	0.519	3.46	3.39	0.229	
80 - 160	0.246	6.17	6.51	0.205	
160 - 360	0.122	7.02	7.92	0.176	
360 - 20	0.048	swelled	swelled	0.195	



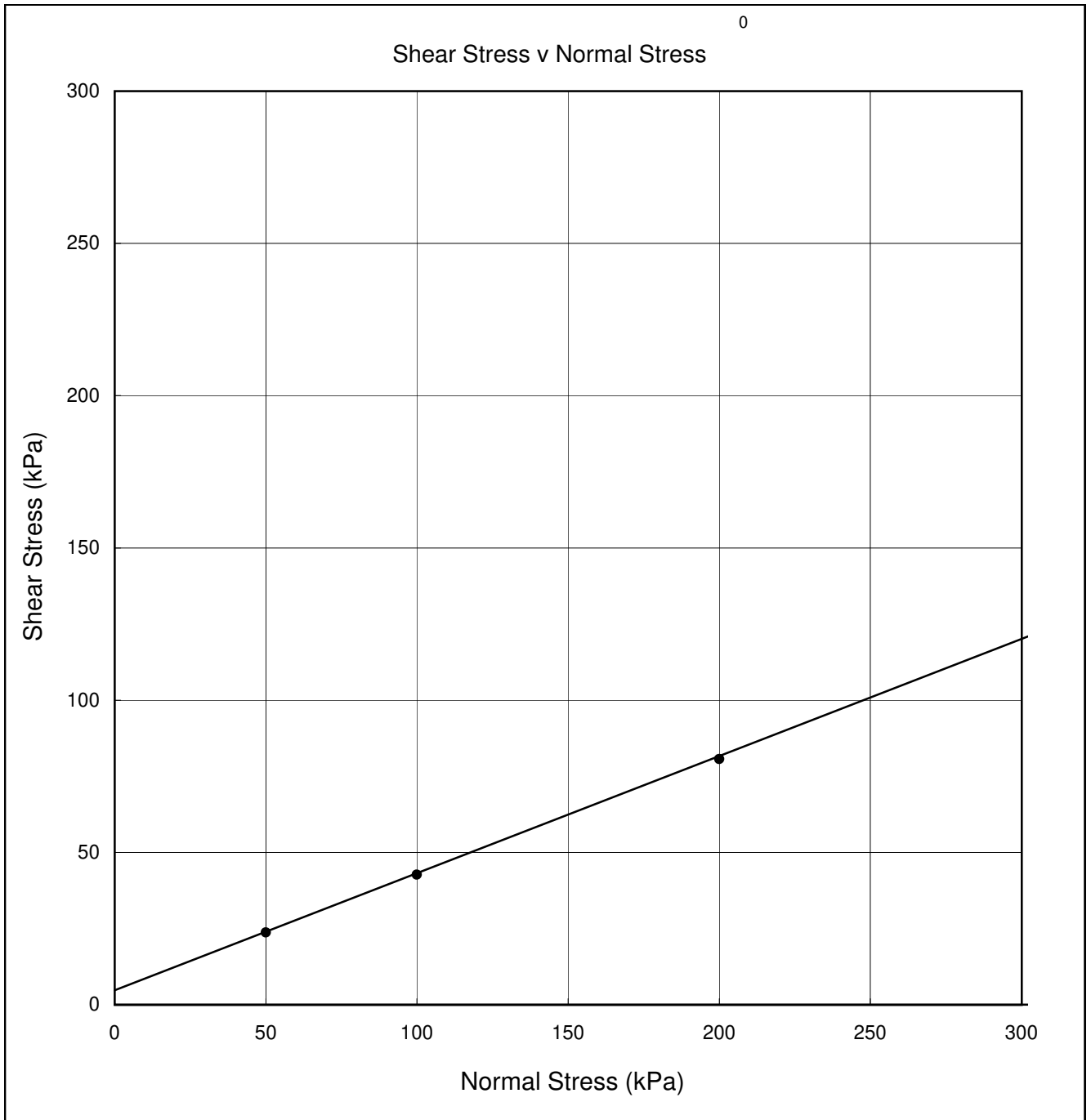
Originator	Checked & Approved	INCREMENTAL LOADING OEDOMETER TEST BS EN ISO 17892-5:2017, Root time curve fitting	 Figure No C231
GL	CD 06/11/2024		

		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No26667	
		ClientScottish Power Energy Networks		HoleBH12	
		EngineerScottish Power Energy Networks		Sample Ref	
				Depth (m)1.70	
				Sample TypeB	
Specimen Details					
Depth within original sample		n/a			
Orientation within original sample		n/a			
Test condition		Non-Submerged			
Non Engineering Description		Brown gravelly very silty SAND with cobbles and pockets of clay. Gravel is fine to coarse			
Preparation		Material > 2mm removed (70% passing). Remoulded using 2.5kg compactive effort at as-received moisture content			
Specimen Number					
Length		mm	60.0	59.9	60.0
Width		mm	60.0	60.0	60.0
Height		mm	25.0	25.0	25.0
Initial moisture content		%	16	16	16
Initial wet density		Mg/m³	2.00	2.00	2.00
Initial dry density		Mg/m³	1.72	1.72	1.72
Particle Density (assumed)		Mg/m³	2.65	2.65	2.65
Consolidation Stage					
Normal stress		kPa	50	100	200
Height change		mm	-1.6	-2.4	-3.0
Duration		day(s)	1	1	1
Shearing Stage					
Normal stress		kPa	50	100	200
Peak Conditions:					
Rate of horizontal displacement		mm/min	0.12	0.12	0.12
Maximum shear stress		kPa	24	43	81
Horizontal displacement		mm	2.4	4.1	6.3
Height change		mm	-1.3	-2.0	-2.5
Final Conditions					
Final moisture content		%	16	16	16
Duration		day(s)	1	1	1
Shear Strength Parameters					
Maximum Condition: (linear tangent interpretation)					
Effective Cohesion		kPa	5		
Effective Angle of Shearing Resistance		degrees	21		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole	BH12
Sample Ref	
Depth (m)	1.70
Sample Type	B



Shear Strength Parameters

$c' = 5$ kPa
 $\phi' = 21^\circ$

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Shear Strength by Direct Shear (small shearbox)

BS1377:Part 7:1990 Clause 4



Figure C232

Sheet 2 of 5



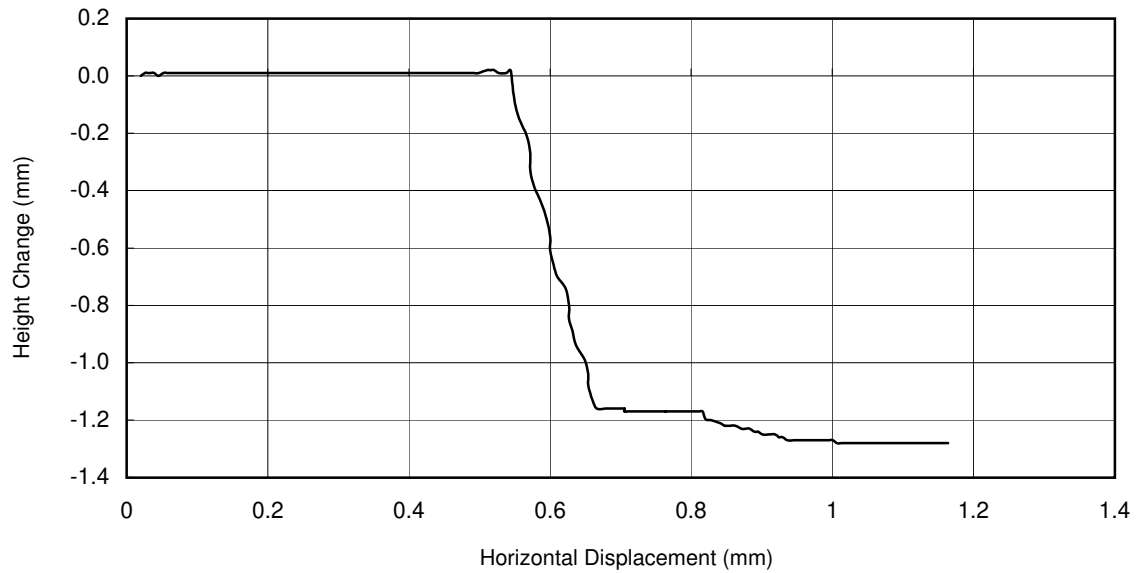
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole	BH12
Sample Ref	
Depth (m)	1.70
Sample Type	B

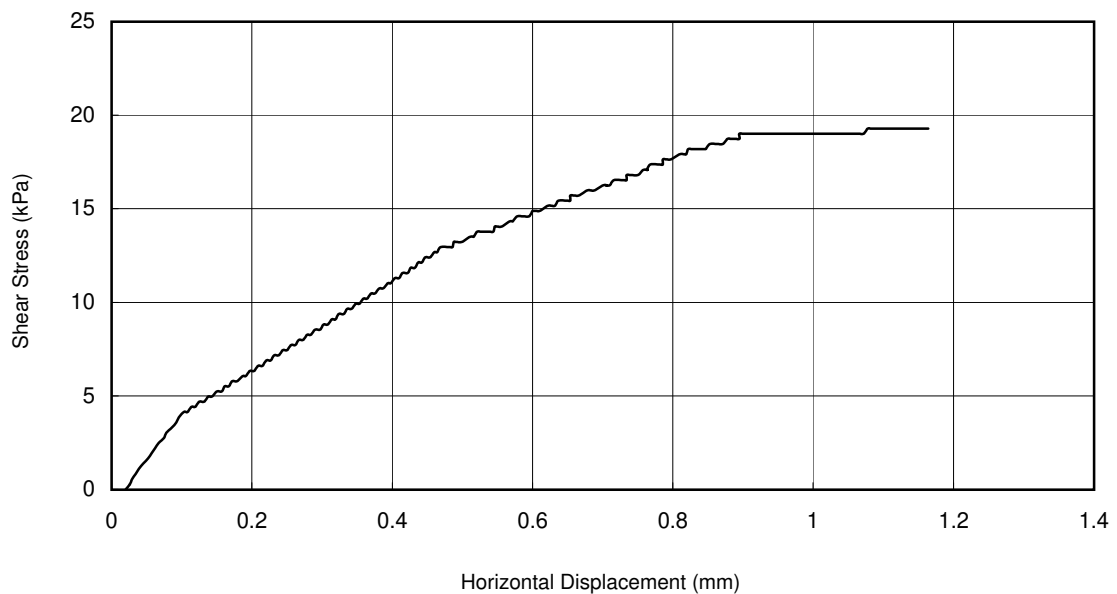
Specimen No. 1

Normal Pressure = 50 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



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Shear Strength by Direct Shear (small shearbox)

BS1377:Part 7:1990 Clause 4



Figure C232

Sheet 3 of 5



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

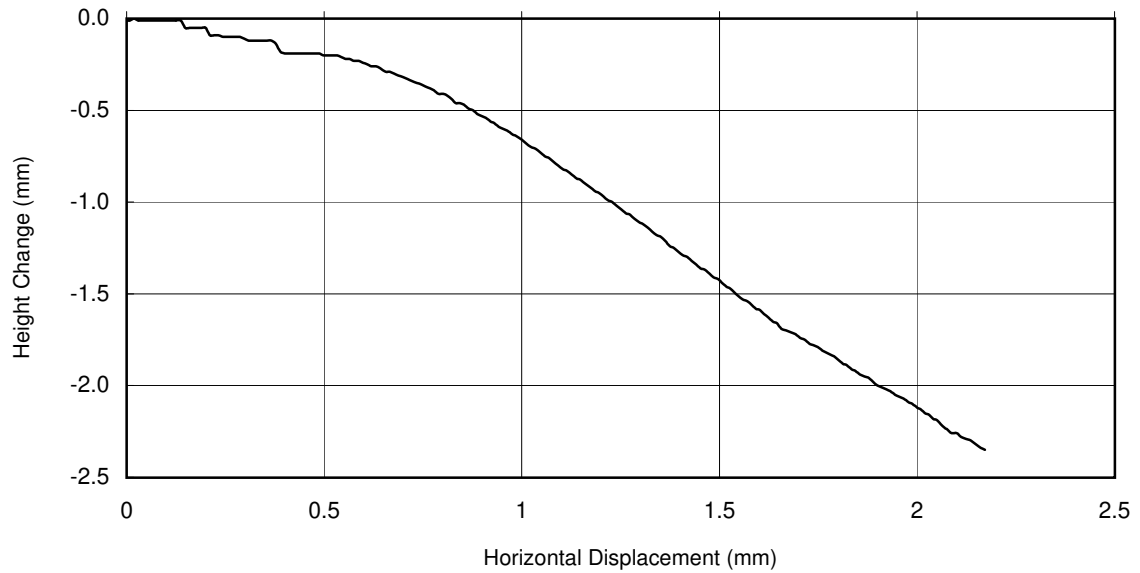
Contract No **26667**

Hole	BH12
Sample Ref	
Depth (m)	1.70
Sample Type	B

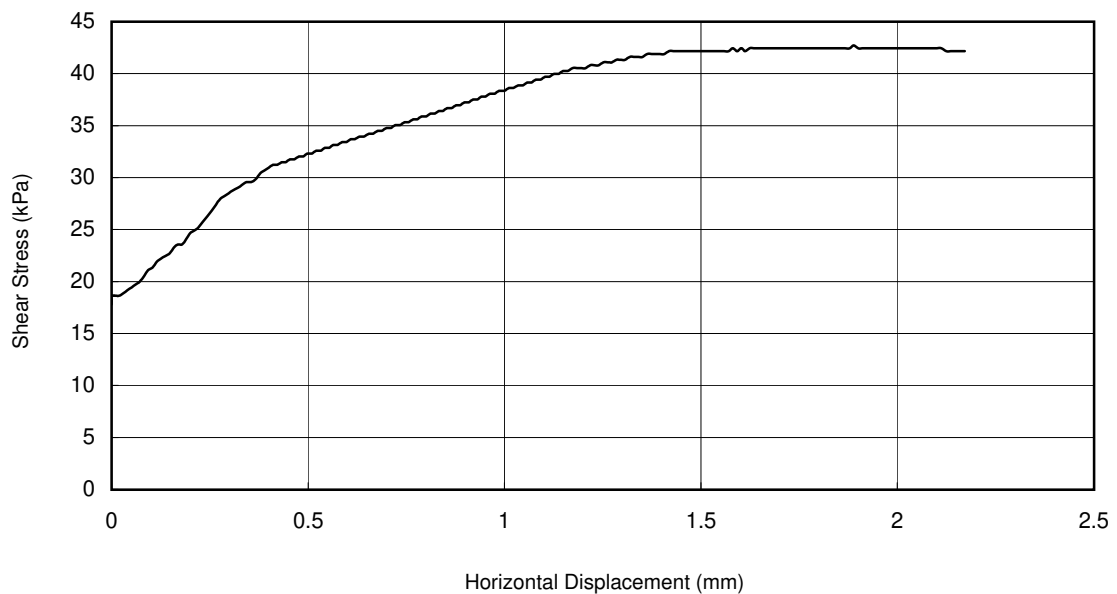
Specimen No. 2

Normal Pressure = 100 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



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Shear Strength by Direct Shear (small shearbox)

BS1377:Part 7:1990 Clause 4



Figure C232

Sheet 4 of 5



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

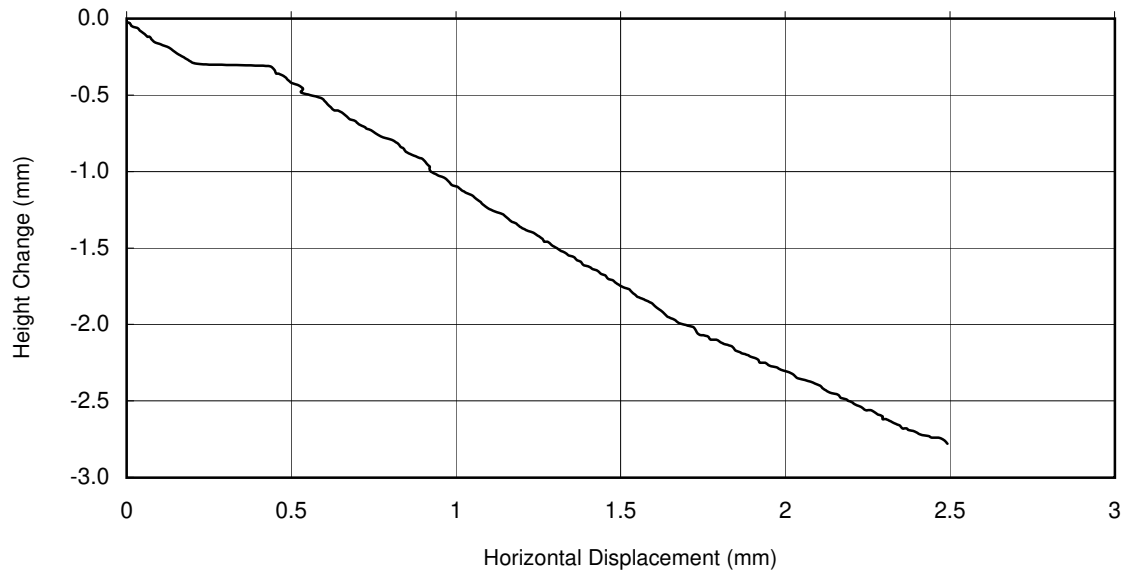
Contract No **26667**

Hole	BH12
Sample Ref	
Depth (m)	1.70
Sample Type	B

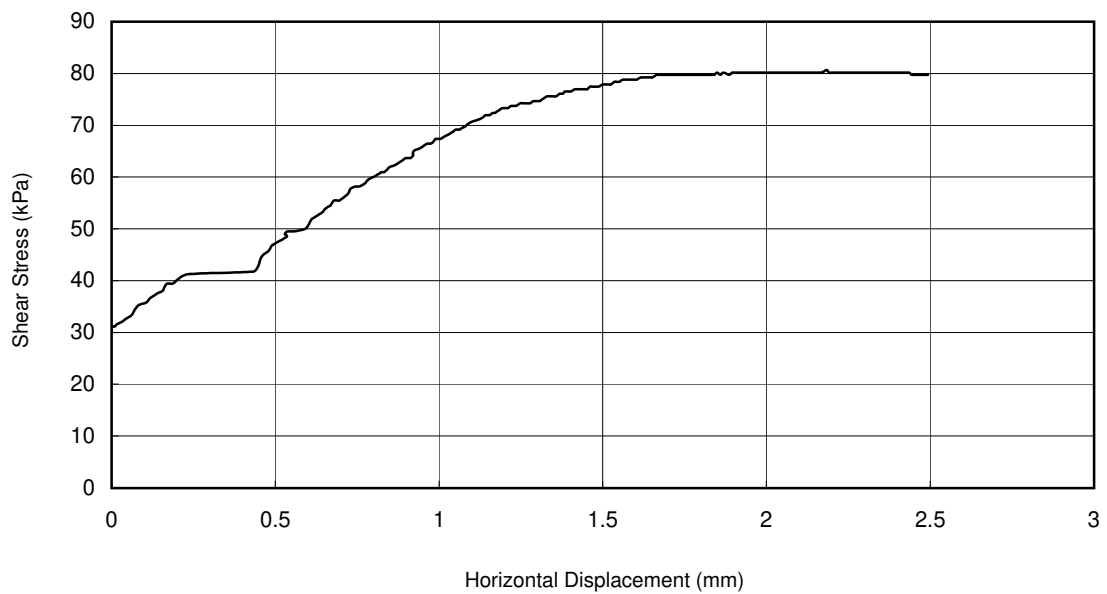
Specimen No. 3

Normal Pressure = 200 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



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Shear Strength by Direct Shear (small shearbox)

BS1377:Part 7:1990 Clause 4



Figure C232

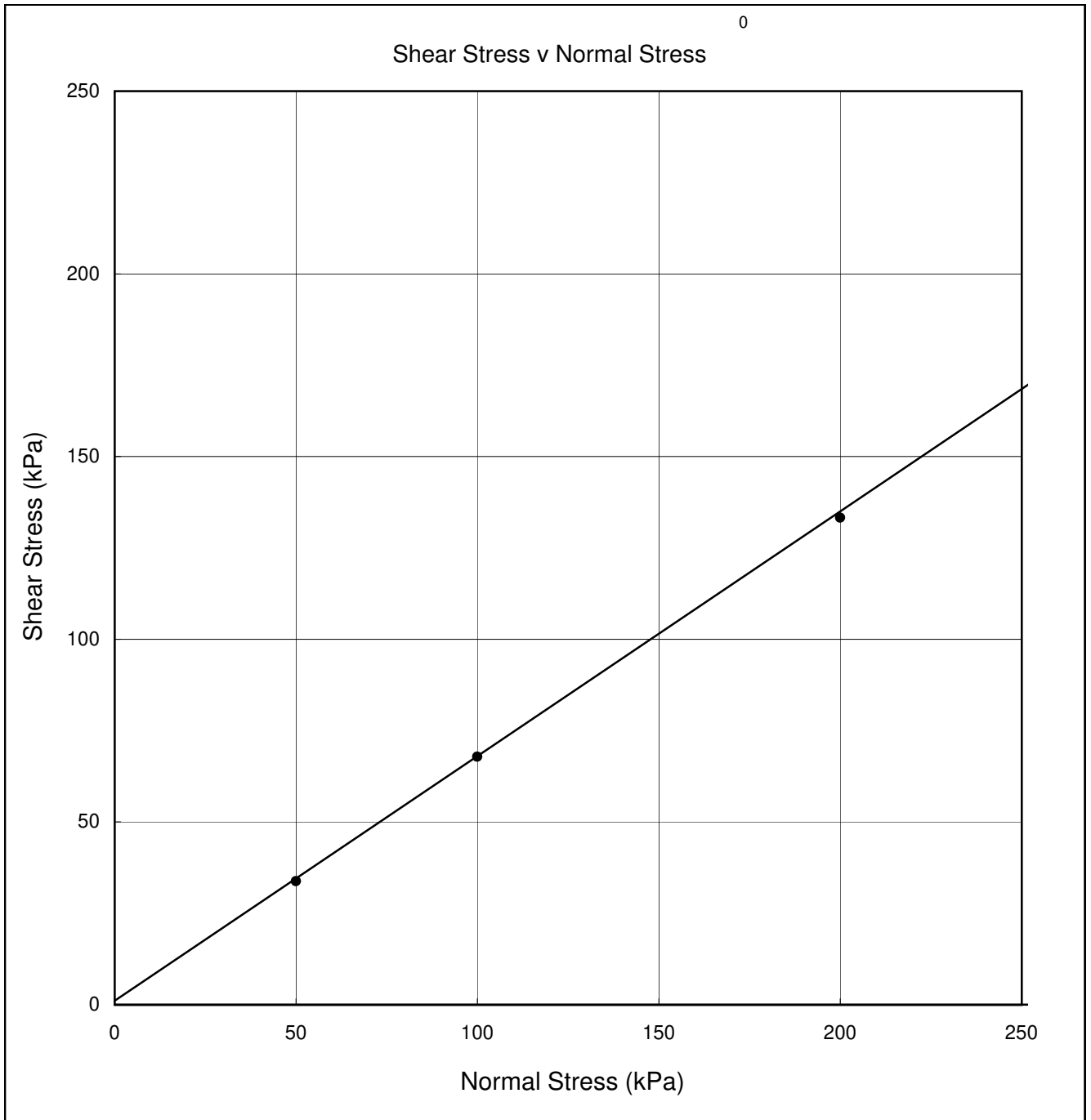
Sheet 5 of 5

		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No26706																																																																																																	
		ClientScottish Power Energy Networks		HoleBH13																																																																																																	
		EngineerScottish Power Energy Networks		Sample Ref																																																																																																	
				Depth (m)3.70																																																																																																	
				Sample TypeB																																																																																																	
Specimen Details Depth within original samplen/a Orientation within original samplen/a Test conditionNon-Submerged Non Engineering DescriptionBrown gravelly very silty SAND with cobbles and pockets of clay. Gravel is fine to coarse PreparationMaterial > 2mm removed (86% passing). Remoulded using 2.5kg compactive effort at as-received moisture content Specimen Number <table><tr><td>Length</td><td>mm</td><td>1</td><td>2</td><td>3</td></tr><tr><td>Width</td><td>mm</td><td>60.0</td><td>60.1</td><td>60.0</td></tr><tr><td>Height</td><td>mm</td><td>60.0</td><td>60.0</td><td>60.0</td></tr><tr><td>Initial moisture content</td><td>%</td><td>25.0</td><td>25.0</td><td>25.0</td></tr><tr><td>Initial wet density</td><td>Mg/m³</td><td>13</td><td>13</td><td>13</td></tr><tr><td>Initial dry density</td><td>Mg/m³</td><td>1.95</td><td>1.95</td><td>1.95</td></tr><tr><td>Initial dry density</td><td>Mg/m³</td><td>1.72</td><td>1.72</td><td>1.72</td></tr><tr><td>Particle Density (assumed)</td><td>Mg/m³</td><td>2.65</td><td>2.65</td><td>2.65</td></tr></table> Consolidation Stage <table><tr><td>Normal stress</td><td>kPa</td><td>50</td><td>100</td><td>200</td></tr><tr><td>Height change</td><td>mm</td><td>-2.6</td><td>-4.0</td><td>-4.9</td></tr><tr><td>Duration</td><td>day(s)</td><td>1</td><td>1</td><td>1</td></tr></table> Shearing Stage <table><tr><td>Normal stress</td><td>kPa</td><td>50</td><td>100</td><td>200</td></tr></table> Peak Conditions: <table><tr><td>Rate of horizontal displacement</td><td>mm/min</td><td>0.12</td><td>0.12</td><td>0.12</td></tr><tr><td>Maximum shear stress</td><td>kPa</td><td>34</td><td>68</td><td>133</td></tr><tr><td>Horizontal displacement</td><td>mm</td><td>4.2</td><td>6.5</td><td>9.9</td></tr><tr><td>Height change</td><td>mm</td><td>-2.1</td><td>-3.0</td><td>-3.8</td></tr></table> Final Conditions <table><tr><td>Final moisture content</td><td>%</td><td>13</td><td>13</td><td>13</td></tr><tr><td>Duration</td><td>day(s)</td><td>1</td><td>1</td><td>1</td></tr></table> Shear Strength Parameters Maximum Condition: (linear tangent interpretation) <table><tr><td>Effective Cohesion</td><td>kPa</td><td>1</td></tr><tr><td>Effective Angle of Shearing Resistance</td><td>degrees</td><td>34</td></tr></table>						Length	mm	1	2	3	Width	mm	60.0	60.1	60.0	Height	mm	60.0	60.0	60.0	Initial moisture content	%	25.0	25.0	25.0	Initial wet density	Mg/m³	13	13	13	Initial dry density	Mg/m³	1.95	1.95	1.95	Initial dry density	Mg/m³	1.72	1.72	1.72	Particle Density (assumed)	Mg/m³	2.65	2.65	2.65	Normal stress	kPa	50	100	200	Height change	mm	-2.6	-4.0	-4.9	Duration	day(s)	1	1	1	Normal stress	kPa	50	100	200	Rate of horizontal displacement	mm/min	0.12	0.12	0.12	Maximum shear stress	kPa	34	68	133	Horizontal displacement	mm	4.2	6.5	9.9	Height change	mm	-2.1	-3.0	-3.8	Final moisture content	%	13	13	13	Duration	day(s)	1	1	1	Effective Cohesion	kPa	1	Effective Angle of Shearing Resistance	degrees	34
Length	mm	1	2	3																																																																																																	
Width	mm	60.0	60.1	60.0																																																																																																	
Height	mm	60.0	60.0	60.0																																																																																																	
Initial moisture content	%	25.0	25.0	25.0																																																																																																	
Initial wet density	Mg/m³	13	13	13																																																																																																	
Initial dry density	Mg/m³	1.95	1.95	1.95																																																																																																	
Initial dry density	Mg/m³	1.72	1.72	1.72																																																																																																	
Particle Density (assumed)	Mg/m³	2.65	2.65	2.65																																																																																																	
Normal stress	kPa	50	100	200																																																																																																	
Height change	mm	-2.6	-4.0	-4.9																																																																																																	
Duration	day(s)	1	1	1																																																																																																	
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Final moisture content	%	13	13	13																																																																																																	
Duration	day(s)	1	1	1																																																																																																	
Effective Cohesion	kPa	1																																																																																																			
Effective Angle of Shearing Resistance	degrees	34																																																																																																			
Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)		 Figure C233																																																																																																	
SG																																																																																																					
		BS1377:Part 7:1990 Clause 4		Sheet 1 of 5																																																																																																	



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26706
Hole	BH13
Sample Ref	
Depth (m)	3.70
Sample Type	B



Shear Strength Parameters

$c' = 1$ kPa
 $\phi' = 34^\circ$

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Shear Strength by Direct Shear (small shearbox)

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Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

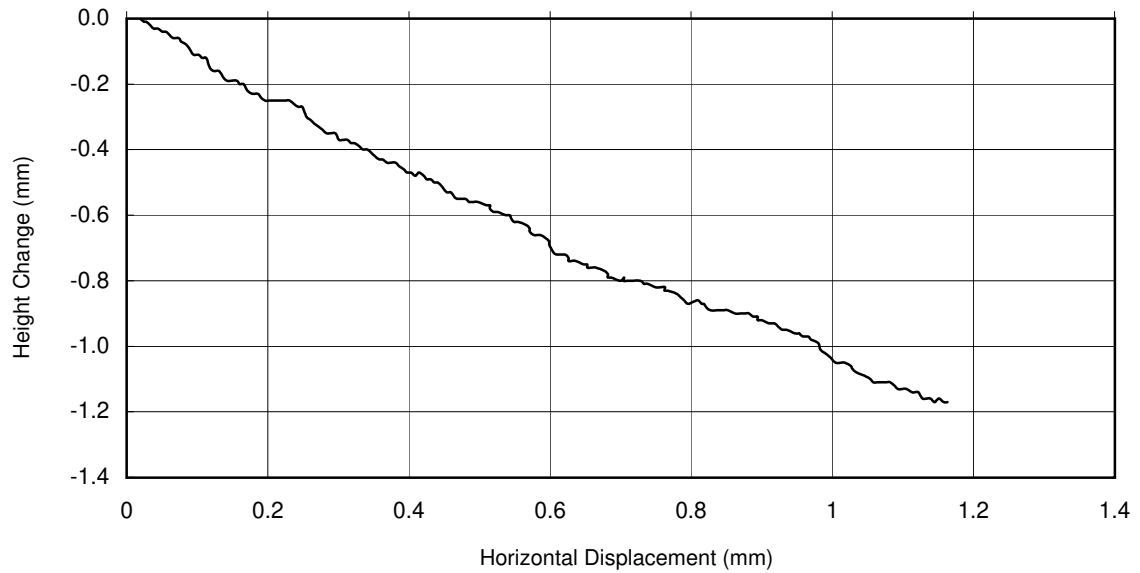
Contract No 26706

Hole BH13
Sample Ref
Depth (m) 3.70
Sample Type B

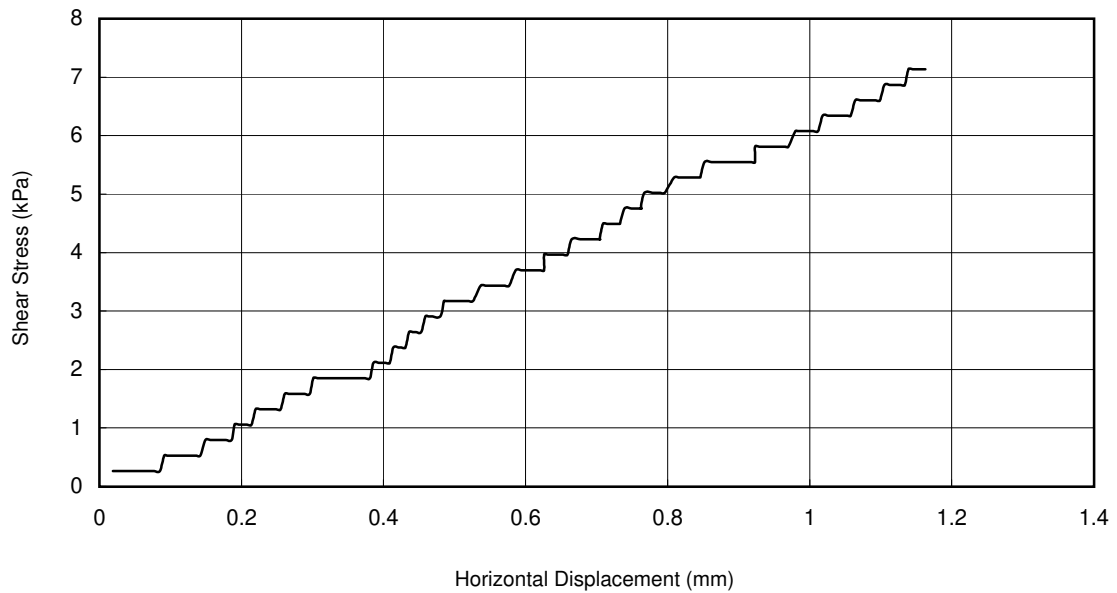
Specimen No. 1

Normal Pressure = 50 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



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Shear Strength by Direct Shear (small shearbox)

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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

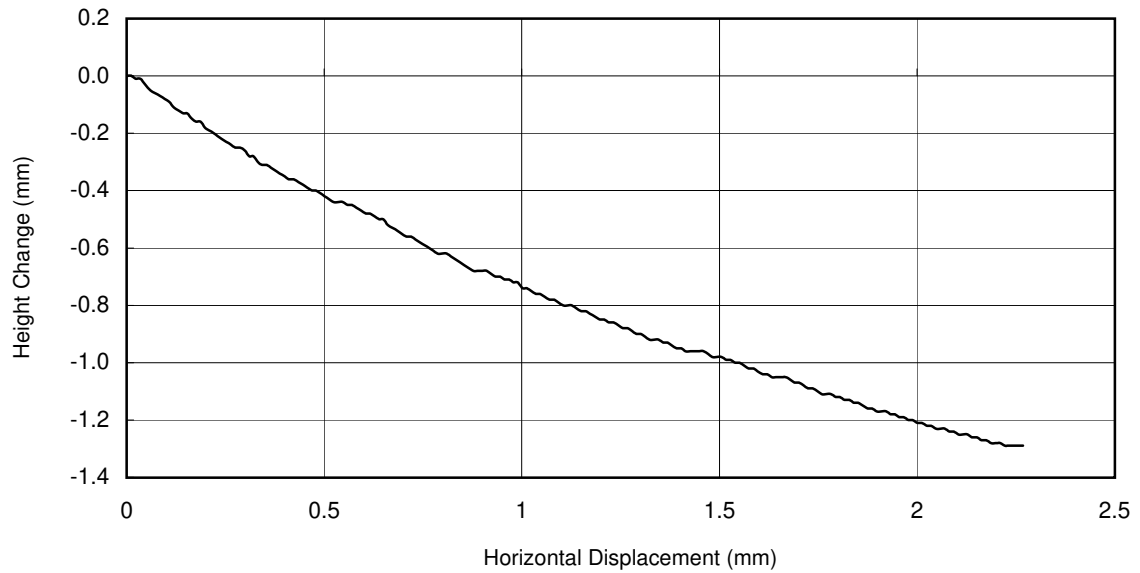
Contract No **26706**

Hole	BH13
Sample Ref	
Depth (m)	3.70
Sample Type	B

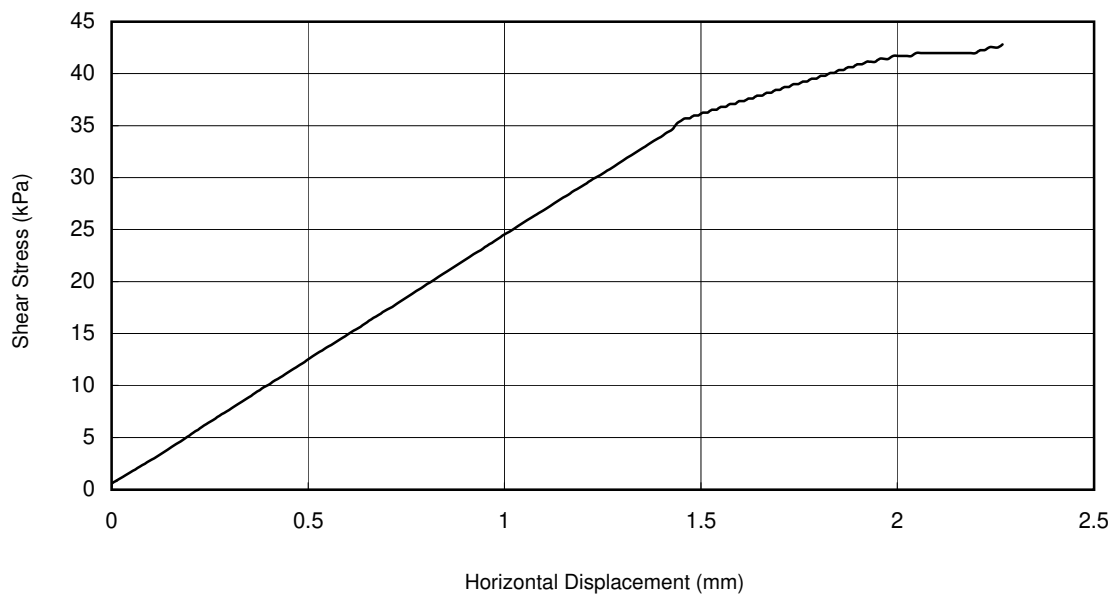
Specimen No. 2

Normal Pressure = 100 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



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Shear Strength by Direct Shear (small shearbox)

BS1377:Part 7:1990 Clause 4



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Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

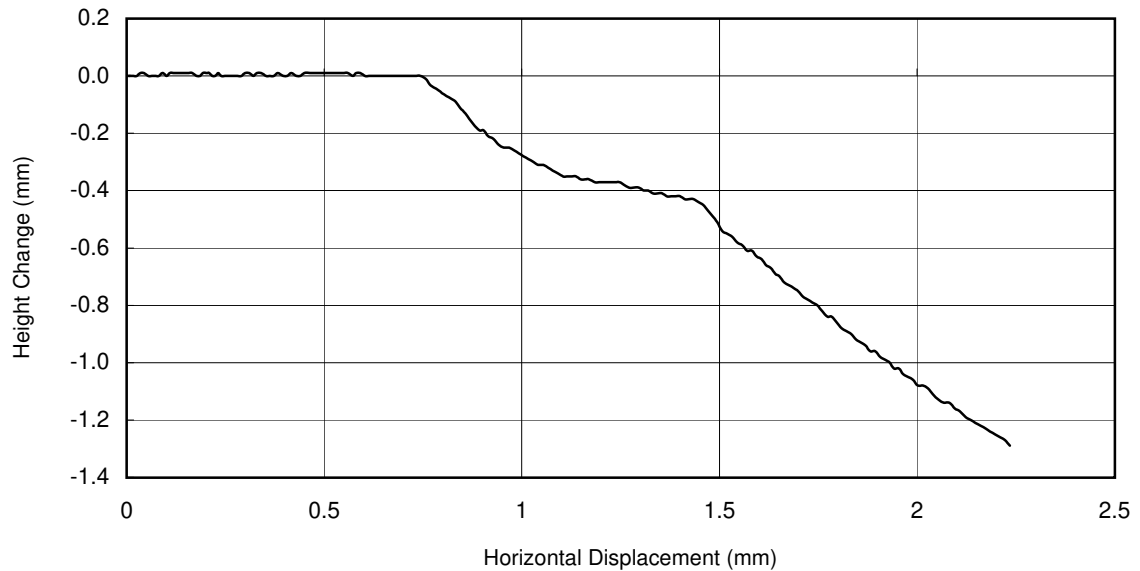
Contract No 26706

Hole BH13
Sample Ref
Depth (m) 3.70
Sample Type B

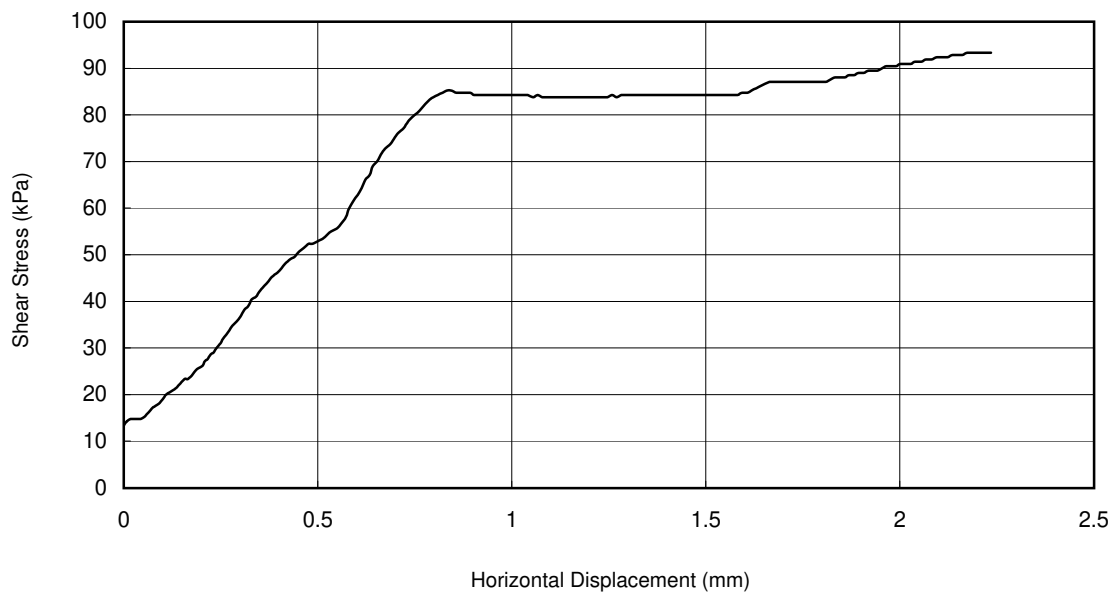
Specimen No. 3

Normal Pressure = 200 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



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Shear Strength by Direct Shear (small shearbox)

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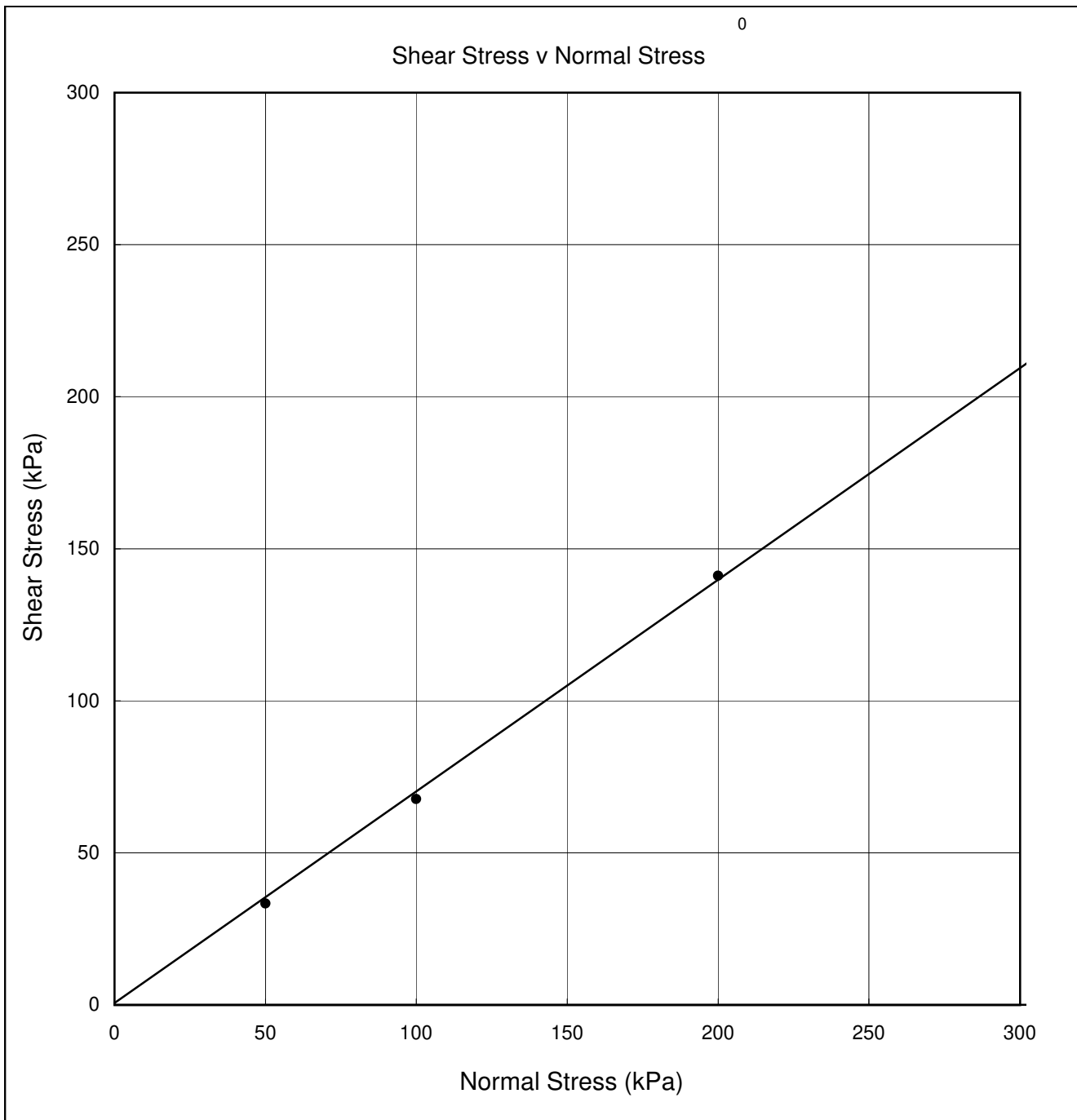
		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No26706	
		ClientScottish Power Energy Networks		HoleBH16	
		EngineerScottish Power Energy Networks		Sample Ref	
				Depth (m)4.50	
				Sample TypeB	
Specimen Details					
Depth within original sample		n/a			
Orientation within original sample		n/a			
Test condition		Non-Submerged			
Non Engineering Description		Brown silty SAND and GRAVEL with cobbles and pockets of clay. Gravel is fine to coarse			
Preparation		Material > 2mm removed (39% passing). Remoulded using 2.5kg compactive effort at as-received moisture content			
Specimen Number					
Length		mm	160.0	259.9	360.0
Width		mm	60.0	60.0	60.0
Height		mm	25.0	25.0	25.0
Initial moisture content		%	4.1	4.1	4.1
Initial wet density		Mg/m³	1.89	1.89	1.89
Initial dry density		Mg/m³	1.81	1.81	1.81
Particle Density (assumed)		Mg/m³	2.65	2.65	2.65
Consolidation Stage					
Normal stress		kPa	50	100	200
Height change		mm	-1.1	-2.1	-3.1
Duration		day(s)	1	1	1
Shearing Stage					
Normal stress		kPa	50	100	200
Peak Conditions:					
Rate of horizontal displacement		mm/min	0.12	0.12	0.12
Maximum shear stress		kPa	33	68	141
Horizontal displacement		mm	1.9	2.5	3.3
Height change		mm	-0.6	-1.8	-1.9
Final Conditions					
Final moisture content		%	4.1	4.1	4.1
Duration		day(s)	1	1	1
Shear Strength Parameters					
Maximum Condition: (linear tangent interpretation)					
Effective Cohesion		kPa	1		
Effective Angle of Shearing Resistance		degrees	35		



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No 26706

Hole	BH16
Sample Ref	
Depth (m)	4.50
Sample Type	B



Shear Strength Parameters

$c' = 1 \text{ kPa}$
 $\phi' = 35^\circ$

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Shear Strength by Direct Shear (small shearbox)

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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

