

Report No A0054-10/1

FERRYBRIDGE MULTI-FUEL POWER STATION

FACTUAL REPORT ON GROUND INVESTIGATION

**TEXT, EXPLORATORY HOLE RECORDS,
INSTRUMENTATION AND MONITORING,
GEOTECHNICAL LABORATORY TEST RESULTS**

Carried out for:
Scottish and Southern Energy Generation Ltd

Engineer:
Ove Arup

February 2011



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Soil Mechanics part of Environmental Scientifics Group

**FERRYBRIDGE MULTI-FUEL POWER STATION
FACTUAL REPORT ON GROUND INVESTIGATION**

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GEOTECHNICAL LABORATORY TEST RESULTS**

Report No: A0054-10/1

Date: February 2011

Employer:

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Issue No	Date	Details
1	February 2011	Report as submitted

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REPORT STRUCTURE

VOLUME NO.	TITLE	REPORT NO.
1	TEXT, EXPLORATORY HOLE RECORDS, INSTRUMENTATION AND MONITORING, GEOTECHNICAL LABORATORY TEST RESULTS	A0054-10/1
2	GEOENVIRONMENTAL LABORATORY TEST RESULTS	A0054-10/2
3	GEOENVIRONMENTAL LABORATORY TEST RESULTS PHOTOGRAPHS AND DRAWINGS	A0054-10/3

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1 INTRODUCTION

During September 2010 Soil Mechanics (SM) were commissioned by Ove Arup (Arup), on behalf of Scottish and Southern Energy Generation Ltd (SSE), to carry out a ground investigation at Ferrybridge 'C' Power Station, West Yorkshire. The investigation was required to obtain geotechnical and geoenvironmental information for a proposed Multi-Fuel (combined heat and power) Facility, adaptation of existing rail sidings, temporary storage area, oil store and heavy stores and outage buildings.

The scope of the investigation, which was specified by Arup, comprised cable percussion and rotary drilled boreholes, trial pits, in situ testing and laboratory testing. The investigation was carried out in accordance with the contract specification and relevant standards (see References). The fieldwork was carried out between 14 September and 8 October 2010.

This report presents the factual records of the fieldwork and laboratory testing. The data is also presented separately in digital format following AGS (2005).

2 THE SITE AND GEOLOGY

2.1 The Site

Ferrybridge 'C' Power Station is situated approximately 5km East of Castleford town centre, see Site Location Plan in Enclosure F. The site is at National Grid reference NGR SE 479 245.

The site is an active power station, with various plant, offices and storage buildings. The eastern boundary is a railway line and the River Aire, the northern boundary is with a golf course, the southern boundary is to a housing estate and to the west is A1(M).

2.2 Published Geology

The published geological maps covering the site, BGS Sheet 78 (1998), show MADE GROUND across the site with glaciofluvial deposits of undifferentiated sand and gravels to the north and Alluvial silt and clay overlying gravel to the south. Bedrock comprises the Cadeby Formation dolomitic limestone.

3 FIELDWORK

3.1 General

The fieldwork was carried out in general accordance with BS EN 1997-2 (2007) and its related standards together with the relevant section of BS 5930 (1999).

The exploratory hole locations were selected by Arup. The locations were set out from local features. The co-ordinates and reduced levels were surveyed by SM Pelorus to National Grid and Ordnance Datum. The exploratory hole locations are shown on the Site Plan in Enclosure F.

3.2 Exploratory Holes

The exploratory holes are listed in the following table.

SUMMARY OF EXPLORATORY HOLES

TYPE	QUANTITY	MAXIMUM DEPTH (m)	REMARKS
Cable Percussion Boring	7	11.15	
Cable Percussion Boring extended by Rotary Core Drilling	15	25.20	
Rotary Open Hole Extended by Rotary Core Drilling	3	24.70	
Trial Pits	22	4.30	machine dug
Window Sampling	4	5.00	

The exploratory hole records are presented in Enclosure A and should be read in conjunction with the Key included therein. The records provide descriptions of the materials encountered, in accordance with the standards referenced on the Key, details of the samples taken, together with observations made during boring, drilling, pitting and window sampling. Photographs of the trial pits and recovered cores are presented in Enclosure E.

On completion of the fieldwork geotechnical samples were transported to the Doncaster laboratory of SM for temporary retention and testing. Geoenvironmental samples were transported to the Scientifics laboratory.

3.3 Instrumentation and Monitoring

The instruments installed in the exploratory holes are shown on the logs and detailed in Enclosure B. Records of groundwater, gas and water quality monitoring carried out by SM after the fieldwork period are presented in Enclosure B.

3.4 In Situ Testing

In situ hand vane testing was carried in accordance with BS 5930 (1999) and BS 1377-9 (1990) unless otherwise stated. The results are presented on the exploratory hole trial pit logs in Enclosure A.

4 LABORATORY TESTING

4.1 Geotechnical Testing

The testing was scheduled by Arup and was carried out in accordance with BS 1377 (1990) and ISRM (1981) and ISRM (1985) unless otherwise stated. The testing is summarised below and the results are presented in Enclosure C.

SUMMARY OF GEOTECHNICAL LABORATORY TESTING

TYPE	REMARKS
Moisture Content Determination	
Atterberg Limit Determination	
Particle Size Distribution Analysis	
Unconsolidated Undrained Triaxial Compression Testing	
One Dimensional Oedometer Consolidation Testing	
Dry Density / Moisture Content Relationship Testing	2.5 and 4.5 kg rammer
Organic Matter Content	
pH, Acid and Water Soluble Sulphate Content of Soils and Water and Chloride	Testing appropriate for use with BRE Special Digest 1 (2005) and carried out at Doncaster. Test methods used are indicated on the results report sheets in the Enclosure.
Point Load Index Testing	
Uniaxial Compressive Strength of Rock	

4.2 Geoenvironmental Testing

The testing was scheduled by Arup and was carried out by ESG Scientifics at their Burton on Trent laboratory. The results are presented in Enclosure D.

Prepared By	M Wareing BSc FGS
Reviewed By	L Rodgers BSc CSci CGeol FGS
Approved for Issue By	

REFERENCES

- AGS : 2005 : Electronic transfer of geotechnical and geoenvironmental data (Edition 3.1 including addendum May 2005). Association of Geotechnical and Geoenvironmental Specialists.
- BGS England and Wales Sheet 78 : 1998 : Wakefield. 1:50000 geological map (solid). British Geological Survey
- BGS England and Wales Sheet 78 : 1998 : Wakefield. 1:50000 geological map (drift). British Geological Survey
- BRE Special Digest 1 : 2005 : Concrete in aggressive ground. Building Research Establishment.
- BS 1377 : 1990 : Methods of test for soils for civil engineering purposes. British Standards Institution.
- BS 5930 : 1999 : Code of practice for site investigations. British Standards Institution.
- BS EN ISO 1997-2 : 2007 : Eurocode 7 - Geotechnical design - Part 2 - Ground investigation and testing. British Standards Institution.
- ISRM : 1981 : Rock Characterisation, Testing and Monitoring - ISRM Suggested Methods (Ed E T Brown). Commission on Testing Methods, International Society for Rock Mechanics, Pergamon Press.
- ISRM : 1985 : Suggested method for determining point load strength. Commission on Testing Methods, International Society for Rock Mechanics, International Journal of Rock Mechanics, Mining Sciences and Geomechanics Abstracts, Vol 22.

ENCLOSURE A
EXPLORATORY HOLE RECORDS

Key to Exploratory Hole Records
Borehole Logs
Trial Pit Logs
Window Sampler Hole Logs

Key
BH101 to 110, 112, 113, 201, 203,
204, 301 to 303 and 401 to 407
TP101 to 106, 108, 111, 201 to 209,
302, 303, 306, 403 and 405
WS102 and 301 to 303

Key to Exploratory Hole Records



Soil Mechanics

SAMPLES

Undisturbed

U	Driven tube sample	} nominally 100 mm diameter and full recovery unless otherwise stated
TW	Pushed thin wall tube sample	
P	Pushed piston sample	
L	Liner sample (from Windowless or similar sampler), full recovery unless otherwise stated	
CBR	CBR mould sample	
BLK	Block sample	
CS	Core sample (from rotary core) taken for laboratory testing	
AMAL	Amalgamated sample	

Disturbed

D	Small sample
B	Bulk sample

Other

W	Water sample
G	Gas sample

ES	Environmental chemistry samples (in more than one container where appropriate)
EW	Soil sample
	Water sample

Comments Sample reference numbers are assigned to every sample taken. A sample reference of 'NR' indicates that attempt was made to take a tube sample, however, there was no recovery.

Monitoring samples taken after completion of hole construction are not shown on the exploratory hole logs.

TESTS

SPT S or SPT C Standard Penetration Test, open shoe (S) or solid cone (C)

The Standard Penetration Test is defined in BS EN ISO 22476-3 (2005). The incremental blow counts are given in the Field Records column; each increment is 75 mm unless stated otherwise and any penetration under self weight in mm (SW) is noted. Where the full 300 mm test drive is achieved the total number of blows for the test drive is presented as N = ** in the Test column. Where the test drive blows reach 50 the total blow count beyond the seating drive is given (without the N = prefix).

IV	<i>in situ</i> Vane shear strength, peak (p) and remoulded (r)
HV	Hand vane shear strength, peak (p) and remoulded (r)
PP	Pocket penetrometer test, converted to shear strength
KFH, KRH, KPI	Permeability tests (KFH = falling head, KRH = rising head; KPI = packer inflow); results provided in Field Records column (one value per stage for packer tests)

DRILLING RECORDS

The mechanical indices (TCR/SCR/RQD & If) are defined in BS 5930 with Amendment 1(1999/2007)

TCR	Total Core Recovery, %
SCR	Solid Core Recovery, %
RQD	Rock Quality Designation, %
If	Fracture spacing, mm. Minimum, typical and maximum spacings are presented. The term non-intact (NI) is used where the core is fragmented.

Flush returns, estimated percentage with colour where relevant, are given in the Records column

CRF	Core recovered (length in m) in the following run
AZCL	Assessed zone of core loss
NR	Not recovered

GROUNDWATER

▼	Groundwater strike
▽	Groundwater level after standing period

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
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Carried out for SSE Generation

Key

Sheet 1 of 3

Key to Exploratory Hole Records



Soil Mechanics

INSTALLATION

Standpipe/ piezometer

Details of standpipe/piezometer installations are given on the Record. Legend column shows installed instrument depths including slotted pipe section or tip depth, response zone filter material type and layers of backfill.

SP
SPIE
PPIE
EPIE



The type of instrument installed is indicated by a code in the Legend column at the depth of the response zone:
Standpipe
Standpipe piezometer
Pneumatic piezometer
Electronic piezometer

Inclinometer or Slip Indicator

The installation of vertical profiling instruments is indicated on the Record. The base of tubing is shown in the Legend column.

ICE
ICM
SLIP



The type of instrument installed is indicated by a code in the Legend column at the base of the tubing:
Biaxial inclinometer
Inclinometer tubing for use with probe
Slip indicator

Settlement Points or Pressure Cells

The installation of single point instruments is indicated on the Record. The location of the measuring device is shown in the Legend column.

ESET
ETM
EPCE
PPCE

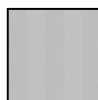


The type of instrument installed is indicated by a code in the Legend column:
Electronic settlement cell/gauge
Magnetic extensometer settlement point
Electronic embedment pressure cell
Electronic push in pressure cell

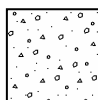
INSTALLATION LEGENDS

A legend describing the installation is shown in the rightmost column. Legends additional to BS5930 are used to describe the backfill materials as indicated below.

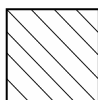
Arisings



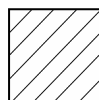
Concrete



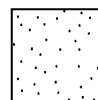
Grout



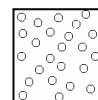
Bentonite



Sand



Gravel



Macadam



NOTES

- 1 Soils and rocks are described in accordance with BS EN ISO 14688-1 (2002), 14688-2 (2004), 14689-1 (2003) and BS 5930 with Amendment 1 (1999/2007) as clarified by Baldwin et al (2007).
- 2 Strata legends are in accordance with BS 5930 with Amendment 1 (1999/2007).
- 3 Water level observations of discernible entries during the advancing of the exploratory hole are given at the foot of the log and in the Legend column. The term "none observed" is used where no discrete entries are identified although this does not necessarily indicate that the hole has not been advanced below groundwater level. Under certain conditions groundwater cannot be observed, for instance, drilling with water flush or overwater, or boring at a rate much faster than water can make its way into the borehole (ref BS5930 : 1999, Clause 47.2.7). In addition, where appropriate, water levels in the hole at the time of recovering individual samples or carrying out in situ tests and at shift changes are given in the Records column.
- 4 Evidence of the occurrence of very coarse particles (cobbles and boulders) is presented on the logs, however, because of their size in relation to the exploratory hole these records may not be fully representative of their size and frequency in the ground mass.
- 5 The borehole logs present the results of Standard Penetration Tests recorded in the field without correction or interpretation. However, in certain ground conditions (eg high hydraulic head or where very coarse particles are present) some judgement may be necessary in considering whether the results are representative of in situ mass conditions.
- 6 The declination of bedding and joints is given with respect to the normal to the core axis. Thus in a vertical borehole this will be the dip.
- 7 The assessment of SCR, RQD and Fracture Spacing excludes artificial fractures

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
Project No. A0054-10
Carried out for SSE Generation

Key

Sheet 2 of 3

Key to Exploratory Hole Records



Soil Mechanics

REFERENCES

Baldwin M, Gosling R C and Brownlie N : 2007 : Soil and rock descriptions - a practical guide to the implementation of BS EN ISO 14688 and 14689. Ground Engineering, Vol 40 No 7 July.

BS EN ISO 14688-1 : 2002 : Geotechnical investigation and testing - Identification and classification of soil - Part 1 Identification and description. British Standards Institution.

BS EN ISO 14688-2 : 2004 : Geotechnical investigation and testing - Identification and classification of soil - Part 2 Principles for a classification. British Standards Institution.

BS EN ISO 14689-1 : 2003 : Geotechnical investigation and testing - Identification and classification of rock - Part 1 Identification and description. British Standards Institution.

BS EN ISO 22476-3 : 2005 : Geotechnical investigation and testing - Field testing - Part 3 Standard penetration test. British Standards Institution.

BS 5930 with Amendment 1 : 1999/2007 : Code of Practice for site investigations. British Standards Institution

Updated July 2009

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
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Key

Sheet 3 of 3

Φ

Drilled GB Logged PM Checked MS		Start 24/09/2010 End 27/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Rotary core drilling (PWF size) using air mist flush.		Depth from 1.00m to 15.00m Diameter 121mm Casing Depth 1.00m		Ground Level Coordinates National Grid Chainage		+14.94 mOD E 447186.09 N 425010.87	
Samples and Tests						Strata					
Depth		Type & No		Records	Date Casing	Time Water	Description		Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
0.30		ES 1		0.00-1.20 m Hand excavated inspection pit.			Dark reddish brown slightly clayey sandy GRAVEL. Gravel is angular to subangular fine to coarse of brick, clinker and limestone. (MADE GROUND)		(0.40)		
0.50		ES 2					Light yellow brown gravelly SAND. Gravel is subangular fine to medium of limestone. (Weathered LIMESTONE)		(0.60)		
1.00-2.50		100 41 0	NI 15 25	Flush: 1.00-4.00 Air Mist, 100 %			1.00-1.58 m NI		1.00 +13.94		
							1.62-1.73 m NI				
2.50-4.00		100 75 0		CS 3			1.94-2.05 m 1 No subvertical rough planar fracture 2.12-2.16 m NI				
3.47-3.59							2.50-2.54 m NI				
4.00-5.50		100 76 23		CS 4			2.76-2.83 m 1 No subvertical rough planar fracture				
5.28-5.41							3.76-3.80 m NI 3.87-4.00 m 1 No subvertical rough planar fracture 4.00-4.24 m NI				
5.50-7.00		93 25 7		CS 5	27/09/2010		4.38-4.47 m 1 no subvertical rough undulose fracture 4.76-4.95 m 1 No subvertical rough planar fracture		(9.13)		
7.37-7.50							5.44-5.50 m multiple subvertical rough planar fracture 5.50-5.60 m AZCL 5.71-5.78 m NI				
7.00-8.50		96 91 14		CS 6			6.14-6.39 m NI				
8.50-10.00		93 83 25					6.78-7.00 m 1 No 80 degree rough planar fracture 7.00-7.06 m AZCL				
9.88-10.00							7.71-7.74 m grey				
							8.50-8.60 m AZCL				
							9.47-9.80 m 1 No 70 degree rough planar fracture 9.68-9.80 m NI				
Depth		TCR SCL RCD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 10.13 m				
Groundwater Entries							Depth Related Remarks *		Chiselling		
No.	Struck (m)	Post strike behaviour			Depth sealed (m)		From to (m)		Depths (m)	Time	Tools used
1	8.00	Rose to 7.20 m after 20 minutes.									
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.							Project FERRYBRIDGE MULTIFUEL POWERSTATION		Borehole		
Scale 1:50							Project No. A0054-10		BH101		
(c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:19:47							Carried out for SSE Generation		Sheet 1 of 2		

Φ

Drilled GB Logged PM Checked MS		Start 24/09/2010 End 27/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Rotary core drilling (PWF size) using air mist flush.		Depth from 1.00m to 15.00m Diameter 121mm Casing Depth 1.00m		Ground Level Coordinates National Grid Chainage		+14.94 mOD E 447186.09 N 425010.87	
Samples and Tests						Strata					
Depth		TCR SCR RQD	If	Records/Samples	Date Casing Time Water	Description (Continued from Sheet 1)		Depth, Level/ (Thickness)		Legend	Backfill/ Instruments
10.58-10.81 10.00-11.50		98 81 49		CS 7 Flush: 7.00-15.00 Air Mist, 100 %		Very weak to Weak light yellowish brown LIMESTONE. Fractures are very closely to closely spaced subhorizontal rough planar. Weak to medium strong greyish brown LIMESTONE. Fractures are closely spaced subhorizontal rough planar.		10.00-10.03 m AZCL 10.03-10.13 m NI		10.13 +4.81	
11.50-13.00		100 77 13		CS 8		11.12-11.20 m NI 11.35 m large calcified vug		(4.87)			
12.75-12.96						12.34-12.71 m multiple calcified vugs up to 50mm					
13.00-14.50		100 87 57		CS 9		12.91-13.00 m NI 13.20 m calcified vug 13.50 m calcified vug					
14.14-14.38						14.24 m calcified vug					
14.50-15.00		80 80 26				14.50-14.60 m AZCL					
						EXPLORATORY HOLE ENDS AT 15.00 m		15.00 -0.06			
Depth		TCR SCR RQD	If	Records/Samples	Date Casing Time Water						
Groundwater Entries No. Struck (m) Post strike behaviour					Depth sealed (m)	Depth Related Remarks * From to (m)		Chiselling Depths (m) Time Tools used			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Project No. Carried out for	FERRYBRIDGE MULTIFUEL POWERSTATION A0054-10 SSE Generation		Borehole BH101 Sheet 2 of 2			
(c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:19:52					AGS						
Scale 1:50											

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS		Start 14/09/2010 End 16/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.			Depth from 0.00m to 2.00m Diameter 200mm Casing Depth 2.00m 2.00m 5.00m 150mm 5.00m 5.00m 25.00m 121mm 6.00m		Ground Level +13.93 mOD Coordinates E 447279.25 National Grid N 424972.75 Chainage		
Samples and Tests						Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments			
0.20-0.30 0.30	B 2 ES 1	0.00-1.20 m Hand excavated inspection pit.			Yellowish brown sandy GRAVEL. Gravel is subangular fine to coarse of limestone. (MADE GROUND)	0.20 +13.73					
0.50	ES 3				Firm dark brown grey sandy slightly gravelly CLAY. Sand is ash. Gravel is fine to coarse of coal, mudstone and brick. (MADE GROUND)	(0.50)					
0.75-1.00	B 4					0.70 +13.23					
1.00	ES 5					(0.60)					
1.20-1.65 1.20-1.65	SPT S D 6	N=13 (2,3/3,4,3,3)		dry	Yellowish brown sandy GRAVEL. Gravel is subangular fine to coarse of limestone and mudstone. (MADE GROUND)	1.30 +12.63					
1.65-2.00	B 7			Firm orangish brown sandy slightly gravelly CLAY. Gravel is subrounded fine to medium of limestone.	(0.70)						
2.00 2.10-2.55	ES 8 U 9	31 blows	1.80	dry	Stiff thinly laminated brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone.	2.00 +11.93					
2.55-2.75	D 10				(1.10)						
2.75-3.00	B 11										
3.00-3.45 3.00 3.00-3.45 3.10-4.00	SPT S ES 12 D 13 D 14	N=31 (8,9/7,6,8,10)	3.00	dry	Dense yellowish cream sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone. (Weathered LIMESTONE)	3.10 +10.83					
4.00-4.45 4.00-4.45 4.00-5.20	SPT S D 15 B 16	N=41 (7,9/10,10,9,12)	4.00	dry	Very weak to weak yellowish cream LIMESTONE. (Recovered as sandy gravel)	(1.20)					
						4.30 +9.63					
						(0.90)					
5.20-5.37 5.20-5.35	SPT S D 18	50 (25/50 for 70mm)	14/09/2010 4.50	dry	Weak to medium strong yellowish cream LIMESTONE. Fractures are closely to medium spaced subhorizontal rough planar.	5.20 +8.73					
5.20-6.30	100 42 0		16/09/2010 4.50	0800 dry 4.90	5.20-5.30 m NI 5.30-5.57 m 2 No subvertical undulose fractures						
6.30-7.80 7.25-7.40	79 51 16	CS 19			6.30-6.62 m AZCL 6.62-6.88 m NI						
7.80-9.30	70 54 0				8.37-8.82 m AZCL						
9.82-9.91		CS 20			9.25-9.42 m strong grey limestone 9.30-9.40 m AZCL						
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 23.37 m					
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m) 1 6.10 - -						Depth Related Remarks * From to (m)			Chiselling Depths (m) 3.10 -5.20 Time 80 mins Tools used		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation			Borehole BH102 Sheet 1 of 3		

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 14/09/2010 End 16/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 2.00m Diameter 200mm Casing Depth 2.00m 2.00m 5.00m 150mm 5.00m 5.00m 25.00m 121mm 6.00m	Ground Level +13.93 mOD Coordinates E 447279.25 National Grid N 424972.75 Chainage					
Samples and Tests			Strata						
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
9.30-10.80	93 70 29					Weak to medium strong yellowish cream LIMESTONE. Fractures are closely to medium spaced subhorizontal rough planar.			
10.80-12.20	107 100 51	NI 70 140	CS 21			10.80-10.85 m NI			
11.60-11.70						11.98-12.50 m 1 No subvertical undulose fracture			
12.20-13.80	83 74 26					12.50-12.67 m AZCL 12.67-12.76 m multiple vugs up to 30mm.			
13.80-15.20	96 66 23		CS 22			13.80-13.95 m AZCL	(18.17)		
14.68-14.82						14.82-14.86 m 1 No large vug with calcium deposit			
15.20-16.80	94 71 35					15.80-16.50 m multiple vugs up to 400mm			
17.32-17.61	100 91 71		CS 23			16.85-16.92 m 1 No vug with calcium deposit			
16.80-18.20						17.79-17.85 m NI			
18.85-18.94	94 76 52		CS 24			18.33-18.45 m NI			
18.20-19.80						19.07-19.11 m NI			
19.98-20.20			CS 25			19.30-19.37 m NI 19.37-19.48 m 1 No 60 degree rough planar fracture 19.80-19.96 m NI			
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 23.37 m			
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m)						Depth Related Remarks * From to (m)		Chiselling Depths (m) Time Tools used	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH102 Sheet 2 of 3	

Scale 1:50

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408.24 10/02/2011 09:20:10



Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS		Start 14/09/2010 End 16/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.			Depth from 0.00m to 2.00m Diameter 200mm Casing Depth 2.00m		Ground Level +13.93 mOD Coordinates E 447279.25 National Grid N 424972.75 Chainage																							
Samples and Tests						Strata																										
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 2)		Depth, Level (Thickness)	Legend	Backfill/ Instruments																						
19.80-21.30	100 75 71	NI 160 420	CS 26			Weak to medium strong yellowish cream Limestone. Fractures are closely to medium spaced subhorizontal rough planar.		19.96-21.00 m multiple vugs up to 300mm																								
21.30-21.41																																
21.30-22.80	100 93 64																															
22.80-24.30	100 89 76		CS 27	16/09/2010 6.00	5.60	Strong to very strong grey Limestone. Fractures are subhorizontal medium spaced rough planar.		23.12-23.20 m 1 large vug with calcium deposits																								
24.30-24.84																																
24.30-25.00	76 76 76	330 330 520																														
EXPLORATORY HOLE ENDS AT 25.00 m						24.83-25.00 m AZCL		25.00 -11.07																								
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m)											Depth Related Remarks * From to (m)											Chiselling Depths (m) Time Tools used										
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.											Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation											Borehole BH102 Sheet 3 of 3										

Scale 1:50

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Drilled CS Logged PM Checked MS		Start 29/09/2010 End 29/09/2010		Equipment, Methods and Remarks Dando Cable percussion boring.		Depth from 0.00m to 6.17m Diameter 150mm Casing Depth 5.50m		Ground Level +13.84 mOD Coordinates E 447299.90 N 424947.00 Chainage			
Samples and Tests					Strata						
Depth		Type & No	Records	Date Casing	Time Water	Description	Depth, Level / Thickness	Legend	Backfill / Instruments		
0.30	ES 1	0.00-1.20 m Hand excavated inspection pit. 				Gravelly HARDCORE. (Foreman's description)	0.20 +13.64				
0.50	B 2					Soft dark brown sandy slightly sandy CLAY. Gravel is subangular fine to coarse of limestone, brick and concrete. (MADE GROUND)	(1.00)				
0.50	ES 3										
0.55-1.00	B 4										
1.00	ES 5	N=18 (3,5/5,4,4,5) 				Medium dense clayey very silty gravelly SAND. Gravel is subangular fine to coarse of limestone, locally grades to sandy clay.	1.20 +12.64				
1.20-1.65	SPT S					(0.95)					
1.20-1.65	D 6										
1.30-1.80	B 7										
2.00-2.45	SPT S	N=13 (2,3/4,3,3,3) 	2.00	dry		Soft brown slightly gravelly sandy CLAY. Gravel is subangular fine to medium of sandstone and mudstone.	2.15 +11.69				
2.00	ES 8					(0.85)					
2.00-2.45	D 9										
2.50-3.00	B 10										
3.00-3.45	U 11	38 blows 	3.00	dry		Stiff reddish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of mudstone and sandstone.	3.00 +10.84				
3.45-3.65	D 12					(1.15)					
3.65-4.00	B 13										
4.10-4.55	SPT S						3.65-4.00 m slightly sandy clay [				
4.10-4.55	D 14	Brown clayey slightly gravelly SAND. Gravel is subangular fine to coarse of limestone. (Weathered LIMESTONE)	4.15 +9.69								
4.30	D 15		(0.40)								
4.50-5.00	D 16	N=15 (3,3/3,4,4,4) 	4.00	dry		Very weak LIMESTONE. (Recovered as silty sand)	+9.29				
						(0.45)					
5.00-5.45	SPT S					Weak light brown LIMESTONE. (Recovered as sandy gravel)	5.00 +8.84				
5.00-5.45	D 17						(1.17)				
6.00-6.17	SPT S	50 (25/50 for 70mm) 	29/09/2010 6.17	dry		EXPLORATORY HOLE ENDS AT 6.17 m	6.17 +7.67				
6.00-6.17	D 18										
Groundwater Entries No. Struck Post strike behaviour (m) Depth sealed (m) None observed (see Key Sheet)						Depth Related Remarks * From to (m) 5.00 6.00 Water added.		Chiselling Depths (m) Time Tools used 5.00 -6.00 60 mins			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:18:16 						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH103 Sheet 1 of 1			

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS		Start 28/09/2010 End 29/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m to 10.00m Diameter 150mm Casing Depth 9.90m 10.00m	Ground Level +13.89 mOD Coordinates E 447346.53 National Grid N 424916.96 Chainage
Samples and Tests					Strata	
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)
0.30	ES 1	0.00-1.20 m Hand excavated inspection pit.			TARMAC. (Foreman's description)	0.14 +13.75
0.45-0.60	B 2				Light brown gravelly SAND. Gravel is subangular to subrounded fine to coarse of limestone and concrete.	(0.46)
0.50	ES 3				(MADE GROUND)	0.60 +13.29
0.60-1.00	B 4				Reddish brown gravelly SAND. Sand is ash. Gravel is subangular fine to coarse of brick, clinker and concrete.	(0.50)
1.00	ES 5				(MADE GROUND)	1.10 +12.79
1.20-1.65	SPT S D 6	N=14 (3,2/3,3,4,4)		dry	Medium dense light brown sandy, gravelly SILT. Gravel is subangular fine to medium of limestone.	
1.20-1.65						
1.65-2.00	B 7					
2.00	ES 8					
2.10-2.55	SPT S D 9	N=16 (2,3/4,5,4,3)	2.10	dry		
2.10-2.55						
2.55-3.00	B 10					
3.00-3.45	SPT S D 11	N=9 (2,2/2,2,2,3)	3.00	dry	3.00-4.45 m locally loose	
3.00-3.45						
3.50-4.00	B 12					
4.00-4.45	SPT S D 13	N=9 (2,3/2,3,2,2)	4.00	dry		(5.90)
4.00-4.45	B 14					
4.00-4.45						
4.67	EWM					
5.00-5.45	SPT S D 15	N=13 (2,3/2,5,3,3)	5.00	dry		
5.00-5.45						
5.50-6.00	B 16					
6.50-6.95	SPT S	N=13 (2,3/2,3,4,4)	6.50	dry		
7.00-7.50	B 17					
7.50-7.95	SPT S W 19	N=26 (5,5/6,5,7,8)	7.50	dry	7.50-8.50 m silty very sandy gravel	7.00 +6.89
7.50-7.95	B 20					
7.55-7.95	D 18					(2.00)
9.00-9.45	SPT S D 21	N=67 (10,15/20,14,14,19)	9.00	5.40	Weak light brown LIMESTONE. (Recovered as sandy gravel)	9.00 +4.89
9.00-9.45	B 22					
9.00-9.90						(1.00)
9.90-10.00	SPT S	50 (25 for 50mm/50 for 50mm)	28/09/2010 9.90	5.45		
Depth	Type & No	Records	Date Casing	Time Water		
Groundwater Entries					Depth Related Remarks *	Chiselling Depths (m)
No.	Struck (m)	Post strike behaviour	Depth sealed (m)		From to (m)	Time Tools used
1	7.50	Rose to 6.05 m after 20 minutes.	-			0.00 -0.14 30 mins 9.00 -9.90 60 mins
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Borehole BH104 Sheet 1 of 2

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Drilled CS/GB Logged PM		Start 28/09/2010 End 29/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m 10.00m		to 10.00m 15.00m		Diameter 150mm 121mm		Casing Depth 9.90m 10.00m		Ground Level Coordinates National Grid Chainage		+13.89 mOD E 447346.53 N 424916.96			
Samples and Tests										Strata									
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)						Depth, Level/ (Thickness)		Legend	Backfill/ Instruments			
9.90-10.00			D 23		29/09/2010 9.90	0800 5.30	Very weak to weak light brown LIMESTONE. Fractures are very closely to closely spaced subhorizontal rough planar.						10.00 -10.45 m AZCL		10.00 +3.89				
10.00-11.50		70 44 0					10.43-10.68 m 1 No subvertical rough undulose fracture												
11.83-12.00			NI 66 117	CS 24			11.06-11.13 m NI 11.28-11.42 m NI												
11.50-13.00		96 63 25		Flush: 10.00-15.00 Air Mist, 100 %			11.50-11.56 m AZCL						(5.00)						
13.00-14.50		100 69 0					12.38-12.39 m 1 No 70 degree rough planar fracture 12.60-13.00 m 1 No subvertical rough undulose fracture 13.00-13.16 m NI									SP			
14.42-14.50			NI 50 70	CS 25			13.53 m multiple vugs 13.56-13.68 m NI 13.81-13.86 m 1 No 30 degree rough planar fracture												
14.50-15.00		64 40 0			29/09/2010 10.00		14.50-14.68 m AZCL 14.73-14.80 m 1 No 70 degree rough planar fracture						15.00 -1.11						
										EXPLORATORY HOLE ENDS AT 15.00 m									
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water													
Groundwater Entries					Depth Related Remarks *					Chiselling									
No.		Struck (m)	Post strike behaviour		Depth sealed (m)		From			to (m)			Depths (m)		Time	Tools used			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50					Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation					Borehole BH104 Sheet 2 of 2									

Borehole Log



Soil Mechanics

Drilled GB Logged PM Checked MS	Start 22/09/2010 End 23/09/2010	Equipment, Methods and Remarks Beretta T44 Rotary open hole drilling. Rotary core drilling (PWF size) using water flush.		Depth from 0.00m to 2.20m Diameter 131mm Casing Depth 2.20m 7.50m	Ground Level +14.41 mOD Coordinates E 447354.08 National Grid N 425130.62 Chainage			
Samples and Tests				Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.30	ES 1	0.00-1.20 m Hand excavated inspection pit.			HARDCORE rubble. (Foreman's description)	0.10 +14.31		
0.50	ES 2				Reinforced CONCRETE. (Foreman's description)	0.35 +14.06		
1.00	ES 3		22/09/2010		Soft to firm dark brown sandy slightly gravelly CLAY. Gravel is subangular fine to coarse of wood, sandstone and limestone. (MADE GROUND)	(0.85)		
1.20-1.65	SPT S	N=23 (2,5/6,5,6,6)	23/09/2010	0800		1.20 +13.21		
1.20-1.65	D 4				Medium dense light creamy brown gravelly SAND. Gravel is subangular fine to coarse of limestone. (Weathered LIMESTONE)	(1.10)		
2.20-2.34	SPT S	50 (25 for 65mm/50 for 71mm)	2.20	dry		2.30 +12.11		
2.20-2.40	D 5				Medium strong light creamy brown LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar.	(1.00)		
2.30-3.30	63 28 0	*			2.57-2.60 m 1 No 30 degree rough planar fracture 2.67-2.70 m NI 2.79-2.93 m NI 2.93-3.30 m			
3.15-3.25		CS 6				3.30 +11.11		
3.30-4.80	100 80 15				Weak light brown LIMESTONE. Fractures are very closely to closely spaced subhorizontal rough planar.			
5.35	100 71 17	EWM			4.26-4.65 m 1 No subvertical rough undulose fracture 4.53-4.65 m NI 4.77-4.80 m NI 4.90-4.92 m NI 4.96-5.00 m NI			
4.80-6.30		CS 7			5.30-5.50 m 1 No subvertical rough planar fracture			
5.98-6.10					5.81-5.86 m NI 5.90-5.94 m NI 6.06-6.17 m 1 No subvertical rough stepped fracture 6.22-6.30 m NI	(6.26)		
6.30-7.80	100 66 17	NI 60 133			6.64-6.78 m 1 No subvertical rough undulose fracture 6.78-6.92 m NI			
8.17-8.29		CS 8			7.80-7.85 m NI 7.92-8.01 m NI 8.06-8.13 m NI			
7.80-9.30	100 70 23	Flush: 2.20-15.30 Water, 100 %			8.47-8.64 m 1 No 70 degree rough planar fracture 8.82-8.96 m 1 No 70 degree rough planar fracture			
					9.30-9.36 m AZCL 9.36-9.56 m NI	9.56 +4.85		
					Medium strong yellowish brown LIMESTONE.			
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 15.30 m		
Groundwater Entries No. Struck (m) Post strike behaviour None observed (see Key Sheet)						Depth Related Remarks * From to (m) 3.00 7.50 loosing flush		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		
Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:25:31						Borehole BH105 Sheet 1 of 2		

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Drilled GB Logged PM Checked MS		Start 22/09/2010 End 23/09/2010		Equipment, Methods and Remarks Beretta T44 Rotary open hole drilling. Rotary core drilling (PWF size) using water flush.		Depth from 0.00m to 2.20m 2.20m 15.30m		Diameter 131mm 121mm Casing Depth 2.20m 7.50m		Ground Level +14.41 mOD Coordinates E 447354.08 National Grid N 425130.62 Chainage				
Samples and Tests						Strata								
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)		Depth, Level/ (Thickness)	Legend	Backfill/ Instruments			
9.30-10.80		96 53 14		CS 9			fractures are closely spaced subhorizontal rough planar.		(5.74)					
10.57-10.68							10.28-10.42 m NI							
							10.80-10.96 m AZCL 10.96-11.10 m NI							
10.80-12.30		89 69 33	20 80 140	CS 10			12.30-12.39 m AZCL 12.46-12.55 m NI							
12.90-13.04		94 63 21					12.72-12.86 m 1 No 70 degree rough planar fracture							
12.30-13.80							13.08-13.13 m NI							
14.27-14.53		97 83 61		CS 11			13.39-13.51 m 1 No subvertical rough planar fracture				SP			
13.80-15.30							13.51-13.55 m NI 13.80-13.85 m AZCL 14.11-14.14 m NI							
					23/09/2010 7.50		14.73-14.76 m NI 14.79-14.82 m NI							
						EXPLORATORY HOLE ENDS AT 15.30 m						15.30	-0.89	
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water								
Groundwater Entries No. Struck Post strike behaviour (m) None observed (see Key Sheet)						Depth Related Remarks * From to (m)						Chiselling Depths (m) Time Tools used		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:25:36						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation						Borehole BH105 Sheet 2 of 2		

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Drilled CS/GB Logged PM Checked MS		Start 16/09/2010 End 21/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.			Depth from 0.00m to 0.00m Diameter 4.80m 15.00m Casing Depth 150mm 121mm 4.00m 4.50m		Ground Level +13.89 mOD Coordinates E 447507.19 National Grid N 425205.80 Chainage				
Samples and Tests						Strata							
Depth		Type & No		Records		Date Casing Time Water		Description		Depth, Level/ (Thickness) Legend Backfill/ Instruments			
0.25-0.35 0.30 0.30 0.60-1.00		B 2 ES 1 ES 3 B 4		0.00-1.20 m Hand excavated inspection pit.				Grey HARDCORE . (Foreman's description)		0.15 +13.74			
1.00 1.20-1.65		ES 5 U 6		34 blows		dry		Firm dark brown sandy slightly gravelly CLAY . Sand is ash. Gravel is angular to subangular fine to medium of coal, clinker and limestone. (MADE GROUND)		0.40 +13.49			
1.65-1.85 1.85-2.00 2.00 2.20-2.65 2.20-2.65 2.40-3.00		D 7 B 8 ES 9 SPT S D 10 B 11		N=17 (2,3/3,4,5,5)		2.00 dry		Stiff reddish brown mottled grey slightly sandy slightly gravelly CLAY . Gravel is subangular fine to coarse of mudstone and limestone.		(3.60)			
3.00-3.45 3.45-3.65 3.65-4.00		U 12 D 13 B 14		48 blows		3.00 dry							
4.00-4.18 4.00-4.18 4.00-4.65		SPT S D 15 B 16		50 (25/50 for 70mm)		4.00 dry		Weak yellowish cream LIMESTONE . (Recovered as silty sandy gravel)		4.00 +9.89			
4.65-4.83 4.65-4.80				SPT S 50 (25/50 for 60mm) D 17		16/09/2010 0800 4.00 4.30 21/09/2010 0800 4.00 4.30		4.50-4.96 m AZCL		(0.96)			
4.50-6.00		69 22 0		CS 18				Soft brown black cream sandy gravelly CLAY . Gravel is subangular fine to coarse of limestone.		4.96 +8.93 5.20 +8.69			
6.32-6.42 6.00-7.50		97 85 23						Weak to medium strong light brown cream LIMESTONE . Fractures are subhorizontal very closely to closely spaced rough planar.					
7.50-9.00		55 23 0						5.20-5.26 m NI 5.37-5.40 m 1 No 30 degree rough planar fracture 5.41-5.65 m 1 No subvertical rough undulose fracture 5.83-6.00 m NI 6.00-6.05 m AZCL 6.16-6.17 m NI 6.83 m 1 No 30 degree rough planar fracture 7.20-7.50 m 1 No subvertical rough planar fracture 7.46-7.50 m NI 7.50-8.17 m AZCL 8.20-8.30 m NI 8.47-8.74 m 1 No subvertical rough planar fracture 8.62-8.72 m NI 8.84-8.89 m NI 9.00-9.10 m AZCL 9.10-9.20 m NI 9.36-9.39 m NI 9.45-9.59 m NI 9.69-9.76 m NI 9.88-10.50 m 1 No					
9.00-10.50 9.82-9.94		93 43 7		Flush: 4.50-15.00 Air Mist, 100 % CS 19									
Depth		ICR 2008		If		Records/Samples		Date Casing Time Water		Stratum continues to 15.00 m			
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m)						Depth Related Remarks * From to (m) Void (foreman's description)						Chiselling Depths (m) Time Tools used	
1 7.30 Rose to 6.80 m after 20 minutes. -						7.60 8.30 Void (foreman's description)							
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation						Borehole BH106 Sheet 1 of 2	
Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:20:52													

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS		Start 16/09/2010 End 21/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.			Depth from 0.00m to 0.00m 4.80m to 15.00m		Diameter 150mm 121mm		Casing Depth 4.00m 4.50m		Ground Level +13.89 mOD Coordinates E 447507.19 National Grid N 425205.80 Chainage	
Samples and Tests						Strata								
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)					Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
10.50-12.00 11.41-11.56		100 71 18		CS 20			Weak to medium strong light brown cream LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar. subvertical rough undulose fracture 10.37-10.50 m NI 10.50-10.71 m NI 10.71-11.29 m 1 No subvertical rough undulose fracture 10.97-11.07 m NI 11.62-11.63 m NI 11.68-11.80 m 1 No subvertical rough planar fracture 12.00-12.21 m NI 13.20-13.32 m 1 No subvertical rough planar fracture 13.50-13.60 m NI 13.70-13.82 m 1 No subvertical rough planar fracture					(9.80)		
12.71-12.86 12.00-13.50		100 80 38	NI 80 170	CS 21										
14.22-14.37 13.50-15.00		100 91 35		CS 22	21/09/2010 4.50	0.80								
						EXPLORATORY HOLE ENDS AT 15.00 m						15.00	-1.11	
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water								
Groundwater Entries No. Struck Post strike behaviour Depth sealed (m)						Depth Related Remarks * From to (m)						Chiselling Depths (m) Time Tools used		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation						Borehole BH106 Sheet 2 of 2		
Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:20:57						AGS								

Borehole Log



Soil Mechanics

Drilled Logged Checked		CS/GB PM MS		Start 17/09/2010 End 21/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m 5.50m		to 5.50m 15.00m		Diameter 150mm 121mm		Casing Depth 5.50m 5.50m		Ground Level Coordinates National Grid Chainage		+12.01 mOD E 447572.93 N 425216.73							
Samples and Tests										Strata															
Depth	Type & No	Records	Date Casing	Time Water	Description										Depth, Level (Thickness)	Legend	Backfill/ Instruments								
0.30 0.30-0.50 0.50 0.50-1.00	ES 1 B 2 ES 3 B 4	0.00-1.20 m Hand excavated inspection pit.			Firm orangish brown sandy slightly gravelly CLAY. Gravel is subangular fine to coarse of sandstone, brick and coal. (MADE GROUND)										0.20 +11.81										
1.00 1.20-1.65 1.20-1.65	ES 5 SPT S D 6	N=16 (3,4/3,4,5,4)		dry	Soft brown sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone and limestone.										(1.00)										
1.65-2.00 2.00 2.20-2.65 2.20-2.65	B 7 ES 8 SPT S D 9	N=26 (3,3/6,7,6,7)		dry	Firm brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of limestone and mudstone.										1.20 +10.81										
2.65-3.00 3.00-3.45 3.48 3.65-4.00	B 10 U 11 EWM B 12	39 blows 400 mm rec	3.00	dry	Firm to stiff reddish brown sandy slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone.										(1.15)										
4.00-4.45 4.00-4.45	SPT S D 13	N=24 (3,4/4,5,7,8)	4.00	dry	3.00-3.45 m Stiff										(2.15)										
4.50 4.50-5.10	W 14 B 15				3.65-4.00 m slightly sandy, slightly gravelly silty clay.										4.50 +7.51										
5.10-5.47 5.10-5.47 5.10-5.55	SPT S D 16 D 17	91 (12,13/20,21,50 for 70mm)	5.10	3.10	Weak cream LIMESTONE. (Recovered as slightly silty sandy gravel)										(1.20)										
5.55-5.70		SPT S 50 (25/50 for 50mm)	5.50	3.13	5.50-5.63 m AZCL										5.70 +6.31										
5.50-7.00	91 47 0		5.50	0800	Very weak brown LIMESTONE. (Recovered as clayey sandy gravel)										(0.35)										
7.00-8.50	100 19 0			2.300	Very weak to weak to medium strong brownish cream LIMESTONE. Fractures are subhorizontal undulose fracture 6.07-6.63 m NI										6.05 +5.96										
9.15-9.25 8.50-10.00	95 51 0	CS 18		4.300	6.85-6.91 m 1 No subvertical rough fracture 6.91-7.00 m NI 7.26-7.50 m 1 No subvertical rough planar fracture 7.30-7.35 m 1 No 70 degree rough planar fracture 7.40-7.61 m NI 7.68-8.50 m 1 No subvertical rough planar fracture 7.74-7.96 m NI 8.03-8.39 m NI 8.50-8.57 m AZCL 8.57-8.66 m 1 No 80 degree rough planar fracture 8.66-8.77 m NI 8.77-9.06 m 1 No subvertical rough planar fracture																				
Depth										TCR ROD		If		Records/Samples		Date Casing		Time Water		Stratum continues to 15.00 m					
Groundwater Entries										Depth Related Remarks *										Chiselling Depths (m)		Time		Tools used	
No. Struck (m) Post strike behaviour										From to (m)										4.50 -5.50		60 mins			
1 4.45 Rose to 3.05 m after 20 minutes.																									
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.										Project FERRYBRIDGE MULTIFUEL POWERSTATION										Borehole					
Scale 1:50										Project No. A0054-10										BH107					
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Drilled CS/GB Logged PM Checked MS		Start 17/09/2010 End 21/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m 5.50m		to 5.50m 15.00m		Diameter 150mm 121mm		Casing Depth 5.50m 5.50m		Ground Level +12.01 mOD Coordinates E 447572.93 National Grid N 425216.73 Chainage	
Samples and Tests						Strata									
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)						Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
10.74-10.86 10.00-11.50		91 76 7		Flush: 5.50-15.00 Air Mist, 100 % CS 19		4.600	Very weak to weak to medium strong brownish cream LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar. 10.00-10.13 m AZCL 10.13-10.17 m NI						(8.95)		
11.50-13.00		85 16 0				4.600	10.94-11.50 m 1 No subvertical rough planar fracture 11.50-11.72 m AZCL 11.72-12.77 m NI								
13.15-13.25			NI 80 120	CS 20			12.77-12.90 m 1 No subvertical rough planar fracture 13.00-13.15 m AZCL 13.15-13.19 m NI 13.29-13.41 m NI 13.30-13.97 m 1 No subvertical rough planar fracture 13.59-13.62 m NI 13.88 m 1 No 30 degree rough planar fracture								
13.00-14.50		90 67 7				4.600									
14.23-14.34				CS 21			14.45-14.50 m NI 14.58-14.65 m NI								SP
14.50-15.00		94 62 0			21/09/2010 5.50	4.600 4.30	EXPLORATORY HOLE ENDS AT 15.00 m 14.97-15.00 m AZCL						15.00	-2.99	
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water									
Groundwater Entries No. Struck Post strike behaviour Depth sealed (m)						Depth Related Remarks * From to (m)						Chiselling Depths (m) Time Tools used			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:21:17						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation						Borehole BH107 Sheet 2 of 2			

Borehole Log



Soil Mechanics

Drilled CS Logged PM Checked MS	Start 16/09/2010 End 16/09/2010	Equipment, Methods and Remarks Dando Cable percussion boring.		Depth from 0.00m	to 5.37m	Diameter 150mm	Casing Depth 4.00m	Ground Level +12.13 mOD Coordinates E 447532.35 N 425357.80 Chainage	
Samples and Tests				Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description		Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.25-0.40 0.30 0.50 0.50-0.80	B 2 ES 1 ES 3 B 4	0.00-1.20 m Hand excavated inspection pit.			Grey compact HARDCORE . (Foreman's description)		0.20 +11.93		
					Grey slightly silty slightly sandy GRAVEL . Gravel is subangular fine to coarse of limestone, coal and clinker. (MADE GROUND)		0.45 +11.68 0.55 +11.58		
1.00 1.20-1.65	ES 5 U 6	35 blows		dry	Firm dark brown slightly sandy slightly gravelly CLAY . Gravel is angular to subangular fine to coarse of coal, brick and limestone. (MADE GROUND)				
1.65-1.85 1.85-2.00 2.00	D 7 B 8 ES 9				Firm to stiff reddish brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is subangular fine to coarse of sandstone and coal. Cobbles are subangular of sandstone.		(2.40)		
2.20-2.65 2.20-2.65	SPT S D 10	N=18 (3,3/4,4,5,5)	2.00	dry					
2.65-2.80	B 11								
2.95-3.40 2.95-3.40	SPT S D 12	N=41 (5,7/8,9,10,14)	2.95	dry	Firm cream sandy slightly gravelly CLAY . Gravel is subangular fine to coarse of limestone. (Weathered LIMESTONE)		2.95 +9.18		SP
3.40-4.00	B 13						(1.05)		
4.00-4.29 4.00-4.28 4.00-5.10	SPT S D 14 B 15	71 (10,14/21,50 for 60mm)	4.00	dry	Weak cream LIMESTONE . (Recovered as angular gravel)		4.00 +8.13		
							(1.37)		
5.10-5.38 5.10-5.37	SPT S B 16	73 (11,13/23,50 for 50mm)	4.00 16/09/2010 4.00	dry dry					
					EXPLORATORY HOLE ENDS AT 5.37 m		5.37 +6.76		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.									
Groundwater Entries No. Struck Post strike behaviour (m) None observed (see Key Sheet)		Depth sealed (m)		Depth Related Remarks * From to (m)				Chiselling Depths (m) Time Tools used 4.00 -5.10 60 mins	
Project FERRYBRIDGE MULTIFUEL POWERSTATION		Project No. A0054-10		Carried out for SSE Generation				Borehole BH108 Sheet 1 of 1	

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

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Scale 1:50

Borehole Log



Soil Mechanics

Drilled Logged Checked		CS/GB PM MS		Start 15/09/2010 End 17/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m 3.00m 7.50m		to 3.00m 7.50m 15.00m		Diameter 200mm 150mm 121mm		Casing Depth 3.00m 7.00m 7.50m		Ground Level Coordinates National Grid Chainage		+15.99 mOD E 447448.52 N 425229.76											
Samples and Tests										Strata																			
Depth	Type & No	Records	Date Casing	Time Water	Description										Depth, Level (Thickness)	Legend	Backfill/ Instruments												
0.20-0.50 0.30	B 2 ES 1	0.00-1.20 m Hand excavated inspection pit.			Brownish grey slightly clayey gravelly SAND. Sand is ash. Gravel is subangular fine to coarse of concrete, coal, limestone and brick. (MADE GROUND)										(1.20)														
0.50	ES 3																												
0.60-0.90	B 4																												
1.00	ES 5																												
1.20-1.65 1.20-1.65 1.20-1.80	SPT S D 6 B 7	N=11 (2,2/3,2,3,3)		dry	Soft brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of sandstone, limestone and coal. (MADE GROUND)										1.20 +14.79														
2.00 2.10-2.55 2.10-2.55	ES 8 SPT S D 9	N=16 (2,3/3,4,4,5)	2.00	dry																									
2.55-3.00	B 10	58 blows	3.00	dry	Firm reddish brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is subrounded fine to coarse of limestone and mudstone. Cobbles are subrounded of sandstone. 2.55-3.00 m slightly gravelly										2.30 +13.69														
3.00 3.00-3.45	ES 12 U 13																												
3.65-4.00	B 14																												
4.00-4.45 4.00-4.45	SPT S D 15														N=18 (4,5/4,4,5,5)			4.00	dry										
4.50-5.00	B 16	55 blows 400 mm rec	5.00	dry	5.00-5.45 m Stiff																								
5.00-5.45	U 17																												
5.45-5.65	D 18																												
5.65-6.10 5.80-6.50	SPT S B 19																N=34 (5,7/9,7,8,10)	5.50	dry										
6.90-7.35 6.90-7.35 6.90-7.50	SPT S B 20 B 21	N=56 (9,12/17,12,15,12)	15/09/2010 7.00 07/09/2010 7.00	dry	Stiff yellowish cream slightly sandy slightly gravelly CLAY. Gravel is subangular fine to coarse of limestone. (Weathered LIMESTONE)										5.45 +10.54														
7.50-7.95 7.50-7.95	SPT S D 22	N=96 (10,14/11,21,14,50)													6.90			dry											
8.03-8.14	76 20 13	CS 23													Weak yellowish cream LIMESTONE. (Recovered as angular gravel)										6.90 +9.09				
7.50-9.00																													
9.73-9.83 9.00-10.50	100 47 7	CS 24			Weak yellowish cream LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar. 7.50-7.86 m AZCL 7.86-8.10 m NI 8.34-8.76 m multiple subvertical fractures - NI 8.86-9.00 m NI 9.00-9.30 m NI 9.30-9.73 m 1 No subvertical undulose fracture 9.44-9.56 m NI 9.87-9.90 m NI										7.50 +8.49														
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 15.00 m																							
Groundwater Entries						Depth Related Remarks *						Chiselling																	
No.	Struck (m)	Post strike behaviour	Depth sealed (m)			From to (m)						Depths (m)		Time	Tools used														
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION						Borehole BH109																	
Scale 1:50						Project No. A0054-10						Sheet 1 of 2																	
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Drilled CS/GB Logged PM Checked MS		Start 15/09/2010 End 17/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from to 0.00m 3.00m 3.00m 7.50m 7.50m 15.00m		Diameter 200mm 150mm 121mm		Casing Depth 3.00m 7.00m 7.50m		Ground Level +15.99 mOD Coordinates E 447448.52 National Grid N 425229.76 Chainage			
Samples and Tests						Strata									
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)				Depth, Level/ (Thickness)	Legend	Backfill/ Instruments		
11.23-11.33 10.50-12.00		100 67 15	NI 50 150	Flush: 7.50-15.00 CS 25 Air Mist, 100 %			Weak yellowish cream LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar. 9.91-10.10 m 1 No subvertical undulose fracture 10.33-10.50 m 1 No subvertical rough planar fracture 10.50-10.60 m NI 10.70-10.78 m 1 No subvertical rough planar fracture 11.30-11.64 m 1 no subvertical rough planar fracture 11.60-11.85 m 1 No subvertical rough planar fracture 11.69-11.80 m NI 12.00-12.10 m NI 12.17-12.27 m NI				(7.50)				
12.00-13.50		100 75 13													
13.18-13.31				CS 26			13.15-13.20 m NI								
14.10-14.25 13.50-15.00		96 67 26		CS 27			13.50-13.56 m AZCL 13.56-13.90 m NI								
						07/09/2010 7.50									
						EXPLORATORY HOLE ENDS AT 15.00 m				15.00	+0.99				
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water									
Groundwater Entries No. Struck (m) Post strike behaviour						Depth sealed (m)				Depth Related Remarks * From to (m)				Chiselling Depths (m) Time Tools used	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation				Borehole BH109 Sheet 2 of 2					
Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:21:37 AGS															

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 28/09/2010 End 28/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 4.80m Diameter 150mm Casing Depth 4.50m 6.00m	Ground Level +13.77 mOD Coordinates E 447363.56 National Grid N 425026.03 Chainage				
Samples and Tests			Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.30 0.40-0.50 0.50 0.70-1.00	ES 1 B 2 ES 3 B 4	0.00-1.20 m Hand excavated inspection pit.			Grey sandy GRAVEL. Gravel is angular to subangular fine to coarse of brick and concrete. (MADE GROUND)	(0.40) 0.40 +13.37 0.60 +13.17		
1.00 1.20-1.65 1.20-1.65	ES 5 SPT S D 6	N=14 (3,3/3,4,3,4)		dry	Greyish brown sandy GRAVEL with low cobble content. Gravel is angular to subangular fine to coarse of brick and concrete. Cobbles are angular of brick and concrete. (MADE GROUND)	(0.60) 1.20 +12.57		
1.65-2.00 2.00-2.45 2.00-2.45	B 7 SPT S ES 8 D 9	N=10 (3,3/3,2,2,3)	2.00	dry	Soft dark brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of limestone and coal. (MADE GROUND)	(1.00) 2.20 +11.57		
2.50-3.00 3.00-3.45 3.45-3.65	B 10 U 11 D 12	50 blows	3.00		Medium dense light brown gravelly SAND. Gravel is angular to subangular fine to coarse of limestone. 3.00-3.45 m Firm	(1.25) 3.45 +10.32		
3.65-3.71 3.65-3.80 3.65-4.70	SPT S D 13 B 14	50 (25 for 10mm/50 for 50mm)	3.65	dry	Weak light creamy brown LIMESTONE. (Recovered as slightly silty gravelly sand.)	(1.05) 4.50 +9.27		
4.65 4.70-4.80 4.70-4.80		SPT S 50 (25 for 50mm/ 50 for 50mm)	4.50	dry	Very weak light creamy brown LIMESTONE. Fractures are very closely spaced subhorizontal rough planar.			
4.50-6.00	90 34 0	EWM D 15			4.50-4.65 m AZCL 4.65-4.87 m NI 5.04-5.20 m 1 No subhorizontal rough planar fracture 5.20-5.39 m NI 5.35-6.00 m NI 5.39-5.59 m 1 No subvertical rough planar fracture 5.59-5.66 m NI 5.76-5.85 m 1 No subvertical rough planar fracture 6.00-6.19 m AZCL 6.19-6.33 m NI 6.52-6.77 m 1 No subvertical rough planar fracture 6.94-6.99 m 1 No 70 degree rough planar fracture 7.05-7.10 m 1 No subvertical rough planar fracture 7.40-7.50 m 1 No subvertical rough planar fracture 7.50-7.56 m NI 7.56-7.70 m 1 No subvertical rough planar fracture 7.86-7.96 m 1 No 70 degree rough planar fracture 8.58-8.80 m NI - recovered as gravelly sand 8.58-9.30 m weak 8.80-9.00 m AZCL 9.23-9.50 m 1 No 70 degree rough planar fracture			
6.00-7.50 6.80-6.90	87 49 0	NI 60 90						
7.50-9.00	87 49 0							
9.54-9.69 9.00-10.50	100 90 10	CS 17 Flush: 4.50-15.00 Air Mist, 100 %				(10.50)		
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 15.00 m		
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m) 1 9.00 Rose to 7.40 m after 20 minutes. -						Depth Related Remarks * From to (m) 3.65 4.70 Water added.		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Chiselling Depths (m) Time Tools used 3.65 -4.70 60 mins		
Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation						Borehole BH110 Sheet 1 of 2		

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

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Scale 1:50

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS		Start 28/09/2010 End 28/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.			Depth from 0.00m 4.80m		to 4.80m 15.00m		Diameter 150mm 121mm		Casing Depth 4.50m 6.00m		Ground Level +13.77 mOD Coordinates E 447363.56 National Grid N 425026.03 Chainage		
Samples and Tests							Strata										
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)						Depth, Level/ (Thickness)	Legend	Backfill/ Instruments		
10.50-12.00		100 59 26		CS 18			Very weak light creamy brown LIMESTONE. Fractures are very closely spaced subhorizontal rough planar. 10.26-10.44 m 1 no subvertical stepped fracture 10.75-10.84 m NI - multiple fractures 11.60-11.65 m multiple vugs up to 40mm 11.80-12.00 m NI 12.79-12.85 m NI 12.85-12.89 m 1 No subvertical rough planar fracture 13.66-13.70 m NI 13.75-13.87 m NI 13.87-13.95 m AZCL 13.95-15.00 m medium strong						15.00	-1.23			
11.48-11.62																	
12.00-13.50		20 18 13	NI 90 180	CS 19													
13.17-13.31																	
13.50-15.00		95 73 25		CS 20	28/09/2010 6.00												
14.64-14.79																	
							EXPLORATORY HOLE ENDS AT 15.00 m										
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water											
Groundwater Entries							Depth Related Remarks *								Chiselling		
No.	Struck (m)	Post strike behaviour	Depth sealed (m)				From	to (m)				Depths (m)	Time	Tools used			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.							Project FERRYBRIDGE MULTIFUEL POWERSTATION								Borehole		
Scale 1:50							Project No. A0054-10								BH110		
(c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:21:56							Carried out for SSE Generation								Sheet 2 of 2		

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 15/09/2010 End 20/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 4.20m Diameter 150mm Casing Depth 4.00m 5.60m	Ground Level +14.09 mOD Coordinates E 447224.48 National Grid N 424954.91 Chainage				
Samples and Tests			Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.30	ES 1	0.00-1.20 m Hand excavated inspection pit.			Yellowish cream sandy GRAVEL. Gravel is subangular fine to coarse of limestone. (MADE GROUND)	(0.35)		
0.35-0.60	B 2					0.35 +13.74		
0.50	ES 3					(0.35)		
0.75-1.00	B 4				Dark brown silty slightly gravelly SAND. Sand is ash. Gravel is subangular fine to coarse of coal and sandstone. (MADE GROUND)	0.70 +13.39		
1.00	ES 5					(0.50)		
1.20-1.65	SPT S	N=12 (2,2/3,2,3,4)		dry	Firm brown slightly sandy slightly gravelly CLAY. Gravel is subrounded to subangular fine to coarse of brick, limestone and coal. (MADE GROUND)	1.20 +12.89		
1.20-1.65	D 6					(0.80)		
1.65-2.00	B 7				Medium dense grey brown slightly gravelly silty SAND. Gravel is fine to medium.	2.00 +12.09		
2.00	ES 8	45 blows 400 mm rec	2.00	dry	Stiff thinly laminated reddish brown slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone. Fine silty sand laminae.	(1.00)		
2.00-2.45	U 9							
2.45-2.65	NR							
2.65-2.90	B 10							
2.95	D 11	N=68 (7,9/12,15,20,21)	3.00	dry	Very weak yellowish cream LIMESTONE. (Recovered as sandy gravel)	3.00 +11.09		
3.00-3.45	SPT S							
3.00-3.45	D 12							
3.40-4.10	B 13					(1.28)		
4.10-4.28	SPT S	50 (25/50 for 60mm)	15/09/2010	4.00	dry			
4.10-4.28	D 14		20/09/2010	0800	dry	4.28 +9.81		
4.71	85	EWM			Weak brownish cream LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar.			
4.93-5.05	55	CS 15		0.000				
4.20-5.70	0							
5.70-7.20	100			6.200				
6.79-6.89	75	CS 16						
	0							
7.20-8.70	95			6.200				
	44							
	9							
9.08-9.24		CS 17						
8.70-10.20	100			6.200				
	87							
	29							
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 18.25 m		
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m) 1 7.10 Rose to 6.20 m after 20 minutes. -						Depth Related Remarks * From to (m)		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Chiselling Depths (m) Time Tools used 3.40 -4.10 60 mins		
Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation			Borehole BH112 Sheet 1 of 3					

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

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Scale 1:50

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS		Start 15/09/2010 End 20/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.			Depth from 0.00m to 4.20m Diameter 150mm Casing Depth 4.00m 5.60m	Ground Level +14.09 mOD Coordinates E 447224.48 National Grid N 424954.91 Chainage		
Samples and Tests						Strata			
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
10.20-11.70	100 91 44		CS 18		6.200	Weak brownish cream LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar.	(13.97)		
11.41-11.58									
11.70-13.20	100 82 42	NI 80 150			6.200				
13.67-13.80			CS 19			13.20-13.24 m NI			
13.20-14.70	100 87 31				6.200	13.50 m 1 No vug 13.52-13.57 m NI			
						14.08 m 1 No calcium vug 14.35-14.44 m multiple vugs up to 50mm 14.57-14.61 m NI			
14.70-16.20	97 81 38		CS 20		6.200	14.87-14.91 m AZCL 14.91-15.00 m NI 15.10-16.20 m multiple vugs up to 50mm			
15.68-15.83									
16.20-17.70	100 87 61		CS 21		6.200	16.46-16.62 m NI			
18.40-18.68	100 87 67					17.70-17.73 m NI 17.73-17.82 m 1 No 70 degree rough planar fracture 18.04-18.08 m 1 No vug			
17.70-19.20		NI 130 350				18.20-18.25 m NI	18.25	-4.16	
19.20-20.70	100 97 85				6.200	19.06-19.20 m multiple vugs up to 50mm 19.83-19.85 m grey gravelly clay			
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 25.20 m			
Groundwater Entries				Depth sealed (m)		Depth Related Remarks *		Chiselling Depths (m) Time Tools used	
No.	Struck (m)	Post strike behaviour				From to (m)			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION		Borehole	
Project No. A0054-10 Carried out for SSE Generation						BH112		Sheet 2 of 3	

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

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Scale 1:50

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Drilled CS/GB Logged PM Checked MS		Start 15/09/2010 End 20/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m to 4.20m Diameter 150mm Casing Depth 4.00m 25.20m 121mm 5.60m		Ground Level +14.09 mOD Coordinates E 447224.48 National Grid N 424954.91 Chainage		
Samples and Tests						Strata				
Depth		TCR SCR RQD	If	Records/Samples	Date Casing Time Water	Description (Continued from Sheet 2)		Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
20.70-20.99		98 80 73		CS 22	6.200	Weak to medium strong brownish grey LIMESTONE. Fractures are subhorizontal closely to widely spaced rough planar.		(6.95)		
20.70-22.20						20.23-20.36 m 1 No subvertical rough planar fracture 20.98-21.04 m NI				
22.20-23.70 22.97-23.43		100 80 77		CS 23	6.200	21.78 m 1 No subhorizontal rough undulose fracture 22.00-22.17 m NI 22.17-22.20 m AZCL 22.20-22.35 m NI 22.96-22.98 m fracture infilled with soft grey clay				
23.70-25.20		6 5 4	NI 200 810			23.43-23.50 m NI 23.50-23.56 m 1 No 70 degree rough planar fracture 23.70-23.93 m AZCL				
							20/09/2010 5.60	6.20	EXPLORATORY HOLE ENDS AT 25.20 m	
Depth		TCR SCR RQD	If	Records/Samples	Date Casing Time Water					
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m)						Depth Related Remarks * From to (m)		Chiselling Depths (m) Time Tools used		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:22:19						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH112 Sheet 3 of 3		

Borehole Log



Soil Mechanics

Drilled GB Logged PM Checked MS	Start 14/09/2010 End 15/09/2010	Equipment, Methods and Remarks Beretta T44 Rotary open hole to 3.20m. Rotary core drilling using air mist flush to 24.70m.		Depth from 0.00m to 3.20m Diameter 121mm Casing Depth 24.70m	Ground Level +14.25 mOD Coordinates E 447262.52 National Grid N 425072.09 Chainage			
Samples and Tests				Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.30	ES 1				Brown sandy GRAVEL. Gravel is subangular fine to coarse of limestone. (MADE GROUND)	(0.50)		
0.50	ES 2					0.50 +13.75		
1.00	ES 3							
1.20-1.65	SPT S D 4	N=14 (2,3/3,3,4,4)	14/09/2010		Firm reddish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular fine to coarse of mudstone.	(2.30)		
1.20-1.65			15/09/2010	0800				
2.20-2.65	SPT S D 5	N=17 (2,2/3,4,5,5)						
2.20-2.65								
3.20-3.65	SPT S	N=47 (4,7/8,9,14,16)			ASSESSED ZONE OF CORE LOSS. Foreman reports Soft highly weathered LIMESTONE.	2.80 +11.45		
3.20-4.70	34 N/A N/A				3.20-3.54 m Recovered firm reddish brown slightly sandy CLAY. Probable cavings	(3.83)		
4.70-6.20	0 N/A N/A	NA						
6.20-6.65		SPT S N=44 (4,5/9,12,8,15)						
6.20-7.20	57 N/A N/A				Cream silty gravelly SAND. Gravel is subangular fine to medium of limestone. (Weathered LIMESTONE)	6.63 +7.62		
7.20-7.50		SPT S 50 (9,15/23,27 for 72mm)				(0.57)		
7.63-7.75	100 65 31				Extremely weak to very weak yellowish cream LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar.	7.20 +7.05		
7.20-8.20	NI 60 110	CS 6			8.00-8.10 m NI			
8.75-8.88								
8.20-9.70	91 61 27				8.92-9.05 m AZCL			
	NI 20 30	CS 7						
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 22.10 m		
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m)						Depth Related Remarks * From to (m)		
1 6.00 -						Chiselling Depths (m) Time Tools used		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		
Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:25:49						Borehole BH113 Sheet 1 of 3		

Borehole Log



Soil Mechanics

Drilled GB Logged PM Checked MS		Start 14/09/2010 End 15/09/2010	Equipment, Methods and Remarks Beretta T44 Rotary open hole to 3.20m. Rotary core drilling using air mist flush to 24.70m.			Depth from 0.00m to 3.20m Diameter 121mm Casing Depth 131mm	Ground Level +14.25 mOD Coordinates E 447262.52 National Grid N 425072.09 Chainage						
Samples and Tests						Strata							
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)		Depth, Level/ (Thickness)	Legend	Backfill/ Instruments			
9.70-11.20 10.62-10.82	98 73 25		CS 8			Extremely weak to very weak yellowish cream LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar. 10.20-10.27 m 1 No subvertical rough stepped fracture		(14.90)					
11.20-12.70	98 56 7	20 90 300	CS 9			11.11-11.20 m 1 No subvertical rough planar fracture 11.20-11.23 m AZCL 11.23-11.40 m 11.60 m fractures infilled with medium sized gravel							
12.97-13.30						12.70-12.78 m AZCL 12.95-12.96 m 1 No vug							
12.70-14.20	95 59 24					13.30-13.74 m NI multiple subhorizontal fractures							
14.82-14.96 14.20-15.70	99 51 23		CS 10			14.20-14.22 m AZCL 14.22-14.69 m NI 14.22-14.97 m stained brown 14.97-15.05 m NI 15.00 m Weak							
15.70-17.20	95 47 20	NI NI 30 40 90 220				15.50-15.55 m 1 No 20 degree rough planar fracture infilled with gravel 15.77-15.84 m AZCL 15.84-16.00 m NI 16.03-16.36 m NI 16.46 m 1 No vug 16.62-16.70 m 1 No subvertical stepped fracture							
17.20-18.70	100 62 35	NI 30 80				17.20-17.40 m NI 17.80 m 1 No vug 17.87-17.97 m 1 No subvertical rough planar fracture							
18.39-18.70		30 120 300	CS 11			18.70-18.74 m 1 No vug 18.82-18.87 m AZCL 18.87-20.08 m NI							
18.70-20.20	97 17 17	NI											
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 22.10 m							
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m)						Depth Related Remarks * From to (m)					Chiselling Depths (m) Time Tools used		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH113 Sheet 2 of 3					



Borehole Log



Soil Mechanics

Drilled GB Logged PM Checked MS		Start 14/09/2010 End 15/09/2010		Equipment, Methods and Remarks Beretta T44 Rotary open hole to 3.20m. Rotary core drilling using air mist flush to 24.70m.			Depth from 0.00m to 3.20m Diameter 121mm Casing Depth 3.20m 24.70m 131mm		Ground Level +14.25 mOD Coordinates E 447262.52 National Grid N 425072.09 Chainage																
Samples and Tests						Strata																			
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 2)			Depth, Level (Thickness)	Legend	Backfill/ Instruments														
20.55-20.68			CS 12			Extremely weak to very weak yellowish cream LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar.			20.20-20.30 m NI 20.30-21.00 m multiple vugs up to 100mm																
20.20-21.70	100 61 32																								
21.96-22.31		NI 110 340	CS 13			21.40-21.75 m AZCL 21.59-21.80 m NI 21.75-21.97 m NI																			
21.70-23.20	97 47 23					Weak to medium strong grey LIMESTONE. fractures are subhorizontal closely to medium spaced rough planar.			22.05-22.20 m NI	22.10	-7.85														
23.90-24.24 23.20-24.70	97 69 68	NI 300 340	CS 14			23.20-23.25 m AZCL				(2.60)															
				15/09/2010		24.30-24.70 m 1 No subvertical rough undulose fracture 24.50-24.70 m 1 No 70 degree rough planar fracture																			
						EXPLORATORY HOLE ENDS AT 24.70 m			24.70	-10.45															
Groundwater Entries <table border="1"> <tr> <th>No.</th> <th>Struck (m)</th> <th>Post strike behaviour</th> <th>Depth sealed (m)</th> </tr> <tr> <td colspan="4"> </td> </tr> </table>												No.	Struck (m)	Post strike behaviour	Depth sealed (m)					Depth Related Remarks * From to (m)			Chiselling Depths (m) Time Tools used		
No.	Struck (m)	Post strike behaviour	Depth sealed (m)																						
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.				Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation					Borehole BH113 Sheet 3 of 3																

Scale 1:50

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Borehole Log



Soil Mechanics

Drilled CS Logged PM Checked MS	Start 29/09/2010 End 29/09/2010	Equipment, Methods and Remarks Dando Cable percussion boring.		Depth from 0.00m to 10.15m Diameter 150mm Casing Depth 10.00m	Ground Level +12.87 mOD Coordinates E 447680.12 N 424470.51 Chainage			
Samples and Tests				Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.30 0.30-0.50 0.50 0.70-1.10	ES 1 B 2 ES 3 B 4	0.00-1.20 m Hand excavated inspection pit.			Dark brown slightly silty gravelly SAND. Sand is ash. Gravel is subangular fine to medium of clinker, brick, coal and limestone. (MADE GROUND)	(0.70)		
1.00 1.20-1.65 1.20-1.65	ES 5 SPT S D 6	N=11 (2,3/3,2,3,3)			Soft brown sandy slightly gravelly CLAY. Gravel is subangular fine to coarse of limestone and mudstone.	0.70 +12.17		
1.65-2.00	B 7				0.70-1.10 m Sandy slightly gravelly SILT			
2.00 2.10-2.55 2.10-2.55	ES 8 SPT S D 9	N=9 (2,2/2,2,2,3)	2.10	dry	1.65-2.00 m Silt			
2.50-2.90	D 10							
3.00-3.45 3.00-3.45	SPT S D 11	N=12 (2,3/2,3,4,3)	3.00	dry		(4.75)		
3.50-3.90	D 12				3.50-3.90 m Sandy clay			
4.00-4.45 4.00-4.45	SPT S W 13	N=8 (2,1/2,2,2,2)	4.00	dry				
4.50-5.00	B 14				4.50-5.00 m Sandy clay			
5.00-5.45	U 15	22 blows	5.00	damp				
5.65-6.00	B 16				Medium dense brown sandy GRAVEL. Gravel is subrounded fine to coarse of various lithologies.	5.45 +7.42		
6.50-6.95 6.50-6.95	SPT S D 17	N=12 (2,2/2,3,3,4)	6.50	damp	5.65-6.00 m clayey very silty sand			
7.00-7.50	B 18					(3.55)		
7.50-7.95 7.50 7.50-7.95 7.80-8.50	SPT S W 19 D 20 B 21	N=24 (5,4/4,5,8,7)	7.50	3.20				
9.00-9.45 9.00-9.45 9.00-10.00	SPT S D 22 B 23	N=70 (10,13/15,18,17,20)	9.00	6.70	Weak cemented brown LIMESTONE. (Recovered as sandy gravel.	9.00 +3.87		
						(1.16)		
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 10.16 m			
Groundwater Entries No. Struck Post strike behaviour Depth sealed (m) 1 7.50 Rose to 3.20 m after 20 minutes. -					Depth Related Remarks * From to (m)		Chiselling Depths (m) Time Tools used 9.00 -10.00 60 mins	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH201 Sheet 1 of 2	

Borehole Log



Soil Mechanics

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Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 30/09/2010 End 01/10/2010	Equipment, Methods and Remarks Danod, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air flush.	Depth from 0.00m to 7.56m Diameter 150mm Casing Depth 7.50m	Ground Level +12.87 mOD Coordinates E 447774.05 National Grid N 424463.03 Chainage				
Samples and Tests			Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.30 0.30-0.80 0.50	ES 1 B 2 ES 3	0.00-1.20 m Hand excavated inspection pit.			Soft dark brown sandy slightly gravelly CLAY. Sand is ash. Gravel is subangular fine to medium of coal, sandstone and limestone. (MADE GROUND)	(1.25)		
1.00 1.20-1.65 1.20-1.65	ES 4 SPT S D 5	N=18 (3,4/4,5,4,5)			Firm brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of limestone.	1.25 +11.62 (0.75)		
1.65-2.00 2.00-2.45 2.00 2.00-2.45 2.50-3.00	B 6 SPT S D 7 ES 8 B 9 B 10	N=27 (3,4/5,7,7,8)	2.00		Medium dense brown sandy GRAVEL. Gravel is subrounded fine to coarse of limestone, mudstone and sandstone.	2.00 +10.87 (2.25)		
3.00-3.45 3.00-3.45	SPT S D 11	N=27 (6,8/7,6,7)	3.00		2.50-3.00 m Silty sand and gravel with low cobble content			
3.50-4.00 3.96 4.00-4.45 4.00-4.45	B 12 EWM SPT S D 13	N=19 (3,4/5,4,5,5)	4.00		Very weak creamish brown LIMESTONE. (Recovered as gravelly sand.)	4.25 +8.62 (2.25)		
4.50-5.00 5.00-5.45 5.00-5.45	B 14 SPT S D 15	N=72 (5,7/9,20,19,24)	5.00	4.50	Weak creamish brown LIMESTONE. (Recovered as sandy gravel.)	6.50 +6.37 (1.00)		
5.50 5.50-6.40	W 16 B 17				Weak to medium strong light yellowish brown LIMESTONE. Fractures are very closely to closely spaced rough planar.	7.50 +5.37 (4.50)		
6.50-7.40 6.90-7.35 6.90-6.95	B 19 SPT S D 18	N=64 (10,14/13,14,15,22)	6.50	5.05				
7.40-7.56 7.40-7.56	SPT S D 20	50 (25/50 for 70mm)	30/09/2010 7.20	0800				
7.50-9.00	67 24 0			7.100				
9.00-10.50	63 36 7	NI 50 100		7.100				
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 12.00 m		
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m) 1 5.30 Rose to 4.50 m after 20 minutes. -						Depth Related Remarks * From to (m) 8.50 Gravels blown back up borehole		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50						Chiselling Depths (m) Time Tools used 6.50 -7.50 60 mins		
Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation						Borehole BH203 Sheet 1 of 2		

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS		Start 30/09/2010 End 01/10/2010		Equipment, Methods and Remarks Danod, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air flush.				Depth from 0.00m to 7.56m Diameter 150mm Casing Depth 7.50m		Ground Level +12.87 mOD Coordinates E 447774.05 National Grid N 424463.03 Chainage	
Samples and Tests						Strata					
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)		Depth, Level/ (Thickness)	Legend	Backfill/ Instruments	
10.50-12.00	40 35 0			01/10/2010 7.50	7.100	Weak to medium strong light yellowish brown LIMESTONE. Fractures are very closely to closely spaced rough planar. 10.00-10.10 m NI 10.50-10.65 m NI 10.71-11.02 m 1 No subvertical rough undulose fracture stained grey		12.00 +0.87			
						EXPLORATORY HOLE ENDS AT 12.00 m					
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water						
Groundwater Entries No. Struck (m) Post strike behaviour				Depth sealed (m)		Depth Related Remarks * From to (m)		Chiselling Depths (m) Time Tools used			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH203 Sheet 2 of 2			

Scale 1:50

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Borehole Log



Soil Mechanics

Drilled Logged Checked		CS/GB PM MS		Start 24/09/2010 End 30/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m 3.00m 6.00m		to 3.00m 6.00m 20.00m		Diameter 200mm 150mm 121mm		Casing Depth 3.00m 5.80m 8.20m		Ground Level Coordinates National Grid Chainage		+13.42 mOD E 447719.06 N 424561.96	
Samples and Tests										Strata									
Depth		Type & No		Records		Date Casing		Time Water		Description		Depth, Level (Thickness)		Legend		Backfill/ Instruments			
0.30 0.30-0.50 0.50 0.50-1.00		ES 1 B 2 ES 3 B 4		0.00-1.20 m Hand excavated inspection pit.						COMPACT HARDCORE. (Foreman's description)		0.20 +13.22							
1.00 1.20-1.48 1.20-1.47 1.20-2.00		ES 5 SPT S D 6 B 7		71 (10,15/21,50 for 50mm)						Brown slightly clayey sandy GRAVEL. Gravel is subangular fine to coarse of sandstone and mudstone. (MADE GROUND)		(1.10)							
2.00 2.10-2.55		ES 8 SPT S		N=9 (3,4/3,2,2,2)		2.10		dry		Soft dark brown sandy slightly gravelly CLAY with low cobble content. Gravel is subangular fine to coarse of coal, sandstone and mudstone. Cobbles are of brick and concrete. (MADE GROUND)		(1.20)							
2.55-3.00		B 9								Very soft dark brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of sandstone and limestone.		2.50 +10.92 (0.55)							
3.00-3.45 3.00 3.00-3.45		SPT S ES 10 D 11		N=37 (5,9/5,9,13,10)		3.00		dry		Dense brown sandy GRAVEL. Gravel is subrounded to subangular fine to coarse of various lithologies.		3.05 +10.37							
3.50-4.00		B 12								3.50-4.00 m slightly clayey very sandy		(1.75)							
4.00-4.45 4.00-4.45		SPT S D 13		N=40 (11,14/10,10,10,10)		4.00		damp											
4.50-4.80 4.73 4.80-5.25 4.80 4.80-5.25 4.80-5.80		B 14 EWM SPT S W 15 D 17 B 18		N=53 (9,11/12,14,12,15)		4.80		3.30		Very weak creamish brown LIMESTONE. (Recovered as silty sandy gravel.)		4.80 +8.62				SP			
5.80-6.17 5.80-6.17		SPT S D 19		84 (12,13/14,20,50 for 70mm)		5.80 24/09/2010 5.80 30/09/2010 5.80		3.50 3.50 0800 5.30		5.80-6.82 m AZCL		6.17 +7.25							
5.80-7.30		32 0 0								Weak light brown LIMESTONE.									
7.30-7.39		NI NI 40		SPT C 50 (25 for 39mm/ 50 for 52mm)						6.82-7.30 m NI		(2.22)							
7.30-8.30		52 4 0								7.30-7.78 m AZCL									
8.30-8.37				SPT C 50 (25 for 28mm/ 50 for 46mm)						7.78-7.99 m NI									
8.30-9.30 8.98-9.13		100 71 0		CS 20						8.03-8.39 m NI		8.39 +5.03							
		NI 40 60								Very weak to weak light brown LIMESTONE. Fractures are very closely to closely spaced subhorizontal rough planar.									
										8.43-8.72 m 1 No subvertical rough undulose fracture									
										8.84-9.01 m 1 No subvertical rough planar fracture									
										9.19-9.24 m NI									
										9.30-9.40 m AZCL									
										9.40-9.82 m NI - recovered as gravelly sand									
Depth		TCR ROD		If		Records/Samples		Date Casing		Time Water		Stratum continues to 14.36 m							
Groundwater Entries										Depth Related Remarks *									
No.		Struck (m)		Post strike behaviour		Depth sealed (m)				From		to (m)		Chiselling Depths (m)		Time		Tools used	
1		4.80		Rose to 3.30 m after 20 minutes.										5.00 -5.80		60 mins			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.										Project FERRYBRIDGE MULTIFUEL POWERSTATION									
Project No. A0054-10										Borehole BH204									
Carried out for SSE Generation										Sheet 1 of 2									
Scale 1:50																			

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 24/09/2010 End 30/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 3.00m Diameter 200mm Casing Depth 3.00m 6.00m 20.00m 150mm 5.80m 121mm 8.20m	Ground Level +13.42 mOD Coordinates E 447719.06 National Grid N 424561.96 Chainage					
Samples and Tests			Strata						
Depth	TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
9.30-10.80	93 47 0					Very weak to weak light brown LIMESTONE. Fractures are very closely to closely spaced subhorizontal rough planar.	10.02-10.07 m NI	(5.97)	
10.57-10.67			CS 21				10.87-11.36 m NI		
10.80-12.30	62 20 0						11.36-11.93 m		
							12.02-12.13 m 1 No subvertical rough undulose fracture		
							12.13-12.19 m NI		
							12.30-12.56 m NI		
							12.66-12.77 m NI		
12.30-13.80	100 37 0		Flush: 5.80-20.00 Air Mist, 100 %				12.94-13.04 m NI		
13.10-13.28			CS 22				13.52-13.80 m NI		
							13.80-13.90 m AZCL		
							13.90-14.36 m NI		
13.80-15.30	93 53 0					Weak grey brown LIMESTONE. Fractures are closely spaced subhorizontal rough planar, frequent vugs up to 50mm.	14.36 -0.94	(5.64)	
15.14-15.30			CS 23				14.75-14.88 m NI		
15.30-16.80	100 81 41						15.30-15.47 m NI		
16.80-18.30	100 67 45								
18.04-18.22			CS 24				18.30-18.72 m AZCL		
18.65-18.87			CS 25				18.72-18.90 m NI		
18.30-19.80	72 39 13						19.33-19.40 m NI		
							19.45-19.56 m 1 No 30 degree rough planar fracture		
							19.70-19.80 m NI		
							19.80-19.81 m		
19.80-20.00			TCR 95, SCR 70, RQD 0	30/09/2010 8.20					
Depth	TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	EXPLORATORY HOLE ENDS AT 20.00 m			
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m)						Depth Related Remarks * From to (m)		Chiselling Depths (m) Time Tools used	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH204 Sheet 2 of 2	

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

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Scale 1:50

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS		Start 27/09/2010 End 04/10/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m to 4.00m Diameter 200mm Casing Depth 4.00m 10.87m 15.00m 150mm 10.00m 121mm 10.00m		Ground Level +12.37 mOD Coordinates E 447704.69 National Grid N 425412.91 Chainage		
Samples and Tests					Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description			Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.30 0.30-0.50 0.50 0.50-1.00	ES 1 B 2 ES 3 B 4	0.00-1.20 m Hand excavated inspection pit.			TOPSOIL. (Foreman's description)			0.10 +12.27		
1.00 1.20-1.65 1.20-1.65	ES 5 SPT S D 6	N=16 (3,4/3,4,4,5)		dry	Soft dark brown sandy slightly gravelly CLAY. Gravel is angular fine to coarse of brick, sandstone and limestone. (MADE GROUND)			(1.10)		
1.65-2.00 2.00-2.45 2.00-2.45	B 7 SPT S ES 8 D 9	N=9 (2,2/2,2,3,2)	2.00	dry	Medium dense black gravelly SAND. Sand is ash. Gravel is angular fine to coarse of coal and clinker. (MADE GROUND)			1.20 +11.17		
2.50-3.00 3.00-3.45 3.00-3.45	B 10 SPT S ES 11 D 12	N=15 (3,3/3,4,4,4)	3.00	damp	Medium dense dark brown silty slightly gravelly SAND. Gravel is subangular fine to coarse of various lithologies.			3.00 +9.37		
3.50-4.00 3.60	B 13 EWM				3.50-4.00 m very gravelly. Gravel is fine to medium					
4.00-4.45 4.00-4.45 4.00	SPT S D 14 ES 15	N=18 (3,4/5,4,5,4)	4.00	damp				(2.10)		
4.50-5.00 5.00-5.45 5.00-5.45 5.00	B 16 SPT S D 17 ES 18	N=18 (3,4/4,4,5,5)	5.00	3.80	Firm thinly laminated greenish brown slightly sandy slightly gravelly CLAY. Gravel is subangular fine to coarse of various lithologies.			5.10 +7.27		
5.50-6.00 6.00-6.45	B 19 U 20	45 blows	5.00	5.40	6.00-6.45 m Stiff			(1.35)		
6.65-7.10 7.00-7.60	SPT S B 21	N=30 (3,5/7,8,7,8)	6.00	5.00	Medium dense to dense brown slightly clayey sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of various lithologies.			6.45 +5.92		
8.15-8.60 8.15-8.60	SPT S D 22	N=30 (3,5/5,9,7,9)	8.15	5.50	7.00-7.60 m clayey very sandy			(2.60)		
8.60-9.05 9.05-9.50 9.05-9.50	B 23 SPT S D 24	N=51 (9,10/10,15,12,14)	9.05	5.60	Very weak light brown LIMESTONE. (Recovered as sandy gravel.)			9.05 +3.32		
9.50-10.00	B 25							(0.95)		
Depth	Type & No	Records	Date Casing	Time Water						
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m) 1 5.00 Rose to 3.80 m after 20 minutes. -					Depth Related Remarks * From to (m)			Chiselling Depths (m) Time Tools used 10.00 -10.70 60 mins		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation			Borehole BH301 Sheet 1 of 2		

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS		Start 27/09/2010 End 04/10/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.			Depth from 0.00m to 4.00m Diameter 200mm Casing Depth 4.00m 10.87m 15.00m 150mm 10.00m 121mm 10.00m		Ground Level +12.37 mOD Coordinates E 447704.69 National Grid N 425412.91 Chainage		
Samples and Tests						Strata					
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)		Depth, Level (Thickness)	Legend	Backfill/ Instruments	
10.00-10.37 10.00-10.37 10.00-10.70	SPT S D 26 B 27		85 (15,10/15,20,50 for 70mm)	10.00	4.90	Weak light brown Limestone. (Recovered as gravel.)		10.00-10.25 m AZCL 10.25-10.89 m NI	(0.87)		
10.70-10.87 10.70-10.87 10.00-11.50	83 3 0	NI NI 50	SPT S 50 (25/50 for 70mm) D 28	27/09/2010 10.00	4.70	Medium strong light creamy brown Limestone. Fractures are very closely to closely spaced subhorizontal rough planar.		10.89-11.26 m multiple subvertical rough planar fracture 11.31-11.50 m NI 11.50-11.59 m AZCL 11.59-11.80 m NI 11.80-12.26 m 1 No subvertical rough undulose fracture	(4.13)		
11.50-13.00 12.26-12.33	94 58 0	10 20 60	CS 29 Flush: 10.00-15.00 Air Mist, 100 %	04/10/2010 10.00	0800			12.34-12.75 m 1 No subvertical rough undulose fracture			
13.00-14.50	91 8 0	NI NI 70						12.94-13.00 m NI 13.00-13.13 m AZCL 13.13-14.25 m NI			
14.32-14.41			CS 30					14.25-14.50 m 1 No subvertical rough planar fracture			
14.50-15.00	100 0 0			04/10/2010 10.00				14.50-15.00 m NI multiple subvertical fractures			
						EXPLORATORY HOLE ENDS AT 15.00 m		15.00	-2.63		
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m)						Depth Related Remarks * From to (m)		Chiselling Depths (m) Time Tools used 10.00 -10.70 60 mins			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH301 Sheet 2 of 2			

Scale 1:50

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Borehole Log



Soil Mechanics

Drilled CS/CT Logged PM Checked MS	Start 21/09/2010 End 23/09/2010	Equipment, Methods and Remarks Dando, M16 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 10.00m Diameter 200mm Casing Depth 4.10m 150mm 9.30m 121mm 15.80m	Ground Level +11.93 mOD Coordinates E 447790.01 National Grid N 425356.47 Chainage				
Samples and Tests			Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.30 0.40-0.60 0.50 0.50-1.00	ES 1 B 2 ES 3 B 4	0.00-1.20 m Hand excavated inspection pit.			TARMAC. (Foreman's description)	0.08 +11.85 (0.29) 0.37 +11.56		
1.00 1.20-1.65 1.20-1.65	ES 5 SPT S D 6	N=24 (3,4/4,5,7,8)		dry	Yellowish brown slightly clayey gravelly SAND. Gravel is subangular fine to coarse of limestone. (MADE GROUND)			
1.65-2.00	B 7				Very loose to loose black sandy GRAVEL. Sand is ash. Gravel is angular fine to coarse of clinker and coal. (MADE GROUND)	(2.93)		
2.00-2.45 2.00-3.00 2.00 2.00-3.00	SPT S B 10 ES 8 D 9	N=3 (1,-/1,-,1,1)	2.00	dry				
3.00-3.45 3.00 3.00-3.45 3.05 3.50-4.00	SPT S ES 11 D 12 EWM B 13	N=6 (1,1/2,1,2,1)	3.00	dry				
4.00-4.45 4.00 4.00-4.45	SPT S ES 14 D 15	N=7 (2,2/2,1,2,2)	4.00	dry	Soft black grey slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone and occasional wood fragments. (MADE GROUND)	3.30 +8.63 (0.80)		
4.50-5.00	B 16				Soft orangish brown mottled grey very sandy slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone and sandstone. Occasional gravel size pockets of peat.	4.10 +7.83 (1.00)		
5.00-5.45 5.00 5.00-5.45 5.30 5.50-5.95 5.50-6.00	SPT S ES 17 D 18 W 19 SPT S B 20	N=18 (2,2/3,4,4,7) * N=33 (5,7/7,8,8,10)	5.00 5.50	3.65	Dense brown gravelly fine to coarse SAND. Gravel is subangular to rounded fine to coarse of various lithologies.	5.10 +6.83		
6.50-6.95 6.50-6.95	SPT S D 21	N=34 (5,7/7,8,9,10)	6.50		5.50-6.00 m clayey gravelly sand. Gravel is fine to medium.			
7.00-7.60	B 22				7.00-7.60 m clayey sand and gravel, with low cobble content	(4.00)		
8.00-8.45 8.00-8.45 8.00-9.00	SPT S D 23 B 24	N=41 (8,9/10,10,10,11)	8.00		8.00-9.00 m sandy gravel with low cobble content			
9.10-9.55 9.10-9.55 9.10-9.80	SPT S B 25 B 26	N=56 (9,10/12,14,12,18)	9.10	5.30	Weak creamy brown LIMESTONE. (Recovered as silty sandy gravel)	9.10 +2.83 (0.90)		
9.80-10.00 9.80-10.00	SPT S D 27	50 (25/50 for 70mm)	9.30 21/09/2010 5.31	5.31	9.80-10.44 m AZCL			
Depth	Type & No	Records	Date Casing	Time Water				
Groundwater Entries					Depth Related Remarks *		Chiselling	
No.	Struck (m)	Post strike behaviour	Depth sealed (m)	From	to (m)	Time	Tools used	
1	5.30	Rose to 3.65 m after 20 minutes.	-	5.30	9.00	60 mins	Water added.	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH302 Sheet 1 of 3	

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Drilled CS/CT Logged PM Checked MS		Start 21/09/2010 End 23/09/2010		Equipment, Methods and Remarks Dando, M16 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m to 4.10m 10.00m		Casing Depth 4.10m 9.30m 15.80m		Ground Level +11.93 mOD Coordinates E 447790.01 National Grid N 425356.47 Chainage		
Samples and Tests						Strata						
Depth		TCR SCR RQD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)		Depth, Level/ (Thickness)		Legend	Backfill/ Instruments
9.80-11.30		24 21 0		CS 28	9.30 23/09/2010	0800	Weak light brown LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar.		10.00 +1.93			
							10.44-10.62 m NI					
							10.66-10.76 m 1 No 70 degree rough planar fracture					
							10.76-10.88 m NI					
11.30-12.80		96 53 0		CS 29			10.92-10.96 m NI					
							11.01-11.03 m NI					
							11.12-11.30 m NI					
							11.30-11.36 m AZCL					
12.38-12.48				SPT C 50 (12.13 for 30mm/ 50 for 65mm)			11.36-11.76 m NI					
							11.76-12.00 m 1 No 70 degree rough planar fracture					
							11.96-12.07 m 1 No 70 degree rough planar fracture					
							12.32-12.40 m NI					
12.80-14.30		41 7 0		CS 30			12.49-12.53 m NI					
							12.53-12.66 m 1 No 80 degree rough planar fracture					
							12.80-13.68 m AZCL					
							13.68-13.83 m NI					
14.30-14.47				SPT C 50 (20.5 for 2mm/ 38,12 for 5mm)			13.91-14.10 m NI					
							14.14-14.30 m NI					
							14.30-15.10 m AZCL					
							15.10-15.33 m NI					
14.30-15.80		47 25 0		CS 29			15.39-15.41 m NI					
							15.49-15.56 m NI					
							15.63-15.65 m NI					
							15.80-16.02 m AZCL					
15.69-15.80		56 0 0		SPT C 50 (25 for 70mm/ 50 for 73mm)			16.02-16.30 m NI					
							16.30-16.70 m AZCL					
							16.80-16.83 m NI					
							16.95-17.00 m NI					
16.30-17.30		60 30 0		Flush: 9.80-25.00 Air Mist, 100 %			17.00-17.03 m 1 No 70 degree planar fracture					
							17.03-17.10 m NI					
							17.34-17.39 m NI					
							17.43-17.79 m AZCL					
17.16-17.50		43 16 0	NI 30 110				17.79-18.04 m NI		(15.00)			
							18.09-18.13 m NI					
17.30-18.80							19.80-19.89 m AZCL					
18.80-18.94												
18.80-19.80		0 0 0										
19.80-19.89												
19.80-19.89												
19.80-19.89												
19.80-19.89												
19.80-19.89												

Borehole Log



Soil Mechanics

Drilled CS/CT Logged PM Checked MS		Start 21/09/2010 End 23/09/2010	Equipment, Methods and Remarks Dando, M16 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.			Depth from 0.00m to 4.10m Diameter 200mm Casing Depth 4.10m 10.00m 25.00m 150mm 9.30m 121mm 15.80m	Ground Level +11.93 mOD Coordinates E 447790.01 National Grid N 425356.47 Chainage		
Samples and Tests						Strata			
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 2)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
19.80-20.30	82 6 0		SPT C (25 for 15mm/50 for 0mm)			Weak light brown LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar.	19.89-20.27 m NI		
20.30-20.32	96						20.30-20.32 m AZCL		
20.30-20.80	22						20.32-20.69 m AZCL		
20.66-20.80	22						20.80-20.85 m AZCL		
20.80-21.80	95 73 32		SPT C 50 (25 for 0mm/ 50 for 10mm)				20.94-20.98 m NI		
							21.54-21.58 m NI		
							21.80-22.46 m AZCL		
							22.40-22.56 m NI		
21.80-23.30	56 19 0		SPT C 50 (25 for 0mm/ 50 for 10mm)				22.66-22.80 m NI		
							22.89-23.14 m 1 No subvertical rough planar fracture		
							23.15-23.30 m NI		
							23.30-24.06 m AZCL		
23.05-23.15			SPT C 50 (25 for 0mm/ 50 for 10mm)				24.06-24.26 m NI		
23.30-23.31							24.30-24.49 m AZCL		
23.30-24.30	24 4 0						24.49-24.58 m NI recovered as sandy clay		
							24.68-24.74 m NI		
24.54-24.63	73		CS 33				24.80-24.84 m NI		
24.30-25.00	27 0								
23/09/2010 15.80						EXPLORATORY HOLE ENDS AT 25.00 m	25.00 -13.07		
Groundwater Entries						Depth Related Remarks *	Chiselling		
No.	Struck (m)	Post strike behaviour	Depth sealed (m)			From to (m)	Depths (m)	Time	Tools used
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION		Borehole	
Scale 1:50						Project No. A0054-10		BH302	
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Borehole Log



Soil Mechanics

Drilled Logged Checked		CS/CT PM MS	Start 22/09/2010 End 27/09/2010	Equipment, Methods and Remarks Dando, M16 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m 6.00m 10.45m	to 6.00m 10.45m 25.00m	Diameter 200mm 150mm 121mm	Casing Depth 6.00m 10.00m 17.50m	Ground Level Coordinates National Grid Chainage	+12.26 mOD E 447844.10 N 425324.26
Samples and Tests						Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments			
0.00	W	0.00-1.20 m Hand excavated inspection pit.			TARMAC. (MADE GROUND)	0.10 +12.16					
0.30	ES 1				COMPACT HARDCORE.	0.30 +11.96					
0.35-0.45	B 2				(Foreman's description)	0.45 +11.81					
0.50	ES 3				Brownish grey sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of limestone.	0.46 +11.81					
0.50-0.80	B 4				(MADE GROUND)						
1.00	W 5				Geotextile membrane.						
1.00	ES 6				(MADE GROUND)						
1.20-1.65	SPT S	N=5 (2,3/2,1,1,1)		0.85							
1.20-1.65	D 7										
1.65-2.00	B 8				Loose becoming very loose black gravelly SAND. Sand is ash. Gravel is angular to subangular fine to coarse of ash, coal and clinker.						
2.00	ES 9				(MADE GROUND)						
2.10-2.55	SPT S	N=5 (3,2/1,2,1,1)	2.10	dry							
2.10-2.55	D 10										
2.20-2.80	B 11					(4.05)					
3.00-3.45	SPT S	N=2 (1,-/1,-,-,1)	3.00	dry							
3.00	ES 12										
3.00-3.45	D 13										
3.34	EWM										
3.50-4.00	B 14										
4.00-4.45	SPT S	N=2 (1,-/1,-,-,1)	4.00	dry							
4.00	ES 15										
4.00-4.45	D 16										
4.50-5.00	B 17				Black silty gravelly SAND. Gravel is angular fine to coarse of coal and clinker.	4.50 +7.76					
5.00-5.45	SPT S	N=7 (1,1/1,2,2,2)	5.00	dry		(0.80)					
5.00	ES 18										
5.00-5.45	D 19										
5.50-6.00	B 20				Soft greenish black slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium of limestone and sandstone.	5.30 +6.96					
6.00	ES 23					(1.00)					
6.00-6.45	U 24	22 blows 400 mm rec	6.00								
6.45-6.65	D 25	*			Soft brown sandy slightly gravelly CLAY. Gravel is subangular fine to medium of sandstone and mudstone.	6.30 +5.96					
6.70	W 26					6.45 +5.81					
6.70-7.40	B 27										
7.00	ES 28				Medium dense multicoloured sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of various lithologies.						
7.50-7.95	SPT S	N=22 (3,5/6,5,6,5)	7.50			(2.65)					
8.00-9.00	B 29				8.00-9.00 m clayey very gravelly sand						
9.10-9.55	SPT S	N=40 (7,8/8,9,10,13)	9.10	5.30	Firm to stiff reddish brown slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone	9.10 +3.16					
9.10-9.55	D 30					(0.50)					
9.10-9.60	B 31										
9.60-9.90	SPT S	70 (10,15/20,50 for 70mm)	9.50	4.00	Very weak creamy brown LIMESTONE.	9.60 +2.66					
9.60-9.90	D 32										
9.60-10.30	B 33										
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 10.45 m						
Groundwater Entries						Depth Related Remarks *			Chiselling		
No.	Struck (m)	Post strike behaviour	Depth sealed (m)		From	to (m)			Depths (m)	Time	Tools used
1	1.00	Rose to 0.80 m after 20 minutes.	1.30		6.45	9.00	Water added.		0.00 -0.07	15 mins	
2	6.65	Rose to 4.20 m after 20 minutes.	-						9.60 -10.30	60 mins	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION			Borehole BH303		
Scale 1:50						Project No. A0054-10			Sheet 1 of 3		
Carried out for SSE Generation											