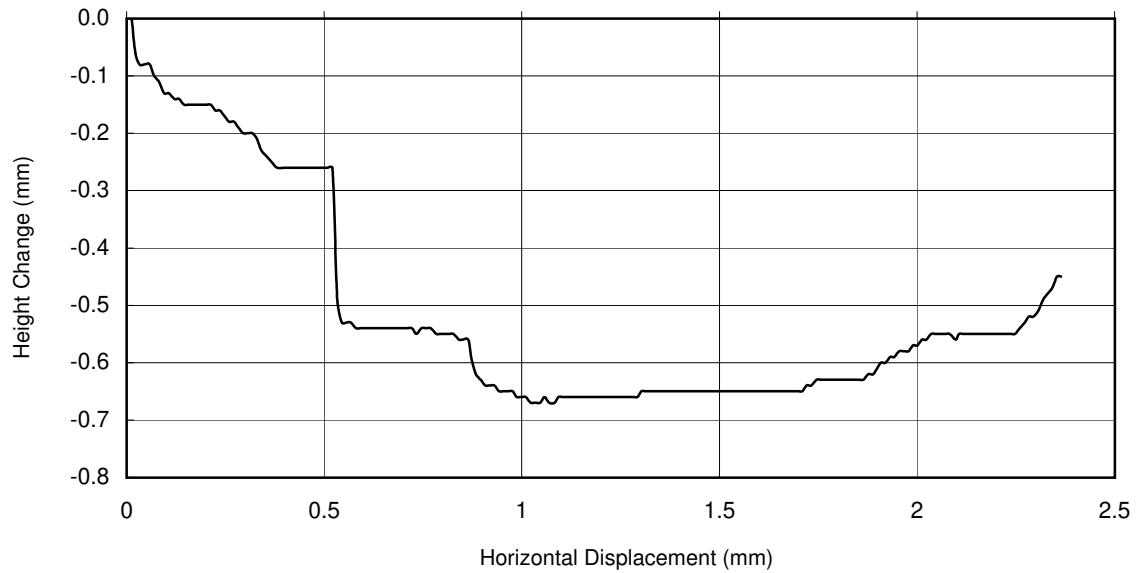
Contract No **26706**

Hole	BH16
Sample Ref	
Depth (m)	4.50
Sample Type	B

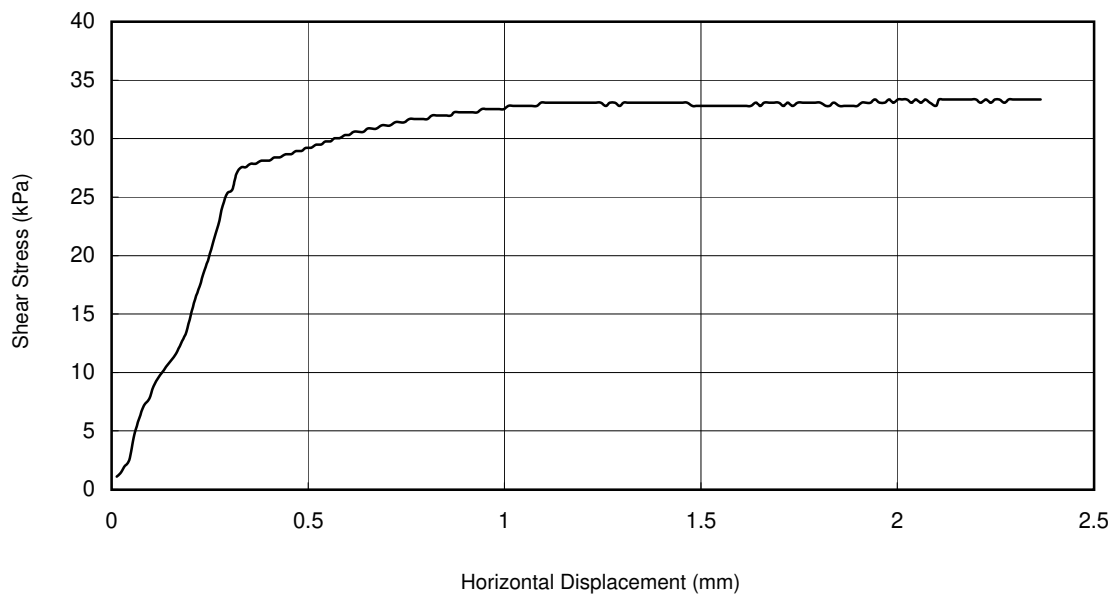
Specimen No. 1

Normal Pressure = 50 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



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Shear Strength by Direct Shear (small shearbox)

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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

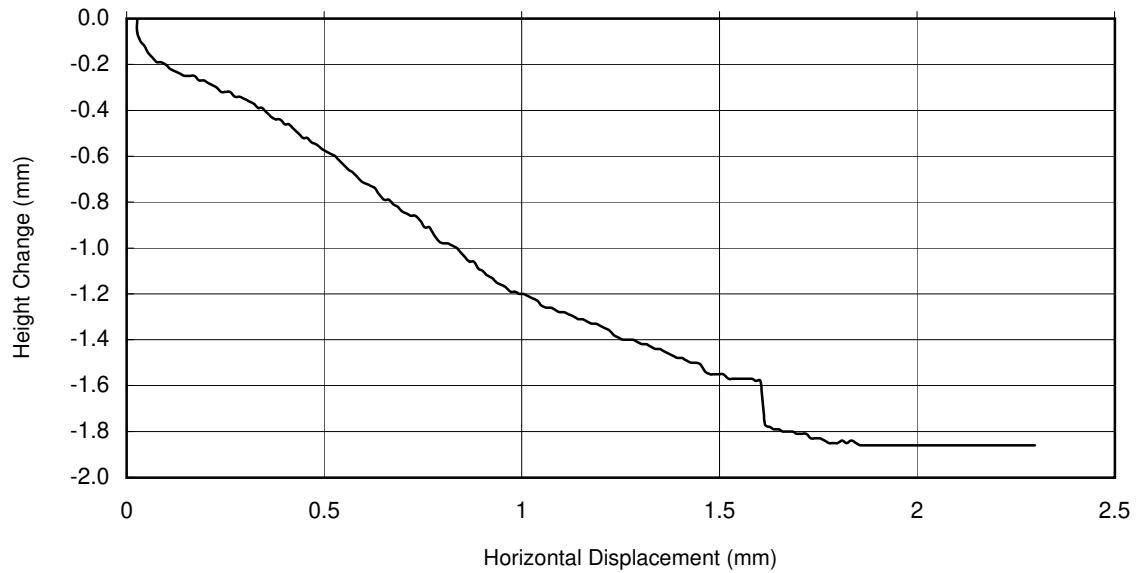
Contract No **26706**

Hole	BH16
Sample Ref	
Depth (m)	4.50
Sample Type	B

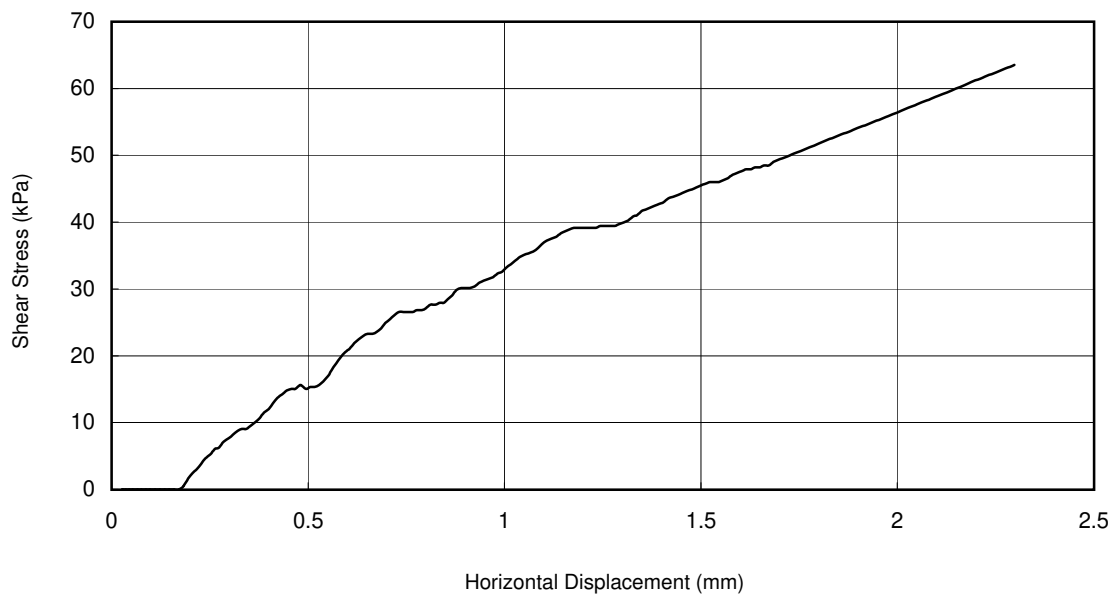
Specimen No. 2

Normal Pressure = 100 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



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Shear Strength by Direct Shear (small shearbox)

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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

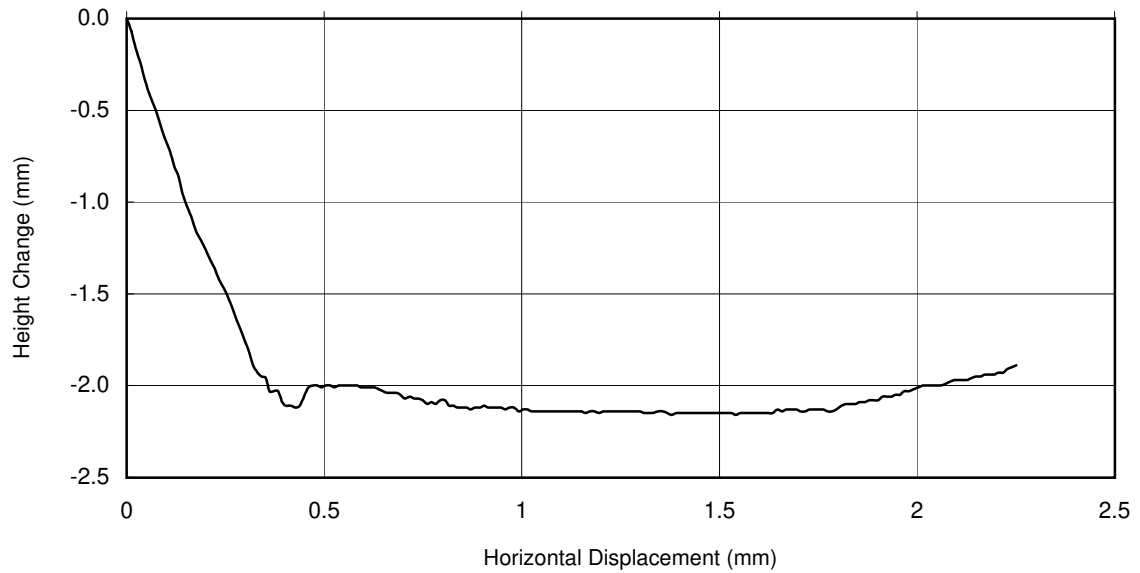
Contract No **26706**

Hole	BH16
Sample Ref	
Depth (m)	4.50
Sample Type	B

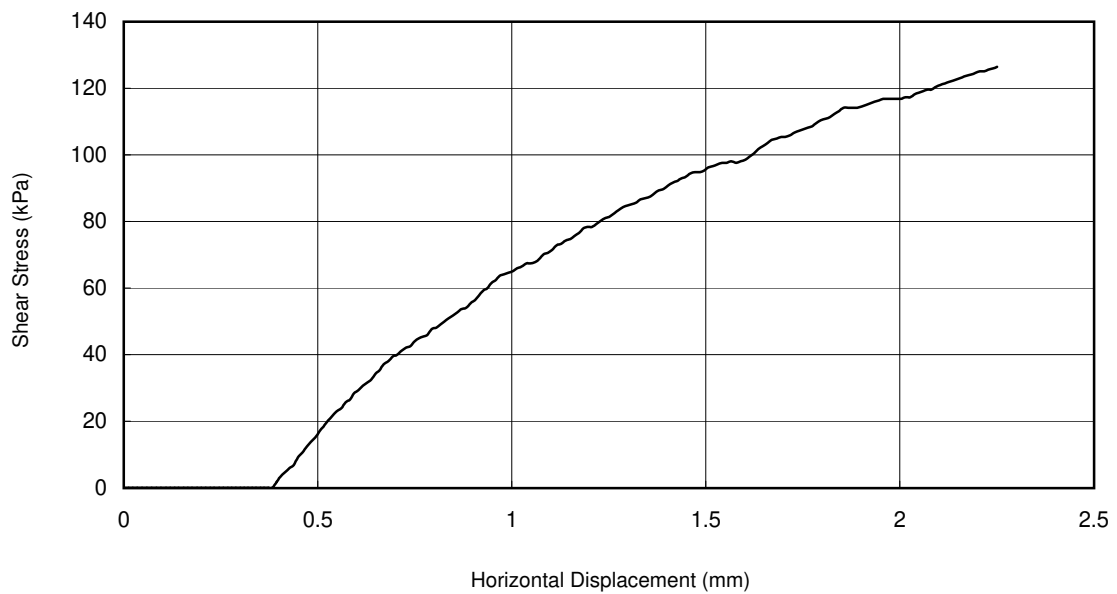
Specimen No. 3

Normal Pressure = 200 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



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Shear Strength by Direct Shear (small shearbox)

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	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION			Contract No	26667	
	Client	Scottish Power Energy Networks			Hole	TP24	
	Engineer	Scottish Power Energy Networks			Sample Ref		
					Depth (m)	2.00	
					Sample Type	LB	

Specimen Details

Depth within original sample

n/a

Orientation within original sample

n/a

Test condition

Non-Submerged

Non Engineering Description

Brown silty very sandy fine to coarse GRAVEL with pockets of clay

Preparation

Material > 2mm removed (44% passing). Remoulded using 4.5kg compactive effort at as-received moisture content

Specimen Number		1	2	3
Length	mm	60.0	60.1	60.0
Width	mm	60.0	60.0	60.0
Height	mm	25.0	25.0	25.0
Initial moisture content	%	6.9	6.9	6.9
Initial wet density	Mg/m³	1.88	1.88	1.88
Initial dry density	Mg/m³	1.76	1.76	1.76
Particle Density (assumed)	Mg/m³	2.65	2.65	2.65

Consolidation Stage

Normal stress

kPa

50

100

200

Height change

mm

-1.6

-2.9

-3.0

Duration

day(s)

1

1

1

Shearing Stage

Normal stress

kPa

50

100

200

Peak Conditions:

Rate of horizontal displacement

mm/min

0.12

0.12

0.12

Maximum shear stress

kPa

20

40

80

Horizontal displacement

mm

2.9

6.9

9.5

Height change

mm

-1.4

-2.5

-2.8

Final Conditions

Final moisture content

%

6.9

6.9

6.9

Duration

day(s)

1

1

1

Shear Strength Parameters

Maximum Condition: (linear tangent interpretation)

Effective Cohesion

kPa

2

Effective Angle of Shearing Resistance

degrees

21

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Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

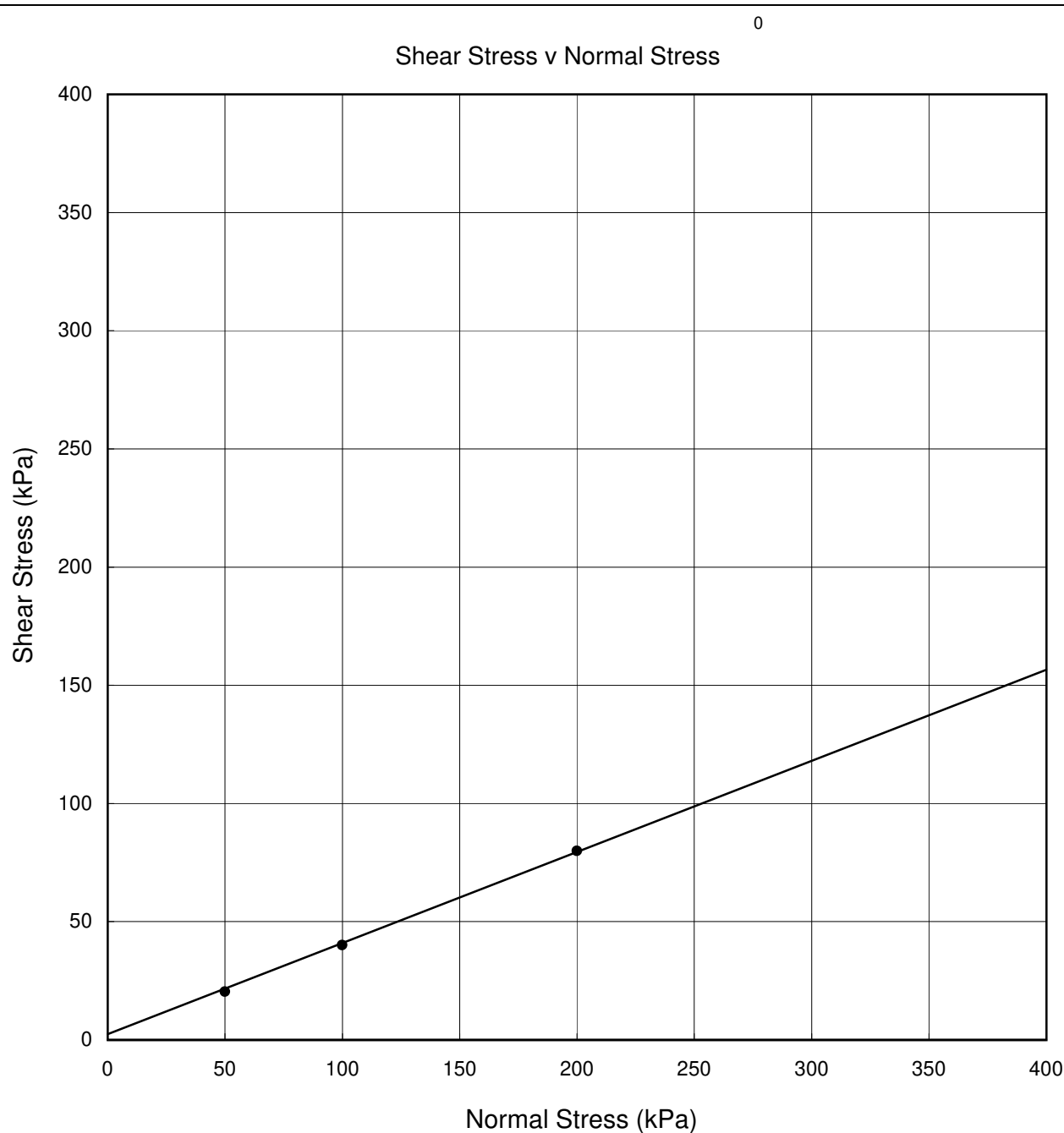
Contract No 26667

Hole TP24

Sample Ref

Depth (m) 2.00

Sample Type LB



Shear Strength Parameters

$$c' = 2 \text{ kPa}$$

$$\phi' = 21^\circ$$

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Shear Strength by Direct Shear (small shearbox)



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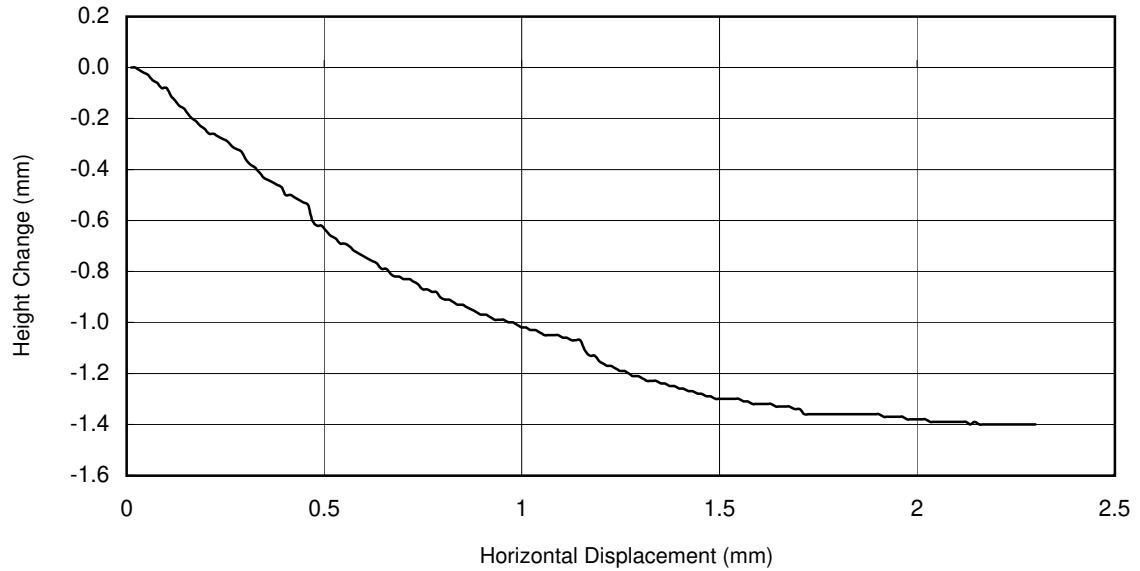
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole	TP24
Sample Ref	
Depth (m)	2.00
Sample Type	LB

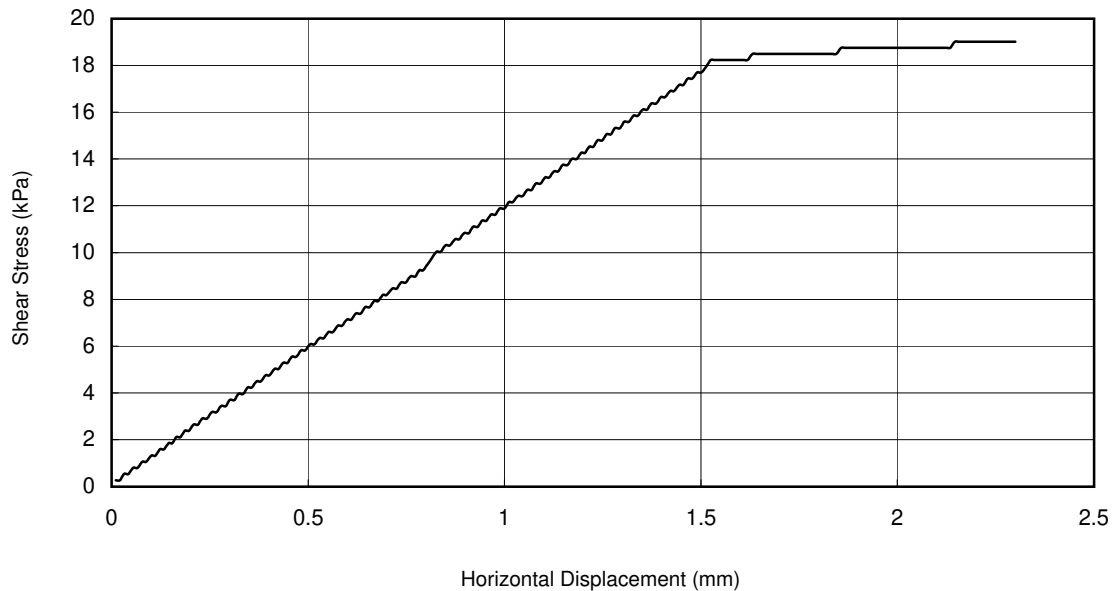
Specimen No. 1

Normal Pressure = 50 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox) BS1377:Part 7:1990 Clause 4	 Figure C235 Sheet 3 of 5
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Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

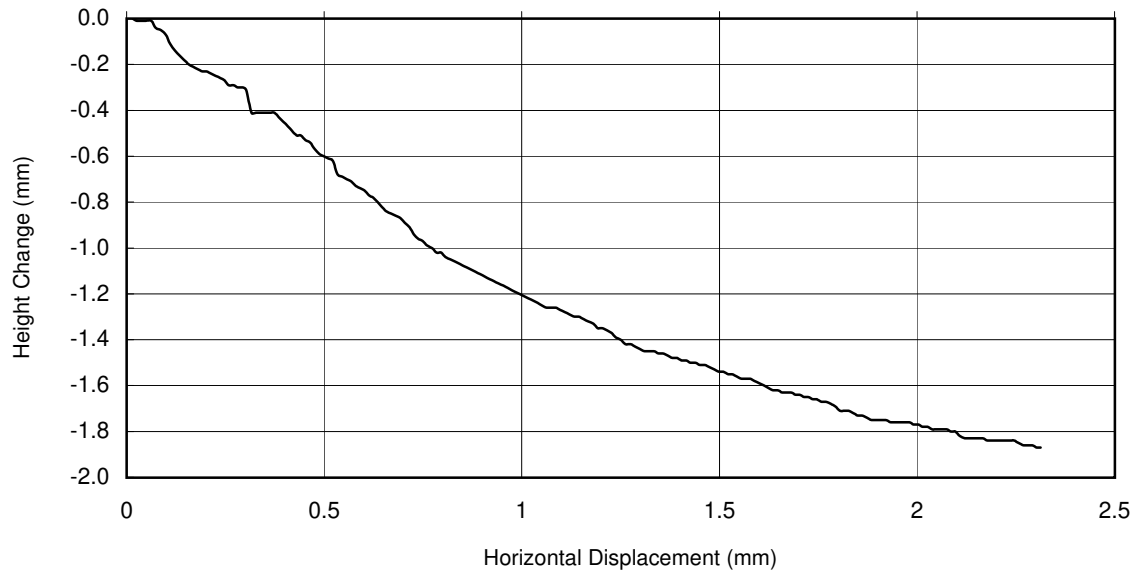
Contract No 26667

Hole TP24
Sample Ref
Depth (m) 2.00
Sample Type LB

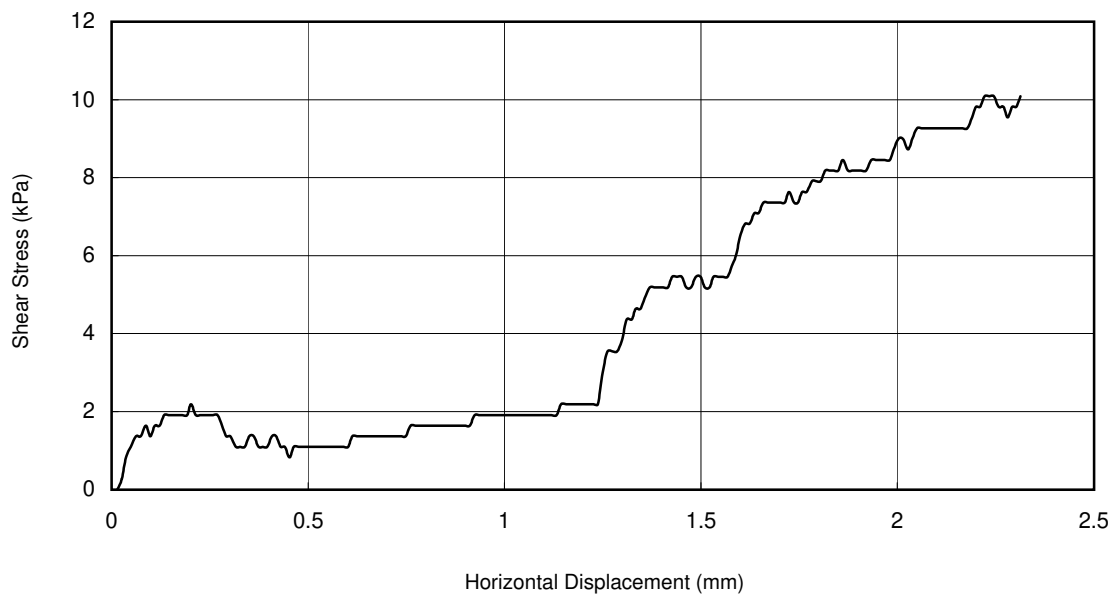
Specimen No. 2

Normal Pressure = 100 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



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Shear Strength by Direct Shear (small shearbox)

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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

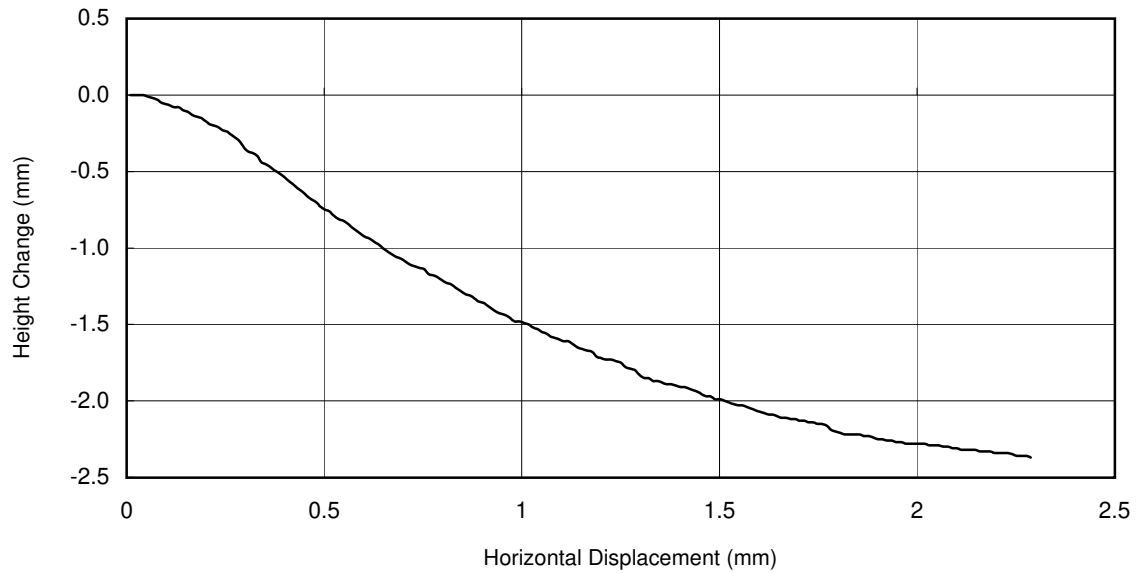
Contract No **26667**

Hole	TP24
Sample Ref	
Depth (m)	2.00
Sample Type	LB

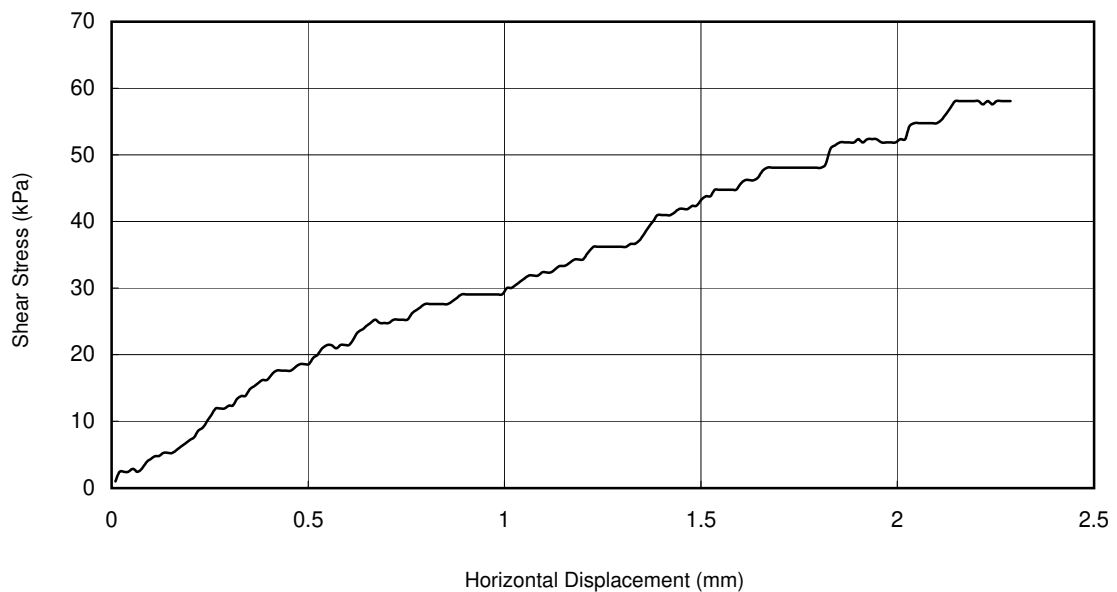
Specimen No. 3

Normal Pressure = 200 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



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Shear Strength by Direct Shear (small shearbox)

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	Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No 26667	
	Client	Scottish Power Energy Networks	Hole	TP30
	Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.50	
		Sample Type	LB	

Specimen Details

Depth within original sample

n/a

Orientation within original sample

n/a

Test condition

Submerged

Non Engineering Description

Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse

Preparation

Material > 2mm removed (80% passing). Remoulded using 4.5kg compactive effort at as-received moisture content

Specimen Number		1	2	3
Length	mm	60.0	60.1	60.0
Width	mm	60.0	60.0	60.0
Height	mm	25.0	25.0	25.0
Initial moisture content	%	0.0	0.0	0.0
Initial wet density	Mg/m³	1.88	1.88	1.88
Initial dry density	Mg/m³	1.88	1.88	1.88
Particle Density (assumed)	Mg/m³	2.65	2.65	2.65

Consolidation Stage

Normal stress

kPa

50

100

200

Height change

mm

-1.9

-3.2

-5.3

Duration

day(s)

1

1

1

Shearing Stage

Normal stress

kPa

50

100

200

Peak Conditions:

Rate of horizontal displacement

mm/min

0.12

0.12

0.12

Maximum shear stress

kPa

37

66

137

Horizontal displacement

mm

3.1

6.1

6.6

Height change

mm

-1.8

-2.4

-2.6

Final Conditions

Final moisture content

%

16

15

14

Duration

day(s)

1

1

1

Shear Strength Parameters

Maximum Condition: (linear tangent interpretation)

Effective Cohesion

kPa

3

Effective Angle of Shearing Resistance

degrees

33.5

Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	 Figure C236
SG	CD 06/11/2024		

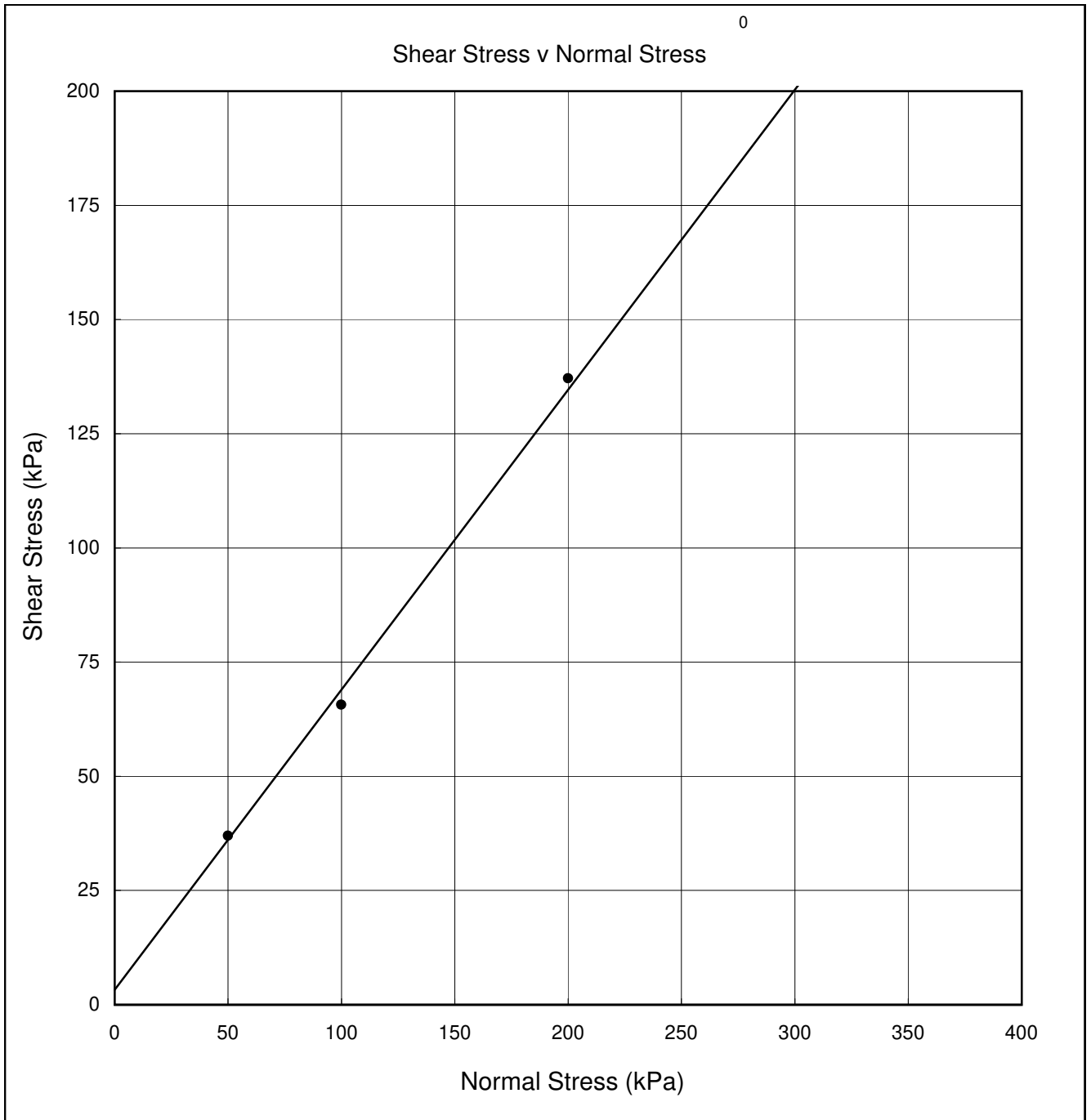
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Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole	TP30
Sample Ref	
Depth (m)	1.50
Sample Type	LB



Shear Strength Parameters

$c' = 3 \text{ kPa}$
 $\phi' = 33.5^\circ$

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Shear Strength by Direct Shear (small shearbox)

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Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

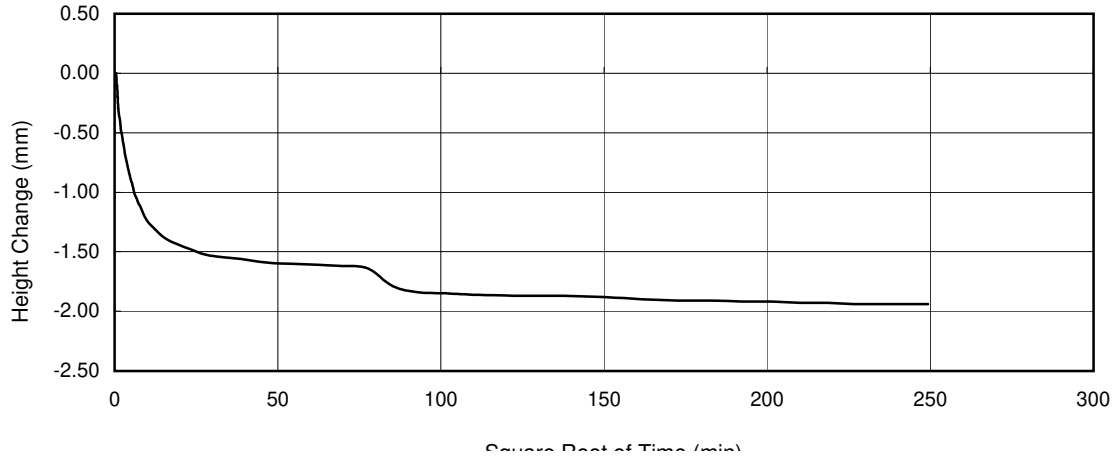
Contract No 26667

Hole TP30
Sample Ref
Depth (m) 1.50
Sample Type LB

Specimen No. 1

Normal Pressure = 50 kPa

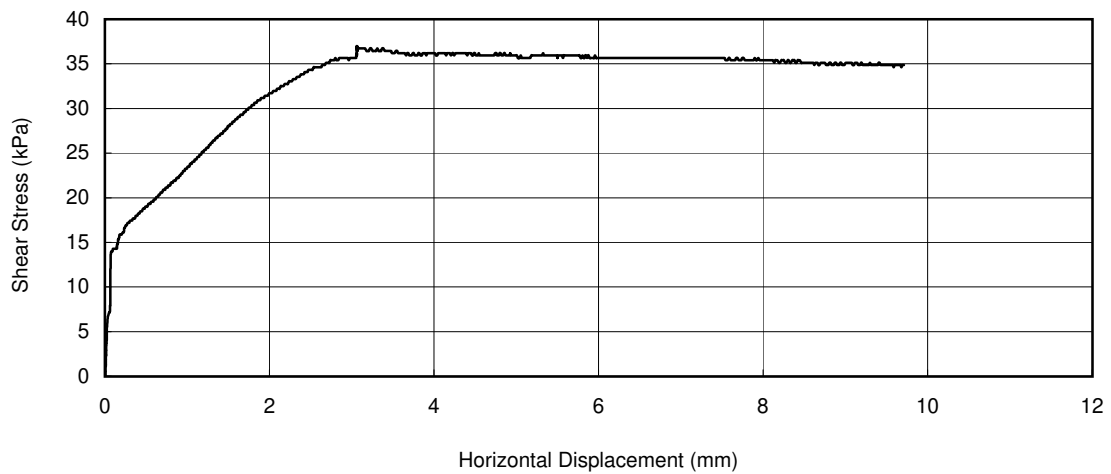
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



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Shear Strength by Direct Shear (small shearbox)

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Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

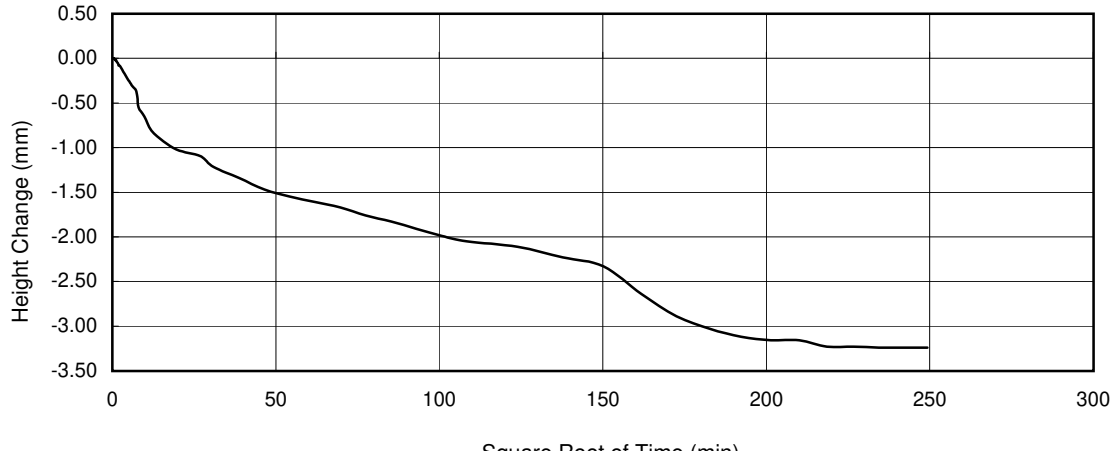
Contract No 26667

Hole TP30
Sample Ref
Depth (m) 1.50
Sample Type LB

Specimen No. 2

Normal Pressure = 100 kPa

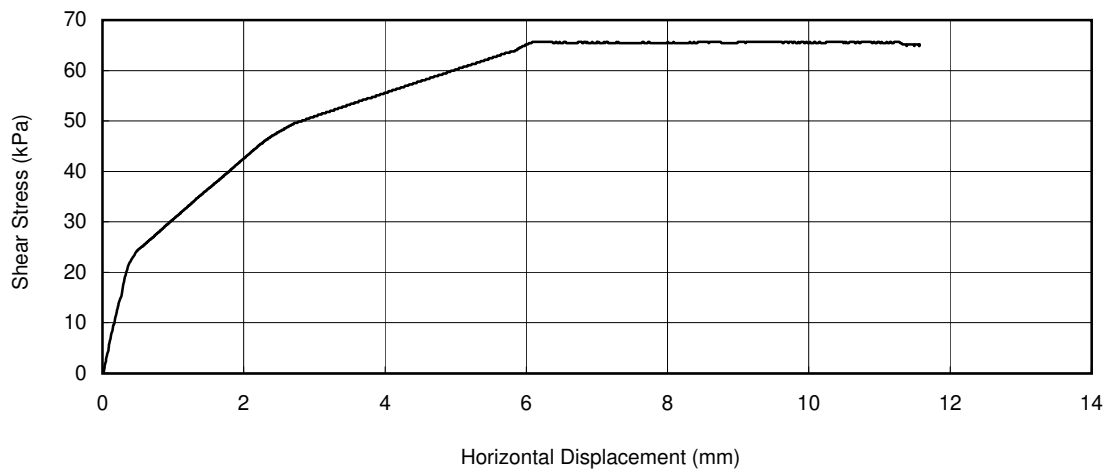
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator

Checked &
Approved

SG

CD
06/11/2024

Shear Strength by Direct Shear (small shearbox)

BS1377:Part 7:1990 Clause 4



Figure C236

Sheet 4 of 5



Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client Scottish Power Energy Networks
Engineer Scottish Power Energy Networks

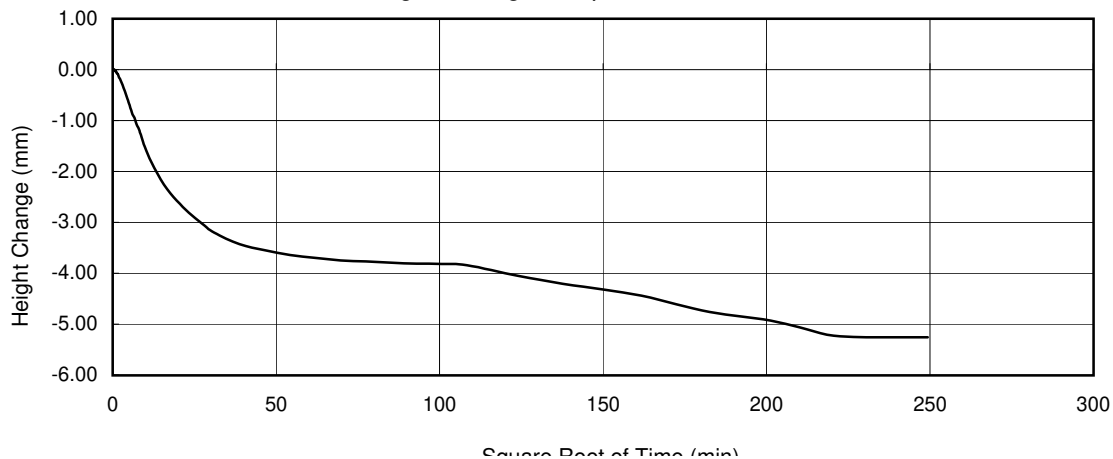
Contract No 26667

Hole TP30
Sample Ref
Depth (m) 1.50
Sample Type LB

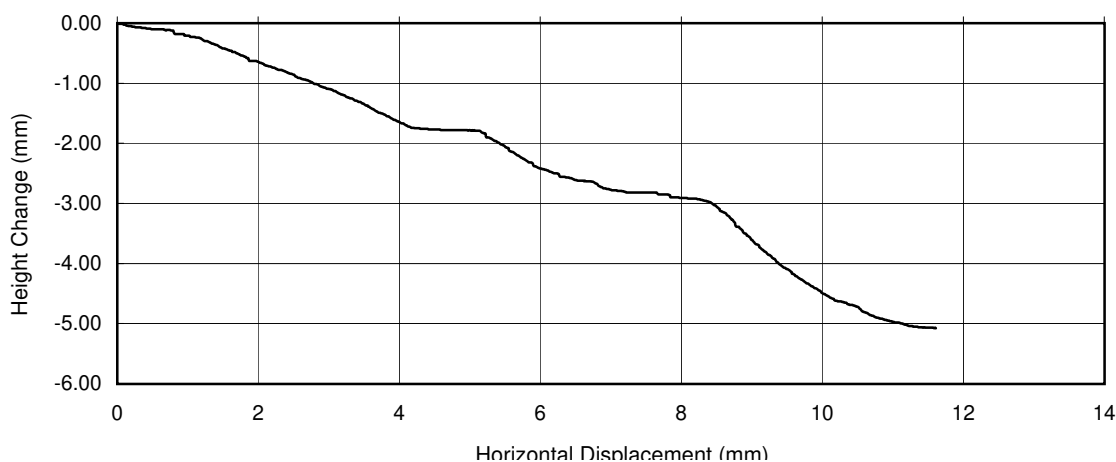
Specimen No. 3

Normal Pressure = 200 kPa

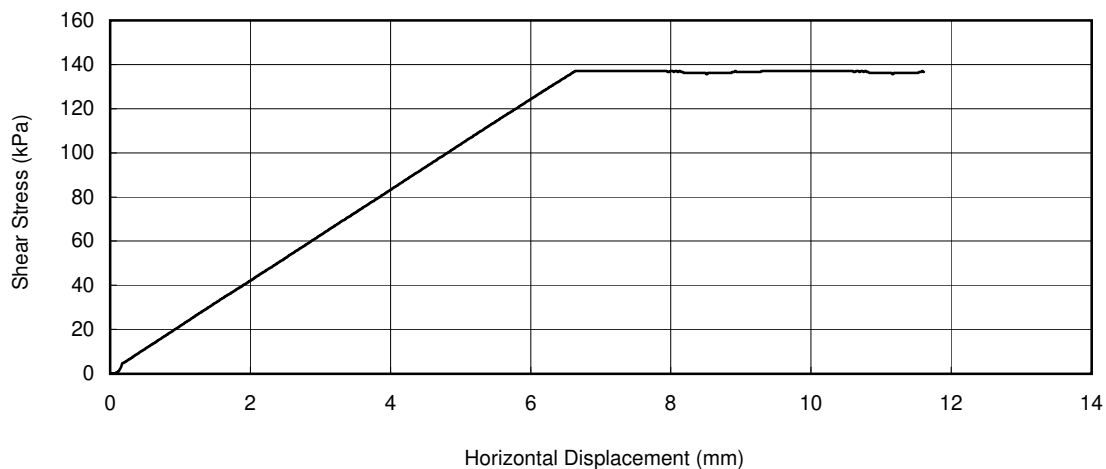
Height Change v Square Root Time



Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator

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06/11/2024

Shear Strength by Direct Shear (small shearbox)

BS1377:Part 7:1990 Clause 4



Figure C236

Sheet 5 of 5

	Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION		Contract No 26667	
	Client	Scottish Power Energy Networks	Hole	TP32
	Engineer	Scottish Power Energy Networks	Sample Ref	
		Depth (m)	1.50	
		Sample Type	B	

Specimen Details

Depth within original sample

n/a

Orientation within original sample

n/a

Test condition

Non-Submerged

Non Engineering Description

Brown silty very sandy fine to coarse GRAVEL with cobble and pockets of clay

Preparation

Material > 2mm removed (38% passing). Remoulded using 2.5kg compactive effort at as-received moisture content

Specimen Number		1	2	3
Length	mm	60.0	59.9	60.0
Width	mm	60.0	60.0	60.0
Height	mm	25.0	25.0	25.0
Initial moisture content	%	11	11	11
Initial wet density	Mg/m³	1.91	1.91	1.91
Initial dry density	Mg/m³	1.72	1.72	1.72
Particle Density (assumed)	Mg/m³	2.65	2.65	2.65

Consolidation Stage

Normal stress

kPa

50

100

200

Height change

mm

-0.1

-1.6

-1.7

Duration

day(s)

1

1

1

Shearing Stage

Normal stress

kPa

50

100

200

Peak Conditions:

Rate of horizontal displacement

mm/min

0.12

0.12

0.12

Maximum shear stress

kPa

39

73

144

Horizontal displacement

mm

1.9

2.2

3.6

Height change

mm

-0.4

-1.0

-1.1

Final Conditions

Final moisture content

%

11

11

11

Duration

day(s)

1

1

1

Shear Strength Parameters

Maximum Condition: (linear tangent interpretation)

Effective Cohesion

kPa

2

Effective Angle of Shearing Resistance

degrees

35

Originator	Checked & Approved	Shear Strength by Direct Shear (small shearbox)	 Figure C237
SG	CD 06/11/2024		

BS1377:Part 7:1990 Clause 4

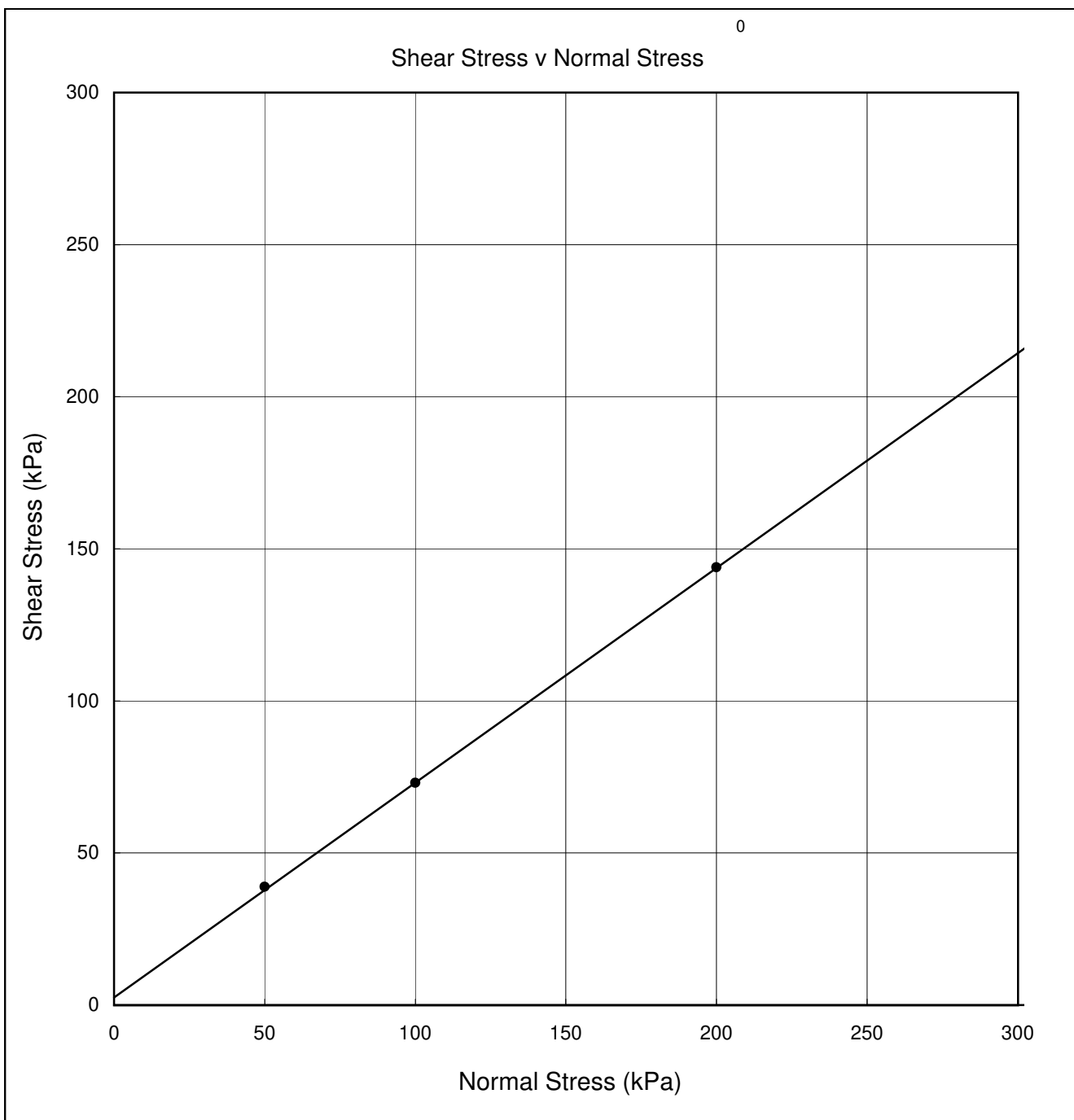
Sheet 1 of 5



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No **26667**

Hole	TP32
Sample Ref	
Depth (m)	1.50
Sample Type	B



Shear Strength Parameters

$c' = 2$ kPa
 $\phi' = 35^\circ$

Originator	Checked & Approved
SG	CD 06/11/2024

Shear Strength by Direct Shear (small shearbox)

BS1377:Part 7:1990 Clause 4



Figure C237

Sheet 2 of 5



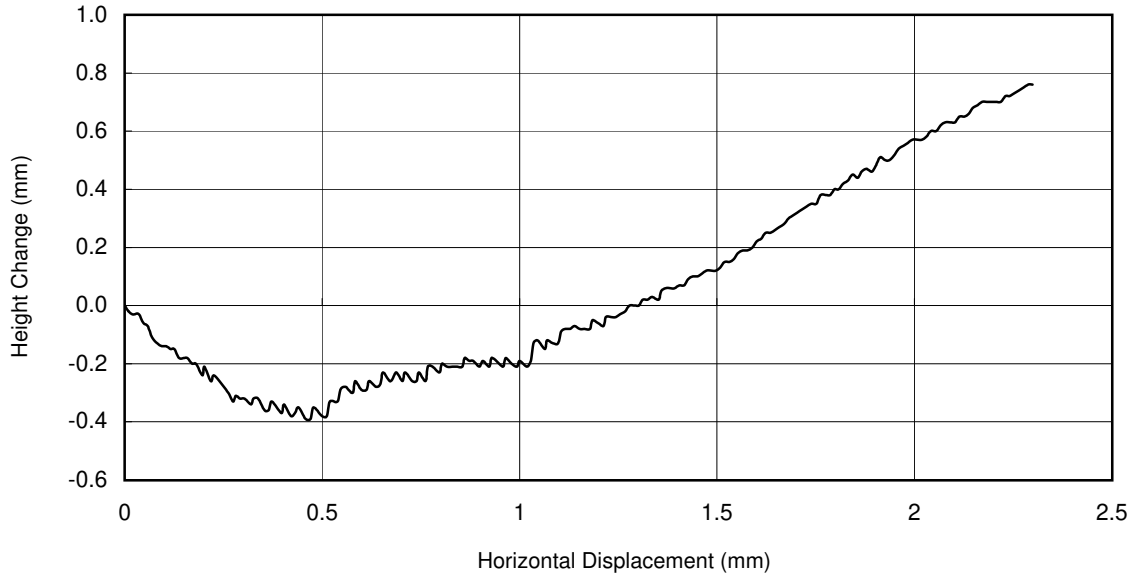
Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole	TP32
Sample Ref	
Depth (m)	1.50
Sample Type	B

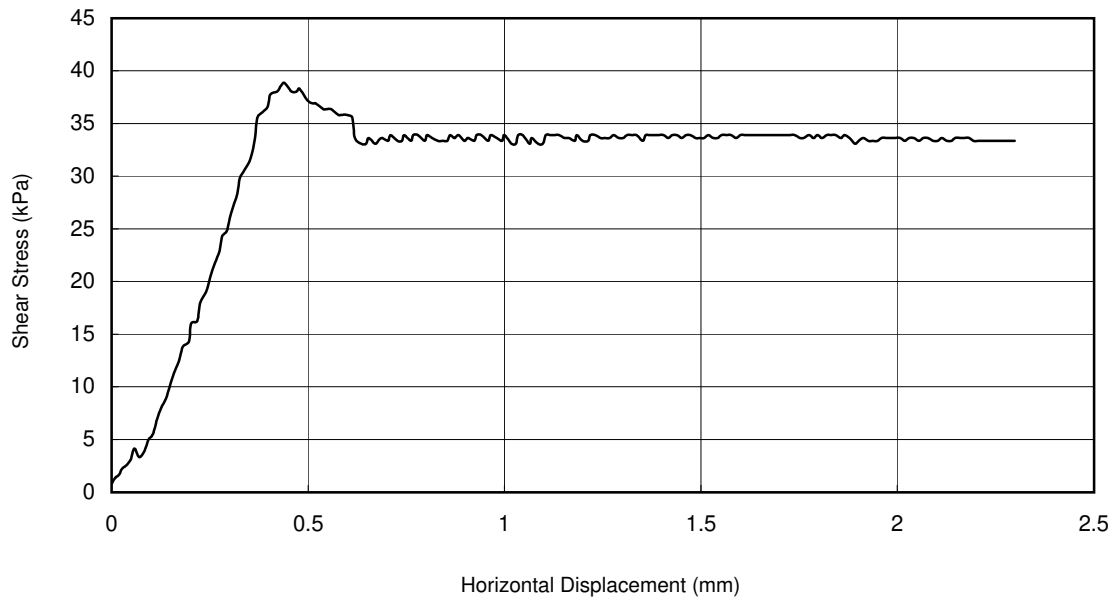
Specimen No. 1

Normal Pressure = 50 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator

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06/11/2024

Shear Strength by Direct Shear (small shearbox)

BS1377:Part 7:1990 Clause 4



Figure C237

Sheet 3 of 5



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

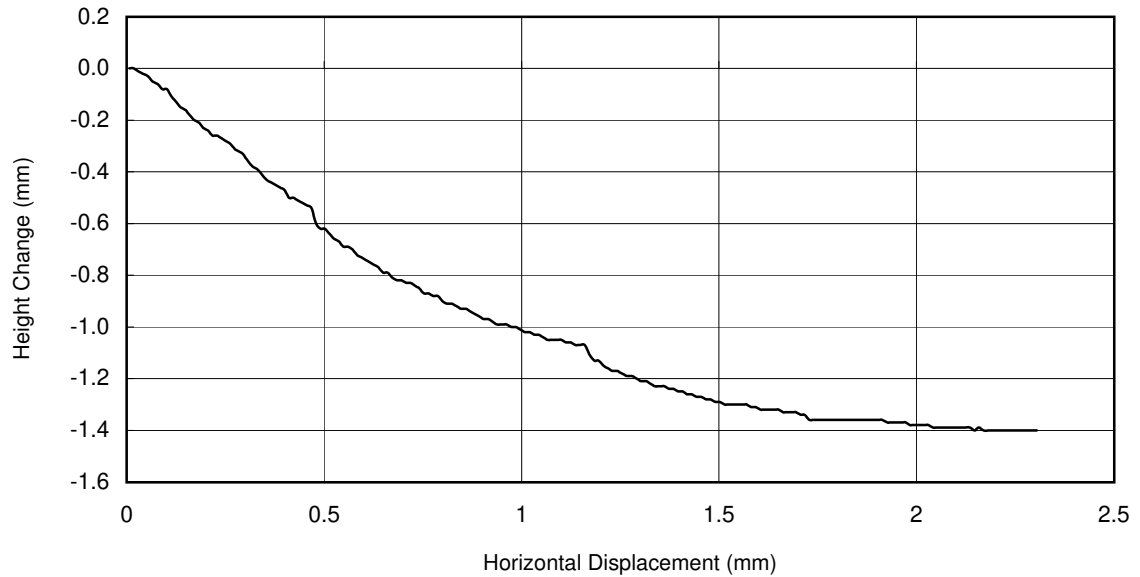
Contract No **26667**

Hole	TP32
Sample Ref	
Depth (m)	1.50
Sample Type	B

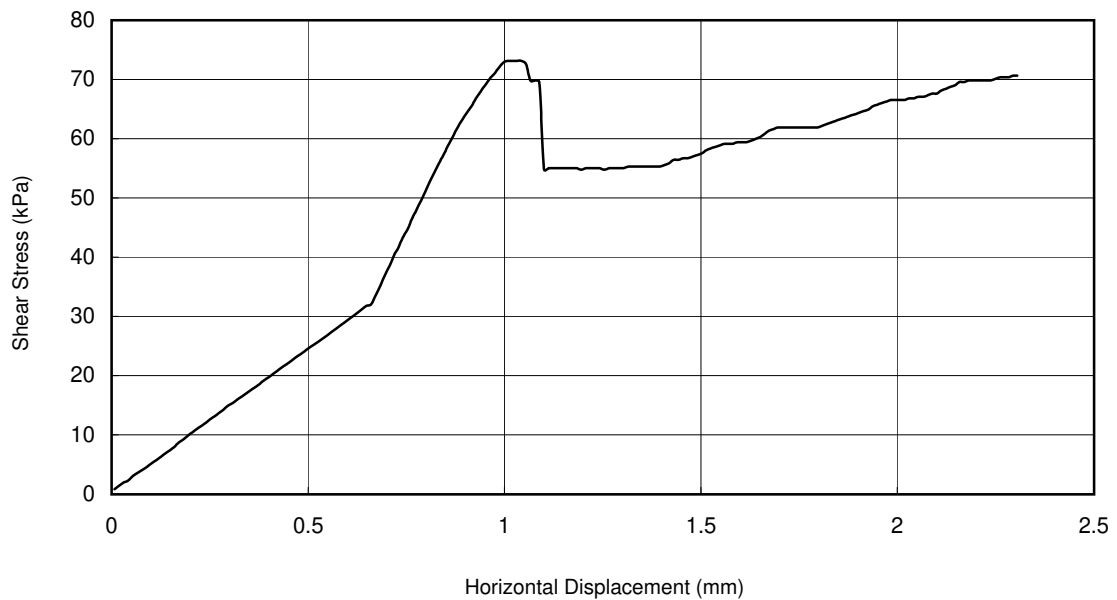
Specimen No. 2

Normal Pressure = 100 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator

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06/11/2024

Shear Strength by Direct Shear (small shearbox)

BS1377:Part 7:1990 Clause 4



Figure C237

Sheet 4 of 5



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

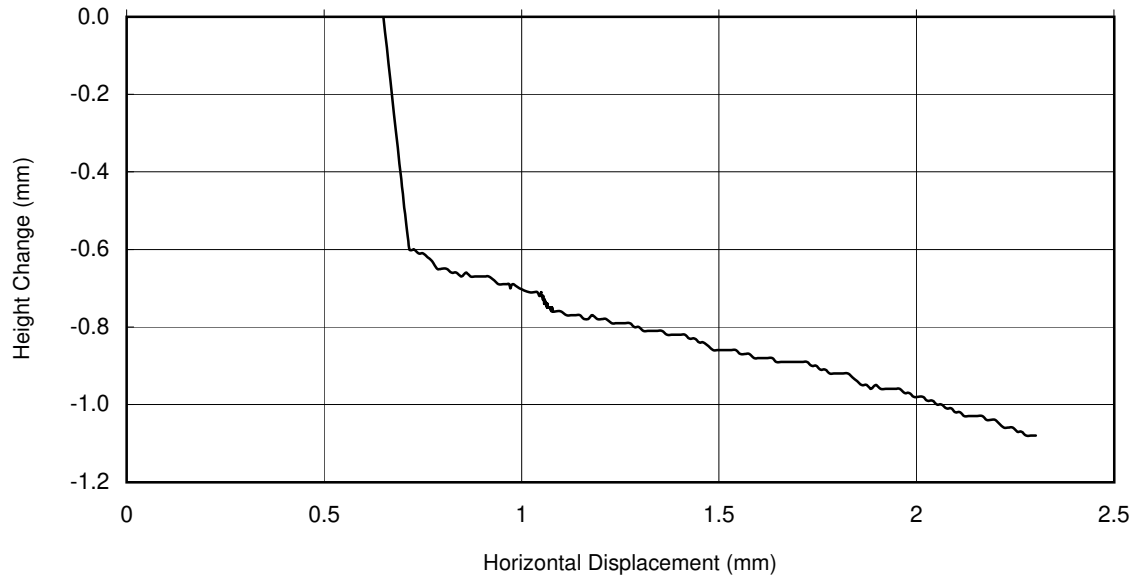
Contract No **26667**

Hole	TP32
Sample Ref	
Depth (m)	1.50
Sample Type	B

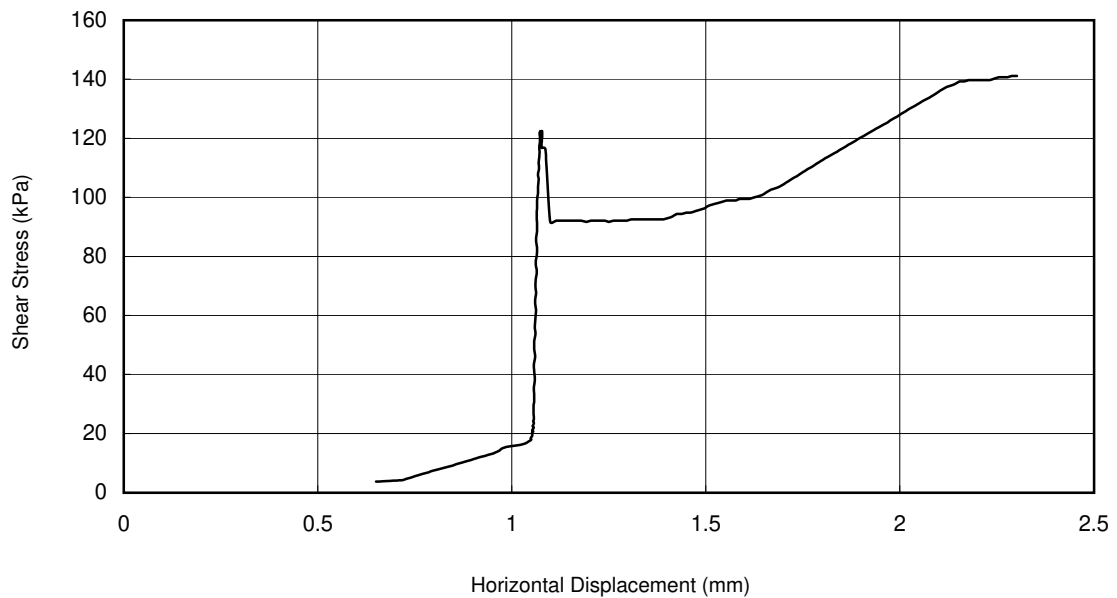
Specimen No. 3

Normal Pressure = 200 kPa

Height Change v Horizontal Displacement



Shear Stress v Horizontal Displacement



Originator

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SG

CD
06/11/2024

Shear Strength by Direct Shear (small shearbox)

BS1377:Part 7:1990 Clause 4



Figure C237

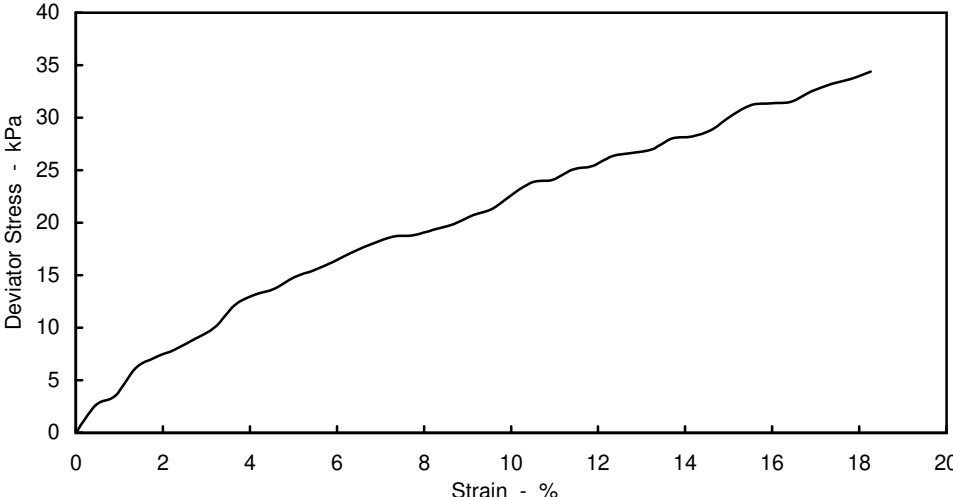
Sheet 5 of 5

		SiteEASTERN GREEN LINK 4 - HVDC CONVERTER STATION			Contract No.26667	
		ClientScottish Power Energy Networks			Exp. PointBH01	
		EngineerScottish Power Energy Networks			Sample Ref	
					Depth (m)2.20	
					Sample TypeUT100	

Sample Details					Comments Prepared by vertical extrusion.Undisturbed specimen taken 100mm below top of tube in a horizontal orientation.	
Sample Condition		Undisturbed				
Height	mm	219.0				
Diameter	mm	100.4				
Moisture Content	%	14				
Bulk Density	Mg/m³	2.23				
Dry Density	Mg/m³	1.95				
Test Details	Stage	1	2	3	Drawing of specimen failure	
Membrane Thickness	mm	0.50	0.50	0.50		
Membrane Correction	kPa	1.05	1.36	1.78		
Rate of Axial Displacement	%/min	1.83	1.83	1.83		
Cell Pressure	kPa	100	200	400		
Strain at Failure	%	9.1	12.8	18.3		
Maximum Deviator Stress	kPa	21	27	34		
Shear Strength	kPa	10	13	17	Shear Strength Parameters	
Mode of Failure				Plastic	C8kPa	
Non Engineering Description		Brown slightly gravelly sandy silty CLAY. Gravel is fine to coarse			Phi1.2°	

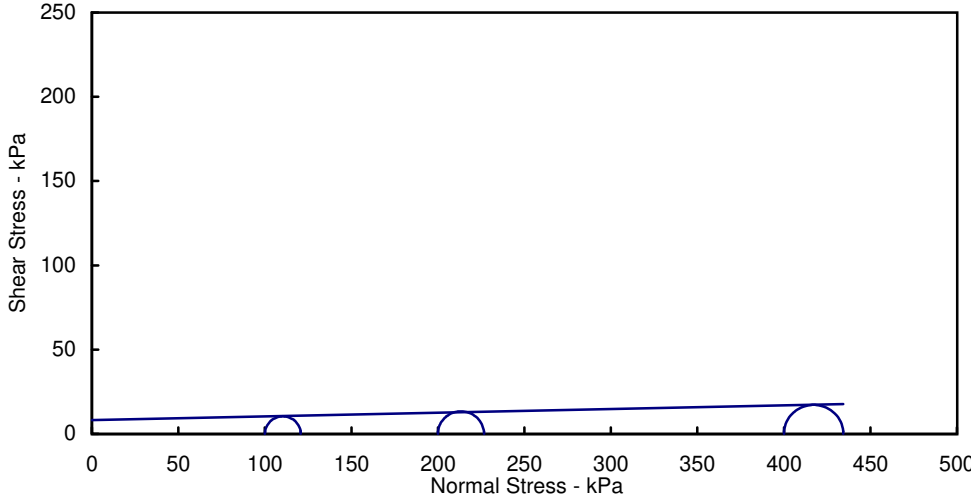
Deviator Stress - kPa

Strain - %



Shear Stress - kPa

Normal Stress - kPa



Originator	Checked & Approved	UNCONSOLIDATED UNDRAINED MULTISTAGE TRIAXIAL COMPRESSION BS 1377 : Part 7 : 1990 Clause 9 (Withdrawn)	 Figure C238
CM	CD 06/11/2024		

Sheet 1 of 2

	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	BH01
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	2.20
			Sample Type	UT100



Originator	Checked & Approved	PHOTOGRAPHS OF SPECIMEN FAILURE	 Figure C238
CM	 06/11/2024		
			Sheet 1 of 1

Certificate of Analysis

Client: Igne

Project: 24090917

Quote: BEC240334631 V3.1

Project Ref: A15347-1

Site: Eastern Green Link 4 - HVDC Converter Station

Contact: Craig Donnelly

Address: 62 Rochsolloch Road
Airdrie
North Lanarckshire
ML6 9BG

E-Mail: Craig.donnelly@igne.com

Phone: 01236 747949

No. Samples Received: 17

Date Received: 06/09/2024

Analysis Completed: 11/09/2024

Date Issued: 11/09/2024

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Julie Dickinson
01283 554670
Julie.Dickinson@socotec.co.uk



Project Number: [24090917](#)

Client: Igne

Date Issued: 11/09/2024

Project Name: A15347-1 - Eastern Green Link 4 - HVDC Converter Station

Samples Analysed

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
24090917-001	TP06-0-ES-0.70		SOLID	Clay Sample
24090917-002	TP09-0-D-0.50		SOLID	Clay Sample
24090917-003	TP11-0-ES-0.20		SOLID	Clay Sample
24090917-004	TP11-0-ES-0.50		SOLID	Clay Sample
24090917-005	TP13-0-D-2.00		SOLID	Clay Sample
24090917-006	TP16-0-ES-1.00		SOLID	Clay Sample
24090917-007	TP16-0-D-2.50		SOLID	Clay Sample
24090917-008	TP18-0-D-0.50		SOLID	Clay Sample
24090917-009	TP18-0-LB-3.00		SOLID	Clay Sample
24090917-010	TP20-0-D-3.50		SOLID	Clay Sample
24090917-011	TP21-0-ES-0.50		SOLID	Silt Sample
24090917-012	TP24-0-D-2.00		SOLID	Silt Sample
24090917-013	TP28-0-D-1.50		SOLID	Silt Sample
24090917-014	TP30-0-D-1.50		SOLID	Clay Sample
24090917-015	TP32-0-D-1.50		SOLID	Silt Sample
24090917-016	TP35-0-D-0.50		SOLID	Clay Sample
24090917-017	TP35-0-ES-1.00		SOLID	Silt Sample

Analysis Results

SOCOTEC Sample ID:				24090917-001	24090917-002	24090917-003	24090917-004	24090917-005
Sampling Date:								
Customer ID:				TP06-0-ES-0.70	TP09-0-D-0.50	TP11-0-ES-0.20	TP11-0-ES-0.50	TP13-0-D-2.00
Method Code	Analysis	MDL	Accred.					
CLANDPREP	Total Moisture at 35°C	0.1 %	N	13.6	13.3	17.4	5.9	11.4
	Major Constituents	-	N	CLAY	CLAY	CLAY	CLAY	CLAY
	Minor Constituents	-	N	Gravel	Gravel	Gravel	Gravel	Gravel
	Miscellaneous Constituents	-	N	n/a	n/a	Organic Matter	n/a	n/a
	Colour of Material	-	N	Grey/Brown	Grey/Brown	Grey/Brown	Grey/Brown	Grey/Brown
PHSOIL	pH (2.5:1 extraction)	1 pH units	U	8.3			8.5	
ORGMAT	Organic Matter	0.2 % m/m	N		3.8	2.3	2.5	4.0
ICPWSS	Water Soluble Sulphate as SO4 2:1 Ext	10 mg/l	U	114			106	

Analysis Results

SOCOTEC Sample ID:				24090917-006	24090917-007	24090917-008	24090917-009	24090917-010
Sampling Date:								
Customer ID:				TP16-0-ES-1.00	TP16-0-D-2.50	TP18-0-D-0.50	TP18-0-LB-3.00	TP20-0-D-3.50
Method Code	Analysis	MDL	Accred.					
CLANDPREP	Total Moisture at 35°C	0.1 %	N	13.1	17.7	9.4	8.3	10.9
	Major Constituents	-	N	CLAY	CLAY	CLAY	CLAY	CLAY
	Minor Constituents	-	N	Gravel	Gravel	Gravel	Gravel	Gravel
	Miscellaneous Constituents	-	N	n/a	n/a	n/a	Silt	n/a
	Colour of Material	-	N	Grey/Brown	Grey/Brown	Grey/Brown	Grey	Grey/Brown
PHSOIL	pH (2.5:1 extraction)	1 pH units	U	8.0		7.2	3.3	2.7
ORGMAT	Organic Matter	0.2 % m/m	N		4.2			
ICPWSS	Water Soluble Sulphate as SO ₄ 2:1 Ext	10 mg/l	U	31		148	767	2040



Project Number: 24090917

Client: Igne

Date Issued: 11/09/2024

Project Name: A15347-1 - Eastern Green Link 4 - HVDC Converter Station



1252

Analysis Results

SOCOTEC Sample ID:				24090917-011	24090917-012	24090917-013	24090917-014	24090917-015
Sampling Date:								
Customer ID:				TP21-0-ES-0.50	TP24-0-D-2.00	TP28-0-D-1.50	TP30-0-D-1.50	TP32-0-D-1.50
Method Code	Analysis	MDL	Accred.					
CLANDPREP	Total Moisture at 35°C	0.1 %	N	15.7	6.1	11.1	10.7	9.2
	Major Constituents	-	N	SILT	SILT	SILT	CLAY	SILT
	Minor Constituents	-	N	Gravel	Gravel	Gravel	Gravel	Gravel
	Miscellaneous Constituents	-	N	Organic Matter	n/a	n/a	n/a	n/a
	Colour of Material	-	N	Brown	Grey/Brown	Grey	Grey/Brown	Grey
PHSOIL	pH (2.5:1 extraction)	1 pH units	U	6.6	2.8	4.1	6.5	4.8
ICPWSS	Water Soluble Sulphate as SO4 2:1 Ext	10 mg/l	U	34	1210	1150	70	790



Project Number: 24090917

Client: Igne

Date Issued: 11/09/2024

Project Name: A15347-1 - Eastern Green Link 4 - HVDC Converter Station



1252

Analysis Results

		SOCOTEC Sample ID:		24090917-016	24090917-017
		Sampling Date:			
		Customer ID:		TP35-0-D-0.50	TP35-0-ES-1.00
Method Code	Analysis	MDL	Accred.		
CLANDPREP	Total Moisture at 35°C	0.1 %	N	12.2	10.6
	Major Constituents	-	N	CLAY	SILT
	Minor Constituents	-	N	Silt	Gravel
	Miscellaneous Constituents	-	N	Organic Matter	n/a
	Colour of Material	-	N	Brown	Brown
PHSOIL	pH (2.5:1 extraction)	1 pH units	U	6.4	6.7
ICPWSS	Water Soluble Sulphate as SO4 2:1 Ext	10 mg/l	U	14	14



Project Number: [24090917](#)

Client: Igne

Date Issued: 11/09/2024

Project Name: A15347-1 - Eastern Green Link 4 - HVDC Converter Station

Deviating Sample Report

<u>Sample Reference</u>	<u>Text ID</u>	<u>Method Code</u>	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
TP06-0-ES-0.70	24090917-001	CLANDPREP					✓	✓
TP06-0-ES-0.70	24090917-001	ICPWSS					✓	✓
TP06-0-ES-0.70	24090917-001	PHSOIL					✓	✓
TP09-0-D-0.50	24090917-002	CLANDPREP					✓	✓
TP09-0-D-0.50	24090917-002	ORGMAT					✓	✓
TP11-0-ES-0.20	24090917-003	CLANDPREP					✓	✓
TP11-0-ES-0.20	24090917-003	ORGMAT					✓	✓
TP11-0-ES-0.50	24090917-004	CLANDPREP					✓	✓
TP11-0-ES-0.50	24090917-004	ICPWSS					✓	✓
TP11-0-ES-0.50	24090917-004	ORGMAT					✓	✓
TP11-0-ES-0.50	24090917-004	PHSOIL					✓	✓
TP13-0-D-2.00	24090917-005	CLANDPREP					✓	✓
TP13-0-D-2.00	24090917-005	ORGMAT					✓	✓
TP16-0-ES-1.00	24090917-006	CLANDPREP					✓	✓
TP16-0-ES-1.00	24090917-006	ICPWSS					✓	✓
TP16-0-ES-1.00	24090917-006	PHSOIL					✓	✓
TP16-0-D-2.50	24090917-007	CLANDPREP					✓	✓
TP16-0-D-2.50	24090917-007	ORGMAT					✓	✓
TP18-0-D-0.50	24090917-008	CLANDPREP					✓	✓
TP18-0-D-0.50	24090917-008	ICPWSS					✓	✓
TP18-0-D-0.50	24090917-008	PHSOIL					✓	✓
TP18-0-LB-3.00	24090917-009	CLANDPREP					✓	✓
TP18-0-LB-3.00	24090917-009	ICPWSS					✓	✓
TP18-0-LB-3.00	24090917-009	PHSOIL					✓	✓
TP20-0-D-3.50	24090917-010	CLANDPREP					✓	✓
TP20-0-D-3.50	24090917-010	ICPWSS					✓	✓
TP20-0-D-3.50	24090917-010	PHSOIL					✓	✓
TP21-0-ES-0.50	24090917-011	CLANDPREP					✓	✓
TP21-0-ES-0.50	24090917-011	ICPWSS					✓	✓
TP21-0-ES-0.50	24090917-011	PHSOIL					✓	✓
TP24-0-D-2.00	24090917-012	CLANDPREP					✓	✓
TP24-0-D-2.00	24090917-012	ICPWSS					✓	✓
TP24-0-D-2.00	24090917-012	PHSOIL					✓	✓
TP28-0-D-1.50	24090917-013	CLANDPREP					✓	✓



Project Number: 24090917

Client: Igne

Date Issued: 11/09/2024

Project Name: A15347-1 - Eastern Green Link 4 - HVDC Converter Station

<u>Sample Reference</u>	<u>Text ID</u>	<u>Method Code</u>	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
TP28-0-D-1.50	24090917-013	ICPWSS					✓	✓
TP28-0-D-1.50	24090917-013	PHSOIL					✓	✓
TP30-0-D-1.50	24090917-014	CLANDPREP					✓	✓
TP30-0-D-1.50	24090917-014	ICPWSS					✓	✓
TP30-0-D-1.50	24090917-014	PHSOIL					✓	✓
TP32-0-D-1.50	24090917-015	CLANDPREP					✓	✓
TP32-0-D-1.50	24090917-015	ICPWSS					✓	✓
TP32-0-D-1.50	24090917-015	PHSOIL					✓	✓
TP35-0-D-0.50	24090917-016	CLANDPREP					✓	✓
TP35-0-D-0.50	24090917-016	ICPWSS					✓	✓
TP35-0-D-0.50	24090917-016	PHSOIL					✓	✓
TP35-0-ES-1.00	24090917-017	CLANDPREP					✓	✓
TP35-0-ES-1.00	24090917-017	ICPWSS					✓	✓
TP35-0-ES-1.00	24090917-017	PHSOIL					✓	✓

Analysis Method

Method Code

CLANDPREP
CLANDPREP
ICPWSS
ORGMAT
PHSOIL

Method Description

Moisture Content @ 35°C
Solid Material Description
Sulphate as SO₄ (Water Soluble 2:1 Extract)
Organic Matter Content by Colorimetry
pH (2.5:1)

Analysis Method

As Received
As Received
Air Dried & Ground
Air Dried & Ground
As Received



Project Number: [24090917](#)

Client: Igne

Date Issued: 11/09/2024

Project Name: A15347-1 - Eastern Green Link 4 - HVDC Converter Station

[Result Report Notes](#)

Letters alongside results signify that the result has associated report notes.

The report notes are as follows:

[Letter](#)

[Note](#)

A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

[HWOL Acronym Key](#)

[Acronym](#)

[Description](#)

HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total



Project Number: [24090917](#)

Client: Igne

Date Issued: 11/09/2024

Project Name: A15347-1 - Eastern Green Link 4 - HVDC Converter Station

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any accreditation marked with ^ signify results are reported on a dry weight basis of 105 ° c.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35 ° c.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any results marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

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Summaries of analysis methods are available upon request.

End of Certificate of Analysis

Certificate of Analysis

Client: Igne

Project: 24093043

Quote: BEC240334631 V3.1

Project Ref: A15347-2

Site: Eastern Green Link 4 - HVDC Converter Station 2

Contact: Craig Donnelly

Address: 62 Rochsolloch Road
Airdrie
North Lanarckshire
ML6 9BG

E-Mail: Craig.donnelly@igne.com

Phone: 01236 747949

No. Samples Received: 9

Date Received: 24/09/2024

Analysis Completed: 30/09/2024

Date Issued: 01/10/2024

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Samantha Edwards
01283 554 541
Samantha.Edwards@socotec.co.uk

**Project Number: 24093043****Client:** Igne**Date Issued:** 01/10/2024**Project Name:** A15347-2 - Eastern Green Link 4 - HVDC Converter Station 2**Samples Analysed**

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
24093043-001	BH02-0-ES-0.50		SOLID	Clay Sample
24093043-002	BH03-0-D-0.50		SOLID	Clay Sample
24093043-003	BH03-0-D-1.70		SOLID	Clay Sample
24093043-004	BH04-0-D-0.50		SOLID	Silt Sample
24093043-005	BH06-0-ES-0.50		SOLID	Clay Sample
24093043-006	BH08-0-D-3.20		SOLID	Clay Sample
24093043-007	BH10-0-D-0.40		SOLID	Clay Sample
24093043-008	BH11-0-D-0.50		SOLID	Clay Sample
24093043-009	BH12-0-D-1.70		SOLID	Silt Sample



Project Number: 24093043

Client: Igne

Date Issued: 01/10/2024

Project Name: A15347-2 - Eastern Green Link 4 - HVDC Converter Station
2



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Analysis Results

		SOCOTEC Sample ID:		24093043-001	24093043-002	24093043-003	24093043-004	24093043-005
		Sampling Date:						
		Customer ID:		BH02-0-ES-0.50	BH03-0-D-0.50	BH03-0-D-1.70	BH04-0-D-0.50	BH06-0-ES-0.50
Method Code	Analysis	MDL	Accred.					
CLANDPREP	Total Moisture at 35°C	0.1 %	N	10.4	15.8	20.2	11.6	15.0
	Major Constituents	-	N	CLAY	CLAY	CLAY	SILT	CLAY
	Minor Constituents	-	N	Silt	Gravel	Gravel	Gravel	Gravel
	Miscellaneous Constituents	-	N	Gravel	Organic Matter	Organic Matter	Organic Matter	Organic Matter
	Colour of Material	-	N	Brown	Grey	Grey	Brown	Brown
PHSOIL	pH (2.5:1 extraction)	1 pH units	U	7.3	8.4		8.1	7.7
ORGMAT	Organic Matter	0.2 % m/m	N		3.6	3.6		
ICPWSS	Water Soluble Sulphate as SO ₄ 2:1 Ext	10 mg/l	U	26	36		<10	68

Analysis Results

SOCOTEC Sample ID:				24093043-006	24093043-007	24093043-008	24093043-009
Sampling Date:							
Customer ID:				BH08-0-D-3.20	BH10-0-D-0.40	BH11-0-D-0.50	BH12-0-D-1.70
Method Code	Analysis	MDL	Accred.				
CLANDPREP	Total Moisture at 35°C	0.1 %	N	16.2	13.8	14.9	12.4
	Major Constituents	-	N	CLAY	CLAY	CLAY	SILT
	Minor Constituents	-	N	Gravel	Gravel	Gravel	Gravel
	Miscellaneous Constituents	-	N	n/a	n/a	Organic Matter	Clay
	Colour of Material	-	N	Grey	Brown	Brown	Brown
PHSOIL	pH (2.5:1 extraction)	1 pH units	U		7.5	7.8	7.5
ORGMAT	Organic Matter	0.2 % m/m	N	4.0			
ICPWSS	Water Soluble Sulphate as SO4 2:1 Ext	10 mg/l	U		122	27	34



Project Number: [24093043](#)

Client: Igne

Date Issued: 01/10/2024

Project Name: A15347-2 - Eastern Green Link 4 - HVDC Converter Station 2

[Deviating Sample Report](#)

<u>Sample Reference</u>	<u>Text ID</u>	<u>Method Code</u>	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
BH02-0-ES-0.50	24093043-001	CLANDPREP					✓	✓
BH02-0-ES-0.50	24093043-001	ICPWSS					✓	✓
BH02-0-ES-0.50	24093043-001	PHSOIL					✓	✓
BH03-0-D-0.50	24093043-002	CLANDPREP					✓	✓
BH03-0-D-0.50	24093043-002	ICPWSS					✓	✓
BH03-0-D-0.50	24093043-002	ORGMAT					✓	✓
BH03-0-D-0.50	24093043-002	PHSOIL					✓	✓
BH03-0-D-1.70	24093043-003	CLANDPREP					✓	✓
BH03-0-D-1.70	24093043-003	ORGMAT					✓	✓
BH04-0-D-0.50	24093043-004	CLANDPREP					✓	✓
BH04-0-D-0.50	24093043-004	ICPWSS					✓	✓
BH04-0-D-0.50	24093043-004	PHSOIL					✓	✓
BH06-0-ES-0.50	24093043-005	CLANDPREP					✓	✓
BH06-0-ES-0.50	24093043-005	ICPWSS					✓	✓
BH06-0-ES-0.50	24093043-005	PHSOIL					✓	✓
BH08-0-D-3.20	24093043-006	CLANDPREP					✓	✓
BH08-0-D-3.20	24093043-006	ORGMAT					✓	✓
BH10-0-D-0.40	24093043-007	CLANDPREP					✓	✓
BH10-0-D-0.40	24093043-007	ICPWSS					✓	✓
BH10-0-D-0.40	24093043-007	PHSOIL					✓	✓
BH11-0-D-0.50	24093043-008	CLANDPREP					✓	✓
BH11-0-D-0.50	24093043-008	ICPWSS					✓	✓
BH11-0-D-0.50	24093043-008	PHSOIL					✓	✓
BH12-0-D-1.70	24093043-009	CLANDPREP					✓	✓
BH12-0-D-1.70	24093043-009	ICPWSS					✓	✓
BH12-0-D-1.70	24093043-009	PHSOIL					✓	✓

[Analysis Method](#)

[Method Code](#)

CLANDPREP
CLANDPREP
ICPWSS
ORGMAT
PHSOIL

[Method Description](#)

Moisture Content @ 35°C
Solid Material Description
Sulphate as SO₄ (Water Soluble 2:1 Extract)
Organic Matter Content by Colorimetry
pH (2.5:1)

[Analysis Method](#)

As Received
As Received
Air Dried & Ground
Air Dried & Ground
As Received



Project Number: [24093043](#)

Client: Igne

Date Issued: 01/10/2024

Project Name: A15347-2 - Eastern Green Link 4 - HVDC Converter Station 2

[Result Report Notes](#)

Letters alongside results signify that the result has associated report notes.

The report notes are as follows:

[Letter](#)

[Note](#)

A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

[HWOL Acronym Key](#)

[Acronym](#)

[Description](#)

HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total



Project Number: 24093043

Client: Igne

Date Issued: 01/10/2024

Project Name: A15347-2 - Eastern Green Link 4 - HVDC Converter Station 2

Additional Information

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Results within this report relate only to the samples tested.

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U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

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All Air Dried and Ground Samples (ADG) are oven dried at less than 35 ° c.

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Summaries of analysis methods are available upon request.

End of Certificate of Analysis

Certificate of Analysis

Client: Igne

Project: 24101324

Quote: BEC240334631 V3.1

Project Ref: A15347-3

Site: Eastern Green Link 4 - HVDC Converter Station 3

Contact: Craig Donnelly

Address: 62 Rochsolloch Road
Airdrie
North Lanarckshire
ML6 9BG

E-Mail: Craig.donnelly@igne.com

Phone: 01236 747949

No. Samples Received: 2

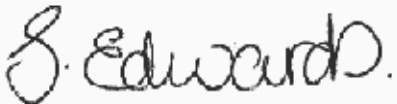
Date Received: 09/10/2024

Analysis Completed: 16/10/2024

Date Issued: 16/10/2024

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Samantha Edwards
01283 554 541
Samantha.Edwards@socotec.co.uk



Project Number: 24101324

Client: Igne

Date Issued: 16/10/2024

Project Name: A15347-3 - Eastern Green Link 4 - HVDC Converter Station 3

Samples Analysed

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
24101324-001	BH16-0-D-4.20		SOLID	Silt Sample
24101324-002	BH18-0-D-1.00		SOLID	Clay Sample



Project Number: 24101324

Client: Igne

Date Issued: 16/10/2024

Project Name: A15347-3 - Eastern Green Link 4 - HVDC Converter Station
3



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Analysis Results

		SOCOTEC Sample ID:		24101324-001	24101324-002
		Sampling Date:			
		Customer ID:		BH16-0-D-4.20	BH18-0-D-1.00
Method Code	Analysis	MDL	Accred.		
CLANDPREP	Total Moisture at 35°C	0.1 %	N	11.1	5.6
	Major Constituents	-	N	SILT	CLAY
	Minor Constituents	-	N	Gravel	Cobbles
	Miscellaneous Constituents	-	N	Clay	n/a
	Colour of Material	-	N	Grey	Grey
PHSOIL	pH (2.5:1 extraction)	1 pH units	U	8.0	3.0
ICPWSS	Water Soluble Sulphate as SO4 2:1 Ext	10 mg/l	U	2290	256



Project Number: [24101324](#)

Client: Igne

Date Issued: 16/10/2024

Project Name: A15347-3 - Eastern Green Link 4 - HVDC Converter Station 3

[Deviating Sample Report](#)

<u>Sample Reference</u>	<u>Text ID</u>	<u>Method Code</u>	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
BH16-0-D-4.20	24101324-001	CLANDPREP					✓	✓
BH16-0-D-4.20	24101324-001	ICPWSS					✓	✓
BH16-0-D-4.20	24101324-001	PHSOIL					✓	✓
BH18-0-D-1.00	24101324-002	CLANDPREP					✓	✓
BH18-0-D-1.00	24101324-002	ICPWSS					✓	✓
BH18-0-D-1.00	24101324-002	PHSOIL					✓	✓

[Analysis Method](#)

[Method Code](#)

CLANDPREP
CLANDPREP
ICPWSS
PHSOIL

[Method Description](#)

Moisture Content @ 35°C
Solid Material Description
Sulphate as SO₄ (Water Soluble 2:1 Extract)
pH (2.5:1)

[Analysis Method](#)

As Received
As Received
Air Dried & Ground
As Received

[Result Report Notes](#)

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[Letter](#)

[Note](#)

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- G The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.



Project Number: [24101324](#)

Client: Igne

Date Issued: 16/10/2024

Project Name: A15347-3 - Eastern Green Link 4 - HVDC Converter Station 3

[HWOL Acronym Key](#)

[Acronym](#)

HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

[Description](#)

[Additional Information](#)

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Summaries of analysis methods are available upon request.