Borehole Log



Soil Mechanics

Drilled CS/CT Logged PM Checked MS	Start 22/09/2010 End 27/09/2010	Equipment, Methods and Remarks Dando, M16 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 6.00m Diameter 200mm Casing Depth 6.00m 10.45m 25.00m 150mm 10.00m 121mm 17.50m	Ground Level +12.26 mOD Coordinates E 447844.10 National Grid N 425324.26 Chainage				
Samples and Tests			Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level (Thickness)	Legend	Backfill/ Instruments
10.30-10.45	SPT S D 34	50 (25/50 for 50mm)	22/09/2010 10.00		(Recovered as sandy gravel)	(0.85)		
10.30-10.45								
10.45-11.45	8 N/A N/A	N/A	24/09/2010 10.00	0800	ASSESSED ZONE OF CORE LOSS. Foreman reports very weathered and broken yellow brown LIMESTONE 10.45-11.37 m AZCL 11.37-11.45 m Very weak light creamy brown Limestone	10.45 +1.81		
11.45-12.45	0 N/A N/A							
12.50-12.76		SPT C 50 (10.15 for 30mm/ 31.15,4 for 2mm)						
12.45-13.50	0 N/A N/A	N/A				(5.05)		
13.50-14.50	0 N/A N/A							
14.50-15.50	0 N/A N/A							
15.50-15.63		SPT C 50 (25 for 45mm/ 39.11 for 5mm)				15.50 -3.24		
15.50-16.50	66 17 0				Very weak to weak light creamy brown LIMESTONE. Fractures are extremely closely to very closely spaced subhorizontal rough planar. 15.50-15.84 m AZCL 15.84-16.00 m NI 16.18-16.23 m NI 16.28-16.44 m NI 16.50-17.00 m AZCL 17.00-17.05 m NI 17.08-17.29 m NI 17.37-17.43 m NI 17.50-17.99 m AZCL 17.99-18.23 m NI 18.26-18.33 m NI 18.38-18.45 m NI 18.50-20.00 m ASSESSED ZONE OF CORE LOSS. Foreman reports Very weathered yellow brown LIMESTONE.			
16.50-17.50	50 13 0	NI NI 90	24/09/2010 17.50					
17.50-18.50	51 13 0		27/09/2010 17.50	0800				
18.42-18.50		CS 35						
18.50-19.00	0 N/A N/A							
19.00-19.19	0 N/A N/A	SPT C 50 (11.14 for 30mm/ 29.21 for 10mm)						
19.00-19.50	0 N/A N/A	N/A						
19.50-20.00	0 N/A N/A					(8.79)		
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 24.29 m		
Groundwater Entries			Depth sealed (m)			Depth Related Remarks *		
No.	Struck (m)	Post strike behaviour				From	to (m)	
						Chiselling Depths (m)	Time	Tools used
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.			Project FERRYBRIDGE MULTIFUEL POWERSTATION			Borehole		
Scale 1:50			Project No. A0054-10			BH303		
ESGL www.esgl.co.uk 408.24 10/02/2011 09:24:09			Carried out for SSE Generation			Sheet 2 of 3		

Borehole Log



Soil Mechanics

Drilled CS/CT Logged PM Checked MS		Start 22/09/2010 End 27/09/2010	Equipment, Methods and Remarks Dando, M16 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.			Depth from 0.00m to 6.00m Diameter 200mm Casing Depth 6.00m 6.00m 10.45m 150mm 10.00m 10.45m 25.00m 121mm 17.50m	Ground Level +12.26 mOD Coordinates E 447844.10 National Grid N 425324.26 Chainage		
Samples and Tests						Strata			
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 2)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
20.00-20.50	62 18 0	NI NI 130	SPT C 50 (25 for 60mm/ 41.9 for 5mm)			Very weak to weak light creamy brown Limestone. Fractures are extremely closely to very closely spaced subhorizontal rough planar.	20.00-20.19 m AZCL 20.19-20.41 m NI		
20.50-20.64	70 14 0					20.50-20.65 m AZCL 20.65-20.74 m NI 20.81-21.00 m NI			
20.50-21.00						21.00-21.07 m AZCL 21.07-21.11 m NI recovered as gravelly sand 21.16-21.24 m NI recovered as sand 21.31-21.42 m NI 21.46-21.67 m NI recovered as sandy gravel 21.67-21.87 m 1 No subvertical rough undulose fracture 22.00-22.58 m AZCL 22.60-22.66 m NI 22.76-22.83 m NI			
21.00-22.00	93 28 13					23.06-23.34 m NI 23.36-23.80 m NI 23.50-24.49 m AZCL			
22.00-23.50	61 21 0					24.29-24.45 m NI 24.56-24.69 m NI			
23.00-23.08			CS 36			Medium strong greyish brown Limestone. Fractures are very closely spaced subhorizontal rough planar.	24.29 -12.03 (0.71)		
23.50-25.00	47 15 0	NI 40 60		27/09/2010 17.50		EXPLORATORY HOLE ENDS AT 25.00 m	25.00 -12.74		
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m)						Depth Related Remarks * From to (m)		Chiselling Depths (m) Time Tools used	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH303 Sheet 3 of 3	



Borehole Log



Soil Mechanics

Drilled CS Logged PM Checked MS	Start 30/09/2010 End 30/09/2010	Equipment, Methods and Remarks Dando Cable percussion boring.		Depth from 0.00m to 2.00m Diameter 200mm Casing Depth 2.00m 11.00m 150mm	Ground Level +12.59 mOD Coordinates E 447818.58 National Grid N 425179.64 Chainage			
Samples and Tests				Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.20-0.40 0.30	B 2 ES 1	0.00-1.20 m Hand excavated inspection pit.			TOPSOIL. (Foreman's description)	0.05 +12.54 (0.35)		
0.50 0.50-1.00	ES 3 B 4				Grey sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone and concrete. (MADE GROUND)	0.40 +12.19		
1.00 1.20-1.65 1.20-1.65	ES 5 SPT S D 6	N=9 (1,1/1,2,3,3)			Loose black gravelly SAND. Sand is ash. Gravel is angular fine to coarse of ash and clinker. (MADE GROUND)	(1.10)		
1.65-2.00	B 7				Soft brown very sandy CLAY, locally grades to a clayey sand.	1.50 +11.09		
2.00-2.45 2.00 2.00-2.45 2.40-3.00	SPT S ES 8 D 9 B 10	N=11 (2,5/4,3,2,2)	2.00	dry	1.60-2.00 m Silty gravelly sand. Gravel is fine to medium			
2.80 3.00-3.45 3.00-3.45	EWM SPT S D 11	N=10 (3,2/3,2,2,3)	3.00	dry				
3.50-4.00	B 12				3.50-4.00 m rare fine gravel	(3.80)		
4.00-4.45 4.00-4.45	SPT S D 13	N=14 (2,2/3,4,3,4)	4.00	damp				
4.50-5.00	B 14							
5.00-5.45	U 15	30 blows	5.00	dry	5.00-5.65 m Firm			
5.70 5.70-6.50	W 16 B 17				Firm dark brown thinly laminated sandy CLAY with reddish brown fine sand laminae.	5.30 +7.29 5.55 +7.04		
6.50-6.95	SPT S	N=21 (5,3/5,7,5,4)	6.50	4.15				
7.00-7.80	B 18				7.00-7.80 m slightly silty very sandy gravel.	(3.55)		
8.00-8.45 8.00-8.45	SPT S D 21	N=45 (7,8/9,10,12,14)	8.00	5.00				
8.50-9.00	B 22							
9.10-9.55 9.10-9.55	SPT S D 23	N=37 (5,5/7,8,12,10)	9.10	5.10	Weak light creamy brown LIMESTONE. (Recovered as sandy gravel)	9.10 +3.49		
9.55-10.10	B 24							
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 11.15 m			
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m)					Depth Related Remarks * From to (m)		Chiselling Depths (m) Time Tools used	
1 5.50 -							10.00 -11.00 60 mins	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH401 Sheet 1 of 2	

Borehole Log



Soil Mechanics

Drilled CS Logged PM Checked MS	Start 30/09/2010 End 30/09/2010	Equipment, Methods and Remarks Dando Cable percussion boring.		Depth from 0.00m to 2.00m Diameter 200mm 150mm Casing Depth 2.00m 11.00m	Ground Level +12.59 mOD Coordinates E 447818.58 N 425179.64 Chainage
Samples and Tests				Strata	
Depth 10.10-10.32 10.10-10.32 10.10-11.00	Type & No SPT S D 25 B 26	Records 50 (15,18/50 for 70mm)	Date 10.10 Casing 10.10 Time 5.30 Water	Description (Continued from Sheet 1) Weak light creamy brown LIMESTONE. (Recovered as sandy gravel)	
11.00-11.15 11.00-11.15	SPT S Q 27	50 (25/50 for 50mm)	30/09/2010 11.00 5.40	EXPLORATORY HOLE ENDS AT 11.15 m	
Depth	Type & No	Records	Date Casing Time Water	Depth, Level / (Thickness) (2.05) 11.15 +1.44	
Groundwater Entries No. Struck Post strike behaviour Depth sealed (m)				Depth Related Remarks * From to (m)	
Chiselling Depths (m) Time Tools used 10.00 -11.00 60 mins				Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.	
Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation				Borehole BH401 Sheet 2 of 2	

Scale 1:50

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Borehole Log



Soil Mechanics

Drilled CS/GB Logged Checked MS	Start 01/10/2010 End 04/10/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.			Depth from 0.00m to 3.00m Diameter 200mm Casing Depth 3.00m	Ground Level +12.50 mOD Coordinates E 447768.71 National Grid N 425134.91 Chainage		
Samples and Tests					Strata			
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.30 0.30-0.60 0.50 0.50-1.00	ES 1 B 2 ES 3 B 4	0.00-1.20 m Hand excavated inspection pit.			Red brick crush fill. (Foreman's description)	0.15 +12.35		
1.00 1.20-1.65 1.20-1.65	ES 5 SPT S D 6	N=9 (1,1/3,2,2,2)		dry	Loose black gravelly SAND. Sand is ash. Gravel is subangular fine to medium of coal and clinker. (MADE GROUND)	(2.15)		
1.65-2.00	B 7							
2.00 2.10-2.55 2.10-2.55	ES 8 SPT S D 9	N=10 (1,2/2,3,2,3)	2.10	dry				
2.55-3.00	B 10				Loose brown slightly clayey gravelly SAND. Gravel is subangular fine to coarse of clinker, sandstone and limestone. (MADE GROUND)	2.30 +10.20 (0.75)		
3.00-3.45 3.00 3.00-3.45	SPT S ES 11 D 12	N=13 (2,2/3,3,3,4)	3.00	dry	Firm to stiff thinly laminated dark brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of mudstone and limestone.	3.05 +9.45		
3.50-4.00	B 13							
3.81 4.00-4.45 4.20-5.00 4.45-4.65	EWM U 14 B 16 D 15	35 blows	4.00	dry	4.00-4.45 m Firm	(1.65)		
5.00-5.45 5.00-5.45 5.10 5.30-6.00	SPT S B 17 W 18 B 19	N=19 (4,5/4,5,5,5)	5.00	3.85	5.30-6.00 m very gravelly	4.70 +7.80		
		5.50-8.60 m water Added						
6.50-6.95 6.50-6.95	SPT S D 20	N=26 (5,4/5,6,7,8)	6.50			(3.30)		
7.00-8.00	B 21							
8.00-8.45 8.00-8.45 8.00-8.60	SPT S D 22 B 23	N=22 (4,6/5,4,5,8)	8.00		Medium dense brown slightly clayey sandy GRAVEL with low cobble content. Gravel is rounded to subangular fine to coarse of various lithologies. Cobbles are subrounded of limestone.	8.00 +4.50 (0.60)		
8.60-9.05 8.60-9.05 8.60-9.40	SPT S D 24 B 25	N=42 (8,10/8,9,10,15)	8.60		Weak light brown LIMESTONE. (Recovered as sandy gravel.)	8.60 +3.90		SP
9.40-9.58 9.40-9.58 9.40-10.00	SPT S D 26 B 27	50 (25/50 for 60mm)	9.40			(1.56)		
			01/10/2010 10.00	5.05				
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 10.16 m			
Groundwater Entries					Depth Related Remarks *		Chiselling	
No.	Struck (m)	Post strike behaviour	Depth sealed (m)		From	to (m)	Depths (m)	Time
1	5.00	Rose to 3.85 m after 20 minutes.	-		10.00	15.00	8.60 -10.00	60 mins
								Tools used
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH402 Sheet 1 of 2	

Borehole Log



Soil Mechanics

Drilled CS/GB Logged Checked MS		Start 01/10/2010 End 04/10/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.			Depth from 0.00m to 3.00m Diameter 200mm Casing Depth 3.00m 10.00m 15.00m 150mm 10.00m 121mm 10.00m		Ground Level +12.50 mOD Coordinates E 447768.71 National Grid N 425134.91 Chainage		
Samples and Tests						Strata					
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level (Thickness)	Legend	Backfill/ Instruments		
10.00-10.15 10.00-10.16	SPT S D 28		* 50 (25/50 for 50mm)	10.00 04/10/2010 10.00	5.05 0800 5.80	Weak light brown LIMESTONE. (Recovered as sandy gravel.)	10.00-11.13 m AZCL	10.16 +2.34			
10.00-11.50	25 0 0					Very weak to weak light brown LIMESTONE. Fractures are extremely closely to very closely spaced subhorizontal rough planar.					
11.50-11.54			SPT C 50 (25 for 15mm/ 50 for 29mm)	10.00			11.13-11.50 m NI				
11.50-12.50	46 13 0	NI NI 30					11.50-12.04 m AZCL				
12.50-12.56			SPT C 50 (25 for 18mm/ 50 for 40mm)	10.00			12.04-12.28 m NI				
12.50-13.50	46 0 0						12.28-12.40 m 1 No subvertical clean planar fracture 12.40-12.50 m NI 12.50-13.04 m AZCL	(4.84)			
13.50-13.55			SPT C 50 (25 for 16mm/ 50 for 38mm)	10.00			13.04-13.50 m NI				
13.50-14.50	49 35 0						13.50-14.01 m AZCL				
14.50-14.55		NI 40 50	SPT C 50 (25 for 14mm/ 50 for 31mm)	10.00			14.01-14.08 m 1 No subvertical rough planar fracture 14.19-14.22 m NI 14.50-14.57 m NI				
14.50-15.00 14.76-14.85	86 58 0		CS 29	04/10/2010 10.00			14.90-15.00 m NI	15.00 -2.50			
EXPLORATORY HOLE ENDS AT 15.00 m											
Groundwater Entries						Depth Related Remarks *		Chiselling			
No.	Struck (m)	Post strike behaviour	Depth sealed (m)			From	to (m)	Depths (m)	Time		
						10.00	15.00		Tools used		
						Flush: Air mist, 100%.					
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.				Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation				Borehole BH402 Sheet 2 of 2			

Scale 1:50

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Drilled CS/GB Logged PM Checked MS		Start 21/09/2010 End 22/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m to 9.30m Diameter 150mm Casing Depth 9.00m 9.30m 15.30m 121mm 9.30m				Ground Level +12.75 mOD Coordinates E 447672.30 National Grid N 425059.51 Chainage							
Samples and Tests						Strata											
Depth		Type & No		Records		Date Casing		Time Water		Description		Depth, Level/ (Thickness)		Legend		Backfill/ Instruments	
0.30 0.30-0.50 0.50 0.50-1.00		ES 1 B 2 ES 3 B 4		0.00-1.20 m Hand excavated inspection pit.						HARDCORE. (MADE GROUND)		0.20 +12.55					
1.00 1.20-1.65 1.20-1.65		ES 5 SPT S D 6		N=24 (3,4/4,5,7,8)						Brown slightly sandy slightly gravelly CLAY. Gravel is subangular fine to coarse of limestone, sandstone and coal. (MADE GROUND)		(1.10)					
1.65-2.00		B 7								Medium dense brown slightly silty gravelly SAND. Gravel is subangular to subrounded fine to coarse of various lithologies. Locally varies to sandy gravel.		1.30 +11.45					
2.00 2.10-2.55 2.10-2.55		ES 8 SPT S D 9		* N=24 (4,5/5,5,6,8)		2.10											
2.55-3.00		B 10															
3.00-3.45 3.00-3.45		SPT S D 11		N=21 (4,4/5,5,5,6)		3.00											
3.50-4.00		B 12															
3.98 4.00-4.45 4.00-4.45 4.20		EWM SPT S D 13 W 14		* N=17 (4,3/4,4,4,5)		4.00		3.40		3.50-4.00 m very gravelly							
4.50-5.00		B 15															
5.00-5.45 5.00-5.45		SPT S D 16		N=23 (4,5/5,6,5,7)		5.00											
5.50-6.00		B 17															
6.50-6.95 6.50-6.95		SPT S D 18		N=19 (3,4/4,6,4,5)		6.50											
7.00-7.70		B 19								7.00-7.70 m very silty sand and gravel							
8.00-8.45 8.00-8.45 8.00-8.60		SPT S D 20 B 21		N=24 (4,5/6,6,5,7)		8.00				8.00-8.60 m silty sand and gravel							
8.70-9.15 8.70-9.15 8.70-9.30		SPT S D 22 B 23		N=60 (9,12/14,14,15,17)		8.70				Weak cream LIMESTONE.		8.70 +4.05					
9.30-9.60 9.30-9.60		SPT S D 24		67 (12,13/17,50 for 70mm)		21/09/2010 9.00 22/09/2010 0800 9.00		5.05		9.30-9.59 m NI		(0.90)					
										Weak to medium strong brownish cream		9.60 +3.15					
										9.63 m 1 No 30 degree planar fracture							
										9.67-9.70 m NI							
Depth		Type & No		Records		Date Casing		Time Water		Stratum continues to 15.30 m							
Groundwater Entries						Depth Related Remarks *						Chiselling					
No.		Struck (m)		Post strike behaviour		Depth sealed (m)		From		to (m)		From		to (m)		Depths (m)	
1		4.00		Rose to 3.40 m after 20 minutes.		-		2.00		4.00		2.00		4.00		8.70 -9.30	
																60 mins	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION						Borehole					
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Scale 1:50						Carried out for SSE Generation						Sheet 1 of 2					

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS		Start 21/09/2010 End 22/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m to 9.30m Diameter 150mm Casing Depth 9.00m		Ground Level +12.75 mOD Coordinates E 447672.30 National Grid N 425059.51 Chainage		
Samples and Tests						Strata				
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)		Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
9.30-10.80	100 48 0					LIMESTONE. Fractures are subhorizontal, very closely to closely spaced, rough, planar. 10.57-10.80 m 1 No subvertical rough planar fracture 10.80-10.93 m NI 11.01-11.06 m NI		(5.70)		
10.80-12.30	100 69 0				11.61-11.73 m NI 11.81-11.86 m 1 No 30 degree rough planar fractures					
12.13-12.22		NI 70 130	CS 25 Flush: 9.30-15.30 Air Mist, 100 %		12.30-12.45 m NI 12.56-12.59 m NI					
12.30-13.80 13.20-13.29	100 86 24		CS 26		13.03-13.10 m 1 No 80 degree rough planar fracture					
13.80-15.30 14.70-14.82	83 36 7		CS 27	22/09/2010 9.30	13.80-14.06 m AZCL 14.06-14.17 m NI 14.17-14.28 m 1 No subvertical rough planar fracture 14.28-14.36 m NI 14.65-14.73 m NI					
						EXPLORATORY HOLE ENDS AT 15.30 m		15.30	-2.55	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.										
Groundwater Entries No. Struck (m) Post strike behaviour			Depth sealed (m)		Depth Related Remarks * From to (m)			Chiselling Depths (m) Time Tools used		
Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation					Borehole BH403 Sheet 2 of 2					

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

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Scale 1:50

Borehole Log



Soil Mechanics

Drilled CS Logged PM Checked MS	Start 20/09/2010 End 20/09/2010	Equipment, Methods and Remarks Dando Cable percussion boring.				Depth from 0.00m to 9.40m Diameter 150mm Casing Depth 9.00m	Ground Level +12.00 mOD Coordinates E 447765.93 National Grid N 424953.49 Chainage		
Samples and Tests					Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments	
0.30 0.30-0.50 0.50	ES 1 B 2 ES 3	0.00-1.20 m Hand excavated inspection pit.			Compact grey HARDCORE . (Foreman's description)	0.20 +11.80			
0.80-1.00 1.00	B 4 ES 5				Reddish brown gravelly SAND . Sand is ash. Gravel is subangular fine to coarse of brick, limestone and coal (MADE GROUND)	(0.90)			
1.20-1.65 1.20-1.65	SPT S D 6	N=22 (3,5/5,5,7)		dry	Medium dense greyish brown clayey slightly gravelly SAND . Sand is fine to medium. Gravel is subangular fine to medium of mudstone and sandstone.	1.10 +10.90			
1.65-2.00	B 7					(1.40)			
2.00 2.10-2.55	ES 8 SPT S	N=12 (2,3/2,3,3,4)	2.10	dry		2.50 +9.50			
2.55-3.00	B 9				Soft greyish brown slightly sandy CLAY .	(0.60)			
3.00-3.45 3.00-3.45	SPT S D 10	N=15 (2,3/3,3,5,4)	3.00	dry	Firm thinly laminated greyish brown sandy, slightly gravelly, CLAY with fine sand laminae. Gravel is subangular to subrounded fine to coarse of various lithologies.	3.10 +8.90			
3.50-4.00	B 11					(1.50)			
4.00-4.45	U 12	33 blows	4.00	damp		4.60 +7.40			
4.45-4.65 4.65-4.90	D 13 B 14				Brown slightly sandy silty CLAY .	(0.45)			
5.00-5.45 5.00-5.45 5.20 5.20-6.00	SPT S D 15 W 16 B 17	N=24 (3,4/4,6,7,7)	5.00	3.65	Medium dense brownish cream sandy GRAVEL . Gravel is subangular fine to coarse of limestone. (Possible weathered LIMESTONE)	5.05 +6.95			
6.50-6.95 6.50-6.95	SPT S D 18	N=24 (4,5/5,5,6,8)	6.50	4.05		(3.10)			
7.00-7.50	B 19				7.00-7.75 m slightly clayey very sandy			SP	
8.00-8.45 8.00-8.45 8.15-9.20	SPT S D 20 D 21	N=51 (9,10/9,10,12,20)	8.00	5.10	Very weak brownish cream LIMESTONE . (Recovered as silty sandy gravel)	8.15 +3.85			
						(1.25)			
9.20-9.40 9.20-9.40	SPT S D 22	50 (25/50 for 70mm)	9.00 20/09/2010	5.60 5.60		9.40 +2.60			
					EXPLORATORY HOLE ENDS AT 9.40 m				
Depth	Type & No	Records	Date Casing	Time Water					
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m) 1 5.05 Rose to 3.65 m after 20 minutes. -					Depth Related Remarks * From to (m)		Chiselling Depths (m) Time Tools used 8.20 -9.20 60 mins		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH404 Sheet 1 of 1		

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Drilled CS Logged PM Checked MS		Start 20/09/2010 End 20/09/2010		Equipment, Methods and Remarks Dando Cable percussion boring.		Depth from 0.00m to 9.80m Diameter 150mm Casing Depth 8.90m		Ground Level Coordinates National Grid Chainage		+12.76 mOD E 447634.91 N 425176.49					
Samples and Tests						Strata									
Depth		Type & No	Records	Date Casing	Time Water	Description	Depth, Level/ (Thickness)		Legend	Backfill/ Instruments					
0.30 0.30-0.50 0.50 0.70-1.00		ES 1 B 2 ES 3 B 4	0.00-1.20 m Hand excavated inspection pit.			HARDCORE. (Foreman's description)	0.20 +12.56 (0.45)								
1.00 1.20-1.65 1.20-1.65		ES 5 SPT S D 6	N=20 (3,4/5,5,5,5)		dry	Reddish brown gravelly SAND. Sand is ash. Gravel is subangular fine to medium of brick and coal. (MADE GROUND)	0.65 +12.11 (0.55)								
1.65-2.00 2.00 2.20-2.65 2.20-2.65		B 7 ES 8 SPT S D 9	N=14 (3,2/3,4,3,4)	2.20	dry	Firm brown very sandy slightly gravelly CLAY, locally grades to clayey sand. Gravel is subangular to subrounded fine to coarse of various lithologies. Medium dense brown clayey SAND.	1.20 +11.56								
2.65-3.00 3.00-3.45 3.00-3.45		B 10 SPT S D 11	N=16 (2,5/3,5,4,4)	3.00	dry	2.65-3.00 m clayey very gravelly Sand, with low cobble content. gravel is fine to coarse.	(3.10)								
3.50-4.00 4.00-4.45 4.00-4.45 4.25		B 12 SPT S D 13 EWM	N=20 (3,4/5,5,5,5)	4.00	damp	Brown gravelly very silty SAND, locally grades to a sandy slightly gravelly CLAY.	4.30 +8.46 (0.75)								
4.50-5.00 5.00-5.45 5.00-5.43 5.30		B 14 SPT S D 15 W 16	N=23 (3,4/7,5,5,6)	5.00	3.95	Medium dense becoming very dense brown silty sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of various lithologies.	5.05 +7.71								
5.50-6.00 6.50-6.95 6.50-6.95		B 17 SPT S D 18	N=30 (3,4/7,8,7,8)	6.50	4.00	5.50-6.00 m silty very gravelly sand	(3.35)								
7.00-7.50 8.00-8.45 8.00-8.45		B 19 SPT S D 20	N=52 (5,7/8,9,10,25)	8.00	4.10	7.00-7.50 m very sandy	8.40 +4.36 (1.40)								
8.40-9.60 9.60-9.80 9.60-9.80		B 21 SPT S D 22	50 (25/50 for 70mm)	8.90 20/09/2010 8.90	4.05 4.05	Very weak cream LIMESTONE. (Recovered as sandy gravel)	9.80 +2.96								
EXPLORARY HOLE ENDS AT 9.80 m															
Depth		Type & No	Records	Date Casing	Time Water	Description	Depth, Level/ (Thickness)		Legend	Backfill/ Instruments					
Groundwater Entries						Depth Related Remarks *						Chiselling			
No.		Struck (m)		Post strike behaviour		Depth sealed (m)		From		to (m)		Depths (m)		Time	Tools used
1		5.05		Rose to 3.95 m after 20 minutes.		-						8.40 -8.60		75 mins	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project FERRYBRIDGE MULTIFUEL POWERSTATION						Borehole			
Project No. A0054-10												BH405			
Carried out for SSE Generation												Sheet 1 of 1			
Scale 1:50															
(c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:19:24															
AGS															

Borehole Log



Soil Mechanics

Drilled CS Logged PM Checked MS		Start 17/09/2010 End 17/09/2010		Equipment, Methods and Remarks Dando Cable percussion boring.		Depth from 0.00m to 8.01m Diameter 150mm Casing Depth 7.80m		Ground Level +12.00 mOD Coordinates E 447586.05 National Grid N 425235.04 Chainage	
Samples and Tests					Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description		Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.30 0.30-0.50 0.50	ES 1 B 2 ES 3	0.00-1.20 m Hand excavated inspection pit.			Brown slightly clayey gravelly SAND. Gravel is subangular fine to medium of sandstone and brick. (MADE GROUND)		(0.55)		
0.80-1.00 1.00	B 4 ES 5				Soft brown sandy silty gravelly CLAY. Gravel is subangular fine to coarse of coal and limestone. (MADE GROUND)		0.55 +11.45 (0.65)		
1.20-1.65 1.20-1.65	SPT S D 6	N=13 (2,3/3,3,3,4)		dry	Firm brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of sandstone and mudstone.		1.20 +10.80		
1.65-2.00 2.00 2.10-2.55	B 7 ES 8 U 9	31 blows	2.10	dry	2.10-2.55 m Stiff		(1.35)		
2.55-2.75 2.75-3.00	D 10 B 11				Medium dense brown clayey SAND and GRAVEL with pockets of sandy clay. Gravel is subrounded to rounded fine to coarse of various lithologies.		2.55 +9.45		
3.00-3.45 3.00-3.45 3.32 3.50-4.00	SPT S D 12 EWM B 13	N=12 (3,4/3,2,3,4)	3.00	damp	2.75-3.00 m clayey very gravelly sand.		(1.75)		
4.00-4.45 4.00-4.45	SPT S D 14	N=12 (2,3/2,3,4,3)	4.00	damp			4.30 +7.70		SP
4.50-5.00 5.00-5.45	B 15 U 16	38 blows	5.00	3.55	Firm brown sandy CLAY.		(1.00)		
5.45-5.65 5.50 5.65-6.00	D 17 W 18 B 19				Soft to firm slightly sandy CLAY. Sand is fine.		5.30 +6.70		
6.50-6.95 6.50-6.95	SPT S D 20	N=43 (7,8/9,10,10,14)	6.50	3.90	Dense brown sandy GRAVEL. Gravel is subrounded to rounded fine to coarse of various lithologies.		6.50 +5.50 (0.58)		
7.00-7.50 7.80-8.01 7.80-8.01	B 21 SPT S D 22	50 (9,14/50 for 60mm)	7.80 17/09/2010 7.80	3.95 3.95	Weak yellowish cream LIMESTONE. (Recovered as sandy angular gravel)		7.08 +4.92 (0.93)		
					EXPLORATORY HOLE ENDS AT 8.01 m		8.01 +3.99		
Depth	Type & No	Records	Date Casing	Time Water					
Groundwater Entries					Depth Related Remarks *		Chiselling		
No.	Struck (m)	Post strike behaviour	Depth sealed (m)		From to (m)		Depths (m)	Time	Tools used
1	5.30	Rose to 3.55 m after 20 minutes.							
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole BH406 Sheet 1 of 1		

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 24/09/2010 End 29/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.			Depth from 0.00m to 12.00m Diameter 200mm Casing Depth 9.00m 12.00m 150mm 121mm	Ground Level +14.41 mOD Coordinates E 447706.82 National Grid N 424603.08 Chainage
Samples and Tests					Strata	
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)
0.20-0.30 0.30	B 2 ES 1	0.00-1.20 m Hand excavated inspection pit.			Reinforced concrete. (Foreman's description)	0.21 +14.20
0.50 0.50-1.00	ES 3 B 4				Light brown grey sandy GRAVEL. Gravel is subangular fine to coarse of concrete, limestone and brick. (MADE GROUND)	0.40 +14.01
1.00 1.20-1.65 1.20-1.65	ES 5 SPT S D 6	N=12 (3,5/3,2,3,4)			Soft to firm brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of various lithologies. (MADE GROUND)	
1.65-2.00	B 7					
2.00-2.45 2.00 2.00-2.45	SPT S ES 8 D 9	N=16 (3,4/4,4,4,4)	2.00	dry		(3.65)
2.50-3.00	B 10				2.50-3.00 m slightly sandy gravel	
3.00-3.45 3.00 3.00-3.45	SPT S ES 11 D 12	N=13 (2,5/3,3,4,3)	3.00	damp		
3.50-4.00	B 13					
4.00-4.45 4.00 4.00-4.45	SPT S ES 14 D 15	N=11 (2,3/2,3,3,3)	4.00	damp	Firm brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of limestone and mudstone. (Strong hydrocarbon odour)	4.05 +10.36
4.50-5.00	B 16					
5.00-5.45 5.00	SPT S ES 17	N=12 (2,3/2,3,3,4)	5.00	damp		
5.50-6.10	B 18					
5.87 6.00 6.00	EWM ES 19 W 21					(3.55)
6.50-6.95 6.50-6.95 6.50-7.00	SPT S D 20 B 22	N=16 (3,3/4,4,4,4)	6.50	damp		
7.00	ES 23					
7.50-7.95 7.50-8.00	SPT S B 24	N=13 (3,2/3,2,5,3)	7.50	5.30	Very weak brownish cream LIMESTONE. (Recovered as silty slightly gravelly sand.) (Slight hydrocarbon odour.)	7.60 +6.81
9.00-9.45 9.00-9.45	SPT S D 25	N=17 (3,4/5,3,4,5)	9.00	7.10		(2.40)
9.50-10.00	B 26					
			24/09/2010 10.00			
Depth	Type & No	Records	Date Casing	Time Water		
Groundwater Entries No. Struck Post strike behaviour Depth sealed (m) 1 7.50 Rose to 5.30 m after 20 minutes. -					Depth Related Remarks * From to (m)	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Chiselling Depths (m) Time Tools used 0.00 -0.21 30 mins	
Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation					Borehole BH407 Sheet 1 of 2	

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

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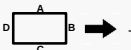


Scale 1:50

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Drilled CS/GB Logged PM Checked MS		Start 24/09/2010 End 29/09/2010		Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.		Depth from 0.00m to 12.00m 9.00m 12.00m 12.00m 20.00m		Diameter 200mm 150mm 121mm Casing Depth 9.00m 12.00m 15.00m		Ground Level +14.41 mOD Coordinates E 447706.82 National Grid N 424603.08 Chainage					
Samples and Tests						Strata									
Depth		Type & No		Records		Date Casing Time Water		Description (Continued from Sheet 1)		Depth, Level/ (Thickness)		Legend		Backfill/ Instruments	
10.00		ES 27				27/09/2010 0800 10.00 5.18		Very weak brownish cream LIMESTONE. (Recovered as sandy gravel.) (Slight hydrocarbon odour.)		10.00 +4.41					
10.50-10.95 10.50-10.95		SPT S D 28		N=21 (5,4/5,4,4,8)		10.50 5.30				(1.30)					
10.80-11.20		B 29													
11.00		ES 30													
11.30-11.75 11.30-11.75 11.30-12.30		SPT S D 31 B 32		N=58 (9,10/11,12,15,20)		11.30 5.50		Weak creamy brown LIMESTONE. (Recovered as sandy gravel)		11.30 +3.11					
12.00		ES 33				27/09/2010 12.00									
12.30-12.75 12.30-12.75 12.54-12.63 12.00-13.50		100 47 0		SPT S N=83 (9,14/15,18,20,30) D 34 CS 35		29/09/2010 0800 12.00 5.40 12.00 5.10		12.00-12.29 m NI 12.29-12.40 m 1 No subvertical rough planar fracture		12.00 (1.45)					
13.50-15.00		40 9 0		14.00-14.80 m Void (foremans description) Flush: 12.00-17.00 water, 100 %				Weak to medium strong brown LIMESTONE. Fractures are extremely closely to very closely spaced subhorizontal rough planar. 13.10-13.26 m 1 No subvertical rough undulose fracture 13.26-13.50 m NI 13.50-14.40 m AZCL 14.40-14.83 m NI - multiple subvertical fracture 14.48-14.83 m NI 14.83-15.00 m AZCL 14.88-14.93 m NI		12.75 +1.66					
15.00-16.00		52 10 0													
16.00-16.05		NI NI 70		SPT C 50 (25 for 17mm/ 50 for 29mm)				16.00-16.38 m AZCL		(7.25)					
16.00-17.00		62 14 0						16.38-16.71 m NI							
16.92-17.00 17.00-17.07				CS 36 SPT C 50 (25 for 21mm/ 50 for 47mm)				16.74-16.78 m NI 16.86-16.93 m NI 17.00-17.91 m AZCL							
17.00-18.00		9 3 0													
18.00-18.11				SPT C 50 (25/50 for 38mm)				17.91-17.97 m NI 18.00-18.46 m NI							
18.00-18.50		8 8 0													
18.50-18.56		32 0 0		SPT C 50 (25 for 26mm/ 50 for 33mm)				18.50-18.84 m AZCL							
18.50-19.00								18.84-19.00 m NI							
19.00-19.05				SPT C 50 (25 for 18mm/ 50 for 31mm)				19.00-19.35 m AZCL							
19.00-20.00 19.50-19.54		10 2 0		SPT C 50 (25 for 15mm/ 50 for 29mm)		29/09/2010 15.00		19.35-19.45 m NI 19.50-19.90 m AZCL 19.90-19.98 m NI							
Depth		ICR SBO		If		Records/Samples		Date Casing Time Water		EXPLORATORY HOLE ENDS AT 20.00 m					
Groundwater Entries No. Struck (m) Post strike behaviour Depth sealed (m)									Depth Related Remarks * From to (m)			Chiselling Depths (m) Time Tools used 11.30 -12.30 60 mins			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:25:15 AGS						Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation						Borehole BH407 Sheet 2 of 2			

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Logged PM Checked MW		Start 05/10/2010 End 05/10/2010	Equipment, Methods and Remarks JCB Machine excavated trial pit.		Dimensions and Orientation Width 0.80 m Length 3.30 m 		Ground Level Coordinates National Grid Chainage +12.82 mOD E 447690.92 N 424459.32	
Samples and Tests			Strata					
Depth	Type & No.	Date Records	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instrument		
0.10	ES 1	*	1 Soft dark brown sandy CLAY. (TOPSOIL) (MADE GROUND)	(0.30)				
0.40	D 2		2 Light brown sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone. (MADE GROUND)	0.30 +12.52				
0.60	ES 3		3 Plastic grid. (MADE GROUND)	0.50 +12.32 0.51 +12.31				
0.90	D 4		4 Dark brown clayey gravelly SAND. Gravel is angular to subangular fine to coarse of brick, coal and limestone. (MADE GROUND)	0.80 +12.02				
1.00	ES 5		5 Soft brown very sandy slightly gravelly CLAY. Gravel is subrounded fine to medium of sandstone and mudstone.	(0.70)				
1.00-1.40	B 6							
1.00	D 7							
2.20-2.60	B 9	05/10/2010	6 Brown slightly silty SAND and GRAVEL. Gravel is rounded to subrounded fine to coarse of various lithologies.	1.50 +11.32				
3.00	D 10		7 Yellowish brown LIMESTONE. Recovered as sand and gravel.	3.00 +9.82				
3.00	ES 11			(0.30)				
			EXPLORATORY HOLE ENDS AT 3.30 m	3.30 +9.52				
Depth	Type & No.	Records Date						
Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)			Depth Related Remarks * From to (m) 0.00 1.20 Hand excavated inspection pit. 3.30 Trial pit terminated on bedrock			Stability Good Shoring None Weather Showers		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:33:41 			Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation			Trial Pit TP201 Sheet 1 of 1		

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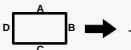
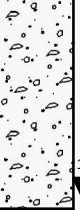
Logged MA Checked MW	Start 06/10/2010 End 06/10/2010	Equipment, Methods and Remarks JCB Machine excavated trial pit.	Dimensions and Orientation Width 0.70 m Length 2.30 m	Ground Level Coordinates National Grid Chainage	+12.67 mOD E 447702.43 N 424483.52	
Samples and Tests			Strata			
Depth	Type & No.	Date Records	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instrument
0.00-0.20 0.10 0.10 0.20-0.50	B 3 ES 1 D 2 B 6	*	1 Soft brown slightly sandy CLAY with some plant rootlets. (TOPSOIL) (MADE GROUND)	0.20 +12.47		
0.50 0.50 0.50-1.75	ES 4 D 5 B 9		2 Red sandy GRAVEL. Gravel is angular to subangular fine to coarse and consists mainly of limestone, sandstone, dolomite and brick. (MADE GROUND)	(2.55)		
0.75 0.75	ES 7 D 8					
1.75 1.75 1.75-2.75	ES 10 D 11 B 12					
2.75 2.75 2.75-3.15	ES 13 D 14 B 15		3 Red clayey very sandy GRAVEL. Gravel is angular to subangular fine to coarse and consists mainly of shale and sandstone.	2.75 +9.92 (0.40)		
3.25 3.25	D 16 B 17	06/10/2010	4 Extremely weak and weak cream LIMESTONE.	3.15 +9.52		
			EXPLORATORY HOLE ENDS AT 3.25 m	3.25 +9.42		
Depth	Type & No.	Records Date				
Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)			Depth Related Remarks * From to (m) 0.00 1.20 Hand excavated inspection pit. 3.25 Trial pit terminated due to bedrock.	Stability Stable Shoring None Weather Overcast		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.			Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Trial Pit TP202 Sheet 1 of 1		
Scale 1:25 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:33:54						

Trial Pit Log



Soil Mechanics

Logged MA Checked MW	Start 06/10/2010 End 06/10/2010	Equipment, Methods and Remarks JCB Machine excavated trial pit.	Dimensions and Orientation Width 0.80 m Length 2.30 m 	Ground Level +13.24 mOD Coordinates E 447789.62 National Grid N 424514.63 Chainage		
Samples and Tests			Strata			
Depth	Type & No.	Date Records	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
0.00-0.40	B 3	*	1 TOPSOIL. (MADE GROUND)	(0.40)		
0.20 0.20	ES 1 D 2					
0.40-1.60	B 6		2 Soft light brown sandy gravelly CLAY. Gravel is angular to subangular fine to coarse mainly of limestone, sandstone, slag and brick. (MADE GROUND)	0.40 +12.84		
0.60 0.60	ES 4 D 5					
1.60 1.60 1.60-2.60	ES 7 D 8 B 9			(2.20)		
2.60 2.60 2.60-3.30	ES 10 D 11 B 12		3 Stiff brown red slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of various lithologies.	2.60 +10.64		
				(0.70)		
3.30-3.90	B 15		4 Soft brown sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse and consists mainly of sandstone, dolomite and coal.	3.30 +9.94		
3.40 3.40	ES 13 D 14			(0.59)		
3.90 3.90	D 16 B 17	06/10/2010	5 Extremely weak cream LIMESTONE. EXPLORATORY HOLE ENDS AT 3.90 m	3.89 +9.35 3.90 +9.34		
Depth	Type & No.	Records Date				
Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)			Depth Related Remarks * From to (m) 0.00 1.20 Hand excavated inspection pit. 3.90 Trial pit terminated due to bedrock.		Stability Stable Shoring None Weather Overcast	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:34:19			Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Trial Pit TP204 Sheet 1 of 1	

Logged PM Checked MW		Start 05/10/2010 End 05/10/2010		Equipment, Methods and Remarks JCB Machine excavated trial pit.		Dimensions and Orientation Width 0.80 m Length 3.30 m 		Ground Level Coordinates National Grid Chainage		+12.80 mOD E 447721.20 N 424466.96
Samples and Tests			Strata							
Depth	Type & No.	Date Records	Description			Depth, Level/ (Thickness)	Legend	Backfill/ Instrument		
0.10	D 1	*	1 Brown sandy CLAY. (TOPSOIL) (MADE GROUND)			0.20 +12.60				
0.40	D 2		2 Yellowish brown SAND and GRAVEL. Gravel is angular to subangular fine to coarse of limestone. (MADE GROUND)			0.40 +12.40				
0.50-0.80	ES 3 B 4		3 Brown sandy GRAVEL. Gravel is angular to subangular fine to coarse of brick and limestone. (MADE GROUND)			(0.40)				
0.90	D 5		5 Firm brown sandy gravelly CLAY. Gravel is subangular fine to coarse of brick, coal and concrete. Rare metal and plastic. (MADE GROUND)			0.80 +12.00 0.90 +11.90				
1.00-1.50	ES 6 B 7		6 Brown clayey slightly gravelly SAND. Gravel is subrounded to rounded fine to coarse of various lithologies.			(1.40)				
2.30-2.80 2.30 2.41	B 10 D 8 ES 9	05/10/2010	7 Brown slightly silty SAND and GRAVEL. Gravel is subrounded to rounded fine to coarse of various lithologies.			2.30 +10.50 (0.85)				
			EXPLORATORY HOLE ENDS AT 3.15 m			3.15 +9.65				
Depth	Type & No.	Records Date								
Groundwater Entries No. Struck Post Strike Behaviour (m) 1 3.10 Seepage			Depth Related Remarks * From to (m) 0.00 1.20 Hand excavated inspection pit. 3.15 Trial pit terminated due to poor stability.			Stability Poor from 0.90m. Shoring None Weather Clear				
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.			Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation			Trial Pit TP205 Sheet 1 of 1				

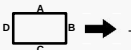
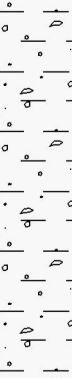
Trial Pit Log



Soil Mechanics

Logged PM Checked MW	Start 05/10/2010 End 05/10/2010	Equipment, Methods and Remarks JCB Machine excavated trial pit.	Dimensions and Orientation Width 0.80 m Length 3.40 m 	Ground Level +12.70 mOD Coordinates E 447744.05 National Grid N 424479.43 Chainage		
Samples and Tests		Strata				
Depth	Type & No.	Date Records	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
0.10	ES 1	*	1 Very soft brown sandy CLAY. (TOPSOIL) (MADE GROUND)	0.25 +12.45		
0.50 0.50-0.70 0.60	D 2 B 4 ES 3		2 Yellowish brown sandy GRAVEL. Gravel is angular fine to coarse of limestone. (MADE GROUND)	0.45 +12.25		
0.80 0.80-1.10	D 5 B 6		3 Brown slightly clayey sandy GRAVEL. Gravel is angular fine to coarse of brick and concrete. (MADE GROUND)	0.70 +12.00		
1.10	ES 7		5 Soft to firm light brown sandy slightly gravelly CLAY. 0.70-0.71 m plastic grid	(1.00)		
1.80 1.80-2.30 2.00	D 8 B 9 ES 10		6 Brown clayey very sandy GRAVEL. Gravel is rounded to subrounded fine to coarse of various lithologies.	1.70 +11.00		
		05/10/2010		(1.10)		
			EXPLORATORY HOLE ENDS AT 2.80 m	2.80 +9.90		
Depth	Type & No.	Records Date				
Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)			Depth Related Remarks * From to (m) 0.00 1.20 Hand excavated inspection pit. 2.80 Trial pit terminated due to collapse of face A,		Stability Poor Shoring None Weather Clear	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:34:44			Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Trial Pit TP206 Sheet 1 of 1	

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Logged PM Checked MW		Start 05/10/2010 End 05/10/2010	Equipment, Methods and Remarks JCB Machine excavated trial pit.		Dimensions and Orientation Width 0.80 m Length 3.10 m 		Ground Level Coordinates National Grid Chainage		+12.54 mOD E 447764.40 N 424487.40
Samples and Tests			Strata						
Depth	Type & No.	Date Records	Description			Depth, Level/ (Thickness)	Legend	Backfill/ Instrument	
0.05 0.20 0.20-0.60 0.30	D 1 D 2 B 4 ES 3	*	1 Soft brown slightly sandy slightly gravelly CLAY. (TOPSOIL) (MADE GROUND) 2 Soft brown slightly sandy gravelly CLAY with high cobble content. Gravel is angular fine to coarse of brick, sandstone and limestone. Cobbles are angular of concrete and whole bricks. (MADE GROUND)			0.10 +12.44 (0.90)			
1.00 1.10 1.10-1.60	D 5 ES 6 B 7		3 Firm brown very sandy slightly gravelly CLAY. Gravel is subrounded fine to medium of sandstone and mudstone.			1.00 +11.54 (1.30)			
2.30-2.60 2.30 2.40	B 10 D 8 ES 9		4 Brown slightly silty SAND and GRAVEL. Gravel is rounded fine to coarse of various lithologies.			2.30 +10.24 (0.70)			
05/10/2010			EXPLORATORY HOLE ENDS AT 3.00 m			3.00 +9.54			
Depth	Type & No.	Records Date							
Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)			Depth Related Remarks * From to (m) 0.00 1.20 Hand excavated inspection pit. 3.00 Trial pit terminated due to collapse of face A.			Stability Good Shoring None Weather Sunny			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:34:56 			Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation			Trial Pit TP207 Sheet 1 of 1			

Trial Pit Log



Soil Mechanics

Logged PM Checked MW		Start 05/10/2000 End 05/10/2010	Equipment, Methods and Remarks JCB Machine excavated trial pit.	Dimensions and Orientation Width 0.80 m Length 2.80 m 	Ground Level +12.90 mOD Coordinates E 447743.60 National Grid N 424451.75 Chainage	
Samples and Tests			Strata			
Depth	Type & No.	Date Records	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
0.10	D 1	*	1 Brown sandy CLAY. (TOPSOIL) (MADE GROUND)	(0.30)		
0.40	D 4		2 Yellowish brown sandy GRAVEL. Gravel is angular fine to coarse of limestone. (MADE GROUND)	0.30 +12.60		
0.50	ES 2		3 Greyish brown sandy GRAVEL. Gravel is angular fine to coarse of various lithologies. (MADE GROUND)	0.50 +12.40		
0.50-0.80	B 3			(0.30)		
1.00	ES 5		4 Dark brown clayey slightly gravelly SAND. Gravel is subangular fine to coarse of coal, clinker and mudstone. (MADE GROUND)	0.80 +12.10		
2.00	D 7		5 Brown slightly clayey SAND and GRAVEL. Gravel is subrounded to rounded fine to coarse of various lithologies. 2.00-2.50 m clayey very sandy gravel	2.00 +10.90		
2.00-2.50	B 9			(1.10)		
2.10	ES 8					
		05/10/2010				
			EXPLORATORY HOLE ENDS AT 3.10 m	3.10 +9.80		
Depth	Type & No.	Records Date				
Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)			Depth Related Remarks * From to (m) 0.00 1.20 Hand excavated inspection pit. 3.10 Trial pit terminated due to collapse of faces A and C.		Stability Poor Shoring None Weather Sunny	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25			Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Trial Pit TP208 Sheet 1 of 1	

Soil Mechanics

Logged PM Checked MW		Start 05/10/2010 End 05/10/2010		Equipment, Methods and Remarks JCB Machine excavated trial pit.		Dimensions and Orientation Width 0.80 m Length 3.30 m A B C D		Ground Level Coordinates National Grid Chainage		+13.45 mOD E 447807.67 N 424491.49			
Samples and Tests				Strata									
Depth		Type & No.		Date Records		Description		Depth, Level/ (Thickness)		Legend		Backfill/ Instrument	
0.20 0.30 0.30-0.80		ES 1 D 2 B 4		* <									

Trial Pit Log



Soil Mechanics

Logged PM Checked MW		Start 04/10/2010 End 04/10/2010	Equipment, Methods and Remarks JCB Machine excavated trial pit.	Dimensions and Orientation Width 0.70 m Length 2.80 m 	Ground Level +11.44 mOD Coordinates E 447768.29 National Grid N 425381.54 Chainage	
Samples and Tests			Strata			
Depth	Type & No.	Date Records	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
0.10-0.35	B 2	*	1 Soft brown sandy CLAY. (TOPSOIL) (MADE GROUND)	0.10 +11.34		
0.30	ES 1		2 Dark brown slightly clayey gravelly SAND. Sand is ash. Gravel is subangular to subrounded fine to medium of various lithologies. (MADE GROUND)	0.35 +11.09		
0.40	D 3					
0.50	ES 4					
0.50-1.00	B 5		3 Black SAND and GRAVEL. Sand is ash. Gravel is angular to subangular fine to coarse of clinker and ash. (MADE GROUND)			
1.00	ES 6					
1.50-2.00	B 7			(2.65)		
2.00	ES 8					
2.50-3.00	B 9					
3.00	ES 10	04/10/2010	EXPLORATORY HOLE ENDS AT 3.00 m	3.00 +8.44		
Depth	Type & No.	Records Date				
Groundwater Entries No. Struck Post Strike Behaviour (m) 1 2.75 Rose to 2.45 m after 20 minutes. Fast flow			Depth Related Remarks * From to (m) 0.00 1.20 Hand excavated inspection pit. 3.00 Trial pit terminated due to filling with water and collapse of face D.		Stability Good Shoring None Weather Sunny	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:35:38			Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Trial Pit TP302 Sheet 1 of 1	

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Trial Pit Log



Soil Mechanics

Logged PM Checked MW		Start 04/10/2010 End 04/10/2010	Equipment, Methods and Remarks JCB Machine excavated trial pit.	Dimensions and Orientation Width 1.70 m Length 2.70 m 	Ground Level +12.60 mOD Coordinates E 447852.97 National Grid N 425286.89 Chainage	
Samples and Tests			Strata			
Depth	Type & No.	Date Records	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
0.20	D 1	*	1 Yellow brown sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone. (MADE GROUND)	0.20 +12.40		
0.30	ES 2		2 Black slightly silty slightly gravelly SAND. Sand is ash. Gravel is subangular to subrounded fine to coarse of clinker, coal and ash. (MADE GROUND)			
0.30-0.60	B 3					
0.40	D 4					
0.50	ES 5					
0.50-1.00	B 6					
1.00	ES 7					
1.50-2.00	B 8					
2.00	ES 9					
2.50-3.00	B 10					
3.00	ES 11					
3.50-4.00	B 12					
4.00	ES 13					
			EXPLORATORY HOLE ENDS AT 4.20 m	4.20 +8.40		
Depth	Type & No.	Records Date				
Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)			Depth Related Remarks * From to (m) 0.00 1.20 Hand excavated inspection pit. 4.20 Trial pit terminated due to collapse of Face A.		Stability Stable Shoring None Weather Overcast	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:36:03			Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Trial Pit TP306 Sheet 1 of 1	

Trial Pit Log



Soil Mechanics

Logged MA Checked MW		Start 06/10/2010 End 06/10/2010	Equipment, Methods and Remarks JCB Machine excavated trial pit.	Dimensions and Orientation Width 0.70 m Length 2.70 m 	Ground Level +12.00 mOD Coordinates E 447742.33 National Grid N 425008.58 Chainage	
Samples and Tests			Strata			
Depth	Type & No.	Date Records	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
0.00-0.03	B 3	*	1 Brown clayey sandy GRAVEL. Gravel is angular to subangular fine to coarse mainly of limestone, sandstone and brick. (MADE GROUND) 2 Grey slightly clayey SAND and GRAVEL. Gravel is angular to subangular fine to coarse mainly of limestone, sandstone, concrete and brick. (MADE GROUND) 3 Red brown SAND and GRAVEL. Gravel is angular to subangular fine to coarse and consists mainly of sandstone, limestone and brick. (MADE GROUND) 4 Light brown cream silty GRAVEL. Gravel is angular to subangular mainly of limestone.	0.03 +11.97		
0.03	ES 1					
0.03	D 2					
0.03-0.20	B 6					
0.20	ES 4					
0.20	D 5					
0.20-0.40	B 9					
0.40-1.70	B 11					
0.40	ES 7					
0.40	D 8					
0.70	ES 10		2.70-3.70 m very silty very gravelly sand with low to medium cobble content	0.40 +11.60		
0.70	D 10A					
1.70	D 12					
1.70-2.70	B 13					
2.70	ES 14					
2.70	D 15					
2.70-3.70	B 17					
3.70	B 18					
3.70	D 18A					
3.70-4.00	B 19					
4.00	B 20	06/10/2010	5 Soft grey black very sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse and consists mainly of sandstone, limestone, coal and dolomite.	4.00 +8.00		
			EXPLORATORY HOLE ENDS AT 4.30 m	4.30 +7.70		
Depth	Type & No.	Records Date				
Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)			Depth Related Remarks * From to (m) 0.00 1.20 Hand excavated inspection pit.		Stability Stable Shoring None Weather Overcast	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.			Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Trial Pit TP403 Sheet 1 of 1	

Scale 1:25

(c) ESGL www.esgl.co.uk
408.24 10/02/2011 09:36:15



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Logged MA Checked MW	Start 06/10/2010 End 06/10/2010	Equipment, Methods and Remarks JCB Machine excavated trial pit.	Dimensions and Orientation Width 0.70 m Length 2.70 m	Ground Level Coordinates National Grid Chainage	+15.18 mOD E 447447.67 N 425147.16	
Samples and Tests			Strata			
Depth	Type & No.	Date Records	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instrument
0.00-0.20 0.10 0.10 0.20-1.20 0.30 0.30	B 3 ES 1 D 2 B 6 ES 4 D 5	*	1 Dark brown clayey gravelly SAND with some plant rootlets. Gravel is angular to subangular fine to coarse of limestone and sandstone. (TOPSOIL) (MADE GROUND)	0.20 +14.98		
1.20-1.70 1.30 1.30	B 9 ES 7 D 8		2 Brown clayey gravelly SAND with some stiff clay pockets and moderate cobble content. Gravel is angular to subangular fine to coarse and consists mainly of sandstone, limestone and coal. Cobbles are subangular to angular of limestone and sandstone. 1.20-1.70 m locally grades to sandy gravelly clay.	(1.50)		
1.70-1.80 1.80 1.80 1.80-2.60	B 12 ES 10 D 11 B 14		3 Stiff brown sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse and consists mainly of sandstone, limestone, dolomite and coal. 4 Medium strong to strong cream LIMESTONE.	1.70 +13.48 1.80 +13.38		
2.60	D 13	06/10/2010	EXPLORATORY HOLE ENDS AT 2.60 m	2.60 +12.58		
Depth	Type & No.	Records Date				
Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)			Depth Related Remarks * From to (m) 0.00 1.20 Hand excavated inspection pit. 2.60 Trial pit terminated due to bedrock.	Stability Stable Shoring None Weather Overcast		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:36:27 			Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Trial Pit TP405 Sheet 1 of 1		

Window Sampler Hole Log



Soil Mechanics

Drilled OR Logged PM Checked MW	Start 27/09/2010 End 27/09/2010	Equipment, Methods and Remarks Windowless sampling. Competitor 130			Depth from 0.00m to 5.00m Diameter 87mm Casing Depth 3.00m	Ground Level +13.54 mOD Coordinates E 447243.53 National Grid N 424893.14 Chainage			
Samples and Tests					Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments	
0.30	ES 1	0.00-1.20 m Hand excavated inspection pit.			CONCRETE. (MADE GROUND)	(0.30)			
0.50	ES 2				Light brown sandy GRAVEL. Gravel is subangular fine to medium of limestone. (MADE GROUND)	0.30 +13.24 0.50 +13.04			
1.00	ES 3	N=13 (3,4/2,4,4,3)	1.20	dry	Medium dense light brown slightly clayey gravelly SAND. Gravel is subrounded fine to medium of limestone. (MADE GROUND)	(1.20)			
1.20-1.65 1.20-1.70	SPT S B 4								
1.70-2.00	ES 5	N=4 (2,1/1,1,1,1)	2.00	dry	Very soft dark brown locally black slightly sandy slightly gravelly CLAY. Gravel is subangular fine to coarse of brick, sandstone and limestone. (MADE GROUND)	1.70 +11.84			
2.00-2.45 2.00-2.44	SPT S B 6								
2.44-3.00	ES 7	N=4 (0,1/1,1,1,1)	3.00	dry	Very soft becoming firm brown mottled grey sandy slightly gravelly CLAY. Gravel is subrounded fine to medium of limestone.	(1.30)			
3.00-3.45 3.00-3.45 3.00-4.00	SPT S D 8 B 9								
4.00-4.45 4.00 4.10-4.46	SPT S D 10 ES 11	N=11 (2,1/2,3,3,3)	3.00	dry	Brown silty slightly gravelly fine to coarse SAND. Gravel is subangular fine to medium of limestone.	3.00 +10.54 (1.46)			
4.46-5.00	B 12								
5.00-5.45 5.00	SPT S D 13	N=7 (1,1/2,2,1,2)	27/09/2010 3.00	dry	EXPLORATORY HOLE ENDS AT 5.00 m	(0.54) 5.00 +8.54			
Depth	Type & No	Records	Date Casing	Time Water					
Groundwater Entries No. Struck Post strike behaviour (m) (m) None observed (see Key Sheet)					Depth sealed (m)		Depth Related Remarks * From to (m)		
							Chiselling Depths (m) Time Tools used		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation		Borehole WS102 Sheet 1 of 1		

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Drilled OR Logged PM Checked MW		Start 27/09/2010 End 27/09/2010		Equipment, Methods and Remarks Windowless sampling. Competitor 130		Depth from 0.00m		to 5.00m	Diameter 87mm	Casing Depth 2.00m	Ground Level Coordinates National Grid Chainage		+11.94 mOD E 447871.02 N 425310.79				
Samples and Tests						Strata											
Depth		Type & No		Records		Date Casing		Time Water		Description		Depth, Level/ (Thickness)		Legend		Backfill/ Instruments	
0.30		ES 1		0.00-1.20 m Hand excavated inspection pit.						MACADAM (MADE GROUND).		(0.30) 0.30 +11.64					
0.50		ES 2								Black gravelly SAND. Sand is ash. Gravel is angular to subangular fine to coarse of coal, brick and clinker. (MADE GROUND)		(0.70)					
1.00		ES 3										1.00 +10.94					
1.20-1.65 1.20-1.90		SPT S B 4		N=13 (3,3/4,3,3,3)		1.20		dry		Loose, locally medium dense reddish brown gravelly SAND. Sand is ash. Gravel is angular to subangular fine to coarse of brick, concrete and clinker. (MADE GROUND)							
1.90-2.30 2.00-2.45		ES 5 SPT S		N=27 (6,6/6,7,8,6)		2.00		dry									
2.30-3.00		B 6															
3.00-3.45 3.00-3.30 3.30-4.20		SPT S ES 7 B 8		N=10 (2,1/2,1,1,6)		2.00		dry									
4.00-4.45 4.20-5.00		SPT S ES 9		N=4 (2,2/1,1,1,1)		2.00		dry		Soft grey locally black slightly sandy CLAY.		4.20 +7.74					
												(0.80)					
5.00-5.45 5.00		SPT S D 10		N=5 (2,1/2,1,1,1)		2.00		dry		EXPLORATORY HOLE ENDS AT 5.00 m		5.00 +6.94					
Groundwater Entries No. Struck Post strike behaviour None observed (see Key Sheet)		Depth sealed (m)		Depth Related Remarks * From to (m)		Chiselling Depths (m)		Time		Tools used							
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.		Project Project No. Carried out for		FERRYBRIDGE MULTIFUEL POWERSTATION A0054-10 SSE Generation		Borehole WS301 Sheet 1 of 1											

Window Sampler Hole Log



Soil Mechanics

Drilled OR Logged PM Checked MS	Start 27/09/2010 End 27/09/2010	Equipment, Methods and Remarks Windowless sampling.			Depth from 0.00m to 5.00m Diameter 87mm Casing Depth 1.20m	Ground Level +12.26 mOD Coordinates E 447842.16 National Grid N 425336.52 Chainage			
Samples and Tests					Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments	
0.30	ES 1	0.00-1.20 m Hand excavated inspection pit.			MACADAM. (MADE GROUND)	0.10 +12.16			
0.50	ES 2				Light brown sandy GRAVEL. Gravel is subangular fine to coarse of limestone. (MADE GROUND)	0.40 +11.86			
1.00	ES 3	N=7 (4,3/2,2,2,1)	1.20	dry	Loose black gravelly SAND. Sand is ash. Gravel is subangular fine to coarse of clinker, coal and ash. (MADE GROUND)				
1.20-1.65 1.20-2.00	SPT S B 4								
2.00-2.45 2.00-2.20 2.20-3.00	SPT S ES 5 B 6	N=12 (6,5/4,4,2,2)	1.20	dry	2.00-2.45 m medium dense	(4.00)			
3.00-3.45 3.00-3.30 3.30-4.40	SPT S ES 7 B 8	N=5 (2,1/1,1,1,2)	1.20	dry					
4.00-4.45	SPT S	N=4 (1,1/1,1,1,1)	1.20	dry					
4.40-5.00	ES 9				Very soft black grey slightly sandy CLAY.	4.40 +7.86			
						(0.60)			
5.00-5.45 5.00	SPT S D 10	N=3 (0,0/1,0,1,1)	27/09/2010 1.20	dry	EXPLORATORY HOLE ENDS AT 5.00 m	5.00 +7.26			
Depth	Type & No	Records	Date Casing	Time Water					
Groundwater Entries No. Struck Post strike behaviour (m) None observed (see Key Sheet)					Depth sealed (m)	Depth Related Remarks * From to (m)		Chiselling Depths (m) Time Tools used	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Borehole WS302 Sheet 1 of 1			

Window Sampler Hole Log



Soil Mechanics

Drilled OR Logged PM Checked MW	Start 27/09/2010 End 27/09/2010	Equipment, Methods and Remarks Windowless sampling. Competitor 130			Depth from 0.00m to 5.00m Diameter 87mm Casing Depth 1.20m	Ground Level +12.07 mOD Coordinates E 447803.96 National Grid N 425366.56 Chainage
Samples and Tests					Strata	
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)
0.30	ES 1	0.00-1.20 m Hand excavated inspection pit.			CONCRETE. (MADE GROUND)	0.15 +11.92
0.50	ES 2				Light brown gravelly SAND. Gravel is angular to subangular fine to coarse of limestone. (MADE GROUND)	(0.45)
1.00	ES 3	N=11 (3,4/3,2,3,3)			Medium dense becoming loose black gravelly SAND. Sand is ash. Gravel is angular fine to coarse of ash and clinker. (MADE GROUND)	0.60 +11.47
1.20-1.65	SPT S					
1.20-1.90	B 4					
1.40-2.10	ES 5					
2.00-2.45	SPT S	N=10 (5,4/3,2,2,3)	1.20	dry	2.10-3.00 m clayey very sandy gravel is fine to medium	(3.30)
2.10-3.00	B 6					
3.00-3.45	SPT S	N=4 (1,1/1,1,1,1)	1.20	dry		
3.00-3.20	ES 7					
3.20-3.90	B 8					
3.90-5.00	ES 9	N=4 (1,1/1,1,1,1)	1.20	dry	Soft dark grey slightly sandy CLAY.	3.90 +8.17
4.00-4.45	SPT S					(1.10)
5.00-5.45	SPT S	N=5 (2,1/1,1,2,1)	27/09/2010 1.20	dry	EXPLORATORY HOLE ENDS AT 5.00 m	5.00 +7.07
Depth	Type & No	Records	Date Casing	Time Water		
Groundwater Entries No. Struck Post strike behaviour (m) None observed (see Key Sheet)					Depth sealed (m) Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Borehole WS303 Sheet 1 of 1

ENCLOSURE B
INSTRUMENTATION AND MONITORING

Installation Details	B1
Gas and Groundwater Monitoring	B2
Water Quality Monitoring	5 SHEETS

Groundwater Installation Details



Soil Mechanics

Hole No	Instrument ID	Installation Type	Date of Installation	Reference depth (mBGL)	Piezometer Diameter (mm)	Top of response zone (mBGL)	Base of response zone (mBGL)	Tubing Completion Details	Headworks	Remarks
BH101		SP	28 Sep 2010	0.00	19	3.00	6.00	None	Stop cock cover	
BH102		SP	17 Sep 2010	0.00	19	1.20	3.00	None	Stop cock cover	
BH103		SP	29 Sep 2010	0.00	19	2.00	4.20	None	Stop cock cover	
BH104		SP	29 Sep 2010	0.00	50	6.00	13.00	None	Stop cock cover	
BH105		SP	24 Sep 2010	0.00	19	10.00	13.00	None	Stop cock cover	
BH106		SP	21 Sep 2010	0.00	19	2.50	3.50	None	Stop cock cover	
BH107		SP	22 Sep 2010	0.00	19	9.00	14.00	None	Stop cock cover	
BH108		SP	16 Sep 2010	0.00	19	1.20	3.00	None	Stop cock cover	
BH109		SP	17 Sep 2010	0.00	19	2.20	5.00	None	Stop cock cover	
BH110		SP	28 Sep 2010	0.00	50	8.00	13.00	None	Stop cock cover	
BH112		SPIE	20 Sep 2010	17.50	19	15.00	20.00	None	Stop cock cover	
BH201		SP	27 Sep 2010	0.00	19	2.00	5.00	None	Stop cock cover	
BH203		SP	1 Oct 2010	0.00	19	4.00	7.50	None	Stop cock cover	
BH204		SP	30 Sep 2010	0.00	19	2.50	4.50	None	Stop cock cover	
BH301		SP	4 Oct 2010	0.00	50	3.50	5.00	None	Stop cock cover	
BH301		SPIE	4 Oct 2010	8.00	19	6.50	8.50	None	Stop cock cover	
BH302		SP	23 Sep 2010	0.00	50	11.00	17.00	None	Stop cock cover	
BH303		SP	27 Sep 2010	0.00	19	2.50	4.50	None	Stop cock cover	
BH401		SP	27 Sep 2010	0.00	19	2.00	4.00	None	Stop cock cover	
BH402		SP	4 Oct 2010	0.00	50	4.70	8.50	None	Stop cock cover	
BH403		SP	22 Sep 2010	0.00	19	3.00	6.00	None	Stop cock cover	
BH404		SP	20 Sep 2010	0.00	19	2.00	7.00	None	Stop cock cover	
BH405		SP	20 Sep 2010	0.00	19	5.50	7.50	None	Stop cock cover	

Notes: Type: SP - Standpipe, SPIE - Standpipe
Piezometer, HPIE - Hydraulic Piezometer, PPIE -
Pneumatic Piezometer, EPIE - Electronic
Piezometer Prepared: 22/12/2010 13:53

Project FERRYBRIDGE MULTIFUEL POWERSTATION
Project No. A0054-10
Carried out for SSE Generation

Table

B1

Groundwater Installation Details



Soil Mechanics

Hole No	Instrument ID	Installation Type	Date of Installation	Reference depth (mBGL)	Piezometer Diameter (mm)	Top of response zone (mBGL)	Base of response zone (mBGL)	Tubing Completion Details	Headworks	Remarks
BH406		SP	17 Sep 2010	0.00	19	2.00	4.00	None	Stop cock cover	
BH407		SP	30 Sep 2010	0.00	50	4.20	7.20	None	Stop cock cover	
BH407		SPIE	30 Sep 2010	14.60	19	14.10	15.10	None	Stop cock cover	

Notes: Type: SP - Standpipe, SPIE - Standpipe Piezometer, HPIE - Hydraulic Piezometer, PPIE - Pneumatic Piezometer, EPIE - Electronic Piezometer Prepared: 22/12/2010 13:53

Project FERRYBRIDGE MULTIFUEL POWERSTATION
Project No. A0054-10
Carried out for SSE Generation

Table

B1

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.4	15.9	5s	0.0	0.0	2.3	20.0
30s	0.0	0.0	2.4	19.8	30s	0.0	0.0	2.0	20.0
60s			2.3	19.8	60s	0.0	0.0	2.1	20.0

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	2.4	19.8
2.0	0.0	0.0	2.4	19.7
3.0	0.0	0.0	2.4	19.7
4.0	0.0	0.0	2.4	19.7
5.0	0.0	0.0	2.4	19.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.10
2	0.10
3	0.00
4	0.00
5	0.00
6	0.00
7	0.10
8	0.10
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	1.9	20.9	5s	0.0	0.0	0.0	22.0
30s	0.0	0.0	1.8	20.8	30s	0.0	0.0	1.3	20.3
60s	0.0	0.0	1.9	20.0	60s	0.0	0.0	1.8	20.0

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.1

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.0	5s	0.0	0.0	1.1	9.3
30s	0.0	0.0	1.5	4.4	30s	0.0	0.0	1.7	3.3
60s	0.0	0.0	8.3	1.2	60s	0.0	0.0	1.7	3.1

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.9	11.3
2.0	0.0	0.0	0.8	12.6
3.0	0.0	0.0	0.8	12.6
4.0	0.0	0.0	0.7	13.4
5.0	0.0	0.0	0.6	14.2
6.0	0.0	0.0	0.6	14.4
7.0	0.0	0.0	0.6	14.5
8.0	0.0	0.0	0.6	14.6
9.0	0.0	0.0	0.5	14.7
10.0	0.0	0.0	0.5	14.8

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.10
3	0.00
4	0.10
5	0.00
6	0.00
7	0.00
8	0.00
9	0.10
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.5	15.3	5s	0.0	0.0	1.4	9.7
30s	0.0	0.0	0.6	12.7	30s	0.0	0.0	1.6	4.5
60s	0.0	0.0	0.7	13.9	60s	0.0	0.0	1.6	4.8

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.2

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE °C
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.1	5s	0.0	0.0	0.0	20.9
30s	0.0	0.0	0.0	20.8	30s	0.0	0.0	0.0	20.7
60s	0.0	0.0	0.0	20.8	60s	0.0	0.0	0.0	20.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.8
2.0	0.0	0.0	0.0	20.8
3.0	0.0	0.0	0.0	20.8
4.0	0.0	0.0	0.0	20.8
5.0	0.0	0.0	0.0	20.8

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.10
2	0.00
3	0.10
4	0.00
5	0.00
6	0.00
7	0.10
8	0.10
9	0.00
10	0.10

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.9	5s	0.0	0.0	0.0	20.9
30s	0.0	0.0	0.0	20.8	30s	0.0	0.0	0.0	20.8
60s	0.0	0.0	0.0	20.8	60s	0.0	0.0	0.0	20.8

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.3

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	22.1	5s	0.0	0.0	0.3	18.0
30s	0.0	0.0	0.4	15.4	30s	0.0	0.0	0.8	8.9
60s	0.0	0.0	0.3	17.3	60s	0.0	0.0	0.8	8.3

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.8	8.8
2.0	0.0	0.0	0.8	8.8
3.0	0.0	0.0	0.4	12.6
4.0	0.0	0.0	0.1	19.6
5.0	0.0	0.0	0.1	19.5
6.0	0.0	0.0	0.1	19.5
7.0	0.0	0.0	0.1	19.5

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.30
2	0.00
3	0.00
4	0.00
5	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	19.3	5s	0.0	0.0	0.3	17.4
30s	0.0	0.0	0.2	18.5	30s	0.0	0.0	0.3	15.3
60s	0.0	0.0	0.2	17.6	60s	0.0	0.0	0.3	14.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.4

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	1.0	20.7	5s			0.0	21.3
30s	0.0	0.0	0.0	21.2	30s			0.0	20.7
60s	0.0	0.0	0.0	21.2	60s			0.0	20.9

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.3
2.0	0.0	0.0	0.0	21.2
3.0	0.0	0.0	0.0	21.2
4.0	0.0	0.0	0.0	21.2
5.0	0.0	0.0	0.0	21.2
6.0	0.0	0.0	0.0	21.2

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.1	5s	0.0	0.0	0.0	21.6
30s	0.0	0.0	0.0	21.2	30s	0.0	0.0	0.0	21.0
60s	0.0	0.0	0.0	21.2	60s	0.0	0.0	0.0	21.0

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.5

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	21.7	5s	0.0	0.0	0.1	20.1
30s	0.0	0.0	0.1	20.6	30s	0.0	0.0	0.3	19.1
60s	0.0	0.0	0.0	20.8	60s	0.0	0.0	0.3	19.1

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.3	19.3
2.0	0.0	0.0	0.2	19.6
3.0	0.0	0.0	0.2	19.7
4.0	0.0	0.0	0.2	19.7
5.0	0.0	0.0	0.2	19.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	21.4	5s			0.1	21.5
30s	0.0	0.0	0.1	21.4	30s			0.2	20.2
60s	0.0	0.0	0.1	21.4	60s			0.1	20.0

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.6

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.0	5s	0.0	0.0	0.0	20.9
30s	0.0	0.0	0.0	21.0	30s	0.0	0.0	1.0	20.8
60s	0.0	0.0	0.0	21.0	60s	0.0	0.0	0.0	20.8

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.8
2.0	0.0	0.0	0.0	20.8
3.0	0.0	0.0	0.0	20.8
4.0	0.0	0.0	0.0	20.8
5.0	0.0	0.0	0.0	20.9
6.0	0.0	0.0	0.0	20.8
7.0	0.0	0.0	0.0	20.8
8.0	0.0	0.0	0.0	20.9
9.0	0.0	0.0	0.0	20.9
10.0	0.0	0.0	0.0	20.9

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s					5s				
30s					30s				
60s					60s				

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.7

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	1.1	17.3	5s	0.0	0.0	0.0	20.8
30s	0.0	0.0	0.0	20.6	30s	0.0	0.0	0.0	19.8
60s	0.0	0.0	0.0	20.6	60s	0.0	0.0	0.0	19.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.8
2.0	0.0	0.0	0.0	20.8
3.0	0.0	0.0	0.0	20.8
4.0	0.0	0.0	0.0	20.8
5.0	0.0	0.0	0.0	20.8

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-1.00
2	-1.00
3	-1.10
4	-1.00
5	-1.00
6	-1.00
7	-1.00
8	-1.00
9	-1.00
10	-1.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.8	5s	0.0	0.0	0.0	20.8
30s	0.0	0.0	0.0	20.8	30s	0.0	0.0	0.0	20.0
60s	0.0	0.0	0.0	20.8	60s	0.0	0.0	0.0	19.9

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.8

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	1.9	19.4	5s	0.0	0.0	0.3	18.3
30s	0.0	0.0	0.4	17.9	30s	0.0	0.0	4.3	13.1
60s	0.0	0.0	0.4	17.9	60s	0.0	0.0	6.8	7.4

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.5	17.8
2.0	0.0	0.0	0.5	17.6
3.0	0.0	0.0	0.7	17.4
4.0	0.0	0.0	0.8	17.2
5.0	0.0	0.0	0.9	17.2
6.0	0.0	0.0	0.9	17.1
7.0	0.0	0.0	1.0	17.0
8.0	0.0	0.0	1.0	16.9
9.0	0.0	0.0	1.1	16.8
10.0	0.0	0.0	1.1	16.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-1.20
2	-1.00
3	-1.00
4	-1.00
5	-1.00
6	-1.00
7	-1.00
8	-1.00
9	-1.00
10	-1.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	1.0	17.0	5s	0.0	0.0	1.1	17.5
30s	0.0	0.0	1.0	17.1	30s	0.0	0.0	1.0	17.2
60s	0.0	0.0	1.1	17.0	60s	0.0	0.0	4.7	10.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.9

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	1.3	20.2	5s	0.0	0.0	0.6	21.0
30s	0.0	0.0	0.0	20.9	30s	0.0	0.0	0.0	20.8
60s	0.0	0.0	0.0	20.9	60s	0.0	0.0	0.0	20.8

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.9
2.0	0.0	0.0	0.0	20.9
3.0	0.0	0.0	0.0	20.9
4.0	0.0	0.0	0.0	20.9
5.0	0.0	0.0	0.0	20.9

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.10
2	0.10
3	0.10
4	0.10
5	0.10
6	0.10
7	0.00
8	0.10
9	0.10
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.0	5s	0.0	0.0	0.0	21.1
30s	0.0	0.0	0.0	20.9	30s	0.0	0.0	0.0	20.9
60s	0.0	0.0	0.0	20.8	60s	0.0	0.0	0.0	20.9

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.10

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	3.6	12.1
30s	0.0	0.0	2.9	14.2	30s	0.0	0.0	4.6	8.7
60s	0.0	0.0	3.5	12.3	60s	0.0	0.0	4.6	8.6

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	4.6	8.6
2.0	0.0	0.0	4.6	8.6
3.0	0.0	0.0	4.6	8.6
4.0	0.0	0.0	4.6	8.6
5.0	0.0	0.0	4.6	8.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	3.70
2	4.60
3	3.40
4	2.50
5	2.40
6	1.70
7	1.70
8	2.50
9	1.70
10	1.40

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	1.1	19.4	5s	0.0	0.0	4.6	8.6
30s	0.0	0.0	2.4	10.6	30s	0.0	0.0	4.6	8.6
60s	0.0	0.0	3.3	8.8	60s	0.0	0.0	4.6	8.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.11

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.9	12.5	5s	0.0	0.0	0.1	20.2
30s	0.0	0.0	0.0	20.1	30s	0.0	0.0	0.1	20.0
60s	0.0	0.0	0.0	20.3	60s	0.0	0.0	0.1	19.9

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.2
2.0	0.0	0.0	0.0	20.2
3.0	0.0	0.0	0.0	20.2
4.0	0.0	0.0	0.0	20.2
5.0	0.0	0.0	0.0	20.2
6.0	0.0	0.0	0.0	20.2
7.0	0.0	0.0	0.0	20.1
8.0	0.0	0.0	0.0	20.1
9.0	0.0	0.0	0.0	20.1
10.0	0.0	0.0	0.0	20.1

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.10
2	-0.20
3	-0.10
4	-0.10
5	0.00
6	-0.10
7	-0.10
8	-0.10
9	-0.10
10	-0.10

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.3	5s	0.0	0.0	0.0	20.3
30s	0.0	0.0	0.0	20.0	30s	0.0	0.0	0.0	20.1
60s	0.0	0.0	0.0	19.8	60s	0.0	0.0	0.0	20.1

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.12

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.9	0.0	1.1	14.7	5s	0.0	0.0	0.0	23.2
30s	0.0	0.0	0.0	21.4	30s	0.0	0.0	0.0	21.5
60s	0.0	0.0	0.0	19.7	60s	0.0	0.0	0.0	21.5

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.6
2.0	0.0	0.0	0.0	21.6
3.0	0.0	0.0	0.0	21.6
4.0	0.0	0.0	0.0	21.6
5.0	0.0	0.0	0.0	21.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.40
3	0.60
4	1.10
5	0.10
6	0.40
7	1.10
8	0.60
9	0.00
10	0.10

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.8	5s	0.0	0.0	0.0	25.1
30s	0.0	0.0	0.0	21.4	30s	0.0	0.0	0.0	21.7
60s	0.0	0.0	0.0	21.4	60s	0.0	0.0	0.0	21.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.13

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE °C
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	2.3	19.1	5s	0.0	0.0	5.2	16.0
30s	0.0	0.0	6.1	13.7	30s	0.0	0.0	8.1	9.2
60s	0.0	0.0	5.5	15.1	60s	0.0	0.0	8.3	9.2

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	8.3	9.2
2.0	0.0	0.0	8.2	9.3
3.0	0.0	0.0	8.2	9.4
4.0	0.0	0.0	8.2	9.4
5.0	0.0	0.0	8.1	9.5
6.0	0.0	0.0	8.1	9.5
7.0	0.0	0.0	8.1	9.6
8.0	0.0	0.0	8.1	9.6
9.0	0.0	0.0	8.0	9.7
10.0	0.0	0.0	8.0	9.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	7.6	10.8	5s	0.0	0.0	4.2	16.3
30s	0.0	0.0	2.9	18.9	30s	0.0	0.0	7.6	10.1
60s	0.0	0.0	2.3	19.4	60s	0.0	0.0	7.5	9.9

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.14

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	7.2	10.9	5s	0.0	0.0	0.0	22.1
30s	0.0	0.0	0.0	21.5	30s	0.0	0.0	0.0	21.5
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.0	21.5

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.4
2.0	0.0	0.0	0.0	21.4
3.0	0.0	0.0	0.0	21.4
4.0	0.0	0.0	0.0	21.4
5.0	0.0	0.0	0.0	21.4

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.0	21.4	30s	0.0	0.0	0.0	21.5
60s	0.0	0.0	0.0	21.4	60s	0.0	0.0	0.0	21.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.15

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.1	21.8
30s	0.0	0.0	0.0	21.6	30s	0.0	0.0	7.6	10.8
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	7.3	11.5

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	4.0	17.4
2.0	0.0	0.0	2.6	18.9
3.0	0.0	0.0	1.7	19.6
4.0	0.0	0.0	1.0	20.2
5.0	0.0	0.0	0.6	20.7
6.0	0.0	0.0	0.4	20.9
7.0	0.0	0.0	0.4	20.9
8.0	0.0	0.0	0.2	21.1
9.0	0.0	0.0	0.2	21.1
10.0	0.0	0.0	0.1	21.2

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.8	5s	0.0	0.0	0.5	21.3
30s	0.0	0.0	0.0	21.5	30s	0.0	0.0	0.0	21.5
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.0	21.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.16

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.0	5s	0.0	0.0	0.0	20.6
30s	0.0	0.0	0.0	20.6	30s	0.0	0.0	4.9	14.5
60s	0.0	0.0	0.1	20.5	60s	0.0	0.0	5.9	13.4

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.5	20.1
2.0	0.0	0.0	0.9	19.9
3.0	0.0	0.0	1.1	19.7
4.0	0.0	0.0	1.4	19.5
5.0	0.0	0.0	1.5	19.3
6.0	0.0	0.0	1.5	19.2
7.0	0.0	0.0	1.6	19.1
8.0	0.0	0.0	1.7	18.9
9.0	0.0	0.0	1.7	18.9
10.0	0.0	0.0	1.7	18.9

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	1.7	19.1	5s	0.0	0.0	1.7	18.9
30s	0.0	0.0	1.7	18.8	30s	0.0	0.0	9.4	9.0
60s	0.0	0.0	1.8	18.7	60s	0.0	0.0	9.7	8.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.17

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.6	23.0	5s	0.0	0.0	0.0	22.8
30s	0.0	0.0	0.0	21.8	30s	0.0	0.0	0.0	21.8
60s	0.0	0.0	0.0	21.8	60s	0.0	0.0	0.0	21.8

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.7
2.0	0.0	0.0	0.0	21.7
3.0	0.0	0.0	0.0	21.7
4.0	0.0	0.0	0.0	21.7
5.0	0.0	0.0	0.0	21.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	23.3	5s	0.0	0.0	0.0	23.1
30s	0.0	0.0	0.0	22.0	30s	0.0	0.0	0.0	21.7
60s	0.0	0.0	0.0	21.8	60s	0.0	0.0	0.0	21.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.18

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.2	20.8	5s	0.0	0.0	0.0	21.1
30s	0.0	0.0	0.0	21.0	30s	0.0	0.0	1.3	20.4
60s	0.0	0.0	0.0	21.0	60s	0.0	0.0	1.4	20.1

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	1.4	20.1
2.0	0.0	0.0	1.4	20.0
3.0	0.0	0.0	1.4	19.9
4.0	0.0	0.0	1.4	19.9
5.0	0.0	0.0	1.4	19.9
6.0	0.0	0.0	1.4	20.0
7.0	0.0	0.0	1.4	19.9
8.0	0.0	0.0	1.4	19.9
9.0	0.0	0.0	1.4	19.9
10.0	0.0	0.0	1.4	19.9

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-1.00
2	-1.00
3	-1.00
4	-1.00
5	-1.00
6	-1.00
7	-1.00
8	-1.00
9	-1.00
10	-1.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s					5s				
30s					30s				
60s					60s				

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.19

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	3.9	10.1	5s	0.0	0.0	0.0	22.2
30s	0.0	0.0	0.3	21.6	30s	0.0	0.0	0.1	20.8
60s	0.0	0.0	0.0	21.7	60s	0.0	0.0	0.1	20.8

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.1	20.8
2.0	0.0	0.0	0.1	20.7
3.0	0.0	0.0	0.1	20.7
4.0	0.0	0.0	0.1	20.7
5.0	0.0	0.0	0.1	20.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.20
2	0.00
3	0.00
4	-0.40
5	0.00
6	0.00
7	0.00
8	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.1	5s	0.0	0.0	0.0	21.1
30s	0.0	0.0	0.0	21.0	30s	0.0	0.0	0.1	20.7
60s	0.0	0.0	0.0	21.1	60s	0.0	0.0	0.1	20.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.20

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s			0.0	23.4	5s	0.0	0.0	0.1	22.4
30s			0.0	21.6	30s	0.0	0.0	1.2	21.2
60s			0.0	21.6	60s	0.0	0.0	1.2	20.1

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	1.4	19.9
2.0	0.0	0.0	1.4	19.9
3.0	0.0	0.0	1.4	19.9
4.0	0.0	0.0	1.4	19.9
5.0	0.0	0.0	1.4	19.9

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0		0.0	22.6	5s	0.0	0.0	0.1	21.2
30s	0.0		0.0	23.5	30s	0.0	0.0	0.1	22.3
60s	0.0		0.0	23.5	60s	0.0	0.0	0.1	22.3

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.21

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	21.2	5s	0.0	0.0	0.0	23.5
30s	0.0	0.0	0.0	22.0	30s	0.0	0.0	1.0	19.7
60s	0.0	0.0	0.0	21.9	60s	0.0	0.0	0.8	19.8

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.4	20.5
2.0	0.0	0.0	0.3	20.7
3.0	0.0	0.0	0.2	21.1
4.0	0.0	0.0	0.1	21.2
5.0	0.0	0.0	0.1	21.2
6.0	0.0	0.0	0.1	21.2

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.40
2	0.20
3	0.10
4	0.20
5	0.20
6	0.40
7	1.10
8	0.20
9	0.10
10	1.10

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	23.1	5s	0.0	0.0	0.0	23.4
30s	0.0	0.0	0.0	21.5	30s	0.0	0.0	0.1	21.3
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.0	21.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.22

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	23.0	5s	0.6	0.0	1.1	8.4
30s	0.7	0.0	1.1	8.2	30s	1.1	0.0	1.8	2.4
60s	0.7	0.0	1.1	7.0	60s	1.1	0.0	1.9	1.9

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	1.1	0.0	1.8	2.3
2.0	1.2	0.0	1.7	2.6
3.0	1.2	0.0	1.7	2.9
4.0	1.1	0.0	1.7	2.9
5.0	1.1	0.0	1.7	2.9

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.10
2	0.00
3	0.00
4	0.40
5	1.10
6	0.40
7	0.00
8	1.00
9	0.20
10	0.10

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	1.0	0.0	1.4	4.5	5s	0.9	0.0	1.1	11.2
30s	0.9	0.0	1.1	6.6	30s	1.1	0.0	1.5	3.6
60s	0.9	0.0	1.1	5.7	60s	1.1	0.0	1.5	3.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.23

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.4	5s	0.0	0.0	2.6	19.7
30s	0.0	0.0	2.6	19.4	30s	0.0	0.0	2.4	19.7
60s	0.0	0.0	2.7	19.4	60s	0.0	0.0	2.5	19.5

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	2.5	19.5
2.0	0.0	0.0	2.6	19.5
3.0	0.0	0.0	2.6	19.4
4.0	0.0	0.0	2.7	19.3
5.0	0.0	0.0	2.8	19.3
6.0	0.0	0.0	2.7	19.3
7.0	0.0	0.0	2.7	19.3
8.0	0.0	0.0	2.7	19.3
9.0	0.0	0.0	2.1	19.7
10.0	0.0	0.0	2.6	19.3

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.20
2	-0.40
3	0.00
4	0.00
5	0.00
6	0.00
7	-0.10
8	-0.10
9	-0.10
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	2.2	19.9	5s	0.0	0.0	2.5	19.5
30s	0.0	0.0	2.2	19.5	30s	0.0	0.0	2.3	19.5
60s	0.0	0.0	2.6	19.3	60s	0.0	0.0	2.3	19.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.24

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.3	5s	0.0	0.0	1.0	11.9
30s	0.0	0.0	1.6	8.3	30s	0.0	0.0	1.8	8.7
60s	0.0	0.0	1.1	11.0	60s	0.0	0.0	2.0	8..6

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.6	14.9
2.0	0.0	0.0	0.7	13.9
3.0	0.0	0.0	0.9	12.6
4.0	0.0	0.0	0.9	12.1
5.0	0.0	0.0	1.1	11.4
6.0	0.0	0.0	1.2	10.8
7.0	0.0	0.0	1.4	10.4
8.0	0.0	0.0	1.5	10.1
9.0	0.0	0.0	1.6	10.1
10.0	0.0	0.0	1.6	10.1

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.40
2	-0.20
3	-0.10
4	-0.20
5	-0.10
6	-0.40
7	-0.20
8	0.00
9	-0.10
10	-0.10

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.6	15.5	5s	0.0	0.0	1.0	13.0
30s	0.0	0.0	1.4	10.6	30s	0.0	0.0	2.1	10.2
60s	0.0	0.0	1.1	12.1	60s	0.0	0.0	2.2	10.2

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.25

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.3	17.3	5s	0.0	0.0	0.0	22.0
30s	0.0	0.0	0.0	21.8	30s	0.0	0.0	0.0	21.7
60s	0.0	0.0	0.0	21.9	60s	0.0	0.0	0.0	21.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.8
2.0	0.0	0.0	0.0	21.8
3.0	0.0	0.0	0.0	21.8
4.0	0.0	0.0	0.0	21.7
5.0	0.0	0.0	0.0	21.7
6.0	0.0	0.0	0.0	21.7
7.0	0.0	0.0	0.0	21.7
8.0	0.0	0.0	0.0	21.7
9.0	0.0	0.0	0.0	21.7
10.0	0.0	0.0	0.0	21.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	-0.10
3	-0.10
4	-0.10
5	0.00
6	-0.10
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.0	21.6	30s	0.0	0.0	0.0	21.6
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.0	21.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.26

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.2	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.0	21.2	30s	0.0	0.0	0.7	13.5
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.8	13.5

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.4
2.0	0.0	0.0	0.0	21.0
3.0	0.0	0.0	0.0	20.6
4.0	0.0	0.0	0.1	20.0
5.0	0.0	0.0	0.1	19.5
6.0	0.0	0.0	0.2	19.1
7.0	0.0	0.0	0.2	18.6
8.0	0.0	0.0	0.3	17.9
9.0	0.0	0.0	0.3	17.3
10.0	0.0	0.0	0.4	16.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	-0.40
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.3	16.5	5s	0.0	0.0	0.1	19.5
30s	0.0	0.0	0.3	17.3	30s	0.0	0.0	0.3	16.9
60s	0.0	0.0	0.1	18.1	60s	0.0	0.0	0.3	17.2

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.27

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.4	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.0	21.4	30s	0.0	0.0	0.0	21.3
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.0	21.3

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.6
2.0	0.0	0.0	0.0	21.5
3.0	0.0	0.0	0.0	21.5
4.0	0.0	0.0	0.0	21.3
5.0	0.0	0.0	0.0	21.3
6.0	0.0	0.0	0.0	21.3
7.0	0.0	0.0	0.0	21.3
8.0	0.0	0.0	0.0	21.3
9.0	0.0	0.0	0.0	21.3
10.0	0.0	0.0	0.0	21.3

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.2	5s	0.0	0.0	0.0	21.6
30s	0.0	0.0	0.0	21.4	30s	0.0	0.0	0.0	21.5
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.0	21.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.28

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	21.0	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.1	21.1	30s	0.0	0.0	0.4	19.8
60s	0.0	0.0	0.0	21.4	60s	0.0	0.0	0.3	20.0

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.3
2.0	0.0	0.0	0.1	20.8
3.0	0.0	0.0	0.2	20.3
4.0	0.0	0.0	0.2	20.1
5.0	0.0	0.0	0.3	19.9
6.0	0.0	0.0	0.3	19.7
7.0	0.0	0.0	0.3	19.6
8.0	0.0	0.0	0.3	19.8
9.0	0.0	0.0	0.2	20.0
10.0	0.0	0.0	0.2	20.3

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-3.60
2	-2.00
3	-1.10
4	-0.10
5	-0.40
6	-0.20
7	-0.20
8	-0.20
9	0.00
10	0.40

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	20.8	5s	0.0	0.0	0.1	20.6
30s	0.0	0.0	0.1	20.3	30s	0.0	0.0	0.0	21.0
60s	0.0	0.0	0.1	20.3	60s	0.0	0.0	0.0	20.9

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.29

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	2.3	16.5	5s	0.0	0.0	0.0	21.9
30s	0.0	0.0	0.0	21.7	30s	0.0	0.0	0.0	21.8
60s	0.0	0.0	0.0	21.8	60s	0.0	0.0	0.0	21.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.7
2.0	0.0	0.0	0.0	21.7
3.0	0.0	0.0	0.0	21.7
4.0	0.0	0.0	0.0	21.7
5.0	0.0	0.0	0.0	21.7
6.0	0.0	0.0	0.0	21.7
7.0	0.0	0.0	0.0	21.6
8.0	0.0	0.0	0.0	21.6
9.0	0.0	0.0	0.0	21.6
10.0	0.0	0.0	0.0	21.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	-0.10
5	0.50
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	0.0	21.6
30s	0.0	0.0	0.0	21.5	30s	0.0	0.0	0.0	21.5
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.0	21.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.30

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	2.4	15.9	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.0	21.3	30s	0.0	0.0	0.0	20.2
60s	0.0	0.0	0.0	21.4	60s	0.0	0.0	0.0	20.2

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.5
2.0	0.0	0.0	0.0	21.1
3.0	0.0	0.0	0.0	20.7
4.0	0.0	0.0	0.0	20.5
5.0	0.0	0.0	0.0	20.3
6.0	0.0	0.0	0.0	20.7
7.0	0.0	0.0	0.0	20.9
8.0	0.0	0.0	0.0	20.8
9.0	0.0	0.0	0.0	20.5
10.0	0.0	0.0	0.0	20.4

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	-0.40
4	-0.10
5	0.00
6	-0.10
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.5	5s	0.0	0.0	0.0	21.3
30s	0.0	0.0	0.0	21.1	30s	0.0	0.0	0.0	20.3
60s	0.0	0.0	0.0	21.2	60s	0.0	0.0	0.0	20.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.31

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	5.7	12.1	5s	0.0	0.0	0.1	20.5
30s	0.0	0.0	0.1	20.4	30s	0.0	0.0	6.2	7.3
60s	0.0	0.0	0.0	20.5	60s	0.0	0.0	6.5	7.0

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.1	20.4
2.0	0.0	0.0	0.2	19.7
3.0	0.0	0.0	0.3	19.3
4.0	0.0	0.0	0.3	19.0
5.0	0.0	0.0	0.4	18.7
6.0	0.0	0.0	0.5	18.5
7.0	0.0	0.0	0.7	18.2
8.0	0.0	0.0	0.9	17.8
9.0	0.0	0.0	1.1	17.5
10.0	0.0	0.0	1.5	16.9

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.70
2	-0.30
3	-0.60
4	-0.60
5	-0.50
6	-0.50
7	-0.30
8	-0.20
9	-0.30
10	-0.30

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	3.2	15.5	5s	0.0	0.0	1.6	17.0
30s	0.0	0.0	0.8	18.3	30s	0.0	0.0	3.0	15.2
60s	0.0	0.0	2.1	16.3	60s	0.0	0.0	3.2	15.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.32

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	19.3	5s	0.0	0.0	0.0	22.1
30s	0.0	0.0	0.0	21.9	30s	0.0	0.0	0.0	21.9
60s	0.0	0.0	0.0	22.1	60s	0.0	0.0	0.0	21.9

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.9
2.0	0.0	0.0	0.0	21.8
3.0	0.0	0.0	0.0	21.7
4.0	0.0	0.0	0.0	21.7
5.0	0.0	0.0	0.0	21.7
6.0	0.0	0.0	0.0	21.7
7.0	0.0	0.0	0.0	21.6
8.0	0.0	0.0	0.0	21.6
9.0	0.0	0.0	0.0	21.6
10.0	0.0	0.0	0.0	21.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-1.40
2	-0.30
3	0.10
4	0.00
5	0.00
6	-0.20
7	-0.20
8	0.00
9	0.10
10	0.20

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.0	21.5	30s	0.0	0.0	0.0	21.6
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.0	21.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.33

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	3.1	13.9	5s	0.0	0.0	3.6	13.0
30s	0.0	0.0	3.9	11.3	30s	0.0	0.0	4.5	8.5
60s	0.0	0.0	3.5	12.4	60s	0.0	0.0	4.5	8.5

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	3.0	13.1
2.0	0.0	0.0	4.5	8.4
3.0	0.0	0.0	4.4	8.5
4.0	0.0	0.0	4.2	9.3
5.0	0.0	0.0	3.8	11.3
6.0	0.0	0.0	4.0	10.3
7.0	0.0	0.0	4.4	8.8
8.0	0.0	0.0	4.4	8.5
9.0	0.0	0.0	4.1	9.7
10.0	0.0	0.0	4.2	9.4

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.30
2	0.20
3	0.10
4	0.10
5	0.10
6	0.10
7	0.20
8	0.10
9	0.20
10	0.10

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	4.2	9.4	5s	0.0	0.0	3.8	11.1
30s	0.0	0.0	4.3	8.8	30s	0.0	0.0	4.3	8.7
60s	0.0	0.0	4.2	9.5	60s	0.0	0.0	4.3	8.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.34

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.0	21.5	30s	0.0	0.0	0.2	21.3
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.2	21.3

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.2	21.7
2.0	0.0	0.0	0.2	21.7
3.0	0.0	0.0	0.2	21.7
4.0	0.0	0.0	0.2	21.7
5.0	0.0	0.0	0.1	21.6
6.0	0.0	0.0	0.1	21.6
7.0	0.0	0.0	0.1	21.6
8.0	0.0	0.0	0.1	21.6
9.0	0.0	0.0	0.1	21.6
10.0	0.0	0.0	0.1	21.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.10
2	-0.30
3	0.00
4	-0.10
5	0.00
6	-0.60
7	0.30
8	-0.20
9	0.00
10	-0.50

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	21.8	5s	0.0	0.0	0.1	23.0
30s	0.0	0.0	0.0	21.6	30s	0.0	0.0	0.0	21.6
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.0	21.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.35

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.3	5s	0.0	0.0	2.1	15.6
30s	0.0	0.0	2.0	15.6	30s	0.0	0.0	2.9	14.4
60s	0.0	0.0	2.1	15.3	60s	0.0	0.0	3.4	14.0

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	.2	15.1
2.0	0.0	0.0	2.3	14.9
3.0	0.0	0.0	2.4	14.6
4.0	0.0	0.0	2.5	14.5
5.0	0.0	0.0	2.6	14.2
6.0	0.0	0.0	0.3	13.9
7.0	0.0	0.0	2.8	13.7
8.0	0.0	0.0	2.9	13.4
9.0	0.0	0.0	3.0	13.2
10.0	0.0	0.0	3.1	12.9