End of Certificate of Analysis

Raeburn Drilling & Geotechnical Ltd t/a igne H
Whistleberry Road
Hamilton
ML6 OHP

For the attention of Fiona Raeburn

Report No: A15347-R1
Issue No: 01
Date of issue: 06/11/2024

LABORATORY TEST REPORT

Project Name		EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	
Project Number		A15347-R1	Date samples received
Your Ref		26667	Date written instructions received 26/09/2024
Purchase Order		26667	Date testing commenced 05/10/2024
Please find enclosed the results as summarised below			
Figure / Table	Test Quantity	Description	ISO 17025 Accredited
	2	Porosity / Density	Yes
	2	Rebound Hammer Test	No
	62	Point Load Index	Yes
	5	UCS of Rock Core	Yes
	5	Photographs of Post-UCS Test Specimens	n/a
Remarks: Interim results. Further results to follow			Key to symbols used in this report S/C : Testing was sub-contracted
Issued by: C Donnelly Laboratory Coordinator		 06/11/2024 Approved Signatories: C Donnelly - Laboratory Coordinator, C Loudon - Field Services Manager, S McDonagh - Laboratory Supervisor, S Gilchrist - Quality Supervisor, R Hobson - Field Services Manager, T Johnson - Senior Technician	
Unless we are notified to the contrary, any remaining samples will be disposed of, 4 weeks after the date this report was issued Results contained in this report are provisional unless signed by an approved signatory This report should not be reproduced without written approval from Terra Tek Limited (Trading as igne) The enclosed results remain the property of Terra Tek Limited (Trading as igne) and we reserve the right to withdraw 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 this report may be left: https://forms.office.com/pages/responsepage.aspx?id=CwCZTjwYeUGWZfDBJbk1g0fy8UwdJQhLtt3HBD1SytUMzNYWTdFVVPmWjdHREcwQUg1MDJLM09OTI4u&wdLOR			



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Tel: +44 (0)1236 747 949 Fax: +44 (0)1236 747 849
airdie@igne.com

www.igne.com
Terra Tek Ltd is registered in Scotland. SC121594
Offices in Airdrie, Aston Clinton, Barnsley, Daventry

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

				Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION				Contract No 26667	
				Client Scottish Power Energy Networks					
				Engineer Scottish Power Energy Networks					
Sample Identification				Lab Sample ID	Non Engineering Sample Description	Dry Density Mg/m ³	Porosity %	Comments	
Location / Origin	Depth m	Sample Ref	Sample Type						
BH12	4.00-9.90		C						
BH13	5.90		C	2028431	Reddish Brown Sandstone	1.82	21.9	~	
				2028432	Light Brown Sandstone	1.88	16.9	~	
Subcontracted Test No						UKAS accredited test Yes			
Notes Opinions and interpretations are outside the scope of UKAS accreditation.									
Originator	Approved		DETERMINATION OF POROSITY / DENSITY (Saturation & Caliper) ISRM Suggested Methods						
DW	CD 06/11/2024								
Sheet 1 of 1									

				Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION					Contract No 26667		
				Client Scottish Power Energy Networks							
				Engineer Scottish Power Energy Networks							
Sample Identification				Lab Sample ID	Material Type	Material Shape	Rebound value 1	Rebound Value 2	Rebound Value 3	Mean Rebound Value	
Hole ID	Depth m	Sample Ref	Test Date								
BH12	4.00-9.90		C	2028431	Sandstone	Core	1	2	2	2	
BH13	5.90		C	2028432	Sandstone	Core	1	1	2	1	
UKAS accredited test							No				
Notes Opinions and interpretations are outside the scope of UKAS accreditation.											
Originator		Approved		REBOUND HAMMER TEST							
DW		 06/11/2024									
Sheet 1 of 1											



Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No 26667

~ Indicates test not carried out

Sample Identification		Orientation of Test	Dimension A	Dimension B	Load	Is	Corrected Is(50)	Comments
Exploratory Hole	Depth m							
			mm	mm	kN	MN/m ²	MN/m ²	
BH02	4.80	Diametral	108.0	85.0	5.8	0.80	1.02	
BH02	5.05	Axial	85.0	82.0	13.0	1.46	1.95	
BH02	5.14	Axial	87.0	86.0	5.3	0.56	0.75	
BH02	5.30	Diametral	158.0	86.0	9.4	1.27	1.62	
BH02	5.50	Diametral	161.0	85.0	9.1	1.26	1.60	
BH02	5.63	Diametral	149.0	85.0	7.8	1.08	1.37	
BH02	5.83	Lump	29.0	44.0	0.6	0.37	0.34	
BH02	5.97	Lump	67.0	73.0	5.0	0.80	0.99	
BH02	6.05	Lump	62.0	72.0	4.8	0.84	1.02	
BH02	6.30	Lump	28.0	50.0	0.8	0.45	0.42	

Notes

1. Dimension A= Minimum Width for Lump Tests
Dimension A=Length for Diametral Tests
Dimension A=Diameter for Axial Tests
Dimension B=Platen Separation

2. Moisture Content of sample : as-received
3. All preparation and testing carried out in accordance with ISRM Commission on Testing Methods 1985
4. Opinions and interpretations are outside the scope of UKAS accreditation
5. Carried out parallel/perpendicular to bedding planes where obvious otherwise core shape used to determine orientation

Originator	Approved	POINT LOAD INDEX TESTS	
BC	CD 06/11/2024		



Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No 26667

~ Indicates test not carried out

Sample Identification		Orientation of Test	Dimension A	Dimension B	Load	Is	Corrected Is(50)	Comments
Exploratory Hole	Depth m							
			mm	mm	kN	MN/m ²	MN/m ²	
BH05	9.07	Lump	35.0	55.0	0.4	0.16	0.16	
BH05	8.30	Lump	18.0	26.0	0.5	0.84	0.61	
BH05	8.51	Lump	32.0	41.0	0.1	0.06	0.05	
BH05	8.60	Lump	68.0	85.0	2.1	0.29	0.36	
BH05	8.25	Lump	26.0	32.0	2.3	2.17	1.79	
BH05	8.43	Lump	25.0	34.0	0.9	0.83	0.69	
BH05	8.50	Diametral	177.0	85.0	0.7	0.10	0.12	
BH05	9.00	Lump	28.0	35.0	1.0	0.80	0.69	
BH05	9.25	Diametral	97.0	86.0	1.9	0.26	0.33	
BH05	9.40	Diametral	132.0	86.0	0.6	0.08	0.10	

Notes

1. Dimension A= Minimum Width for Lump Tests
Dimension A=Length for Diametral Tests
Dimension A=Diameter for Axial Tests
Dimension B=Platen Separation

2. Moisture Content of sample : as-received

3. All preparation and testing carried out in accordance with ISRM Commission on Testing Methods 1985

4. Opinions and interpretations are outside the scope of UKAS accreditation

5. Carried out parallel/perpendicular to bedding planes where obvious otherwise core shape used to determine orientation

Originator	Approved	POINT LOAD INDEX TESTS	
BC	CD 06/11/2024		



Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No 26667

~ Indicates test not carried out

Sample Identification		Orientation of Test	Dimension A	Dimension B	Load	Is	Corrected Is(50)	Comments
Exploratory Hole	Depth m							
			mm	mm	kN	MN/m ²	MN/m ²	
BH12	4.60	Diametral	149.0	86.0	0.4	0.05	0.07	
BH12	4.75	Diametral	120.0	85.0	0.4	0.06	0.07	
BH12	4.95	Axial	85.0	51.0	0.1	0.02	0.02	
BH12	5.90	Diametral	82.0	85.0	0.2	0.03	0.04	
BH12	6.30	Diametral	87.0	86.0	0.1	0.01	0.02	
BH12	6.55	Diametral	119.0	85.0	0.3	0.04	0.05	
BH12	7.00	Axial	85.0	54.0	0.5	0.09	0.10	
BH12	7.20	Axial	85.0	39.0	0.3	0.07	0.08	
BH12	7.80	Axial	86.0	43.0	0.2	0.04	0.05	
BH12	8.20	Axial	85.0	51.0	0.2	0.04	0.04	

Notes

1. Dimension A= Minimum Width for Lump Tests
Dimension A=Length for Diametral Tests
Dimension A=Diameter for Axial Tests
Dimension B=Platen Separation

2. Moisture Content of sample : as-received

3. All preparation and testing carried out in accordance with ISRM Commission on Testing Methods 1985

4. Opinions and interpretations are outside the scope of UKAS accreditation

5. Carried out parallel/perpendicular to bedding planes where obvious otherwise core shape used to determine orientation

Originator	Approved	POINT LOAD INDEX TESTS	
BC	CD 06/11/2024		

		Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION						Contract No 26667 ~ Indicates test not carried out
		Client Scottish Power Energy Networks						
		Engineer Scottish Power Energy Networks						
Sample Identification		Orientation of Test	Dimension A	Dimension B	Load	Is	Corrected Is(50)	Comments
Exploratory Hole	Depth m							
			mm	mm	kN	MN/m²	MN/m²	
BH12	11.50	Diametral	129.0	85.0	0.2	0.03	0.04	
BH12	11.80	Diametral	108.0	87.0	0.4	0.05	0.07	
BH12	12.40	Diametral	112.0	86.0	0.1	0.01	0.02	
BH12	12.60	Axial	85.0	81.0	0.3	0.03	0.05	
BH12	15.80	Lump	22.0	31.0	0.2	0.23	0.18	
BH12	14.22	Axial	85.0	98.0	0.2	0.02	0.03	
BH12	14.30	Lump	23.0	31.0	0.1	0.11	0.09	
BH12	12.80	Axial	86.0	79.0	0.1	0.01	0.02	
BH12	15.60	Lump	28.0	41.0	0.3	0.21	0.18	
BH12	11.92	Diametral	50.0	86.0	0.1	0.01	0.02	
Notes 1. Dimension A= Minimum Width for Lump Tests Dimension A=Length for Diametral Tests Dimension A=Diameter for Axial Tests Dimension B=Platen Separation 2. Moisture Content of sample : as-received 3. All preparation and testing carried out in accordance with ISRM Commission on Testing Methods 1985 4. Opinions and interpretations are outside the scope of UKAS accreditation 5. Carried out parallel/perpendicular to bedding planes where obvious otherwise core shape used to determine orientation								
Originator	Approved	POINT LOAD INDEX TESTS						 Sheet 4 of 7
BC	CD 06/11/2024							



Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No 26667

~ Indicates test not carried out

Sample Identification		Orientation of Test	Dimension A	Dimension B	Load	Is	Corrected Is(50)	Comments
Exploratory Hole	Depth m							
			mm	mm	kN	MN/m ²	MN/m ²	
BH13	5.90	Diametral	98.0	85.0	0.5	0.07	0.09	
BH13	6.20	Diametral	94.0	86.0	0.4	0.05	0.07	
BH13	6.90	Axial	85.0	61.0	0.4	0.06	0.08	
BH13	7.10	Axial	86.0	87.0	0.3	0.03	0.04	
BH13	7.35	Diametral	112.0	87.0	0.2	0.03	0.03	
BH13	7.40	Axial	85.0	93.0	0.2	0.02	0.03	
BH13	7.90	Diametral	89.0	86.0	0.1	0.01	0.02	
BH13	8.30	Axial	86.0	54.0	0.4	0.07	0.08	
BH13	8.50	Axial	86.0	43.0	0.1	0.02	0.02	
BH13	8.70	Diametral	128.0	86.0	0.4	0.05	0.07	

Notes

1. Dimension A= Minimum Width for Lump Tests
Dimension A=Length for Diametral Tests
Dimension A=Diameter for Axial Tests
Dimension B=Platen Separation

2. Moisture Content of sample : as-received

3. All preparation and testing carried out in accordance with ISRM Commission on Testing Methods 1985

4. Opinions and interpretations are outside the scope of UKAS accreditation

5. Carried out parallel/perpendicular to bedding planes where obvious otherwise core shape used to determine orientation

Originator	Approved	POINT LOAD INDEX TESTS	
BC	CD 06/11/2024		



Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No **26667**

~ Indicates test not carried out

Sample Identification		Orientation of Test	Dimension A	Dimension B	Load	Is	Corrected Is(50)	Comments
Exploratory Hole	Depth m							
			mm	mm	kN	MN/m ²	MN/m ²	
BH15	32.72	Diametral	138.0	85.0	0.4	0.06	0.07	
BH15	32.83	Diametral	76.0	85.0	0.3	0.04	0.05	
BH15	32.98	Diametral	97.0	85.0	0.3	0.04	0.05	
BH15	33.10	Axial	85.0	71.0	0.2	0.03	0.03	
BH15	33.25	Diametral	72.0	85.0	0.4	0.06	0.07	
BH15	33.31	Axial	84.0	96.0	0.1	0.01	0.01	
BH15	33.45	Axial	86.0	65.0	0.3	0.04	0.05	
BH15	33.50	Axial	87.0	52.0	0.2	0.03	0.04	
BH15	33.60	Diametral	137.0	87.0	0.1	0.01	0.02	
BH15	33.67	Axial	86.0	89.0	0.2	0.02	0.03	

Notes

1. Dimension A= Minimum Width for Lump Tests
Dimension A=Length for Diametral Tests
Dimension A=Diameter for Axial Tests
Dimension B=Platen Separation

2. Moisture Content of sample : as-received

3. All preparation and testing carried out in accordance with ISRM Commission on Testing Methods 1985

4. Opinions and interpretations are outside the scope of UKAS accreditation

5. Carried out parallel/perpendicular to bedding planes where obvious otherwise core shape used to determine orientation

Originator	Approved	POINT LOAD INDEX TESTS	
BC	CD 06/11/2024		



Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No 26667

~ Indicates test not carried out

Sample Identification		Orientation of Test	Dimension A	Dimension B	Load	Is	Corrected Is(50)	Comments
Exploratory Hole	Depth m							
			mm	mm	kN	MN/m ²	MN/m ²	
BH15	33.70	Axial	86.0	86.0	0.4	0.04	0.06	
BH15	33.75	Diametral	143.0	87.0	0.4	0.05	0.07	

Notes

1. Dimension A= Minimum Width for Lump Tests
Dimension A=Length for Diametral Tests
Dimension A=Diameter for Axial Tests
Dimension B=Platen Separation

2. Moisture Content of sample : as-received
3. All preparation and testing carried out in accordance with ISRM Commission on Testing Methods 1985
4. Opinions and interpretations are outside the scope of UKAS accreditation
5. Carried out parallel/perpendicular to bedding planes where obvious otherwise core shape used to determine orientation

Originator	Approved	POINT LOAD INDEX TESTS	
BC	CD 06/11/2024		



Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No 26667

Exploration Point		BH05	BH12	BH12	BH12
Depth	m	9.07	12.04	9.55	9.90
Date Received		26/09/2024	26/09/2024	26/09/2024	26/09/2024
Date Tested		11/10/2024	11/10/2024	11/10/2024	11/10/2024
Length	mm	117.6	125.9	90.8	141.3
Mean Diameter	mm	86.8	85.8	84	85.4
Length / Diameter Ratio		1.35	1.47	1.08	1.65
Straightness Compliance (see notes)	Y/N	Y	Y	Y	Y
Flatness Compliance (see notes)	Y/N	Y	Y	Y	Y
Perpendicularity	mm	0.0021	0.0032	0.0022	0.0021
Bulk Density	Mg/m ³	2.155	2.04	2	1.95
Moisture Content	%	7.4	3.3	1.9	4
Degree of Saturation	%	As Received	As Received	As Received	As Received
Stress Rate	MPa/sec	0.50	0.50	0.50	0.50
Test Duration		1min 25secs	42secs	40secs	30secs
Failure Load	kN	109.2	41.1	27	19.7
Uniaxial Compressive Strength	MPa	18.5	7.1	4.9	3.4
Type of Failure		Normal	Normal	Normal	Normal
Strength Classification		Weak	Weak	V Weak	V Weak
Associated Comment Numbers (see notes)		3,7	3,7	3,7	3,7
Failure Diagram					

Notes:

1. Prepared in accordance with ASTM D4543-08.
2. Tested in accordance with ASTM D7012-14: Method C
3. Height/diameter ratio outwith limits of 2.0 to 2.5. Best effort conformance accepted - tested as is.
4. Straightness of core more than 0.50mm over length. Best effort conformance accepted - tested as is.
5. Flatness of core ends more than 0.025mm. Best effort conformance accepted - tested as is.
6. Perpendicularity of core more than 0.0043mm. Best effort conformance accepted - tested as is.
7. Test duration not falling between 2 and 15 minutes. Best effort conformance accepted.
8. There are some rock types with physical characteristics which preclude preparing specimens to the desired tolerances. Where this is the case the specimen is evaluated to determine whether a best effort was achieved for the rock type involved. Based upon the evaluation and professional judgement a determination is made whether the specimen should be discarded, tested as is, use of capping compound or start over.
9. Preparation and conformance measuring equipment: surface plate, V-block, displacement gauge assembly, feeler gauge set, vernier calipers, surface grinder and masonry saw.

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ASTM Methods



Sheet 1 of 1



Site EASTERN GREEN LINK 4 - HVDC CONVERTER STATION

Client Scottish Power Energy Networks

Engineer Scottish Power Energy Networks

Contract No 26667

Exploration Point		BH13	BH20		
Depth	m	6.70	3.40		
Date Received		26/09/2024	26/09/2024		
Date Tested		11/10/2024	11/10/2024		
Length	mm	181.5	112.4		
Mean Diameter	mm	86	86.3		
Length / Diameter Ratio		2.11	1.30		
Straightness Compliance (see notes)	Y/N	Y	Y		
Flatness Compliance (see notes)	Y/N	Y	Y		
Perpendicularity	mm	0.0022	0.0022		
Bulk Density	Mg/m ³	2.03	2.04		
Moisture Content	%	1.4	1.7		
Degree of Saturation	%	As Received	As Received		
Stress Rate	MPa/sec	0.50	0.50		
Test Duration		1min 14secs	51secs		
Failure Load	kN	102.1	61.3		
Uniaxial Compressive Strength	MPa	17.6	10.5		
Type of Failure		Normal	Normal		
Strength Classification		Weak	Weak		
Associated Comment Numbers (see notes)		7	3,7		
Failure Diagram					

Notes:

1. Prepared in accordance with ASTM D4543-08.
2. Tested in accordance with ASTM D7012-14: Method C
3. Height/diameter ratio outwith limits of 2.0 to 2.5. Best effort conformance accepted - tested as is.
4. Straightness of core more than 0.50mm over length. Best effort conformance accepted - tested as is.
5. Flatness of core ends more than 0.025mm. Best effort conformance accepted - tested as is.
6. Perpendicularity of core more than 0.0043mm. Best effort conformance accepted - tested as is.
7. Test duration not falling between 2 and 15 minutes. Best effort conformance accepted.
8. There are some rock types with physical characteristics which preclude preparing specimens to the desired tolerances. Where this is the case the specimen is evaluated to determine whether a best effort was achieved for the rock type involved. Based upon the evaluation and professional judgement a determination is made whether the specimen should be discarded, tested as is, use of capping compound or start over.
9. Preparation and conformance measuring equipment: surface plate, V-block, displacement gauge assembly, feeler gauge set, vernier calipers, surface grinder and masonry saw.

Originator

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06/11/2024**UNIAXIAL COMPRESSIVE STRENGTH**

ASTM Methods



	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	BH05
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	9.07
			Sample Type	C



Originator	Checked & Approved	PHOTOGRAPHS OF SPECIMEN FAILURE	
DW	 06/11/2024		
			Sheet 1 of 1



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	BH12
Sample Ref	
Depth (m)	9.55
Sample Type	C



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PHOTOGRAPHS OF SPECIMEN FAILURE

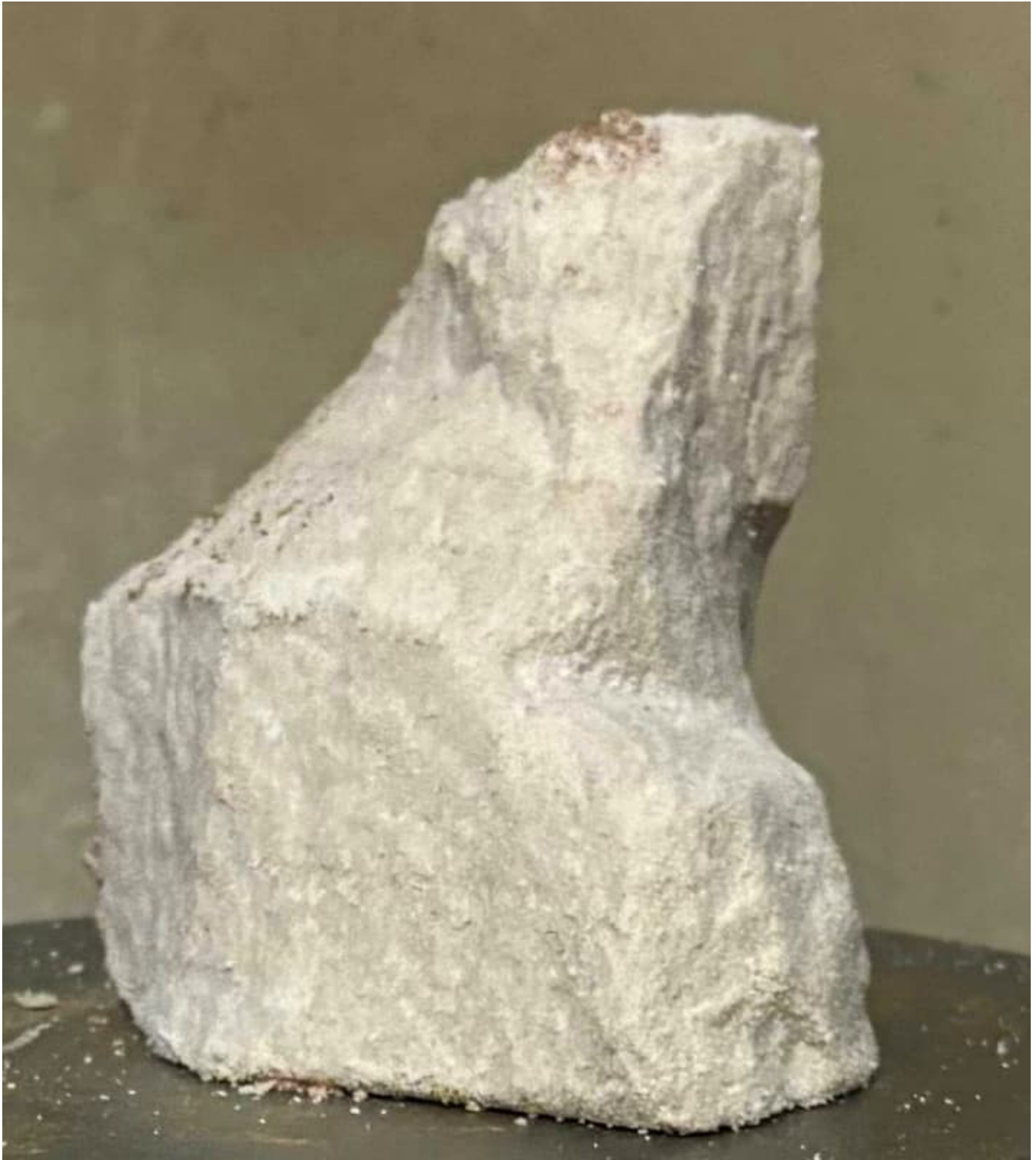


	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	BH12
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	9.90
			Sample Type	C



Originator	Checked & Approved	PHOTOGRAPHS OF SPECIMEN FAILURE	
DW	CD 06/11/2024		
		Sheet 1 of 1	

	Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION	Contract No	26667
	Client	Scottish Power Energy Networks	Hole ID	BH13
	Engineer	Scottish Power Energy Networks	Sample Ref	
			Depth (m)	6.70
			Sample Type	C



Originator	Checked & Approved	PHOTOGRAPHS OF SPECIMEN FAILURE	
DW	 06/11/2024		
			Sheet 1 of 1



Site	EASTERN GREEN LINK 4 - HVDC CONVERTER STATION
Client	Scottish Power Energy Networks
Engineer	Scottish Power Energy Networks

Contract No	26667
Hole ID	BH20
Sample Ref	
Depth (m)	3.40
Sample Type	C



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PHOTOGRAPHS OF SPECIMEN FAILURE





Site: EASTERN GREEN LINK 4 – HVDC CONVERTER STATION

Contract No: 26667

Client: Scottish Power Energy Networks

Engineer: Scottish Power Energy Networks

Style: APPENDIX D File: P:\GINTW\PROJECTS\26667.GPJ Printed: 06/11/2024 16:01:53 Raeburn Drilling and Geotechnical Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

APPENDIX D
GEOCHEMICAL LABORATORY TESTING



Certificate of Analysis

Client: Igne

Project: 24073605

Quote: BEC240736422 V1.1

Project Ref: 26667

Site: Eastern Green Link 4 1

Contact: Fiona Raeburn

Address: Whistleberry Road
Hamilton
ML3 0HP

E-Mail: Fiona.Raeburn@igne.com

Phone: 01698 711 177

No. Samples Received: 9

Date Received: 25/07/2024

Analysis Completed: 06/08/2024

Date Issued: 06/08/2024

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Samantha Edwards
01283 554 541
Samantha.Edwards@socotec.co.uk



Project Number: 24073605

Client: Igne

Date Issued: 06/08/2024

Project Name: 26667 - Eastern Green Link 4 1

Samples Analysed

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
24073605-001	TP05-0-ES-0.80	18/07/2024 13:00:00	SOLID	Silt Sample
24073605-002	TP06-0-ES-0.70	18/07/2024 14:10:00	SOLID	Silt Sample
24073605-003	TP09-0-ES-0.50	18/07/2024 13:25:00	SOLID	Silt Sample
24073605-004	TP10-0-ES-0.30	18/07/2024 16:00:00	SOLID	Silt Sample
24073605-005	TP12-0-ES-0.70	17/07/2024 15:10:00	SOLID	Silt Sample
24073605-006	TP13-0-ES-0.60	19/07/2024 14:45:00	SOLID	Silt Sample
24073605-007	TP15-0-ES-1.00	17/07/2024 16:00:00	SOLID	Clay Sample
24073605-008	TP24-0-ES-2.80	22/07/2024 11:00:00	SOLID	Clay Sample
24073605-009	TP36-0-ES-0.80	22/07/2024 09:30:00	SOLID	Silt Sample

Analysis Results

SOCOTEC Sample ID:				24073605-001	24073605-002	24073605-003	24073605-004	24073605-005
Sampling Date:				18/07/2024 13:00	18/07/2024 14:10	18/07/2024 13:25	18/07/2024 16:00	17/07/2024 15:10
Customer ID:				TP05-0-ES-0.80	TP06-0-ES-0.70	TP09-0-ES-0.50	TP10-0-ES-0.30	TP12-0-ES-0.70
Method Code	Analysis	MDL	Accred.					
CLANDPREP	Total Moisture at 35°C	0.1 %	N	12.5	16.7	12.2	13.5	15.0
	Major Constituents	-	N	SILT	SILT	SILT	SILT	SILT
	Minor Constituents	-	N	Gravel	Gravel	Gravel	Gravel	Gravel
	Miscellaneous Constituents	-	N	Organic Matter	Organic Matter	Organic Matter	Organic Matter	Organic Matter
	Colour of Material	-	N	Brown	Brown	Brown	Brown	Brown
Leachate Prep CEN 10:1	Equivalent Weight of Dry Material (kg)	kg	N				0.090	
	Fraction above 4mm (%)	%	N				0	
	Fraction of non-crushable material (%)	%	N				0	
	Volume of Water for 10:1 Leach (ltr)	l	N				0.885	
	Weight of Sample Leached (kg)	kg	N				0.105	
SUB002	Asbestos Identification	-	N	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS
PHSOIL	pH (2.5:1 extraction)	1 pH units	M ^A	6.9	7.0	6.8	7.5	7.5
ANC	ANC	0.04 mol/kg	N ^A				0.95	
LOI(%MM)	LOI @ 450°C	0.2 % m/m	N ^A				7.7	
WSLM59	Total Organic Carbon	0.02 % m/m	U ^A	1.72	1.51	2.52	1.68	1.67
WSLM59	Soil Organic Matter	0.04 % m/m	U ^A	2.97	2.61	4.35	2.90	2.87
SFAPI	Free Cyanide	0.5 mg/kg	M ^A	<0.6	<0.6	<0.6	<0.6	<0.6
SFAPI	Total Cyanide	0.5 mg/kg	M ^A	<0.6	<0.6	<0.6	<0.6	<0.6
SFAPI	Phenol Index	0.5 mg/kg	U ^A	<0.6	<0.6	<0.6	<0.6	<0.6
ICPWSS	Water Soluble Sulphate as SO4 by Mass	20 mg/kg	M ^A	168	449	109	47	69
ICPMSS	Arsenic as As	0.3 mg/kg	M ^A	5.7	3.9	3.8	5.2	5.4
ICPMSS	Cadmium as Cd	0.2 mg/kg	M ^A	0.2	<0.2	<0.2	0.2	0.2
ICPMSS	Total Chromium as Cr	1.2 mg/kg	M ^A	36.6	42.1	38.7	68.2	45.7
KONENS	Chromium (VI) as Cr	0.1 mg/kg	N ^A	<0.1	<0.1	<0.1	<0.1	<0.1
ICPMSS	Copper as Cu	1.6 mg/kg	M ^A	25.3	16.5	22.8	21.1	20.4
ICPMSS	Lead as Pb	0.7 mg/kg	M ^A	13.5	15.4	15.3	18.2	18.0
ICPMSS	Mercury as Hg	0.5 mg/kg	M ^A	<0.5	<0.5	<0.5	<0.5	<0.5
ICPMSS	Nickel as Ni	2 mg/kg	M ^A	51.1	41.6	47.3	44.2	45.6
ICPMSS	Zinc as Zn	16 mg/kg	M ^A	49.6	49.2	46.6	64.8	62.6
ICPBOR	Boron as B	0.5 mg/kg	M ^A	1.0	0.9	1.0	0.9	1.0
BTXHSA	Benzene (HS_1D_AR)	0.01 mg/kg	M ^A				<0.012	
		10 µg/kg	M ^A	<11	<12	<11	<12	<12
	Toluene (HS_1D_AR)	0.01 mg/kg	M ^A				<0.012	
		10 µg/kg	M ^A	<11	<12	<11	<12	<12
	Ethylbenzene (HS_1D_AR)	0.01 mg/kg	M ^A				<0.012	
		10 µg/kg	M ^A	<11	<12	<11	<12	<12
	m/p-Xylene (HS_1D_AR)	0.02 mg/kg	M ^A				<0.023	
		20 µg/kg	M ^A	<23	<24	<23	<23	<24
	o-Xylene (HS_1D_AR)	0.01 mg/kg	M ^A				<0.012	
		10 µg/kg	M ^A	<11	<12	<11	<12	<12
GROHSA/BTEXHSA	Total BTEX (HS_1D_AR)	0.06 mg/kg	M ^A				<0.069	
	Total GRO C5-C10 (HS_1D_Total)	0.2 mg/kg	M ^A	0.238	<0.240	<0.228	<0.231	<0.235
	C5-C6 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.229	<0.240	<0.228	<0.231	<0.235
	>C6-C8 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.229	<0.240	<0.228	<0.231	<0.235
	>C8-C10 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.229	<0.240	<0.228	<0.231	<0.235
	C5-C7 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.011	<0.012	<0.011	<0.012	<0.012
	>C7-C8 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.011	<0.012	<0.011	<0.012	<0.012
	>C8-C10 Aromatic (HS_1D_AR)	0.04 mg/kg	M ^A	<0.046	<0.048	<0.046	<0.047	<0.048
TPHFIDUS (Aliphatic)	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	U ^A	26.0	<24.0	<22.8	<23.1	<23.5
	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.57	<4.80	<4.56	<4.62	<4.71
	>C10-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	U ^A				<23.1	
	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	5.50	<4.80	<4.56	<4.62	4.94
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.57	<4.80	<4.56	<4.62	<4.71
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	10 mg/kg	U ^A	<11.4	<12.0	<11.4	<11.6	<11.8
	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	6 mg/kg	N ^A	<6.86	<7.20	<6.83	<6.94	<7.06
TPHFIDUS (Aromatic)	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	20 mg/kg	U ^A	29.3	<24.0	<22.8	<23.1	<23.5
	>C10-C12 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	<4.57	<4.80	<4.56	<4.62	<4.71
	>C12-C16 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	<4.57	<4.80	<4.56	<4.62	<4.71
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	5.61	<4.80	<4.56	<4.62	<4.71
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	10 mg/kg	U ^A	15.2	<12.0	<11.4	<11.6	<11.8
	>C35-C44 (Aromatic) (EH_CU_1D_AR)	6 mg/kg	N ^A	<6.86	<7.20	<6.83	<6.94	<7.06
PAHMSUS	Acenaphthene	0.08 mg/kg	M ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Acenaphthylene	0.08 mg/kg	U ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Anthracene	0.08 mg/kg	U ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Benzo[a]anthracene	0.08 mg/kg	M ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Benzo[a]pyrene	0.08 mg/kg	M ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Benzo[b]fluoranthene	0.08 mg/kg	M ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Benzo[g,h,i]perylene	0.08 mg/kg	M ^A	0.11	0.10	0.11	<0.09	<0.09
	Benzo[k]fluoranthene	0.08 mg/kg	M ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Chrysene	0.08 mg/kg	M ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Coronene	0.08 mg/kg	N ^A				<0.09	
	Dibenzo[a,h]anthracene	0.08 mg/kg	M ^A	0.11	<0.10	<0.09	<0.09	<0.09
	Fluoranthene	0.08 mg/kg	M ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Fluorene	0.08 mg/kg	M ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Indeno[1,2,3-cd]pyrene	0.08 mg/kg	M ^A	0.12	<0.10	<0.09	<0.09	<0.09
	Naphthalene	0.08 mg/kg	M ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Phenanthrene	0.08 mg/kg	M ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Pyrene	0.08 mg/kg	M ^A	<0.09	<0.10	<0.09	<0.09	<0.09
	Total PAH 16	1.28 mg/kg	U ^A	1.53	1.54	1.48	<1.48	<1.51

Analysis Results

SOCOTEC Sample ID:				24073605-001	24073605-002	24073605-003	24073605-004	24073605-005
Sampling Date:				18/07/2024 13:00	18/07/2024 14:10	18/07/2024 13:25	18/07/2024 16:00	17/07/2024 15:10
Customer ID:				TP05-0-ES-0.80	TP06-0-ES-0.70	TP09-0-ES-0.50	TP10-0-ES-0.30	TP12-0-ES-0.70
Method Code	Analysis	MDL	Accred.					
PAHMSUS	Total PAH 17	1.36 mg/kg	N ^A				<1.57	
VOCHSAS	1,1,1,2-Tetrachloroethane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,1,1-Trichloroethane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,1,2,2-Tetrachloroethane	1 µg/kg	N ^A	<1 c	<1	<1	<1	<1
	1,1,2-Trichloroethane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,1-Dichloroethane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,1-Dichloroethene	1 µg/kg	U ^A	<1 c	<1	<1	<1	<1
	1,1-Dichloropropene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,2,3-Trichlorobenzene	3 µg/kg	M ^A	<3 c	<4	<4	<3	<4
	1,2,3-Trichloropropane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,2,4-Trichlorobenzene	3 µg/kg	N ^A	<3 c	<4	<4	<3	<4
	1,2,4-Trimethylbenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,2-Dibromo-3-chloropropane	1 µg/kg	U ^A	<1 c	<1	<1	<1	<1
	1,2-Dibromoethane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,2-Dichlorobenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,2-Dichloroethane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,2-Dichloropropane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,3,5-Trimethylbenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,3-Dichlorobenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,3-Dichloropropane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	1,4-Dichlorobenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	2,2-Dichloropropane	2 µg/kg	M ^A	<2 c	<2	<2	<2	<2
	2-Chlorotoluene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	4-Chlorotoluene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Benzene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Bromobenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Bromochloromethane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Bromodichloromethane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Bromoform	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Bromomethane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Carbon Tetrachloride	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Chlorobenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Chloroethane	2 µg/kg	M ^A	<2 c	<2	<2	<2	<2
	Chloroform	1 µg/kg	M ^A	2 c	<1	<1	<1	<1
	Chloromethane	3 µg/kg	U ^A	<3 c	<4	<4	<3	<4
	cis 1,2-Dichloroethene	5 µg/kg	M ^A	<6 c	<6	<6	<6	<6
	cis 1,3-Dichloropropene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Dibromochloromethane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Dibromomethane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Dichlorodifluoromethane	1 µg/kg	N ^A	<1 c	<1	<1	<1	<1
	Ethylbenzene	2 µg/kg	M ^A	<2 c	<2	<2	<2	<2
	Hexachlorobutadiene	2 µg/kg	N ^A	<2 c	<2	<2	<2	<2
	iso-Propylbenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	m and p-Xylene	4 µg/kg	M ^A	<5 c	<5	<5	<5	<5
	MTBE	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Naphthalene	5 µg/kg	M ^A	<6 c	<6	<6	<6	<6
	n-Butylbenzene	1 µg/kg	U ^A	<1 c	<1	<1	<1	<1
	o-Xylene	2 µg/kg	M ^A	<2 c	<2	<2	<2	<2
	p-Isopropyltoluene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Propylbenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	sec-Butylbenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Styrene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	tert-Butylbenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Tetrachloroethene	3 µg/kg	M ^A	<3 c	<4	<4	<3	<4
	Toluene	5 µg/kg	M ^A	<6 c	<6	<6	<6	<6
	trans 1,2-Dichloroethene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	trans 1,3-Dichloropropene	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Trichloroethene	1 µg/kg	U ^A	<1 c	<1	<1	<1	<1
	Trichlorofluoromethane	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
	Vinyl Chloride	1 µg/kg	M ^A	<1 c	<1	<1	<1	<1
PCBECD	PCB 28	0.005 mg/kg	M ^A				<0.006	
	PCB 52	0.005 mg/kg	M ^A				<0.006	
	PCB 101	0.005 mg/kg	M ^A				<0.006	
	PCB 118	0.005 mg/kg	M ^A				<0.006	
	PCB 138	0.005 mg/kg	M ^A				<0.006	
	PCB 153	0.005 mg/kg	M ^A				<0.006	
	PCB 180	0.005 mg/kg	M ^A				<0.006	
	Total PCB 7 Congeners	0.035 mg/kg	M ^A				<0.041	
PHCONDW	pH	1 pH units	N				7.6	
PHCONDW	Conductivity at 25°C	100 µS/cm	N				116	
PHCONDW	TDS as mg/kg	700 mg/kg	N				788	
	TDS as mg/l	70 mg/l	N				79	
TOCW	Leached Organic Carbon	0.4 mg/l	U				1.74	
		2 mg/kg	N				17.4	
KONENS	Chloride as Cl	1 mg/l	U				<1	
		10 mg/kg	N				<10	
ISEF	Fluoride as F	0.1 mg/l	U				0.5	
SFAP1	Phenol Index	1 mg/kg	N				5	
		0.05 mg/l	U				<0.05	



Project Number: 24073605

Client: Igne
Date Issued: 06/08/2024
Project Name: 26667 - Eastern Green Link 4 1



Analysis Results

SOCOTEC Sample ID:				24073605-001	24073605-002	24073605-003	24073605-004	24073605-005
Sampling Date:				18/07/2024 13:00	18/07/2024 14:10	18/07/2024 13:25	18/07/2024 16:00	17/07/2024 15:10
Customer ID:				TP05-0-ES-0.80	TP06-0-ES-0.70	TP09-0-ES-0.50	TP10-0-ES-0.30	TP12-0-ES-0.70
Method Code	Analysis	MDL	Accred.					
SFAPI	Phenol Index	0.5 mg/kg	N				<0.5	
ICPMSW (Dissolved)	Antimony as Sb	0.001 mg/l	U				<0.001	
		0.01 mg/kg	N				<0.01	
ICPMSW (Dissolved)	Arsenic as As	0.001 mg/l	U				<0.001	
		0.01 mg/kg	N				<0.01	
ICPWATVAR (Dissolved)	Barium as Ba	0.01 mg/l	U				0.03	
		0.1 mg/kg	N				0.3	
ICPMSW (Dissolved)	Cadmium as Cd	0.00002 mg/l	U				<0.00002	
		0.0002 mg/kg	N				<0.0002	
ICPMSW (Dissolved)	Total Chromium as Cr	0.001 mg/l	U				<0.001	
		0.01 mg/kg	N				<0.01	
ICPMSW (Dissolved)	Copper as Cu	0.001 mg/l	U				<0.001	
		0.01 mg/kg	N				<0.01	
ICPMSW (Dissolved)	Lead as Pb	0.001 mg/l	U				<0.001	
		0.01 mg/kg	N				<0.01	
ICPMSW (Dissolved)	Mercury as Hg	0.00003 mg/l	U				<0.00003	
		0.0003 mg/kg	N				<0.0003	
ICPMSW (Dissolved)	Molybdenum as Mo	0.001 mg/l	U				<0.001	
		0.01 mg/kg	N				<0.01	
ICPMSW (Dissolved)	Nickel as Ni	0.001 mg/l	U				<0.001	
		0.01 mg/kg	N				<0.01	
ICPMSW (Dissolved)	Selenium as Se	0.001 mg/l	U				<0.001	
		0.01 mg/kg	N				<0.01	
ICPWATVAR (Dissolved)	Total Sulphur as SO4	3 mg/l	U				8	
		30 mg/kg	N				80	
ICPMSW (Dissolved)	Zinc as Zn	0.002 mg/l	U				<0.002	
		0.02 mg/kg	N				<0.02	

10:1 Cumulative Amount Leached: ☐ 1st Stage Leachate Results: ☐

Analysis Results

SOCOTEC Sample ID:				24073605-006	24073605-007	24073605-008	24073605-009
Sampling Date:				19/07/2024 14:45	17/07/2024 16:00	22/07/2024 11:00	22/07/2024 09:30
Customer ID:				TP13-0-ES-0.60	TP15-0-ES-1.00	TP24-0-ES-2.80	TP36-0-ES-0.80
Method Code	Analysis	MDL	Accred.				
CLANDPREP	Total Moisture at 35°C	0.1 %	N	12.9	14.4	27.4	12.4
	Major Constituents	-	N	SILT	CLAY	CLAY	SILT
	Minor Constituents	-	N	Gravel	Silt	Silt	Gravel
	Miscellaneous Constituents	-	N	Organic Matter	Gravel	Gravel	Organic Matter
	Colour of Material	-	N	Brown	Brown/Grey	Brown	Brown
Leachate Prep CEN 10:1	Equivalent Weight of Dry Material (kg)	kg	N			0.090	
	Fraction above 4mm (%)	%	N			0	
	Fraction of non-crushable material (%)	%	N			0	
	Volume of Water for 10:1 Leach (ltr)	l	N			0.872	
	Weight of Sample Leached (kg)	kg	N			0.118	
SUB002	Asbestos Identification	-	N	NAIIS	NAIIS	NAIIS	NAIIS
PHSOIL	pH (2.5:1 extraction)	1 pH units	M ^A	5.8	4.4	6.0	6.8
ANC	ANC	0.04 mol/kg	N ^A			0.63	
LOI(%MM)	LOI @ 450°C	0.2 % m/m	N ^A			8.6	
WSLM59	Total Organic Carbon	0.02 % m/m	U ^A	1.50	2.65	1.18	1.07
WSLM59	Soil Organic Matter	0.04 % m/m	U ^A	2.59	4.56	2.04	1.84
SFAPI	Free Cyanide	0.5 mg/kg	M ^A	<0.6	<0.6	<0.7	<0.6
SFAPI	Total Cyanide	0.5 mg/kg	M ^A	<0.6	<0.6	<0.7	<0.6
SFAPI	Phenol Index	0.5 mg/kg	U ^A	<0.6	<0.6	<0.7	<0.6
ICPWSS	Water Soluble Sulphate as SO4 by Mass	20 mg/kg	M ^A	1770	224	573	125
ICPMSS	Arsenic as As	0.3 mg/kg	M ^A	5.7	4.1	7.0	5.6
ICPMSS	Cadmium as Cd	0.2 mg/kg	M ^A	<0.2	0.3	0.3	<0.2
ICPMSS	Total Chromium as Cr	1.2 mg/kg	M ^A	41.0	41.4	49.1	38.2
KONENS	Chromium (VI) as Cr	0.1 mg/kg	N ^A	<0.1	<0.1	<0.1	<0.1
ICPMSS	Copper as Cu	1.6 mg/kg	M ^A	28.9	25.6	54.9	23.2
ICPMSS	Lead as Pb	0.7 mg/kg	M ^A	18.6	19.5	9.9	20.4
ICPMSS	Mercury as Hg	0.5 mg/kg	M ^A	<0.5	<0.5	<0.5	<0.5
ICPMSS	Nickel as Ni	2 mg/kg	M ^A	46.8	58.9	205.1	48.1
ICPMSS	Zinc as Zn	16 mg/kg	M ^A	47.0	60.4	23.8	53.0
ICPBOR	Boron as B	0.5 mg/kg	M ^A	0.7	1.7	0.7	0.9
BTXEXHA	Benzene (HS_1D_AR)	0.01 mg/kg	M ^A			<0.014	
		10 µg/kg	M ^A	<12	<12	<14	<11
	Toluene (HS_1D_AR)	0.01 mg/kg	M ^A			<0.014	
		10 µg/kg	M ^A	<12	<12	<14	<11
	Ethylbenzene (HS_1D_AR)	0.01 mg/kg	M ^A			<0.014	
		10 µg/kg	M ^A	<12	<12 c	<14	<11
	m/p-Xylene (HS_1D_AR)	0.02 mg/kg	M ^A			<0.028	
		20 µg/kg	M ^A	<23	<23 c	<28	<23
	o-Xylene (HS_1D_AR)	0.01 mg/kg	M ^A			<0.014	
		10 µg/kg	M ^A	<12	<12 c	<14	<11
GROHSA/BTEXHSA	Total BTEX (HS_1D_AR)	0.06 mg/kg	M ^A			<0.083	
	Total GRO C5-C10 (HS_1D_Total)	0.2 mg/kg	M ^A	<0.230	<0.234	<0.275	<0.228
	C5-C6 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.230	<0.234	<0.275	<0.228
	>C6-C8 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.230	<0.234	<0.275	<0.228
	>C8-C10 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.230	<0.234 c	<0.275	<0.228
	C5-C7 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.012	<0.012	<0.014	<0.011
	>C7-C8 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.012	<0.012	<0.014	<0.011
	>C8-C10 Aromatic (HS_1D_AR)	0.04 mg/kg	M ^A	<0.047	<0.047 c	<0.056	<0.046
TPHFIDUS (Aliphatic)	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	U ^A	<23.0	30.7	<27.5	48.2
	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.59	<4.67	<5.51	<4.57
	>C10-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	U ^A			<27.5	
	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	4.86	5.08	<5.51	<4.57
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.59	<4.67	<5.51	<4.57
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	10 mg/kg	U ^A	<11.5	18.3	<13.8	33.0
	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	6 mg/kg	N ^A	<6.89	<7.01	<8.26	<6.85
TPHFIDUS (Aromatic)	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	20 mg/kg	U ^A	<23.0	70.6	<27.5	<22.8
	>C10-C12 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	<4.59	<4.67	<5.51	<4.57
	>C12-C16 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	<4.59	7.86	<5.51	<4.57
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	<4.59	17.9	<5.51	<4.57
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	10 mg/kg	U ^A	<11.5	39.9	<13.8	<11.4
	>C35-C44 (Aromatic) (EH_CU_1D_AR)	6 mg/kg	N ^A	<6.89	<7.01	<8.26	<6.85
PAHMSUS	Acenaphthene	0.08 mg/kg	M ^A	<0.09	<0.09	<0.11	<0.09
	Acenaphthylene	0.08 mg/kg	U ^A	<0.09	<0.09	<0.11	<0.09
	Anthracene	0.08 mg/kg	U ^A	<0.09	<0.09	<0.11	<0.09
	Benzo[a]anthracene	0.08 mg/kg	M ^A	<0.09	<0.09	<0.11	<0.09
	Benzo[a]pyrene	0.08 mg/kg	M ^A	<0.09	0.14	<0.11	<0.09
	Benzo[b]fluoranthene	0.08 mg/kg	M ^A	<0.09	0.15	<0.11	<0.09
	Benzo[g,h,i]perylene	0.08 mg/kg	M ^A	<0.09	0.24	<0.11	<0.09
	Benzo[k]fluoranthene	0.08 mg/kg	M ^A	<0.09	<0.09	<0.11	<0.09
	Chrysene	0.08 mg/kg	M ^A	<0.09	<0.09	<0.11	<0.09
	Coronene	0.08 mg/kg	N ^A			<0.11	
	Dibenzo[a,h]anthracene	0.08 mg/kg	M ^A	<0.09	<0.09	<0.11	<0.09
	Fluoranthene	0.08 mg/kg	M ^A	<0.09	0.17	<0.11	<0.09
	Fluorene	0.08 mg/kg	M ^A	<0.09	<0.09	<0.11	<0.09
	Indeno[1,2,3-cd]pyrene	0.08 mg/kg	M ^A	<0.09	0.10	<0.11	<0.09
	Naphthalene	0.08 mg/kg	M ^A	<0.09	<0.09	<0.11	<0.09
	Phenanthrene	0.08 mg/kg	M ^A	<0.09	0.26	<0.11	<0.09
	Pyrene	0.08 mg/kg	M ^A	<0.09	0.21	<0.11	<0.09
	Total PAH 16	1.28 mg/kg	U ^A	<1.47	2.12	<1.76	<1.46

Analysis Results

SOCOTEC Sample ID:		24073605-006	24073605-007	24073605-008	24073605-009
Sampling Date:		19/07/2024 14:45	17/07/2024 16:00	22/07/2024 11:00	22/07/2024 09:30
Customer ID:		TP13-0-ES-0.60	TP15-0-ES-1.00	TP24-0-ES-2.80	TP36-0-ES-0.80
Method Code	Analysis	MDL	Accred.		
PAHMSUS	Total PAH 17	1.36 mg/kg	N ^A		<1.87
VOCHSAS	1,1,1,2-Tetrachloroethane	1 µg/kg	M ^A	<1	<1
	1,1,1-Trichloroethane	1 µg/kg	M ^A	<1	<1
	1,1,2,2-Tetrachloroethane	1 µg/kg	N ^A	<1	<1
	1,1,2-Trichloroethane	1 µg/kg	M ^A	<1	<1
	1,1-Dichloroethane	1 µg/kg	M ^A	<1	<1
	1,1-Dichloroethene	1 µg/kg	U ^A	<1	<1
	1,1-Dichloropropene	1 µg/kg	M ^A	<1	<1
	1,2,3-Trichlorobenzene	3 µg/kg	M ^A	<3	<4
	1,2,3-Trichloropropane	1 µg/kg	M ^A	<1	<1
	1,2,4-Trichlorobenzene	3 µg/kg	N ^A	<3	<4
	1,2,4-Trimethylbenzene	1 µg/kg	M ^A	<1	<1
	1,2-Dibromo-3-chloropropane	1 µg/kg	U ^A	<1	<1
	1,2-Dibromoethane	1 µg/kg	M ^A	<1	<1
	1,2-Dichlorobenzene	1 µg/kg	M ^A	<1	<1
	1,2-Dichloroethane	1 µg/kg	M ^A	<1	<1
	1,2-Dichloropropane	1 µg/kg	M ^A	<1	<1
	1,3,5-Trimethylbenzene	1 µg/kg	M ^A	<1	<1
	1,3-Dichlorobenzene	1 µg/kg	M ^A	<1	<1
	1,3-Dichloropropane	1 µg/kg	M ^A	<1	<1
	1,4-Dichlorobenzene	1 µg/kg	M ^A	<1	<1
	2,2-Dichloropropane	2 µg/kg	M ^A	<2	<3
	2-Chlorotoluene	1 µg/kg	M ^A	<1	<1
	4-Chlorotoluene	1 µg/kg	M ^A	<1	<1
	Benzene	1 µg/kg	M ^A	<1	<1
	Bromobenzene	1 µg/kg	M ^A	<1	<1
	Bromochloromethane	1 µg/kg	M ^A	<1	<1
	Bromodichloromethane	1 µg/kg	M ^A	<1	<1
	Bromoform	1 µg/kg	M ^A	<1	<1
	Bromomethane	1 µg/kg	M ^A	<1	<1
	Carbon Tetrachloride	1 µg/kg	M ^A	<1	<1
	Chlorobenzene	1 µg/kg	M ^A	<1	<1
	Chloroethane	2 µg/kg	M ^A	<2	<3
	Chloroform	1 µg/kg	M ^A	<1	<1
	Chloromethane	3 µg/kg	U ^A	<3	<4
	cis 1,2-Dichloroethene	5 µg/kg	M ^A	<6	<7
	cis 1,3-Dichloropropene	1 µg/kg	M ^A	<1	<1
	Dibromochloromethane	1 µg/kg	M ^A	<1	<1
	Dibromomethane	1 µg/kg	M ^A	<1	<1
	Dichlorodifluoromethane	1 µg/kg	N ^A	<1	<1
	Ethylbenzene	2 µg/kg	M ^A	<2	<3
	Hexachlorobutadiene	2 µg/kg	N ^A	<2	<3
	iso-Propylbenzene	1 µg/kg	M ^A	<1	<1
	m and p-Xylene	4 µg/kg	M ^A	<5	<6
	MTBE	1 µg/kg	M ^A	<1	<1
	Naphthalene	5 µg/kg	M ^A	<6	<7
	n-Butylbenzene	1 µg/kg	U ^A	<1	<1
	o-Xylene	2 µg/kg	M ^A	<2	<3
	p-Isopropyltoluene	1 µg/kg	M ^A	<1	<1
	Propylbenzene	1 µg/kg	M ^A	<1	<1
	sec-Butylbenzene	1 µg/kg	M ^A	<1	<1
	Styrene	1 µg/kg	M ^A	<1	<1
	tert-Butylbenzene	1 µg/kg	M ^A	<1	<1
	Tetrachloroethene	3 µg/kg	M ^A	<3	<4
	Toluene	5 µg/kg	M ^A	<6	<7
	trans 1,2-Dichloroethene	1 µg/kg	M ^A	<1	<1
	trans 1,3-Dichloropropene	1 µg/kg	M ^A	<1	<1
	Trichloroethene	1 µg/kg	U ^A	<1	<1
	Trichlorofluoromethane	1 µg/kg	M ^A	<1	<1
	Vinyl Chloride	1 µg/kg	M ^A	<1	<1
PCBECD	PCB 28	0.005 mg/kg	M ^A		<0.007
	PCB 52	0.005 mg/kg	M ^A		<0.007
	PCB 101	0.005 mg/kg	M ^A		<0.007
	PCB 118	0.005 mg/kg	M ^A		<0.007
	PCB 138	0.005 mg/kg	M ^A		<0.007
	PCB 153	0.005 mg/kg	M ^A		<0.007
	PCB 180	0.005 mg/kg	M ^A		<0.007
	Total PCB 7 Congeners	0.035 mg/kg	M ^A		<0.048
PHCONDW	pH	1 pH units	N		7.3
PHCONDW	Conductivity at 25°C	100 µS/cm	N		157
PHCONDW	TDS as mg/kg	700 mg/kg	N		1060
	TDS as mg/l	70 mg/l	N		107
TOCW	Leached Organic Carbon	0.4 mg/l	U		0.78
		2 mg/kg	N		7.7
KONENS	Chloride as Cl	1 mg/l	U		<1
		10 mg/kg	N		<10
ISEF	Fluoride as F	0.1 mg/l	U		0.1
		1 mg/kg	N		<1
SFAPI	Phenol Index	0.05 mg/l	U		<0.05



Project Number: 24073605

Client: Igne
Date Issued: 06/08/2024
Project Name: 26667 - Eastern Green Link 4 1



Analysis Results

		SOCOTEC Sample ID:		24073605-006	24073605-007	24073605-008	24073605-009
		Sampling Date:		19/07/2024 14:45	17/07/2024 16:00	22/07/2024 11:00	22/07/2024 09:30
		Customer ID:		TP13-0-ES-0.60	TP15-0-ES-1.00	TP24-0-ES-2.80	TP36-0-ES-0.80
Method Code	Analysis	MDL	Accred.				
SFAPI	Phenol Index	0.5 mg/kg	N			<0.5	
ICPMSW (Dissolved)	Antimony as Sb	0.001 mg/l	U			<0.001	
		0.01 mg/kg	N			<0.01	
ICPMSW (Dissolved)	Arsenic as As	0.001 mg/l	U			<0.001	
		0.01 mg/kg	N			<0.01	
ICPWATVAR (Dissolved)	Barium as Ba	0.01 mg/l	U			0.02	
		0.1 mg/kg	N			0.2	
ICPMSW (Dissolved)	Cadmium as Cd	0.00002 mg/l	U			<0.00002	
		0.0002 mg/kg	N			<0.0002	
ICPMSW (Dissolved)	Total Chromium as Cr	0.001 mg/l	U			<0.001	
		0.01 mg/kg	N			<0.01	
ICPMSW (Dissolved)	Copper as Cu	0.001 mg/l	U			<0.001	
		0.01 mg/kg	N			<0.01	
ICPMSW (Dissolved)	Lead as Pb	0.001 mg/l	U			<0.001	
		0.01 mg/kg	N			<0.01	
ICPMSW (Dissolved)	Mercury as Hg	0.00003 mg/l	U			<0.00003	
		0.0003 mg/kg	N			<0.0003	
ICPMSW (Dissolved)	Molybdenum as Mo	0.001 mg/l	U			<0.001	
		0.01 mg/kg	N			<0.01	
ICPMSW (Dissolved)	Nickel as Ni	0.001 mg/l	U			0.003	
		0.01 mg/kg	N			0.03	
ICPMSW (Dissolved)	Selenium as Se	0.001 mg/l	U			<0.001	
		0.01 mg/kg	N			<0.01	
ICPWATVAR (Dissolved)	Total Sulphur as SO4	3 mg/l	U			63	
		30 mg/kg	N			625	
ICPMSW (Dissolved)	Zinc as Zn	0.002 mg/l	U			<0.002	
		0.02 mg/kg	N			<0.02	

10:1 Cumulative Amount Leached: ☐ 1st Stage Leachate Results: ☐

Client Name: Igne
Lab Sample ID: 24073605-004
Sample ID: TP10-0-ES-0.30
Site Name: 26667 - Eastern Green Link 4 1

Leachate Preparation Data

Weight of Sample (kg)	0.105	Moisture content @ 105°C (%)	14.0
Equivalent weight dried @ 105°C (kg)	0.090	Volume of Water required for 10:1 stage (l)	0.885
Fraction of sample above 4mm (%)	0	Fraction of non-crushable material (%)	0

Note: The >4mm fraction is crushed using a disc mill

Solid Sample Results

				Landfill Waste Acceptance Criteria Limit Values		
Method Code	Analysis	Result	Accred.	Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
WSLM59	Total Organic Carbon (% m/m)	1.68	U	3	5	6
LOI(%MM)	Loss on Ignition (% m/m)	7.7	N			10
BTEXHSA	Sum of BTEX (mg/kg) (HS_1D_AR)	<0.069	M	6		
PCBECD	Sum of 7 Congener PCBs (mg/kg)	<0.041	M	1		
TPHFIDUS (Aliphatic)	>C10-C40 Aliphatic (mg/kg) (EH_CU_1D_AL)	<23.1	U	500		
PAHMSUS	Sum of 17 PAHs (mg/kg)	<1.57	N	100		
PHSOIL	pH (pH units)	7.5	M		>6	
ANC	Acid Neutralisation Capacity (mol/kg)	0.95	N		To be evaluated	To be evaluated

10:1 Cumulative Leachate Results

				Landfill Waste Acceptance Criteria Limit Values		
Method Code	Analysis	Result	Accred.	Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
PHCONDW	pH (pH units)	7.6	N			
PHCONDW	Conductivity (µS/cm)	116	N			
ICPMSW (Dissolved)	Antimony (mg/kg)	<0.01	N	0.06	0.7	5
ICPMSW (Dissolved)	Arsenic (mg/kg)	<0.01	N	0.5	2	25
ICPWATVAR (Dissolv	Barium (mg/kg)	0.3	N	20	100	300
ICPMSW (Dissolved)	Cadmium (mg/kg)	<0.0002	N	0.04	1	5
ICPMSW (Dissolved)	Chromium (mg/kg)	<0.01	N	0.5	10	70
ICPMSW (Dissolved)	Copper (mg/kg)	<0.01	N	2	50	100
ICPMSW (Dissolved)	Lead (mg/kg)	<0.01	N	0.5	10	50
ICPMSW (Dissolved)	Mercury (mg/kg)	<0.0003	N	0.01	0.2	2
ICPMSW (Dissolved)	Molybdenum (mg/kg)	<0.01	N	0.5	10	30
ICPMSW (Dissolved)	Nickel (mg/kg)	<0.01	N	0.4	10	40
ICPMSW (Dissolved)	Selenium (mg/kg)	<0.01	N	0.1	0.5	7
ICPMSW (Dissolved)	Zinc (mg/kg)	<0.02	N	4	50	200
KONENS	Chloride (mg/kg)	<10	N	800	15000	25000
ISEF	Fluoride (mg/kg)	5	N	10	150	500
ICPWATVAR (Dissolv	Sulphate as SO4 (mg/kg)	80	N	1000	20000	50000
PHCONDW	Total Dissolved Solids (mg/kg)	788	N	4000	60000	100000
SFAPI	Phenol Index (mg/kg)	<0.5	N	1		
TOCW	Dissolved Organic Carbon (mg/kg)	17.4	N	500	800	1000

Accreditation status of M denotes MCERT, U denotes UKAS, N denotes no accreditation for the specific result

Landfill Waste Acceptance Criteria limit values are taken from 2003/33/EC: Council Decision and are correct as of 8th January 2024

Conductivity and pH results are reported from the leached sample, not calculated into the cumulative solid sample

Client Name: Igne
Lab Sample ID: 24073605-008
Sample ID: TP24-0-ES-2.80
Site Name: 26667 - Eastern Green Link 4 1

Leachate Preparation Data

Weight of Sample (kg)	0.118	Moisture content @ 105°C (%)	23.8
Equivalent weight dried @ 105°C (kg)	0.090	Volume of Water required for 10:1 stage (l)	0.872
Fraction of sample above 4mm (%)	0	Fraction of non-crushable material (%)	0

Note: The >4mm fraction is crushed using a disc mill

Solid Sample Results

Method Code	Analysis	Result	Accred.	Landfill Waste Acceptance Criteria Limit Values		
				Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
WSLM59	Total Organic Carbon (% m/m)	1.18	U	3	5	6
LOI(%MM)	Loss on Ignition (% m/m)	8.6	N			10
BTEXHSA	Sum of BTEX (mg/kg) (HS_1D_AR)	<0.083	M	6		
PCBECD	Sum of 7 Congener PCBs (mg/kg)	<0.048	M	1		
TPHFIDUS (Aliphatic)	>C10-C40 Aliphatic (mg/kg) (EH_CU_1D_AL)	<27.5	U	500		
PAHMSUS	Sum of 17 PAHs (mg/kg)	<1.87	N	100		
PHSOIL	pH (pH units)	6.0	M		>6	
ANC	Acid Neutralisation Capacity (mol/kg)	0.63	N		To be evaluated	To be evaluated

10:1 Cumulative Leachate Results

Method Code	Analysis	Result	Accred.	Landfill Waste Acceptance Criteria Limit Values		
				Inert Waste Landfill	Stable Non-Reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
PHCONDW	pH (pH units)	7.3	N			
PHCONDW	Conductivity (µS/cm)	157	N			
ICPMSW (Dissolved)	Antimony (mg/kg)	<0.01	N	0.06	0.7	5
ICPMSW (Dissolved)	Arsenic (mg/kg)	<0.01	N	0.5	2	25
ICPWATVAR (Dissolv	Barium (mg/kg)	0.2	N	20	100	300
ICPMSW (Dissolved)	Cadmium (mg/kg)	<0.0002	N	0.04	1	5
ICPMSW (Dissolved)	Chromium (mg/kg)	<0.01	N	0.5	10	70
ICPMSW (Dissolved)	Copper (mg/kg)	<0.01	N	2	50	100
ICPMSW (Dissolved)	Lead (mg/kg)	<0.01	N	0.5	10	50
ICPMSW (Dissolved)	Mercury (mg/kg)	<0.0003	N	0.01	0.2	2
ICPMSW (Dissolved)	Molybdenum (mg/kg)	<0.01	N	0.5	10	30
ICPMSW (Dissolved)	Nickel (mg/kg)	0.03	N	0.4	10	40
ICPMSW (Dissolved)	Selenium (mg/kg)	<0.01	N	0.1	0.5	7
ICPMSW (Dissolved)	Zinc (mg/kg)	<0.02	N	4	50	200
KONENS	Chloride (mg/kg)	<10	N	800	15000	25000
ISEF	Fluoride (mg/kg)	<1	N	10	150	500
ICPWATVAR (Dissolv	Sulphate as SO4 (mg/kg)	625	N	1000	20000	50000
PHCONDW	Total Dissolved Solids (mg/kg)	1060	N	4000	60000	100000
SFAPI	Phenol Index (mg/kg)	<0.5	N	1		
TOCW	Dissolved Organic Carbon (mg/kg)	7.7	N	500	800	1000

Accreditation status of M denotes MCERT, U denotes UKAS, N denotes no accreditation for the specific result

Landfill Waste Acceptance Criteria limit values are taken from 2003/33/EC: Council Decision and are correct as of 8th January 2024

Conductivity and pH results are reported from the leached sample, not calculated into the cumulative solid sample

[illegible]

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

<u>Method Code</u>	<u>Method Description</u>	<u>Analysis Method</u>
ANC	ANC: Acid Neutralisation Capacity (mol/kg)	Air Dried & Ground
BTEXHSA	BTEX by GCFID	As Received
BTEXHSA	BTEX for WAC by GCFID	As Received
CLANDPREP	CLand Prep and Dry Weight Correction to 35°C	As Received
CLANDPREP	Solid Material Description	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPMSSW (Dissolved)	Antimony (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSSW (Dissolved)	Antimony in Solids (BSEN 12457-2)	Filtered
ICPMSSW (Dissolved)	Arsenic (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSSW (Dissolved)	Arsenic in Solids (BSEN 12457-2)	Filtered
ICPMSSW (Dissolved)	Cadmium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSSW (Dissolved)	Cadmium in Solids (BSEN 12457-2)	Filtered
ICPMSSW (Dissolved)	Chromium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSSW (Dissolved)	Chromium in Solids (BSEN 12457-2)	Filtered
ICPMSSW (Dissolved)	Copper (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSSW (Dissolved)	Copper in Solids (BSEN 12457-2)	Filtered
ICPMSSW (Dissolved)	Lead (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSSW (Dissolved)	Lead in Solids (BSEN 12457-2)	Filtered
ICPMSSW (Dissolved)	Mercury (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSSW (Dissolved)	Mercury in Solids (BSEN 12457-2)	Filtered
ICPMSSW (Dissolved)	Molybdenum (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSSW (Dissolved)	Molybdenum in Solids (BSEN 12457-2)	Filtered
ICPMSSW (Dissolved)	Nickel (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSSW (Dissolved)	Nickel in Solids (BSEN 12457-2)	Filtered
ICPMSSW (Dissolved)	Selenium (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSSW (Dissolved)	Selenium in Solids (BSEN 12457-2)	Filtered
ICPMSSW (Dissolved)	Zinc (Diss.) in Lab Leachate by ICPMS	Filtered
ICPMSSW (Dissolved)	Zinc in Solids (BSEN 12457-2)	Filtered
ICPWATVAR (Dissolved)	Barium (Diss.) in Lab Leachate by ICPOES	Filtered
ICPWATVAR (Dissolved)	Barium in Solids (BSEN 12457-2)	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO ₄ (Diss.) in Lab Leachate	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO ₄ in Solids (BSEN 12457-2)	Filtered
ICPWSS	Sulphate as SO ₄ (Water Soluble)	Air Dried & Ground
ISEF	Fluoride by ISE	Filtered
ISEF	Fluoride in Solids (BSEN 12457-2)	Filtered
KONENS	Chloride by Colorimetry	Filtered
KONENS	Chloride in Solids (BSEN 12457-2)	Filtered
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
Leachate Prep CEN 10:1	WAC Leachate Prep, 1-Stage 10:1 (BSEN 12457-2)	As Received
LOI(%MM)	LOI: Loss on Ignition @ 450°C	Air Dried & Ground
PAHMSUS	16 PAHs by GCMS	As Received
PAHMSUS	17 PAHs (inc. Coronene) for WAC by GCMS	As Received
PCBECD	PCBs, ICES 7 Congeners inc. Total Calculation	As Received



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PHCONDW	Electrical Conductivity @ 25°C	Filtered
PHCONDW	pH	Filtered
PHCONDW	TDS: Total Dissolved Solids (Calc)	Filtered
PHCONDW	Total Dissolved Solids in Solids (BSEN 12457-2)	Filtered
	)	
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Free) by SFA	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	Filtered
SFAPI	Phenol Index in Solids (BSEN 12457-2)	Filtered
SUB002	Asbestos Stage 1 (with Stage 2 Trigger)	
TOCW	Leached Organic Carbon in Solids (BSEN 12457-2)	Filtered
TOCW	LOC: Leached Organic Carbon	Filtered
TPHFIDUS (Aliphatic)	TPH (>C8-C40) Aliphatic and Carbon Band (>C 10-C40)	As Received
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
VOCHSAS	VOCs (Target List) by GCMS	As Received
WSLM59	SOM: Soil Organic Matter (%) (Calc)	Air Dried & Ground
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.



Project Number: 24073605

Client: Igne

Date Issued: 06/08/2024

Project Name: 26667 - Eastern Green Link 4 1

HWOL Acronym Key

Acronym

HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Description

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any accreditation marked with ^ signify results are reported on a dry weight basis of 35° c.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° c.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any results marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by another SOCOTEC department or by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

Certificate of Analysis

Client: Igne

Project: 24073967

Quote: BEC240736422 V1.1

Project Ref: 26667

Site: Eastern Green Link 4 2

Contact: Fiona Raeburn

Address: Whistleberry Road
Hamilton
ML3 0HP

E-Mail: Fiona.Raeburn@igne.com

Phone: 01698 711 177

No. Samples Received: 4

Date Received: 29/07/2024

Analysis Completed: 06/08/2024

Date Issued: 06/08/2024

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Samantha Edwards
01283 554 541
Samantha.Edwards@socotec.co.uk



Project Number: [24073967](#)

Client: Igne

Date Issued: 06/08/2024

Project Name: 26667 - Eastern Green Link 4 2

Samples Analysed

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
24073967-001	TP22-0-ES-1.00	24/07/2024 13:45:00	SOLID	Silt Sample
24073967-002	TP23-0-ES-3.80	24/07/2024 14:50:00	SOLID	Sand Sample
24073967-003	TP26-0-ES-1.00	23/07/2024 14:30:00	SOLID	Silt Sample
24073967-004	TP31-0-ES-0.20	23/07/2024 15:30:00	SOLID	Silt Sample

Analysis Results

SOCOTEC Sample ID: 24073967-001 24073967-002 24073967-003 24073967-004

Sampling Date: 24/07/2024 13:45 24/07/2024 14:50 23/07/2024 14:30 23/07/2024 15:30

Customer ID: TP22-0-ES-1.00 TP23-0-ES-3.80 TP26-0-ES-1.00 TP31-0-ES-0.20

Method Code	Analysis	MDL	Accred.				
CLANDPREP	Total Moisture at 35°C	0.1 %	N	10.7	3.1	11.9	13.8
	Major Constituents	-	N	SILT	SAND	SILT	SILT
	Minor Constituents	-	N	Miscellaneous	None	Gravel	Gravel
	Miscellaneous Constituents	-	N	n/a	n/a	n/a	Organic Matter
	Colour of Material	-	N	Black	Brown	Brown	Brown
SUB002	Asbestos Identification	-	N	NAIIS	NAIIS	NAIIS	CH
SUB002	Asbestos Stage 2	0.001 %	N				0.002
PHSOIL	pH (2.5:1 extraction)	1 pH units	M ^A	3.0	4.9	6.5	6.6
WSLM59	Total Organic Carbon	0.02 % m/m	U ^A	10.4	0.14	0.93	1.59
WSLM59	Soil Organic Matter	0.04 % m/m	U ^A	17.9	0.25	1.60	2.73
SFAPI	Free Cyanide	0.5 mg/kg	M ^A	<0.6	<0.5	<0.6	<0.6
SFAPI	Total Cyanide	0.5 mg/kg	M ^A	<0.6	<0.5	<0.6	<0.6
SFAPI	Phenol Index	0.5 mg/kg	U ^A	<0.6	<0.5	<0.6	<0.6
ICPWSS	Water Soluble Sulphate as SO ₄ by Mass	20 mg/kg	M ^A	576	216	106	89
ICPMSS	Arsenic as As	0.3 mg/kg	M ^A	5.1	0.3	3.2	4.4
ICPMSS	Cadmium as Cd	0.2 mg/kg	M ^A	<0.2	<0.2	<0.2	<0.2
ICPMSS	Total Chromium as Cr	1.2 mg/kg	M ^A	13.7	3.0	34.2	36.6
KONENS	Chromium (VI) as Cr	0.1 mg/kg	N ^A	<0.1	<0.1	<0.1	<0.1
ICPMSS	Copper as Cu	1.6 mg/kg	M ^A	21.9	1.7	20.4	16.2
ICPMSS	Lead as Pb	0.7 mg/kg	M ^A	97.8	1.8	10.2	17.4
ICPMSS	Mercury as Hg	0.5 mg/kg	M ^A	<0.5	<0.5	<0.5	<0.5
ICPMSS	Nickel as Ni	2 mg/kg	M ^A	14.5	3.4	46.7	26.1
ICPMSS	Zinc as Zn	16 mg/kg	M ^A	<16.0	<16.0	40.4	49.9
ICPBOR	Boron as B	0.5 mg/kg	M ^A	1.8	<0.5	<0.5	0.7
BTXHSA	Benzene (HS_1D_AR)	10 µg/kg	M ^A	<11	<10	<11	<12
	Toluene (HS_1D_AR)	10 µg/kg	M ^A	<11	<10	<11	<12
	Ethylbenzene (HS_1D_AR)	10 µg/kg	M ^A	<11	<10	<11	<12
	m/p-Xylene (HS_1D_AR)	20 µg/kg	M ^A	<22	<21	<23	<23
	o-Xylene (HS_1D_AR)	10 µg/kg	M ^A	<11	<10	<11	<12
GROHSA/BTEXHSA	Total GRO C5-C10 (HS_1D_Total)	0.2 mg/kg	M ^A	0.366	<0.206	<0.227	<0.232
	C5-C6 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.224	<0.206	<0.227	<0.232
	>C6-C8 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.224	<0.206	<0.227	<0.232
	>C8-C10 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	0.256	<0.206	<0.227	<0.232
	C5-C7 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.011	<0.010	<0.011	<0.012
	>C7-C8 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.011	<0.010	<0.011	<0.012
	>C8-C10 Aromatic (HS_1D_AR)	0.04 mg/kg	M ^A	<0.045	<0.041	<0.045	<0.047
	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	U ^A	94.6	<20.6	<22.7	<23.2
TPHFIDUS (Aliphatic)	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.48	<4.13	<4.54	<4.64
	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	15.3	<4.13	<4.54	<4.64
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	24.7	<4.13	<4.54	<4.64
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	10 mg/kg	U ^A	46.1	<10.3	<11.4	11.6
	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	6 mg/kg	N ^A	<6.72	<6.19	<6.81	<6.96
	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	20 mg/kg	U ^A	439	<20.6	<22.7	<23.2
TPHFIDUS (Aromatic)	>C10-C12 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	4.64	<4.13	<4.54	<4.64
	>C12-C16 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	45.5	<4.13	<4.54	<4.64
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	120	<4.13	<4.54	<4.64
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	10 mg/kg	U ^A	256	<10.3	<11.4	12.4
	>C35-C44 (Aromatic) (EH_CU_1D_AR)	6 mg/kg	N ^A	13.0	<6.19	<6.81	<6.96
	Acenaphthene	0.08 mg/kg	M ^A	0.11	<0.08	<0.09	<0.09
	Acenaphthylene	0.08 mg/kg	U ^A	<0.09	<0.08	<0.09	<0.09
	Anthracene	0.08 mg/kg	U ^A	<0.09	<0.08	<0.09	<0.09
PAHMSUS	Benzo[a]anthracene	0.08 mg/kg	M ^A	0.32	<0.08	<0.09	<0.09
	Benzo[a]pyrene	0.08 mg/kg	M ^A	0.29	<0.08	<0.09	<0.09
	Benzo[b]fluoranthene	0.08 mg/kg	M ^A	0.30	<0.08	<0.09	<0.09
	Benzo[g,h,i]perylene	0.08 mg/kg	M ^A	0.33	<0.08	<0.09	<0.09
	Benzo[k]fluoranthene	0.08 mg/kg	M ^A	<0.09	<0.08	<0.09	<0.09
	Chrysene	0.08 mg/kg	M ^A	0.34	<0.08	<0.09	<0.09
	Dibenzo[a,h]anthracene	0.08 mg/kg	M ^A	<0.09	<0.08	<0.09	<0.09
	Fluoranthene	0.08 mg/kg	M ^A	0.63	<0.08	<0.09	<0.09
	Fluorene	0.08 mg/kg	M ^A	0.27	<0.08	<0.09	<0.09
	Indeno[1,2,3-cd]pyrene	0.08 mg/kg	M ^A	<0.09	<0.08	<0.09	<0.09
	Naphthalene	0.08 mg/kg	M ^A	0.19	<0.08	<0.09	<0.09
	Phenanthrene	0.08 mg/kg	M ^A	2.62	<0.08	<0.09	<0.09
	Pyrene	0.08 mg/kg	M ^A	0.59	<0.08	<0.09	<0.09
	Total PAH 16	1.28 mg/kg	U ^A	6.43	<1.32	<1.45	<1.48
	1,1,1,2-Tetrachloroethane	1 µg/kg	M ^A	<1 c	<1	<1	<1
VOCHSAS	1,1,1-Trichloroethane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	1,1,2,2-Tetrachloroethane	1 µg/kg	N ^A	<1 c	<1	<1	<1
	1,1,2-Trichloroethane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	1,1-Dichloroethane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	1,1-Dichloroethene	1 µg/kg	U ^A	<1 c	<1	<1	<1
	1,1-Dichloropropene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	1,2,3-Trichlorobenzene	3 µg/kg	M ^A	<3 c	<3	<4	<4
	1,2,3-Trichloropropane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	1,2,4-Trichlorobenzene	3 µg/kg	N ^A	<3 c	<3	<4	<4
	1,2,4-Trimethylbenzene	1 µg/kg	M ^A	5 c	<1	<1	<1
	1,2-Dibromo-3-chloropropane	1 µg/kg	U ^A	<1 c	<1	<1	<1
	1,2-Dibromoethane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	1,2-Dichlorobenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1

Analysis Results

SOCOTEC Sample ID:	24073967-001	24073967-002	24073967-003	24073967-004
Sampling Date:	24/07/2024 13:45	24/07/2024 14:50	23/07/2024 14:30	23/07/2024 15:30
Customer ID:	TP22-0-ES-1.00	TP23-0-ES-3.80	TP26-0-ES-1.00	TP31-0-ES-0.20

Method Code	Analysis	MDL	Accred.				
VOCHSAS	1,2-Dichloroethane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	1,2-Dichloropropane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	1,3,5-Trimethylbenzene	1 µg/kg	M ^A	2 c	<1	<1	<1
	1,3-Dichlorobenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	1,3-Dichloropropane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	1,4-Dichlorobenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	2,2-Dichloropropane	2 µg/kg	M ^A	<2 c	<2	<2	<2
	2-Chlorotoluene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	4-Chlorotoluene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Benzene	1 µg/kg	M ^A	14 c	<1	<1	<1
	Bromobenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Bromochloromethane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Bromodichloromethane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Bromoform	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Bromomethane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Carbon Tetrachloride	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Chlorobenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Chloroethane	2 µg/kg	M ^A	<2 c	<2	<2	<2
	Chloroform	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Chloromethane	3 µg/kg	U ^A	<3 c	<3	<4	<4
	cis 1,2-Dichloroethene	5 µg/kg	M ^A	<6 c	<5	<6	<6
	cis 1,3-Dichloropropene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Dibromochloromethane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Dibromomethane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Dichlorodifluoromethane	1 µg/kg	N ^A	<1 c	<1	<1	<1
	Ethylbenzene	2 µg/kg	M ^A	3 c	<2	<2	<2
	Hexachlorobutadiene	2 µg/kg	N ^A	<2 c	<2	<2	<2
	iso-Propylbenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	m and p-Xylene	4 µg/kg	M ^A	5 c	<4	<5	<5
	MTBE	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Naphthalene	5 µg/kg	M ^A	7 c	<5	<6	<6
	n-Butylbenzene	1 µg/kg	U ^A	4 c	<1	<1	<1
	o-Xylene	2 µg/kg	M ^A	<2 c	<2	<2	<2
	p-Isopropyltoluene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Propylbenzene	1 µg/kg	M ^A	2 c	<1	<1	<1
	sec-Butylbenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Styrene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	tert-Butylbenzene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Tetrachloroethene	3 µg/kg	M ^A	<3 c	<3	<4	<4
	Toluene	5 µg/kg	M ^A	<6 c	<5	<6	<6
	trans 1,2-Dichloroethene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	trans 1,3-Dichloropropene	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Trichloroethene	1 µg/kg	U ^A	<1 c	<1	<1	<1
	Trichlorofluoromethane	1 µg/kg	M ^A	<1 c	<1	<1	<1
	Vinyl Chloride	1 µg/kg	M ^A	<1 c	<1	<1	<1



Project Number: 24073967

Client: Igne

Date Issued: 06/08/2024

Project Name: 26667 - Eastern Green Link 4 2

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

Method Code

BTEXHSA
CLANDPREP
CLANDPREP
GROHSA/BTEXHSA
ICPBOR
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPWSS
KONENS
PAHMSUS
PHSOIL
SFAP
SFAP
SFAP
SUB002
SUB002
TPHFIDUS (Aliphatic)
TPHFIDUS (Aromatic)
VOCHSAS
WSLM59
WSLM59

Method Description

BTEX by GCFID
CLand Prep and Dry Weight Correction to 35°C
Solid Material Description
GRO CWG UK (C5-C10) Ali/Aro Split
Boron (Water Soluble) by ICPOES
Arsenic in Solids by ICPMS
Cadmium in Solids by ICPMS
Chromium in Solids by ICPMS
Copper in Solids by ICPMS
Lead in Solids by ICPMS
Mercury in Solids by ICPMS
Nickel in Solids by ICPMS
Zinc in Solids by ICPMS
Sulphate as SO₄ (Water Soluble)
Chromium VI (Hexavalent) by Colorimetry
16 PAHs by GCMS
pH (2.5:1)
Cyanide (Free) by SFA
Cyanide (Total) by SFA
Phenol Index (Total) by SFA
Asbestos Stage 1 (with Stage 2 Trigger)
Asbestos Stage 2: Quantification
TPH (CWG UK) Aliphatic Split with Carbon
Banding
TPH (CWG UK) Aromatic Split with Carbon
Banding
VOCs (Target List) by GCMS
SOM: Soil Organic Matter (%) (Calc)
TOC: Total Organic Carbon

Analysis Method

As Received
As Received
As Received
As Received
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
As Received
As Received
As Received
As Received
As Received
As Received
As Received
As Received
As Received
Air Dried & Ground
Air Dried & Ground



Project Number: [24073967](#)

Client: Igne

Date Issued: 06/08/2024

Project Name: 26667 - Eastern Green Link 4 2

[Result Report Notes](#)

Letters alongside results signify that the result has associated report notes.

The report notes are as follows:

[Letter](#)

[Note](#)

A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

[HWOL Acronym Key](#)

[Acronym](#)

[Description](#)

HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total



Project Number: [24073967](#)

Client: Igne

Date Issued: 06/08/2024

Project Name: 26667 - Eastern Green Link 4 2

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any accreditation marked with ^ signify results are reported on a dry weight basis of 35 ° c.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35 ° c.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any results marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by another SOCOTEC department or by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

Certificate of Analysis

Client: Igne

Project: 24080008

Quote: BEC240736422 V1.1

Project Ref: 26667

Site: Eastern Green Link 4 3

Contact: Fiona Raeburn

Address: Whistleberry Road
Hamilton
ML3 0HP

E-Mail: Fiona.Raeburn@igne.com

Phone: 01698 711 177

No. Samples Received: 1

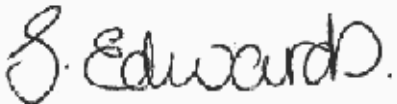
Date Received: 01/08/2024

Analysis Completed: 08/08/2024

Date Issued: 08/08/2024

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Samantha Edwards
01283 554 541
Samantha.Edwards@socotec.co.uk



Project Number: 24080008

Client: Igne

Date Issued: 08/08/2024

Project Name: 26667 - Eastern Green Link 4 3

Samples Analysed

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
24080008-001	BH12-0-ES-3.00	26/07/2024 13:00:00	SOLID	Sand Sample

Analysis Results

SOCOTEC Sample ID: 24080008-001

Sampling Date: 26/07/2024 13:00

Customer ID: BH12-0-ES-3.00

Method Code	Analysis	MDL	Accred.	
CLANDPREP	Total Moisture at 35°C	0.1 %	N	12.0
	Major Constituents	-	N	SAND
	Minor Constituents	-	N	Gravel
	Miscellaneous Constituents	-	N	n/a
	Colour of Material	-	N	Brown
SUB002	Asbestos Identification	-	N	NAIIS
PHSOIL	pH (2.5:1 extraction)	1 pH units	M ^A	7.0
WSLM59	Total Organic Carbon	0.02 % m/m	U ^A	0.07
WSLM59	Soil Organic Matter	0.04 % m/m	U ^A	0.12
SFAPI	Free Cyanide	0.5 mg/kg	M ^A	<0.6
SFAPI	Total Cyanide	0.5 mg/kg	M ^A	<0.6
SFAPI	Phenol Index	0.5 mg/kg	U ^A	<0.6
ICPWSS	Water Soluble Sulphate as SO4 by Mass	20 mg/kg	M ^A	38
ICPMSS	Arsenic as As	0.3 mg/kg	M ^A	5.6
ICPMSS	Cadmium as Cd	0.2 mg/kg	M ^A	0.6
ICPMSS	Total Chromium as Cr	1.2 mg/kg	M ^A	52.4
KONENS	Chromium (VI) as Cr	0.1 mg/kg	N ^A	<0.1
ICPMSS	Copper as Cu	1.6 mg/kg	M ^A	1479
ICPMSS	Lead as Pb	0.7 mg/kg	M ^A	109.3
ICPMSS	Mercury as Hg	0.5 mg/kg	M ^A	<0.5
ICPMSS	Nickel as Ni	2 mg/kg	M ^A	44.6
ICPMSS	Zinc as Zn	16 mg/kg	M ^A	912.8
ICPBOR	Boron as B	0.5 mg/kg	M ^A	<0.5
BTXHSA	Benzene (HS_1D_AR)	10 µg/kg	M ^A	<11
	Toluene (HS_1D_AR)	10 µg/kg	M ^A	<11
	Ethylbenzene (HS_1D_AR)	10 µg/kg	M ^A	<11
	m/p-Xylene (HS_1D_AR)	20 µg/kg	M ^A	<23
	o-Xylene (HS_1D_AR)	10 µg/kg	M ^A	<11
GROHSA/BTEXHSA	Total GRO C5-C10 (HS_1D_Total)	0.2 mg/kg	M ^A	<0.227
	C5-C6 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.227
	>C6-C8 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.227
	>C8-C10 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.227
	C5-C7 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.011
	>C7-C8 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.011
	>C8-C10 Aromatic (HS_1D_AR)	0.04 mg/kg	M ^A	<0.046
TPHFIDUS (Aliphatic)	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	U ^A	<22.7
	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.55
	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.55
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.55
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	10 mg/kg	U ^A	<11.4
	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	6 mg/kg	N ^A	<6.82
	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	20 mg/kg	U ^A	<22.7
TPHFIDUS (Aromatic)	>C10-C12 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	<4.55
	>C12-C16 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	<4.55
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	<4.55
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	10 mg/kg	U ^A	<11.4
	>C35-C44 (Aromatic) (EH_CU_1D_AR)	6 mg/kg	N ^A	<6.82
PAHMSUS	Acenaphthene	0.08 mg/kg	M ^A	<0.09
	Acenaphthylene	0.08 mg/kg	U ^A	<0.09* _s
	Anthracene	0.08 mg/kg	U ^A	<0.09
	Benzo[a]anthracene	0.08 mg/kg	M ^A	<0.09
	Benzo[a]pyrene	0.08 mg/kg	M ^A	<0.09
	Benzo[b]fluoranthene	0.08 mg/kg	M ^A	<0.09
	Benzo[g,h,i]perylene	0.08 mg/kg	M ^A	<0.09
	Benzo[k]fluoranthene	0.08 mg/kg	M ^A	<0.09
	Chrysene	0.08 mg/kg	M ^A	<0.09
	Dibenzo[a,h]anthracene	0.08 mg/kg	M ^A	<0.09
	Fluoranthene	0.08 mg/kg	M ^A	<0.09
	Fluorene	0.08 mg/kg	M ^A	<0.09
	Indeno[1,2,3-cd]pyrene	0.08 mg/kg	M ^A	<0.09
	Naphthalene	0.08 mg/kg	M ^A	<0.09
	Phenanthrene	0.08 mg/kg	M ^A	<0.09
	Pyrene	0.08 mg/kg	M ^A	<0.09
	Total PAH 16	1.28 mg/kg	U ^A	<1.45
VOCHSAS	1,1,1,2-Tetrachloroethane	1 µg/kg	M ^A	<1
	1,1,1-Trichloroethane	1 µg/kg	M ^A	<1
	1,1,2,2-Tetrachloroethane	1 µg/kg	N ^A	<1
	1,1,2-Trichloroethane	1 µg/kg	M ^A	<1
	1,1-Dichloroethane	1 µg/kg	M ^A	<1
	1,1-Dichloroethene	1 µg/kg	U ^A	<1
	1,1-Dichloropropene	1 µg/kg	M ^A	<1
	1,2,3-Trichlorobenzene	3 µg/kg	M ^A	<3
	1,2,3-Trichloropropane	1 µg/kg	M ^A	<1
	1,2,4-Trichlorobenzene	3 µg/kg	N ^A	<3
	1,2,4-Trimethylbenzene	1 µg/kg	M ^A	<1
	1,2-Dibromo-3-chloropropane	1 µg/kg	U ^A	<1
	1,2-Dibromoethane	1 µg/kg	M ^A	<1
	1,2-Dichlorobenzene	1 µg/kg	M ^A	<1
	1,2-Dichloroethane	1 µg/kg	M ^A	<1

Analysis Results

SOCOTEC Sample ID: 24080008-001
Sampling Date: 26/07/2024 13:00
Customer ID: BH12-0-ES-3.00

Method Code	Analysis	MDL	Accred.	
VOCHSAS	1,2-Dichloropropane	1 µg/kg	M ^A	<1
	1,3,5-Trimethylbenzene	1 µg/kg	M ^A	<1
	1,3-Dichlorobenzene	1 µg/kg	M ^A	<1
	1,3-Dichloropropane	1 µg/kg	M ^A	<1
	1,4-Dichlorobenzene	1 µg/kg	M ^A	<1
	2,2-Dichloropropane	2 µg/kg	M ^A	<2
	2-Chlorotoluene	1 µg/kg	M ^A	<1
	4-Chlorotoluene	1 µg/kg	M ^A	<1
	Benzene	1 µg/kg	M ^A	<1
	Bromobenzene	1 µg/kg	M ^A	<1
	Bromochloromethane	1 µg/kg	M ^A	<1
	Bromodichloromethane	1 µg/kg	M ^A	<1
	Bromoform	1 µg/kg	M ^A	<1
	Bromomethane	1 µg/kg	M ^A	<1
	Carbon Tetrachloride	1 µg/kg	M ^A	<1
	Chlorobenzene	1 µg/kg	M ^A	<1
	Chloroethane	2 µg/kg	M ^A	<2
	Chloroform	1 µg/kg	M ^A	<1
	Chloromethane	3 µg/kg	U ^A	<3
	cis 1,2-Dichloroethene	5 µg/kg	M ^A	<5
	cis 1,3-Dichloropropene	1 µg/kg	M ^A	<1
	Dibromochloromethane	1 µg/kg	M ^A	<1
	Dibromomethane	1 µg/kg	M ^A	<1
	Dichlorodifluoromethane	1 µg/kg	N ^A	<1
	Ethylbenzene	2 µg/kg	M ^A	<2
	Hexachlorobutadiene	2 µg/kg	N ^A	<2
	iso-Propylbenzene	1 µg/kg	M ^A	<1
	m and p-Xylene	4 µg/kg	M ^A	<4
	MTBE	1 µg/kg	M ^A	<1
	Naphthalene	5 µg/kg	M ^A	<5
	n-Butylbenzene	1 µg/kg	U ^A	<1
	o-Xylene	2 µg/kg	M ^A	<2
	p-Isopropyltoluene	1 µg/kg	M ^A	<1
	Propylbenzene	1 µg/kg	M ^A	<1
	sec-Butylbenzene	1 µg/kg	M ^A	<1
	Styrene	1 µg/kg	M ^A	<1
	tert-Butylbenzene	1 µg/kg	M ^A	<1
	Tetrachloroethene	3 µg/kg	M ^A	<3
	Toluene	5 µg/kg	M ^A	<5
	trans 1,2-Dichloroethene	1 µg/kg	M ^A	<1
	trans 1,3-Dichloropropene	1 µg/kg	M ^A	<1
	Trichloroethene	1 µg/kg	U ^A	<1
	Trichlorofluoromethane	1 µg/kg	M ^A	<1
	Vinyl Chloride	1 µg/kg	M ^A	<1



Project Number: 24080008

Client: Igne

Date Issued: 08/08/2024

Project Name: 26667 - Eastern Green Link 4 3

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

<u>Method Code</u>	<u>Method Description</u>	<u>Analysis Method</u>
BTEXHSA	BTEX by GCFID	As Received
CLANDPREP	CLand Prep and Dry Weight Correction to 35°C	As Received
CLANDPREP	Solid Material Description	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPWSS	Sulphate as SO4 (Water Soluble)	Air Dried & Ground
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
PAHMSUS	16 PAHs by GCMS	As Received
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Free) by SFA	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	As Received
SUB002	Asbestos Stage 1 (with Stage 2 Trigger)	
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
VOCHSAS	VOCs (Target List) by GCMS	As Received
WSLM59	SOM: Soil Organic Matter (%) (Calc)	Air Dried & Ground
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Result Report Notes

Letters alongside results signify that the result has associated report notes.

The report notes are as follows:

<u>Letter</u>	<u>Note</u>
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.



Project Number: [24080008](#)

Client: Igne

Date Issued: 08/08/2024

Project Name: 26667 - Eastern Green Link 4 3

- F Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
- G The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

[HWOL Acronym Key](#)

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

[Additional Information](#)

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any accreditation marked with ^ signify results are reported on a dry weight basis of 35° c.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° c.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any results marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by another SOCOTEC department or by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.



Project Number: 24080008

Client: Igne

Date Issued: 08/08/2024

Project Name: 26667 - Eastern Green Link 4 3

End of Certificate of Analysis

Certificate of Analysis

Client: Igne

Project: 24080009

Quote: BEC240736422 V1.1

Project Ref: 26667

Site: Eastern Green Link 4 4

Contact: Fiona Raeburn

Address: Whistleberry Road
Hamilton
ML3 0HP

E-Mail: Fiona.Raeburn@igne.com

Phone: 01698 711 177

No. Samples Received: 1

Date Received: 01/08/2024

Analysis Completed: 08/08/2024

Date Issued: 08/08/2024

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Samantha Edwards
01283 554 541
Samantha.Edwards@socotec.co.uk



Project Number: 24080009

Client: Igne

Date Issued: 08/08/2024

Project Name: 26667 - Eastern Green Link 4 4

Samples Analysed

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
24080009-001	TP34-0-ES-1.50	29/07/2024 15:00:00	SOLID	Silt Sample

Analysis Results

SOCOTEC Sample ID: 24080009-001

Sampling Date: 29/07/2024 15:00

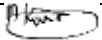
Customer ID: TP34-0-ES-1.50

Method Code	Analysis	MDL	Accred.	
CLANDPREP	Total Moisture at 35°C	0.1 %	N	9.5
	Major Constituents	-	N	SILT
	Minor Constituents	-	N	Gravel
	Miscellaneous Constituents	-	N	Miscellaneous
	Colour of Material	-	N	Grey
SUB002	Asbestos Identification	-	N	NAHS
PHSOIL	pH (2.5:1 extraction)	1 pH units	M ^A	6.4
WSLM59	Total Organic Carbon	0.02 % m/m	U ^A	7.21
WSLM59	Soil Organic Matter	0.04 % m/m	U ^A	12.4
SFAPI	Free Cyanide	0.5 mg/kg	M ^A	<0.6
SFAPI	Total Cyanide	0.5 mg/kg	M ^A	<0.6
SFAPI	Phenol Index	0.5 mg/kg	U ^A	<0.6
ICPWSS	Water Soluble Sulphate as SO ₄ by Mass	20 mg/kg	M ^A	3190
ICPMSS	Arsenic as As	0.3 mg/kg	M ^A	5.4
ICPMSS	Cadmium as Cd	0.2 mg/kg	M ^A	0.6
ICPMSS	Total Chromium as Cr	1.2 mg/kg	M ^A	52.2
KONENS	Chromium (VI) as Cr	0.1 mg/kg	N ^A	<0.1
ICPMSS	Copper as Cu	1.6 mg/kg	M ^A	1487
ICPMSS	Lead as Pb	0.7 mg/kg	M ^A	108.0
ICPMSS	Mercury as Hg	0.5 mg/kg	M ^A	<0.5
ICPMSS	Nickel as Ni	2 mg/kg	M ^A	43.8
ICPMSS	Zinc as Zn	16 mg/kg	M ^A	910.7
ICPBOR	Boron as B	0.5 mg/kg	M ^A	1.5
BTXHSA	Benzene (HS_1D_AR)	10 µg/kg	M ^A	<11
	Toluene (HS_1D_AR)	10 µg/kg	M ^A	<11
	Ethylbenzene (HS_1D_AR)	10 µg/kg	M ^A	<11
	m/p-Xylene (HS_1D_AR)	20 µg/kg	M ^A	<22
	o-Xylene (HS_1D_AR)	10 µg/kg	M ^A	<11
GROHSA/BTEXHSA	Total GRO C5-C10 (HS_1D_Total)	0.2 mg/kg	M ^A	<0.221
	C5-C6 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.221
	>C6-C8 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.221
	>C8-C10 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.221
	C5-C7 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.011
	>C7-C8 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.011
	>C8-C10 Aromatic (HS_1D_AR)	0.04 mg/kg	M ^A	<0.044
TPHFIDUS (Aliphatic)	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	U ^A	56.2
	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.42
	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	8.03
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	12.1
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	10 mg/kg	U ^A	33.6
	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	6 mg/kg	N ^A	<6.63
TPHFIDUS (Aromatic)	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	20 mg/kg	U ^A	277
	>C10-C12 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	<4.42
	>C12-C16 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	13.2
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	49.7
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	10 mg/kg	U ^A	182
	>C35-C44 (Aromatic) (EH_CU_1D_AR)	6 mg/kg	N ^A	35.4
PAHMSUS	Acenaphthene	0.08 mg/kg	M ^A	<0.09
	Acenaphthylene	0.08 mg/kg	U ^A	<0.09* _s
	Anthracene	0.08 mg/kg	U ^A	0.19
	Benzo[a]anthracene	0.08 mg/kg	M ^A	0.19
	Benzo[a]pyrene	0.08 mg/kg	M ^A	0.35
	Benzo[b]fluoranthene	0.08 mg/kg	M ^A	0.46
	Benzo[g,h,i]perylene	0.08 mg/kg	M ^A	0.45
	Benzo[k]fluoranthene	0.08 mg/kg	M ^A	0.13
	Chrysene	0.08 mg/kg	M ^A	0.28
	Dibenzo[a,h]anthracene	0.08 mg/kg	M ^A	<0.09
	Fluoranthene	0.08 mg/kg	M ^A	0.54
	Fluorene	0.08 mg/kg	M ^A	0.13
	Indeno[1,2,3-cd]pyrene	0.08 mg/kg	M ^A	0.13
	Naphthalene	0.08 mg/kg	M ^A	0.14
	Phenanthrene	0.08 mg/kg	M ^A	0.87
	Pyrene	0.08 mg/kg	M ^A	0.77
	Total PAH 16	1.28 mg/kg	U ^A	4.88
VOCHSAS	1,1,1,2-Tetrachloroethane	1 µg/kg	M ^A	<1 _c
	1,1,1-Trichloroethane	1 µg/kg	M ^A	<1 _c
	1,1,2,2-Tetrachloroethane	1 µg/kg	N ^A	<1 _c
	1,1,2-Trichloroethane	1 µg/kg	M ^A	<1 _c
	1,1-Dichloroethane	1 µg/kg	M ^A	<1 _c
	1,1-Dichloroethene	1 µg/kg	U ^A	<1 _c
	1,1-Dichloropropene	1 µg/kg	M ^A	<1 _c
	1,2,3-Trichlorobenzene	3 µg/kg	M ^A	<3 _c
	1,2,3-Trichloropropane	1 µg/kg	M ^A	<1 _c
	1,2,4-Trichlorobenzene	3 µg/kg	N ^A	<3 _c
	1,2,4-Trimethylbenzene	1 µg/kg	M ^A	<1 _c
	1,2-Dibromo-3-chloropropane	1 µg/kg	U ^A	<1 _c
	1,2-Dibromoethane	1 µg/kg	M ^A	<1 _c
	1,2-Dichlorobenzene	1 µg/kg	M ^A	<1 _c
	1,2-Dichloroethane	1 µg/kg	M ^A	<1 _c

Analysis Results

SOCOTEC Sample ID: 24080009-001
 Sampling Date: 29/07/2024 15:00
 Customer ID: TP34-0-ES-1.50

Method Code	Analysis	MDL	Accred.	
VOCHSAS	1,2-Dichloropropane	1 µg/kg	M ^A	<1 c
	1,3,5-Trimethylbenzene	1 µg/kg	M ^A	<1 c
	1,3-Dichlorobenzene	1 µg/kg	M ^A	<1 c
	1,3-Dichloropropane	1 µg/kg	M ^A	<1 c
	1,4-Dichlorobenzene	1 µg/kg	M ^A	<1 c
	2,2-Dichloropropane	2 µg/kg	M ^A	<2 c
	2-Chlorotoluene	1 µg/kg	M ^A	<1 c
	4-Chlorotoluene	1 µg/kg	M ^A	<1 c
	Benzene	1 µg/kg	M ^A	23 c
	Bromobenzene	1 µg/kg	M ^A	<1 c
	Bromochloromethane	1 µg/kg	M ^A	<1 c
	Bromodichloromethane	1 µg/kg	M ^A	<1 c
	Bromoform	1 µg/kg	M ^A	<1 c
	Bromomethane	1 µg/kg	M ^A	<1 c
	Carbon Tetrachloride	1 µg/kg	M ^A	<1 c
	Chlorobenzene	1 µg/kg	M ^A	<1 c
	Chloroethane	2 µg/kg	M ^A	<2 c
	Chloroform	1 µg/kg	M ^A	<1 c
	Chloromethane	3 µg/kg	U ^A	<3 c
	cis 1,2-Dichloroethene	5 µg/kg	M ^A	<5 c
	cis 1,3-Dichloropropene	1 µg/kg	M ^A	<1 c
	Dibromochloromethane	1 µg/kg	M ^A	<1 c
	Dibromomethane	1 µg/kg	M ^A	<1 c
	Dichlorodifluoromethane	1 µg/kg	N ^A	<1 c
	Ethylbenzene	2 µg/kg	M ^A	20 c
	Hexachlorobutadiene	2 µg/kg	N ^A	<2 c
	iso-Propylbenzene	1 µg/kg	M ^A	<1 c
	m and p-Xylene	4 µg/kg	M ^A	32 c
	MTBE	1 µg/kg	M ^A	<1 c
	Naphthalene	5 µg/kg	M ^A	<5 c
	n-Butylbenzene	1 µg/kg	U ^A	<1 c
	o-Xylene	2 µg/kg	M ^A	14 c
	p-Isopropyltoluene	1 µg/kg	M ^A	<1 c
	Propylbenzene	1 µg/kg	M ^A	<1 c
	sec-Butylbenzene	1 µg/kg	M ^A	<1 c
	Styrene	1 µg/kg	M ^A	<1 c
	tert-Butylbenzene	1 µg/kg	M ^A	<1 c
	Tetrachloroethene	3 µg/kg	M ^A	<3 c
	Toluene	5 µg/kg	M ^A	29 c
	trans 1,2-Dichloroethene	1 µg/kg	M ^A	<1 c
	trans 1,3-Dichloropropene	1 µg/kg	M ^A	<1 c
	Trichloroethene	1 µg/kg	U ^A	<1 c
	Trichlorofluoromethane	1 µg/kg	M ^A	<1 c
	Vinyl Chloride	1 µg/kg	M ^A	<1 c

ASBESTOS ANALYSIS RESULTS								Detection limit of Method SCI-ASB-020 is 0.001% Sampling has been carried out by a third party			
SOCOTEC Asbestos Limited Certificate of Analysis for Asbestos in Soils, Sediments and Aggregates						1089					
Client:			SOCOTEC Environmental Chemistry				Page 1 of 1				
Address:			Etwall House, Bretby Business Park, Ashby Road, Burton upon Trent				Report No:		ANO-0503-30085		
For the attention of:			SOCOTEC Environmental Chemistry				Report Date:		08/08/2024		
Site Address:			Eastern Green Link 4 4				Project Number:		24080009		
Sample Number	Sample Date	Sample Location & Matrix	Test Date	Total Sample Dry Weight (g)	Weight of <10mm Fraction (g)	Asbestos(g) in >10mm	Asbestos(g) in < 10mm	% Asbestos by weight of Total Dried Sample	Moisture Content	Asbestos Fibre Types Identified	
1	29/07/24	TP34-0-ES-1.50 Soils	08/08/2024	848.3	848.3		0.00000			NADIS, Stage 1	
Keys	NAACR = Not Analysed at Clients Request				NAIIS = No Asbestos Identified in Sample (Identification Only)				Name:	Manpreet Kaur	Authorised Signatory:
	* visible to naked eye				NADIS = No Asbestos Detected in Sample (ID & Quant Only)				Position:	Lab Technician	
The sample analysis for the above results was carried out using the procedures detailed in SOCOTEC Asbestos Limited in house method (SCI-ASB-020) based on EA document Quantification of asbestos in soil and associated materials - Draft 2017. Fibre identification was carried out using SOCOTEC Asbestos Limited in house method of transmitted/polarised light microscopy and centre stop dispersion staining (SCI-ASB-007), and fibre counting during sedimentation test, where applicable, was carried out using SOCOTEC Asbestos Ltd in house method (SCI/ASB/003) based on HSE's HSG 248. The sedimentation test does not discriminate non-asbestos fibres. Uncertainty of Measurement (UoM) estimate is +/- 29% for full quantitative analysis based on reproducibility analysis at 0.1%. Sampling is outside the UoM estimate. Recommended sample weight is 1kg-2kg, samples less than 1kg are classified as deviating samples. Any opinions or interpretations are outside the scope of our UKAS accreditation.											