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	3.20
2	3.50
3	2.80
4	2.00
5	2.50
6	2.70
7	2.40
8	3.40
9	3.10
10	4.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.5	5s	0.0	0.0	2.8	16.0
30s	0.0	0.0	1.0	17.7	30s	0.0	0.0	0.1	21.5
60s	0.0	0.0	1.2	17.0	60s	0.0	0.0	0.0	21.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.36

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.4	19.1	5s	0.0	0.0	6.9	13.1
30s	0.0	0.0	6.3	14.4	30s	0.0	0.0	7.8	11.8
60s	0.0	0.0	5.9	15.4	60s	0.0	0.0	8.0	11.6

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	8.0	11.7
2.0	0.0	0.0	8.2	11.4
3.0	0.0	0.0	8.1	11.4
4.0	0.0	0.0	8.1	11.4
5.0	0.0	0.0	8.0	11.5
6.0	0.0	0.0	7.6	11.8
7.0	0.0	0.0	7.7	11.8
8.0	0.0	0.0	7.8	11.6
9.0	0.0	0.0	7.9	11.4
10.0	0.0	0.0	8.0	11.3

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.40
2	0.30
3	0.10
4	0.00
5	0.30
6	0.10
7	0.60
8	-0.10
9	-0.20
10	1.70

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	7.8	14.9	5s	0.0	0.0	6.5	20.2
30s	0.0	0.0	7.6	12.1	30s	0.0	0.0	8.2	11.5
60s	0.0	0.0	7.0	12.7	60s	0.0	0.0	8.3	11.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.37

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	7.2	12.1	5s	0.0	0.0	0.0	22.2
30s	0.0	0.0	0.0	21.7	30s	0.0	0.0	0.0	21.8
60s	0.0	0.0	0.0	21.8	60s	0.0	0.0	0.0	21.8

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.8
2.0	0.0	0.0	0.0	21.7
3.0	0.0	0.0	0.0	21.8
4.0	0.0	0.0	0.0	21.6
5.0	0.0	0.0	0.0	21.6
6.0	0.0	0.0	0.0	21.6
7.0	0.0	0.0	0.0	21.6
8.0	0.0	0.0	0.0	21.6
9.0	0.0	0.0	0.0	21.6
10.0	0.0	0.0	0.0	21.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.50
2	-0.20
3	0.00
4	0.00
5	0.10
6	-0.20
7	0.00
8	0.10
9	0.00
10	0.30

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.8	5s	0.0	0.0	0.0	21.6
30s	0.0	0.0	0.0	20.8	30s	0.0	0.0	0.0	21.4
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.0	21.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.38

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	21.2	5s	0.0	0.0	0.0	21.3
30s	0.0	0.0	0.0	21.8	30s	0.0	0.0	6.6	13.4
60s	0.0	0.0	0.0	21.8	60s	0.0	0.0	6.6	13.8

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.7
2.0	0.0	0.0	0.0	21.7
3.0	0.0	0.0	0.0	21.7
4.0	0.0	0.0	0.0	21.6
5.0	0.0	0.0	0.0	21.6
6.0	0.0	0.0	0.0	21.6
7.0	0.0	0.0	0.0	21.6
8.0	0.0	0.0	0.0	21.6
9.0	0.0	0.0	0.0	21.6
10.0	0.0	0.0	0.0	21.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.20
3	0.00
4	-0.20
5	-0.10
6	0.10
7	0.20
8	0.00
9	0.00
10	0.10

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.0	21.4
30s	0.0	0.0	0.0	21.5	30s	0.0	0.0	0.0	21.4
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.0	21.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.39

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	3.5	16.6	5s	0.0	0.0	7.5	9.5
30s	0.0	0.0	8.2	8.7	30s	0.0	0.0	8.3	7.9
60s	0.0	0.0	7.7	9.4	60s	0.0	0.0	8.5	7.9

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.4
2.0	0.0	0.0	0.0	21.4
3.0	0.0	0.0	0.0	21.5
4.0	0.0	0.0	0.0	21.5
5.0	0.0	0.0	0.0	21.5
6.0	0.0	0.0	0.0	21.5
7.0	0.0	0.0	0.0	21.5
8.0	0.0	0.0	0.0	21.5
9.0	0.0	0.0	0.0	21.5
10.0	0.0	0.0	0.0	21.5

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.5	5s	0.0	0.0	6.3	12.0
30s	0.0	0.0	7.2	9.7	30s	0.0	0.0	5.5	14.0
60s	0.0	0.0	6.4	11.5	60s	0.0	0.0	5.9	12.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.40

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	3.8	9.7	5s	0.0	0.0	0.0	22.0
30s	0.0	0.0	0.0	21.6	30s	0.0	0.0	0.0	21.8
60s	0.0	0.0	0.0	21.7	60s	0.0	0.0	0.0	21.5

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.9
2.0	0.0	0.0	0.0	21.7
3.0	0.0	0.0	0.0	21.7
4.0	0.0	0.0	0.0	21.7
5.0	0.0	0.0	0.0	21.7
6.0	0.0	0.0	0.0	21.7
7.0	0.0	0.0	0.0	21.7
8.0	0.0	0.0	0.0	21.7
9.0	0.0	0.0	0.0	21.7
10.0	0.0	0.0	0.0	21.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	-0.20
4	-0.10
5	0.00
6	-0.10
7	0.00
8	-0.10
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.0	21.6
30s	0.0	0.0	0.0	21.6	30s	0.0	0.0	0.0	21.6
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.0	21.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.41

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	20.2	5s	0.0	0.0	3.4	12.4
30s	0.0	0.0	3.4	12.4	30s	0.0	0.0	3.5	12.3
60s	0.0	0.0	3.5	12.3	60s	0.0	0.0	3.5	12.2

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	3.4	12.3
2.0	0.0	0.0	3.5	12.2
3.0	0.0	0.0	3.5	12.2
4.0	0.0	0.0	3.5	12.2
5.0	0.0	0.0	3.5	12.2
6.0	0.0	0.0	3.5	12.2
7.0	0.0	0.0	3.5	12.2
8.0	0.0	0.0	3.4	12.2
9.0	0.0	0.0	3.5	12.2
10.0	0.0	0.0	3.5	12.2

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.70
2	-0.30
3	-0.60
4	-0.60
5	-0.50
6	-0.50
7	-0.30
8	-0.20
9	-0.30
10	-0.30

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	3.1	13.2	5s	0.0	0.0	3.4	12.2
30s	0.0	0.0	3.4	12.1	30s	0.0	0.0	3.4	12.1
60s	0.0	0.0	3.4	12.1	60s	0.0	0.0	3.4	12.1

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.42

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	2.2	19.7	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.0	21.5	30s	0.0	0.0	0.1	19.5
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.1	19.5

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.6
2.0	0.0	0.0	0.0	21.6
3.0	0.0	0.0	0.0	21.4
4.0	0.0	0.0	0.0	21.2
5.0	0.0	0.0	0.0	20.9
6.0	0.0	0.0	0.0	20.8
7.0	0.0	0.0	0.0	20.7
8.0	0.0	0.0	0.0	20.5
9.0	0.0	0.0	0.0	20.4
10.0	0.0	0.0	0.1	20.3

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.30
2	-0.10
3	0.00
4	0.00
5	0.00
6	0.00
7	-0.20
8	-0.10
9	0.00
10	-0.20

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.8	5s	0.0	0.0	0.0	20.2
30s	0.0	0.0	0.0	20.8	30s	0.0	0.0	0.0	20.1
60s	0.0	0.0	0.0	20.9	60s	0.0	0.0	0.0	20.1

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.43

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	21.3	5s	0.0	0.0	0.1	21.8
30s	0.0	0.0	0.0	21.8	30s	0.0	0.0	0.4	21.1
60s	0.0	0.0	0.0	21.9	60s	0.0	0.0	0.5	21.1

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.7
2.0	0.0	0.0	0.0	21.7
3.0	0.0	0.0	0.0	21.6
4.0	0.0	0.0	0.0	21.6
5.0	0.0	0.0	0.0	21.6
6.0	0.0	0.0	0.0	21.5
7.0	0.0	0.0	0.0	21.4
8.0	0.0	0.0	0.1	21.4
9.0	0.0	0.0	0.1	21.4
10.0	0.0	0.0	0.1	21.4

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	-0.10
5	-0.10
6	0.00
7	0.00
8	-0.20
9	-0.10
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.3	5s	0.0	0.0	0.0	21.5
30s	0.0	0.0	0.0	21.3	30s	0.0	0.0	0.0	21.3
60s	0.0	0.0	0.0	21.4	60s	0.0	0.0	0.1	21.3

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.44

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	20.7	5s	0.0	0.0	0.1	21.5
30s	0.0	0.0	0.2	21.2	30s	0.0	0.0	3.2	15.1
60s	0.0	0.0	0.4	20.8	60s	0.0	0.0	3.3	15.1

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.1	21.3
2.0	0.0	0.0	1.9	18.0
3.0	0.0	0.0	3.0	16.0
4.0	0.0	0.0	2.9	15.9
5.0	0.0	0.0	3.2	15.1
6.0	0.0	0.0	3.1	15.5
7.0	0.0	0.0	3.3	14.9
8.0	0.0	0.0	2.9	15.5
9.0	0.0	0.0	2.4	16.6
10.0	0.0	0.0	2.0	17.5

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.20
2	0.00
3	-0.20
4	0.00
5	-0.10
6	0.00
7	0.00
8	0.00
9	0.00
10	-0.20

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	1.8	17.8	5s	0.0	0.0	0.8	19.5
30s	0.0	0.0	0.9	19.1	30s	0.0	0.0	2.4	16.4
60s	0.0	0.0	0.6	19.6	60s	0.0	0.0	2.5	16.3

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.45

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	1.6	16.1	5s	2.6	0.0	3.7	1.4
30s	2.6	0.0	3.7	1.2	30s	3.0	0.0	4.2	0.9
60s	2.7	0.0	3.7	1.4	60s	3.1	0.0	4.3	0.9

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	3.0	0.0	4.2	0.7
2.0	3.0	0.0	4.2	0.7
3.0	3.1	0.0	4.2	0.7
4.0	3.0	0.0	4.2	0.7
5.0	2.9	0.0	4.1	0.8
6.0	3.0	0.0	4.1	0.8
7.0	2.9	0.0	4.1	0.8
8.0	2.9	0.0	4.0	0.8
9.0	2.9	0.0	4.1	0.7
10.0	3.0	0.0	4.0	0.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	2.80
2	2.70
3	3.00
4	3.10
5	3.50
6	3.40
7	2.80
8	2.60
9	2.80
10	2.70

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	3.0	0.0	4.1	0.9	5s	2.9	0.0	4.0	0.9
30s	2.6	0.0	3.8	2.1	30s	3.0	0.0	4.1	0.9
60s	2.7	0.0	3.9	2.1	60s	3.0	0.0	4.2	0.8

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.46

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.5	5s	0.0	0.0	0.0	21.9
30s	0.0	0.0	0.0	21.8	30s	0.0	0.0	0.0	21.8
60s	0.0	0.0	0.0	21.8	60s	0.0	0.0	0.0	21.8

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.8
2.0	0.0	0.0	0.0	21.7
3.0	0.0	0.0	0.0	21.7
4.0	0.0	0.0	0.0	21.7
5.0	0.0	0.0	0.0	21.7
6.0	0.0	0.0	0.0	21.7
7.0	0.0	0.0	0.0	21.7
8.0	0.0	0.0	0.0	21.6
9.0	0.0	0.0	0.0	21.6
10.0	0.0	0.0	0.0	21.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.40
2	-0.30
3	-0.30
4	-0.20
5	0.00
6	-0.20
7	-0.20
8	-0.50
9	-0.20
10	-0.20

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.0	21.6	30s	0.0	0.0	0.0	21.6
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.0	21.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.47

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE
 AMBIENT TEMPERATURE
 DIFFERENTIAL GAS PRESSURE

mb
oC
Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s					5s				
30s					30s				
60s					60s				

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4 %	H2S ppm	CO2 %	O2 %
1.0				
2.0				
3.0				
4.0				
5.0				
6.0				
7.0				
8.0				
9.0				
10.0				

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s					5s				
30s					30s				
60s					60s				

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.48

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	0.0	21.9
30s	0.0	0.0	0.0	21.7	30s	0.0	0.0	0.0	21.7
60s	0.0	0.0	0.0	21.7	60s	0.0	0.0	0.0	21.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.7
2.0	0.0	0.0	0.0	21.6
3.0	0.0	0.0	0.0	21.6
4.0	0.0	0.0	0.0	21.6
5.0	0.0	0.0	0.0	21.6
6.0	0.0	0.0	0.0	21.6
7.0	0.0	0.0	0.0	21.6
8.0	0.0	0.0	0.0	21.6
9.0	0.0	0.0	0.0	21.5
10.0	0.0	0.0	0.0	21.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-1.40
2	-1.60
3	-2.10
4	-1.00
5	-1.30
6	-1.40
7	-1.20
8	-1.20
9	-1.40
10	-1.50

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	0.0	21.6
30s	0.0	0.0	0.0	21.5	30s	0.0	0.0	0.0	21.5
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.0	21.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.49

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.2	1738.0	30s	0.0	0.0	0.8	9.9
60s	0.0	0.0	0.2	18.5	60s	0.0	0.0	1.0	9.2

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.9
2.0	0.0	0.0	0.0	21.2
3.0	0.0	0.0	0.0	21.3
4.0	0.0	0.0	0.0	21.4
5.0	0.0	0.0	0.0	21.4
6.0	0.0	0.0	0.0	21.4
7.0	0.0	0.0	0.0	21.4
8.0	0.0	0.0	0.0	21.5
9.0	0.0	0.0	0.0	21.5
10.0	0.0	0.0	0.0	21.5

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.2	5s	0.0	0.0	0.0	21.3
30s	0.0	0.0	0.0	21.3	30s	0.0	0.0	0.0	21.3
60s	0.0	0.0	0.0	21.3	60s	0.0	0.0	0.0	21.3

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.50

Gas and Groundwater Monitoring

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.6
30s	0.0	0.0	0.0	20.6
60s	0.0	0.0	0.0	20.6

Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.5
30s	0.0	0.0	0.0	20.4
60s	0.0	0.0	0.0	20.4

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.6
2.0	0.0	0.0	0.0	20.6
3.0	0.0	0.0	0.0	20.6
4.0	0.0	0.0	0.0	20.6
5.0	0.0	0.0	0.0	20.6
6.0	0.0	0.0	0.0	20.6
7.0	0.0	0.0	0.0	20.6
8.0	0.0	0.0	0.0	20.6
9.0	0.0	0.0	0.0	20.6
10.0	0.0	0.0	0.0	20.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.7
30s	0.0	0.0	0.0	20.7
60s	0.0	0.0	0.0	20.6

Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.7
30s	0.0	0.0	0.0	20.7
60s	0.0	0.0	0.0	20.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.51

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.0	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.1	20.4	30s	0.0	0.0	0.2	19.0
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.3	19.0

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.3	19.1
2.0	0.0	0.0	0.2	19.3
3.0	0.0	0.0	0.2	19.7
4.0	0.0	0.0	0.2	19.7
5.0	0.0	0.0	0.1	19.8
6.0	0.0	0.0	0.1	19.5
7.0	0.0	0.0	0.1	19.9
8.0	0.0	0.0	0.0	20.2
9.0	0.0	0.0	0.0	20.4
10.0	0.0	0.0	0.0	20.4

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.50
2	0.00
3	-0.20
4	0.00
5	0.10
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.5	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.0	21.5	30s	0.0	0.0	0.0	21.4
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.0	21.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.52

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	0.0	21.9
30s	0.0	0.0	0.0	21.6	30s	0.0	0.0	0.0	21.6
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.0	21.6

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.6
2.0	0.0	0.0	0.0	21.6
3.0	0.0	0.0	0.0	21.6
4.0	0.0	0.0	0.0	21.6
5.0	0.0	0.0	0.0	21.6
6.0	0.0	0.0	0.0	21.5
7.0	0.0	0.0	0.0	21.5
8.0	0.0	0.0	0.0	21.5
9.0	0.0	0.0	0.0	21.5
10.0	0.0	0.0	0.0	21.5

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.0	21.5	30s	0.0	0.0	0.0	21.5
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.0	21.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.53

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.5	5s	0.0	0.0	0.0	20.4
30s	0.0	0.0	0.0	20.4	30s	0.0	0.0	0.0	19.4
60s	0.0	0.0	0.0	20.5	60s	0.0	0.0	0.0	19.4

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.6
2.0	0.0	0.0	0.0	20.6
3.0	0.0	0.0	0.0	20.5
4.0	0.0	0.0	0.0	20.5
5.0	0.0	0.0	0.0	20.4
6.0	0.0	0.0	0.0	20.4
7.0	0.0	0.0	0.0	20.4
8.0	0.0	0.0	0.0	20.4
9.0	0.0	0.0	0.0	20.3
10.0	0.0	0.0	0.0	20.3

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.3	5s	0.0	0.0	0.0	20.6
30s	0.0	0.0	0.0	20.4	30s	0.0	0.0	0.0	19.8
60s	0.0	0.0	0.0	20.5	60s	0.0	0.0	0.0	19.8

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.54

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	21.4	5s	0.0	0.0	0.2	20.0
30s	0.0	0.0	3.0	11.6	30s	0.0	0.0	5.3	4.6
60s	0.0	0.0	2.9	11.7	60s	0.0	0.0	5.3	4.2

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	3.3	9.8
2.0	0.0	0.0	3.4	9.4
3.0	0.0	0.0	3.4	8.8
4.0	0.0	0.0	3.4	8.7
5.0	0.0	0.0	3.3	8.7
6.0	0.0	0.0	3.2	8.5
7.0	0.0	0.0	3.3	8.2
8.0	0.0	0.0	3.3	8.2
9.0	0.0	0.0	3.3	8.0
10.0	0.0	0.0	3.4	7.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	22.2	5s	0.0	0.0	0.0	22.3
30s	0.0	0.0	0.0	21.6	30s	0.0	0.0	0.0	21.6
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.0	21.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.55

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.7	5s	0.0	0.0	0.0	20.7
30s	0.0	0.0	0.0	20.7	30s	0.0	0.0	0.0	20.7
60s	0.0	0.0	0.0	20.7	60s	0.0	0.0	0.0	20.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.7
2.0	0.0	0.0	0.0	20.7
3.0	0.0	0.0	0.0	20.7
4.0	0.0	0.0	0.0	20.7
5.0	0.0	0.0	0.0	20.7
6.0	0.0	0.0	0.0	20.7
7.0	0.0	0.0	0.0	20.7
8.0	0.0	0.0	0.0	20.6
9.0	0.0	0.0	0.0	20.7
10.0	0.0	0.0	0.0	20.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.7	5s	0.0	0.0	0.0	20.7
30s	0.0	0.0	0.0	20.6	30s	0.0	0.0	0.0	20.6
60s	0.0	0.0	0.0	20.6	60s	0.0	0.0	0.0	

Notes:

Project
 Project No.
 Carried out for

Figure

B2.56

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	20.2	5s	0.0	0.0	0.3	20.5
30s	0.0	0.0	0.5	19.6	30s	0.0	0.0	4.0	8.4
60s	0.0	0.0	1.1	18.7	60s	0.0	0.0	4.0	8.3

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.4
2.0	0.0	0.0	0.0	20.1
3.0	0.0	0.0	1.8	16.7
4.0	0.0	0.0	2.4	13.9
5.0	0.0	0.0	2.6	12.7
6.0	0.0	0.0	3.3	10.6
7.0	0.0	0.0	3.3	10.8
8.0	0.0	0.0	2.9	11.9
9.0			3.6	9.8
10.0			3.6	10.1

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.5	5s	0.0	0.0	0.9	19.2
30s	0.0	0.0	2.5	13.7	30s	0.0	0.0	4.1	7.8
60s	0.0	0.0	3.4	10.4	60s	0.0	0.0	4.2	7.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.57

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.4	5s	0.0	0.0	0.1	20.5
30s	0.0	0.0	0.0	20.5	30s	0.0	0.0	0.8	20.0
60s	0.0	0.0	0.0	20.5	60s	0.0	0.0	0.8	20.0

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.6
2.0	0.0	0.0	0.0	20.6
3.0	0.0	0.0	0.0	20.6
4.0	0.0	0.0	0.0	20.5
5.0	0.0	0.0	0.0	20.5
6.0	0.0	0.0	0.0	20.4
7.0	0.0	0.0	0.0	20.4
8.0	0.0	0.0	0.0	20.4
9.0	0.0	0.0	0.0	20.4
10.0	0.0	0.0	0.0	20.4

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.4	5s	0.0	0.0	0.0	20.5
30s	0.0	0.0	0.0	20.5	30s	0.0	0.0	0.1	20.3
60s	0.0	0.0	0.0	20.5	60s	0.0	0.0	0.1	20.3

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.58

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.3	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	4.2	10.7	30s	0.0	0.0	4.3	11.1
60s	0.0	0.0	4.3	10.6	60s	0.0	0.0	4.7	10.6

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	4.3	10.4
2.0	0.0	0.0	4.4	10.3
3.0	0.0	0.0	4.4	10.2
4.0	0.0	0.0	4.4	10.0
5.0	0.0	0.0	4.4	9.9
6.0	0.0	0.0	4.5	9.6
7.0	0.0	0.0	4.6	9.3
8.0	0.0	0.0	4.6	9.2
9.0	0.0	0.0	4.7	9.1
10.0	0.0	0.0	4.7	9.5

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	-0.20
3	0.00
4	-0.10
5	-0.10
6	0.00
7	0.10
8	-0.10
9	0.20
10	0.10

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.7	18.2	5s	0.0	0.0	0.0	21.5
30s	0.0	0.0	4.6	9.8	30s	0.0	0.0	4.9	10.6
60s	0.0	0.0	4.6	9.8	60s	0.0	0.0	5.2	10.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.59

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.6	5s	0.0	0.0	0.0	20.4
30s	0.0	0.0	9.2	10.4	30s	0.0	0.0	7.4	15.0
60s	0.0	0.0	9.3	9.7	60s	0.0	0.0	9.8	8.6

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	9.3	9.7
2.0	0.0	0.0	9.4	9.5
3.0	0.0	0.0	9.4	9.5
4.0	0.0	0.0	9.4	9.4
5.0	0.0	0.0	9.4	9.4
6.0	0.0	0.0	9.4	9.4
7.0	0.0	0.0	9.4	9.3
8.0	0.0	0.0	9.4	9.3
9.0	0.0	0.0	9.4	9.3
10.0	0.0	0.0	9.4	9.3

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.5	20.4	5s	0.0	0.0	0.0	20.4
30s	0.0	0.0	8.8	10.5	30s	0.0	0.0	9.6	9.7
60s	0.0	0.0	9.2	9.6	60s	0.0	0.0	9.8	8.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.60

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.6	5s	0.0	0.0	0.0	20.6
30s	0.0	0.0	0.0	20.6	30s	0.0	0.0	0.0	20.6
60s	0.0	0.0	0.0	20.6	60s	0.0	0.0	0.0	20.6

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.6
2.0	0.0	0.0	0.0	20.6
3.0	0.0	0.0	0.0	20.6
4.0	0.0	0.0	0.0	20.6
5.0	0.0	0.0	0.0	20.5
6.0	0.0	0.0	0.0	20.6
7.0	0.0	0.0	0.0	20.6
8.0	0.0	0.0	0.0	20.6
9.0	0.0	0.0	0.0	20.5
10.0	0.0	0.0	0.0	20.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.6	5s	0.0	0.0	0.0	20.6
30s	0.0	0.0	0.0	20.5	30s	0.0	0.0	0.0	20.6
60s	0.0	0.0	0.0	20.6	60s	0.0	0.0	0.0	20.5

Notes:

Project
 Project No.
 Carried out for

Figure

B2.61

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	18.8	5s	0.0	0.0	5.7	15.8
30s	0.0	0.0	4.9	16.9	30s	0.0	0.0	11.0	6.6
60s	0.0	0.0	5.4	16.1	60s	0.0	0.0	12.0	6.5

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	5.9	15.1
2.0	0.0	0.0	6.2	14.2
3.0	0.0	0.0	6.9	12.8
4.0	0.0	0.0	7.9	11.4
5.0	0.0	0.0	8.8	9.9
6.0	0.0	0.0	8.8	9.5
7.0	0.0	0.0	8.7	9.8
8.0	0.0	0.0	8.7	9.9
9.0	0.0	0.0	8.6	10.1
10.0	0.0	0.0	8.4	10.2

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.10
2	-0.10
3	0.00
4	-0.10
5	-0.20
6	0.00
7	-0.30
8	-0.20
9	-0.10
10	-0.30

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	7.9	10.9	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	19.2	2.8	30s	0.0	0.0	10.0	6.6
60s	0.0	0.0	12.0	7.0	60s	0.0	0.0	11.0	6.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.62

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.5	5s	0.0	0.0	0.0	20.6
30s	0.0	0.0	2.0	19.1	30s	0.0	0.0	9.1	10.7
60s	0.0	0.0	2.4	18.5	60s	0.0	0.0	9.4	9.9

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	2.8	18.0
2.0	0.0	0.0	3.3	17.5
3.0	0.0	0.0	3.6	17.2
4.0	0.0	0.0	4.6	16.1
5.0	0.0	0.0	5.0	15.4
6.0	0.0	0.0	5.0	15.3
7.0	0.0	0.0	7.1	13.4
8.0	0.0	0.0	7.6	13.0
9.0	0.0	0.0	8.5	11.4
10.0	0.0	0.0	9.2	10.2

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.2	20.4	5s	0.0	0.0	1.1	20.2
30s	0.0	0.0	9.0	10.3	30s	0.0	0.0	10.0	8.4
60s	0.0	0.0	9.0	10.4	60s	0.0	0.0	10.1	8.3

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.63

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.2	21.5	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.0	21.7	30s	0.0	0.0	0.0	21.7
60s	0.0	0.0	0.0	21.7	60s	0.0	0.0	0.0	21.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.8
2.0	0.0	0.0	0.0	21.8
3.0	0.0	0.0	0.0	21.8
4.0	0.0	0.0	0.0	21.7
5.0	0.0	0.0	0.0	21.7
6.0	0.0	0.0	0.0	21.7
7.0	0.0	0.0	0.0	21.7
8.0	0.0	0.0	0.0	21.7
9.0	0.0	0.0	0.0	21.7
10.0	0.0	0.0	0.0	21.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.10
2	-0.30
3	-0.30
4	-0.20
5	-0.40
6	-0.20
7	-0.60
8	-0.40
9	-0.10
10	-0.30

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.0	21.7	30s	0.0	0.0	0.0	21.7
60s	0.0	0.0	0.0	21.7	60s	0.0	0.0	0.0	21.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.64

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.5	5s	0.0	0.0	0.0	21.9
30s	0.0	0.0	3.7	12.1	30s	0.0	0.0	4.5	10.8
60s	0.0	0.0	3.7	12.1	60s	0.0	0.0	4.5	10.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	3.9	11.3
2.0	0.0	0.0	3.9	11.1
3.0	0.0	0.0	4.0	10.9
4.0	0.0	0.0	4.0	10.8
5.0	0.0	0.0	4.0	10.7
6.0	0.0	0.0	4.1	10.4
7.0	0.0	0.0	4.2	10.3
8.0	0.0	0.0	4.3	10.2
9.0	0.0	0.0	4.4	10.3
10.0	0.0	0.0	4.4	10.5

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	-0.20
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.0	21.5
30s	0.0	0.0	4.2	11.0	30s	0.0	0.0	1.7	17.2
60s	0.0	0.0	4.2	10.9	60s	0.0	0.0	2.1	16.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.65

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.6	5s	0.0	0.0	0.0	20.5
30s	0.0	0.0	0.0	18.7	30s	0.0	0.0	0.2	16.3
60s	0.0	0.0	0.0	18.9	60s	0.0	0.0	0.2	16.3

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.2	16.4
2.0	0.0	0.0	0.2	16.4
3.0	0.0	0.0	0.2	16.5
4.0	0.0	0.0	0.2	16.6
5.0	0.0	0.0	0.2	16.8
6.0	0.0	0.0	0.1	16.9
7.0	0.0	0.0	0.1	17.1
8.0	0.0	0.0	0.1	17.2
9.0	0.0	0.0	0.1	17.3
10.0	0.0	0.0	0.1	17.3

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.5	5s	0.0	0.0	0.0	20.5
30s	0.0	0.0	0.0	19.0	30s	0.0	0.0	0.0	17.4
60s	0.0	0.0	0.0	19.4	60s	0.0	0.0	0.1	17.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.66

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	20.6	5s	0.0	0.0	0.1	20.5
30s	0.0	0.0	0.0	20.5	30s	0.0	0.0	1.2	19.7
60s	0.0	0.0	0.0	20.5	60s	0.0	0.0	1.3	19.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.6
2.0	0.0	0.0	0.0	20.6
3.0	0.0	0.0	0.0	20.6
4.0	0.0	0.0	0.0	20.6
5.0	0.0	0.0	0.0	20.6
6.0	0.0	0.0	0.0	20.6
7.0	0.0	0.0	0.0	20.5
8.0	0.0	0.0	0.0	20.6
9.0	0.0	0.0	0.0	20.6
10.0	0.0	0.0	0.0	20.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.6	5s	0.0	0.0	0.0	20.6
30s	0.0	0.0	0.0	20.6	30s	0.0	0.0	1.2	19.7
60s	0.0	0.0	0.0	20.6	60s	0.0	0.0	1.2	19.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.67

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.2	20.4	5s	0.0	0.0	0.0	20.6
30s	0.0	0.0	2.3	17.0	30s	0.0	0.0	4.9	11.3
60s	0.0	0.0	1.6	18.5	60s	0.0	0.0	4.9	11.3

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.5
2.0	0.0	0.0	0.0	20.4
3.0	0.0	0.0	0.3	20.1
4.0	0.0	0.0	0.9	19.5
5.0	0.0	0.0	1.7	18.3
6.0	0.0	0.0	2.1	17.4
7.0	0.0	0.0	2.5	16.8
8.0	0.0	0.0	2.7	16.3
9.0	0.0	0.0	2.9	15.9
10.0	0.0	0.0	3.0	15.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	1.2	20.2	5s	0.0	0.0	0.4	20.6
30s	0.0	0.0	1.3	18.9	30s	0.0	0.0	3.9	15.3
60s	0.0	0.0	0.8	19.5	60s	0.0	0.0	3.1	15.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.68

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.3	5s	0.0	0.0	0.0	22.0
30s	1.9	0.0	2.3	5.5	30s	2.4	0.0	2.4	2.7
60s	2.0	0.0	2.3	5.4	60s	2.7	0.0	2.5	2.2

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	2.4	0.0	2.6	2.9
2.0	2.4	0.0	2.7	2.8
3.0	2.4	0.0	2.7	2.8
4.0	2.5	0.0	2.7	2.7
5.0	2.6	0.0	2.6	2.7
6.0	2.6	0.0	2.5	2.5
7.0	2.7	0.0	2.6	2.3
8.0	2.7	0.0	2.5	2.5
9.0	2.7	0.0	2.5	2.5
10.0	2.6	0.0	2.4	2.8

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.0	21.7
30s	2.4	0.0	2.2	4.2	30s	2.7	0.0	2.2	3.1
60s	2.4	0.0	2.2	4.1	60s	2.8	0.0	2.2	2.8

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.69

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	18.8	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.0	21.6	30s	0.0	0.0	0.0	21.7
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.0	21.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.7
2.0	0.0	0.0	0.0	21.7
3.0	0.0	0.0	0.0	21.7
4.0	0.0	0.0	0.0	21.7
5.0	0.0	0.0	0.0	21.7
6.0	0.0	0.0	0.0	21.7
7.0	0.0	0.0	0.0	21.4
8.0	0.0	0.0	0.0	21.4
9.0	0.0	0.0	0.0	21.4
10.0	0.0	0.0	0.0	21.4

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	21.7	5s	0.00	0.00	0.00	21.7
30s	0.00	0.00	0.00	21.6	30s	0.00	0.00	0.00	21.5
60s	0.00	0.00	0.00	21.6	60s	0.00	0.00	0.00	21.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.70

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.4	5s	0.0	0.0	0.0	21.9
30s	0.0	0.0	0.0	21.9	30s	0.0	0.0	1.9	15.6
60s	0.0	0.0	0.0	21.9	60s	0.0	0.0	1.8	16.0

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.9	18.3
2.0	0.0	0.0	0.9	17.9
3.0	0.0	0.0	1.0	17.7
4.0	0.0	0.0	1.0	17.6
5.0	0.0	0.0	1.0	17.4
6.0	0.0	0.0	1.1	17.4
7.0	0.0	0.0	1.1	17.4
8.0	0.0	0.0	1.1	17.4
9.0	0.0	0.0	1.0	17.4
10.0	0.0	0.0	1.0	17.5

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.20	21.0	5s	0.00	0.00	0.10	21.1
30s	0.00	0.00	0.60	19.0	30s	0.00	0.00	1.80	16.0
60s	0.00	0.00	0.30	20.0	60s	0.00	0.00	2.00	15.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.71

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.4	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.0	21.8	30s	0.0	0.0	0.0	21.8
60s	0.0	0.0	0.0	21.8	60s	0.0	0.0	0.0	21.8

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.8
2.0	0.0	0.0	0.0	21.7
3.0	0.0	0.0	0.0	21.7
4.0	0.0	0.0	0.0	21.7
5.0	0.0	0.0	0.0	21.7
6.0	0.0	0.0	0.0	21.7
7.0	0.0	0.0	0.0	21.7
8.0	0.0	0.0	0.0	21.7
9.0	0.0	0.0	0.0	21.7
10.0	0.0	0.0	0.0	21.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.50
2	-0.50
3	-0.50
4	-0.50
5	-0.50
6	-0.40
7	-0.40
8	-0.30
9	-0.30
10	-0.30

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	21.8	5s	0.00	0.00	0.00	21.8
30s	0.00	0.00	0.00	21.6	30s	0.00	0.00	0.00	21.6
60s	0.00	0.00	0.00	21.6	60s	0.00	0.00	0.00	21.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.72

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE °C
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.5	5s	0.0	0.0	0.1	21.6
30s	0.0	0.0	0.0	20.7	30s	0.0	0.0	0.3	18.0
60s	0.0	0.0	0.0	20.9	60s	0.0	0.0	0.2	18.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.9
2.0	0.0	0.0	0.0	20.7
3.0	0.0	0.0	0.0	20.7
4.0	0.0	0.0	0.0	20.6
5.0	0.0	0.0	0.0	20.6
6.0	0.0	0.0	0.0	20.5
7.0	0.0	0.0	0.0	20.3
8.0	0.0	0.0	0.0	20.1
9.0	0.0	0.0	0.0	19.9
10.0	0.0	0.0	0.0	19.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	-0.10
3	0.00
4	-0.10
5	-0.10
6	0.00
7	0.00
8	-0.10
9	-0.30
10	-0.20

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	21.5	5s	0.00	0.00	0.00	21.4
30s	0.00	0.00	0.10	19.9	30s	0.00	0.00	0.10	19.9
60s	0.00	0.00	0.00	20.3	60s	0.00	0.00	0.10	20.0

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.73

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.0	21.7	30s	0.0	0.0	0.0	21.6
60s	0.0	0.0	0.0	21.7	60s	0.0	0.0	0.0	21.6

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.7
2.0	0.0	0.0	0.0	21.7
3.0	0.0	0.0	0.0	21.6
4.0	0.0	0.0	0.0	21.6
5.0	0.0	0.0	0.0	21.6
6.0	0.0	0.0	0.0	21.6
7.0	0.0	0.0	0.0	21.6
8.0	0.0	0.0	0.0	21.6
9.0	0.0	0.0	0.0	21.6
10.0	0.0	0.0	0.0	21.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	21.8	5s	0.00	0.00	0.00	21.8
30s	0.00	0.00	0.00	21.6	30s	0.00	0.00	0.00	21.6
60s	0.00	0.00	0.00	21.7	60s	0.00	0.00	0.00	21.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.74

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.6	5s	0.0	0.0	0.4	19.6
30s	0.0	0.0	0.5	19.4	30s	0.0	0.0	0.5	19.5
60s	0.0	0.0	0.5	19.4	60s	0.0	0.0	0.4	19.5

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.1	21.2
2.0	0.0	0.0	0.2	20.7
3.0	0.0	0.0	0.2	20.6
4.0	0.0	0.0	0.4	19.2
5.0	0.0	0.0	0.4	19.3
6.0	0.0	0.0	0.3	19.8
7.0	0.0	0.0	0.3	19.3
8.0	0.0	0.0	0.0	21.5
9.0	0.0	0.0	0.0	21.8
10.0	0.0	0.0	0.0	21.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.20
2	-0.10
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	21.9	5s	0.00	0.00	0.00	21.9
30s	0.10	0.00	0.20	20.3	30s	0.20	0.00	0.10	20.7
60s	0.10	0.00	0.00	20.9	60s	0.00	0.00	0.30	20.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.75

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	0.0	21.9
30s	0.0	0.0	0.0	21.7	30s	0.0	0.0	0.0	21.8
60s	0.0	0.0	0.0	21.8	60s	0.0	0.0	0.0	21.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.8
2.0	0.0	0.0	0.0	21.8
3.0	0.0	0.0	0.0	21.7
4.0	0.1	0.0	0.0	21.7
5.0	0.1	0.0	0.0	21.7
6.0	0.1	0.0	0.0	21.7
7.0	0.2	0.0	0.0	21.7
8.0	0.2	0.0	0.0	21.7
9.0	0.2	0.0	0.0	21.7
10.0	0.1	0.0	0.0	21.7

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.10	0.00	0.00	21.8	5s	0.00	0.00	0.00	21.8
30s	0.00	0.00	0.00	21.6	30s	0.00	0.00	0.00	21.6
60s	0.00	0.00	0.00	21.6	60s	0.00	0.00	0.00	21.6

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.76

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.0	21.6	30s	0.0	0.0	0.0	21.0
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.0	20.9

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.6
2.0	0.0	0.0	0.0	21.1
3.0	0.0	0.0	0.0	21.0
4.0	0.0	0.0	0.0	21.0
5.0	0.0	0.0	0.0	21.1
6.0	0.0	0.0	0.0	21.1
7.0	0.0	0.0	0.0	21.1
8.0	0.0	0.0	0.0	21.1
9.0	0.0	0.0	0.0	21.1
10.0	0.0	0.0	0.0	21.1

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	-0.10
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	21.7	5s	0.00	0.00	0.00	21.7
30s	0.00	0.00	0.00	21.3	30s	0.00	0.00	0.00	21.3
60s	0.00	0.00	0.00	21.4	60s	0.00	0.00	0.00	21.2

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.77

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE °C
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	21.3	5s	0.0	0.0	0.0	21.9
30s	0.0	0.0	1.1	17.0	30s	0.0	0.0	3.6	12.7
60s	0.0	0.0	1.2	16.8	60s	0.0	0.0	4.2	11.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.8	18.1
2.0	0.0	0.0	0.9	17.9
3.0	0.0	0.0	0.9	17.9
4.0	0.0	0.0	0.9	17.8
5.0	0.0	0.0	0.9	17.8
6.0	0.0	0.0	0.9	17.8
7.0	0.0	0.0	1.0	17.5
8.0	0.0	0.0	1.1	17.4
9.0	0.0	0.0	1.2	17.2
10.0	0.0	0.0	1.4	16.8

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	-0.20
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	21.6	5s	0.00	0.00	0.00	21.6
30s	0.00	0.00	2.80	13.8	30s	0.00	0.00	0.20	20.4
60s	0.00	0.00	3.00	13.5	60s	0.00	0.00	0.20	20.3

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.78

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.4	5s	0.0	0.0	0.0	20.2
30s	0.0	0.0	0.0	20.4	30s	0.0	0.0	0.0	20.4
60s	0.0	0.0	0.0	20.4	60s	0.0	0.0	0.0	20.4

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	20.4
2.0	0.0	0.0	0.0	20.4
3.0	0.0	0.0	0.0	20.4
4.0	0.0	0.0	0.0	20.4
5.0	0.0	0.0	0.0	20.4
6.0	0.0	0.0	0.0	20.4
7.0	0.0	0.0	0.0	20.4
8.0	0.0	0.0	0.0	20.4
9.0	0.0	0.0	0.0	20.4
10.0	0.0	0.0	0.0	20.4

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	20.5	5s	0.00	0.00	0.00	20.4
30s	0.00	0.00	0.00	20.4	30s	0.00	0.00	0.00	20.4
60s	0.00	0.00	0.00	20.4	60s	0.00	0.00	0.00	20.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.79

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE °C
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	21.3	5s	0.0	0.0	0.2	20.0
30s	0.0	0.0	3.5	11.8	30s	0.0	0.0	3.5	11.7
60s	0.0	0.0	3.6	11.7	60s	0.0	0.0	3.7	11.5

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	3.6	11.7
2.0	0.0	0.0	3.6	11.7
3.0	0.0	0.0	3.6	11.7
4.0	0.0	0.0	3.6	11.7
5.0	0.0	0.0	3.6	11.6
6.0	0.0	0.0	3.6	11.6
7.0	0.0	0.0	3.6	11.6
8.0	0.0	0.0	3.6	11.6
9.0	0.0	0.0	3.6	11.6
10.0	0.0	0.0	3.6	11.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.10	21.3	5s	0.00	0.00	0.10	21.3
30s	0.00	0.00	3.50	11.8	30s	0.00	0.00	1.90	16.0
60s	0.00	0.00	3.60	11.6	60s	0.00	0.00	2.20	15.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.80

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.5	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.1	21.8	30s	0.0	0.0	0.3	21.7
60s	0.0	0.0	0.0	21.8	60s	0.0	0.0	0.3	21.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.8
2.0	0.0	0.0	0.1	21.7
3.0	0.0	0.0	0.1	21.7
4.0	0.0	0.0	0.1	21.5
5.0	0.0	0.0	0.1	21.5
6.0	0.0	0.0	0.1	21.5
7.0	0.0	0.0	0.1	21.4
8.0	0.0	0.0	0.1	21.4
9.0	0.0	0.0	0.1	21.5
10.0	0.0	0.0	0.1	21.5

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	21.7	5s	0.00	0.00	0.00	21.7
30s	0.00	0.00	0.00	21.6	30s	0.00	0.00	0.10	21.4
60s	0.00	0.00	0.00	21.6	60s	0.00	0.00	0.10	21.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.81

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE °C
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	20.9	5s	0.0	0.0	0.0	21.6
30s	0.0	0.0	0.7	19.0	30s	0.0	0.0	3.3	14.3
60s	0.0	0.0	0.8	18.9	60s	0.0	0.0	4.0	13.3

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.9	18.8
2.0	0.0	0.0	0.9	18.5
3.0	0.0	0.0	1.0	18.4
4.0	0.0	0.0	1.0	18.2
5.0	0.0	0.0	1.1	18.0
6.0	0.0	0.0	1.5	17.5
7.0	0.0	0.0	2.0	16.7
8.0	0.0	0.0	2.5	15.7
9.0	0.0	0.0	3.1	14.8
10.0	0.0	0.0	3.3	14.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	-0.30
5	0.00
6	0.00
7	-0.10
8	-0.10
9	-0.10
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.10	21.4	5s	0.00	0.00	0.20	21.3
30s	0.00	0.00	3.10	14.9	30s	0.00	0.00	2.60	16.1
60s	0.00	0.00	3.20	14.9	60s	0.00	0.00	4.00	14.2

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.82

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	6.8	13.0	30s	0.0	0.0	6.3	14.1
60s	0.0	0.0	6.9	12.9	60s	0.0	0.0	6.6	13.9

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	6.9	12.8
2.0	0.0	0.0	6.9	12.8
3.0	0.0	0.0	6.9	12.8
4.0	0.0	0.0	6.7	12.9
5.0	0.0	0.0	6.7	13.1
6.0	0.0	0.0	6.7	13.1
7.0	0.0	0.0	6.7	13.1
8.0	0.0	0.0	6.7	13.1
9.0	0.0	0.0	6.7	13.1
10.0	0.0	0.0	6.7	13.1

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	21.6	5s	0.00	0.00	0.00	21.6
30s	0.00	0.00	6.50	13.3	30s	0.00	0.00	6.60	13.7
60s	0.00	0.00	6.70	13.3	60s	0.00	0.00	6.70	13.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.83

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.9	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.2	21.4	30s	0.0	0.0	0.0	21.7
60s	0.0	0.0	0.1	21.5	60s	0.0	0.0	0.0	21.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.6
2.0	0.0	0.0	0.0	21.5
3.0	0.0	0.0	0.0	21.5
4.0	0.0	0.0	0.0	21.5
5.0	0.0	0.0	0.0	21.5
6.0	0.0	0.0	0.0	21.5
7.0	0.0	0.0	0.0	21.4
8.0	0.0	0.0	0.0	21.4
9.0	0.0	0.0	0.0	21.4
10.0	0.0	0.0	0.0	21.4

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-3.10
2	-1.70
3	-1.40
4	-0.90
5	-0.60
6	-0.40
7	-0.30
8	-0.10
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	21.7	5s	0.00	0.00	0.00	21.6
30s	0.00	0.00	0.00	21.4	30s	0.00	0.00	0.00	21.5
60s	0.00	0.00	0.00	21.4	60s	0.00	0.00	0.00	21.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.84

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	0.0	21.6
30s	0.0	0.0	2.3	19.3	30s	0.0	0.0	8.2	10.5
60s	0.0	0.0	2.6	18.8	60s	0.0	0.0	8.9	9.5

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	2.6	18.8
2.0	0.0	0.0	2.8	18.6
3.0	0.0	0.0	3.0	18.4
4.0	0.0	0.0	3.1	18.4
5.0	0.0	0.0	3.1	18.4
6.0	0.0	0.0	3.0	18.5
7.0	0.0	0.0	3.0	18.6
8.0	0.0	0.0	3.0	18.6
9.0	0.0	0.0	3.1	18.5
10.0	0.0	0.0	3.1	18.4

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	-0.10
4	-0.10
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	21.6	5s	0.00	0.00	0.00	21.6
30s	0.00	0.00	2.80	18.7	30s	0.00	0.00	7.70	11.1
60s	0.00	0.00	2.90	18.7	60s	0.00	0.00	8.80	9.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.85

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE °C
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	2.7	18.6	30s	0.0	0.0	6.3	11.9
60s	0.0	0.0	2.4	18.9	60s	0.0	0.0	6.4	11.6

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	2.9	18.3
2.0	0.0	0.0	3.4	17.6
3.0	0.0	0.0	3.6	17.5
4.0	0.0	0.0	4.1	16.6
5.0	0.0	0.0	5.2	14.7
6.0	0.0	0.0	5.3	14.5
7.0	0.0	0.0	5.3	14.6
8.0	0.0	0.0	5.1	14.8
9.0	0.0	0.0	5.0	15.1
10.0	0.0	0.0	5.0	15.1

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.00	0.00	0.00	21.6	5s	0.00	0.00	0.10	21.5
30s	0.00	0.00	4.80	15.3	30s	0.00	0.00	6.70	10.6
60s	0.00	0.00	4.80	15.4	60s	0.00	0.00	6.80	10.4

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.86

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.9	5s	0.0	0.0	0.0	21.9
30s	0.0	0.0	0.0	21.8	30s	0.0	0.0	0.0	21.7
60s	0.0	0.0	0.0	21.8	60s	0.0	0.0	0.0	21.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.7
2.0	0.0	0.0	0.0	21.7
3.0	0.0	0.0	0.0	21.7
4.0	0.0	0.0	0.0	21.6
5.0	0.0	0.0	0.0	21.6
6.0	0.0	0.0	0.0	21.6
7.0	0.0	0.0	0.0	21.6
8.0	0.0	0.0	0.0	21.6
9.0	0.0	0.0	0.0	21.6
10.0	0.0	0.0	0.0	21.6

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.8	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.0	21.7	30s	0.0	0.0	0.0	21.8
60s	0.0	0.0	0.0	21.7	60s	0.0	0.0	0.0	21.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.87

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.5	5s	0.0	0.0	0.6	20.2
30s	0.0	0.0	1.7	18.6	30s	0.0	0.0	2.3	19.7
60s	0.0	0.0	1.8	17.6	60s	0.0	0.0	2.3	19.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	1.8	17.8
2.0	0.0	0.0	1.9	17.4
3.0	0.0	0.0	1.9	17.4
4.0	0.0	0.0	2.0	17.3
5.0	0.0	0.0	2.0	17.3
6.0	0.0	0.0	2.1	17.4
7.0	0.0	0.0	2.3	17.5
8.0	0.0	0.0	2.3	17.5
9.0	0.0	0.0	2.3	17.5
10.0	0.0	0.0	2.3	17.5

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	-0.10
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.5	20.5	5s	0.0	0.0	0.1	20.5
30s	0.0	0.0	2.3	17.6	30s	0.0	0.0	2.3	19.9
60s	0.0	0.0	2.4	17.8	60s	0.0	0.0	2.3	19.9

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.88

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.6	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.1	21.4	30s	0.0	0.0	0.1	20.7
60s	0.0	0.0	0.0	21.6	60s	0.0	0.0	0.1	20.7

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.6
2.0	0.0	0.0	0.0	21.3
3.0	0.0	0.0	0.0	20.9
4.0	0.0	0.0	0.0	20.9
5.0	0.0	0.0	0.0	20.9
6.0	0.0	0.0	0.0	20.8
7.0	0.0	0.0	0.0	20.7
8.0	0.0	0.0	0.0	20.8
9.0	0.0	0.0	0.0	20.8
10.0	0.0	0.0	0.0	20.8

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	-0.20
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.7	5s	0.0	0.0	0.0	21.6
30s	0.0	0.0	0.0	21.4	30s	0.0	0.0	0.0	21.3
60s	0.0	0.0	0.0	21.4	60s	0.0	0.0	0.0	21.3

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.89

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.4	5s	0.0	0.0	0.0	21.8
30s	0.0	0.0	0.1	21.6	30s	0.0	0.0	0.8	20.7
60s	0.0	0.0	0.0	21.7	60s	0.0	0.0	0.9	20.6

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.0	21.6
2.0	0.0	0.0	0.1	21.5
3.0	0.0	0.0	0.2	21.3
4.0	0.0	0.0	0.3	21.2
5.0	0.0	0.0	0.3	21.2
6.0	0.0	0.0	0.3	21.2
7.0	0.0	0.0	0.3	21.2
8.0	0.0	0.0	0.3	21.2
9.0	0.0	0.0	0.3	21.2
10.0	0.0	0.0	0.3	21.2

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	21.8	5s	0.0	0.0	0.0	21.7
30s	0.0	0.0	0.0	21.5	30s	0.0	0.0	0.2	21.2
60s	0.0	0.0	0.0	21.5	60s	0.0	0.0	0.2	21.2

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.90

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.2	5s	0.0	0.0	0.0	20.2
30s	0.0	0.0	0.3	19.9	30s	0.0	0.0	2.3	17.9
60s	0.0	0.0	0.2	20.0	60s	0.0	0.0	2.3	18.0

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	0.0	0.0	0.1	20.1
2.0	0.0	0.0	0.3	20.0
3.0	0.0	0.0	0.3	20.0
4.0	0.0	0.0	0.5	19.9
5.0	0.0	0.0	0.4	19.9
6.0	0.0	0.0	0.4	19.9
7.0	0.0	0.0	0.5	19.9
8.0	0.0	0.0	0.5	19.8
9.0	0.0	0.0	0.5	19.9
10.0	0.0	0.0	0.5	19.5

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.0	20.2	5s	0.0	0.0	0.2	20.1
30s	0.0	0.0	0.1	20.1	30s	0.0	0.0	1.1	19.5
60s	0.0	0.0	0.0	20.1	60s	0.0	0.0	1.1	19.5

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.91

Gas and Groundwater Monitoring



Soil Mechanics

DATE TIME Project ID

BAROMETER PRESSURE mb
 AMBIENT TEMPERATURE oC
 DIFFERENTIAL GAS PRESSURE Pa

Initial Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	21.4	5s	0.0	0.0	0.0	21.8
30s	2.2	0.0	1.1	7.6	30s	2.0	0.0	0.7	7.4
60s	2.2	0.0	1.0	8.0	60s	2.2	0.0	0.9	6.0

RECIRCULATION. Inlet of standpipe outlet to tap with suspended tube marked valve.

Time(mins)	CH4	H2S	CO2	O2
	%	ppm	%	%
1.0	3.0	0.0	1.3	3.6
2.0	3.2	0.0	1.4	3.0
3.0	3.2	0.0	1.4	3.0
4.0	3.1	0.0	1.4	3.0
5.0	3.1	0.0	1.4	3.0
6.0	3.0	0.0	1.5	3.1
7.0	3.0	0.0	1.5	3.1
8.0	3.0	0.0	1.4	3.3
9.0	3.1	0.0	1.2	3.5
10.0	3.0	0.0	1.1	3.5

GAS FLOW READINGS

1.Location
 2.Hole ID
 3.Depth m
 4.Weather
 5.Ambient Air Temp °C
 6.Depth to Water m
 7.Equipment Used
 8.Operator
 9.Atmospheric Pressure mb
 10.Differential Pressure Pa

Gas Flow

Time(Mins)	Flow (l/hr)
1	-0.10
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00

Final Gas Concentrations (% concentration unless otherwise stated.)

Tap A	CH4	H2S(ppm)	CO2	O2	Tap B	CH4	H2S(ppm)	CO2	O2
5s	0.0	0.0	0.1	21.5	5s	0.0	0.0	0.1	21.5
30s	2.0	0.0	0.7	8.9	30s	2.3	0.0	0.9	6.5
60s	1.8	0.0	0.9	9.7	60s	2.4	0.0	0.9	6.7

Notes:

Project FERRYBRIDGE MULTIFUEL POWERSTATION
 Project No. A0054-10
 Carried out for SSE Generation

Figure

B2.92

Water Quality Monitoring Record

[illegible]

Soil Mechanics

Water Quality Monitoring Record

Project No	A0054-10	Project	Ferrybridge Power Station	Sheet No	1
Date	02/11/2010	State of Ground		Barometric Pressure (mbars)	
Operator	AW	Cloud Cover		Air temperature (°C)	
Equipment Used	Aquameter	Precipitation			

[illegible]

Soil Mechanics

Water Quality Monitoring Record

Project No	A0054-10	Project	Ferrybridge Power Station	Sheet No	1
Date	03/11/2010	State of Ground		Barometric Pressure (mbars)	
Operator	AW	Cloud Cover		Air temperature (°C)	
Equipment Used	Aquameter	Precipitation			

[illegible]

Soil Mechanics

Water Quality Monitoring Record

Project No	A0054-10	Project	Ferrybridge Power Station	Sheet No	1
Date	15/11/2010	State of Ground		Barometric Pressure (mbars)	1010
Operator	JCD	Cloud Cover	1/4 Sunny		
		Precipitation	None	Air temperature (°C)	4-9
Equipment Used	(TES), CJ1(2), CJ1, CJ2, CJ3 and TP1				

[illegible]

Water Quality Monitoring Record

[illegible]

ENCLOSURE C
GEOTECHNICAL LABORATORY TEST RESULTS

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INDEX PROPERTIES - SUMMARY OF RESULTS

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

Hole No.	Sample				Soil Description	p	p _d	W	< 425 µm sieve	W _L	W _p	I _p	p _s	Remarks
	No.	Depth (m)		type										
		from	to			Mg/m ³	%	%	%	%	Mg/m ³			
BH102	7	1.65	2.00	B	Brown slightly gravelly sandy CLAY.			23	94 n	48 a	22	26		
BH102	10	2.55	2.75	D	Greyish brown slightly sandy CLAY.			29	100 n	64 a	26	38		
BH102	11	2.75	3.00	B	Brown slightly sandy slightly gravelly CLAY.			30	95 n	61 a	26	35		
BH103	12	3.45	3.65	D	Greyish brown slightly sandy CLAY.			26	100 n	55 a	22	33		
BH103	13	3.65	4.00	B	Brown slightly sandy CLAY.			26	99 n	57 a	22	35		
BH106	4	0.60	1.00	B	Brown slightly gravelly slightly sandy CLAY.			21	80 n	54 a	22	32		
BH106	7	1.65	1.85	D	Brown slightly gravelly CLAY.			19	97 n	51 a	19	32		
BH106	8	1.85	2.00	B	Brown slightly gravelly CLAY with occasional gravel sized pockets of greyish brown slightly			21	93 n	54 a	18	36		
BH106	13	3.45	3.65	D	Brown slightly sandy CLAY.			21	100 n	48 a	21	27		
BH106	14	3.65	4.00	B	Brown slightly gravelly slightly sandy CLAY.			20	99 n	48 a	18	30		
BH107	4	0.50	1.00	B	Brown gravelly SAND with clay pockets.			13	65 s	28 a	16	12		
BH107	7	1.65	2.00	B	Brown slightly gravelly sandy CLAY.			9.7	44 s	40 a	17	23		
BH107	12	3.65	4.00	B	Brown slightly gravelly slightly sandy CLAY.			13	81 n	32 a	15	17		
BH108	8	1.85	2.00	B	Brown slightly sandy slightly gravelly CLAY.			19	91 n	47 a	18	29		
BH108	11	2.65	2.80	B	Brown slightly sandy slightly gravelly CLAY.			22	97 n	47 a	20	27		
BH108	13	3.40	4.00	B	Light brown and cream slightly sandy slightly gravelly silty CLAY.			16	71 s	27 a	20	7		
BH109	10	2.55	3.00	B	Brown slightly gravelly slightly sandy CLAY with one cobble.			15	67 s	37 a	17	20		
BH109	13	3.00	3.45	U	Firm to stiff brown slightly sandy gravelly CLAY.			18	53 s	35 a	16	19		
BH109	14	3.65	4.00	B	Brown slightly sandy gravelly CLAY with one cobble.			13	38 s	32 a	16	16		
BH109	16	4.50	5.00	B	Brown CLAY with thin coating of cream silt and one cobble.			30	100 n	66 a	26	40		Cobble removed prior to testing.
BH109	18	5.45	5.65	D	Light brown and cream slightly gravelly SILT with occasional gravel sized pockets of clay.			17	89 s	32 a	19	13		
BH109	19	5.80	6.50	B	Light brown slightly sandy slightly gravelly silty CLAY. Gravel is limestone.			22	82 s	38 a	19	19		
BH110	9	2.00	2.45	D	Light brown slightly sandy SILT with occasional pockets of grey CLAY.			20						
BH110	10	2.50	3.00	B	Brown slightly gravelly sandy CLAY.			24	79 s	28 a	15	13		
BH112	9	2.00	2.45	U	Stiff brown slightly sandy CLAY.			32						
BH112	10	2.65	2.90	B	Brown slightly gravelly slightly sandy CLAY.			26	96 n	56 a	23	33		
BH113	4	1.20	1.65	D	Brown slightly sandy slightly gravelly CLAY.			14	78 s	36 a	17	19		
BH113	5	2.20	2.65	D	Brown slightly sandy slightly gravelly CLAY with pocket of silt.			18	93 s	40 a	18	22		
BH201	4	0.70	1.10	B	Brown slightly gravelly sandy SILT with occasional rootlets.			16	89 s	25 b	NP			
BH201	7	1.65	2.00	B	Brown slightly gravelly sandy SILT.			17	94 s	29 b	NP			
BH201	10	2.50	2.90	D	Brown SAND.			14	100 n	23 b	NP			
BH201	12	3.50	3.90	D	Greyish brown sandy CLAY.			21	97 n	27 a	16	11		

General notes: All above tests carried out to BS1377 : 1990 definitive method in all cases unless annotated otherwise. See individual test reports for further details.

Key :	ρ	bulk density, linear	W_L	Liquid limit	W_P	Plastic limit	<425 μ m preparation	ρ_s	particle density
	ρ_d	dry density	a	4 point cone test	NP	non - plastic	n	from natural soil	-g = gas jar
	w	moisture content	b	1 point cone test	I_P	Plasticity Index	s	sieved specimen	-p = small pycnometer

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INDEX PROPERTIES - SUMMARY OF RESULTS

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

Hole No.	Sample				Soil Description	p	p _d	W	< 425 µm sieve	W _L	W _P	I _P	p _s	Remarks
	No.	Depth (m)		type										
		from	to			Mg/m ³	%	%	%	%	Mg/m ³			
BH201	14	4.50	5.00	B	Brown sandy silty CLAY.			21	96 s	27 a	19	8		
BH203	5	1.20	1.65	D	Brown slightly gravelly sandy CLAY.			13	80 s	27 a	16	11		
BH203	6	1.65	2.00	B	Greyish brown slightly gravelly sandy CLAY.			14	73 s	29 a	16	13		
BH204	9	2.55	3.00	B	Dark brownish grey slightly gravelly sandy silty CLAY.			17	64 s	24 a	17	7		
BH301	19	5.50	6.00	B	Brown slightly gravelly slightly sandy CLAY.			34	96 n	65 a	26	39		
BH302	13	3.50	4.00	B	Brownish grey slightly gravelly slightly sandy CLAY with occasional decaying wood			55	89 s	61 a	29	32		
BH302	15	4.00	4.45	D	Light brown slightly sandy slightly gravelly CLAY.			28	75 s	33 b	19	14		
BH302	16	4.50	5.00	B	Greyish brown slightly gravelly sandy CLAY with pocket of peat.			29	88 s	39 a	21	18		
BH303	19	5.00	5.45	D	Dark grey slightly sandy CLAY.			56	96 s	63 b	31	32		
BH303	20	5.50	6.00	B	Dark brownish grey slightly gravelly slightly sandy CLAY.			57	93 s	76 a	35	41		
BH303	25	6.45	6.65	D	Yellowish brown slightly sandy gravelly CLAY.			29	58 s	54 a	28	26		
BH303	31	9.10	9.60	B	Pink mottled light brown slightly sandy slightly gravelly CLAY. Gravel contains			21	84 s	32 a	18	14		
BH303	30	9.10	9.55	D	Greyish brown slightly sandy slightly gravelly CLAY.			16	67 s	29 a	17	12		
BH401	7	1.65	2.00	B	Brown gravelly SAND with pockets of clay.			17	74 s	28 a	18	10		
BH401	11	3.00	3.45	D	Dark brown slightly clayey SAND.			19						
BH401	12	3.50	4.00	B	Dark brown slightly gravelly very sandy CLAY.			20	83 s	29 a	15	14		
BH401	13	4.00	4.45	D	Greyish brown slightly sandy CLAY.			33	100 n	60 a	24	36		
BH401	14	4.50	5.00	B	Dark greyish brown slightly sandy CLAY.			29	100 n	52 a	20	32		
BH402	12	3.00	3.45	D	Greyish brown slightly gravelly CLAY.			31	100 n	62 a	27	35		
BH402	13	3.50	4.00	B	Greyish brown slightly gravelly slightly sandy CLAY.			31	93 n	51 a	23	28		
BH402	15	4.45	4.65	D	Light brown slightly sandy CLAY.			29	100 n	50 a	21	29		
BH404	9	2.55	3.00	B	Brownish grey slightly sandy CLAY.			35	99 n	56 a	23	33		
BH404	11	3.50	4.00	B	Brownish grey slightly gravelly slightly sandy CLAY.			33	98 n	64 a	28	36		
BH404	13	4.45	4.65	D	Greyish brown slightly sandy CLAY.			33	100 n	52 a	24	28		
BH405	4	0.70	1.00	B	Greyish brown slightly gravelly very sandy silty CLAY.			14	88 s	25 a	17	8		
BH406	6	1.20	1.65	D	Light brownish grey slightly sandy slightly gravelly CLAY.			14	59 s	28 a	14	14		
BH406	7	1.65	2.00	B	Brown slightly gravelly sandy CLAY.			15	75 s	28 a	15	13		
BH406	15	4.50	5.00	B	Greyish brown slightly gravelly slightly sandy silty CLAY.			23	92 s	31 a	21	10		
BH406	17	5.45	5.65	D	Greyish brown slightly silty SAND.			21	100 n	23 b	NP			
BH406	19	5.65	6.00	B	Brownish grey slightly gravelly sandy silty CLAY.			21	83 s	25 a	17	8		
BH407	20	6.50	6.95	D	Cream slightly gravelly sandy SILT.			32	71 s	29 b	NP			Hydrocarbon odour.
TP102	8	0.40	0.76	B	Brown slightly gravelly slightly sandy CLAY.			18	90 n	43 a	20	23		

General notes: All above tests carried out to BS1377 : 1990 definitive method in all cases unless annotated otherwise. See individual test reports for further details.

Key :	ρ	bulk density, linear	W_L	Liquid limit	W_P	Plastic limit	<425 μ m preparation	ρ_s	particle density
	ρ_d	dry density	a	4 point cone test	NP	non - plastic	n	from natural soil	-g = gas jar
	w	moisture content	b	1 point cone test	I_P	Plasticity Index	s	sieved specimen	-p = small pycnometer

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INDEX PROPERTIES - SUMMARY OF RESULTS

Project No	Project Name													
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION													
Hole No.	Sample				Soil Description	ρ	ρ_d	W	< 425 μm sieve	W_L	W_P	I_P	ρ_s	Remarks
	No.	Depth (m)		type		Mg/m^3	%	%	%	%		Mg/m^3		
		from	to											
TP103	9	0.80	1.70	B	Brown slightly gravelly sandy CLAY.			15	85 s	35 a	17	18		
TP103	15	1.80	3.10	B	Reddish brown and light grey slightly sandy slightly gravelly CLAY.			19	84 n	50 a	22	28		
TP103	14	1.80		D	Brown and light grey slightly gravelly slightly sandy CLAY.			20	93 n	48 a	24	24		
TP104	12	3.40		D	Brown slightly sandy slightly gravelly CLAY with occasional pockets of silt.			15	76 s	38 a	19	19		
TP105	9	1.10	1.50	B	Brown slightly sandy slightly gravelly CLAY with occasional cobble sized pockets of light			29	87 n	62 a	23	39		
TP106	9	1.30	1.60	B	Brown slightly gravelly sandy CLAY.			17	85 s	36 a	17	19		
TP106	7	1.30		D	Brown slightly gravelly sandy CLAY.			14	97 n	26 a	14	12		
TP106	11	1.70	2.30	B	Brown slightly sandy slightly gravelly CLAY.			15	87 n	44 a	17	27		
TP108	7	1.90	2.50	B	Brown silty very gravelly SAND with pockets of clay.			11	79 s	27 a	15	12		
TP108	6	1.90		D	Brown slightly gravelly sandy CLAY.			12	77 s	27 a	15	12		
TP111	10	0.90		D	Brown slightly gravelly very sandy CLAY.			13	99 n	23 a	15	8		
TP111	12	1.00	1.50	B	Brown slightly gravelly very sandy CLAY.			15	90 n	24 a	15	9		
TP201	6	1.00	1.40	B	Brown slightly gravelly silty SAND with gravel sized pockets of clay.			13	93 n	27 a	18	9		
TP201	7	1.00		D	Brown slightly sandy gravelly CLAY.			8.1	34 s	27 a	17	10		
TP204	12	2.60	3.30	B	Brown slightly gravelly slightly sandy CLAY.			30	98 n	73 a	28	45		
TP204	15	3.30	3.90	B	Brown slightly gravelly sandy CLAY.			12	60 s	30 a	15	15		
TP206	6	0.80	1.10	B	Brown slightly gravelly sandy CLAY.			14	75 s	25 a	17	8		
TP207	7	1.10	1.60	B	Brown slightly gravelly very sandy silty CLAY.			12	90 s	26 a	19	7		
TP209	11	2.10	2.50	B	Greyish brown slightly sandy CLAY.			18	100 n	31 a	16	15		
TP209	12	2.50	3.00	B	Greyish brown slightly sandy CLAY.			28	99 n	69 a	29	40		
TP403	20	4.00		B	Brownish grey slightly gravelly very sandy CLAY.			23	85 s	39 b	19	20		
WS102	9	3.00	4.00	B	Greyish brown slightly gravelly sandy CLAY.			25	89 n	44 a	22	22		
WS102	8	3.00	3.45	D	Light brown slightly sandy CLAY.			22						
WS102	10	4.00		D	Brown slightly gravelly slightly sandy CLAY.			30	99 s	67 b	29	38		
WS301	10	5.00		D	Brownish grey slightly sandy slightly gravelly clayey SILT.			48	94 s	63 b	34	29		
WS302	10	5.00		D	Dark grey slightly sandy CLAY.			54						

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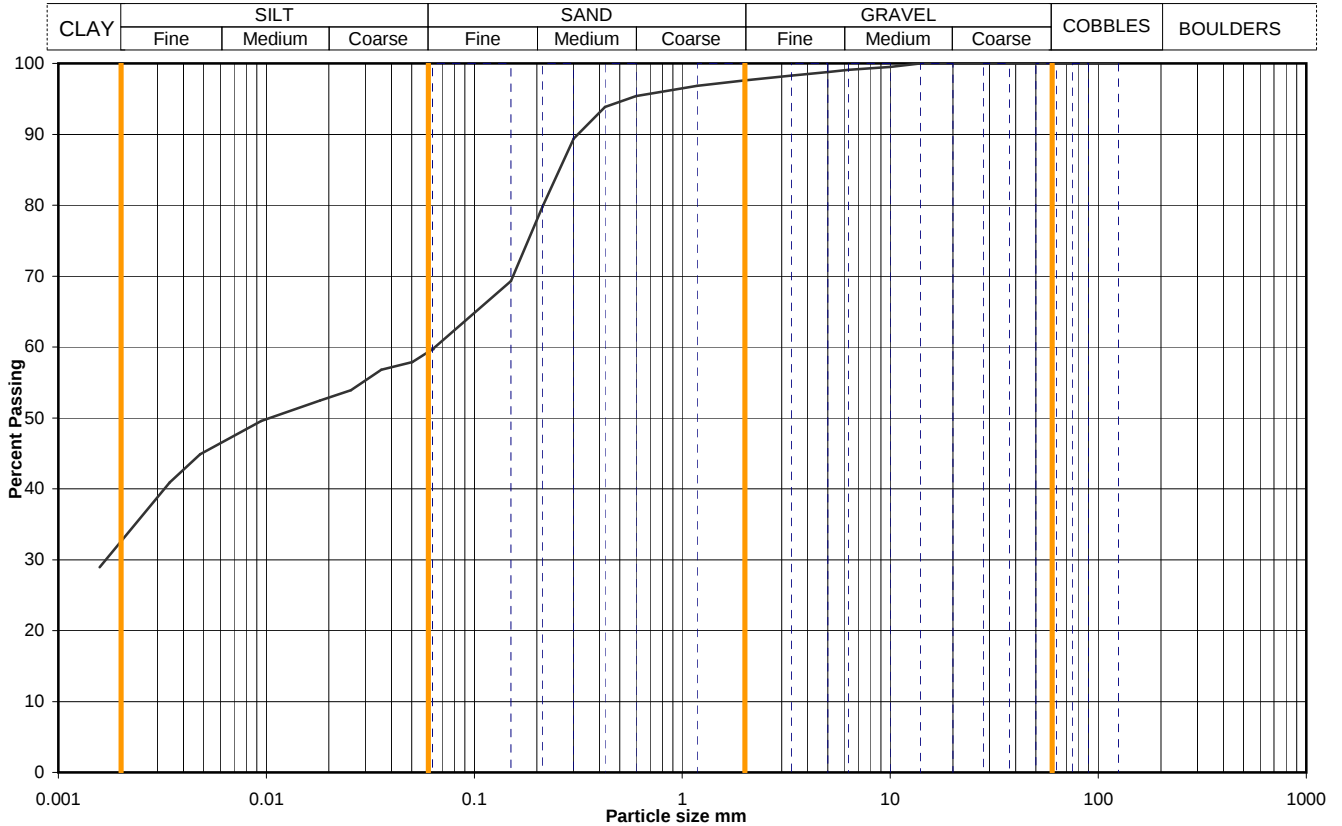
General notes: All above tests carried out to BS1377 : 1990 definitive method in all cases unless annotated otherwise. See individual test reports for further details.									
Key :	ρ	bulk density, linear	W_L	Liquid limit	W_P	Plastic limit	<425um preparation	ρ_s	particle density
	ρ_d	dry density	a	4 point cone test	NP	non - plastic	n from natural soil	-g	= gas jar
	w	moisture content	b	1 point cone test	I_P	Plasticity Index	s	sieved specimen	-p = small pyknometer
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Soil Mechanics

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH102	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.65	
			Samp No	7	Type	B
			ID	ESGA0054-10201009220000000007		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	60
90	100	0.0504	58
75	100	0.0358	57
63	100	0.0255	54
50	100	0.0181	52
37.5	100	0.0095	50
28	100	0.0048	45
20	100	0.0034	41
14	100	0.0016	29
10	99		
6.3	99		
5.0	99		
3.35	98		
2.00	98		
1.18	97		
0.600	95	Particle density, Mg/m ³ 2.65 assumed	
0.425	94		
0.300	89	Dry mass of sample, kg 7.3	
0.212	80		
0.150	69		
0.063	60		

Soil description	Brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	2	2
	Silt	38	38
	Clay	27	27
		33	33

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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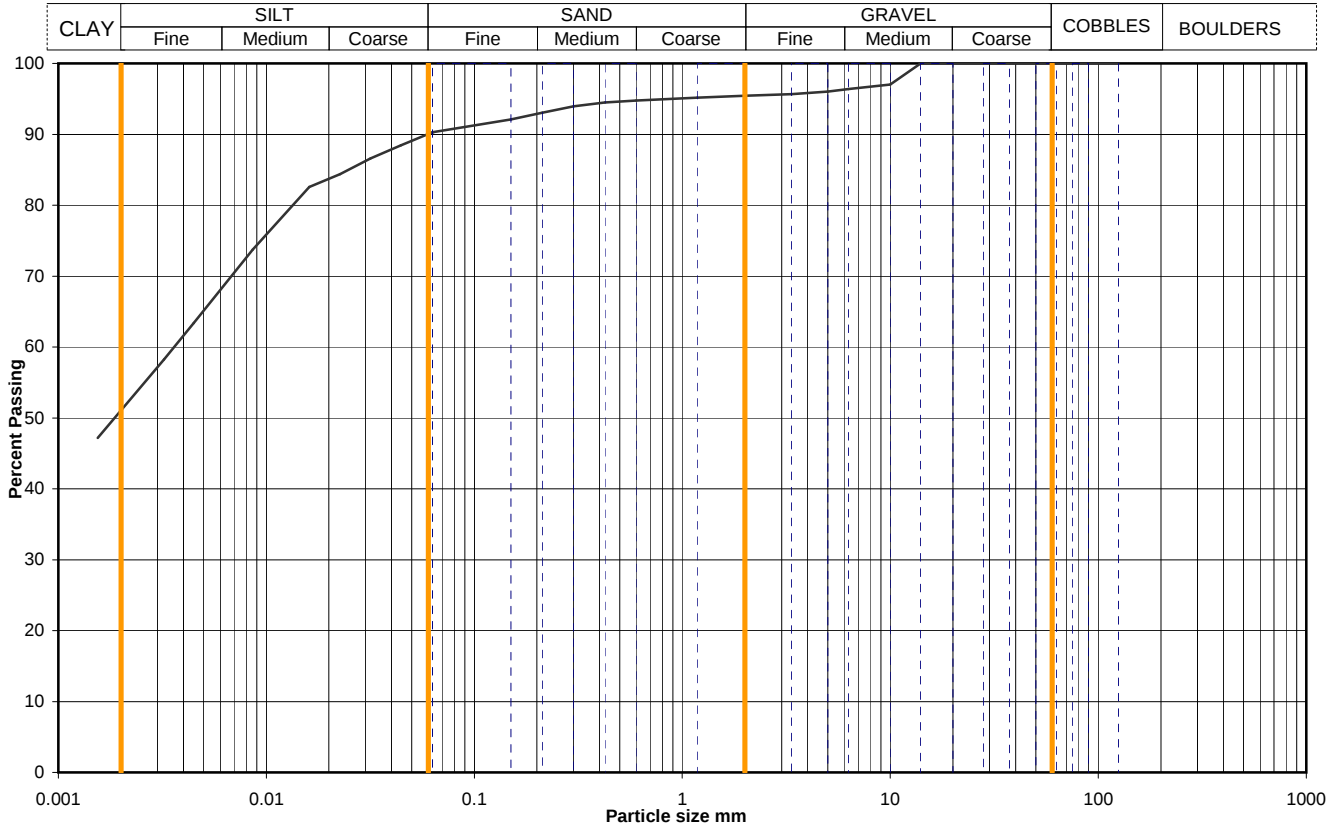
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Figure

PSD 1

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH102	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.75	
			Samp No	11	Type	B
			ID	ESGA0054-10201009220000000011		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	90
90	100	0.0443	88
75	100	0.0316	87
63	100	0.0226	84
50	100	0.0161	83
37.5	100	0.0086	74
28	100	0.0045	63
20	100	0.0032	58
14	100	0.0015	47
10	97		
6.3	96		
5.0	96		
3.35	96		
2.00	95		
1.18	95		
0.600	95	Particle density, Mg/m ³ 2.65 assumed	
0.425	95		
0.300	94	Dry mass of sample, kg 6.0	
0.212	93		
0.150	92		
0.063	90		

Soil description	Brown slightly sandy slightly gravelly CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	5	5
	Silt	5	5
	Clay	39	39
		51	51

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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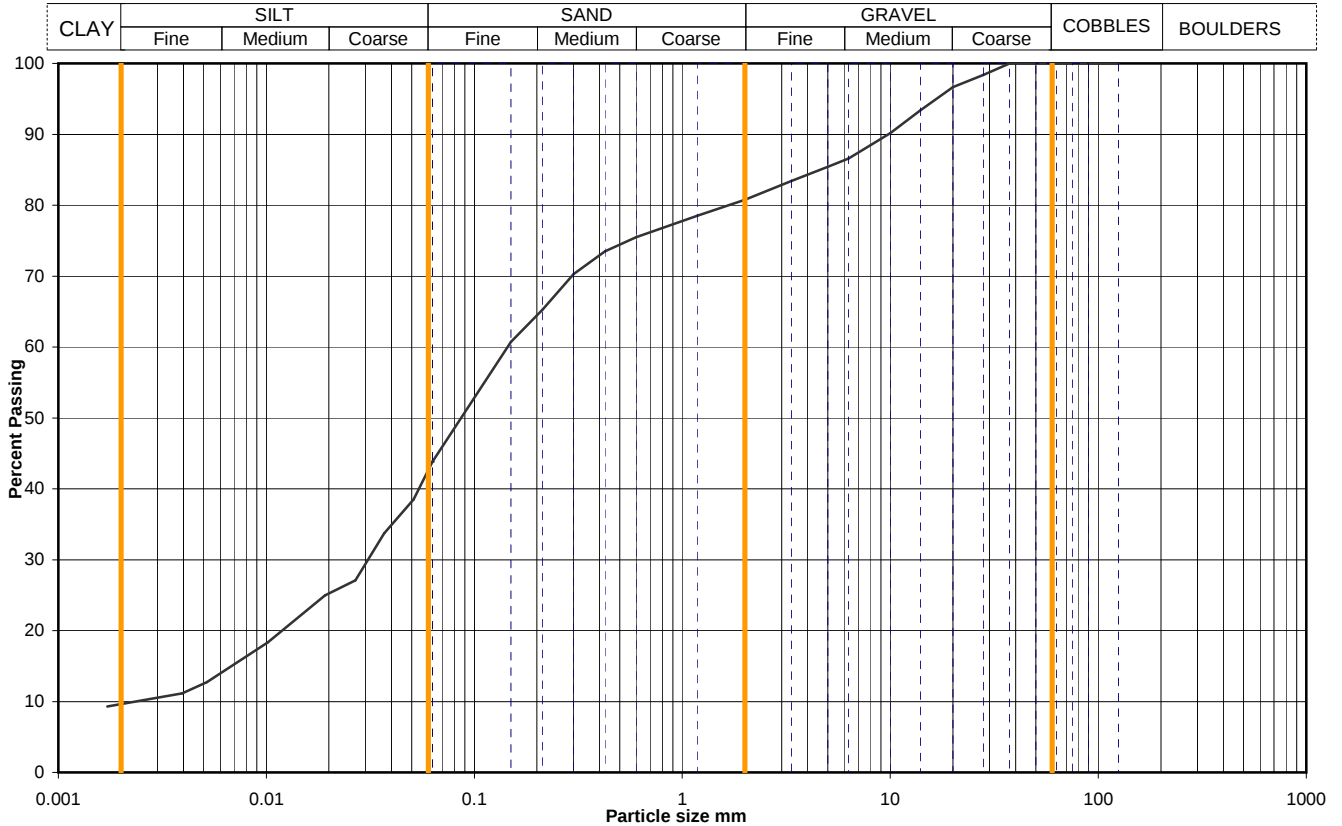
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Figure

PSD 2

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH103	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.30	
			Samp No	7	Type	B
			ID	ESGA0054-10201010060000000312		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	44
90	100	0.0510	39
75	100	0.0368	34
63	100	0.0268	27
50	100	0.0191	25
37.5	100	0.0101	18
28	98	0.0052	13
20	97	0.0039	11
14	93	0.0017	9
10	90		
6.3	87		
5.0	85		
3.35	83		
2.00	81		
1.18	79		
0.600	75	Particle density, Mg/m3	
0.425	73	2.65 assumed	
0.300	70	Dry mass of sample, kg	
0.212	65	7.4	
0.150	61		
0.063	44		

Soil description	Yellowish brown slightly gravelly sandy silty CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	19	19
	Silt	38	38
	Clay	33	33
		10	10

Uniformity Coefficient	D_{60} / D_{10}	62
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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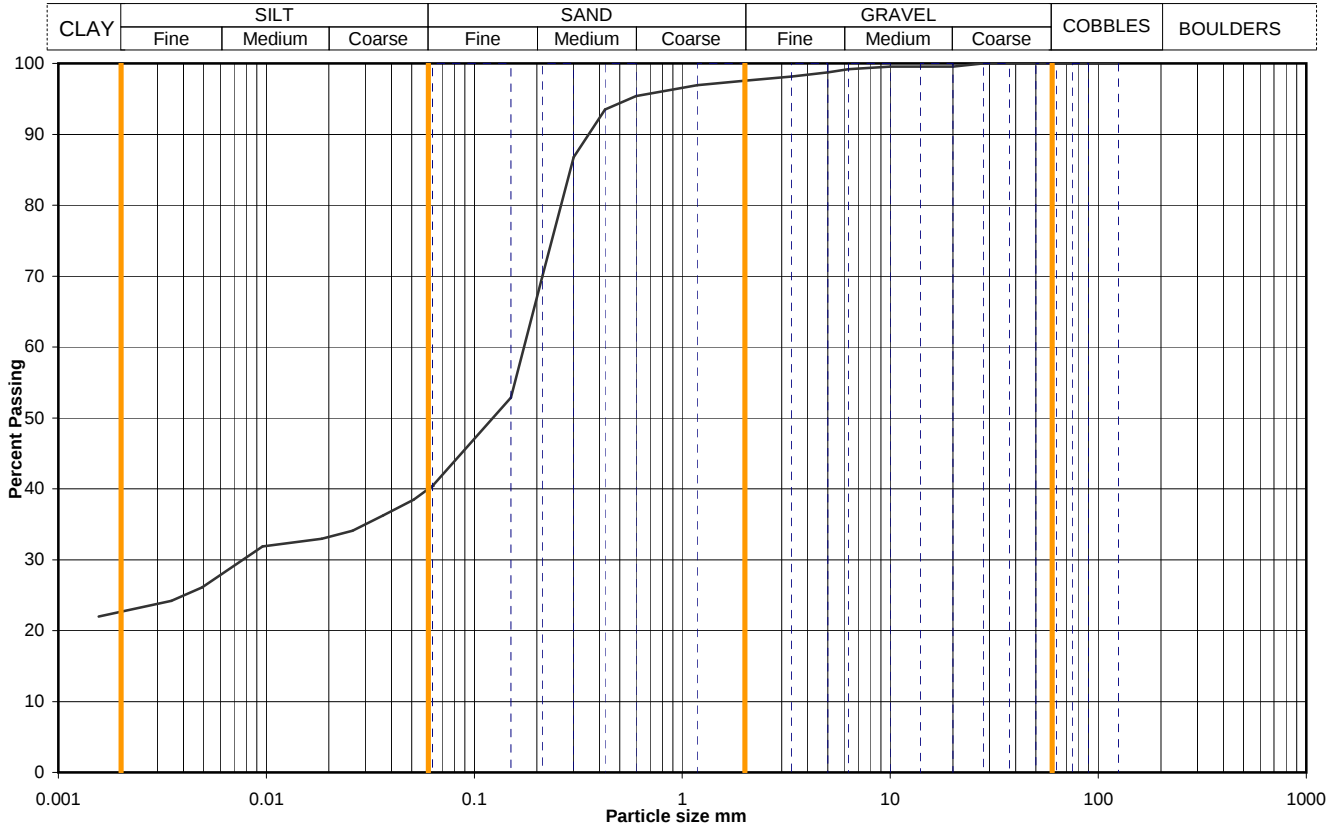
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Figure

PSD 3

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH103	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.50	
			Samp No	10	Type	B
			ID	ESGA0054-102010100600000000315		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	40
90	100	0.0510	38
75	100	0.0364	36
63	100	0.0260	34
50	100	0.0185	33
37.5	100	0.0096	32
28	100	0.0049	26
20	100	0.0035	24
14	100	0.0016	22
10	100		
6.3	99		
5.0	99		
3.35	98		
2.00	98		
1.18	97		
0.600	95	Particle density, Mg/m3 2.65 assumed	
0.425	94		
0.300	87	Dry mass of sample, kg 8.2	
0.212	70		
0.150	53		
0.063	40		

Soil description	Greyish brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	2	2
	Silt	58	58
	Clay	17	17
		23	23

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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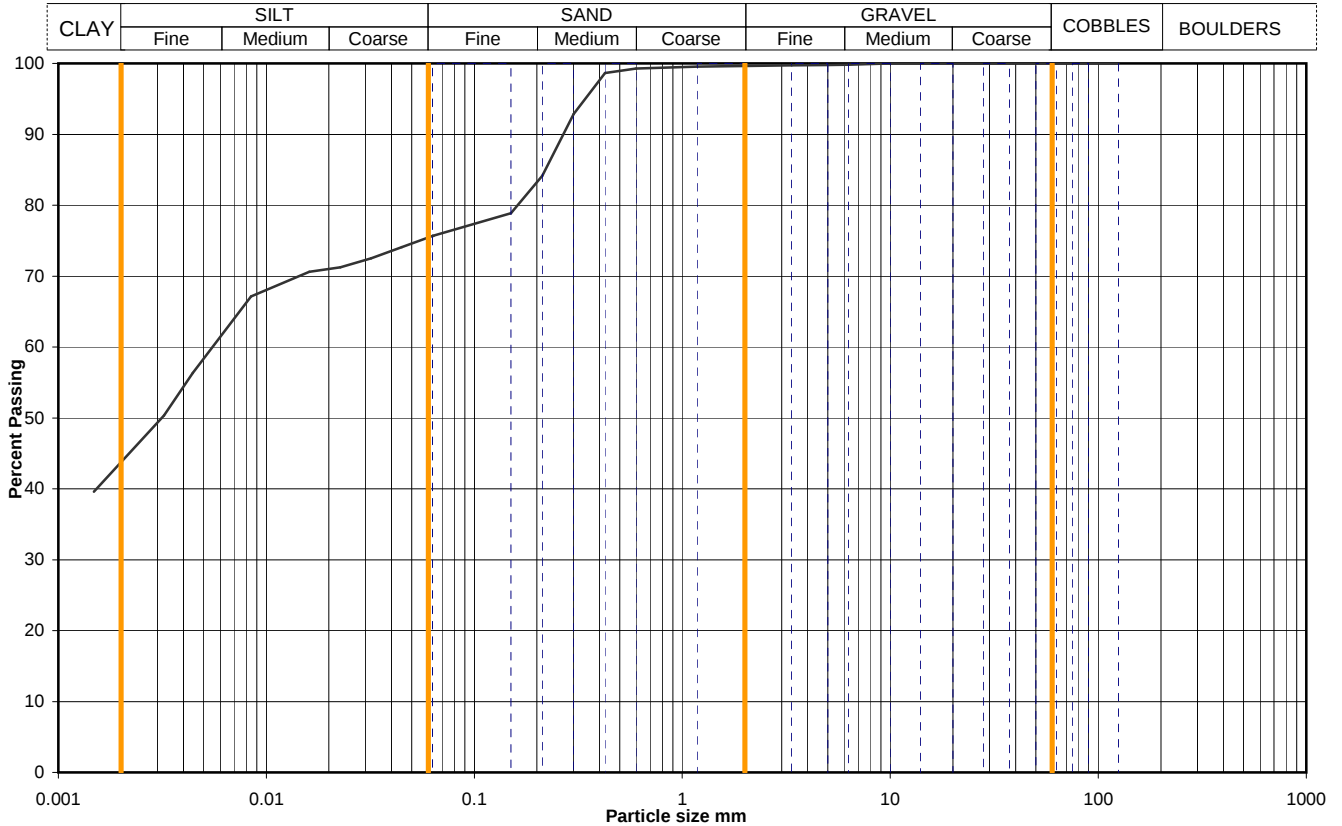
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Figure

PSD 4

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH103	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.65	
			Samp No	13	Type	B
			ID	ESGA0054-102010100600000000318		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	76
90	100	0.0448	74
75	100	0.0319	72
63	100	0.0227	71
50	100	0.0161	71
37.5	100	0.0085	67
28	100	0.0044	56
20	100	0.0032	50
14	100	0.0015	40
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	100		
1.18	100		
0.600	99	Particle density, Mg/m ³ 2.65 assumed	
0.425	99		
0.300	93	Dry mass of sample, kg 6.0	
0.212	84		
0.150	79		
0.063	76		

Soil description	Brown slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	0	0
	Sand	0	0
	Silt	24	24
	Clay	32	32
		44	44

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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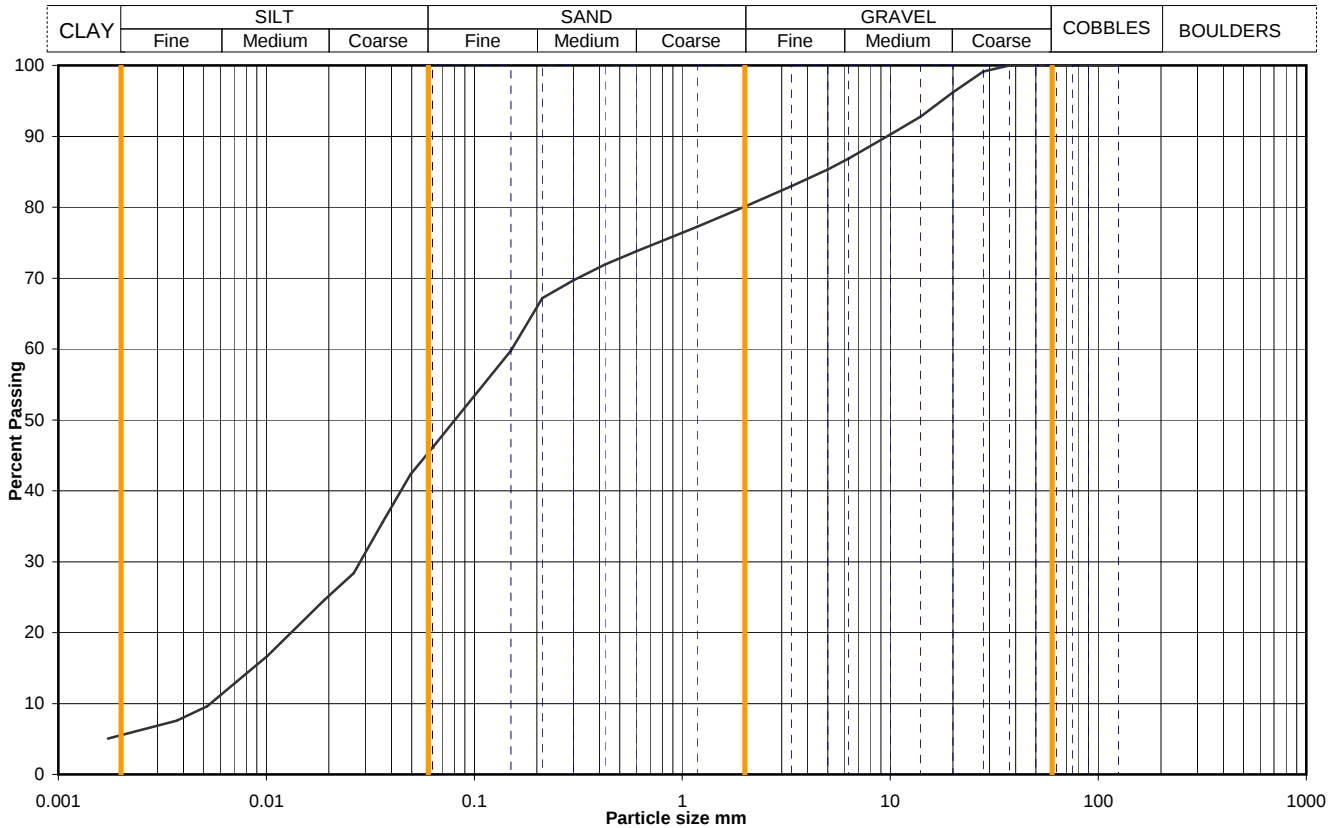
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Figure

PSD 5

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH104	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.55	
			Samp No	10	Type	B
			ID	ESGA0054-10201010060000000333		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	46
90	100	0.0493	42
75	100	0.0361	35
63	100	0.0264	28
50	100	0.0190	25
37.5	100	0.0101	17
28	99	0.0052	10
20	96	0.0037	8
14	93	0.0017	5
10	90		
6.3	87		
5.0	85		
3.35	83		
2.00	80		
1.18	77		
0.600	74	Particle density, Mg/m3	
0.425	72	2.65 assumed	
0.300	70	Dry mass of sample, kg	
0.212	67	14.0	
0.150	60		
0.063	46		

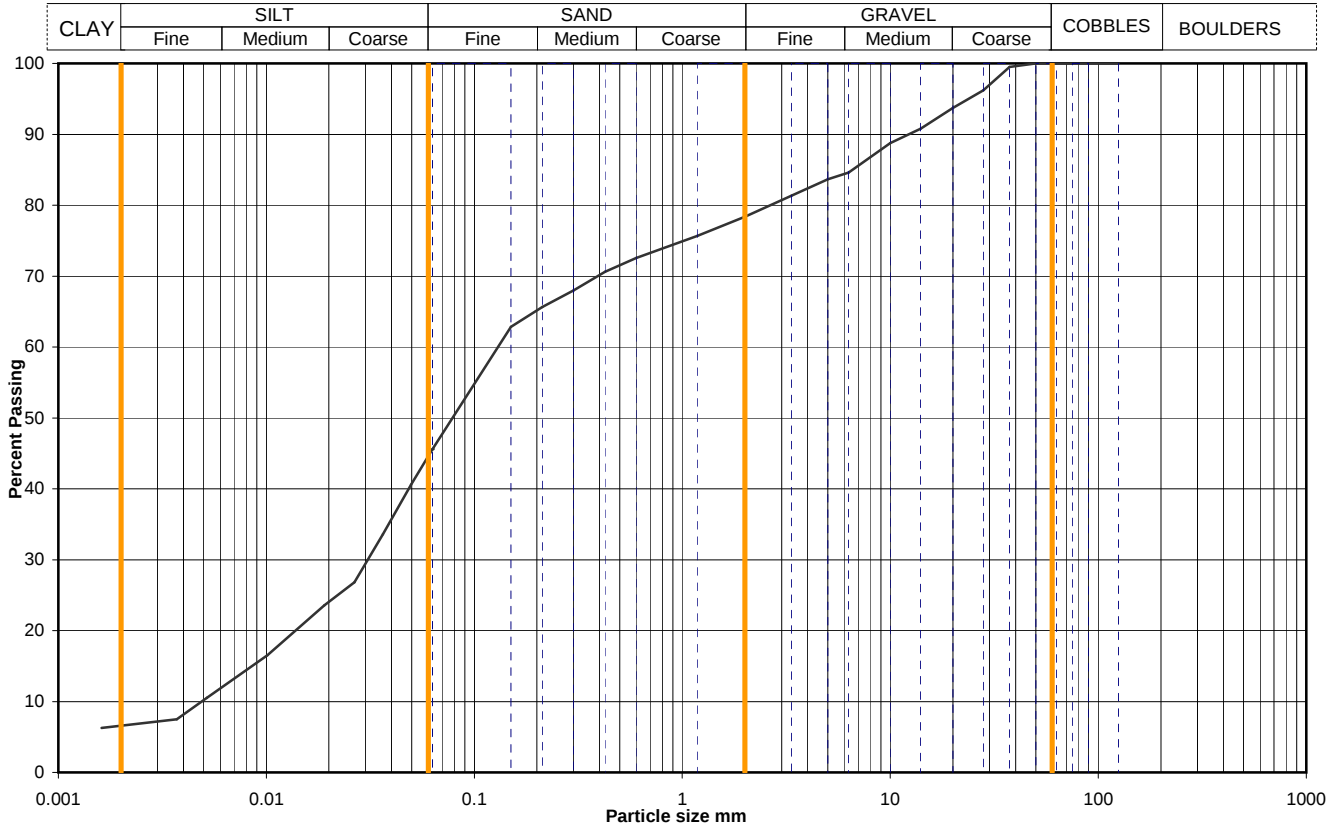
Soil description	Light brown slightly gravelly slightly sandy SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	20	20
	Silt	35	35
	Clay	40	40

Uniformity Coefficient	D_{60} / D_{10}	28
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH104	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.50	
			Samp No	12	Type	B
			ID	ESGA0054-10201010060000000335		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	46
90	100	0.0496	41
75	100	0.0363	34
63	100	0.0265	27
50	100	0.0190	24
37.5	99	0.0101	17
28	96	0.0052	11
20	94	0.0037	8
14	91	0.0016	6
10	89		
6.3	85		
5.0	84		
3.35	81		
2.00	78		
1.18	76		
0.600	73	Particle density, Mg/m ³	
0.425	71	2.65 assumed	
0.300	68	Dry mass of sample, kg	
0.212	66	11.8	
0.150	63		
0.063	46		

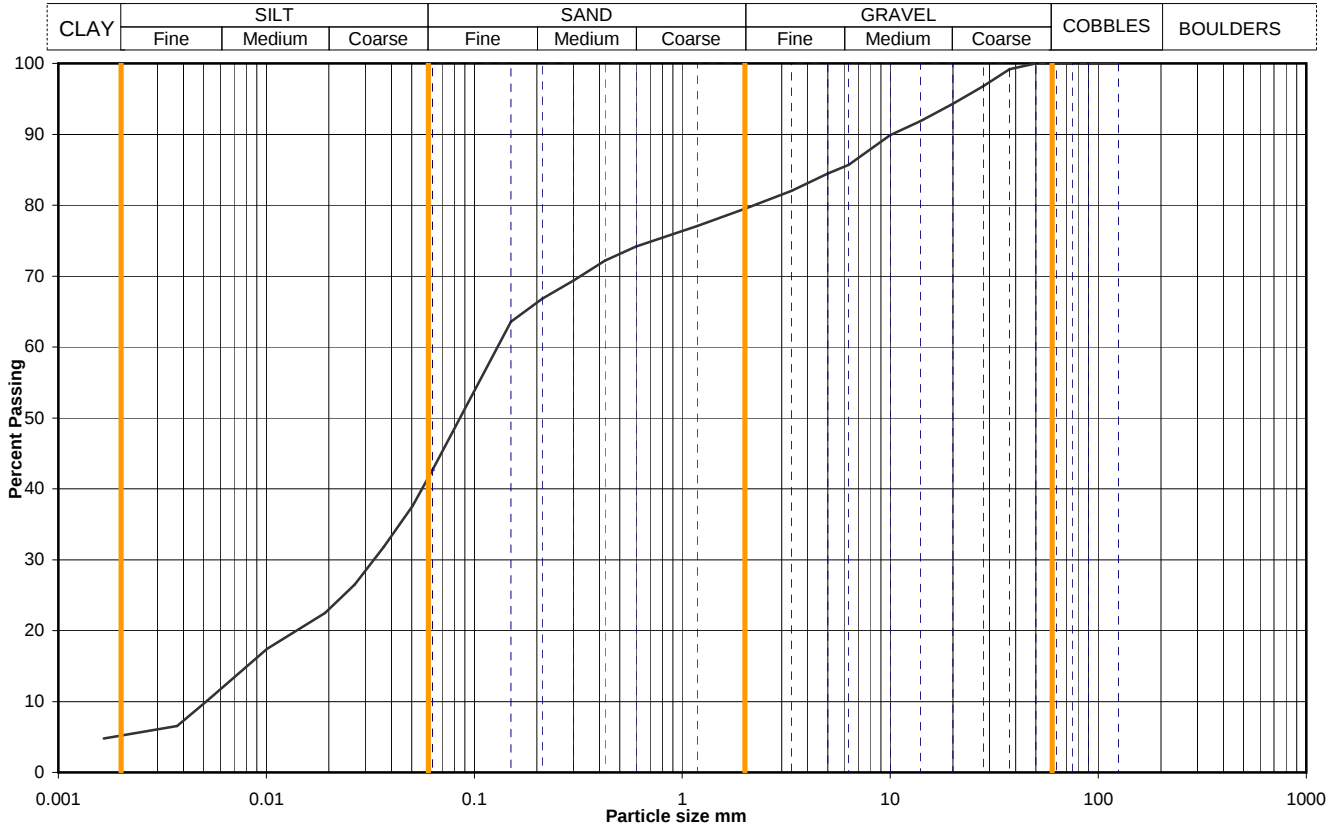
Soil description	Yellowish brown slightly gravelly slightly sandy SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	22	22
	Silt	34	34
	Clay	38	38
		6	6

Uniformity Coefficient	D_{60} / D_{10}	27
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH104	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		5.50	
			Samp No	16	Type	B
			ID	ESGA0054-10201010060000000339		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	43
90	100	0.0504	38
75	100	0.0367	32
63	100	0.0266	27
50	100	0.0191	22
37.5	99	0.0101	17
28	97	0.0052	10
20	94	0.0037	7
14	92	0.0017	5
10	90		
6.3	86		
5.0	84		
3.35	82		
2.00	80		
1.18	77		
0.600	74	Particle density, Mg/m ³ 2.65 assumed	
0.425	72		
0.300	69	Dry mass of sample, kg 8.2	
0.212	67		
0.150	64		
0.063	43		

Soil description	Light yellowish brown slightly gravelly sandy SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	0	0
	Sand	20	20
	Silt	38	38
	Clay	37	37
		5	5

Uniformity Coefficient	D_{60} / D_{10}	25
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

SLR 2,9
Rev 84
Sept 08



Soil Mechanics



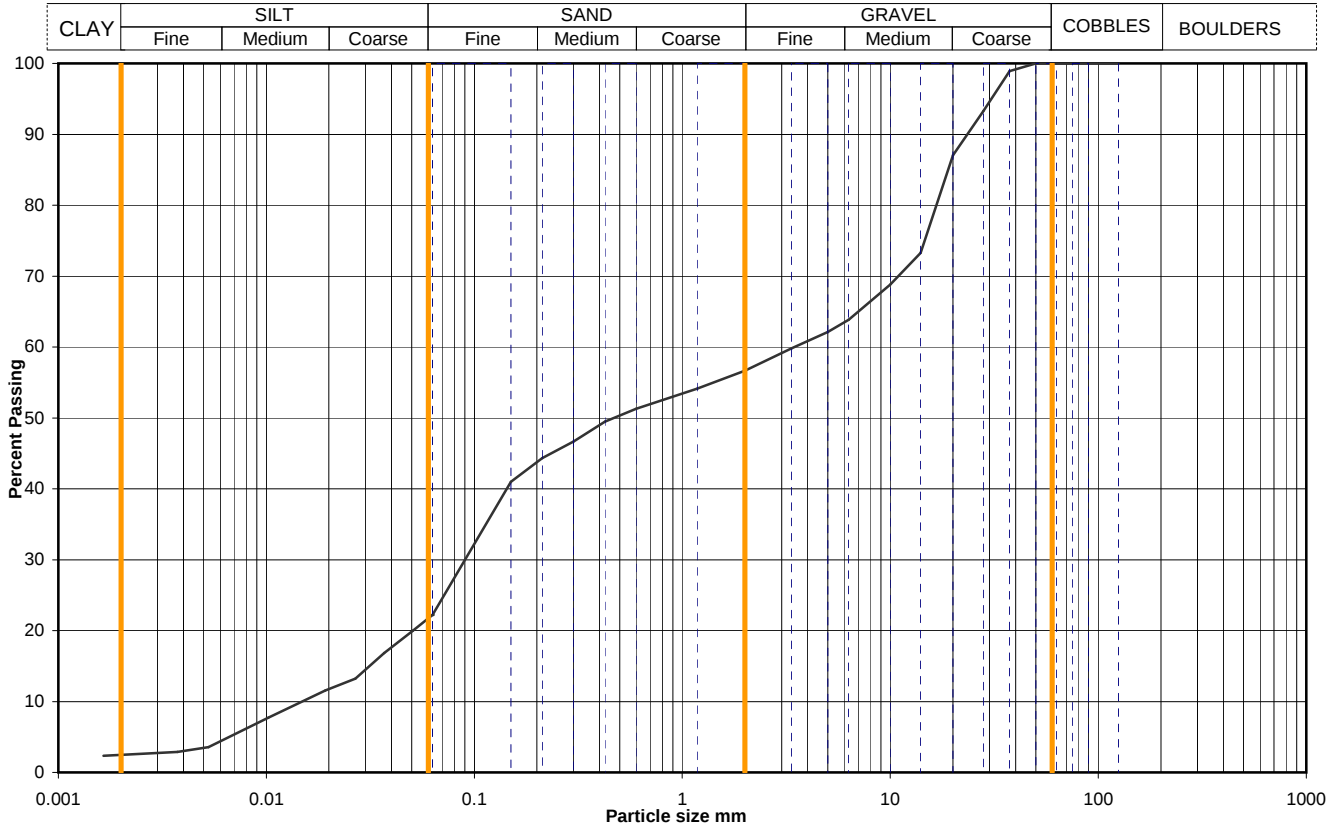
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Figure

PSD 8

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH104	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		7.50	
			Samp No	20	Type	B
			ID	ESGA0054-10201010060000000342		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	22
90	100	0.0507	20
75	100	0.0368	17
63	100	0.0268	13
50	100	0.0192	12
37.5	99	0.0102	8
28	93	0.0053	4
20	87	0.0037	3
14	73	0.0016	2
10	69		
6.3	64		
5.0	62		
3.35	60		
2.00	57		
1.18	54		
0.600	51	Particle density, Mg/m3	
0.425	49	2.65 assumed	
0.300	47	Dry mass of sample, kg	
0.212	44	8.0	
0.150	41		
0.063	22		

Soil description	Light brown slightly sandy gravelly SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	43	43
	Silt	35	35
	Clay	19	19
		3	3

Uniformity Coefficient	D_{60} / D_{10}	233
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

SLR 2,9
Rev 84
Sept 08



Soil Mechanics



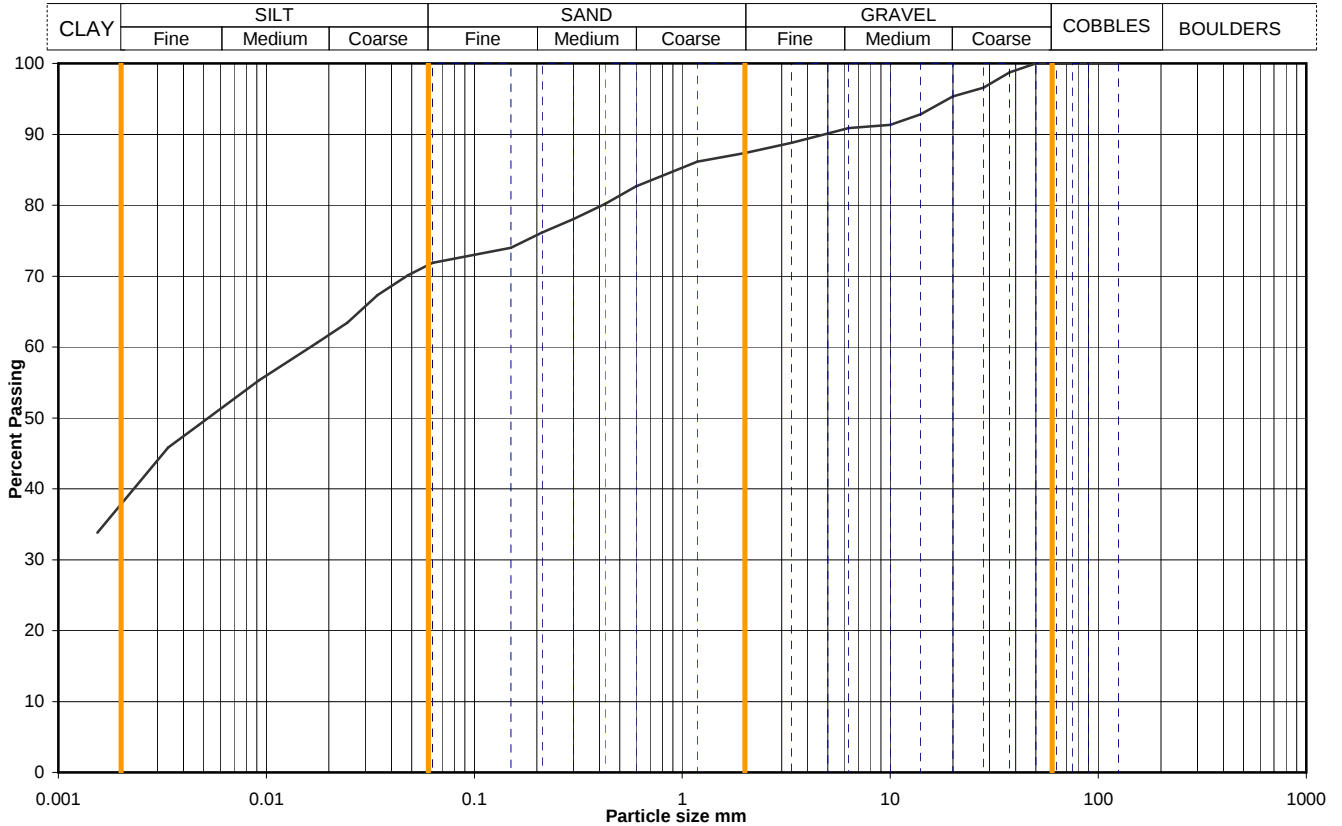
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Figure

PSD 9

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH106	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		0.60	
			Samp No	4	Type	B
			ID	ESGA0054-10201009220000000021		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	72
90	100	0.0479	70
75	100	0.0342	67
63	100	0.0246	63
50	100	0.0175	61
37.5	99	0.0092	55
28	97	0.0047	49
20	95	0.0034	46
14	93	0.0015	34
10	91		
6.3	91		
5.0	90		
3.35	89		
2.00	87		
1.18	86		
0.600	83	Particle density, Mg/m3	
0.425	80	2.65 assumed	
0.300	78	Dry mass of sample, kg	
0.212	76	8.2	
0.150	74		
0.063	72		

Soil description	Brown slightly gravelly slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	13	13
	Silt	16	16
	Clay	33	33
		38	38

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

SLR 2,9
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Soil Mechanics



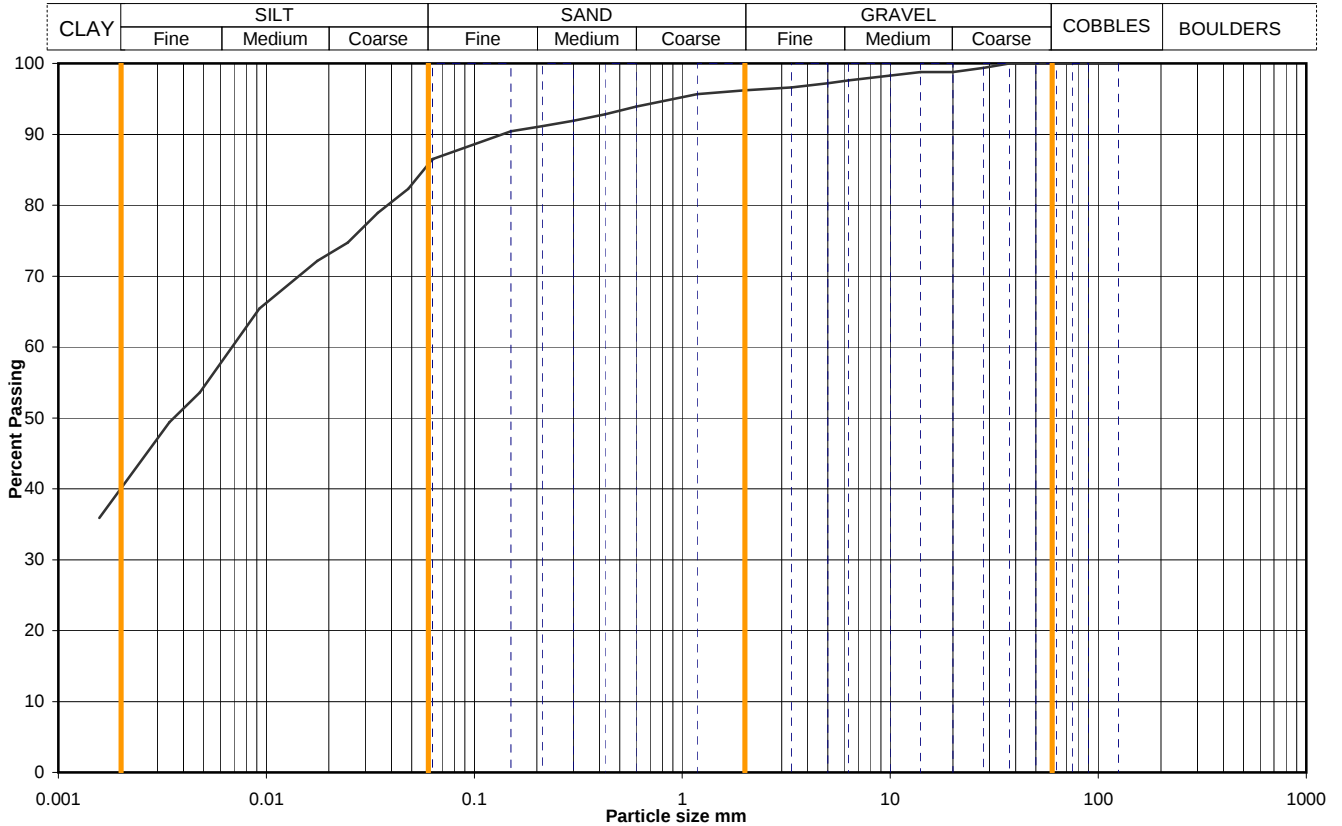
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Figure

PSD 10

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH106	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.85	
			Samp No	8	Type	B
			ID	ESGA0054-10201009220000000025		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	87
90	100	0.0481	82
75	100	0.0344	79
63	100	0.0246	75
50	100	0.0176	72
37.5	100	0.0093	65
28	99	0.0048	54
20	99	0.0034	49
14	99	0.0016	36
10	98		
6.3	98		
5.0	97		
3.35	97		
2.00	96		
1.18	96		
0.600	94		
0.425	93		
0.300	92		
0.212	91		
0.150	90		
0.063	87		

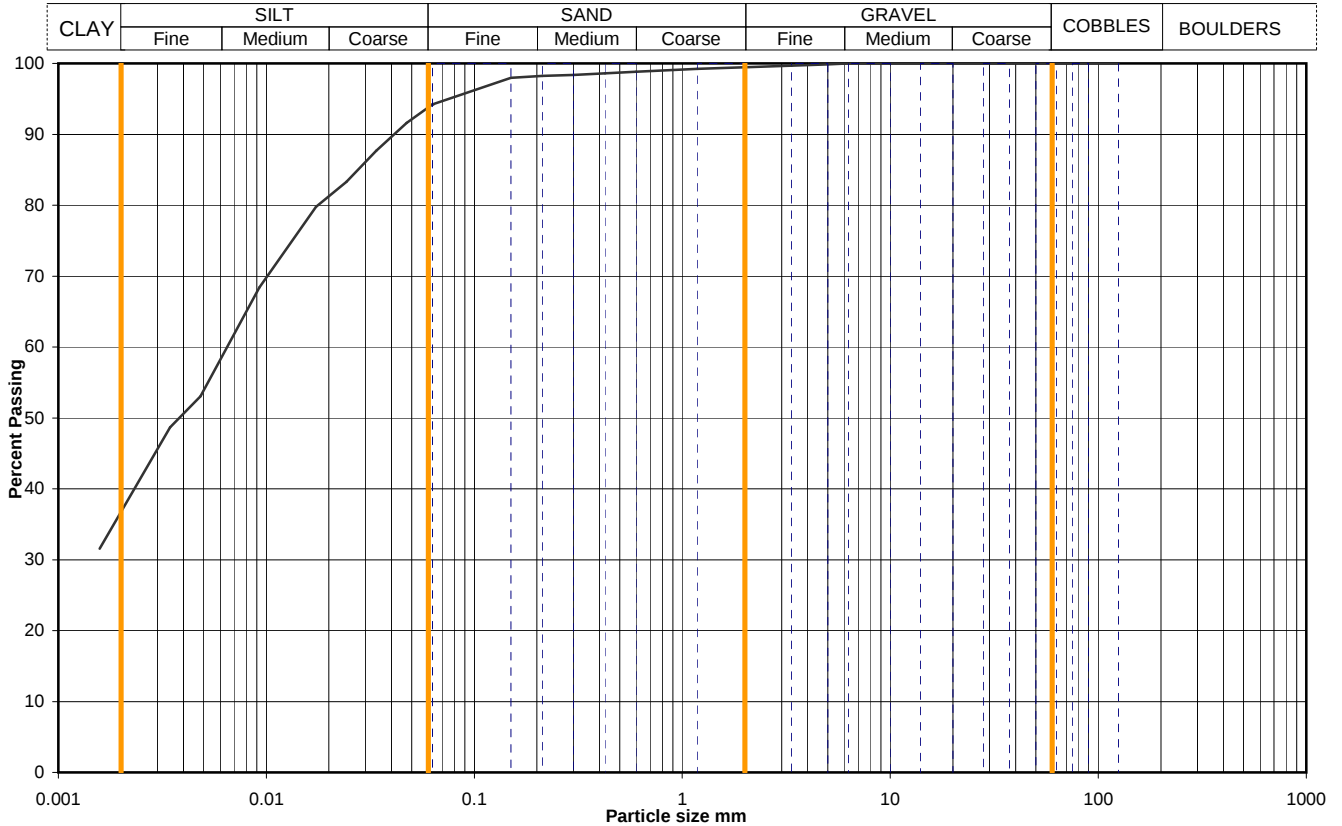
Soil description	Brown slightly gravelly CLAY with occasional gravel sized pockets of greyish brown slightly sandy clay.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	4	4
	Silt	10	10
	Clay	46	46

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH106	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.65	
			Samp No	14	Type	B
			ID	ESGA0054-10201009220000000031		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	94
90	100	0.0472	92
75	100	0.0338	88
63	100	0.0242	83
50	100	0.0173	80
37.5	100	0.0092	68
28	100	0.0048	53
20	100	0.0034	49
14	100	0.0016	32
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	99		
1.18	99		
0.600	99	Particle density, Mg/m ³ 2.65 assumed	
0.425	99		
0.300	98	Dry mass of sample, kg 7.7	
0.212	98		
0.150	98		
0.063	94		

Soil description	Brown slightly gravelly slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	1	1
	Silt	6	6
	Clay	57	57
		36	36

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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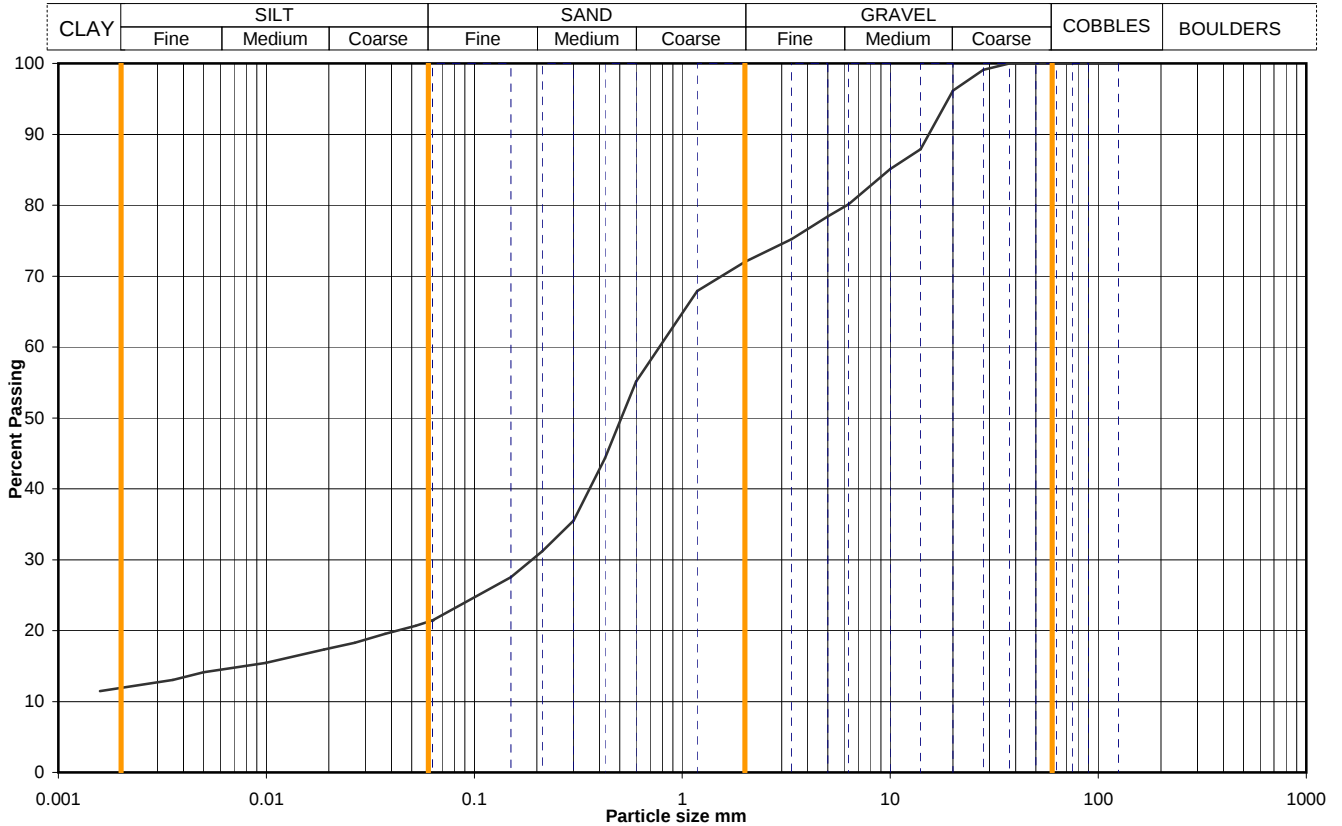
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Figure

PSD 12

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH107	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.65	
			Samp No	7	Type	B
			ID	ESGA0054-102010092300000000120		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	21
90	100	0.0522	21
75	100	0.0372	20
63	100	0.0266	18
50	100	0.0189	17
37.5	100	0.0099	15
28	99	0.0050	14
20	96	0.0036	13
14	88	0.0016	11
10	85		
6.3	80		
5.0	78		
3.35	75		
2.00	72		
1.18	68		
0.600	55	Particle density, Mg/m ³ 2.65 assumed	
0.425	44		
0.300	36	Dry mass of sample, kg 8.4	
0.212	31		
0.150	28		
0.063	21		

Soil description	Brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	28	28
	Silt	51	51
	Clay	9	9
		12	12

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

SLR 2,9
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Soil Mechanics



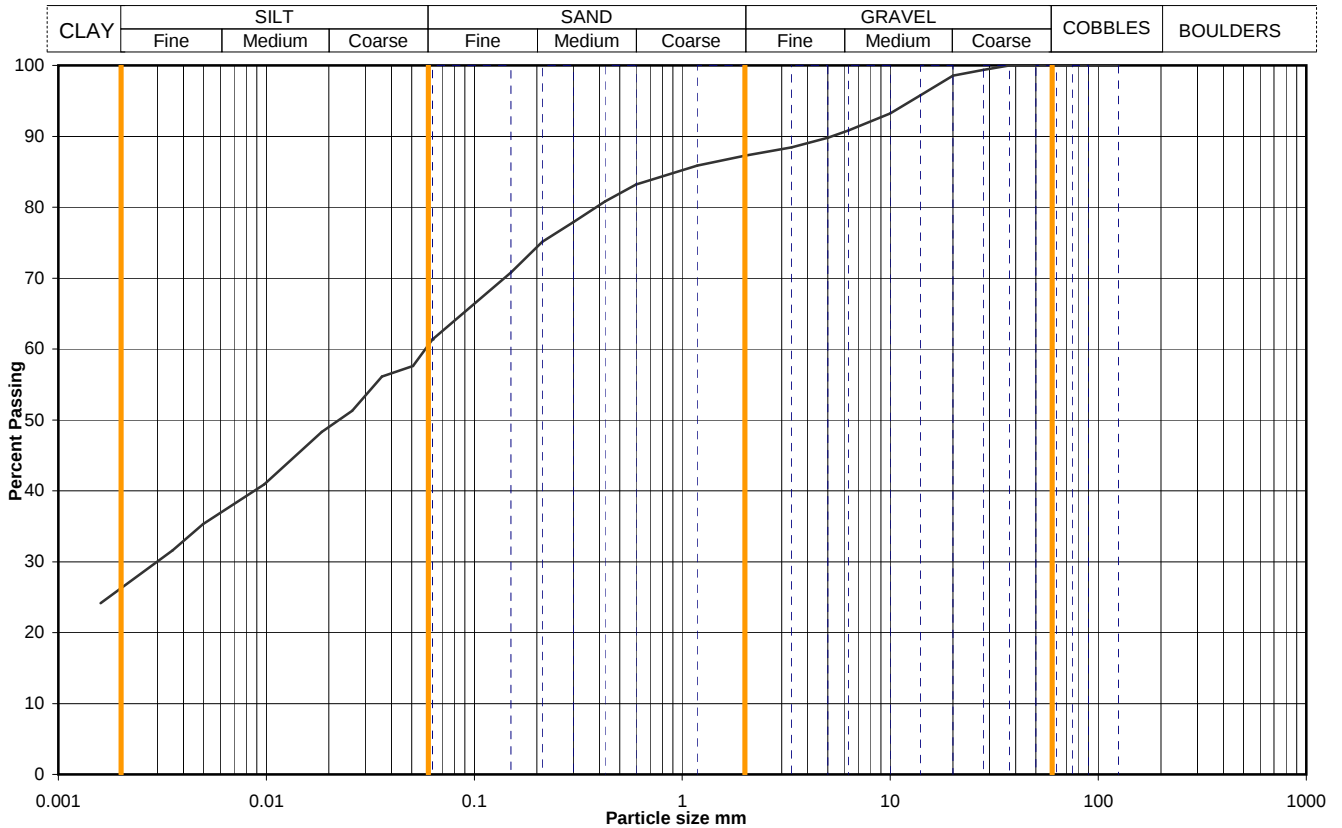
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Figure

PSD 13

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH107	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.65	
			Samp No	12	Type	B
			ID	ESGA0054-10201009230000000125		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	61
90	100	0.0507	58
75	100	0.0360	56
63	100	0.0259	51
50	100	0.0185	48
37.5	100	0.0098	41
28	99	0.0050	35
20	99	0.0035	32
14	96	0.0016	24
10	93		
6.3	91		
5.0	90		
3.35	88		
2.00	87		
1.18	86		
0.600	83	Particle density, Mg/m ³ 2.65 assumed	
0.425	81		
0.300	78	Dry mass of sample, kg 8.2	
0.212	75		
0.150	71		
0.063	61		

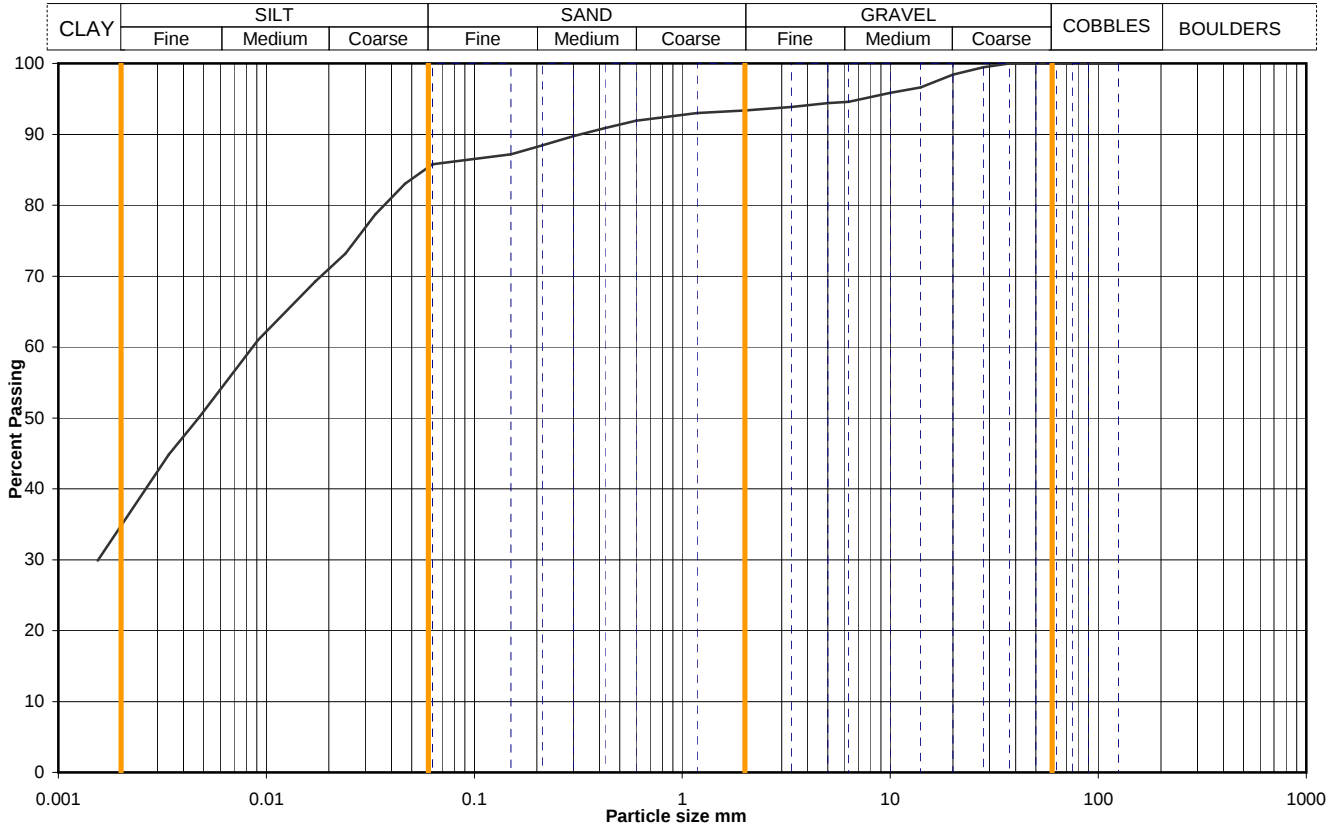
Soil description	Brown slightly gravelly slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	13	13
	Silt	27	27
	Clay	34	34
		26	26

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH108	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.85	
			Samp No	8	Type	B
			ID	ESGA0054-10201009220000000042		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	86
90	100	0.0464	83
75	100	0.0333	79
63	100	0.0240	73
50	100	0.0172	69
37.5	100	0.0091	61
28	99	0.0047	50
20	98	0.0034	45
14	97	0.0015	30
10	96		
6.3	95		
5.0	94		
3.35	94		
2.00	93		
1.18	93		
0.600	92	Particle density, Mg/m ³ 2.65 assumed	
0.425	91		
0.300	90	Dry mass of sample, kg 6.8	
0.212	88		
0.150	87		
0.063	86		

Soil description	Brown slightly sandy slightly gravelly CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	7	7
	Silt	8	8
	Clay	50	50
		35	35

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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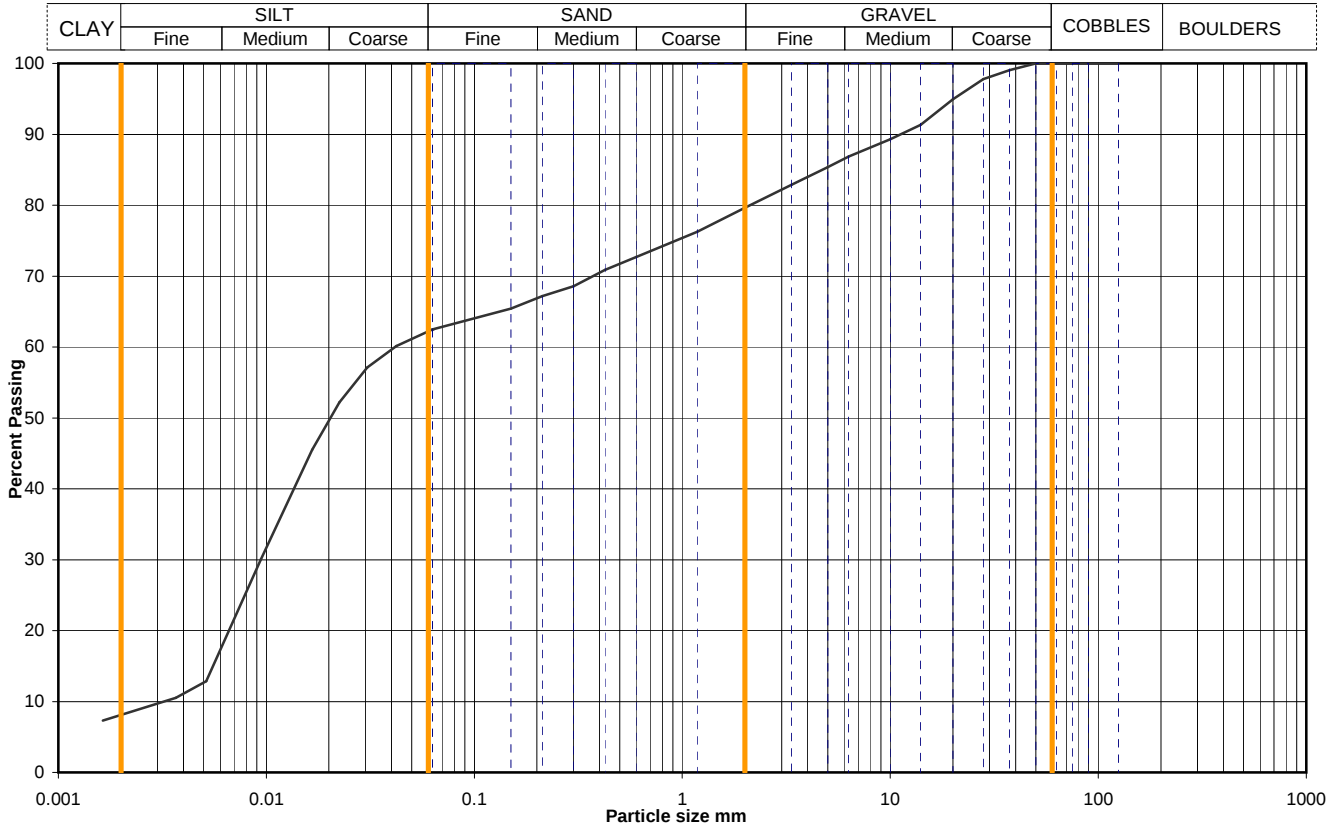
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Figure

PSD 15

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH108	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.40	
			Samp No	13	Type	B
			ID	ESGA0054-10201009220000000047		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	62
90	100	0.0421	60
75	100	0.0305	57
63	100	0.0224	52
50	100	0.0166	46
37.5	99	0.0094	30
28	98	0.0051	13
20	95	0.0037	11
14	91	0.0016	7
10	89		
6.3	87		
5.0	85		
3.35	83		
2.00	80		
1.18	76	Particle density, Mg/m3 2.65 assumed	
0.600	73		
0.425	71	Dry mass of sample, kg 7.3	
0.300	69		
0.212	67		
0.150	65		
0.063	62		

Soil description	Light brown and cream slightly sandy slightly gravelly silty CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	20	20
	Silt	17	17
	Clay	55	55
		8	8

Uniformity Coefficient	D_{60} / D_{10}	13
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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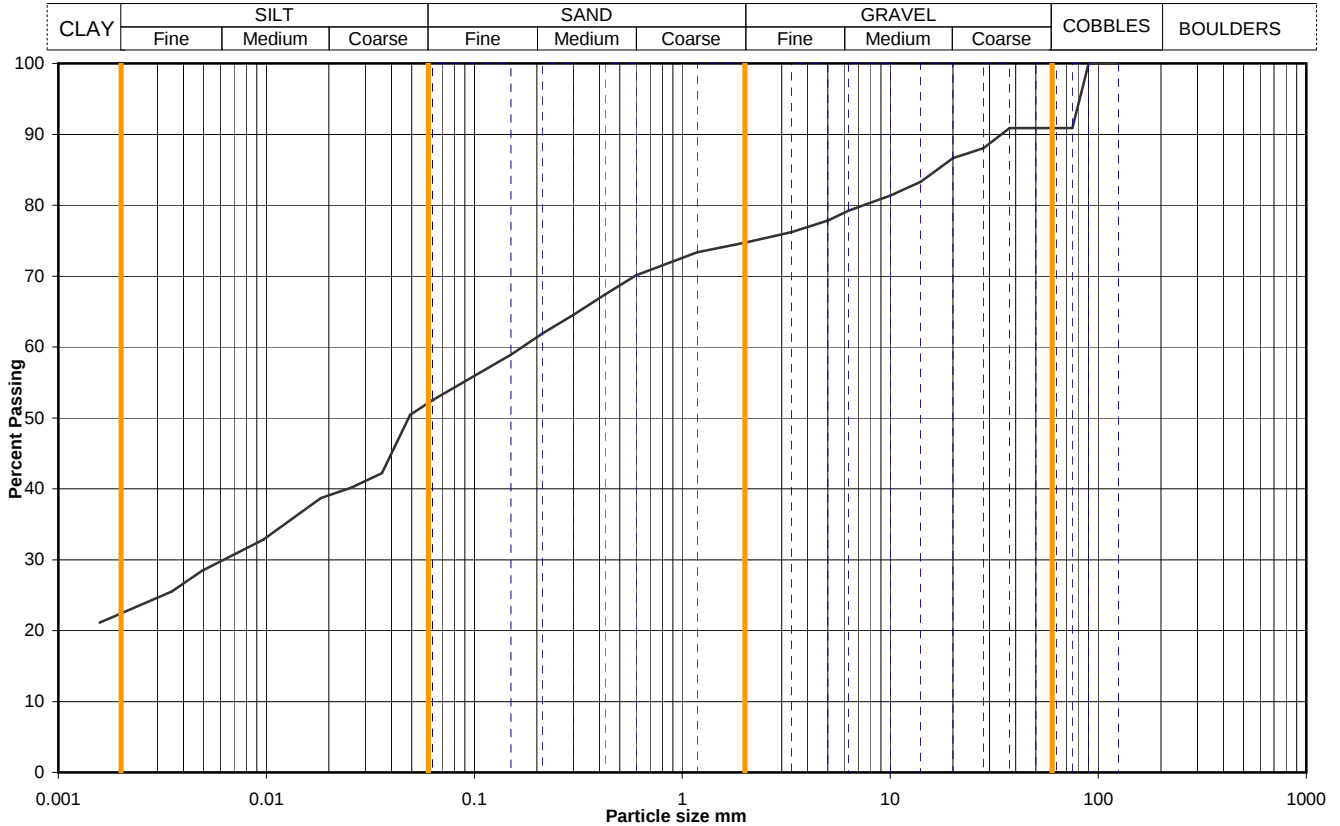
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Figure

PSD 16

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH109	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.55	
			Samp No	10	Type	B
			ID	ESGA0054-10201009220000000060		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	52
90	100	0.0491	50
75	91	0.0360	42
63	91	0.0257	40
50	91	0.0183	39
37.5	91	0.0096	33
28	88	0.0049	28
20	87	0.0035	26
14	83	0.0016	21
10	81		
6.3	79		
5.0	78		
3.35	76		
2.00	75		
1.18	73	Particle density, Mg/m ³ 2.65 assumed	
0.600	70		
0.425	67	Dry mass of sample, kg 6.3	
0.300	65		
0.212	62		
0.150	59		
0.063	52		

Soil description	Brown slightly gravelly slightly sandy CLAY with one cobble.		
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS1377		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	9	0
	Sand	16	18
	Silt	23	25
	Clay	30	33
		22	24

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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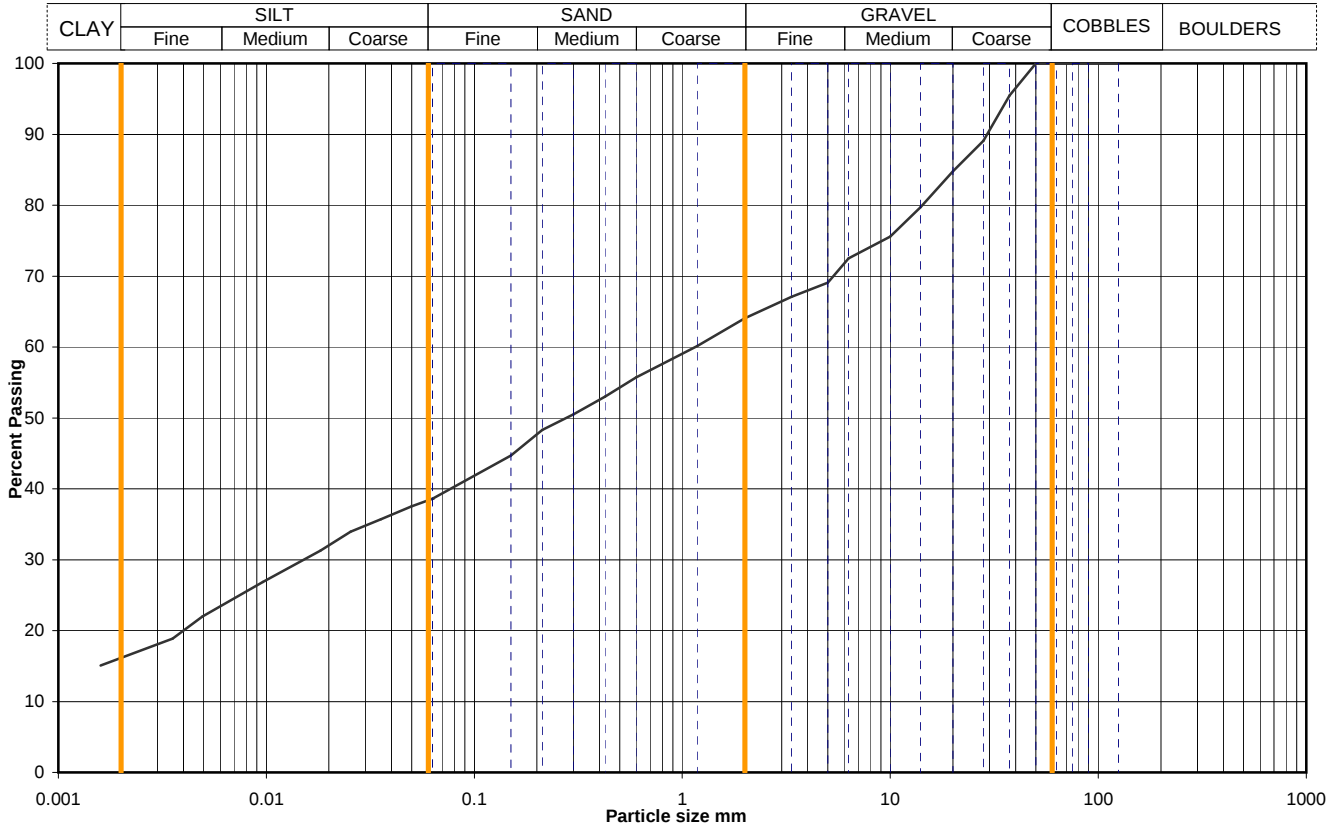
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Figure

PSD 17

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH109	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.00	
			Samp No	13	Type	U
			ID	ESGA0054-10201009220000000062		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	39
90	100	0.0497	38
75	100	0.0355	36
63	100	0.0254	34
50	100	0.0182	31
37.5	95	0.0096	27
28	89	0.0049	22
20	85	0.0035	19
14	80	0.0016	15
10	76		
6.3	72		
5.0	69		
3.35	67		
2.00	64		
1.18	60		
0.600	56	Particle density, Mg/m3 2.65 assumed	
0.425	53		
0.300	51	Dry mass of sample, kg 2.7	
0.212	48		
0.150	45		
0.063	39		

Soil description	Firm to stiff brown slightly sandy gravelly CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	36	36
	Silt	26	26
	Clay	22	22
		16	16

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

SLR 2,9
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Sept 08



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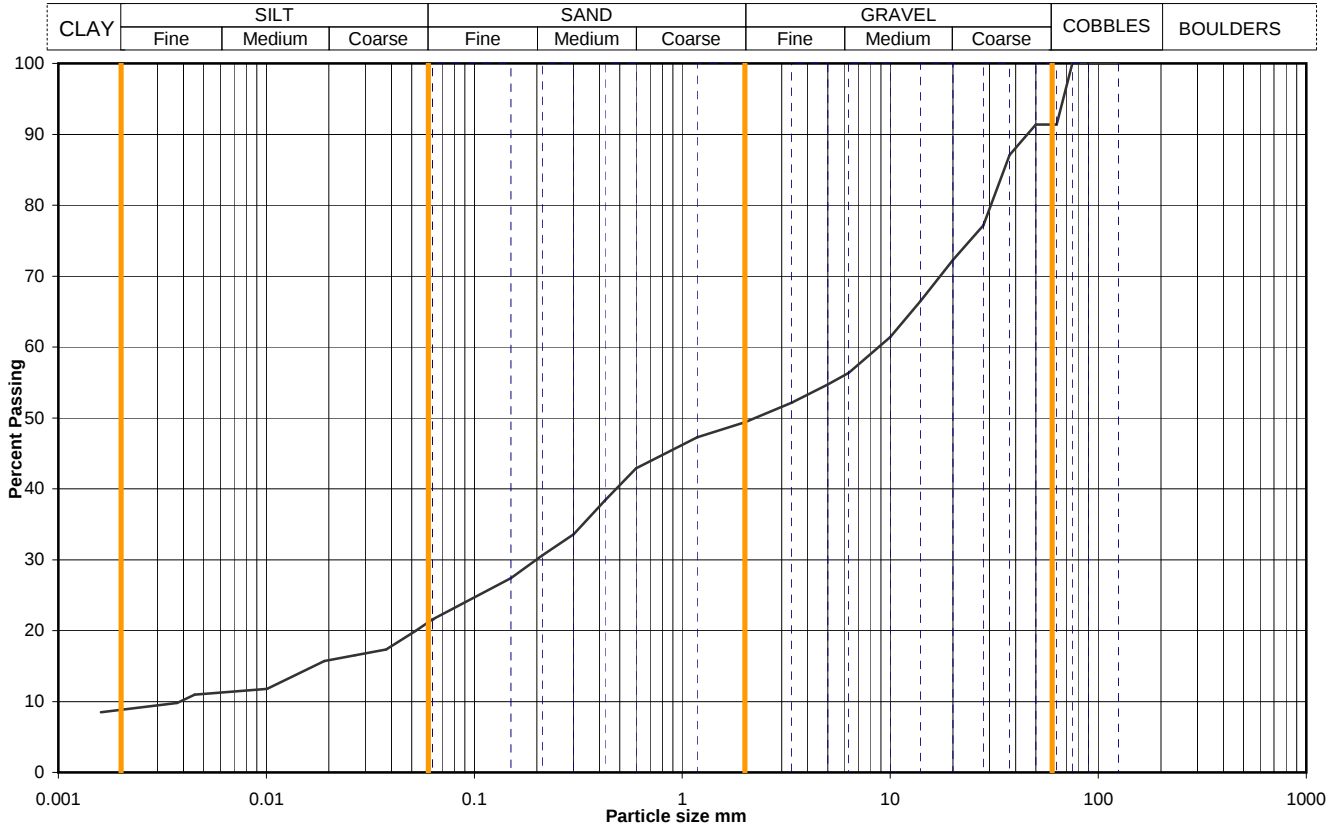
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Figure

PSD 18

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH109	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.65	
			Samp No	14	Type	B
			ID	ESGA0054-10201009220000000063		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	22
90	100	0.0522	20
75	100	0.0376	17
63	91	0.0267	17
50	91	0.0190	16
37.5	87	0.0101	12
28	77	0.0045	11
20	72	0.0037	10
14	67	0.0016	9
10	61		
6.3	56		
5.0	55		
3.35	52		
2.00	49		
1.18	47		
0.600	43	Particle density, Mg/m3	
0.425	38	2.65 assumed	
0.300	34	Dry mass of sample, kg	
0.212	31	6.1	
0.150	27		
0.063	22		

Soil description	Brown slightly sandy gravelly CLAY with one cobble.		
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	9	0
	Sand	42	46
	Silt	28	31
	Clay	12	13
		9	10

Uniformity Coefficient	D_{60} / D_{10}	2286
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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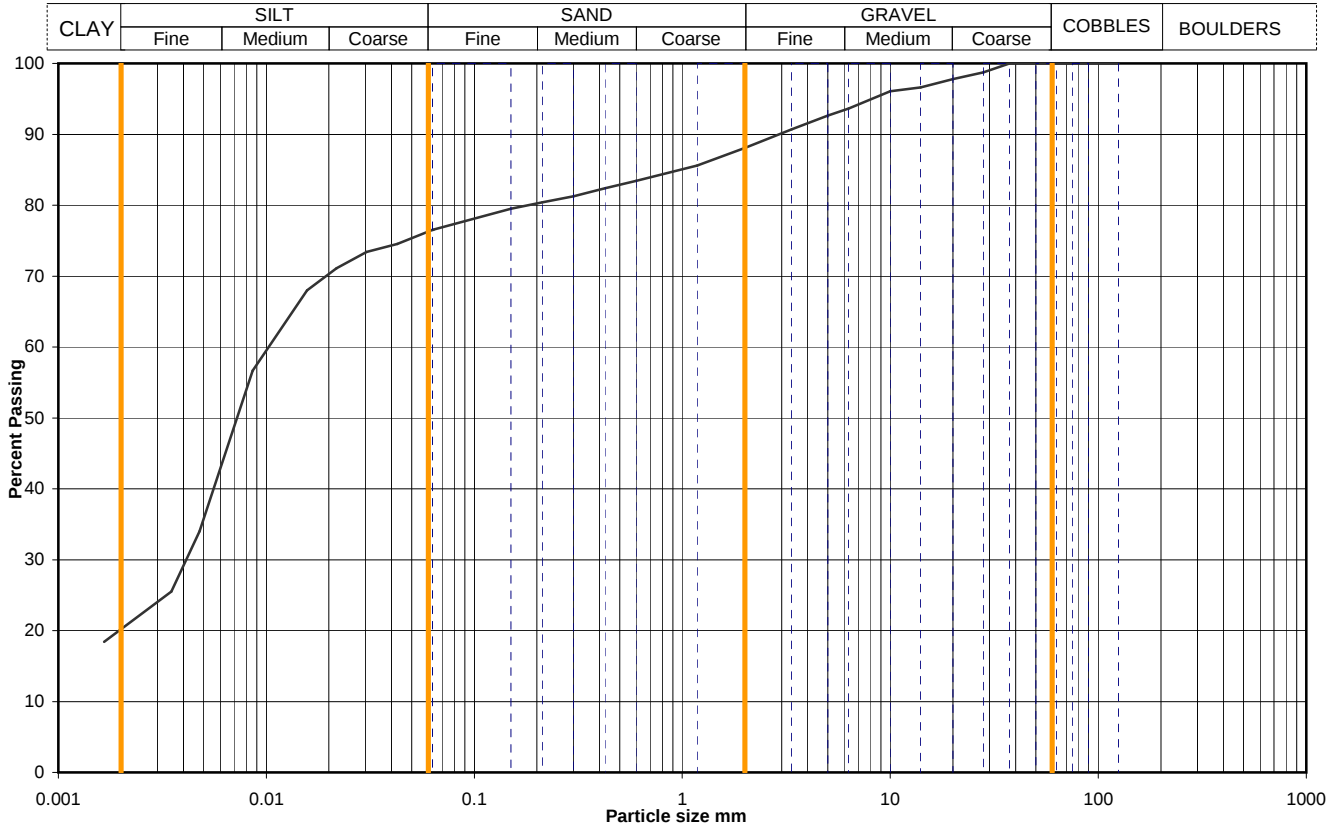
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Figure

PSD 19

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH109	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		5.80	
			Samp No	19	Type	B
			ID	ESGA0054-10201009220000000068		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	77
90	100	0.0427	75
75	100	0.0304	73
63	100	0.0218	71
50	100	0.0157	68
37.5	100	0.0086	57
28	99	0.0048	34
20	98	0.0035	26
14	97	0.0017	18
10	96		
6.3	94		
5.0	93		
3.35	91		
2.00	88		
1.18	86		
0.600	83	Particle density, Mg/m3 2.65 assumed	
0.425	82		
0.300	81	Dry mass of sample, kg 6.5	
0.212	80		
0.150	80		
0.063	77		

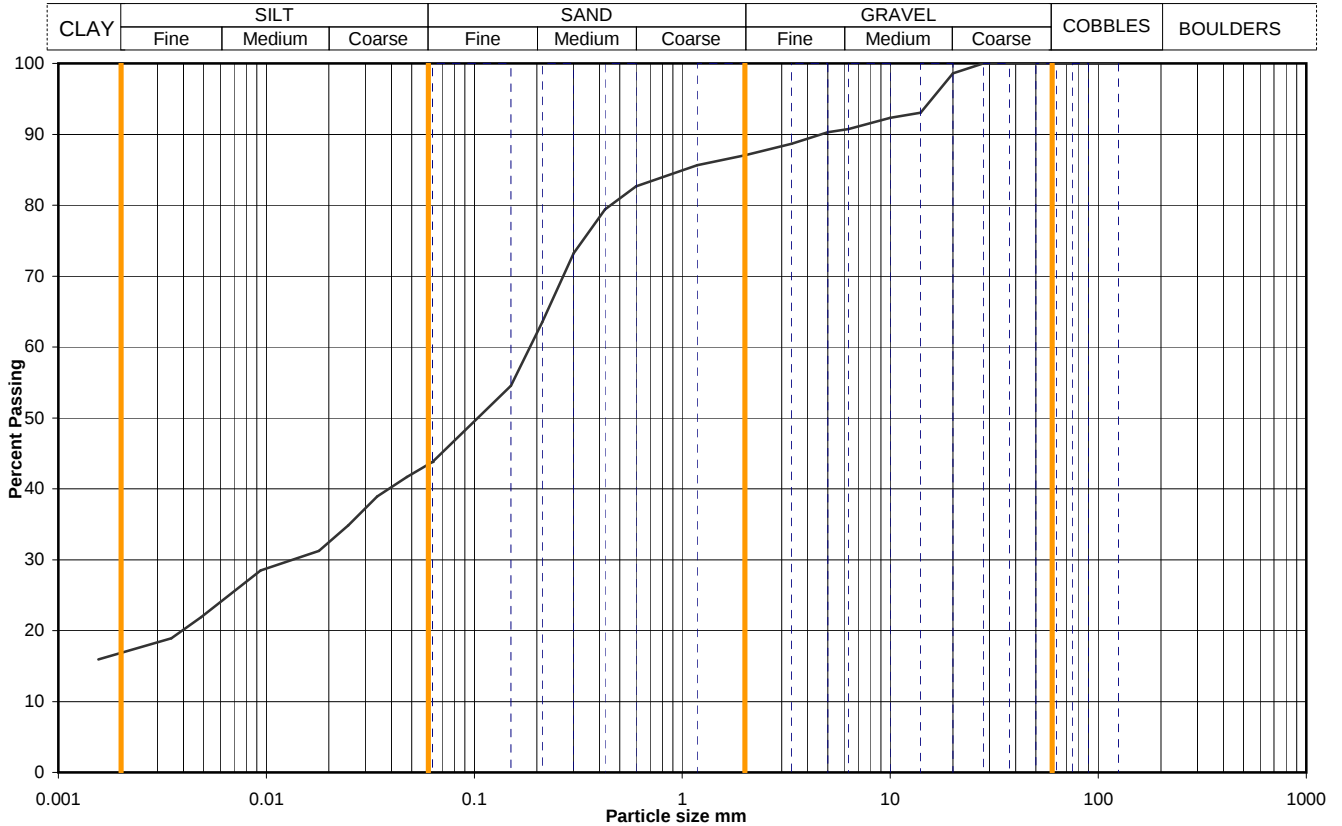
Soil description	Light brown slightly sandy slightly gravelly silty CLAY. Gravel is limestone.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	12	12
	Silt	12	12
	Clay	56	56
		20	20

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH110	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.50	
			Samp No	10	Type	B
			ID	ESGA0054-10201010140000000705		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	44
90	100	0.0474	42
75	100	0.0341	39
63	100	0.0247	35
50	100	0.0179	31
37.5	100	0.0094	28
28	100	0.0049	22
20	99	0.0035	19
14	93	0.0016	16
10	92		
6.3	91		
5.0	90		
3.35	89		
2.00	87		
1.18	86		
0.600	83	Particle density, Mg/m ³	
0.425	79	2.65 assumed	
0.300	73	Dry mass of sample, kg	
0.212	64	6.1	
0.150	55		
0.063	44		

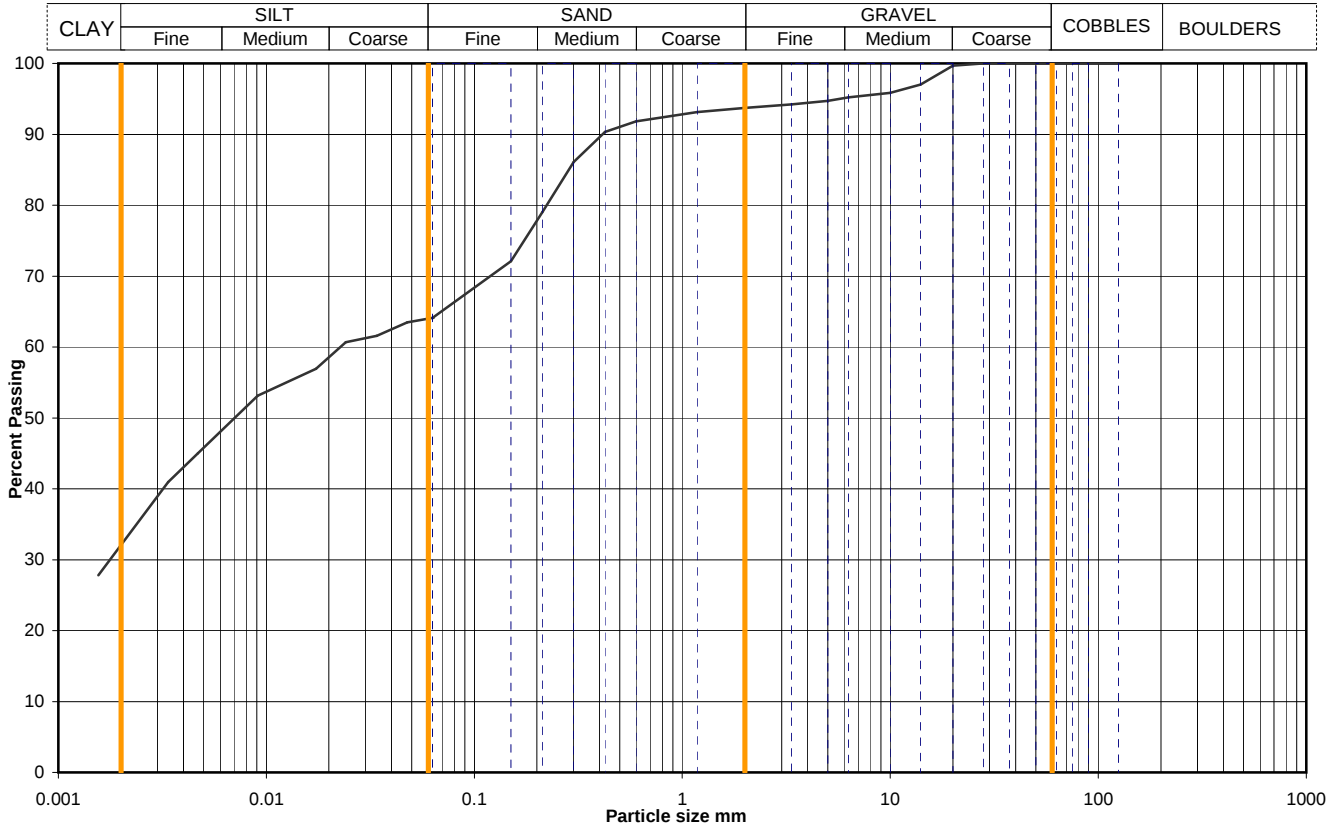
Soil description	Brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	13	13
	Silt	44	44
	Clay	26	26
		17	17

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH112	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		0.75	
			Samp No	4	Type	B
			ID	ESGA0054-10201009220000000075		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	64
90	100	0.0476	63
75	100	0.0339	62
63	100	0.0241	61
50	100	0.0173	57
37.5	100	0.0091	53
28	100	0.0047	45
20	100	0.0034	41
14	97	0.0016	28
10	96		
6.3	95		
5.0	95		
3.35	94		
2.00	94		
1.18	93		
0.600	92	Particle density, Mg/m ³ 2.65 assumed	
0.425	90		
0.300	86	Dry mass of sample, kg 8.0	
0.212	79		
0.150	72		
0.063	64		

Soil description	Greyish brown slightly gravelly slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	6	6
	Silt	30	30
	Clay	32	32

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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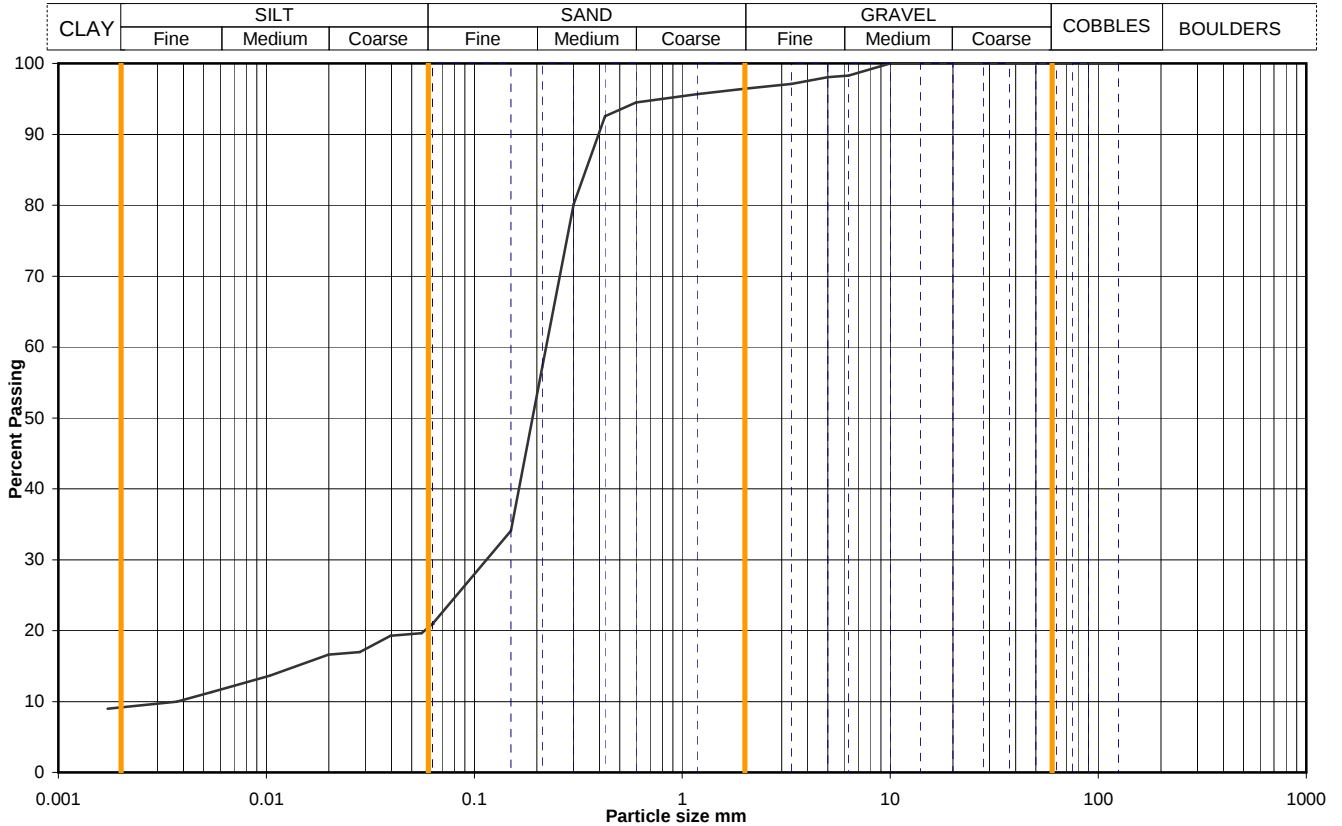
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Figure

PSD 22

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH112	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.65	
			Samp No	7	Type	B
			ID	ESGA0054-10201009220000000078		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	21
90	100	0.0558	20
75	100	0.0395	19
63	100	0.0281	17
50	100	0.0199	17
37.5	100	0.0104	14
28	100	0.0055	11
20	100	0.0037	10
14	100	0.0017	9
10	100		
6.3	98		
5.0	98		
3.35	97		
2.00	96		
1.18	96		
0.600	94		
0.425	93		
0.300	80		
0.212	57		
0.150	34		
0.063	21		

Soil description	Greyish brown clayey slightly gravelly SAND.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	4	4
	Silt	76	76
	Clay	11	11

Uniformity Coefficient	D_{60} / D_{10}	59
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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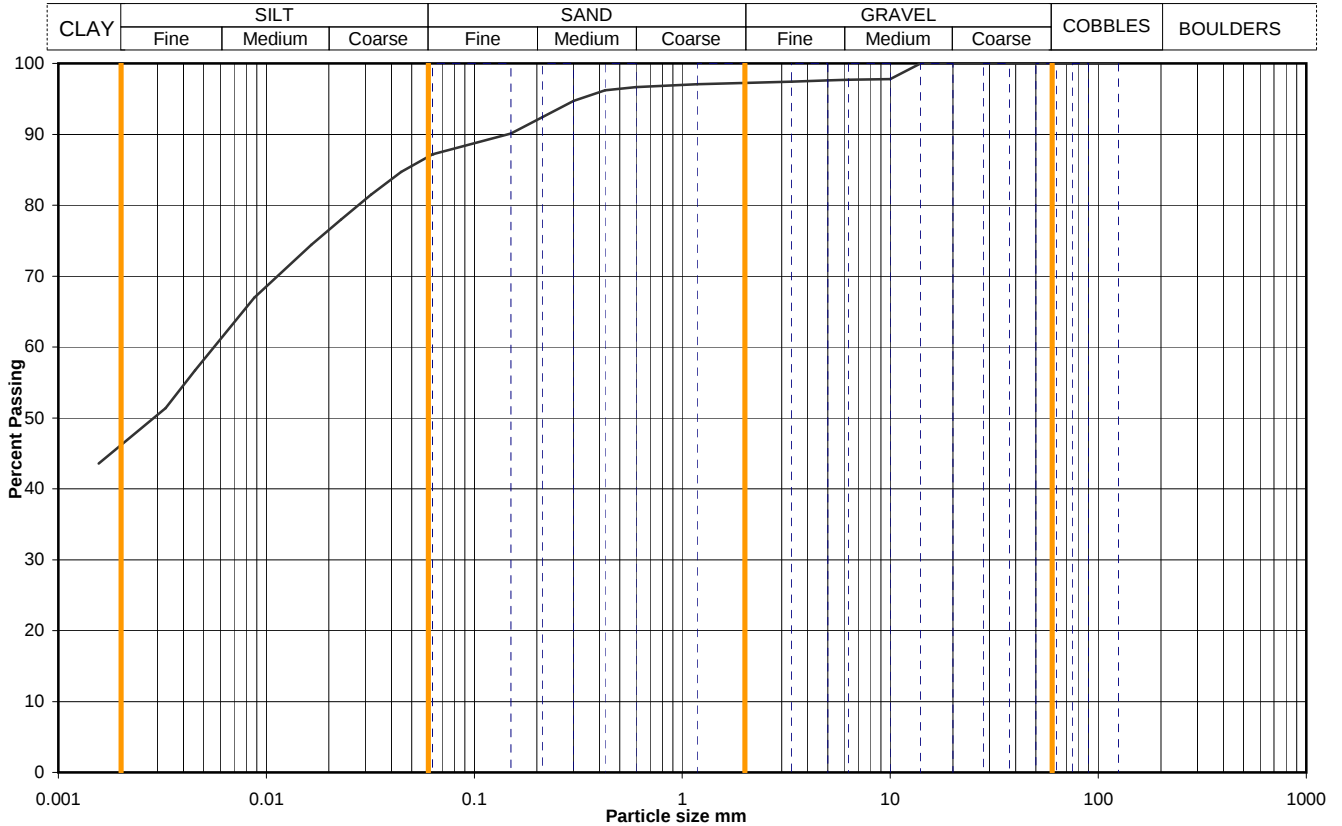
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Figure

PSD 23

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH112	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.65	
			Samp No	10	Type	B
			ID	ESGA0054-10201009220000000082		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	87
90	100	0.0444	85
75	100	0.0319	81
63	100	0.0229	78
50	100	0.0164	74
37.5	100	0.0087	67
28	100	0.0045	57
20	100	0.0033	51
14	100	0.0016	44
10	98		
6.3	98		
5.0	98		
3.35	97		
2.00	97		
1.18	97		
0.600	97	Particle density, Mg/m ³ 2.65 assumed	
0.425	96		
0.300	95	Dry mass of sample, kg 5.9	
0.212	92		
0.150	90		
0.063	87		

Soil description	Brown slightly gravelly slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	3	3
	Silt	10	10
	Clay	41	41
		46	46

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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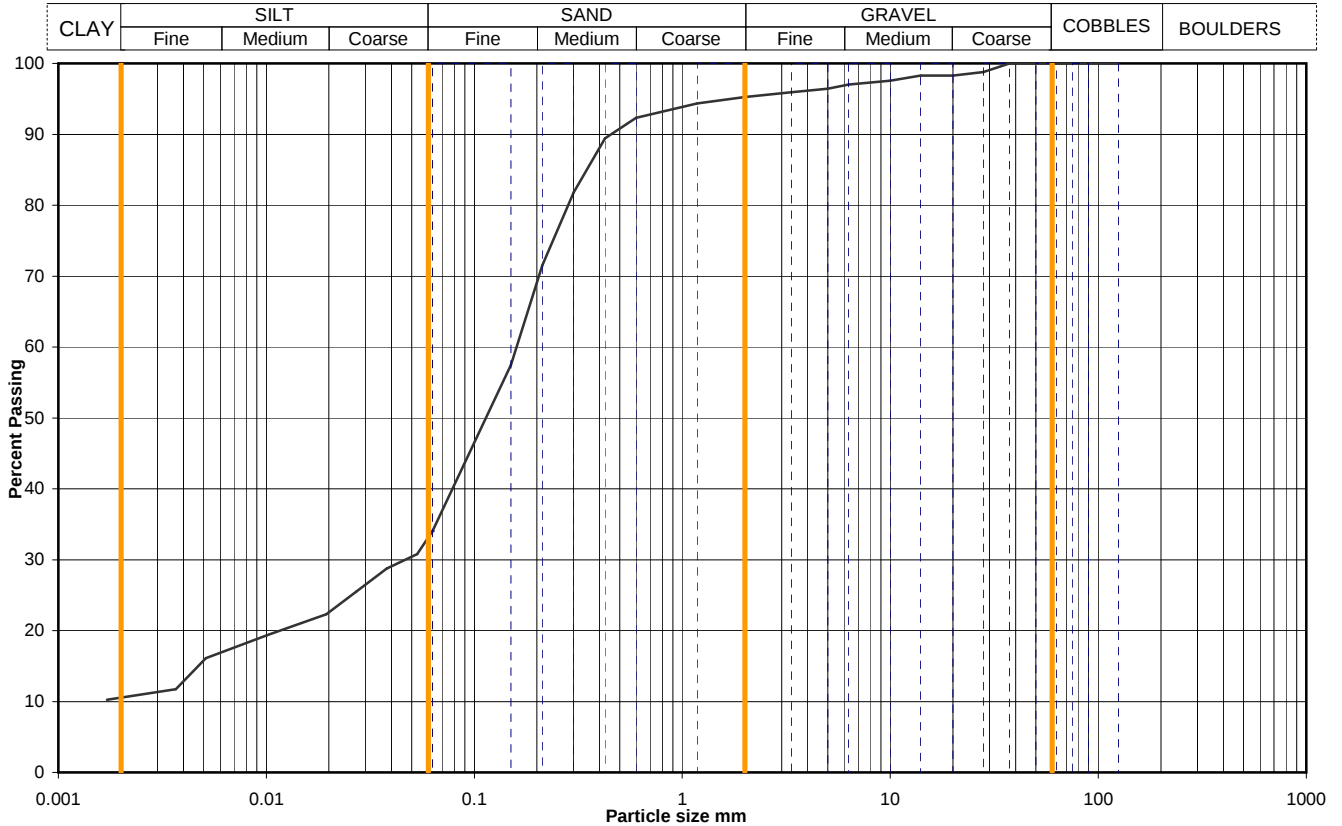
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Figure

PSD 24

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH201	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		0.70	
			Samp No	4	Type	B
			ID	ESGA0054-10201010140000000714		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	34
90	100	0.0531	31
75	100	0.0379	29
63	100	0.0271	26
50	100	0.0194	22
37.5	100	0.0101	19
28	99	0.0051	16
20	98	0.0037	12
14	98	0.0017	10
10	98		
6.3	97		
5.0	96		
3.35	96		
2.00	95		
1.18	94		
0.600	92	Particle density, Mg/m ³ 2.65 assumed	
0.425	89		
0.300	82	Dry mass of sample, kg 7.1	
0.212	71		
0.150	57		
0.063	34		

Soil description	Brown slightly gravelly sandy SILT with occasional rootlets.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	5	5
	Silt	62	62
	Clay	22	22
		11	11

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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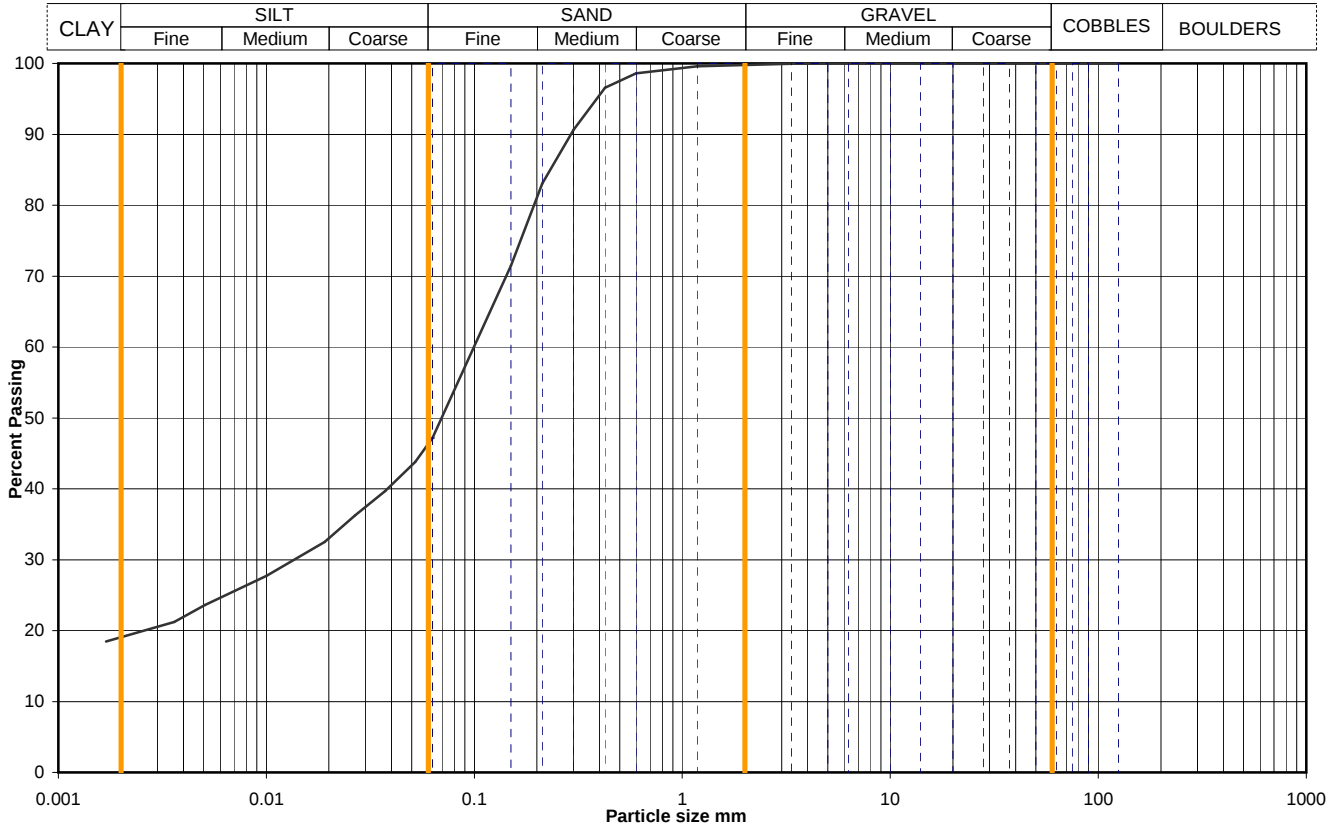
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Figure

PSD 25

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH201	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.50	
			Samp No	12	Type	D
			ID	ESGA0054-10201010140000000722		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	47
90	100	0.0520	44
75	100	0.0373	40
63	100	0.0267	36
50	100	0.0191	32
37.5	100	0.0100	28
28	100	0.0051	24
20	100	0.0036	21
14	100	0.0017	18
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	100		
1.18	100		
0.600	99	Particle density, Mg/m ³ 2.65 assumed	
0.425	97		
0.300	91	Dry mass of sample, kg 1.5	
0.212	83		
0.150	71		
0.063	47		

Soil description	Greyish brown sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	0	0
	Silt	53	53
	Clay	28	28
		19	19

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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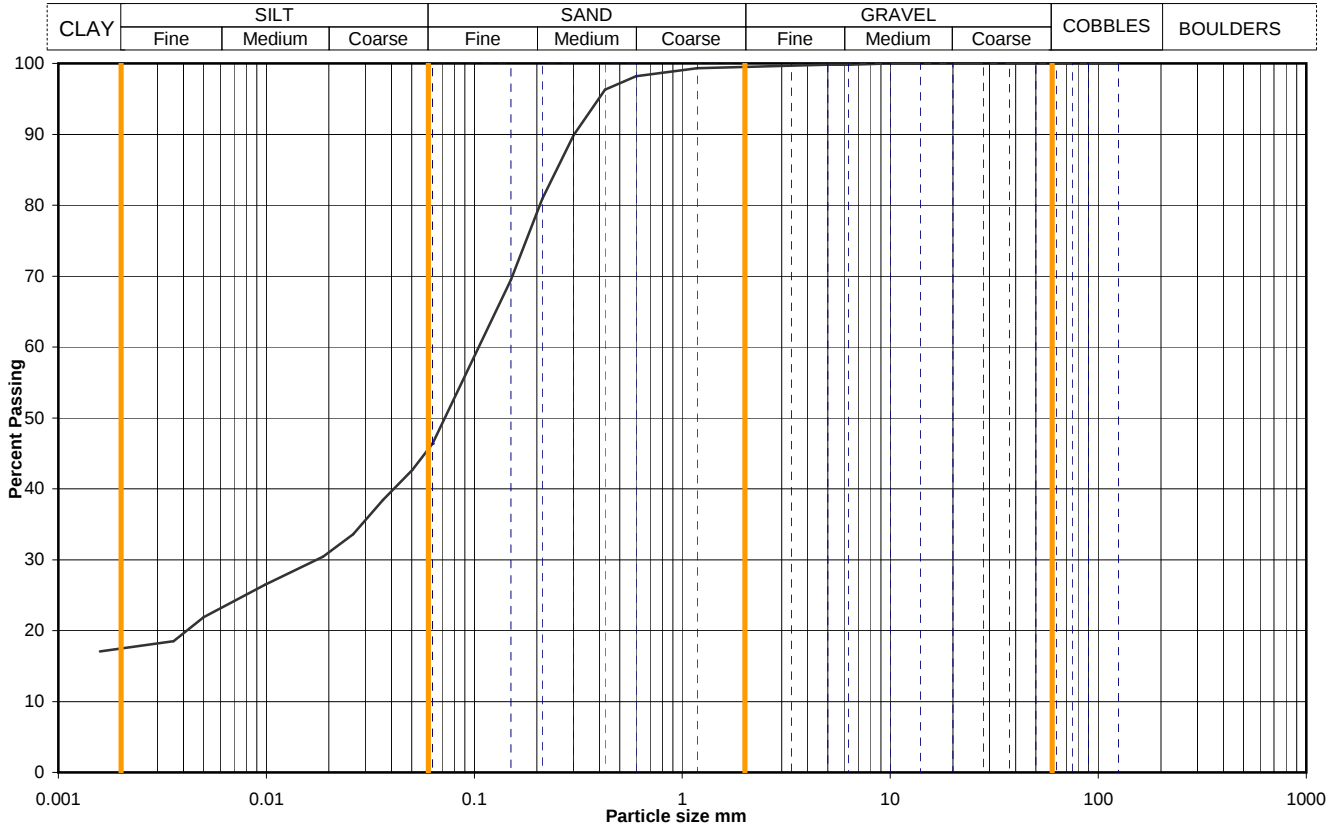
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Figure

PSD 26

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH201	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		4.50	
			Samp No	14	Type	B
			ID	ESGA0054-10201010140000000724		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	46
90	100	0.0504	43
75	100	0.0363	38
63	100	0.0262	34
50	100	0.0187	30
37.5	100	0.0098	26
28	100	0.0050	22
20	100	0.0036	18
14	100	0.0016	17
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	100		
1.18	99	Particle density, Mg/m ³ 2.65 assumed	
0.600	98		
0.425	96	Dry mass of sample, kg 8.5	
0.300	90		
0.212	81		
0.150	70		
0.063	46		

Soil description	Brown sandy silty CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	0	0
	Silt	54	54
	Clay	28	28
		18	18

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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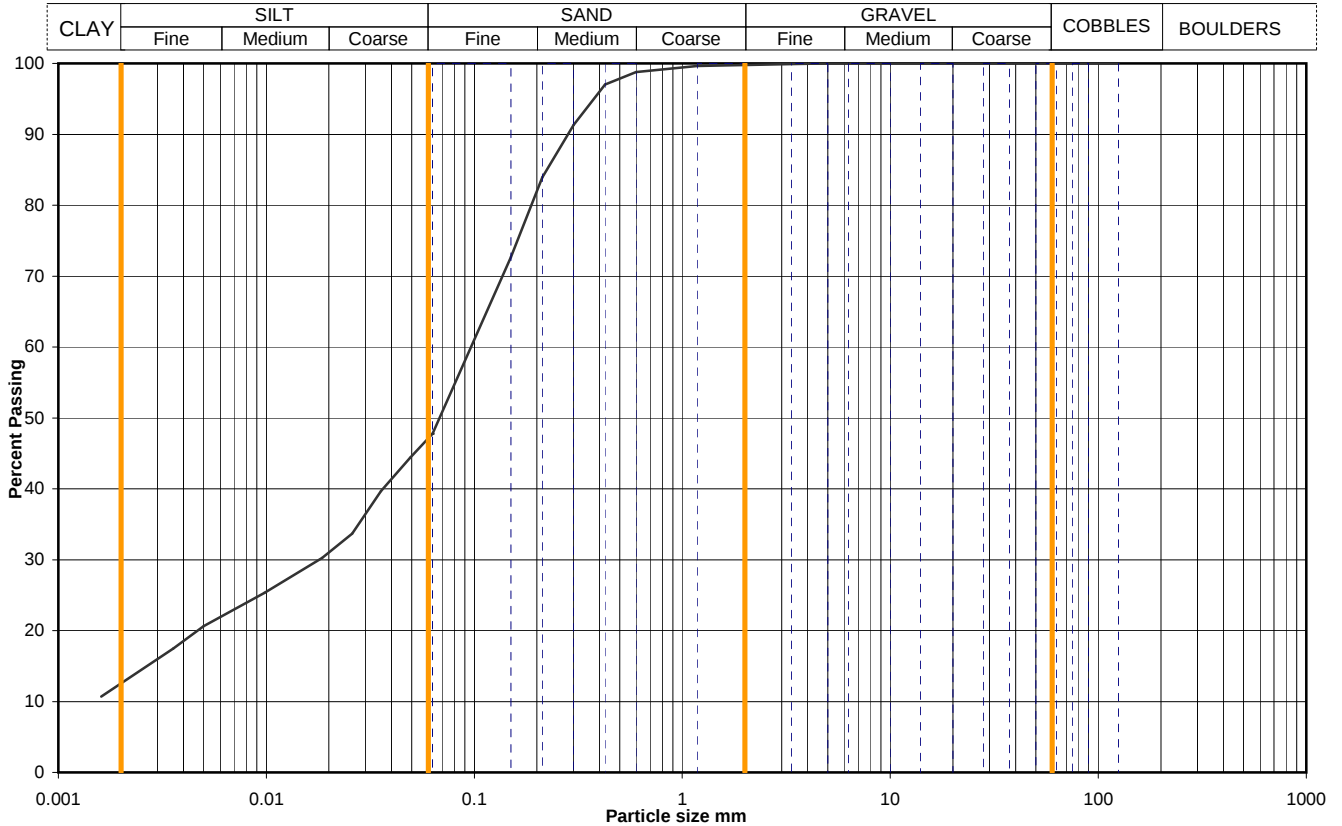
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Figure

PSD 27

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH201	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		5.65	
			Samp No	16	Type	B
			ID	ESGA0054-10201010140000000727		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	48
90	100	0.0491	44
75	100	0.0355	40
63	100	0.0258	34
50	100	0.0186	30
37.5	100	0.0098	25
28	100	0.0050	21
20	100	0.0036	17
14	100	0.0016	11
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	100		
1.18	100		
0.600	99	Particle density, Mg/m ³ 2.65 assumed	
0.425	97		
0.300	91	Dry mass of sample, kg 8.4	
0.212	84		
0.150	73		
0.063	48		

Soil description	Brown sandy silty CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	0	0
	Silt	53	53
	Clay	34	34
		13	13

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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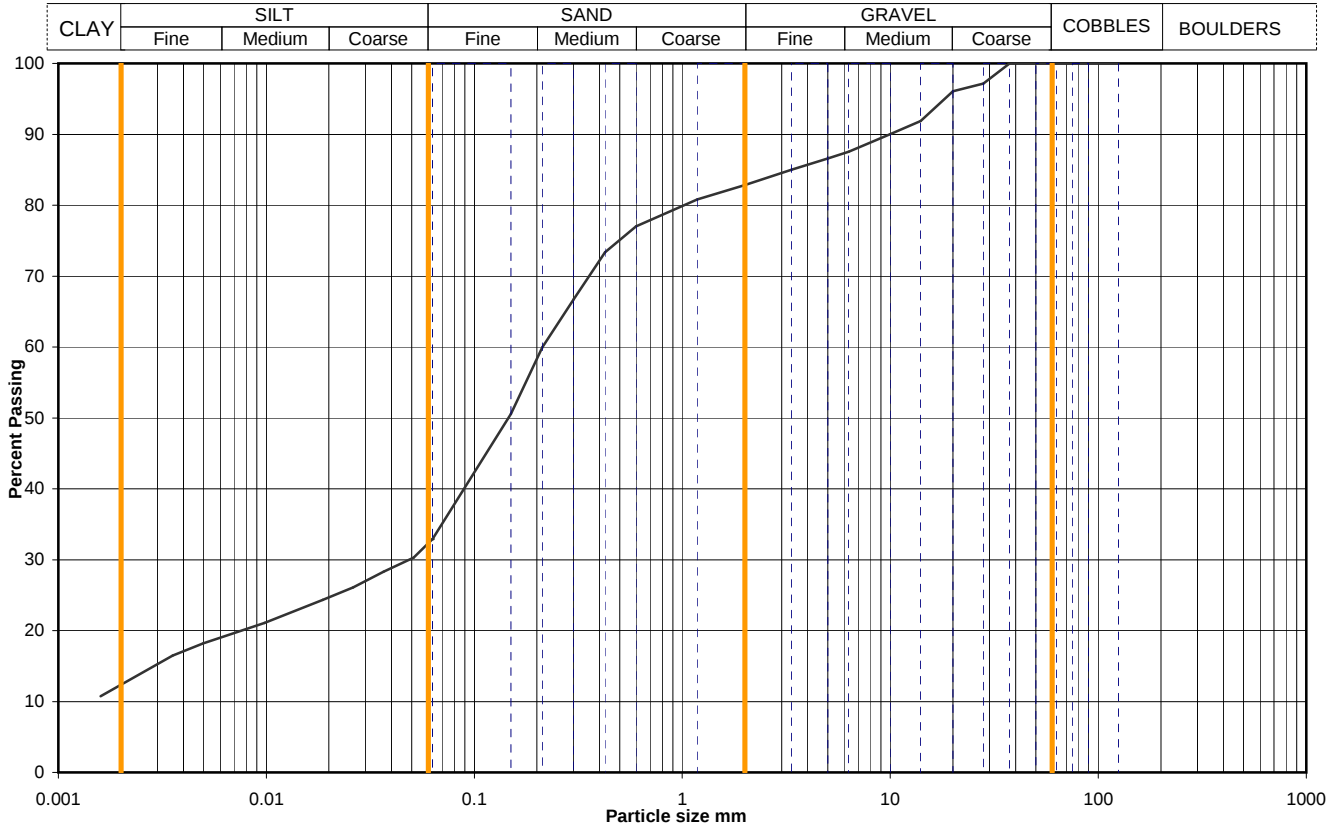
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Figure

PSD 28

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH203	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.65	
			Samp No	6	Type	B
			ID	ESGA0054-10201010140000000741		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	33
90	100	0.0511	30
75	100	0.0365	28
63	100	0.0261	26
50	100	0.0187	24
37.5	100	0.0098	21
28	97	0.0050	18
20	96	0.0035	16
14	92	0.0016	11
10	90		
6.3	88		
5.0	87		
3.35	85		
2.00	83		
1.18	81		
0.600	77	Particle density, Mg/m ³ 2.65 assumed	
0.425	73		
0.300	67	Dry mass of sample, kg 6.4	
0.212	60		
0.150	51		
0.063	33		

Soil description	Greyish brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	17	17
	Silt	51	51
	Clay	20	20
		12	12

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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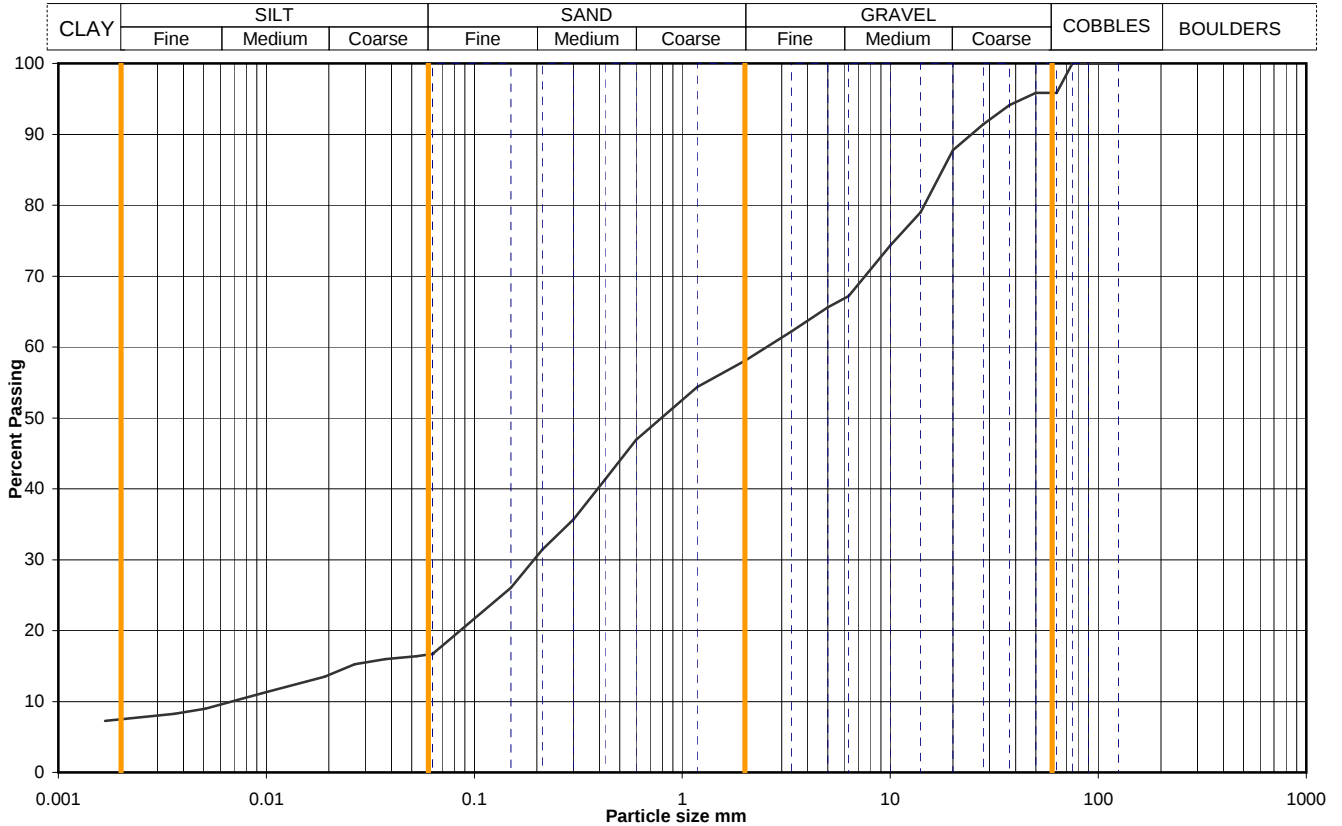
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Figure

PSD 29

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH203	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.50	
			Samp No	10	Type	B
			ID	ESGA0054-10201010140000000744		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	17
90	100	0.0527	16
75	100	0.0374	16
63	96	0.0266	15
50	96	0.0190	14
37.5	94	0.0100	11
28	91	0.0051	9
20	88	0.0036	8
14	79	0.0017	7
10	74		
6.3	67		
5.0	66		
3.35	62		
2.00	58		
1.18	54		
0.600	47	Particle density, Mg/m ³	
0.425	41	2.65 assumed	
0.300	36	Dry mass of sample, kg	
0.212	31	13.2	
0.150	26		
0.063	17		

Soil description	Greyish brown sandy gravelly CLAY with one cobble.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	4	0
	Sand	38	40
	Silt	41	43
	Clay	9	9
		8	8

Uniformity Coefficient	D_{60} / D_{10}	375
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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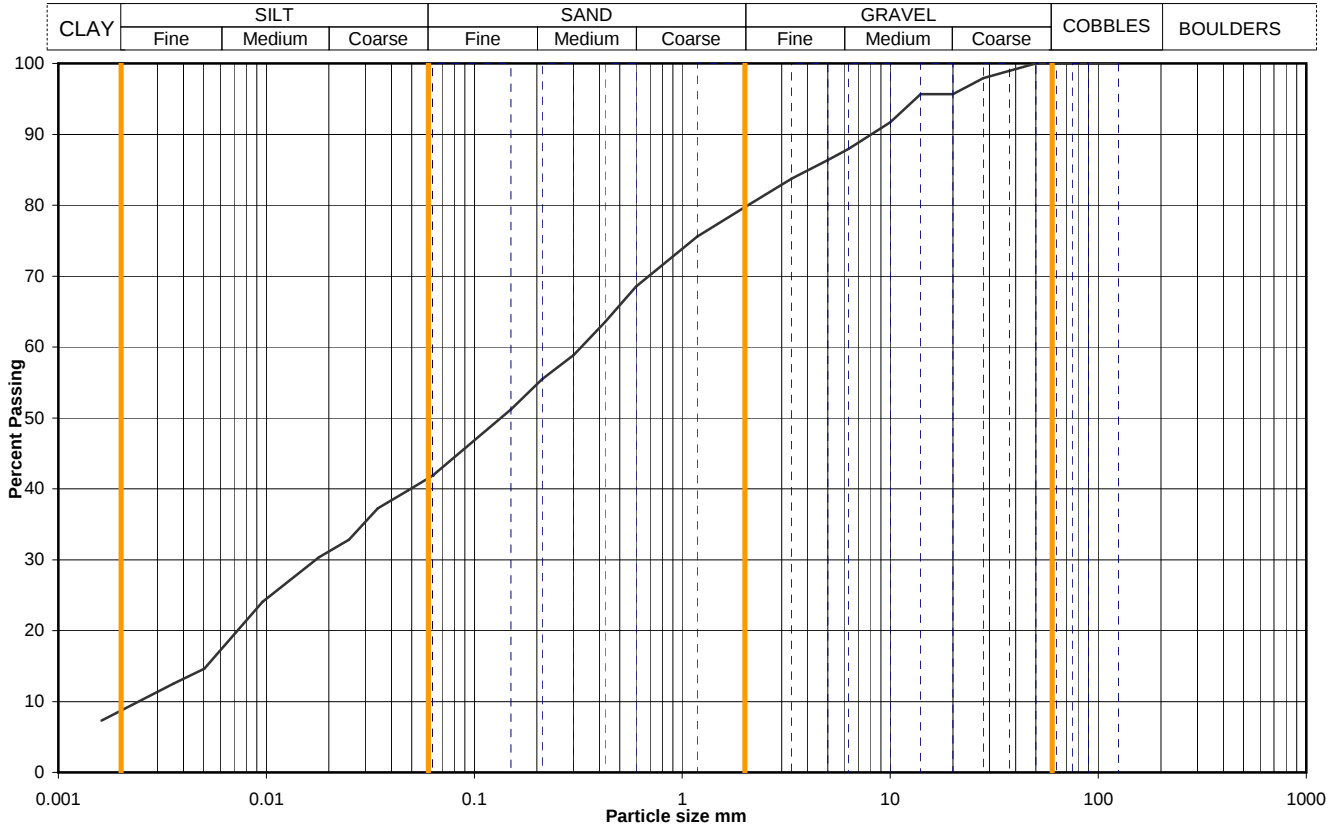
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Figure

PSD 30

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH204	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.55	
			Samp No	9	Type	B
			ID	ESGA0054-10201010140000000764		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	42
90	100	0.0478	40
75	100	0.0344	37
63	100	0.0250	33
50	100	0.0179	30
37.5	99	0.0096	24
28	98	0.0050	15
20	96	0.0036	13
14	96	0.0016	7
10	92		
6.3	88		
5.0	86		
3.35	84		
2.00	80		
1.18	76		
0.600	69	Particle density, Mg/m ³ 2.65 assumed	
0.425	64		
0.300	59	Dry mass of sample, kg 15.8	
0.212	55		
0.150	51		
0.063	42		

Soil description	Dark brownish grey slightly gravelly sandy silty CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	20	20
	Silt	38	38
	Clay	33	33
		9	9

Uniformity Coefficient	D_{60} / D_{10}	134
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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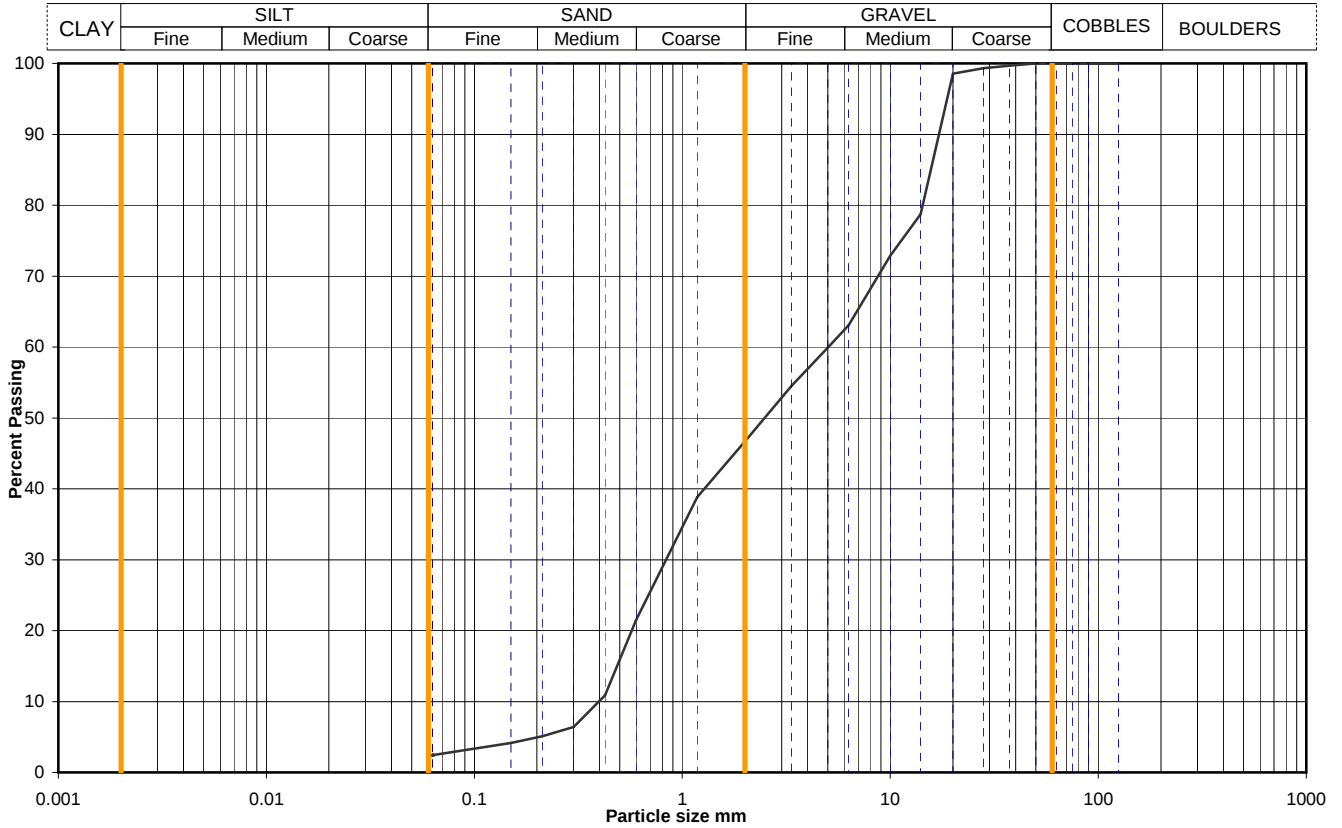
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Figure

PSD 31

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH204	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.50	
			Samp No	12	Type	B
			ID	ESGA0054-10201010140000000767		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	99		
20	99		
14	79		
10	73		
6.3	63		
5.0	60		
3.35	55		
2.00	47		
1.18	39		
0.600	21		
0.425	11		
0.300	6		
0.212	5		
0.150	4		
0.063	2		

Dry mass of sample, kg		158.1	

Soil description	Brown very sandy GRAVEL.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders Gravel Sand Silt Clay	Whole	* <60mm
		0	0
		53	53
		44	44
		silt+clay =	
		3	3

Uniformity Coefficient	D_{60} / D_{10}	13
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