Project Number: 24080009

Client: Igne

Date Issued: 08/08/2024

Project Name: 26667 - Eastern Green Link 4 4

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

<u>Method Code</u>	<u>Method Description</u>	<u>Analysis Method</u>
BTEXHSA	BTEX by GCFID	As Received
CLANDPREP	CLand Prep and Dry Weight Correction to 35°C	As Received
CLANDPREP	Solid Material Description	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPWSS	Sulphate as SO4 (Water Soluble)	Air Dried & Ground
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
PAHMSUS	16 PAHs by GCMS	As Received
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Free) by SFA	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	As Received
SUB002	Asbestos Stage 1 (with Stage 2 Trigger)	
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
VOCHSAS	VOCs (Target List) by GCMS	As Received
WSLM59	SOM: Soil Organic Matter (%) (Calc)	Air Dried & Ground
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Result Report Notes

Letters alongside results signify that the result has associated report notes.

The report notes are as follows:

<u>Letter</u>	<u>Note</u>
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.



Project Number: 24080009

Client: Igne

Date Issued: 08/08/2024

Project Name: 26667 - Eastern Green Link 4 4

- F Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
- G The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

<u>Acronym</u>	<u>Description</u>
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any accreditation marked with ^ signify results are reported on a dry weight basis of 35 ° c.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35 ° c.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any results marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by another SOCOTEC department or by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.



Project Number: 24080009

Client: Igne

Date Issued: 08/08/2024

Project Name: 26667 - Eastern Green Link 4 4

End of Certificate of Analysis

Certificate of Analysis

Client: Igne

Project: 24080198

Quote: BEC240736422 V1.1

Project Ref: 26667

Site: Eastern Green Link 4 5

Contact: Fiona Raeburn

Address: Whistleberry Road
Hamilton
ML3 0HP

E-Mail: Fiona.Raeburn@igne.com

Phone: 01698 711 177

No. Samples Received: 2

Date Received: 02/08/2024

Analysis Completed: 12/08/2024

Date Issued: 12/08/2024

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Julie Dickinson
01283 554496
Julie.Dickinson@socotec.co.uk



Project Number: 24080198

Client: Igne

Date Issued: 12/08/2024

Project Name: 26667 - Eastern Green Link 4 5

Samples Analysed

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
24080198-001	TP27-0-ES-3.80	30/07/2024 12:00:00	SOLID	Silt Sample
24080198-002	TP28-0-ES-0.50	30/07/2024 15:00:00	SOLID	Silt Sample

Analysis Results

SOCOTEC Sample ID:	24080198-001	24080198-002
Sampling Date:	30/07/2024 12:00	30/07/2024 15:00
Customer ID:	TP27-0-ES-3.80	TP28-0-ES-0.50

Method Code	Analysis	MDL	Accred.		
CLANDPREP	Total Moisture at 35°C	0.1 %	N	8.7	12.7
	Major Constituents	-	N	SILT	SILT
	Minor Constituents	-	N	Gravel	Gravel
	Miscellaneous Constituents	-	N	n/a	n/a
	Colour of Material	-	N	Grey	Brown
SUB002	Asbestos Identification	-	N	NAIIS	NAIIS
PHSOIL	pH (2.5:1 extraction)	1 pH units	M ^A	3.5	6.9
WSLM59	Total Organic Carbon	0.02 % m/m	U ^A	11.9	0.12
WSLM59	Soil Organic Matter	0.04 % m/m	U ^A	20.5	0.21
SFAPI	Free Cyanide	0.5 mg/kg	M ^A	<0.5	<0.6
SFAPI	Total Cyanide	0.5 mg/kg	M ^A	<0.5	<0.6
SFAPI	Phenol Index	0.5 mg/kg	U ^A	<0.5	<0.6
ICPWSS	Water Soluble Sulphate as SO ₄ by Mass	20 mg/kg	M ^A	1980	78
ICPMSS	Arsenic as As	0.3 mg/kg	M ^A	5.2	38.9
ICPMSS	Cadmium as Cd	0.2 mg/kg	M ^A	0.2	0.3
ICPMSS	Total Chromium as Cr	1.2 mg/kg	M ^A	2.0	21.0
KONENS	Chromium (VI) as Cr	0.1 mg/kg	N ^A	<0.1	<0.1
ICPMSS	Copper as Cu	1.6 mg/kg	M ^A	<1.6	30.0
ICPMSS	Lead as Pb	0.7 mg/kg	M ^A	28.1	512.6
ICPMSS	Mercury as Hg	0.5 mg/kg	M ^A	<0.5	0.5
ICPMSS	Nickel as Ni	2 mg/kg	M ^A	<2.0	46.3
ICPMSS	Zinc as Zn	16 mg/kg	M ^A	<16.0	<16.0
ICPBOR	Boron as B	0.5 mg/kg	M ^A	2.3	1.1
BTXHSA	Benzene (HS_1D_AR)	10 µg/kg	M ^A	<11	<12
	Toluene (HS_1D_AR)	10 µg/kg	M ^A	<11* _B	<12
	Ethylbenzene (HS_1D_AR)	10 µg/kg	M ^A	<11	<12
	m/p-Xylene (HS_1D_AR)	20 µg/kg	M ^A	<22	<23
	o-Xylene (HS_1D_AR)	10 µg/kg	M ^A	<11	<12
GROHSA/BTEXHSA	Total GRO C5-C10 (HS_1D_Total)	0.2 mg/kg	M ^A	<0.219	<0.229
	C5-C6 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.219	<0.229
	>C6-C8 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.219* _B	<0.229
	>C8-C10 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.219	<0.229
	C5-C7 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.011	<0.012
	>C7-C8 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.011* _B	<0.012
	>C8-C10 Aromatic (HS_1D_AR)	0.04 mg/kg	M ^A	<0.044	<0.047
	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	U ^A	52.4	<22.9
TPHFIDUS (Aliphatic)	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.38	<4.58
	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	7.70	<4.58
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	10.7	<4.58
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	10 mg/kg	U ^A	31.3	<11.5
	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	6 mg/kg	N ^A	<6.57	<6.87
	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	20 mg/kg	U ^A	257	<22.9
TPHFIDUS (Aromatic)	>C10-C12 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	4.46	<4.58
	>C12-C16 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	11.7	<4.58
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	45.1	<4.58
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	10 mg/kg	U ^A	169	<11.5
	>C35-C44 (Aromatic) (EH_CU_1D_AR)	6 mg/kg	N ^A	31.1	<6.87
PAHMSUS	Acenaphthene	0.08 mg/kg	M ^A	<0.09	<0.09
	Acenaphthylene	0.08 mg/kg	U ^A	<0.09* _B	<0.09* _B
	Anthracene	0.08 mg/kg	U ^A	0.12	<0.09
	Benzo[a]anthracene	0.08 mg/kg	M ^A	0.27	<0.09
	Benzo[a]pyrene	0.08 mg/kg	M ^A	0.53	<0.09
	Benzo[b]fluoranthene	0.08 mg/kg	M ^A	0.59	<0.09
	Benzo[g,h,i]perylene	0.08 mg/kg	M ^A	0.71	<0.09
	Benzo[k]fluoranthene	0.08 mg/kg	M ^A	0.24	<0.09
	Chrysene	0.08 mg/kg	M ^A	0.41	<0.09
	Dibenzo[a,h]anthracene	0.08 mg/kg	M ^A	<0.09	<0.09
	Fluoranthene	0.08 mg/kg	M ^A	0.73	<0.09
	Fluorene	0.08 mg/kg	M ^A	<0.09	<0.09
	Indeno[1,2,3-cd]pyrene	0.08 mg/kg	M ^A	0.18	<0.09
	Naphthalene	0.08 mg/kg	M ^A	<0.09	<0.09
	Phenanthrene	0.08 mg/kg	M ^A	0.63	<0.09
	Pyrene	0.08 mg/kg	M ^A	0.97	<0.09
	Total PAH 16	1.28 mg/kg	U ^A	5.82	<1.47
VOCHSAS	1,1,1,2-Tetrachloroethane	1 µg/kg	M ^A	<1 _C	<1
	1,1,1-Trichloroethane	1 µg/kg	M ^A	<1 _C	<1
	1,1,2,2-Tetrachloroethane	1 µg/kg	N ^A	<1 _C	<1
	1,1,2-Trichloroethane	1 µg/kg	M ^A	<1 _C	<1
	1,1-Dichloroethane	1 µg/kg	M ^A	<1 _C	<1
	1,1-Dichloroethene	1 µg/kg	U ^A	<1 _C	<1
	1,1-Dichloropropene	1 µg/kg	M ^A	<1 _C	<1
	1,2,3-Trichlorobenzene	3 µg/kg	M ^A	<3 _C	<3
	1,2,3-Trichloropropane	1 µg/kg	M ^A	<1 _C	<1
	1,2,4-Trichlorobenzene	3 µg/kg	N ^A	<3 _C	<3
	1,2,4-Trimethylbenzene	1 µg/kg	M ^A	<1 _C	<1
	1,2-Dibromo-3-chloropropane	1 µg/kg	U ^A	<1 _C	<1
	1,2-Dibromoethane	1 µg/kg	M ^A	<1 _C	<1
	1,2-Dichlorobenzene	1 µg/kg	M ^A	<1 _C	<1
	1,2-Dichloroethane	1 µg/kg	M ^A	<1 _C	<1

Analysis Results

SOCOTEC Sample ID:	24080198-001	24080198-002
Sampling Date:	30/07/2024 12:00	30/07/2024 15:00
Customer ID:	TP27-0-ES-3.80	TP28-0-ES-0.50

Method Code	Analysis	MDL	Accred.		
VOCHSAS	1,2-Dichloropropane	1 µg/kg	M ^A	<1 c	<1
	1,3,5-Trimethylbenzene	1 µg/kg	M ^A	<1 c	<1
	1,3-Dichlorobenzene	1 µg/kg	M ^A	<1 c	<1
	1,3-Dichloropropane	1 µg/kg	M ^A	<1 c	<1
	1,4-Dichlorobenzene	1 µg/kg	M ^A	<1 c	<1
	2,2-Dichloropropane	2 µg/kg	M ^A	<2 c	<2
	2-Chlorotoluene	1 µg/kg	M ^A	<1 c	<1
	4-Chlorotoluene	1 µg/kg	M ^A	<1 c	<1
	Benzene	1 µg/kg	M ^A	3 c	<1
	Bromobenzene	1 µg/kg	M ^A	<1 c	<1
	Bromochloromethane	1 µg/kg	M ^A	<1 c	<1
	Bromodichloromethane	1 µg/kg	M ^A	<1 c	<1
	Bromoform	1 µg/kg	M ^A	<1 c	<1
	Bromomethane	1 µg/kg	M ^A	<1 c	<1
	Carbon Tetrachloride	1 µg/kg	M ^A	<1 c	<1
	Chlorobenzene	1 µg/kg	M ^A	<1 c	<1
	Chloroethane	2 µg/kg	M ^A	<2 c	<2
	Chloroform	1 µg/kg	M ^A	<1 c	<1
	Chloromethane	3 µg/kg	U ^A	<3 c	<3
	cis 1,2-Dichloroethene	5 µg/kg	M ^A	<5 c	<5
	cis 1,3-Dichloropropene	1 µg/kg	M ^A	<1 c	<1
	Dibromochloromethane	1 µg/kg	M ^A	<1 c	<1
	Dibromomethane	1 µg/kg	M ^A	<1 c	<1
	Dichlorodifluoromethane	1 µg/kg	N ^A	<1 c	<1
	Ethylbenzene	2 µg/kg	M ^A	24 c	14
	Hexachlorobutadiene	2 µg/kg	N ^A	<2 c	<2
	iso-Propylbenzene	1 µg/kg	M ^A	<1 c	<1
	m and p-Xylene	4 µg/kg	M ^A	33 c	23
	MTBE	1 µg/kg	M ^A	<1 c	<1
	Naphthalene	5 µg/kg	M ^A	<5 c	<5
	n-Butylbenzene	1 µg/kg	U ^A	<1 c	<1
	o-Xylene	2 µg/kg	M ^A	10 c	7
	p-Isopropyltoluene	1 µg/kg	M ^A	<1 c	<1
	Propylbenzene	1 µg/kg	M ^A	<1 c	<1
	sec-Butylbenzene	1 µg/kg	M ^A	<1 c	<1
	Styrene	1 µg/kg	M ^A	<1 c	<1
	tert-Butylbenzene	1 µg/kg	M ^A	<1 c	<1
	Tetrachloroethene	3 µg/kg	M ^A	<3 c	<3
	Toluene	5 µg/kg	M ^A	13 c	<5
	trans 1,2-Dichloroethene	1 µg/kg	M ^A	<1 c	<1
	trans 1,3-Dichloropropene	1 µg/kg	M ^A	<1 c	<1
	Trichloroethene	1 µg/kg	U ^A	<1 c	<1
	Trichlorofluoromethane	1 µg/kg	M ^A	<1 c	<1
	Vinyl Chloride	1 µg/kg	M ^A	<1 c	<1

ASBESTOS ANALYSIS RESULTS								Detection limit of Method SCI-ASB-020 is 0.001% Sampling has been carried out by a third party				
SOCOTEC Asbestos Limited Certificate of Analysis for Asbestos in Soils, Sediments and Aggregates						1089						
Client:			SOCOTEC Environmental Chemistry				Page 1 of 1					
Address:			Etwall House, Bretby Business Park, Ashby Road, Burton upon Trent				Report No:		ANO-0503-30095			
For the attention of:			SOCOTEC Environmental Chemistry				Report Date:		09/08/2024			
Site Address:			Eastern Green Link 4 5				Project Number:		24080198			
Sample Number	Sample Date	Sample Location & Matrix	Test Date	Total Sample Dry Weight (g)	Weight of <10mm Fraction (g)	Asbestos(g) in >10mm	Asbestos(g) in < 10mm	% Asbestos by weight of Total Dried Sample	Moisture Content	Asbestos Fibre Types Identified		
1	30/07/24	TP27-0-ES-3.80 Soils	09/08/2024	948.0	948.0		0.00000			NADIS, Stage 1		
2	30/07/24	TP28-0-ES-0.50 Soils	09/08/2024	730.6	675.4	0.00000	0.00000			NADIS, Stage 1		
Keys	NAACR = Not Analysed at Clients Request				NAIIS = No Asbestos Identified in Sample (Identification Only)				Name:	Manpreet Kaur	Authorised Signatory:	
	* visible to naked eye				NADIS = No Asbestos Detected in Sample (ID & Quant Only)				Position:	Lab Technician		
The sample analysis for the above results was carried out using the procedures detailed in SOCOTEC Asbestos Limited in house method (SCI-ASB-020) based on EA document Quantification of asbestos in soil and associated materials - Draft 2017. Fibre identification was carried out using SOCOTEC Asbestos Limited in house method of transmitted/polarised light microscopy and centre stop dispersion staining (SCI-ASB-007), and fibre counting during sedimentation test, where applicable, was carried out using SOCOTEC Asbestos Ltd in house method (SCI/ASB/003) based on HSE's HSG 248. The sedimentation test does not discriminate non-asbestos fibres. Uncertainty of Measurement (UoM) estimate is +/- 29% for full quantitative analysis based on reproducibility analysis at 0.1%. Sampling is outside the UoM estimate. Recommended sample weight is 1kg-2kg, samples less than 1kg are classified as deviating samples. Any opinions or interpretations are outside the scope of our UKAS accreditation.												



Project Number: 24080198

Client: Igne

Date Issued: 12/08/2024

Project Name: 26667 - Eastern Green Link 4 5

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

<u>Method Code</u>	<u>Method Description</u>	<u>Analysis Method</u>
BTEXHSA	BTEX by GCFID	As Received
CLANDPREP	CLand Prep and Dry Weight Correction to 35°C	As Received
CLANDPREP	Solid Material Description	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPWSS	Sulphate as SO ₄ (Water Soluble)	Air Dried & Ground
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
PAHMSUS	16 PAHs by GCMS	As Received
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Free) by SFA	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	As Received
SUB002	Asbestos Stage 1 (with Stage 2 Trigger)	
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
VOCHSAS	VOCs (Target List) by GCMS	As Received
WSLM59	SOM: Soil Organic Matter (%) (Calc)	Air Dried & Ground
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Result Report Notes

Letters alongside results signify that the result has associated report notes.

The report notes are as follows:

<u>Letter</u>	<u>Note</u>
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.



Project Number: 24080198

Client: Igne

Date Issued: 12/08/2024

Project Name: 26667 - Eastern Green Link 4 5

- F Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
- G The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

<u>Acronym</u>	<u>Description</u>
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any accreditation marked with ^ signify results are reported on a dry weight basis of 35° c.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° c.

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Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any results marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by another SOCOTEC department or by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.



Project Number: 24080198

Client: Igne

Date Issued: 12/08/2024

Project Name: 26667 - Eastern Green Link 4 5

End of Certificate of Analysis

Certificate of Analysis

Client: Igne

Project: 24080466

Quote: BEC240736422 V1.1

Project Ref: 26667

Site: Eastern Green Link 4 6

Contact: Fiona Raeburn

Address: Whistleberry Road
Hamilton
ML3 0HP

E-Mail: Fiona.Raeburn@igne.com

Phone: 01698 711 177

No. Samples Received: 1

Date Received: 05/08/2024

Analysis Completed: 14/08/2024

Date Issued: 15/08/2024

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Julie Dickinson
01283 554670
Julie.Dickinson@socotec.co.uk



Project Number: 24080466

Client: Igne

Date Issued: 15/08/2024

Project Name: 26667 - Eastern Green Link 4 6

Samples Analysed

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
24080466-001	TP21-0-ES-1.00	01/07/2024 14:00:00	SOLID	Gravel Sample



Project Number: 24080466

Client: Igne

Date Issued: 15/08/2024

Project Name: 26667 - Eastern Green Link 4 6

Analysis Results

SOCOTEC Sample ID: 24080466-001

Sampling Date: 01/07/2024 14:00

Customer ID: TP21-0-ES-1.00

Method Code	Analysis	MDL	Accred.	
CLANDPREP	Total Moisture at 35°C	0.1 %	N	10.6
	Major Constituents	-	N	GRAVEL
	Minor Constituents	-	N	Silt
	Miscellaneous Constituents	-	N	n/a
	Colour of Material	-	N	Brown
SUB002	Asbestos Identification	-	N	NAHS
PHSOIL	pH (2.5:1 extraction)	1 pH units	N ^A	8.1
WSLM59	Total Organic Carbon	0.02 % m/m	N ^A	0.39
WSLM59	Soil Organic Matter	0.04 % m/m	N ^A	0.67
SFAPI	Free Cyanide	0.5 mg/kg	N ^A	<0.6
SFAPI	Total Cyanide	0.5 mg/kg	N ^A	<0.6
SFAPI	Phenol Index	0.5 mg/kg	N ^A	<0.6
ICPWSS	Water Soluble Sulphate as SO ₄ by Mass	20 mg/kg	N ^A	47
ICPMSS	Arsenic as As	0.3 mg/kg	N ^A	1.2
ICPMSS	Cadmium as Cd	0.2 mg/kg	N ^A	<0.2
ICPMSS	Total Chromium as Cr	1.2 mg/kg	N ^A	176.8
KONENS	Chromium (VI) as Cr	0.1 mg/kg	N ^A	<0.1
ICPMSS	Copper as Cu	1.6 mg/kg	N ^A	30.7
ICPMSS	Lead as Pb	0.7 mg/kg	N ^A	9.0
ICPMSS	Mercury as Hg	0.5 mg/kg	N ^A	<0.5
ICPMSS	Nickel as Ni	2 mg/kg	N ^A	193.2
ICPMSS	Zinc as Zn	16 mg/kg	N ^A	40.4
ICPBOR	Boron as B	0.5 mg/kg	N ^A	0.8
BTXHSA	Benzene (HS_1D_AR)	10 µg/kg	N ^A	<11
	Toluene (HS_1D_AR)	10 µg/kg	N ^A	<11
	Ethylbenzene (HS_1D_AR)	10 µg/kg	N ^A	<11
	m/p-Xylene (HS_1D_AR)	20 µg/kg	N ^A	<22
	o-Xylene (HS_1D_AR)	10 µg/kg	N ^A	<11
GROHSA/BTEXHSA	Total GRO C5-C10 (HS_1D_Total)	0.2 mg/kg	N ^A	<0.224
	C5-C6 Aliphatic (HS_1D_AL)	0.2 mg/kg	N ^A	<0.224 _a
	>C6-C8 Aliphatic (HS_1D_AL)	0.2 mg/kg	N ^A	<0.224
	>C8-C10 Aliphatic (HS_1D_AL)	0.2 mg/kg	N ^A	<0.224
	C5-C7 Aromatic (HS_1D_AR)	0.01 mg/kg	N ^A	<0.011
	>C7-C8 Aromatic (HS_1D_AR)	0.01 mg/kg	N ^A	<0.011
	>C8-C10 Aromatic (HS_1D_AR)	0.04 mg/kg	N ^A	<0.045
TPHFIDUS (Aliphatic)	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	N ^A	<22.4
	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	N ^A	<4.47
	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	N ^A	<4.47
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	N ^A	<4.47
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	10 mg/kg	N ^A	<11.2
	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	6 mg/kg	N ^A	<6.71
	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	20 mg/kg	N ^A	<22.4
TPHFIDUS (Aromatic)	>C10-C12 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	N ^A	<4.47
	>C12-C16 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	N ^A	<4.47 _a
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	N ^A	<4.47
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	10 mg/kg	N ^A	<11.2
	>C35-C44 (Aromatic) (EH_CU_1D_AR)	6 mg/kg	N ^A	<6.71
PAHMSUS	Acenaphthene	0.08 mg/kg	N ^A	<0.09
	Acenaphthylene	0.08 mg/kg	N ^A	<0.09
	Anthracene	0.08 mg/kg	N ^A	<0.09
	Benzo[a]anthracene	0.08 mg/kg	N ^A	<0.09
	Benzo[a]pyrene	0.08 mg/kg	N ^A	<0.09 _a
	Benzo[b]fluoranthene	0.08 mg/kg	N ^A	<0.09
	Benzo[g,h,i]perylene	0.08 mg/kg	N ^A	<0.09
	Benzo[k]fluoranthene	0.08 mg/kg	N ^A	<0.09
	Chrysene	0.08 mg/kg	N ^A	<0.09
	Dibenzo[a,h]anthracene	0.08 mg/kg	N ^A	<0.09
	Fluoranthene	0.08 mg/kg	N ^A	<0.09
	Fluorene	0.08 mg/kg	N ^A	<0.09
	Indeno[1,2,3-cd]pyrene	0.08 mg/kg	N ^A	<0.09
	Naphthalene	0.08 mg/kg	N ^A	<0.09
	Phenanthrene	0.08 mg/kg	N ^A	<0.09
	Pyrene	0.08 mg/kg	N ^A	<0.09
	Total PAH 16	1.28 mg/kg	N ^A	<1.43
VOCHSAS	1,1,1,2-Tetrachloroethane	1 µg/kg	N ^A	<1
	1,1,1-Trichloroethane	1 µg/kg	N ^A	<1
	1,1,2,2-Tetrachloroethane	1 µg/kg	N ^A	<1
	1,1,2-Trichloroethane	1 µg/kg	N ^A	<1
	1,1-Dichloroethane	1 µg/kg	N ^A	<1
	1,1-Dichloroethene	1 µg/kg	N ^A	<1
	1,1-Dichloropropene	1 µg/kg	N ^A	<1
	1,2,3-Trichlorobenzene	3 µg/kg	N ^A	<3
	1,2,3-Trichloropropane	1 µg/kg	N ^A	<1
	1,2,4-Trichlorobenzene	3 µg/kg	N ^A	<3
	1,2,4-Trimethylbenzene	1 µg/kg	N ^A	<1
	1,2-Dibromo-3-chloropropane	1 µg/kg	N ^A	<1
	1,2-Dibromoethane	1 µg/kg	N ^A	<1
	1,2-Dichlorobenzene	1 µg/kg	N ^A	<1
	1,2-Dichloroethane	1 µg/kg	N ^A	<1



Project Number: 24080466

Client: Igne
Date Issued: 15/08/2024
Project Name: 26667 - Eastern Green Link 4 6

Analysis Results

SOCOTEC Sample ID: 24080466-001
 Sampling Date: 01/07/2024 14:00
 Customer ID: TP21-0-ES-1.00

Method Code	Analysis	MDL	Accred.	
VOCHSAS	1,2-Dichloropropane	1 µg/kg	N ^A	<1
	1,3,5-Trimethylbenzene	1 µg/kg	N ^A	<1
	1,3-Dichlorobenzene	1 µg/kg	N ^A	<1
	1,3-Dichloropropane	1 µg/kg	N ^A	<1
	1,4-Dichlorobenzene	1 µg/kg	N ^A	<1
	2,2-Dichloropropane	2 µg/kg	N ^A	<2
	2-Chlorotoluene	1 µg/kg	N ^A	<1
	4-Chlorotoluene	1 µg/kg	N ^A	<1
	Benzene	1 µg/kg	N ^A	<1
	Bromobenzene	1 µg/kg	N ^A	<1
	Bromochloromethane	1 µg/kg	N ^A	<1
	Bromodichloromethane	1 µg/kg	N ^A	<1
	Bromoform	1 µg/kg	N ^A	<1
	Bromomethane	1 µg/kg	N ^A	<1
	Carbon Tetrachloride	1 µg/kg	N ^A	<1
	Chlorobenzene	1 µg/kg	N ^A	<1
	Chloroethane	2 µg/kg	N ^A	<2
	Chloroform	1 µg/kg	N ^A	<1
	Chloromethane	3 µg/kg	N ^A	<3
	cis 1,2-Dichloroethene	5 µg/kg	N ^A	<6
	cis 1,3-Dichloropropene	1 µg/kg	N ^A	<1
	Dibromochloromethane	1 µg/kg	N ^A	<1
	Dibromomethane	1 µg/kg	N ^A	<1
	Dichlorodifluoromethane	1 µg/kg	N ^A	<1
	Ethylbenzene	2 µg/kg	N ^A	<2
	Hexachlorobutadiene	2 µg/kg	N ^A	<2
	iso-Propylbenzene	1 µg/kg	N ^A	<1
	m and p-Xylene	4 µg/kg	N ^A	<5
	MTBE	1 µg/kg	N ^A	<1
	Naphthalene	5 µg/kg	N ^A	<6
	n-Butylbenzene	1 µg/kg	N ^A	<1
	o-Xylene	2 µg/kg	N ^A	<2
	p-Isopropyltoluene	1 µg/kg	N ^A	<1
	Propylbenzene	1 µg/kg	N ^A	<1
	sec-Butylbenzene	1 µg/kg	N ^A	<1
	Styrene	1 µg/kg	N ^A	<1
	tert-Butylbenzene	1 µg/kg	N ^A	<1
	Tetrachloroethene	3 µg/kg	N ^A	<3
	Toluene	5 µg/kg	N ^A	<6
	trans 1,2-Dichloroethene	1 µg/kg	N ^A	<1
	trans 1,3-Dichloropropene	1 µg/kg	N ^A	<1
	Trichloroethene	1 µg/kg	N ^A	<1
	Trichlorofluoromethane	1 µg/kg	N ^A	<1
	Vinyl Chloride	1 µg/kg	N ^A	<1

[illegible]



Project Number: 24080466

Client: Igne

Date Issued: 15/08/2024

Project Name: 26667 - Eastern Green Link 4 6

Deviating Sample Report

<u>Sample Reference</u>	<u>Text ID</u>	<u>Method Code</u>	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
TP21-0-ES-1.00	24080466-001	BTEXHSA						✓
TP21-0-ES-1.00	24080466-001	CLANDPREP						✓
TP21-0-ES-1.00	24080466-001	GROHSA/BTEXHSA						✓
TP21-0-ES-1.00	24080466-001	ICPBOR						✓
TP21-0-ES-1.00	24080466-001	ICPWSS						✓
TP21-0-ES-1.00	24080466-001	PAHMSUS						✓
TP21-0-ES-1.00	24080466-001	PHSOIL						✓
TP21-0-ES-1.00	24080466-001	SFAPI						✓
TP21-0-ES-1.00	24080466-001	TPHFIDUS (Aliphatic)						✓
TP21-0-ES-1.00	24080466-001	TPHFIDUS (Aromatic)						✓
TP21-0-ES-1.00	24080466-001	VOCHSAS						✓
TP21-0-ES-1.00	24080466-001	WSLM59						✓

Analysis Method

Method Code

BTEXHSA
CLANDPREP
CLANDPREP
GROHSA/BTEXHSA
ICPBOR
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPWSS
KONENS
PAHMSUS
PHSOIL
SFAPI
SFAPI
SFAPI
SUB002
TPHFIDUS (Aliphatic)

TPHFIDUS (Aromatic)

VOCHSAS
WSLM59
WSLM59

Method Description

BTEX by GCFID
CLand Prep and Dry Weight Correction to 35°C
Solid Material Description
GRO CWG UK (C5-C10) Ali/Aro Split
Boron (Water Soluble) by ICPOES
Arsenic in Solids by ICPMS
Cadmium in Solids by ICPMS
Chromium in Solids by ICPMS
Copper in Solids by ICPMS
Lead in Solids by ICPMS
Mercury in Solids by ICPMS
Nickel in Solids by ICPMS
Zinc in Solids by ICPMS
Sulphate as SO4 (Water Soluble)
Chromium VI (Hexavalent) by Colorimetry
16 PAHs by GCMS
pH (2.5:1)
Cyanide (Free) by SFA
Cyanide (Total) by SFA
Phenol Index (Total) by SFA
Asbestos Stage 1 (with Stage 2 Trigger)
TPH (CWG UK) Aliphatic Split with Carbon Banding
TPH (CWG UK) Aromatic Split with Carbon Banding
VOCs (Target List) by GCMS
SOM: Soil Organic Matter (%) (Calc)
TOC: Total Organic Carbon

Analysis Method

As Received
As Received
As Received
As Received
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
As Received
As Received
As Received
As Received
As Received
As Received
As Received
As Received
As Received
Air Dried & Ground
Air Dried & Ground



Project Number: [24080466](#)

Client: Igne

Date Issued: 15/08/2024

Project Name: 26667 - Eastern Green Link 4 6

[Result Report Notes](#)

Letters alongside results signify that the result has associated report notes.

The report notes are as follows:

[Letter](#)

[Note](#)

A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

[HWOL Acronym Key](#)

[Acronym](#)

[Description](#)

HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total



Project Number: [24080466](#)

Client: Igne

Date Issued: 15/08/2024

Project Name: 26667 - Eastern Green Link 4 6

Additional Information

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U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

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Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by another SOCOTEC department or by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

Certificate of Analysis

Client: Igne

Project: 24081091

Quote: BEC240736422 V1.1

Project Ref: 26667

Site: Eastern Green Link 4 Sch 07

Contact: Fiona Raeburn

Address: Whistleberry Road
Hamilton
ML3 0HP

E-Mail: Fiona.Raeburn@igne.com

Phone: 01698 711 177

No. Samples Received: 1

Date Received: 08/08/2024

Analysis Completed: 16/08/2024

Date Issued: 16/08/2024

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Julie Dickinson
01283 554670
Julie.Dickinson@socotec.co.uk



Project Number: 24081091

Client: Igne

Date Issued: 16/08/2024

Project Name: 26667 - Eastern Green Link 4 Sch 07

Samples Analysed

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
24081091-001	TP11-0-ES-0.20	05/07/2024 13:00:00	SOLID	Peat Sample



Project Number: 24081091

Client: Igne

Date Issued: 16/08/2024

Project Name: 26667 - Eastern Green Link 4 Sch 07

Analysis Results

SOCOTEC Sample ID: 24081091-001

Sampling Date: 05/07/2024 13:00

Customer ID: TP11-0-ES-0.20

Method Code	Analysis	MDL	Accred.	
CLANDPREP	Total Moisture at 35°C	0.1 %	N	60.6
	Major Constituents	-	N	PEAT
	Minor Constituents	-	N	Silt
	Miscellaneous Constituents	-	N	Organic Matter
	Colour of Material	-	N	Brown/Black
SUB002	Asbestos Identification	-	N	NAIS
PHSOIL	pH (2.5:1 extraction)	1 pH units	N ^A	6.0
WSLM59	Total Organic Carbon	0.02 % m/m	N ^A	>21.8 _ε
WSLM59	Soil Organic Matter	0.04 % m/m	N ^A	>32.3 _ε
SFAPI	Free Cyanide	0.5 mg/kg	N ^A	<1.3
SFAPI	Total Cyanide	0.5 mg/kg	N ^A	<1.3
SFAPI	Phenol Index	0.5 mg/kg	N ^A	1.6
ICPWSS	Water Soluble Sulphate as SO ₄ by Mass	20 mg/kg	N ^A	157
ICPMSS	Arsenic as As	0.3 mg/kg	N ^A	8.9
ICPMSS	Cadmium as Cd	0.2 mg/kg	N ^A	1.0
ICPMSS	Total Chromium as Cr	1.2 mg/kg	N ^A	45.3
KONENS	Chromium (VI) as Cr	0.1 mg/kg	N ^A	<0.1
ICPMSS	Copper as Cu	1.6 mg/kg	N ^A	68.4
ICPMSS	Lead as Pb	0.7 mg/kg	N ^A	34.3
ICPMSS	Mercury as Hg	0.5 mg/kg	N ^A	<0.5
ICPMSS	Nickel as Ni	2 mg/kg	N ^A	51.5
ICPMSS	Zinc as Zn	16 mg/kg	N ^A	53.1
ICPBOR	Boron as B	0.5 mg/kg	N ^A	2.9
BTXHSA	Benzene (HS_1D_AR)	10 µg/kg	N ^A	<25
	Toluene (HS_1D_AR)	10 µg/kg	N ^A	<25
	Ethylbenzene (HS_1D_AR)	10 µg/kg	N ^A	27
	m/p-Xylene (HS_1D_AR)	20 µg/kg	N ^A	60
	o-Xylene (HS_1D_AR)	10 µg/kg	N ^A	<25
GROHSA/BTEXHSA	Total GRO C5-C10 (HS_1D_Total)	0.2 mg/kg	N ^A	<0.508 _c
	C5-C6 Aliphatic (HS_1D_AL)	0.2 mg/kg	N ^A	<0.508 _{n,c}
	>C6-C8 Aliphatic (HS_1D_AL)	0.2 mg/kg	N ^A	<0.508 _c
	>C8-C10 Aliphatic (HS_1D_AL)	0.2 mg/kg	N ^A	<0.508 _c
	C5-C7 Aromatic (HS_1D_AR)	0.01 mg/kg	N ^A	<0.025
	>C7-C8 Aromatic (HS_1D_AR)	0.01 mg/kg	N ^A	<0.025
	>C8-C10 Aromatic (HS_1D_AR)	0.04 mg/kg	N ^A	0.112
TPHFIDUS (Aliphatic)	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	N ^A	52.1
	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	N ^A	<10.2
	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	N ^A	<10.2
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	N ^A	<10.2
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	10 mg/kg	N ^A	40.8
	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	6 mg/kg	N ^A	<15.2
	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	20 mg/kg	N ^A	171
TPHFIDUS (Aromatic)	>C10-C12 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	N ^A	<10.2
	>C12-C16 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	N ^A	<10.2
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	N ^A	<10.2
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	10 mg/kg	N ^A	137
	>C35-C44 (Aromatic) (EH_CU_1D_AR)	6 mg/kg	N ^A	24.8
PAHMSUS	Acenaphthene	0.08 mg/kg	N ^A	<0.20
	Acenaphthylene	0.08 mg/kg	N ^A	<0.20
	Anthracene	0.08 mg/kg	N ^A	<0.20
	Benzo[a]anthracene	0.08 mg/kg	N ^A	<0.20 _s
	Benzo[a]pyrene	0.08 mg/kg	N ^A	<0.20
	Benzo[b]fluoranthene	0.08 mg/kg	N ^A	<0.20
	Benzo[g,h,i]perylene	0.08 mg/kg	N ^A	<0.20
	Benzo[k]fluoranthene	0.08 mg/kg	N ^A	<0.20
	Chrysene	0.08 mg/kg	N ^A	<0.20
	Dibenzo[a,h]anthracene	0.08 mg/kg	N ^A	<0.20
	Fluoranthene	0.08 mg/kg	N ^A	<0.20
	Fluorene	0.08 mg/kg	N ^A	<0.20
	Indeno[1,2,3-cd]pyrene	0.08 mg/kg	N ^A	<0.20
	Naphthalene	0.08 mg/kg	N ^A	<0.20
	Phenanthrene	0.08 mg/kg	N ^A	<0.20
	Pyrene	0.08 mg/kg	N ^A	<0.20
	Total PAH 16	1.28 mg/kg	N ^A	<3.25
VOCHSAS	1,1,1,2-Tetrachloroethane	1 µg/kg	N ^A	<3 _c
	1,1,1-Trichloroethane	1 µg/kg	N ^A	<3 _c
	1,1,2,2-Tetrachloroethane	1 µg/kg	N ^A	<3 _c
	1,1,2-Trichloroethane	1 µg/kg	N ^A	<3 _c
	1,1-Dichloroethane	1 µg/kg	N ^A	<3 _c
	1,1-Dichloroethene	1 µg/kg	N ^A	<3 _c
	1,1-Dichloropropene	1 µg/kg	N ^A	<3 _c
	1,2,3-Trichlorobenzene	3 µg/kg	N ^A	15 _c
	1,2,3-Trichloropropane	1 µg/kg	N ^A	<3 _c
	1,2,4-Trichlorobenzene	3 µg/kg	N ^A	15 _c
	1,2,4-Trimethylbenzene	1 µg/kg	N ^A	<3 _c
	1,2-Dibromo-3-chloropropane	1 µg/kg	N ^A	<3 _c
	1,2-Dibromoethane	1 µg/kg	N ^A	<3 _c
	1,2-Dichlorobenzene	1 µg/kg	N ^A	<3 _c
	1,2-Dichloroethane	1 µg/kg	N ^A	<3 _c



Project Number: 24081091

Client: Igne
Date Issued: 16/08/2024
Project Name: 26667 - Eastern Green Link 4 Sch 07

Analysis Results

SOCOTEC Sample ID: 24081091-001
 Sampling Date: 05/07/2024 13:00
 Customer ID: TP11-0-ES-0.20

Method Code	Analysis	MDL	Accred.	
VOCHSAS	1,2-Dichloropropane	1 µg/kg	N ^A	<3 c
	1,3,5-Trimethylbenzene	1 µg/kg	N ^A	<3 c
	1,3-Dichlorobenzene	1 µg/kg	N ^A	<3 c
	1,3-Dichloropropane	1 µg/kg	N ^A	<3 c
	1,4-Dichlorobenzene	1 µg/kg	N ^A	<3 c
	2,2-Dichloropropane	2 µg/kg	N ^A	<5 c
	2-Chlorotoluene	1 µg/kg	N ^A	<3 c
	4-Chlorotoluene	1 µg/kg	N ^A	<3 c
	Benzene	1 µg/kg	N ^A	<3 c
	Bromobenzene	1 µg/kg	N ^A	<3 c
	Bromochloromethane	1 µg/kg	N ^A	<3 c
	Bromodichloromethane	1 µg/kg	N ^A	<3 c
	Bromoform	1 µg/kg	N ^A	<3 c
	Bromomethane	1 µg/kg	N ^A	<3 c
	Carbon Tetrachloride	1 µg/kg	N ^A	<3 c
	Chlorobenzene	1 µg/kg	N ^A	<3 c
	Chloroethane	2 µg/kg	N ^A	<5 c
	Chloroform	1 µg/kg	N ^A	<3 c
	Chloromethane	3 µg/kg	N ^A	<8 c
	cis 1,2-Dichloroethene	5 µg/kg	N ^A	<13 c
	cis 1,3-Dichloropropene	1 µg/kg	N ^A	<3 c
	Dibromochloromethane	1 µg/kg	N ^A	<3 c
	Dibromomethane	1 µg/kg	N ^A	<3 c
	Dichlorodifluoromethane	1 µg/kg	N ^A	<3 c
	Ethylbenzene	2 µg/kg	N ^A	28 c
	Hexachlorobutadiene	2 µg/kg	N ^A	<5 c
	iso-Propylbenzene	1 µg/kg	N ^A	<3 c
	m and p-Xylene	4 µg/kg	N ^A	59 c
	MTBE	1 µg/kg	N ^A	<3 c
	Naphthalene	5 µg/kg	N ^A	<13 c
	n-Butylbenzene	1 µg/kg	N ^A	<3 c
	o-Xylene	2 µg/kg	N ^A	22 c
	p-Isopropyltoluene	1 µg/kg	N ^A	<3 c
	Propylbenzene	1 µg/kg	N ^A	<3 c
	sec-Butylbenzene	1 µg/kg	N ^A	<3 c
	Styrene	1 µg/kg	N ^A	<3 c
	tert-Butylbenzene	1 µg/kg	N ^A	<3 c
	Tetrachloroethene	3 µg/kg	N ^A	<8 c
	Toluene	5 µg/kg	N ^A	<13 c
	trans 1,2-Dichloroethene	1 µg/kg	N ^A	<3 c
	trans 1,3-Dichloropropene	1 µg/kg	N ^A	<3 c
	Trichloroethene	1 µg/kg	N ^A	<3 c
	Trichlorofluoromethane	1 µg/kg	N ^A	<3 c
	Vinyl Chloride	1 µg/kg	N ^A	<3 c

[illegible]



Project Number: 24081091

Client: Igne

Date Issued: 16/08/2024

Project Name: 26667 - Eastern Green Link 4 Sch 07

Deviating Sample Report

<u>Sample Reference</u>	<u>Text ID</u>	<u>Method Code</u>	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
TP11-0-ES-0.20	24081091-001	BTEXHSA						✓
TP11-0-ES-0.20	24081091-001	CLANDPREP						✓
TP11-0-ES-0.20	24081091-001	GROHSA/BTEXHSA						✓
TP11-0-ES-0.20	24081091-001	ICPBOR						✓
TP11-0-ES-0.20	24081091-001	ICPWSS						✓
TP11-0-ES-0.20	24081091-001	PAHMSUS						✓
TP11-0-ES-0.20	24081091-001	PHSOIL						✓
TP11-0-ES-0.20	24081091-001	SFAPI						✓
TP11-0-ES-0.20	24081091-001	TPHFIDUS (Aliphatic)						✓
TP11-0-ES-0.20	24081091-001	TPHFIDUS (Aromatic)						✓
TP11-0-ES-0.20	24081091-001	VOCHSAS						✓
TP11-0-ES-0.20	24081091-001	WSLM59						✓

Analysis Method

Method Code

BTEXHSA
CLANDPREP
CLANDPREP
GROHSA/BTEXHSA
ICPBOR
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPWSS
KONENS
PAHMSUS
PHSOIL
SFAPI
SFAPI
SFAPI
SUB002
TPHFIDUS (Aliphatic)

TPHFIDUS (Aromatic)

VOCHSAS
WSLM59
WSLM59

Method Description

BTEX by GCFID
CLand Prep and Dry Weight Correction to 35°C
Solid Material Description
GRO CWG UK (C5-C10) Ali/Aro Split
Boron (Water Soluble) by ICPOES
Arsenic in Solids by ICPMS
Cadmium in Solids by ICPMS
Chromium in Solids by ICPMS
Copper in Solids by ICPMS
Lead in Solids by ICPMS
Mercury in Solids by ICPMS
Nickel in Solids by ICPMS
Zinc in Solids by ICPMS
Sulphate as SO4 (Water Soluble)
Chromium VI (Hexavalent) by Colorimetry
16 PAHs by GCMS
pH (2.5:1)
Cyanide (Free) by SFA
Cyanide (Total) by SFA
Phenol Index (Total) by SFA
Asbestos Stage 1 (with Stage 2 Trigger)
TPH (CWG UK) Aliphatic Split with Carbon Banding
TPH (CWG UK) Aromatic Split with Carbon Banding
VOCs (Target List) by GCMS
SOM: Soil Organic Matter (%) (Calc)
TOC: Total Organic Carbon

Analysis Method

As Received
As Received
As Received
As Received
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
As Received
As Received
As Received
As Received
As Received
As Received
As Received
As Received
As Received
Air Dried & Ground
Air Dried & Ground



Project Number: [24081091](#)

Client: Igne

Date Issued: 16/08/2024

Project Name: 26667 - Eastern Green Link 4 Sch 07

[Result Report Notes](#)

Letters alongside results signify that the result has associated report notes.