QA Ref

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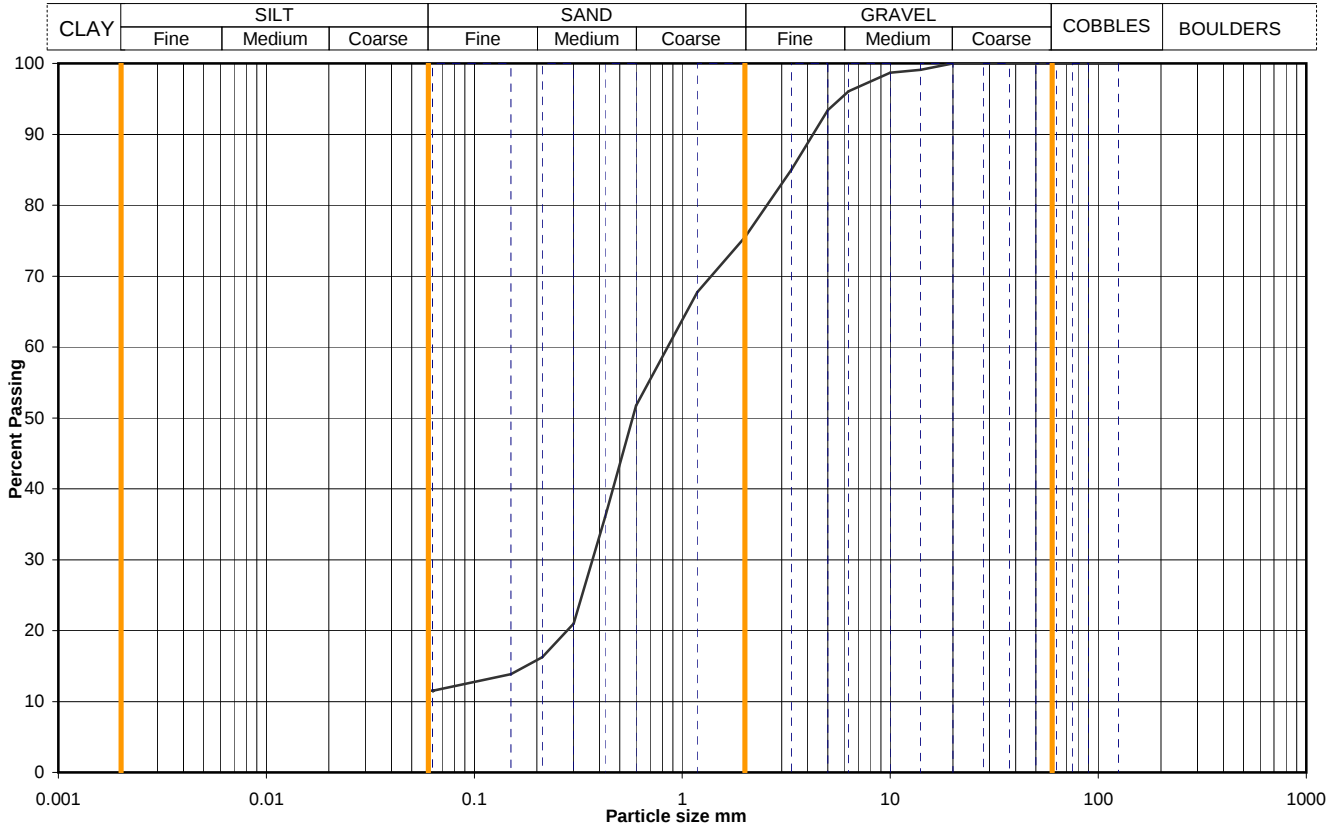
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Figure

PSD 32

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH301	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.50	
			Samp No	13	Type	B
			ID	ESGA0054-10201010140000000786		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	96		
5.0	93		
3.35	85		
2.00	76		
1.18	68		
0.600	52		
0.425	36		
0.300	21		
0.212	16		
0.150	14		
0.063	11		

Soil description	Dark brown silty very gravelly SAND.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	0	0
	Sand	24	24
	Silt	64	64
	Clay	silt+clay =	

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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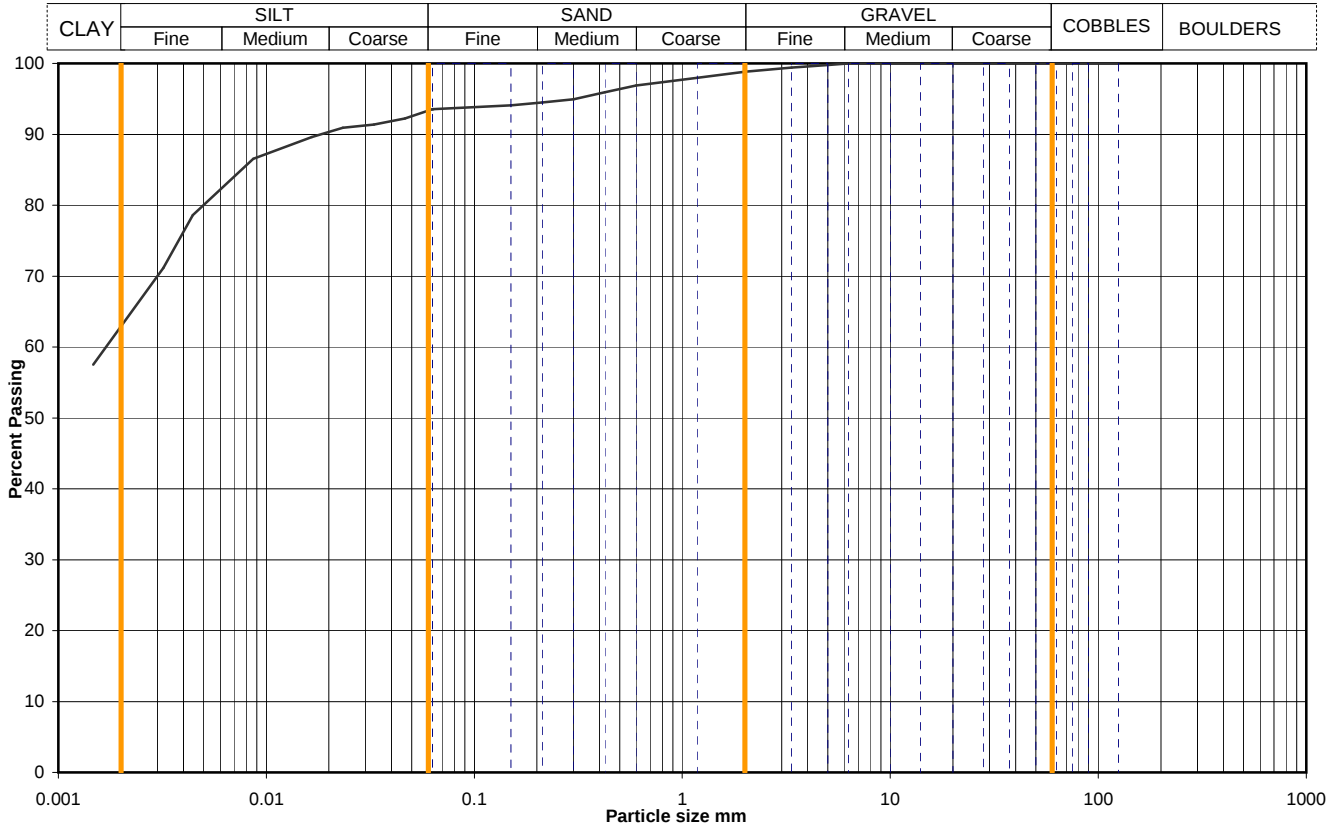


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Figure
PSD 33

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH301	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		5.50	
			Samp No	19	Type	B
			ID	ESGA0054-10201010140000000792		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	94
90	100	0.0464	92
75	100	0.0329	91
63	100	0.0233	91
50	100	0.0166	90
37.5	100	0.0086	87
28	100	0.0044	79
20	100	0.0032	71
14	100	0.0015	58
10	100		
6.3	100		
5.0	100		
3.35	99		
2.00	99		
1.18	98	Particle density, Mg/m ³ 2.65 assumed	
0.600	97		
0.425	96	Dry mass of sample, kg 5.3	
0.300	95		
0.212	95		
0.150	94		
0.063	94		

Soil description	Brown slightly gravelly slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	1	1
	Silt	5	5
	Clay	31	31
		63	63

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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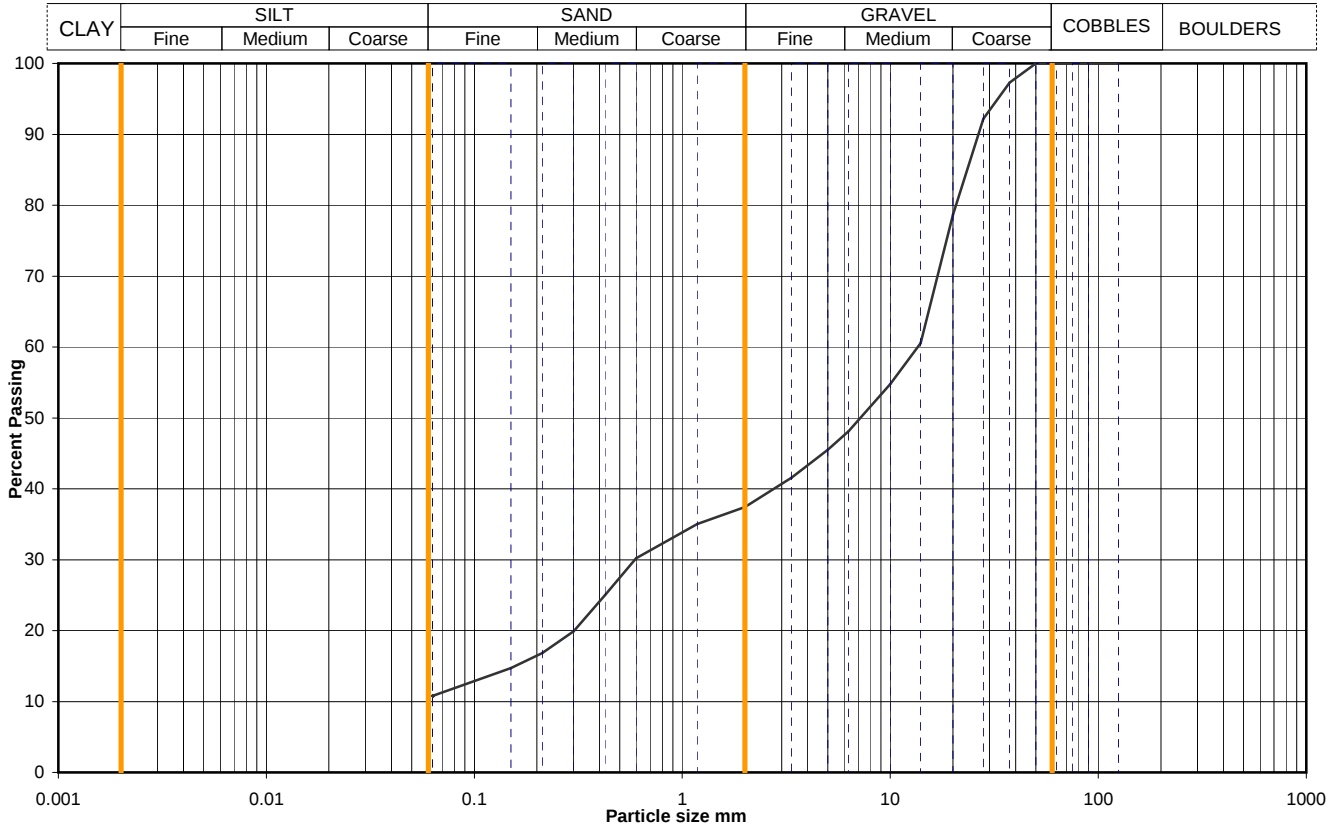
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Figure

PSD 34

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH301	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		7.00	
			Samp No	21	Type	B
			ID	ESGA0054-10201010140000000795		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	97		
28	92		
20	79		
14	61		
10	55		
6.3	48		
5.0	45		
3.35	42		
2.00	37		
1.18	35		
0.600	30		
0.425	25		
0.300	20		
0.212	17		
0.150	15		
0.063	11		

Dry mass of sample, kg 8.8	

Soil description	Greyish brown clayey very sandy GRAVEL.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	63	63
	Silt	27	27
	Clay	silt+clay = 10	10

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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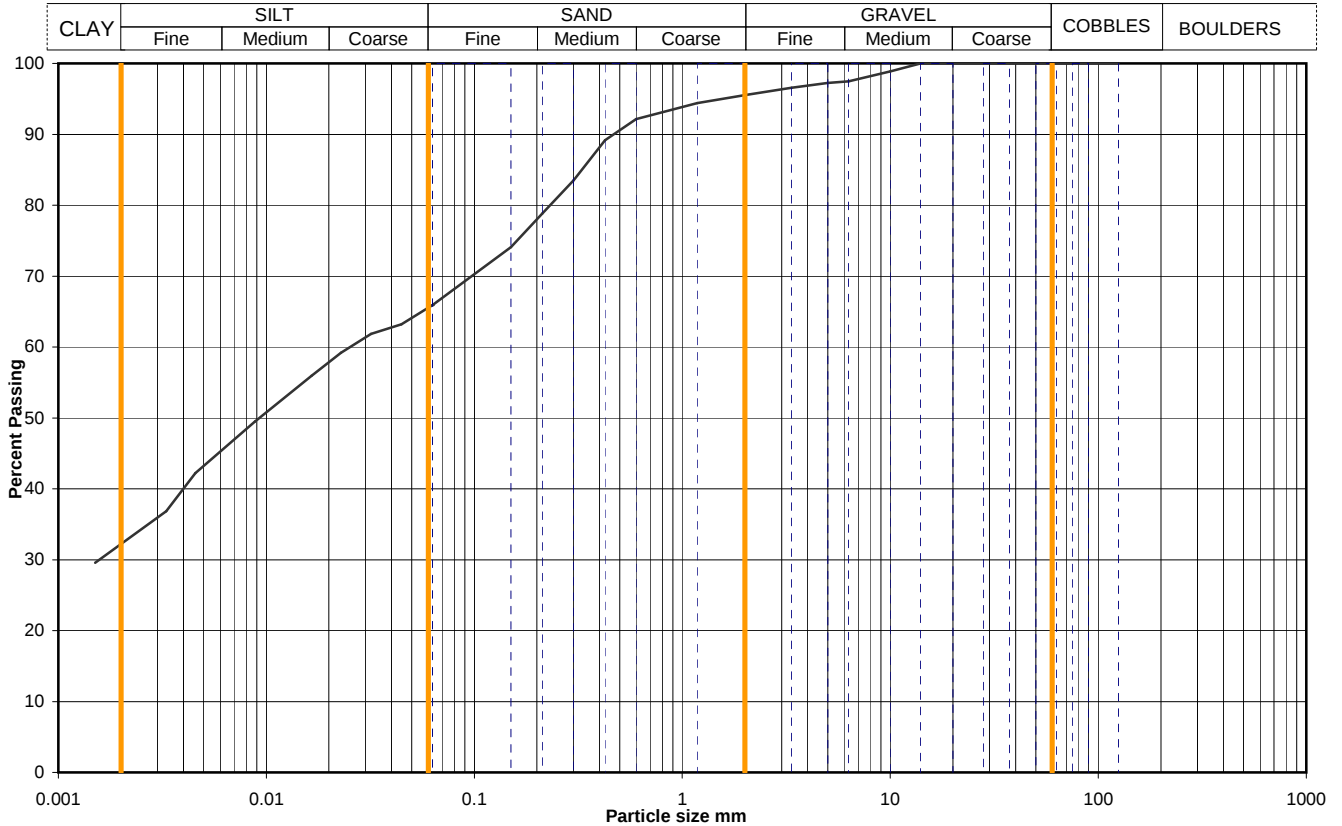


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Figure
PSD 35

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH302	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.50	
			Samp No	13	Type	B
			ID	ESGA0054-10201010010000000236		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	66
90	100	0.0447	63
75	100	0.0319	62
63	100	0.0229	59
50	100	0.0165	56
37.5	100	0.0088	49
28	100	0.0046	42
20	100	0.0033	37
14	100	0.0015	30
10	99		
6.3	97		
5.0	97		
3.35	97		
2.00	96		
1.18	94		
0.600	92	Particle density, Mg/m ³ 2.65 assumed	
0.425	89		
0.300	84	Dry mass of sample, kg 7.6	
0.212	79		
0.150	74		
0.063	66		

Soil description	Brownish grey slightly gravelly slightly sandy CLAY with occasional decaying wood fragments.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	4	4
	Silt	30	30
	Clay	34	34
		32	32

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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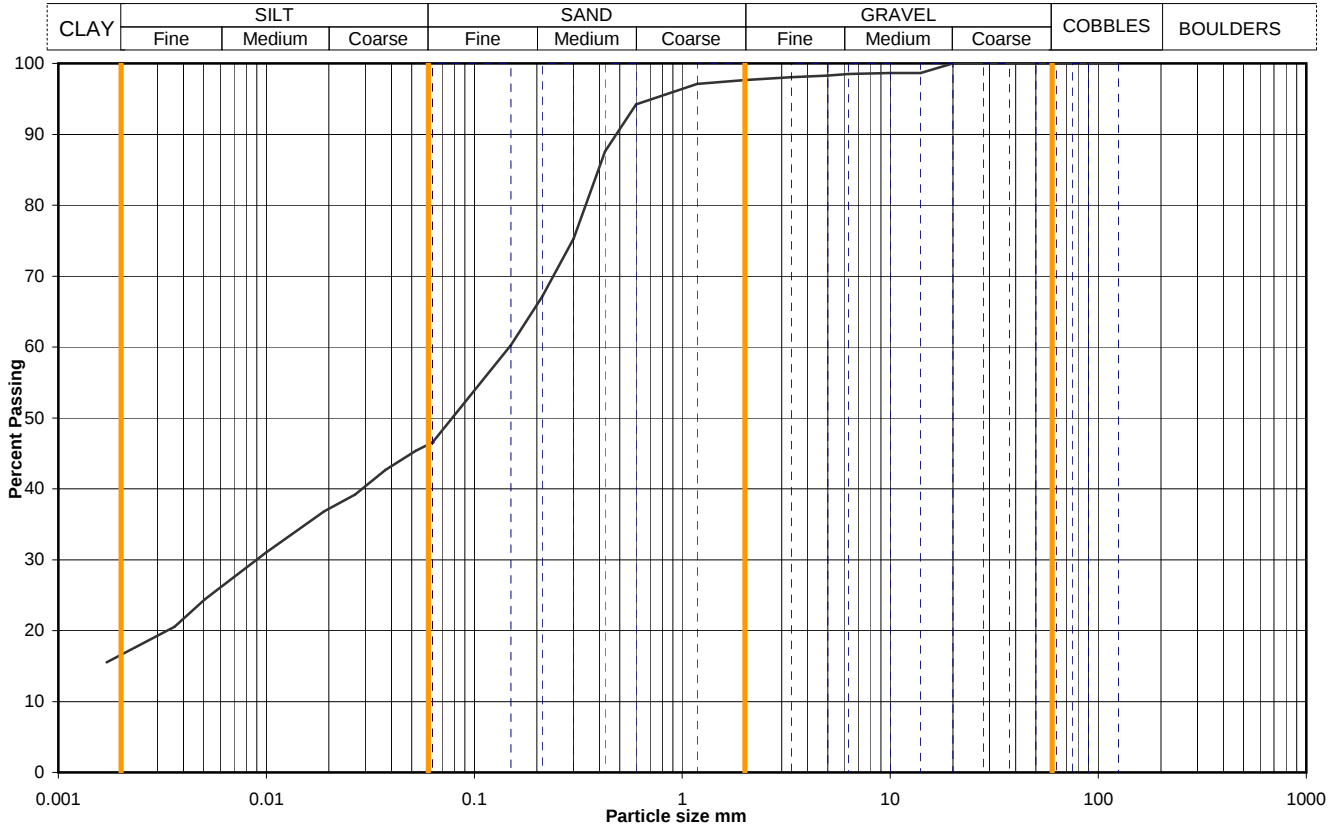
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Figure

PSD 36

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH302	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		4.50	
			Samp No	16	Type	B
			ID	ESGA0054-10201010010000000238		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	47
90	100	0.0524	45
75	100	0.0374	43
63	100	0.0267	39
50	100	0.0190	37
37.5	100	0.0100	31
28	100	0.0051	24
20	100	0.0036	21
14	99	0.0017	16
10	99		
6.3	99		
5.0	98		
3.35	98		
2.00	98		
1.18	97	Particle density, Mg/m ³ 2.65 assumed	
0.600	94		
0.425	88	Dry mass of sample, kg 3.9	
0.300	75		
0.212	67		
0.150	60		
0.063	47		

Soil description	Greyish brown slightly gravelly sandy CLAY with pocket of peat.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	2	2
	Silt	51	51
	Clay	30	30
		17	17

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
------------------------	-------------------	----------------

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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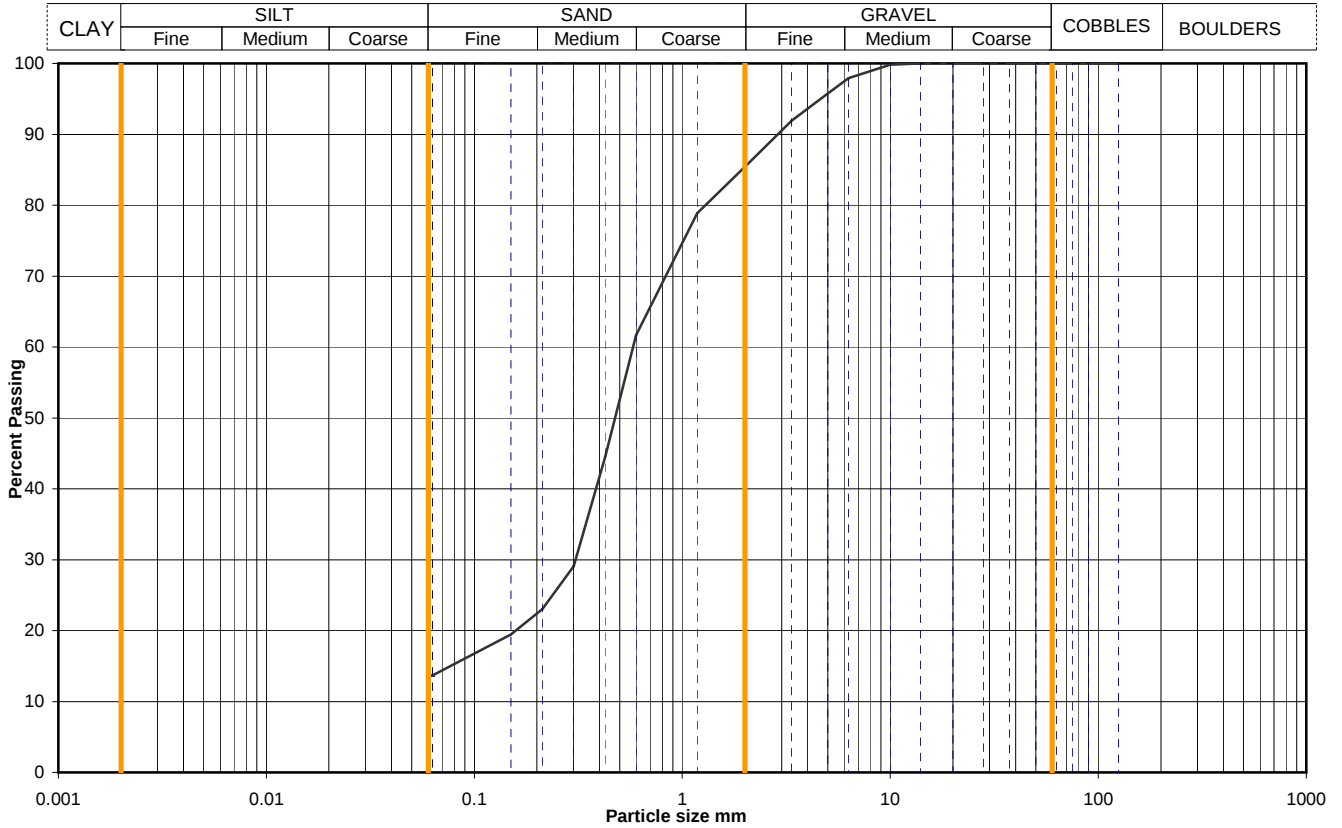
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Figure

PSD 37

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH302	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		5.50	
			Samp No	20	Type	B
			ID	ESGA0054-10201010010000000242		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	98		
5.0	96		
3.35	92		
2.00	85		
1.18	79		
0.600	62		
0.425	44		
0.300	29		
0.212	23		
0.150	19		
0.063	14		

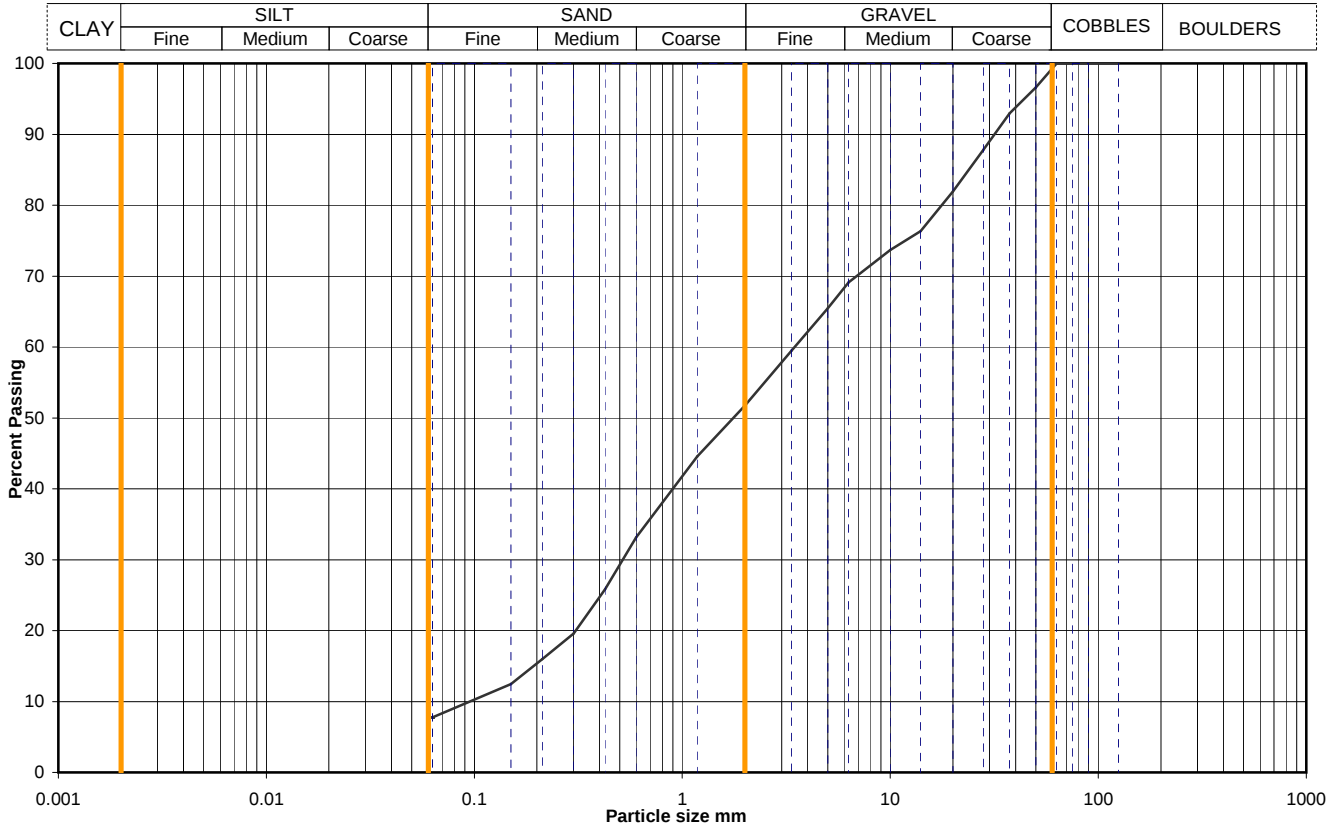
Soil description	Brownish grey clayey gravelly SAND.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	0	0
	Sand	15	15
	Silt	72	72
	Clay	silt+clay =	

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
------------------------	-------------------	----------------

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH302	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		7.00	
			Samp No	22	Type	B
			ID	ESGA0054-10201010010000000244		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	97		
37.5	93		
28	88		
20	82		
14	76		
10	74		
6.3	69		
5.0	65		
3.35	60		
2.00	52		
1.18	45		
0.600	33		
0.425	26		
0.300	20		
0.212	16		
0.150	12		
0.063	8		

Dry mass of sample, kg 17.2	

Soil description	Brown slightly clayey very sandy GRAVEL.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders Gravel Sand Silt Clay	Whole	* <60mm
		1	0
		47	47
		44	44
		silt+clay =	
		8	8

Uniformity Coefficient	D_{60} / D_{10}	36
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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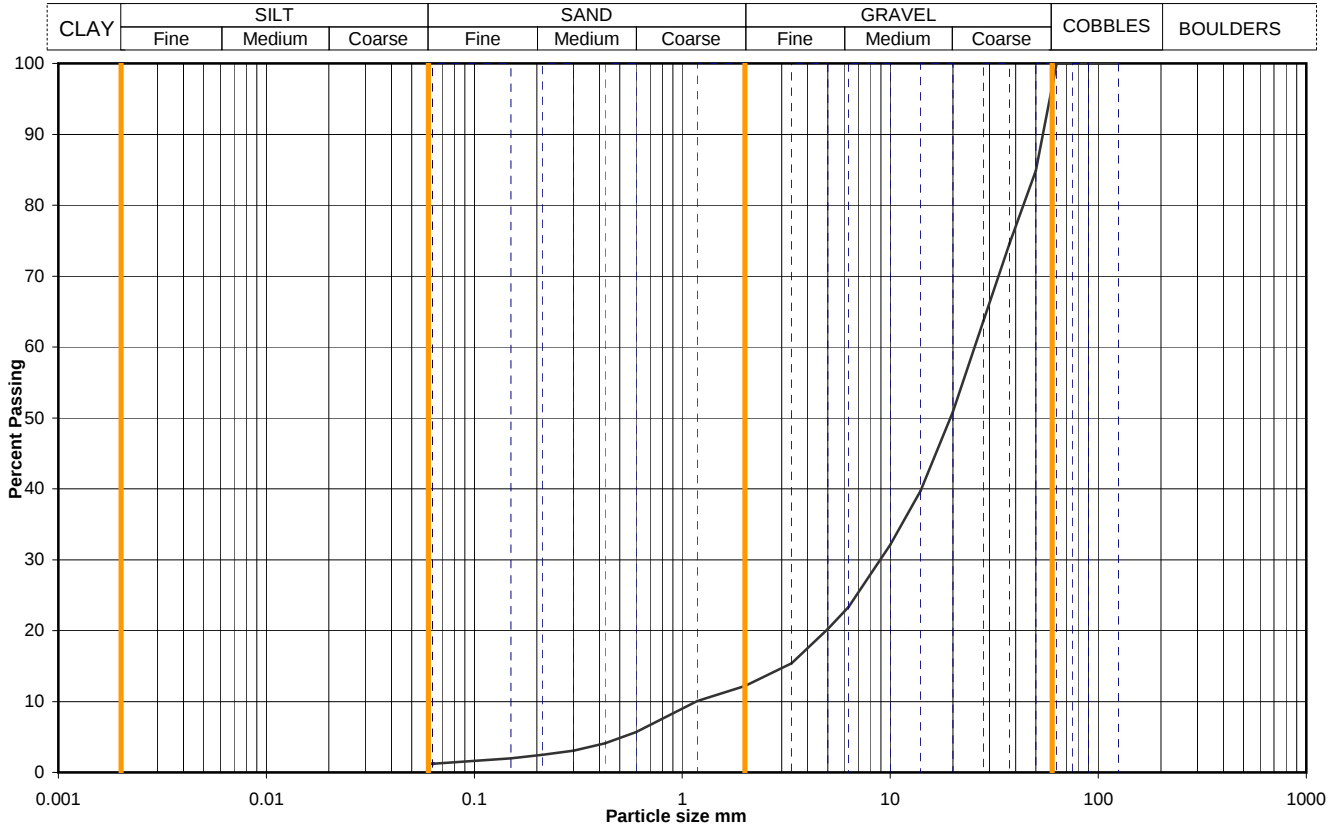


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Figure
PSD 39

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH302	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		8.00	
			Samp No	24	Type	B
			ID	ESGA0054-10201010010000000246		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	85		
37.5	75		
28	64		
20	51		
14	40		
10	32		
6.3	23		
5.0	20		
3.35	15		
2.00	12		
1.18	10		
0.600	6		
0.425	4		
0.300	3		
0.212	2		
0.150	2		
0.063	1		

Dry mass of sample, kg 12.2	

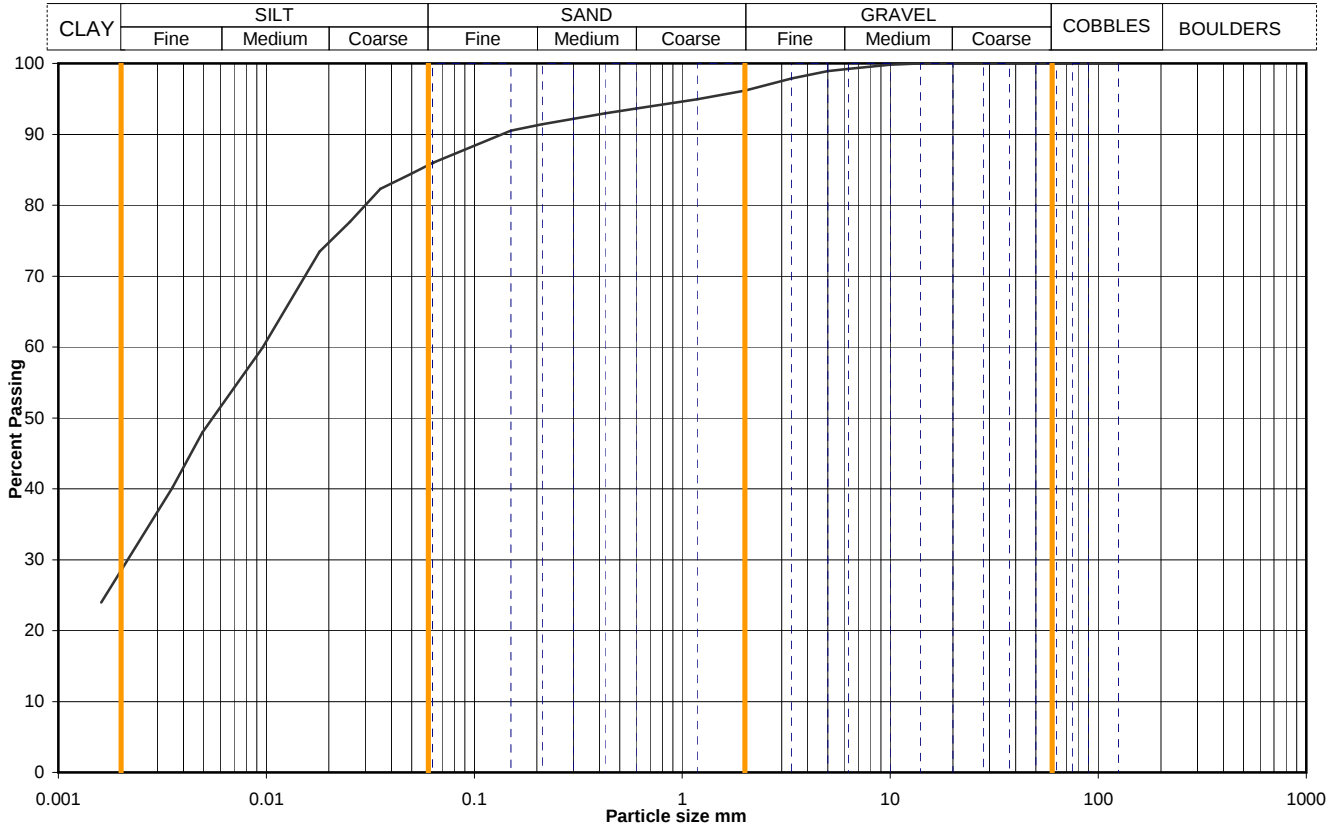
Soil description	Light brown sandy GRAVEL.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders Gravel Sand Silt Clay	Whole	* <60mm
		3	0
		85	88
		11	11
		silt+clay =	
		1	1

Uniformity Coefficient	D₆₀ / D₁₀	22
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH303	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		5.50	
			Samp No	20	Type	B
			ID	ESGA0054-10201010010000000269		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	86
90	100	0.0496	84
75	100	0.0353	82
63	100	0.0252	78
50	100	0.0180	73
37.5	100	0.0096	60
28	100	0.0049	48
20	100	0.0035	40
14	100	0.0016	24
10	100		
6.3	99		
5.0	99		
3.35	98		
2.00	96		
1.18	95		
0.600	94	Particle density, Mg/m3	
0.425	93	2.65 assumed	
0.300	92	Dry mass of sample, kg	
0.212	91	7.6	
0.150	91		
0.063	86		

Soil description	Dark brownish grey slightly gravelly slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	4	4
	Silt	10	10
	Clay	57	57
		29	29

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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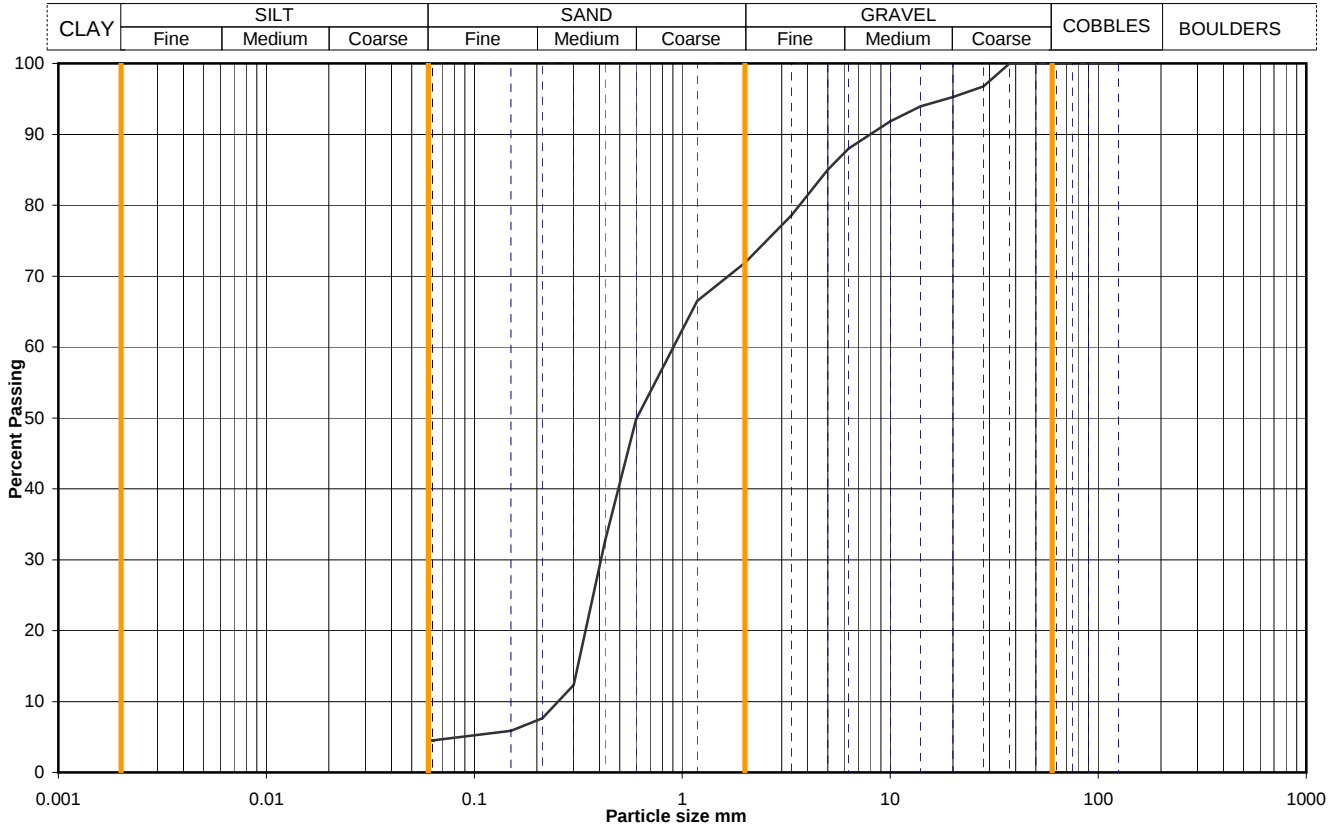
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Figure

PSD 41

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH303	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		8.00	
			Samp No	29	Type	B
			ID	ESGA0054-10201010010000000276		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	97		
20	95		
14	94		
10	92		
6.3	88		
5.0	85		
3.35	79		
2.00	72		
1.18	66		
0.600	50		
0.425	33		
0.300	12		
0.212	8		
0.150	6		
0.063	4		

Soil description	Brownish grey clayey very gravelly SAND.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	0	0
	Sand	28	28
	Silt	67	67
	Clay	silt+clay =	

Uniformity Coefficient	D_{60} / D_{10}	4
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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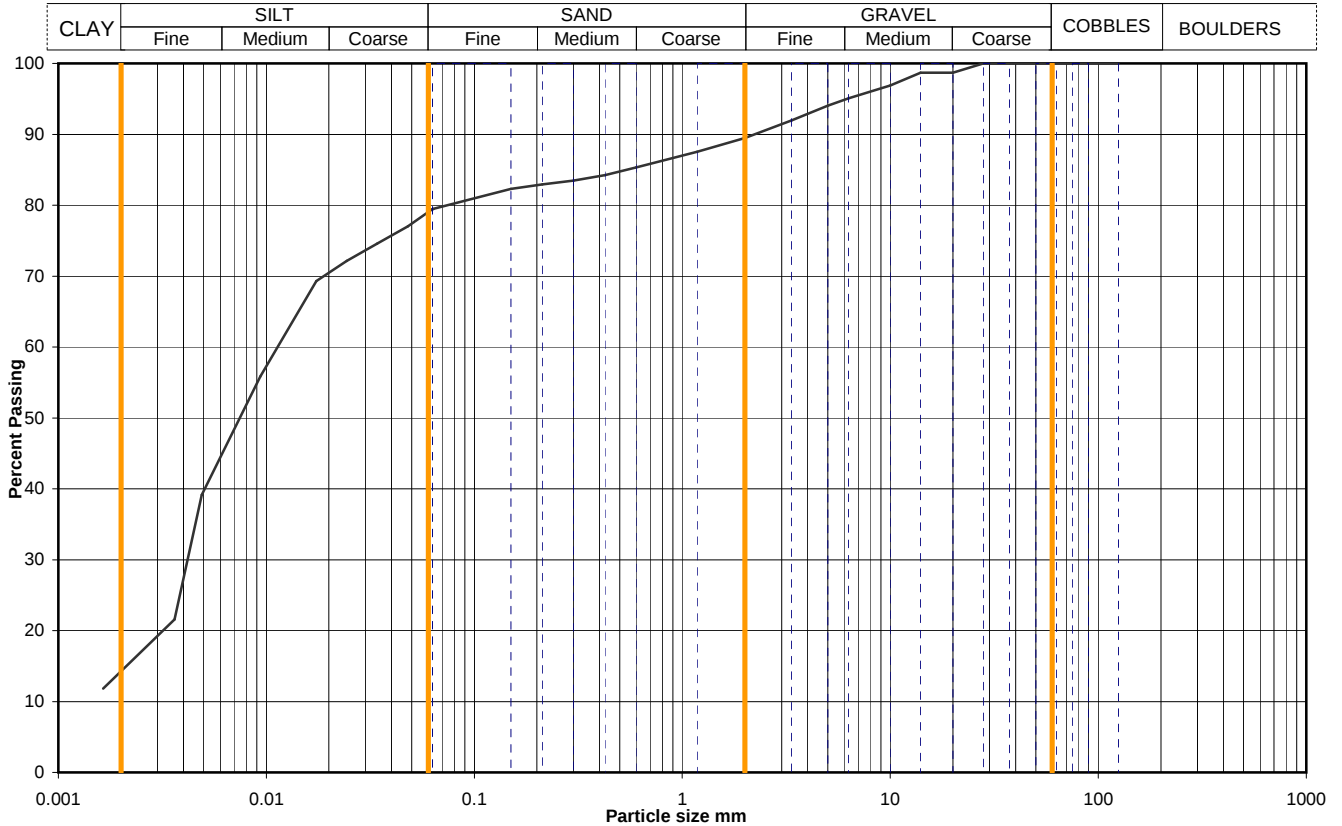


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Figure
PSD 42

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH303	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		9.10	
			Samp No	31	Type	B
			ID	ESGA0054-10201010010000000278		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	79
90	100	0.0479	77
75	100	0.0341	75
63	100	0.0243	72
50	100	0.0174	69
37.5	100	0.0093	56
28	100	0.0049	39
20	99	0.0036	22
14	99	0.0016	12
10	97		
6.3	95		
5.0	94		
3.35	92		
2.00	90		
1.18	88		
0.600	85	Particle density, Mg/m ³	
0.425	84	2.65 assumed	
0.300	83	Dry mass of sample, kg	
0.212	83	4.0	
0.150	82		
0.063	79		

Soil description	Pink mottled light brown slightly sandy slightly gravelly CLAY. Gravel contains mudstone.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	10	10
	Silt	10	10
	Clay	65	65
		15	15

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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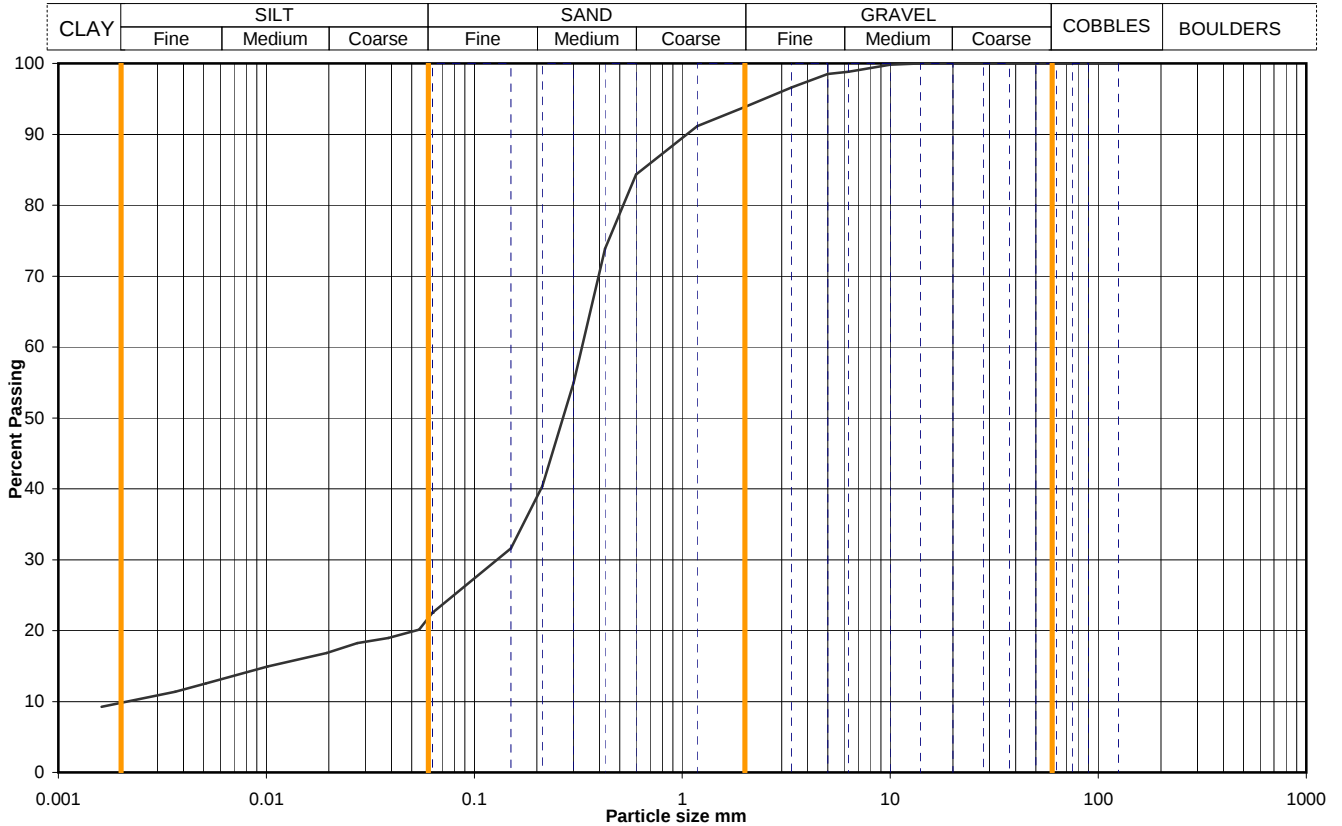
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Figure

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Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH401	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.65	
			Samp No	7	Type	B
			ID	ESGA0054-10201010140000000809		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	23
90	100	0.0543	20
75	100	0.0386	19
63	100	0.0274	18
50	100	0.0195	17
37.5	100	0.0101	15
28	100	0.0051	13
20	100	0.0036	11
14	100	0.0016	9
10	100		
6.3	99		
5.0	99		
3.35	97		
2.00	94		
1.18	91		
0.600	84	Particle density, Mg/m3	
0.425	74	2.65 assumed	
0.300	55	Dry mass of sample, kg	
0.212	40	4.7	
0.150	32		
0.063	23		

Soil description	Brown gravelly SAND with pockets of clay.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	6	6
	Silt	72	72
	Clay	12	12
		10	10

Uniformity Coefficient	D_{60} / D_{10}	153
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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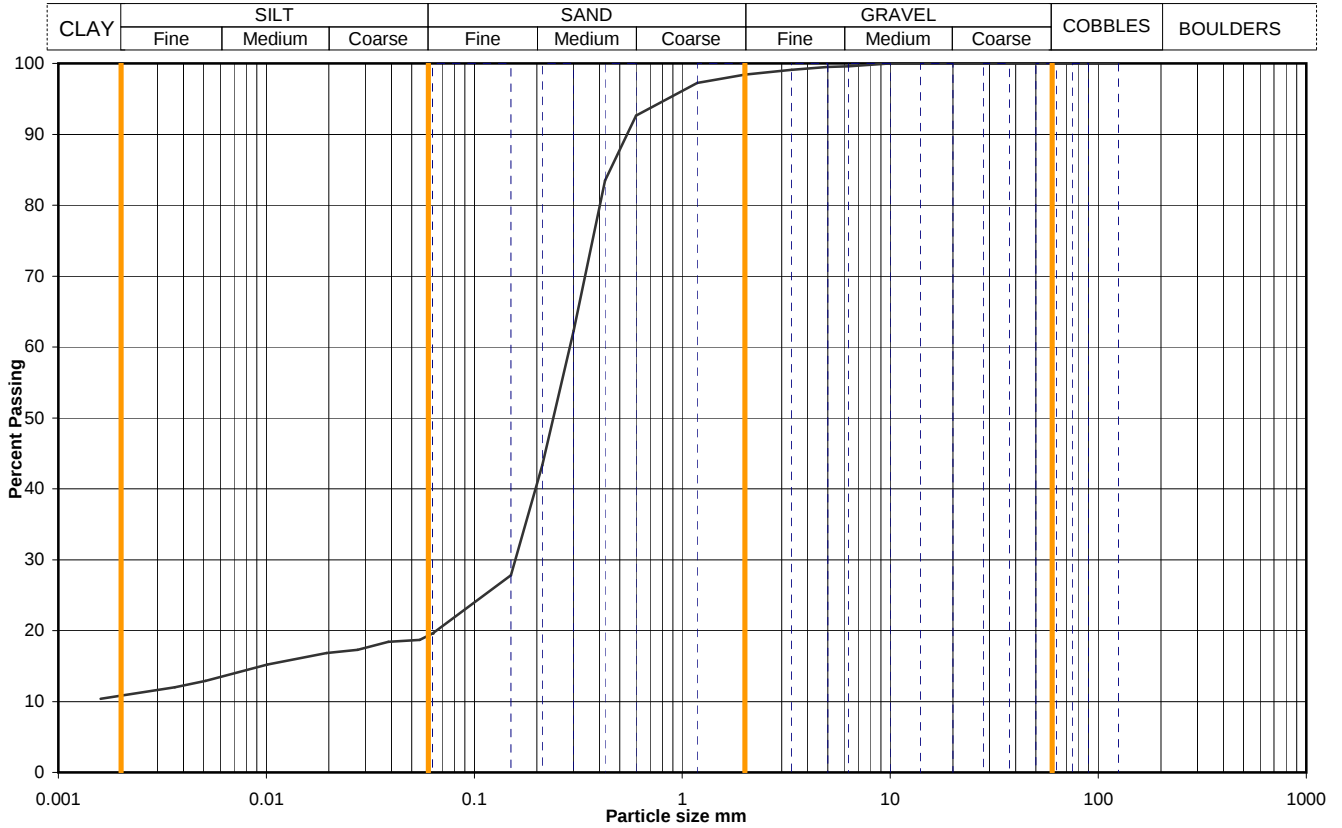
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Figure

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Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH401	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.50	
			Samp No	12	Type	B
			ID	ESGA0054-10201010140000000814		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	20
90	100	0.0545	19
75	100	0.0386	18
63	100	0.0274	17
50	100	0.0194	17
37.5	100	0.0101	15
28	100	0.0051	13
20	100	0.0036	12
14	100	0.0016	10
10	100		
6.3	100		
5.0	100		
3.35	99		
2.00	98		
1.18	97		
0.600	93	Particle density, Mg/m ³ 2.65 assumed	
0.425	83		
0.300	62	Dry mass of sample, kg 10.9	
0.212	43		
0.150	28		
0.063	20		

Soil description	Dark brown slightly gravelly very sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	2	2
	Silt	79	79
	Clay	8	8
		11	11

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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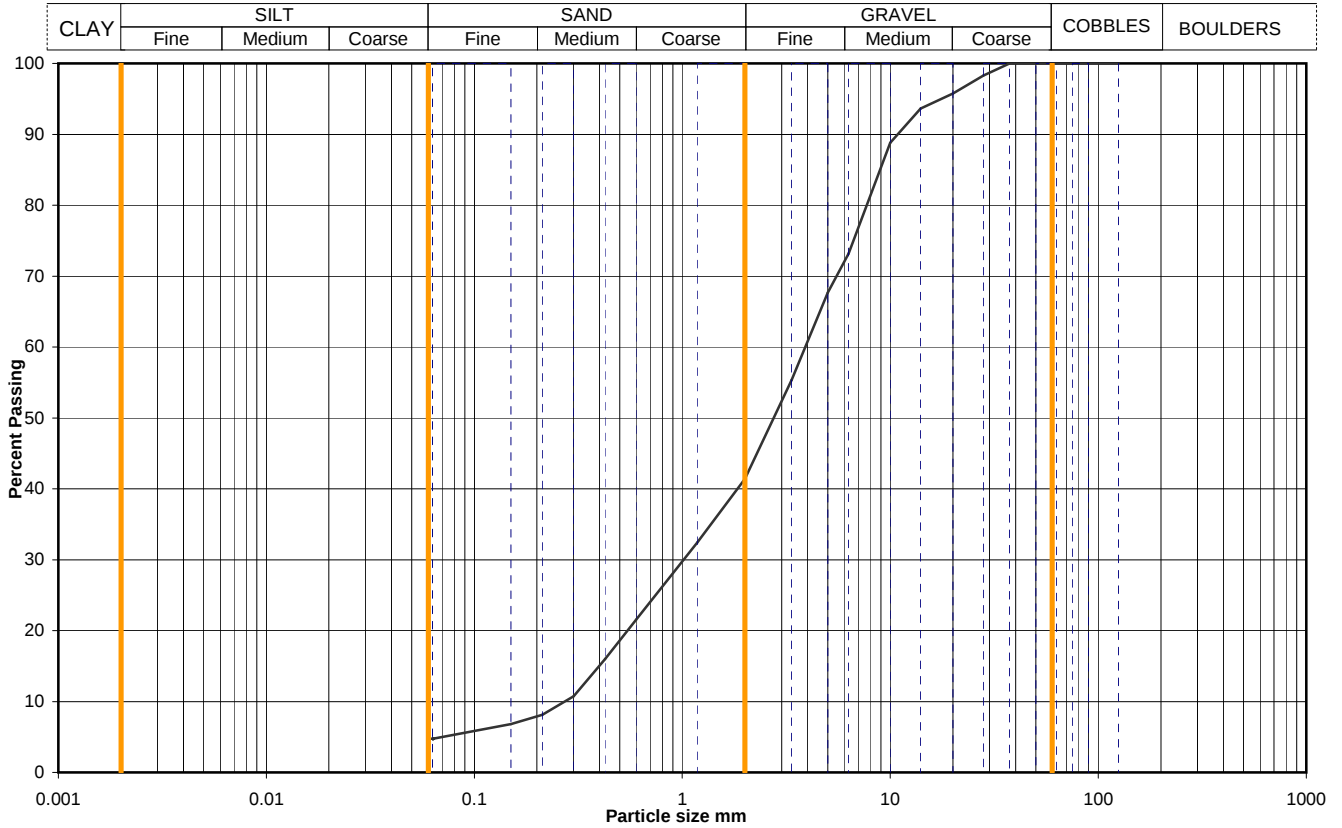
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Figure

PSD 45

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH401	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		7.00	
			Samp No	18	Type	B
			ID	ESGA0054-10201010140000000821		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	98		
20	96		
14	94		
10	89		
6.3	73		
5.0	68		
3.35	55		
2.00	41		
1.18	32		
0.600	22		
0.425	16		
0.300	11		
0.212	8		
0.150	7		
0.063	5		

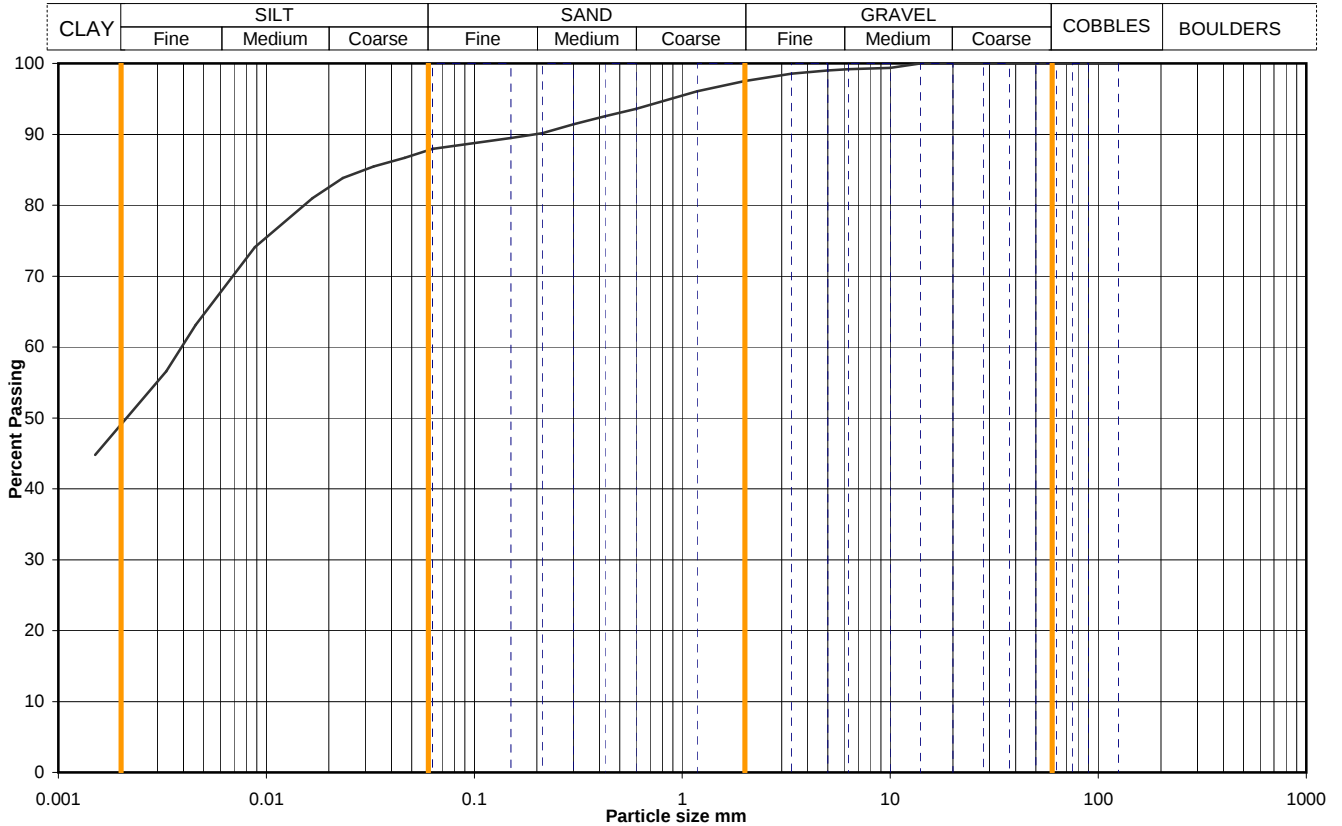
Soil description	Brown slightly clayey very sandy GRAVEL.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	59	59
	Silt	37	37
	Clay	silt+clay =	

Uniformity Coefficient	D_{60} / D_{10}	14
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH402		
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.50		
			Samp No	13	Type	B	
			ID	ESGA0054-10201010080000000393			
			Spec Ref				



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	88
90	100	0.0462	87
75	100	0.0328	85
63	100	0.0234	84
50	100	0.0167	81
37.5	100	0.0088	74
28	100	0.0046	63
20	100	0.0033	57
14	100	0.0015	45
10	99		
6.3	99		
5.0	99		
3.35	99		
2.00	98		
1.18	96		
0.600	94	Particle density, Mg/m ³ 2.65 assumed	
0.425	93		
0.300	91	Dry mass of sample, kg 7.5	
0.212	90		
0.150	90		
0.063	88		

Soil description	Greyish brown slightly gravelly slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	0	0
	Sand	2	2
	Silt	10	10
	Clay	39	39

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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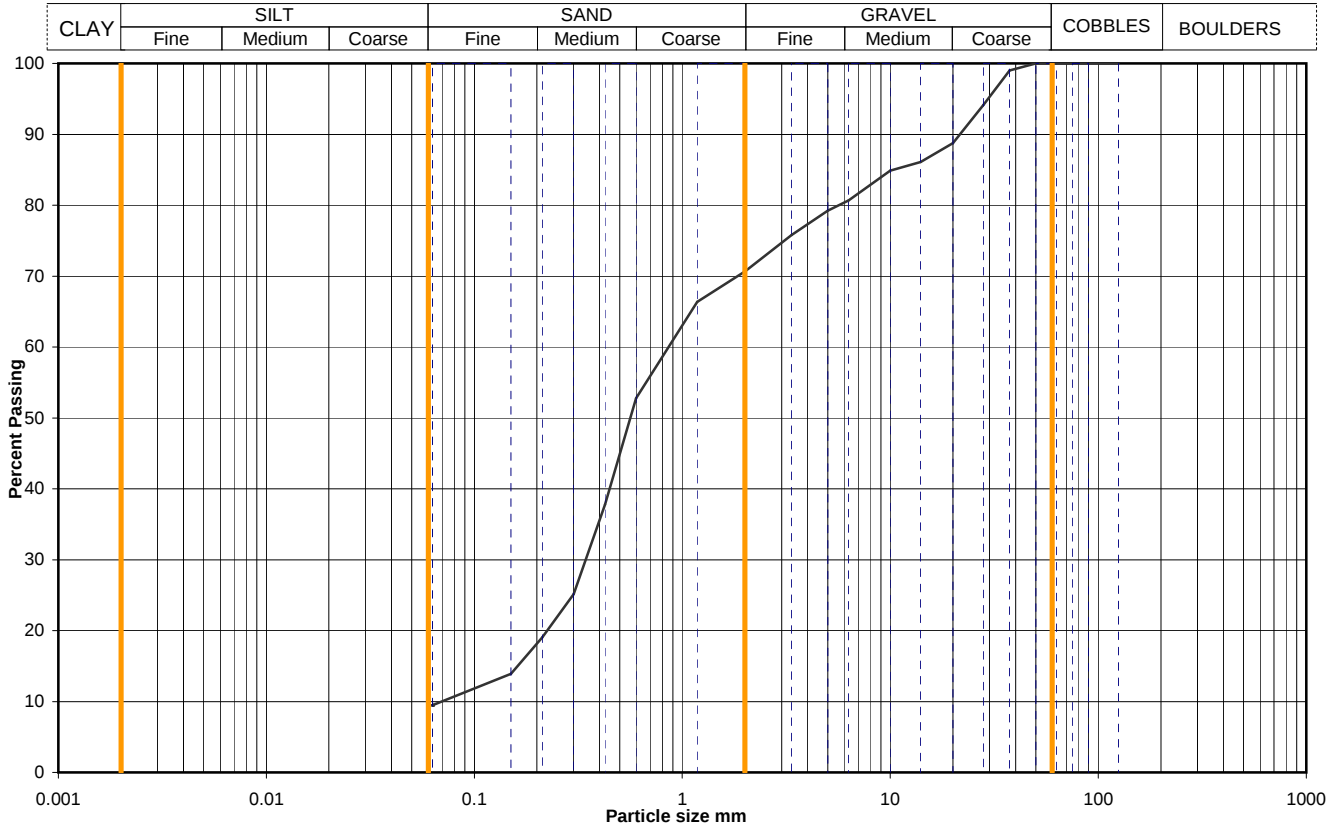
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Figure

PSD 47

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH402	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		5.30	
			Samp No	19	Type	B
			ID	ESGA0054-10201010080000000399		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	99		
28	94		
20	89		
14	86		
10	85		
6.3	81		
5.0	79		
3.35	76		
2.00	71		
1.18	66		
0.600	53		
0.425	38		
0.300	25		
0.212	19		
0.150	14		
0.063	9		

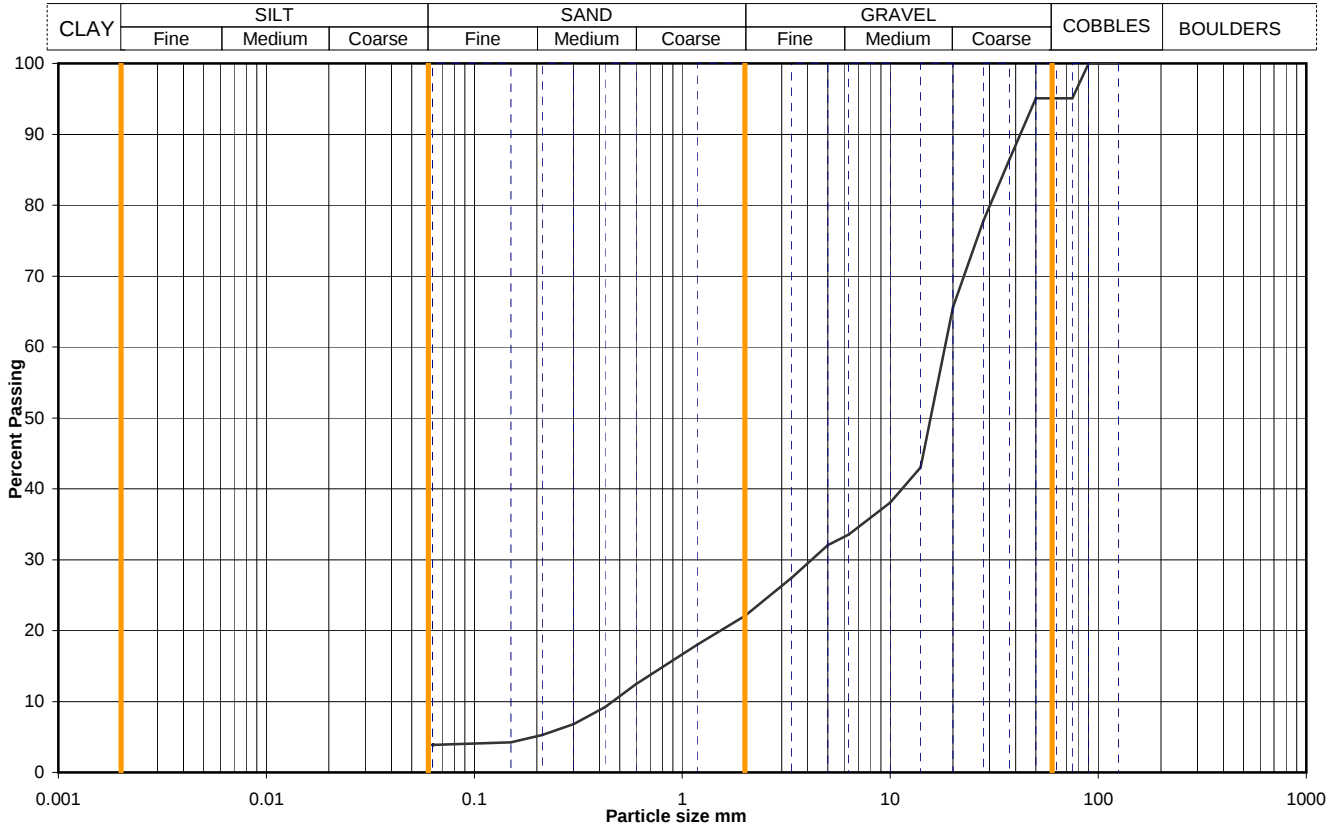
Soil description	Brown clayey very gravelly SAND.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	0	0
	Sand	29	29
	Silt	61	61
	Clay	silt+clay =	
		10	10

Uniformity Coefficient	D_{60} / D_{10}	12
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH402	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		8.00	
			Samp No	23	Type	B
			ID	ESGA0054-10201010080000000403		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	95		
63	95		
50	95		
37.5	86		
28	78		
20	66		
14	43		
10	38		
6.3	34		
5.0	32		
3.35	27		
2.00	22		
1.18	18		
0.600	12		
0.425	9		
0.300	7		
0.212	5		
0.150	4		
0.063	4		

Dry mass of sample, kg		15.4	

Soil description	Brown sandy GRAVEL with one cobble.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders Gravel Sand Silt Clay	Whole	* <60mm
		5	0
		73	77
		18	19
		silt+clay =	
		4	4

Uniformity Coefficient	D_{60} / D_{10}	40
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.3 dry sieve
	Sedimentation	none

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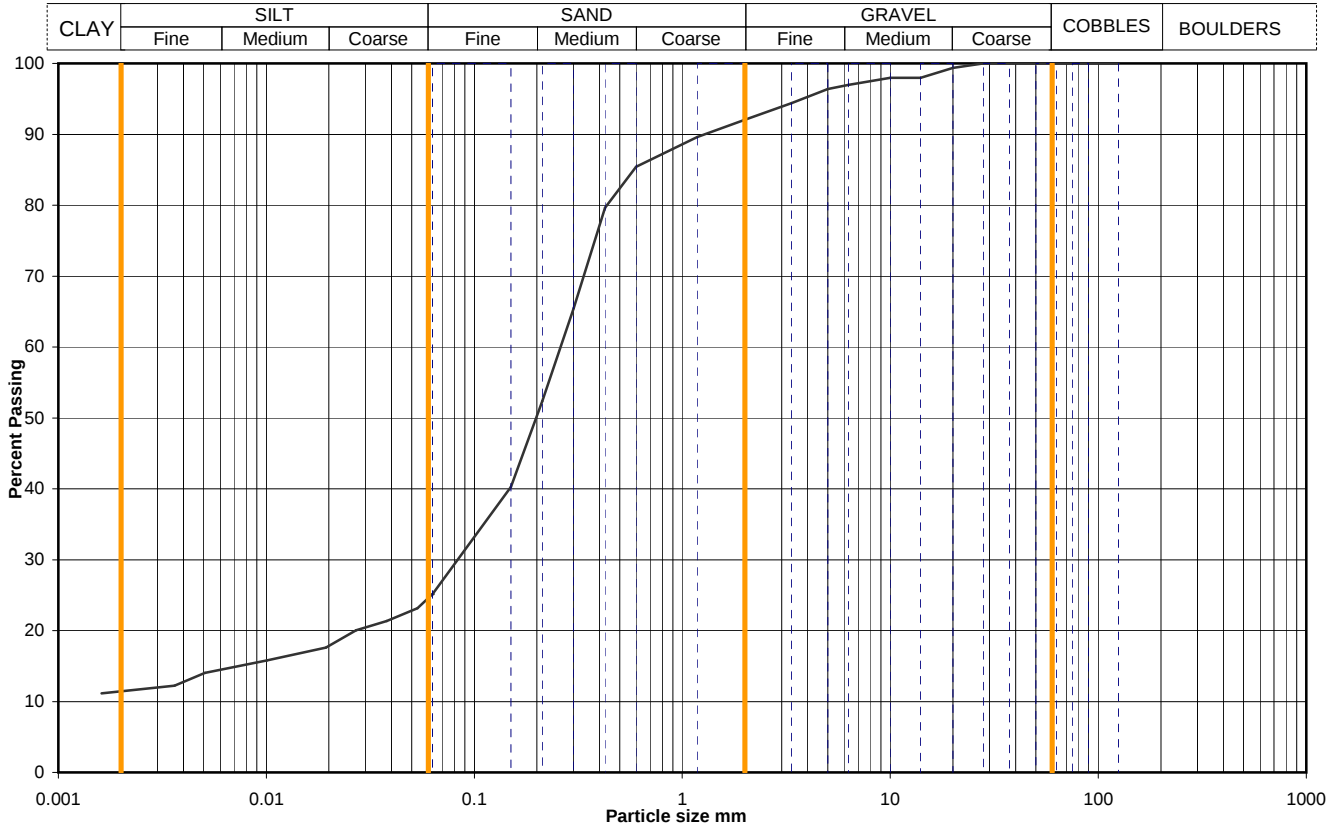


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Figure
PSD 49

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH403	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.65	
			Samp No	7	Type	B
			ID	ESGA0054-10201010010000000288		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	25
90	100	0.0532	23
75	100	0.0379	21
63	100	0.0270	20
50	100	0.0193	18
37.5	100	0.0101	16
28	100	0.0051	14
20	99	0.0036	12
14	98	0.0016	11
10	98		
6.3	97		
5.0	96		
3.35	94		
2.00	92		
1.18	90		
0.600	85	Particle density, Mg/m3	
0.425	80	2.65 assumed	
0.300	65	Dry mass of sample, kg	
0.212	52	11.5	
0.150	40		
0.063	25		

Soil description	Greyish brown slightly gravelly very sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	8	8
	Silt	67	67
	Clay	13	13

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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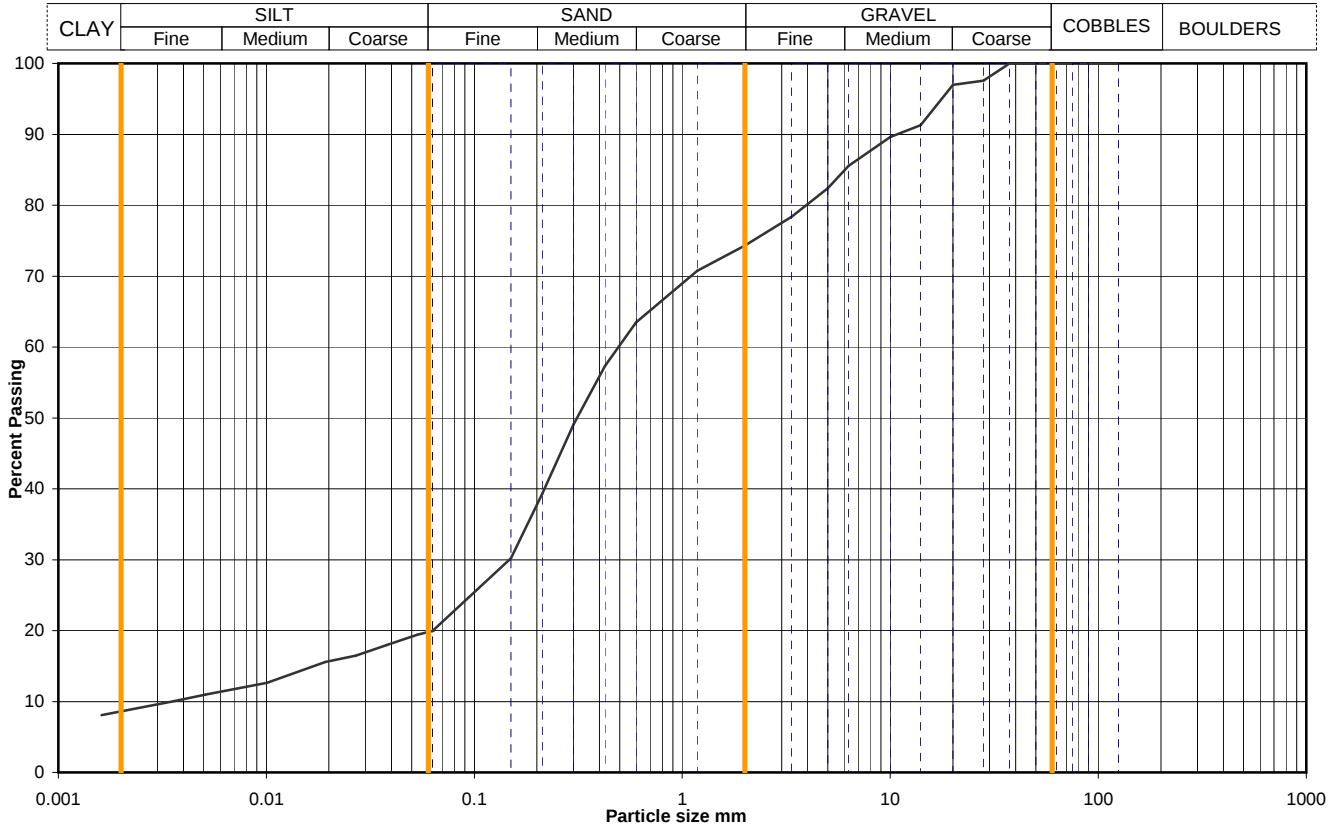
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Figure

PSD 50

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH403	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.50	
			Samp No	12	Type	B
			ID	ESGA0054-10201010010000000293		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	20
90	100	0.0531	19
75	100	0.0379	18
63	100	0.0270	16
50	100	0.0192	16
37.5	100	0.0101	13
28	98	0.0051	11
20	97	0.0036	10
14	91	0.0016	8
10	90		
6.3	86		
5.0	82		
3.35	78		
2.00	74		
1.18	71		
0.600	63	Particle density, Mg/m ³ 2.65 assumed	
0.425	57		
0.300	49	Dry mass of sample, kg 5.5	
0.212	39		
0.150	30		
0.063	20		

Soil description	Brownish grey slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	0	0
	Sand	26	26
	Silt	54	54
	Clay	11	11
		9	9

Uniformity Coefficient	D_{60} / D_{10}	141
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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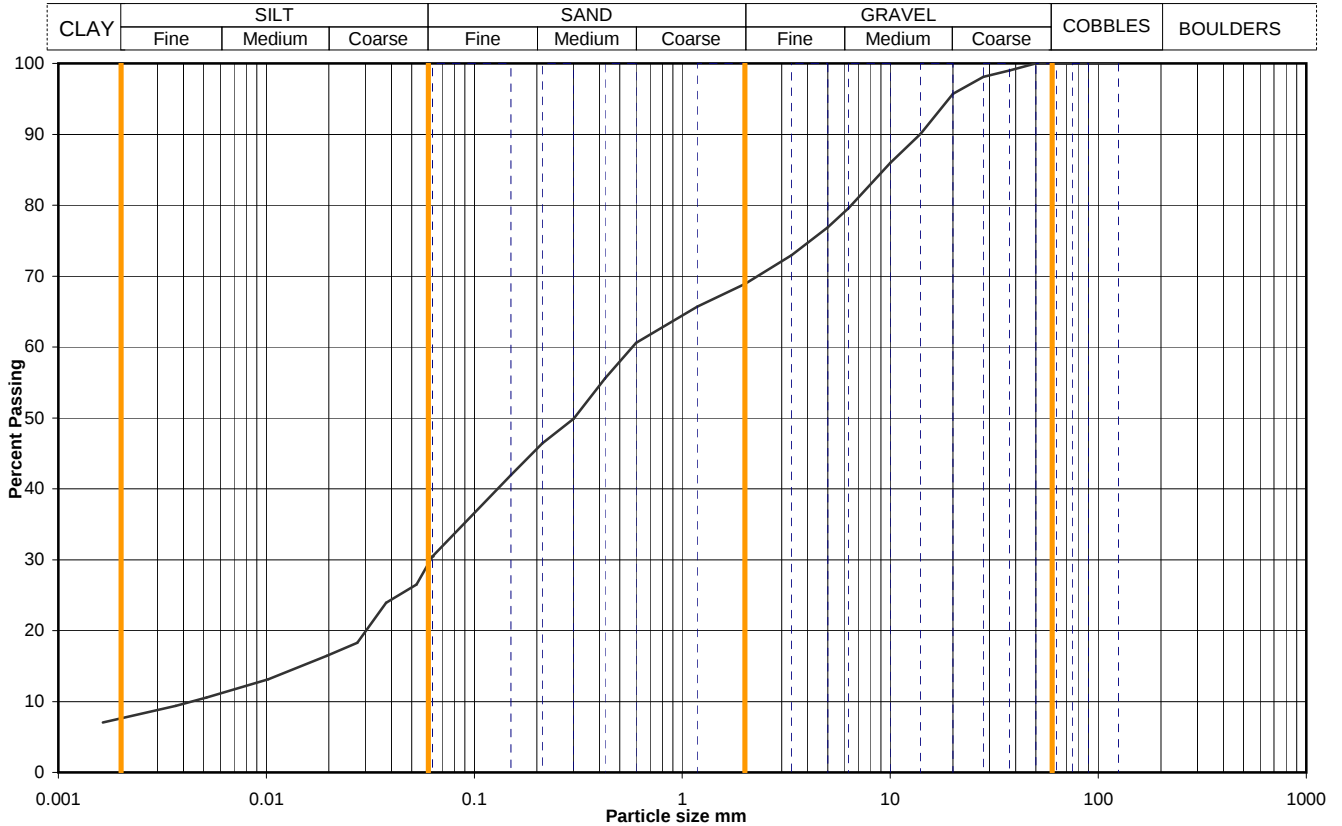
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Figure

PSD 51

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH403	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		7.00	
			Samp No	19	Type	B
			ID	ESGA0054-10201010010000000300		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	30
90	100	0.0527	26
75	100	0.0377	24
63	100	0.0274	18
50	100	0.0195	16
37.5	99	0.0102	13
28	98	0.0052	11
20	96	0.0037	9
14	90	0.0016	7
10	86		
6.3	80		
5.0	77		
3.35	73		
2.00	69		
1.18	66		
0.600	61	Particle density, Mg/m3	
0.425	56	2.65 assumed	
0.300	50	Dry mass of sample, kg	
0.212	46	12.5	
0.150	42		
0.063	30		

Soil description	Greyish brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	0	0
	Sand	31	31
	Silt	39	39
	Clay	22	22
		8	8

Uniformity Coefficient	D_{60} / D_{10}	131
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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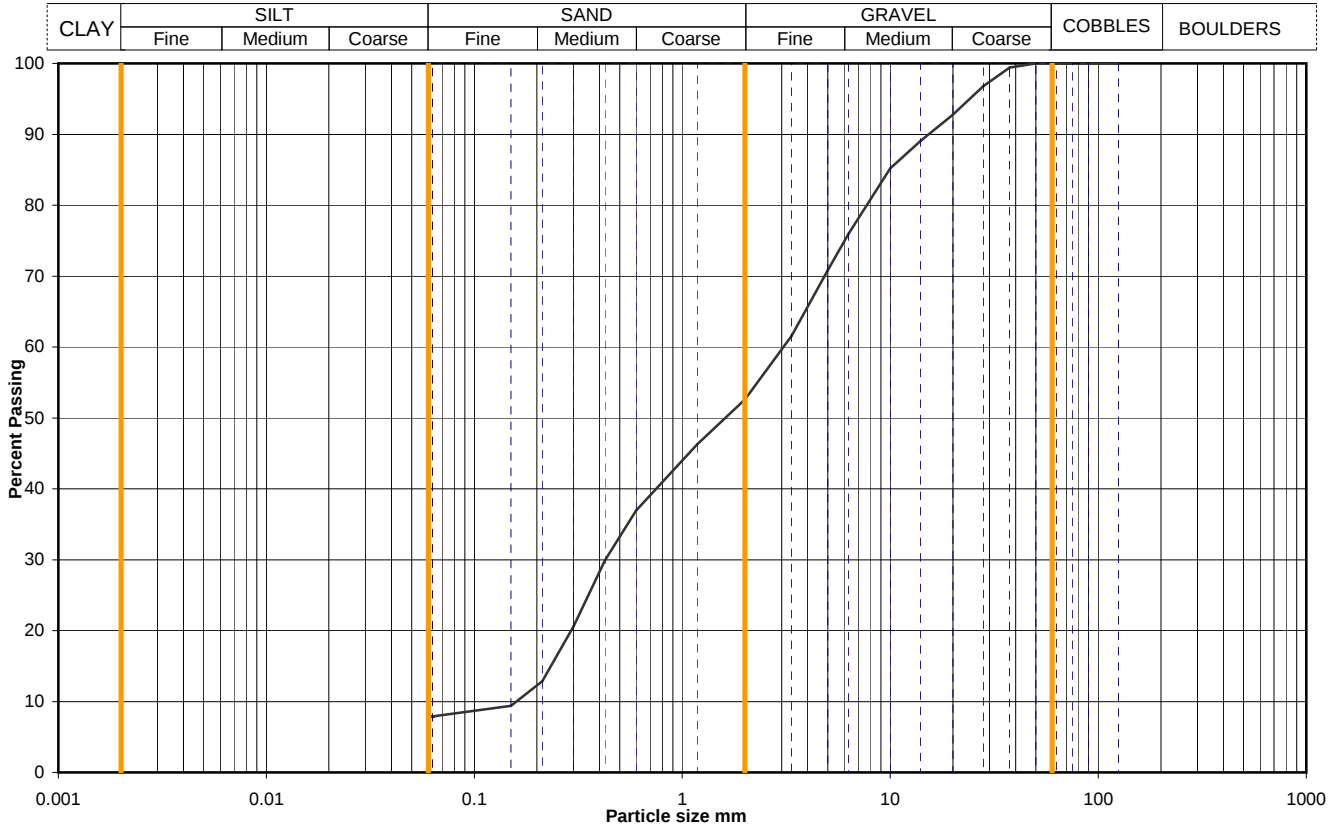
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Figure

PSD 52

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH403	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		8.00	
			Samp No	21	Type	B
			ID	ESGA0054-10201010010000000302		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	99		
28	97		
20	93		
14	89		
10	85		
6.3	76		
5.0	71		
3.35	62		
2.00	53		
1.18	46		
0.600	37		
0.425	30		
0.300	21		
0.212	13		
0.150	9		
0.063	8		

Dry mass of sample, kg		
		11.9

Soil description	Dark brown very sandy GRAVEL.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions *<60mm values to aid description only	Cobbles / boulders Gravel Sand Silt Clay	Whole	*<60mm
		0	0
		47	47
		45	45
		silt+clay =	
		8	8

Uniformity Coefficient	D_{60} / D_{10}	19
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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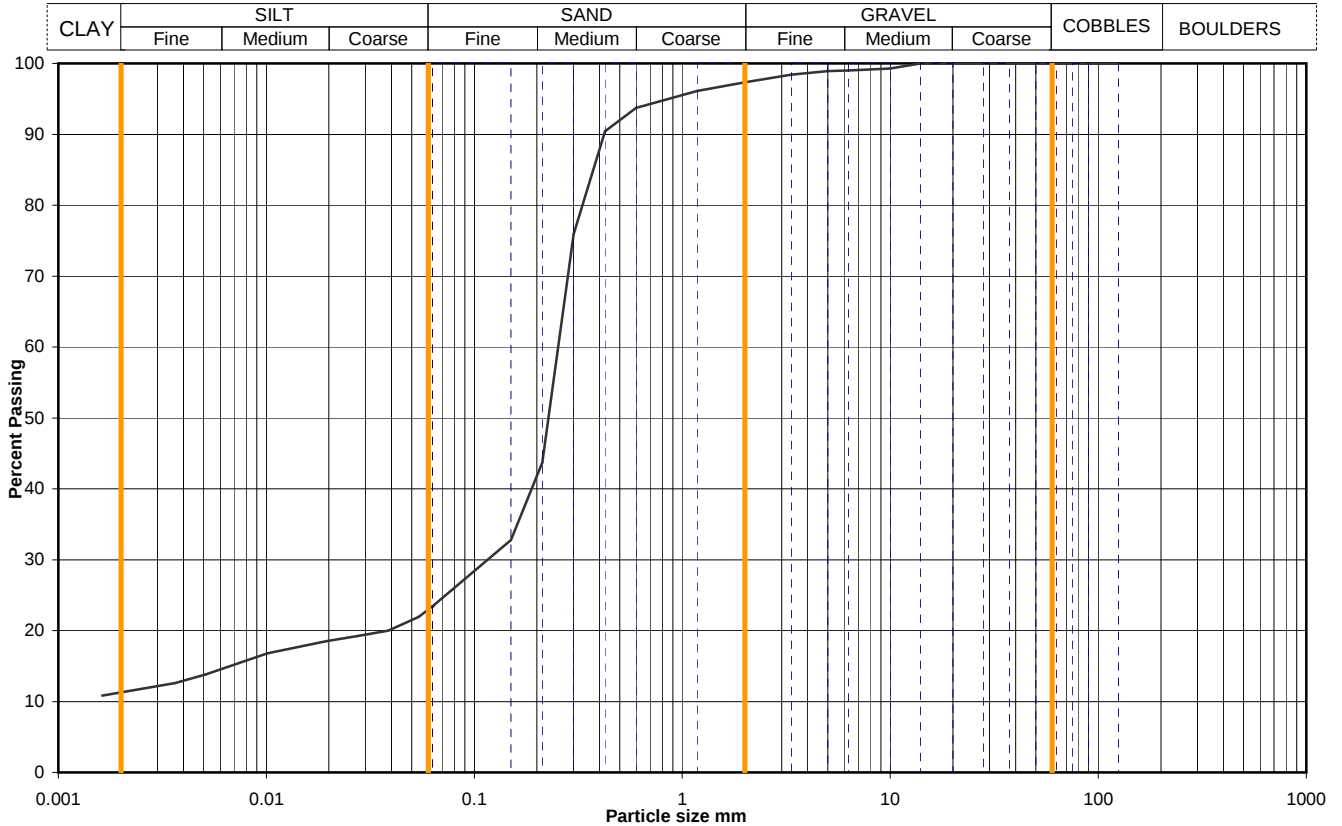
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Figure

PSD 53

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH404	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.65	
			Samp No	7	Type	B
			ID	ESGA0054-10201009230000000137		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	23
90	100	0.0541	22
75	100	0.0386	20
63	100	0.0274	19
50	100	0.0194	19
37.5	100	0.0101	17
28	100	0.0051	14
20	100	0.0036	13
14	100	0.0016	11
10	99		
6.3	99		
5.0	99		
3.35	98		
2.00	97		
1.18	96		
0.600	94		
0.425	90		
0.300	76		
0.212	44		
0.150	33		
0.063	23		

Soil description	Dark brownish grey slightly gravelly very sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	3	3
	Silt	74	74
	Clay	12	12

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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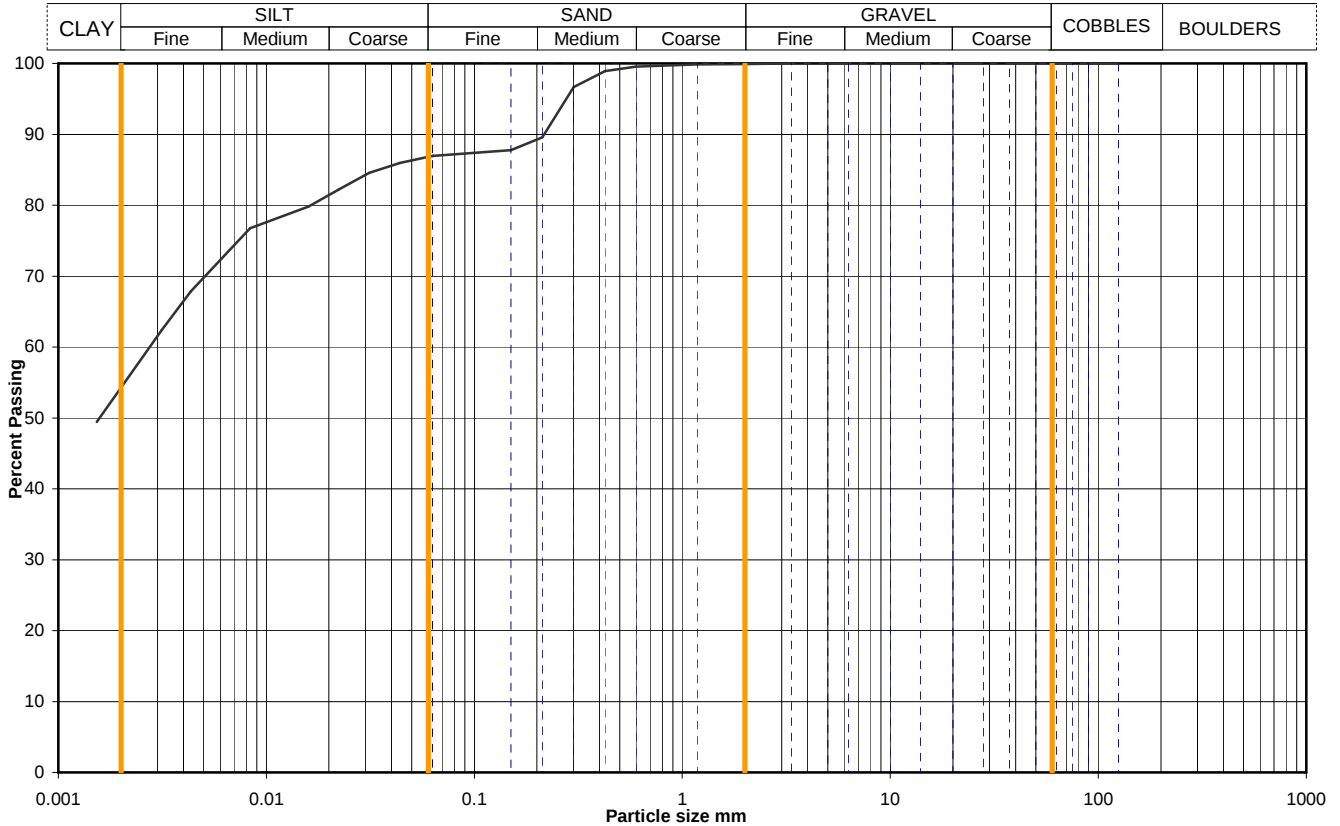
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Figure

PSD 54

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH404	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.55	
			Samp No	9	Type	B
			ID	ESGA0054-10201009230000000139		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	87
90	100	0.0438	86
75	100	0.0312	85
63	100	0.0223	82
50	100	0.0160	80
37.5	100	0.0084	77
28	100	0.0043	68
20	100	0.0031	62
14	100	0.0015	49
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	100		
1.18	100		
0.600	100	Particle density, Mg/m ³	
0.425	99	2.65 assumed	
0.300	97	Dry mass of sample, kg	
0.212	90	8.2	
0.150	88		
0.063	87		

Soil description	Brownish grey slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	0	0
	Silt	13	13
	Clay	33	33
		54	54

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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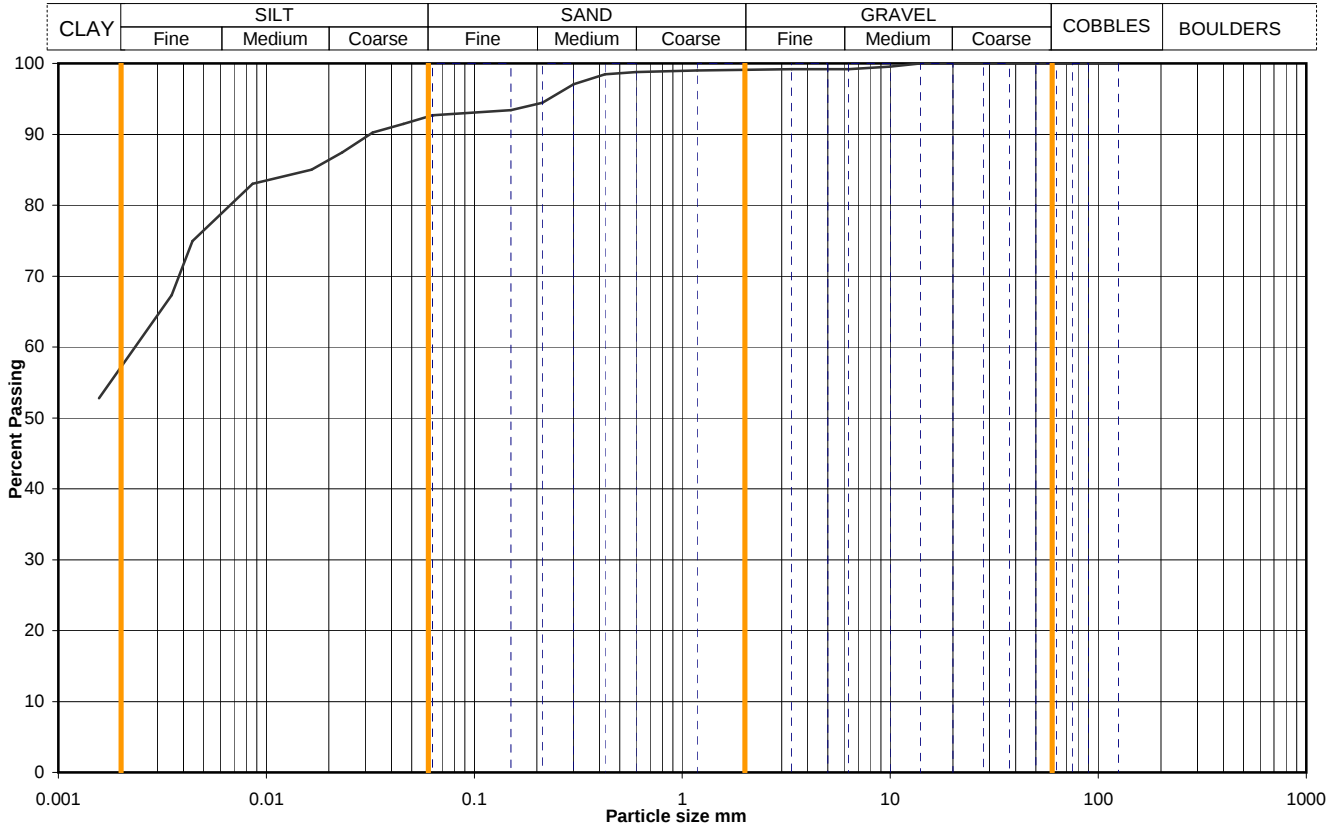
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Figure

PSD 55

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH404		
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.50		
			Samp No	11	Type	B	
			ID	ESGA0054-10201009230000000141			
			Spec Ref				



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	93
90	100	0.0456	91
75	100	0.0324	90
63	100	0.0232	87
50	100	0.0165	85
37.5	100	0.0086	83
28	100	0.0044	75
20	100	0.0035	67
14	100	0.0016	53
10	100		
6.3	99		
5.0	99		
3.35	99		
2.00	99		
1.18	99		
0.600	99	Particle density, Mg/m ³	
0.425	98	2.65 assumed	
0.300	97	Dry mass of sample, kg	
0.212	94	5.0	
0.150	93		
0.063	93		

Soil description	Brownish grey slightly gravelly slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	0	0
	Sand	1	1
	Silt	7	7
	Clay	35	35

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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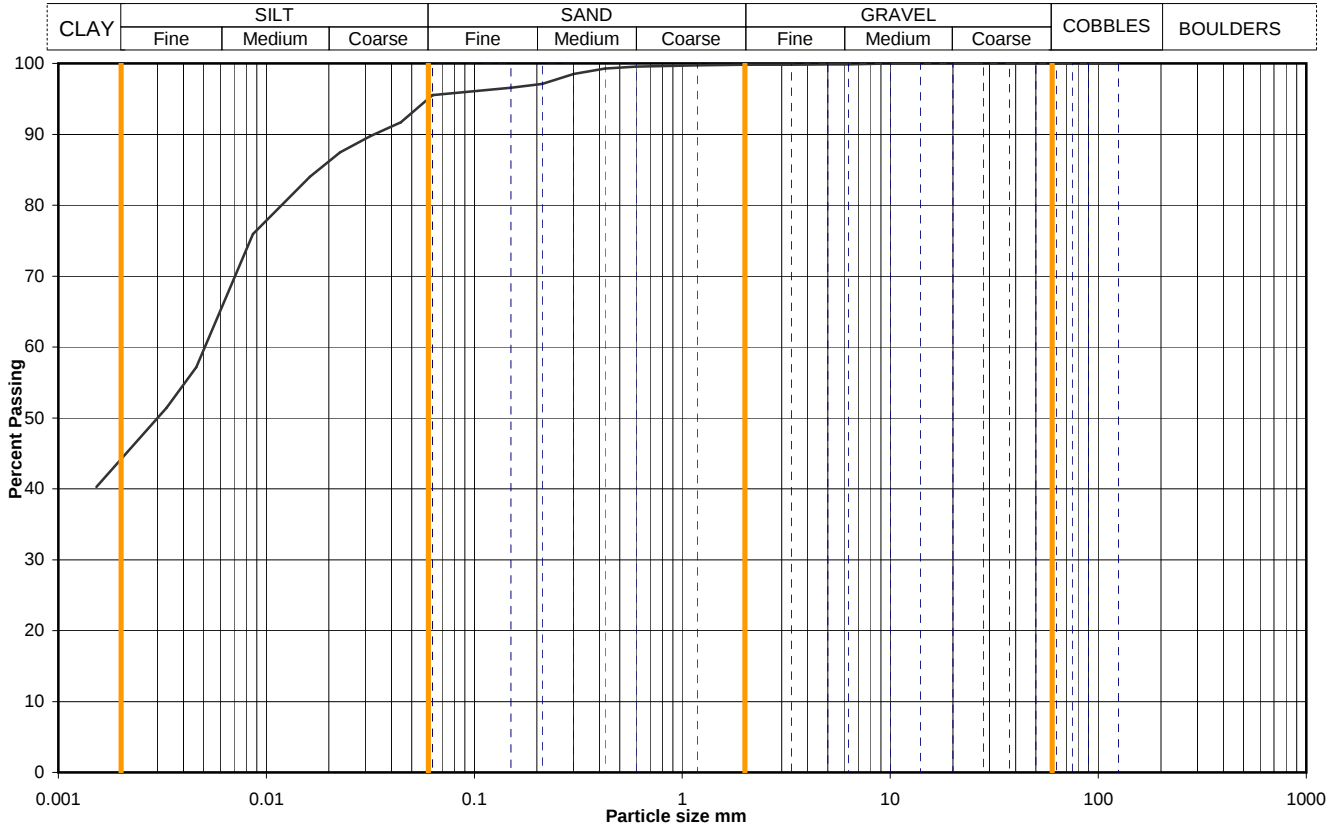
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Figure

PSD 56

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH404	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		4.65	
			Samp No	14	Type	B
			ID	ESGA0054-10201009230000000144		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	96
90	100	0.0443	92
75	100	0.0316	90
63	100	0.0226	87
50	100	0.0162	84
37.5	100	0.0086	76
28	100	0.0046	57
20	100	0.0033	51
14	100	0.0015	40
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	100		
1.18	100		
0.600	100		
0.425	99		
0.300	99		
0.212	97		
0.150	97		
0.063	96		

Particle density, Mg/m ³	
2.65	assumed
Dry mass of sample, kg	
9.7	

Soil description	Brownish grey slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	0	0
	Silt	5	5
	Clay	51	51
		44	44

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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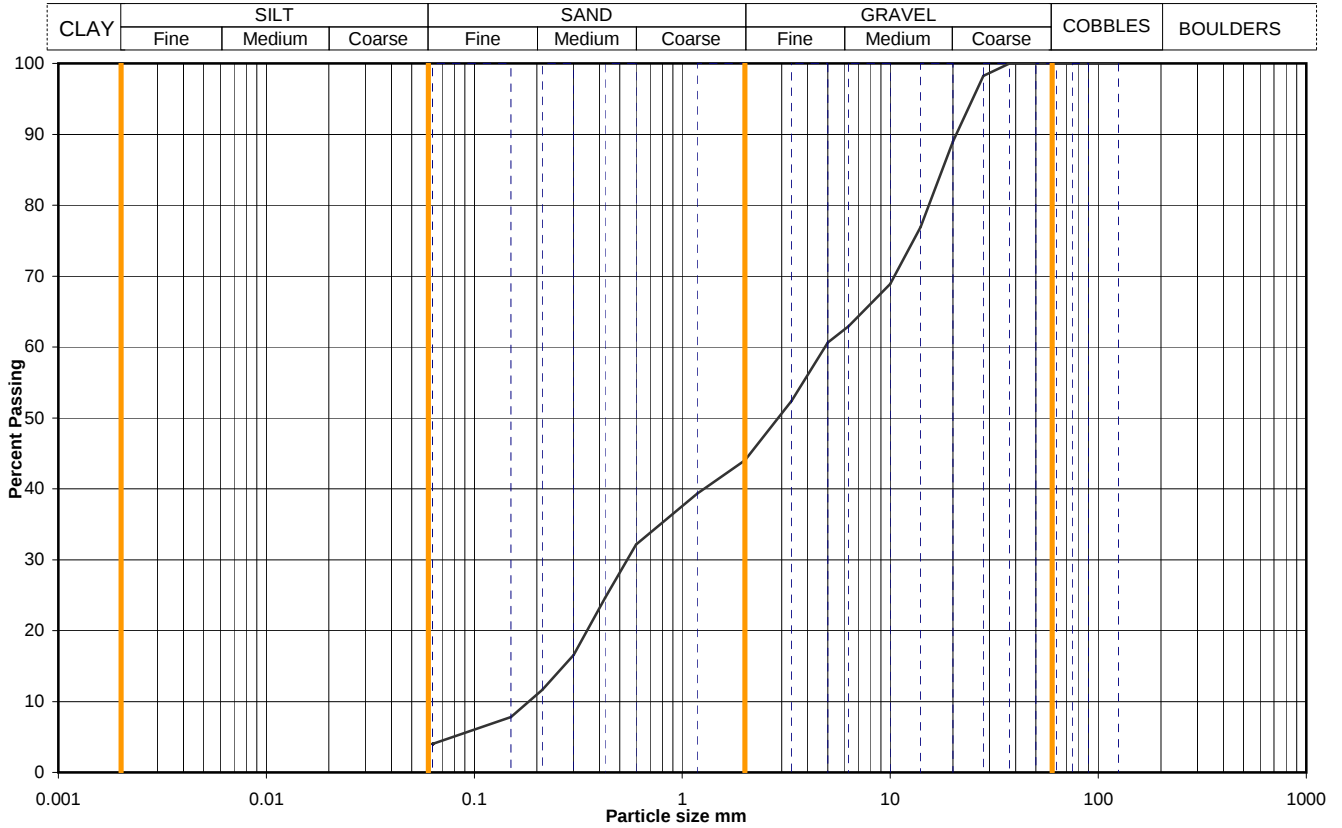
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Figure

PSD 57

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH404	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		7.00	
			Samp No	19	Type	B
			ID	ESGA0054-10201009230000000149		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	98		
20	89		
14	77		
10	69		
6.3	63		
5.0	61		
3.35	52		
2.00	44		
1.18	39		
0.600	32		
0.425	25		
0.300	17		
0.212	12		
0.150	8		
0.063	4		

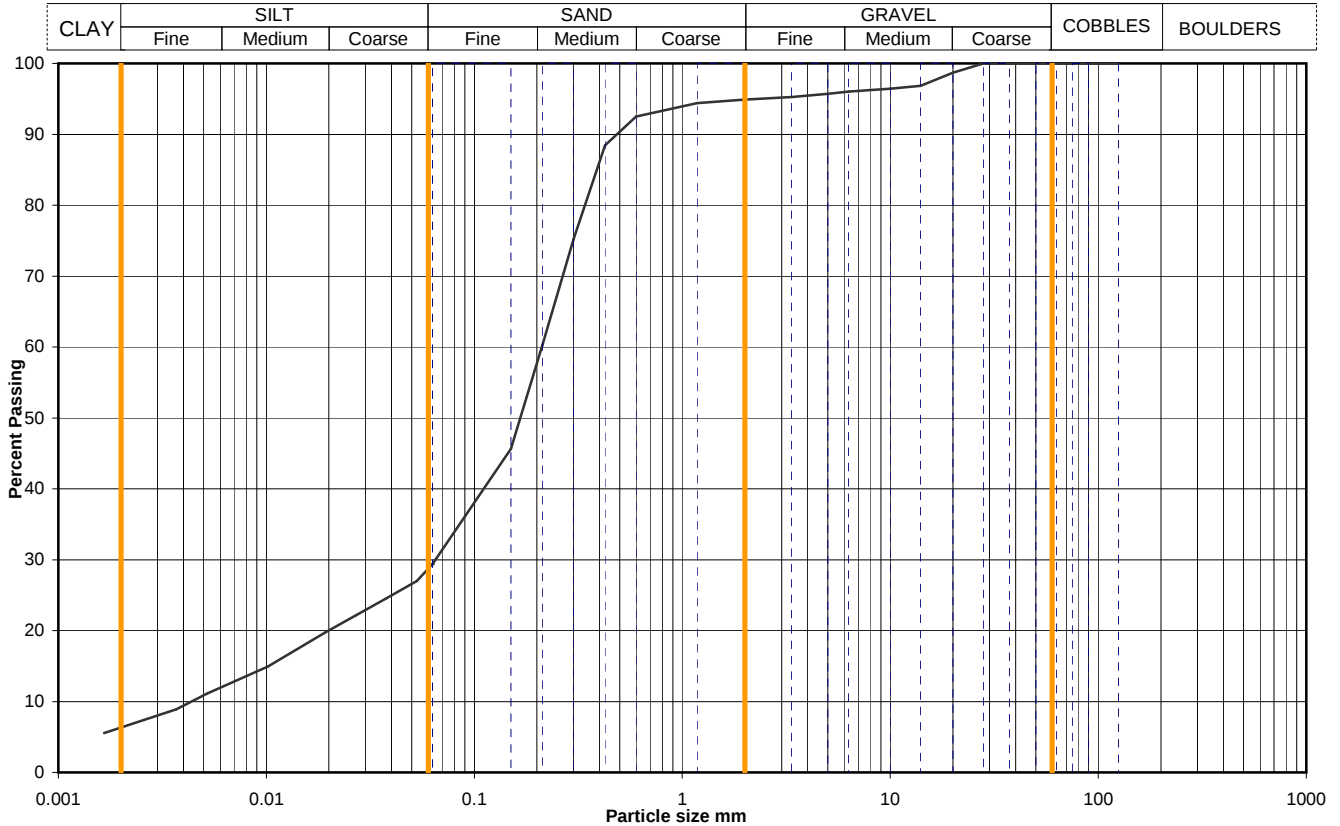
Soil description	Greyish brown very sandy GRAVEL.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	0	0
	Sand	56	56
	Silt	40	40
	Clay	silt+clay =	

Uniformity Coefficient	D_{60} / D_{10}	27
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH405	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		0.70	
			Samp No	4	Type	B
			ID	ESGA0054-10201009230000000156		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	29
90	100	0.0528	27
75	100	0.0378	25
63	100	0.0270	22
50	100	0.0193	20
37.5	100	0.0102	15
28	100	0.0052	11
20	99	0.0037	9
14	97	0.0017	6
10	96		
6.3	96		
5.0	96		
3.35	95		
2.00	95		
1.18	94		
0.600	93	Particle density, Mg/m ³ 2.65 assumed	
0.425	88		
0.300	75	Dry mass of sample, kg 6.3	
0.212	60		
0.150	46		
0.063	29		

Soil description	Greyish brown slightly gravelly very sandy silty CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	5	5
	Silt	66	66
	Clay	23	23
		6	6

Uniformity Coefficient	D_{60} / D_{10}	48
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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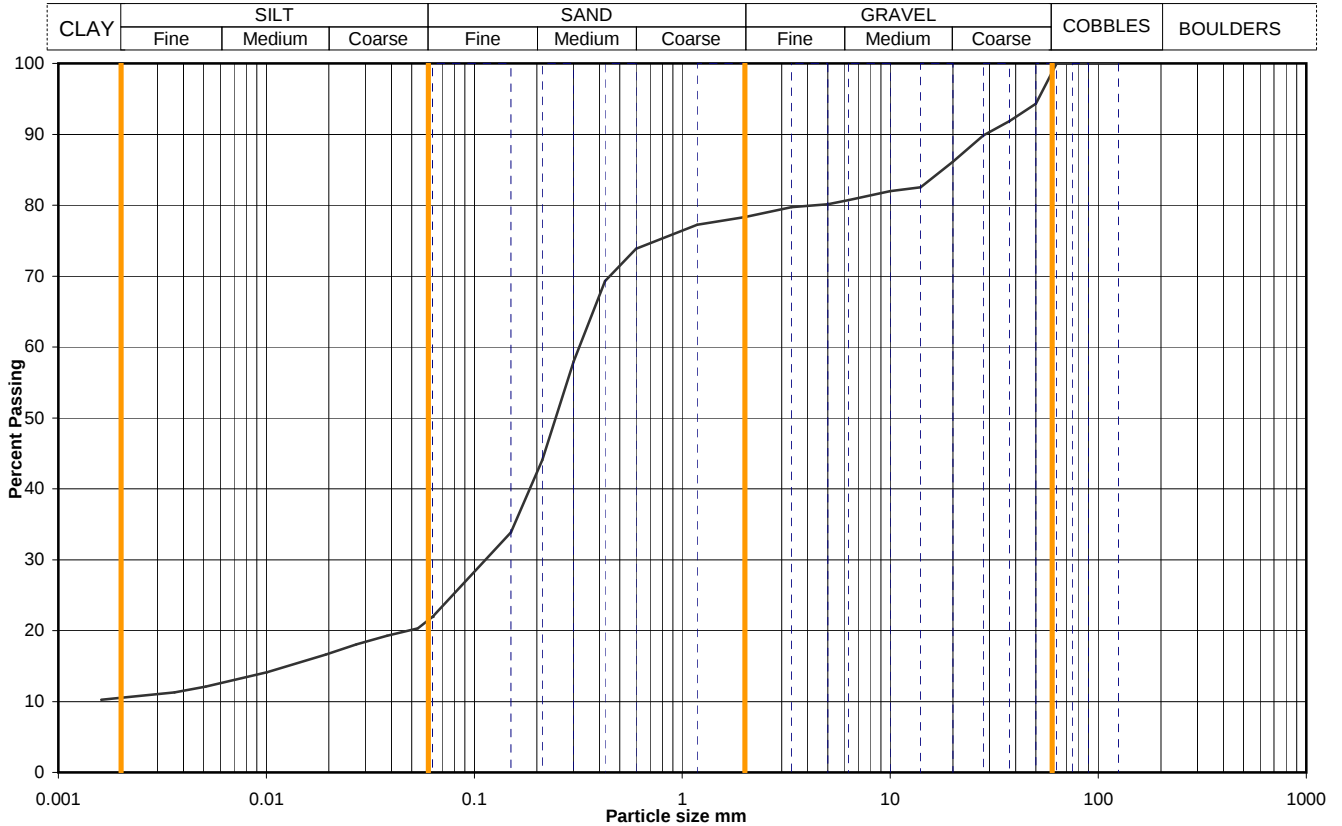
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Figure

PSD 59

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH405	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.65	
			Samp No	10	Type	B
			ID	ESGA0054-10201009230000000162		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	22
90	100	0.0535	20
75	100	0.0380	19
63	100	0.0271	18
50	94	0.0193	17
37.5	92	0.0101	14
28	90	0.0051	12
20	86	0.0036	11
14	83	0.0016	10
10	82		
6.3	81		
5.0	80		
3.35	80		
2.00	78		
1.18	77		
0.600	74	Particle density, Mg/m ³ 2.65 assumed	
0.425	69		
0.300	58	Dry mass of sample, kg 10.8	
0.212	44		
0.150	34		
0.063	22		

Soil description	Dark brownish grey slightly gravelly very sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	1	0
	Sand	21	21
	Silt	57	58
	Clay	11	11
		10	10

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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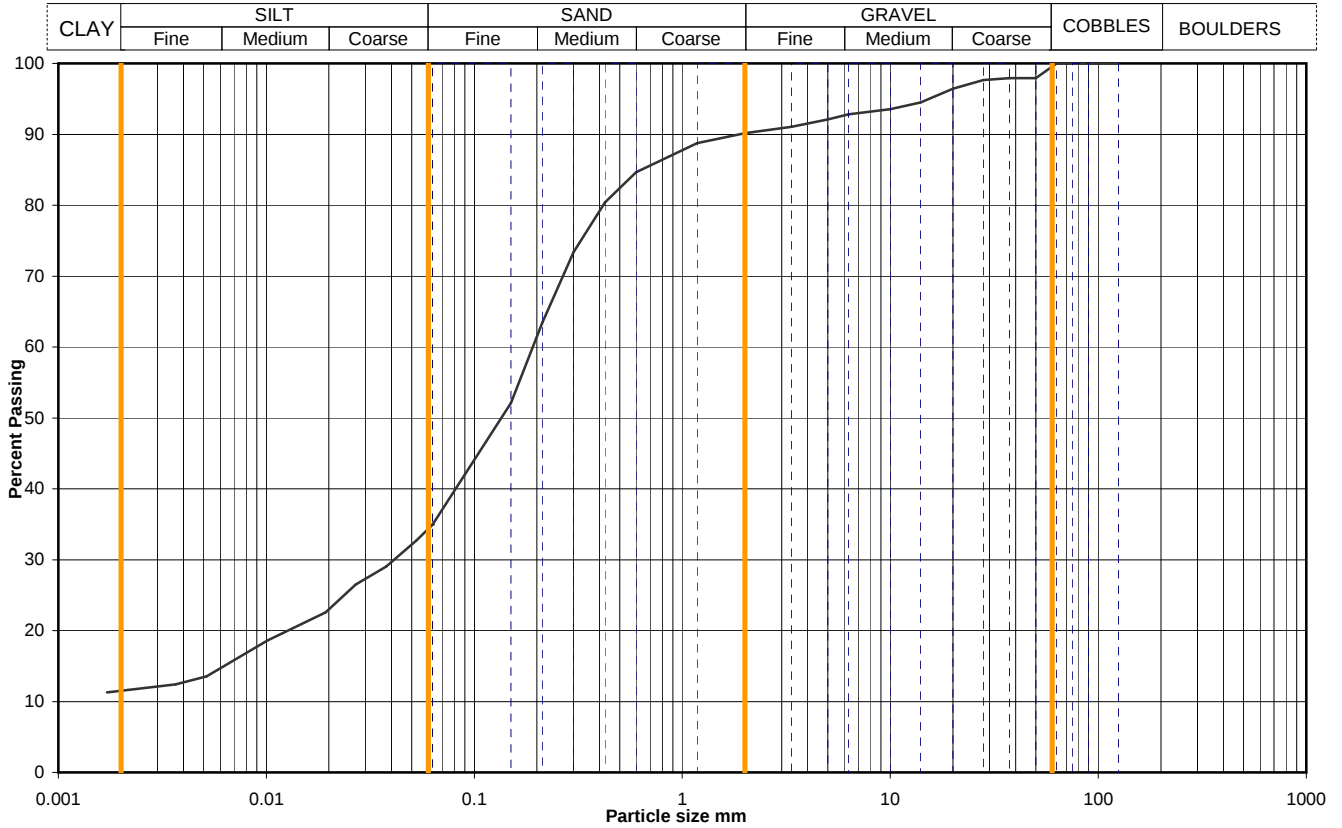
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Figure

PSD 60

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH405	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		4.50	
			Samp No	14	Type	B
			ID	ESGA0054-10201009230000000166		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	35
90	100	0.0525	33
75	100	0.0377	29
63	100	0.0269	27
50	98	0.0193	23
37.5	98	0.0101	19
28	98	0.0052	14
20	96	0.0037	12
14	94	0.0017	11
10	94		
6.3	93		
5.0	92		
3.35	91		
2.00	90		
1.18	89		
0.600	85	Particle density, Mg/m3	
0.425	80	2.65 assumed	
0.300	73	Dry mass of sample, kg	
0.212	63	13.8	
0.150	52		
0.063	35		

Soil description	Greyish brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	10	10
	Silt	56	56
	Clay	23	23
		11	11

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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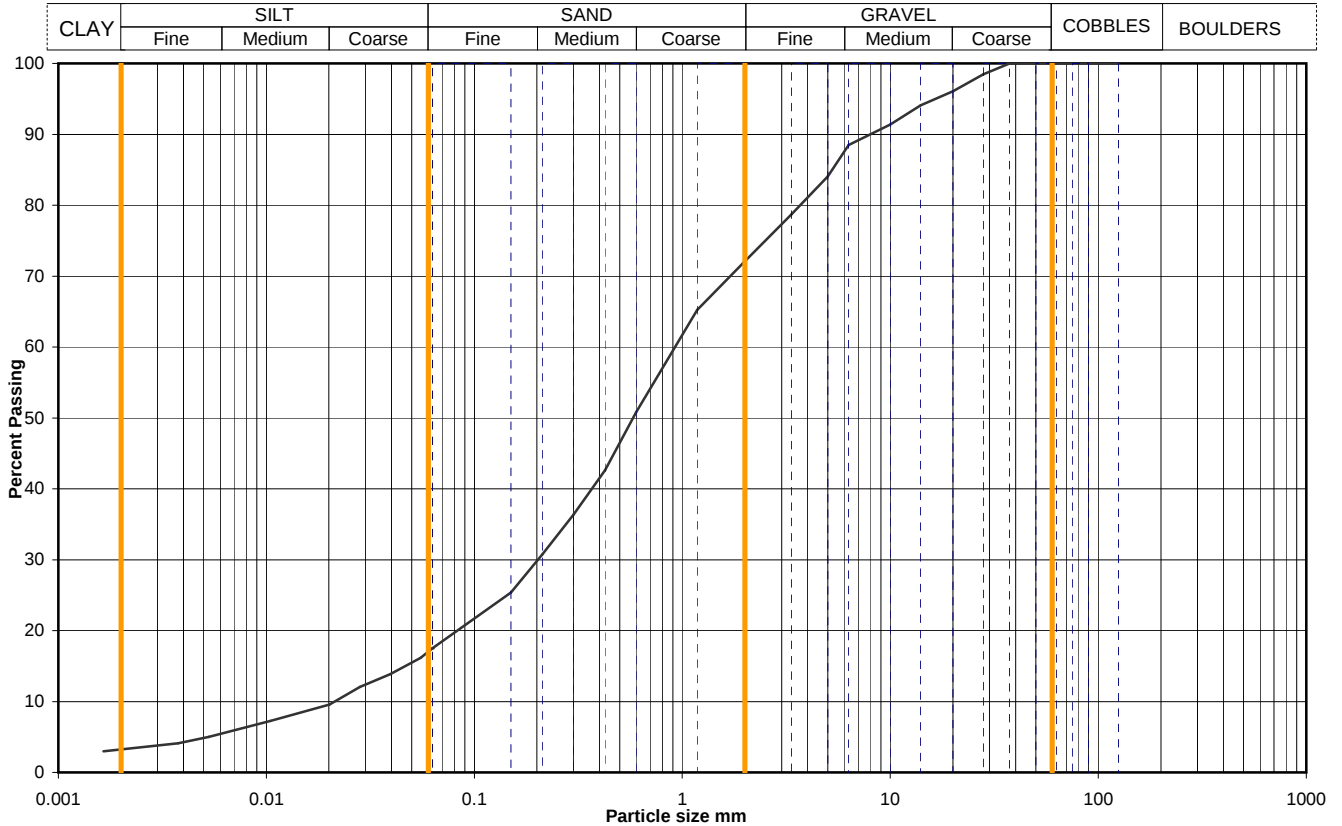
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Figure

PSD 61

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH405	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		5.50	
			Samp No	17	Type	B
			ID	ESGA0054-10201009230000000169		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	18
90	100	0.0552	16
75	100	0.0395	14
63	100	0.0281	12
50	100	0.0201	10
37.5	100	0.0105	7
28	98	0.0053	5
20	96	0.0038	4
14	94	0.0017	3
10	91		
6.3	88		
5.0	84		
3.35	79		
2.00	72		
1.18	65		
0.600	51	Particle density, Mg/m ³	
0.425	43	2.65 assumed	
0.300	36	Dry mass of sample, kg	
0.212	31	11.4	
0.150	25		
0.063	18		

Soil description	Brown silty very gravelly SAND.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	28	28
	Silt	55	55
	Clay	14	14
		3	3

Uniformity Coefficient	D_{60} / D_{10}	43
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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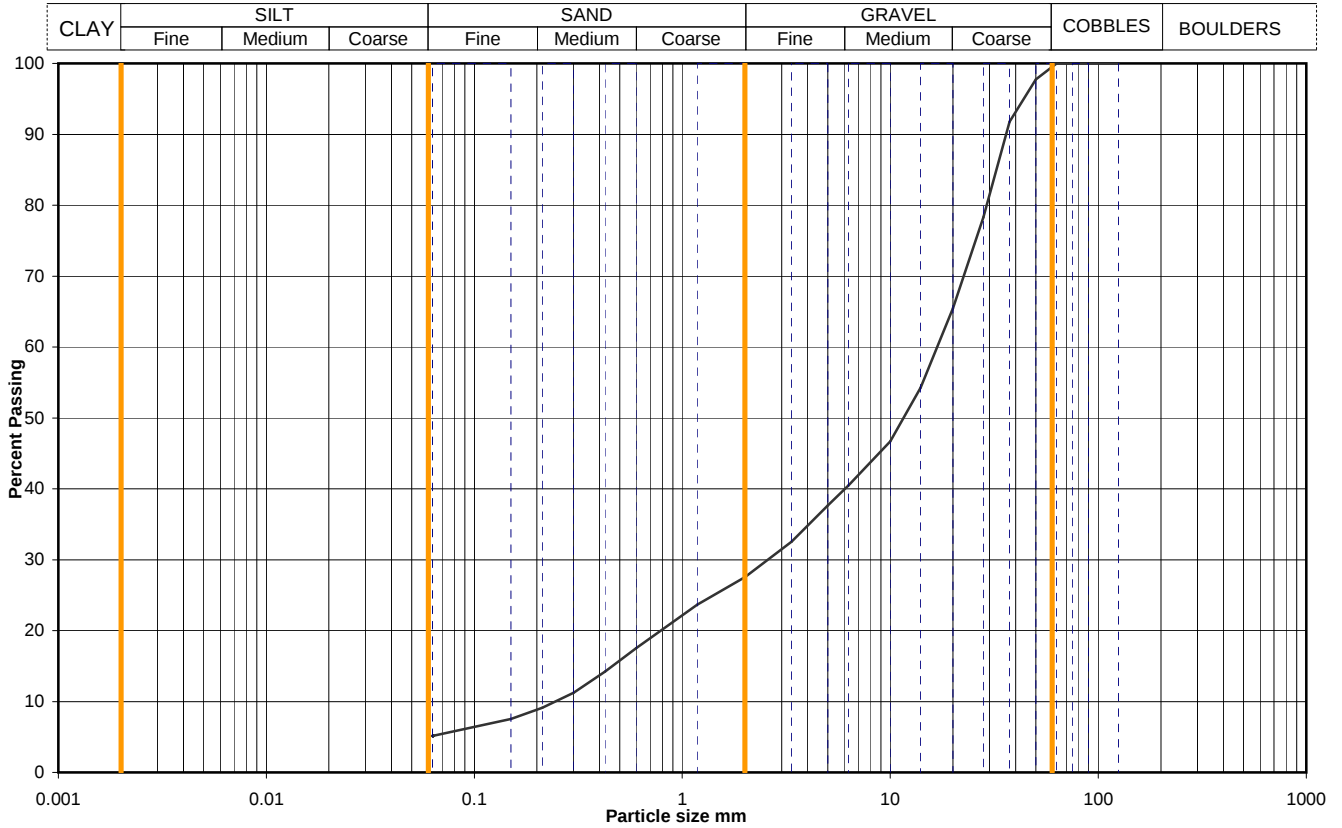
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Figure

PSD 62

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH405	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		7.00	
			Samp No	19	Type	B
			ID	ESGA0054-10201009230000000171		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	98		
37.5	92		
28	78		
20	65		
14	54		
10	47		
6.3	40		
5.0	38		
3.35	33		
2.00	28		
1.18	24		
0.600	18		
0.425	14		
0.300	11		
0.212	9		
0.150	8		
0.063	5		

Dry mass of sample, kg 9.8	

Soil description	Greyish brown very sandy GRAVEL.		
Preparation / Pretreatment	Sieve: pre dried,		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders Gravel Sand Silt Clay	Whole	* <60mm
		0	0
		72	72
		22	22
		silt+clay =	
		6	6

Uniformity Coefficient	D_{60} / D_{10}	69
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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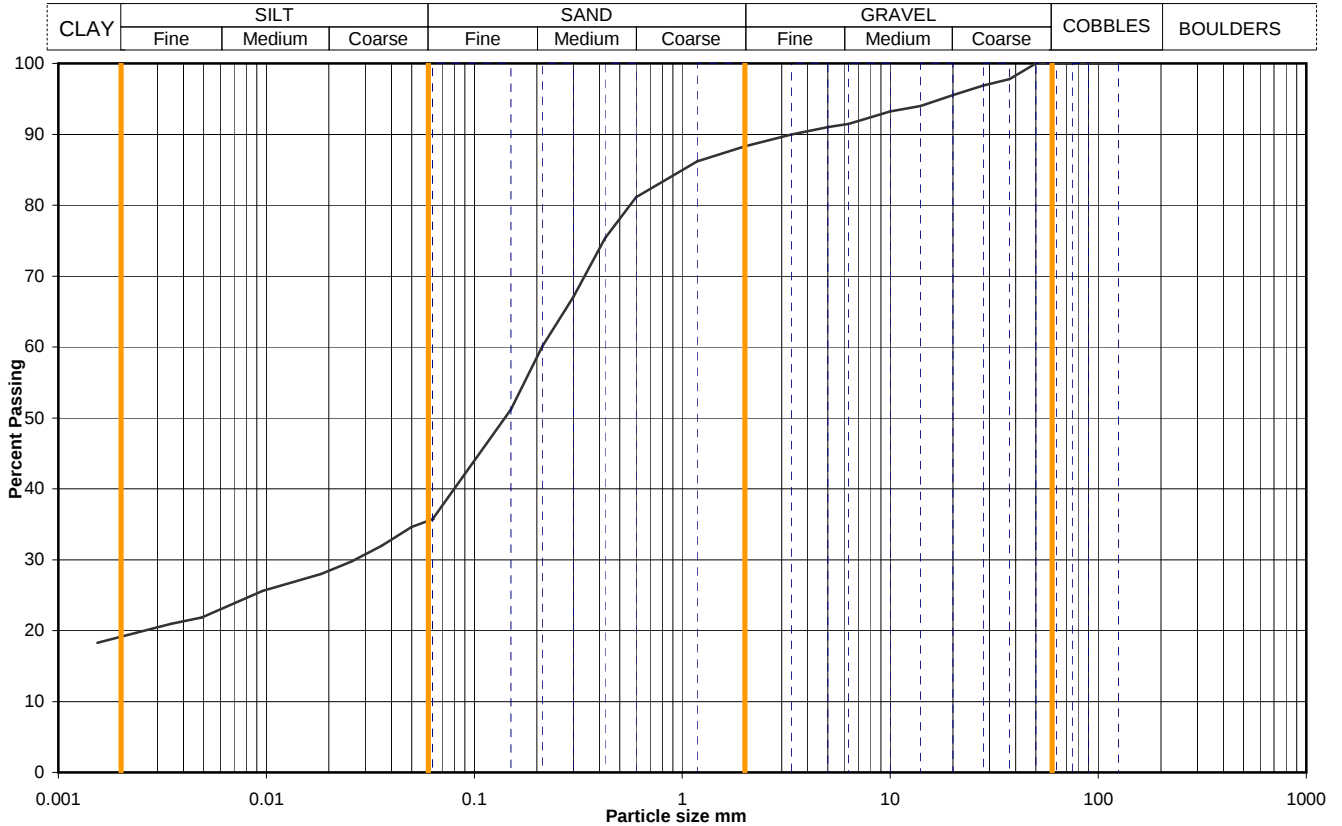


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Figure
PSD 63

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH406	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.65	
			Samp No	7	Type	B
			ID	ESGA0054-10201009220000000098		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	36
90	100	0.0499	35
75	100	0.0358	32
63	100	0.0257	30
50	100	0.0183	28
37.5	98	0.0096	26
28	97	0.0049	22
20	96	0.0035	21
14	94	0.0015	18
10	93		
6.3	91		
5.0	91		
3.35	90		
2.00	88		
1.18	86		
0.600	81	Particle density, Mg/m ³ 2.65 assumed	
0.425	75		
0.300	67	Dry mass of sample, kg 7.1	
0.212	60		
0.150	51		
0.063	36		

Soil description	Brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	12	12
	Silt	53	53
	Clay	16	16

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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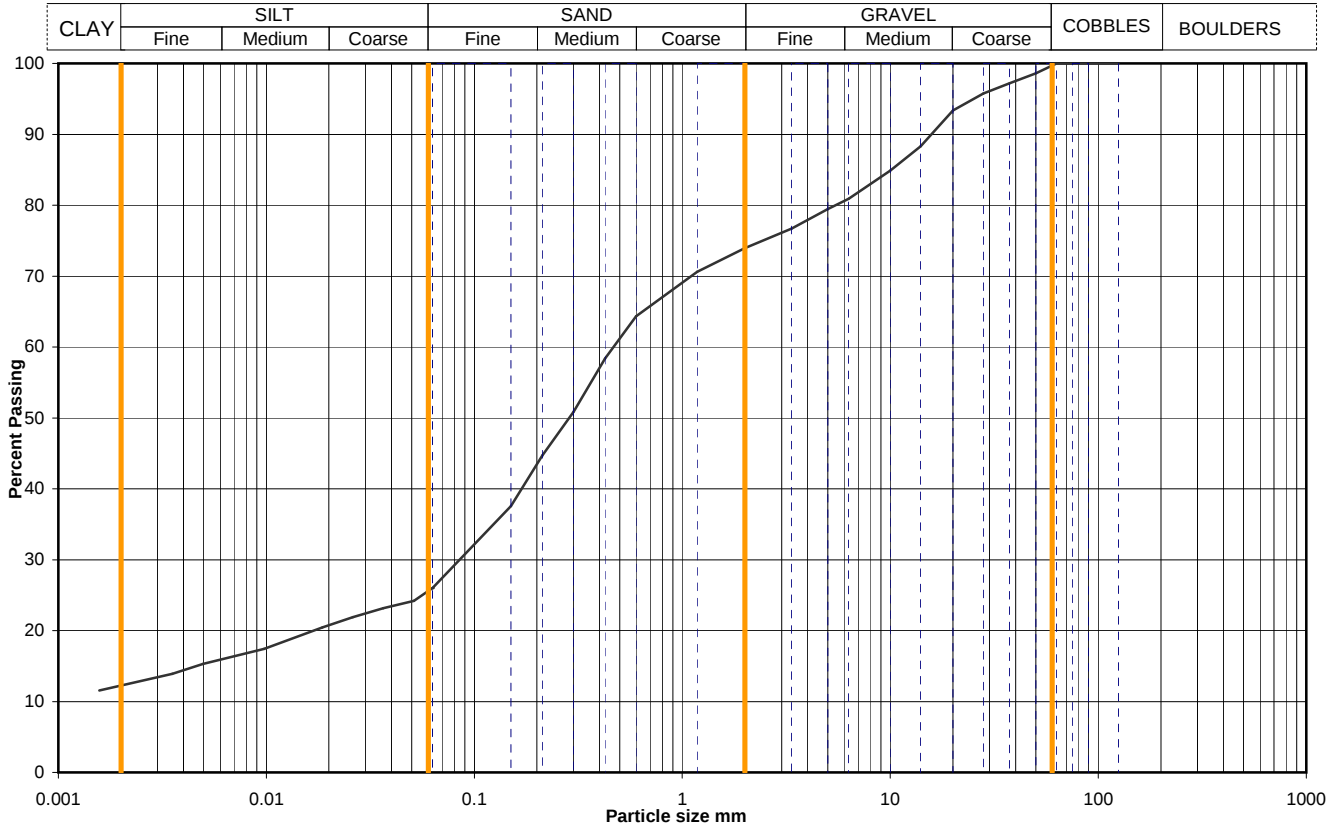
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Figure

PSD 64

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH406	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.75	
			Samp No	11	Type	B
			ID	ESGA0054-10201009220000000102		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	26
90	100	0.0513	24
75	100	0.0365	23
63	100	0.0260	22
50	99	0.0186	20
37.5	97	0.0098	17
28	96	0.0050	15
20	93	0.0035	14
14	88	0.0016	12
10	85		
6.3	81		
5.0	79		
3.35	77		
2.00	74		
1.18	71		
0.600	64	Particle density, Mg/m3	
0.425	58	2.65 assumed	
0.300	51	Dry mass of sample, kg	
0.212	45	16.7	
0.150	38		
0.063	26		

Soil description	Greyish brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	26	26
	Silt	48	48
	Clay	14	14

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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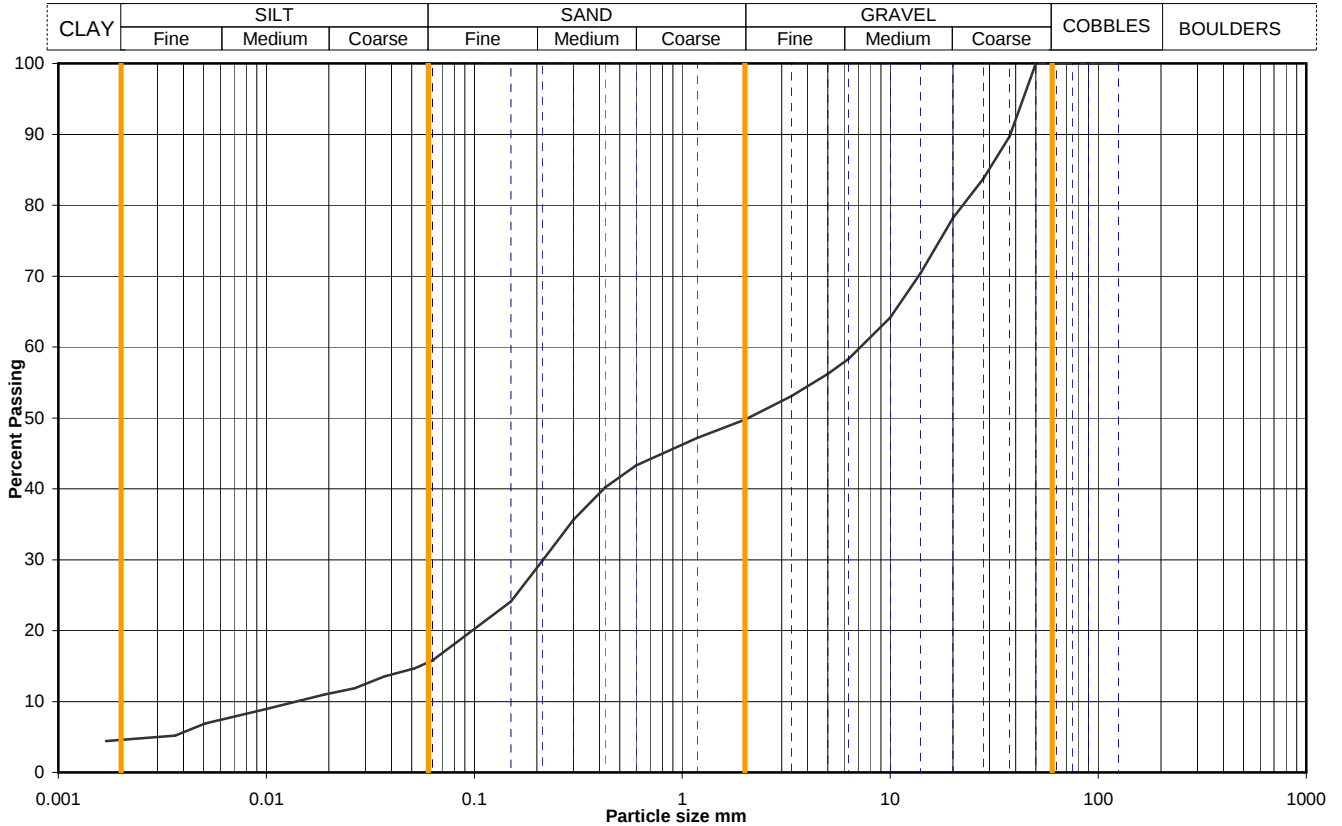
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Figure

PSD 65

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		BH407	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.50	
			Samp No	10	Type	B
			ID	ESGA0054-10201010060000000356		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	16
90	100	0.0516	15
75	100	0.0369	14
63	100	0.0266	12
50	100	0.0190	11
37.5	90	0.0100	9
28	84	0.0051	7
20	78	0.0037	5
14	70	0.0017	4
10	64		
6.3	58		
5.0	56		
3.35	53		
2.00	50		
1.18	47		
0.600	43	Particle density, Mg/m ³ 2.65 assumed	
0.425	40		
0.300	36	Dry mass of sample, kg 5.4	
0.212	30		
0.150	24		
0.063	16		

Soil description	Brown slightly sandy gravelly CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	50	50
	Silt	34	34
	Clay	11	11
		5	5

Uniformity Coefficient	D_{60} / D_{10}	512
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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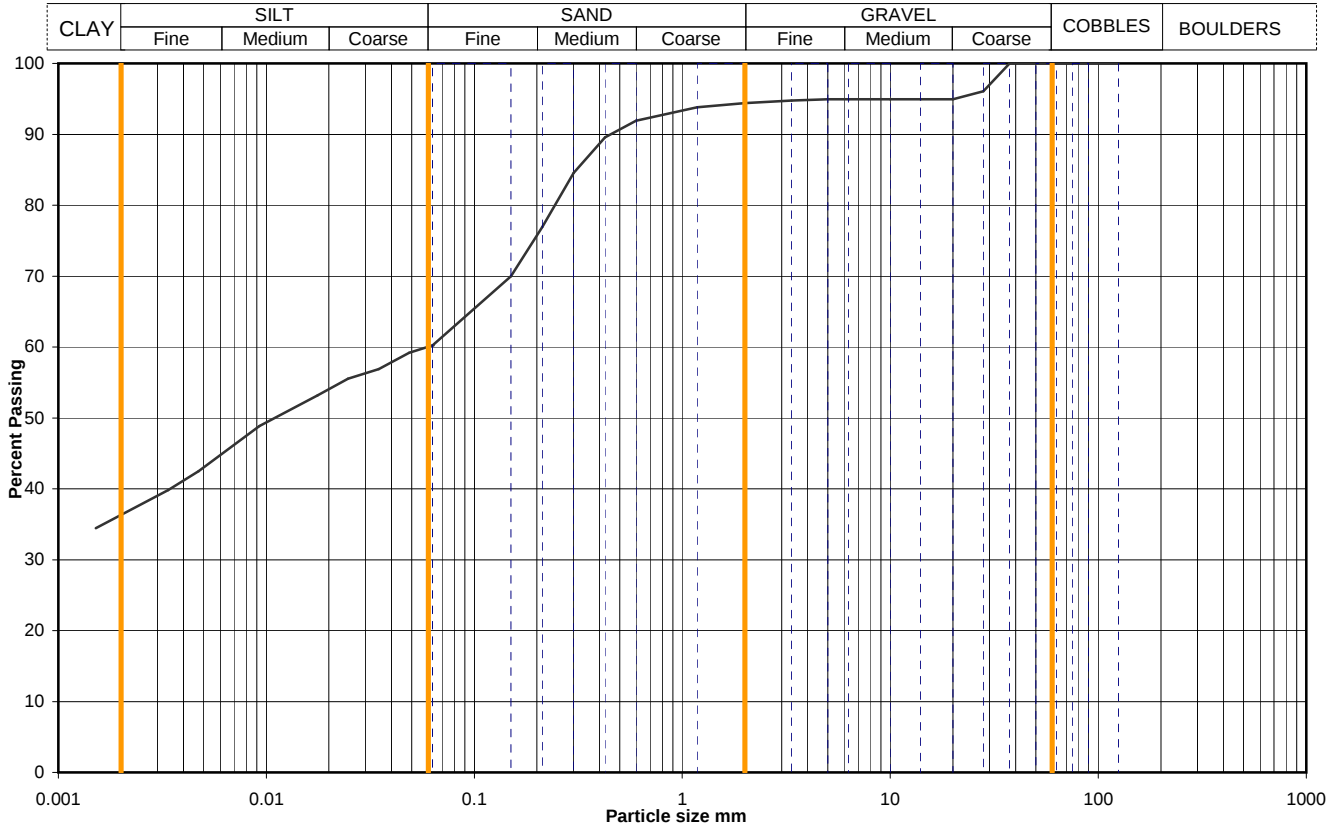
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Figure

PSD 66

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP102	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		0.40	
			Samp No	8	Type	B
			ID	ESGA0054-10201010130000000430		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	60
90	100	0.0486	59
75	100	0.0347	57
63	100	0.0247	56
50	100	0.0176	53
37.5	100	0.0092	49
28	96	0.0047	42
20	95	0.0034	40
14	95	0.0015	34
10	95		
6.3	95		
5.0	95		
3.35	95		
2.00	94		
1.18	94		
0.600	92	Particle density, Mg/m ³	
0.425	90	2.65 assumed	
0.300	85	Dry mass of sample, kg	
0.212	77	3.4	
0.150	70		
0.063	60		

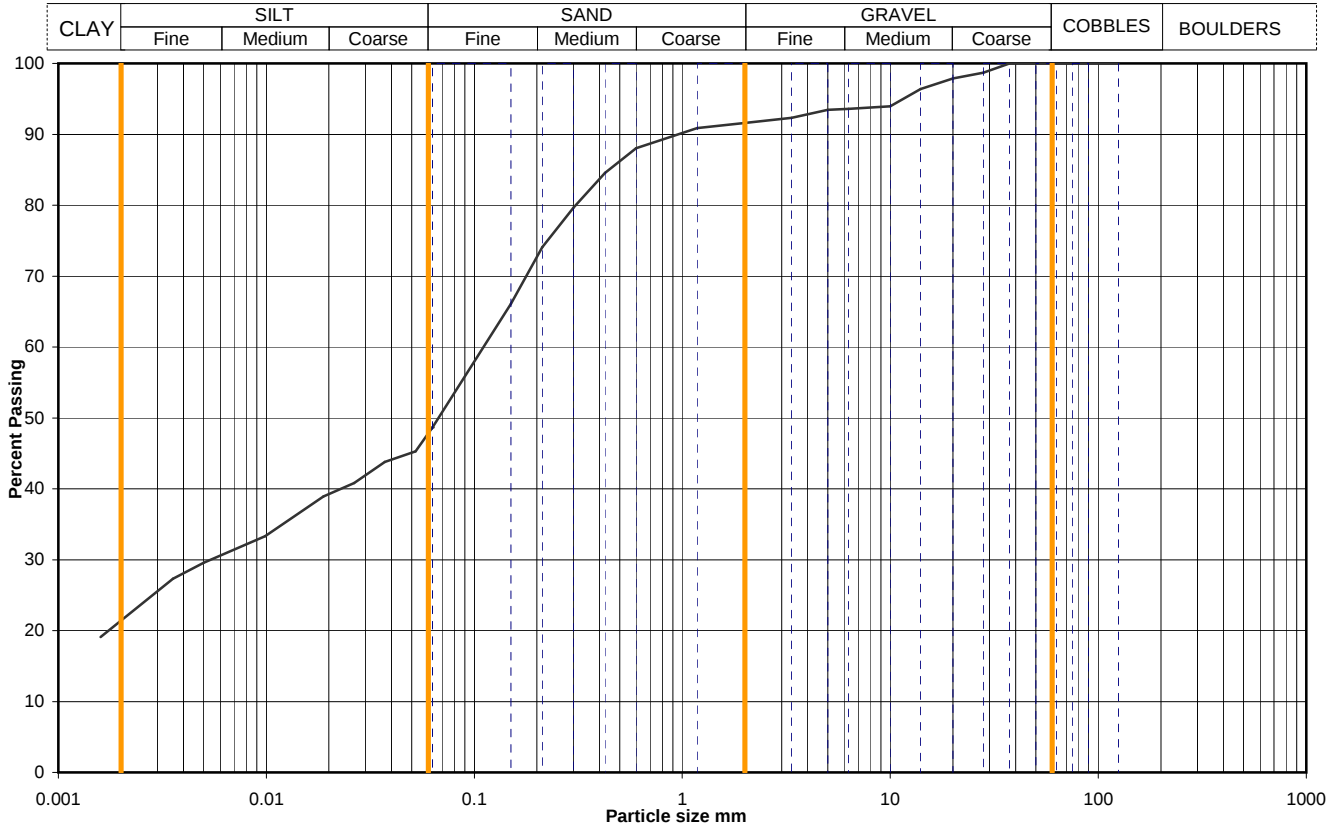
Soil description	Brown slightly gravelly slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	6	6
	Silt	34	34
	Clay	24	24
		36	36

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP103	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		0.80	
			Samp No	9	Type	B
			ID	ESGA0054-10201010130000000442		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	49
90	100	0.0522	45
75	100	0.0371	44
63	100	0.0264	41
50	100	0.0188	39
37.5	100	0.0099	33
28	99	0.0050	30
20	98	0.0036	27
14	96	0.0016	19
10	94		
6.3	94		
5.0	93		
3.35	92		
2.00	92		
1.18	91		
0.600	88	Particle density, Mg/m3	
0.425	85	2.65 assumed	
0.300	80	Dry mass of sample, kg	
0.212	74	10.3	
0.150	66		
0.063	49		

Soil description	Brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	8	8
	Silt	44	44
	Clay	26	26

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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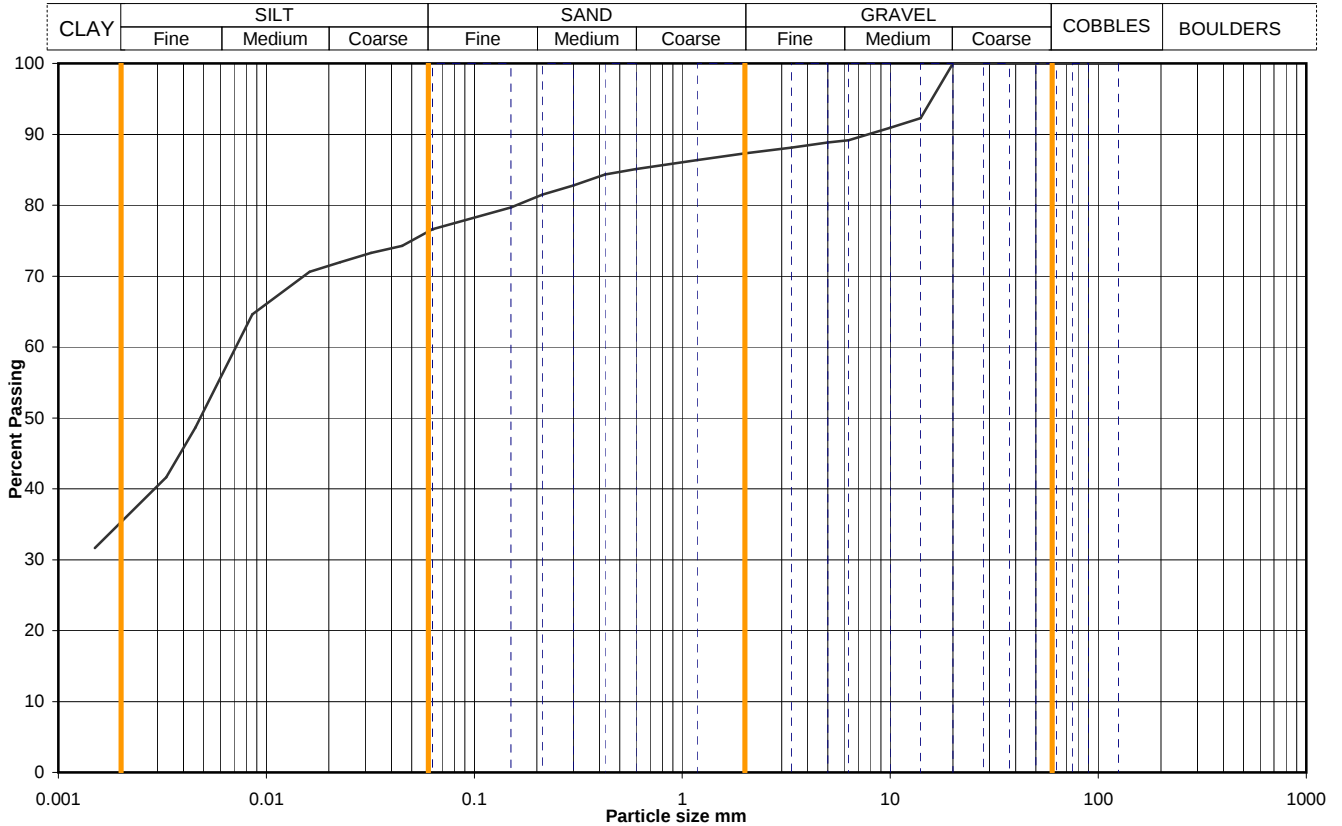
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Figure

PSD 68

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP103	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.80	
			Samp No	15	Type	B
			ID	ESGA0054-10201010130000000448		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	77
90	100	0.0449	74
75	100	0.0319	73
63	100	0.0227	72
50	100	0.0161	71
37.5	100	0.0085	65
28	100	0.0046	49
20	100	0.0033	42
14	92	0.0015	32
10	91		
6.3	89		
5.0	89		
3.35	88		
2.00	87		
1.18	86		
0.600	85		
0.425	84		
0.300	83		
0.212	81		
0.150	80		
0.063	77		

Soil description	Reddish brown and light grey slightly sandy slightly gravelly CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	13	13
	Silt	11	11
	Clay	41	41

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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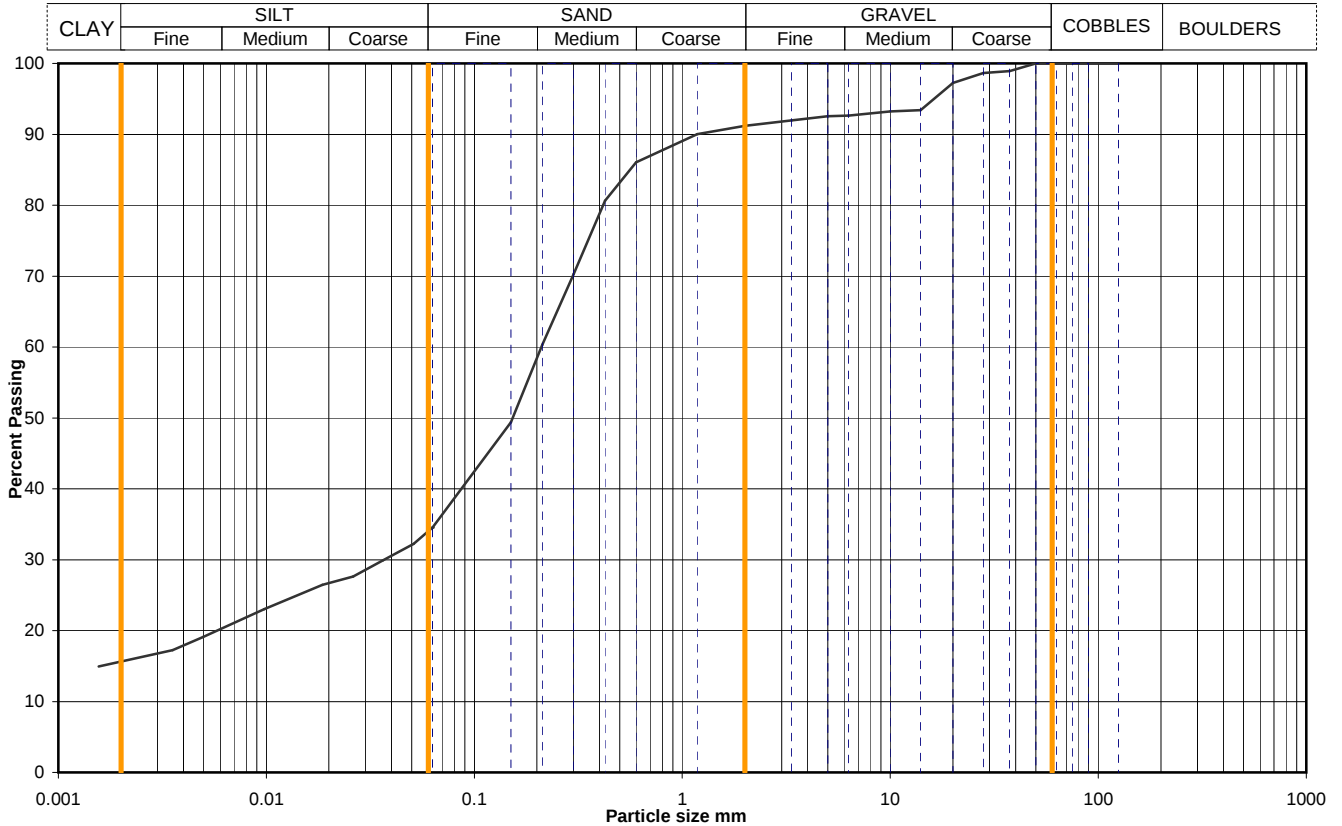
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Figure

PSD 69

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP104	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.70	
			Samp No	10	Type	B
			ID	ESGA0054-10201010130000000457		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	35
90	100	0.0510	32
75	100	0.0365	30
63	100	0.0261	28
50	100	0.0186	26
37.5	99	0.0098	23
28	99	0.0050	19
20	97	0.0035	17
14	93	0.0016	15
10	93		
6.3	93		
5.0	93		
3.35	92		
2.00	91		
1.18	90		
0.600	86	Particle density, Mg/m ³	
0.425	81	2.65 assumed	
0.300	70	Dry mass of sample, kg	
0.212	60	13.0	
0.150	49		
0.063	35		

Soil description	Brown slightly gravelly sandy silty CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	9	9
	Silt	57	57
	Clay	18	18
		16	16

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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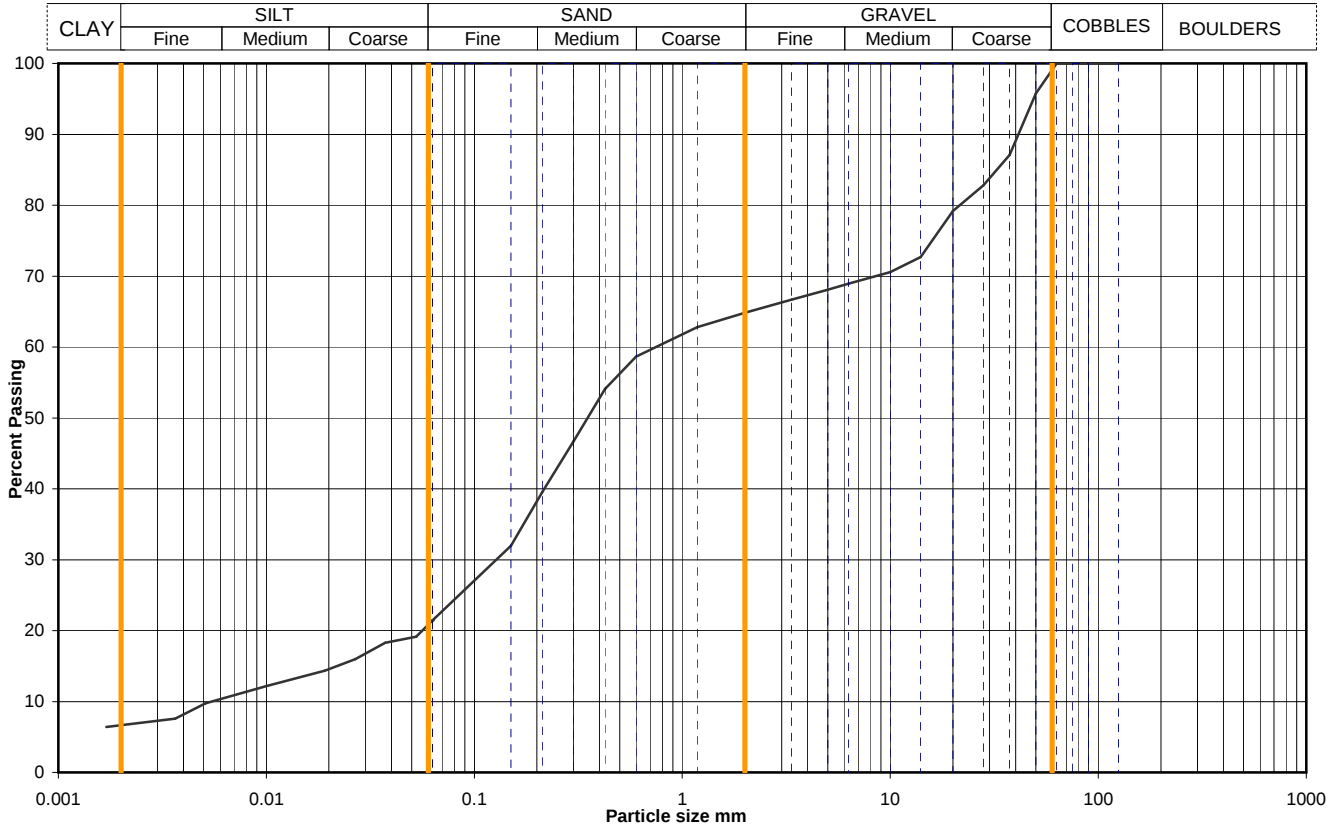
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Figure

PSD 70

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP105	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		0.60	
			Samp No	6	Type	B
			ID	ESGA0054-10201010130000000467		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	21
90	100	0.0525	19
75	100	0.0373	18
63	100	0.0268	16
50	96	0.0192	14
37.5	87	0.0100	12
28	83	0.0051	10
20	79	0.0037	8
14	73	0.0017	6
10	71		
6.3	69		
5.0	68		
3.35	67		
2.00	65		
1.18	63		
0.600	59	Particle density, Mg/m3 2.65 assumed	
0.425	54		
0.300	47	Dry mass of sample, kg 11.1	
0.212	40		
0.150	32		
0.063	21		

Soil description	Brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	1	0
	Sand	34	34
	Silt	44	44
	Clay	14	14
		7	7

Uniformity Coefficient	D_{60} / D_{10}	136
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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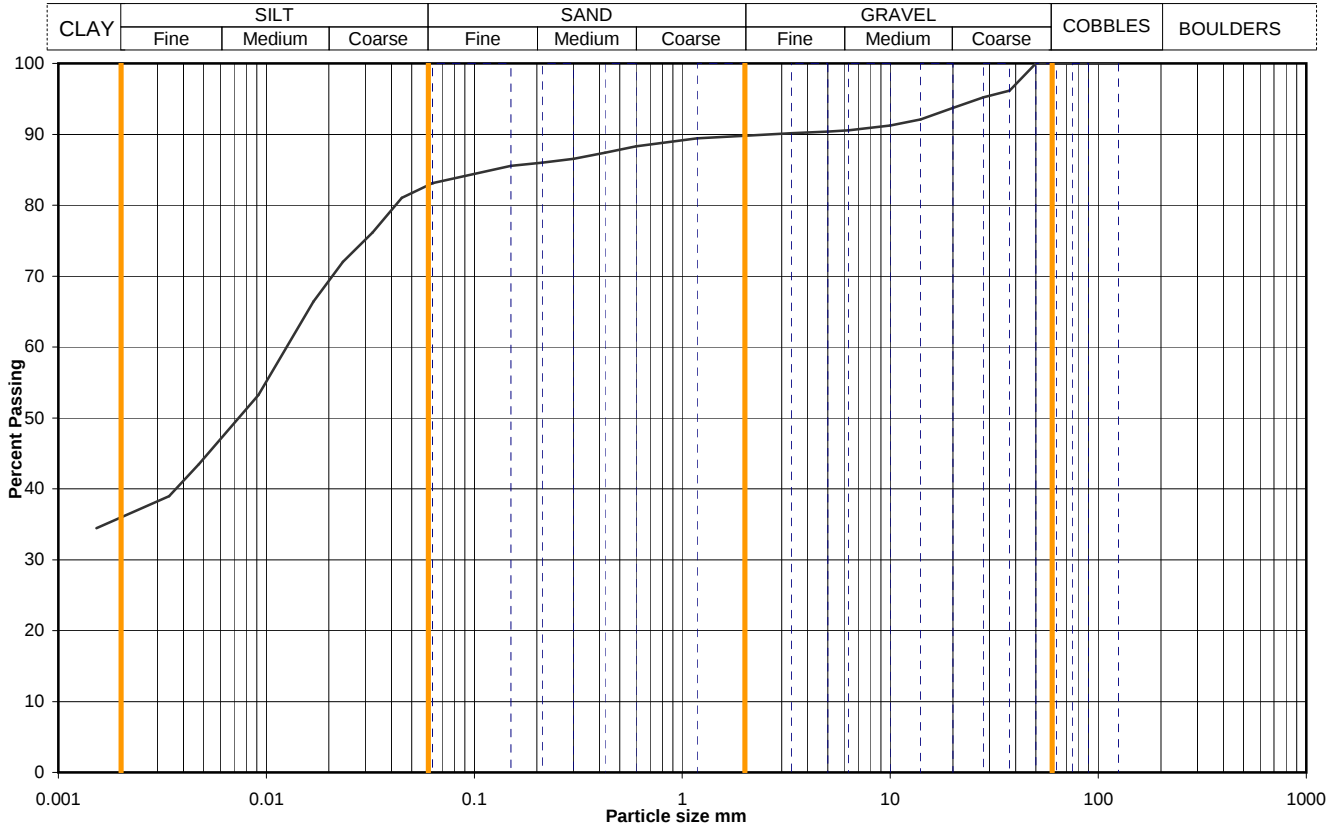
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Figure

PSD 71

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP105	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.10	
			Samp No	9	Type	B
			ID	ESGA0054-10201010130000000471		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	83
90	100	0.0448	81
75	100	0.0324	76
63	100	0.0233	72
50	100	0.0169	66
37.5	96	0.0092	53
28	95	0.0047	43
20	94	0.0034	39
14	92	0.0015	34
10	91		
6.3	91		
5.0	90		
3.35	90		
2.00	90		
1.18	89	Particle density, Mg/m ³ 2.65 assumed	
0.600	88		
0.425	87	Dry mass of sample, kg 10.2	
0.300	87		
0.212	86		
0.150	86		
0.063	83		

Soil description	Brown slightly sandy slightly gravelly CLAY with occasional cobble sized pockets of light yellowish brown silt.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	10	10
	Silt	7	7
	Clay	47	47
		36	36

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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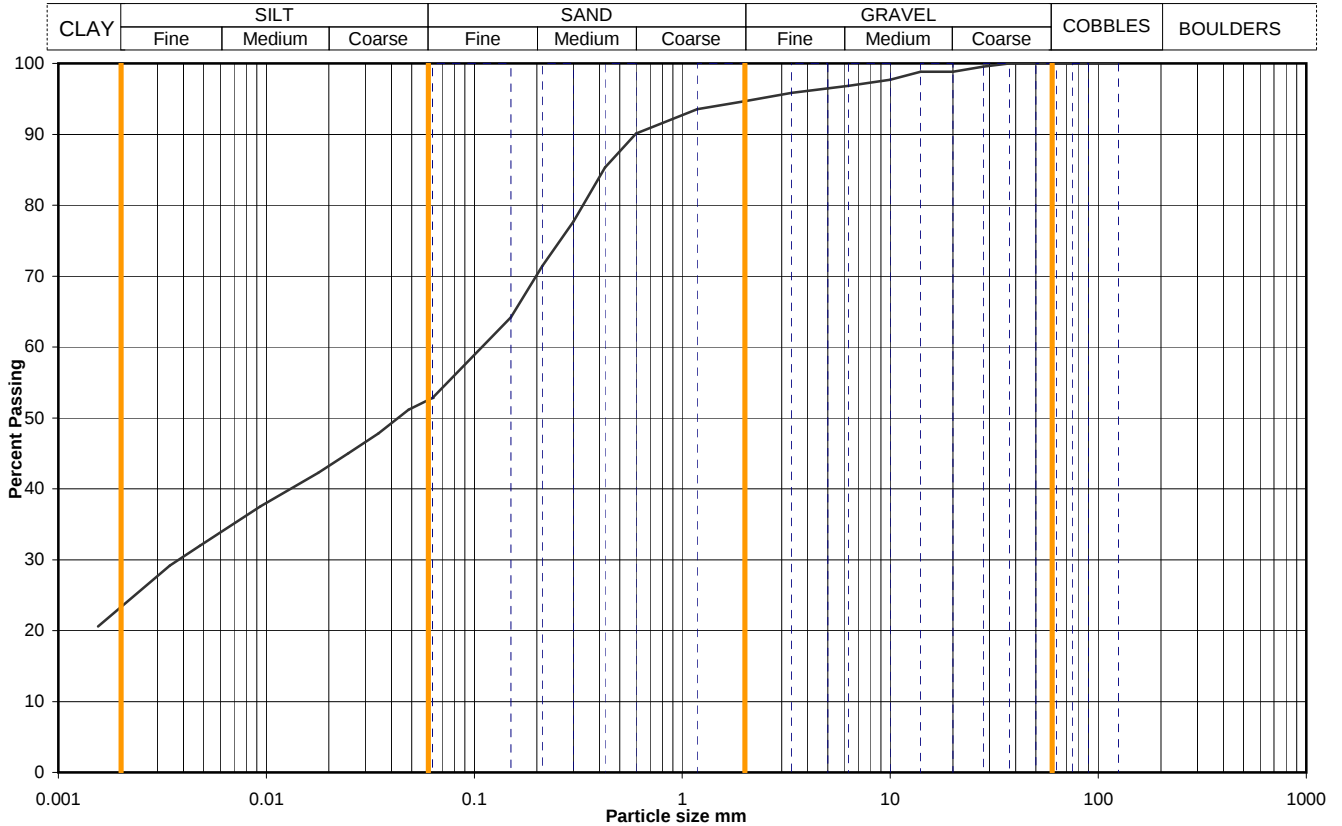
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Figure

PSD 72

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP106	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.30	
			Samp No	9	Type	B
			ID	ESGA0054-10201010130000000481		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	53
90	100	0.0482	51
75	100	0.0346	48
63	100	0.0248	45
50	100	0.0178	42
37.5	100	0.0094	38
28	100	0.0048	32
20	99	0.0034	29
14	99	0.0016	21
10	98		
6.3	97		
5.0	97		
3.35	96		
2.00	95		
1.18	94		
0.600	90	Particle density, Mg/m3	
0.425	85	2.65 assumed	
0.300	78	Dry mass of sample, kg	
0.212	71	9.7	
0.150	64		
0.063	53		

Soil description	Brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	5	5
	Silt	42	42
	Clay	29	29
		24	24

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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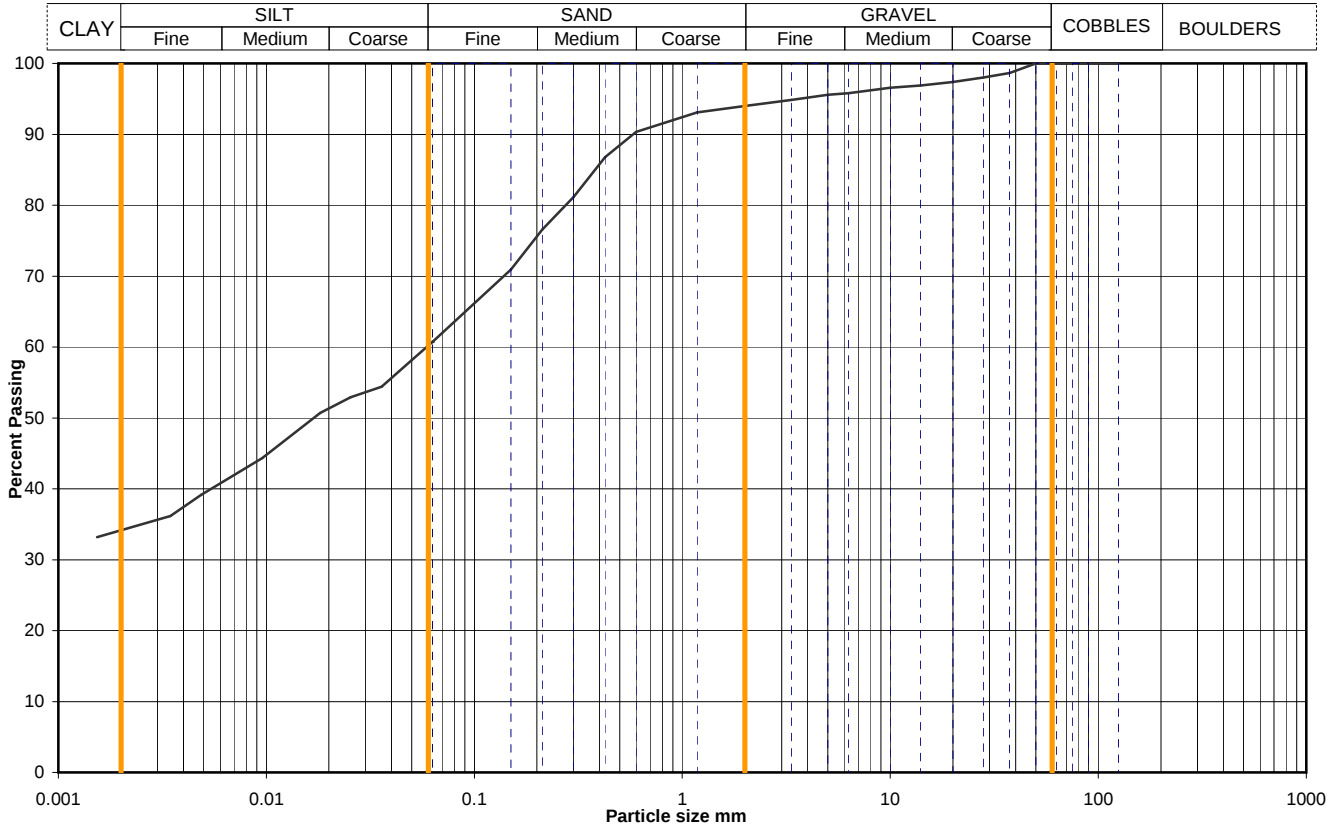
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Figure

PSD 73

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP106	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.70	
			Samp No	11	Type	B
			ID	ESGA0054-10201010130000000484		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	61
90	100	0.0500	58
75	100	0.0358	54
63	100	0.0254	53
50	100	0.0181	51
37.5	99	0.0095	44
28	98	0.0049	39
20	97	0.0035	36
14	97	0.0015	33
10	97		
6.3	96		
5.0	96		
3.35	95		
2.00	94		
1.18	93		
0.600	90	Particle density, Mg/m ³ 2.65 assumed	
0.425	87		
0.300	81	Dry mass of sample, kg 12.1	
0.212	77		
0.150	71		
0.063	61		

Soil description	Brown slightly sandy slightly gravelly CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	6	6
	Silt	34	34
	Clay	26	26

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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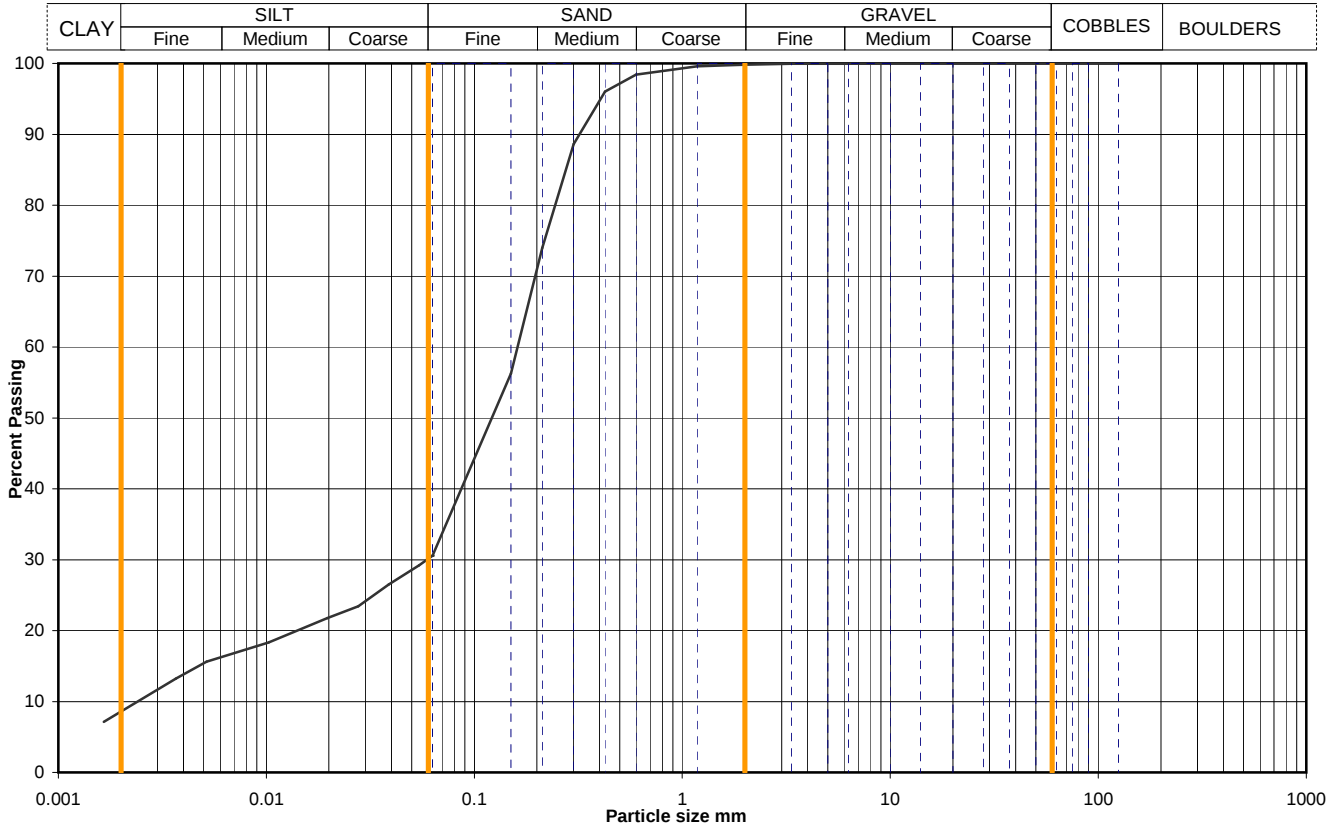
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Figure

PSD 74

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP108	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		0.50	
			Samp No	3	Type	B
			ID	ESGA0054-10201010130000000488		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	31
90	100	0.0543	29
75	100	0.0387	26
63	100	0.0276	23
50	100	0.0196	22
37.5	100	0.0102	18
28	100	0.0052	16
20	100	0.0037	13
14	100	0.0017	7
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	100		
1.18	100		
0.600	98	Particle density, Mg/m3 2.65 assumed	
0.425	96		
0.300	89	Dry mass of sample, kg 14.3	
0.212	74		
0.150	56		
0.063	31		

Soil description	Brown very sandy slightly organic SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	0	0
	Silt	70	70
	Clay	21	21
		9	9

Uniformity Coefficient	D_{60} / D_{10}	67
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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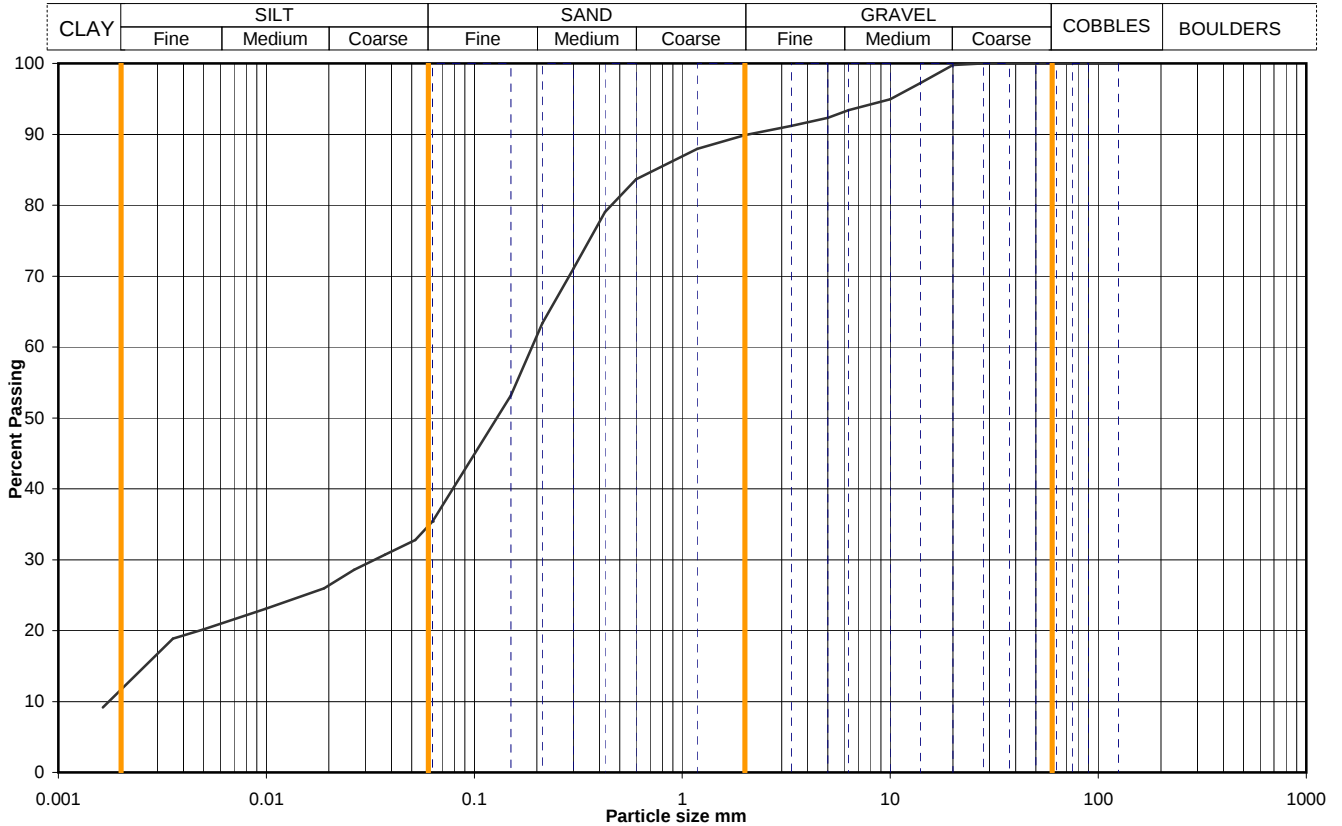
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Figure

PSD 75

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP108	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.90	
			Samp No	7	Type	B
			ID	ESGA0054-10201010130000000492		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	35
90	100	0.0519	33
75	100	0.0371	31
63	100	0.0264	29
50	100	0.0189	26
37.5	100	0.0099	23
28	100	0.0050	20
20	100	0.0036	19
14	97	0.0016	9
10	95		
6.3	93		
5.0	92		
3.35	91		
2.00	90		
1.18	88	Particle density, Mg/m ³ 2.65 assumed	
0.600	84		
0.425	79	Dry mass of sample, kg 15.4	
0.300	71		
0.212	63		
0.150	53		
0.063	35		

Soil description	Brown silty very gravelly SAND with pockets of clay.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	10	10
	Silt	55	55
	Clay	23	23
		12	12

Uniformity Coefficient	D_{60} / D_{10}	108
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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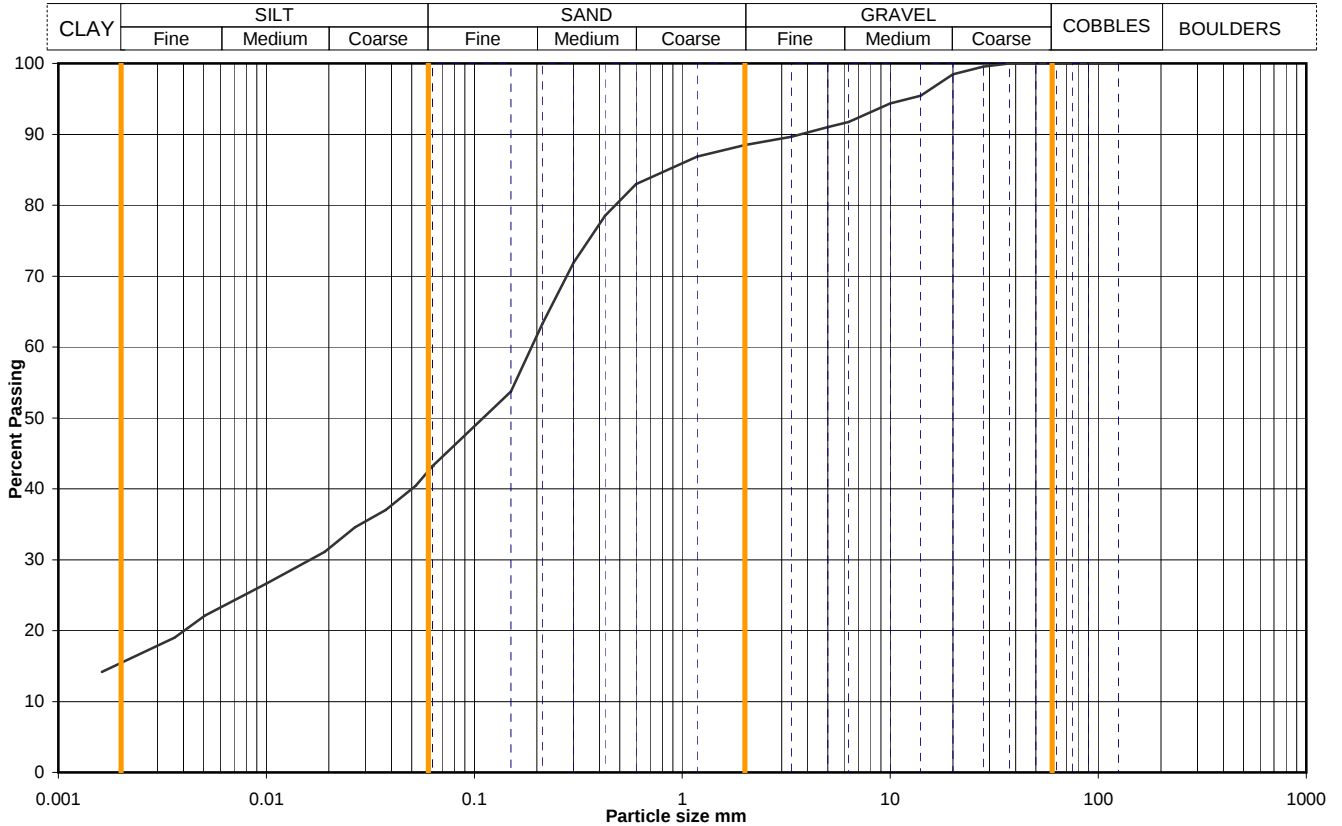
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Figure

PSD 76

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP108	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.90	
			Samp No	11	Type	B
			ID	ESGA0054-10201010130000000495		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	43
90	100	0.0524	40
75	100	0.0375	37
63	100	0.0267	35
50	100	0.0191	31
37.5	100	0.0100	27
28	100	0.0051	22
20	98	0.0036	19
14	95	0.0016	14
10	94		
6.3	92		
5.0	91		
3.35	90		
2.00	88		
1.18	87		
0.600	83	Particle density, Mg/m ³ 2.65 assumed	
0.425	79		
0.300	72	Dry mass of sample, kg 17.1	
0.212	63		
0.150	54		
0.063	43		

Soil description	Greyish brown slightly gravelly sandy CLAY with rare rootlets.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	12	12
	Silt	46	46
	Clay	27	27
		15	15

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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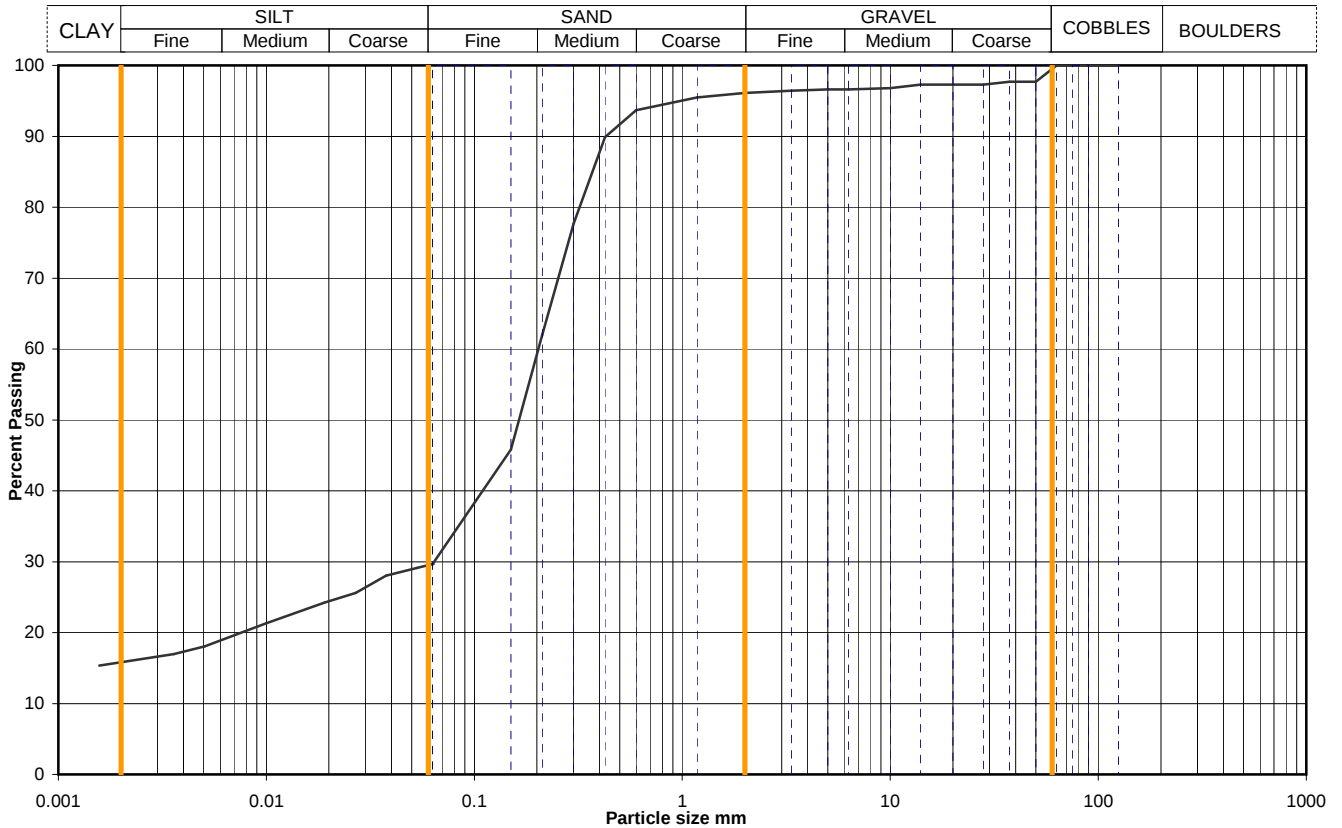
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Figure

PSD 77

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP111	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.00	
			Samp No	12	Type	B
			ID	ESGA0054-10201010130000000509		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	30
90	100	0.0530	29
75	100	0.0376	28
63	100	0.0269	26
50	98	0.0191	24
37.5	98	0.0100	21
28	97	0.0051	18
20	97	0.0036	17
14	97	0.0016	15
10	97		
6.3	97		
5.0	97		
3.35	96		
2.00	96		
1.18	96		
0.600	94		
0.425	90		
0.300	78		
0.212	62		
0.150	46		
0.063	30		

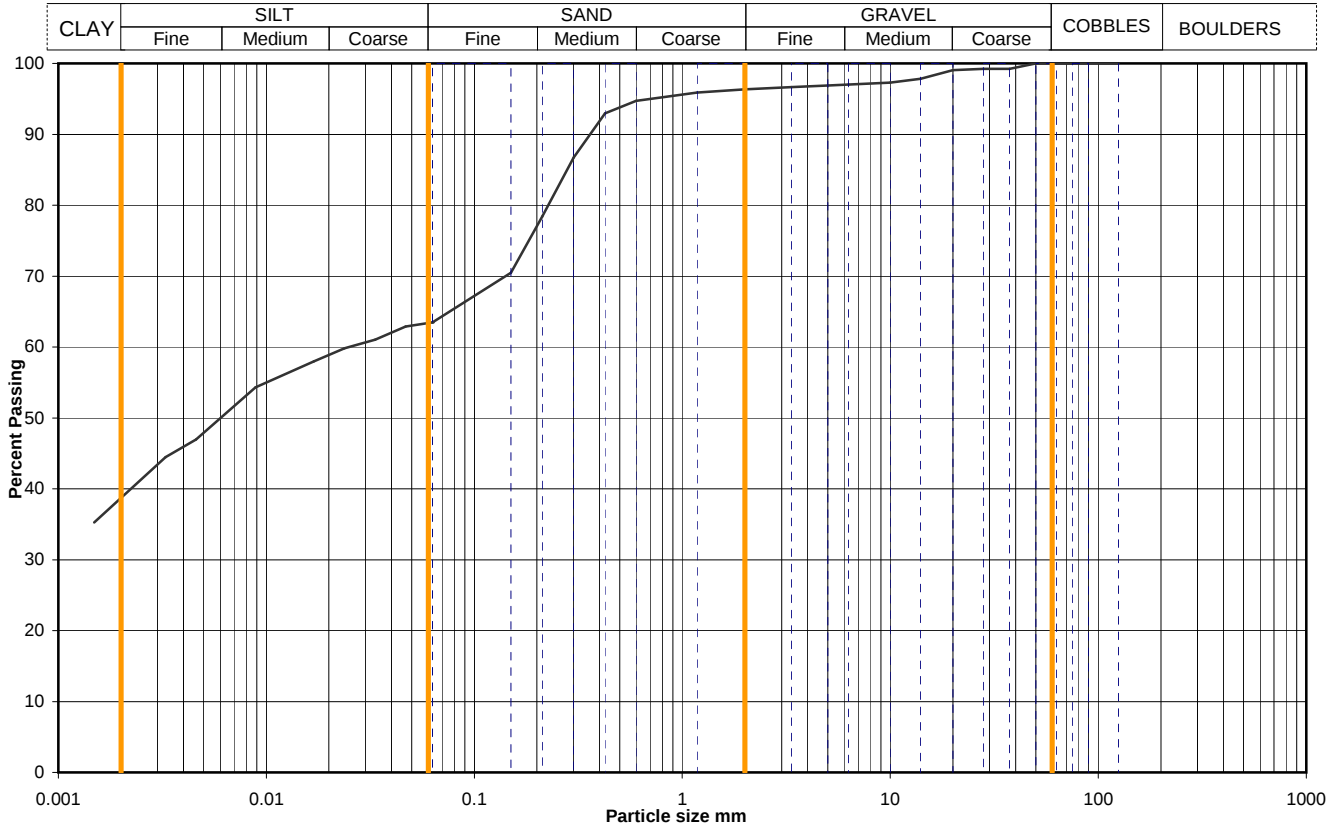
Soil description	Brown slightly gravelly very sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	4	4
	Silt	67	67
	Clay	13	13

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP111	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.50	
			Samp No	15	Type	B
			ID	ESGA0054-10201010130000000510		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	63
90	100	0.0468	63
75	100	0.0334	61
63	100	0.0237	60
50	100	0.0169	58
37.5	99	0.0089	54
28	99	0.0046	47
20	99	0.0033	44
14	98	0.0015	35
10	97		
6.3	97		
5.0	97		
3.35	97		
2.00	96		
1.18	96		
0.600	95		
0.425	93		
0.300	87		
0.212	78		
0.150	70		
0.063	63		

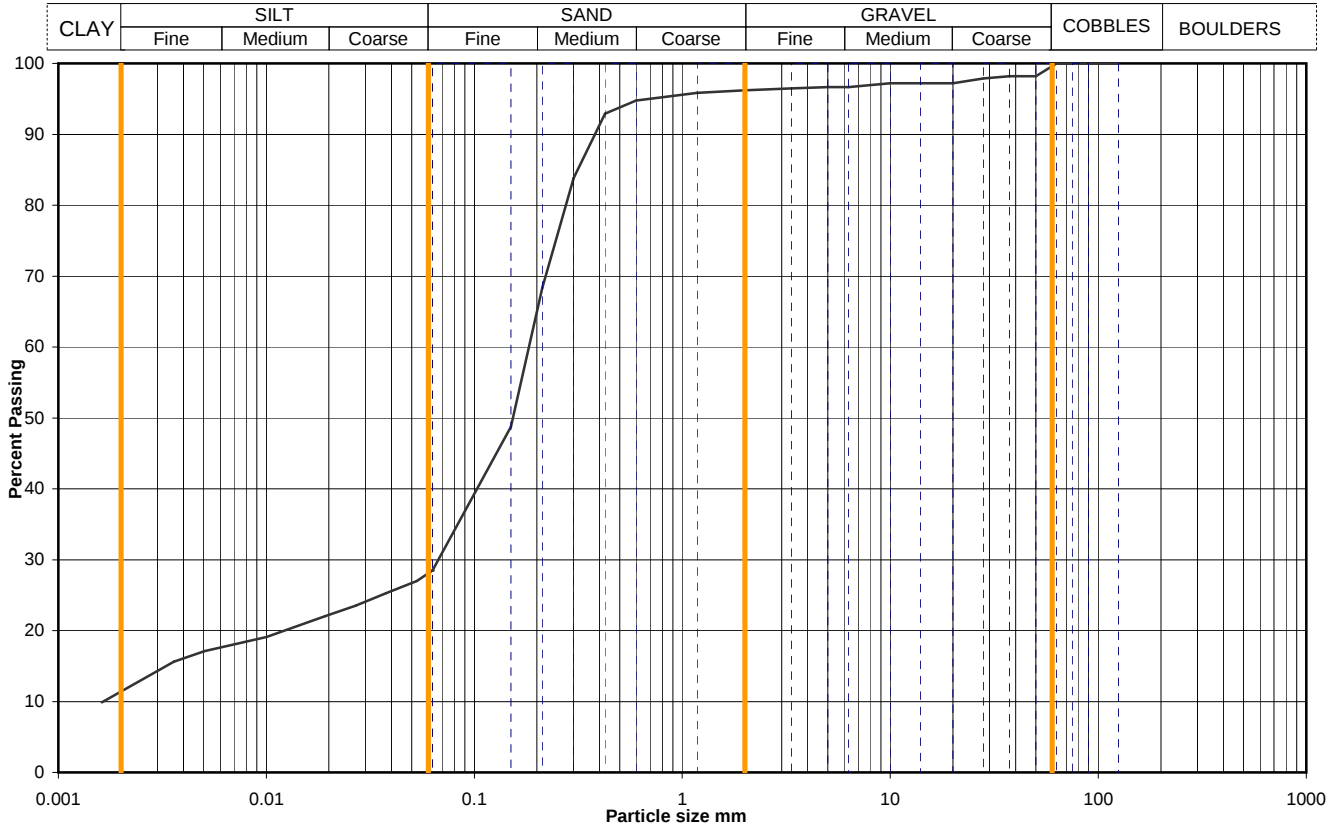
Soil description	Brown slightly gravelly slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * < 60mm values to aid description only	Cobbles / boulders	Whole	* < 60mm
	Gravel	0	0
	Sand	4	4
	Silt	33	33
	Clay	24	24

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP201	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.00	
			Samp No	6	Type	B
			ID	ESGA0054-10201010130000000520		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	28
90	100	0.0529	27
75	100	0.0377	25
63	100	0.0269	24
50	98	0.0191	22
37.5	98	0.0100	19
28	98	0.0050	17
20	97	0.0036	16
14	97	0.0016	10
10	97		
6.3	97		
5.0	97		
3.35	96		
2.00	96		
1.18	96		
0.600	95		
0.425	93		
0.300	84		
0.212	68		
0.150	49		
0.063	28		

Soil description	Brown slightly gravelly silty SAND with gravel sized pockets of clay.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	4	4
	Silt	68	68
	Clay	17	17

Uniformity Coefficient	D_{60} / D_{10}	112
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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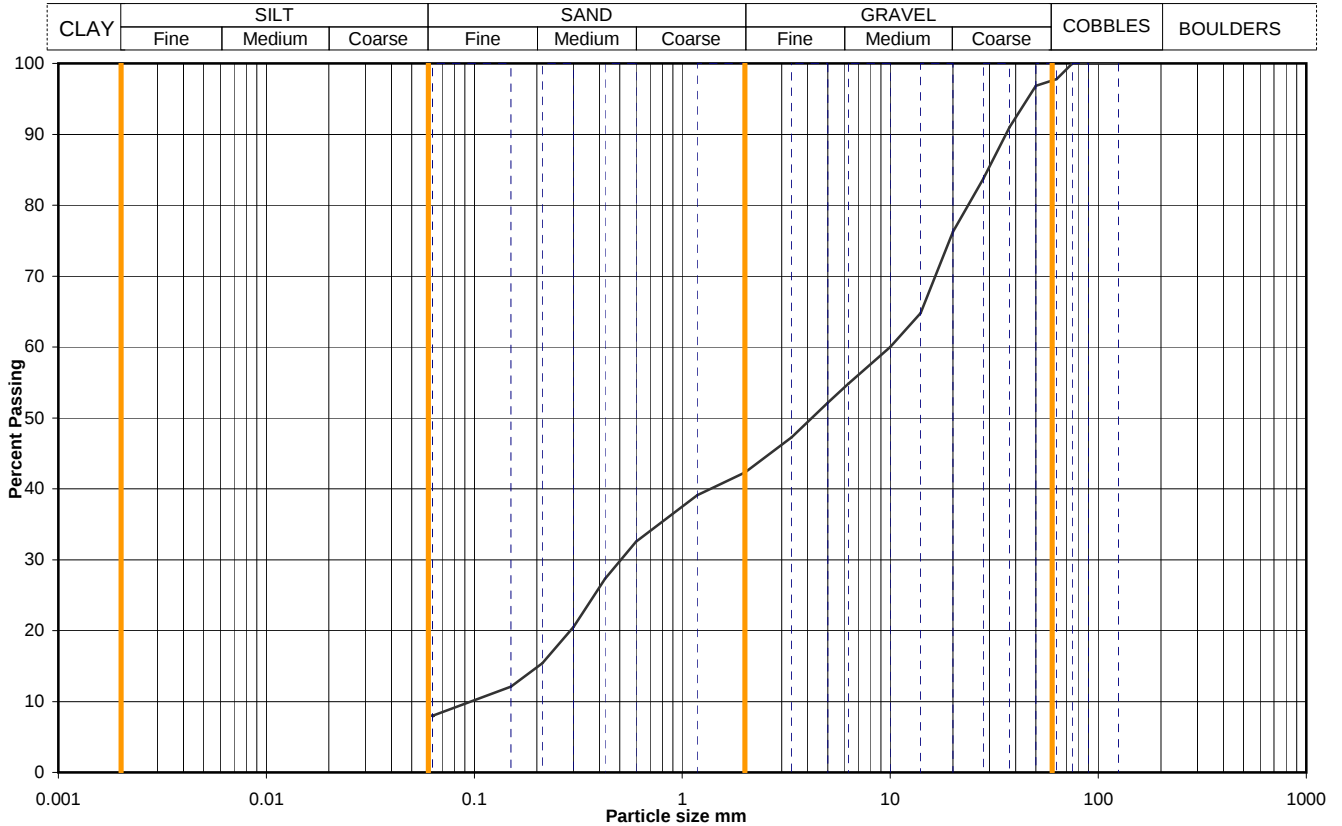
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Figure