The report notes are as follows:

[Letter](#)

[Note](#)

A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

[HWOL Acronym Key](#)

[Acronym](#)

[Description](#)

HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total



Project Number: 24081091

Client: Igne

Date Issued: 16/08/2024

Project Name: 26667 - Eastern Green Link 4 Sch 07

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any accreditation marked with ^ signify results are reported on a dry weight basis of 35° c.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° c.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any results marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by another SOCOTEC department or by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

Certificate of Analysis

Client: Igne

Project: 24081432

Quote: BEC240736422 V1.1

Project Ref: 26667

Site: Eastern Green Link 4 8

Contact: Fiona Raeburn

Address: Whistleberry Road
Hamilton
ML3 0HP

E-Mail: Fiona.Raeburn@igne.com

Phone: 01698 711 177

No. Samples Received: 1

Date Received: 10/08/2024

Analysis Completed: 16/08/2024

Date Issued: 16/08/2024

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Julie Dickinson
01283 554670
Julie.Dickinson@socotec.co.uk



Project Number: 24081432

Client: Igne

Date Issued: 16/08/2024

Project Name: 26667 - Eastern Green Link 4 8

Samples Analysed

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
24081432-001	BH16-0-ES-6.52	08/08/2024 15:00:00	SOLID	Silt Sample

Analysis Results

SOCOTEC Sample ID: 24081432-001
 Sampling Date: 08/08/2024 15:00
 Customer ID: BH16-0-ES-6.52

Method Code	Analysis	MDL	Accred.	
CLANDPREP	Total Moisture at 35°C	0.1 %	N	12.3
	Major Constituents	-	N	SILT
	Minor Constituents	-	N	Clay
	Miscellaneous Constituents	-	N	Gravel
	Colour of Material	-	N	Black/Grey
SUB002	Asbestos Identification	-	N	NAIIS
PHSOIL	pH (2.5:1 extraction)	1 pH units	M ^A	6.9
WSLM59	Total Organic Carbon	0.02 % m/m	U ^A	17.2
WSLM59	Soil Organic Matter	0.04 % m/m	U ^A	29.6
SFAPI	Free Cyanide	0.5 mg/kg	M ^A	<0.6
SFAPI	Total Cyanide	0.5 mg/kg	M ^A	<0.6
SFAPI	Phenol Index	0.5 mg/kg	U ^A	<0.6
ICPWSS	Water Soluble Sulphate as SO ₄ by Mass	20 mg/kg	M ^A	2120
ICPMSS	Arsenic as As	0.3 mg/kg	M ^A	1.0
ICPMSS	Cadmium as Cd	0.2 mg/kg	M ^A	<0.2
ICPMSS	Total Chromium as Cr	1.2 mg/kg	M ^A	24.7
KONENS	Chromium (VI) as Cr	0.1 mg/kg	N ^A	<0.1
ICPMSS	Copper as Cu	1.6 mg/kg	M ^A	44.7
ICPMSS	Lead as Pb	0.7 mg/kg	M ^A	6.1
ICPMSS	Mercury as Hg	0.5 mg/kg	M ^A	<0.5
ICPMSS	Nickel as Ni	2 mg/kg	M ^A	29.2
ICPMSS	Zinc as Zn	16 mg/kg	M ^A	<16.0
ICPBOR	Boron as B	0.5 mg/kg	M ^A	3.1
BTXHSA	Benzene (HS_1D_AR)	10 µg/kg	M ^A	14
	Toluene (HS_1D_AR)	10 µg/kg	M ^A	<11
	Ethylbenzene (HS_1D_AR)	10 µg/kg	M ^A	<11
	m/p-Xylene (HS_1D_AR)	20 µg/kg	M ^A	<23
	o-Xylene (HS_1D_AR)	10 µg/kg	M ^A	<11
GROHSA/BTEXHSA	Total GRO C5-C10 (HS_1D_Total)	0.2 mg/kg	M ^A	<0.228 _c
	C5-C6 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.228* _{a,c}
	>C6-C8 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.228 _c
	>C8-C10 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.228 _c
	C5-C7 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	0.014
	>C7-C8 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.011
	>C8-C10 Aromatic (HS_1D_AR)	0.04 mg/kg	M ^A	<0.046
TPHFIDUS (Aliphatic)	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	U ^A	<22.8
	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.56
	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.56
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.56
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	10 mg/kg	U ^A	<11.4* _a
	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	6 mg/kg	N ^A	<6.84
	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	20 mg/kg	U ^A	125
TPHFIDUS (Aromatic)	>C10-C12 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	4.56* _a
	>C12-C16 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	15.3* _a
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	27.5
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	10 mg/kg	U ^A	70.0* _a
	>C35-C44 (Aromatic) (EH_CU_1D_AR)	6 mg/kg	N ^A	<6.84
	Acenaphthene	0.08 mg/kg	M ^A	<0.09
	Acenaphthylene	0.08 mg/kg	U ^A	<0.09
PAHMSUS	Anthracene	0.08 mg/kg	U ^A	0.10
	Benzo[a]anthracene	0.08 mg/kg	M ^A	0.12
	Benzo[a]pyrene	0.08 mg/kg	M ^A	0.14
	Benzo[b]fluoranthene	0.08 mg/kg	M ^A	<0.09
	Benzo[g,h,i]perylene	0.08 mg/kg	M ^A	0.23
	Benzo[k]fluoranthene	0.08 mg/kg	M ^A	0.19
	Chrysene	0.08 mg/kg	M ^A	0.11
	Dibenzo[a,h]anthracene	0.08 mg/kg	M ^A	<0.09
	Fluoranthene	0.08 mg/kg	M ^A	0.11
	Fluorene	0.08 mg/kg	M ^A	<0.09
	Indeno[1,2,3-cd]pyrene	0.08 mg/kg	M ^A	0.10
	Naphthalene	0.08 mg/kg	M ^A	0.18
	Phenanthrene	0.08 mg/kg	M ^A	0.26
	Pyrene	0.08 mg/kg	M ^A	0.18
	Total PAH 16	1.28 mg/kg	U ^A	2.17
VOCHSAS	1,1,1,2-Tetrachloroethane	1 µg/kg	M ^A	<1 _c
	1,1,1-Trichloroethane	1 µg/kg	M ^A	<1 _c
	1,1,2,2-Tetrachloroethane	1 µg/kg	N ^A	<1 _c
	1,1,2-Trichloroethane	1 µg/kg	M ^A	<1 _c
	1,1-Dichloroethane	1 µg/kg	M ^A	<1 _c
	1,1-Dichloroethene	1 µg/kg	U ^A	<1 _c
	1,1-Dichloropropene	1 µg/kg	M ^A	<1 _c
	1,2,3-Trichlorobenzene	3 µg/kg	M ^A	7 _c
	1,2,3-Trichloropropane	1 µg/kg	M ^A	<1 _c
	1,2,4-Trichlorobenzene	3 µg/kg	N ^A	5 _c
	1,2,4-Trimethylbenzene	1 µg/kg	M ^A	<1 _c
	1,2-Dibromo-3-chloropropane	1 µg/kg	U ^A	<1 _c
	1,2-Dibromoethane	1 µg/kg	M ^A	<1 _c
	1,2-Dichlorobenzene	1 µg/kg	M ^A	<1 _c
	1,2-Dichloroethane	1 µg/kg	M ^A	<1 _c

Analysis Results

SOCOTEC Sample ID: 24081432-001
 Sampling Date: 08/08/2024 15:00
 Customer ID: BH16-0-ES-6.52

Method Code	Analysis	MDL	Accred.	
VOCHSAS	1,2-Dichloropropane	1 µg/kg	M ^A	<1 c
	1,3,5-Trimethylbenzene	1 µg/kg	M ^A	2 c
	1,3-Dichlorobenzene	1 µg/kg	M ^A	<1* B.C
	1,3-Dichloropropane	1 µg/kg	M ^A	<1 c
	1,4-Dichlorobenzene	1 µg/kg	M ^A	<1 c
	2,2-Dichloropropane	2 µg/kg	M ^A	<2 c
	2-Chlorotoluene	1 µg/kg	M ^A	<1 c
	4-Chlorotoluene	1 µg/kg	M ^A	<1 c
	Benzene	1 µg/kg	M ^A	5 c
	Bromobenzene	1 µg/kg	M ^A	<1 c
	Bromochloromethane	1 µg/kg	M ^A	<1 c
	Bromodichloromethane	1 µg/kg	M ^A	<1 c
	Bromoform	1 µg/kg	M ^A	<1 c
	Bromomethane	1 µg/kg	M ^A	<1 c
	Carbon Tetrachloride	1 µg/kg	M ^A	<1 c
	Chlorobenzene	1 µg/kg	M ^A	<1 c
	Chloroethane	2 µg/kg	M ^A	<2 c
	Chloroform	1 µg/kg	M ^A	2 c
	Chloromethane	3 µg/kg	U ^A	<3 c
	cis 1,2-Dichloroethene	5 µg/kg	M ^A	<6 c
	cis 1,3-Dichloropropene	1 µg/kg	M ^A	<1 c
	Dibromochloromethane	1 µg/kg	M ^A	<1 c
	Dibromomethane	1 µg/kg	M ^A	<1 c
	Dichlorodifluoromethane	1 µg/kg	N ^A	<1 c
	Ethylbenzene	2 µg/kg	M ^A	4 c
	Hexachlorobutadiene	2 µg/kg	N ^A	<2 c
	iso-Propylbenzene	1 µg/kg	M ^A	<1 c
	m and p-Xylene	4 µg/kg	M ^A	7 c
	MTBE	1 µg/kg	M ^A	<1 c
	Naphthalene	5 µg/kg	M ^A	9 c
	n-Butylbenzene	1 µg/kg	U ^A	<1 c
	o-Xylene	2 µg/kg	M ^A	3 c
	p-Isopropyltoluene	1 µg/kg	M ^A	<1 c
	Propylbenzene	1 µg/kg	M ^A	<1 c
	sec-Butylbenzene	1 µg/kg	M ^A	<1 c
	Styrene	1 µg/kg	M ^A	<1 c
	tert-Butylbenzene	1 µg/kg	M ^A	<1 c
	Tetrachloroethene	3 µg/kg	M ^A	<3 c
	Toluene	5 µg/kg	M ^A	7 c
	trans 1,2-Dichloroethene	1 µg/kg	M ^A	<1 c
	trans 1,3-Dichloropropene	1 µg/kg	M ^A	<1 c
	Trichloroethene	1 µg/kg	U ^A	<1 c
	Trichlorofluoromethane	1 µg/kg	M ^A	<1 c
	Vinyl Chloride	1 µg/kg	M ^A	<1 c

[illegible]



Project Number: 24081432

Client: Igne

Date Issued: 16/08/2024

Project Name: 26667 - Eastern Green Link 4 8

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

<u>Method Code</u>	<u>Method Description</u>	<u>Analysis Method</u>
BTEXHSA	BTEX by GCFID	As Received
CLANDPREP	CLand Prep and Dry Weight Correction to 35°C	As Received
CLANDPREP	Solid Material Description	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
ICPWSS	Sulphate as SO4 (Water Soluble)	Air Dried & Ground
KONENS	Chromium VI (Hexavalent) by Colorimetry	Air Dried & Ground
PAHMSUS	16 PAHs by GCMS	As Received
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Free) by SFA	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	As Received
SUB002	Asbestos Stage 1 (with Stage 2 Trigger)	
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
VOCHSAS	VOCs (Target List) by GCMS	As Received
WSLM59	SOM: Soil Organic Matter (%) (Calc)	Air Dried & Ground
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Result Report Notes

Letters alongside results signify that the result has associated report notes.

The report notes are as follows:

<u>Letter</u>	<u>Note</u>
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.



Project Number: [24081432](#)

Client: Igne

Date Issued: 16/08/2024

Project Name: 26667 - Eastern Green Link 4 8

- F Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
- G The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

[HWOL Acronym Key](#)

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

[Additional Information](#)

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any accreditation marked with ^ signify results are reported on a dry weight basis of 35° c.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° c.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any results marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by another SOCOTEC department or by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.



Project Number: 24081432

Client: Igne

Date Issued: 16/08/2024

Project Name: 26667 - Eastern Green Link 4 8

End of Certificate of Analysis

Certificate of Analysis

Client: Igne

Project: 24092278

Quote: BEC240736422 V2.1

Project Ref: 26667

Site: Eastern Green Link 4 1

Contact: Fiona Raeburn

Address: Whistleberry Road
Hamilton
ML3 0HP

E-Mail: Fiona.Raeburn@igne.com

Phone: 01698 711 177

No. Samples Received: 4

Date Received: 18/09/2024

Analysis Completed: 26/09/2024

Date Issued: 26/09/2024

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Julie Dickinson
01283 554670
Julie.Dickinson@socotec.co.uk



Project Number: 24092278

Client: Igne

Date Issued: 26/09/2024

Project Name: 26667 - Eastern Green Link 4 1

Samples Analysed

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
24092278-001	BH02-0-EW-	16/09/2024 11:00:00	WATER	Ground Water
24092278-002	BH05-0-EW-	16/09/2024 12:00:00	WATER	Ground Water
24092278-003	BH06-0-EW-	16/09/2024 14:00:00	WATER	Ground Water
24092278-004	BH08-0-EW-	16/09/2024 15:00:00	WATER	Ground Water

Analysis Results

SOCOTEC Sample ID:				24092278-001	24092278-002	24092278-003	24092278-004
Sampling Date:				16/09/2024 11:00	16/09/2024 12:00	16/09/2024 14:00	16/09/2024 15:00
Customer ID:				BH02-0-EW-	BH05-0-EW-	BH06-0-EW-	BH08-0-EW-
Method Code	Analysis	MDL	Accred.				
PHCONDW	pH	1 pH units	U	6.0	6.9	6.6	3.6
KONENS	Nitrate as NO3	0.9 mg/l	U	<0.9	<0.9	<0.9	<0.9
KONENS	Nitrite as NO2	0.04 mg/l	U	<0.04	<0.04	<0.04	<0.04
CALC_NH4	Ammoniacal Nitrogen as NH4	0.02 mg/l	U	1.03	0.08	0.26	0.26
SFAPI	Total Cyanide	0.02 mg/l	U	<0.02	<0.02	<0.02	<0.02
ICPMSW (Dissolved)	Arsenic as As	0.001 mg/l	U	0.002	<0.001	<0.001	0.006
ICPWATVAR (Dissolved)	Boron as B	0.01 mg/l	U	0.11	0.09	0.26	0.23
ICPMSW (Dissolved)	Cadmium as Cd	0.00002 mg/l	U	0.00003	<0.00002	0.00013	0.00271
ICPMSW (Dissolved)	Total Chromium as Cr	0.001 mg/l	U	<0.001	<0.001	<0.001	0.003
ICPMSW (Dissolved)	Copper as Cu	0.001 mg/l	U	<0.001	<0.001	<0.001	0.004
ICPMSW (Dissolved)	Lead as Pb	0.0002 mg/l	U	<0.0002	<0.0002	<0.0002	0.0047
ICPMSW (Dissolved)	Mercury as Hg	0.00003 mg/l	U	<0.00003	<0.00003	<0.00003	<0.00003
ICPMSW (Dissolved)	Nickel as Ni	0.001 mg/l	U	0.079	0.009	0.016	2.51
ICPWATVAR (Dissolved)	Total Sulphur as SO4	3 mg/l	U	817	142	926	2460
ICPMSW (Dissolved)	Zinc as Zn	0.002 mg/l	U	0.035	0.009	0.003	0.719
ICPWATVAR (Dissolved)	Total Hardness as CaCO3	6.6 mg/l	U	798	344	1150	1360
BTXEXHA	Benzene (HS_1D_AR)	5 µg/l	U	<5	<5	<5	<5
	Toluene (HS_1D_AR)	5 µg/l	U	<5	<5	<5	<5
	Ethylbenzene (HS_1D_AR)	5 µg/l	U	<5	<5	<5	<5
	m/p-Xylene (HS_1D_AR)	10 µg/l	U	<10	<10	<10	<10
	o-Xylene (HS_1D_AR)	5 µg/l	U	<5	<5	<5	<5
GROHSA/BTEXHSA	Total GRO C5-C10 (HS_1D_Total)	0.1 mg/l	U	<0.100	<0.100	<0.100	<0.100
	C5-C6 Aliphatic (HS_1D_AL)	0.1 mg/l	N	<0.100	<0.100	<0.100	<0.100
	>C6-C8 Aliphatic (HS_1D_AL)	0.1 mg/l	N	<0.100	<0.100	<0.100	<0.100
	>C8-C10 Aliphatic (HS_1D_AL)	0.1 mg/l	N	<0.100	<0.100	<0.100	<0.100
	C5-C7 Aromatic (HS_1D_AR)	0.005 mg/l	U	<0.005	<0.005	<0.005	<0.005
	>C7-C8 Aromatic (HS_1D_AR)	0.005 mg/l	U	<0.005	<0.005	<0.005	<0.005
TPHFID (Aliphatic)	>C8-C10 Aromatic (HS_1D_AR)	0.02 mg/l	U	<0.020	<0.020	<0.020	<0.020
	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	0.01 mg/l	U	<0.01	<0.01	<0.10 s	0.01
	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	0.01 mg/l	U	<0.01	<0.01	<0.10 s	<0.01
	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	0.01 mg/l	U	<0.01	<0.01	<0.10 s	<0.01
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	0.01 mg/l	U	<0.01	<0.01	<0.10 s	<0.01
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	0.01 mg/l	U	<0.01	<0.01	<0.10 s	<0.01
TPHFID (Aromatic)	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	0.01 mg/l	N	<0.01	<0.01	<0.10 s	<0.01
	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	0.01 mg/l	U	<0.01	<0.01	<0.10 s	0.01
	>C10-C12 (Aromatic) (EH_CU_1D_AR)	0.01 mg/l	U	<0.01	<0.01	<0.10 s	<0.01
	>C12-C16 (Aromatic) (EH_CU_1D_AR)	0.01 mg/l	U	<0.01	<0.01	<0.10 s	<0.01
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	0.01 mg/l	U	<0.01	<0.01	<0.10 s	<0.01
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	0.01 mg/l	U	<0.01	<0.01	<0.10 s	<0.01
PAHMSW	>C35-C44 (Aromatic) (EH_CU_1D_AR)	0.01 mg/l	N	<0.01	<0.01	<0.10 s	<0.01
	Acenaphthene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Acenaphthylene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Anthracene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Benzo[a]anthracene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Benzo[a]pyrene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Benzo[b]fluoranthene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Benzo[g,h,i]perylene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Benzo[k]fluoranthene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Chrysene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Dibenzo[a,h]anthracene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Fluoranthene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Fluorene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Indeno[1,2,3-cd]pyrene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Naphthalene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
	Phenanthrene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	0.01
	Pyrene	0.01 µg/l	U	<0.01	<0.01	<0.10 s	<0.01
PHEGCMS	Total PAH 16	0.16 µg/l	U	<0.16	<0.16	<1.60 s	0.16
	Phenol	0.0005 mg/l	N	<0.0005	<0.0005	<0.0005	<0.0005
	Methylphenols	0.0005 mg/l	N	<0.0005	<0.0005	<0.0005	<0.0005
	Dimethylphenols	0.0005 mg/l	N	<0.0005	<0.0005	<0.0005	<0.0005
	Trimethylphenols	0.0005 mg/l	N	<0.0005	<0.0005	<0.0005	<0.0005
PCBECD	Total Phenols	0.002 mg/l	N	<0.0020	<0.0020	<0.0020	<0.0020
	PCB 28	0.01 µg/l	N	<0.01	<0.01	<0.01	<0.01
	PCB 52	0.01 µg/l	N	<0.01	<0.01	<0.01	<0.01
	PCB 101	0.01 µg/l	N	<0.01	<0.01	<0.01	<0.01
	PCB 118	0.01 µg/l	N	<0.01	<0.01	<0.01	<0.01
	PCB 138	0.01 µg/l	N	<0.01	<0.01	<0.01	<0.01
	PCB 153	0.01 µg/l	N	<0.01	<0.01	<0.01	<0.01
	PCB 180	0.01 µg/l	N	<0.01	<0.01	<0.01	<0.01



Project Number: 24092278

Client: Igne

Date Issued: 26/09/2024

Project Name: 26667 - Eastern Green Link 4 1

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

<u>Method Code</u>	<u>Method Description</u>	<u>Analysis Method</u>
BTEXHSA	BTEX by GCFID	Unfiltered
CALC_NH4	Ammoniacal Nitrogen as NH4 (Calc)	Filtered
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	Unfiltered
ICPMSW (Dissolved)	Arsenic (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Cadmium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Chromium (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Copper (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Lead (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Mercury (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Nickel (Diss.) in Water by ICPMS	Filtered
ICPMSW (Dissolved)	Zinc (Diss.) in Water by ICPMS	Filtered
ICPWATVAR (Dissolved)	Boron (Diss.) in Water by ICPOES	Filtered
ICPWATVAR (Dissolved)	Total Hardness as CaCO3 in Water	Filtered
ICPWATVAR (Dissolved)	Total Sulphur as SO4 (Diss.) in Water	Filtered
KONENS	Nitrate as NO3 by Colorimetry	Filtered
KONENS	Nitrite as NO2 by Colorimetry	Filtered
PAHMSW	16 PAHs by GCMS	Unfiltered
PCBECD	PCBs, ICES 7 Congeners	Unfiltered
PHCONDW	pH	Unfiltered
PHEGCMS	Low Level Phenols by GCMS	Unfiltered
SFAP	Cyanide (Total) by SFA	Unfiltered
TPHFID (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	Unfiltered
TPHFID (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	Unfiltered

Result Report Notes

Letters alongside results signify that the result has associated report notes.

The report notes are as follows:

<u>Letter</u>	<u>Note</u>
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.



Project Number: [24092278](#)

Client: Igne

Date Issued: 26/09/2024

Project Name: 26667 - Eastern Green Link 4 1

- F Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
- G The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

[HWOL Acronym Key](#)

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

[Additional Information](#)

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IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by another SOCOTEC department or by an external subcontracted laboratory.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.



Project Number: 24092278

Client: Igne

Date Issued: 26/09/2024

Project Name: 26667 - Eastern Green Link 4 1

End of Certificate of Analysis

E. Contaminated Land Risk Assessment Methodology

E.1 Contaminated Land Regulations and Definitions

E.1.1 General

Since 2000, the implementation of Part IIA of the Environmental Protection Act 1990 in the UK has established a definition of contaminated land and the regulatory framework for its management and remediation. Under the Contaminated Land (Scotland) Regulations 2005 [40], contaminated land is defined as:

‘Any land which appears to the Local Authority in whose area it is situated to be in such as condition, by reason of substances in, or under the land, that:

- Significant harm is being caused in, or under the land, that:
- Significant pollution of the water environment is being caused or there is a significant possibility of such pollution being caused’.

Significant harm is defined as meeting both of the following criteria:

- ‘Be harmful to a receptor listed in Table A of the statutory guidance (including human beings, certain ecological systems or living organisms, crops, livestock and certain buildings).
- Be within the description of harm specified for each receptor in the same table’.

In order to determine whether there is a significant possibility of significant harm, the following should be taken into account:

- The nature and degree of harm.
- The susceptibility of the receptors.
- The timescale within which the harm may occur.

Planning Advice Note (PAN) 33 – Development of Contaminated Land [41] advises the ‘suitable for use’ approach as the most appropriate way of dealing with potentially contaminated land and therefore requires that the findings from the ground investigation be evaluated for contamination on a site-specific basis using a risk-based approach.

This report adopts a strategy for the assessment of potential land contamination based on current guidance documents relating to Part IIA of the Environmental Protection Act 1990 in the UK and the Contaminated Land (Scotland) Regulations 2005.

E.2 Contaminated Land Risk Assessment Methodology

E.2.1 Conceptual Model

A key element of an environmental risk assessment is the development of a conceptual model which is done undertaking a Source – Pathway – Receptor analysis of the site:

- Sources (S) are potential or know contaminant sources e.g. a former land use.
- Pathways (P) are environmental systems through which a contaminant could migrate e.g. air, groundwater.

- Receptors (R) are sensitive environmental receptors that could be adversely affected by contaminants e.g. site occupiers, groundwater resources.

When a source, relevant pathway and receptor are present, a pollutant linkage is considered to exist whereby there is a circumstance through which environmental harm could occur and a potential environmental liability is considered to exist.

E.2.2 Preliminary Contaminated Land Risk Assessment Methodology

For each potential pollutant linkage identified within the conceptual model presented in this report, the potential risk to a receptor has been evaluated based on the probability of the pollution event, and the severity it may have on site users and the environment.

The contaminated land risk assessment methodology used for this assessment is based on Environment Agency, Land Contamination Risk Management (LCRM), October 2020 and Construction Industry Research and Information Association (CIRIA), CIRIA C552 January 2001 guidance. The methodology quantifies potential risk via risk estimation and risk evaluation in order to determine an overall risk category which can be used to identify likely actions. This methodology uses qualitative descriptors and therefore is a qualitative approach. The methodology requires the classification of:

- The magnitude of the consequence (severity) of a risk occurring, and
- The magnitude of the probability (likelihood) of a risk occurring.

The potential consequences of contamination risk occurring at this site are classified in accordance with Table E.1 below.

Table E.1: Classification of Consequence

Classification	Definition
Severe	Short-term (acute) risk to human health Short-term risk of pollution of sensitive water resources or ecosystems Catastrophic damage to crops/buildings/property/infrastructure, including off-site soils
Medium	Medium/long-term (chronic) risk to human health Medium/long-term risk of pollution of sensitive water resources or ecosystems Significant damage to crops/buildings/property/infrastructure, on or off site Contamination of off-site soils
Mild	Easy preventable, permanent health effects of humans Pollution of non-sensitive water resources Localised damage to crops/buildings/property/infrastructure, on or off-site
Minor / Negligible	Easily preventable, non-permanent health effects of humans, or no effects Minor, low level and localised contamination of on-site soils Easily repairable damage to crops/buildings/property/infrastructure

Source: Construction Industry Research and Information Association (CIRIA), CIRIA C552 January 2001

The probability of contamination risk occurring at this site will be classified in accordance with Table E.2 below. Note that for each category, it is assumed that a pollutant linkage exists. Where a pollution linkage does not exist, the likelihood is zero, as is the risk.

Table E.2: Classification of Probability

Classification	Definition
High Likelihood	Circumstances are such that an event appears very likely in the short-term or almost inevitable in the long-term; or there is already evidence that such an event has occurred.
Likely	Circumstances are such that an event is not inevitable, but it is possible in the short-term and it likely over the long term.
Low Likelihood	Circumstances are such that it is by no means certain that an event would occur even over a longer period and is less likely in the short-term.
Unlikely	Circumstances are such that it is improbable than an event would occur even in the long term.

Source: Construction Industry Research and Information Association (CIRIA), CIRIA C552 January 2001

For each possible pollution linkage (source-pathway-receptor) identified the potential risk can be evaluated, using Table E.3 Based upon this, Table E.4 presents definitions of the risk categories, together with the investigatory and remedial actions that are likely to be necessary in each case. These risk categories apply to each pollutant linkage, not simply to each hazard or receptor.

Table E.3: Classification of Risk (Significance)

Probability (Likelihood)	Consequence			
	Severe	Medium	Mild	Minor
High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate/ Low Risk
Likely	High Risk	Moderate Risk	Moderate/ Low Risk	Low Risk
Low Likelihood	Moderate Risk	Moderate/ Low Risk	Low Risk	Very Low Risk
Unlikely	Moderate/ Low Risk	Low Risk	Very Low Risk	Very Low Risk

Source: Construction Industry Research and Information Association (CIRIA), CIRIA C552 January 2001

Table E.4: Definition of Classified Risks / Risk Terms

Classification	Definition
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. The risk, if realised, is likely to result in a substantial liability Urgent investigation (if not already undertaken) and remediation are likely to be required
High Risk	Harm is likely to arise to a designated receptor from an identified hazard Realisation of the risk is likely to present a substantial liability Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely in the long term
Moderate Risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, if [it] is relatively unlikely that any such harm would be severe, or If any harm were to occur it is more likely that the harm would be relatively mild

Classification	Definition
	Investigation (if not already undertaken) is normally required to clarify the risk and determine the potential liability. Some remedial works may be required in the longer term
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised would be at worse relatively mild
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Source: Construction Industry Research and Information Association (CIRIA), CIRIA C552 January 2001

E.3 Generic Quantitative Contaminated Land Risk Assessment

E.3.1 Risks to Human Health

E.3.1.1 Methodology

The Contaminated Land Exposure Assessment (CLEA) model uses generic assumptions about the fate and transport of chemicals in the environment and a generic conceptual site model for the site conditions and human behaviour to establish child and adult exposures to living, working and/or playing on contaminated sites over long periods.

Land Quality Management Ltd (LQM), in partnership with the Chartered Institute of Environmental Health (CIEH) derived a set of Generic Assessment Criteria Values (GAC) named 'Suitable 4 Use Levels (S4UL)' for 89 contaminants of concern using the CLEA model. The input parameters used for calculating each GAC value are listed in the 'LQM/CIEH S4UL' reference document associated with the GACs [42].

The S4ULs are based on minimal/negligible levels of risk and have been derived for a number of generic land uses (residential with and without plant uptake, commercial, allotment and public open space) and soil organic matter contents (1%, 2.5% and 6%) for sandy loam soil. The S4ULs have been used as the default GAC in this human health risk assessment. Where LQM S4ULs are not available, CLEA derived GACs published in CL:AIRE document 'Soil Generic Assessment Criteria for Human Health Risk Assessment' have been used [43].

In the absence of a minimal risk GAC (i.e. SGV, S4UL or CL:AIRE) for lead, DEFRA's 'Category 4 Screening Level' (C4SL) has been used. This GAC is based on a 'low level' of risk but is still more conservative than the withdrawn EA SGV for lead (450 mg/kg). Details on the development of C4SLs are included in the DEFRA document 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contaminants' [44].

The analytic results for soil samples have been compared against the GAC for a commercial end use, based on 2.5% soil organic matter (SOM). This is based upon the range of soil organic matter values measured at the site.

E.3.2 Risks to the Water Environment

E.3.2.1 Methodology

SEPA document WAT-PS-10-01 [45] sets out the methodology for undertaking a water environment risk assessment in Scotland and is generally consistent with the revised Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination [46]. This authoritative method is considered to represent best practice in order to fulfil the risk-based

regulatory requirements of the Environmental Protection Act 1990 and the Water Resources Act 1991 for situations where the original source of groundwater or soil contamination has ceased.

Assessment criteria from the following standards have been used in the generic qualitative risk assessment.

- Groundwater Resource Protection Values (RPVs), published in SEPA document WAT-PS-10-01, dated August 2014 [45].
- UK Drinking Water Standards (UKDWS), published in The Water Quality (Scotland) Regulations 2010 [47]
- Environmental Quality Standards (EQS) published in SEPA document WAT-SG-53, dated February 2018 [48].

The analytic results for leachate and groundwater results have been compared against RPV, DWS and freshwater EQS. This is based on the sensitive receptors being surface waters and bedrock groundwater.

F. Climate change review

The UK Met Office defines climate change as “large-scale, long-term shift in the planet’s weather patterns and average temperatures”. Data is usually averaged over a 20-year or 30-year period to understand the change. It is therefore not designed to focus on any extreme weather events (acute/short term variances in the climate, such as floods or droughts) although the frequency and duration of these will have an impact on the overall trends seen when referring to climate change.

The general requirement of wider UK land contamination guidance is that a risk assessment should consider all matters that are needed to address the requirements of the regime they are being prepared under. Although it is not explicitly stated that climate change effects must be considered, where climate change will affect the Conceptual Site Model and influence the risks that are present then it is considered best practice to include a review of available data in relation to the project and associated land contamination risk assessment.

This appendix summarises the review of data that has been undertaken in consideration of climate change impacts that may affect the project site, and therefore the risk assessment detailed within the report. A summary of the findings of the climate change review in relation to the risk assessment are presented in Section 6.3.3.

The aspects reviewed in this section focus on risks to controlled waters (i.e. groundwater and surface water) due to currently available guidance that is applicable to land contamination and climate change⁶. Should further guidance be produced in the future, further revisions of this document or project work will require assessment in line with the updated guidance, which may include aspects relating to human health.

The Met Office UK Climate Projections (UKCP18) are the most up-to-date climate projections for the UK. The data sources used in this review are predominantly based on a Representative Concentration Pathway (RCP) 8.5 scenario under UKCP18, which represents a worst case projection of climate change as a result of the highest emission scenario. Data at this scenario is available until the end of the century (2099).

Table F.1: Climate change considerations

Aspect	Site setting	Future climate change comment	Source
Design life of the proposed development	120 years		
Location and elevation of the site in relation to the sea, estuaries or tidally influenced rivers	The site is not located within the vicinity of the sea, estuaries or any tidally influenced rivers.	The projected sea level rise would not impact on the site.	[49, 50]
Sea level rise projections	The site is located inland.	The projected seal level rise would not impact on the site.	[50]

⁶ Society of Brownfield Risk Assessment (2022), Guidance on Assessing Risk to Controlled Waters from UK Land Contamination Under Conditions of Future Climate Change, Version 1. ISBN number: 978-1-9161111-3-4.

Aspect	Site setting	Future climate change comment	Source
Is the site in a Flood Zone	The site is located within an area of high likelihood of surface water flooding indicating each year this area has a 10% chance of flooding from surface water.	Climate change may result in changes to the frequency of extreme weather events and associated flooding.	[19]
Projected changes to average temperature	The average temperature (median) in Scotland East is indicated to increase by 4.6°C in the time period 2071-2100 based on the UKCP18 regional model for a RCP8.5 scenario. The seasonal ranges vary from +3.52°C in winter to +5.427°C in summer.	The higher average temperature could result in impacts related to increased water consumption and consequential abstractions from the underlying aquifer anthropogenically reducing groundwater elevation. Limited increases in volatilisation/mobility of some contaminants and/or increased biodegradation may occur as a result of the higher temperatures. It is noted that the projected increase is county wide.	[51]
Projected changes to annual rainfall	Annual rainfall (median) in Scotland East is indicated to decrease by ~2% in the time period 2071-2100 based on the UKCP18 regional model for a RCP8.5 scenario. The seasonal ranges vary from 15% increase in winter to 30% decrease in summer.	Increased rainfall should be considered in relation to permeable/impermeable surfacing and/or drainage design for the new development otherwise increased surface run-off from the site or surface water flooding of the site could occur.	[51]
Projected changes to groundwater recharge	The site is located within Dunfermline and Kirkcaldy Groundwater Body catchment which falls under the WFD definition of groundwater body. The eFLaG project far-future (2050-2079) projections for groundwater recharge within this catchment report a 0.3mm per day increase for the Winter months for this groundwater body. It is indicated that no change is anticipated for Spring, a decrease of 0.1mm/day is indicated for Summer and a 0.2mm/decrease in the Autumn.	The seasonal changes in groundwater recharge is not considered likely to significantly impact the groundwater at the site through leaching or increasing groundwater levels.	[52]
Projected changes to regional groundwater level	Recharge changes do not indicate potential future change in shallow groundwater level relative to the current baseline. Far-future median projections are not available for the aquifers on the site as no monitored boreholes are available within the aquifers.	Likely similar groundwater levels are anticipated annually, it is possible extreme weather events could have the potential to cause inundation of future utility service trenches/sewers. Any contaminants present within groundwater underlying the site could then migrate off-site using this preferential pathway. However, groundwater levels are not projected to remain at shallow depths and therefore these events would likely be short term during extreme weather events.	[52]

G. Screening results

G.1 Soil screening

Soil Laboratory Analysis

		Borehole ID	BH12	BH16	TP05	TP06	TP09	TP10	TP11	TP12	TP13	TP15	TP21	TP22	TP23	TP24	TP26	TP27	TP28	TP31	
		Depth (m bgl)	3	6.52	0.8	0.7	0.5	0.3	0.2	0.7	0.6	1	1	1	3.8	2.8	1	3.8	0.5	0.2	
		Strata	Natural (Granular Till)	Made Ground	Made Ground	Natural (Cohesive Till)	Made Ground	Made Ground	Natural (Peat)	Made Ground	Made Ground	Made Ground	Natural (Weathered Limestone)	Made Ground	Made Ground	Natural (Cohesive Till)	Natural (Cohesive Till)	Made Ground	Made Ground	Made Ground	
Determinant Name	Units	Commercial 2.5% SOM																			
Arsenic	mg/kg		640	5.60000	1.00000	5.70000	3.90000	3.80000	5.20000	8.90000	5.40000	5.70000	4.10000	1.20000	5.10000	0.30000	7.00000	3.20000	5.20000	38.90000	4.40000
Boron	mg/kg		240000	<0.5000	3.10000	1.00000	0.90000	1.00000	0.90000	2.90000	1.00000	0.70000	1.70000	0.80000	1.80000	<0.5000	0.70000	<0.5000	2.30000	1.10000	0.70000
Cadmium	mg/kg		190	0.60000	<0.2000	0.20000	<0.2000	<0.2000	0.20000	1.00000	0.20000	<0.2000	0.30000	<0.2000	<0.2000	<0.2000	0.30000	<0.2000	0.20000	0.30000	<0.2000
Chromium - Hexavalent	mg/kg		33	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000	<0.1000
Copper	mg/kg		68000	1479.00000	44.70000	25.30000	16.50000	22.80000	21.10000	68.40000	20.40000	28.90000	25.60000	30.70000	21.90000	1.70000	54.90000	20.40000	<1.6000	30.00000	16.20000
Lead	mg/kg		2300	109.30000	6.10000	13.50000	15.40000	15.30000	18.20000	34.30000	18.00000	18.60000	19.50000	9.00000	97.80000	1.80000	9.90000	10.20000	28.10000	512.60000	17.40000
Mercury	mg/kg		33	<0.5000	<0.5000	<0.5000	<0.5000	<0.5000	<0.5000	<0.5000	<0.5000	<0.5000	<0.5000	<0.5000	<0.5000	<0.5000	<0.5000	<0.5000	<0.5000	0.50000	<0.5000
Nickel	mg/kg		980	44.60000	29.20000	51.10000	41.60000	47.30000	44.20000	51.50000	45.60000	46.80000	58.90000	193.20000	14.50000	3.40000	205.10000	46.70000	<2.0000	46.30000	26.10000
Zinc	mg/kg		730000	912.80000	<16.0000	49.60000	49.20000	46.60000	64.80000	53.10000	62.60000	47.00000	60.40000	40.40000	<16.0000	<16.0000	23.80000	40.40000	<16.0000	<16.0000	49.90000
pH	pH units	-		7.00000	6.90000	6.90000	7.00000	6.80000	7.50000	7.00000	7.50000	8.80000	4.40000	8.10000	3.00000	4.90000	6.00000	6.50000	3.50000	6.90000	6.60000
Benzene	mg/kg		47	<0.0010	0.01400	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	0.00100	<0.0010	0.01400	<0.0010	<0.0010	<0.0010	0.00300	<0.0010	<0.0010
Toluene	mg/kg		110000	<0.0050	0.00700	<0.0060	<0.0060	<0.0060	<0.0130	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0050	<0.0060	<0.0060	0.01300	<0.0050	<0.0060
Ethylbenzene	mg/kg		13000	<0.0020	0.00400	<0.0020	<0.0020	<0.0020	<0.0020	0.02800	<0.0020	<0.0020	<0.0020	<0.0020	0.00300	<0.0020	<0.0030	<0.0020	0.02400	0.01400	<0.0020
O-Xylene	mg/kg		15000	<0.0020	0.00300	<0.0020	<0.0020	<0.0020	<0.0020	0.02200	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0030	<0.0020	0.01000	0.00700	<0.0020
Methyl tert-butyl ether (MTBE)	mg/kg		12000	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Acenaphthylene	mg/kg		97000	<0.0900	<0.0900	<0.0900	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	<0.0900	<0.0900	<0.0900	<0.0800	<0.1100	<0.0900	<0.0900	<0.0900	<0.0900
Acenaphthene	mg/kg		97000	<0.0900	<0.0900	<0.0900	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	<0.0900	<0.0900	0.11000	<0.0800	<0.1100	<0.0900	<0.0900	<0.0900	<0.0900
Fluorene	mg/kg		68000	<0.0900	<0.0900	<0.0900	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	<0.0900	<0.0900	0.27000	<0.0800	<0.1100	<0.0900	<0.0900	<0.0900	<0.0900
Phenanthrene	mg/kg		22000	<0.0900	0.26000	<0.0900	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	0.26000	<0.0900	2.62000	<0.0800	<0.1100	<0.0900	0.63000	<0.0900	<0.0900
Anthracene	mg/kg		540000	<0.0900	0.10000	<0.0900	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	<0.0900	<0.0900	<0.0900	<0.0800	<0.1100	<0.0900	0.12000	<0.0900	<0.0900
Fluoranthene	mg/kg		23000	<0.0900	0.11000	<0.0900	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	0.17000	<0.0900	0.63000	<0.0800	<0.1100	<0.0900	0.73000	<0.0900	<0.0900
Pyrene	mg/kg		54000	<0.0900	0.18000	<0.0900	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	0.21000	<0.0900	0.59000	<0.0800	<0.1100	<0.0900	0.97000	<0.0900	<0.0900
Benzo(a)anthracene	mg/kg		170	<0.0900	0.12000	<0.0900	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	<0.0900	<0.0900	0.32000	<0.0800	<0.1100	<0.0900	0.27000	<0.0900	<0.0900
Chrysene	mg/kg		350	<0.0900	0.11000	<0.0900	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	<0.0900	<0.0900	0.34000	<0.0800	<0.1100	<0.0900	0.41000	<0.0900	<0.0900
Benzo(b)fluoranthene	mg/kg		44	<0.0900	<0.0900	<0.0900	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	0.15000	<0.0900	0.30000	<0.0800	<0.1100	<0.0900	0.59000	<0.0900	<0.0900
Benzo(k)fluoranthene	mg/kg		1200	<0.0900	0.19000	<0.0900	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	<0.0900	<0.0900	<0.0900	<0.0800	<0.1100	<0.0900	0.24000	<0.0900	<0.0900
Benzo(a)pyrene	mg/kg		35	<0.0900	0.14000	<0.0900	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	0.14000	<0.0900	0.29000	<0.0800	<0.1100	<0.0900	0.53000	<0.0900	<0.0900
Bromochloromethane	mg/kg	-		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	mg/kg		170	<0.0010	0.00200	0.00200	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichloroethene	mg/kg		2.6	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dibromomethane	mg/kg	-		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dibromochloromethane	mg/kg	-		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chlorobenzene	mg/kg		130	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Styrene	mg/kg		6200	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tribromomethane	mg/kg		1400	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Bromobenzene	mg/kg		210	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
2-Chlorotoluene	mg/kg	-		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
4-Chlorotoluene	mg/kg	-		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tert-Butylbenzene	mg/kg	-		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Sec-Butylbenzene	mg/kg	-		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
4-Isopropyltoluene	mg/kg	-		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
n-Butylbenzene	mg/kg	-		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1,1,2-Tetrachloroethane	mg/kg		250	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1,1-Trichloroethane	mg/kg		1300	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1,2,2-Tetrachloroethane	mg/kg		550	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	&lt								

		Borehole ID	BH12	BH16	TP05	TP06	TP09	TP10	TP11	TP12	TP13	TP15	TP21	TP22	TP23	TP24	TP26	TP27	TP28	TP31
		Depth (m bgl)	3	6.52	0.8	0.7	0.5	0.3	0.2	0.7	0.6	1	1	1	3.8	2.8	1	3.8	0.5	0.2
		Strata	Natural (Granular Till)	Made Ground	Made Ground	Natural (Cohesive Till)	Made Ground	Made Ground	Natural (Peat)	Made Ground	Made Ground	Made Ground	Natural (Weathered Limestone)	Made Ground	Made Ground	Natural (Cohesive Till)	Natural (Cohesive Till)	Made Ground	Made Ground	Made Ground
Determinant Name	Units	Commercial 2.5% SOM																		
Bromomethane	mg/kg	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroethane	mg/kg	1200	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020
Chloroethene	mg/kg	0.077	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloromethane	mg/kg	1.1	<0.0030	<0.0030	<0.0030	<0.0040	<0.0040	<0.0030	<0.0080	<0.0040	<0.0030	<0.0040	<0.0030	<0.0030	<0.0030	<0.0040	<0.0040	<0.0030	<0.0030	<0.0040
Chromium	mg/kg	-	52.40000	24.70000	36.60000	42.10000	38.70000	68.20000	45.30000	45.70000	41.00000	41.40000	176.80000	13.70000	3.00000	49.10000	34.20000	2.00000	21.00000	36.60000
cis-1,2-Dichloroethene	mg/kg	23	<0.0050	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0130	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0050	<0.0070	<0.0060	<0.0050	<0.0050	<0.0060
cis-1,3-Dichloropropene	mg/kg	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Coronene	mg/kg	-						<0.0900								<0.1100				
Dibenz-a-h-anthracene	mg/kg	3.6	<0.0900	<0.0900	0.11000	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	<0.0900	<0.0900	<0.0900	<0.0800	<0.1100	<0.0900	<0.0900	<0.0900	<0.0900
Dichlorodifluoromethane	mg/kg	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
GRO >C5-10	mg/kg	-	<0.2270	<0.2280	0.23800	<0.2400	<0.2280	<0.2310	<0.5080	<0.2350	<0.2300	<0.2340	<0.2240	0.36600	<0.2060	<0.2750	<0.2270	<0.2190	<0.2290	<0.2320
Hexachlorobutadiene (HCBD)	mg/kg	66	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020
Indeno[1,2,3-cd]pyrene	mg/kg	510	<0.0900	0.10000	0.12000	<0.1000	<0.0900	<0.0900	<0.2000	<0.0900	<0.0900	0.10000	<0.0900	<0.0900	<0.0800	<0.1100	<0.0900	0.18000	<0.0900	<0.0900
Isopropylbenzene	mg/kg	3100	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Loss on ignition	% m/m	-						7.70000								8.60000				
m,p xylenes	mg/kg	-	<0.0040	0.00700	<0.0050	<0.0050	<0.0050		0.06000	<0.0050	<0.0050	<0.0050	<0.0050		0.00500	<0.0040	<0.0060	<0.0050	0.03300	0.02300
m,p,o Xylenes	mg/kg	-						<0.0230								<0.0280				
Min. Oil >C10-40	mg/kg	-						<23.1000								<27.5000				
Napthalene	mg/kg	460	<0.0050	0.18000	<0.0060	<0.0060	<0.0060	<0.0060	<0.0130	<0.0060	<0.0060	<0.0060	<0.0060	0.19000	<0.0050	<0.0070	<0.0060	<0.0050	<0.0050	<0.0060
n-propylbenzene	mg/kg	9200	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	0.00200	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Organic matter	% m/m	-	0.12000	29.60000	2.97000	2.61000	4.35000	2.90000	>32.3	2.87000	2.59000	4.56000	0.67000	17.90000	0.25000	2.04000	1.60000	20.50000	0.21000	2.73000
PAH 16 Total	mg/kg	-	<1.4500	2.17000	1.53000	1.54000	1.48000	<1.4800	<3.2500	<1.5100	<1.4700	2.12000	<1.4300	6.43000	<1.3200	<1.7600	<1.4500	5.82000	<1.4700	<1.4800
PAH 17 Total*	mg/kg	-						<1.5700								<1.8700				
PCB, Total Of 7 Congeners	mg/kg	-						<0.0410								<0.0480				
PCB-101 2,2',4,5,5' - Pentachlorobiphenyl	mg/kg	-						<0.0060								<0.0070				
PCB-118 2,3',4,4',5 - Pentachlorobiphenyl	mg/kg	-						<0.0060								<0.0070				
PCB-138 2,2',3,4,4',5' - Hexachlorobiphenyl	mg/kg	-						<0.0060								<0.0070				
PCB-153 2,2',4,4',5,5' - Hexachlorobiphenyl	mg/kg	-						<0.0060								<0.0070				
PCB-180 2,2',3,4,4',5,5' - Heptachlorobiphenyl	mg/kg	-						<0.0060								<0.0070				
PCB-28 2,4,4' - Trichlororbiphenyl	mg/kg	-						<0.0060								<0.0070				
PCB-52 2,2',5,5' - Tetrachlorobiphenyl	mg/kg	-						<0.0060								<0.0070				
Phenol Index	mg/kg	-	<0.6000	<0.6000	<0.6000	<0.6000	<0.6000	<0.6000	1.60000	<0.6000	<0.6000	<0.6000	<0.6000	<0.6000	<0.5000	<0.7000	<0.6000	<0.5000	<0.6000	<0.6000
Sulphate as SO4	mg/kg	-	38.00000	2120.00000	168.00000	449.00000	109.00000	47.00000	157.00000	69.00000	1770.00000	224.00000	47.00000	576.00000	216.00000	573.00000	106.00000	1980.00000	78.00000	89.00000
Tetrachloroethene	mg/kg	42	<0.0030	<0.0030	<0.0030	<0.0040	<0.0040	<0.0030	<0.0080	<0.0040	<0.0030	<0.0040	<0.0030	<0.0030	<0.0030	<0.0040	<0.0040	<0.0030	<0.0030	<0.0040
Tetrachloromethane (Carbon Tetra Chloride)	mg/kg	6.3	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total BTEx	mg/kg	-						<0.0690								<0.0830				
Total Organic Carbon	% m/m	-	0.07000	17.20000	1.72000	1.51000	2.52000	1.68000	>21.8	1.67000	1.50000	2.65000	0.39000	10.40000	0.14000	1.18000	0.93000	11.90000	0.12000	1.59000
trans-1,2-Dichloroethene	mg/kg	37	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
trans-1,3-Dichloropropene	mg/kg	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichlorofluoromethane	mg/kg	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Asbestos (Presence of)	N/A	-	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	CH
Asbestos Quantification (Total %)	%	-																		0.00200