PSD 80

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP201	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.20	
			Samp No	9	Type	B
			ID	ESGA0054-10201010130000000522		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	98		
50	97		
37.5	91		
28	84		
20	76		
14	65		
10	60		
6.3	55		
5.0	52		
3.35	47		
2.00	42		
1.18	39		
0.600	33		
0.425	27		
0.300	21		
0.212	15		
0.150	12		
0.063	8		

Dry mass of sample, kg 15.9	

Soil description	Brownish grey very sandy GRAVEL with occasional gravel sized pockets of sandy clay and one cobble.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders Gravel Sand Silt Clay	Whole	* <60mm
		2	0
		56	57
		34	35
		silt+clay =	
		8	8

Uniformity Coefficient	D_{60} / D_{10}	104
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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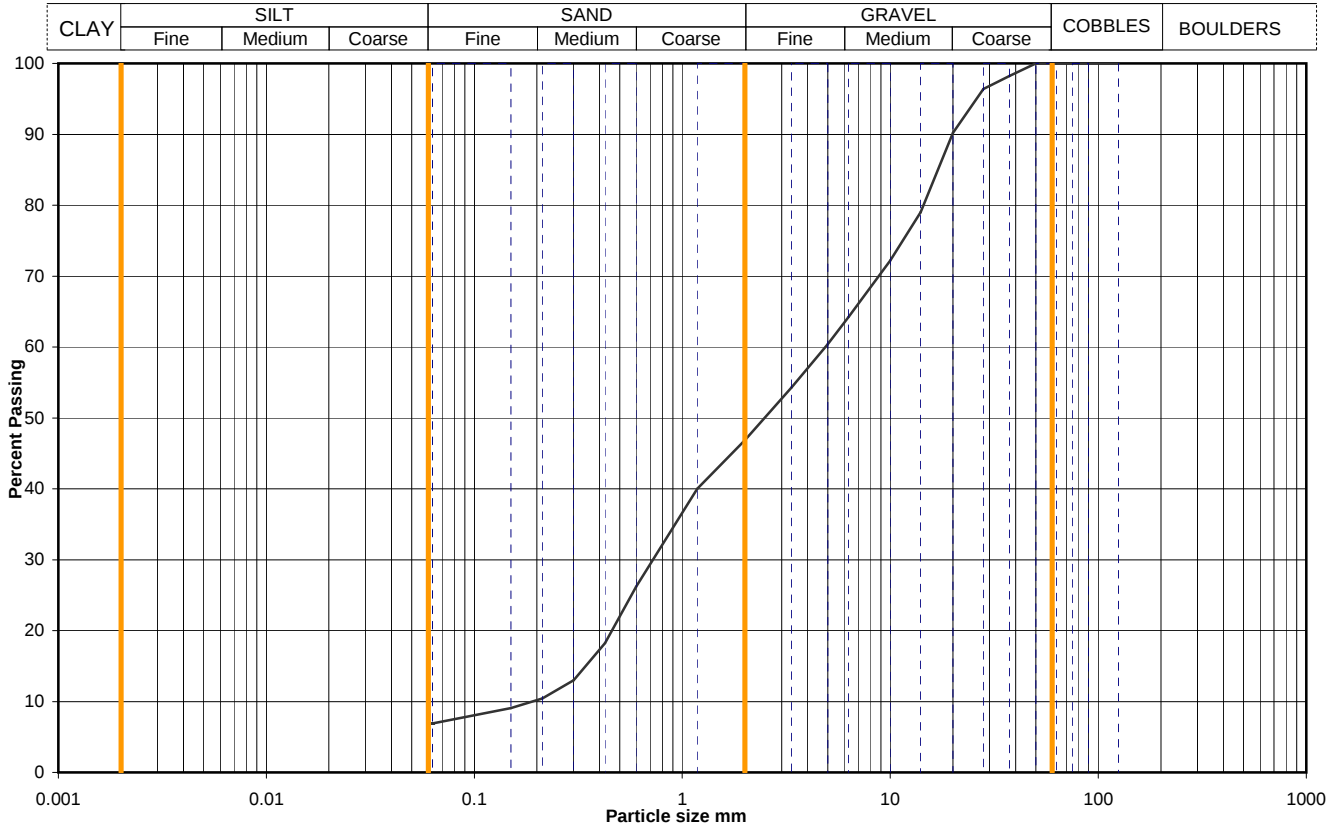
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Figure

PSD 81

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP203	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.80	
			Samp No	15	Type	B
			ID	ESGA0054-10201010130000000554		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	98		
28	96		
20	90		
14	79		
10	72		
6.3	64		
5.0	60		
3.35	54		
2.00	47		
1.18	40		
0.600	26		
0.425	18		
0.300	13		
0.212	10		
0.150	9		
0.063	7		

Dry mass of sample, kg			
11.0			

Soil description	Brown very sandy GRAVEL with pockets of clay.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders Gravel Sand Silt Clay	Whole	* <60mm
		0	0
		53	53
		40	40
		silt+clay =	
		7	7

Uniformity Coefficient	D_{60} / D_{10}	26
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

QA Ref

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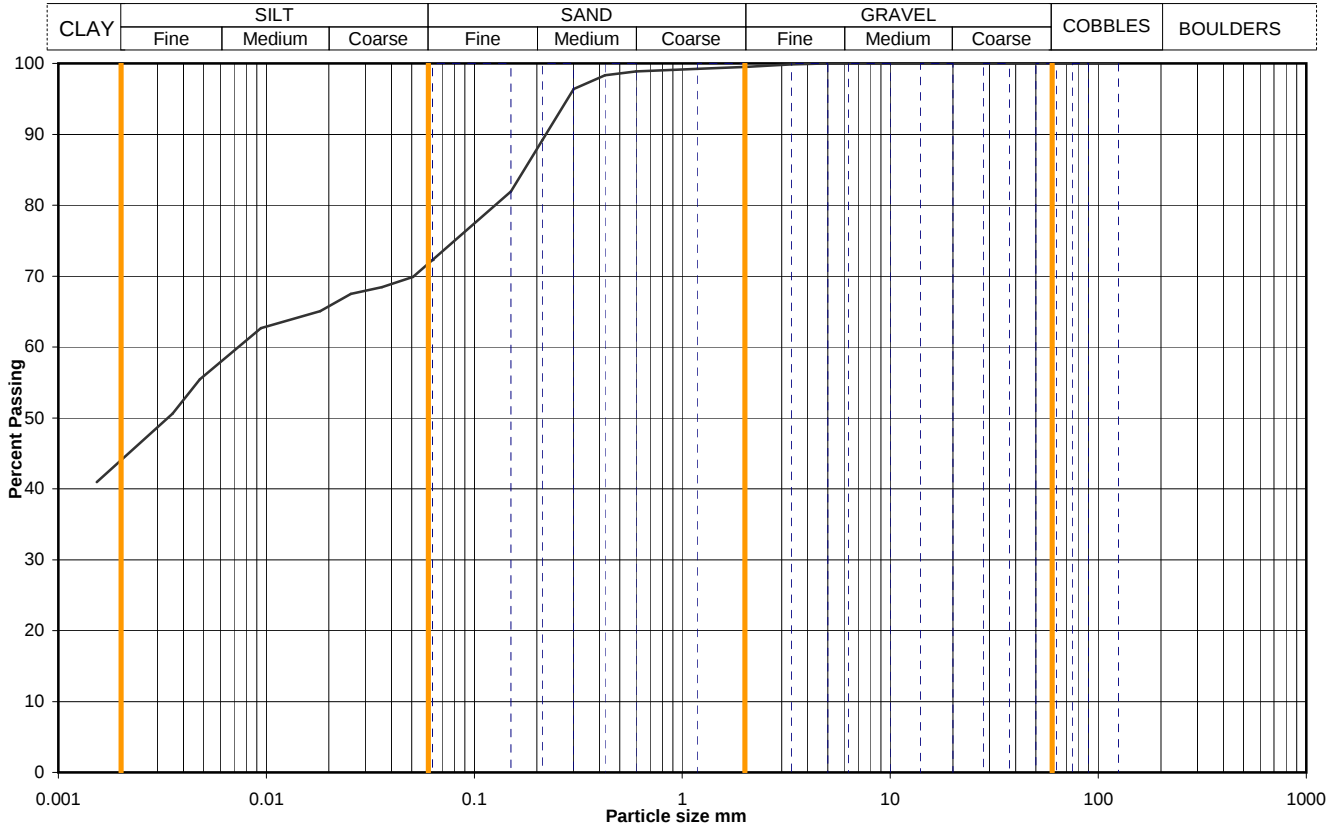
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Figure

PSD 82

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP204		
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.60		
			Samp No	12	Type	B	
			ID	ESGA0054-10201010130000000572			
			Spec Ref				



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	72
90	100	0.0507	70
75	100	0.0360	68
63	100	0.0255	67
50	100	0.0181	65
37.5	100	0.0094	63
28	100	0.0048	55
20	100	0.0035	51
14	100	0.0015	41
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	99		
1.18	99		
0.600	99	Particle density, Mg/m3	
0.425	98	2.65 assumed	
0.300	96	Dry mass of sample, kg	
0.212	89	12.1	
0.150	82		
0.063	72		

Soil description	Brown slightly gravelly slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	1	1
	Silt	28	28
	Clay	27	27
		44	44

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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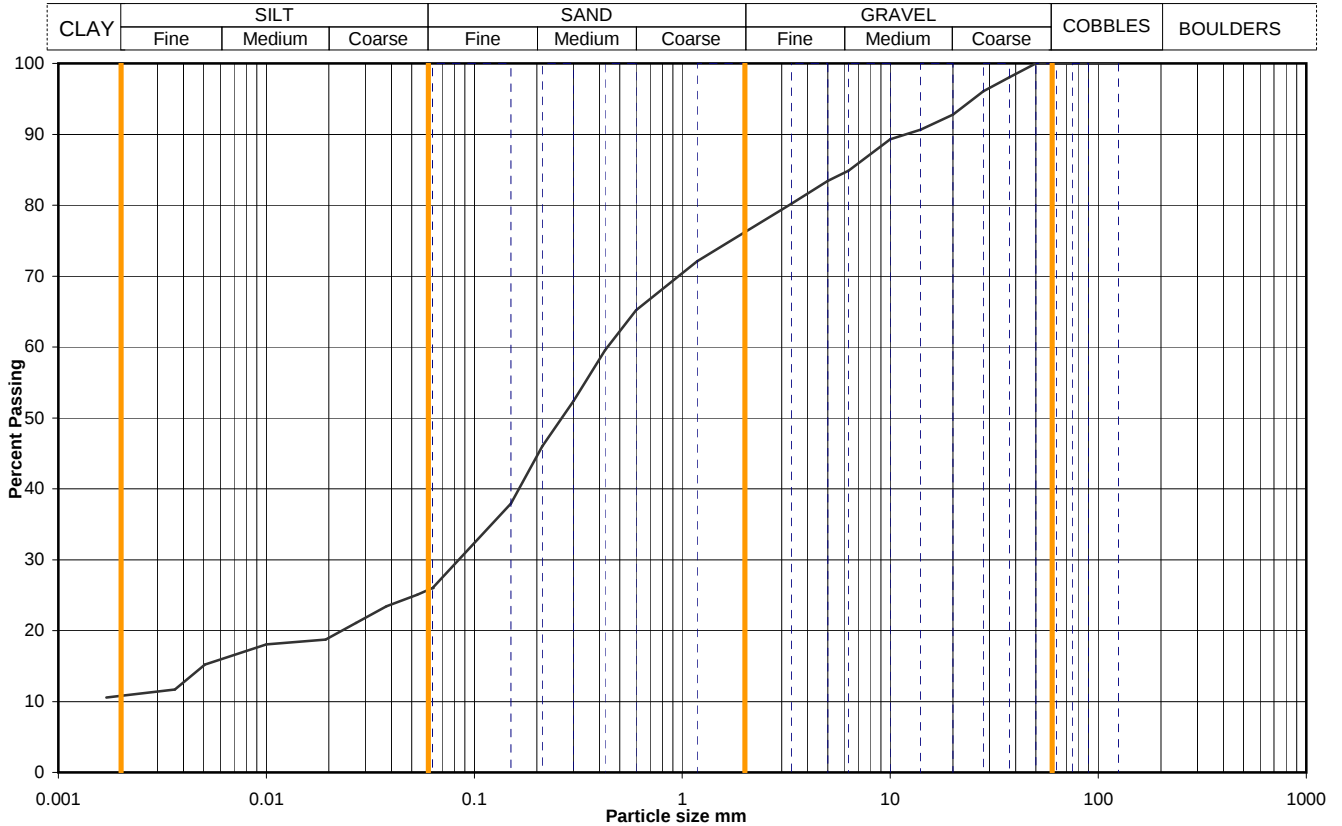
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Figure

PSD 83

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP204	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.30	
			Samp No	15	Type	B
			ID	ESGA0054-10201010130000000573		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	26
90	100	0.0530	25
75	100	0.0378	23
63	100	0.0270	21
50	100	0.0193	19
37.5	98	0.0100	18
28	96	0.0051	15
20	93	0.0036	12
14	91	0.0017	11
10	89		
6.3	85		
5.0	83		
3.35	80		
2.00	76		
1.18	72		
0.600	65	Particle density, Mg/m3	
0.425	60	2.65 assumed	
0.300	52	Dry mass of sample, kg	
0.212	46	8.3	
0.150	38		
0.063	26		

Soil description	Brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	24	24
	Silt	50	50
	Clay	15	15
		11	11

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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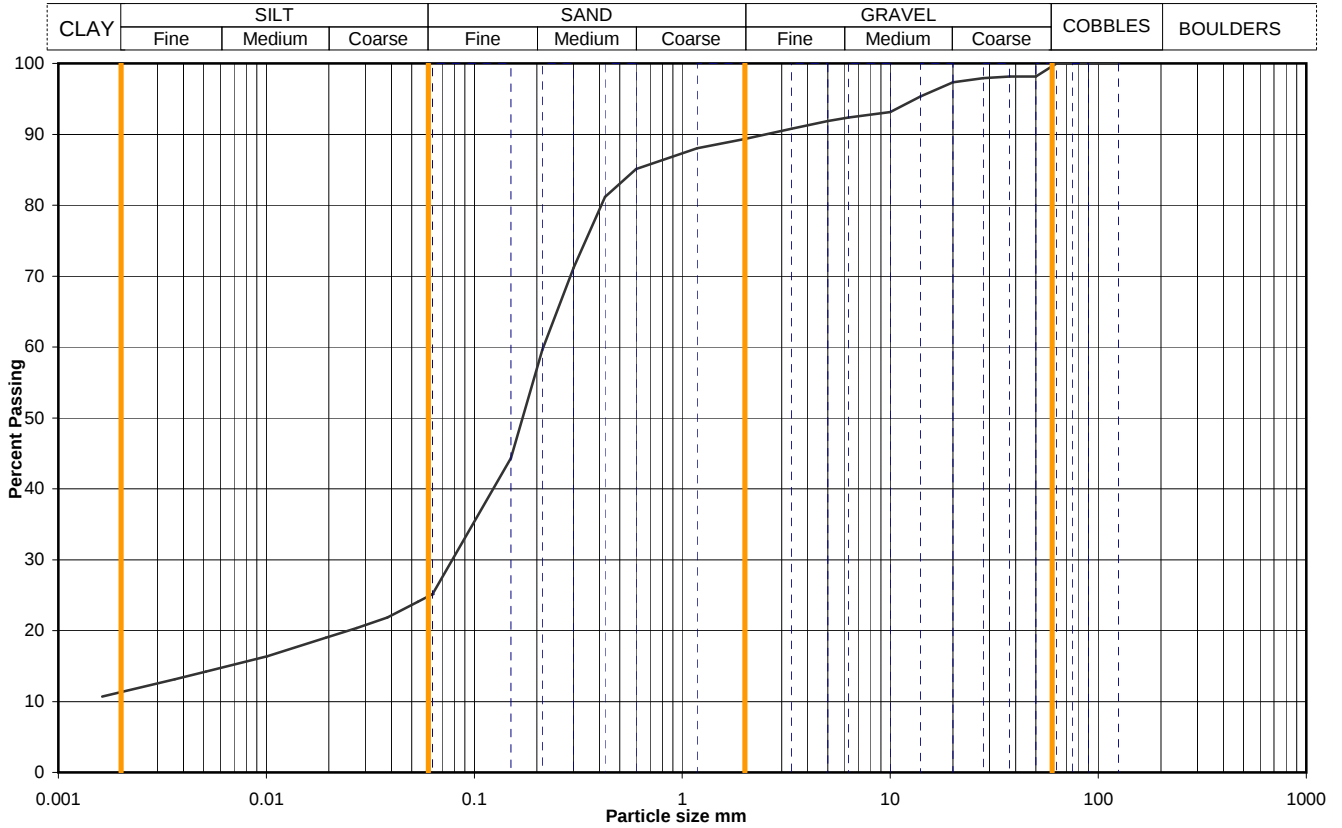
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Figure

PSD 84

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP205	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.00	
			Samp No	7	Type	B
			ID	ESGA0054-10201010130000000584		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	25
90	100	0.0534	24
75	100	0.0382	22
63	100	0.0272	20
50	98	0.0194	19
37.5	98	0.0101	16
28	98	0.0051	14
20	97	0.0036	13
14	95	0.0016	11
10	93		
6.3	92		
5.0	92		
3.35	91		
2.00	89		
1.18	88		
0.600	85	Particle density, Mg/m3	
0.425	81	2.65 assumed	
0.300	71	Dry mass of sample, kg	
0.212	60	13.9	
0.150	44		
0.063	25		

Soil description	Brown slightly gravelly sandy slightly organic clayey SILT.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	11	11
	Silt	65	65
	Clay	13	13

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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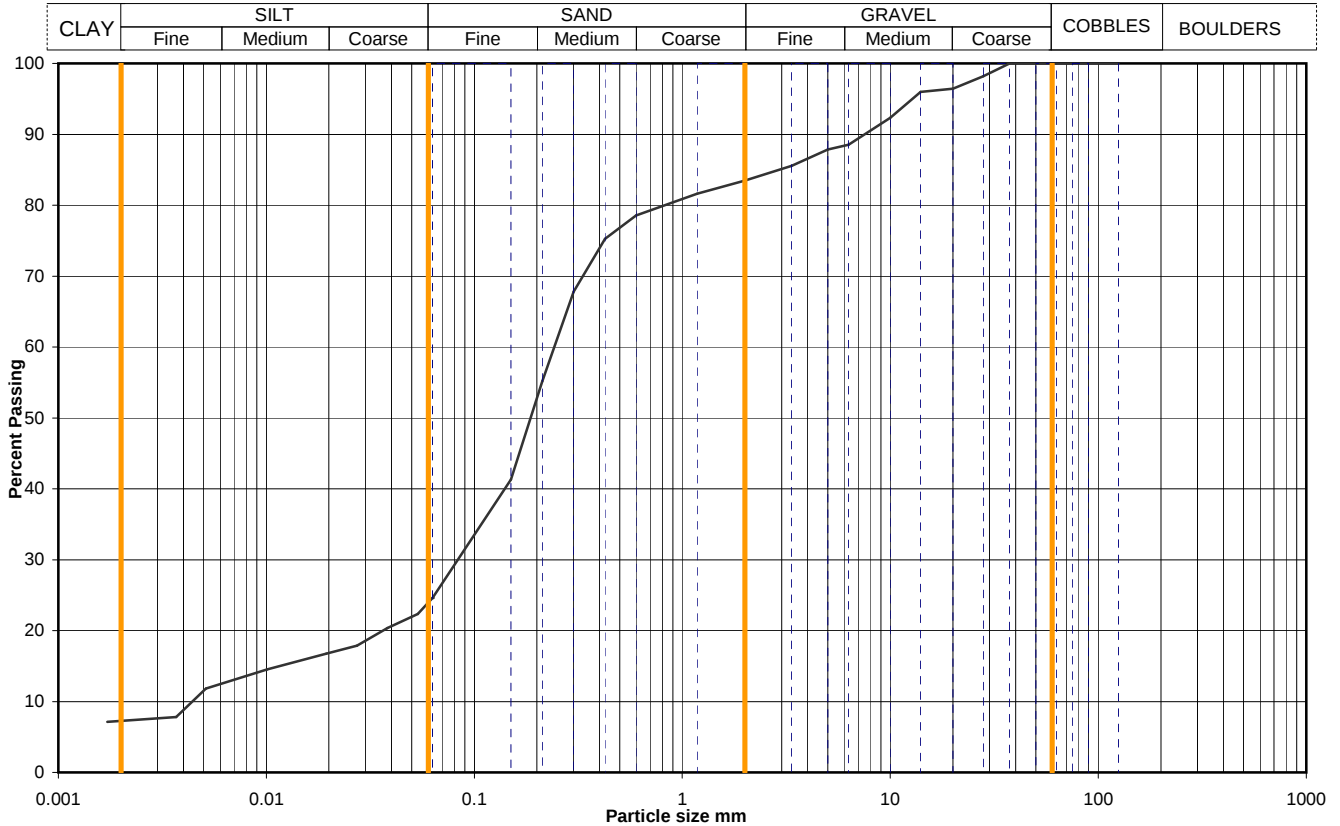
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Figure

PSD 85

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP206	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		0.80	
			Samp No	6	Type	B
			ID	ESGA0054-10201010130000000593		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	25
90	100	0.0534	22
75	100	0.0382	20
63	100	0.0273	18
50	100	0.0194	17
37.5	100	0.0101	15
28	98	0.0051	12
20	96	0.0037	8
14	96	0.0017	7
10	92		
6.3	89		
5.0	88		
3.35	86		
2.00	83		
1.18	82		
0.600	79	Particle density, Mg/m3 2.65 assumed	
0.425	75		
0.300	68	Dry mass of sample, kg 7.5	
0.212	55		
0.150	41		
0.063	25		

Soil description	Brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	17	17
	Silt	60	60
	Clay	16	16
		7	7

Uniformity Coefficient	D_{60} / D_{10}	55
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

QA Ref

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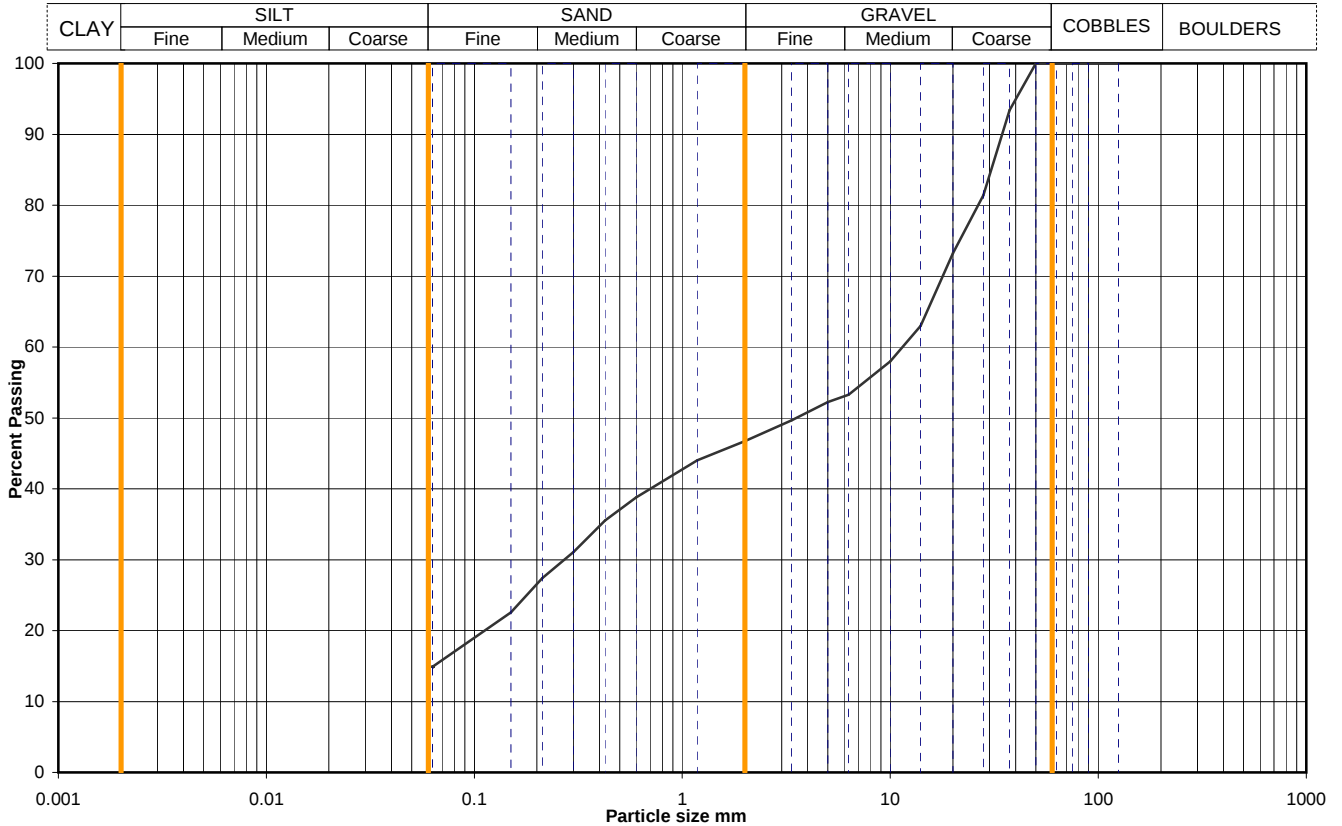
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Figure

PSD 86

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP206	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.80	
			Samp No	9	Type	B
			ID	ESGA0054-10201010130000000596		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	93		
28	81		
20	73		
14	63		
10	58		
6.3	53		
5.0	52		
3.35	50		
2.00	47		
1.18	44		
0.600	39		
0.425	36		
0.300	31		
0.212	27		
0.150	23		
0.063	15		

Soil description	Brown slightly sandy gravelly CLAY.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	53	53
	Silt	32	32
	Clay	silt+clay = 15	15

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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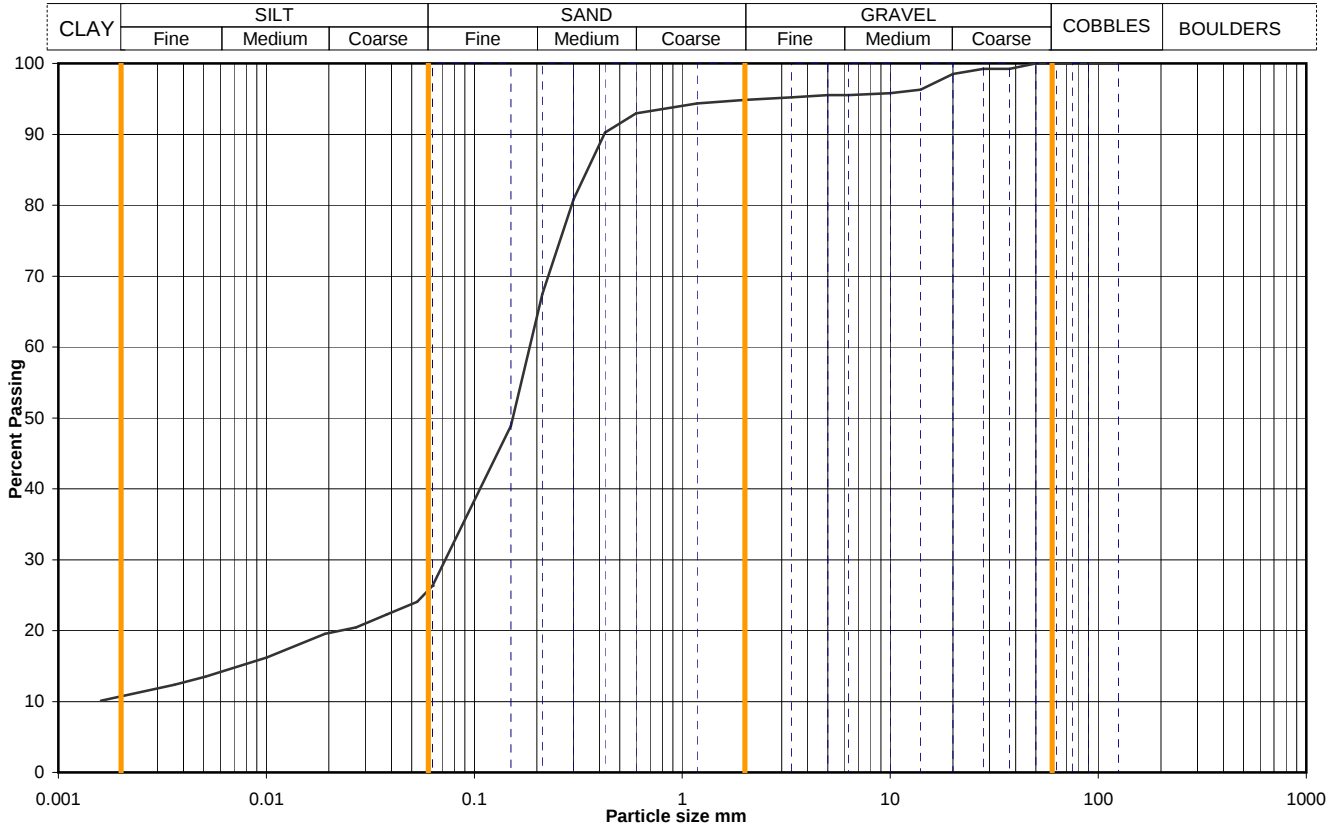


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Figure
PSD 87

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP207	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.10	
			Samp No	7	Type	B
			ID	ESGA0054-10201010130000000604		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	26
90	100	0.0530	24
75	100	0.0378	22
63	100	0.0270	20
50	100	0.0192	20
37.5	99	0.0101	16
28	99	0.0051	13
20	99	0.0036	12
14	96	0.0016	10
10	96		
6.3	96		
5.0	96		
3.35	95		
2.00	95		
1.18	94		
0.600	93		
0.425	90		
0.300	81		
0.212	67		
0.150	49		
0.063	26		

Particle density, Mg/m ³	
2.65	assumed
Dry mass of sample, kg	
9.3	

Soil description	Brown slightly gravelly very sandy silty CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	5	5
	Silt	69	69
	Clay	15	15

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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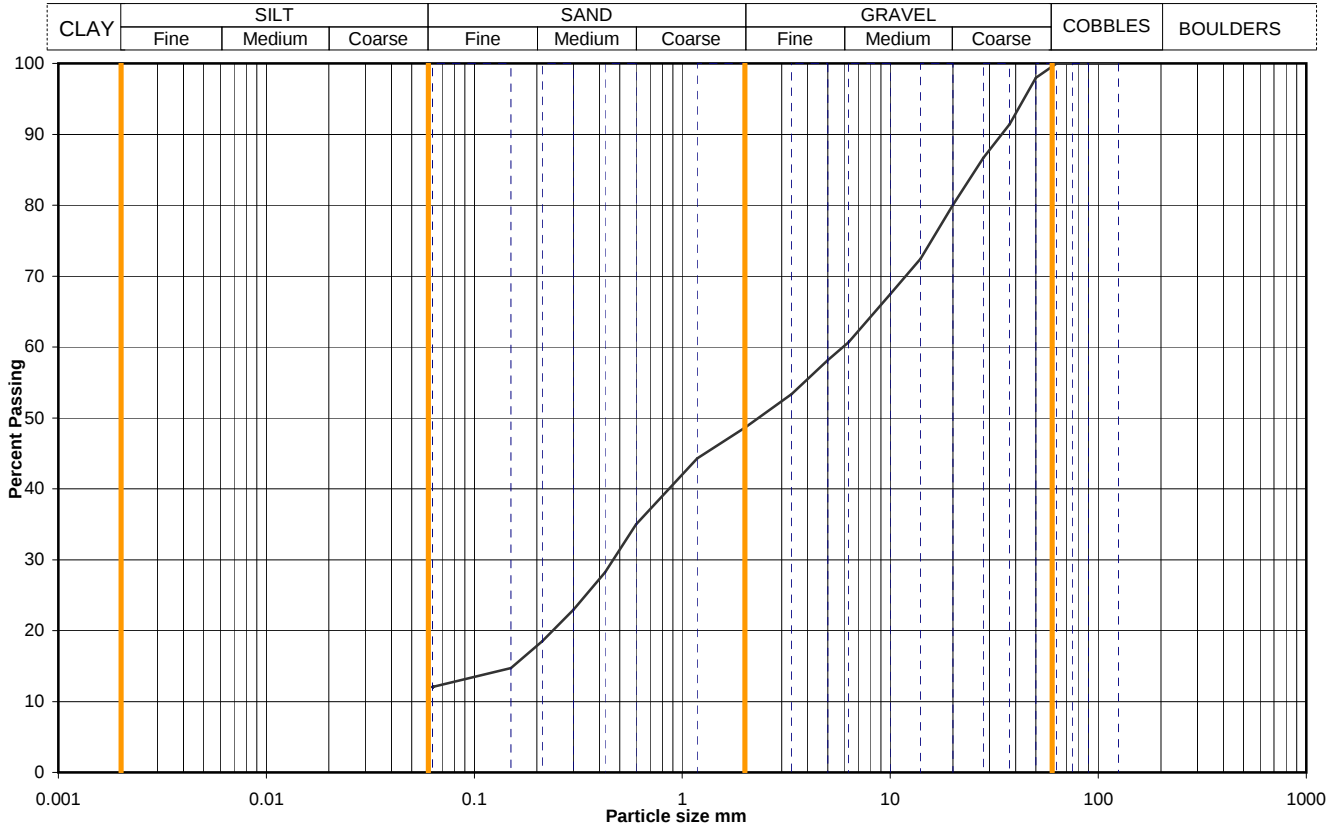
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Figure

PSD 88

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP208	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.00	
			Samp No	9	Type	B
			ID	ESGA0054-10201010130000000614		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	98		
37.5	91		
28	87		
20	80		
14	72		
10	67		
6.3	61		
5.0	58		
3.35	53		
2.00	49		
1.18	44		
0.600	35		
0.425	28		
0.300	23		
0.212	18		
0.150	15		
0.063	12		

Dry mass of sample, kg 18.5	

Soil description	Brown slightly clayey very sandy GRAVEL.		
Preparation / Pretreatment	Sieve: natural material		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders Gravel Sand Silt Clay	Whole	* <60mm
		0	0
		51	51
		37	37
		silt+clay =	
		12	12

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

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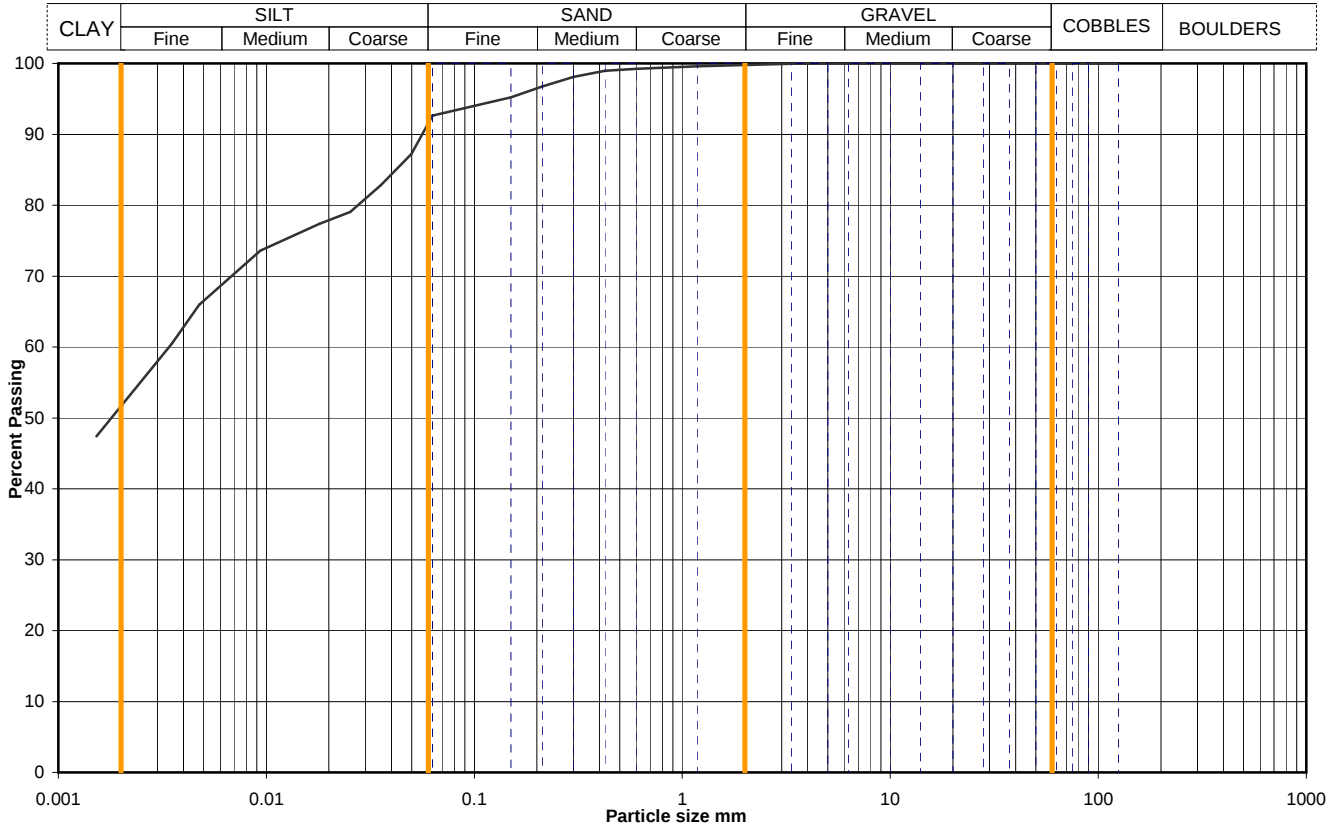
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Figure

PSD 89

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP209	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.50	
			Samp No	12	Type	B
			ID	ESGA0054-10201010130000000627		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	93
90	100	0.0497	87
75	100	0.0355	83
63	100	0.0253	79
50	100	0.0180	77
37.5	100	0.0094	74
28	100	0.0048	66
20	100	0.0035	61
14	100	0.0015	47
10	100		
6.3	100		
5.0	100		
3.35	100		
2.00	100		
1.18	100		
0.600	99	Particle density, Mg/m3 2.65 assumed	
0.425	99		
0.300	98	Dry mass of sample, kg 9.7	
0.212	97		
0.150	95		
0.063	93		

Soil description	Greyish brown slightly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	0	0
	Silt	8	8
	Clay	40	40
		52	52

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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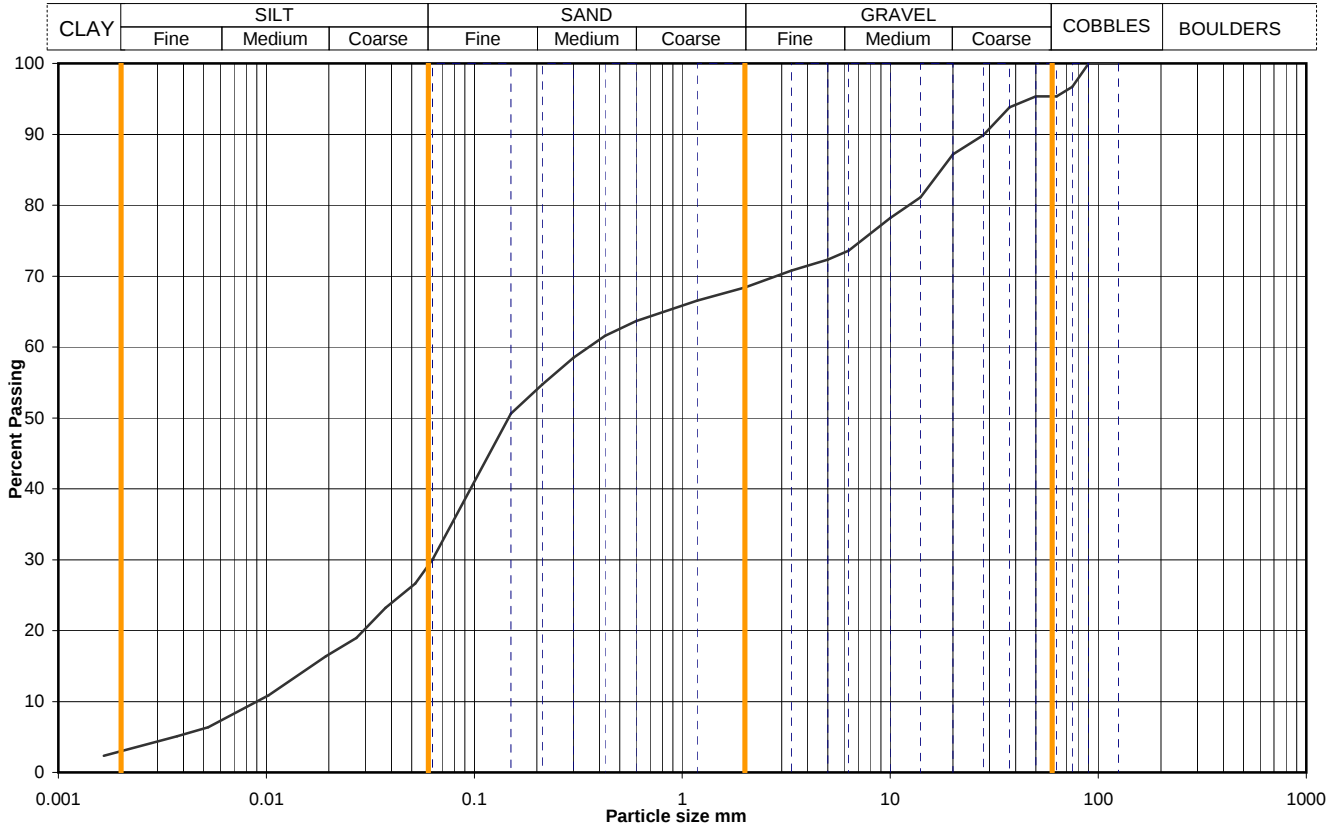
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Figure

PSD 90

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP403	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.70	
			Samp No	17	Type	B
			ID	ESGA0054-10201010130000000677		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	30
90	100	0.0519	27
75	97	0.0374	23
63	95	0.0270	19
50	95	0.0194	16
37.5	94	0.0103	11
28	90	0.0052	6
20	87	0.0037	5
14	81	0.0017	2
10	78		
6.3	74		
5.0	72		
3.35	71		
2.00	68		
1.18	67		
0.600	64	Particle density, Mg/m3	
0.425	62	2.65 assumed	
0.300	59	Dry mass of sample, kg	
0.212	55	15.1	
0.150	51		
0.063	30		

Soil description	Light yellowish brown slightly gravelly sandy SILT with two cobbles.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	5	0
	Sand	27	28
	Silt	39	41
	Clay	26	27
		3	3

Uniformity Coefficient	D_{60} / D_{10}	39
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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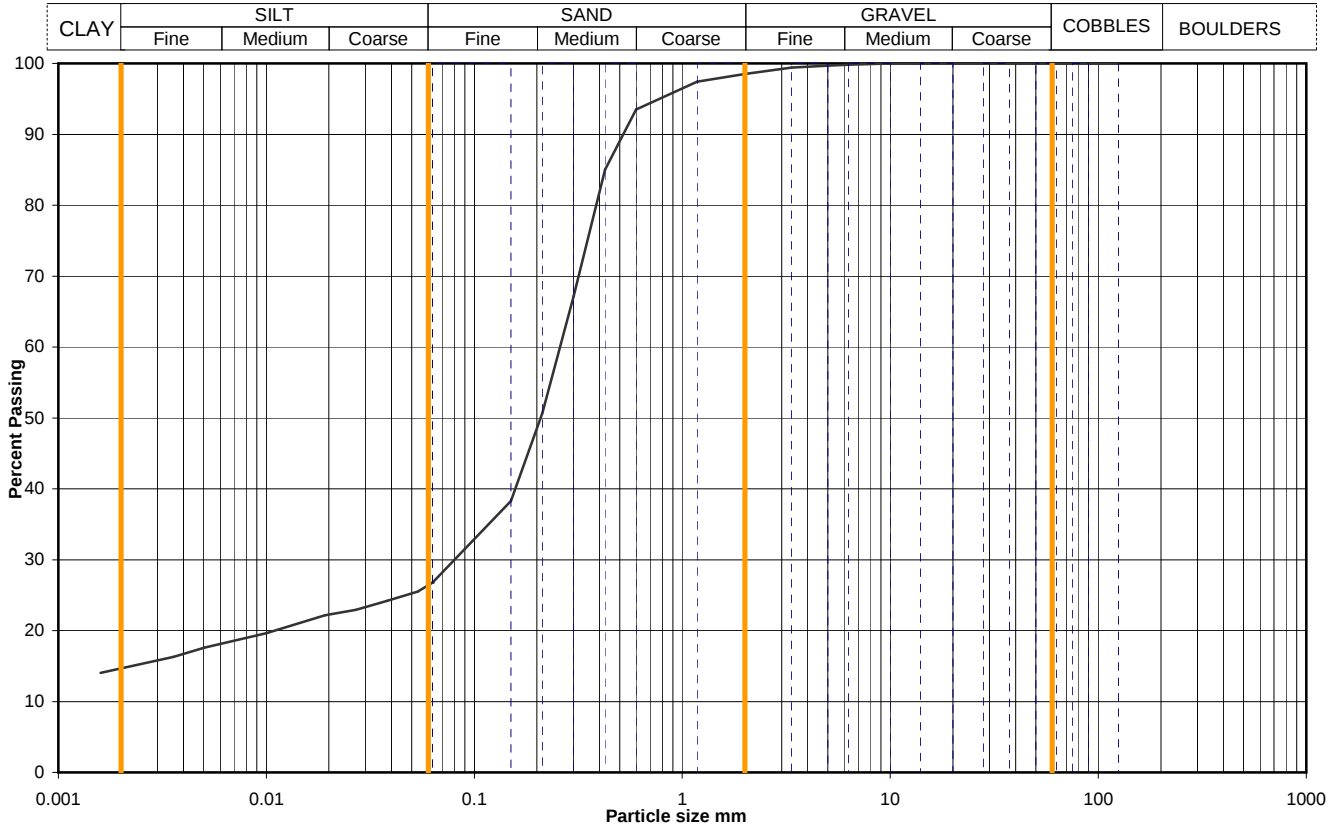
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Figure

PSD 91

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP403	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		4.00	
			Samp No	20	Type	B
			ID	ESGA0054-10201010130000000681		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	27
90	100	0.0534	25
75	100	0.0380	24
63	100	0.0270	23
50	100	0.0192	22
37.5	100	0.0100	20
28	100	0.0050	18
20	100	0.0036	16
14	100	0.0016	14
10	100		
6.3	100		
5.0	100		
3.35	99		
2.00	99		
1.18	97	Particle density, Mg/m ³ 2.65 assumed	
0.600	94		
0.425	85	Dry mass of sample, kg 1.8	
0.300	67		
0.212	51		
0.150	38		
0.063	27		

Soil description	Brownish grey slightly gravelly very sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	1	1
	Silt	72	72
	Clay	12	12
		15	15

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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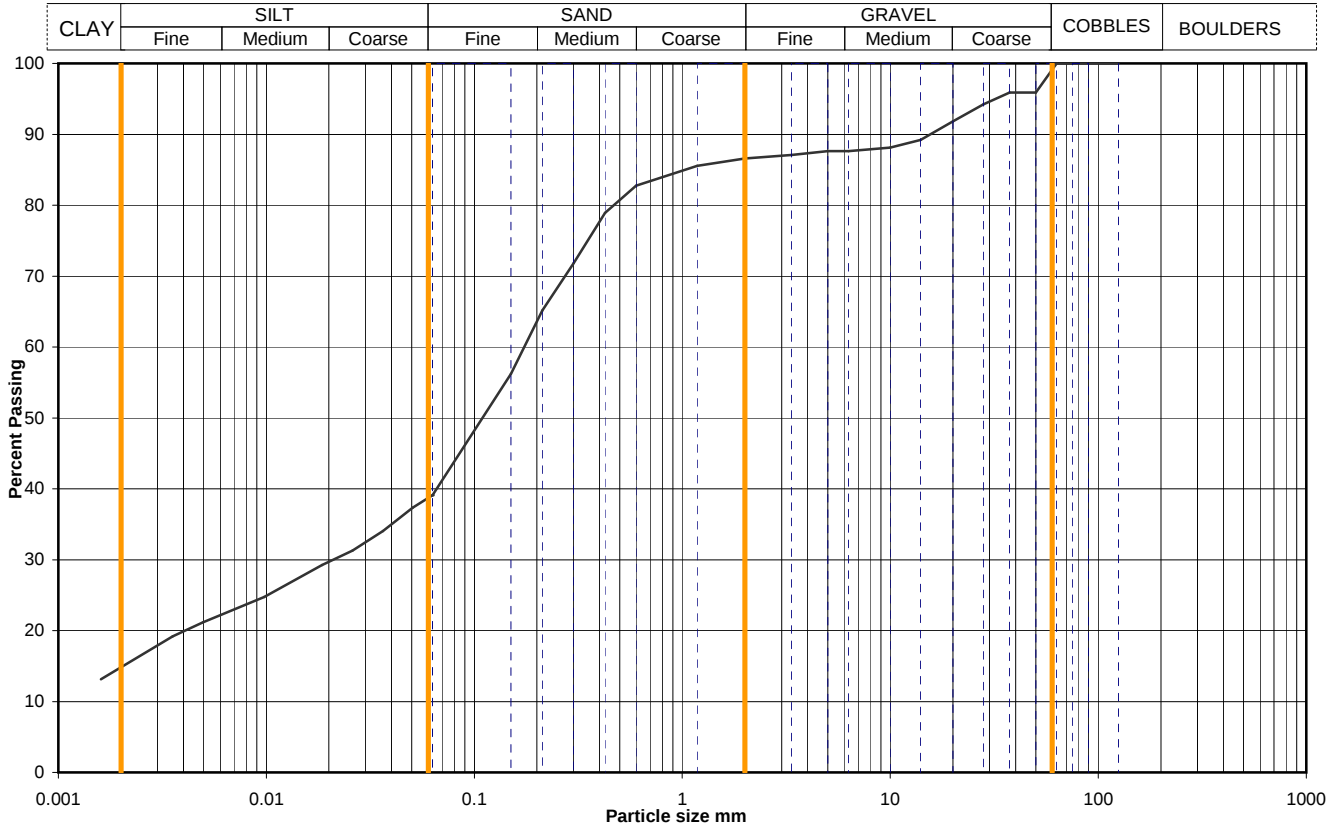
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Figure

PSD 92

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		TP405	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.20	
			Samp No	9	Type	B
			ID	ESGA0054-10201010130000000688		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	39
90	100	0.0505	37
75	100	0.0363	34
63	100	0.0260	31
50	96	0.0186	29
37.5	96	0.0098	25
28	94	0.0050	21
20	92	0.0035	19
14	89	0.0016	13
10	88		
6.3	88		
5.0	88		
3.35	87		
2.00	87		
1.18	86		
0.600	83	Particle density, Mg/m ³	
0.425	79	2.65 assumed	
0.300	72	Dry mass of sample, kg	
0.212	65	13.2	
0.150	56		
0.063	39		

Soil description	Brown slightly gravelly sandy CLAY with rare rootlets.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	1	0
	Sand	12	12
	Silt	48	48
	Clay	24	24
		15	15

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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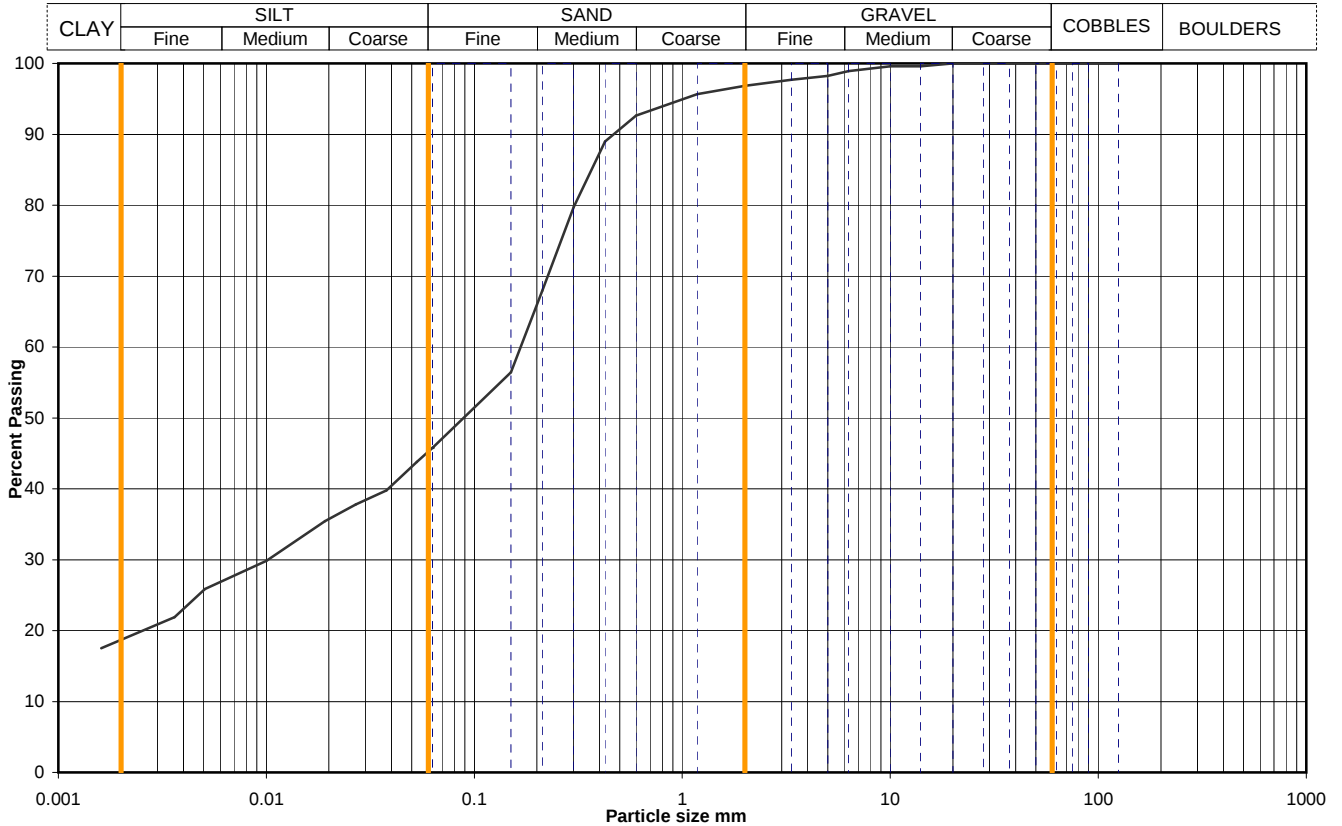
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Figure

PSD 93

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		WS102	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		3.00	
			Samp No	9	Type	B
			ID	ESGA0054-10201010010000000183		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	46
90	100	0.0528	44
75	100	0.0378	40
63	100	0.0269	38
50	100	0.0191	35
37.5	100	0.0100	30
28	100	0.0051	26
20	100	0.0036	22
14	100	0.0016	18
10	100		
6.3	99		
5.0	98		
3.35	98		
2.00	97		
1.18	96		
0.600	93		
0.425	89		
0.300	80		
0.212	68		
0.150	56		
0.063	46		

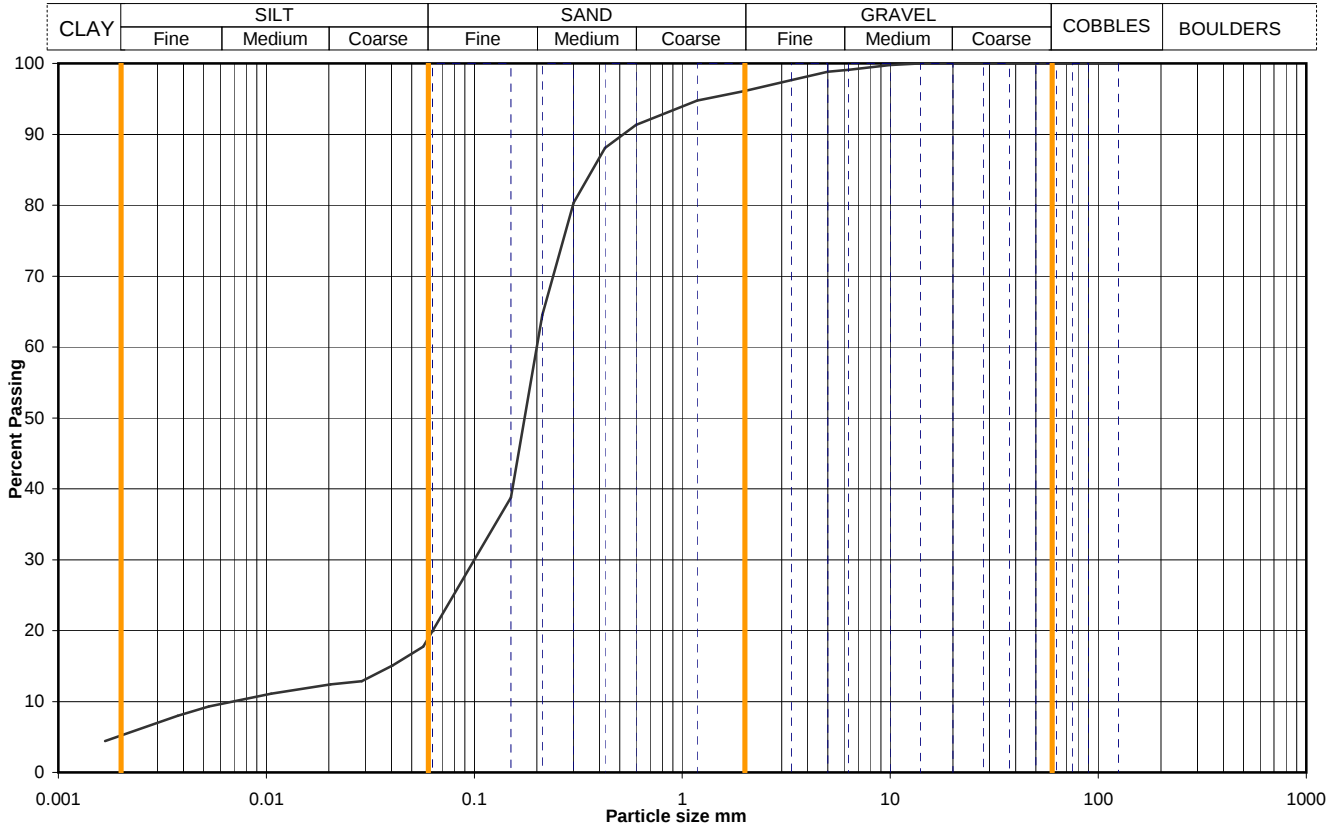
Soil description	Greyish brown slightly gravelly sandy CLAY.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	3	3
	Silt	52	52
	Clay	26	26

Uniformity Coefficient	D_{60} / D_{10}	Not applicable
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		WS102	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		4.46	
			Samp No	12	Type	B
			ID	ESGA0054-10201010010000000186		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	20
90	100	0.0569	18
75	100	0.0405	15
63	100	0.0287	13
50	100	0.0203	12
37.5	100	0.0105	11
28	100	0.0053	9
20	100	0.0038	8
14	100	0.0017	4
10	100		
6.3	99		
5.0	99		
3.35	98		
2.00	96		
1.18	95		
0.600	91	Particle density, Mg/m ³ 2.65 assumed	
0.425	88		
0.300	80	Dry mass of sample, kg 1.7	
0.212	65		
0.150	39		
0.063	20		

Soil description	Brown slightly gravelly silty SAND.		
Preparation / Pretreatment	Sieve: natural material Hydro: as BS1377		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	4	4
	Silt	77	77
	Clay	14	14
		5	5

Uniformity Coefficient	D_{60} / D_{10}	29
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Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	9.5 hydrometer

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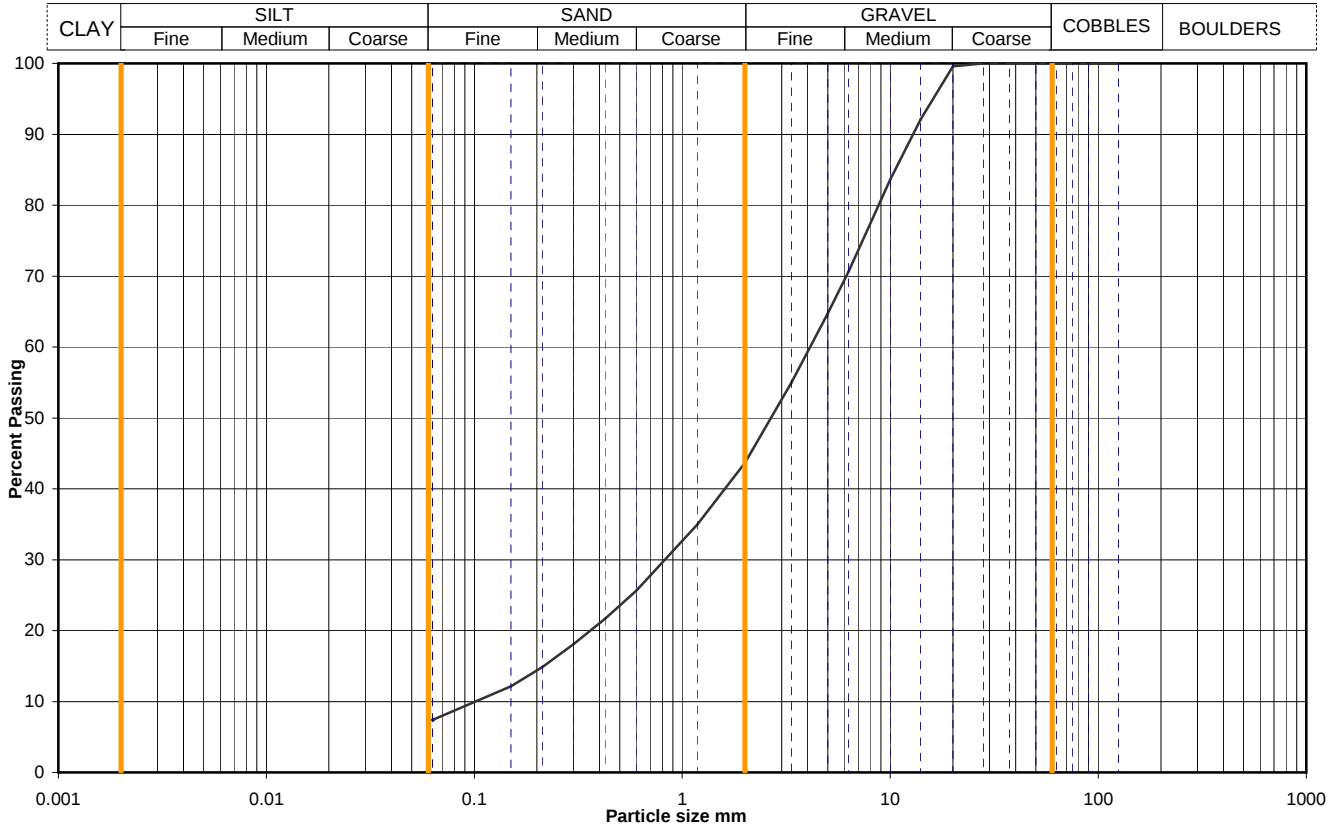
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Figure

PSD 95

Particle Size Distribution Analysis

Project No	A0054-10	Sample Details:	Hole No		WS303	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.10	
			Samp No	6	Type	B
			ID	ESGA0054-10201010010000000213		
			Spec Ref			



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	92		
10	84		
6.3	71		
5.0	65		
3.35	55		
2.00	44		
1.18	35		
0.600	26		
0.425	22		
0.300	18		
0.212	15		
0.150	12		
0.063	7		

Soil description	Black very sandy GRAVEL with ash.		
Preparation / Pretreatment	Sieve: pre dried,		
Remarks			
Sample Proportions * <60mm values to aid description only	Cobbles / boulders	Whole	* <60mm
	Gravel	0	0
	Sand	56	56
	Silt	36	36
	Clay	silt+clay = 8	8

Uniformity Coefficient	D_{60} / D_{10}	40
------------------------	-------------------	----

Test Method	BS 1377 : Part 2 : 1990	
	Sieving	9.2 wet sieve
	Sedimentation	none

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TESTS WITHOUT MEASUREMENT OF PORE PRESSURE - SUMMARY OF RESULTS																
Project No		Project Name														
A0054-10		FERRYBRIDGE MULTIFUEL POWERSTATION														
Hole No.	Sample				Soil Description	Density		w	Test type	Dia.	σ ₃	At failure / end of stage				Remarks
	No.	Depth (m)		type		bulk	dry					Axial strain	σ ₁ - σ ₃	C _u	M O D E	
		from	to													
BH102	9	2.10	2.55	U	Stiff slightly sandy CLAY.	1.86 1.88 1.90	1.40 1.41 1.43	32 33 33	UU UU UU	38.4 37.9 38.4	50 100 200	9.4 7.9 14.4	152 162 143	76 81 72	B B B	
BH103	11	3.00	3.45	U	Stiff brown slightly sandy CLAY.	1.94 1.98 1.92	1.49 1.51 1.56	30 31 23	UU UU UU	38.1 37.7 38.3	50 100 200	6.0 4.5 9.5	250 214 212	125 107 106	B B B	
BH106	6	1.20	1.65	U	Stiff brown slightly sandy slightly gravelly CLAY.	2.16 2.15 2.14	1.83 1.81 1.81	18 19 18	UU UU UU	38.3 38.2 38.2	50 100 200	19.9 14.5 20.0	275 271 289	137 136 144	C C C	
BH106	12	3.00	3.45	U	Stiff brown slightly sandy slightly gravelly CLAY.	2.09 2.09 2.17	1.80 1.76 1.85	16 18 17	UU UU UU	37.9 37.9 38.3	50 100 200	9.5 13.0 9.9	252 287 291	126 143 146	B B B	
BH107	11	3.00	3.45	U	Firm to stiff reddish brown slightly gravelly sandy CLAY.	2.15 2.14 2.17	1.79 1.78 1.80	20 20 21	UU UU UU	38.3 38.0 37.2	50 100 200	13.9 14.4 13.9	290 271 284	145 136 142	C B B	
BH108	6	1.20	1.65	U	Firm to stiff brown slightly gravelly sandy CLAY.	2.08 2.18 2.08	1.79 1.88 1.78	17 16 17	UU UU UU	37.7 38.4 38.0	50 100 200	17.9 18.4 19.4	257 342 294	128 171 147	C C C	
BH109	17	5.00	5.45	U	Firm brown slightly gravelly slightly sandy CLAY.	1.91 1.98 1.92	1.43 1.55 1.45	34 28 33	UU UU UU	37.8 38.3 37.9	50 100 200	9.4 14.4 9.0	223 263 266	112 131 133	B C C	
BH110	11	3.00	3.45	U	Firm brown slightly sandy slightly gravelly CLAY.	2.24	1.93	16	UUM	103.9 103.9 103.9	50 100 200	2.5 4.0 17.9	55 73 133	27 36 67	P	
BH112	9	2.00	2.45	U	Stiff brown slightly sandy CLAY.	1.92 1.94 1.92	1.46 1.48 1.46	32 31 32	UU UU UU	38.4 37.8 37.6	50 100 200	12.9 11.5 7.4	175 199 189	88 100 94	B B B	
BH201	15	5.00	5.45	U	Soft brown slightly gravelly sandy CLAY.	2.15 2.09 2.09	1.80 1.74 1.76	20 20 19	UU UU UU	37.7 37.9 38.1	50 100 200	19.6 18.9 19.6	40 37 55	20 19 27	C C C	
BH301	20	6.00	6.45	U	Firm brown CLAY.	1.96 2.02 2.01	1.55 1.58 1.58	27 28 28	UU UU UU	38.3 38.0 37.7	50 100 200	8.5 10.0 5.5	224 200 238	112 100 119	B B B	
BH303	24	6.00	6.45	U	Soft dark grey sandy slightly organic CLAY	1.66 1.63 1.64	1.11 1.06 1.04	50 54 57	UU UU UU	38.3 38.3 38.4	50 100 200	19.4 15.9 18.3	52 54 60	26 27 30	C C C	
BH401	15	5.00	5.45	U	Soft to firm brownish grey slightly gravelly slightly sandy CLAY.	1.89 1.96 1.90	1.41 1.45 1.42	34 35 34	UU UU UU	37.7 38.0 38.4	50 100 200	20.0 19.9 14.5	91 70 87	45 35 43	B B B	
BH402	14	4.00	4.45	U	Stiff brown slightly sandy CLAY.	1.92 1.84 1.93	1.47 1.46 1.49	30 26 29	UU UU UU	38.4 38.6 38.4	50 100 200	9.5 10.4 11.4	143 136 128	72 68 64	B B B	
BH404	12	4.00	4.45	U	Firm greyish brown slightly sandy CLAY.	1.82 1.87 1.87	1.37 1.39 1.42	33 34 32	UU UU UU	38.1 38.2 38.0	50 100 200	13.5 10.9 14.5	102 104 104	51 52 52	C C C	
BH406	9	2.10	2.55	U	Firm brown slightly gravelly sandy CLAY.	2.27	2.03	12	UUM	103.6 103.6 103.6	50 100 200	4.5 6.5 19.6	112 144 247	56 72 124	C	
BH406	16	5.00	5.45	U	Brown silty SAND.	2.03 1.90 1.96	1.69 1.56 1.58	20 22 24	UU UU UU	37.9 38.0 37.8	50 100 200	10.5 20.0 20.0	114 108 108	57 54 54	B C B	
General notes: Tests carried out in accordance with BS1377: Part 7: 1990, clause 8 for single stage, clause 9 for multistage tests. Specimens nominally 2:1 height diameter ratio and tested at a rate of strain of 2%/minute, unless annotated otherwise. See individual test reports for further details.																
Legend UU - single stage test (may be in sets of specimens) σ ₃ cell pressure Mode of failure P plastic UUM - multistage test on a single specimen σ ₁ - σ ₃ deviator stress B brittle suffix R - remoulded or recompactd C _u undrained shear strength C compound																
QA Ref		 Soil Mechanics							Printed:10/12/2010 12:06					Table UUSUM 1		
SLR 2 Rev 63 Jul 07																

[illegible]

ONE DIMENSIONAL CONSOLIDATION TEST						
BS 1377 : Part 5 : 1990 : clause 3						
Project No	A0054-10	Sample Details:	Hole No	BH103		
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)	3.00		
			Samp No	11	Type	U
			ID	ESGA0054-10201010060000000316		
			Spec Ref			
Voids ratio Applied pressure kPa Log pressure / voids ratio						
Cv m²/year (log t) Applied pressure kPa Log pressure / Cv						
Soil description		Stiff brown slightly sandy CLAY.				
Preparation		Undisturbed				
Index properties (if available)		Liquid limit %		Plastic limit %		
Specimen details		Initial	Final			
Particle density		2.70	assumed	Mg/m³		
Diameter		74.99		mm		
Height		18.89	16.63	mm		
Voids ratio		0.834	0.615			
Moisture content		31	24	%		
Bulk density		1.93	2.07	Mg/m³		
Dry density		1.47	1.67	Mg/m³		
Saturation		100	105	%		
Average temperature for test		21		°C		
Swelling pressure		>50		kPa		
Notes :						
Swelled under 50kPa, specimen reloaded.						
Specimen taken 10 mm from base of sample						
QA Ref		Soil Mechanics			Figure	
SLR 5.3 Rev 118 June 09		UKAS TESTING 1157			Printed:10/12/2010 12:15	
					OED 2	

ONE DIMENSIONAL CONSOLIDATION TEST						
BS 1377 : Part 5 : 1990 : clause 3						
Project No	A0054-10	Sample Details:	Hole No	BH106		
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)	1.20		
			Samp No	6	Type	U
			ID	ESGA0054-10201009220000000023		
			Spec Ref			
Voids ratio Applied pressure kPaLog pressure / voids ratio Cv m²/year (log t)Log pressure / Cv Soil description Preparation Index properties (if available) InitialFinal Particle density2.70assumedMg/m³ Diameter74.96mm Height18.9017.01mm Voids ratio0.5430.389 Moisture content1915% Bulk density2.082.24Mg/m³ Dry density1.751.94Mg/m³ Saturation94105% Average temperature for test17°C Swelling pressure >50kPa Notes : Swelled under 50kPa, specimen reloaded. Specimen taken 20 mm from base of sample						
QA Ref			Printed:10/12/2010 12:15		Figure	
SLR 5.3 Rev 118 June 09			OED 3			

ONE DIMENSIONAL CONSOLIDATION TEST																																																																																										
BS 1377 : Part 5 : 1990 : clause 3																																																																																										
Project No	A0054-10	Sample Details:	Hole No	BH106																																																																																						
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)	3.00																																																																																						
			Samp No	12	Type	U																																																																																				
			ID	ESGA0054-10201009220000000029																																																																																						
			Spec Ref																																																																																							
Voids ratio Applied pressure kPa Log pressure / voids ratio <table border="1"><caption>Data points for Log pressure / voids ratio graph</caption><thead><tr><th>Applied pressure kPa</th><th>Voids ratio</th></tr></thead><tbody><tr><td>100</td><td>0.4851</td></tr><tr><td>200</td><td>0.4645</td></tr><tr><td>400</td><td>0.4394</td></tr><tr><td>800</td><td>0.4095</td></tr><tr><td>1600</td><td>0.3737</td></tr></tbody></table> Cv m²/year (log t) Applied pressure kPa Log pressure / Cv <table border="1"><caption>Data points for Log pressure / Cv graph</caption><thead><tr><th>Applied pressure kPa</th><th>Cv m²/year (log t)</th></tr></thead><tbody><tr><td>100</td><td>0.150</td></tr><tr><td>200</td><td>0.139</td></tr><tr><td>400</td><td>0.085</td></tr><tr><td>800</td><td>0.052</td></tr><tr><td>1600</td><td>0.032</td></tr></tbody></table> <table><tr><td>Soil description</td><td colspan="3">Stiff brown slightly sandy slightly gravelly CLAY.</td></tr><tr><td>Preparation</td><td colspan="3">Undisturbed</td></tr><tr><td>Index properties (if available)</td><td>Liquid limit %</td><td>Plastic limit %</td><td></td></tr><tr><td>Specimen details</td><td>Initial</td><td>Final</td><td></td></tr><tr><td>Particle density</td><td>2.65</td><td>assumed</td><td>Mg/m³</td></tr><tr><td>Diameter</td><td colspan="2">75.01</td><td>mm</td></tr><tr><td>Height</td><td>18.96</td><td>17.41</td><td>mm</td></tr><tr><td>Voids ratio</td><td>0.496</td><td>0.374</td><td></td></tr><tr><td>Moisture content</td><td>17</td><td>15</td><td>%</td></tr><tr><td>Bulk density</td><td>2.08</td><td>2.21</td><td>Mg/m³</td></tr><tr><td>Dry density</td><td>1.77</td><td>1.93</td><td>Mg/m³</td></tr><tr><td>Saturation</td><td>92</td><td>105</td><td>%</td></tr><tr><td>Average temperature for test</td><td colspan="2">21</td><td>°C</td></tr><tr><td>Swelling pressure</td><td colspan="2">>50</td><td>kPa</td></tr></table> Notes : Swelled under 50kPa, specimen reloaded. Specimen taken 30 mm from base of sample <table><tr><td>QA Ref</td><td rowspan="4"> SLR 5.3 Rev 118 June 09 Soil Mechanics UKAS TESTING 11 57 </td><td rowspan="4">Printed:10/12/2010 12:15</td><td rowspan="4">Figure OED 4</td></tr><tr></tr><tr></tr><tr></tr></table>							Applied pressure kPa	Voids ratio	100	0.4851	200	0.4645	400	0.4394	800	0.4095	1600	0.3737	Applied pressure kPa	Cv m²/year (log t)	100	0.150	200	0.139	400	0.085	800	0.052	1600	0.032	Soil description	Stiff brown slightly sandy slightly gravelly CLAY.			Preparation	Undisturbed			Index properties (if available)	Liquid limit %	Plastic limit %		Specimen details	Initial	Final		Particle density	2.65	assumed	Mg/m³	Diameter	75.01		mm	Height	18.96	17.41	mm	Voids ratio	0.496	0.374		Moisture content	17	15	%	Bulk density	2.08	2.21	Mg/m³	Dry density	1.77	1.93	Mg/m³	Saturation	92	105	%	Average temperature for test	21		°C	Swelling pressure	>50		kPa	QA Ref	SLR 5.3 Rev 118 June 09 Soil Mechanics UKAS TESTING 11 57	Printed:10/12/2010 12:15	Figure OED 4
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ONE DIMENSIONAL CONSOLIDATION TEST							
BS 1377 : Part 5 : 1990 : clause 3							
Project No	A0054-10	Sample Details:	Hole No	BH107			
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)	3.00			
			Samp No	11	Type	U	
			ID	ESGA0054-10201009230000000124			
			Spec Ref				
Voids ratio Applied pressure kPa Log pressure / voids ratio							
Cv m²/year (log t) Applied pressure kPa Log pressure / Cv							
Soil description	Firm to stiff reddish brown slightly gravelly sandy CLAY.						
Preparation	Undisturbed						
Index properties (if available)	Liquid limit %		Plastic limit %				
Specimen details	Initial	Final					
Particle density	2.70	assumed	Mg/m ³				
Diameter	74.98		mm				
Height	18.95	16.72	mm				
Voids ratio	0.597	0.409					
Moisture content	21	16	%				
Bulk density	2.04	2.22	Mg/m ³				
Dry density	1.69	1.92	Mg/m ³				
Saturation	94	105	%				
Average temperature for test	21		°C				
Swelling pressure	>50		kPa				
Notes :	Swelled under 50kPa, specimen reloaded.						
Specimen taken	50 mm from base of sample						
QA Ref	SLR 5.3 Rev 118 June 09			Printed:10/12/2010 12:15		Figure OED 5	
Soil Mechanics			UKAS TESTING				

ONE DIMENSIONAL CONSOLIDATION TEST							
BS 1377 : Part 5 : 1990 : clause 3							
Project No	A0054-10	Sample Details:	Hole No	BH108			
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)	1.20			
		Samp No	6	Type	U		
		ID	ESGA0054-10201009220000000040				
			Spec Ref				

Soil description

Firm to stiff brown slightly gravelly sandy CLAY.

Preparation

Undisturbed

Index properties
(if available)

Liquid limit %		Plastic limit %	
----------------	--	-----------------	--

Specimen details

Initial	Final	
2.65	assumed	Mg/m ³
75.00		mm
19.43	17.58	mm
0.552	0.404	
21	16	%
2.06	2.19	Mg/m ³
1.71	1.89	Mg/m ³
99	105	%
Average temperature for test	21	°C

Swelling pressure

>50 kPa

Notes :

Swelled under 50kPa, specimen reloaded.

Specimen taken 10 mm from base of sample

Applied Pressure kPa	Voids ratio	M _v m ² /MN	C _v (t _{50, log}) m ² /year	C _v (t _{90, root}) m ² /year
50	0.5523			
100	0.5488	0.045	12	12
200	0.5341	0.095	0.77	0.83
400	0.5022	0.104	0.4	0.43
800	0.4546	0.079	0.36	0.38
1600	0.4043	0.043	0.31	0.32

QA Ref

SLR 5.3
Rev 118
June 09

Soil Mechanics

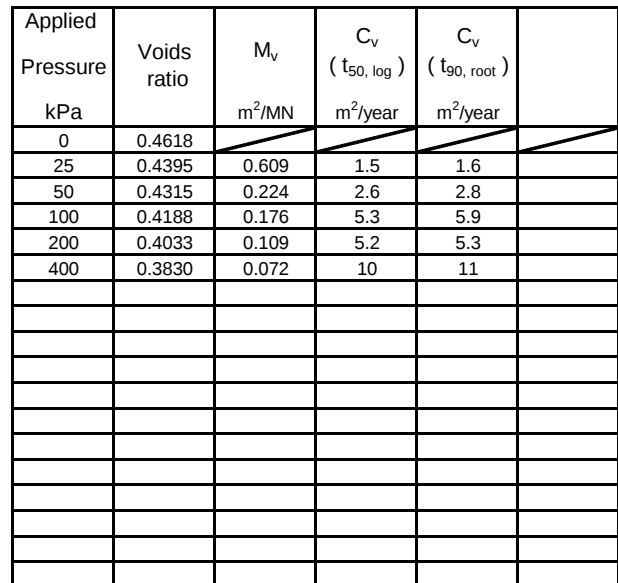
Printed:10/12/2010 12:15

Figure

OED 6

ONE DIMENSIONAL CONSOLIDATION TEST						
BS 1377 : Part 5 : 1990 : clause 3						
Project No	A0054-10	Sample Details:	Hole No	BH109		
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)	5.00		
			Samp No	17	Type	U
			ID	ESGA0054-10201009220000000066		
			Spec Ref			
Voids ratio Applied pressure kPa Log pressure / voids ratio Cv m²/year (log t) Applied pressure kPa Log pressure / Cv						
Soil description		Firm brown slightly gravelly slightly sandy CLAY.				
Preparation		Undisturbed				
Index properties (if available)		Liquid limit % Plastic limit %				
Specimen details		Initial Final				
Particle density		2.70 assumed	Mg/m³			
Diameter		74.98	mm			
Height		19.50 17.13	mm			
Voids ratio		1.053 0.803				
Moisture content		39 31	%			
Bulk density		1.83 1.97	Mg/m³			
Dry density		1.32 1.50	Mg/m³			
Saturation		100 105	%			
Average temperature for test		21	°C			
Swelling pressure		>50	kPa			
Notes :						
Swelled under 50Kpa, specimen reloaded.						
Specimen taken 10 mm from base of sample						
QA Ref			Printed:10/12/2010 12:15		Figure	
SLR 5.3 Rev 118 June 09			Soil Mechanics		OED 7	

ONE DIMENSIONAL CONSOLIDATION TEST						
BS 1377 : Part 5 : 1990 : clause 3						
Project No	A0054-10	Sample Details:	Hole No	BH110		
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)	3.00		
			Samp No	11	Type	U
			ID	ESGA0054-10201010140000000706		
			Spec Ref			



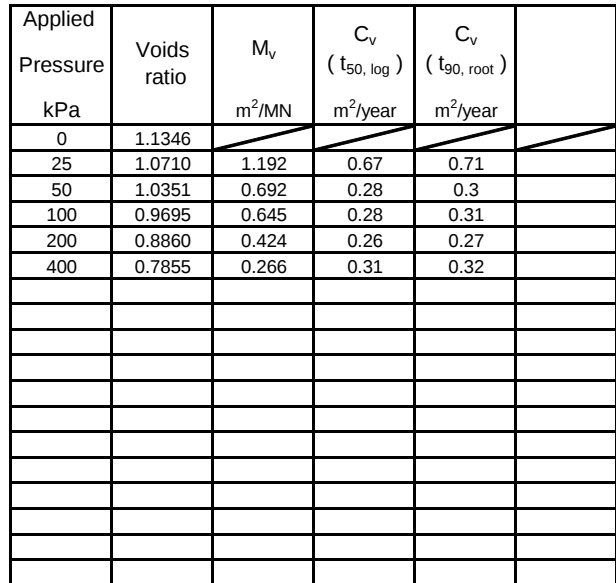
OED 8

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ONE DIMENSIONAL CONSOLIDATION TEST									
BS 1377 : Part 5 : 1990 : clause 3									
Project No		A0054-10		Sample Details:		Hole No		BH201	
Project Name		FERRYBRIDGE MULTIFUEL POWERSTATION				Depth (m BGL)		5.00	
						Samp No	15	Type	U
						ID	ESGA0054-10201010140000000725		
				Spec Ref					
Applied pressure kPa Log pressure / voids ratio Voids ratio Log pressure / Cv									
10.00 08.00 06.00 04.00 02.00 00.00 1 10 100 1000 10000 Applied pressure kPa									
Soil description		Soft brown slightly gravelly sandy CLAY.							
Preparation		Undisturbed							
Index properties		Liquid limit %		Plastic limit %					
(if available)									
Specimen details		Initial		Final					
Particle density		2.65		assumed		Mg/m ³			
Diameter		74.99				mm			
Height		19.03		17.58		mm			
Voids ratio		0.501		0.387					
Moisture content		19		15		%			
Bulk density		2.10		2.20		Mg/m ³			
Dry density		1.77		1.91		Mg/m ³			
Saturation		100		105		%			
Average temperature for test		21				°C			
Swelling pressure		not measured				kPa			
Notes :									
Specimen taken		10 mm from base of sample							
QA Ref		SLR 5.3 Rev 118 June 09				Printed:10/12/2010 12:15		Figure	
Soil Mechanics		UKAS 1157				OED 10			

ONE DIMENSIONAL CONSOLIDATION TEST									
BS 1377 : Part 5 : 1990 : clause 3									
Project No		A0054-10		Sample Details:		Hole No		BH301	
Project Name		FERRYBRIDGE MULTIFUEL POWERSTATION				Depth (m BGL)		6.00	
						Samp No	20	Type	U
						ID	ESGA0054-10201010140000000793		
				Spec Ref					
Applied pressure kPa Log pressure / voids ratio Log pressure / Cv									
Soil description		Firm brown CLAY.							
Preparation		Undisturbed							
Index properties (if available)		Liquid limit %				Plastic limit %			
Specimen details		Initial		Final					
Particle density		2.70		assumed		Mg/m³			
Diameter		75.00				mm			
Height		18.93		16.78		mm			
Voids ratio		0.850		0.640					
Moisture content		33		25		%			
Bulk density		1.94		2.06		Mg/m³			
Dry density		1.46		1.65		Mg/m³			
Saturation		105		105		%			
Average temperature for test		21				°C			
Swelling pressure				>50		kPa			
Notes :		Swelled under 50kPa, specimen reloaded.							
Specimen taken		10		mm from base of sample					
QA Ref		SLR 5.3 Rev 118 June 09				Soil Mechanics		Printed:10/12/2010 12:15	
						Figure		OED 11	

ONE DIMENSIONAL CONSOLIDATION TEST						
BS 1377 : Part 5 : 1990 : clause 3						
Project No	A0054-10	Sample Details:	Hole No	BH303		
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)	6.00		
			Samp No	24	Type	U
			ID	ESGA0054-10201010010000000271		
			Spec Ref			



OED 12

ONE DIMENSIONAL CONSOLIDATION TEST									
BS 1377 : Part 5 : 1990 : clause 3									
Project No		A0054-10		Sample Details:		Hole No		BH401	
Project Name		FERRYBRIDGE MULTIFUEL POWERSTATION				Depth (m BGL)		5.00	
						Samp No	15	Type	U
						ID	ESGA0054-10201010140000000817		
				Spec Ref					
Applied pressure kPa Log pressure / voids ratio Log pressure / Cv									
Soil description		Soft to firm brownish grey slightly gravelly slightly sandy CLAY.							
Preparation		Undisturbed							
Index properties (if available)		Liquid limit %				Plastic limit %			
Specimen details		Initial		Final					
Particle density		2.70		assumed		Mg/m³			
Diameter		74.97				mm			
Height		18.93		17.14		mm			
Voids ratio		0.919		0.738					
Moisture content		35		29		%			
Bulk density		1.90		2.00		Mg/m³			
Dry density		1.41		1.55		Mg/m³			
Saturation		102		105		%			
Average temperature for test		21				°C			
Swelling pressure		not measured				kPa			
Notes :									
Specimen taken		20		mm from base of sample					
QA Ref		SLR 5.3 Rev 118 June 09				Soil Mechanics		Printed:10/12/2010 12:15	
						Figure		OED 13	

ONE DIMENSIONAL CONSOLIDATION TEST						
BS 1377 : Part 5 : 1990 : clause 3						
Project No	A0054-10	Sample Details:	Hole No	BH402		
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		4.00	
			Samp No	14	Type	U
			ID	ESGA0054-10201010080000000394		
			Spec Ref			

Voids ratio vs Applied pressure

Cv m²/year (log t) vs Applied pressure

Soil description	Stiff brown slightly sandy CLAY.		
Preparation	Undisturbed		
Index properties (if available)	Liquid limit %	Plastic limit %	

Specimen details	Initial	Final	
Particle density	2.65	assumed	Mg/m³
Diameter	74.94		mm
Height	18.88	17.08	mm
Voids ratio	0.841	0.666	
Moisture content	32	26	%
Bulk density	1.90	2.01	Mg/m³
Dry density	1.44	1.59	Mg/m³
Saturation	100	105	%
Average temperature for test	21		°C

Swelling pressure	>25 kPa
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Notes :

Swelled under 25kPa, specimen reloaded.