Soil Laboratory Analysis

Determinant Name	Units	Borehole ID	TP34	TP36
		Depth (m bgl)	1.5	0.8
		Strata	Made Ground	Natural (Cohesive Till)
		Commercial 2.5% SOM		
Arsenic	mg/kg	640	5.40000	5.60000
Boron	mg/kg	240000	1.50000	0.90000
Cadmium	mg/kg	190	0.60000	<0.2000
Chromium - Hexavalent	mg/kg	33	<0.1000	<0.1000
Copper	mg/kg	68000	1487.00000	23.20000
Lead	mg/kg	2300	108.00000	20.40000
Mercury	mg/kg	33	<0.5000	<0.5000
Nickel	mg/kg	980	43.80000	48.10000
Zinc	mg/kg	730000	910.70000	53.00000
pH	pH units	-	6.40000	6.80000
Benzene	mg/kg	47	0.02300	<0.0010
Toluene	mg/kg	110000	0.02900	<0.0060
Ethylbenzene	mg/kg	13000	0.02000	<0.0020
O-Xylene	mg/kg	15000	0.01400	<0.0020
Methyl tert-butyl ether (MTBE)	mg/kg	12000	<0.0010	<0.0010
Acenaphthylene	mg/kg	97000	<0.0900	<0.0900
Acenaphthene	mg/kg	97000	<0.0900	<0.0900
Fluorene	mg/kg	68000	0.13000	<0.0900
Phenanthrene	mg/kg	22000	0.87000	<0.0900
Anthracene	mg/kg	540000	0.19000	<0.0900
Fluoranthene	mg/kg	23000	0.54000	<0.0900
Pyrene	mg/kg	54000	0.77000	<0.0900
Benzo(a)anthracene	mg/kg	170	0.19000	<0.0900
Chrysene	mg/kg	350	0.28000	<0.0900
Benzo(b)fluoranthene	mg/kg	44	0.46000	<0.0900
Benzo(k)fluoranthene	mg/kg	1200	0.13000	<0.0900
Benzo(a)pyrene	mg/kg	35	0.35000	<0.0900
Bromochloromethane	mg/kg	-	<0.0010	<0.0010
Chloroform	mg/kg	170	<0.0010	<0.0010
Trichloroethene	mg/kg	2.6	<0.0010	<0.0010
Dibromomethane	mg/kg	-	<0.0010	<0.0010
Dibromochloromethane	mg/kg	-	<0.0010	<0.0010
Chlorobenzene	mg/kg	130	<0.0010	<0.0010
Styrene	mg/kg	6200	<0.0010	<0.0010
Tribromomethane	mg/kg	1400	<0.0010	<0.0010
Bromobenzene	mg/kg	210	<0.0010	<0.0010
2-Chlorotoluene	mg/kg	-	<0.0010	<0.0010
4-Chlorotoluene	mg/kg	-	<0.0010	<0.0010
Tert-Butylbenzene	mg/kg	-	<0.0010	<0.0010
Sec-Butylbenzene	mg/kg	-	<0.0010	<0.0010
4-Isopropyltoluene	mg/kg	-	<0.0010	<0.0010
n-Butylbenzene	mg/kg	-	<0.0010	<0.0010
1,1,1,2-Tetrachloroethane	mg/kg	250	<0.0010	<0.0010
1,1,1-Trichloroethane	mg/kg	1300	<0.0010	<0.0010
1,1,2,2-Tetrachloroethane	mg/kg	550	<0.0010	<0.0010
1,1,2-Trichloroethane	mg/kg	180	<0.0010	<0.0010
1,1-Dichloroethane	mg/kg	430	<0.0010	<0.0010
1,1-Dichloroethene	mg/kg	43	<0.0010	<0.0010
1,1-Dichloropropene	mg/kg	-	<0.0010	<0.0010
1,2,3-Trichlorobenzene	mg/kg	250	<0.0030	<0.0040
1,2,3-Trichloropropane	mg/kg	-	<0.0010	<0.0010
1,2,4-Trichlorobenzene	mg/kg	530	<0.0030	<0.0040
1,2,4-Trimethylbenzene	mg/kg	94	<0.0010	<0.0010
1,2-Dibromo-3-Chloropropane	mg/kg	-	<0.0010	<0.0010
1,2-Dibromoethane	mg/kg	-	<0.0010	<0.0010
1,2-Dichlorobenzene	mg/kg	4800	<0.0010	<0.0010
1,2-Dichloroethane	mg/kg	0.97	<0.0010	<0.0010
1,2-Dichloropropane	mg/kg	5.5	<0.0010	<0.0010
1,3,5-Trimethylbenzene	mg/kg	-	<0.0010	<0.0010
1,3-Dichlorobenzene	mg/kg	73	<0.0010	<0.0010
1,3-Dichloropropane	mg/kg	-	<0.0010	<0.0010
1,4-Dichlorobenzene	mg/kg	10000	<0.0010	<0.0010
2,2-Dichloropropane	mg/kg	-	<0.0020	<0.0020
Aliphatics >C10-12	mg/kg	23000	<4.4200	<4.5700
Aliphatics >C12-16	mg/kg	82000	8.03000	<4.5700
Aliphatics >C16-21	mg/kg	-	12.10000	<4.5700
Aliphatics >C21-35	mg/kg	-	33.60000	33.00000
Aliphatics >C35-44	mg/kg	1700000	<6.6300	<6.8500
Aliphatics >C5-6	mg/kg	5900	<0.2210	<0.2280
Aliphatics >C6-8	mg/kg	17000	<0.2210	<0.2280
Aliphatics >C8-10	mg/kg	4800	<0.2210	<0.2280
Aliphatics >C8-40	mg/kg	-	56.20000	48.20000
ANC	mol/kg	-		
Aromatics >C10-12	mg/kg	28000	<4.4200	<4.5700
Aromatics >C12-16	mg/kg	37000	13.20000	<4.5700
Aromatics >C16-21	mg/kg	28000	49.70000	<4.5700
Aromatics >C21-35	mg/kg	28000	182.00000	<11.4000
Aromatics >C35-44	mg/kg	28000	35.40000	<6.8500
Aromatics >C5-7	mg/kg	46000	<0.0110	<0.0110
Aromatics >C7-8	mg/kg	110000	<0.0110	<0.0110
Aromatics >C8-10	mg/kg	8100	<0.0440	<0.0460
Aromatics >C8-40	mg/kg	-	277.00000	<22.8000
Benzo (g,h,i) perylene	mg/kg	4000	0.45000	<0.0900
Bromodichloromethane	mg/kg	3.5	<0.0010	<0.0010

		Borehole ID	TP34	TP36
		Depth (m bgl)	1.5	0.8
		Strata	Made Ground	Natural (Cohesive Till)
Determinant Name	Units	Commercial 2.5% SOM		
Bromomethane	mg/kg	-	<0.0010	<0.0010
Chloroethane	mg/kg	1200	<0.0020	<0.0020
Chloroethene	mg/kg	0.077	<0.0010	<0.0010
Chloromethane	mg/kg	1.1	<0.0030	<0.0040
Chromium	mg/kg	-	52.20000	38.20000
cis-1,2-Dichloroethene	mg/kg	23	<0.0050	<0.0060
cis-1,3-Dichloropropene	mg/kg	-	<0.0010	<0.0010
Coronene	mg/kg	-		
Dibenz-a-h-anthracene	mg/kg	3.6	<0.0900	<0.0900
Dichlorodifluoromethane	mg/kg	-	<0.0010	<0.0010
GRO >C5-10	mg/kg	-	<0.2210	<0.2280
Hexachlorobutadiene (HCBD)	mg/kg	66	<0.0020	<0.0020
Indeno(1,2,3-cd)pyrene	mg/kg	510	0.13000	<0.0900
Isopropylbenzene	mg/kg	3100	<0.0010	<0.0010
Loss on ignition	% m/m	-		
m,p xylenes	mg/kg	-	0.03200	<0.0050
m,p,o Xylenes	mg/kg	-		
Min. Oil >C10-40	mg/kg	-		
Napthalene	mg/kg	460	0.14000	<0.0060
n-propylbenzene	mg/kg	9200	<0.0010	<0.0010
Organic matter	% m/m	-	12.40000	1.84000
PAH 16 Total	mg/kg	-	4.88000	<1.4600
PAH 17 Total*	mg/kg	-		
PCB, Total Of 7 Congeners	mg/kg	-		
PCB-101 2,2',4,5,5' - Pentachlorobiphenyl	mg/kg	-		
PCB-118 2,3',4,4',5 - Pentachlorobiphenyl	mg/kg	-		
PCB-138 2,2',3,4,4',5' - Hexachlorobiphenyl	mg/kg	-		
PCB-153 2,2',4,4',5,5' - Hexachlorobiphenyl	mg/kg	-		
PCB-180 2,2',3,4,4',5,5' - Heptachlorobiphenyl	mg/kg	-		
PCB-28 2,4,4' - Trichlororbiphenyl	mg/kg	-		
PCB-52 2,2',5,5' - Tetrachlorobiphenyl	mg/kg	-		
Phenol Index	mg/kg	-	<0.6000	<0.6000
Sulphate as SO4	mg/kg	-	3190.00000	125.00000
Tetrachloroethene	mg/kg	42	<0.0030	<0.0040
Tetrachloromethane (Carbon Tetra Chloride)	mg/kg	6.3	<0.0010	<0.0010
Total BTEX	mg/kg	-		
Total Organic Carbon	% m/m	-	7.21000	1.07000
trans-1,2-Dichloroethene	mg/kg	37	<0.0010	<0.0010
trans-1,3-Dichloropropene	mg/kg	-	<0.0010	<0.0010
Trichlorofluoromethane	mg/kg	-	<0.0010	<0.0010
Asbestos (Presence of)	N/A	-	NAD	NAD
Asbestos Quantification (Total %)	%	-		

G.2 Soils Samples Without Accreditation

Table G.1: Laboratory Samples Without Accreditation

Determinant	Samples Affected	Reason Given by Laboratory
BH12-0-ES-3.00	Acenaphthylene	2
BH16-0-ES-6.52	VOC suite, >C6-C8 Aliphatic, C5-C6 Aliphatic, >C8-C10 Aliphatic	1
	>C12-C16 (Aromatic), C5-C6 Aliphatic, >C21-C35 (Aliphatic), >C10-C12 (Aromatic), >C21-C35 (Aromatic)	2
	Total GRO C5-C11, 1,3-Dichlorobenzene	3
	VOC suite, >C6-C8 Aliphatic, C5-C6 Aliphatic, >C8-C10 Aliphatic	1
TP11-0-ES-0.20	C5-C6 Aliphatic, Benzo[a]anthracene, 1,3-Dichlorobenzene	2
	Total GRO C5-C10	3
	Total Organic Carbon, Soil Organic Matter	4
	VOC suite, Ethylbenzene, m/p-Xylene; o-Xylene, >C8-C10 Aliphatic, >C8-C10 Aromatic	1
TP21-0-ES-1.00	Benzo[a]pyrene, >C12-C16 (Aromatic), C5-C6 Aliphatic	2
TP22- at 1.00m bgl,	VOC suite	1
TP27 at 3.80m bgl	VOC suite	1
	Phenanthrene, Toluene, >C6-C8 Aliphatic, >C7-C8 Aromatic	2
TP28-0-ES-0.50	Fluorene	2
TP34 at 1.50m bgl	VOC suite	1
	Acenaphthene	2

Note: Key to Reason Given By Laboratory:

1. Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data
2. The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
3. Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
4. Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only

G.3 Groundwater screening

Groundwater Laboratory Analysis

				Borehole ID	BH02	BH05	BH06	BH08
				Sampling Date	16/09/2024	16/09/2024	16/09/2024	16/09/2024
		SCOTLAND Fresh Water EQS (SEPA WAT-SG-53, v6.1 Feb 2018)	SCOTLAND RPV (SEPA WAT-PS- 10, v3 Aug 2014)	SCOTLAND Drinking Water Standards (DWS) The Public Water Supplies (Scotland) Regulations 2014				
Determinant Name	Units							
Arsenic	mg/l	0.05	0.01	0.01	0.00200	<0.0010	<0.0010	0.00600
Boron	mg/l	2	1	1	0.11000	0.09000	0.26000	0.23000
Cadmium	mg/l	0.00025	0.005	0.005	0.00003	<0.0000	0.00013	0.00271
Copper	mg/l	0.001	-	2	<0.0010	<0.0010	<0.0010	0.00400
Lead	mg/l	0.0012	0.01	0.01	<0.0002	<0.0002	<0.0002	0.00470
Mercury	mg/l	0.00007	0.001	0.001	<0.0000	<0.0000	<0.0000	<0.0000
Nickel	mg/l	0.004	0.02	0.02	0.07900	0.00900	0.01600	2.51000
Zinc	mg/l	0.0109	-	5	0.03500	0.00900	0.00300	0.71900
pH	pH units	-	-	-	6.00000	6.90000	6.60000	3.60000
Cyanide	mg/l	0.001	0.05	0.05	<0.0200	<0.0200	<0.0200	<0.0200
Benzene	mg/l	0.01	0.001	0.001	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	mg/l	0.074	0.7	-	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	mg/l	0.02	0.3	-	<0.0050	<0.0050	<0.0050	<0.0050
O-Xylene	mg/l	0.03	0.05	-	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthylene	mg/l	-	-	-	<0.0000	<0.0000	<0.0001	<0.0000
Acenaphthene	mg/l	-	-	-	<0.0000	<0.0000	<0.0001	<0.0000
Fluorene	mg/l	-	-	-	<0.0000	<0.0000	<0.0001	<0.0000
Phenanthrene	mg/l	-	-	-	<0.0000	<0.0000	<0.0001	0.00001
Anthracene	mg/l	0.0001	-	-	<0.0000	<0.0000	<0.0001	<0.0000
Fluoranthene	mg/l	0.0000063	-	-	<0.0000	<0.0000	<0.0001	<0.0000
Pyrene	mg/l	-	-	-	<0.0000	<0.0000	<0.0001	<0.0000
Benzo(a)anthracene	mg/l	-	-	-	<0.0000	<0.0000	<0.0001	<0.0000
Chrysene	mg/l	-	-	-	<0.0000	<0.0000	<0.0001	<0.0000
Benzo(b)fluoranthene	mg/l	-	0.0001	0.0001	<0.0000	<0.0000	<0.0001	<0.0000
Benzo(k)fluoranthene	mg/l	-	0.0001	0.0001	<0.0000	<0.0000	<0.0001	<0.0000
Benzo(a)pyrene	mg/l	0.00000017	0.00001	0.00001	<0.0000	<0.0000	<0.0001	<0.0000
Phenol	mg/l	0.0077	-	-	<0.0005	<0.0005	<0.0005	<0.0005
Aliphatics >C10-12	mg/l	-	-	0.01	<0.0100	<0.0100	<0.1000	<0.0100
Aliphatics >C12-16	mg/l	-	-	0.01	<0.0100	<0.0100	<0.1000	<0.0100
Aliphatics >C16-21	mg/l	-	-	0.01	<0.0100	<0.0100	<0.1000	<0.0100
Aliphatics >C21-35	mg/l	-	-	0.01	<0.0100	<0.0100	<0.1000	<0.0100
Aliphatics >C35-44	mg/l	-	-	-	<0.0100	<0.0100	<0.1000	<0.0100
Aliphatics >C5-6	mg/l	-	-	0.01	<0.1000	<0.1000	<0.1000	<0.1000
Aliphatics >C6-8	mg/l	-	0.001	0.01	<0.1000	<0.1000	<0.1000	<0.1000
Aliphatics >C8-10	mg/l	-	-	0.01	<0.1000	<0.1000	<0.1000	<0.1000
Aliphatics >C8-40	mg/l	-	-	-	<0.0100	<0.0100	<0.1000	0.01000
Ammoniacal Nitrogen as NH4	mg/l	-	-	-	1.03000	0.08000	0.26000	0.26000
Aromatics >C10-12	mg/l	-	-	0.01	<0.0100	<0.0100	<0.1000	<0.0100
Aromatics >C12-16	mg/l	-	-	0.01	<0.0100	<0.0100	<0.1000	<0.0100
Aromatics >C16-21	mg/l	-	-	0.01	<0.0100	<0.0100	<0.1000	<0.0100
Aromatics >C21-35	mg/l	-	-	0.01	<0.0100	<0.0100	<0.1000	<0.0100
Aromatics >C35-44	mg/l	-	-	0.01	<0.0100	<0.0100	<0.1000	<0.0100
Aromatics >C5-7	mg/l	-	0.7	0.01	<0.0050	<0.0050	<0.0050	<0.0050
Aromatics >C7-8	mg/l	-	-	0.01	<0.0050	<0.0050	<0.0050	<0.0050
Aromatics >C8-10	mg/l	-	0.3	0.01	<0.0200	<0.0200	<0.0200	<0.0200
Aromatics >C8-40	mg/l	-	-	-	<0.0100	<0.0100	<0.1000	0.01000
Benzo (g,h,i) perylene	mg/l	-	0.0001	0.0001	<0.0000	<0.0000	<0.0001	<0.0000
Chromium	mg/l	-	0.05	0.05	<0.0010	<0.0010	<0.0010	0.00300
Dibenz-a-h-anthracene	mg/l	-	-	-	<0.0000	<0.0000	<0.0001	<0.0000
GRO >C5-10	mg/l	-	-	-	<0.1000	<0.1000	<0.1000	<0.1000
Hardness,Total as CaCO3	mg/l	-	-	-	798.00000	344.00000	1150.00000	1360.00000
Indeno(1,2,3-cd)pyrene	mg/l	-	0.0001	0.0001	<0.0000	<0.0000	<0.0001	<0.0000
m,p xylenes	mg/l	-	-	-	<0.0100	<0.0100	<0.0100	<0.0100
Methylphenols*	mg/l	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005
Napthalene	mg/l	0.002	-	-	<0.0000	<0.0000	<0.0001	<0.0000
Nitrate as NO3	mg/l	-	-	-	<0.9000	<0.9000	<0.9000	<0.9000
Nitrite as NO2	mg/l	-	-	-	<0.0400	<0.0400	<0.0400	<0.0400
PAH 16 Total	mg/l	-	-	-	<0.0002	<0.0002	<0.0016	0.00016
PCB-101 2,2',4,5,5' - Pentachlorobiphenyl	mg/l	-	-	-	<0.0000	<0.0000	<0.0000	<0.0000
PCB-118 2,3',4,4',5 - Pentachlorobiphenyl	mg/l	-	-	-	<0.0000	<0.0000	<0.0000	<0.0000
PCB-138 2,2',3,4,4',5' - Hexachlorobiphenyl	mg/l	-	-	-	<0.0000	<0.0000	<0.0000	<0.0000
PCB-153 2,2',4,4',5,5' - Hexachlorobiphenyl	mg/l	-	-	-	<0.0000	<0.0000	<0.0000	<0.0000
PCB-180 2,2',3,4,4',5,5' - Heptachlorobiphenyl	mg/l	-	-	-	<0.0000	<0.0000	<0.0000	<0.0000
PCB-28 2,4,4' - Trichlororbiphenyl	mg/l	-	-	-	<0.0000	<0.0000	<0.0000	<0.0000
PCB-52 2,2',5,5' - Tetrachlorobiphenyl	mg/l	-	-	-	<0.0000	<0.0000	<0.0000	<0.0000
Phenols, Total*	mg/l	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020
Sulphate as SO4	mg/l	400	-	250	817.00000	142.00000	926.00000	2460.00000
Trimethylphenol	mg/l	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005
Xylenols	mg/l	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005

G.4 Ground gas monitoring sheets

Summary of Gas Monitoring: EGL4																				
				Flow (l/hr)		CH ₄ (%vol)		CO ₂ (%vol)		Qhg (%vol)		Characteristic Situation based on Q hg	O ₂ (%vol)	H ₂ S (ppm)	CO (ppm)					
BH ID	Response Zone (m bgl)	Strata of Response Zone	Date of Monitoring	Peak	Steady State	Peak	Steady State	Peak	Steady State	Q _{hg} CH ₄	Q _{hg} CO ₂		Minimum	peak	peak	Atmospheric Pressure (mB)	Depth to Base (mbgl)	Water Level (mbgl)	Flooded (Y/N)	Gas and Groundwater Monitoring Remarks
BH02	1 - 5	Made Ground and Dolerite	11/09/2024	0	0.1	<0.1	<0.1	<0.1	<0.1			CS1	19.7	0.0	0.0	993		1.78	N	Rising
			16/09/2024	0	0.1	<0.1	<0.1	2.3	2.3		0.0023	CS1	16	0.0	0.0	1020		1.83	N	Rising
			27/09/2024	0	0.1	<0.1	<0.1	0.6	0.5		0.0006	CS1	19.6	4.0	0.0	996		1.80	N	Rising
			04/10/2024	0	0.1	<0.1	<0.1	9.8	9.8		0.0098	CS2	0	0.0	0.0	1005		1.86	N	Falling
			10/10/2024	0	0.1	<0.1	<0.1	0.8	0.8		0.0008	CS1	18.7	0.0	0.0	1000		2.89	N	Rising
			18/10/2024	0.4	0.4	<0.1	<0.1	13.4	13.4		0.0536	CS2	1.9	0.0	0.0	994		2.84	N	Falling
BH05	1 - 11	Made Ground, Glacial Till, Mudstone and Sandstone	11/09/2024	0	0.1	<0.1	<0.1	0.7	0.6		0.0007	CS1	18.7	0.0	0.0	993		2.62	N	Rising
			16/09/2024	0	0.1	<0.1	<0.1	0.4	0.3		0.0004	CS1	19.7	0.0	0.0	1023		2.67	N	Rising
			27/09/2024	0	0.1	<0.1	<0.1	<0.1	<0.1			CS1	20	0.0	0.0	994		2.70	N	Rising
			04/10/2024	0	0.1	<0.1	<0.1	8.8	8.8		0.0088	CS2	6.1	0.0	0.0	1004		2.81	N	Falling
			10/10/2024	0	0.1	<0.1	<0.1	<0.1	<0.1			CS1	20.1	0.0	0.0	998		2.87	N	Rising
			18/10/2024	0	0.1	<0.1	<0.1	5.7	5.7		0.0057	CS2	10.3	0.0	0.0	993		2.91	N	Falling
BH06	1 - 6.5	Made Ground and Glacial Till	11/09/2024	0	0.1	<0.1	<0.1	1.7	1.7		0.0017	CS1	17.4	0.0	0.0	992		1.89	N	Rising
			16/09/2024	0	0.1	<0.1	<0.1	3.7	3.7		0.0037	CS1	12.8	0.0	0.0	1018		2.68	N	Rising
			27/09/2024	0	0.1	<0.1	<0.1	4.7	4.7		0.0047	CS1	10.9	4.0	0.0	994		2.37	N	Rising
			04/10/2024	0	0.1	<0.1	<0.1	2.8	2.8		0.0028	CS1	15.4	0.0	0.0	1004		2.71	N	Falling
			10/10/2024	0	0.1	<0.1	<0.1	4.9	4.9		0.0049	CS1	13.7	0.0	0.0	995		2.65	N	Rising
			18/10/2024	0	0.1	<0.1	<0.1	4.2	4.2		0.0042	CS1	10.8	0.0	0.0	992		2.75	N	Falling
BH08	1 - 5	Made Ground, Glacial Till and Mudstone	11/09/2024	0	0.1	<0.1	<0.1	4.4	4.4		0.0044	CS1	18.2	0.0	0.0	991		2.48	N	Rising
			16/09/2024	0	0.1	<0.1	<0.1	1.9	1.9		0.0019	CS1	19.4	0.0	0.0	1017		2.51	N	Rising
			27/09/2024	0	0.1	<0.1	<0.1	2.6	2.6		0.0026	CS1	19	0.0	0.0	995		2.52	N	Rising
			04/10/2024	0	0.1	<0.1	<0.1	13	13		0.0130	CS2	0	0.0	0.0	1005		2.94	N	Falling
			10/10/2024	0	0.1	<0.1	<0.1	3.8	3.8		0.0038	CS1	16.9	0.0	0.0	997		2.69	N	Rising
			18/10/2024	2.7	2.7	<0.1	<0.1	8.1	8.1		0.2187	CS2	8	0.0	0.0	993		2.67	N	Falling
BH12	1 - 15.9	Glacial Till and Sandstone	11/09/2024	-15.5	-15.4	<0.1	<0.1	0.3	<0.1		-0.0462	CS1	16.3	0.0	0.0	991		Dry	N	Rising
			16/09/2024	-17.1	-17.1	<0.1	<0.1	0.2	<0.1		-0.0342	CS1	18.3	0.0	0.0	1021		Dry	N	Rising
			27/09/2024	-25	-25	<0.1	<0.1	<0.1	<0.1			CS1	20.2	0.0	17.0	991		15.37	N	Rising
			04/10/2024	14.8	12.9	<0.1	<0.1	1.8	1.8		0.2322	CS2	19.2	0.0	0.0	1002		15.77	N	Falling
			10/10/2024	0	0.1	<0.1	<0.1	0.1	<0.1		0.0001	-	19.7	0.0	0.0	996		0.00	Flooded	Rising
			18/10/2024	-0.4	-0.4	<0.1	<0.1	<0.1	<0.1			-	20.5	0.0	0.0	993		0.00	Flooded	Falling
BH13	1 - 8.9	Made Ground and Sandstone	11/09/2024	-8.1	-7.7	<0.1	<0.1	0.1	<0.1		-0.0077	CS1	19.4	0.0	0.0	991		Dry	N	Rising
			16/09/2024	0	0.1	<0.1	<0.1	<0.1	<0.1			CS1	19.2	0.0	0.0	1019		Dry	N	Rising
			27/09/2024	-20.7	-20.4	<0.1	<0.1	<0.1	<0.1			CS1	19.8	0.0	0.0	994		8.64	N	Rising
			04/10/2024	7.8	7.8	<0.1	<0.1	11.1	11.1		0.8658	CS3	2.7	0.0	0.0	1004		8.73	N	Falling
			10/10/2024	0	0.1	<0.1	<0.1	0.9	0.9		0.0009	CS1	19.8	0.0	0.0	995		8.69	N	Rising
			18/10/2024	4	4.4	<0.1	<0.1	8.2	8.2		0.3608	CS2	6.6	0.0	0.0	992		8.69	N	Falling
BH14	1 - 10	Made Ground	11/09/2024	-0.9	-0.4	<0.1	<0.1	<0.1	<0.1			CS1	20	0.0	0.0	993		8.11	N	Rising
			16/09/2024	0	0.1	<0.1	<0.1	0.2	0.2		0.0002	CS1	20.7	0.0	0.0	1017		8.91	N	Rising
			27/09/2024	-1.5	-1.5	<0.1	<0.1	0.1	0.1		-0.0015	CS1	19.7	0.0	17.0	994		8.10	N	Rising
			04/10/2024	0	0.1	<0.1	<0.1	9.5	9.5		0.0095	CS2	8.8	0.0	0.0	1005		8.87	N	Falling
			10/10/2024	0	0.1	<0.1	<0.1	0.1	0.1		0.0001	CS1	19.8	0.0	0.0	997		8.75	N	Rising
			18/10/2024	0	0.1	<0.1	<0.1	5.8	5.8		0.0058	CS2	12	0.0	0.0	992		8.93	N	Falling
BH16	1 - 10	Made Ground	11/09/2024	-4.2	-2.4	<0.1	<0.1	5.6	5.6		-0.1344	CS2	17.2	0.0	0.0	992		Dry	N	Rising
			16/09/2024	0	0.1	<0.1	<0.1	4.7	4.7		0.0047	CS2	16.4	0.0	11.0	1019		Dry	N	Rising
			27/09/2024	-4.3	-4.3	<0.1	<0.1	20.1	20.1		-0.8643	CS3	19.6	0.0	0.0	994		Dry	N	Rising
			04/10/2024	1.2	1	<0.1	<0.1	18.8	18.8		0.1880	-	0	0.0	0.0	1005		0.00	Flooded	Falling
			10/10/2024	0	0.1	<0.1	<0.1	4.4	4.4		0.0044	-	17.1	0.0	0.0	997		0.00	Flooded	Rising
BH17	9 - 15	Made Ground	11/09/2024	0	0.1	<0.1	<0.1	15.7	15.7		0.0157	CS2	1.3	0.0	0.0	992		Dry	N	Rising
			16/09/2024	0	0.1	<0.1	<0.1	14.6	14.6		0.0146	CS2	3.5	0.0	0.0	1019		Dry	N	Rising
			27/09/2024	-0.4	0.1	<0.1	<0.1	3.8	3.8		0.0038	CS1	16.1	0.0	0.0	994		15.12	N	Rising
			04/10/2024	0	0.1	<0.1	<0.1	16.7	16		0.0167	CS1	0	0.0	0.0	1003		15.28	N	Falling
			10/10/2024	0	0.1	<0.1	<0.1	0.1	<0.1		0.0001	CS1	19.4	0.0	0.0	996		15.61	N	Rising
			18/10/2024	0	0.1	<0.1	<0.1	16.3	16.3		0.0163	CS2	0	0.0	16.2	992		15.19	N	Falling
Max (unflooded boreholes)				14.80	12.90	0.00	0.00	20.10	20.10	0.0000	0.8658	CS2	20.7000	4.0000	17.0000	1023.0000				
Min (unflooded borehole)				-25.00	-25.00	0.00	0.00	0.10	0.10	0.0000	-0.8643	CS2	0.0000	0.0000	0.0000	991.0000				

Worst Case Check			Worst Case	
Max Flow (l/h)	Max CH4 (%vol)	Max CO ₂ (%vol)	CH4 Qhg (%vol)	CO2 Qhg (%vol)
12.90	0.00	20.10	0	2.5929
		Charateristic Situation =	CS1	CS3

Notes

Worst Case Check calculated by multiplying the maximum recorded flow in any standpipe in that strata with the maximum gas concentration in any other standpipe in that strata, but discounting any peak instantaneous flows and negative flows judged to be unrepresentative of a possible worst case.

Where flow results have been reporteded a zero, these have been updated to 0.1 (flow detection limit)

If CO₂ >5% or CH₄ >1% concentration consider increase to **CS2**

Information regarding falling atmospheric condition has been taken from historical weather information provided on Weather Spark, it should be noted that the historical pressures were measured at Edinburgh Airport approximately 30km from the site

Where recorded values are <0.1 concentration for carbon dioxide and methane, the reported value from IGNE was 0, but has been taken as the LOD.

Initial review of the monitoring data raised some queries which have been passed to IGNE for comment, a response was awaited at the time of writing. In the absence of confirmation of the validity of the results, the results provided have been used in this assessment. It is recommended that this is reviewed following confirmation and/ or additional monitoring.

Where cells are highlighted orange, the date has been changed from the factual report date as it did not align with monitoring visit dates.

H. HazWasteOnline™ Report

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



LPY48-AFSLR-NAVLF

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

Report is invalid if pages are removed.

Job name

EGL4 Converter Station

Description/Comments

Project

EGL4 Converter Station

Site

EGL4 Converter Station

Classified by

Name: Adam Packman
Date: 20 Jan 2025 11:34 GMT
Telephone: 07595514129
Company: Mott MacDonald Limited
2 Callaghan Square, Cardiff
Cardiff
CF10 5AZ

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification:

CERTIFIED

Course
Hazardous Waste Classification

Date
08 Jun 2023

Next 3 year Refresher due by Jun 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

Land southwest of B9097, KY5 0HQ, Scotland, United Kingdom

Post Code KY5 0HQ

SIC for the process giving rise to the waste

42220 Construction of utility projects for electricity and telecommunications

Description of industry/producer giving rise to the waste

Construction of a new HVDC Converter Station

Description of the specific process, sub-process and/or activity that created the waste

Waste created during the reprofiling of the site and construction of the foundations and other below ground structures.

Description of the waste

Natural material comprising orange brown and grey slightly sandy clay with cobbles of sandstone, mudstone and siltstone
Made Ground comprising brown slightly gravelly sandy clay with cobbles. Gravels and cobbles are sandstone, mudstone and coal

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	BH12	3.0	Hazardous	HP 14	3
2	BH16	6.5	Non Hazardous		7
3	TP05	0.8	Non Hazardous		11
4	TP06	0.7	Non Hazardous		15
5	TP09	0.5	Non Hazardous		19
6	TP10	0.3	Non Hazardous		23
7	TP11	0.2	Non Hazardous		27
8	TP12	0.7	Non Hazardous		31
9	TP13	0.6	Non Hazardous		35
10	TP15	1.0	Non Hazardous		39
11	TP21	1.0	Non Hazardous		43
12	TP22	1.0	Non Hazardous		47
13	TP23	3.8	Non Hazardous		51
14	TP24	2.8	Non Hazardous		55
15	TP26	1.0	Non Hazardous		59
16	TP27	3.8	Non Hazardous		63
17	TP28	0.5	Non Hazardous		67
18	TP31	0.2	Non Hazardous		71
19	TP34	1.5	Hazardous	HP 14	75
20	TP36	0.8	Non Hazardous		79

Related documents

#	Name	Description
1	MM standard waste stream for soils	waste stream template used to create this Job

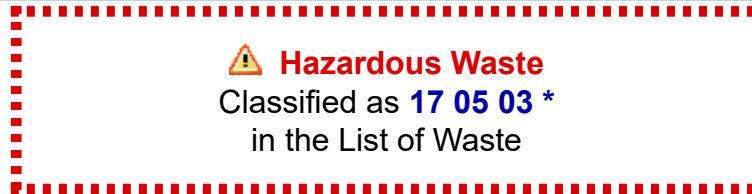
Report

Created by: Adam Packman

Created date: 20 Jan 2025 11:34 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	83
Appendix B: Rationale for selection of metal species	86
Appendix C: Version	86

Classification of sample: BH12



Sample details

Sample name:	LoW Code:
BH12	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
3.0 m	Entry:
Moisture content:	17 05 03 * (Soil and stones containing hazardous substances)
12%	
(no correction)	

Hazard properties

HP 14: Ecotoxic "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

Aquatic Chronic 1; H410 "Very toxic to aquatic life with long lasting effects."

Because of determinands:

dicopper oxide; copper (I) oxide (compound conc.: 0.167%)
zinc sulphate (compound conc.: 0.225%)

Determinands

Moisture content: 12% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				5.6 mg/kg	1.32	7.394 mg/kg	0.000739 %			
	033-003-00-0	215-481-4	1327-53-3								
2	boron { diboron trioxide }				<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
3	cadmium { cadmium oxide }				0.6 mg/kg	1.142	0.685 mg/kg	0.0000685 %			
	048-002-00-0	215-146-2	1306-19-0								
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				52.4 mg/kg	1.462	76.586 mg/kg	0.00766 %			
		215-160-9	1308-38-9								
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
6	copper { dicopper oxide; copper (I) oxide }				1479 mg/kg	1.126	1665.189 mg/kg	0.167 %			
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	109.3 mg/kg		109.3 mg/kg	0.0109 %			
	082-001-00-6										
8	mercury { mercury dichloride }				<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
9	nickel { dinickel hexacyanoferrate }				44.6 mg/kg	2.806	125.128 mg/kg	0.0125 %			
	028-037-00-8	238-946-3	14874-78-3								
10	zinc { zinc sulphate }				912.8 mg/kg	2.469	2253.974 mg/kg	0.225 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
11	pH				7 pH		7 pH	7pH			

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
12	TPH (C6 to C40) petroleum group				<45.4 mg/kg		<45.4 mg/kg	<0.00454 %		<LOD
			TPH							
13	confirm TPH has NOT arisen from diesel or petrol				☒					
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
15	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
16	ethylbenzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
17	xylene				<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
	601-022-00-9	202-422-2 [1]	95-47-6 [1]							
		203-396-5 [2]	106-42-3 [2]							
		203-576-3 [3]	108-38-3 [3]							
		215-535-7 [4]	1330-20-7 [4]							
18	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
19	naphthalene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
20	acenaphthylene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
		205-917-1	208-96-8							
21	acenaphthene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
		201-469-6	83-32-9							
22	fluorene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
		201-695-5	86-73-7							
23	phenanthrene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
		201-581-5	85-01-8							
24	anthracene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
		204-371-1	120-12-7							
25	fluoranthene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
		205-912-4	206-44-0							
26	pyrene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
		204-927-3	129-00-0							
27	benzo[a]anthracene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
28	chrysene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
29	benzo[b]fluoranthene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
30	benzo[k]fluoranthene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
31	benzo[a]pyrene; benzo[def]chrysene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
32	indeno[123-cd]pyrene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
		205-893-2	193-39-5							
33	dibenz[a,h]anthracene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
34	benzo[ghi]perylene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
		205-883-8	191-24-2							
35	phenol				<0.6 mg/kg		<0.6 mg/kg	<0.00006 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
36	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3							
37	2,2-dichloropropane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		209-832-0	594-20-7							
38	bromochloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		200-826-3	74-97-5							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
39	chloroform; trichloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-006-00-4	200-663-8	67-66-3							
40	1,1,1-trichloroethane; methyl chloroform				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-013-00-2	200-756-3	71-55-6							
41	1,1-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-031-00-0	209-253-3	563-58-6							
42	carbon tetrachloride; tetrachloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-008-00-5	200-262-8	56-23-5							
43	1,2-dichloroethane; ethylene dichloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-012-00-7	203-458-1	107-06-2							
44	trichloroethylene; trichloroethene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-027-00-9	201-167-4	79-01-6							
45	1,2-dichloropropane; propylene dichloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-020-00-0	201-152-2	78-87-5							
46	dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-003-00-8	200-824-2	74-95-3							
47	bromodichloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		200-856-7	75-27-4							
48	trans-1,3-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		431-460-4	10061-02-6							
49	1,1,2-trichloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-014-00-8	201-166-9	79-00-5							
50	1,3-dichloropropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		205-531-3	142-28-9							
51	dibromochloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		204-704-0	124-48-1							
52	1,2-dibromoethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-010-00-6	203-444-5	106-93-4							
53	chlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-033-00-1	203-628-5	108-90-7							
54	1,1,1,2-tetrachloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		211-135-1	630-20-6							
55	styrene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-026-00-0	202-851-5	100-42-5							
56	bromoform; tribromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-007-00-X	200-854-6	75-25-2							
57	bromobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-060-00-9	203-623-8	108-86-1							
58	1,2,3-trichloropropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-062-00-X	202-486-1	96-18-4							
59	2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
60	mesitylene; 1,3,5-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-025-00-5	203-604-4	108-67-8							
61	tert-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-632-4	98-06-6							
62	1,2,4-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-043-00-3	202-436-9	95-63-6							
63	sec-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		205-227-0	135-98-8							
64	1-isopropyl-4-methylbenzene; p-cymene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-094-00-1	202-796-7	99-87-6							
65	1,3-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-067-00-7	208-792-1	541-73-1							
66	1,4-dichlorobenzene; p-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-035-00-2	203-400-5	106-46-7							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
67	• n-butylbenzene	203-209-7	104-51-8		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
68	1,2-dichlorobenzene; o-dichlorobenzene	602-034-00-7	202-425-9	95-50-1	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
69	1,2-dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8	<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
70	1,2,4-trichlorobenzene	602-087-00-6	204-428-0	120-82-1	<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
71	• hexachlorobutadiene	201-765-5	87-68-3		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
72	• 1,2,3-trichlorobenzene	201-757-1	87-61-6		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
Total:								0.429 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH16

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
BH16	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
6.5 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
12.3%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 12.3% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				1 mg/kg	1.32	1.32	mg/kg	0.000132 %		
	033-003-00-0	215-481-4	1327-53-3								
2	boron { diboron trioxide }				3.1 mg/kg	3.22	9.982	mg/kg	0.000998 %		
	005-008-00-8	215-125-8	1303-86-2								
3	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0								
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				24.7 mg/kg	1.462	36.1	mg/kg	0.00361 %		
		215-160-9	1308-38-9								
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.1 mg/kg	1.923	<0.192	mg/kg	<0.0000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0								
6	copper { dicopper oxide; copper (I) oxide }				44.7 mg/kg	1.126	50.327	mg/kg	0.00503 %		
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	6.1 mg/kg		6.1	mg/kg	0.00061 %		
	082-001-00-6										
8	mercury { mercury dichloride }				<0.5 mg/kg	1.353	<0.677	mg/kg	<0.0000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
9	nickel { dinickel hexacyanoferrate }				29.2 mg/kg	2.806	81.922	mg/kg	0.00819 %		
	028-037-00-8	238-946-3	14874-78-3								
10	zinc { zinc sulphate }				<16 mg/kg	2.469	<39.509	mg/kg	<0.00395 %		<LOD
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
11	pH				6.9 pH		6.9	pH	6.9 pH		
12	TPH (C6 to C40) petroleum group				125 mg/kg		125	mg/kg	0.0125 %		
13	confirm TPH has NOT arisen from diesel or petrol				☒						
14	benzene				0.014 mg/kg		0.014	mg/kg	0.0000014 %		
	601-020-00-8	200-753-7	71-43-2								
15	toluene				0.007 mg/kg		0.007	mg/kg	0.0000007 %		
	601-021-00-3	203-625-9	108-88-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
16	ethylbenzene 601-023-00-4	202-849-4	100-41-4		0.004 mg/kg		0.004 mg/kg		0.0000004 %		
17	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		0.01 mg/kg		0.01 mg/kg		0.000001 %		
18	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane 603-181-00-X	216-653-1	1634-04-4		<0.001 mg/kg		<0.001 mg/kg		<0.0000001 %		<LOD
19	naphthalene 601-052-00-2	202-049-5	91-20-3		0.2 mg/kg		0.2 mg/kg		0.00002 %		
20	acenaphthylene 205-917-1	208-96-8			<0.09 mg/kg		<0.09 mg/kg		<0.000009 %		<LOD
21	acenaphthene 201-469-6	83-32-9			<0.09 mg/kg		<0.09 mg/kg		<0.000009 %		<LOD
22	fluorene 201-695-5	86-73-7			<0.09 mg/kg		<0.09 mg/kg		<0.000009 %		<LOD
23	phenanthrene 201-581-5	85-01-8			0.3 mg/kg		0.3 mg/kg		0.00003 %		
24	anthracene 204-371-1	120-12-7			0.1 mg/kg		0.1 mg/kg		0.00001 %		
25	fluoranthene 205-912-4	206-44-0			0.1 mg/kg		0.1 mg/kg		0.00001 %		
26	pyrene 204-927-3	129-00-0			0.2 mg/kg		0.2 mg/kg		0.00002 %		
27	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		0.1 mg/kg		0.1 mg/kg		0.00001 %		
28	chrysene 601-048-00-0	205-923-4	218-01-9		0.1 mg/kg		0.1 mg/kg		0.00001 %		
29	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.09 mg/kg		<0.09 mg/kg		<0.000009 %		<LOD
30	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		0.2 mg/kg		0.2 mg/kg		0.00002 %		
31	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		0.1 mg/kg		0.1 mg/kg		0.00001 %		
32	indeno[123-cd]pyrene 205-893-2	193-39-5			0.1 mg/kg		0.1 mg/kg		0.00001 %		
33	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.09 mg/kg		<0.09 mg/kg		<0.000009 %		<LOD
34	benzo[ghi]perylene 205-883-8	191-24-2			0.2 mg/kg		0.2 mg/kg		0.00002 %		
35	phenol 604-001-00-2	203-632-7	108-95-2		<0.6 mg/kg		<0.6 mg/kg		<0.00006 %		<LOD
36	1,1-dichloroethane and 1,2-dichloroethane (combined) 203-458-1, 200-863-5	107-06-2, 75-34-3			<0.001 mg/kg		<0.001 mg/kg		<0.0000001 %		<LOD
37	2,2-dichloropropane 209-832-0	594-20-7			<0.002 mg/kg		<0.002 mg/kg		<0.0000002 %		<LOD
38	bromochloromethane 200-826-3	74-97-5			<0.001 mg/kg		<0.001 mg/kg		<0.0000001 %		<LOD
39	chloroform; trichloromethane 602-006-00-4	200-663-8	67-66-3		0.002 mg/kg		0.002 mg/kg		0.0000002 %		
40	1,1,1-trichloroethane; methyl chloroform 602-013-00-2	200-756-3	71-55-6		<0.001 mg/kg		<0.001 mg/kg		<0.0000001 %		<LOD
41	1,1-dichloropropene 602-031-00-0	209-253-3	563-58-6		<0.001 mg/kg		<0.001 mg/kg		<0.0000001 %		<LOD
42	carbon tetrachloride; tetrachloromethane 602-008-00-5	200-262-8	56-23-5		<0.001 mg/kg		<0.001 mg/kg		<0.0000001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
43	1,2-dichloroethane; ethylene dichloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-012-00-7	203-458-1	107-06-2							
44	trichloroethylene; trichloroethene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-027-00-9	201-167-4	79-01-6							
45	1,2-dichloropropane; propylene dichloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-020-00-0	201-152-2	78-87-5							
46	dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-003-00-8	200-824-2	74-95-3							
47	bromodichloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		200-856-7	75-27-4							
48	trans-1,3-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		431-460-4	10061-02-6							
49	1,1,2-trichloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-014-00-8	201-166-9	79-00-5							
50	1,3-dichloropropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		205-531-3	142-28-9							
51	dibromochloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		204-704-0	124-48-1							
52	1,2-dibromoethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-010-00-6	203-444-5	106-93-4							
53	chlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-033-00-1	203-628-5	108-90-7							
54	1,1,1,2-tetrachloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		211-135-1	630-20-6							
55	styrene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-026-00-0	202-851-5	100-42-5							
56	bromoform; tribromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-007-00-X	200-854-6	75-25-2							
57	bromobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-060-00-9	203-623-8	108-86-1							
58	1,2,3-trichloropropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-062-00-X	202-486-1	96-18-4							
59	2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
60	mesitylene; 1,3,5-trimethylbenzene				0.002 mg/kg		0.002 mg/kg	0.0000002 %		
	601-025-00-5	203-604-4	108-67-8							
61	tert-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-632-4	98-06-6							
62	1,2,4-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-043-00-3	202-436-9	95-63-6							
63	sec-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		205-227-0	135-98-8							
64	1-isopropyl-4-methylbenzene; p-cymene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-094-00-1	202-796-7	99-87-6							
65	1,3-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-067-00-7	208-792-1	541-73-1							
66	1,4-dichlorobenzene; p-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-035-00-2	203-400-5	106-46-7							
67	n-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		203-209-7	104-51-8							
68	1,2-dichlorobenzene; o-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-034-00-7	202-425-9	95-50-1							
69	1,2-dibromo-3-chloropropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-021-00-6	202-479-3	96-12-8							
70	1,2,4-trichlorobenzene				0.005 mg/kg		0.005 mg/kg	0.0000005 %		
	602-087-00-6	204-428-0	120-82-1							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
71	hexachlorobutadiene	201-765-5	87-68-3		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
72	1,2,3-trichlorobenzene	201-757-1	87-61-6		0.007 mg/kg		0.007 mg/kg	0.0000007 %		
Total:								0.0354 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)

because: HP 3 Flammable (first indent) can be discounted as this is a solid waste without a free draining liquid phase. The waste does not display these hazardous properties.

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinands:

benzene (conc.: 1.4e-06%)
toluene (conc.: 7.0e-07%)
ethylbenzene (conc.: 4.0e-07%)

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinands:

TPH (C6 to C40) petroleum group (conc.: 0.0125%)
xylene (conc.: 1.0e-06%)
mesitylene; 1,3,5-trimethylbenzene (conc.: 2.0e-07%)

Classification of sample: TP05

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP05	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.8 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
12.5%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 12.5% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				5.7 mg/kg	1.32	7.526 mg/kg	0.000753 %			
	033-003-00-0	215-481-4	1327-53-3								
2	boron { diboron trioxide }				1 mg/kg	3.22	3.22 mg/kg	0.000322 %			
	005-008-00-8	215-125-8	1303-86-2								
3	cadmium { cadmium oxide }				0.2 mg/kg	1.142	0.228 mg/kg	0.0000228 %			
	048-002-00-0	215-146-2	1306-19-0								
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				36.6 mg/kg	1.462	53.493 mg/kg	0.00535 %			
		215-160-9	1308-38-9								
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.1 mg/kg	1.923	<0.192 mg/kg	<0.0000192 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
6	copper { dicopper oxide; copper (I) oxide }				25.3 mg/kg	1.126	28.485 mg/kg	0.00285 %			
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	13.5 mg/kg		13.5 mg/kg	0.00135 %			
	082-001-00-6										
8	mercury { mercury dichloride }				<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
9	nickel { dinickel hexacyanoferrate }				51.1 mg/kg	2.806	143.364 mg/kg	0.0143 %			
	028-037-00-8	238-946-3	14874-78-3								
10	zinc { zinc sulphate }				49.6 mg/kg	2.469	122.477 mg/kg	0.0122 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
11	pH				6.9 pH		6.9 pH	6.9 pH			
12	TPH (C6 to C40) petroleum group				55.3 mg/kg		55.3 mg/kg	0.00553 %			
13	confirm TPH has NOT arisen from diesel or petrol				☒						
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
15	toluene				<0.006 mg/kg		<0.006 mg/kg	<0.0000006 %			<LOD
	601-021-00-3	203-625-9	108-88-3								