Specimen taken 40 mm from base of sample

QA Ref	 Soil Mechanics	Figure
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ONE DIMENSIONAL CONSOLIDATION TEST						
BS 1377 : Part 5 : 1990 : clause 3						
Project No	A0054-10	Sample Details:	Hole No	BH404		
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)	4.00		
			Samp No	12	Type	U
			ID	ESGA0054-10201009230000000142		
			Spec Ref			
Voids ratio Applied pressure kPa Log pressure / voids ratio Cv m²/year (log t) Applied pressure kPa Log pressure / Cv						
Soil description	Firm greyish brown slightly sandy CLAY.					
Preparation	Unidsturbed					
Index properties (if available)	Liquid limit %		Plastic limit %			
Specimen details	Initial	Final				
Particle density	2.70	assumed	Mg/m³			
Diameter	74.97		mm			
Height	18.90	17.28	mm			
Voids ratio	0.881	0.720				
Moisture content	33	28	%			
Bulk density	1.91	2.01	Mg/m³			
Dry density	1.44	1.57	Mg/m³			
Saturation	101	105	%			
Average temperature for test	21		°C			
Swelling pressure	not measured		kPa			
Notes :						
Specimen taken	70 mm from base of sample					
QA Ref	SLR 5.3 Rev 118 June 09			Printed:10/12/2010 12:15		Figure OED 15

ONE DIMENSIONAL CONSOLIDATION TEST						
BS 1377 : Part 5 : 1990 : clause 3						
Project No	A0054-10	Sample Details:	Hole No	BH406		
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)	5.00		
			Samp No	16	Type	U
			ID	ESGA0054-10201009220000000107		
			Spec Ref			

Voids ratio

Applied pressure kPa

Log pressure / voids ratio

Cv m²/year
(log t)

Applied pressure kPa

Log pressure / Cv

Soil description	Brown silty SAND.		
Preparation	Undisturbed		
Index properties (if available)	Liquid limit %		Plastic limit %
Specimen details	Initial	Final	
Particle density	2.65	assumed	Mg/m³
Diameter	75.02		mm
Height	18.86	18.14	mm
Voids ratio	0.588	0.527	
Moisture content	22	20	%
Bulk density	2.03	2.08	Mg/m³
Dry density	1.67	1.74	Mg/m³
Saturation	97	99	%
Average temperature for test	21		°C
Swelling pressure	not measured kPa		
Notes :			
Specimen taken	10 mm from base of sample		

Applied Pressure kPa	Voids ratio	M _v m²/MN	C _v (t _{50 , log}) m²/year	C _v (t _{90 , root}) m²/year
0	0.5876	/	/	/
25	0.5811	0.163	30	34
50	0.5749	0.158	44	47
100	0.5635	0.144	44	47
200	0.5481	0.099	29	31
400	0.5270	0.068	42	45

QA Ref

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UKAS TESTING

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Figure OED 16

CHEMICAL TESTS - SUMMARY OF RESULTS

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

Hole No.	Sample				Soil Description	Org %	LOI %	pH	Sulphate as SO ₄				SD1 options			CO ₂ %	Chloride, Cl		<2 mm %	Remarks
	No.	Depth (m)		type					Preparation/test * g/L	2:1 water sol. g/L	ground water g/L	acid sol. %	TS %	Mg NO ₃ NH ₄ mg/L mg/L	water sol. %		acid sol. %			
		from	to																	
BH102	4	0.75	1.00	B	Light brown slightly sandy slightly gravelly CLAY with frequent clay pockets.			7.5	1+3	0.04		1.34						80		
BH102	6	1.20	1.65	D	Brown slightly sandy CLAY.											<0.01				
BH102	11	2.75	3.00	B	Brown slightly sandy slightly gravelly CLAY.			7.3	1+3	0.13		0.21				<0.01		95		
BH102	16	4.00	5.20	B	Light brownish cream slightly gravelly SILT.			8.4	1+3	0.05		0.35				<0.01		100		
BH103	4	0.55	1.00	B	Dark brownish grey slightly sandy slightly gravelly CLAY with 1			7.4	1+3	0.11		0.33						77		
BH103	7	1.30	1.80	B	Yellowish brown slightly gravelly sandy silty CLAY.											<0.01				
BH103	10	2.50	3.00	B	Greyish brown slightly gravelly sandy CLAY.			7.3	1+3	0.06		0.19						98		
BH103	13	3.65	4.00	B	Brown slightly sandy CLAY.			7.2	1+3	0.15						<0.01		100		
BH104	7	1.65	2.00	B	Yellowish brown slightly sandy slightly gravelly SILT.											<0.01				
BH104	11	3.00	3.45	D	Light brown slightly sandy slightly gravelly SILT with occasional pockets of			7.4	1+3	0.07		0.10						77		
BH104	14	4.00	4.45	B	Light brown slightly sandy slightly gravelly SILT.											0.01				
BH104	17	7.00	7.50	B	Light brown slightly gravelly sandy SILT.			7.5	1+3	0.04		0.04						58		
BH104	19	7.50		W				6.9	2+3		0.04					<0.01				
BH105	4	1.20	1.65	D	Brown slightly sandy gravelly CLAY.				1+3			0.06						43		
BH105	5	2.20	2.40	D	Cream slightly sandy slightly gravelly SILT. Gravel is weak limestone			8.2	1+3	0.02								100		
BH106	4	0.60	1.00	B	Brown slightly gravelly slightly sandy CLAY.			7.3	1+3	0.06		0.02						87		
BH106	11	2.40	3.00	B	Brown slightly sandy CLAY.			7.0	1+3	0.03		0.31				<0.01		100		
BH107	4	0.50	1.00	B	Brown gravelly SAND with clay pockets.			6.8	1+3	0.06		0.14						87		
BH107	7	1.65	2.00	B	Brown slightly gravelly sandy CLAY.											<0.01				

BS 1377 : definitive method unless stated :		* Sulphate tests preparation / test methods :		BRE Special Digest SD1, dependent options :			
Org	Organic matter content (s-sulphides, c-chlorides identified)	1.	BS 1377:Part 3:1990:clause 5.3	4.	TRL447 - 1 water soluble sulphate	TS	Total Sulphur to BR279 / EN ISO15178
LOI	Mass loss on ignition at 440°C	2.	BS 1377:Part 3:1990:clause 5.4	5.	TRL447 - 2 acid soluble sulphate	Mg	Soluble Magnesium to BR279, colorimetric
CO ₂	Carbonate content (rapid titration)	3.	BS 1377:Part 3:1990:clause 5.5	6.	BR279 - groundwater sulphate	NO3	Soluble Nitrate to BR279, colorimetric
Cl	Chloride content	< 2mm material passing 2mm sieve				NH ₄	qualitative

QA Ref	 Soil Mechanics										Printed:16/12/2010 09:27			Table CHEM 1
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CHEMICAL TESTS - SUMMARY OF RESULTS

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

Hole No.	Sample				Soil Description	Org %	LOI %	pH	Sulphate as SO ₄				SD1 options			CO ₂ %	Chloride, Cl		<2 mm %	Remarks
	No.	Depth (m)		type					Preparation/test * g/L	2:1 water sol. g/L	ground water g/L	acid sol. %	TS %	Mg NO ₃ mg/L NH ₄	water sol. %		acid sol. %			
		from	to																	
BH107	10	2.65	3.00	B	Brown slightly sandy slightly gravelly CLAY.			6.9	1+3	0.03		0.08						85		
BH107	12	3.65	4.00	B	Brown slightly gravelly slightly sandy CLAY.											0.01				
BH107	14	4.50		W				6.9	2+3		0.16					0.01				
BH108	7	1.65	1.85	D	Brown slightly gravelly CLAY.			6.9	1+3	0.04		0.06						98		
BH108	13	3.40	4.00	B	Light brown and cream slightly sandy slightly gravelly silty CLAY.			8.4	1+3	0.02		0.16						80		
BH109	4	0.60	0.90	B	Brownish grey slightly sandy gravelly CLAY with rare rootlets.			8.9	1+3	0.05		0.08						35		
BH109	7	1.20	1.80	B	Brownish grey slightly sandy slightly gravelly CLAY with pockets of											<0.01				
BH109	9	2.10	2.55	D	Greyish brown slightly sandy slightly gravelly CLAY with silt pocket.			7.3	1+3	0.16								73		
BH109	16	4.50	5.00	B	Brown CLAY with thin coating of cream silt and one cobble.			7.3	1+3	0.05		0.80						94		
BH109	19	5.80	6.50	B	Light brown slightly sandy slightly gravelly silty CLAY. Gravel is											<0.01				
BH110	4	0.70	1.00	B	Greyish brown slightly sandy slightly gravelly CLAY.			7.5	1+3	0.02		0.31						87		
BH110	7	1.65	2.00	B	Light brown slightly gravelly SILT with occasional pockets of											<0.01				
BH110	12	3.45	3.65	D	Cream brown silty clayey GRAVEL.			7.7	1+3	0.05		0.08						73		
BH110	14	3.65	4.70	B	Yellowish brown slightly sandy slightly gravelly clayey SILT.											<0.01				
BH112	4	0.75	1.00	B	Greyish brown slightly gravelly slightly sandy CLAY.			7.5	1+3	0.04		0.29						94		
BH112	7	1.65	2.00	B	Greyish brown clayey slightly gravelly SAND.											<0.01				
BH112	10	2.65	2.90	B	Brown slightly gravelly slightly sandy CLAY.			7.1	1+3	0.03		0.06				<0.01		97		
BH112	13	3.40	4.10	B	Light brown slightly gravelly SILT.			8.1	1+3	0.04		0.02						92		
BH201	6	1.20	1.65	D	Brown slightly sandy slightly gravelly SILT.			6.9	1+3	0.07		0.04						100		

BS 1377 : definitive method unless stated :		* Sulphate tests preparation / test methods :		BRE Special Digest SD1, dependent options :	
Org	Organic matter content (s-sulphides, c-chlorides identified)	1. BS 1377:Part 3:1990:clause 5.3	4. TRL447 - 1 water soluble sulphate	TS	Total Sulphur to BR279 / EN ISO15178
LOI	Mass loss on ignition at 440°C	2. BS 1377:Part 3:1990:clause 5.4	5. TRL447 - 2 acid soluble sulphate	Mg	Soluble Magnesium to BR279, colorimetric
CO ₂	Carbonate content (rapid titration)	3. BS 1377:Part 3:1990:clause 5.5	6. BR279 - groundwater sulphate	NO3	Soluble Nitrate to BR279, colorimetric
Cl	Chloride content	< 2mm material passing 2mm sieve		NH ₄	qualitative

QA Ref	 Soil Mechanics				Printed:16/12/2010 09:27				Table CHEM 2			
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CHEMICAL TESTS - SUMMARY OF RESULTS

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

Hole No.	Sample				Soil Description	Org %	LOI %	pH	Sulphate as SO ₄				SD1 options			CO ₂ %	Chloride, Cl		<2 mm %	Remarks
	No.	Depth (m)		type					Preparation/test * g/L	2:1 water sol. g/L	ground water g/L	acid sol. %	TS %	Mg NO ₃ NH ₄ mg/L mg/L	water sol. %		acid sol. %			
		from	to																	
BH201	7	1.65	2.00	B	Brown slightly gravelly sandy SILT.											<0.01				
BH201	11	3.00	3.45	D	Brown slightly clayey slightly gravelly SAND.			7.2	1+3	0.10		0.02						100		
BH201	14	4.50	5.00	B	Brown sandy silty CLAY.			7.0	1+3	0.13		0.93				<0.01		100		
BH201	16	5.65	6.00	B	Brown sandy silty CLAY.											<0.01				
BH201	18	7.00	7.50	B	Light brown sandy CLAY.			6.7	1+3	0.09		0.04						100		
BH201	19	7.50		W				6.7	2+3		0.11					0.01				
BH203	16	5.50		W				7.2	2+3		0.06					0.01				
BH204	4	0.50	1.00	B	Brownish grey slightly sandy slightly gravelly CLAY.			7.3	1+3	0.12								86		
BH204	7	1.20	2.00	B	Dark greyish brown slightly sandy slightly gravelly CLAY with three			7.6	1+3	0.26		0.08				<0.01		70		
BH204	12	3.50	4.00	B	Brown very sandy GRAVEL.											<0.01				
BH204	15	4.80		W				7.3	2+3		0.12					<0.01				
BH301	4	0.50	1.00	B	Brownish grey slightly sandy slightly gravelly CLAY.			6.9	1+3	0.09		0.56						47		
BH301	7	1.65	2.00	B	Dark grey slightly silty slightly gravelly SAND with pockets of clay and											<0.01				
BH301	9	2.00	2.45	D	Dark grey slightly silty slightly gravelly SAND with occasional pockets of			6.4	1+3	0.52								86		
BH301	14	4.00	4.45	D	Greyish brown slightly clayey gravelly SAND.			6.4	1+3	0.16		0.10						93		
BH301	16	4.50	5.00	B	Dark brown slightly gravelly SAND.											<0.01				
BH301	17	5.00	5.45	D	Brown slightly gravelly slightly sandy CLAY.			7.1	1+3	0.12		0.04						100		
BH301	19	5.50	6.00	B	Brown slightly gravelly slightly sandy CLAY.											<0.01				
BH301	21	7.00	7.60	B	Greyish brown clayey very sandy GRAVEL.			7.7	1+3	0.07		0.08						37		

BS 1377 : definitive method unless stated :		* Sulphate tests preparation / test methods :		BRE Special Digest SD1, dependent options :	
Org	Organic matter content (s-sulphides, c-chlorides identified)	1. BS 1377:Part 3:1990:clause 5.3	4. TRL447 - 1 water soluble sulphate	TS	Total Sulphur to BR279 / EN ISO15178
LOI	Mass loss on ignition at 440°C	2. BS 1377:Part 3:1990:clause 5.4	5. TRL447 - 2 acid soluble sulphate	Mg	Soluble Magnesium to BR279, colorimetric
CO ₂	Carbonate content (rapid titration)	3. BS 1377:Part 3:1990:clause 5.5	6. BR279 - groundwater sulphate	NO3	Soluble Nitrate to BR279, colorimetric
Cl	Chloride content	< 2mm material passing 2mm sieve		NH ₄	qualitative

QA Ref	 Soil Mechanics				Printed:16/12/2010 09:27				Table CHEM 3			
SLR 3 Rev 91 Jan 09												

CHEMICAL TESTS - SUMMARY OF RESULTS

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

Hole No.	Sample				Soil Description	Org %	LOI %	pH	Sulphate as SO ₄				SD1 options			CO ₂ %	Chloride, Cl		<2 mm %	Remarks
	No.	Depth (m)		type					Preparation/test *	2:1 water sol. g/L	ground water g/L	acid sol. %	TS %	Mg NO ₃ NH ₄ mg/L	water sol. %		acid sol. %			
		from	to																	
BH302	6	1.20	1.65	D	Black slightly gravelly SAND.			6.8	1+3	0.63								75		
BH302	10	2.00	3.00	B	Black slightly gravelly SAND.											<0.01				
BH302	13	3.50	4.00	B	Brownish grey slightly gravelly slightly sandy CLAY with occasional			4.9	1+3	0.40						0.01		96		
BH302	16	4.50	5.00	B	Greyish brown slightly gravelly sandy CLAY with pocket of peat.											0.01				
BH302	18	5.00	5.45	D	Brown gravelly SAND with pocket of clay.			7.5	1+3	0.05								93		
BH302	19	5.30		W				7.0	2+3		0.24					0.01				
BH302	21	6.50	6.95	D	Brown slightly gravelly sandy CLAY.			7.2	1+3	0.05								77		
BH302	24	8.00	9.00	B	Light brown sandy GRAVEL.											<0.01				
BH303	5	1.00		W				7.5	2+3		0.16					0.01				
BH303	7	1.20	1.65	D	Black very gravelly SAND.			6.8	1+3	0.40		0.93						65		
BH303	8	1.65	2.00	B	Black slightly gravelly SAND with occasional gravel sized clay pockets.											0.01				
BH303	13	3.00	3.45	D	Black very gravelly SAND.			6.8	1+3	0.68		0.33						62		
BH303	14	3.50	4.00	B	Black slightly clayey gravelly SAND.											0.01				
BH303	17	4.50	5.00	B	Black slightly clayey very sandy GRAVEL.			6.7	1+3	0.95		0.19				0.01		40		
BH303	19	5.00	5.45	D	Dark grey slightly sandy CLAY.			5.7	1+3	1.09		0.19						100		
BH303	20	5.50	6.00	B	Dark brownish grey slightly gravelly slightly sandy CLAY.											0.01				
BH303	26	6.70		W				6.9	2+3		0.20					0.01				
BH303	29	8.00	9.00	B	Brownish grey clayey very gravelly SAND.											<0.01				
BH303	31	9.10	9.60	B	Pink mottled light brown slightly sandy slightly gravelly CLAY. Gravel			8.2	1+3	0.05								90		

BS 1377 : definitive method unless stated :		* Sulphate tests preparation / test methods :		BRE Special Digest SD1, dependent options :	
Org	Organic matter content (s-sulphides, c-chlorides identified)	1.	BS 1377:Part 3:1990:clause 5.3	4.	TRL447 - 1 water soluble sulphate
LOI	Mass loss on ignition at 440°C	2.	BS 1377:Part 3:1990:clause 5.4	5.	TRL447 - 2 acid soluble sulphate
CO ₂	Carbonate content (rapid titration)	3.	BS 1377:Part 3:1990:clause 5.5	6.	BR279 - groundwater sulphate
Cl	Chloride content	< 2mm material passing 2mm sieve			NH ₄ qualitative
TS	Total Sulphur to BR279 / EN ISO15178				
Mg	Soluble Magnesium to BR279, colorimetric				
NO3	Soluble Nitrate to BR279, colorimetric				

QA Ref	 Soil Mechanics				Printed:16/12/2010 09:27		Table CHEM 4
SLR 3 Rev 91 Jan 09							

CHEMICAL TESTS - SUMMARY OF RESULTS

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

Hole No.	Sample				Soil Description	Org	LOI	pH	Sulphate as SO ₄				SD1 options		CO ₂	Chloride, Cl		<2 mm	Remarks
	No.	Depth (m)		type					Preparation/test *	2:1 water sol.	ground water	acid sol.	TS	Mg NO ₃ NH ₄ mg/L mg/L		water sol.	acid sol.		
		from	to																
BH303	32	9.60	9.90	D	Light brown slightly gravelly sandy CLAY.	%	%								0.01				
BH401	6	1.20	1.65	D	Dark greyish brown very gravelly SAND with rare pockets of clay.			6.8	1+3	0.33		0.10						65	
BH401	12	3.50	4.00	B	Dark brown slightly gravelly very sandy CLAY.			7.6	1+3	0.03		0.04						98	
BH401	17	5.70	6.50	B	Dark brown SAND AND GRAVEL.			7.7	1+3	0.04		0.16						34	
BH401	16	5.70		W				7.1	2+3		0.18				0.01				
BH402	6	1.20	1.65	D	Dark brown slightly silty slightly gravelly SAND.			7.0	1+3	0.17								100	
BH402	16	4.20	5.00	B	Brown slightly gravelly clayey SAND.			7.8	1+3	0.07		0.02						67	
BH402	18	5.10		W				6.6	2+3		0.08				<0.01				
BH402	21	7.00	8.00	B	Brown very sandy GRAVEL.			7.3	1+3	0.04		0.25						46	
BH403	4	0.50	1.00	B	Greyish brown slightly sandy gravelly CLAY.			7.5	1+3	0.15		0.02						60	
BH403	10	2.55	3.00	B	Greyish brown slightly gravelly clayey SAND.										<0.01				
BH403	12	3.50	4.00	B	Brownish grey slightly gravelly sandy CLAY.			7.2	1+3	0.02		0.27						74	
BH403	14	4.20		W				6.7	2+3		0.09				0.01				
BH403	17	5.50	6.00	B	Greyish brown very gravelly SAND.			7.5	1+3	0.13		0.08						57	
BH403	19	7.00	7.70	B	Greyish brown slightly gravelly sandy CLAY.										<0.01				
BH403	21	8.00	8.60	B	Dark brown very sandy GRAVEL.			7.5	1+3	0.10								53	
BH404	4	0.80	1.00	B	Brown slightly sandy slightly gravelly CLAY.			7.1	1+3	0.13		0.35						73	
BH404	7	1.65	2.00	B	Dark brownish grey slightly gravelly very sandy CLAY.										<0.01				
BH404	9	2.55	3.00	B	Brownish grey slightly sandy CLAY.			7.3	1+3	0.08		0.08						100	

BS 1377 : definitive method unless stated :		* Sulphate tests preparation / test methods :		BRE Special Digest SD1, dependent options :	
Org	Organic matter content (s-sulphides, c-chlorides identified)	1. BS 1377:Part 3:1990:clause 5.3	4. TRL447 - 1 water soluble sulphate	TS	Total Sulphur to BR279 / EN ISO15178
LOI	Mass loss on ignition at 440°C	2. BS 1377:Part 3:1990:clause 5.4	5. TRL447 - 2 acid soluble sulphate	Mg	Soluble Magnesium to BR279, colorimetric
CO ₂	Carbonate content (rapid titration)	3. BS 1377:Part 3:1990:clause 5.5	6. BR279 - groundwater sulphate	NO3	Soluble Nitrate to BR279, colorimetric
Cl	Chloride content	< 2mm material passing 2mm sieve		NH ₄	qualitative

QA Ref	 Soil Mechanics				Printed:16/12/2010 09:27				Table
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CHEMICAL TESTS - SUMMARY OF RESULTS

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

Hole No.	Sample				Soil Description	Org %	LOI %	pH	Sulphate as SO ₄				SD1 options			CO ₂ %	Chloride, Cl		<2 mm %	Remarks
	No.	Depth (m)		type					Preparation/test * g/L	2:1 water sol. g/L	ground water g/L	acid sol. %	TS %	Mg NO ₃ NH ₄ mg/L mg/L	water sol. %		acid sol. %			
		from	to																	
BH404	11	3.50	4.00	B	Brownish grey slightly gravelly slightly sandy CLAY.			7.5	1+3	0.07						<0.01		99		
BH404	16	5.20		W				6.9	2+3		0.19					0.01				
BH404	19	7.00	7.50	B	Greyish brown very sandy GRAVEL.											<0.01				
BH404	21	8.15	9.20	D	Light brown and cream slightly sandy slightly gravelly SILT.			8.1	1+3	0.06								68		
BH405	4	0.70	1.00	B	Greyish brown slightly gravelly very sandy silty CLAY.			7.1	1+3	0.11		0.06						95		
BH405	10	2.65	3.00	B	Dark brownish grey slightly gravelly very sandy CLAY.			7.3	1+3	0.13						<0.01		78		
BH405	16	5.30		W				7.0	2+3		0.01					0.01				
BH405	17	5.50	6.00	B	Brown silty very gravelly SAND.			7.2	1+3	0.09		0.37						72		
BH405	20	8.00	8.45	D	Light brown and cream slightly sandy slightly gravelly SILT with chalk.			8.1	1+3	0.04		0.21						98		
BH406	4	0.80	1.00	B	Yellowish brown slightly sandy slightly gravelly CLAY.			7.5	1+3	0.26								92		
BH406	7	1.65	2.00	B	Brown slightly gravelly sandy CLAY.			7.3	1+3	0.08		1.40				0.01		88		
BH406	14	4.00	4.45	D	Greyish brown slightly sandy clayey SILT.			6.8	1+3	0.02								96		
BH406	15	4.50	5.00	B	Greyish brown slightly gravelly slightly sandy silty CLAY.											<0.01				
BH406	17	5.45	5.65	D	Greyish brown slightly silty SAND.			7.1	1+3	0.06		0.33						100		
BH406	18	5.50		W				6.4	2+3		0.24									
BH407	6	1.20	1.65	D	Light greyish brown sandy gravelly CLAY.			9.1	1+3	0.16								76		
BH407	7	1.65	2.00	B	Brown slightly sandy slightly gravelly CLAY with one cobble.											<0.01				
BH407	12	3.00	3.45	D	Greyish brown slightly sandy slightly gravelly CLAY.			8.1	1+3	0.10		0.00						87		
BH407	24	7.50	8.00	B	Yellowish brown silty gravelly SAND.			7.9	1+3	0.04								63		

BS 1377 : definitive method unless stated :		* Sulphate tests preparation / test methods :		BRE Special Digest SD1, dependent options :	
Org	Organic matter content (s-sulphides, c-chlorides identified)	1. BS 1377:Part 3:1990:clause 5.3	4. TRL447 - 1 water soluble sulphate	TS	Total Sulphur to BR279 / EN ISO15178
LOI	Mass loss on ignition at 440°C	2. BS 1377:Part 3:1990:clause 5.4	5. TRL447 - 2 acid soluble sulphate	Mg	Soluble Magnesium to BR279, colorimetric
CO ₂	Carbonate content (rapid titration)	3. BS 1377:Part 3:1990:clause 5.5	6. BR279 - groundwater sulphate	NO3	Soluble Nitrate to BR279, colorimetric
Cl	Chloride content	< 2mm material passing 2mm sieve		NH ₄	qualitative

QA Ref	 Soil Mechanics				Printed:16/12/2010 09:27				Table CHEM 6			
SLR 3 Rev 91 Jan 09												

CHEMICAL TESTS - SUMMARY OF RESULTS

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

Hole No.	Sample				Soil Description	Org %	LOI %	pH	Sulphate as SO ₄				SD1 options			CO ₂ %	Chloride, Cl		<2 mm %	Remarks
	No.	Depth (m)		type					Preparation/test * g/L	2:1 water sol. g/L	ground water g/L	acid sol. %	TS %	Mg NO ₃ mg/L NH ₄	water sol. %		acid sol. %			
		from	to																	
TP101	14	0.75	1.15	B	Cream slightly sandy slightly gravelly SILT.											<0.01				
TP101	13	0.75		D	Yellow slightly sandy slightly gravelly SILT with occasional sandy clay			7.5	1+3	0.07								86		
TP102	8	0.40	0.76	B	Brown slightly gravelly slightly sandy CLAY.			6.7	1+3	0.07								94		
TP103	9	0.80	1.70	B	Brown slightly gravelly sandy CLAY.											<0.01				
TP103	8	0.80		D	Brown slightly sandy slightly gravelly CLAY.			6.8	1+3	0.07								76		
TP103	15	1.80	3.10	B	Reddish brown and light grey slightly sandy slightly gravelly CLAY.											<0.01				
TP104	7	1.50	1.70	B	Greyish brown slightly sandy slightly gravelly organic CLAY.	2.9												95		
TP104	8	1.75		D	Brown slightly gravelly sandy CLAY.			6.9	1+3	0.08								83		
TP104	12	3.40		D	Brown slightly sandy slightly gravelly CLAY with occasional pockets of silt.			6.6	1+3	0.07								90		
TP105	4	0.60		D	Orangish brown slightly sandy slightly gravelly CLAY.			6.4	1+3	0.07								81		
TP106	4	1.00		D	Greyish brown slightly sandy slightly gravelly CLAY.			6.3	1+3	0.17								91		
TP106	10	1.70		D	Brown slightly sandy slightly gravelly CLAY.			6.5	1+3	0.26								92		
TP108	3	0.50	1.00	B	Brown very sandy slightly organic SILT.			6.3	1+3	0.03								100		
TP108	7	1.90	2.50	B	Brown silty very gravelly SAND with pockets of clay.											<0.01				
TP108	9	2.80		D	Brown clayey very gravelly SAND.			6.8	1+3	0.03								63		
TP111	10	0.90		D	Brown slightly gravelly very sandy CLAY.			7.0	1+3	0.07								99		
TP111	12	1.00	1.50	B	Brown slightly gravelly very sandy CLAY.											<0.01				
TP201	4	0.90		D	Brown slightly gravelly very sandy CLAY.			6.5	1+3	0.03								99		
TP201	9	2.20	2.60	B	Brownish grey very sandy GRAVEL with occasional gravel sized pockets of			6.9	1+3	0.04								42		

BS 1377 : definitive method unless stated :	* Sulphate tests preparation / test methods :	BRE Special Digest SD1, dependent options :
Org Organic matter content (s-sulphides, c-chlorides identified)	1. BS 1377:Part 3:1990:clause 5.3	4. TRL447 - 1 water soluble sulphate
LOI Mass loss on ignition at 440°C	2. BS 1377:Part 3:1990:clause 5.4	5. TRL447 - 2 acid soluble sulphate
CO ₂ Carbonate content (rapid titration)	3. BS 1377:Part 3:1990:clause 5.5	6. BR279 - groundwater sulphate
Cl Chloride content	< 2mm material passing 2mm sieve	
		TS Total Sulphur to BR279 / EN ISO15178
		Mg Soluble Magnesium to BR279, colorimetric
		NO3 Soluble Nitrate to BR279, colorimetric
		NH ₄ qualitative

QA Ref	 Soil Mechanics	Printed:16/12/2010 09:27	Table CHEM 7
SLR 3 Rev 91 Jan 09			

CHEMICAL TESTS - SUMMARY OF RESULTS

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

Hole No.	Sample				Soil Description	Org %	LOI %	pH	Sulphate as SO ₄				SD1 options			CO ₂ %	Chloride, Cl		<2 mm %	Remarks
	No.	Depth (m)		type					Preparation/test *	2:1 water sol. g/L	ground water g/L	acid sol. %	TS %	Mg NO ₃ NH ₄ mg/L	water sol. %		acid sol. %			
		from	to																	
TP302	5	0.50	1.00	B	Dark grey very sandy slightly organic GRAVEL.			7.1	1+3	0.18								27		
TP302	7	1.50	2.00	B	Dark grey gravelly SAND.											<0.01				
TP302	9	2.50	3.00	B	Dark grey very sandy GRAVEL. Sand is mainly ash.			6.8	1+3	0.28								26		
TP303	7	1.10	1.50	B	Dark brown slightly sandy CLAY.											<0.01				
TP303	5	1.10		D	Greyish brown slightly gravelly sandy CLAY.			6.2	1+3	0.08								95		
TP303	8	1.60		W				6.9	2+3		0.22					<0.01				
TP306	4	0.40		D	Dark grey slightly clayey very sandy GRAVEL. Sand is mainly ash.			7.0	1+3	0.21								50		
TP306	8	1.50	2.00	B	Black slightly sandy slightly gravelly organic SILT.											<0.01				
TP306	10	2.50	3.00	B	Greyish brown very sandy GRAVEL.			3.8	1+3	0.40								34		
TP306	12	3.50	4.00	B	Greyish brown gravelly SAND.											<0.01				
TP403	9	0.20	0.40	B	Reddish brown clayey gravelly SAND with three cobbles.			7.5	1+3	0.08								27		
TP403	15	2.70		D	Light brown slightly sandy slightly gravelly SILT.			7.7	1+3	0.13								70		
TP403	20	4.00		B	Brownish grey slightly gravelly very sandy CLAY.			6.8	1+3	0.06								99		
TP405	8	1.30		D	Brown slightly sandy slightly gravelly CLAY with rare rootlets.			6.9	1+3	0.04								91		
WS102	4	1.20	1.70	B	Yellowish brown slightly gravelly SILT.			7.7	1+3	0.07								75		
WS102	6	2.00	2.44	B	Yellowish brown slightly gravelly slightly organic silty CLAY.			7.5	1+3	0.54						0.01		97		
WS102	9	3.00	4.00	B	Greyish brown slightly gravelly sandy CLAY.			7.7	1+3	0.16								97		
WS301	4	1.20	1.90	B	Purple very sandy GRAVEL.			6.8	1+3	0.21		0.56						24		
WS301	8	3.30	4.20	B	Black slightly clayey very sandy GRAVEL.			6.7	1+3	0.33		0.25				<0.01		46		

BS 1377 : definitive method unless stated :	* Sulphate tests preparation / test methods :	BRE Special Digest SD1, dependent options :
Org Organic matter content (s-sulphides, c-chlorides identified)	1. BS 1377:Part 3:1990:clause 5.3	4. TRL447 - 1 water soluble sulphate
LOI Mass loss on ignition at 440°C	2. BS 1377:Part 3:1990:clause 5.4	5. TRL447 - 2 acid soluble sulphate
CO ₂ Carbonate content (rapid titration)	3. BS 1377:Part 3:1990:clause 5.5	6. BR279 - groundwater sulphate
Cl Chloride content	< 2mm material passing 2mm sieve	TS Total Sulphur to BR279 / EN ISO15178
		Mg Soluble Magnesium to BR279, colorimetric
		NO ₃ Soluble Nitrate to BR279, colorimetric
		NH ₄ qualitative

QA Ref	 Soil Mechanics	Printed:16/12/2010 09:27	Table CHEM 8
SLR 3 Rev 91 Jan 09			

CHEMICAL TESTS - SUMMARY OF RESULTS

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

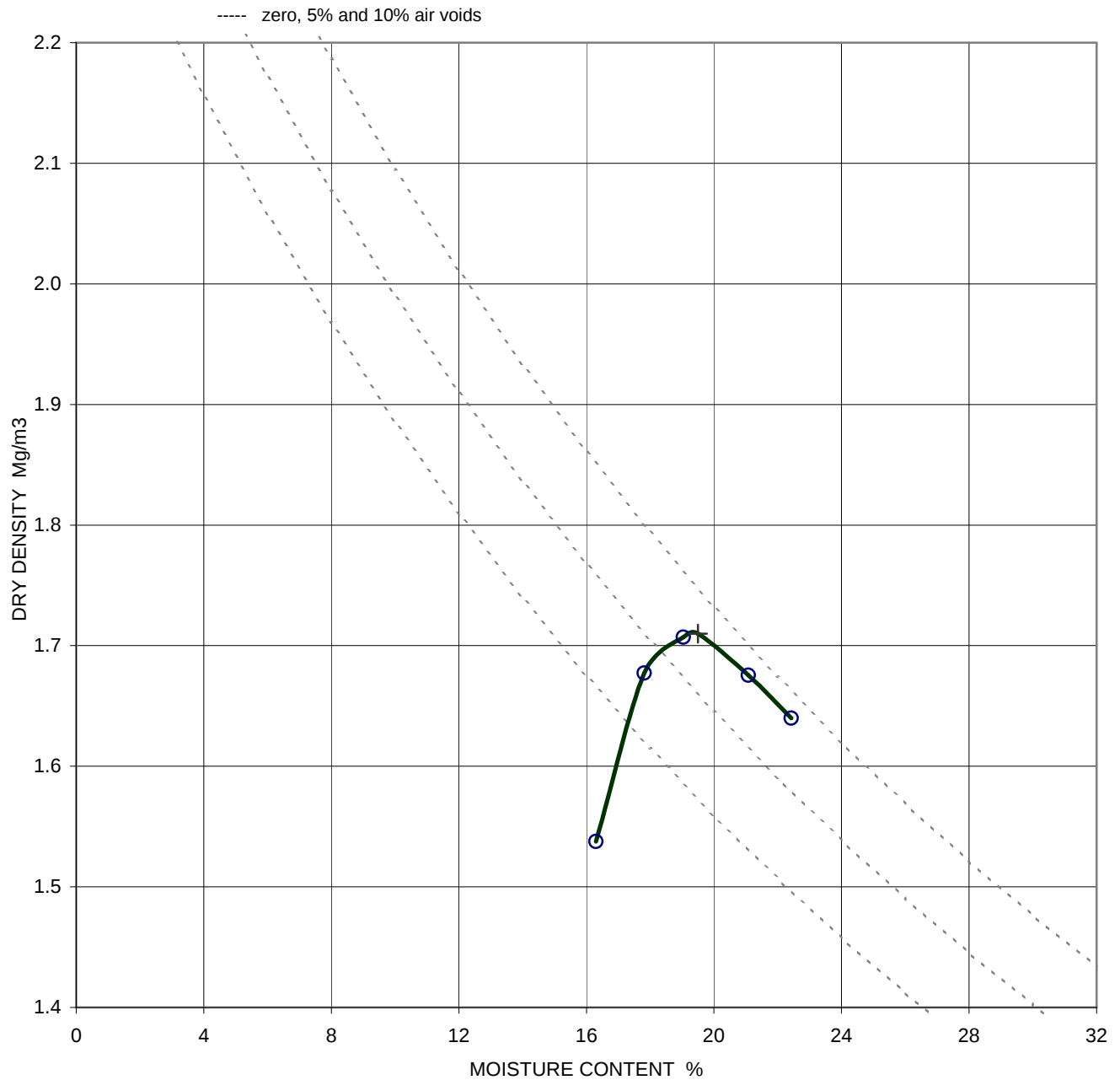
Hole No.	Sample				Soil Description	Org	LOI	pH	Sulphate as SO ₄				SD1 options			CO ₂	Chloride, Cl		<2 mm	Remarks
	No.	Depth (m)		type					Preparation/test *	2:1 water sol.	ground water	acid sol.	TS	Mg NO ₃ NH ₄ mg/L mg/L	water sol.		acid sol.			
		from	to																	
WS302	4	1.20	2.00	B	Black very sandy GRAVEL with ash and clinker.	%	%	5.7	1+3	0.83		0.76						29		
WS302	6	2.20	3.00	B	Black SAND AND GRAVEL. Sand and gravel are ash and clinker.			6.6	1+3	0.52		0.31				<0.01		48		
WS303	4	1.20	1.90	B	Black very sandy GRAVEL with ash.			6.7	1+3	0.59		0.27						39		
WS303	8	3.20	3.90	B	Black very sandy GRAVEL.			6.6	1+3	1.38		0.27				<0.01		39		

BS 1377 : definitive method unless stated :	* Sulphate tests preparation / test methods :			BRE Special Digest SD1, dependent options :		
Org Organic matter content (s-sulphides, c-chlorides identified)	1. BS 1377:Part 3:1990:clause 5.3	4. TRL447 - 1 water soluble sulphate	TS Total Sulphur to BR279 / EN ISO15178			
LOI Mass loss on ignition at 440°C	2. BS 1377:Part 3:1990:clause 5.4	5. TRL447 - 2 acid soluble sulphate	Mg Soluble Magnesium to BR279, colorimetric			
CO ₂ Carbonate content (rapid titration)	3. BS 1377:Part 3:1990:clause 5.5	6. BR279 - groundwater sulphate	NO ₃ Soluble Nitrate to BR279, colorimetric			
Cl Chloride content	< 2mm material passing 2mm sieve			NH ₄ qualitative		

QA Ref	 Soil Mechanics	Printed:16/12/2010 09:27	Table CHEM 9
SLR 3 Rev 91 Jan 09			

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377 : PART 4 : 1990 : LIGHT COMPACTION, 2.5 kg rammer

Project No	A0054-10	Sample Details:	Hole No	BH106
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)	1.85
			Samp No	8
			Type	B
			ID	ESGA0054-10201009220000000025
			Spec Ref	



Soil description Brown slightly gravelly CLAY with occasional gravel sized pockets of greyish brown slightly sandy clay.

Test method BS 1377:part 4:1990: clause 3.3, 2.5 kg rammer in a 1 litre mould

Preparation Original material was natural, composite specimens tested

Material > 37.5mm 0 %

Material < 37.5mm > 20mm 1 %

Particle density, Mg/m³ 2.65 assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m³ **1.71**

Optimum moisture content, % **20**

QA Ref

SLD 4, 3.3/4
Rev 62
Jul 07



Soil Mechanics



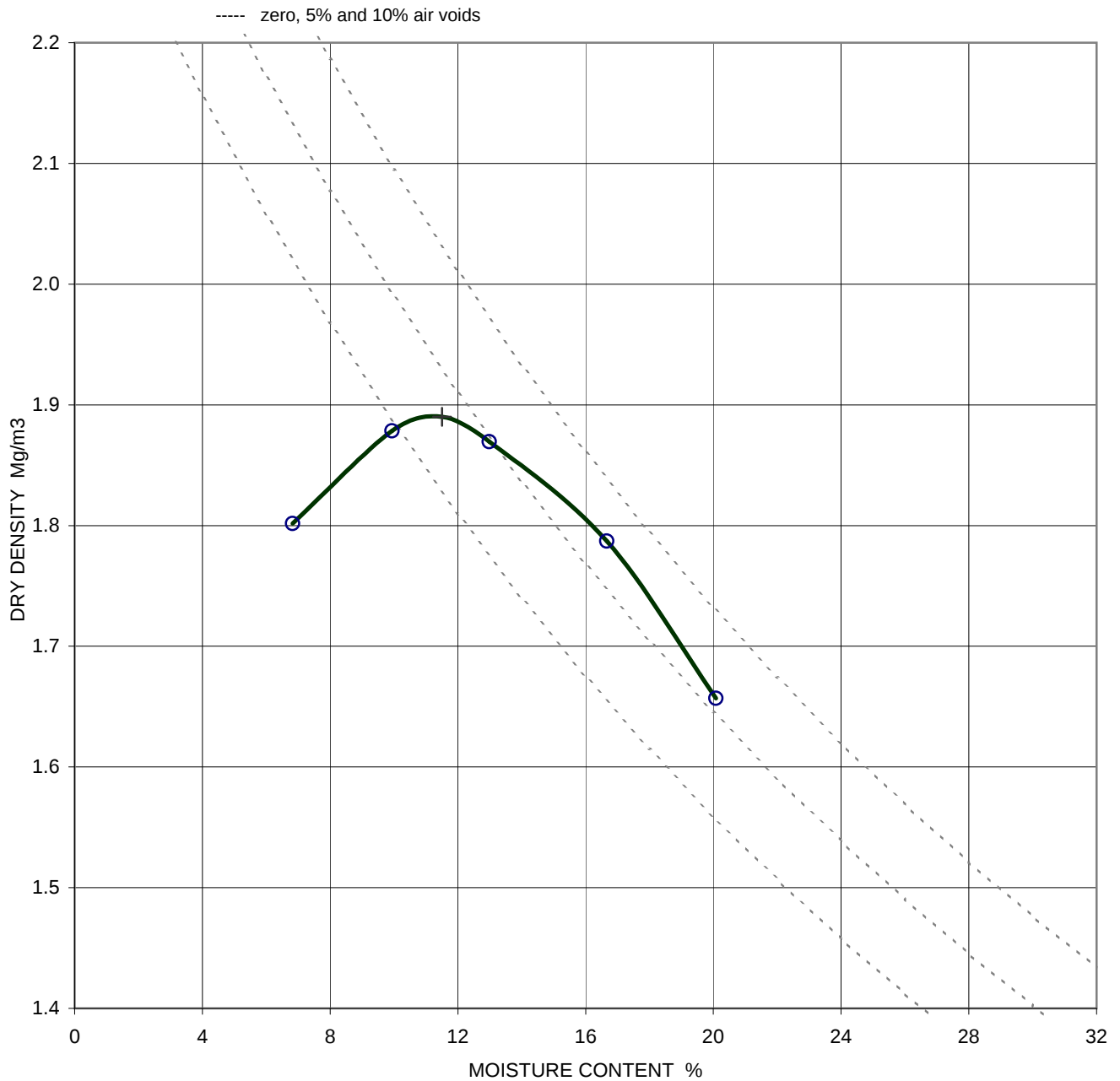
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Figure

COMPL 1

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377 : PART 4 : 1990 : LIGHT COMPACTION, 2.5 kg rammer

Project No	A0054-10	Sample Details:	Hole No		BH201	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		0.70	
			Samp No	4	Type	B
			ID	ESGA0054-10201010140000000714		
			Spec Ref			



Soil description Brown slightly gravelly sandy SILT with occasional rootlets.

Test method BS 1377:part 4:1990: clause 3.3, 2.5 kg rammer in a 1 litre mould

Preparation Original material was natural, separate specimens tested

Material > 37.5mm 0 %

Material < 37.5mm > 20mm 2 %

Particle density, Mg/m³ 2.65 assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m³
1.89

Optimum moisture content, %
12

QA Ref
SLD 4, 3.3/4
Rev 62
Jul 07



Soil Mechanics

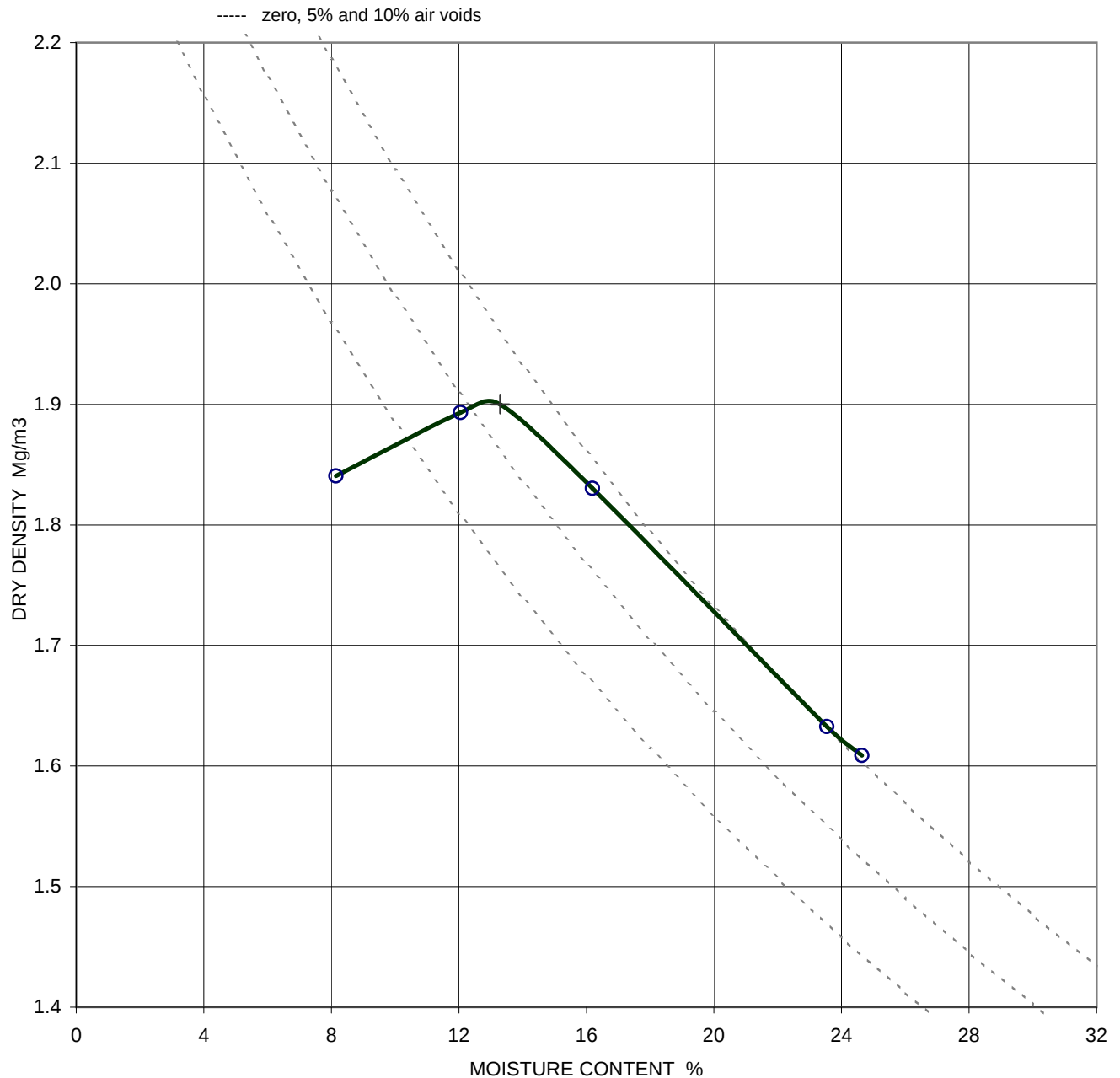


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Figure
COMPL 2

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377 : PART 4 : 1990 : LIGHT COMPACTION, 2.5 kg rammer

Project No	A0054-10	Sample Details:	Hole No		BH406	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		4.50	
			Samp No	15	Type	B
			ID	ESGA0054-10201009220000000106		
			Spec Ref			



Soil description Greyish brown slightly gravelly slightly sandy silty CLAY.

Test method BS 1377:part 4:1990: clause 3.3, 2.5 kg rammer in a 1 litre mould

Preparation Original material was natural, separate specimens tested

Material > 37.5mm 0 %

Material < 37.5mm > 20mm 1 %

Particle density, Mg/m³ 2.65 assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m³ **1.90**

Optimum moisture content, % **13**

QA Ref
 SLD 4, 3.3/4
 Rev 62
 Jul 07



Soil Mechanics

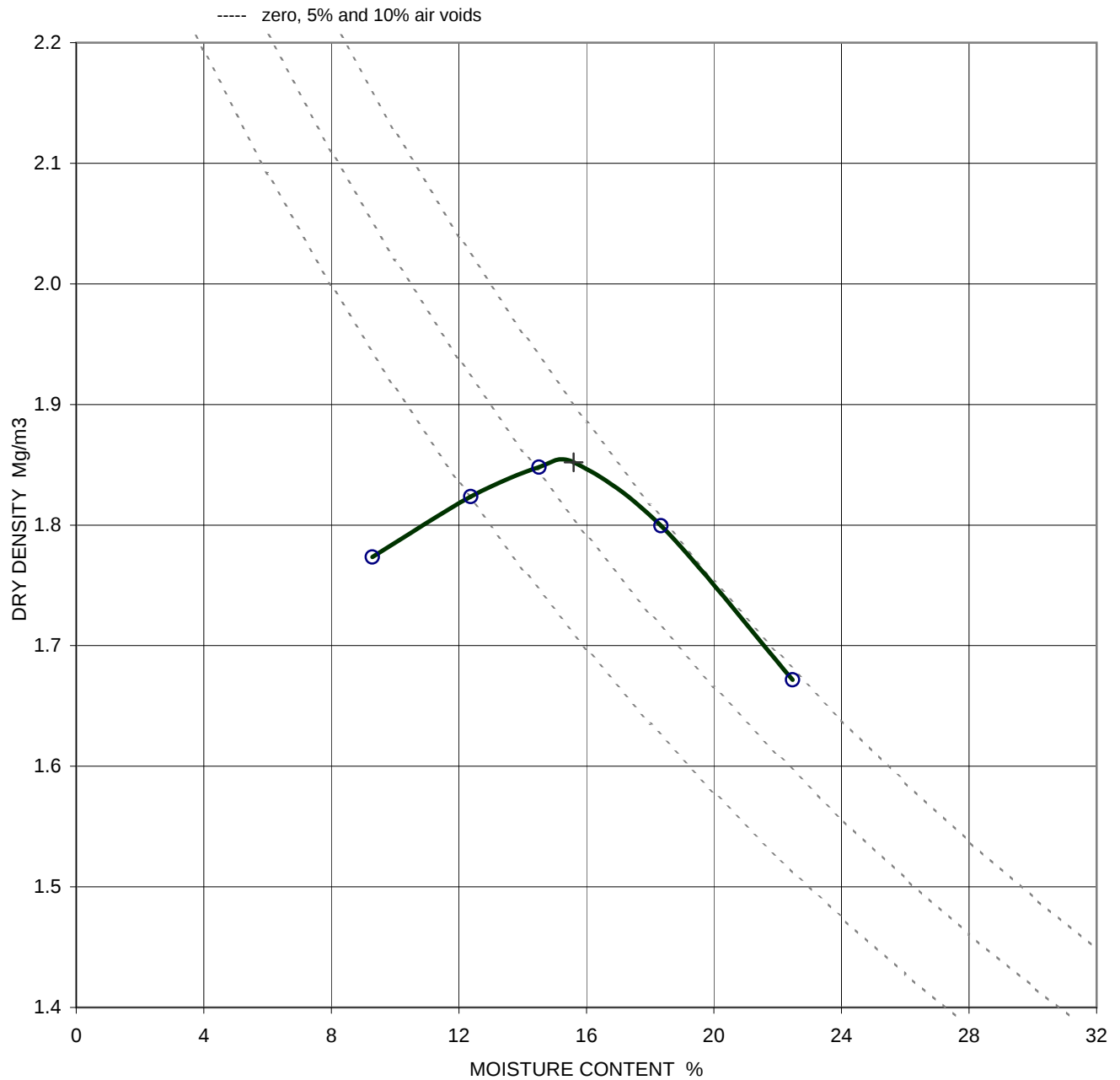


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Figure
COMPL 3

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377 : PART 4 : 1990 : LIGHT COMPACTION, 2.5 kg rammer

Project No	A0054-10	Sample Details:	Hole No		TP103	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.80	
			Samp No	15	Type	B
			ID	ESGA0054-10201010130000000448		
			Spec Ref			



Soil description Reddish brown and light grey slightly sandy slightly gravelly CLAY.

Test method BS 1377:part 4:1990: clause 3.3, 2.5 kg rammer in a 1 litre mould

Preparation Original material was natural, separate specimens tested

Material > 37.5mm 0 %

Material < 37.5mm > 20mm 0 %

Particle density, Mg/m³ 2.7 assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m³
1.85

Optimum moisture content, %
16

QA Ref
 SLD 4, 3.3/4
 Rev 62
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Soil Mechanics

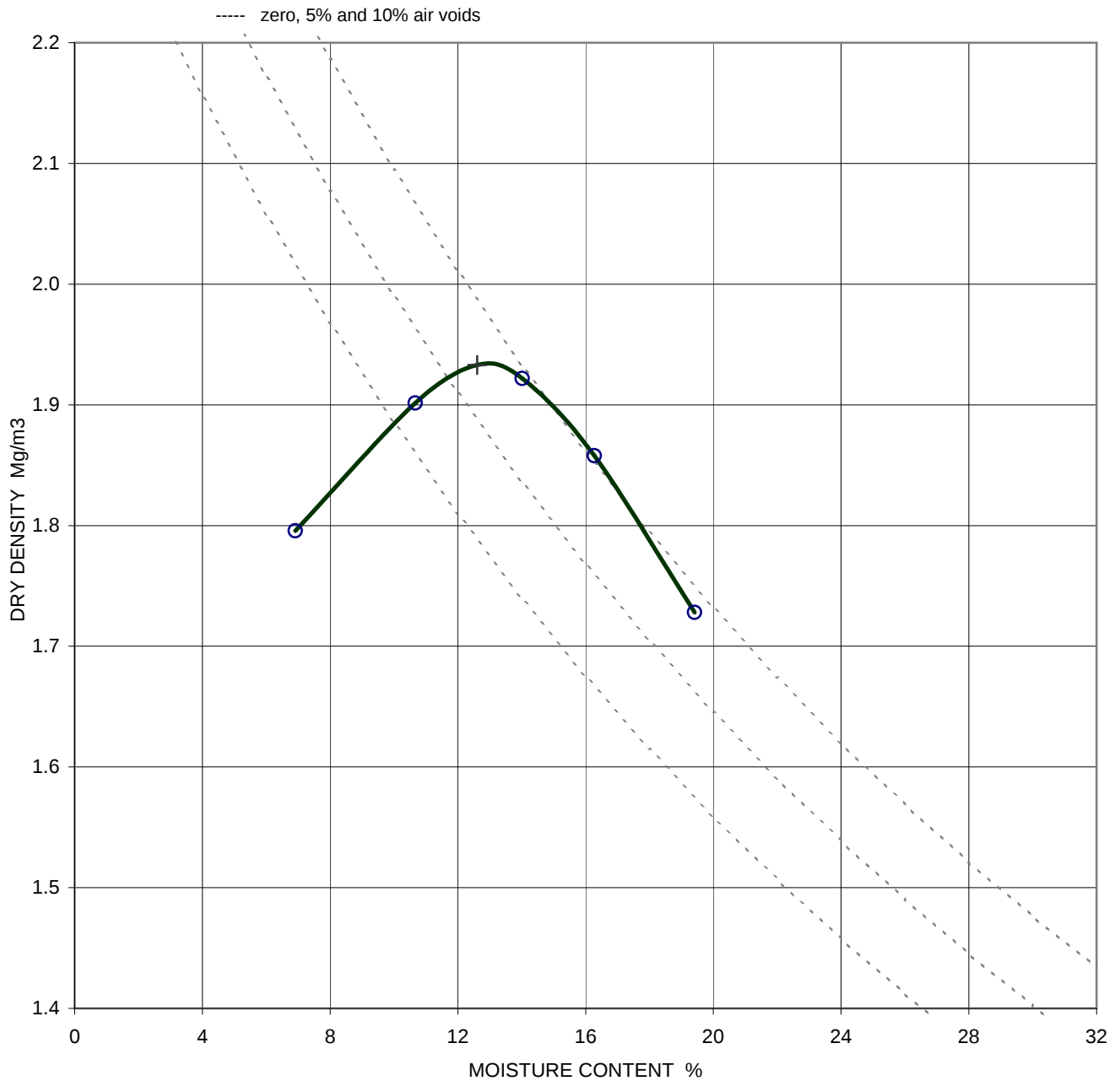


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Figure
COMPL 4

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377 : PART 4 : 1990 : LIGHT COMPACTION, 2.5 kg rammer

Project No	A0054-10	Sample Details:	Hole No		TP106	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.30	
			Samp No	9	Type	B
			ID	ESGA0054-10201010130000000481		
			Spec Ref			



Soil description Brown slightly gravelly sandy CLAY.

Test method BS 1377:part 4:1990: clause 3.3, 2.5 kg rammer in a 1 litre mould

Preparation Original material was natural, composite specimens tested

Material > 37.5mm 0 %

Material < 37.5mm > 20mm 1 %

Particle density, Mg/m³ 2.65 assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m³ **1.93**

Optimum moisture content, % **13**

QA Ref
SLD 4, 3.3/4
Rev 62
Jul 07



Soil Mechanics

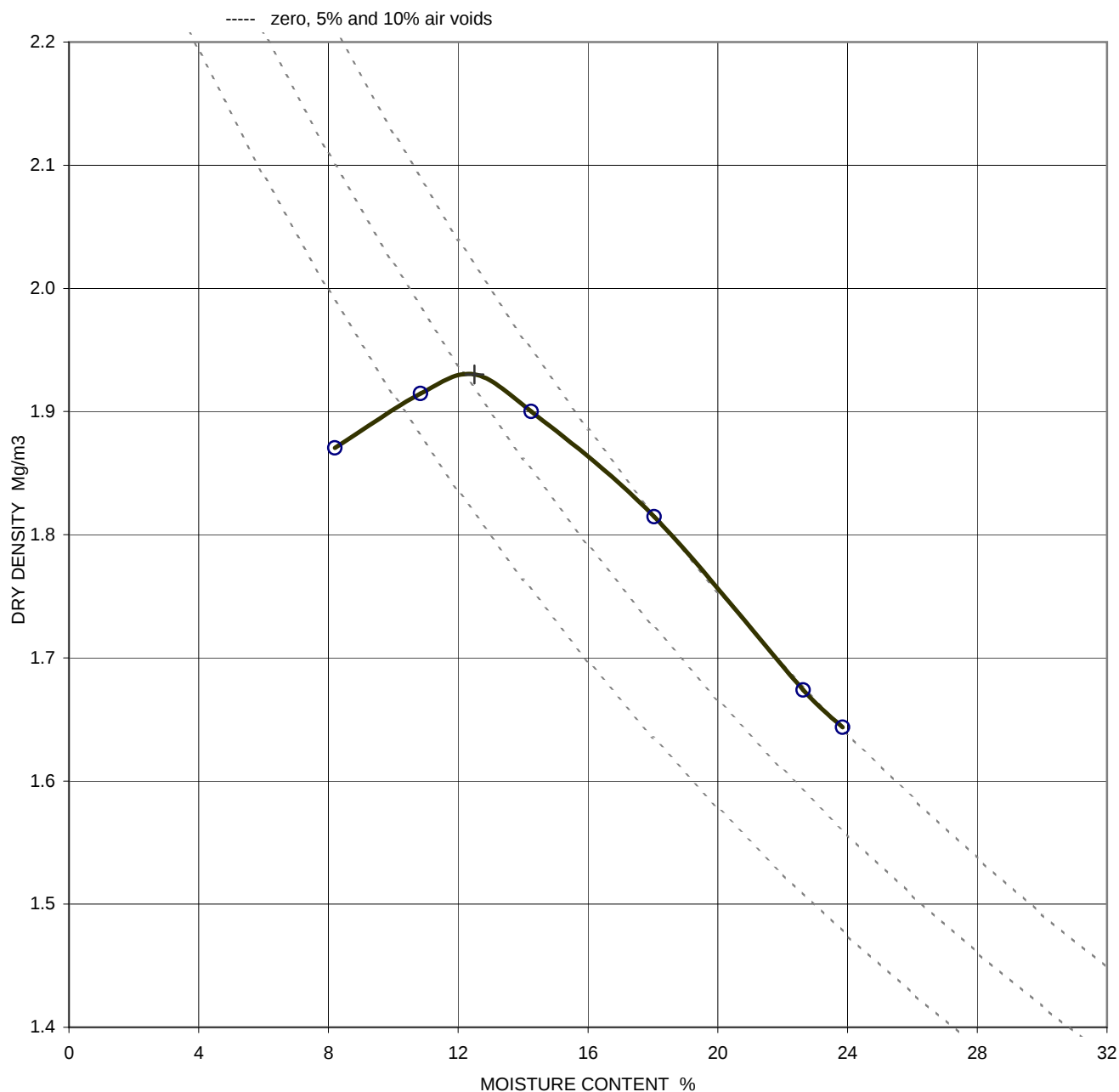


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Figure
COMPL 5

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377 : PART 4 : 1990 : HEAVY COMPACTION, 4.5 kg rammer

Project No	A0054-10	Sample Details:	Hole No		BH102	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.75	
			Samp No	11	Type	B
			ID	ESGA0054-10201009220000000011		
			Spec Ref			



Soil description Brown slightly sandy slightly gravelly CLAY.

Test method BS 1377:part 4:1990: clause 3.5, 4.5 kg rammer in a 1 litre mould

Preparation Original material was natural, composite specimens tested

Material > 37.5mm 0 %

Material < 37.5mm > 20mm 0 %

Particle density 2.7 assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m³
1.93

Optimum moisture content, %
13

QA Ref
SLD 4, 3.5/6
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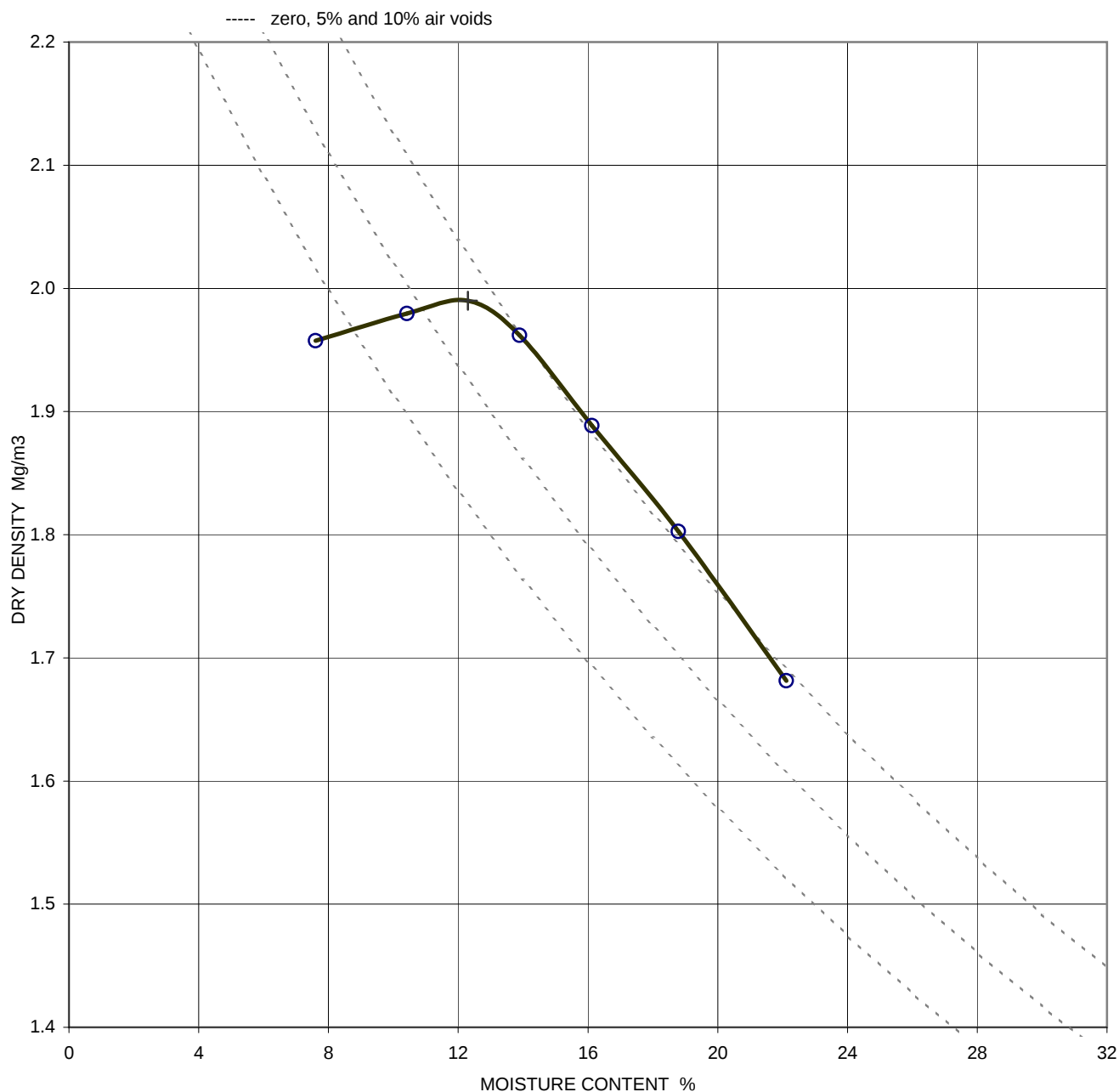


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Figure
COMPH 1

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377 : PART 4 : 1990 : HEAVY COMPACTION, 4.5 kg rammer

Project No	A0054-10	Sample Details:	Hole No		BH108	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		2.65	
			Samp No	11	Type	B
			ID	ESGA0054-10201009220000000045		
			Spec Ref			



Soil description Brown slightly sandy slightly gravelly CLAY.

Test method BS 1377:part 4:1990: clause 3.6, 4.5 kg rammer in a CBR mould

Preparation Original material was natural, composite specimens tested

Material > 37.5mm 0 %

Material < 37.5mm > 20mm 1 %

Particle density 2.7 assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m³
1.99

Optimum moisture content, %
12

QA Ref
SLD 4, 3.5/6
Rev 62
Jul 07



Soil Mechanics

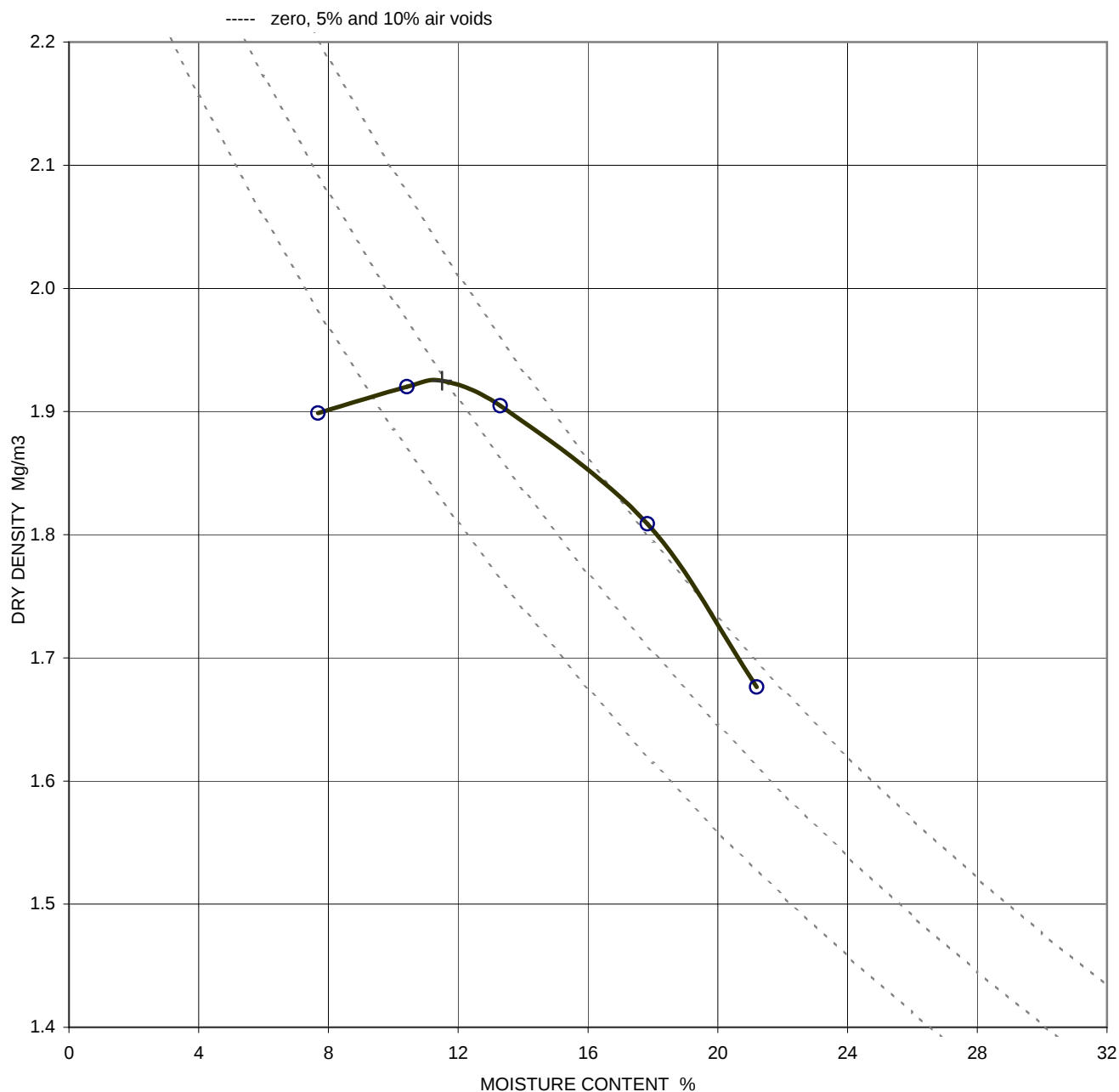


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Figure
COMPH 2

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377 : PART 4 : 1990 : HEAVY COMPACTION, 4.5 kg rammer

Project No	A0054-10	Sample Details:	Hole No	TP102
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)	0.40
			Samp No	8
			Type	B
			ID	ESGA0054-10201010130000000430
			Spec Ref	



Soil description Brown slightly gravelly slightly sandy CLAY.

Test method BS 1377:part 4:1990: clause 3.6, 4.5 kg rammer in a CBR mould

Preparation Original material was natural, composite specimens tested

Material > 37.5mm 0 %

Material < 37.5mm > 20mm 5 %

Particle density 2.65 assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m3
1.93

Optimum moisture content, %
12

QA Ref
 SLD 4, 3.5/6
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 **Soil Mechanics**

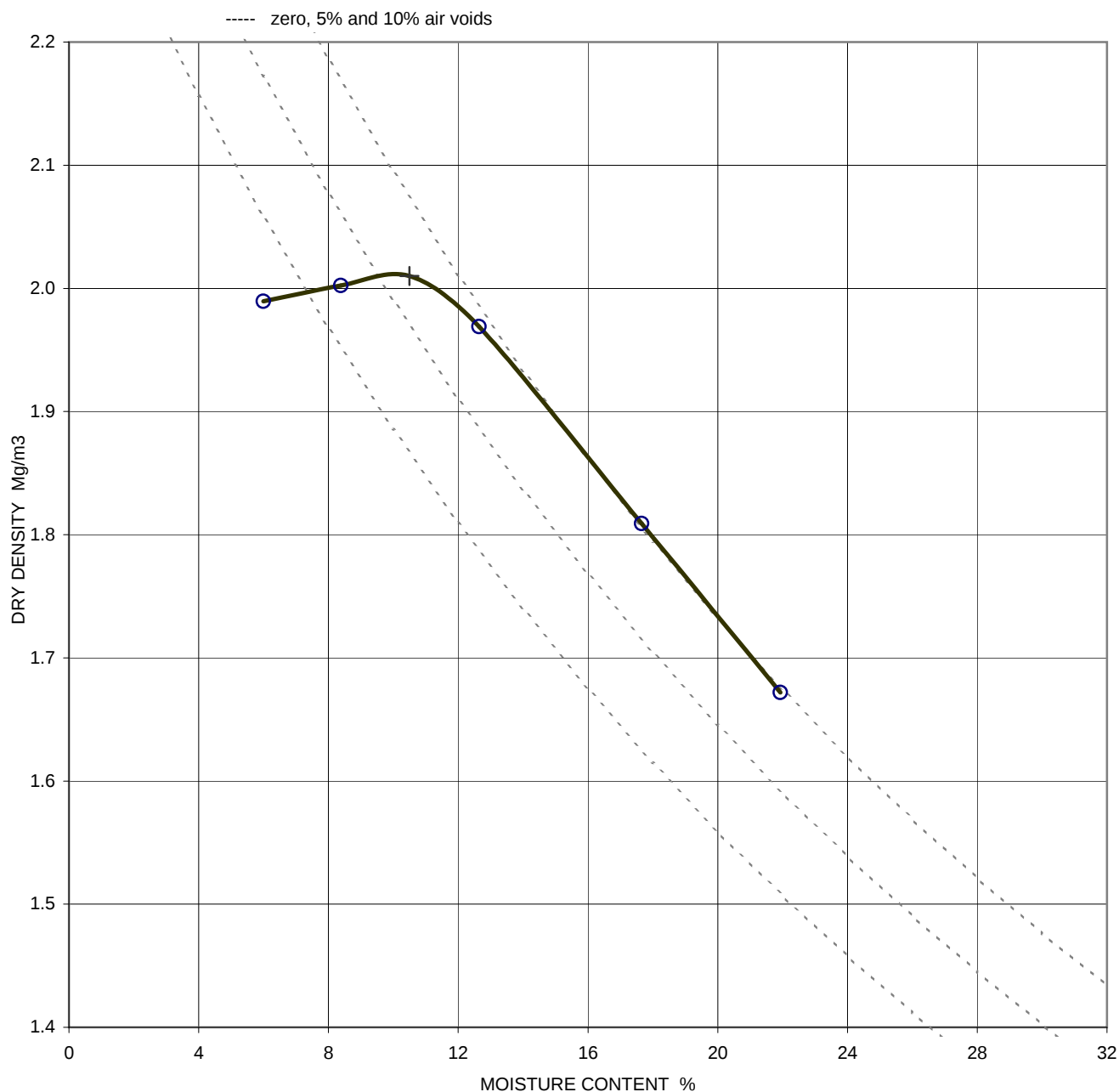


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Figure
COMPH 3

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP
BS1377 : PART 4 : 1990 : HEAVY COMPACTION, 4.5 kg rammer

Project No	A0054-10	Sample Details:	Hole No		TP105	
Project Name	FERRYBRIDGE MULTIFUEL POWERSTATION		Depth (m BGL)		1.10	
			Samp No	9	Type	B
			ID	ESGA0054-10201010130000000471		
			Spec Ref			



Soil description Brown slightly sandy slightly gravelly CLAY with occasional cobble sized pockets of light yellowish brown silt.

Test method BS 1377:part 4:1990: clause 3.6, 4.5 kg rammer in a CBR mould

Preparation Original material was natural, separate specimens tested

Material > 37.5mm 4 %

Material < 37.5mm > 20mm 2 %

Particle density 2.65 assumed

Remarks

Derived Parameters +

Maximum dry density, Mg/m3
2.01

Optimum moisture content, %
11

QA Ref

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Soil Mechanics



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Figure

COMPH 4

Point Load Index Test ISRM:1985

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

All specimens tested at **as received water content** unless shown otherwise

Test Type

D - Diametral, A - Axial, I - Irregular Lump, B - Block

Direction (U = unknown or random)

L - parallel to planes of weakness

P - perpendicular to planes of weakness

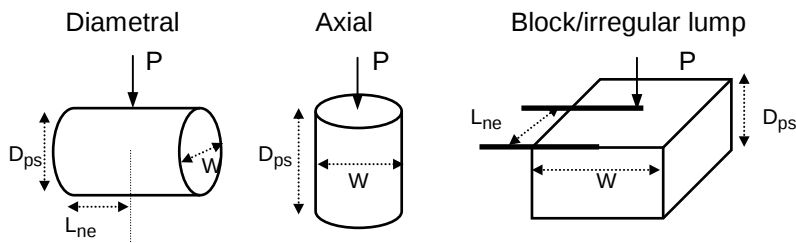
Dimensions

D_{ps} - Distance between platens (platen separation)

D_{ps}' - at failure

L_{ne} - Length from platens to nearest free end

W - Width of shortest dimension perpendicular to load, P



Borehole	Depth, m	Sample Ref	Sample Type	Specimen Ref	Specimen Depth	Rock type	Test Type see ISRM Fig 5 and 8		Failure Valid (Y/N)	Dimensions			LOAD P kN	D_e equivalent diameter, mm	Point Load Index MPa $F = (D_e/50)^{0.45}$		Remarks
							Type (D, A, I, B)	Direction (L, P or U)		L_{ne} mm	D_{ps}' mm	W mm			I_s	$I_{s(50)}$	
BH101	3.47 - 3.59	3	CS			LIMESTONE	D	U	Y	49.0	83.0	86.9	1.10	84.93	0.15	0.19	
BH101	3.47 - 3.59	3	CS	1		LIMESTONE	A	U	Y		48.0	86.9	0.20	72.88	0.04	0.04	
BH101	5.28 - 5.41	4	CS			LIMESTONE	D	U	Y	50.0	83.0	86.2	1.70	84.58	0.24	0.30	
BH101	5.28 - 5.41	4	CS	1		LIMESTONE	A	U	Y		44.0	86.2	1.10	69.49	0.23	0.26	
BH101	7.37 - 7.50	5	CS			LIMESTONE	D	U	Y	48.0	84.0	86.4	1.20	85.19	0.17	0.21	
BH101	7.37 - 7.50	5	CS	1		LIMESTONE	A	U	Y		42.0	86.4	0.40	67.97	0.09	0.10	
BH101	9.88 - 10.00	6	CS			LIMESTONE	D	U	Y	47.0	84.0	86.5	0.60	85.24	0.08	0.10	
BH101	9.88 - 10.00	6	CS	1		LIMESTONE	A	U	Y		47.0	86.5	0.30	71.95	0.06	0.07	
BH101	10.58 - 10.81	7	CS			LIMESTONE	D	U	Y	49.0	84.0	86.5	2.10	85.24	0.29	0.37	
BH101	10.58 - 10.81	7	CS	1		LIMESTONE	A	U	Y		47.0	86.5	1.50	71.95	0.29	0.34	
BH101	12.75 - 12.96	8	CS			LIMESTONE	I	U	Y	41.0	41.0	72.2	3.10	61.39	0.82	0.90	
BH101	14.14 - 14.38	9	CS			LIMESTONE	I	U	Y	47.0	38.0	70.8	3.40	58.53	0.99	1.07	
BH102	7.25 - 7.40	19	CS			LIMESTONE	D	U	Y	47.0	83.0	86.3	1.30	84.63	0.18	0.23	
BH102	7.25 - 7.40	19	CS	1		LIMESTONE	A	U	Y		58.0	86.3	1.10	79.83	0.17	0.21	
BH102	9.82 - 9.91	20	CS			LIMESTONE	D	U	Y	48.0	85.0	86.5	0.80	85.75	0.11	0.14	
BH102	9.82 - 9.91	20	CS	1		LIMESTONE	A	U	Y		31.0	86.5	1.50	58.43	0.44	0.47	
BH102	11.60 - 11.70	21	CS			LIMESTONE	D	U	Y	48.0	83.0	86.3	1.20	84.63	0.17	0.21	
BH102	11.60 - 11.70	21	CS	1		LIMESTONE	A	U	Y		35.0	86.3	0.60	62.01	0.16	0.17	
BH102	14.68 - 14.82	22	CS			LIMESTONE	D	U	Y	41.0	85.0	86.7	1.10	85.85	0.15	0.19	
BH102	14.68 - 14.82	22	CS	1		LIMESTONE	A	U	Y		29.0	86.7	0.40	56.58	0.12	0.13	

QA Ref ISRM 85 Rev 55 Nov 08	 Soil Mechanics		Printed:10/12/2010 12:16	Figure PLT 1
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Point Load Index Test ISRM:1985

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

All specimens tested at **as received water content** unless shown otherwise

Test Type

D - Diametral, A - Axial, I - Irregular Lump, B - Block

Direction (U = unknown or random)

L - parallel to planes of weakness

P - perpendicular to planes of weakness

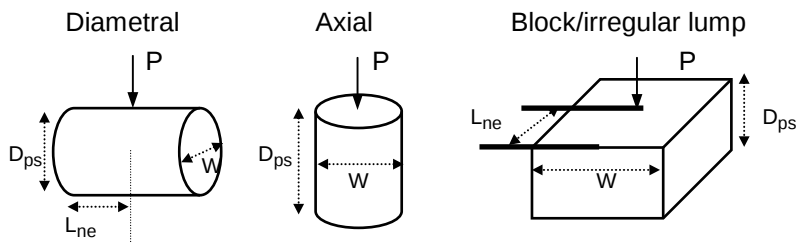
Dimensions

D_{ps} - Distance between platens (platen separation)

D_{ps}' - at failure

L_{ne} - Length from platens to nearest free end

W - Width of shortest dimension perpendicular to load, P



Borehole	Depth, m	Sample Ref	Sample Type	Specimen Ref	Specimen Depth	Rock type	Test Type see ISRM Fig 5 and 8		Failure Valid (Y/N)	Dimensions			LOAD P kN	De equivalent diameter, mm	Point Load Index MPa $F = (De/50)^{0.45}$		Remarks
							Type (D, A, I, B)	Direction (L, P or U)		L_{ne} mm	D_{ps}' mm	W mm			I_s	$I_{s(50)}$	
BH102	17.32 - 17.61	23	CS			LIMESTONE	A	U	Y		38.0	86.1	1.80	64.54	0.43	0.48	Insufficient for diametral test.
BH102	18.85 - 18.94	24	CS			LIMESTONE	D	U	Y	48.0	83.0	86.9	1.20	84.93	0.17	0.21	
BH102	18.85 - 18.94	24	CS	1		LIMESTONE	A	U	Y		58.0	86.9	0.80	80.11	0.12	0.15	
BH102	19.98 - 20.29	25	CS			LIMESTONE	A	U	Y		62.0	85.8	2.20	82.30	0.32	0.41	Insufficient for diametral test.
BH102	21.30 - 21.41	26	CS			LIMESTONE	D	U	Y	49.0	77.0	86.1	28.00	81.42	4.22	5.26	
BH102	21.30 - 21.41	26	CS	1		LIMESTONE	A	U	Y		38.0	86.1	12.00	64.54	2.88	3.23	
BH102	24.30 - 24.84	27	CS			LIMESTONE	D	U	Y	50.0	78.0	86.2	16.00	82.00	2.38	2.97	
BH102	24.30 - 24.84	27	CS	1		LIMESTONE	A	U	Y		48.0	86.2	5.50	72.58	1.04	1.23	
BH104	11.83 - 12.00	24	CS			LIMESTONE	D	U	Y	48.0	85.0	86.1	0.30	85.55	0.04	0.05	
BH104	11.83 - 12.00	24	CS	1		LIMESTONE	A	U	Y		44.0	86.1	0.80	69.45	0.17	0.19	
BH104	14.42 - 14.50	25	CS			LIMESTONE	D	U	Y	47.0	81.0	86.3	1.40	83.61	0.20	0.25	
BH104	14.42 - 14.50	25	CS	1		LIMESTONE	A	U	Y		43.0	86.3	1.30	68.74	0.28	0.32	
BH105	3.15 - 3.25	6	CS			LIMESTONE	D	U	Y	48.0	82.0	86.0	3.60	83.98	0.51	0.64	
BH105	3.15 - 3.25	6	CS	1		LIMESTONE	A	U	Y		45.0	86.0	11.00	70.20	2.23	2.60	
BH105	5.98 - 6.10	7	CS			LIMESTONE	D	U	Y	47.0	84.0	86.2	0.30	85.09	0.04	0.05	
BH105	5.98 - 6.10	7	CS	1		LIMESTONE	A	U	Y		33.0	86.2	0.50	60.18	0.14	0.15	
BH105	8.17 - 8.29	8	CS			LIMESTONE	D	U	Y	46.0	84.0	86.3	0.60	85.14	0.08	0.11	
BH105	8.17 - 8.29	8	CS	1		LIMESTONE	A	U	Y		56.0	86.3	0.40	78.44	0.07	0.08	
BH105	10.57 - 10.68	9	CS			LIMESTONE	D	U	Y	47.0	85.0	85.8	0.50	85.40	0.07	0.09	
BH105	10.57 - 10.68	9	CS	1		LIMESTONE	A	U	Y		43.0	85.8	0.30	68.54	0.06	0.07	

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Figure

PLT 2

Point Load Index Test ISRM:1985

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

All specimens tested at **as received water content** unless shown otherwise

Test Type

D - Diametral, A - Axial, I - Irregular Lump, B - Block

Direction (U = unknown or random)

L - parallel to planes of weakness

P - perpendicular to planes of weakness

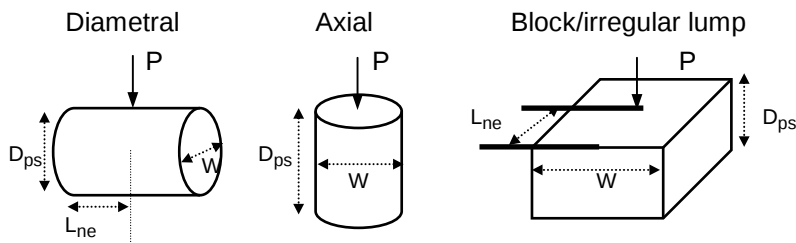
Dimensions

D_{ps} - Distance between platens (platen separation)

D_{ps}' - at failure

L_{ne} - Length from platens to nearest free end

W - Width of shortest dimension perpendicular to load, P



Borehole	Depth, m	Sample Ref	Sample Type	Specimen Ref	Specimen Depth	Rock type	Test Type see ISRM Fig 5 and 8		Failure Valid (Y/N)	Dimensions			LOAD P kN	De equivalent diameter, mm	Point Load Index MPa $F = (De/50)^{0.45}$		Remarks
							Type (D, A, I, B)	Direction (L, P or U)		L_{ne} mm	D_{ps}' mm	W mm			I_s	$I_{s(50)}$	
BH105	12.90 - 13.04	10	CS			LIMESTONE	D	U	Y	47.0	85.0	86.3	0.60	85.65	0.08	0.10	
BH105	12.90 - 13.04	10	CS	1		LIMESTONE	A	U	Y		59.0	86.3	0.70	80.52	0.11	0.13	
BH105	14.27 - 14.53	11	CS			LIMESTONE/SA NDSTONE	D	U	Y	45.0	84.0	86.3	2.60	85.14	0.36	0.46	
BH105	14.27 - 14.53	11	CS	1		LIMESTONE/SA NDSTONE	A	U	Y		41.0	86.3	0.80	67.12	0.18	0.20	
BH106	6.32 - 6.42	18	CS			LIMESTONE	D	U	Y	45.0	83.0	86.6	1.60	84.78	0.22	0.28	
BH106	6.32 - 6.42	18	CS	1		LIMESTONE	A	U	Y		39.0	86.6	0.50	65.58	0.12	0.13	
BH106	9.82 - 9.94	19	CS			LIMESTONE	D	U	Y	46.0	84.0	86.3	2.70	85.14	0.37	0.47	
BH106	9.82 - 9.94	19	CS	1		LIMESTONE	A	U	Y		61.0	86.3	4.30	81.87	0.64	0.80	
BH106	11.41 - 11.56	20	CS			LIMESTONE	D	U	Y	47.0	85.0	86.8	0.50	85.90	0.07	0.09	
BH106	11.41 - 11.56	20	CS	1		LIMESTONE	A	U	Y		52.0	86.8	0.60	75.81	0.10	0.13	
BH106	12.71 - 12.86	21	CS			LIMESTONE	D	U	Y	47.0	84.0	86.4	0.60	85.19	0.08	0.11	
BH106	12.71 - 12.86	21	CS	1		LIMESTONE	A	U	Y		65.0	86.4	0.70	84.56	0.10	0.12	
BH106	14.22 - 14.37	22	CS			LIMESTONE	D	U	Y	46.0	84.0	86.8	1.30	85.39	0.18	0.23	
BH106	14.22 - 14.37	22	CS	1		LIMESTONE	A	U	Y		56.0	86.8	1.50	78.67	0.24	0.30	
BH107	9.15 - 9.25	18	CS			LIMESTONE	D	U	Y	47.0	84.0	86.5	2.30	85.24	0.32	0.40	
BH107	9.15 - 9.25	18	CS	1		LIMESTONE	A	U	Y		53.0	86.5	0.70	76.40	0.12	0.15	
BH107	10.74 - 10.86	19	CS			LIMESTONE	D	U	Y	45.0	85.0	86.3	1.00	85.65	0.14	0.17	
BH107	10.74 - 10.86	19	CS	1		LIMESTONE	A	U	Y		52.0	86.3	0.40	75.59	0.07	0.08	
BH107	13.15 - 13.25	20	CS			LIMESTONE	D	U	Y	47.0	83.0	85.7	0.60	84.34	0.08	0.11	
BH107	13.15 - 13.25	20	CS	1		LIMESTONE	A	U	Y		33.0	85.7	0.50	60.01	0.14	0.15	

QA Ref ISRM 85 Rev 55 Nov 08	 Soil Mechanics		Printed:10/12/2010 12:17	Figure PLT 3
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Point Load Index Test ISRM:1985

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

All specimens tested at **as received water content** unless shown otherwise

Test Type

D - Diametral, A - Axial, I - Irregular Lump, B - Block

Direction (U = unknown or random)

L - parallel to planes of weakness

P - perpendicular to planes of weakness

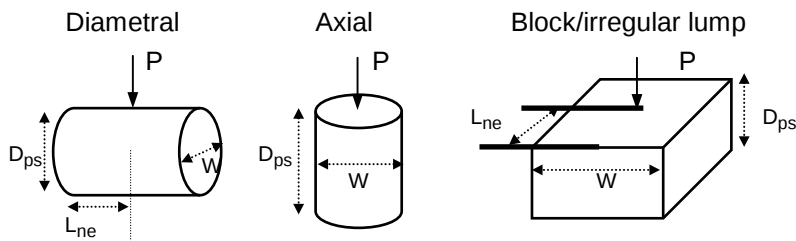
Dimensions

D_{ps} - Distance between platens (platen separation)

D_{ps}' - at failure

L_{ne} - Length from platens to nearest free end

W - Width of shortest dimension perpendicular to load, P



Borehole	Depth, m	Sample Ref	Sample Type	Specimen Ref	Specimen Depth	Rock type	Test Type see ISRM Fig 5 and 8		Failure Valid (Y/N)	Dimensions			LOAD P kN	De equivalent diameter, mm	Point Load Index MPa $F = (De/50)^{0.45}$		Remarks
							Type (D, A, I, B)	Direction (L, P or U)		Lne mm	Dps' mm	W mm			I_s	$I_{s(50)}$	
BH107	14.23 - 14.34	21	CS			LIMESTONE	D	U	Y	48.0	85.0	85.2	0.70	85.10	0.10	0.12	
BH107	14.23 - 14.34	21	CS	1		LIMESTONE	A	U	Y		45.0	85.2	0.70	69.87	0.14	0.17	
BH109	8.03 - 8.14	23	CS			LIMESTONE	D	U	Y	47.0	84.0	86.2	0.90	85.09	0.12	0.16	
BH109	8.03 - 8.14	23	CS	1		LIMESTONE	A	U	Y		47.0	86.2	1.50	71.82	0.29	0.34	
BH109	9.73 - 9.83	24	CS			LIMESTONE	D	U	Y	49.0	83.0	86.1	0.80	84.54	0.11	0.14	
BH109	9.73 - 9.83	24	CS	1		LIMESTONE	A	U	Y		38.0	86.1	0.70	64.54	0.17	0.19	
BH109	11.23 - 11.33	25	CS			LIMESTONE	D	U	Y	50.0	84.0	86.7	1.20	85.34	0.16	0.21	
BH109	11.23 - 11.33	25	CS	1		LIMESTONE	A	U	Y		46.0	86.7	1.10	71.26	0.22	0.25	
BH109	13.18 - 13.31	26	CS			LIMESTONE	D	U	Y	48.0	85.0	86.8	0.60	85.90	0.08	0.10	
BH109	13.18 - 13.31	26	CS	1		LIMESTONE	A	U	Y		44.0	86.8	0.30	69.73	0.06	0.07	
BH109	14.10 - 14.25	27	CS			LIMESTONE	D	U	Y	49.0	84.0	86.2	0.50	85.09	0.07	0.09	
BH109	14.10 - 14.25	27	CS	1		LIMESTONE	A	U	Y		60.0	86.2	0.60	81.15	0.09	0.11	
BH110	6.80 - 6.90	16	CS			LIMESTONE	D	U	Y	48.0	84.0	86.7	2.10	85.34	0.29	0.37	
BH110	6.80 - 6.90	16	CS	1		LIMESTONE	A	U	Y		40.0	86.7	1.90	66.45	0.43	0.49	
BH110	9.54 - 9.69	17	CS			LIMESTONE	D	U	Y	45.0	85.0	86.5	0.40	85.75	0.05	0.07	
BH110	9.54 - 9.69	17	CS	1		LIMESTONE	A	U	Y		35.0	86.5	0.40	62.09	0.10	0.11	
BH110	11.48 - 11.62	18	CS			LIMESTONE	D	U	Y	48.0	82.0	86.5	2.90	84.22	0.41	0.52	
BH110	11.48 - 11.62	18	CS	1		LIMESTONE	A	U	Y		60.0	86.5	2.30	81.29	0.35	0.43	
BH110	13.17 - 13.31	19	CS			LIMESTONE	D	U	Y	47.0	84.0	86.6	0.90	85.29	0.12	0.16	
BH110	13.17 - 13.31	19	CS	1		LIMESTONE	A	U	Y		55.0	86.6	0.70	77.87	0.12	0.14	

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Figure

PLT 4

Point Load Index Test ISRM:1985

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

All specimens tested at **as received water content** unless shown otherwise

Test Type

D - Diametral, A - Axial, I - Irregular Lump, B - Block

Direction (U = unknown or random)

L - parallel to planes of weakness

P - perpendicular to planes of weakness

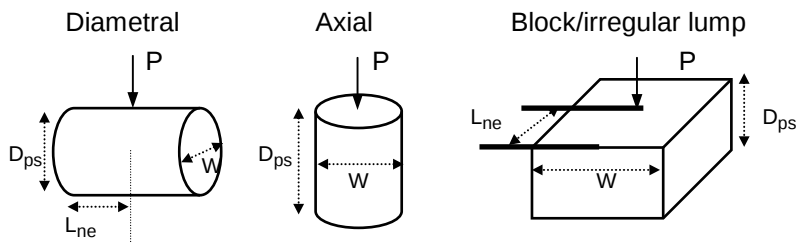
Dimensions

D_{ps} - Distance between platens (platen separation)

D_{ps}' - at failure

L_{ne} - Length from platens to nearest free end

W - Width of shortest dimension perpendicular to load, P



Borehole	Depth, m	Sample Ref	Sample Type	Specimen Ref	Specimen Depth	Rock type	Test Type see ISRM Fig 5 and 8		Failure Valid (Y/N)	Dimensions			LOAD P kN	De equivalent diameter, mm	Point Load Index MPa $F = (De/50)^{0.45}$		Remarks
							Type (D, A, I, B)	Direction (L, P or U)		Lne mm	Dps' mm	W mm			I_s	$I_{s(50)}$	
BH110	14.64 - 14.79	20	CS			LIMESTONE	D	U	Y	48.0	83.0	86.8	8.00	84.88	1.11	1.41	
BH110	14.64 - 14.79	20	CS	1		LIMESTONE	A	U	Y		46.0	86.8	3.50	71.30	0.69	0.81	
BH112	4.93 - 5.05	15	CS			LIMESTONE	D	U	Y	49.0	83.0	86.5	4.00	84.73	0.56	0.71	
BH112	4.93 - 5.05	15	CS	1		LIMESTONE	A	U	Y		48.0	86.5	4.40	72.71	0.83	0.99	
BH112	6.79 - 6.89	16	CS			LIMESTONE	D	U	Y	48.0	81.0	86.7	4.10	83.80	0.58	0.74	
BH112	6.79 - 6.89	16	CS	1		LIMESTONE	A	U	Y		56.0	86.7	4.70	78.62	0.76	0.93	
BH112	9.08 - 9.24	17	CS			LIMESTONE	D	U	Y	49.0	84.0	86.7	1.70	85.34	0.23	0.30	
BH112	9.08 - 9.24	17	CS	1		LIMESTONE	A	U	Y		43.0	86.7	1.20	68.90	0.25	0.29	
BH112	11.41 - 11.58	18	CS			LIMESTONE	D	U	Y	48.0	83.0	86.4	2.90	84.68	0.40	0.51	
BH112	11.41 - 11.58	18	CS	1		LIMESTONE	A	U	Y		51.0	86.4	3.20	74.90	0.57	0.68	
BH112	13.67 - 13.80	19	CS			LIMESTONE	D	U	Y	47.0	84.0	86.4	1.40	85.19	0.19	0.25	
BH112	13.67 - 13.80	19	CS	1		LIMESTONE	A	U	Y		60.0	86.4	4.50	81.24	0.68	0.85	
BH112	15.68 - 15.83	20	CS			LIMESTONE	D	U	Y	46.0	84.0	86.3	0.50	85.14	0.07	0.09	
BH112	15.68 - 15.83	20	CS	1		LIMESTONE	A	U	Y		48.0	86.3	3.00	72.62	0.57	0.67	
BH112	18.40 - 18.68	21	CS			SANDY LIMESTONE	I	U	Y	45.0	46.0	85.7	0.70	70.85	0.14	0.16	
BH112	20.70 - 20.99	22	CS			LIMESTONE	A	U	Y		37.0	86.1	1.70	63.69	0.42	0.47	Insufficient for diametral test.
BH112	22.97 - 23.43	23	CS			LIMESTONE	D	U	Y	44.0	83.0	86.2	7.00	84.58	0.98	1.24	
BH112	22.97 - 23.43	23	CS	1		LIMESTONE	A	U	Y		52.0	86.2	11.00	75.55	1.93	2.32	
BH113	7.63 - 7.75	6	CS			LIMESTONE	D	U	Y	46.0	84.0	86.4	0.80	85.19	0.11	0.14	
BH113	7.63 - 7.75	6	CS	1		LIMESTONE	A	U	Y		46.0	86.4	0.20	71.14	0.04	0.05	

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Figure

PLT 5

Point Load Index Test ISRM:1985

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

All specimens tested at **as received water content** unless shown otherwise

Test Type

D - Diametral, A - Axial, I - Irregular Lump, B - Block

Direction (U = unknown or random)

L - parallel to planes of weakness

P - perpendicular to planes of weakness

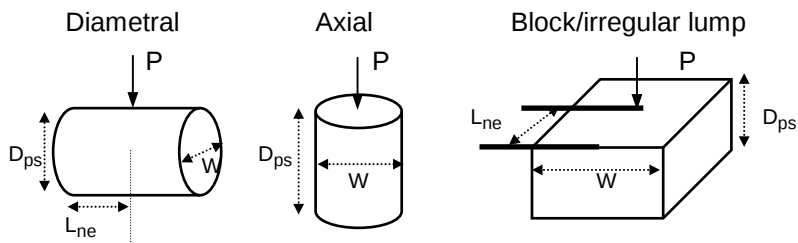
Dimensions

D_{ps} - Distance between platens (platen separation)

D_{ps}' - at failure

L_{ne} - Length from platens to nearest free end

W - Width of shortest dimension perpendicular to load, P



Borehole	Depth, m	Sample Ref	Sample Type	Specimen Ref	Specimen Depth	Rock type	Test Type see ISRM Fig 5 and 8		Failure Valid (Y/N)	Dimensions			LOAD P kN	D_e equivalent diameter, mm	Point Load Index MPa $F = (D_e/50)^{0.45}$		Remarks
							Type (D, A, I, B)	Direction (L, P or U)		L_{ne} mm	D_{ps}' mm	W mm			I_s	$I_{s(50)}$	
BH113	8.75 - 8.88	7	CS			LIMESTONE	D	U	Y	48.0	83.0	87.0	1.30	84.98	0.18	0.23	
BH113	8.75 - 8.88	7	CS	1		LIMESTONE	A	U	Y		53.0	87.0	0.90	76.62	0.15	0.19	
BH113	10.62 - 10.82	8	CS			SANDY LIMESTONE	I	U	Y	50.0	34.0	72.6	0.30	56.06	0.10	0.10	
BH113	12.97 - 13.30	9	CS			SANDY LIMESTONE	I	U	Y	33.0	47.0	86.4	0.80	71.91	0.15	0.18	
BH113	14.82 - 14.96	10	CS			LIMESTONE	D	U	Y	47.0	84.0	85.7	0.50	84.85	0.07	0.09	
BH113	14.82 - 14.96	10	CS	1		LIMESTONE	A	U	Y		36.0	85.7	2.80	62.68	0.71	0.79	
BH113	18.39 - 18.70	11	CS			SANDY LIMESTONE	A	U	Y		34.0	85.8	1.90	60.95	0.51	0.56	Insufficient for diametral test.
BH113	20.55 - 20.68	12	CS			LIMESTONE	D	U	Y	46.0	83.0	85.5	4.10	84.24	0.58	0.73	
BH113	20.55 - 20.68	12	CS	1		LIMESTONE	A	U	Y		42.0	85.5	3.30	67.62	0.72	0.83	
BH113	21.96 - 22.31	13	CS			LIMESTONE	A	U	Y		43.0	85.9	1.80	68.58	0.38	0.44	Insufficient for diametral test.
BH113	23.90 - 24.24	14	CS			LIMESTONE	A	U	Y		57.0	85.9	4.00	78.96	0.64	0.79	Insufficient for diametral test.
BH204	8.98 - 9.13	20	CS			LIMESTONE	D	U	Y	47.0	82.0	86.4	0.70	84.17	0.10	0.12	
BH204	8.98 - 9.13	20	CS	1		LIMESTONE	A	U	Y		43.0	86.4	0.50	68.78	0.11	0.12	
BH204	10.57 - 10.67	21	CS			LIMESTONE	D	U	Y	46.0	83.0	86.4	0.40	84.68	0.06	0.07	
BH204	10.57 - 10.67	21	CS	1		LIMESTONE	A	U	Y		54.0	86.4	0.50	77.07	0.08	0.10	
BH204	13.10 - 13.28	22	CS			LIMESTONE	D	U	Y	46.0	84.0	86.5	0.60	85.24	0.08	0.10	
BH204	13.10 - 13.28	22	CS	1		LIMESTONE	A	U	Y		49.0	86.5	1.50	73.46	0.28	0.33	
BH204	15.14 - 15.30	23	CS			LIMESTONE	D	U	Y	44.0	84.0	85.9	0.40	84.94	0.06	0.07	
BH204	15.14 - 15.30	23	CS	1		LIMESTONE	A	U	Y		37.0	85.9	0.40	63.61	0.10	0.11	
BH204	18.04 - 18.22	24	CS			LIMESTONE	D	U	Y	45.0	83.0	86.7	0.50	84.83	0.07	0.09	

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Point Load Index Test ISRM:1985

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

All specimens tested at **as received water content** unless shown otherwise

Test Type

D - Diametral, A - Axial, I - Irregular Lump, B - Block

Direction (U = unknown or random)

L - parallel to planes of weakness

P - perpendicular to planes of weakness

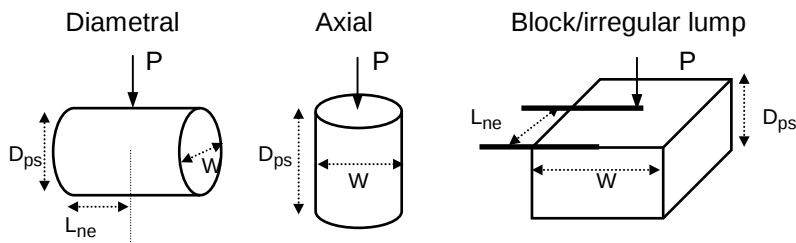
Dimensions

D_{ps} - Distance between platens (platen separation)

D_{ps}' - at failure

L_{ne} - Length from platens to nearest free end

W - Width of shortest dimension perpendicular to load, P



Borehole	Depth, m	Sample Ref	Sample Type	Specimen Ref	Specimen Depth	Rock type	Test Type see ISRM Fig 5 and 8		Failure Valid (Y/N)	Dimensions			LOAD P kN	De equivalent diameter, mm	Point Load Index MPa $F = (De/50)^{0.45}$		Remarks
							Type (D, A, I, B)	Direction (L, P or U)		Lne mm	Dps' mm	W mm			I_s	$I_{s(50)}$	
BH204	18.04 - 18.22	24	CS	1		LIMESTONE	A	U	Y		58.0	86.7	0.50	80.02	0.08	0.10	
BH204	18.65 - 18.87	25	CS			LIMESTONE	I	U	Y	40.0	39.0	83.2	0.70	64.28	0.17	0.19	
BH301	12.26 - 12.33	29	CS			LIMESTONE	I	U	Y	28.0	71.0	86.2	1.30	88.28	0.17	0.22	
BH301	14.32 - 14.41	30	CS			LIMESTONE	I	U	Y	40.0	70.0	86.1	4.00	87.60	0.52	0.67	
BH302	12.38 - 12.48	28	CS			LIMESTONE	D	U	Y	47.0	83.0	86.2	0.90	84.58	0.13	0.16	
BH302	12.38 - 12.48	28	CS	1		LIMESTONE	A	U	Y		44.0	86.2	0.70	69.49	0.14	0.17	
BH302	15.69 - 15.80	29	CS			LIMESTONE	D	U	Y	49.0	83.0	86.5	2.60	84.73	0.36	0.46	
BH302	15.69 - 15.80	29	CS	1		LIMESTONE	A	U	Y		43.0	86.5	2.00	68.82	0.42	0.49	
BH302	17.16 - 17.50	30	CS			LIMESTONE	D	U	Y	49.0	82.0	85.7	0.40	83.83	0.06	0.07	
BH302	17.16 - 17.50	30	CS	1		LIMESTONE	A	U	Y		57.0	85.7	1.40	78.86	0.23	0.28	
BH302	20.66 - 20.80	31	CS			LIMESTONE	D	U	Y	48.0	83.0	86.2	1.20	84.58	0.17	0.21	
BH302	20.66 - 20.80	31	CS	1		LIMESTONE	A	U	Y		65.0	86.2	0.60	84.46	0.08	0.11	
BH302	23.05 - 23.15	32	CS			LIMESTONE	D	U	Y	47.0	85.0	86.5	1.40	85.75	0.19	0.24	
BH302	23.05 - 23.15	32	CS	1		LIMESTONE	A	U	Y		52.0	86.5	0.60	75.68	0.10	0.13	
BH302	24.54 - 24.63	33	CS			LIMESTONE	D	U	Y	46.0	82.0	86.5	7.00	84.22	0.99	1.25	
BH302	24.54 - 24.63	33	CS	1		LIMESTONE	A	U	Y		48.0	86.5	5.20	72.71	0.98	1.16	
BH303	18.42 - 18.50	35	CS			LIMESTONE	D	U	Y	45.0	84.0	86.8	0.60	85.39	0.08	0.10	
BH303	18.42 - 18.50	35	CS	1		LIMESTONE	A	U	Y		45.0	86.8	0.60	70.52	0.12	0.14	
BH303	23.00 - 23.08	36	CS			LIMESTONE	D	U	Y	46.0	83.0	86.4	2.30	84.68	0.32	0.41	
BH303	23.00 - 23.08	36	CS	1		LIMESTONE	A	U	Y		41.0	86.4	0.70	67.16	0.16	0.18	

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Figure

PLT 7

Point Load Index Test ISRM:1985

Project No	Project Name
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION

All specimens tested at **as received water content** unless shown otherwise

Test Type

D - Diametral, A - Axial, I - Irregular Lump, B - Block

Direction (U = unknown or random)

L - parallel to planes of weakness

P - perpendicular to planes of weakness

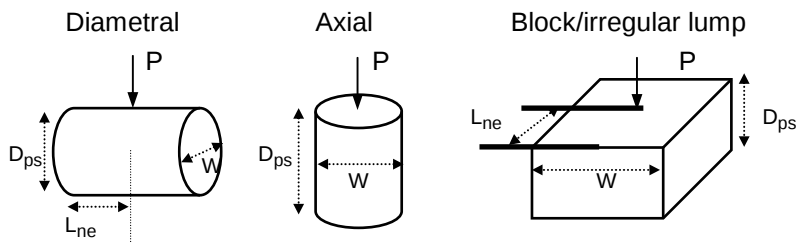
Dimensions

D_{ps} - Distance between platens (platen separation)

D_{ps}' - at failure

L_{ne} - Length from platens to nearest free end

W - Width of shortest dimension perpendicular to load, P



Borehole	Depth, m	Sample Ref	Sample Type	Specimen Ref	Specimen Depth	Rock type	Test Type see ISRM Fig 5 and 8		Failure Valid (Y/N)	Dimensions			LOAD P kN	De equivalent diameter, mm	Point Load Index MPa $F = (De/50)^{0.45}$		Remarks
							Type (D, A, I, B)	Direction (L, P or U)		Lne mm	Dps' mm	W mm			I_s	$I_{s(50)}$	
BH402	14.76 - 14.85	29	CS			LIMESTONE	D	U	Y	46.0	85.0	85.9	0.20	85.45	0.03	0.03	
BH402	14.76 - 14.85	29	CS	1		LIMESTONE	A	U	Y		45.0	85.9	0.40	70.15	0.08	0.09	
BH403	12.13 - 12.22	25	CS			LIMESTONE	D	U	Y	47.0	83.0	86.5	0.70	84.73	0.10	0.12	
BH403	12.13 - 12.22	25	CS	1		LIMESTONE	A	U	Y		54.0	86.5	0.30	77.12	0.05	0.06	
BH403	13.20 - 13.29	26	CS			LIMESTONE	D	U	Y	48.0	85.0	86.3	0.50	85.65	0.07	0.09	
BH403	13.20 - 13.29	26	CS	1		LIMESTONE	A	U	Y		47.0	86.3	0.40	71.86	0.08	0.09	
BH403	14.70 - 14.82	27	CS			LIMESTONE	D	U	Y	48.0	84.0	85.8	1.00	84.90	0.14	0.18	
BH403	14.70 - 14.82	27	CS	1		LIMESTONE	A	U	Y		48.0	85.8	0.40	72.41	0.08	0.09	
BH407	12.54 - 12.63	35	CS			LIMESTONE	D	U	Y	49.0	85.0	86.9	0.50	85.94	0.07	0.09	
BH407	12.54 - 12.63	35	CS	1		LIMESTONE	A	U	Y		43.0	86.9	1.60	68.98	0.34	0.39	
BH407	16.92 - 17.00	36	CS			LIMESTONE	D	U	Y	48.0	80.0	86.9	12.00	83.38	1.73	2.17	
BH407	16.92 - 17.00	36	CS	1		LIMESTONE	A	U	Y		47.0	86.9	9.00	72.11	1.73	2.04	

UNIAXIAL COMPRESSIVE STRENGTH OF ROCK - SUMMARY OF RESULTS

Project No	Project Name														
A0054-10	FERRYBRIDGE MULTIFUEL POWERSTATION														
Hole No.	Sample				Rock Type	Specimen Dimensions ²			Bulk Density ²	Water Content ¹	Uniaxial Compression ³				Remarks
	No.	Depth (m)		type		Dia. mm	Height mm	H/D			Load Rate kN/min	Time to failure secs	Mode of failure	UCS MPa	
		from	to												
BH101	7	10.58	10.81	CS	LIMESTONE	86.6	211.9	2.4	2.09	18.8	5	487	S	7.84	Outside ISRM specification.
BH101	8	12.75	12.96	CS	LIMESTONE	86.2	177.3	2.1	2.26	11.4	5	449	MS	7.43	Outside ISRM specification.
BH101	9	14.14	14.38	CS	LIMESTONE	86.0	192.4	2.2	2.33	8.5	20	322	S	19.1	Outside ISRM specification.
BH102	23	17.32	17.61	CS	LIMESTONE	86.4	241.8	2.8	2.34	10.3	10	639	MS	19.2	
BH102	25	19.98	20.29	CS	LIMESTONE	86.1	239.3	2.8	2.20	13.2	10	266	MS	8.45	
BH102	27	24.30	24.84	CS	LIMESTONE	86.2	243.9	2.8	2.34	7.3	10	801	S	24.5	
BH105	11	14.27	14.53	CS	LIMESTONE/SANDSTONE	86.4	236.3	2.7	2.11	18.6	5	432	S	7.10	
BH112	21	18.40	18.68	CS	SANDY LIMESTONE	86.5	231.8	2.7	2.17	16.1	5	281	S	5.16	
BH112	22	20.70	20.99	CS	LIMESTONE	86.3	232.3	2.7	2.19	14.6	10	288	MS	9.55	
BH112	23	22.97	23.43	CS	LIMESTONE	86.3	246.2	2.9	2.35	11.4	10	762	MS	22.9	
BH113	8	10.62	10.82	CS	SANDY LIMESTONE	86.0	181.6	2.1	2.06	20.9	5	250	S	4.29	Outside ISRM specification.
BH113	9	12.97	13.30	CS	SANDY LIMESTONE	86.1	207.5	2.4	2.10	20.7	5	292	MS	5.15	Outside ISRM specification.
BH113	11	18.39	18.70	CS	SANDY LIMESTONE	85.8	244.4	2.8	2.10	12.1	10	394	S	12.8	
BH113	13	21.96	22.31	CS	LIMESTONE	85.7	242.4	2.8	2.36	8.7	10	422	S	13.2	
BH113	14	23.90	24.24	CS	LIMESTONE	85.9	247.7	2.9	2.32	9.8	10	866	S	26.0	
BH204	25	18.65	18.87	CS	LIMESTONE	86.1	190.0	2.2	2.09	22.7	20	39	S	3.67	Outside ISRM specification.

Notes :

Test Specification : International Society for Rock Mechanics, The complete ISRM suggested methods for Rock Characterization Testing and Monitoring, 2007

1 ISRM p87 test 1, water content at 105 ± 3 °C, specimen as received at the laboratory

2 ISRM p86 clause (vii), Caliper method used for determination of bulk volume and derivation of bulk density

3 ISRM p153 part 1, determination of Uniaxial Compressive Strength (UCS) of Rock Materials

Mode of failure :

S - Single shear MS - multiple shear

AC - Axial cleavage F - Fragmented

above notes apply unless annotated otherwise in the remarks

Ref	 Soil Mechanics				Printed:10/12/2010 12:07				Table			
RLR 2 Rev 12 Mar 09									RUCS 1			